



6K SERIES

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *6K Series Service Manual* contains essential information to help you maintain your 6K Series Lock.

CERTIFICATIONS AND STANDARDS

- The locks comply with ANSI A156.2, Series 4000 Grade 2 standards.
- The locks are listed by Underwriter's Laboratories for use on 3 Hr., A label single swinging doors (4' x 8').
- The 8KS3 strike fits the standard door frame cutout as specified in ANSI A115.2.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your 6K Series Lock.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
<i>Installation Instructions for 6K Cylindrical Locks</i> [†]	T56061
<i>Installation Instructions for 6K Dummy Trim</i>	T80943

[†]. These installation instructions are included in this manual. See *Installation Instructions* on [page A-1](#).

The templates required for lock installations also can be ordered separately:

Document Title	Doc. No.
<i>K01 Template for Door and Frame Preparation for 62K Locks with Small (STK) Strike</i>	T56050
<i>K07 Template for Door and Frame Preparation for 62K Locks with Large (S3) Strike</i>	T56051
<i>K08 Template for Door and Frame Preparation for 63K, 73KC, 83K & 93K Locks with Small (STK) Strike</i>	T56052
<i>K09 Template for Door and Frame Preparation for 63K, 73KC, 83K & 93K Locks with Large (S3) Strike</i>	T56053
<i>K10 Template for Door and Frame Preparation for 64K, 84K & 94K Locks with Small (STK) Strike</i>	T56054
<i>K11 Template for Door and Frame Preparation for 64K, 84K, 94K Locks with Large (S3) Strike</i>	T56055
<i>K12 Template for Door and Frame Preparation 65K, 85K & 95K Locks with Small (STK) Strike</i>	T56056
<i>K13 Template for Door and Frame Preparation for 65K, 85K & 95K Locks with Large (S3) Strike</i>	T56057
<i>Template for 6K Dummy Trim</i>	T80944

TECHNICAL SUPPORT

Support services

When you have a question about the 6K Series Lock, your first resource for help is the *6K Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for all 6K Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

2

FUNCTIONS AND PARTS LISTS

The following pages contain function descriptions for all 6K Series Locks. This chapter also includes exploded diagrams that show all field serviceable mechanical parts, diagrams of trim and other miscellaneous parts, and function conversion information.

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- single-keyed (page 2-2)
- non-keyed (page 2-4)
- special (page 2-5)
- ANSI designation (page 2-5).

Note: If the function is ANSI defined, the ANSI designation appears by the function name.

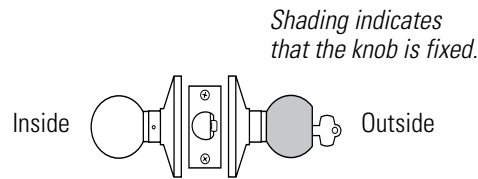
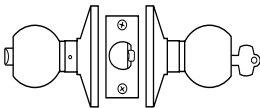


Figure 2.1 Understanding function drawings

Single-keyed functions

The following lists describe how the latchbolt, outside knob, and inside knob operate for each single-keyed 6K function.

AB—Entrance (ANSI F109)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

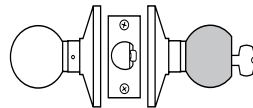
- inside button when pushed in
- inside button when pushed in and rotated clockwise

Outside knob unlocked by:

- inside knob when the inside button is pushed in but not rotated
- outside key when the inside button is pushed in but not rotated
- closing the door when the inside button is pushed in but not rotated

Inside knob is always unlocked

D—Storeroom (ANSI F86)



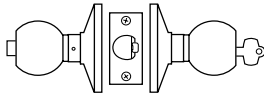
Latchbolt operated by:

- inside knob
- outside key

Outside knob is always fixed

Inside knob is always unlocked

E–Service station (ANSI F92)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

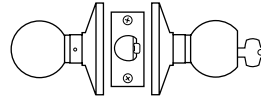
- inside slotted button
- inside slotted button when pushed in and rotated clockwise

Outside knob unlocked by:

- inside knob
- inside slotted button when rotated counterclockwise
- outside key
- closing the door when the inside button is pushed in but not rotated

Inside knob is always unlocked

R–Classroom (ANSI F84)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when not locked

Outside knob locked by:

- outside key

Outside knob unlocked by:

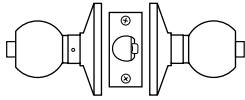
- outside key

Inside knob is always unlocked

Non-keyed functions

The following lists describe how the latchbolt, outside knob, and inside knob operate for each non-keyed 6K function.

L-Privacy (ANSI F76)

**Latchbolt operated by:**

- inside knob
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

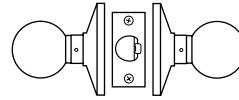
- inside button

Outside knob unlocked by:

- inside knob
- outside slotted button when pushed in and rotated counter-clockwise
- closing the door

Inside knob is always unlocked

N-Passage (ANSI F75)

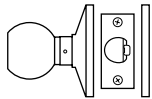
**Latchbolt operated by:**

- inside knob
- outside knob

Outside knob is always unlocked

Inside knob is always unlocked

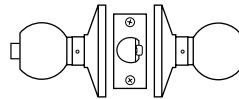
Y-Exit

**Latchbolt operated by:**

- inside knob

Inside knob is always unlocked

P-Patio (ANSI F77)

**Latchbolt operated by:**

- inside knob
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

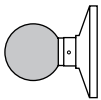
- inside button

Outside knob unlocked by:

- inside knob
- closing the door

Inside knob is always unlocked

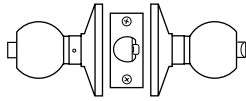
1DT-Single dummy trim



This lock is a single, surface-mounted knob for an inactive door or a non-latching door.

Special functions The following lists describe how the latchbolt, outside knob, and inside knob operate for each special 6K function.

LL–Hospital privacy



Latchbolt operated by:

- inside knob
- outside knob when not locked

Outside knob locked by:

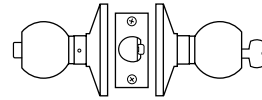
- inside button

Outside knob unlocked by:

- inside knob
- outside button when pushed in and rotated counterclockwise
- closing the door

Inside knob is always unlocked

B–Office



Latchbolt operated by:

- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

- inside button

Outside knob unlocked by:

- inside knob
- outside key

Inside knob is always unlocked

Functions by ANSI designation	ANSI No.	Function
	F75	N
	F76	L
	F77	P
	F82	B
	F84	R
	F86	D
	F92	E
	F109	AB

EXPLODED DIAGRAMS AND PARTS LISTS

AB FUNCTION—ENTRANCE LOCK (ANSI F109)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Button knob
2	A80050	1	Turn button assembly
3	(see page 2-18)	1	Rose
4	A80041	2	Chassis screw
5	(see page 2-18)	1	Rose liner
6	B80048	1	Bearing
7	B80105	1	AB function chassis [†]
8	(see page 2-18)	1	Rose and rose liner assembly
9	(see page 2-19)	1	Keyed knob

[†] If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

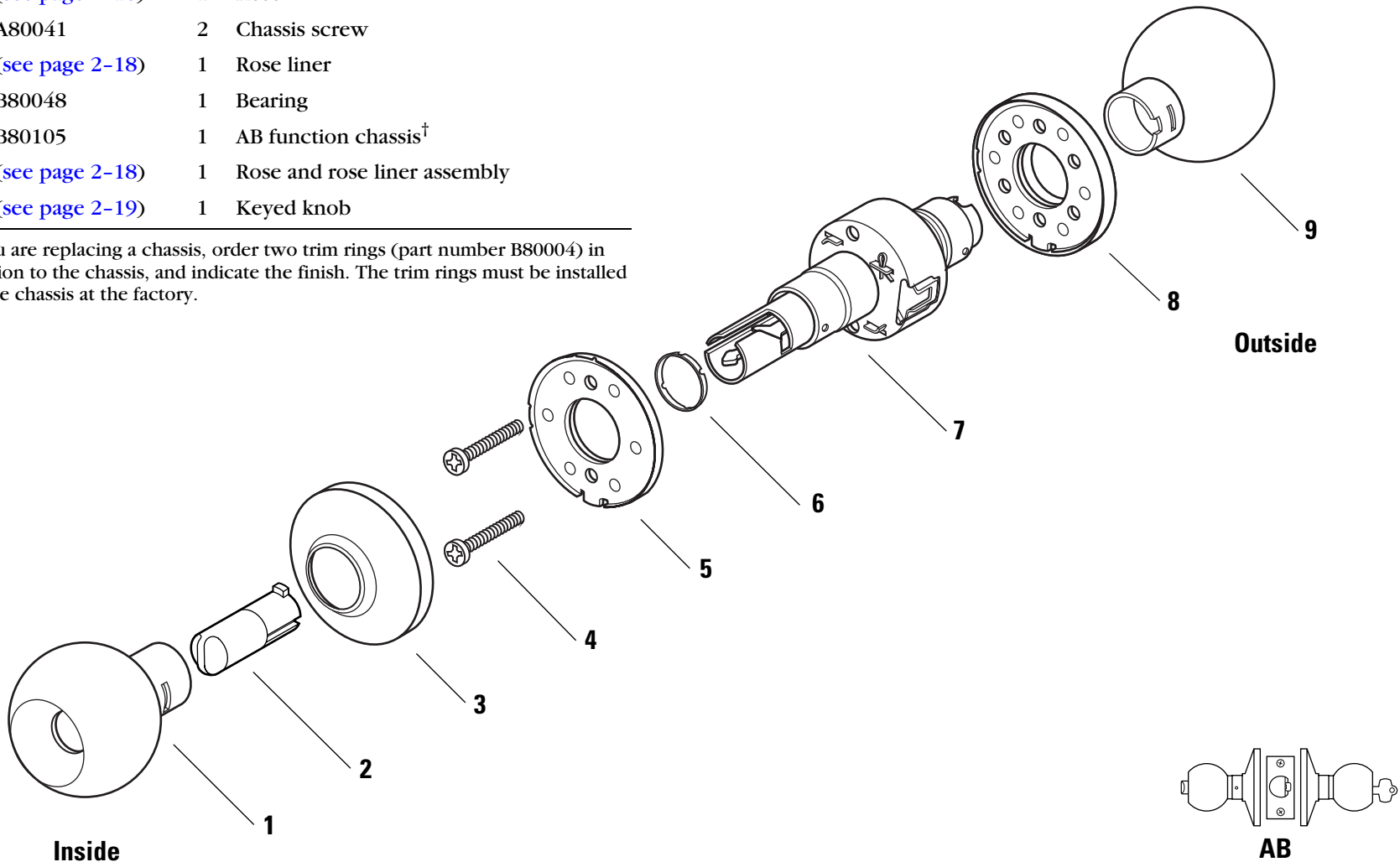


Figure 2.2 AB function exploded diagram

B FUNCTION—ENTRANCE LOCK (ANSI F82)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Button knob
2	A80052	1	Push button assembly
3	(see page 2-18)	1	Rose
4	A80041	2	Chassis screw
5	(see page 2-18)	1	Rose liner
6	B80048	1	Bearing
7	B80105	1	AB function chassis [†]
8	(see page 2-18)	1	Rose and rose liner assembly
9	(see page 2-19)	1	Keyed knob

[†] If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

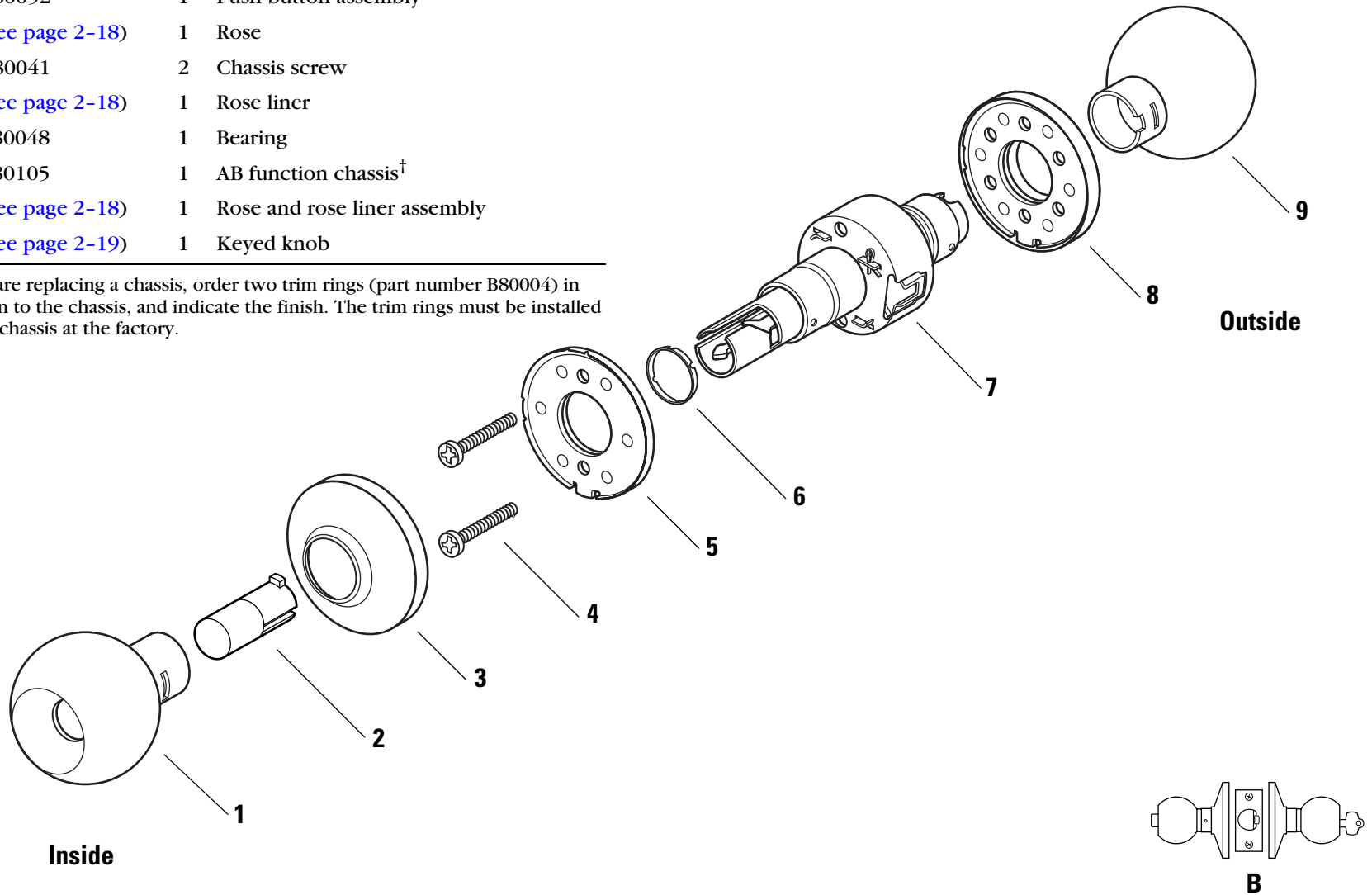


Figure 2.3 B function exploded diagram

D FUNCTION—STOREROOM LOCK (ANSI F86)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Plain knob
2	(see page 2-18)	1	Rose
3	A80041	2	Chassis screw
4	(see page 2-18)	1	Rose liner
5	B80048	1	Bearing
6	B80102	1	D function chassis [†]
7	(see page 2-18)	1	Rose and rose liner assembly
8	(see page 2-19)	1	Keyed knob

[†] If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

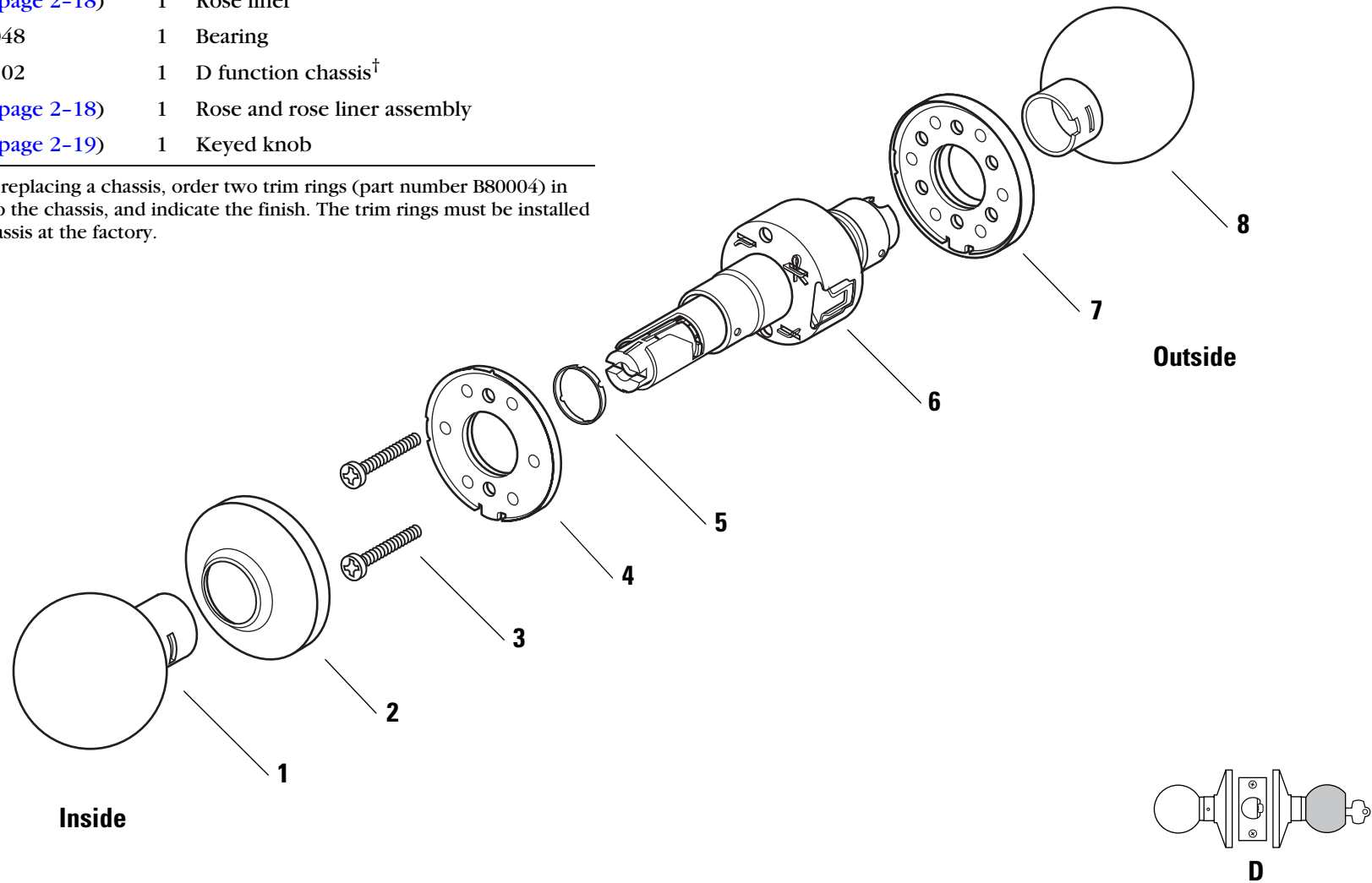


Figure 2.4 D function exploded diagram

E FUNCTION—SERVICE STATION LOCK (ANSI F92)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Button knob
2	A80051	1	Slotted button assembly
3	(see page 2-18)	1	Rose
4	A80041	2	Chassis screw
5	(see page 2-18)	1	Rose liner
6	B80048	1	Bearing
7	B80105	1	AB function chassis [†]
8	(see page 2-18)	1	Rose and rose liner assembly
9	(see page 2-19)	1	Keyed knob

[†] If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

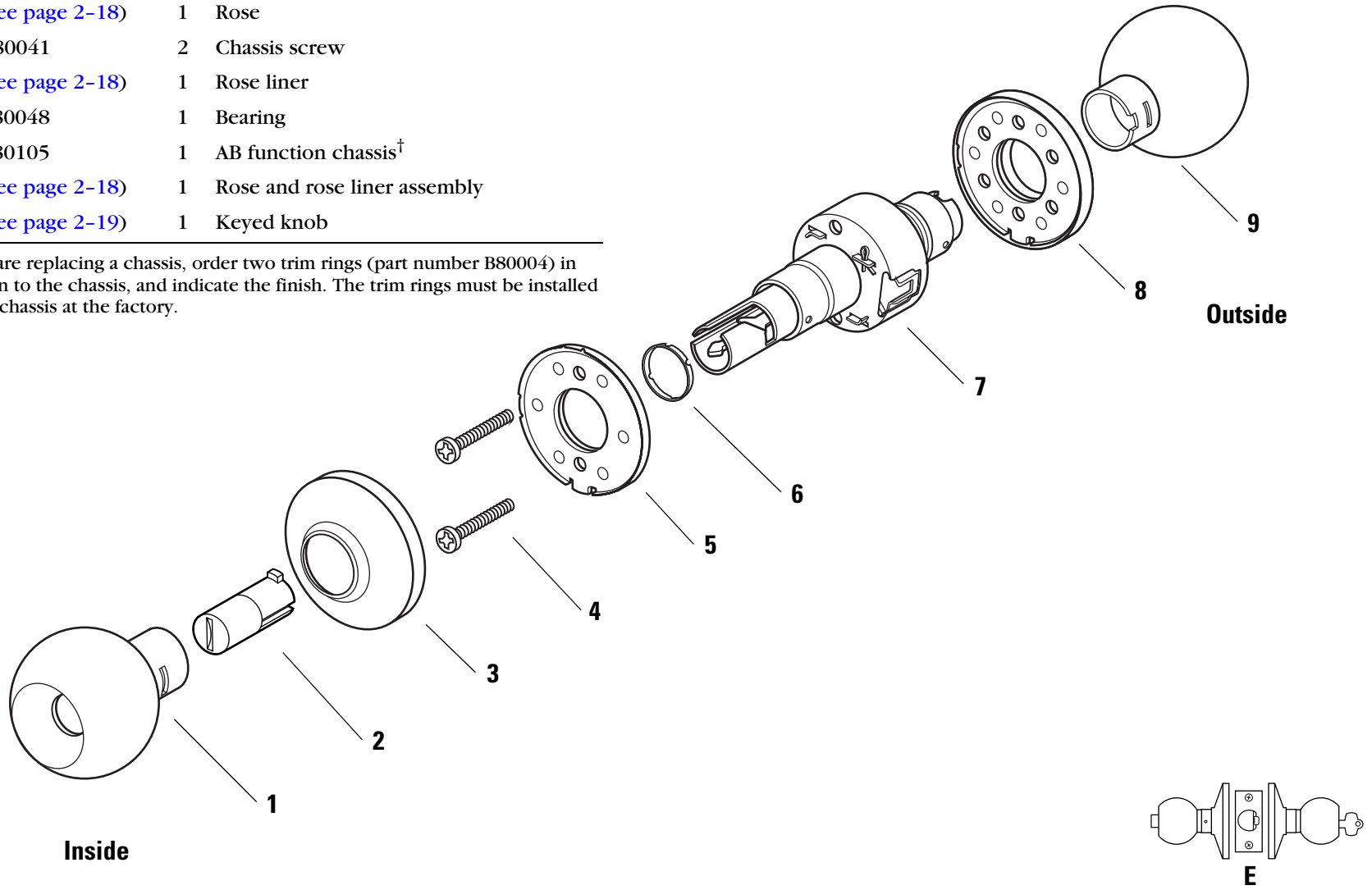


Figure 2.5 E function exploded diagram

L FUNCTION—PRIVACY LOCK (ANSI F76)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Button knob
2	A80052	1	Push button assembly
3	(see page 2-18)	1	Rose
4	A80041	2	Chassis screw
5	(see page 2-18)	1	Rose liner
6	B80048	2	Bearing
7	B80105	1	AB function chassis†
8	(see page 2-18)	1	Rose and rose liner assembly
9	A80053	1	Slotted button assembly
10	(see page 2-19)	1	Button knob

† If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

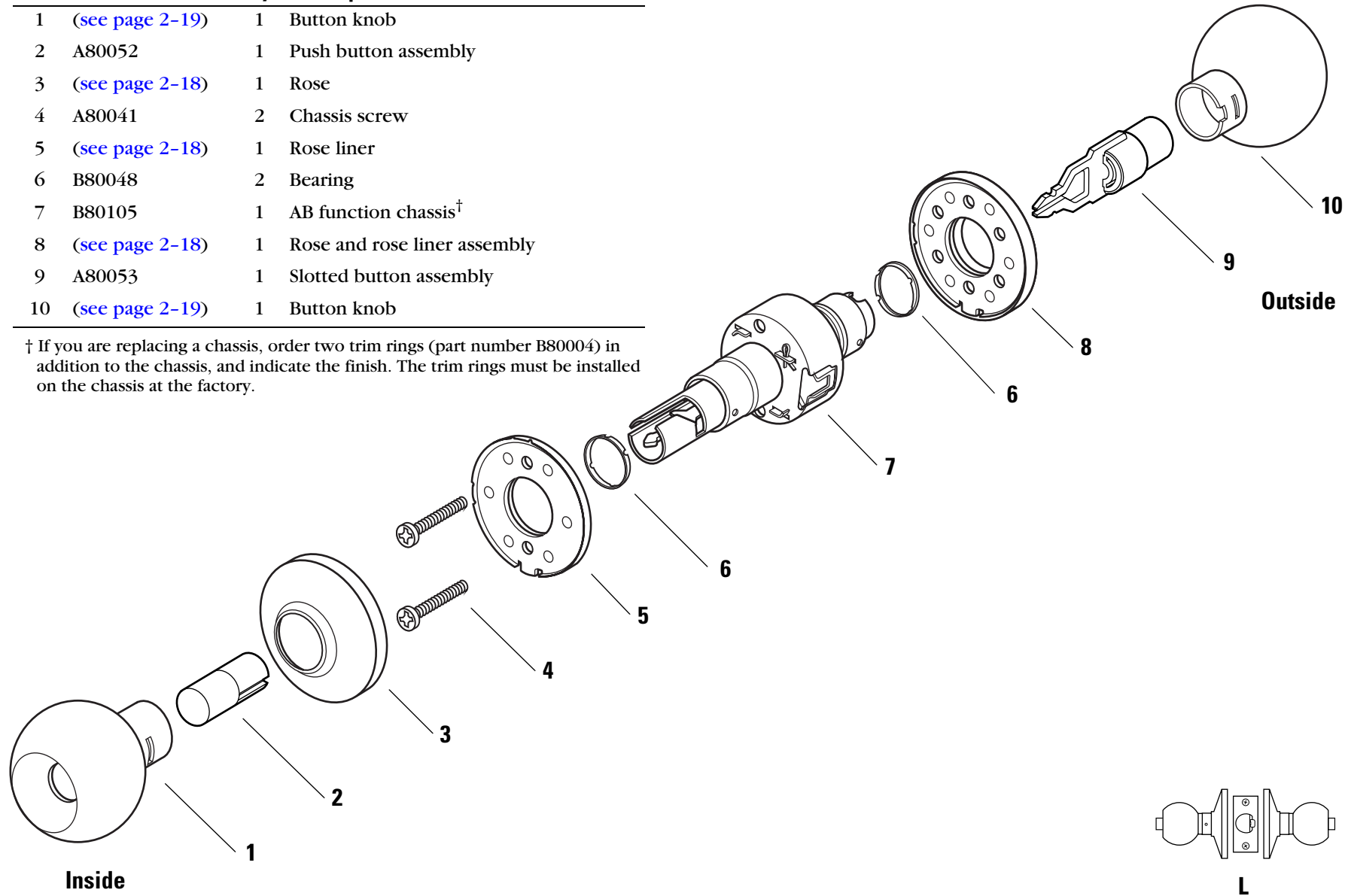


Figure 2.6 L function exploded diagram

LL FUNCTION—HOSPITAL PRIVACY

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Button knob
2	A80050	1	Push button assembly
3	(see page 2-18)	1	Rose
4	A80041	2	Chassis screw
5	(see page 2-18)	1	Rose liner
6	B80048	2	Bearing
7	B80105	1	AB function chassis†
8	(see page 2-18)	1	Rose and rose liner assembly
9	A80054	1	Turn button assembly
10	(see page 2-19)	1	Button knob

† If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

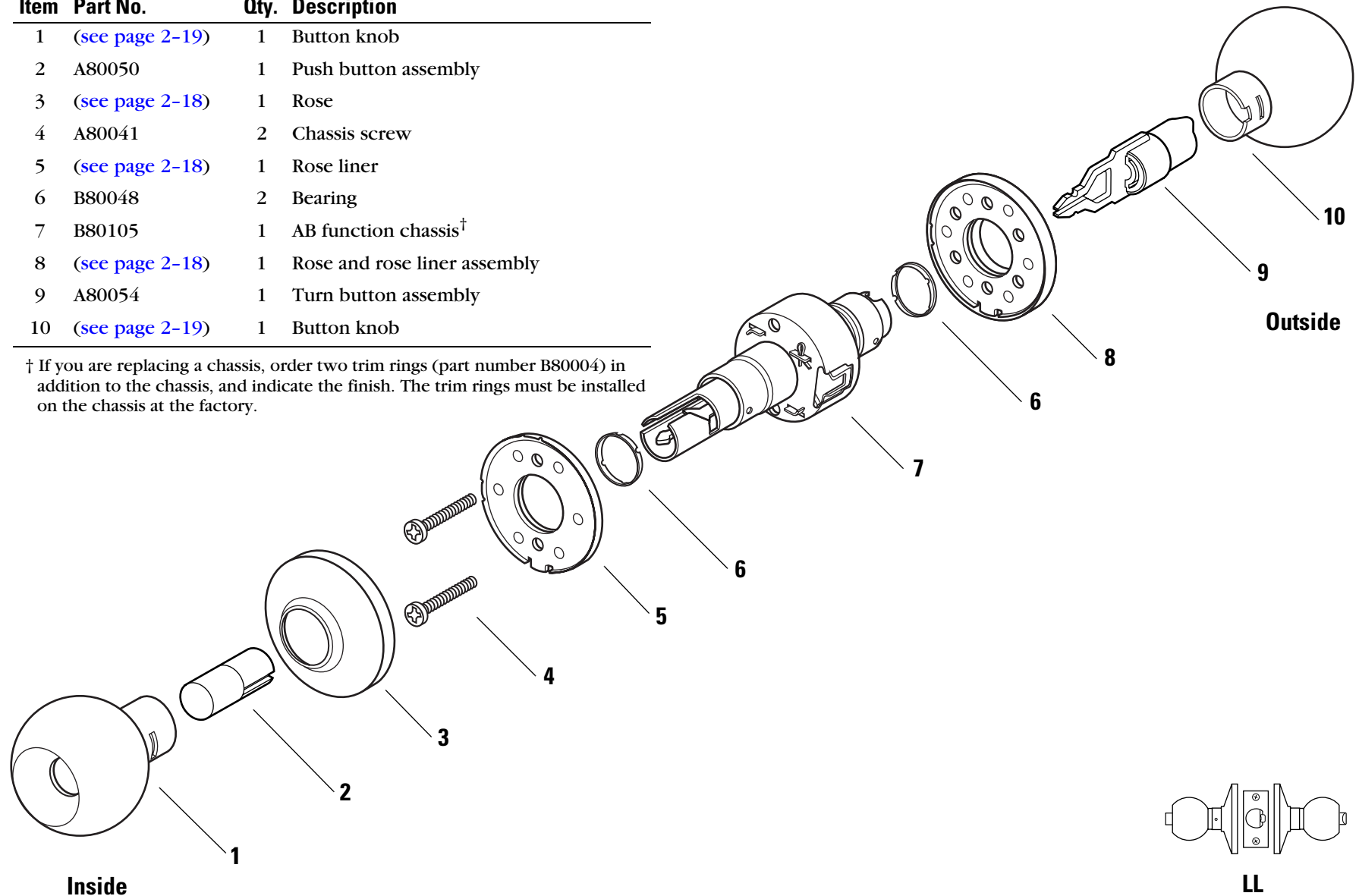


Figure 2.7 LL function exploded diagram

N FUNCTION—PASSAGE LOCK (ANSI F75)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Plain knob
2	(see page 2-18)	1	Rose
3	A80041	2	Chassis screw
4	(see page 2-18)	1	Rose liner
5	B80048	2	Bearing
6	B80171	1	N function chassis†
7	(see page 2-18)	1	Rose and rose liner assembly
8	(see page 2-19)	1	Plain knob

† If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

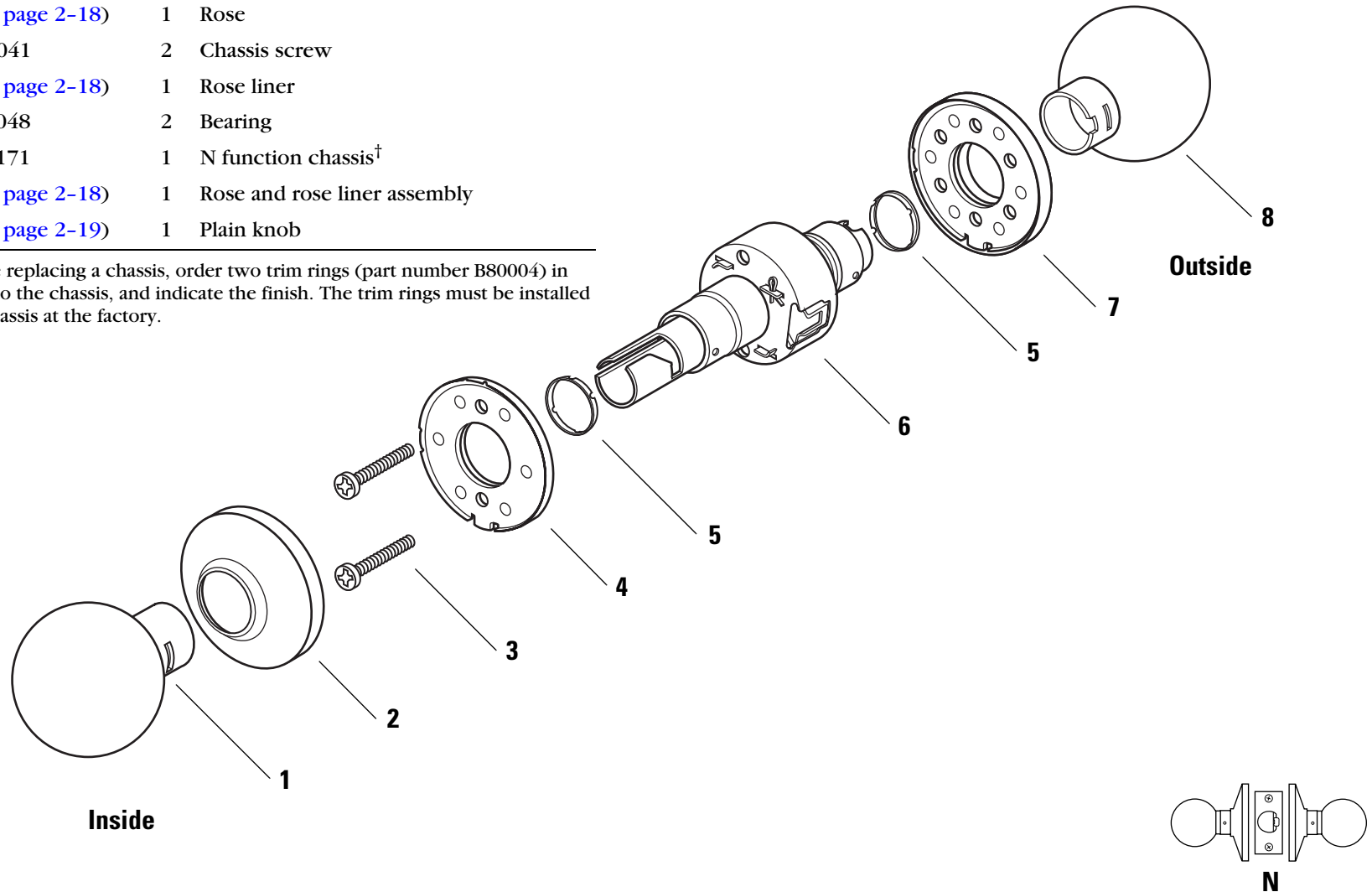


Figure 2.8 N function exploded diagram

P FUNCTION—PATIO LOCK (ANSI F77)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Button knob
2	A80053	1	Push button assembly
3	(see page 2-18)	1	Rose
4	A80041	2	Chassis screw
5	(see page 2-18)	1	Rose liner
6	B80048	2	Bearing
7	B80105	1	AB function chassis [†]
8	(see page 2-18)	1	Rose and rose liner assembly
9	(see page 2-19)	1	Plain knob

[†] If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

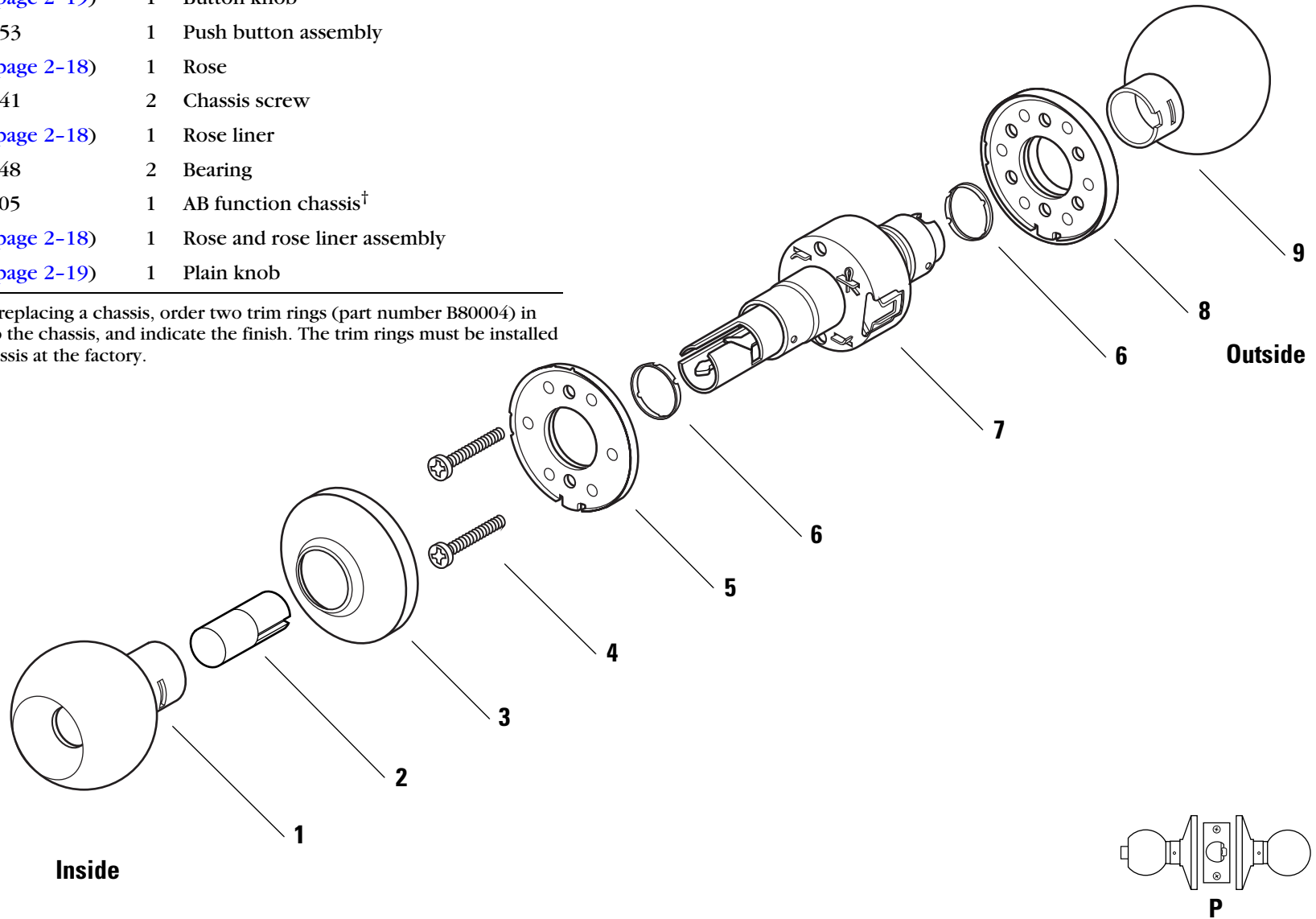


Figure 2.9 P function exploded diagram

R FUNCTION—CLASSROOM LOCK (ANSI F84)

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Plain knob
2	(see page 2-18)	1	Rose
3	A80041	2	Chassis screw
4	(see page 2-18)	1	Rose liner
5	B80048	1	Bearing
6	B80106	1	R function chassis†
7	(see page 2-18)	1	Rose and rose liner
8	(see page 2-19)	1	Keyed knob

† If you are replacing a chassis, order two trim rings (part number B80004) in addition to the chassis, and indicate the finish. The trim rings must be installed on the chassis at the factory.

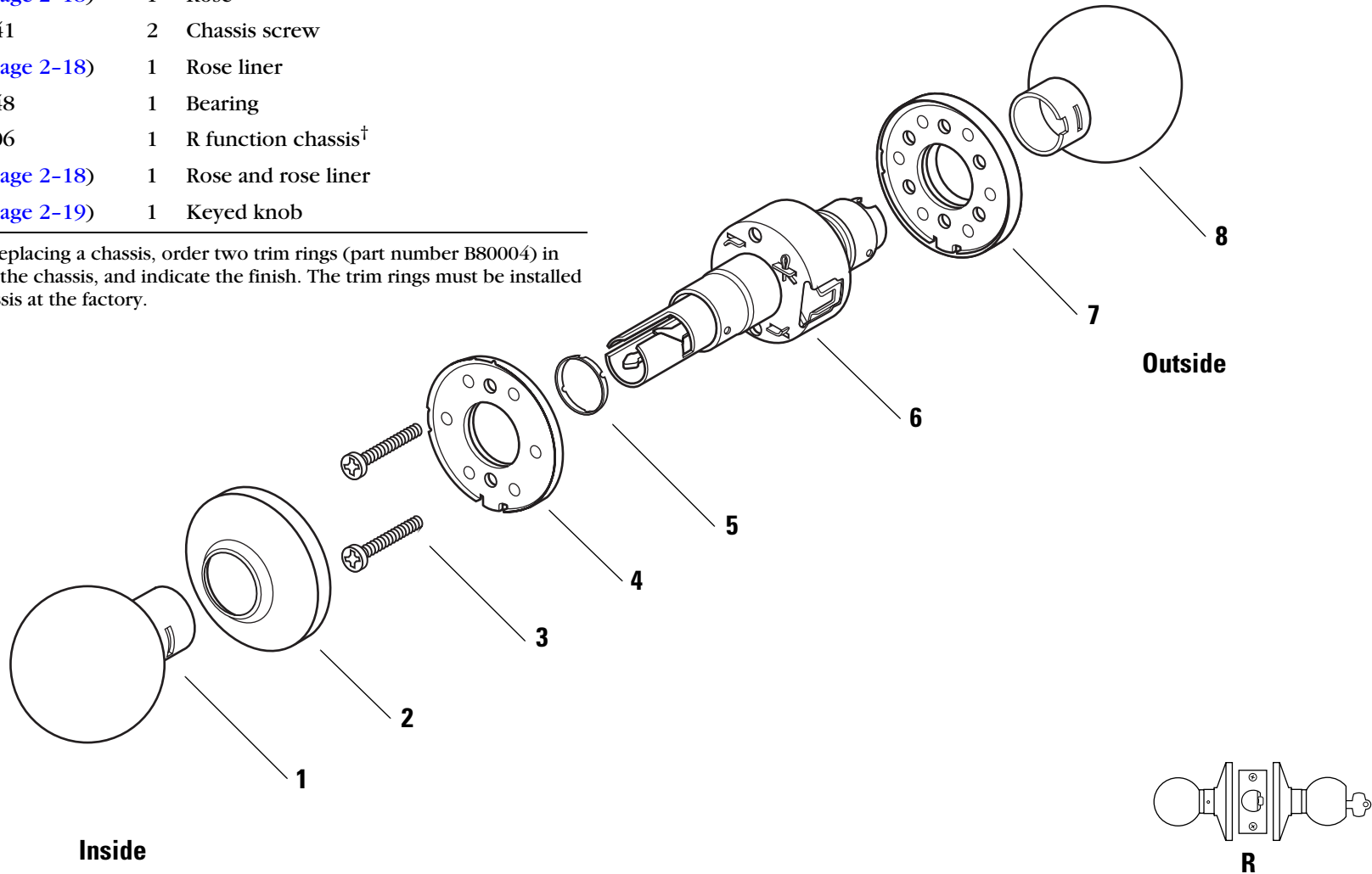


Figure 2.10 R function exploded diagram

Y FUNCTION—EXIT LOCK

Item	Part No.	Qty.	Description
1	(see page 2-19)	1	Plain knob
2	(see page 2-18)	1	Rose
3	A80041	2	Chassis screw
4	(see page 2-18)	1	Rose liner
5	B80048	1	Bearing
6	B80107	1	Y function chassis [†]
7	B54794	1	Y function rose assembly

[†] If you are replacing a chassis, order one trim ring (part number B80004) in addition to the chassis, and indicate the finish. The trim ring must be installed on the chassis at the factory.

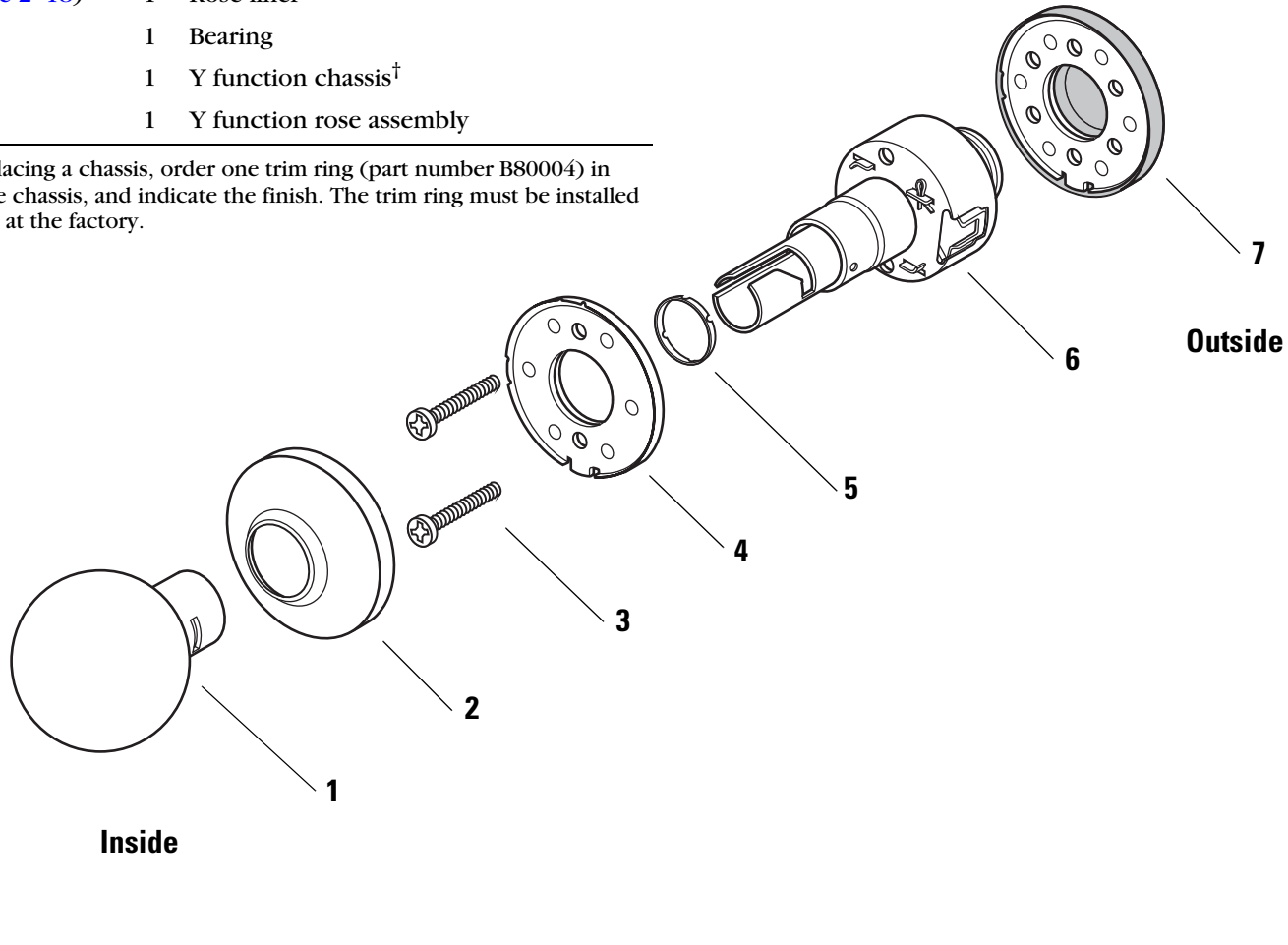


Figure 2.11 Y function exploded diagram

FUNCTION CONVERSION

If you want to convert the function of an existing AB, E, L, or LL 6K Lock, use the following table to determine the parts that you need. Unless otherwise noted, a quantity of one is used for each part.

Compare the column of the function you currently have with the column of the function you need to determine the new parts necessary for conversion. For example, to convert an AB function to an E function, you need an A80051 E button assembly—the only differing part as shown in the table below.

Note: For instructions on replacing the parts listed below, see *Replacing parts* on [page 3-2](#).

Standard functions

Part No.	Description	AB	E	L	LL
A80050	AB button assembly	■			
A80051	E button assembly		■		
A80052	L, LL inside button assembly			■	■
A80053	L outside button assembly			■	
A80054	LL outside button assembly				■
(see page 2-19)	Button knob	■	■	■†	■†
(see page 2-19)	Keyed knob	■	■		
B80004	Bearing	■	■	■†	■†
A80170	Throw member	■	■		

† Requires two.

TRIM PARTS

Strikes and strike boxes

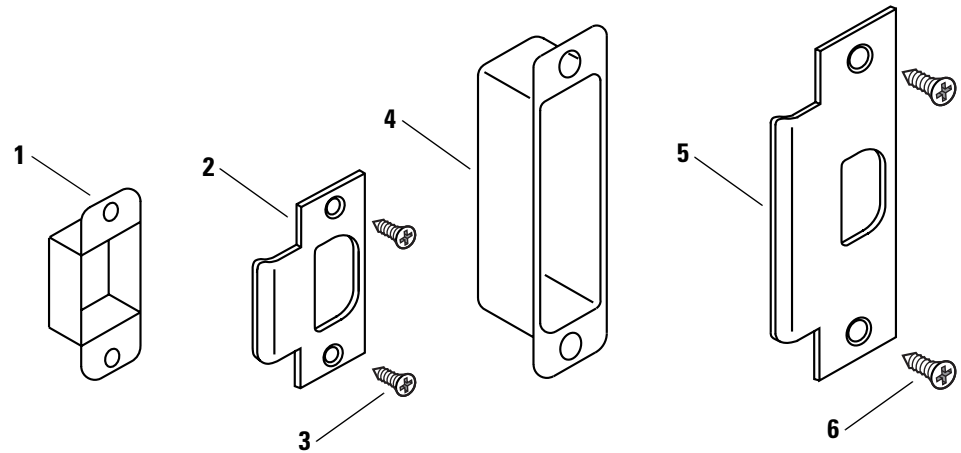


Figure 2.12 Strikes and strike boxes

Standard strikes and strike boxes parts list

Item	Nomenclature	Part No.	Description
1	8KS1	B25640	Standard steel strike box
2	6KS2 [†]	A53761	Standard strike
3		A25359	Strike screw
4	30HS4	B34380	ANSI plastic strike box
5	6KS3 [‡]	A53773	ANSI strike
6		A18724	Strike screw

[†] Includes one A53761 strike, two A25359 strike screws, and one B25640 strike box.

[‡] Includes one A53773 strike and two A18724 strike screws.

**Roses and
rose liners**

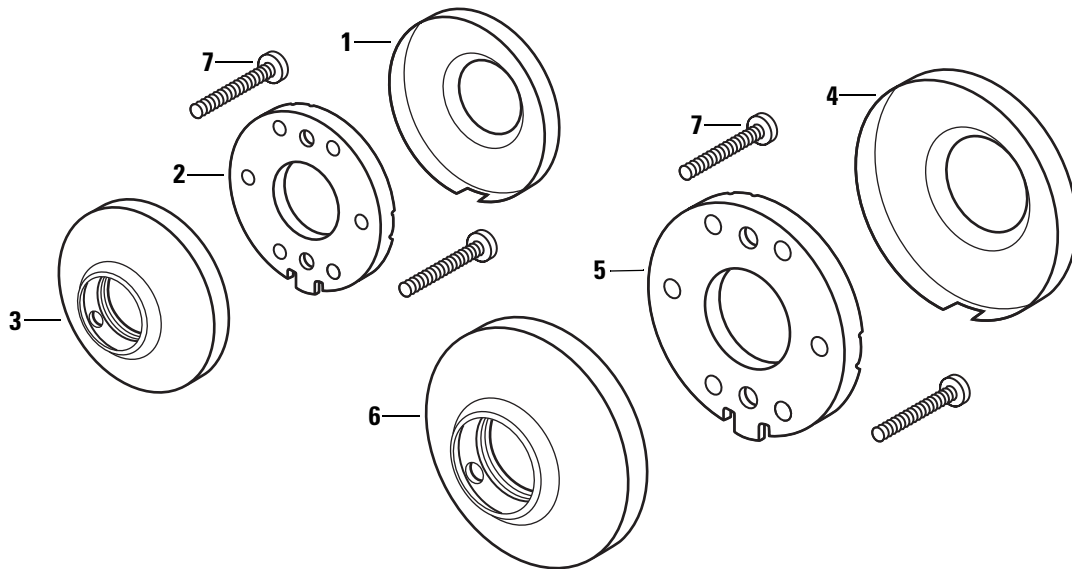


Figure 2.13 Roses and rose liners

Roses and rose liners parts list

Item	For rose	Part No.	Qty.	Description
1	C	B80010	1	Small rose
2	C	C80014	1	Small liner
3	C	B80108	1	Small outside rose and liner assembly
4	D	B80009	1	Large rose
5	D	C80013	1	Large liner
6	D	B80109	1	Large rose and liner assembly
7	C & D	A80041	2	Through-bolt screw

**Knobs and
throw member**

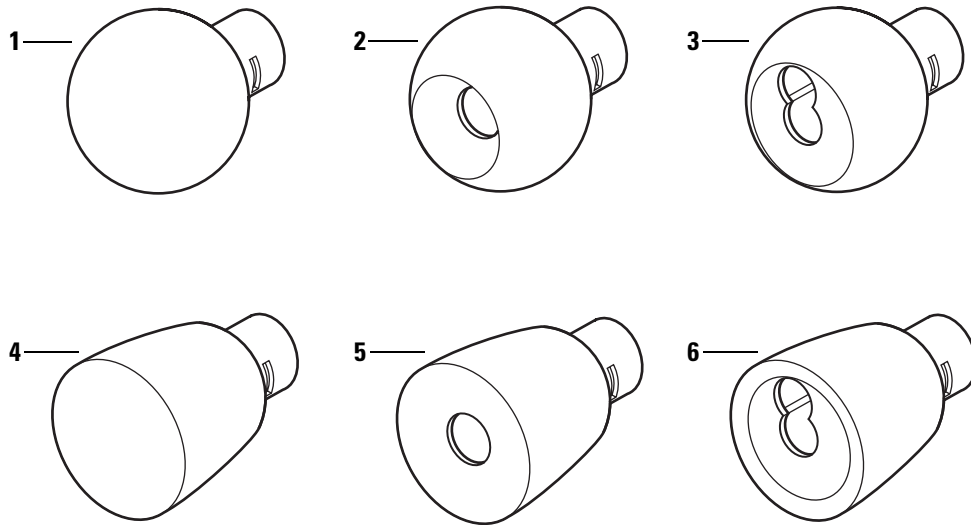


Figure 2.14 Knobs

Knobs parts list

Style	Item	Part No.	Description
	1	C80018	Plain round knob
4	2	C80017	Button round knob
	3	B80148	Keyed round knob
	4	C80020	Plain tulip knob
6	5	C80019	Button tulip knob
	6	B80151	Keyed tulip knob

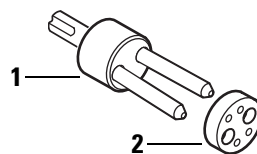


Figure 2.15 Throw member and spacer

Throw member part list

Item	Part No.	Qty.	Description
1	A80170	1	Throw member [†]
2	1882120	50	Spacer

[†] For information about cores and keys, see the *Core and Key Service Manual*.

Dummy trim

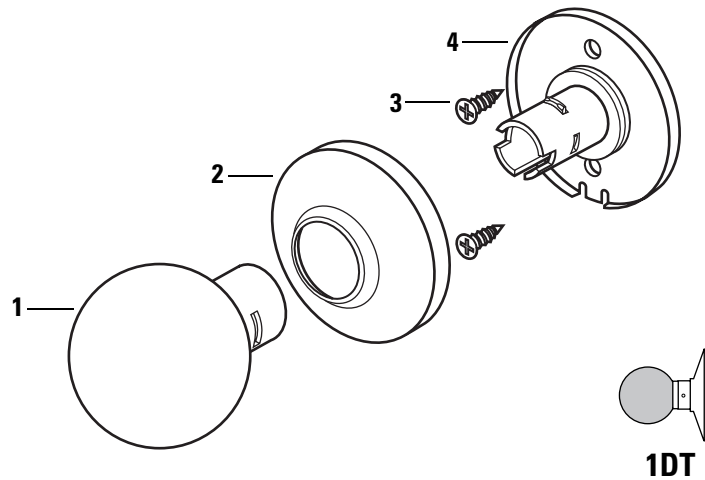


Figure 2.16 Dummy trim parts

Single dummy trim parts list

Note: If you need dummy trim for both sides of the door, order the 2DT.

Item	Part No.	Qty.	Description
1	C80018	1	Round plain knob <i>or</i>
not shown	C80020	1	Tulip plain knob
2	B80024	1	Small rose <i>or</i>
not shown	B80023	1	Large rose
3	A25359	2	Mounting screw
4	B80119	1	Small hub assembly <i>or</i>
not shown	B80118	1	Large hub assembly

**Latches and latch
tube sleeve**

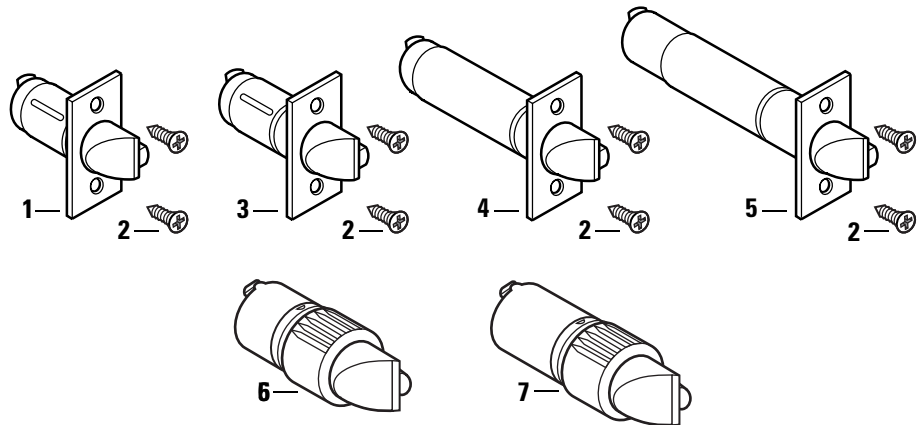


Figure 2.17 Latches

Latches parts list

Item	Part No. [†]	Nomenclature	Backset	Description
1	B80112	6KL2-NF [‡]	2 3/8"	Deadlocking latch with narrow face (1")
not shown	B80188	6KL2-WF [‡]	2 3/8"	Deadlocking latch with wide face (1 1/8")
2	A25359			Latch screw
3	B80189	6KL3-NF [‡]	2 3/4"	Deadlocking latch with narrow face (1")
not shown	B80113	6KL3-WF [‡]	2 3/4"	Deadlocking latch with wide face (1 1/8")
4	B80194	6KL4-NF [‡]	3 3/4"	Deadlocking latch with narrow face (1")
not shown	B80195	6KL4-WF [‡]	3 3/4"	Deadlocking latch with wide face (1 1/8")
5	B80196	6KL5-NF [‡]	5"	Deadlocking latch with narrow face (1")
not shown	B80197	6KL5-WF [‡]	5"	Deadlocking latch with wide face (1 1/8")
6	A80192	6KL2-L8	2 3/8"	Drive-in latch
7	A80193	6KL3-L8	2 3/4"	Drive-in latch
not shown	B80090		2 3/8"	Semi-automatic latch\ ^{\\}
not shown	B80091		2 3/4"	Semi-automatic latch\ ^{\\}

[†] Specify finish.

[‡] Includes the latch and two A25359 latch screws.

\ Use only for B function replacements.

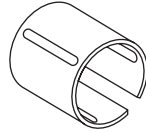


Figure 2.18 Latch tube sleeve

Latch tube sleeve part list

Part No. Qty. Description

B80044	1	Latch tube sleeve
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Tools

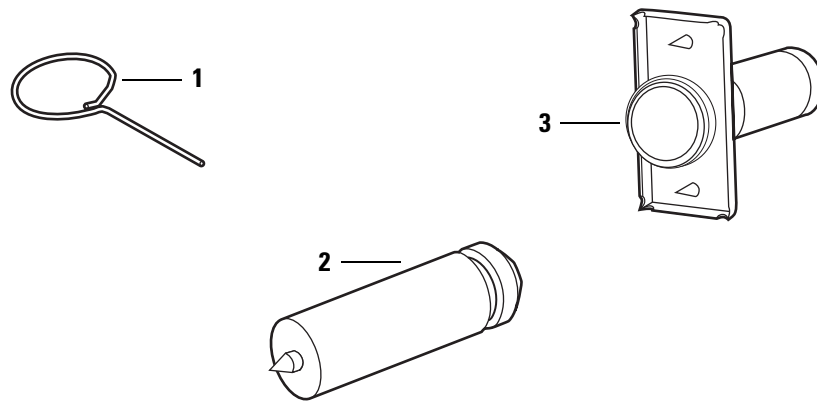


Figure 2.19 Installation tools

Installation tools part list

Item	Nomenclature	Part No.	Description
1		A25341	Knob keeper tool
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel (1 1/8" × 2 1/4")
not shown	KD312	1487975	Faceplate marking chisel (1" × 2 1/4")

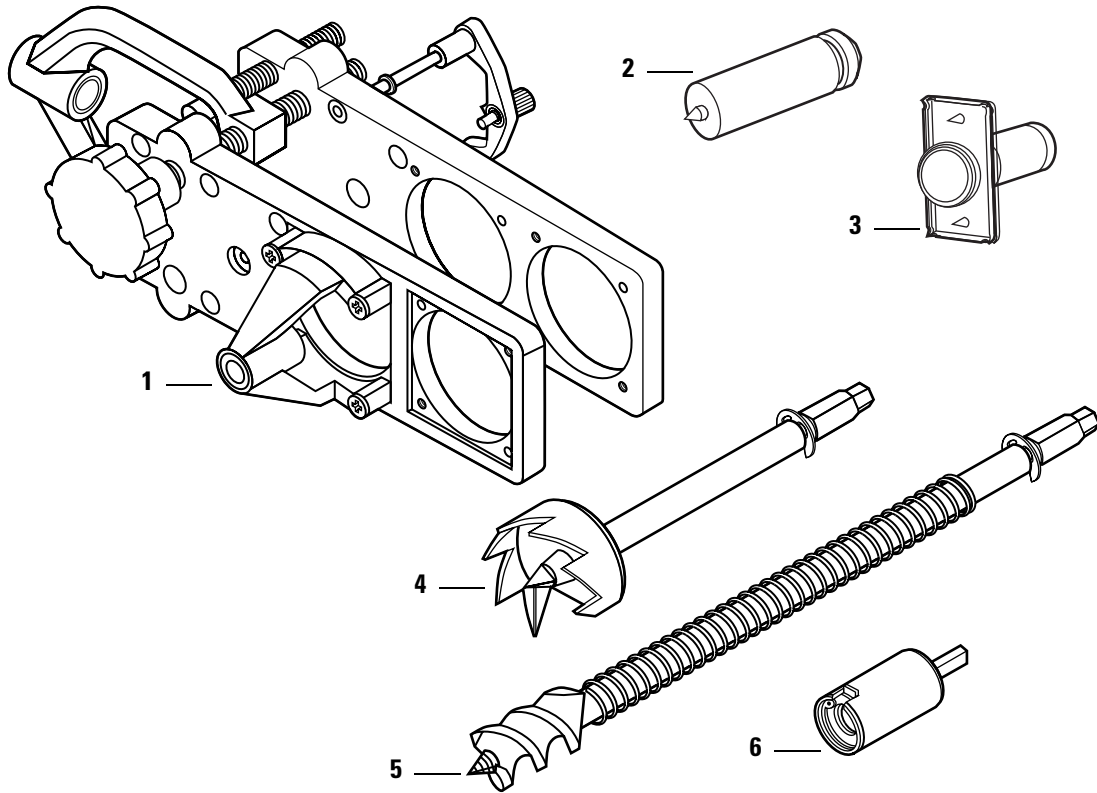


Figure 2.20 Boring jig kit

Boring jig kit parts list

Item	Nomenclature	Part no.	Description
1	N/A	N/A	Boring jig [†]
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel (1 1/8" × 2 1/4")
not shown	KD312	1487975	Faceplate marking chisel (1" × 2 1/4")
4	KD309	A54084	2 1/8" diameter chassis hole bit assembly
5	KD318	A54085	1" diameter drill bit assembly
6	N/A	N/A	Adaptor for 3/8" drill chuck [†]
1-6	KD304A	N/A	Boring jig kit

[†] Can only be ordered as part of the KD304A boring jig kit.

3

SERVICE AND MAINTENANCE

This chapter contains instructions for replacing components, servicing and maintaining components, and troubleshooting common problems.

To	See page
Replace knobs	3-3
Replace inside roses and rose liners	3-7
Replace outside rose and liner assemblies	3-8
Replace button assemblies	3-4
Lubricate cores	3-10
Align chassis and trim	3-11
Troubleshoot common problems	3-12

REPLACING PARTS

Replacing the core and throw member

To remove the core and throw member:

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core and throw member from the knob.

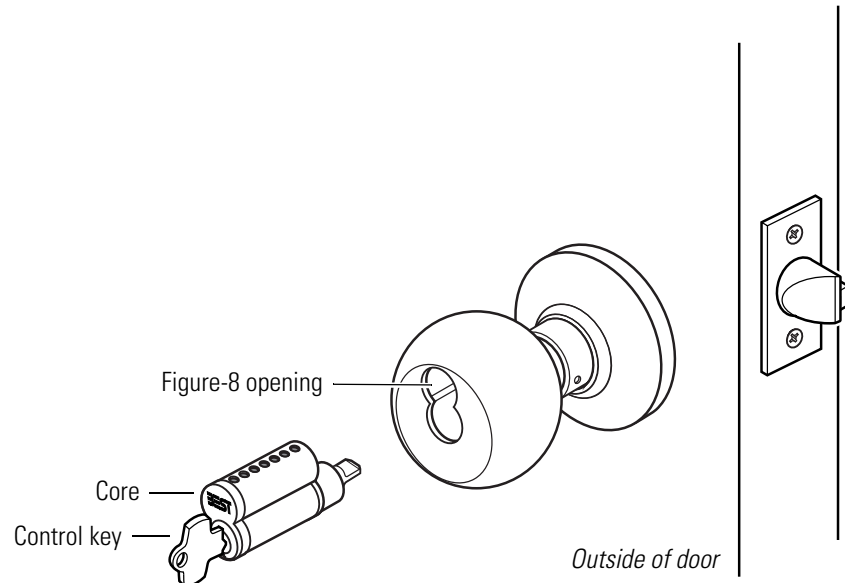


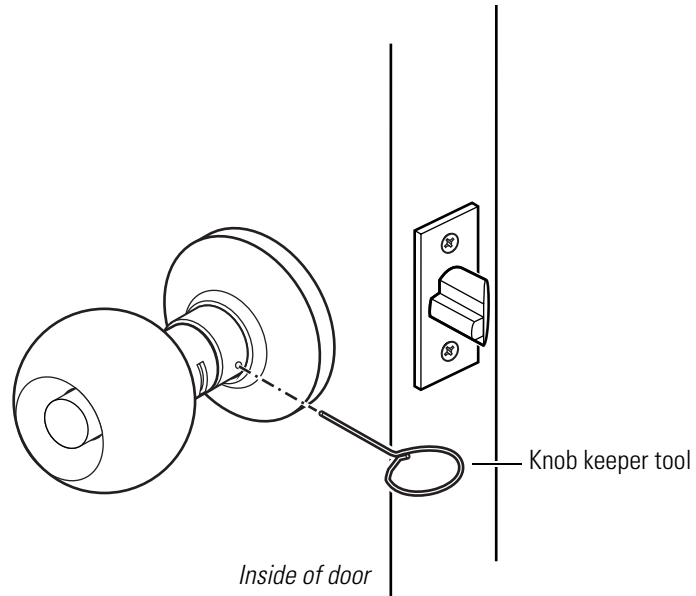
Figure 3.1 Removing and reinstalling the core

To reinstall the core and throw member:

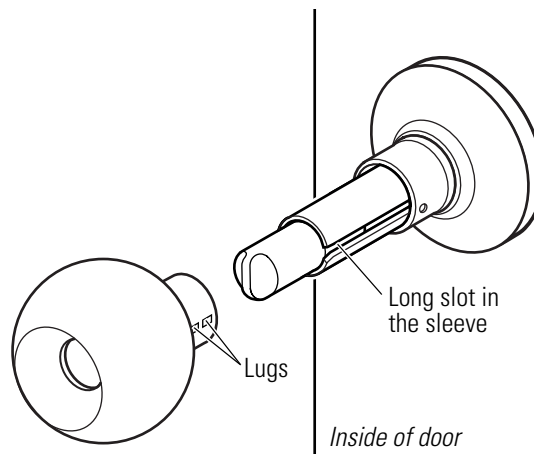
1. *For R function locks*, insert a screwdriver into the figure-8 opening and turn the locking mechanism counterclockwise as far as it will go.
For all other function locks, go to step 2.
2. Insert the control key into the core and rotate the key 15 degrees to the right.
3. Using the control key, insert the core and throw member into the knob. Rotate the control key 15 degrees to the left and remove the key.

Replacing the knob **To remove the knob:**

1. For *keyed knobs*, remove the core and throw member ([page 3-2](#)).
For *all other knobs*, go to step 2.
2. Insert the knob keeper tool into the hole on the trim ring, as shown in [Figure 3.2](#). Slide the knob off of the sleeve.

**Figure 3.2** Removing the knob**To reinstall the non-keyed knob:**

1. Align the two lugs (dimples) in the knob with the long slot in the sleeve, as shown in [Figure 3.3](#).
2. Slide the knob onto the sleeve and firmly push on the knob until it is seated.
3. Turn the knobs to check that they operate smoothly.

**Figure 3.3** Reinstalling the non-keyed knob

To reinstall the keyed knob:

1. Align the two drive lugs on the inside of the knob with the short slots in the sleeve.
2. Insert the knob keeper tool into the hole on the trim ring and slide the knob onto the sleeve. Firmly push on the knob until it is seated.
3. Reinstall the core and throw member ([page 3-2](#)).

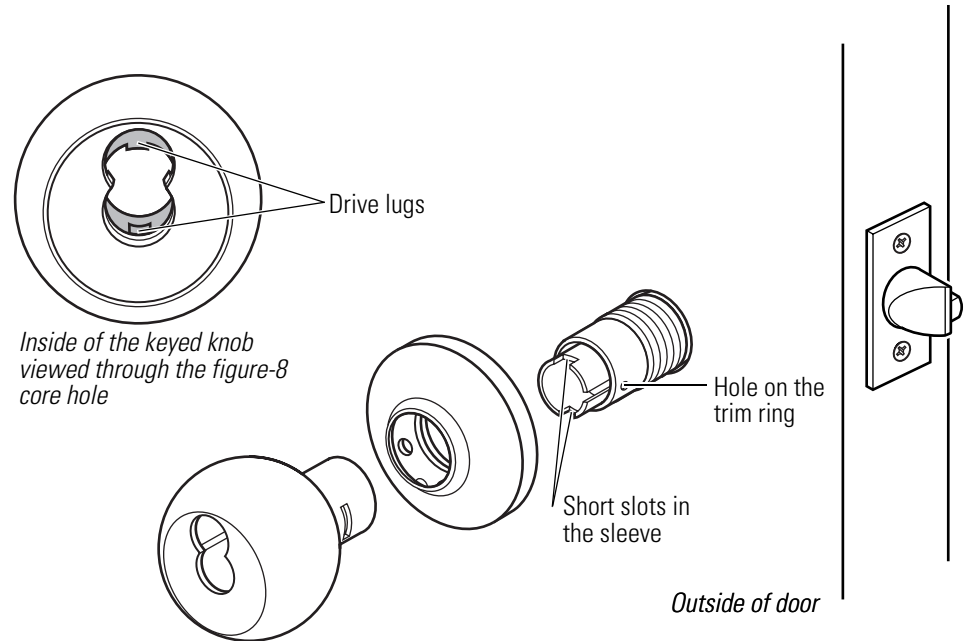


Figure 3.4 Reinstalling the keyed knob

Replacing the button assembly

To remove the button assembly:

Note: These instructions apply to all types of button assemblies.

1. Remove the knob ([page 3-3](#)).
2. Insert a flat blade screwdriver behind the plastic button retainer and pry the button assembly from the locking bar.

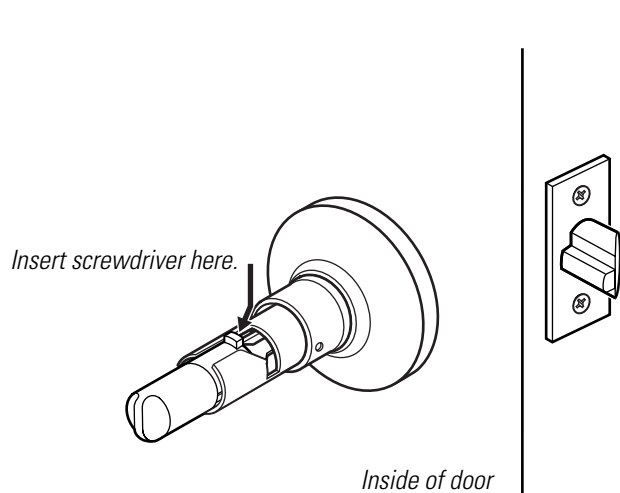


Figure 3.5 Removing the button assembly

To reinstall the outside button assembly:

1. Position the button assembly so that the button slot is horizontal.
2. Insert the button assembly into the cross slot on the inside of the sleeve. Firmly press the button assembly into place.

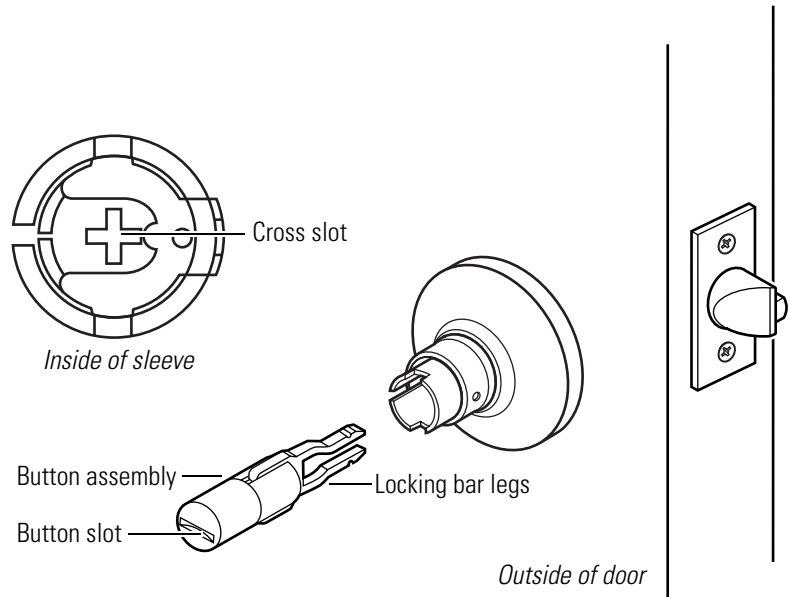


Figure 3.6 Reinstalling the outside button assembly

To reinstall the inside button assembly:

1. *For turn buttons*, align the button tab with the sleeve's top slot.
For push buttons, go to step 2.
2. Firmly press the button assembly onto the locking bar until it is seated.
3. Reinstall the knob ([page 3-3](#)).

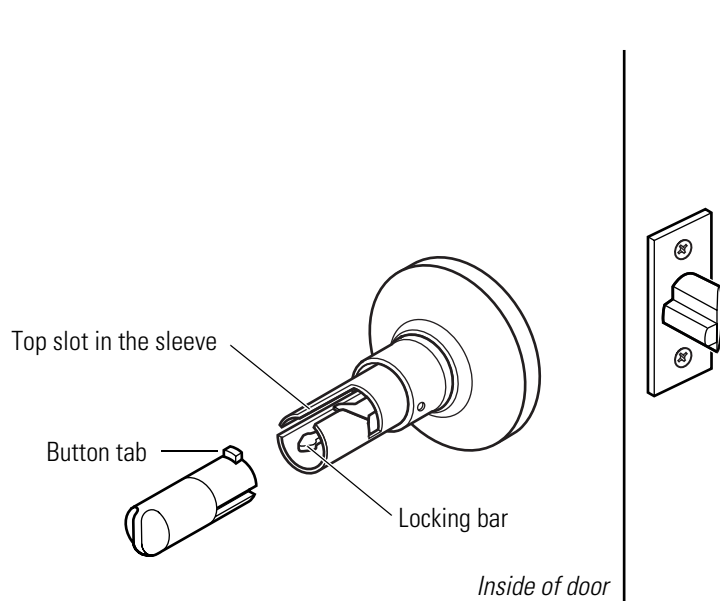


Figure 3.7 Reinstalling the inside button assembly

Replacing the bearing

To remove the bearing:

1. Remove the knob ([page 3-3](#)).
2. Remove the bearing from underneath the trim ring. Slide the bearing off of the sleeve.

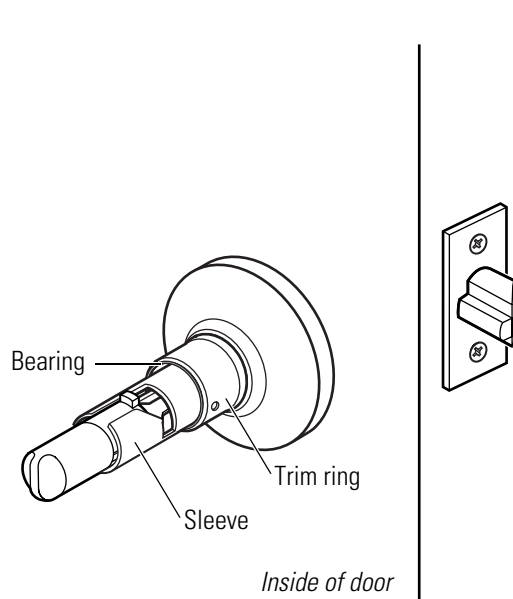


Figure 3.8 Removing the bearing

To reinstall the bearing:

1. Position the bearing so that the cutouts face the trim ring. Slide the bearing onto the sleeve and snap it into place underneath the trim ring.
2. Reinstall the knob ([page 3-3](#)).

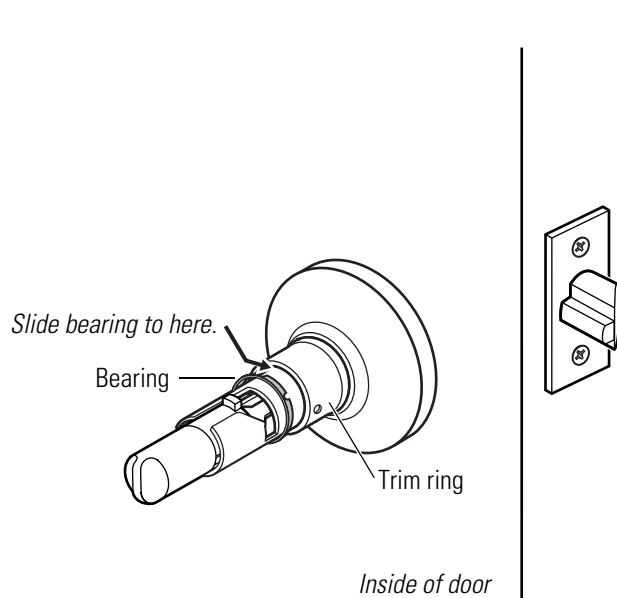
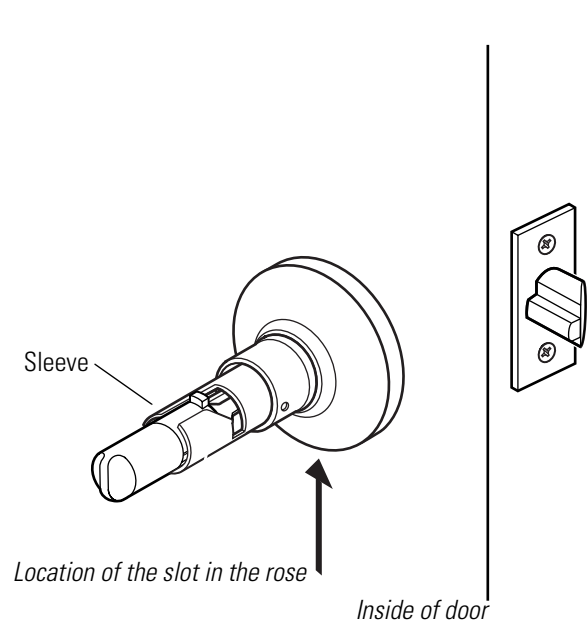


Figure 3.9 Reinstalling the bearing

Replacing the inside rose and rose liner**To remove the inside rose and rose liner:**

1. Remove the inside knob ([page 3-3](#)).
2. Insert a flat blade screwdriver at the slot in the rose and pry the rose from the rose liner. Slide the rose off of the sleeve.
3. Unscrew the two through-bolts. Save the through-bolts.
4. Slide the rose liner off of the sleeve.

**Figure 3.10** Removing the inside rose and rose liner**To reinstall the inside rose and rose liner:**

1. Position the rose liner on the door so that the tab is at the bottom.
2. Install the two through-bolts through the rose liner and door in the top and bottom holes.
3. Tighten the rose liner onto the door with the through-bolts.
4. Align the slot in the rose with the tab on the rose liner and firmly press the rose until it is flush with the door.

5. Reinstall the knob ([page 3-3](#)).

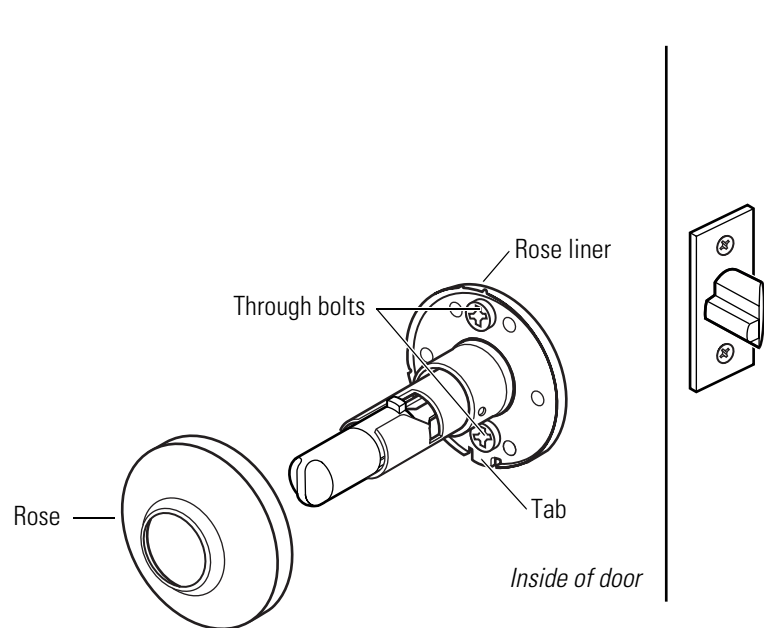


Figure 3.11 Reinstalling the inside rose and rose liner

Replacing the outside rose and liner assembly

To remove the outside rose and liner assembly:

1. Remove the outside knob ([page 3-3](#)).
2. Rotate the rose and liner assembly counterclockwise until it is free from the threading on the sleeve.
3. Remove the rose and liner assembly from the sleeve.

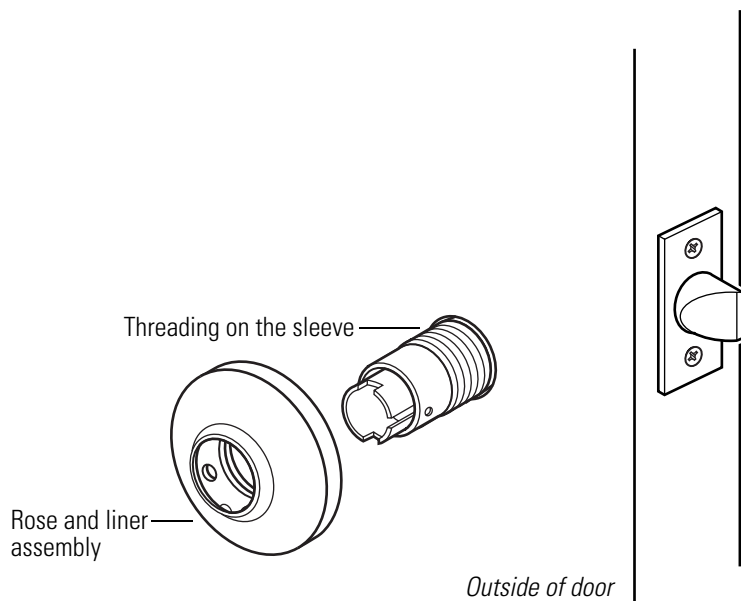


Figure 3.12 Removing the outside rose and liner assembly

To reinstall the outside rose and liner assembly:

1. Slide the rose and liner assembly onto the sleeve and rotate the rose and liner assembly clockwise until it is flush with the door.

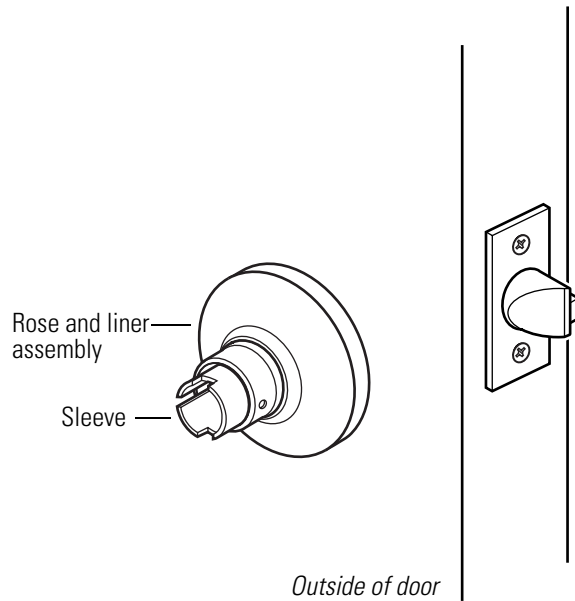


Figure 3.13 Reinstalling the outside rose and liner assembly

2. Reinstall the knob ([page 3-3](#)).

Replacing the lock chassis assembly

To remove the lock chassis assembly:

1. Remove the following components:
 - knobs ([page 3-3](#))
 - inside rose and rose liner ([page 3-7](#))
 - outside rose and liner assembly ([page 3-8](#)).
2. From the outside of the door, slide the lock chassis out of the door.

To reinstall the lock chassis assembly:

1. From the outside of the door, install the lock chassis. Make sure that the latch tabs engage the chassis frame and the latch tailpiece engages the retractor.

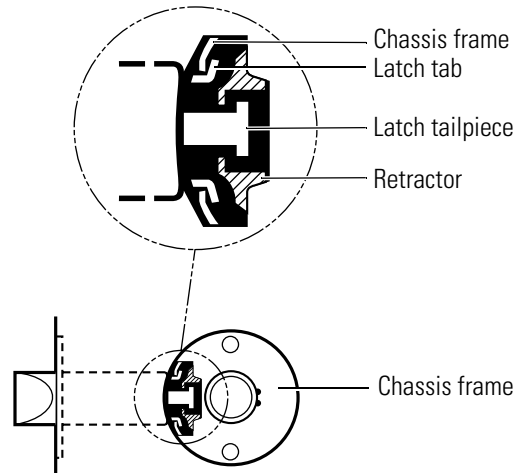


Figure 3.14 Engaging the retractor in the latch

2. Reinstall the following components:
 - outside rose and liner assembly (page 3-9)
 - inside rose and liner assembly (page 3-7)
 - knobs (page 3-3).

LUBRICATING THE CORE

Create a preventive maintenance plan that includes lubricating the core. To extend the life of the core, lubricate it regularly. Powdered graphite is the best choice for lubrication; LPS spray can also be used.



Do not lubricate a core with oil. Doing so will attract dirt.

For powdered graphite lubrication:

1. Remove the core from the lock (page 3-2).
2. Dip a key in graphite. With the core inverted, insert the key into the keyhole and remove it; repeat several times, allowing the graphite to penetrate the barrels. *OR*

With the core inverted, spray graphite into the keyhole. Insert the key into the keyhole and remove it; repeat several times, allowing the graphite to penetrate the barrels.

For LPS lubrication:

1. Remove the core from the lock (page 3-2).
2. Spray compressed air or LPS lubricant into the core to clean out all of the existing lubricant.
3. With the core inverted, spray the lubricant into the key opening, allowing the spray to penetrate the barrels.

**Caution**

Do not mix graphite with LPS lubricant.

ALIGNING THE CHASSIS AND TRIM

Establish a schedule to inspect locks, doors, and door hardware for proper alignment and operation. Occasionally a lock chassis and/or rose trim may become loose and require tightening.

To retighten a loose or misaligned chassis or rose trim:

1. Remove the following components:
 - inside knob (page 3-3)
 - inside rose and rose liner (page 3-7).
2. Align the chassis with the latch. Make sure that the latch tabs engage the chassis frame and the latch tailpiece engages the retractor, as shown in Figure 3.15.

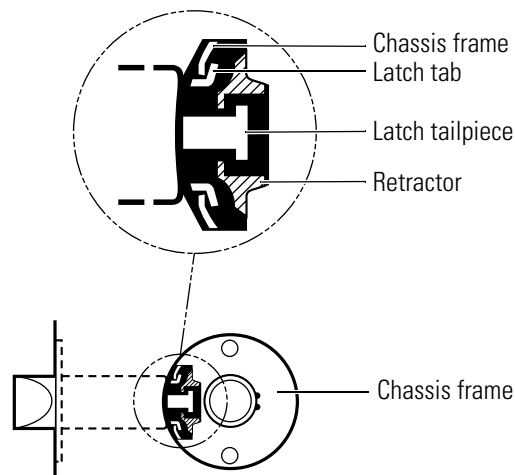


Figure 3.15 Engaging the retractor in the latch

3. Tighten the through-bolts.
4. Test the knob operation to make sure that the latch tailpiece does not bind with the chassis retractor.
5. Reinstall the following components:
 - inside rose and rose liner (page 3-7)
 - inside knob (page 3-3).

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems. The causes are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice...	Possible causes include...	You should...
Knob won't return to its normal position.	<ul style="list-style-type: none">a. There is binding between the knob and rose.b. Knob bearing is damaged.	<ul style="list-style-type: none">a. Ensure that the lock chassis is centered within the door (page 3-11).b. Replace the knob bearing (page 3-6).
Key spins freely, but won't retract the latch or unlock the door.	<ul style="list-style-type: none">a. Throw member is not installed.b. 6-pin core is installed with a 7-pin throw member.	<ul style="list-style-type: none">a. Install the throw member.b. Change the core or throw member (page 3-2).
Core doesn't fit into the knob core hole.	<ul style="list-style-type: none">a. 7-pin core is installed with a 6-pin throw member.b. Keyed knob is defective.	<ul style="list-style-type: none">a. Change the core or throw member (page 3-2).b. Replace the keyed knob (page 3-3).
Button doesn't pop out as expected.	Button retainer or locking bar legs are damaged.	Replace the button assembly (page 3-4).
Latch doesn't retract.	<ul style="list-style-type: none">a. Latch tailpiece is broken.b. Latch tailpiece didn't engage the retractor correctly during installation.	<ul style="list-style-type: none">a. Replace the latch assembly.b. Reinstall the lock chassis (page 3-10).

A

INSTALLATION INSTRUCTIONS

The following pages contain the *Installation Instructions for 6K Cylindrical Locks*.

For factory prepared doors only

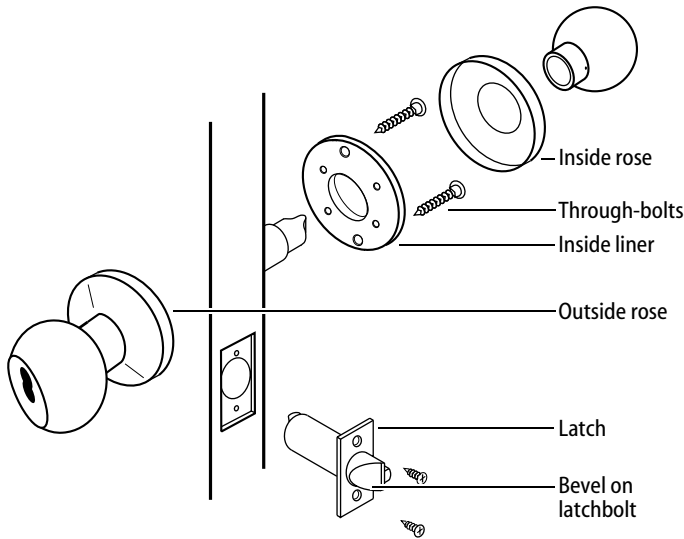


Figure 1 — Overview diagram

Caution: If you use hollow metal doors, determine whether the doors are reinforced enough to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.

Simplified instructions

- 1 Install the latch so that the bevel on the latchbolt faces the strike.
- 2 Adjust the outside rose assembly so that the chassis is centered in the door. Install the chassis from the outside of the door.
- 3 Install the inside liner, through-bolts, rose, lever, and strike.

For field door preparation and detailed installation instructions, see the following steps.

1 Position template

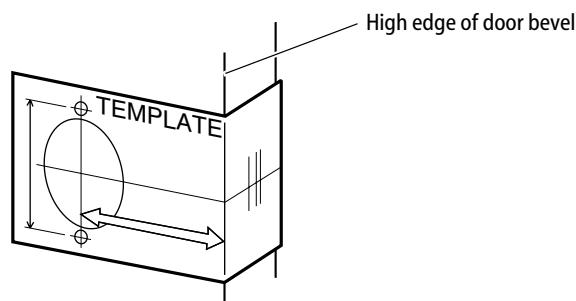


Figure 2 — Positioning the template

- 1 Fold the template and place in position on the high edge of the door bevel (see Figure 2).
- 2 Mark the drill points for lock and latch.

Note: The suggested height from floor to centerline of the lock is 40 5/16". If steel frames are used, the latch centerline must be in line with the center of the strike preparation.

2 Bore two holes and install latch

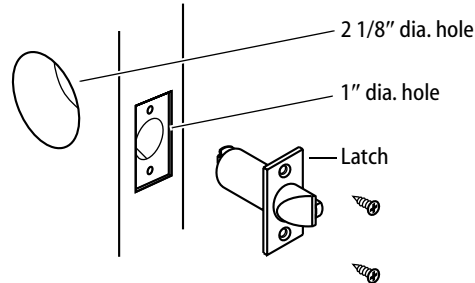


Figure 3 — Boring two holes and installing the latch

- 1 Bore a 2 1/8" diameter hole from both sides of the door, to the center of the door as shown in Figure 3.
- 2 Drill a 1" diameter hole from the edge of the door that intersects the 2 1/8" hole.
- 3 Mortise the door edge for the latch face.
- 4 Install the latch and check the door swing. Latch tabs should project into the 2 1/8" diameter hole.

3 Remove inside knob and rose & liner assembly

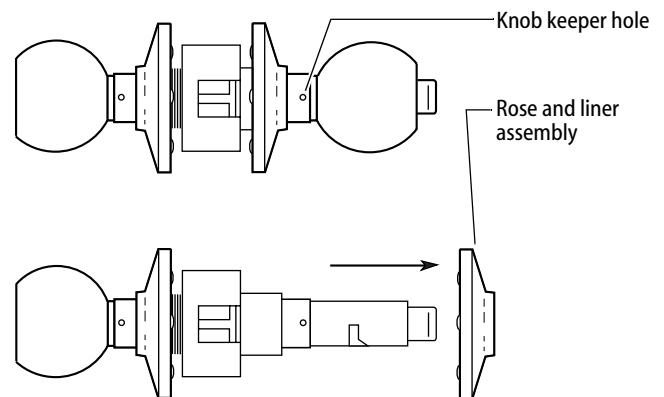


Figure 4 — Removing the inside knob and rose & liner assembly

- 1 Insert the spanner wrench tip into the knob keeper hole and depress the keeper.
- 2 Slide the knob off.
- 3 Remove the rose and liner assembly.

4 Adjust to door thickness

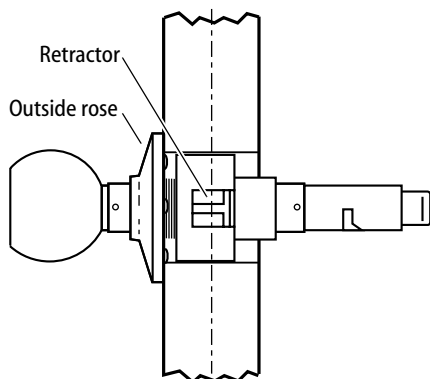


Figure 5 — Centering the retractor

- Rotate the outside rose in or out until the retractor is centered in the door.

5 Engage retractor in latch

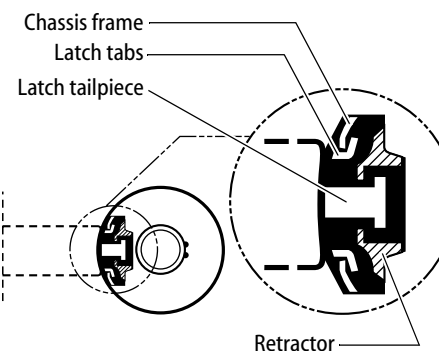


Figure 6 — Engaging the latch and retractor

- 1 With the latch in place, install the chassis from outside of the door.
- 2 Make sure that the latch tabs fit into the chassis frame and the latch tailpiece fits into the retractor.

6 Install liner and rose

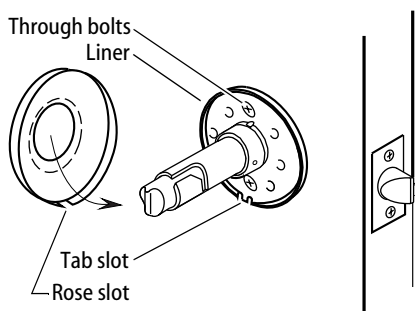


Figure 7 — Installing the rose over the liner

- 1 Separate the rose and liner (gently pry apart at the tab slot).

- 2 Place the liner in position with the tab slot at the bottom and tighten the through bolts.
- 3 Align the rose slot with the liner tab slot at the bottom and press the rose firmly onto the liner until flush with the door.

7 Install inside knob

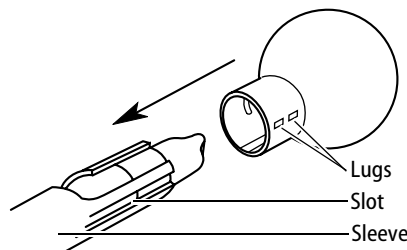


Figure 8 — Aligning and installing the inside knob

- 1 Align the two lugs (“dimples”) on the knob shank with the long slot in the sleeve and slide the knob onto the sleeve.
- 2 Make sure that the knob keeper snaps into place.
- 3 Test both knobs for functionality.

8 Install strike plate

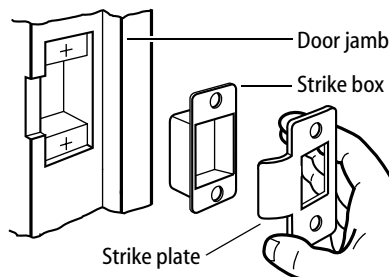


Figure 9 — Installing the strike box and plate

- 1 Mortise the door jamb to fit the strike box and strike plate. Make sure to align the strike plate and latchbolt centers.

Caution: The deadlocking plunger of the latchbolt must not enter the strike plate opening. The plunger deadlocks the latchbolt and prevents forcing the latch when the door is closed. A gap of more than 1/8" may reduce security and/or cause improper operation of the latchbolt.

- 2 Insert the strike box and secure the strike plate with the screws provided.

9 Check handing

Note: When BEST 6K locks are properly installed, the figure-8 hole must be in the

upper half of the knob. If it is not, change the hand of the lock.

To change the hand of the lock

- 1 Remove the core and throw member (if already installed). See Figure 11.

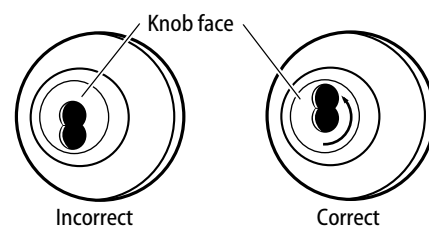


Figure 10 — Turning the knob face to correct the handing of the lock

- 2 Rotate the knob face one-half turn so that the figure-8 is in the upper half of the knob.

10 Install core

For 'R' function locks only

- Simulating the throw member, insert a screwdriver into the figure-8 opening and turn the locking mechanism counterclockwise as far as it will go before installing the core.

For all functions (including 'R' function)

For 6-pin core users only: Slide the spacer — supplied with your 6-pin cores — over the 7-pin throw member.

Note: If you have ordered 6-pin cores, you will get one spacer per core with your order. Spacers are not supplied with locks.

- 1 Insert the throw member (or throw member and spacer) into the back of the core.
- 2 Insert the control key into the core and turn the key 15 degrees clockwise.
- 3 Insert the core and throw member into the knob with the control key as shown in Figure 11.

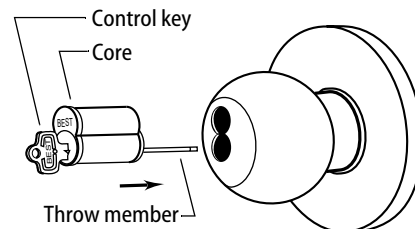


Figure 11 — Installing the core

- 4 Turn the key 15 degrees counterclockwise and remove the key.

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7KC SERIES

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *7KC Series Service Manual* contains essential information to help you maintain your 7KC Series Lock.

CERTIFICATIONS AND STANDARDS

- The product complies with ANSI A156.2, Series 4000 Grade 2 standards; California Administrative Code Title 19 and Title 24; Illinois Accessibility Standard.
- The locks are listed by Underwriter's Laboratories for use on 3 Hr., A label single swinging doors (4' x 8').
- The 6KS2 and 6KS3 strike fits the standard door frame cutout as specified in ANSI A115.2.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your 7KC Series Lock.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
<i>Installation Instructions for 72KC-75KC Cylindrical Locks[†]</i>	T80622
<i>Installation Instructions for 72KC-75KC OEM Key-in-Knob cylinders (provided by others)</i>	T80628
<i>Installation Instructions for 72KC-75KC Key-in-Knob cylinders (provided by BEST)</i>	T81196
<i>Installation Instructions for 7KC 1DT and 9K 1DT/2DT Dummy Trim Assemblies</i>	T56076

† These installation instructions are included in this manual. See *Installation Instructions* on [page A-1](#).

The templates required for lock installations also can be ordered separately:

Document Title	Doc. No.
<i>K08 Template for Door and Frame Preparation for 63K, 73KC, 83K, 93K Cylindrical Locks with Small (STK) Strike</i>	T56052
<i>K09 Template for Door and Frame Preparation for 63K, 73KC, 83K, 93K Cylindrical Locks with Large (S3) Strike</i>	T56053
<i>K10 Template for Door and Frame Preparation for 64K, 74KC, 84K, 94K Cylindrical Locks with Small (STK) Strike</i>	T56054
<i>K11 Template for Door and Frame Preparation for 64K, 74KC, 84K, 94K Cylindrical Locks with Large (S3) Strike</i>	T56055
<i>K12 Template for Door Frame Preparation for 65K, 75KC, 85K, 95K Cylindrical Locks with Small (STK) Strike</i>	T56056
<i>K13 Template for Door Frame Preparation for 65K, 75KC, 85K, 95K Cylindrical Locks with Large (S3) Strike</i>	T56057
<i>K18 Template for 7KC, 8K, 9K Dummy Trim</i>	T56059
<i>K21 Template for Strike Specification for 6K, 7KC, 8K, 9K Cylindrical Locks</i>	T56060
<i>Template for 3 3/4" and 5" Backset for 6K, 7KC, 8K, 9K Cylindrical Locks with RQE</i>	T56077
<i>Template for 2 3/4" Backset for 6K, 7KC, 8K, 9K Cylindrical Locks with RQE</i>	T56091
<i>Template for 2 3/8" Backset for 6K and 7KC Cylindrical Locks</i>	T56092

TECHNICAL SUPPORT

Support services When you have a problem with the 7KC Series Lock, your first resource for help is the *7KC Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure you are where the 7KC Series Lock is, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to solve the problem.

Best Access Systems Representatives provide telephone technical support for all 7KC Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web site, www.BestAccess.com.

2

FUNCTIONS AND PARTS LISTS

The following pages contain function descriptions for all 7KC Series Locks. This chapter also includes an exploded diagram of a lock as well as diagrams of trim and other miscellaneous parts.

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- single-keyed (page 2-2)
- non-keyed (page 2-3)
- ANSI designation (page 2-3).

Note: If the function is ANSI defined, the ANSI designation appears by the function name.

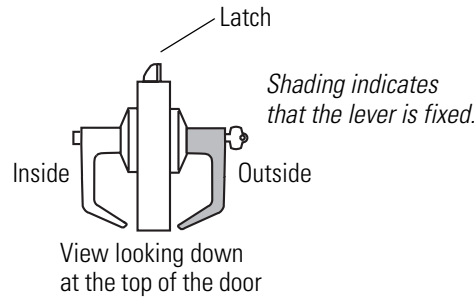
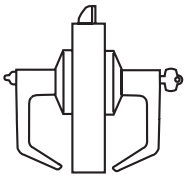


Figure 2.1 Understanding function drawings

Single-keyed functions

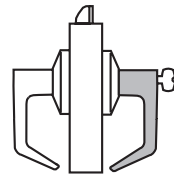
The following lists describe how the latchbolt, outside lever, and inside lever operate for each single-keyed 7KC function.

AB–Entrance (ANSI F109)



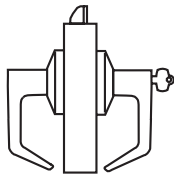
- Latchbolt operated by:**
- inside lever
 - outside key
 - outside lever when not locked
- Outside lever locked by:**
- inside button when pushed in
 - inside button when pushed in and rotated clockwise
- Outside lever unlocked by:**
- inside lever when inside button pushed in but not turned
 - outside key when inside button pushed in but not turned
 - closing door when inside button pushed in but not turned
- Inside lever is always unlocked**

D–Storeroom (ANSI F86)



- Latchbolt operated by:**
- inside lever
 - outside key
- Outside lever is always fixed**
- Inside lever is always unlocked**

R-Classroom (ANSI F84)



Latchbolt operated by:

- inside lever
- outside key
- outside lever when not locked

Outside lever locked by:

- outside key

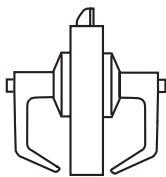
Outside lever unlocked by:

- outside key

Inside lever is always unlocked

Non-keyed functions The following lists describe how the latchbolt, outside lever, and inside lever operate for each non-keyed 7KC function.

L-Privacy (ANSI F76)



Latchbolt operated by:

- inside lever
- outside lever when not locked

Outside lever locked by:

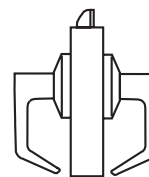
- inside button

Outside lever unlocked by:

- inside lever
- outside slotted button when rotated counterclockwise
- closing door

Inside lever is always unlocked

N-Passage (ANSI F75)



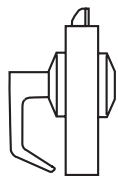
Latchbolt operated by:

- inside lever
- outside lever

Outside lever is always unlocked

Inside lever is always unlocked

Y-Exit

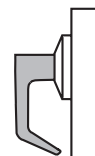


Latchbolt operated by:

- inside lever

Inside lever is always unlocked

1DT-Single dummy trim



This trim assembly is a single, surface-mounted, non-rotating lever for an inactive door or a non-latching door. It can be installed on either the inside or outside of the door.

Functions by ANSI designation	ANSI no.	Function
	F75	N
	F76	L
	F84	R
	F86	D
	F109	AB

AB FUNCTION CHASSIS AND TRIM—ENTRANCE LOCK (ANSI F109)

This diagram shows the AB function lock. The chassis without trim and individual chassis parts are not available to order. See the following pages for part numbers.

- For levers, see [page 2-7](#).
- For roses, see [page 2-6](#).
- For buttons, see [page 2-6](#).

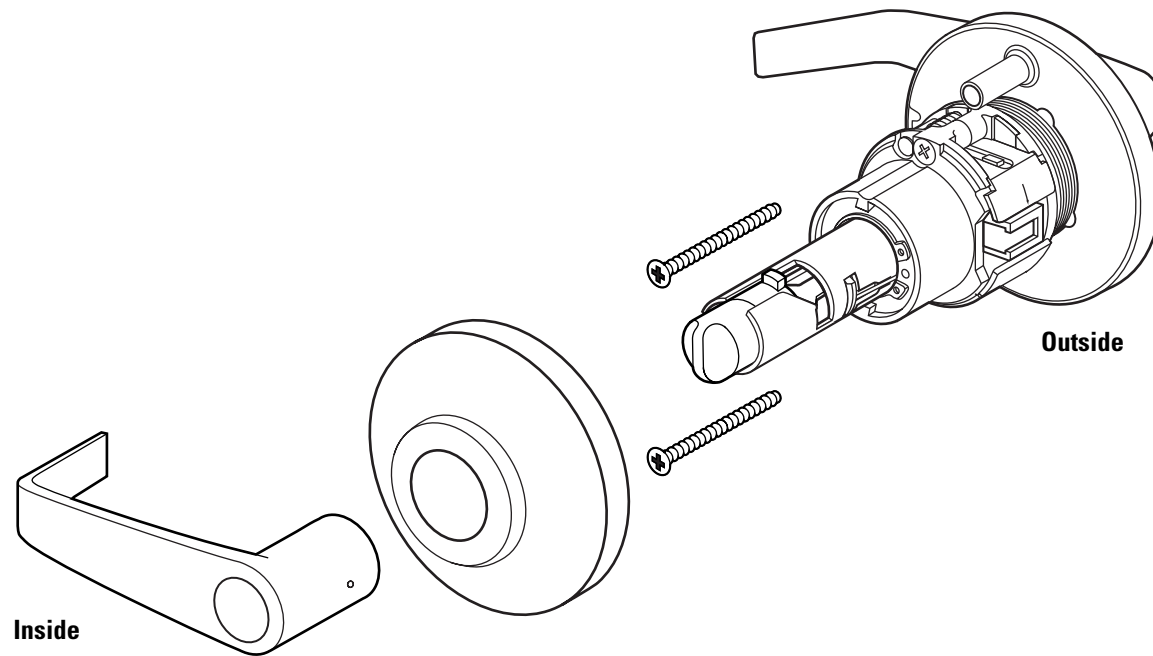


Figure 2.2 AB function exploded diagram

AB

TRIM PARTS

The available finishes are 605, 606, 612, 613, 625, 626.

Strikes and strike boxes

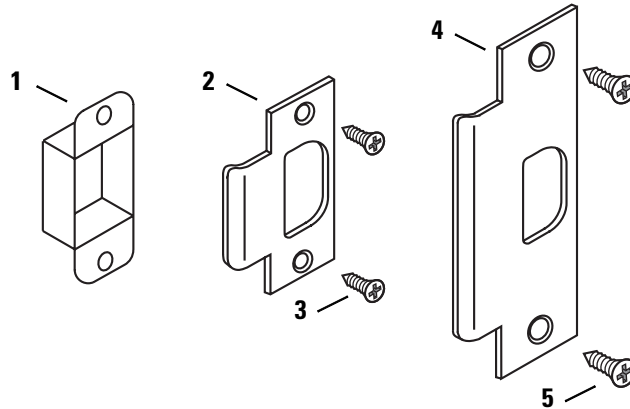


Figure 2.3 Strikes and strike boxes

Strikes and strike boxes parts list

Item	Nomenclature	Part no. [†]	Qty.	Description
1	8KS1	B25640	1	Standard steel strike box
2	6KS2 [‡]	A53761	1	Standard strike
3	N/A	A25359	2	Strike screw
4	6KS3 ^{††}	A53773	1	ANSI strike
5	N/A	A18724	2	Strike screw

[†] Specify finish.

[‡] Includes one A53761 strike, two A25359 strike screws, and one B25640 strike box.

^{††} Includes one A53773 strike and two A18724 strike screws.

Roses

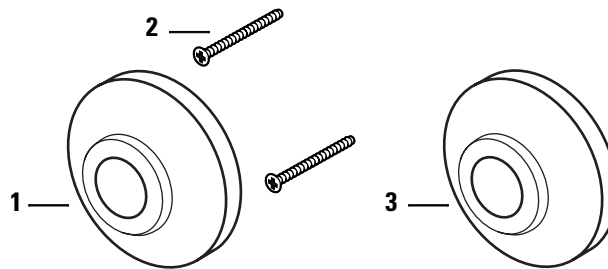


Figure 2.4 Roses

Roses parts list

Item	Part no. [†]	Qty.	Description
1	B56163	1	Inside rose
not shown	1833712	1	Inside rose liner
2	A55557	2	Through-bolt screw
3	B56164	1	Outside rose
not shown	1833754	1	Outside rose liner

† Specify finish.

Buttons

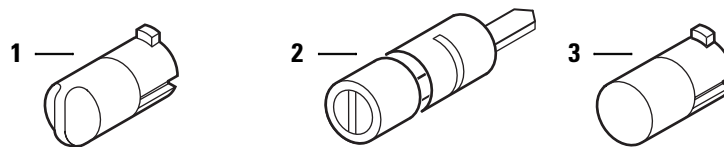


Figure 2.5 Buttons

Buttons parts list

Finish	Item 1	Item 2	Item 3
	Turn button assembly	Slotted button assembly	Push button assembly
605	1836205	1835725	1835966
606	1836247	1835767	1836006
612	1836289	1835809	1836048
613	1836320	1835840	1836080
625	1836362	1835882	1836121
626	1836404	1835924	1836163

**Standard levers
and throw member**

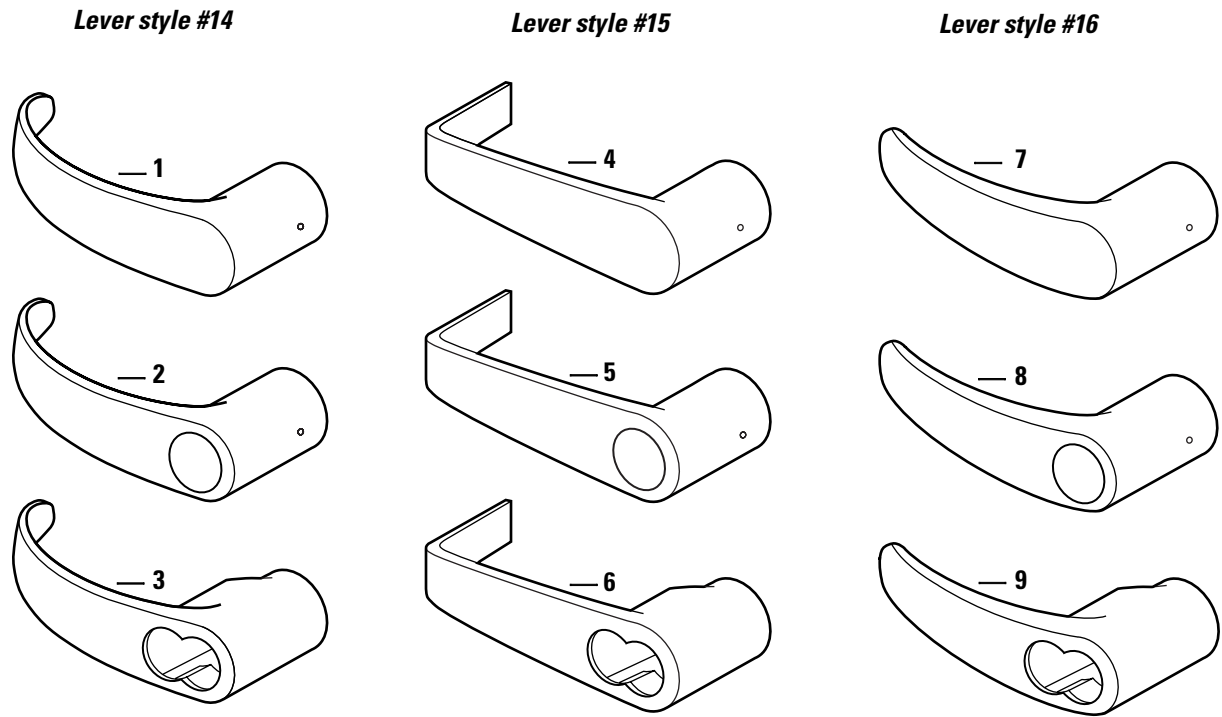


Figure 2.6 Standard levers

Standard levers parts list

Style	Item	Part no. [†]	Description
	1	D56159	Plain lever handle
14	2	D56157	Button lever handle
	3	D56158	Keyed lever handle
	4	D56155	Plain lever handle
15	5	D56153	Button lever handle
	6	D56154	Keyed lever handle
	7	D56162	Plain lever handle
16	8	D56160	Button lever handle
	9	D56161	Keyed lever handle

[†] Specify finish.

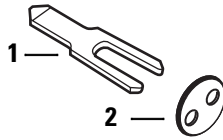


Figure 2.7 Throw member

Throw member part list

Item	Part no.	Qty.	Description
1	B56165	1	7KC throw member [†]
2	A56170	1	Throw member support ring

[†] Use for 6-pin and 7-pin cores. No spacer is required.

Non-interchangeable lever and cylinders

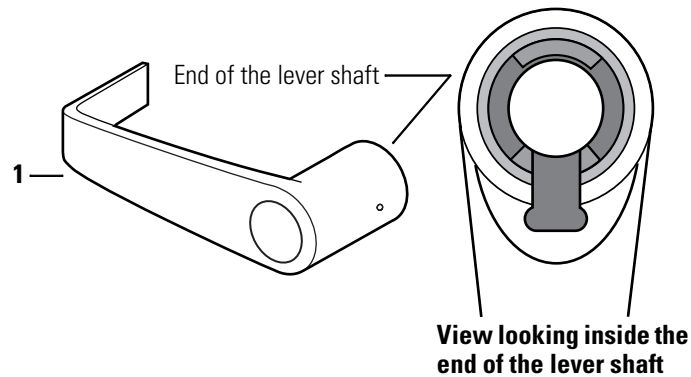


Figure 2.8 #15 Keyed lever for non-interchangeable cylinders

Non-interchangeable keyed lever and cylinders parts list

Item	Part no.	Finish	Description
1	D56156 [†]		#15 Keyed lever for non-interchangeable cylinders
not shown	1888913	626	Non-interchangeable cylinder, keyed different
not shown	1888955	606	Non-interchangeable cylinder, keyed different
not shown	1891329 [‡]	626	Non-interchangeable cylinder, keyed alike
not shown	1891287 [‡]	606	Non-interchangeable cylinder, keyed alike
not shown	1888756	626	Non-interchangeable cylinder, zero-bitted
not shown	1888798	606	Non-interchangeable cylinder, zero-bitted

[†] Specify finish.

[‡] Contains a set of 4 cylinders.

Latches

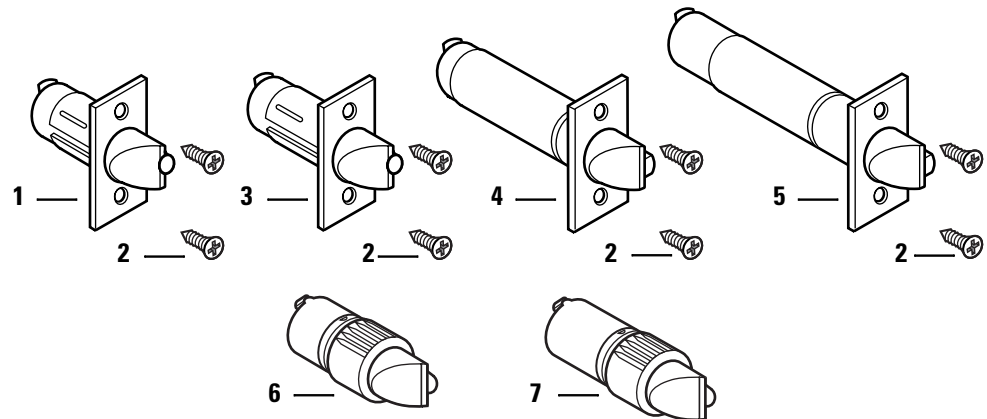


Figure 2.9 Latches

Latches parts list

Item	Part No. [†]	Nomen- clature	Backset	Description
1	B80112	6KL2-NF‡	2 3/8"	Deadlocking latch with narrow face (1")
not shown	B80188	6KL2-WF‡	2 3/8"	Deadlocking latch with wide face (1 1/8")
2	A25359	N/A	N/A	Latch screw
3	B80189	6KL3-NF‡	2 3/4"	Deadlocking latch with narrow face (1")
not shown	B80113	6KL3-WF‡	2 3/4"	Deadlocking latch with wide face (1 1/8")
4	B80194	6KL4-NF‡	3 3/4"	Deadlocking latch with narrow face (1")
not shown	B80195	6KL4-WF‡	3 3/4"	Deadlocking latch with wide face (1 1/8")
5	B80196	6KL5-NF‡	5"	Deadlocking latch with narrow face (1")
not shown	B80197	6KL5-WF‡	5"	Deadlocking latch with wide face (1 1/8")
6	A80192	6KL2-L8	2 3/8"	Drive-in latch
7	A80193	6KL3-L8	2 3/4"	Drive-in latch

† Specify finish.

‡ Includes the latch and two A25359 latch screws.

Installation tools

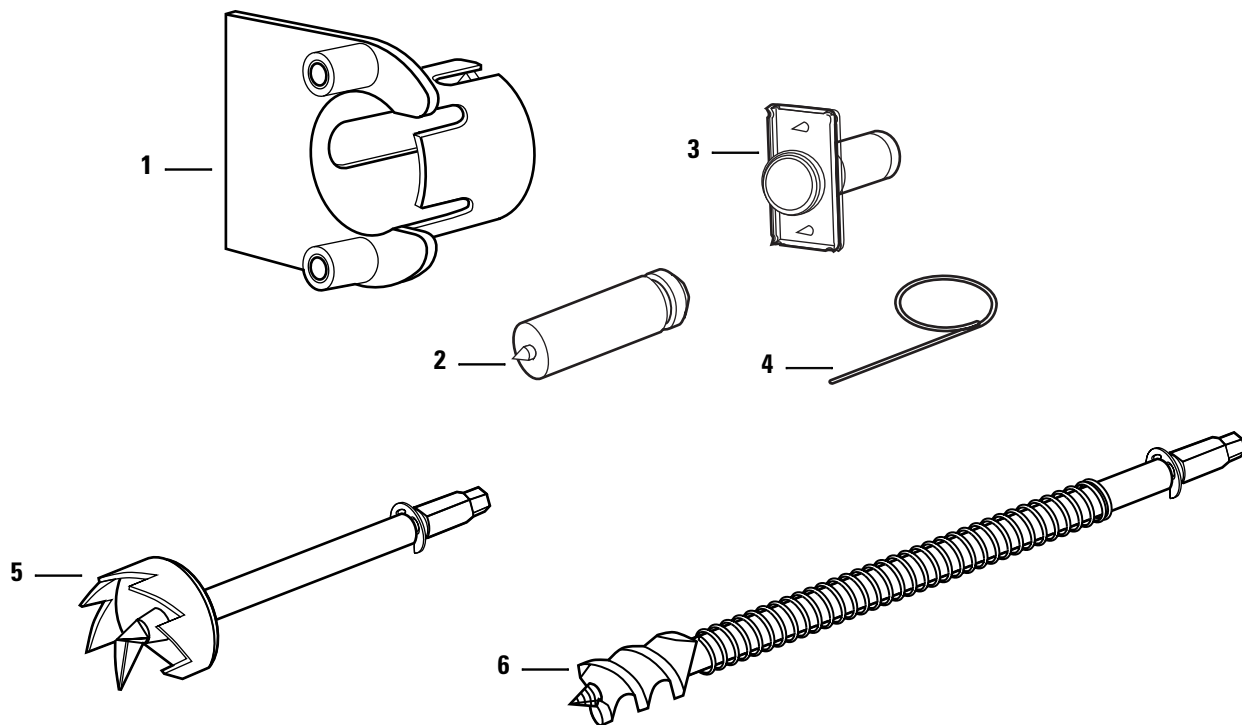


Figure 2.10 Installation tools

Installation tools parts list

Item	Nomenclature	Part no.	Description
1	KD303	C55034	Drill jig
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel (1 1/8" × 2 1/4")
not shown	KD312	1487975	Faceplate marking chisel (1" × 2 1/4")
4	N/A	A25341	Knob keeper tool
5	KD309	A54084	2 1/8" diameter chassis hole bit assembly†
6	KD318	A54085	1" diameter drill bit assembly†

† Use with the boring jig.

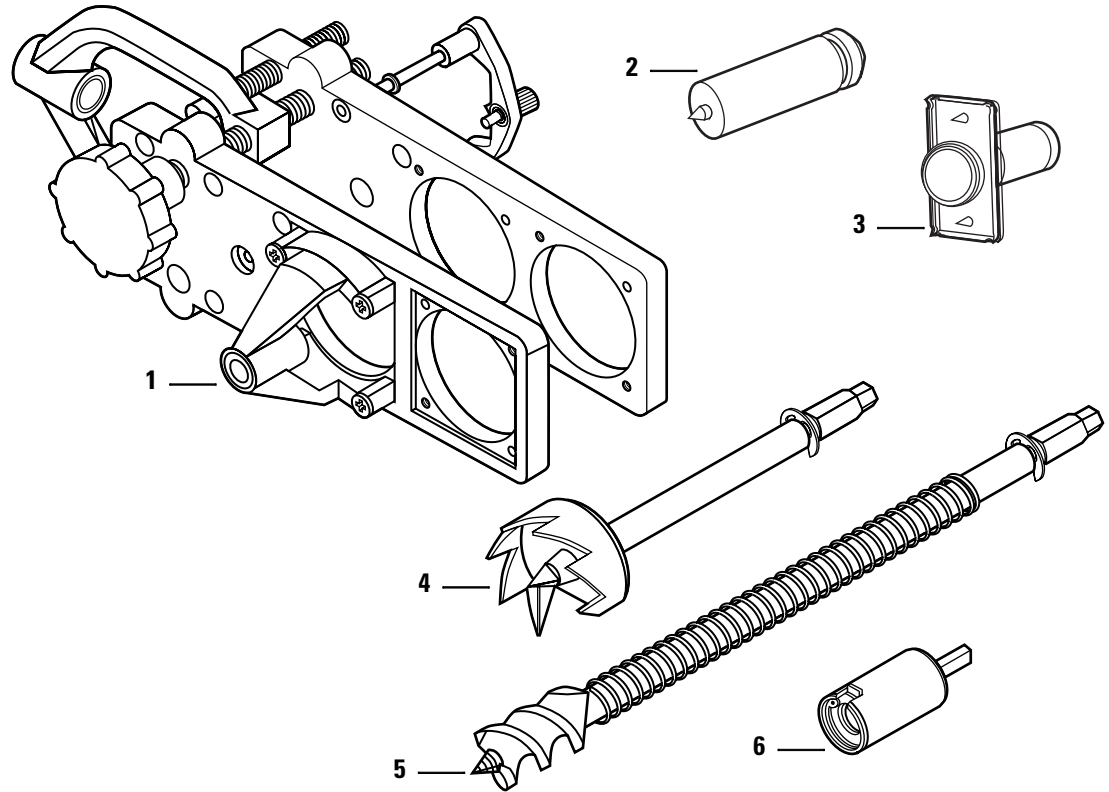


Figure 2.11 Boring jig kit

Boring jig kit parts list

Item	Nomenclature	Part no.	Description
1	N/A	N/A	Boring jig [†]
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel (1 1/8" × 2 1/4")
not shown	KD312	1487975	Faceplate marking chisel (1" × 2 1/4")
4	KD309	A54084	2 1/8" diameter chassis hole bit assembly
5	KD318	A54085	1" diameter drill bit assembly
6	N/A	N/A	Adaptor for 3/8" drill chuck [†]
1-6	KD304A	N/A	Boring jig kit

[†] Can only be ordered as part of the KD304A boring jig kit.

3

SERVICE AND MAINTENANCE

This chapter contains instructions for replacing components, servicing and maintaining components, and troubleshooting common problems.

To	See page
Replace levers	3-2
Replace roses	3-5
Replace button assemblies	3-8
Lubricate cores	3-10
Align chassis and trim	3-11
Troubleshoot common problems	3-12

REPLACING PARTS

Replacing the lever To remove the keyed lever:

Note: For instructions regarding non-IC levers, see *BEST Installation Instructions for 7KC Non-IC Cores and Throw Members (T80628)*.

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core and throw member from the lever.
3. Insert a flat blade screwdriver into the figure-8 core hole and into the lever keeper.
4. Press the screwdriver blade in the direction of the arrow in [Figure 3.1](#).

Note: You will not be able to remove the lever if the screwdriver blade is inserted too far past the keeper.

5. Slide the lever off the sleeve.

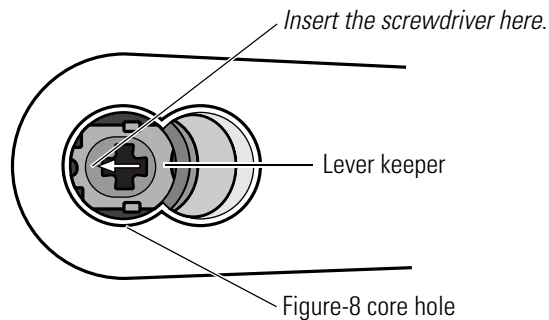


Figure 3.1 Removing the keyed lever

To remove the plain lever or button lever:

1. Insert the knob keeper tool into the hole on the shaft of the lever, as shown in [Figure 3.2](#).
2. Slide the lever off the sleeve.

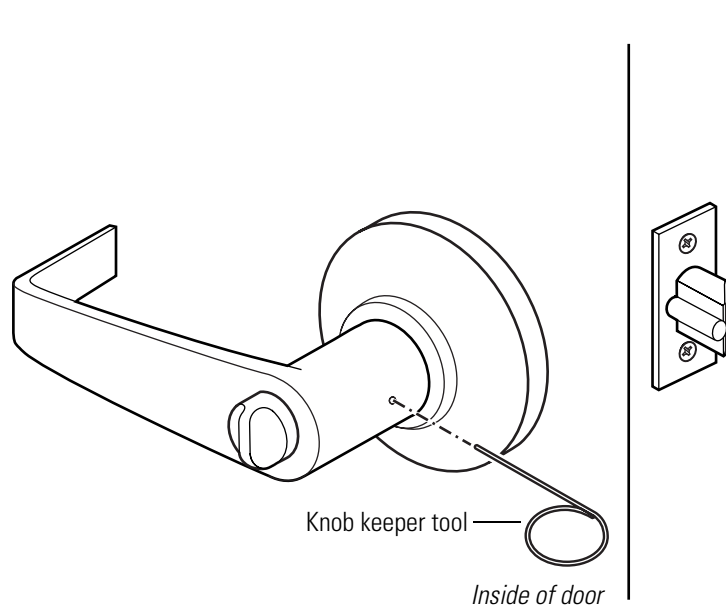


Figure 3.2 Removing the plain lever or button lever

To reinstall the lever:

Note: For instructions on reinstalling non-IC levers, see *BEST Installation Instructions for 7KC Non-IC Cores and Throw Members* (T80628).

1. Position the lever so that the handle points toward the door hinges, as shown in [Figure 3.3](#).
2. Slide the lever onto the sleeve and firmly push on the lever until it is seated.
3. Turn the levers to check that they operate smoothly.

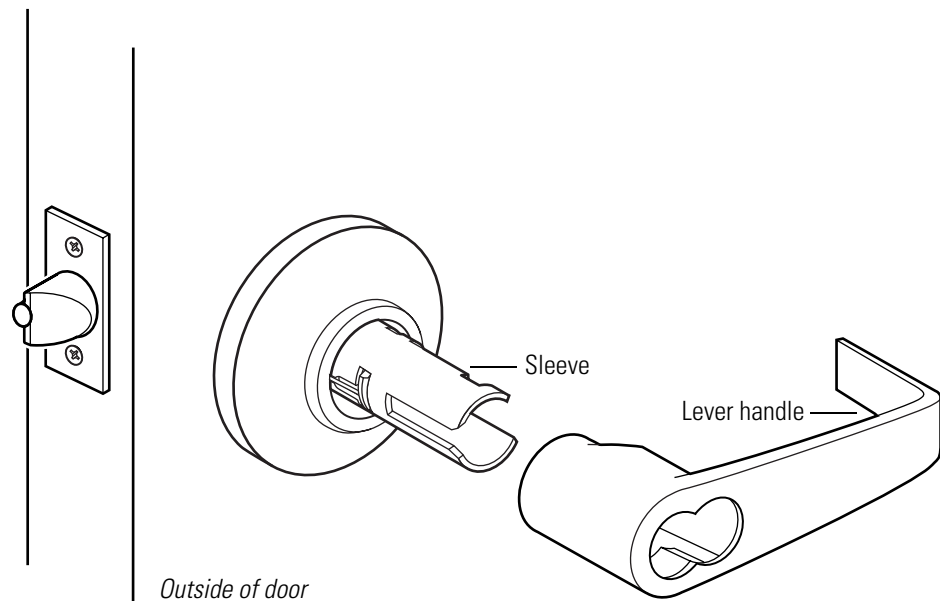


Figure 3.3 Reinstalling the lever (keyed lever shown)

4. If the lever is keyed, perform the steps below.
 - a. *For R function locks*, insert a screwdriver into the figure-8 opening and turn the locking mechanism counterclockwise as far as it will go.
For all other function locks, go to step b.
 - b. Insert the control key into the core and rotate the key 15 degrees to the right.
 - c. Using the control key, insert the core and throw member into the lever.
 - d. Rotate the control key 15 degrees to the left and remove the key.

Replacing the inside rose

To remove the inside rose:

1. Remove the inside lever ([page 3-2](#)).
2. Insert a flat blade screwdriver in the slot between the rose and liner, as shown in [Figure 3.4](#). Pry the rose until it pops off the liner.

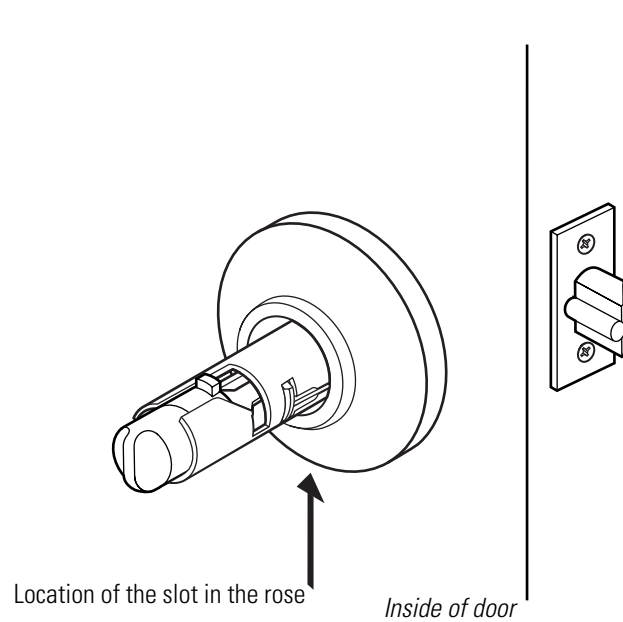


Figure 3.4 Removing the inside rose with the screwdriver

3. Unscrew the two through-bolts. Save the through-bolts.
4. Slide the liner off the sleeve. Save the liner.

To reinstall the inside rose:

1. Align the holes in the liner with the holes prepared in the door, as shown in [Figure 3.5](#).
2. Install the two through-bolts through the liner and door in the top and bottom holes.
3. Tighten the liner onto the door with the through-bolts.
4. Align the slot in the rose with the tab on the liner and firmly press until the rose is flush with the door.

5. Reinstall the inside lever ([page 3-4](#)).

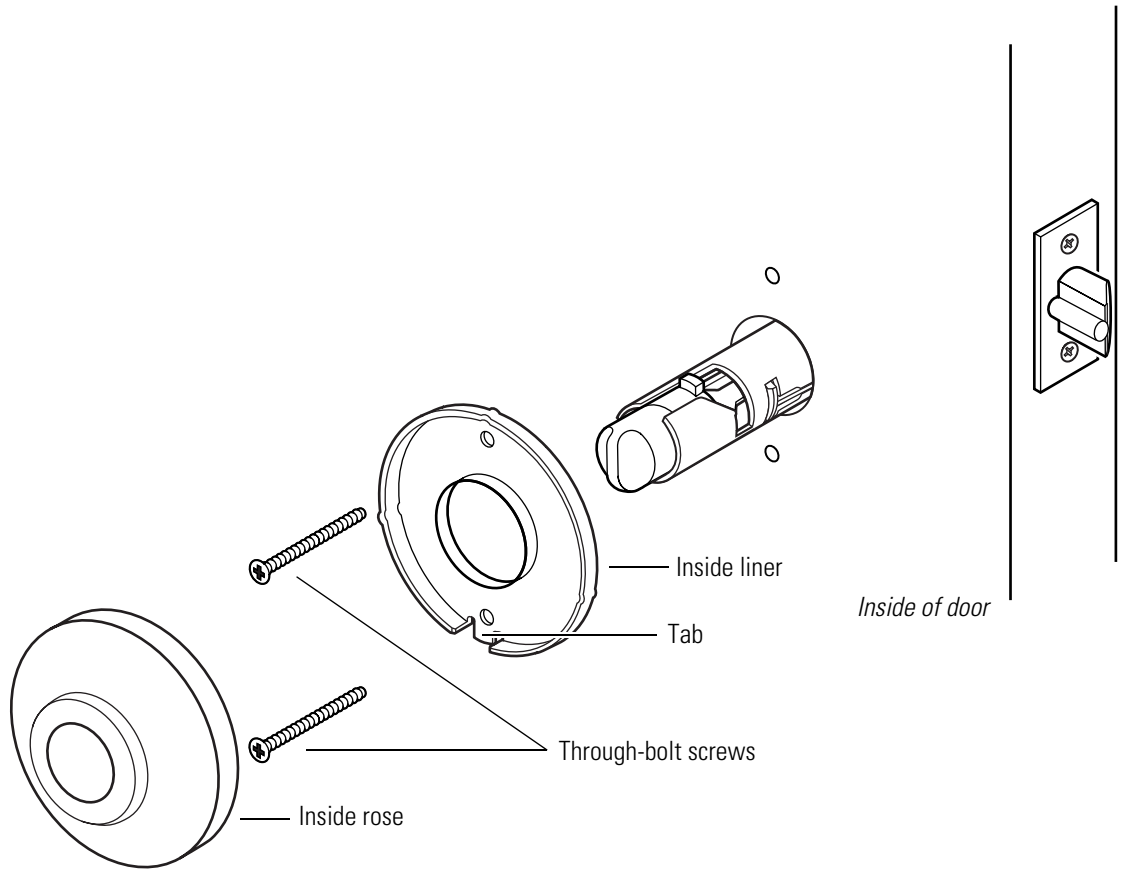


Figure 3.5 Reinstalling the inside rose and rose liner

Replacing the outside rose

To remove the outside rose:

1. Remove the following components:
 - levers ([page 3-2](#))
 - inside rose and rose liner ([page 3-5](#)).
2. Slide the chassis assembly out of the door.
3. Retract the rose locking pin, and rotate the rose and liner assembly until it is free from the hub. See [Figure 3.6](#).

4. Slide the rose and liner assembly off the sleeve.

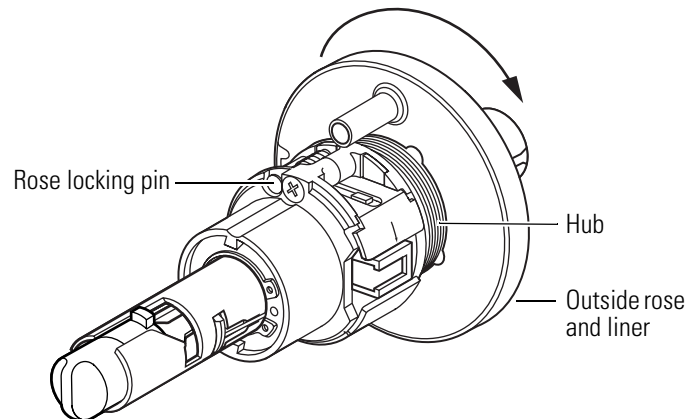


Figure 3.6 Removing the outside rose

5. To separate the rose from the liner, insert a flat blade screwdriver in the slot between the rose and the liner. Pry the rose until it pops off the liner.

To reinstall the outside rose:

1. Firmly press the outside rose onto the liner.
2. Slide the outside rose and liner assembly onto the outside hub.
3. Retract the rose locking pin, and rotate the rose and liner assembly onto the hub until the assembly reaches the bottom of the threading.
4. With the rose locking pin still retracted, rotate the rose and liner assembly back off the hub. When the posts on the liner align with the chassis screws, release the rose locking pin into the indent in the liner. See [Figure 3.7](#). The pin should lock into the rose liner.

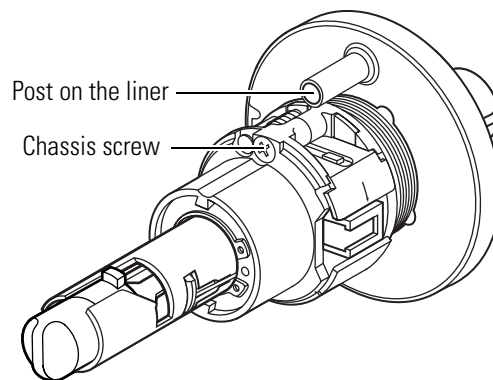


Figure 3.7 Reinstalling the outside rose

- From the outside of the door, install the chassis assembly. The outside rose and liner assembly should be flush with the door. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor. See [Figure 3.8](#).

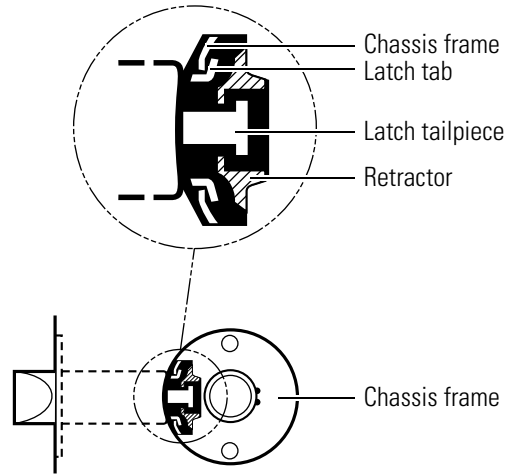


Figure 3.8 Engaging the retractor in the latch

- Reinstall the following components:
 - inside rose and rose liner ([page 3-5](#))
 - levers ([page 3-4](#)).

Replacing the button assembly

To remove the button assembly:

Note: These instructions apply for all types of button assemblies.

- Remove the lever ([page 3-2](#)).

2. Insert a flat blade screwdriver behind the plastic button retainer and pry the button assembly from the locking bar, as shown in [Figure 3.9](#).

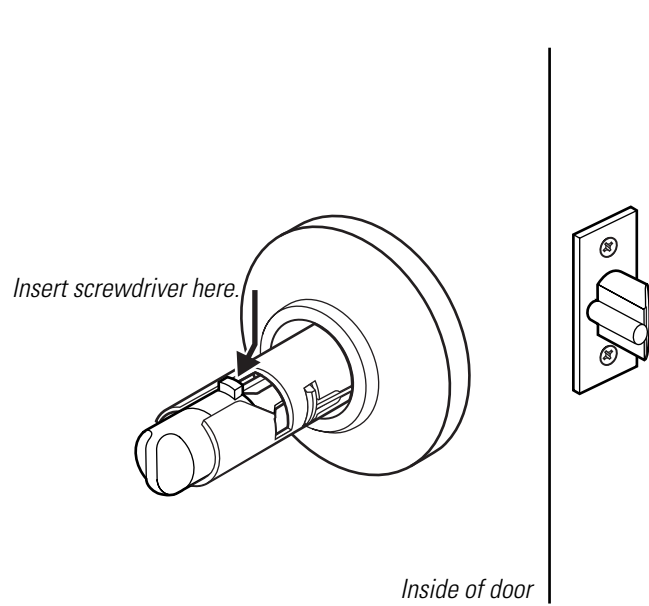


Figure 3.9 Removing the button assembly

To reinstall the button assembly:

1. Align the button tab with the top slot in the sleeve, as shown in [Figure 3.10](#).

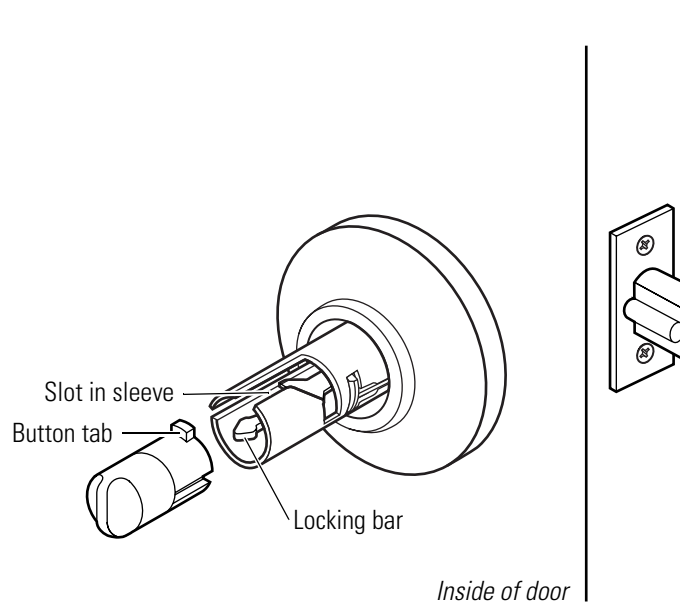


Figure 3.10 Inserting the button assembly into the sleeve

2. Firmly press the button assembly onto the locking bar until it is seated.
3. Reinstall the lever ([page 3-2](#)).

LUBRICATING THE CORES



Caution

Do not lubricate cores with oil. Doing so will only attract dirt.

For powdered graphite lubrication:

1. Dip a key in graphite. Insert the key into the keyhole and remove it; repeat several times. *OR*
Spray graphite into the keyhole. Insert the key into the keyhole and remove it; repeat several times.
2. Allow the graphite to sift into the pin segment holes.

For silicone type lubrication:

1. Clean all existing lubricant out of the core.



Caution

Do not mix graphite with a silicone-type lubricant.

2. With the core inverted, spray the lubricant into the key opening allowing the spray to penetrate the pin segment holes.

Note: When cores are installed and exposed to harsh weather conditions, silicone-type lubricants can help displace moisture as well as spread into pin segment holes and other surfaces.

ALIGNING THE CHASSIS AND TRIM

Establish a schedule to inspect locks, doors, and door hardware for proper alignment and operation. Occasionally a lock chassis and/or rose trim may become loose and require tightening.

To retighten a loose or misaligned chassis or rose trim:

1. Remove the following components:
 - levers ([page 3-2](#) or [page 3-3](#))
 - inside rose and rose liner ([page 3-5](#)).
2. Align the chassis with the latch. Make sure that the latch tabs engage the chassis frame and the latch tailpiece engages the retractor, as shown in [Figure 3.11](#). The outside rose and liner should also be flush with the door.

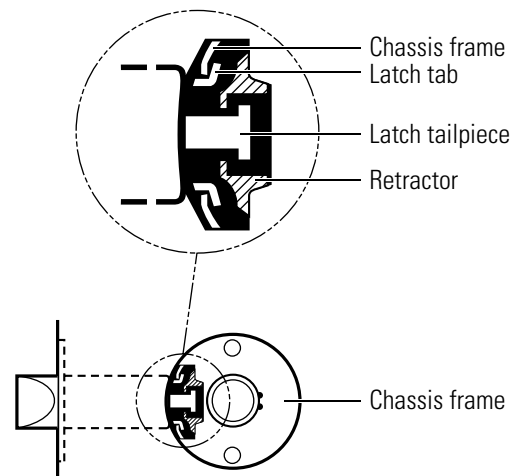


Figure 3.11 Engaging the retractor in the latch

3. If the chassis is not aligned with the latch, or the outside rose is not flush with door, perform these steps:
 - a. Slide the chassis assembly out of the door.
 - b. Retract the rose locking pin and adjust the outside rose and liner assembly as necessary, as shown in [Figure 3.12](#).
 - c. Release the rose locking pin when it is lined up with an indent in the liner and the posts on the liner match up with the chassis screws. The pin should lock into the rose liner.

- d. From the outside of the door, install the lock chassis assembly. The outside rose and liner assembly should be flush with the door. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor.

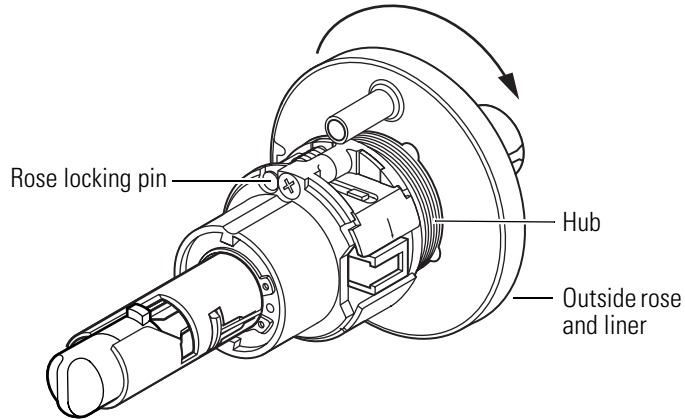


Figure 3.12 Adjusting the outside rose and liner assembly

4. Test the lever operation to make sure that the latch tailpiece does not bind with the chassis retractor.
5. Reinstall the following components:
 - inside rose and liner (page 3-5)
 - levers (page 3-4).

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems. The causes are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice...	Possible causes include...	You should...
Lever won't return to its normal position.	There is binding between the lever and rose.	Make sure that the lock chassis is centered within the door (page 3-11).
Key spins freely, but won't retract the latch or unlock the door.	Throw member is not installed.	Install the throw member.
Core doesn't fit into the lever core hole.	Keyed lever is defective.	Replace the keyed lever (page 3-2).
Button doesn't pop out as expected.	Button retainer is damaged or bent.	Replace the button assembly (page 3-8).
Latch doesn't retract.	<ol style="list-style-type: none"> a. Latch tailpiece is broken. b. Latch tailpiece didn't engage the retractor correctly during installation. 	<ol style="list-style-type: none"> a. Replace the latch assembly. b. Reinstall the lock chassis in the door (page 3-6).

A

INSTALLATION INSTRUCTIONS

The following pages contain the *Installation Instructions for 72KC-75KC Cylindrical Locks*.

For factory prepared doors only

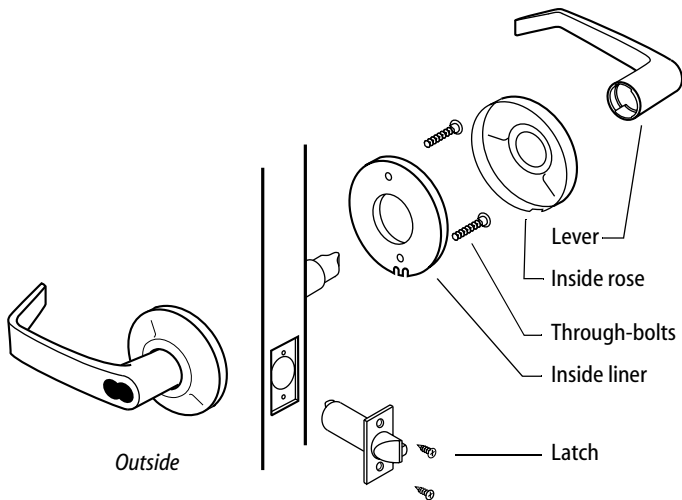


Figure 1 — Overview of installing the lock

Caution: If you use hollow metal doors, determine whether the doors are reinforced enough to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.

Simplified instructions

- 1 Install the latch so that the bevel on the latchbolt faces the strike.
- 2 Adjust the outside rose assembly so that the chassis is centered in the door. Install the chassis from the outside of the door.
- 3 Install the inside liner, through-bolts, rose, lever and strike.

For field door preparation and detailed installation instructions, see the following tasks.

1 Position template

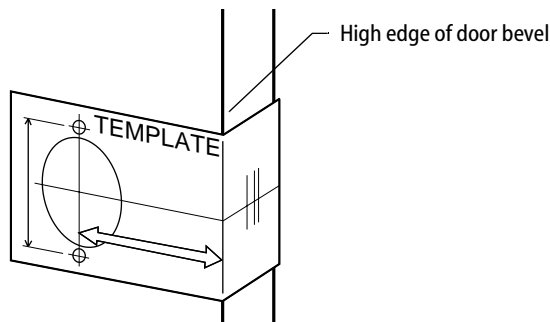


Figure 2 — Placing the template onto the door

- 1 Fold the template and place it in position on the high edge of the door bevel. See Figure 2.
- 2 Mark the drill points.

Note: The suggested height from the floor to centerline of the lock is 40 5/16". If steel frames are used, the latch centerline must be in line with the center of the strike preparation.

2 Bore two holes and install latch

- 1 Bore a 2 1/8" diameter hole from both sides of the door, to the center of the door.
- 2 Drill a 1" diameter hole from the edge of the door that intersects the 2 1/8" hole.
- 3 Mortise the door edge for the latch face.
- 4 Install the latch through the 1" diameter hole. For drive-in latches, use a rubber mallet. Latch tabs should project into the 2 1/8" diameter hole. See figure 3 in task 3.
- 5 Check the door swing.

3 Install boring jig and drill two 5/16" diameter holes

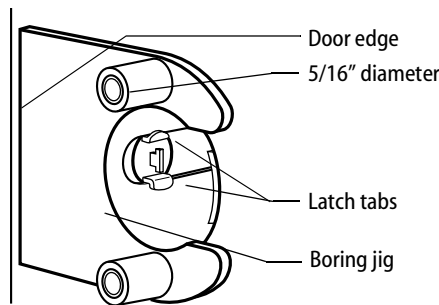


Figure 3 — Installing the boring jig onto the door

- 1 Install the boring jig onto the door and engage with the latch tabs. Make sure the front edge of the jig is parallel with the door edge. See Figure 3.
- 2 Drill two 5/16" diameter holes halfway into the door.
- 3 Turn the boring jig over and repeat steps one and two from the opposite side of the door.

Note: Replace the boring jig after ten door preparations.

4 Adjust lock to door thickness

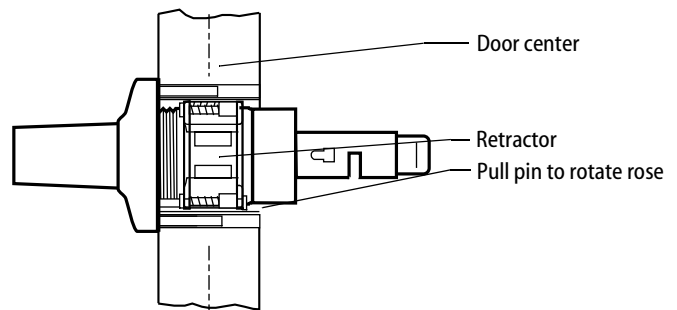


Figure 4 — Adjusting the lock to match the door thickness

- 1 Temporarily remove the latch.

- Retract the rose locking pin and rotate the outside rose liner in or out for the proper door thickness by lining up the "DOOR CENTER" mark with the center of the latch hole.
- Reinstall the latch.

Note 1: Make sure the locking pin locks into the rose liner.

Note 2: Locksets will fit 1 3/8" to 2" thick doors.

5 Engage retractor in latch

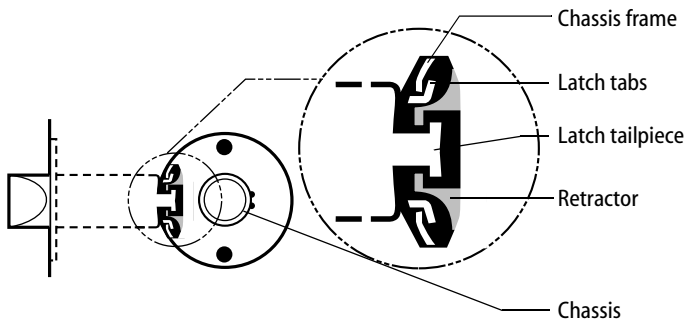


Figure 5 — Engaging the latch in the retractor

- With the latch in place, install the chassis from the outside. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor. See Figure 5.

6 Install liner, rose, and lever

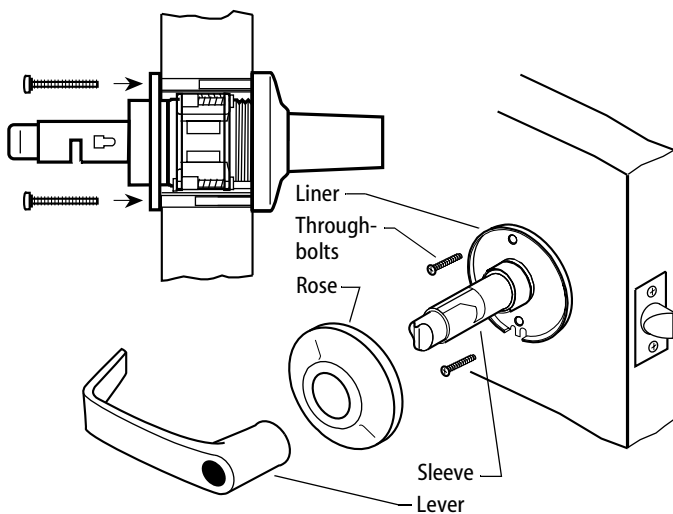


Figure 6 — Installing the inside liner, rose, and lever

- Align the holes in the liner with the holes prepared in the door.
- Install through-bolts through the liner and the door in the top and bottom holes. See Figure 6.
- Tighten the liner onto the door with the through-bolts.
- Slide the rose over the sleeve, then press the rose onto the liner. The rose should fit closely to the door surface.
- With the lever pointing toward the hinges, push the lever on firmly until seated.

7 Install strike plate

- In alignment with the center of the latchbolt, mortise the door jamb to fit the strike box and strike plate.

Caution: The deadlocking plunger of the latchbolt must not enter the strike plate opening. The plunger deadlocks the latchbolt and prevents forcing the latch when the door is closed. A gap of more than 1/8" may reduce security and/or cause improper operation of the latchbolt.

- Insert the strike box and secure the strike with the screws provided. See Figure 7.

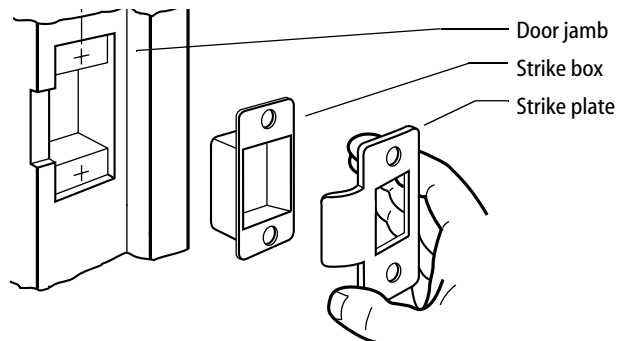


Figure 7 — Installing the strike box and strike plate

8 Install core

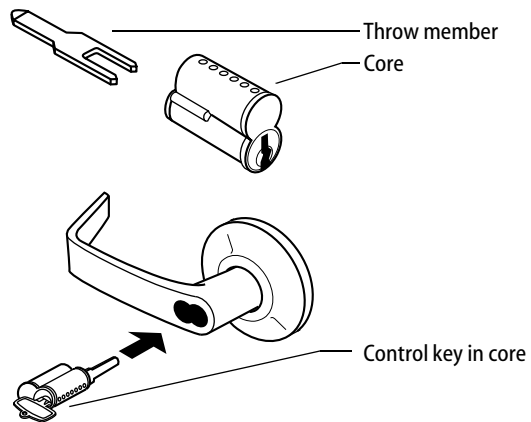


Figure 8 — Installing the core

- For R function locks**, insert a screwdriver into the figure-8 opening and turn the locking mechanism counterclockwise as far as it will go. **For all other function locks**, go to step 2.
- Insert the throw member into the core (see Figure 8 — top).
- Put the control key into the core and turn the key 15 degrees clockwise.
- Put the core and throw member into the lever with the control key (see Figure 8—bottom).
- Turn the key 15 degrees counterclockwise and remove the key.

Caution: Since the control key is a high-security key, make sure to keep it protected.

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8K SERIES

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *8K Series Service Manual* contains essential information to help you maintain your 8K Series Lock. This manual addresses standard and electrified 8K Series Locks. Throughout this manual, the term electrified is used to refer to 83KW-93KW DEL, DEU function locks.

CERTIFICATIONS AND STANDARDS

- | | |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8K Series Locks | <ul style="list-style-type: none">■ The locks comply with ANSI A156.2, Series 4000 Grade 1 standards.■ The locks are listed by Underwriter's Laboratories for use on 3 Hr., A label single swinging doors.■ The chassis conforms to ANSI A115.2.■ The 8KS3 strike fits the standard door frame cutout as specified in ANSI A115.2. |
| Electrified Locks | <ul style="list-style-type: none">■ The 8KW Locks are UL listed for GYQS electrically controlled single point locks or latches.■ The 8KW Locks are approved by the California State Fire Marshal (CSFM) pursuant to section 13144.1 of the California Health and Safety Code.■ The 8KW Locks are approved by the city of New York Board of Standards and Appeals under calendar number 730-89-SA. See CSFM listing number 4136-1175:103. |

- Accessories**
- The 8W599 transformer is UL listed.
 - The 8WCON AC to DC converter full wave bridge rectifier is UL recognized.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your 8K Series Lock.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
<i>Installation Instructions for 8K Cylindrical Locks[†]</i>	<i>T56066</i>
<i>8K "C, R, S, & T" Function Cam Positioning Instructions</i>	<i>T56068</i>
<i>8K H & HJ Function Key Instructions</i>	<i>T56070</i>
<i>8K "G" Function Cam Positioning Instructions</i>	<i>T56071</i>
<i>Wiring Instructions for 8K and 9K Series Electrified Cylindrical Locks with RQE[†]</i>	<i>T56090</i>
<i>Door Wiring Instructions for Electrically-Operated Locks</i>	<i>T61926</i>
<i>Installation Instructions for 8K Dummy Trim</i>	<i>T81157</i>

† These installation instructions are included in this manual (see *Installation Instructions* on [page A-1](#)).

The templates required for lock installations also can be ordered separately:

Document Title	Doc. No.
<i>K08 Template for Door and Frame Preparation for 63K, 73KC, 83K, 93K Cylindrical Locks with Small (STK) Strike</i>	<i>T56052</i>
<i>K09 Template for Door and Frame Preparation for 63K, 73KC, 83K, 93K Cylindrical Locks with Large (S3) Strike</i>	<i>T56053</i>
<i>K10 Template for Door and Frame Preparation for 64K, 84K, 94K Cylindrical Locks with Small (STK) Strike</i>	<i>T56054</i>
<i>K11 Template for Door and Frame Preparation for 64K, 84K, 94K Cylindrical Locks with Large (S3) Strike</i>	<i>T56055</i>
<i>K12 Template for Door Frame Preparation for 65K, 85K, 95K Cylindrical Locks with Small (STK) Strike</i>	<i>T56056</i>
<i>K13 Template for Door Frame Preparation for 65K, 85K, 95K Cylindrical Locks with Large (S3) Strike</i>	<i>T56057</i>

Document Title	Doc. No.
<i>K18 Template for Installation of 8K/9K Dummy Trim</i>	<i>T56059</i>
<i>K21 Template for Strike Specification for 6K, 8K, 9K Cylindrical Locks</i>	<i>T56060</i>
<i>Template for 3 3/4" & 5" Backset 6K, 8K, 9K Cylindrical Locks with RQE</i>	<i>T56077</i>
<i>Template for 2 3/4" Backset 6K, 7KC, 8K, 9K Cylindrical Locks with RQE</i>	<i>T56091</i>
<i>W14 Template; Installation Specifications for 83KW/93KW-85KW/95KW IDH Max Cylindrical Locks</i>	<i>T60777</i>
<i>W16 Template; Installation Template for 83KW/93KW-85KW/95KW IDH Max Cylindrical Locks</i>	<i>T60773</i>
<i>Template for 8K Dummy Trim</i>	<i>T81158</i>

TECHNICAL SUPPORT

Support services When you have a problem with the 8K Series Lock, your first resource for help is the *8K Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for all 8K Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web site, www.BestAccess.com.

2

FUNCTIONS AND PARTS LISTS

The following pages contain function descriptions for all 8K Series Locks. This chapter also includes exploded diagrams that show all field serviceable mechanical parts, diagrams of trim and other miscellaneous parts, and function conversion information.

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- single-keyed (page 2-3)
- double-keyed (page 2-5)
- non-keyed (page 2-6)
- special (page 2-7)
- electrified (page 2-10).

For a list of the BEST designation for each ANSI-defined function, see page 2-10.

Note: If the function is ANSI defined, the ANSI designation appears by the function name.

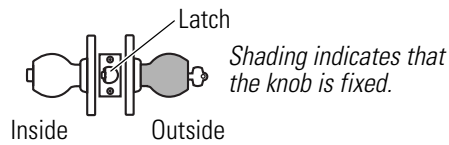
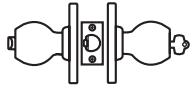


Figure 2.1 Understanding function drawings

Single-keyed functions The following lists describe how the latchbolt, outside knob, and inside knob operate for each single-keyed 8K function.

AB—Entrance (ANSI F109)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

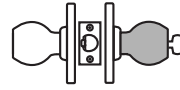
- inside button when pushed in
- inside button when pushed in and rotated clockwise

Outside knob unlocked by:

- inside knob when the inside button is pushed in but not rotated
- outside key when the inside button is pushed in but not rotated
- closing the door when the inside button is pushed in but not rotated

Inside knob is always unlocked

D—Storeroom (ANSI F86)

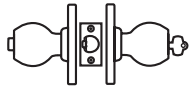


Latchbolt operated by:

- inside knob
- outside key

Outside knob is always fixed
Inside knob is always unlocked

E—Service station (ANSI F92)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

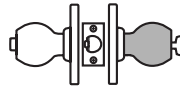
- inside slotted button
- inside slotted button when pushed in and rotated clockwise

Outside knob unlocked by:

- inside knob
- inside slotted button when rotated counterclockwise
- outside key
- closing the door when the inside button is pushed in but not rotated

Inside knob is always unlocked

H and HJ—Hotel guest room (ANSI F93 for H only)



Latchbolt operated by:

- inside knob
- outside key when the inside button is in the unlocked position
- special emergency key after the core is removed with the control key

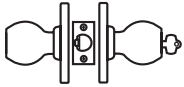
Outside knob is always fixed
Key block feature released by:

- inside knob
- closing the door

Inside knob is always unlocked

Note: For the H function, pushing the inside button projects an “Occupied” indicator in the outside knob and blocks all operating keys. For the HJ function, pushing the inside button blocks all operating keys.

R-Classroom (ANSI F84)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when not locked

Outside knob locked by:

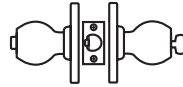
- outside key

Outside knob unlocked by:

- outside key

Inside knob is always unlocked

T-Dormitory (ANSI F90)



Latchbolt operated by:

- inside knob
- outside knob when not locked

Outside knob locked by:

- inside button
- outside key

Outside knob unlocked by:

- inside knob when the inside button is pushed in
- outside key
- closing the door when the inside button is pushed in

Inside knob is always unlocked

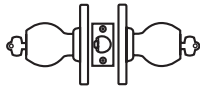
Double-keyed functions



The following lists describe how the latchbolt, outside knob, and inside knob operate for each double-keyed 8K function.

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

⚡ C—Apartment (ANSI F88)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when not locked

Outside knob locked by:

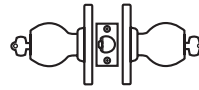
- inside key

Outside knob unlocked by:

- inside key

Inside knob is always unlocked

⚡ G—Storeroom (ANSI F91)



Latchbolt operated by:

- inside knob when not locked
- outside knob when not locked

Outside knob locked by:

- inside key
- outside key

Outside knob unlocked by:

- inside key
- outside key

Inside knob locked by:

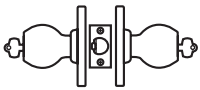
- inside key
- outside key

Inside knob unlocked by:

- inside key
- outside key

Note: Turning the key in either the inside or outside knob locks or unlocks both sides.

⚡ S—Communicating (ANSI F80)



Latchbolt operated by:

- inside key
- inside knob when not locked
- outside key
- outside knob when not locked

Outside knob locked by:

- outside key

Outside knob unlocked by:

- outside key

Inside knob locked by:

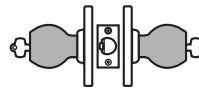
- inside key

Inside knob unlocked by:

- inside key

Note: Turning the key in either knob locks or unlocks that knob independently.

⚡ W—Institutional (ANSI F87)



Latchbolt operated by:

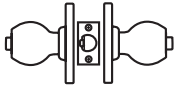
- inside key
- outside key

Outside knob is always fixed

Inside knob is always fixed

Non-keyed functions The following lists describe how the latchbolt, outside knob, and inside knob operate for each non-keyed 8K function.

L-Privacy (ANSI F76)



Latchbolt operated by:

- inside knob
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

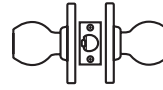
- inside button

Outside knob unlocked by:

- inside knob
- outside slotted button when pushed in and rotated counterclockwise
- closing the door

Inside knob is always unlocked

N-Passage (ANSI F75)

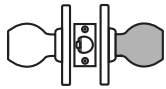


Latchbolt operated by:

- inside knob
- outside knob

Outside knob is always unlocked
Inside knob is always unlocked

NX-Exit (ANSI F89)



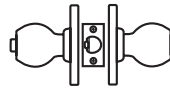
Latchbolt operated by:

- inside knob

Outside knob is always fixed

Inside knob is always unlocked

P-Patio (ANSI F77)



Latchbolt operated by:

- inside knob
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

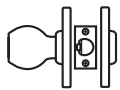
- inside button

Outside knob unlocked by:

- inside knob
- closing the door

Inside knob is always unlocked

Y-Exit



Latchbolt operated by:

- inside knob

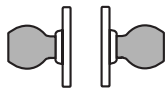
Inside knob is always unlocked

1DT-Single dummy trim



This assembly is a single, surface mounted knob for an inactive door or a non-latching door. Single dummy trim can be installed on the inside or outside of the door.

2DT-Double dummy trim



This assembly is a through-bolt mounted pair of matching knobs for an inactive door or a non-latching door.

Special applications

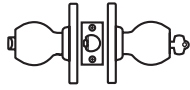


Warning!

The following lists describe how the latchbolt, outside knob, and inside knob operate for each special 8K function.

Locks that secure both sides of the door are recontrolled by building codes and the Life Safety Code[®]. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

A—Dormitory or storeroom lock (ANSI F81)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

- inside button

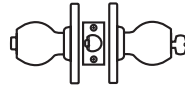
Outside knob unlocked by:

- inside button

Inside knob is always unlocked

Note: Inside button must be rotated counterclockwise to unlock the outside knob.

B—Office (ANSI F82)



Latchbolt operated by:

- inside knob
- outside key
- outside knob when the inside button is in the unlocked position

Outside knob locked by:

- inside button

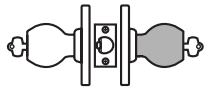
Outside knob unlocked by:

- inside knob
- outside key

Inside knob is always unlocked

Note: Inside button is released by turning the key in the outside knob or rotating the inside knob. Closing the door does not release the inside button.

⚠ DR—Special



Latchbolt operated by:

- inside key
- inside knob when not locked
- outside key

Outside knob is always fixed

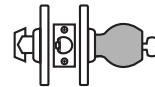
Inside knob locked by:

- inside key

Inside knob unlocked by:

- inside key

DZ—Closet or storeroom



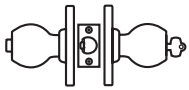
Latchbolt operated by:

- inside turn knob
- outside key

Outside knob is always fixed

Inside turn knob is always unlocked

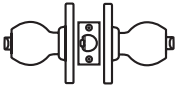
EA—Entrance or Office



- Latchbolt operated by:**
- inside knob
 - outside key
 - outside knob when the inside button is in the unlocked position
- Outside knob locked by:**
- inside button
 - inside button when pushed in and rotated clockwise
- Outside knob unlocked by:**
- inside knob
 - inside button when rotated counterclockwise
 - outside key
- Inside knob is always unlocked**

Note: Turning the slotted button keeps the outside knob locked until the button is turned back.

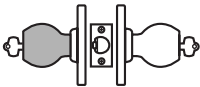
⚡ M—Communicating (ANSI F78)



- Latchbolt operated by:**
- inside knob when not locked
 - outside knob when not locked
- Outside knob locked by:**
- inside button
- Outside knob unlocked by:**
- inside button
- Inside knob locked by:**
- outside button
- Inside knob unlocked by:**
- outside button

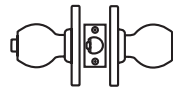
Note: Do not use this function for rooms that have no other entrance.

⚡ RD—Special



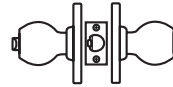
- Latchbolt operated by:**
- inside key
 - outside key
 - outside knob when not locked
- Outside knob locked by:**
- outside key
- Outside knob unlocked by:**
- outside key
- Inside knob is always fixed**

LL—Hospital privacy



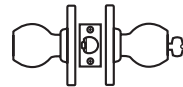
- Latchbolt operated by:**
- inside knob
 - outside knob when not locked
- Outside knob locked by:**
- inside button when pushed in
- Outside knob unlocked by:**
- inside knob
 - outside button when pushed in and rotated counterclockwise
 - closing the door
- Inside knob is always unlocked**

Q—Exit (ANSI F83)



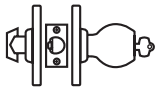
- Latchbolt operated by:**
- inside knob
 - outside knob when not locked
- Outside knob locked by:**
- inside button
- Outside knob unlocked by:**
- inside button
- Inside knob is always unlocked**

RH—Special



- Latchbolt operated by:**
- inside knob when latchbolt not locked in retracted position
 - outside knob when not locked
- Latchbolt held retracted by:**
- locking outside knob when latchbolt in retracted position
- Outside knob locked by:**
- outside key
- Outside knob unlocked by:**
- outside key
- Inside knob is always unlocked**

RZ–Closet or storeroom



Latchbolt operated by:

- inside turn knob
- outside key
- outside knob when not locked

Outside knob locked by:

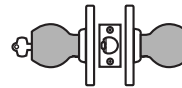
- outside key

Outside knob unlocked by:

- outside key

Inside turn knob is always unlocked

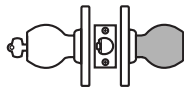
⚡ XD–Special



Latchbolt operated by:

- inside key
- Outside knob is always fixed**
Inside knob is always fixed

⚡ XR–Special



Latchbolt operated by:

- inside key
 - inside knob when not locked
- Outside knob is always fixed**

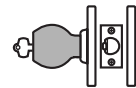
Inside knob locked by:

- inside key

Inside knob unlocked by:

- inside key

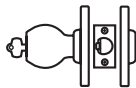
⚡ YD–Exit



Latchbolt operated by:

- inside key
- Inside knob is always fixed**

⚡ YR–Special



Latchbolt operated by:

- inside key
- inside knob when not locked

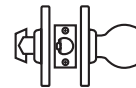
Inside knob locked by:

- inside key

Inside knob unlocked by:

- inside key

Z–Closet latch

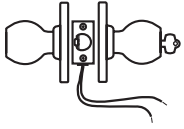


Latchbolt operated by:

- inside turn knob
 - outside knob
- Outside knob is always unlocked**
Inside turn blade is always unlocked

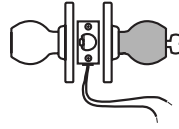
Electrified functions The following lists describe how the latchbolt, outside knob, and inside knob operate for each 8K electrified function.

DEL—Electrically Locked—Fail Safe



- Latchbolt operated by:**
- inside knob
 - outside knob when electric power is removed from the solenoid
 - outside key
- Outside knob locked by:**
- applying 24 VDC to the solenoid; remains locked only while power continues to be applied
- Outside knob unlocked by:**
- removing 24 VDC from the solenoid
- Inside knob is always unlocked**

DEU—Electrically Unlocked—Fail Secure



- Latchbolt operated by:**
- inside knob
 - outside knob when electric power is applied to the solenoid
 - outside key
- Outside knob locked by:**
- removing 24 VDC from the solenoid
- Outside knob unlocked by:**
- applying 24 VDC to the solenoid; remains unlocked only while power continues to be applied
- Inside knob is always unlocked**

Functions by ANSI designation	ANSI no.	Function
	F75	N
	F76	L
	F77	P
	F78	M
	F80	S
	F81	A
	F82	B
	F83	Q
	F84	R
	F86	D
	F87	W
	F88	C
	F89	NX
	F90	T
	F91	G
	F92	E
	F93	H
	F109	AB

STANDARD FUNCTIONS AB FUNCTION CHASSIS—ENTRANCE LOCK (ANSI F109)

Item	Part No.	Qty.	Description
1	B54742	1	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed knob sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	A54807	1	Keyed sleeve assembly
9	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

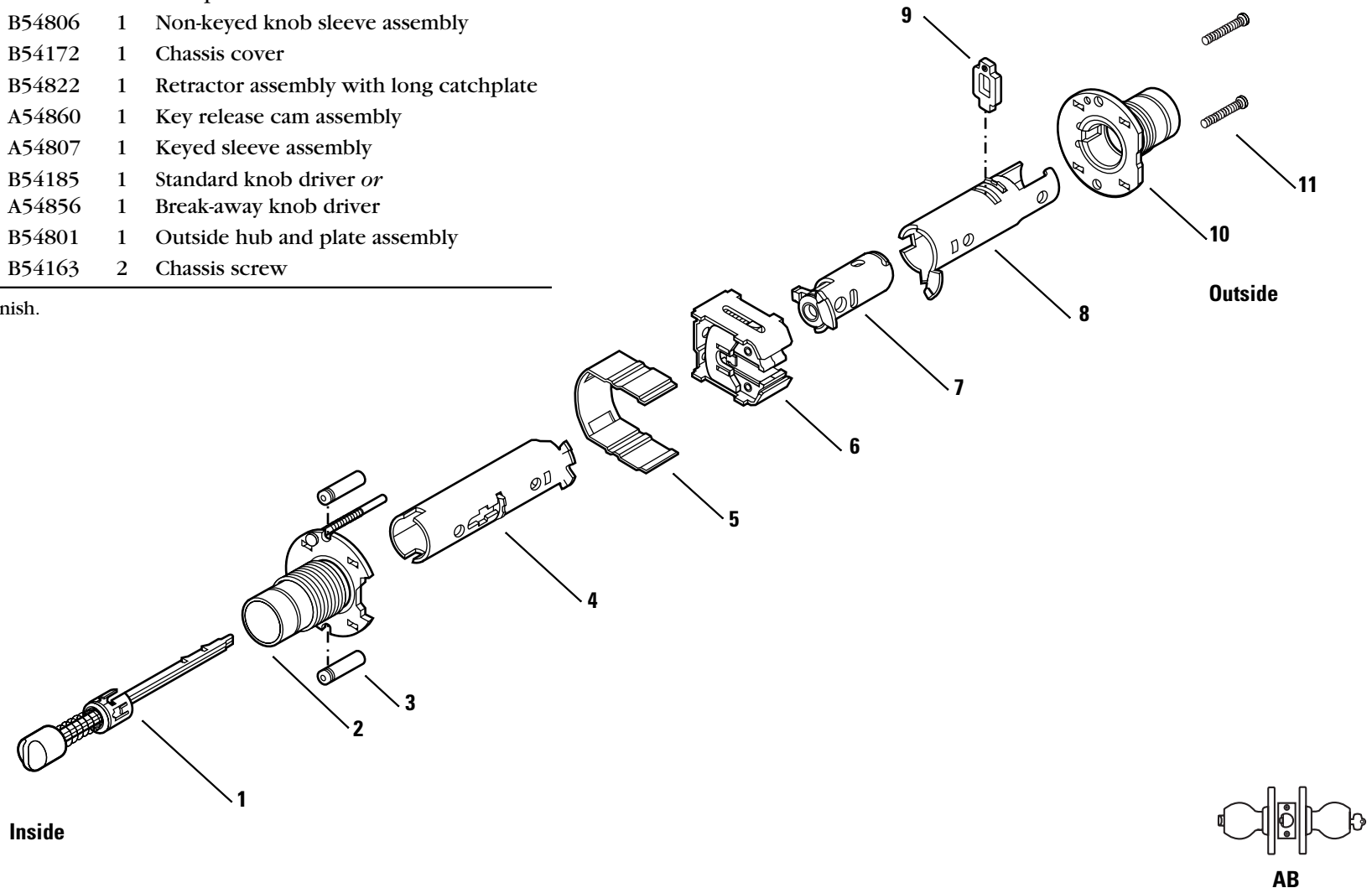


Figure 2.2 AB function exploded diagram

C FUNCTION CHASSIS—APARTMENT LOCK (ANSI F88)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver <i>or</i>
not shown	A54856	2	Break-away knob driver
5	A54863	1	Key release cam assembly
6	B54172	1	Chassis cover
7	A54190	1	Locking bar
8	B54820	1	Retractor assembly without catchplate
9	A54860	1	Key release cam assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

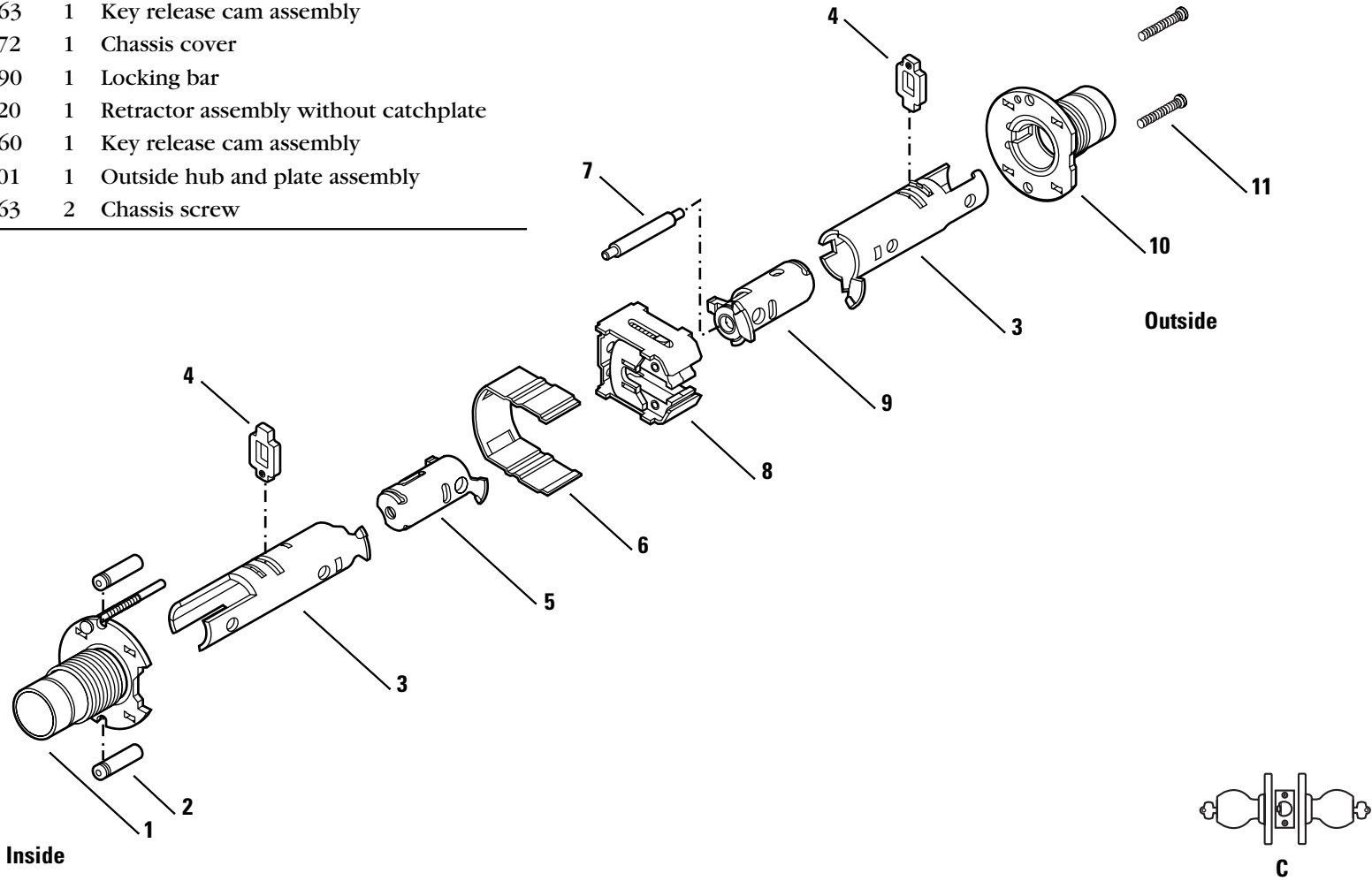


Figure 2.3 C function exploded diagram

D FUNCTION CHASSIS—STOREROOM LOCK (ANSI F86)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	A54861	1	Key release cam assembly
7	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
8	B54807	1	Keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

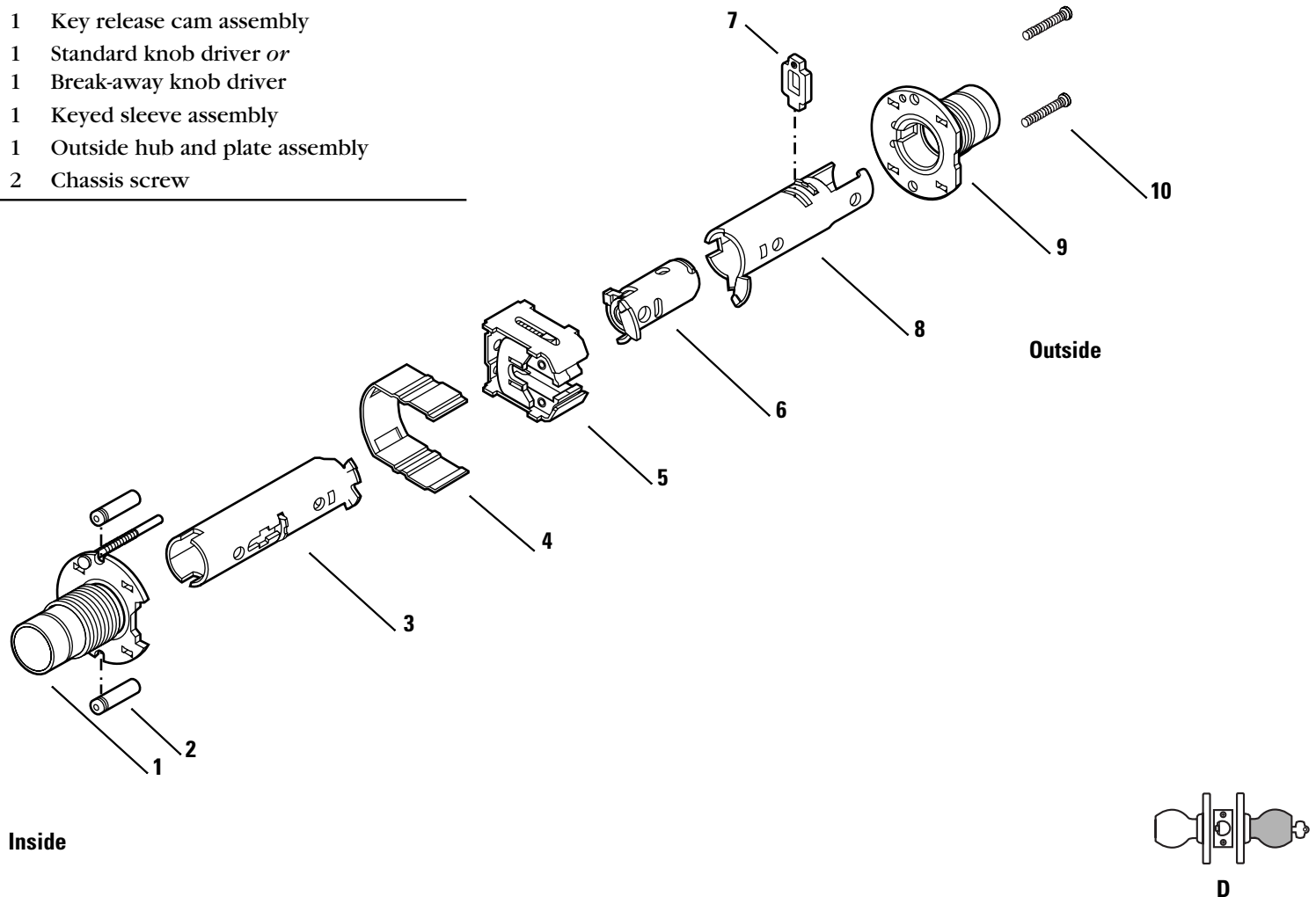


Figure 2.4 D function exploded diagram

E FUNCTION CHASSIS—SERVICE STATION LOCK (ANSI F92)

Item	Part No.	Qty.	Description
1	B54748	1	Slotted button assembly†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

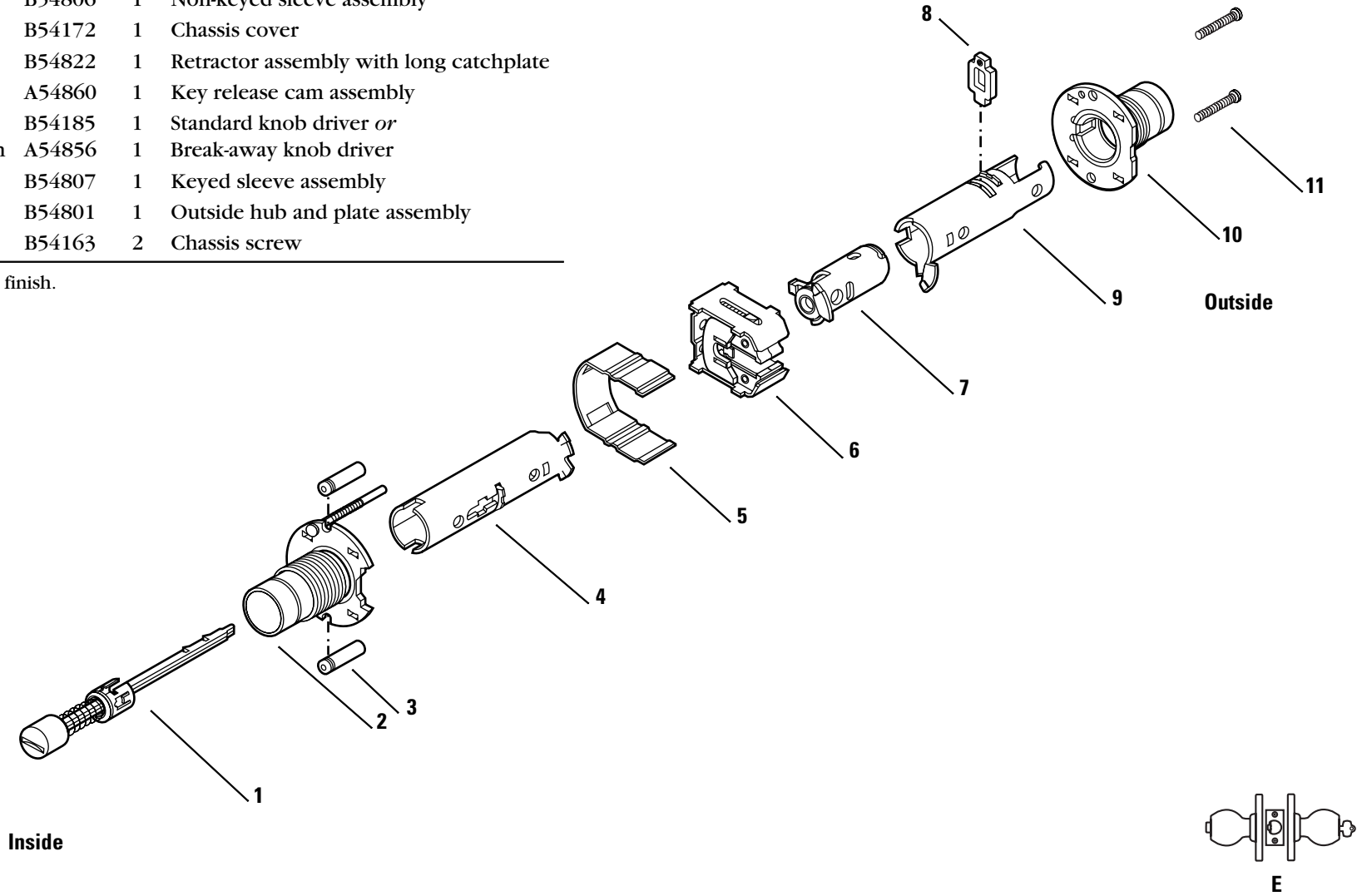


Figure 2.5 E function exploded diagram

G FUNCTION CHASSIS—STOREROOM LOCK (ANSI F91)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver <i>or</i>
not shown	A54856	2	Break-away knob driver
5	A54864	2	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	A54195	1	Locking bar
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

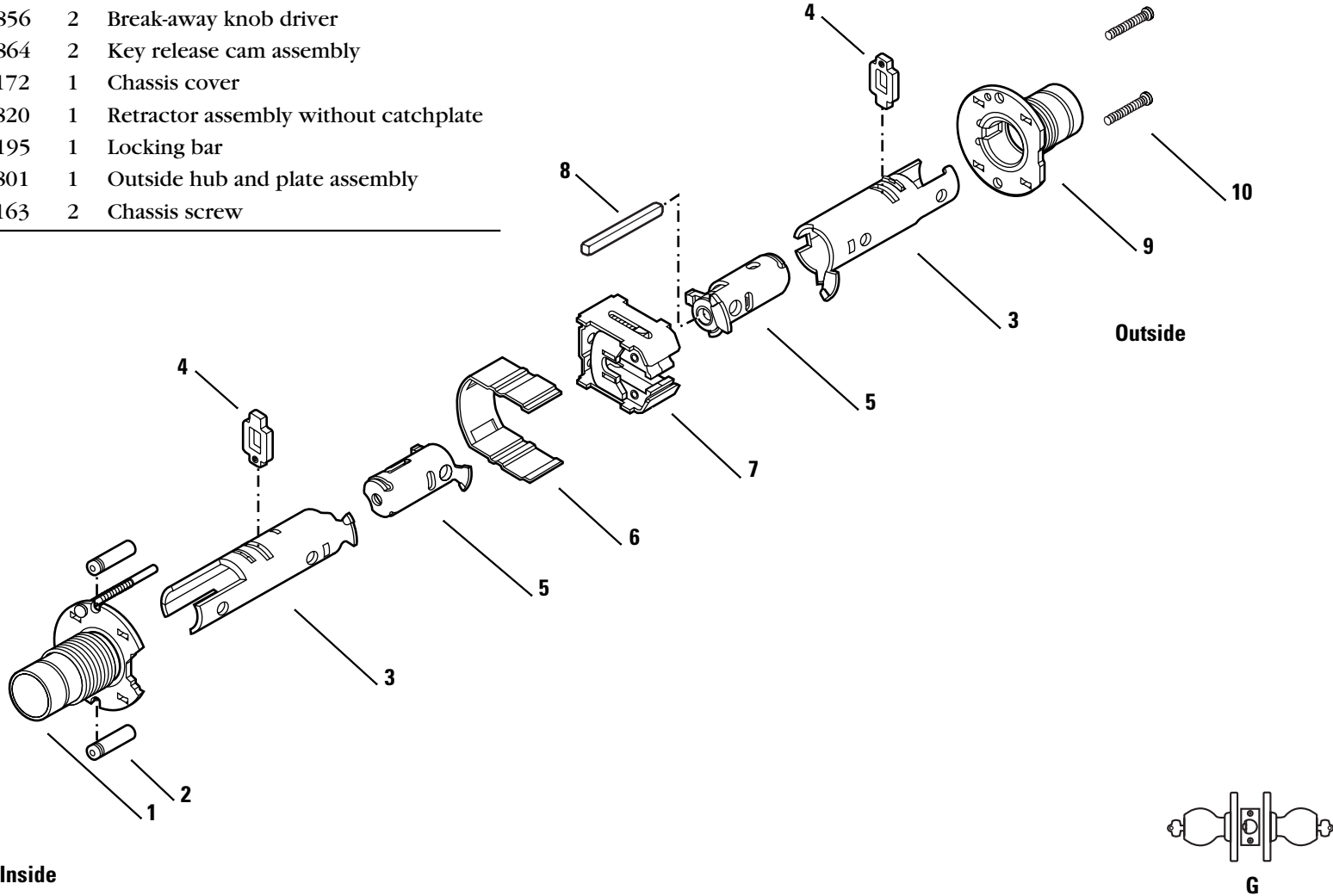


Figure 2.6 G function exploded diagram

H FUNCTION CHASSIS—HOTEL GUEST ROOM LOCK WITH INDICATOR (ANSI F93) HJ FUNCTION CHASSIS—HOTEL GUEST ROOM LOCK WITHOUT INDICATOR

Item [†]	Part No.	Qty.	Description
1	B54744	1	Push button assembly [‡]
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54865	1	Key release cam assembly
8	B54832	1	Keyed sleeve and hub assembly
9	B54163	2	Chassis screw

† These functions require special throw members. See [page 2-55](#).

‡ Specify finish.

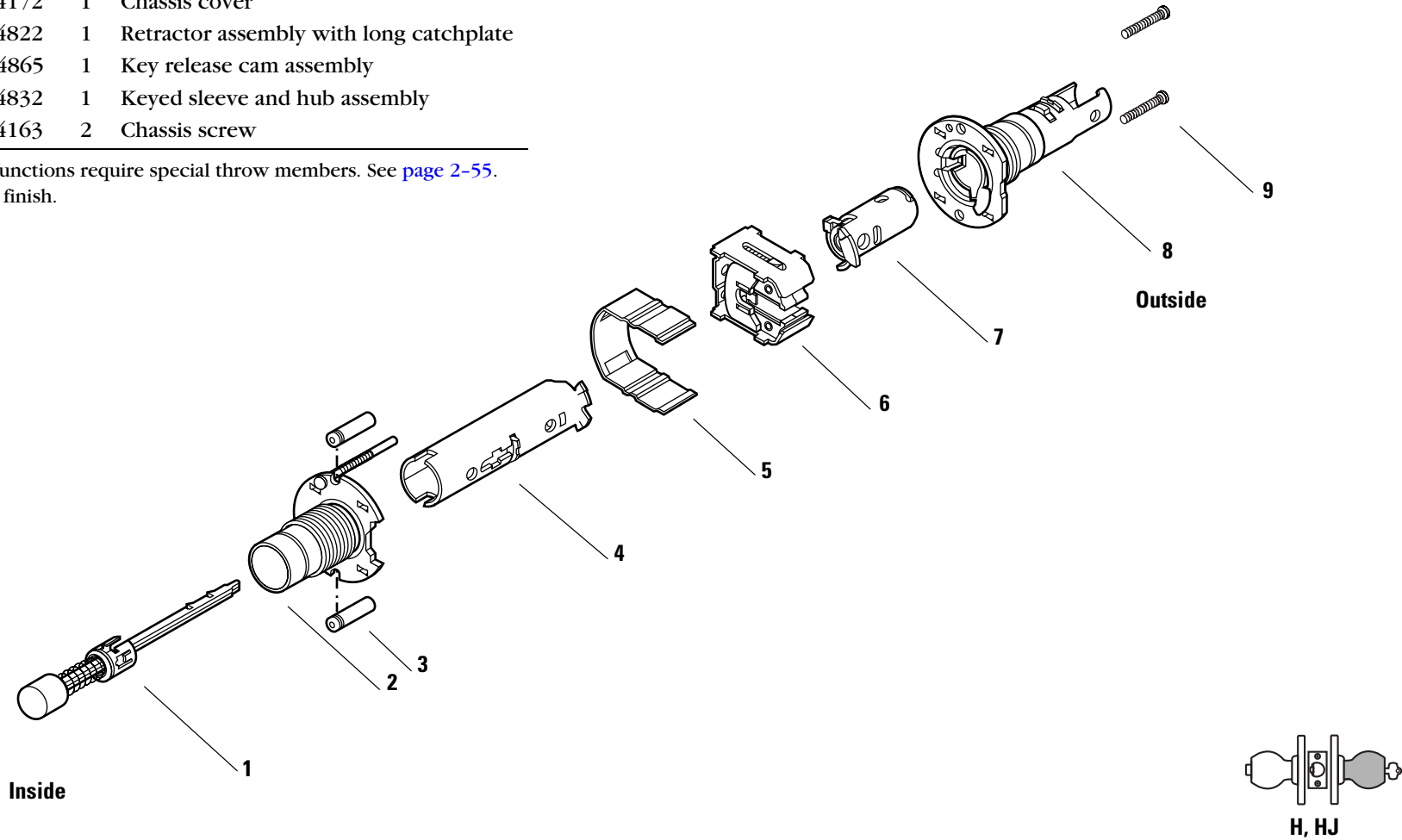


Figure 2.7 H/HJ function exploded diagram

L FUNCTION CHASSIS—PRIVACY LOCK (ANSI F76)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	A54745	1	Button release assembly†
11	A54163	2	Chassis screw

† Specify finish.

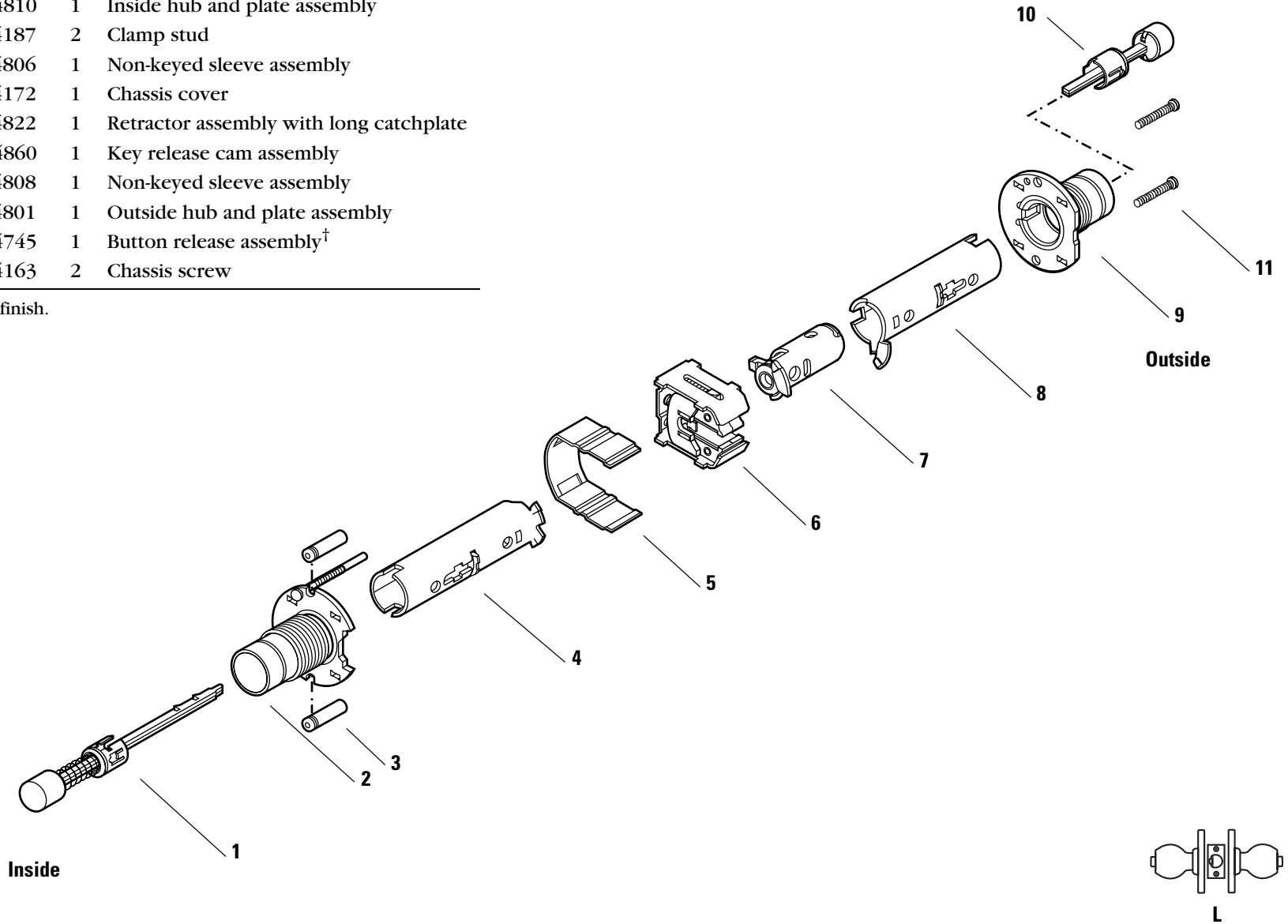


Figure 2.8 L function exploded diagram

N FUNCTION CHASSIS—PASSAGE LOCK (ANSI F75)

Item	Part No.	Qty.	Description
1	A54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	2	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	B54801	1	Outside hub and plate assembly
7	B54163	2	Chassis screw

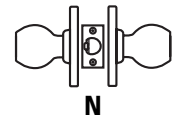
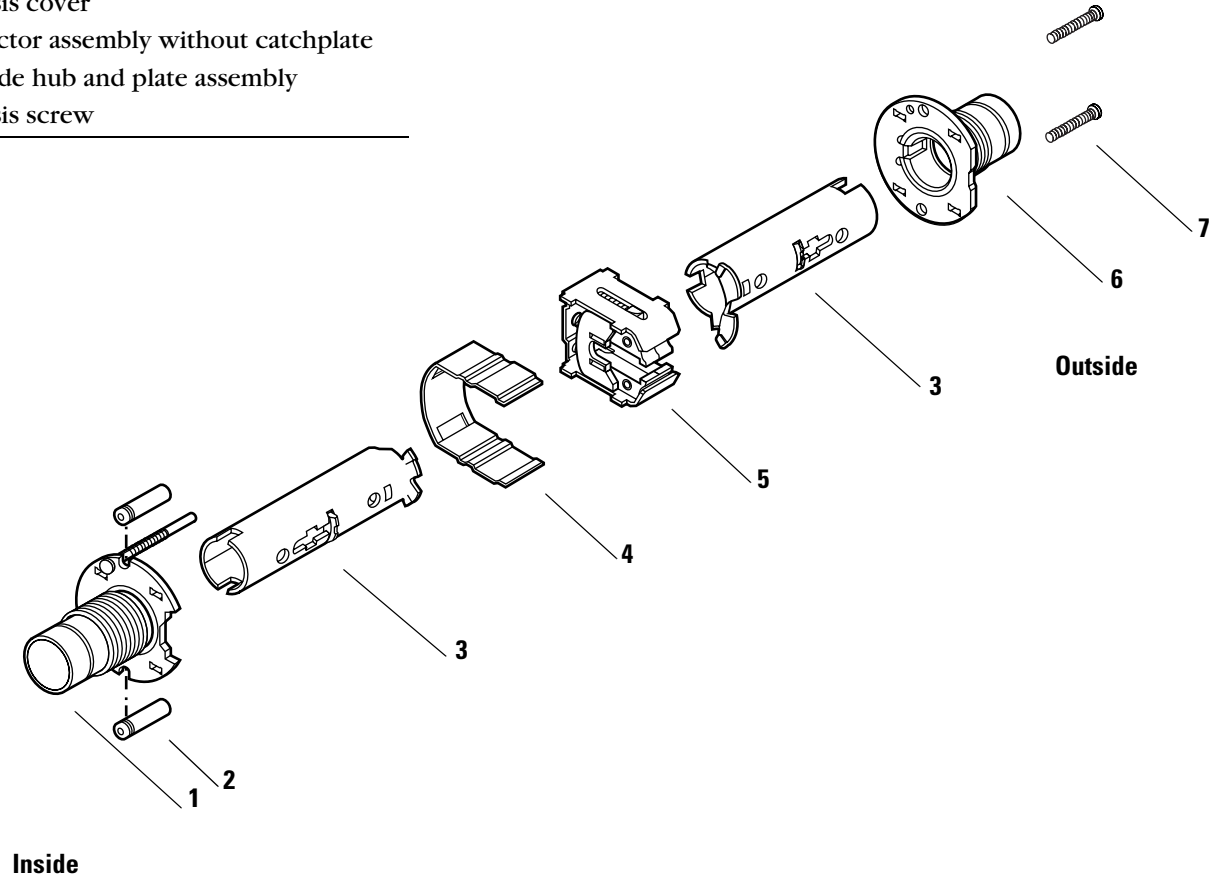


Figure 2.9 N function exploded diagram

NX FUNCTION—EXIT LOCK (ANSI F89)

Item	Part No.	Qty.	Description
1	B54749	1	Locking bar assembly for NX function†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54867	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

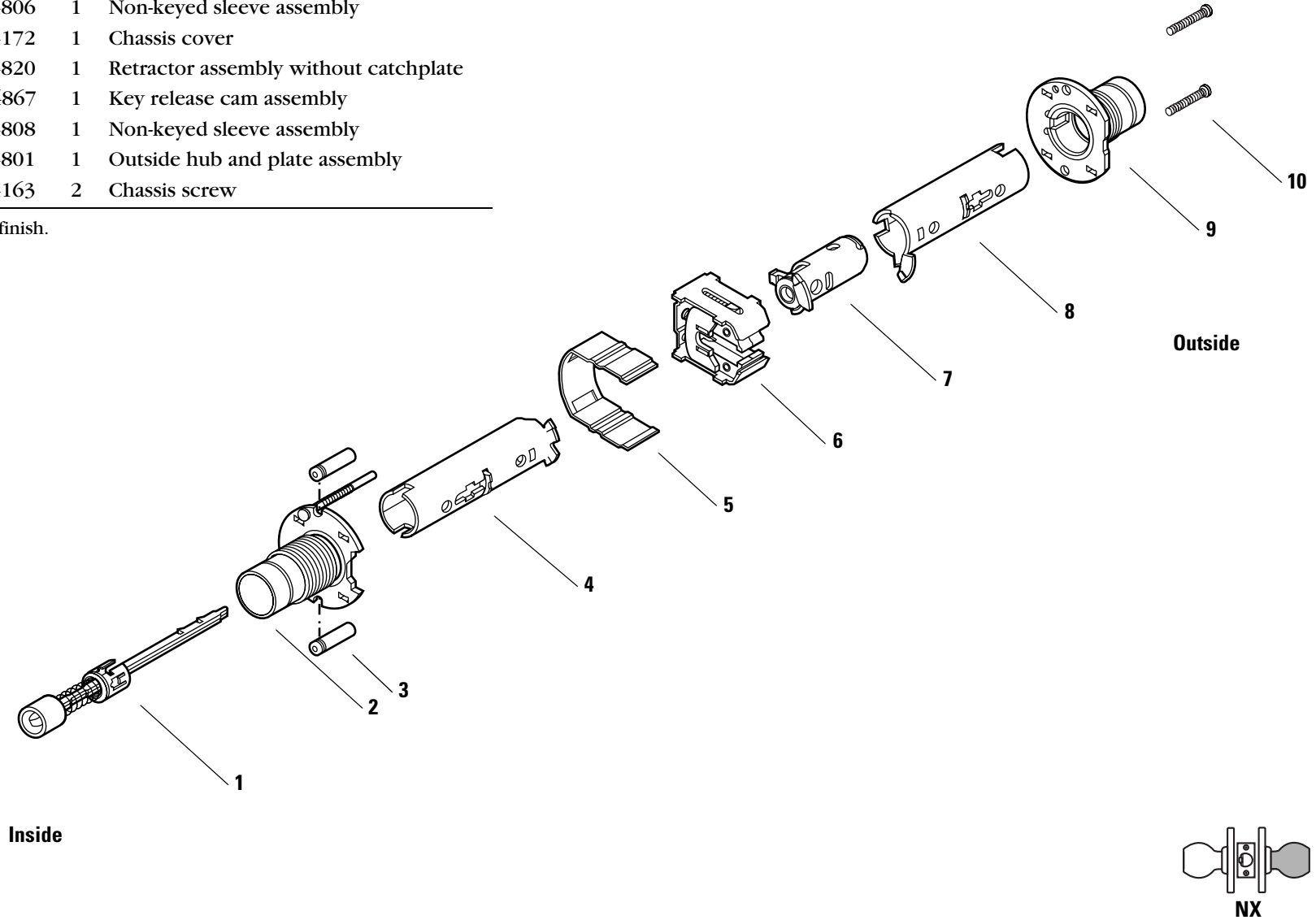


Figure 2.10 NX function exploded diagram

P FUNCTION CHASSIS—PATIO LOCK (ANSI F77)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54867	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

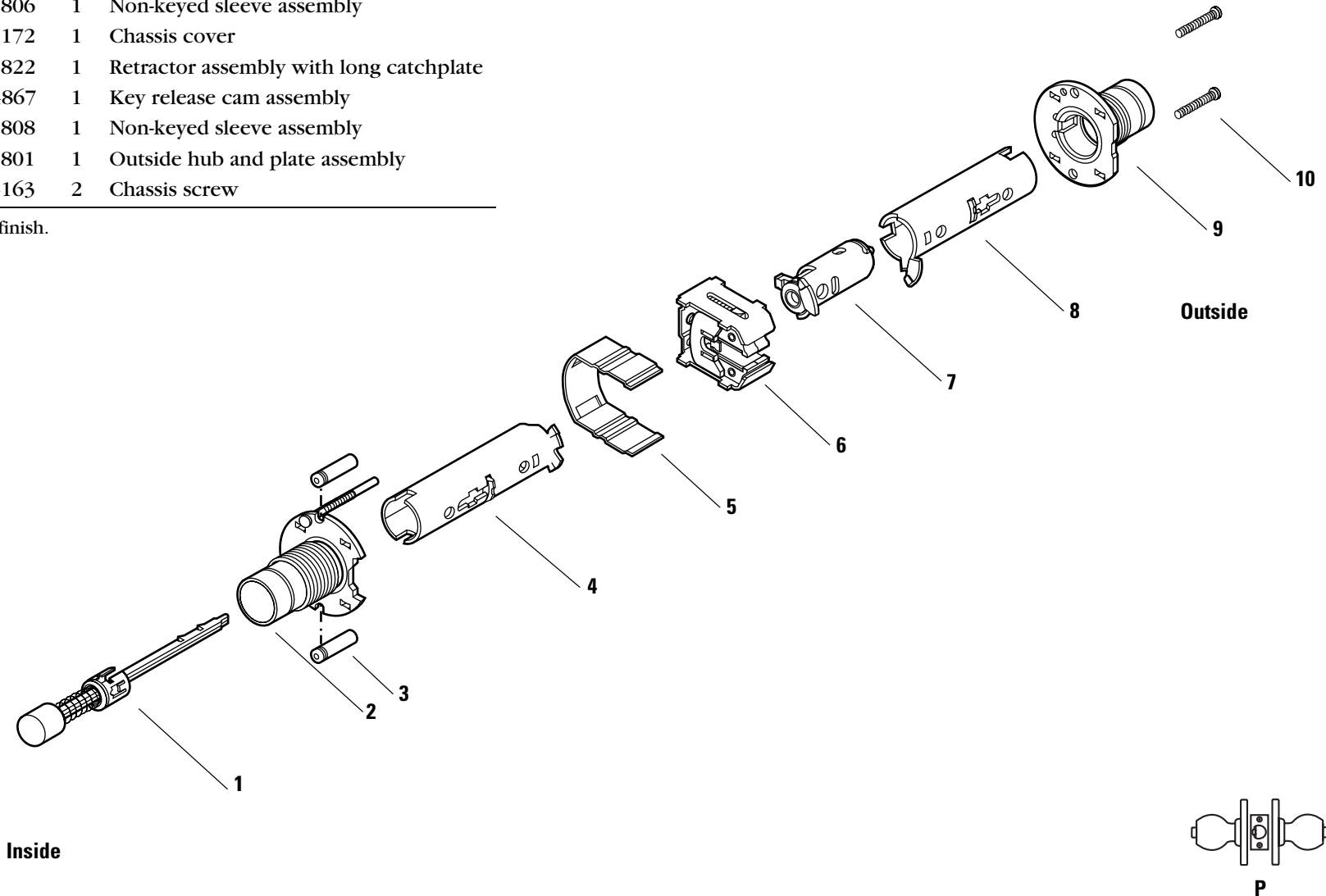


Figure 2.11 P function exploded diagram

R FUNCTION CHASSIS—CLASSROOM LOCK (ANSI F84)

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	A54862	1	Key release cam assembly
7	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
8	B54807	1	Keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

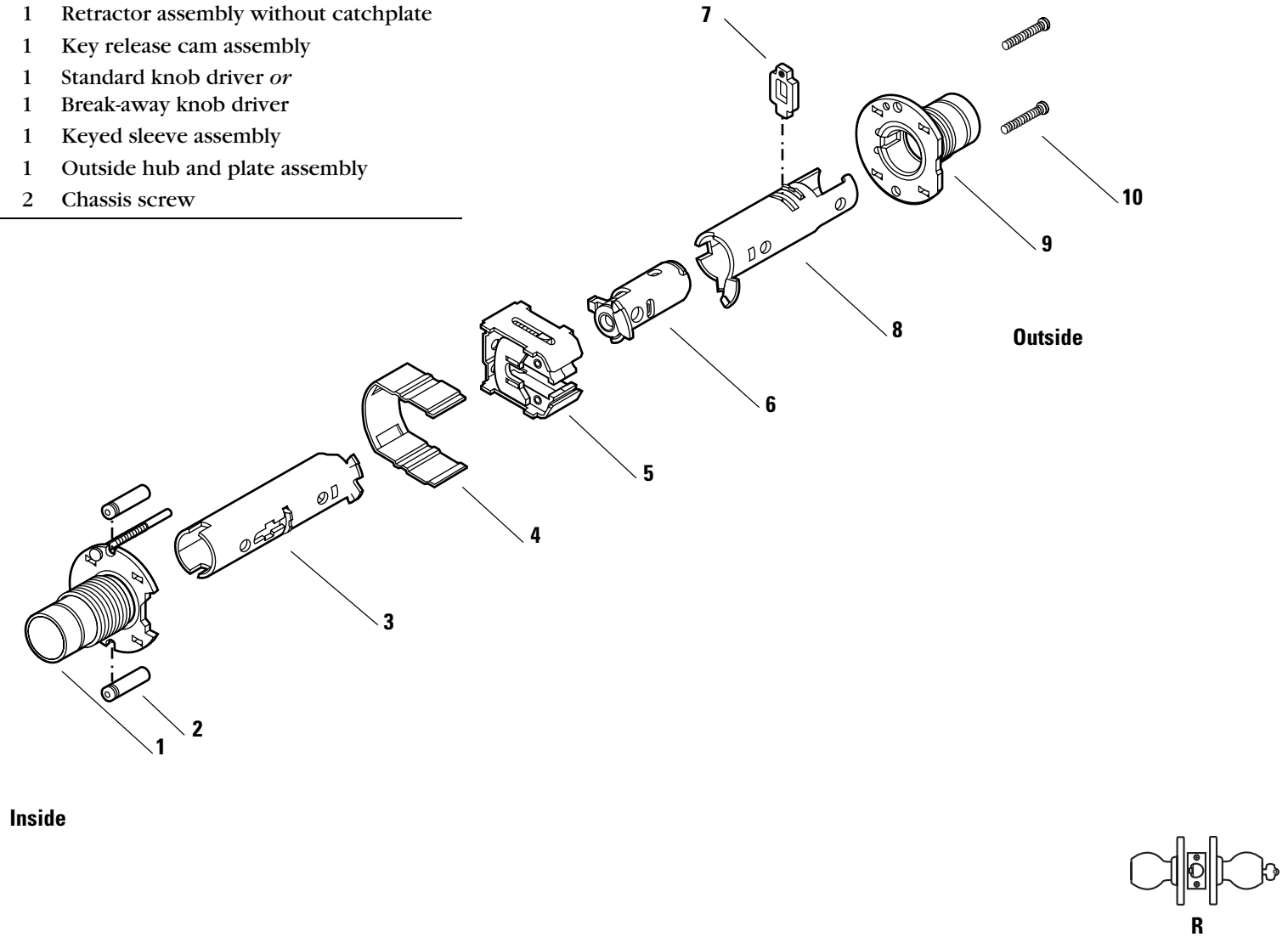


Figure 2.12 R function exploded diagram

S FUNCTION CHASSIS—COMMUNICATING LOCK (ANSI F80)

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver <i>or</i>
not shown	A54856	2	Break-away knob driver
5	A54862	2	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54801	1	Outside hub and plate assembly
9	B54163	2	Chassis screw

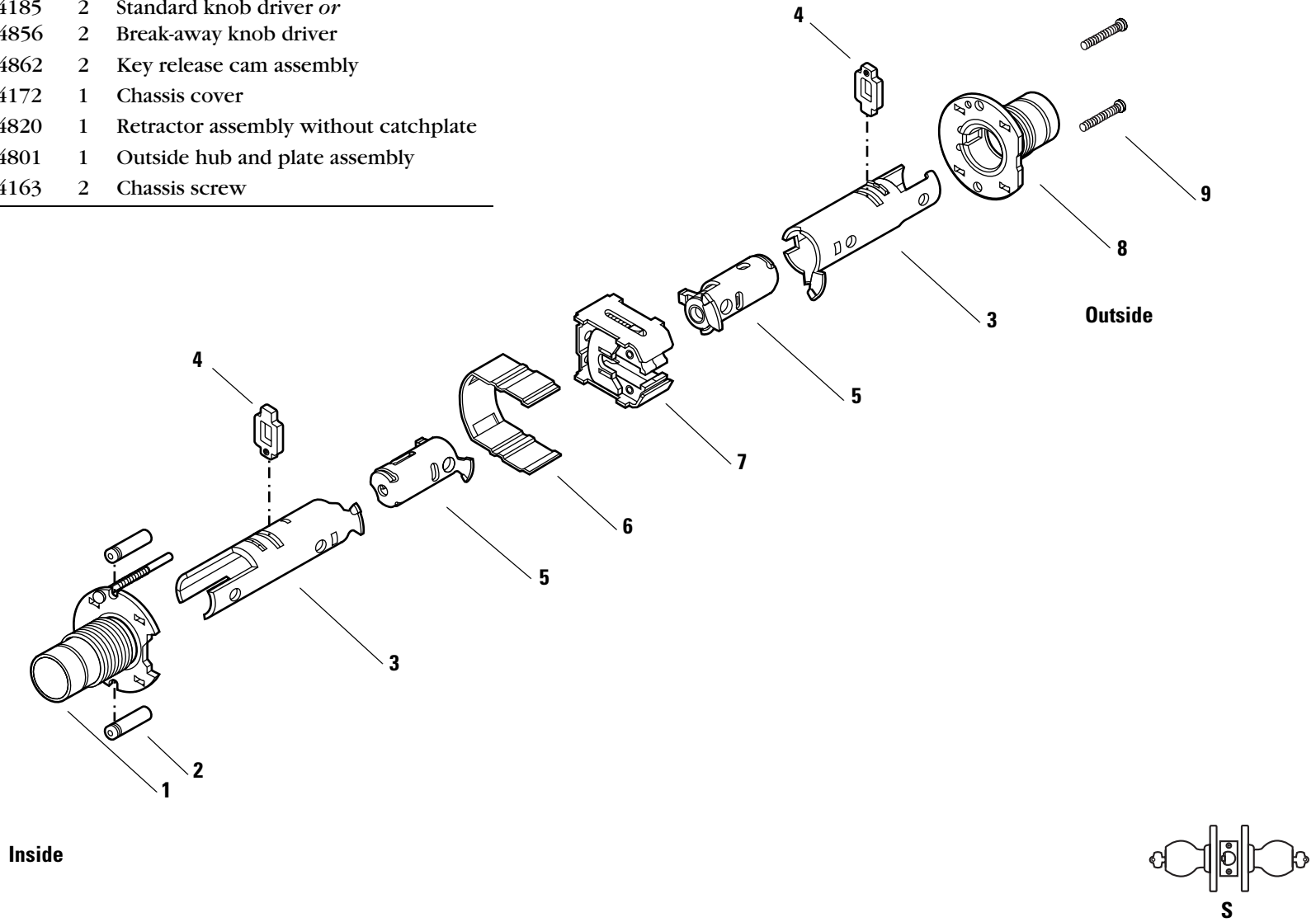


Figure 2.13 S function exploded diagram

T FUNCTION CHASSIS—DORMITORY LOCK (ANSI F90)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54862	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

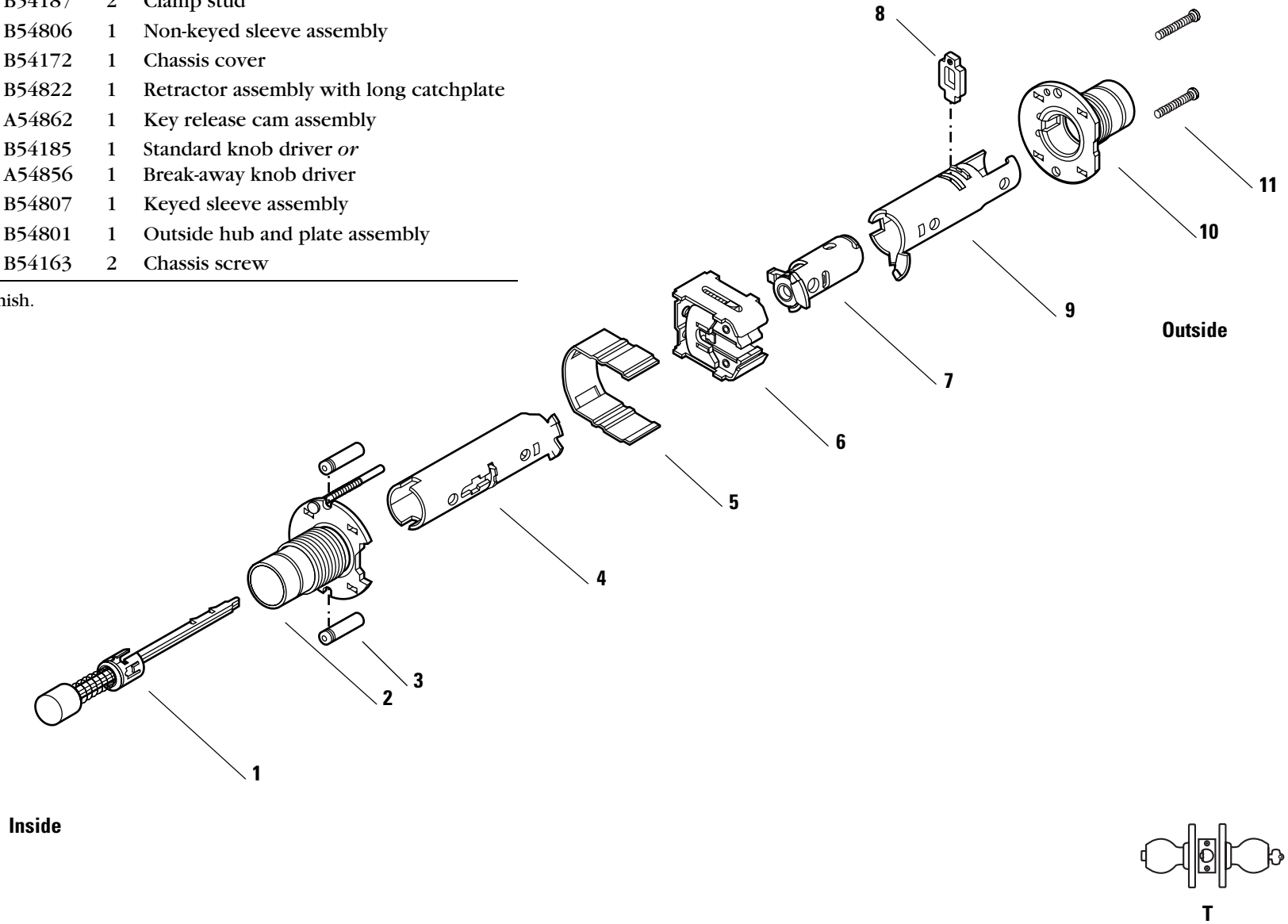


Figure 2.14 T function exploded diagram

W FUNCTION CHASSIS—UTILITY OR INSTITUTIONAL LOCK (ANSI F87)

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver <i>or</i>
not shown	A54856	2	Break-away knob driver
5	A54861	2	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54801	1	Outside hub and plate assembly
9	B54163	2	Chassis screw

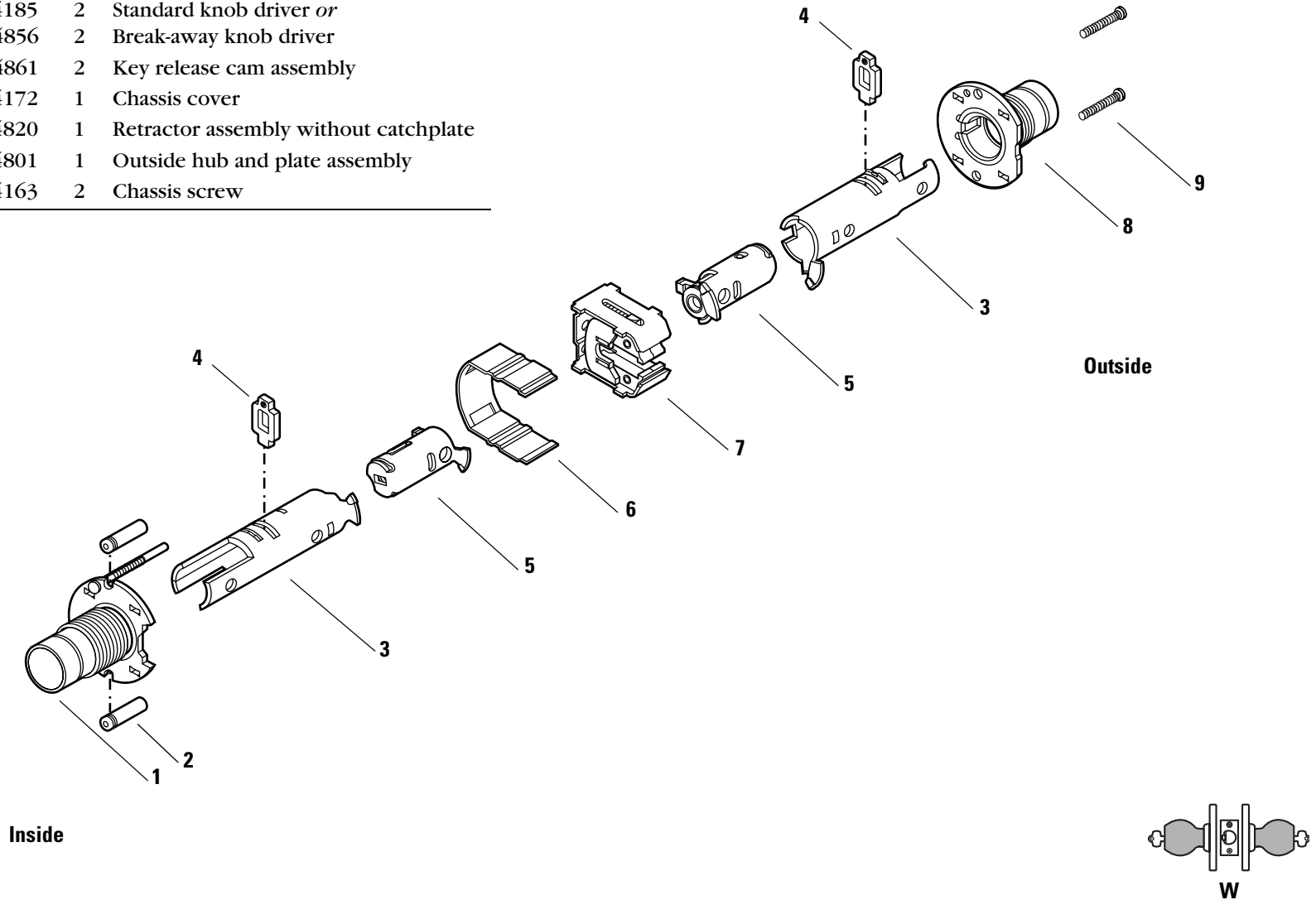


Figure 2.15 W function exploded diagram

Y FUNCTION CHASSIS—EXIT LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	B54809	1	Outside hub and plate assembly
7	B54163	2	Chassis screw
8	A54717	1	Outside convex rose for Y function [†]

[†] A54717 is the only outside rose available for this function.
Specify finish.

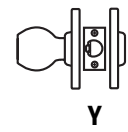
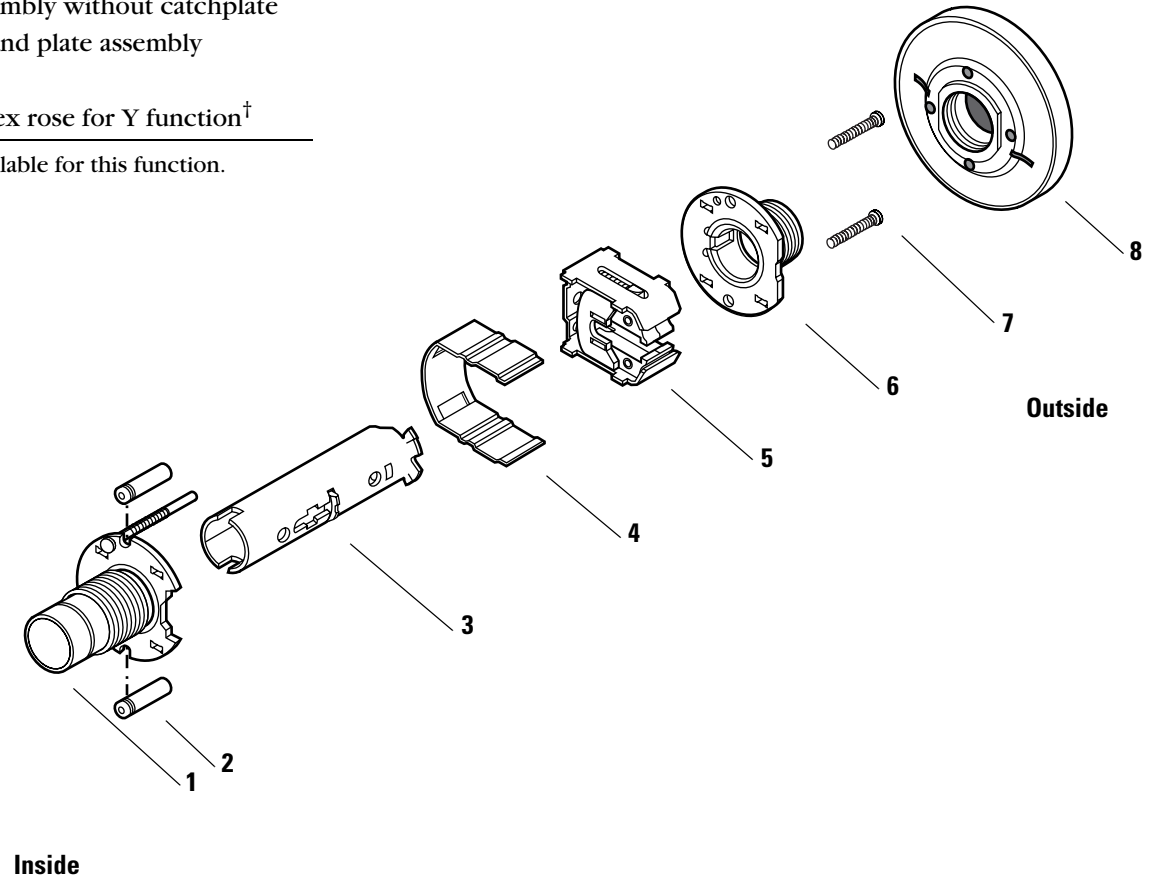


Figure 2.16 Y function exploded diagram

NON-STANDARD FUNCTIONS

A FUNCTION CHASSIS—ENTRANCE LOCK (ANSI F81)

Item	Part No.	Qty.	Description
1	B54742	1	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

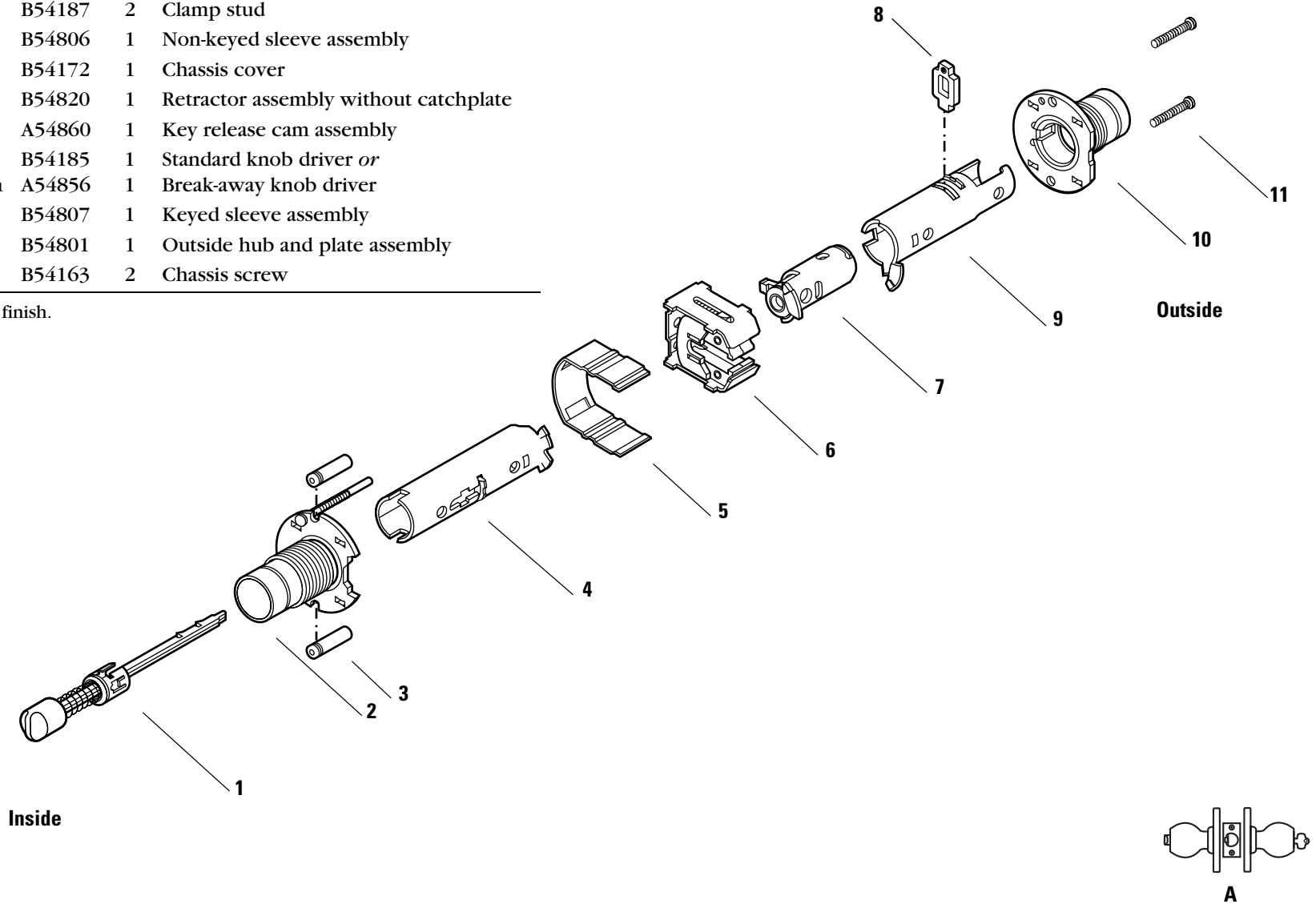


Figure 2.17 A function exploded diagram

B FUNCTION CHASSIS—OFFICE LOCK (ANSI F82)

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54821	1	Retractor assembly with short catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

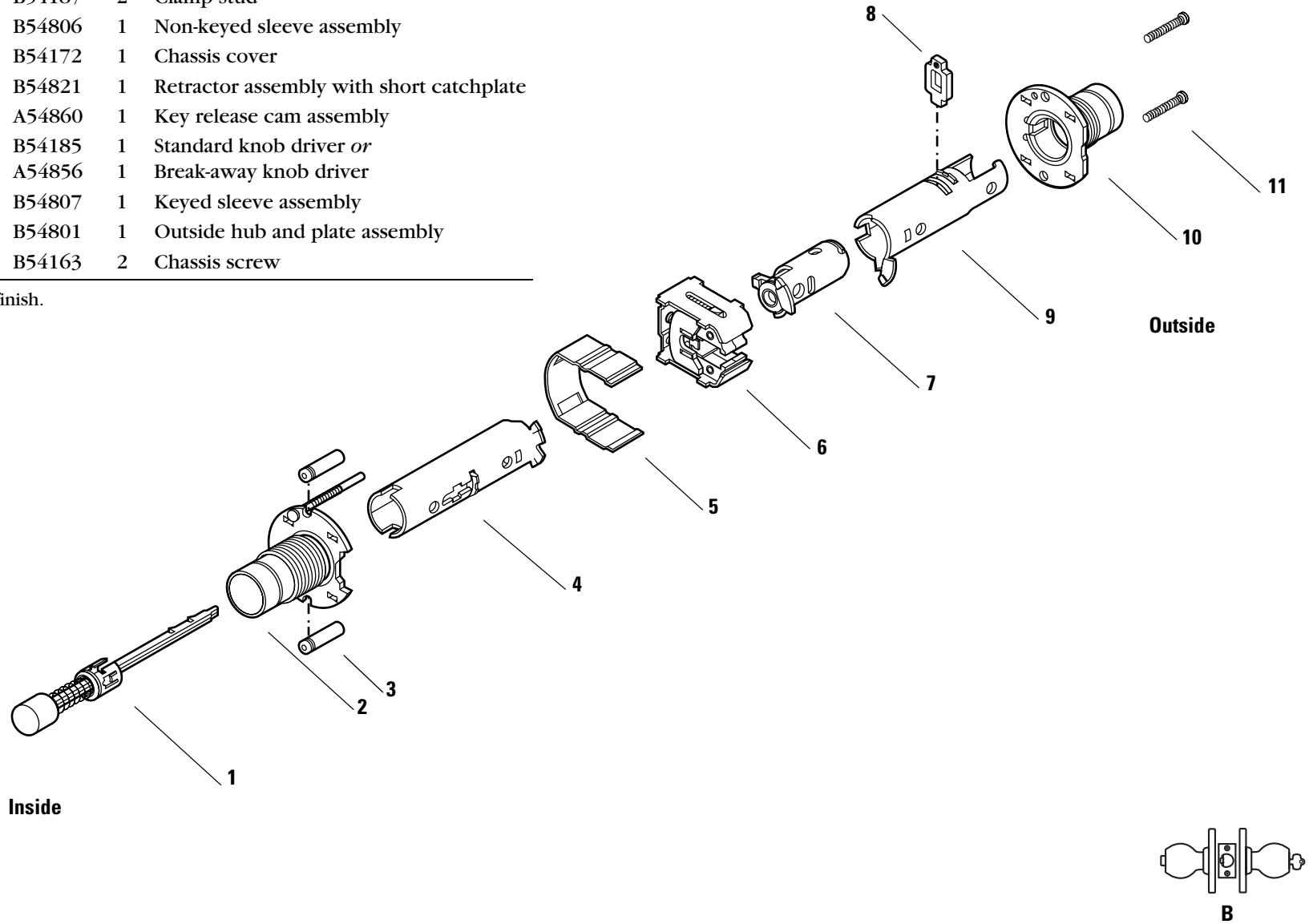


Figure 2.18 B function exploded diagram

DR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	B54185	2	Standard knob driver <i>or</i>
not shown	A54856	2	Break-away knob driver
5	A54862	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	A54861	1	Key release cam assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

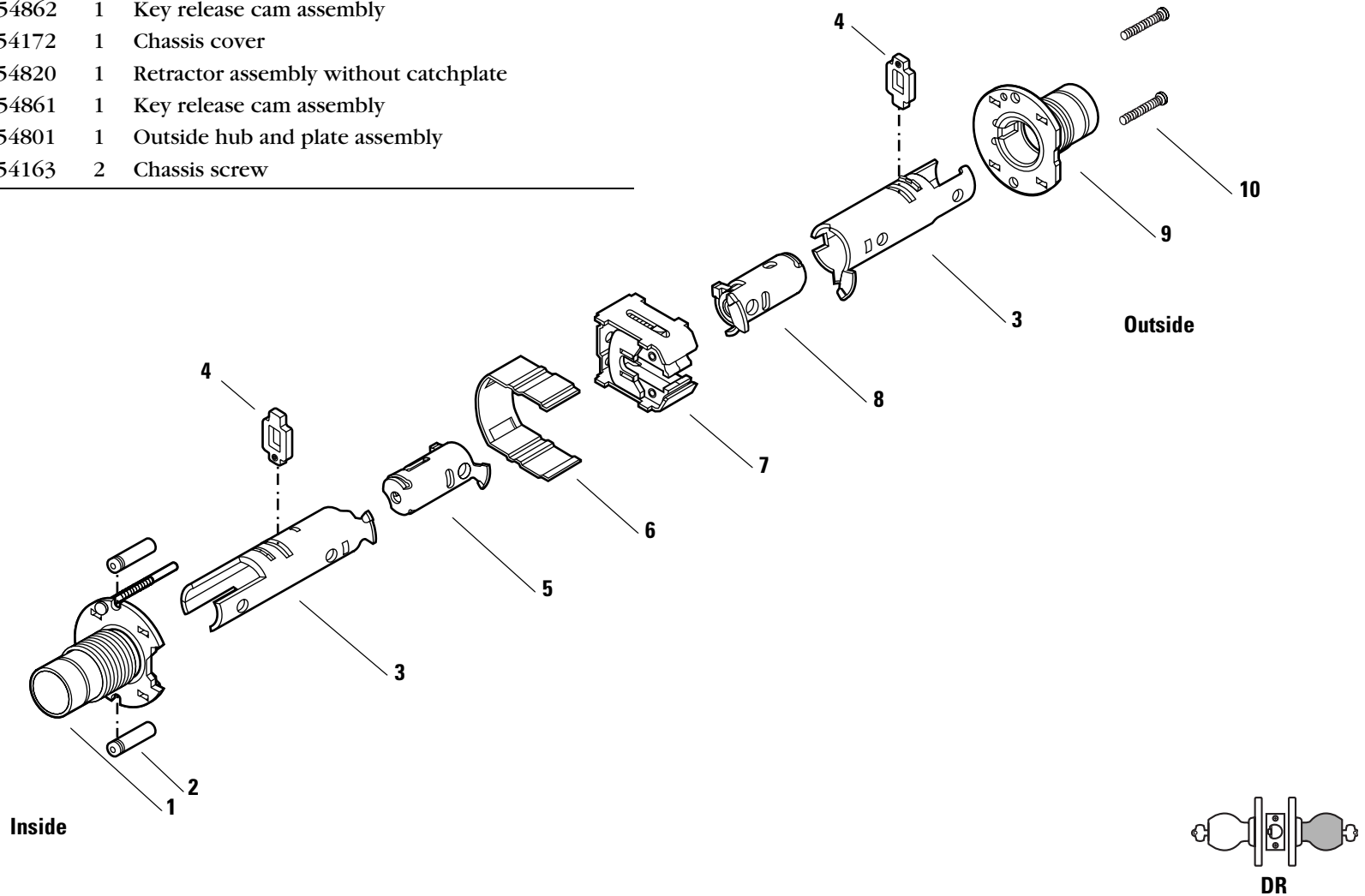


Figure 2.19 DR function exploded diagram

DZ FUNCTION CHASSIS—CLOSET OR STOREROOM LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for "Z" function†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	A54835	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54861	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† You need to install an A or C style rose first before installing the turn blade assembly. See [page 2-51](#). Specify finish.

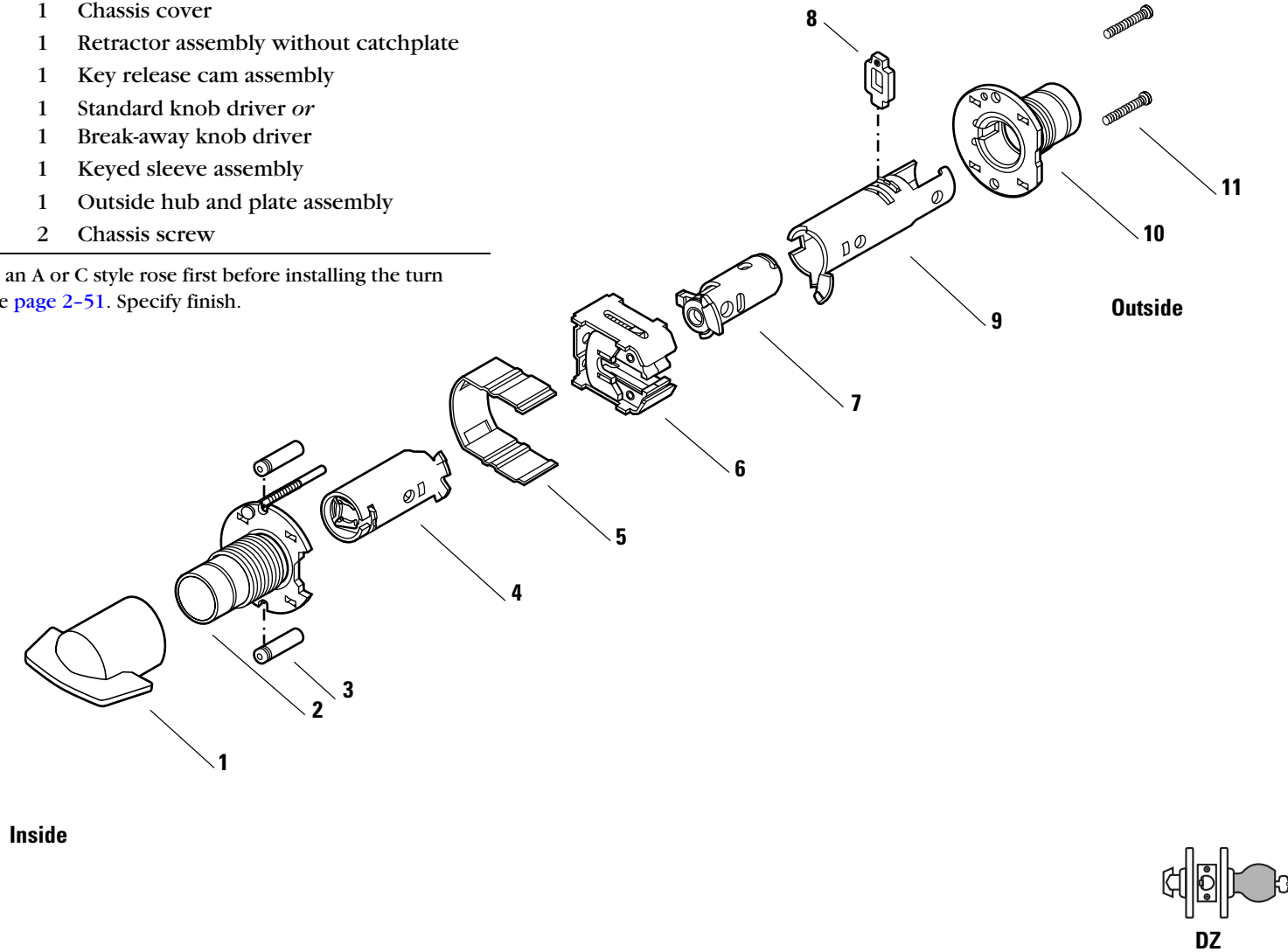


Figure 2.20 DZ function exploded diagram

EA FUNCTION CHASSIS—ENTRANCE OR OFFICE LOCK

Item	Part No.	Qty.	Description
1	B54748	1	Slotted button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54821	1	Retractor assembly with short catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† Specify finish.

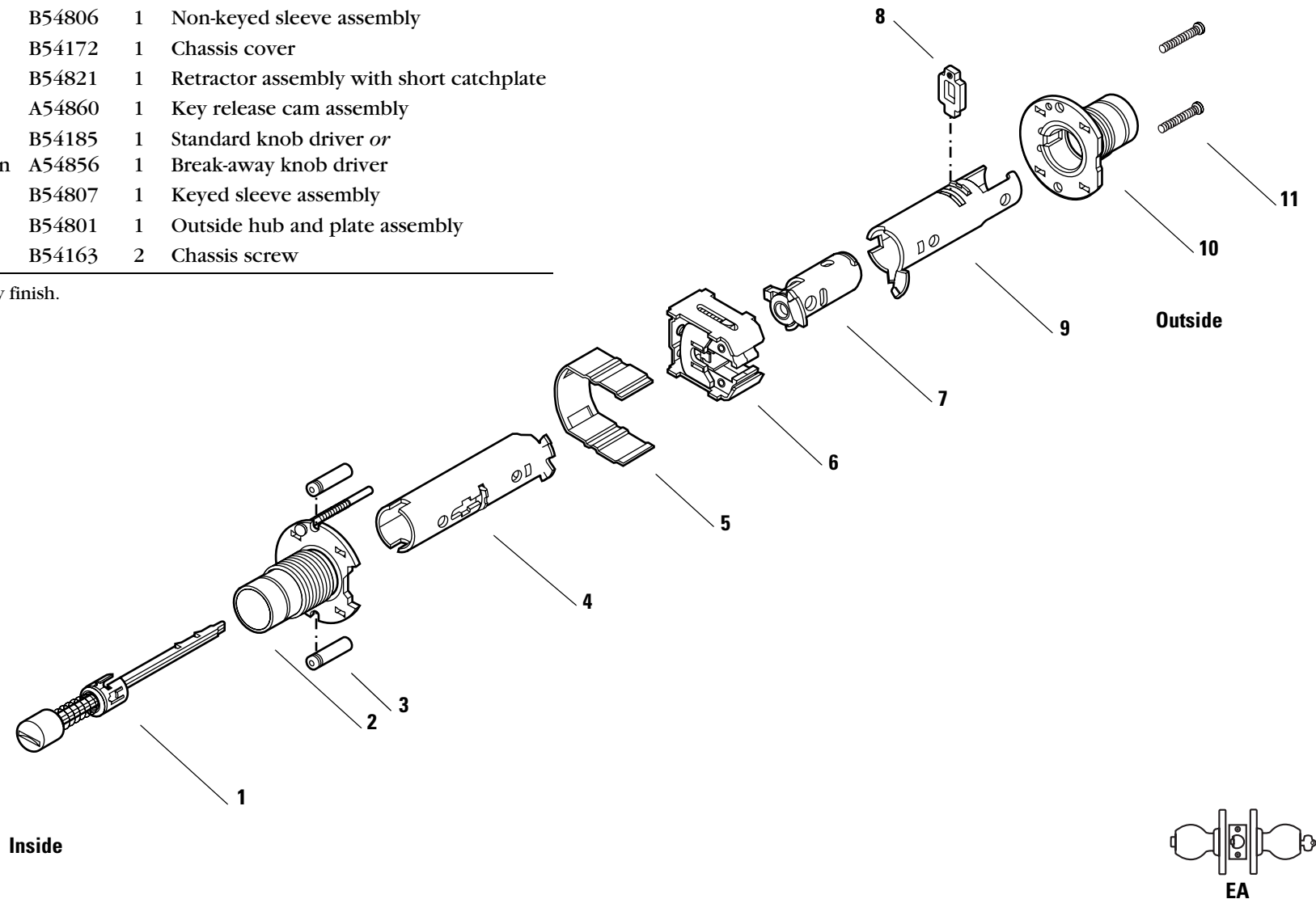


Figure 2.21 EA function exploded diagram

LL FUNCTION CHASSIS—HOSPITAL PRIVACY LOCK

Item	Part No.	Qty.	Description
1	B54744	1	Push button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54822	1	Retractor assembly with long catchplate
7	A54860	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54742	1	Turn button assembly†
12	B54163	2	Chassis screw

† Specify finish.

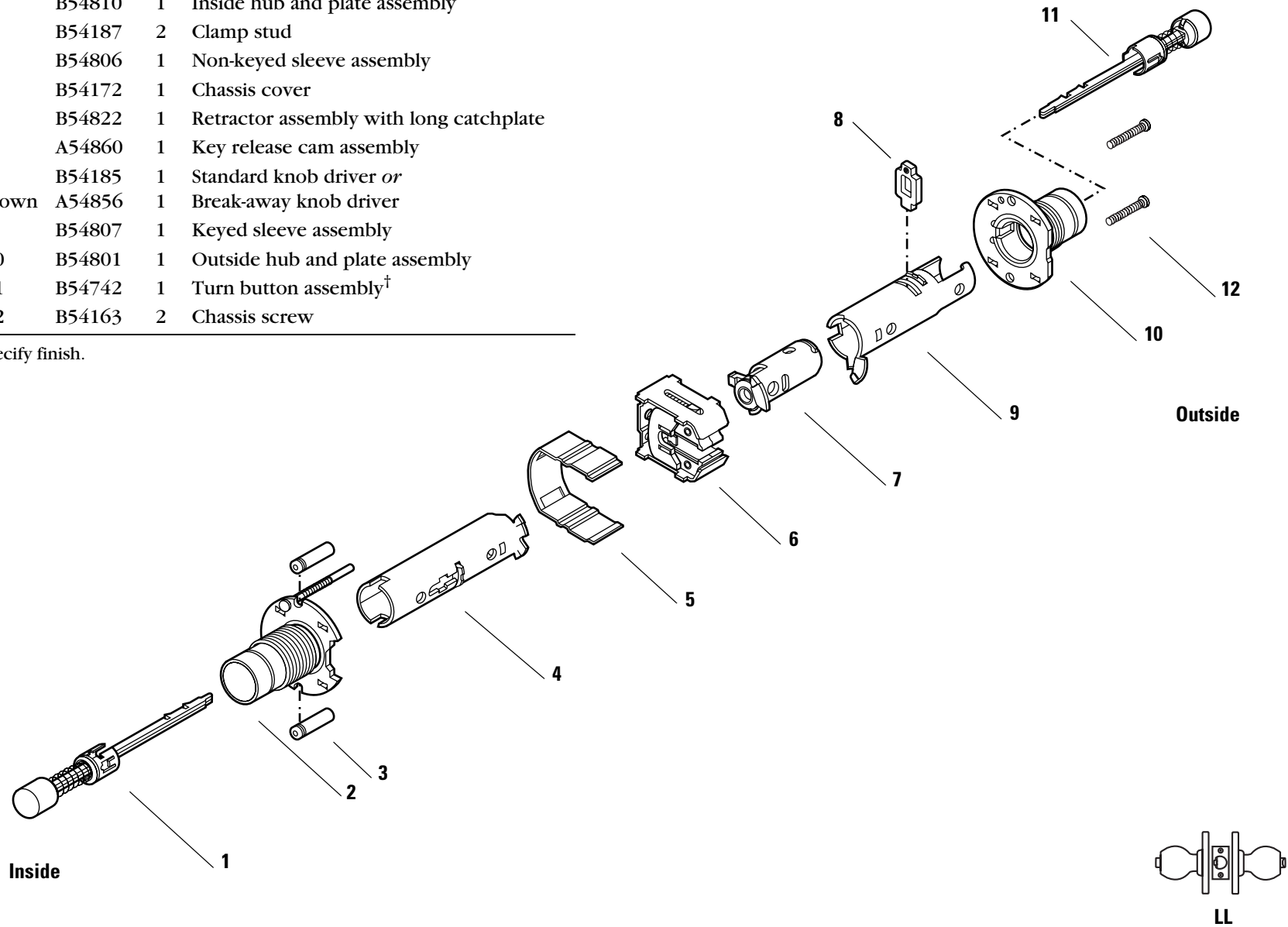


Figure 2.22 LL function exploded diagram

M FUNCTION CHASSIS—COMMUNICATING LOCK (ANSI F78)

Item	Part No.	Qty.	Description
1	B54742	2	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54808	2	Non-keyed sleeve assembly
5	A54866	2	Key release cam assembly
6	B54172	1	Chassis cover
7	A54204	1	Bridge bar
8	B54820	1	Retractor assembly without catchplate
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

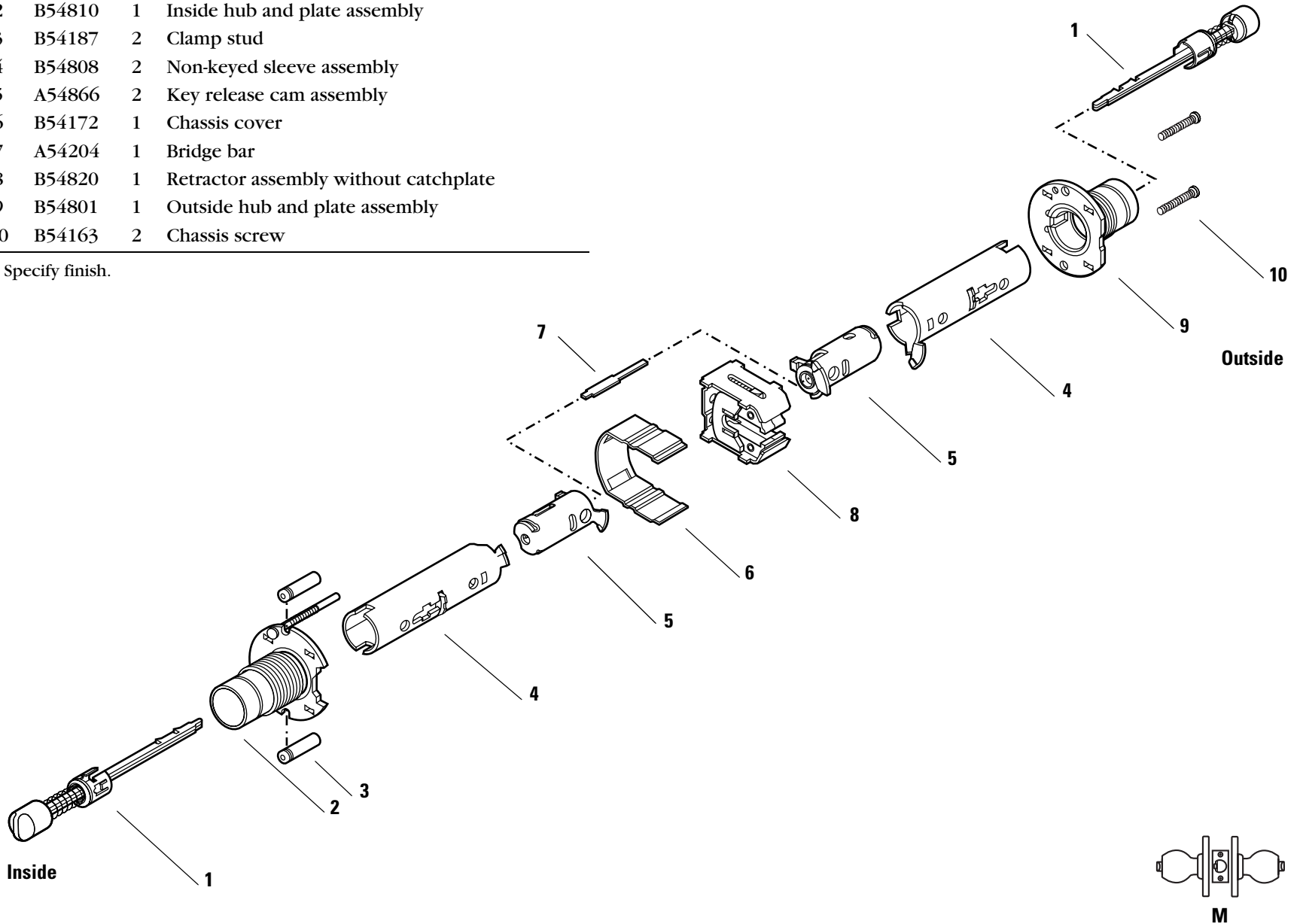


Figure 2.23 M function exploded diagram

Q FUNCTION CHASSIS—EXIT LOCK (ANSI F83)

Item	Part No.	Qty.	Description
1	B54742	1	Turn button assembly†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	B54806	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54867	1	Key release cam assembly
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

† Specify finish.

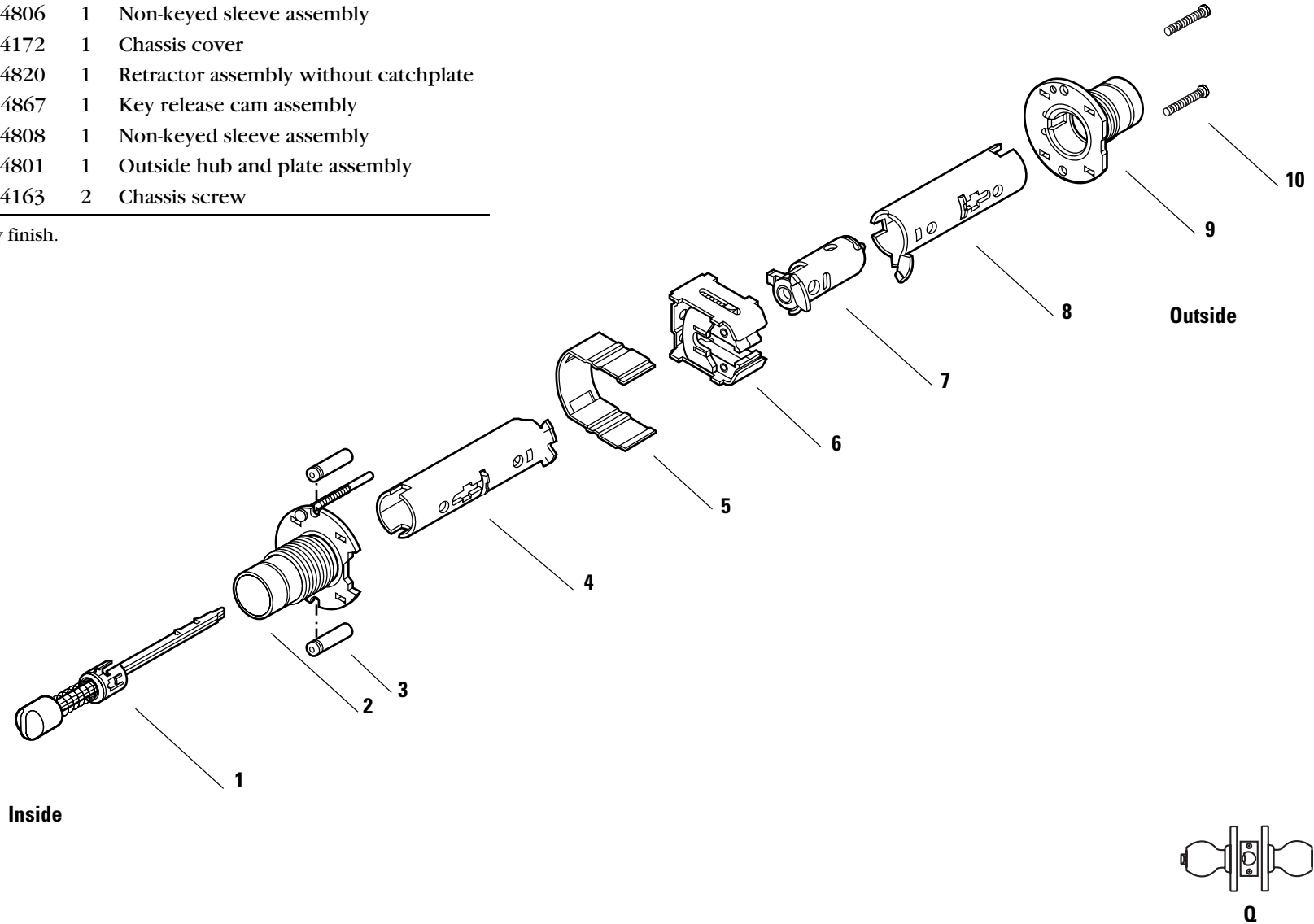


Figure 2.24 Q function exploded diagram

RD FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	2	Keyed sleeve assembly
4	A54861	1	Key release cam assembly
5	B54185	2	Standard knob driver <i>or</i>
not shown	A54856	2	Break-away knob driver
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	A54862	1	Key release cam assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

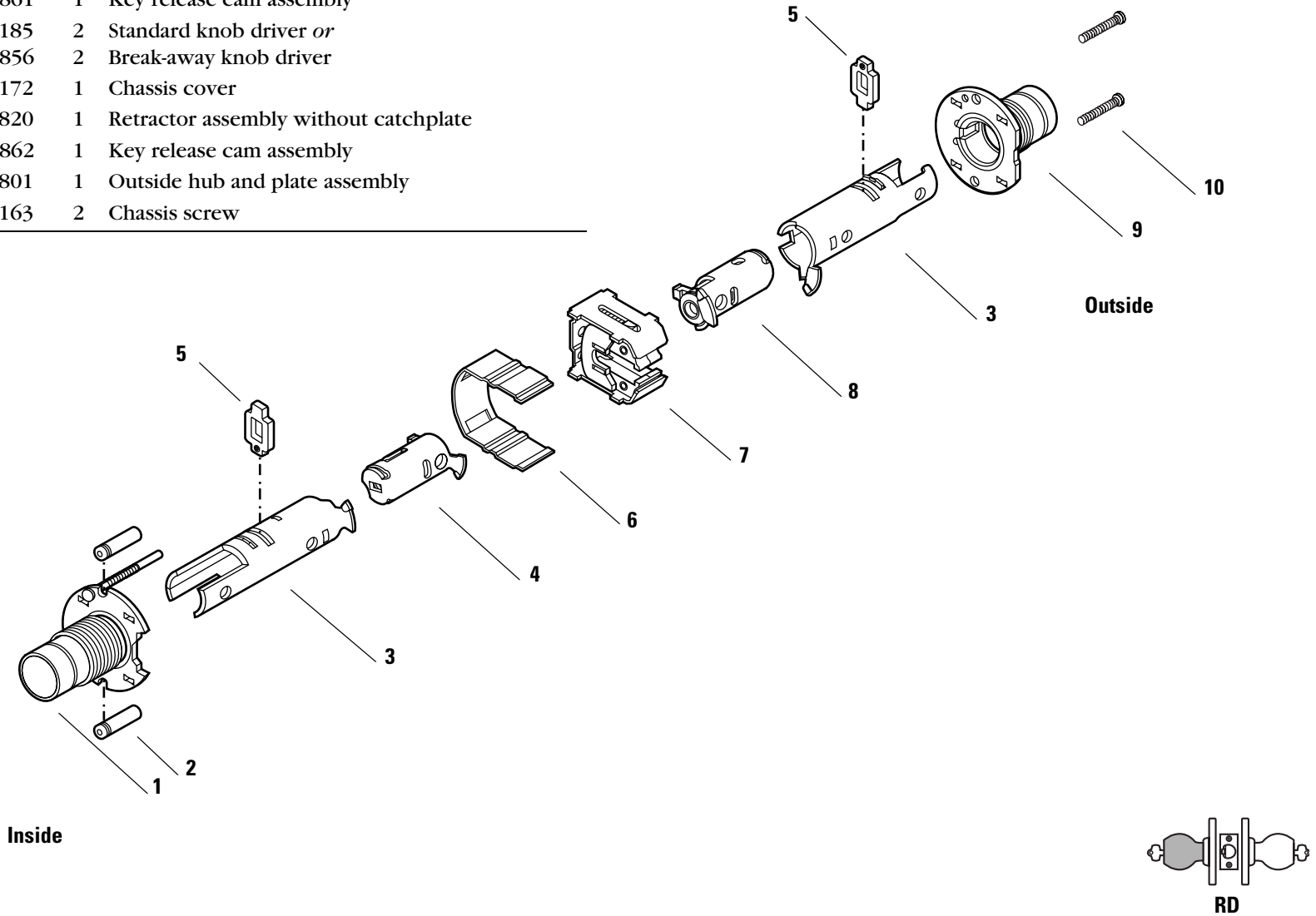


Figure 2.25 RD function exploded diagram

RH FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54806	1	Non-keyed sleeve assembly
4	B54172	1	Chassis cover
5	B54820	1	Retractor assembly without catchplate
6	A54862	1	Key release cam assembly
7	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
8	B54836	1	Keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

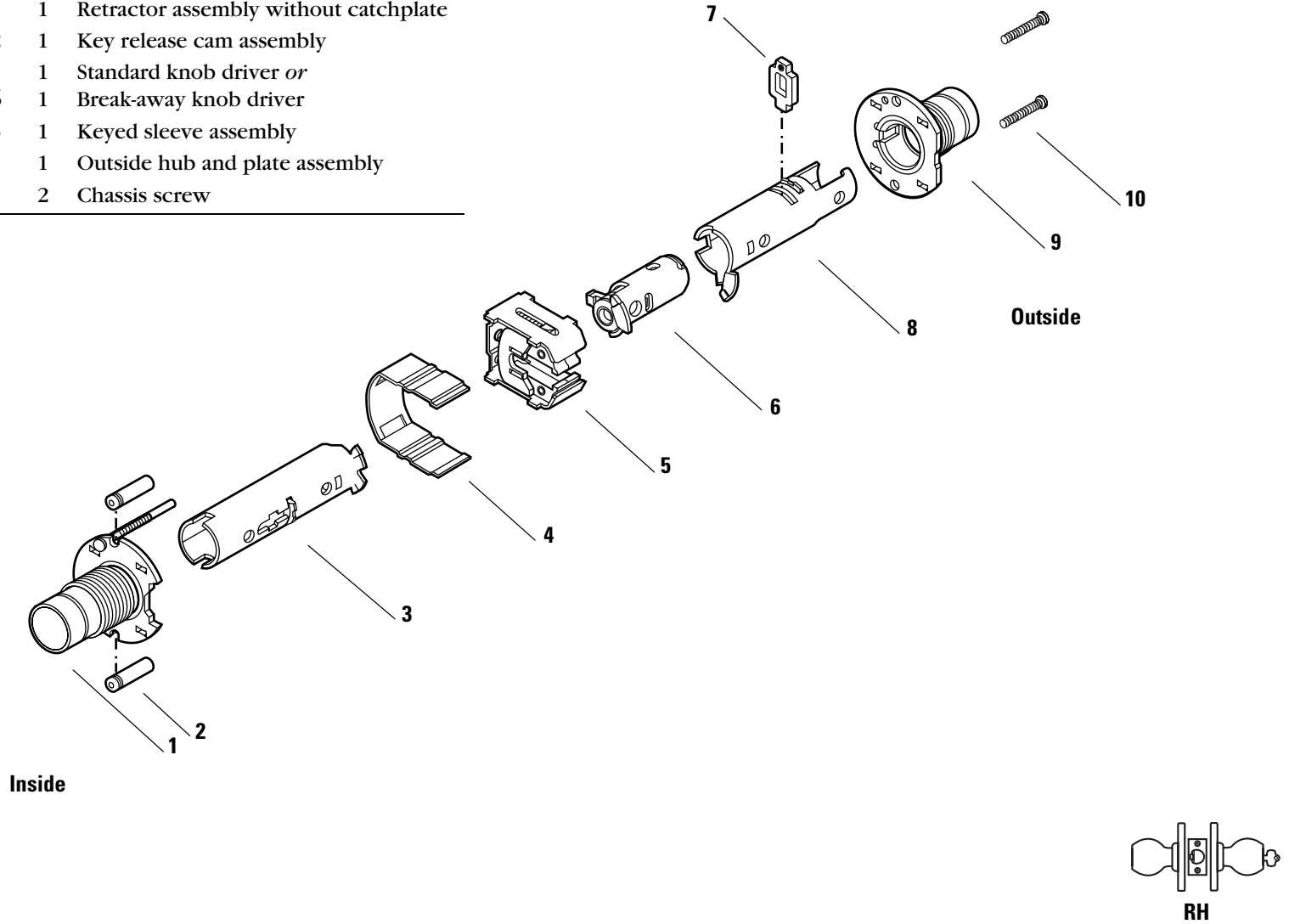


Figure 2.26 RH function exploded diagram

RZ FUNCTION CHASSIS—CLOSET OR STOREROOM LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for Z function†
2	B54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	A54835	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54862	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

† You need to install an A or C style rose first before installing the turn blade assembly. See [page 2-51](#). Specify finish.

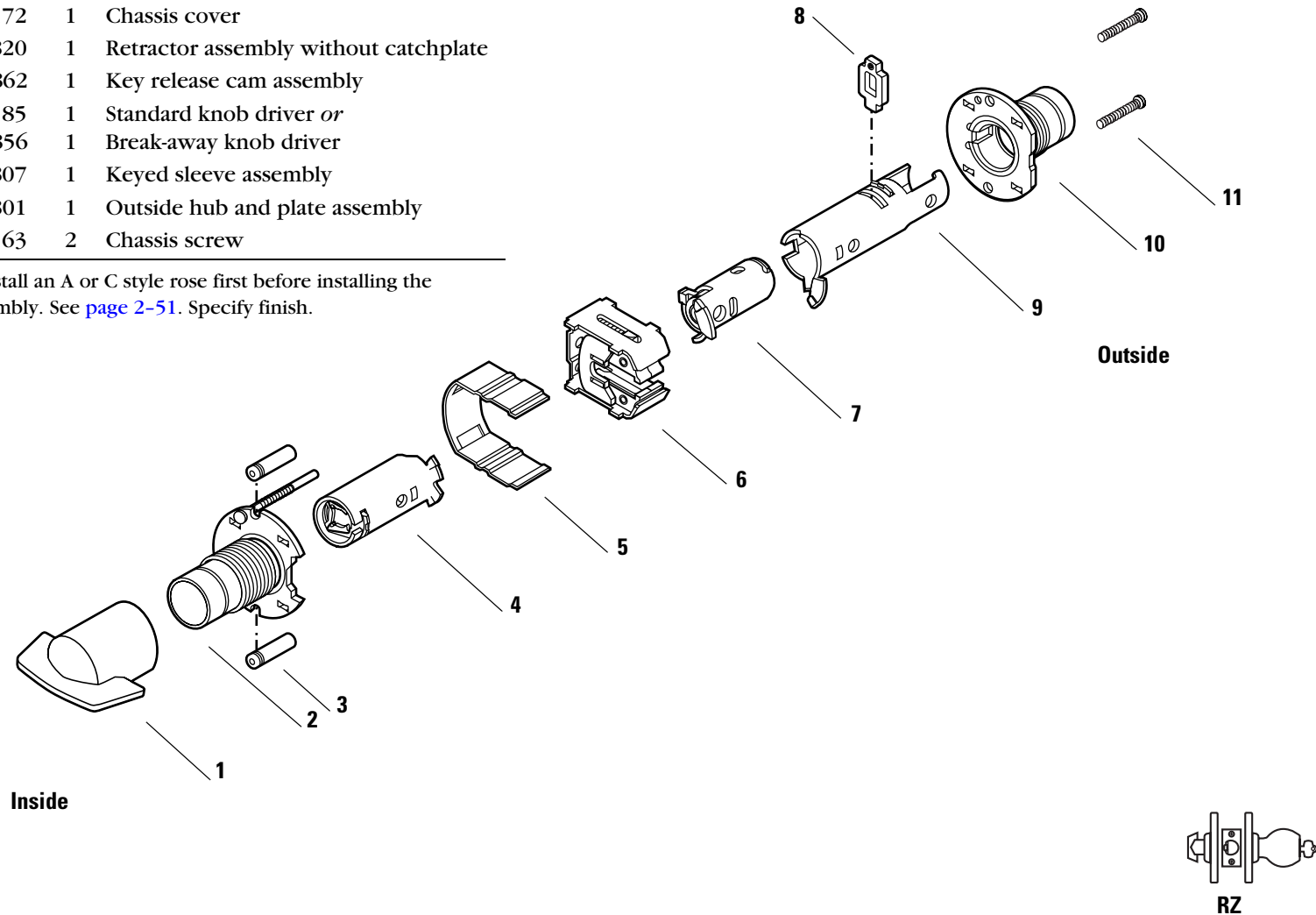


Figure2.27 RZ function exploded diagram

XD FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	1	Keyed sleeve assembly
4	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
5	A54861	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54808	1	Non-keyed sleeve assembly
9	B54801	1	Outside hub and plate assembly
10	B54163	2	Chassis screw

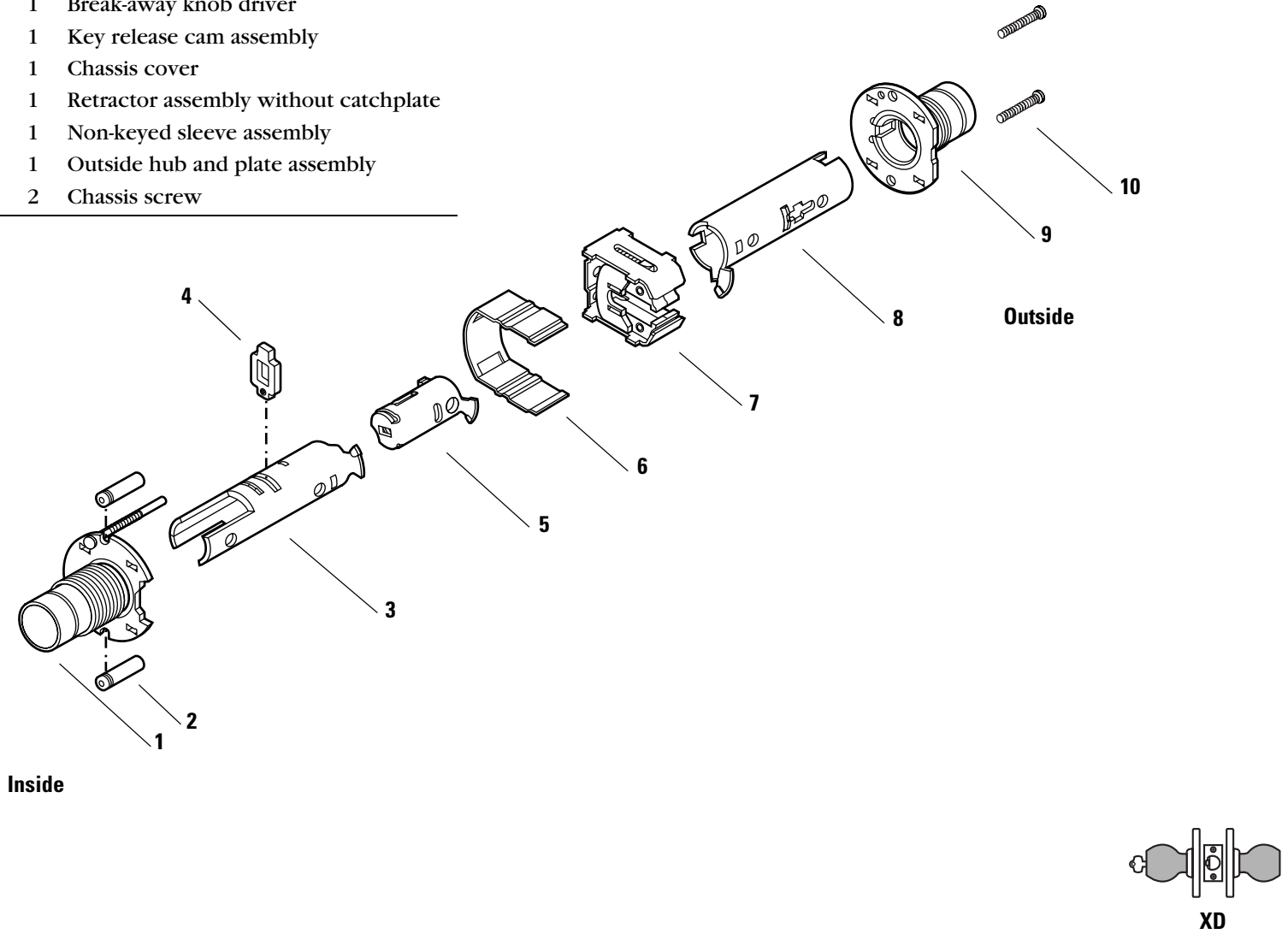


Figure 2.28 XD function exploded diagram

XR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54808	1	Non-keyed sleeve assembly
4	A54861	1	Key release cam assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	A54862	1	Key release cam assembly
8	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
9	B54807	1	Keyed sleeve assembly
10	B54801	1	Outside hub and plate assembly
11	B54163	2	Chassis screw

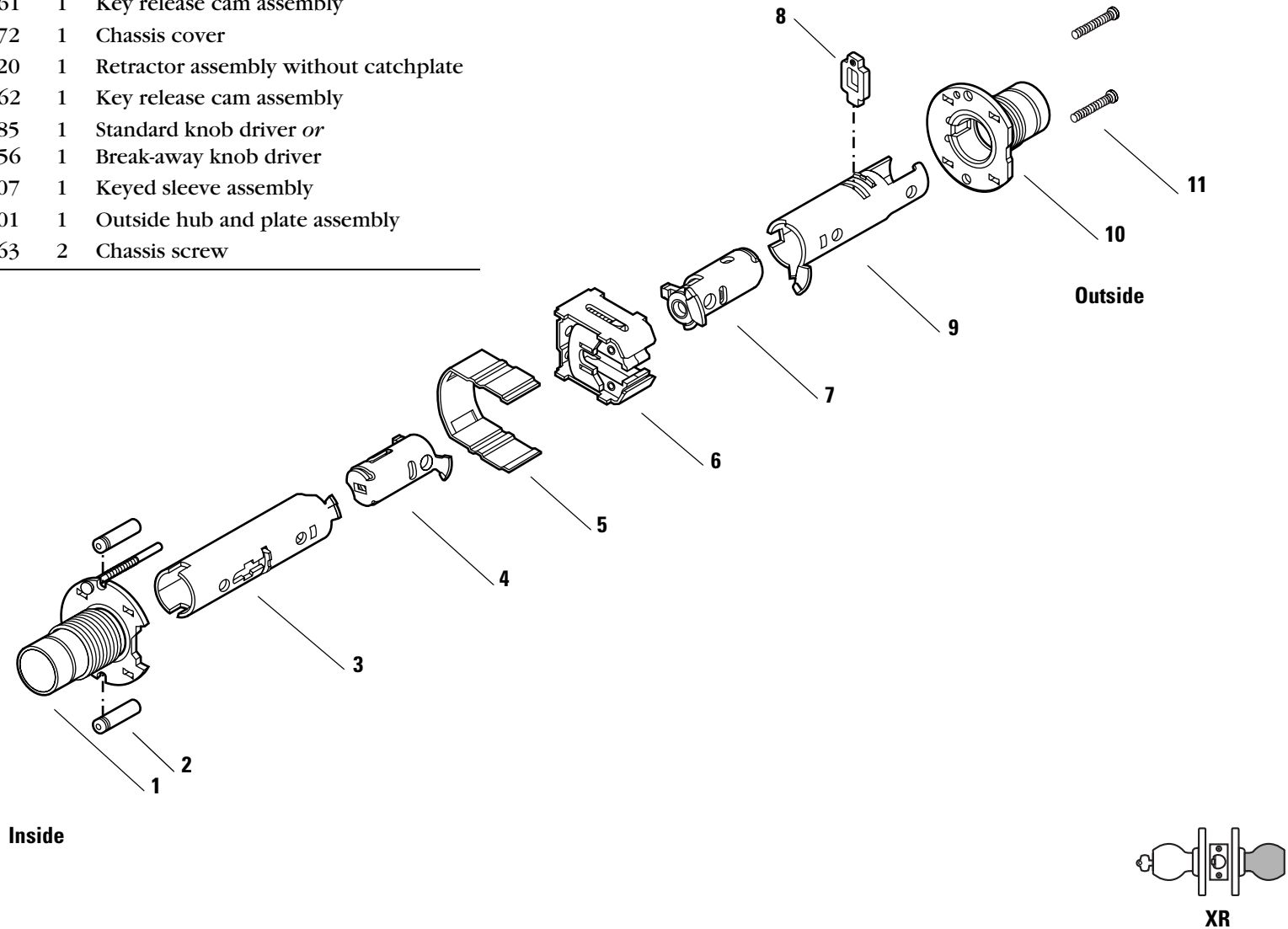


Figure 2.29 XR function exploded diagram

YD FUNCTION CHASSIS—EXIT LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	1	Keyed sleeve assembly
4	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
5	A54861	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54809	1	Outside hub and plate assembly
9	B54163	2	Chassis screw
10	A54717	1	Outside convex rose for Y function [†]

† A54717 is the only available outside rose for this function. Specify finish.

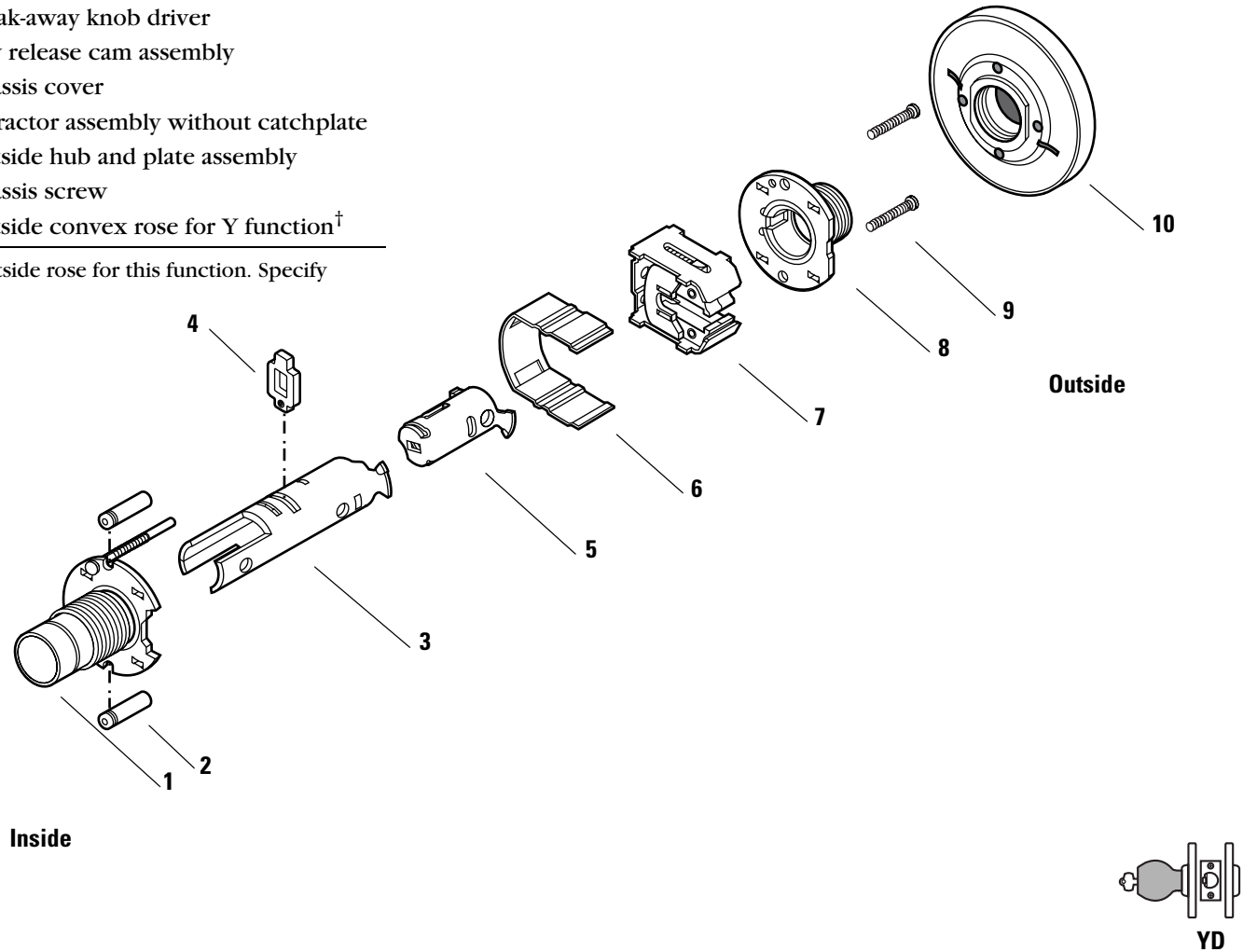


Figure 2.30 YD function exploded diagram

YR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	B54810	1	Inside hub and plate assembly
2	B54187	2	Clamp stud
3	B54807	1	Keyed sleeve assembly
4	B54185	1	Standard knob driver <i>or</i>
not shown	A54856	1	Break-away knob driver
5	A54862	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54820	1	Retractor assembly without catchplate
8	B54809	1	Outside hub and plate assembly
9	B54163	2	Chassis screw
10	A54717	1	Outside rose for Y function [†]

[†] A54717 is the only available outside rose for this function. Specify finish.

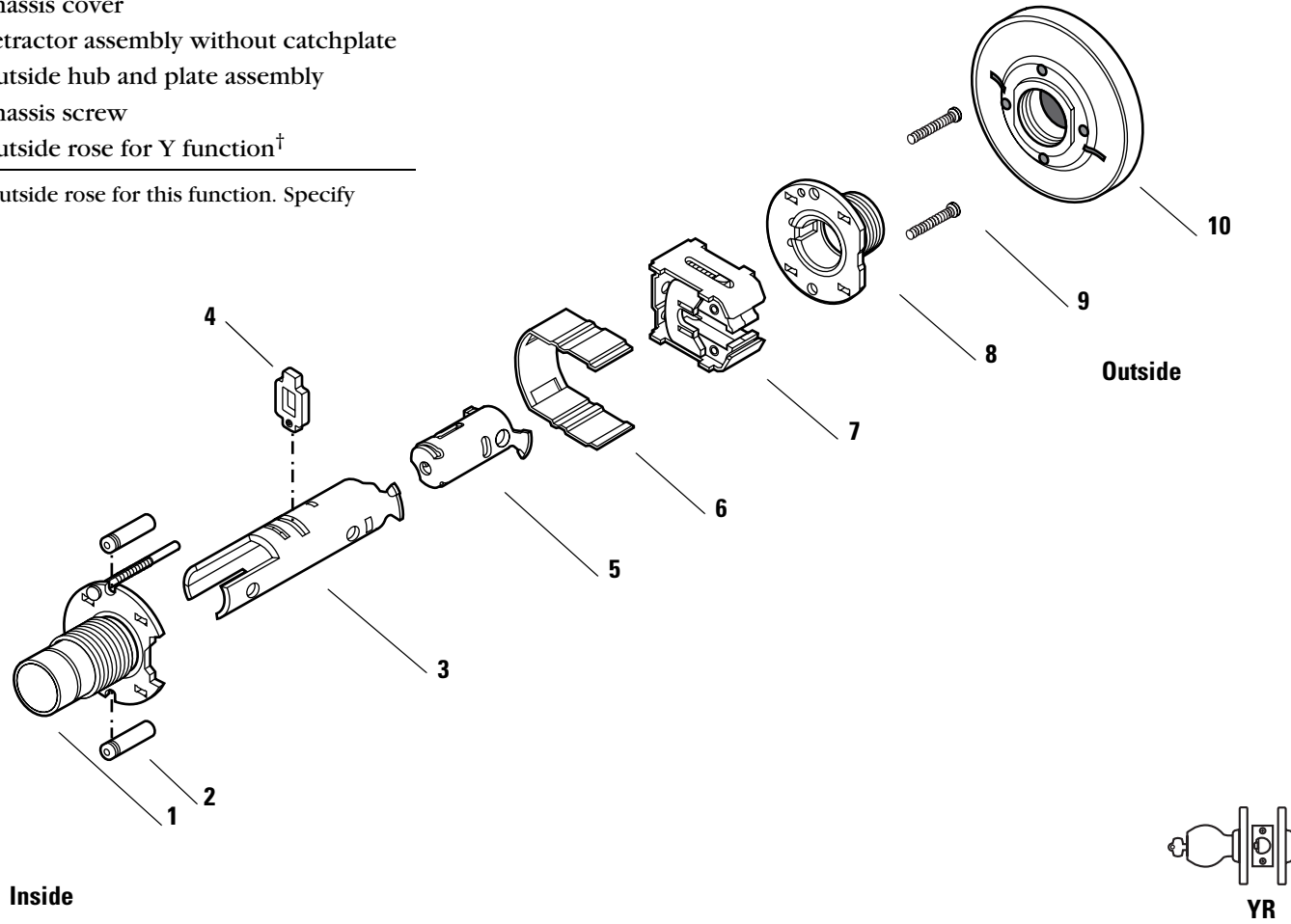


Figure 2.31 YR function exploded diagram

Z FUNCTION CHASSIS—CLOSET LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for Z function†
2	A54810	1	Inside hub and plate assembly
3	B54187	2	Clamp stud
4	A54835	1	Non-keyed sleeve assembly
5	B54172	1	Chassis cover
6	B54820	1	Retractor assembly without catchplate
7	B54806	1	Non-keyed sleeve assembly
8	B54801	1	Outside hub and plate assembly
9	B54163	2	Chassis screw

† You need to install an A or C style rose first before installing the turn blade assembly. See [page 2-51](#). Specify finish.

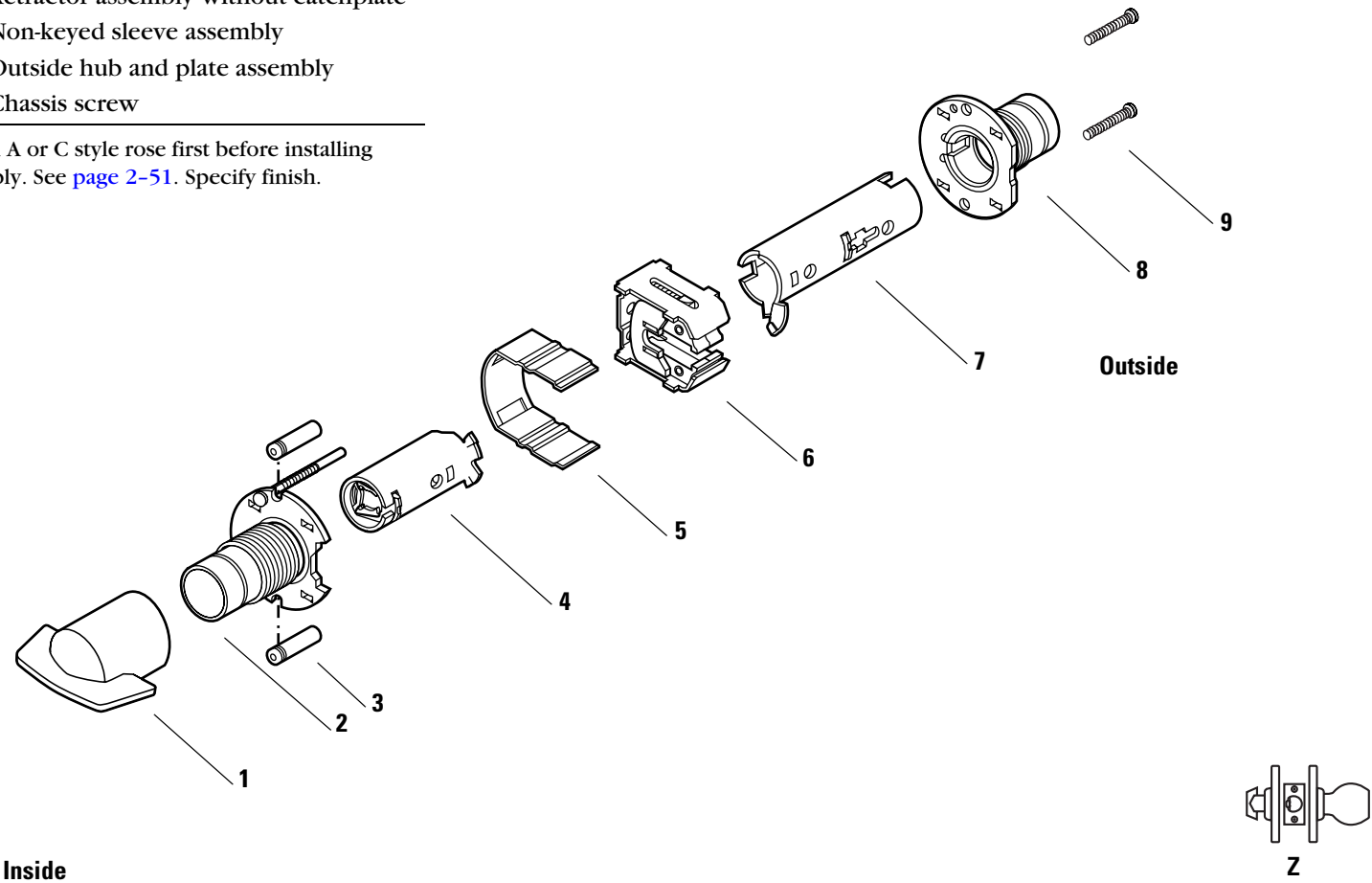


Figure 2.32 Z function exploded diagram

ELECTRIFIED FUNCTIONS DEL FUNCTION CHASSIS—ELECTRICALLY LOCKED FAIL SAFE

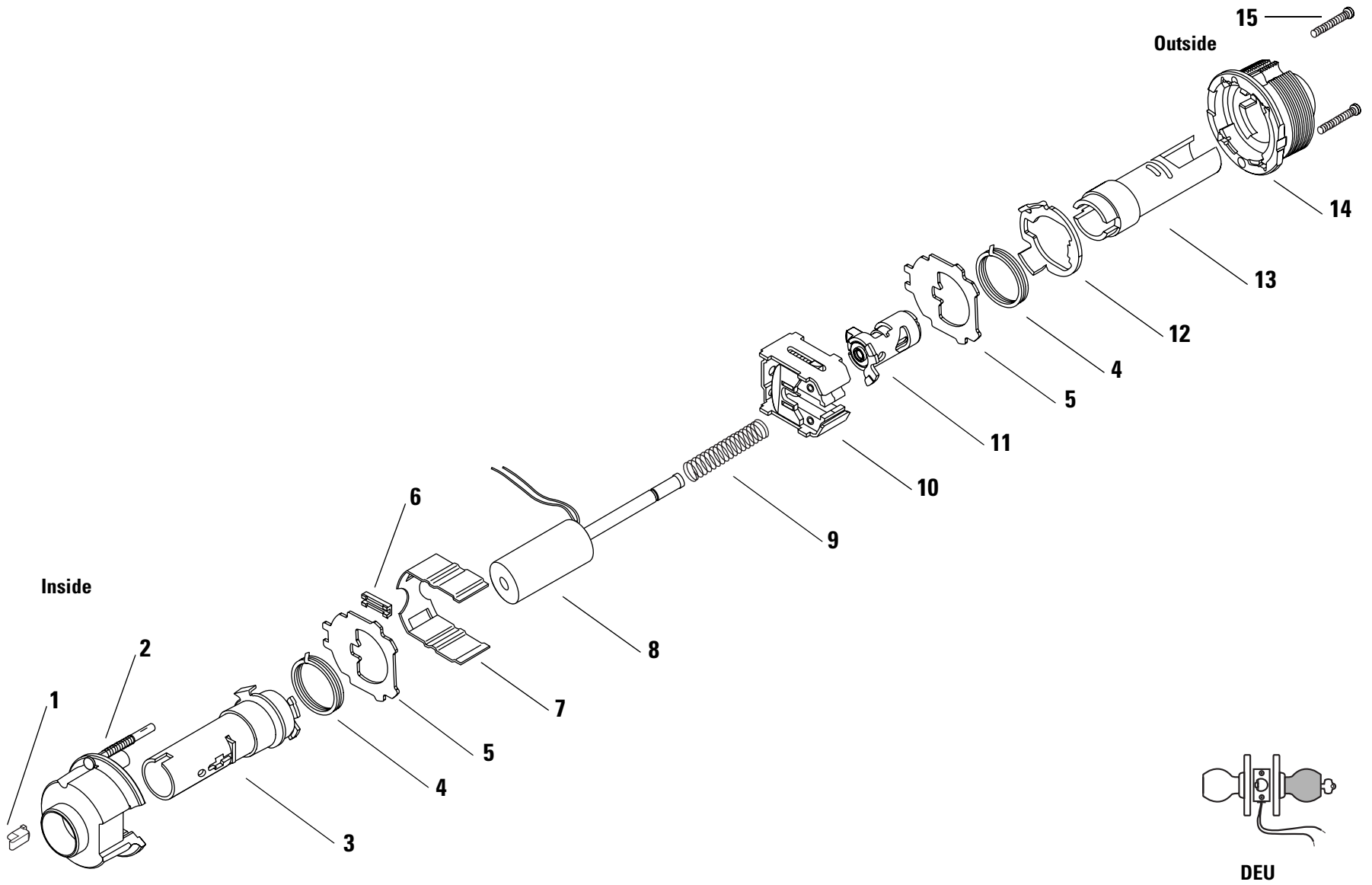


Figure 2.33 DEL function exploded diagram

DEL chassis parts list

Refer to [Figure 2.33](#) and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B60207	1	Switch plunger
2	A55685	1	Inside hub assembly <i>or</i>
not shown	C60206	1	Inside hub assembly for RQE
3	B60418	1	Modified drive collar & non-keyed sleeve assembly
4	B60420	2	Knob return spring
5	B55504	2	Thrust plate
6	B60470	1	Wire protector cap
7	B54172	1	Chassis cover
not shown	A60227	1	ID label (affixed to the chassis cover)
8	C60232	1	Solenoid
9	C60224	1	Solenoid spring
10	B60463	1	Chassis frame and retractor assembly
11	A60541	1	Key release cam assembly
12	C55515	1	Spring drive plate
13	A60424	1	Keyed sleeve assembly
14	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
15	A55505	2	Chassis screw

DEU FUNCTION CHASSIS—ELECTRICALLY UNLOCKED FAIL SECURE

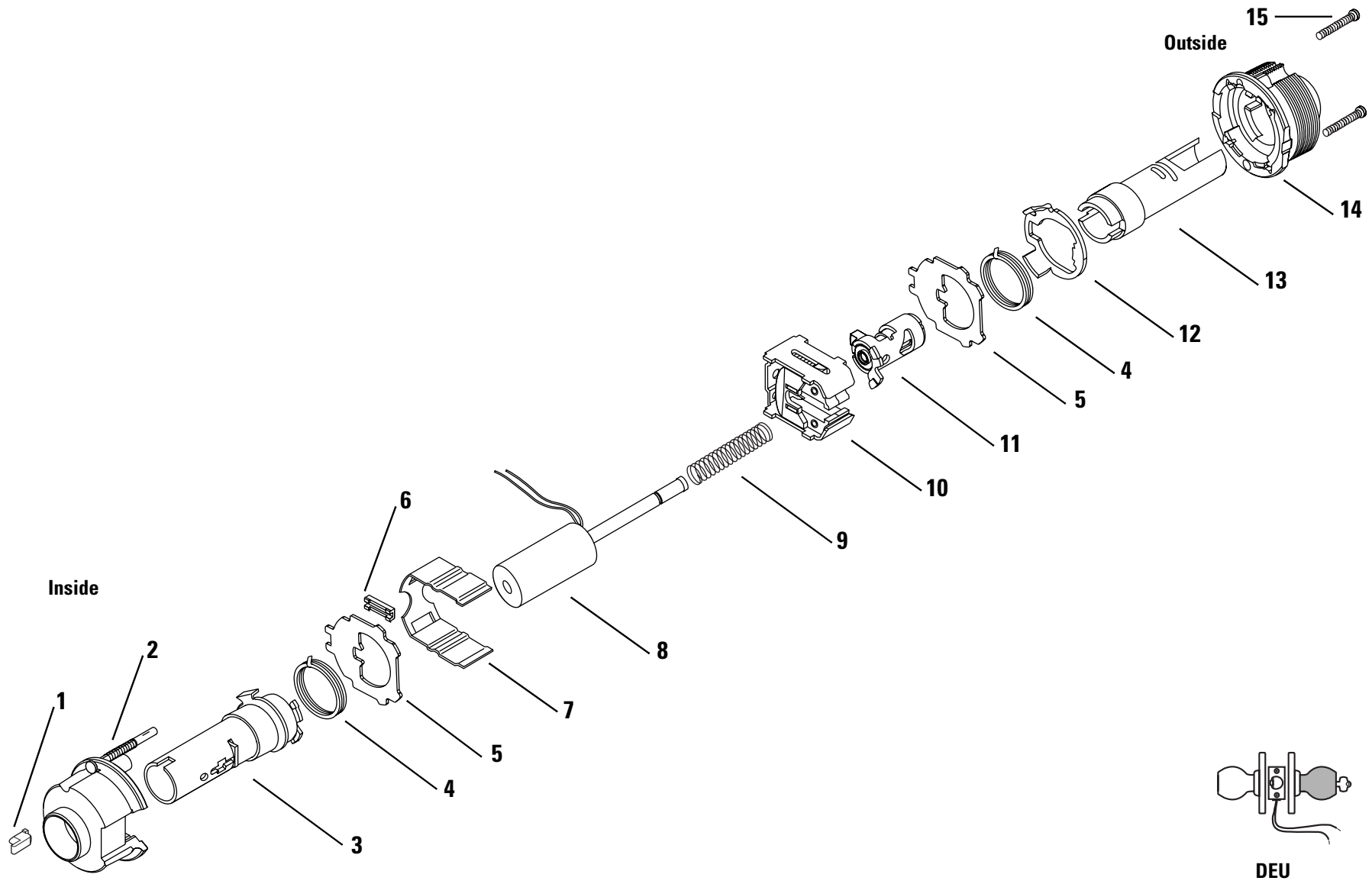


Figure 2.34 DEU function exploded diagram

DEU chassis parts list

Refer to [Figure 2.34](#) and the table below to find the part you need.

Item	Part no.	Qty.	Description
1	B60207	1	Switch plunger
2	A55685	1	Inside hub assembly <i>or</i>
not shown	C60206	1	Inside hub assembly for RQE
3	B60418	1	Modified drive collar & non-keyed sleeve assembly
4	B60420	2	Knob return spring
5	B55504	2	Thrust plate
6	B60470	1	Wire protector cap
7	B54172	1	Chassis cover
not shown	A60227	1	ID label (affixed to the chassis cover)
8	C60231	1	Solenoid
9	C60223	1	Solenoid spring
10	B60463	1	Chassis frame and retractor assembly
11	A60531	1	Key release cam assembly
12	C55515	1	Spring drive plate
13	A60424	1	Keyed sleeve assembly
14	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
15	A55505	2	Chassis screw

FUNCTION CONVERSION

If you want to convert the function of an existing 8K Lock, use the following tables to determine the internal parts that you need. Unless otherwise noted, a quantity of one is used for each part.

Compare the column of the function you currently have with the column of the function you need to determine the new parts necessary for conversion.

Standard functions

Part No.	Description	AB	C	D	E	G	H/HJ	L	N	NX	P	R	S	T	W	Y
A54745	Button release assembly†							■								
B54742	Turn button assembly†	■														
B54744	Push button assembly†						■	■			■			■		
B54748	Slotted button assembly†				■											
B54810	Inside hub & plate assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54801	Outside hub & plate assembly	■	■	■	■	■		■	■	■	■	■	■	■	■	
B54809	Outside hub & plate assembly															■
A54717	Outside convex rose for Y function†															■
B54806	Non-keyed sleeve assembly	■		■	■		■	■	■‡	■	■	■		■		
B54808	Non-keyed sleeve assembly							■		■	■					
B54807	Keyed sleeve assembly	■	■‡	■	■	■‡						■	■‡	■	■‡	
B54832	Keyed sleeve and hub assembly						■									
B54185	Knob driver <i>or</i>	■	■‡	■	■	■‡						■	■‡	■	■‡	
A54856	Breakaway driver															
B54172	Chassis cover	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54822	Retractor assembly with long catchplate	■			■		■	■			■			■		
B54820	Retractor assembly without catchplate		■	■		■			■	■		■	■		■	■
A54860	Key release cam assembly	■	■		■			■								
A54861	Key release cam assembly			■												■‡
A54862	Key release cam assembly											■	■‡	■		
A54863	Key release cam assembly		■													
A54864	Key release cam assembly					■‡										
A54865	Key release cam assembly						■									
A54867	Key release cam assembly									■	■					
B54749	Locking bar assembly for NX function									■						
A54190	Locking bar		■													
A54195	Locking bar					■										
B54187	Clamp stud (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54163	Chassis screw (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

† Specify finish.

‡ Requires two.

Non-standard functions

Part No.	Description	A	B	DR	DZ	EA	LL	M	O	RD	RH	RZ	XD	XR	YD	YR	Z
A54736	Turn blade assembly for Z function†				■							■					■
B54742	Turn button assembly†	■					■	‡	■								
B54744	Push button assembly†		■				■										
B54748	Slotted button assembly†					■											
B54810	Inside hub and side plate assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54801	Outside hub & plate assembly	■	■	■	■	■	■	■	■	■	■	■	■	■			■
B54809	Outside hub & plate assembly														■	■	
A54717	Outside convex rose for Y function†														■	■	
B54806	Non-keyed sleeve assembly	■	■			■	■		■		■						■
B54808	Non-keyed sleeve assembly							‡	■				■	■			
A54835	Non-keyed sleeve assembly				■							■					■
B54836	Keyed sleeve assembly										■						
B54807	Keyed sleeve assembly	■	■	‡	■	■	■			‡			■	■	■	■	
B54185	Knob driver <i>or</i>	■	■	‡	■	■	■			‡	■	■	■	■	■	■	
A54856	Breakaway driver	■	■	‡	■	■	■			‡	■	■	■	■	■	■	
B54172	Chassis cover	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A54204	Bridge bar							■									
B54820	Retractor assembly without catchplate	■		■	■			■	■	■	■	■	■	■	■	■	■
B54821	Retractor assembly with short catchplate		■			■											
B54822	Retractor assembly long catchplate						■										
A54860	Key release cam assembly	■	■			■	■										
A54861	Key release cam assembly			■	■								■	■	■		
A54862	Key release cam assembly			■						■	■	■		■		■	
A54866	Key release cam assembly							‡									
A54867	Key release cam assembly								■								
B54187	Clamp stud (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B54163	Chassis screw (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

† Specify finish.

‡ Requires two.

Electrical functions

Part No.	Description	DEL	DEU
B60207	Switch plunger	■	■
A55685	Inside hub assembly <i>or</i>	■	■
C60206	Inside hub assembly for RQE	■	■
B60418	Modified drive collar & non-keyed sleeve assembly	■	■
B60420	Knob return spring	■	■
B55504	Thrust plate [†]	■	■
B60470	Wire protector cap	■	■
B54172	Chassis cover	■	■
A60227	ID label (affixed to the chassis cover)	■	■
C60232	Solenoid	■	
C60231	Solenoid		■
C60224	Solenoid spring	■	
C60223	Solenoid spring		■
B60463	Chassis frame and retractor assembly	■	■
A60541	Key release cam assembly		■
A60531	Key release cam assembly	■	
C55515	Spring drive plate	■	■
A60424	Keyed sleeve assembly	■	■
D55571	Outside hub <i>or</i>	■	■
D56003	Outside hub, lost motion	■	■
A55505	Chassis screw [†]	■	■

† Requires two.

TRIM PARTS

Standard strikes and strike boxes

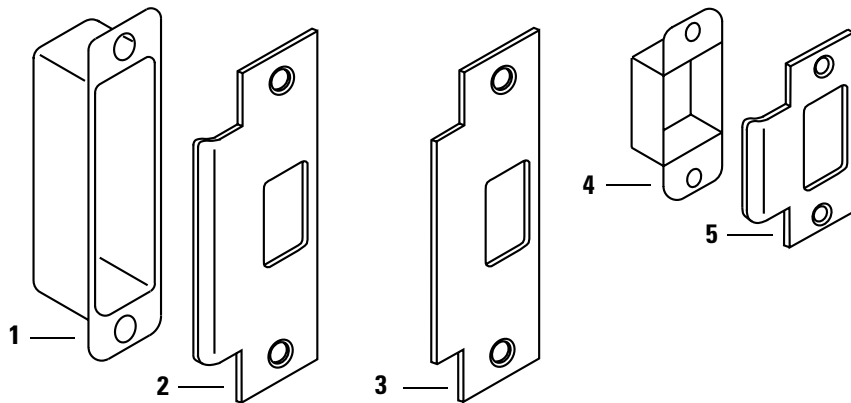


Figure 2.35 Standard strikes and strike boxes

Standard strikes and strike boxes parts list

Item	Nomenclature	Part no.	Description
1	30HS4	B34380	ANSI Plastic strike box
2	8KS3 [†]	B25641	ANSI Strike
3	8KS3-7/8 [†]	C63016	ANSI 7/8" flat lip strike
4	8KS1	B25640	Standard steel strike box
5	8KS2 [‡]	B25639	Standard strike package

[†] Use the nomenclature to order the ANSI strike package, which includes the strike, two A25359 screws, and two A18724 screws. Specify finish.

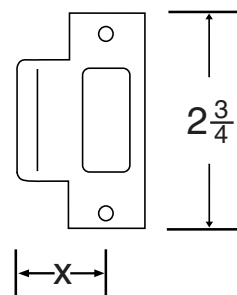
[‡] Use the nomenclature to order the standard strike package, which includes the strike and four A25359 screws. Specify finish.

Non-standard strikes

Non-standard strikes parts list

Part no. [†]	X dimension
B54063	7/8"
B54064	1"
B54065	1 1/8"
B54066	1 1/2"
B54067	1 3/4"
B54068	2"
B54069	2 1/4"
B54070	2 1/2"
B54071	3"
B54072	4"

[†] Specify finish.



The measurement is taken from the edge of the lip to the center of the screw holes.

Figure 2.36 Understanding strike lip measurement

Lead-lined parts

The lead-lined option is available for new lock orders only. Because individual lead-lined parts are not field-serviceable, they are not available to order for replacement parts. In the following graphic, the shaded portions indicate the lead shields.

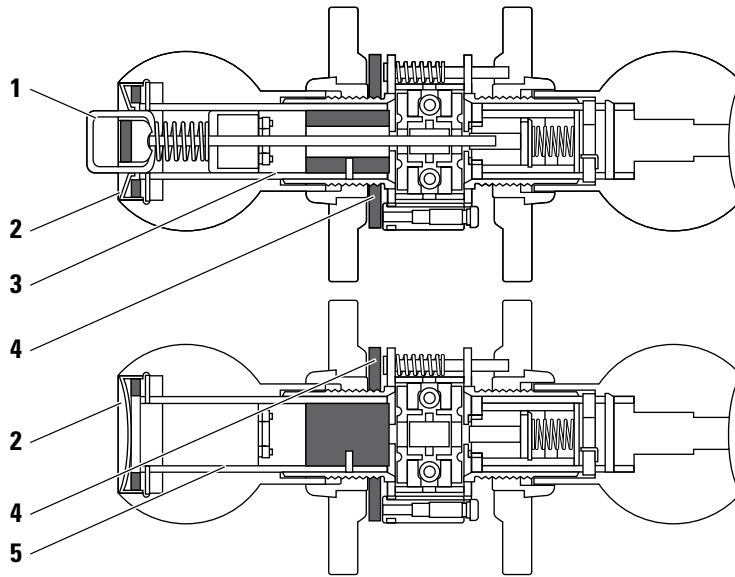


Figure 2.37 Cross-section of 8K locks showing lead-lined parts

Lead-lined parts list

Item	Description
1	Button assembly with shield
2	Knob with face shield
3	Inside knob sleeve with shield (for button knobs)
4	Rose shield
5	Inside knob sleeve with shield (for plain or keyed knobs)

**Roses and
rose rings**

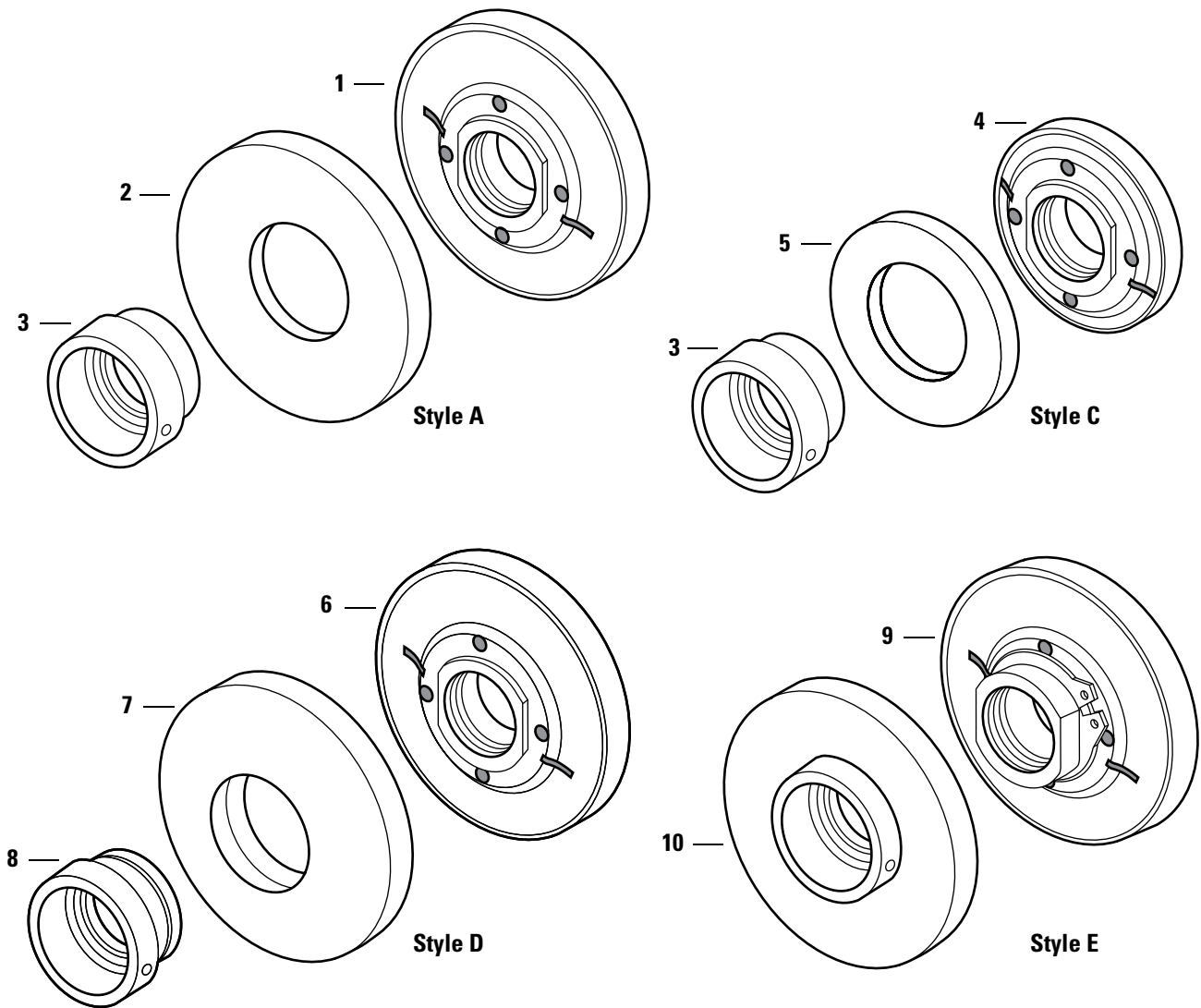


Figure 2.38 Roses and rose rings

Roses and rose rings parts list

Item	Style	Part no.	Qty.	Description
1	A	B54702	1	Outside rose assembly—large concave
2	A	B54700	1	Inside rose assembly—large concave
3	A & C	A54720	1	Inside rose ring—large concave
4	C	B54713	1	Outside rose assembly—small concave
5	C	B54712	1	Inside rose assembly—small concave
6	D	A54716	1	Outside rose assembly—small concave
7	D	B54715	1	Inside rose assembly—large convex
8	D	A54714	1	Inside rose ring—large convex
9	E	A54723	1	Outside rose assembly—thin door
10	E	A54722	1	Inside rose assembly—thin door

**Roses, rose liners,
and rose spacers for
electrified functions**

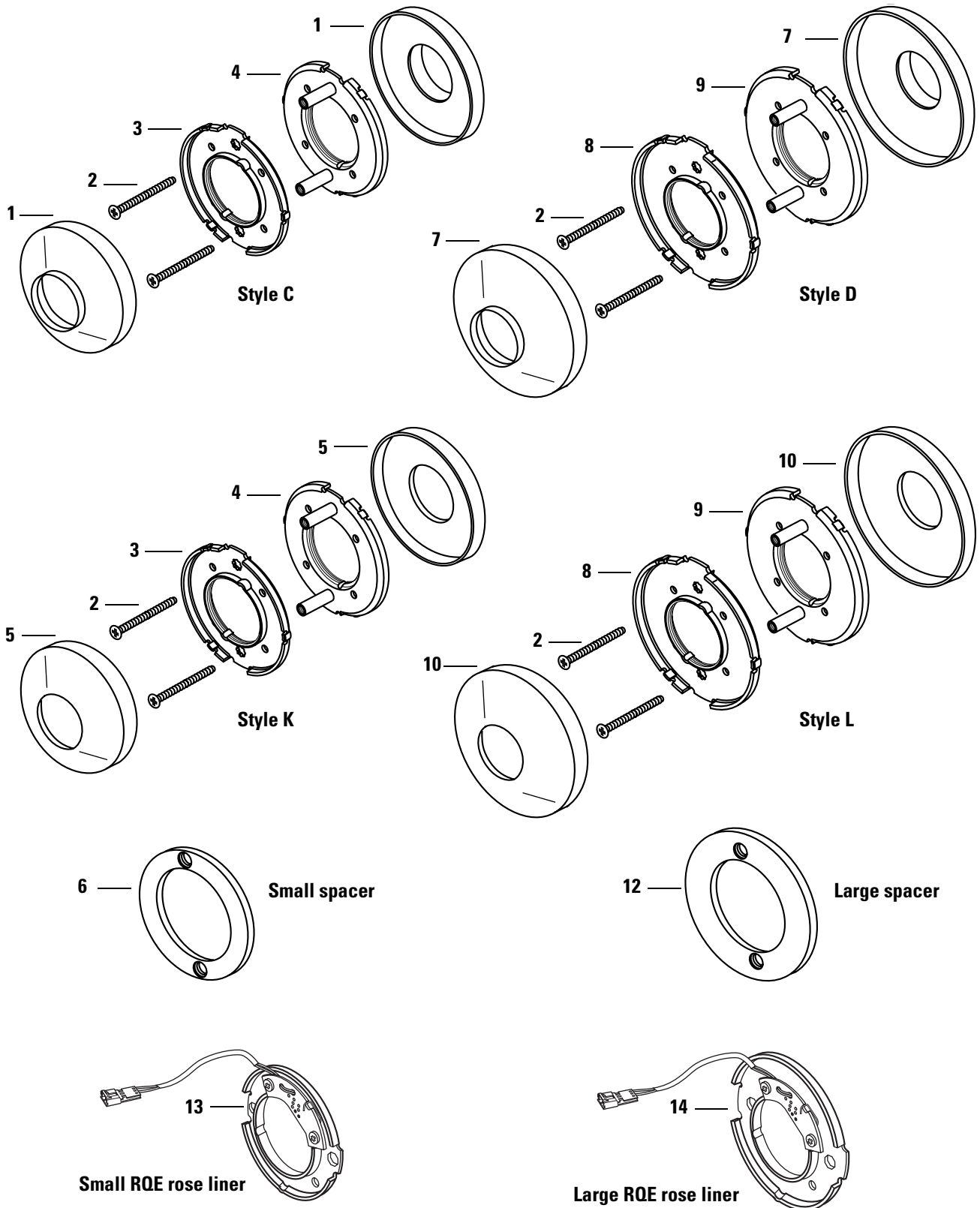


Figure 2.39 Roses, rose liners, and rose spacers

Roses, rose liners, and rose spacers parts list

Item	Style	Part no.	Description
1	C	B55015 [†]	Small rose
2	C, D, K, L	A55557	Through-bolt screws
3	C & K	C55556	Small inside rose liner
4	C & K	B55603	Small outside rose liner
5	K	B55018 [†]	Small rose
6	C & K	B55043 [‡]	Small rose spacer
7	N/A	A55711	Y function outside rose assembly
8	D	B55007 [†]	Large rose
9	D & L	C55555	Large inside rose liner
10	D & L	B55602	Large outside rose liner
11	L	B55017 [†]	Large rose
12	D & L	B55044 [‡]	Large rose spacer
13	N/A	B61049	Small RQE rose liner
14	N/A	B60221	Large RQE rose liner

[†] Inside and outside are the same.

[‡] Two (2) spacers are required for 1 3/8" thick doors.

Rose and rose liner assemblies parts list

Item	Style	Part no.	Description
1 & 3	C	B55609	Small inside rose and liner assembly
1 & 4	C	B55605	Small outside rose and liner assembly
3 & 5	K	B55607	Small inside rose and liner assembly
4 & 5	K	B55604	Small outside rose and liner assembly
8 & 9	D	B55608	Large inside rose and liner assembly
8 & 10	D	B55601	Large outside rose and liner assembly
9 & 11	L	B55606	Large inside rose and liner assembly
10 & 11	L	B55600	Large outside rose and liner assembly

**Knobs
and components**

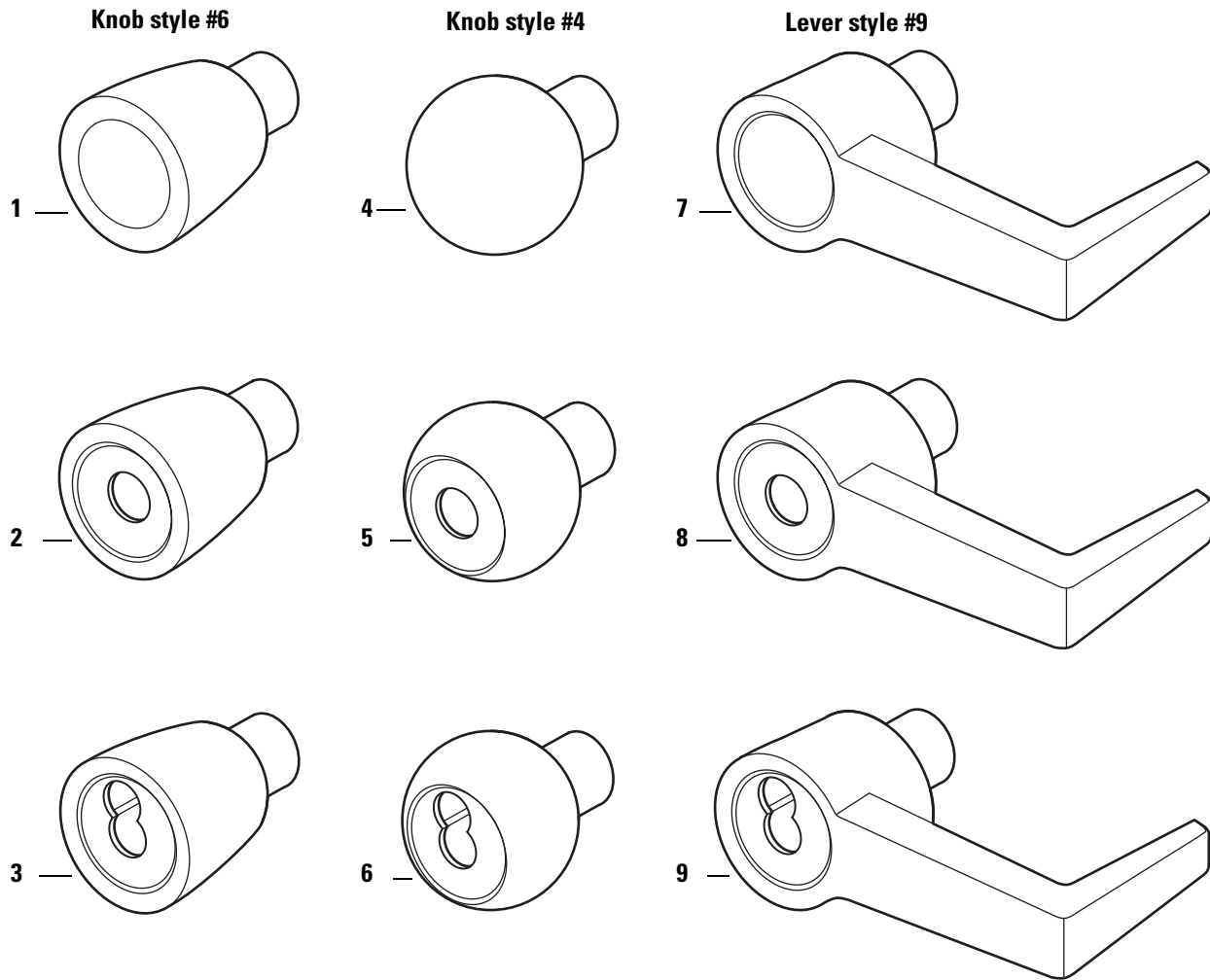


Figure 2.40 Knobs

Knobs parts list

Style	Item	Description	Standard	Tactile	Knurled
6	1	Plain tulip knob	B54705	N/A	B54756
	2	Button tulip knob	B54706	N/A	B54757
	3	Keyed tulip knob	B54703	N/A	B54755
4	4	Plain round knob	B54707	B54731	N/A
	5	Button round knob	B54708	B54732	N/A
	6	Keyed round knob	B54704	B54730	N/A
9	7	Plain lever handle [†]	B54778	N/A	N/A
	8	Button lever handle [†]	B54779	N/A	N/A
	9	Keyed lever handle [†]	B54777	N/A	N/A

[†] Lever handles are not available for electrified functions.

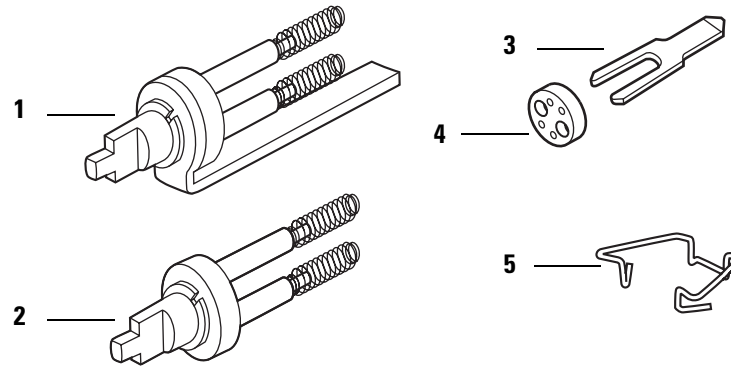


Figure 2.41 Standard knob components

Knob components parts list

Item	Part no.	Qty.	Description
1	A55697	1	“H” throw member
2	A55696	1	“HJ” throw member
3	B54200	1 [†]	Seven pin throw member [‡]
4	1882120	50	Six pin spacer
5	B54182	1	Lever keeper spring

[†] Single-keyed locks require one (1); double-keyed locks require two (2).

[‡] For information about cores and keys, see the *Core and Key Service Manual*.

Knob projections from door

The following illustrates and lists the distance that the different knobs project from a door.

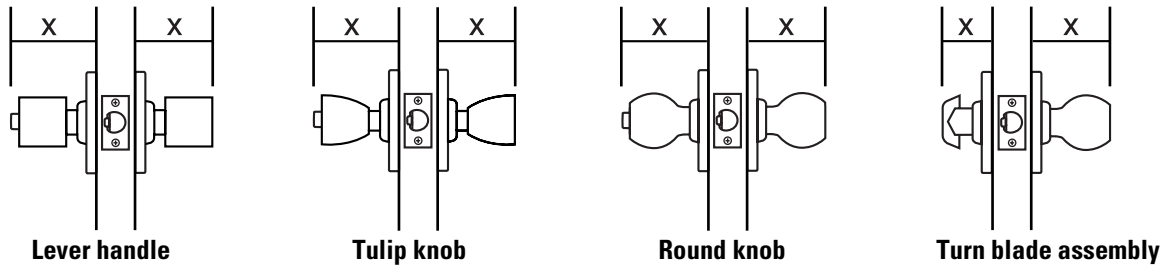


Figure 2.42 Knob projections

Knob projection table

Type	Style	Projection from door (x)
Plain lever handle	9	3"
Keyed lever handle		3"
Button lever handle		3 1/4"
Plain tulip knob	6	3"
Keyed tulip knob		3"
Button tulip knob		3 1/4"
Plain round knob	4	3"
Keyed round knob		3"
Button round knob		3 1/4"
Turn blade assembly		2"

Dummy trim

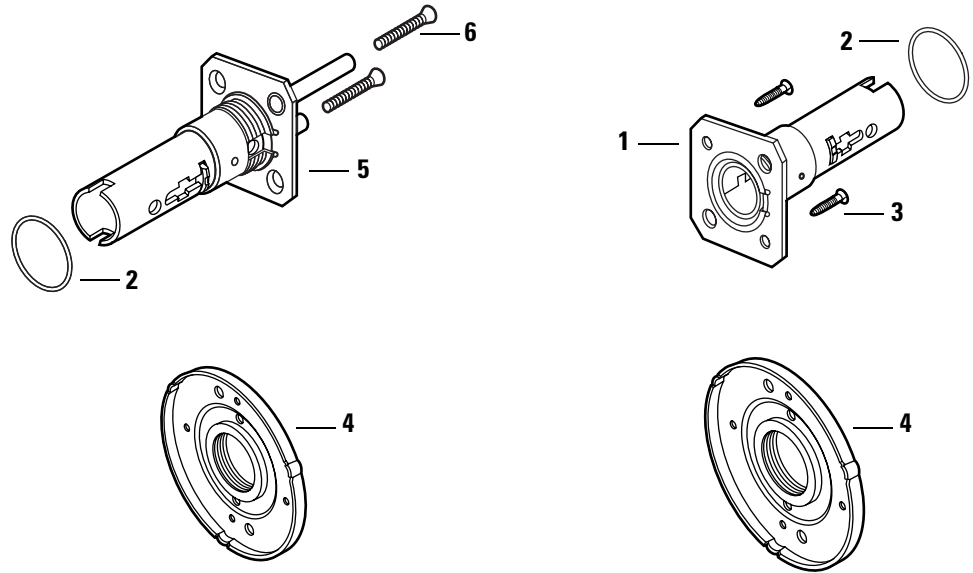


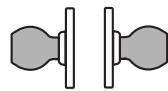
Figure 2.43 Dummy trim parts

Single dummy trim parts list



Item	Part No.	Qty.	Description
1	B54884	1	Chassis dummy trim assembly
2	A54465	1	“O” ring
3	A39217	2	#8 × 1 PFH type AB screw
4	B55051	1	Small liner and ring assembly <i>or</i>
	B55050	1	Large liner and ring assembly

Double dummy trim parts list



Item	Part No.	Qty.	Description
1	B54884	1	Chassis dummy trim assembly
2	A54465	2	“O” ring
4	B55051	2	Small liner and ring assembly <i>or</i>
	B55050	2	Large liner and ring assembly
5	B54885	1	Chassis dummy trim assembly
6	A18991	2	#8-32 × 1 1/8 Phil. FHMS screw

**8W
components**

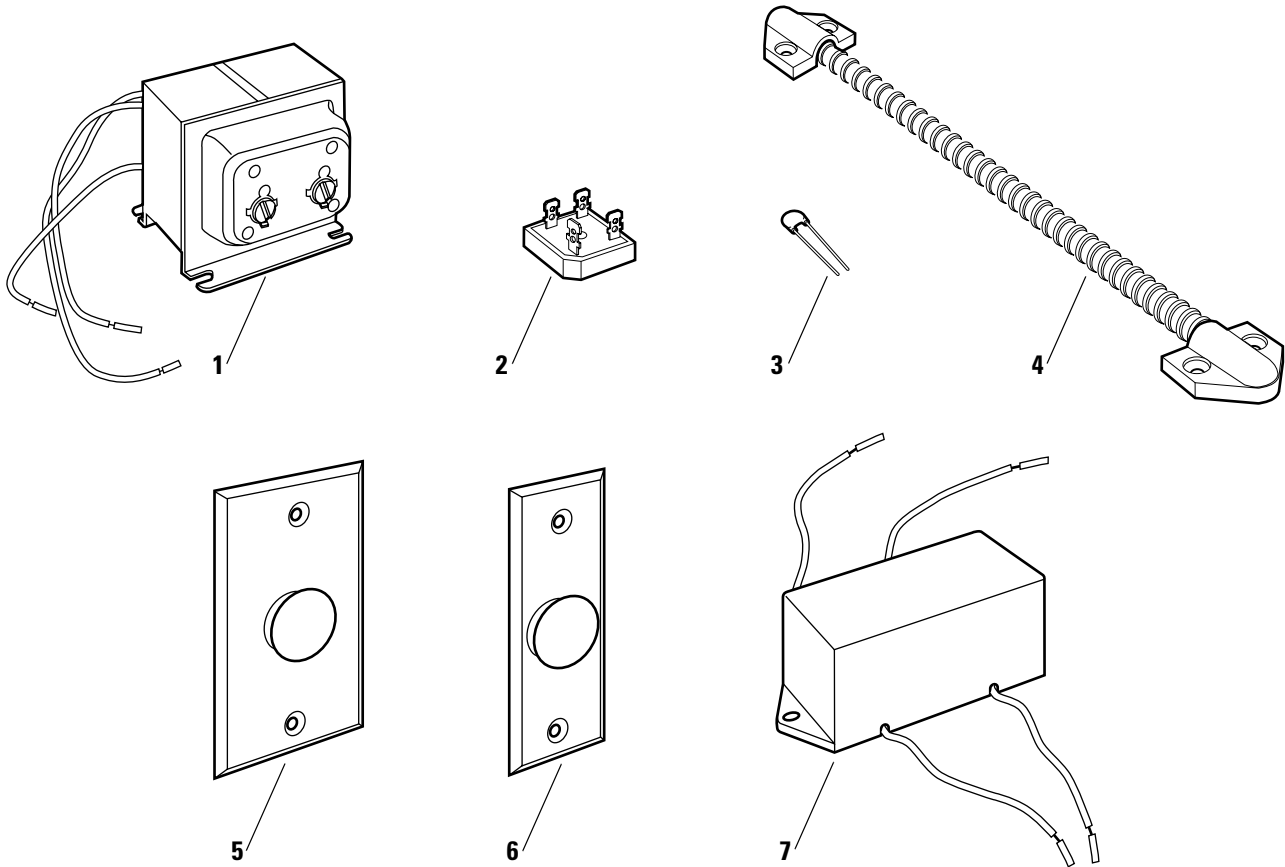


Figure 2.44 8W components

8W components parts list

Refer to [Figure 2.44](#) and the table below to find the part you need.

Item	Nomen- clature	Description
1	8W599	Transformer
2	8WCON	AC to DC converter full wave bridge rectifier
3	8WMOV	Metal oxide varistor
4	8WDTL	Door transfer loop
5	8WBU-1-A	Standard plate for RQE switch
6	8WBU-1-N	Narrow plate for RQE switch
7	8WTCM	Temperature control module

Latches

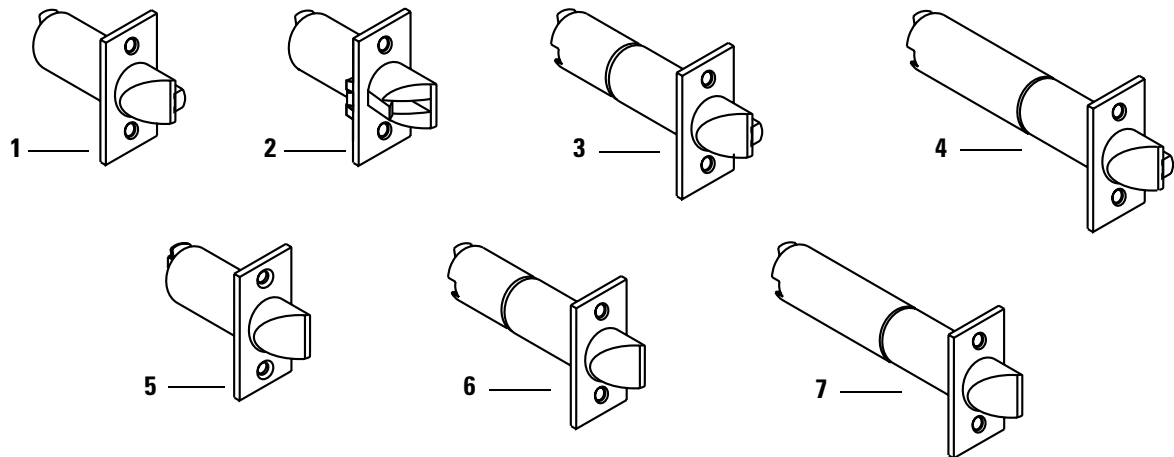


Figure 2.45 Latches

Latches parts list

Item	Latch type	Backset	Part no.	Nomenclature [†]	Description
1	Deadlocking	2 3/4"	C54680	8KL3 [‡]	Latch
2	Deadlocking	2 3/4"	A54661	8KL3-3/4 [‡]	Latch with 3/4" throw
3	Deadlocking	3 3/4"	C54682	8KL4 [‡]	Latch
4	Deadlocking	5"	C54684	8KL5 [‡]	Latch
5	Spring	2 3/4"	C54681	8KSL3 [‡]	Latch
6	Spring	3 3/4"	C54683	8KSL4 [‡]	Latch
7	Spring	5"	C54685	8KSL5 [‡]	Latch

[†] Specify finish.

[‡] Use the nomenclature to order the latch package, which includes the latch and two A25359 screws.

Installation tools

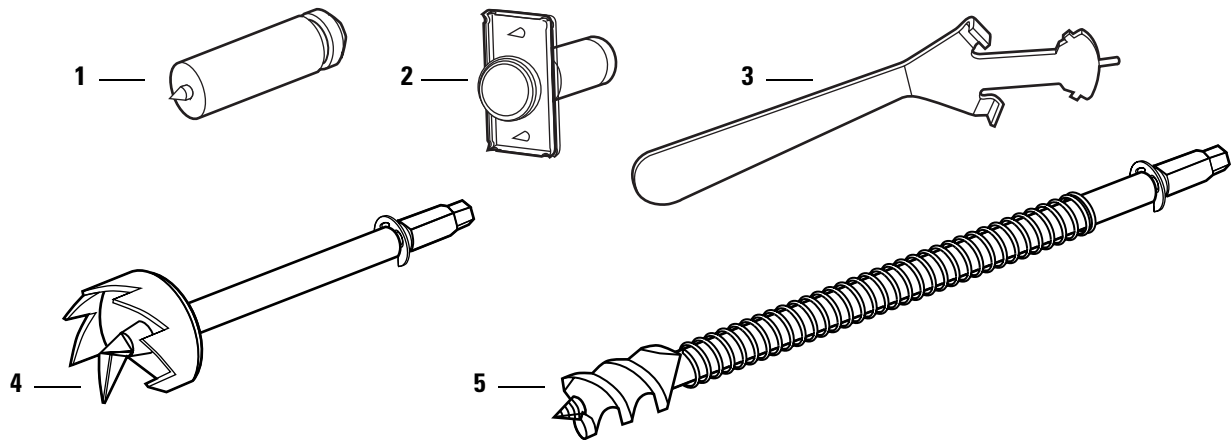


Figure 2.46 Installation tools

Installation tools parts list

Item	Nomenclature	Part no.	Description
1	KD325	A01514	Strike plate locating pin
2	KD315	1350393	Faceplate marking chisel (1 1/8" × 2 1/4")
not shown	KD312	1487975	Faceplate marking chisel (1" × 2 1/4")
3	KD316	C54466	KD316 spanner wrench
4	KD309	A54084	2 1/8" diameter chasis hole bit assembly†
5	KD318	A54085	1" diameter drill bit assembly†

† Use with the boring jig.

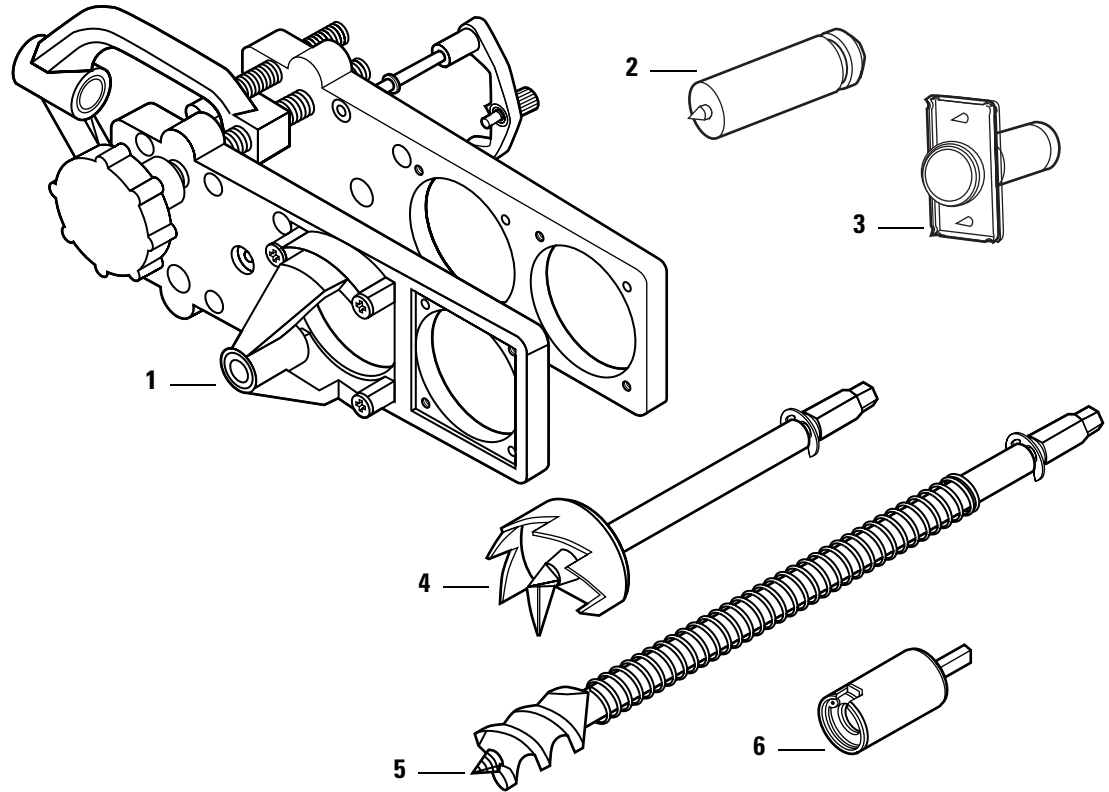


Figure 2.47 Boring jig kit

Boring jig kit parts list

Item	Nomenclature	Part no.	Description
1	N/A	N/A	Boring jig [†]
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel (1 1/8" × 2 1/4")
not shown	KD312	1487975	Faceplate marking chisel (1" × 2 1/4")
4	KD309	A54084	2 1/8" diameter chassis hole bit assembly
5	KD318	A54085	1" diameter drill bit assembly
6	N/A	N/A	Adaptor for 3/8" drill chuck [†]
1-6	KD304A	N/A	Boring jig kit

[†] Can only be ordered as part of the KD304A boring jig kit.

3

SERVICE AND MAINTENANCE

This chapter contains instructions for replacing components, servicing and maintaining components, and troubleshooting common problems.

To	See page
Replace knobs	3-3
Replace the knob driver	3-6
Replace roses	3-7
Replace button assemblies	3-10
Replace the knob keeper spring	3-12
Replace the key release cam assembly	3-13
Replace the sleeve assembly	3-16
Replace electrified function roses	3-18
Replace the RQE rose liner	3-21
Replace the solenoid	3-21
Add the RQE switch to a function	3-22
Reverse the solenoid when changing functions	3-22
Lubricate cores	3-22
Align chassis and trim	3-23
Position the locking cam for C function locks	3-24
Position the locking cam for G function locks	3-25
Position the locking cam for R, S, & T function locks	3-26
Use the emergency key for H and HJ function locks	3-28
Troubleshoot common problems	3-29

MAINTENANCE TOOLS

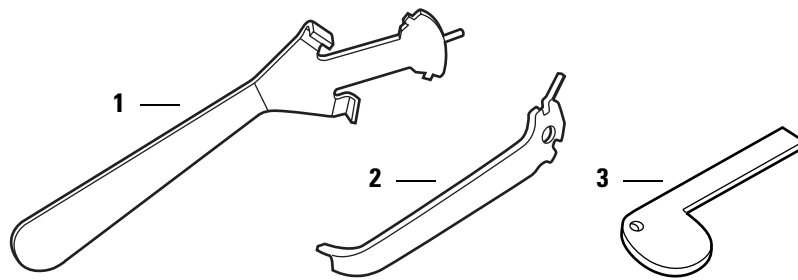


Figure 3.1 Maintenance tools

Maintenance tools parts list

Item	Nomenclature	Part no.	Description
1	KD316	C54466	KD316 spanner wrench
2	KD317	C55506	KD317 spanner wrench
3		A25586	Emergency driver†

† For use with hotel function locks (H and HJ).

REPLACING COMPONENTS

Replacing the knob

To remove the keyed knob:

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core and throw member from the knob.
3. Insert a flat blade screwdriver into the figure-8 core hole and into the knob keeper.
4. Press the screwdriver blade in the direction of the arrow, as shown in [Figure 3.2](#).

Note: You will not be able to remove the knob if the screwdriver blade is inserted too far past the keeper.

5. Slide the knob off of the sleeve.

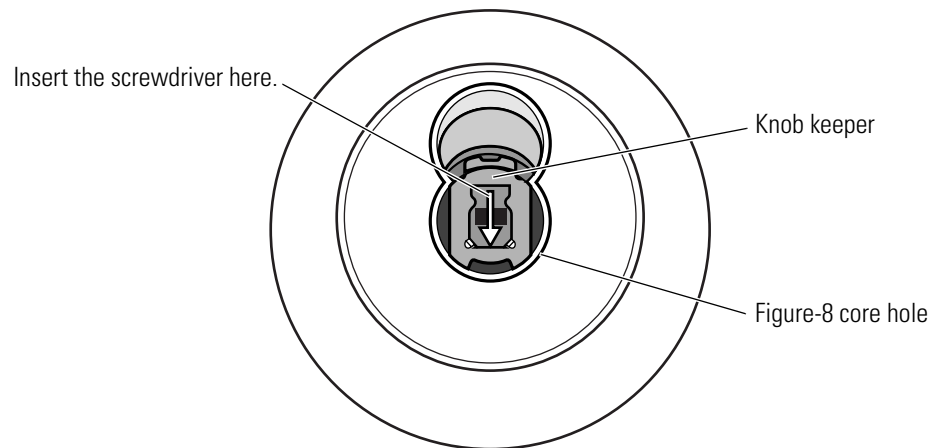


Figure 3.2 Removing the keyed knob

To remove the plain knob or button knob:

1. Insert the long protrusion on the KD316 spanner wrench into the hole on the shaft of the knob, as shown in [Figure 3.3](#).
2. Slide the knob off the sleeve.

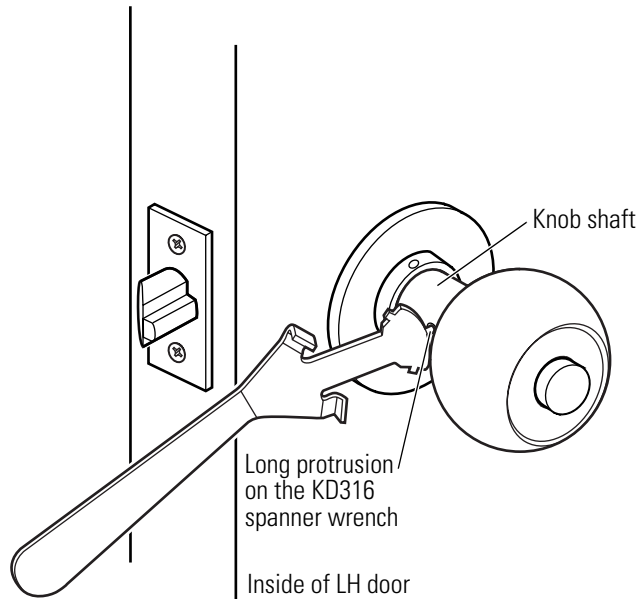


Figure 3.3 Removing the plain knob or button knob

To reinstall the knob:

1. Align the two drive lugs (plain or button knob) or notches (keyed knob) with the two slots in the sleeve, as shown in [Figure 3.4](#).
2. Slide the knob onto the sleeve and firmly push on the knob until it is seated.

3. Turn the knobs to check that they operate smoothly.

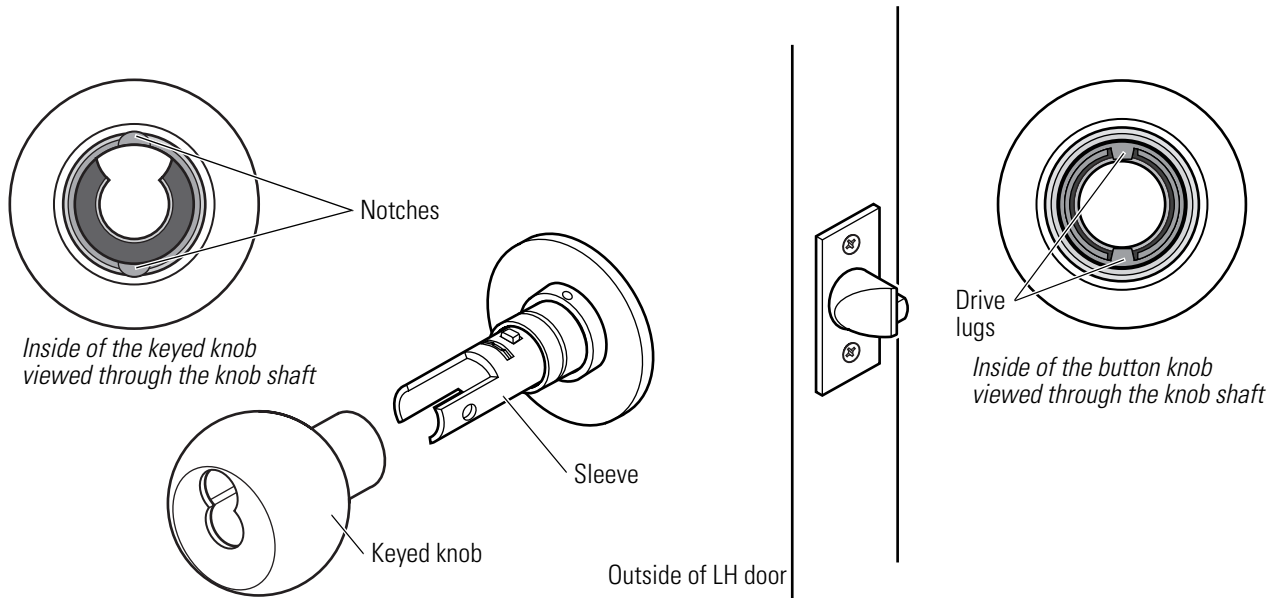


Figure 3.4 Reinstalling the knob

4. If the knob is keyed, insert the control key into the core and rotate the key 15 degrees to the right. Using the control key, insert the core and throw member into the knob. Rotate the control key 15 degrees to the left and remove the key.

Replacing the knob driver

To remove the knob driver:

1. Remove the keyed knob ([page 3-3](#)).
2. Use a flat blade screwdriver to press down on the knob driver tab, which is visible through the cutout in the top of the sleeve, as shown in [Figure 3.5](#). The knob driver should fall out through the cutout in the bottom of the sleeve.

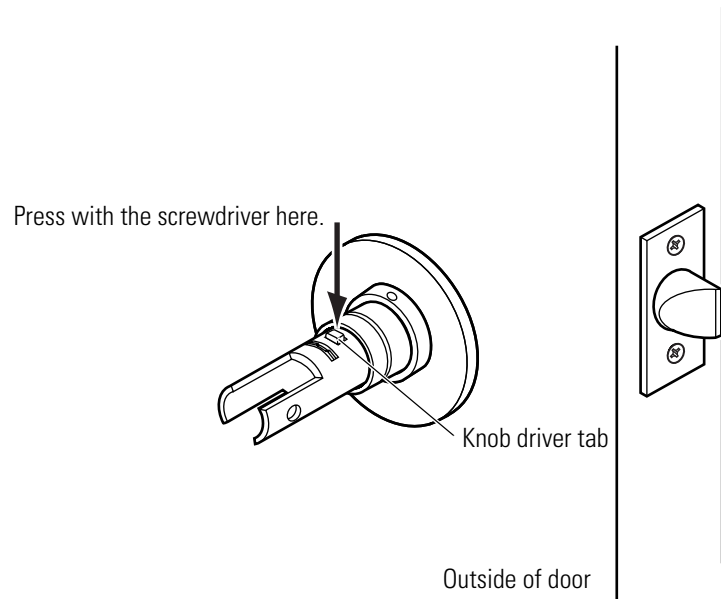


Figure 3.5 Removing the knob driver

To reinstall the knob driver:

1. Position the knob driver as shown in [Figure 3.6](#).
2. Insert the knob driver into the sleeve until it snaps into place. The knob driver tab should be visible through the cutout in the top of the sleeve.

3. Reinstall the keyed knob (page 3-4).

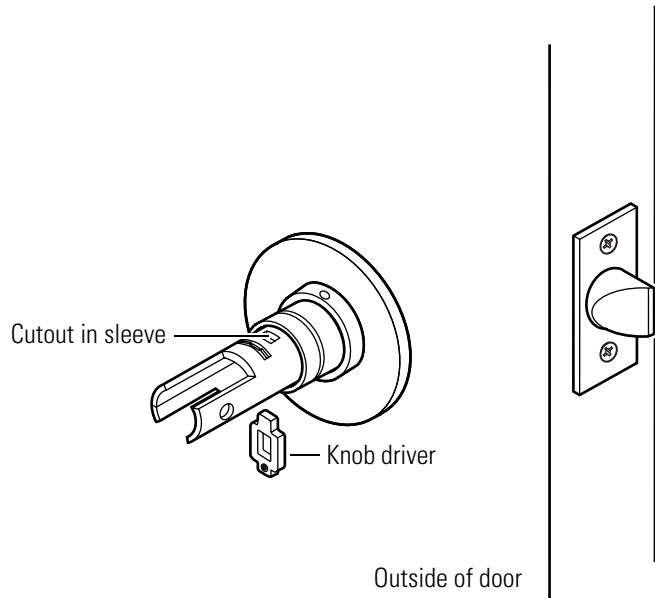


Figure 3.6 Reinstalling the knob driver

Replacing the inside rose assembly

To remove the inside rose assembly:

1. Remove the inside knob (page 3-4).
2. Insert the short protrusion on the KD316 spanner wrench into the hole on the rose ring and rotate it until you can remove the rose ring, as shown in Figure 3.7.
3. Slide the rose assembly off of the sleeve.

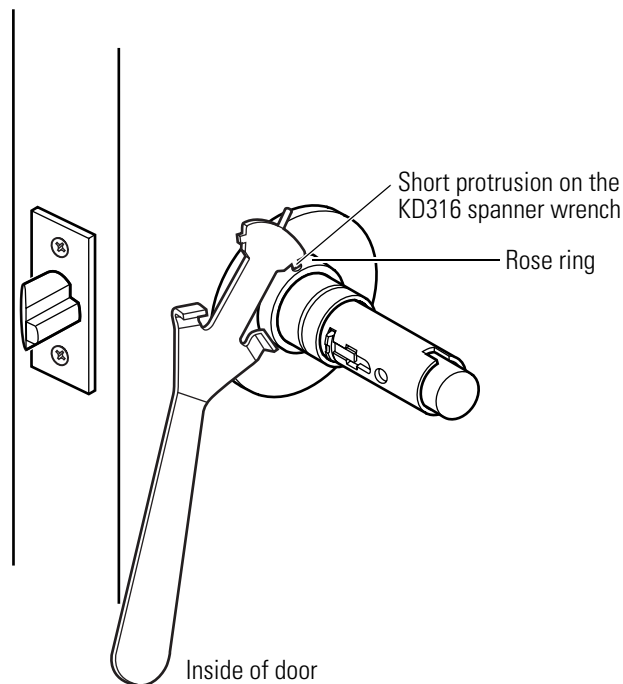


Figure 3.7 Removing the inside rose ring with the KD316 spanner wrench

To reinstall the inside rose assembly:

1. Slide the rose assembly onto the sleeve, as shown in [Figure 3.8](#).
2. Thread the rose ring onto the sleeve until the rose assembly is snug against the door.
3. Reinstall the knob ([page 3-4](#)).

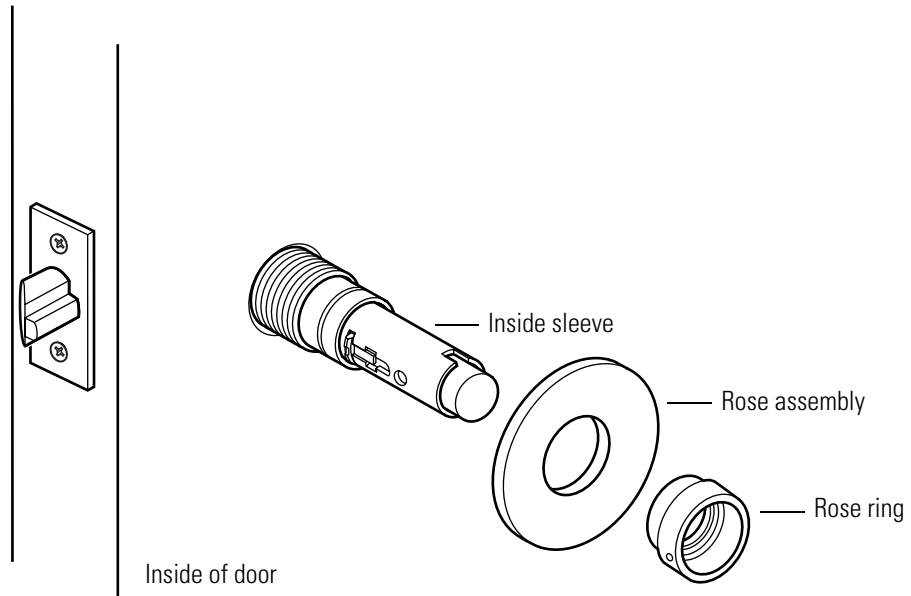


Figure 3.8 Reinstalling the inside rose assembly and rose ring

**Replacing the
outside rose
assembly**

To remove the outside rose assembly:

1. Remove the following components:
 - knobs ([page 3-3](#))
 - inside rose assembly ([page 3-7](#)).
2. Slide the chassis assembly out of the door.
3. Retract the rose locking pin, and rotate the rose assembly until it is free from the hub. See [Figure 3.9](#).

4. Remove the outside rose assembly from the sleeve.

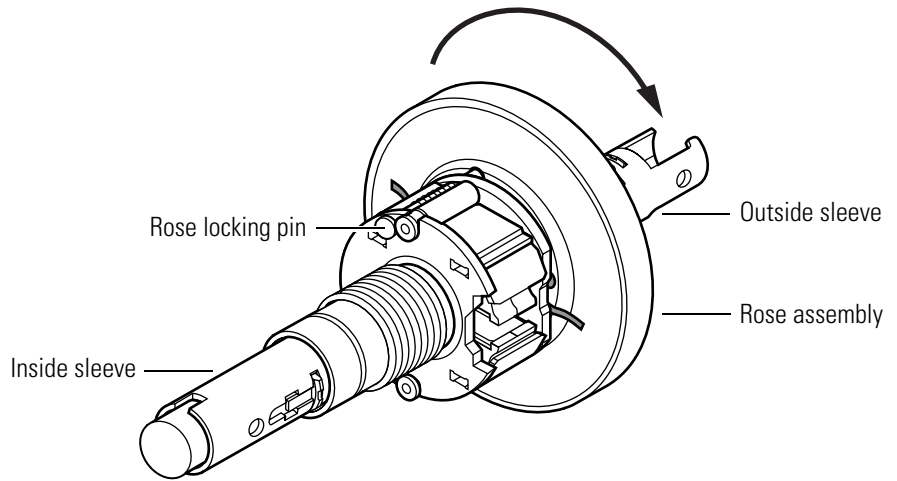


Figure 3.9 Removing the outside rose assembly

To reinstall the outside rose assembly:

1. Retract the rose locking pin. See [Figure 3.10](#). When reinstalling the chassis and rose assembly in the door, rotate the rose assembly until it is positioned so that the chassis is centered in the door and the rose assembly is flush against the door.
2. Release the rose locking pin into a groove in the rose liner. The pin should lock into the rose liner.

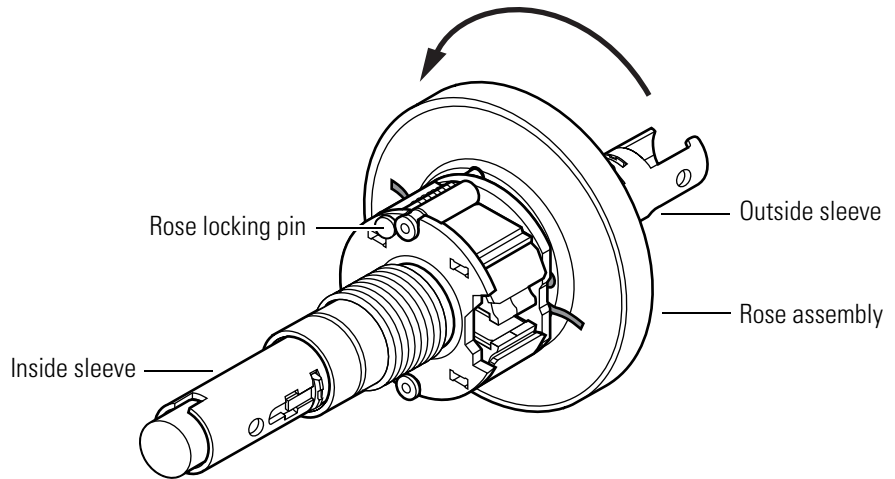


Figure 3.10 Reinstalling the outside rose assembly

3. Install the lock chassis assembly from the outside. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor, as shown in [Figure 3.11](#).

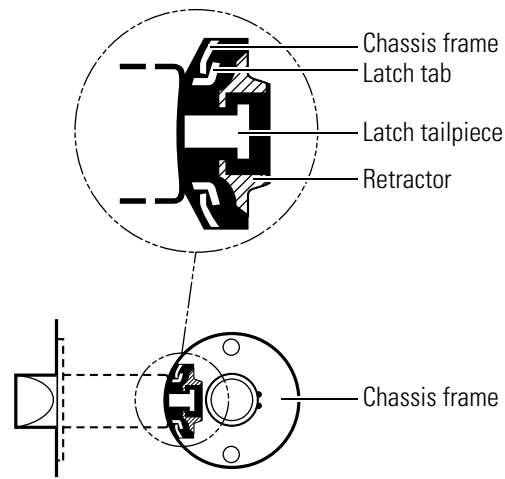


Figure 3.11 Engaging the retractor in the tailpiece

4. Reinstall the following components:
 - inside rose assembly ([page 3-8](#))
 - knobs ([page 3-4](#)).

Replacing the button assembly

To remove the button assembly:

Note: These instructions apply for all types of button assemblies.

1. Remove the following components:
 - knobs ([page 3-4](#))
 - inside rose assembly ([page 3-7](#))
 - outside rose assembly ([page 3-9](#)).
2. Use a flat blade screwdriver to press down on the button assembly tab, which is visible through the cutout in the sleeve, as shown in [Figure 3.12](#). The tab should now lie flat.

Note: When performing this step, it is best to position the lock on a flat surface so that the retractor faces upward.

3. Press down on the retractor and slide the button assembly out of the sleeve.

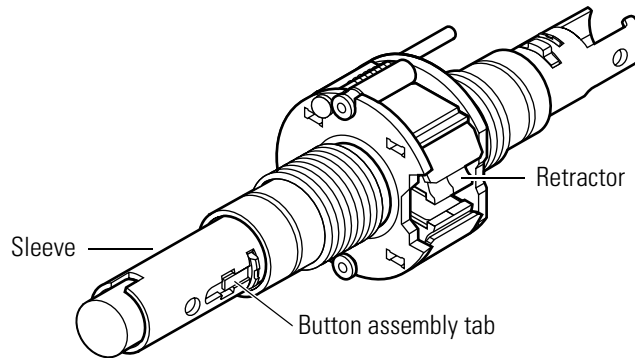


Figure 3.12 Removing the button assembly

To reinstall the button assembly:

1. Insert the new button assembly into the sleeve, as shown in [Figure 3.13](#), until the tab lines up with the cutout in the sleeve. It may be necessary to slightly press in the retractor with your thumb so that the locking bar can properly align itself through the chassis and into the key release cam assembly.

Note: The button assembly should not pop out of the sleeve. If it does, the assembly is misaligned and will not function properly.

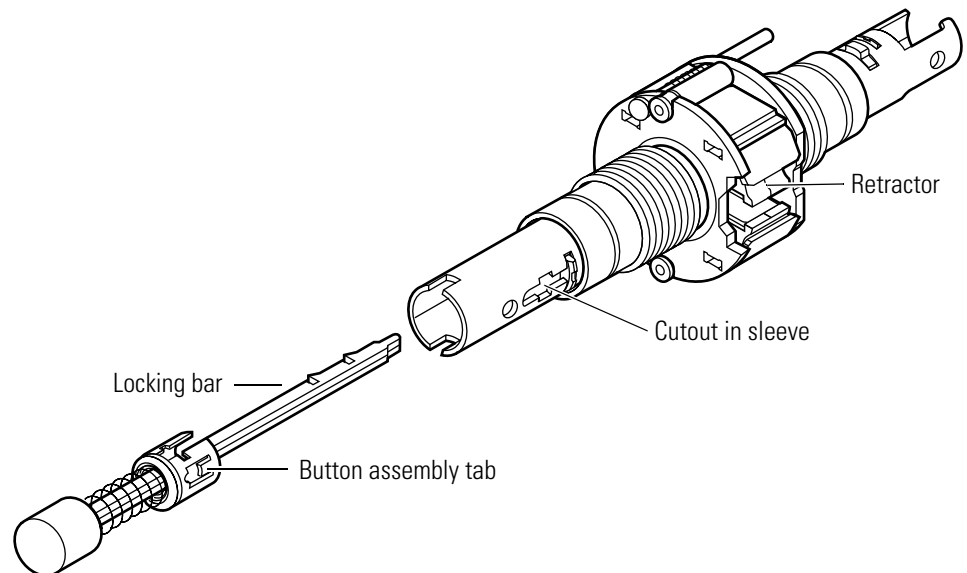


Figure 3.13 Inserting the button assembly into the sleeve

2. Insert a small screwdriver into the cutout in the sleeve and under the button assembly tab. Bend the tab into the cutout, as shown in [Figure 3.14](#).

Note: Do not bend the tab so that it protrudes further than the diameter of the sleeve. It could interfere with the knob function.

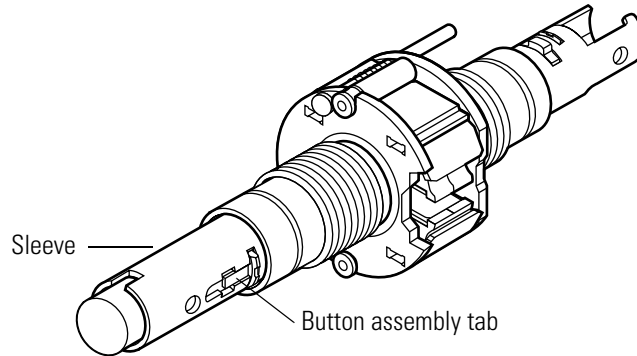


Figure 3.14 Bending the button assembly tab

3. Reinstall the following components:
 - outside rose assembly ([page 3-9](#))
 - inside rose assembly ([page 3-7](#))
 - knobs ([page 3-4](#)).

Replacing the knob keeper spring

To remove the knob keeper spring:

1. Remove the following components:
 - knobs ([page 3-4](#))
 - inside rose assembly ([page 3-7](#))
 - outside rose assembly ([page 3-8](#))
 - button assembly, if present ([page 3-10](#)).
2. Using a pair of needle-nosed pliers, reach into the sleeve and remove the knob keeper spring. See [Figure 3.15](#).

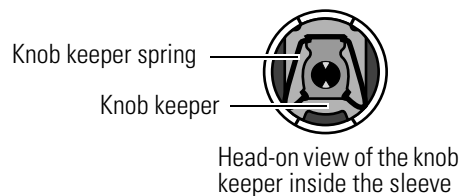


Figure 3.15 Removing the knob keeper spring

To reinstall the knob keeper spring:

1. Position the knob keeper spring as shown in [Figure 3.16](#).

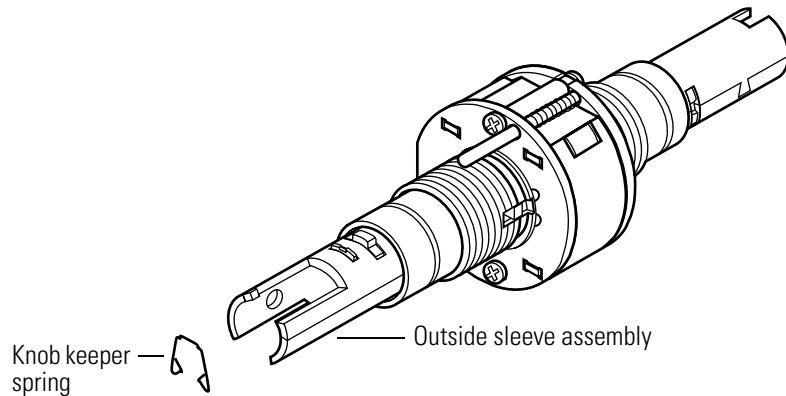


Figure 3.16 Positioning the knob keeper spring

2. Use a pair of needle-nosed pliers to insert the knob keeper spring into the sleeve. Using the pliers, work the spring into position so that the spring is gripping the knob keeper, as shown in [Figure 3.17](#).

Note: If the knob keeper spring is not installed correctly, the knob may fall off the chassis.

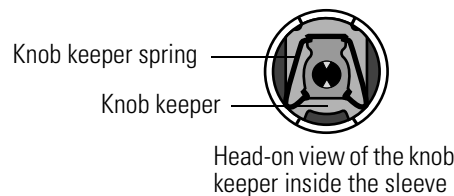


Figure 3.17 Knob return spring in position

3. Reinstall the following components:
 - button assembly, if present ([page 3-11](#))
 - outside rose assembly ([page 3-9](#))
 - inside rose assembly ([page 3-7](#))
 - knobs ([page 3-4](#)).

Replacing the key release cam assembly

To remove the key release cam assembly:

1. Remove the following components:
 - knobs ([page 3-4](#))
 - inside rose assembly ([page 3-7](#))
 - outside rose assembly ([page 3-8](#))
 - button assembly, if present ([page 3-10](#)).

2. Remove the two chassis screws shown in [Figure 3.18](#), and separate the hub and sleeve assembly from the rest of the chassis. Save the two screws.

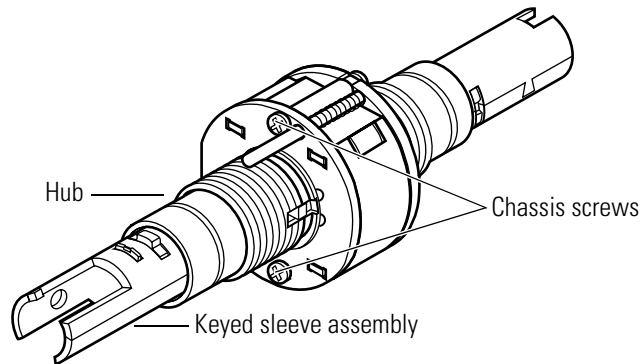


Figure 3.18 Separating the chassis

3. Rotate the ear on the key release cam 45 degrees and pull the key release cam assembly out of the sleeve, as shown in [Figure 3.19](#).

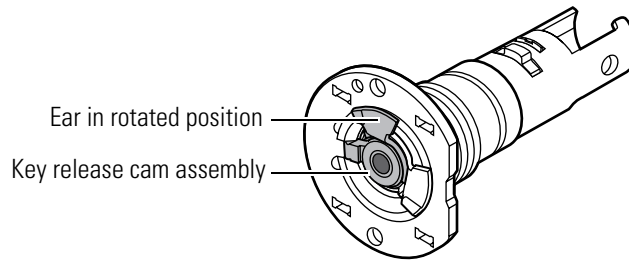


Figure 3.19 Removing the key release cam assembly

To reinstall the key release cam assembly:

1. Make sure that the deep slot in the sleeve lines up with the slot in the hub.
2. Insert the key release cam assembly into the sleeve so that the locking lug fits into the slot in the sleeve, as shown in [Figure 3.20](#).

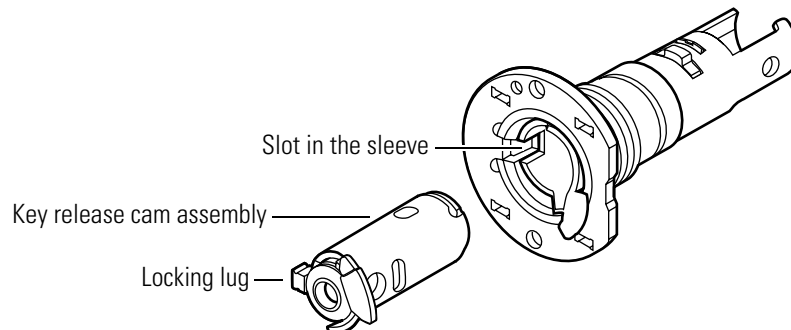


Figure 3.20 Reinstalling the key release cam assembly

3. Slide the chassis cover over the retractor assembly.
4. Align the open end of the retractor assembly with the ears on the key release cam assembly and sleeve in the inside hub assembly.
5. Press the retractor toward the retractor springs and insert the feet of the retractor assembly into the notches in the inside hub, as shown in [Figure 3.21](#).

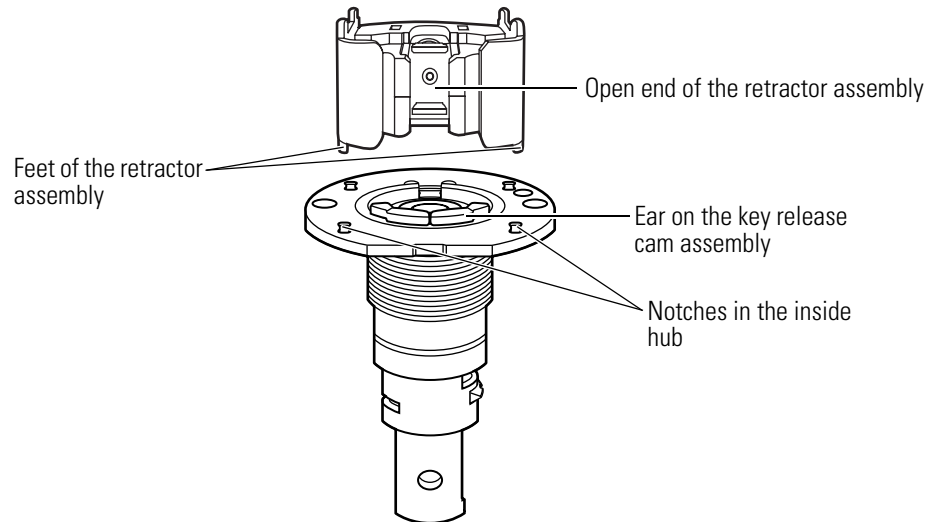


Figure 3.21 Positioning the retractor

6. Align the feet of the retractor assembly with the notches in the outside hub assembly, and the rose locking pin with the smaller of the two holes on the outside assembly, as shown in [Figure 3.22](#). Press the retractor toward the retractor springs and slide the two sections together.

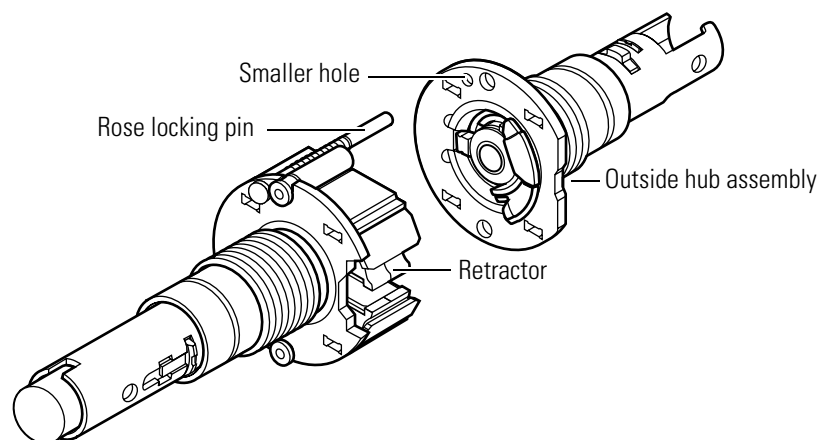


Figure 3.22 Reinstalling the retractor

7. Install the two chassis screws.

8. Reinstall the following components:
 - button assembly, if present (page 3-11)
 - outside rose assembly (page 3-9)
 - inside rose assembly (page 3-7)
 - knobs (page 3-3).

Replacing the sleeve assembly

To remove the sleeve assembly:

1. Remove the following components:
 - knobs (page 3-3)
 - knob driver of the sleeve you are replacing (page 3-6)
 - inside rose assembly (page 3-7)
 - outside rose assembly (page 3-8)
 - button assembly, if present (page 3-10)
 - key release cam assembly (page 3-13).
2. Position the sleeve as shown in Figure 3.23. Push the sleeve through the hub as far as possible.
3. From the end of the sleeve that is opposite of the hub, insert a flat blade screwdriver through the sleeve and into the knob keeper.
4. Press the screwdriver blade in the direction of the arrow in Figure 3.23. Push the sleeve through the hub, keeping the knob keeper pushed in until it clears the hub.

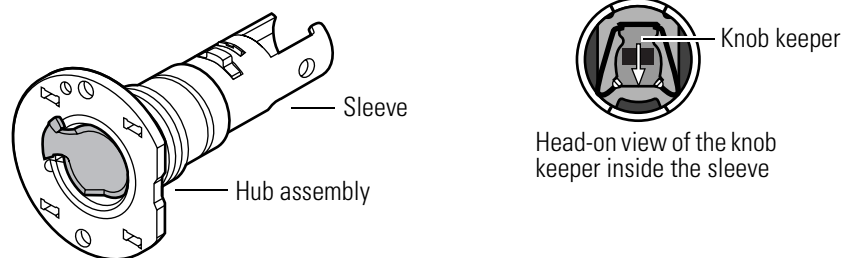


Figure 3.23 Removing and replacing the sleeve assembly

To reinstall the sleeve assembly:

1. Insert the sleeve through the hub as far as possible.
2. Insert a flat blade screwdriver through the sleeve and into the knob keeper.
3. Press the screwdriver blade in the direction of the arrow in Figure 3.23. Push the sleeve the rest of the way through the hub.

4. Align the sleeve so that the deep slot in the sleeve lines up with the slot in the hub, as shown in [Figure 3.24](#).

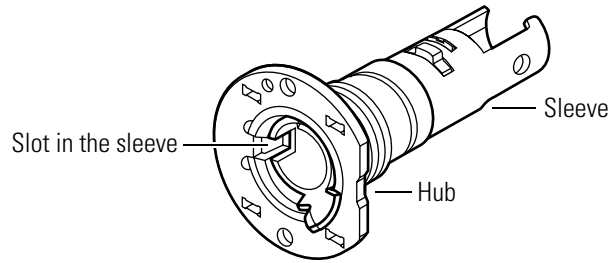


Figure 3.24 Positioning the sleeve

5. Reinstall the following components:
 - key release cam assembly ([page 3-14](#))
 - button assembly, if present ([page 3-11](#))
 - outside rose assembly ([page 3-9](#))
 - inside rose assembly ([page 3-7](#))
 - knobs ([page 3-4](#)).

REPLACING COMPONENTS FOR ELECTRIFIED FUNCTION LOCKS

Replacing the inside rose and rose liner

To remove the inside rose and rose liner:

1. Remove the inside knob ([page 3-3](#)).
2. Insert the solid, curved end of the KD317 spanner wrench in between the rose and the sleeve, as shown in [Figure 3.25](#). Pry the rose until it pops off of the liner.

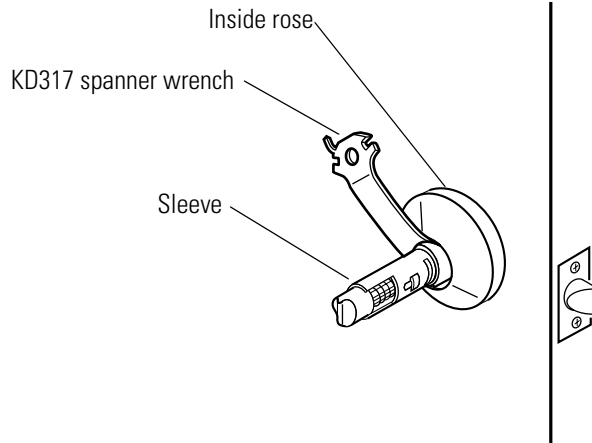


Figure 3.25 Removing the inside rose with the KD317 spanner wrench

3. Unscrew the two through-bolts, as shown in [Figure 3.26](#). Save the through-bolts.

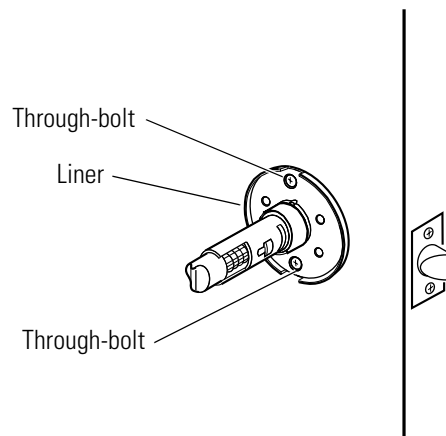
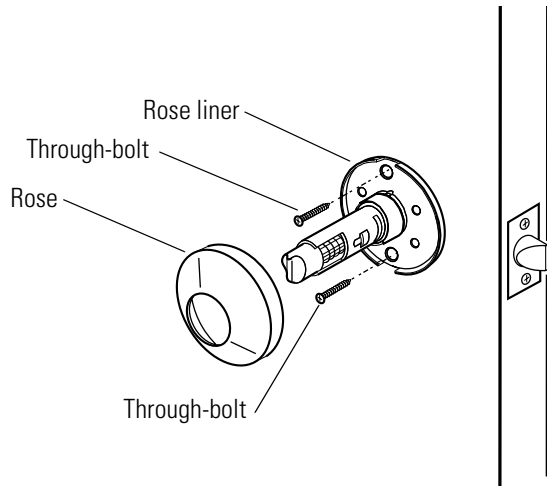


Figure 3.26 Removing the two through-bolts

4. *If there is an RQE rose liner, disconnect it.*
5. Slide the liner off of the sleeve.

To reinstall the inside rose and rose liner:

1. Align the holes in the liner with the holes prepared in the door.
2. Install the two through-bolts through the liner and door in the top and bottom holes.
3. Tighten the liner onto the door with the through-bolts.
4. *If there is an RQE rose liner, connect it.*
5. Install the rose.
6. Reinstall the knob ([page 3-4](#)).

**Figure 3.27** Replacing the inside rose and rose liner**Replacing the outside rose and liner assembly****To remove the outside rose and liner assembly:**

1. Remove the following components:
 - knobs ([page 3-3](#))
 - inside rose and rose liner ([page 3-18](#)).
2. Slide the chassis assembly out of the door.
3. Retract the rose locking pin, and rotate the rose and liner assembly counterclockwise until it is free from the hub.

4. Remove the rose and liner assembly from the sleeve.

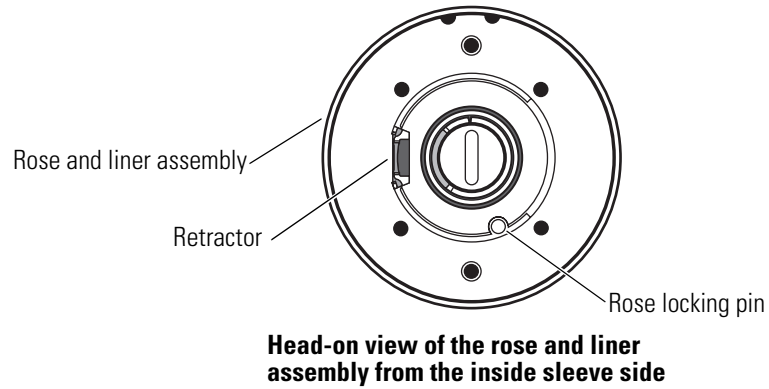
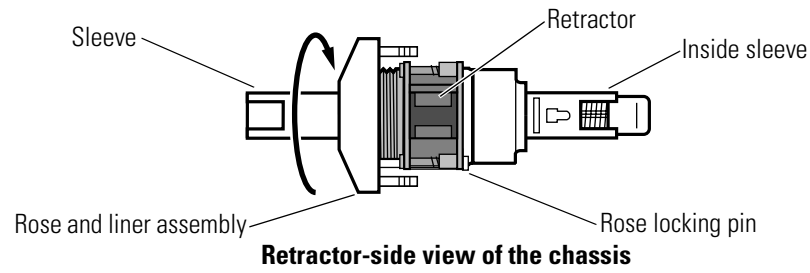


Figure 3.28 Removing the outside rose and liner assembly

To reinstall the outside rose and liner assembly:

1. Retract the rose locking pin, and rotate the rose and liner assembly clockwise until the proper door thickness groove on the through-bolt stud lines up with the hub face.

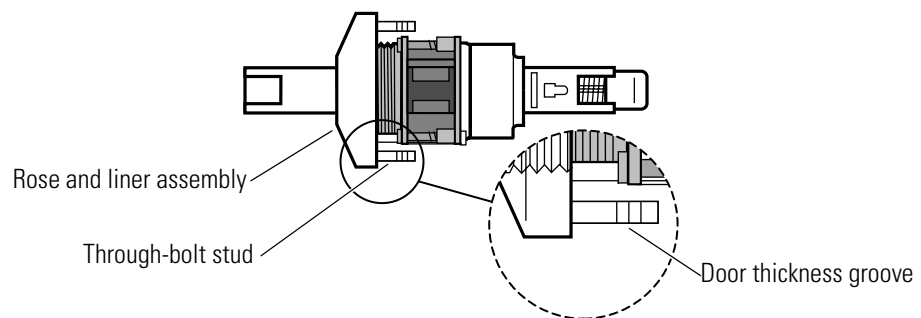


Figure 3.29 Replacing the outside rose and liner assembly

2. Release the rose locking pin. It should lock into the rose liner.
3. Install the lock chassis assembly from the outside. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor.

4. Reinstall the following components:
 - inside rose and rose liner (page 3-8)
 - knobs (page 3-3).

Replacing the RQE rose liner

To remove the RQE rose liner:

1. Remove the following components:
 - knobs (page 3-3)
 - inside rose and rose liner (page 3-18).
2. Disconnect the RQE connector.
3. Remove the through-bolts and the RQE rose liner.

To reinstall the RQE rose liner:

1. Place the RQE rose liner on the chassis, aligning the holes in the rose liner with the holes prepared in the door.

Make sure that there is clearance for the solenoid wire between the RQE rose liner and the door.



Caution

2. Install the through-bolts through the RQE rose liner and door in the top and bottom holes.
3. Tighten the RQE rose liner on the door with the through-bolts.
4. Connect the RQE connector.
5. Reinstall the following components:
 - inside rose and rose liner (page 3-8)
 - knobs (page 3-3).

Replacing the solenoid

Because of the complex nature of this procedure, BEST recommends that you order a new cylindrical chassis. Contact your BEST representative.

Use the part numbers listed in *Reversing the solenoid when changing the function* when ordering a new cylindrical chassis. See page 3-22.

ADDING THE RQE SWITCH TO ELECTRIFIED FUNCTION LOCKS

Because of the complex nature of this procedure, BEST recommends that you order a new electrified function chassis and a RQE rose liner. Contact your BEST representative.

Use the following part numbers when ordering a new electrified function chassis and RQE rose liner.

Chassis type	Part number
8KW DEL	C60247
8KW DEU	C60243

RQE rose liner	Part number
Small	B61049
Large	B60221

REVERSING THE SOLENOID WHEN CHANGING THE ELECTRIFIED FUNCTION

Because of the complex nature of this procedure, BEST recommends that you order a new electrified function chassis. Contact your BEST representative.

Use the following part numbers when ordering a new electrified function chassis.

Chassis type	Part number
8KW DEL	C60247
8KW DEL (without RQE)	C60246
8KW DEU	C60243
8KW DEU (without RQE)	C60242

LUBRICATING THE CORES



Do not lubricate cores with oil. Doing so will only attract dirt.

For powdered graphite lubrication:

1. Dip a key in graphite. Insert the key into the keyhole and remove it; repeat several times. *OR*
Spray graphite into the keyhole. Insert the key into the keyhole and remove it; repeat several times.
2. Allow the graphite to sift into the pin segment holes.

For silicone type lubrication:**Caution**

1. Clean all existing lubricant out of the core.

Do not mix graphite with a silicone-type lubricant.

2. With the core inverted, spray the lubricant into the key opening allowing the spray to penetrate the pin segment holes.

Note: When cores are installed and exposed to harsh weather conditions, silicone-type lubricants can help displace moisture as well as spread into pin segment holes and other surfaces.

ALIGNING THE CHASSIS AND TRIM

Establish a schedule to inspect locks, doors, and door hardware for proper alignment and operation. Occasionally a lock chassis and/or rose trim may become loose and require tightening.

To retighten a loose or misaligned chassis or rose trim:

1. Remove the inside trim. Instructions begin on [page 3-3](#).
2. Align the chassis with the latch. Make sure that the latch tabs engage the chassis frame and the latch tailpiece engages the retractor, as shown in [Figure 3.30](#).

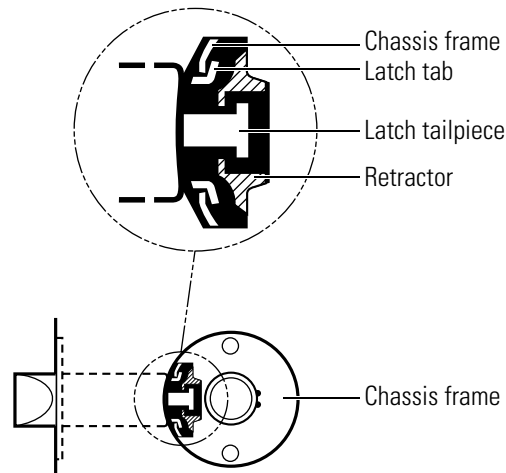


Figure 3.30 Engaging the retractor in the latch

3. Tighten the chassis screws.
4. Test the knob operation to make sure that the latch tailpiece does not bind with the chassis retractor.
5. Reinstall the inside trim. Instructions begin on [page 3-3](#).

CAM POSITIONING INSTRUCTIONS

Positioning the cam for C function locks

Vibration during the shipment of the C function locks may cause the inside locking cam to rotate out of position. It is possible to insert the core and throw member in this incorrect position, but faulty operation will result. You might notice this problem in one of the following ways.

- The inside key does not rotate the full 360 degrees and the outside key does not rotate the full 135 degrees. Remove the inside core and throw member, and perform the steps below to reposition the inside locking cam.
- Before you install the core and throw member, you can see that the inside locking cam is not positioned as shown in [Figure 3.31](#). Perform the following steps to reposition the inside locking cam.

To reposition the locking cam:

1. Be sure the inside knob locking cam, which engages the throw member, is rotated. Looking into the figure-8 core hole in the inside knob, turn the locking cam ears to match the position shown in [Figure 3.31](#).

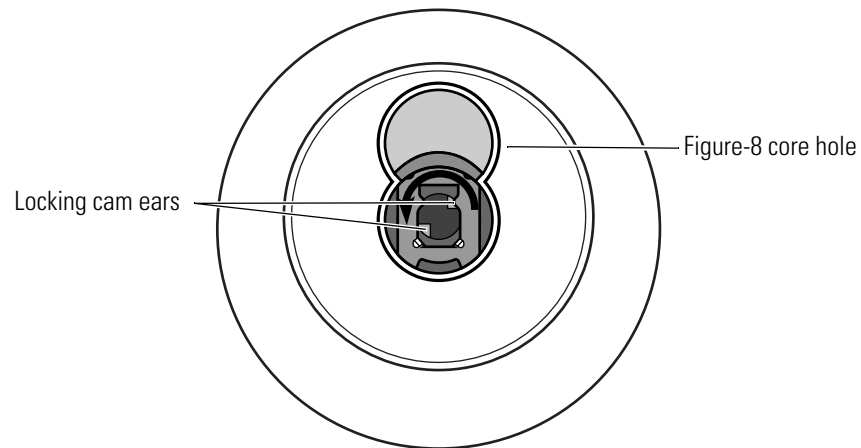


Figure 3.31 Correct position of the C function inside locking cam

2. With the lock in the locked position, install the core and throw member.
3. Check the operation of the knobs while the door is open. The outside knob is locked by rotating the inside key 360 degrees clockwise and unlocked by rotating the inside key 360 degrees counterclockwise.

Positioning the cam for G function locks

Vibration during the shipment of the G function locks may cause the inside locking cam to rotate out of position. It is possible to insert the core and throw member in this incorrect position, but faulty operation will result. You might notice this problem in one of the following ways.

- With the knobs in the locked position, both the inside and outside keys do not rotate one full turn in both directions. Remove both cores and throw members, and perform the following steps to reposition the locking cam.
- Before you install the core and throw member, you can see that the locking cam is not positioned as shown in [Figure 3.32](#). Perform the following steps to reposition the locking cam.

To reposition the locking cam:

1. Looking through the figure-8 core hole in either knob, turn the locking cam drive slot to match the position shown in [Figure 3.32](#).

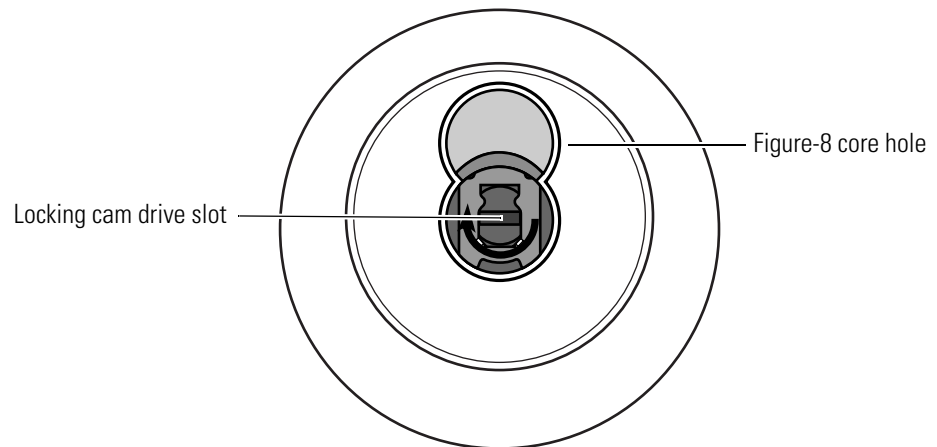


Figure 3.32 Correct position of the G function locking cam

2. With the lock in the locked position, install that knob's core and throw member.

- Looking into the figure-8 core hole in the other knob, turn the locking cam drive slot until it stops, as shown in [Figure 3.33](#).

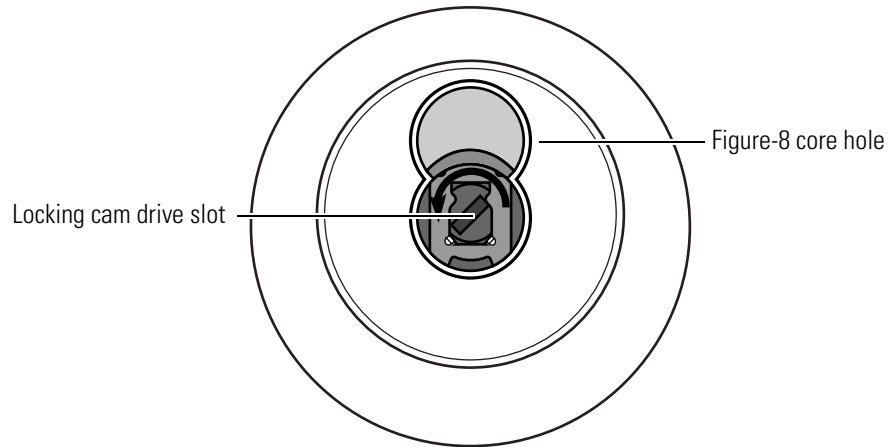


Figure 3.33 Intermediate position of the G function locking cam

- Turn the drive slot clockwise to match the position shown in [Figure 3.32](#).
- Reinstall that knob's core and throw member.
- Check the operation of the knobs while the door is open. The knobs are locked by rotating the key 1 1/4 turns counterclockwise and unlocked by rotating the key 1 1/4 turns clockwise.

Positioning the cam for R, S, & T function locks

Vibration during the shipment of the R, S, & T function locks may cause the locking cam to rotate out of position. It is possible to insert the core and throw member in this incorrect position, but the lock will not function properly. You might notice this problem in one of the following ways.

- The inside key does not rotate the full 360 degrees and/or the outside key does not rotate the full 135 degrees. Remove the core and throw member, and perform the steps below to reposition the inside locking cam.
- Before you install the core and throw member, you can see that the locking cam is not positioned as shown in [Figure 3.34](#). Perform the following steps to reposition the locking cam.

To reposition the locking cam:

1. Be sure the locking cam, which engages the throw member, is rotated counterclockwise. Looking into the figure-8 core hole in the knob, turn the locking cam ears counterclockwise to match the position shown in [Figure 3.34](#).

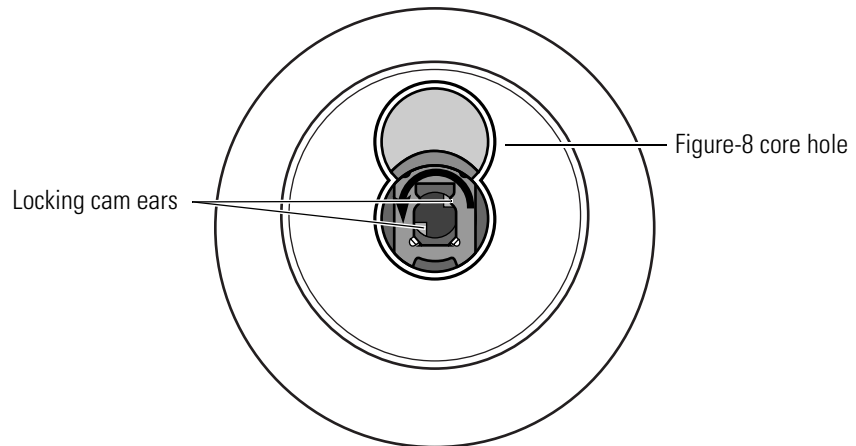


Figure 3.34 Correct position of the R, S, & T function locking cam

2. With the lock in the locked position, install the core and throw member.
For the S function, repeat Steps 1 and 2 for the other side of the lock. For the R and T functions, go to Step 3.
3. Check the operation of the knobs while the door is open. The knob is locked by rotating the key 360 degrees counterclockwise and unlocked by rotating the key 360 degrees clockwise.

Note: For T function locks, when the outside knob is locked by the key, the knob remains locked even though the push button is released from turning the inside knob or closing the door.

EMERGENCY KEY INSTRUCTIONS FOR H AND HJ FUNCTION LOCKS

To use the emergency key:

1. Remove the core and throw member ([page 3-3](#)).
2. Insert the blade of the emergency key into the slot of the figure-8 core hole, as shown in [Figure 3.35](#).

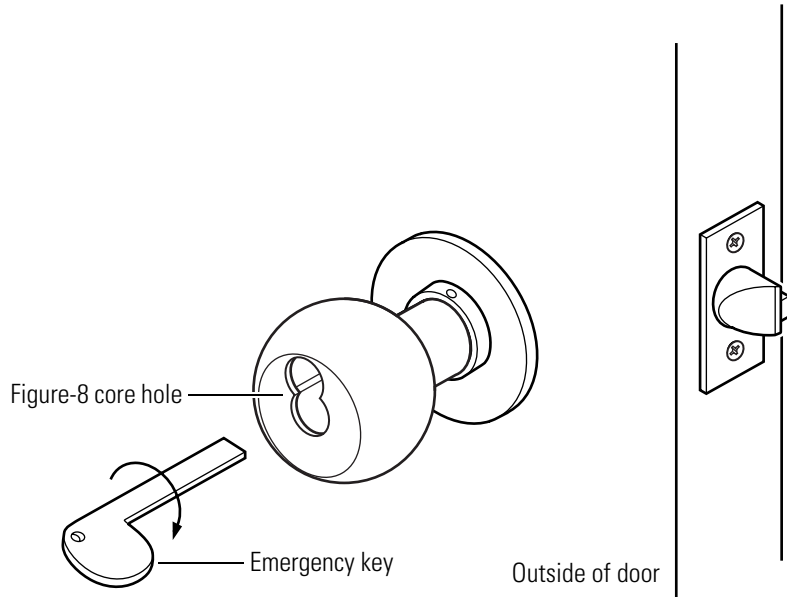


Figure 3.35 Inserting the emergency key

3. Turn the key and retract the latch.

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems. The causes are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice...	Possible causes include...	You should...
Knob won't return to its normal position.	There is binding between the knob and rose.	Ensure that the lock chassis is centered within the door (pg. 3-23).
Key spins freely, but won't retract the latch or unlock the door.	<ul style="list-style-type: none"> a. Throw member is not installed. b. 6-pin core is installed with a 7-pin throw member. c. Knob driver is not installed. 	<ul style="list-style-type: none"> a. Install the throw member. b. Change the core or throw member. c. Install the knob driver (pg. 3-6).
Core doesn't fit into the knob core hole.	<ul style="list-style-type: none"> a. 7-pin core is installed with a 6-pin throw member. b. Keyed knob is defective. 	<ul style="list-style-type: none"> a. Change the core or throw member. b. Replace the keyed knob (pg. 3-4).
Button doesn't pop out as expected.	Button shaft is damaged or bent.	Replace the button assembly (pg. 3-10).
Latch doesn't retract.	<ul style="list-style-type: none"> a. Latch tailpiece is broken. b. Latch tailpiece didn't engage the retractor correctly during installation. 	<ul style="list-style-type: none"> a. Replace the latch assembly. b. Reinstall the lock chassis (pg. 3-23).
For a C function lock, the inside key does not rotate the full 360°, and the outside key doesn't rotate the full 135°.	Inside locking cam is out of position.	Reposition the inside locking cam (pg. 3-24).
For a G function lock with knobs in the locked position, the key doesn't rotate one full turn in both directions.	Locking cam is out of position.	Reposition the locking cam (pg. 3-25).
For R, S, and T function locks, the key doesn't rotate one full turn in both directions.	Locking cam is out of position.	Reposition the locking cam (pg. 3-26).
Cannot remove the operating key from an H or HJ function lock.	Key is turned 180 degrees past the correct position.	Push the inside button, turn the key back 180°, and remove the key.

A

INSTALLATION INSTRUCTIONS

The following pages contain the *Installation Instructions for 8K Cylindrical Locks* and the *Wiring Instructions for 8K & 9K Series Electrified Cylindrical Locks*.

Preparing the door

For factory prepared doors only

- 1 Install the latch so that the bevel on the latchbolt faces the strike lip.
- 2 Adjust the outside rose so that the chassis is centered in the door. Install the chassis from the outside of the door.
- 3 Install the inside rose, rose ring, knob, and strike plate.

Caution: If you use fabricated hollow metal doors, determine whether the doors are reinforced enough to support the lock. If the door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.

Note: For detailed installation instructions, see the following steps.

1 Position template

- 1 Fold the template and place it in position on the high edge of the door bevel. (See Figure 2.)
- 2 Mark the drill points.

Note: Suggested height from floor to centerline of the lock is 40 5/16". If steel frames are used, the latch centerline must be in line with the center of the strike preparation.

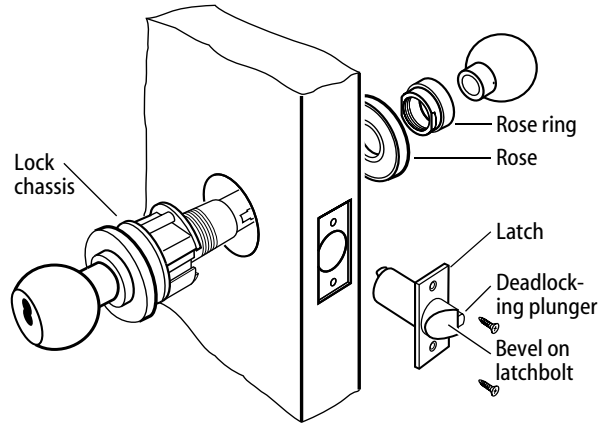


Figure 1 Overview diagram

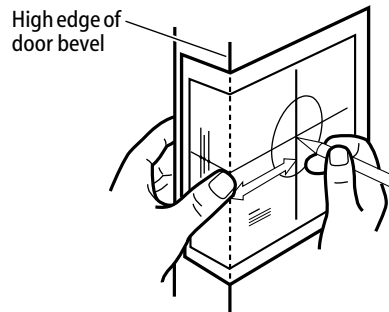


Figure 2 Marking the drill points

Preparing the lock

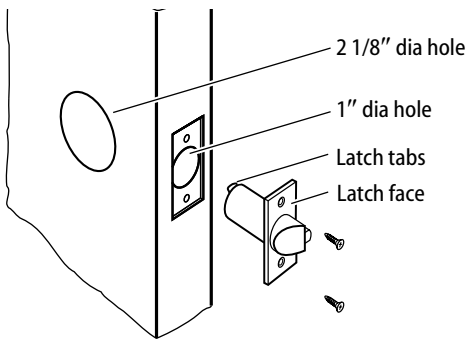


Figure 3 Boring holes and installing the latch

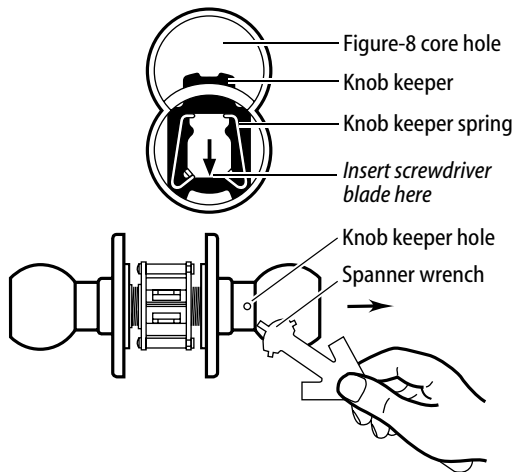


Figure 4 Removing inside knob and trim

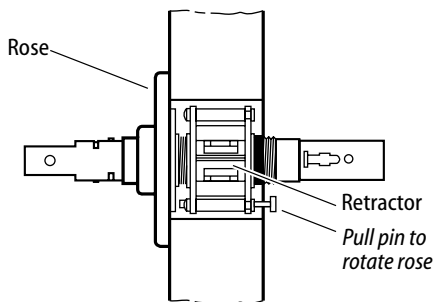


Figure 5 Marking the centerlines

2 Bore holes and install latch

- 1 Bore a 2 1/8" diameter hole from both sides of the door to the center of the door. (See Figure 3.)
- 2 Drill a 1" diameter hole from the edge of the door that intersects the 2 1/8" hole.
- 3 Mortise the door edge for the latch face.
- 4 Install the latch and check the door swing. Latch tabs should project into the 2 1/8" diameter hole. See Task 5, *Install chassis*.

3 Remove inside knob and trim

For inside knobs with button or blank face:

- 1 Insert the spanner wrench tip into the knob keeper hole and depress the keeper. (See Figure 4.)
- 2 Slide the knob off.
- 3 Unthread the rose ring and remove the rose.

For keyed inside knobs:

- 1 Remove the core and throw member (if not already removed). For instructions on removing the core, see Task 9, *Install core*.
- 2 Insert a screwdriver into the figure-8 core hole and into the keeper. (See Figure 4, top.)
- 3 Using the edge of the screwdriver, press down on the keeper and slide the keyed knob off of the sleeve.

Caution: You will not be able to remove the knob if you put the screwdriver blade too far past the keeper.

4 Center lock in door

Check to see if the lock retractor is centered in the door.

- If centered, proceed to Task 5, *Install core*.
- If not centered, use the door as a reference and center the retractor in the door. Do this by pulling the rose locking pin and rotating the outside rose in or out. (See Figure 5.)

Caution: Center the retractor before proceeding to Step 5, *Install chassis*.

Installing the lock

Note 1: Make sure the locking pin locks back into the rose liner.

Note 2: Locks with standard trim will fit doors 1 3/8" to 2 1/8" thick. Locks with 'E' trim will fit doors 2 1/4" to 3" thick.

5 Install chassis

- After the retractor has been centered, and with the latch in place, install the chassis from the outside of the door. Make sure the latch tabs fit into the chassis frame and the latch tailpiece fits into the retractor. (See Figure 6.)

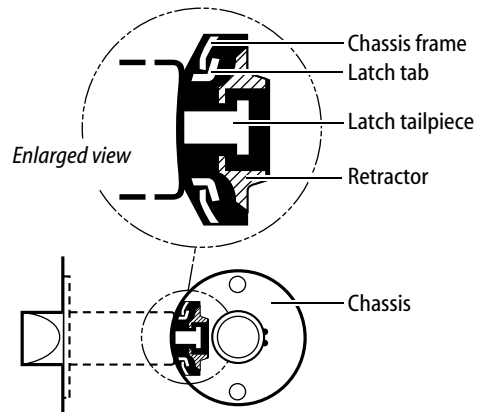


Figure 6 Installing the chassis

6 Install inside rose and knob

Note: For lead lined locksets, slide the lead shield (not shown) over the sleeve and into the 2 1/8" hole.

- Slide the rose over the sleeve, then thread the rose ring onto the threaded hub and tighten snugly with the spanner wrench.

For non-keyed inside knobs:

- Align the knob keeper hole with the knob keeper in the sleeve as shown in Figure 7. Firmly push the knob on until seated.

For keyed inside knobs:

- Align either of the knob driver slots with the knob driver in the sleeve as shown in Figure 8. Firmly push the knob on until seated.

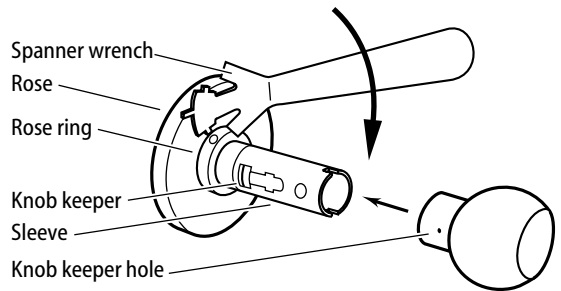


Figure 7 Installing the inside knob and rose

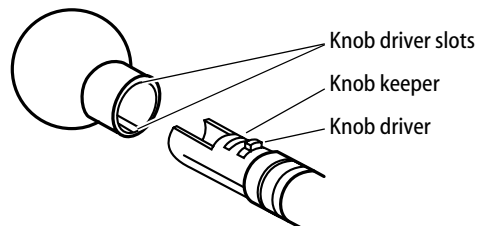


Figure 8 Installing the inside keyed knob

Completing the installation

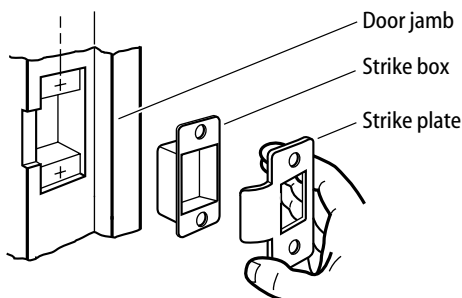


Figure 9 Installing the strike

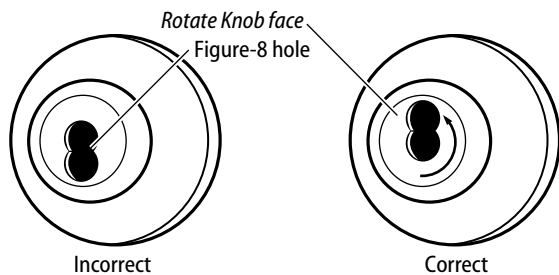


Figure 10 Turning the knob face to correct the handing of the lock

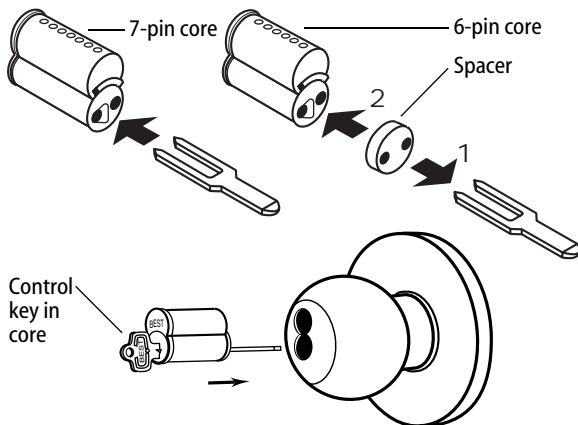


Figure 11 Installing the figure-8 core

7 Install strike plate

- 1 Mortise the door jamb to fit the strike box and strike plate. Make sure to align the strike plate and latchbolt centers.

Caution: The deadlocking plunger of the latchbolt must not enter the strike plate. The plunger deadlocks the latchbolt and prevents forcing the latch when the door is closed. Excessive gap may reduce security and/or cause malfunction of the latchbolt assembly. A maximum door gap of 1/8" is recommended.

- 2 Insert the strike box and secure the strike plate with the screws provided.

8 Check handing

Note: When Best 8K locksets are properly installed, the figure-8 hole must be in the upper half of the knob. If it is not, change the hand of the lock.

To change the hand of the lock:

- Rotate the knob face 180 degrees so that the figure-8 is in the upper half of the knob.

9 Install core

For 6-pin core users only: Slide the spacer — supplied with your 6-pin cores — over the 7-pin throw member (see Figure 11, top right).

Note: If you have ordered 6-pin cores, you will get one spacer per core with your order. Spacers are not supplied with locks.

- 1 Insert the throw member (or throw member and spacer) into the back of the core (see Figure 11, top).
- 2 Put the control key into the core and turn the key 15 degrees clockwise.
- 3 Put the core and throw member into the knob with the control key (see Figure 11, bottom).
- 4 Turn the key 15 degrees counterclockwise and remove the key.

Caution: Since the control key is a high-security key, make sure to keep it protected.

Wiring diagram

The diagram below shows how to wire 8K and 9K electrified locks.

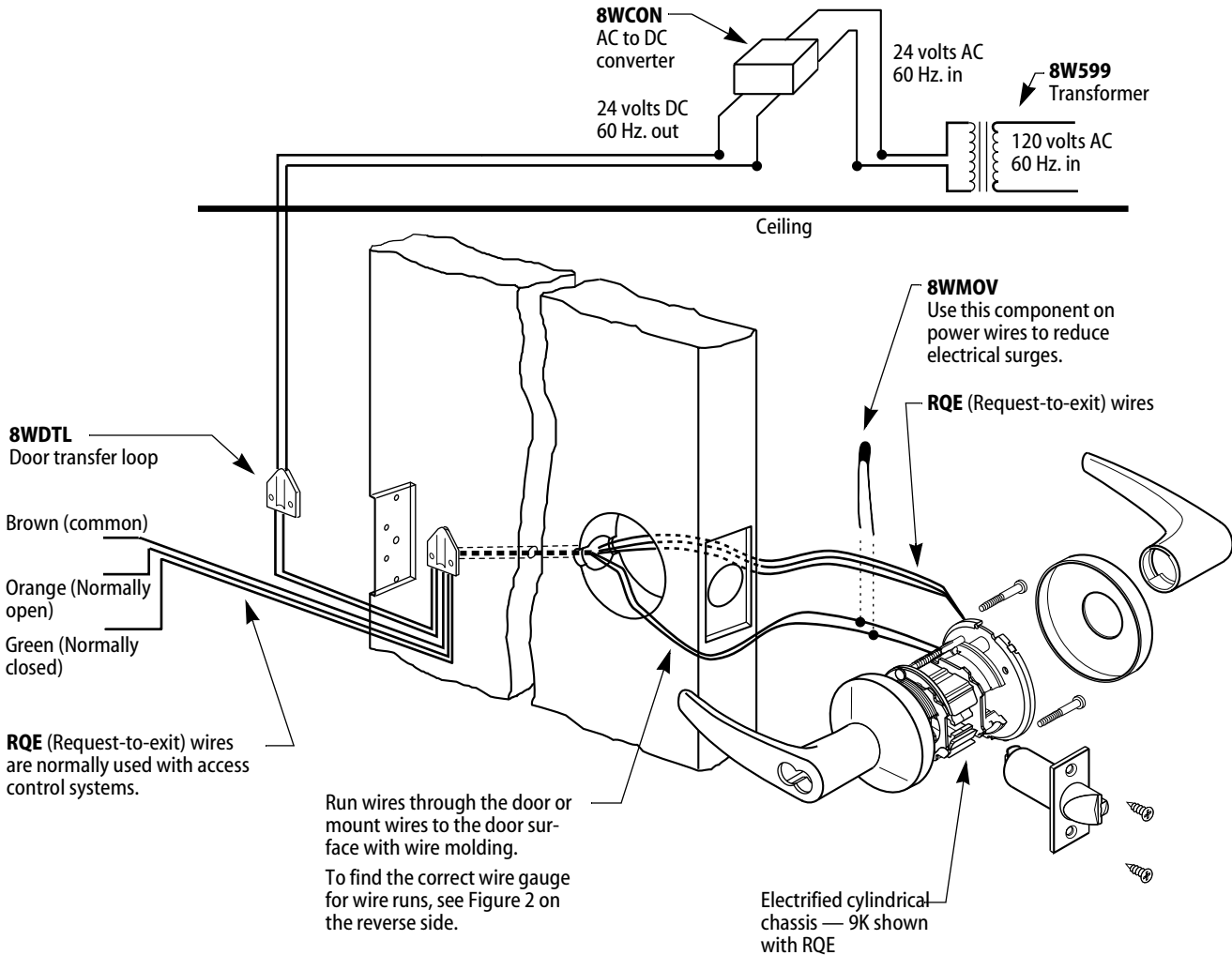


Figure 1—Wiring diagram for 8K and 9K electrified locks (9K with RQE shown)

Electrical requirements

The following table describes the voltage and current specifications for the 8K and 9K locks, with RQE (REX) switch, and door monitoring switch.

Unit	Voltage	Current
8K (RQE not available)	24 volts DC	0.18 amp continuous duty
9K with and without RQE	24 volts DC	0.169 amp continuous duty
RQE switch	30 volts DC maximum	0.7 amp inductive 0.7 amp resistive

Parts list

The following table describes the parts illustrated in Figure 1. You may substitute most components with equivalent parts.

Part number	Description
8W599	Transformer—24 volt AC, 40 volt-amps. See the examples under Installation Hints on the reverse side.
8WDTL	Door transfer loop. You may substitute this with a power transfer hinge.
8WMOV	Metal oxide varistor
8WCON	AC to DC converter (full-wave bridge rectifier)

Minimum gauge wire chart for lock circuits

The chart in Figure 2 helps you find the minimum wire gauge needed for a specific length wire run. It assumes that the lock circuit is made of two conductor cable. The chart also factors in a 15% voltage loss at 24 volts.

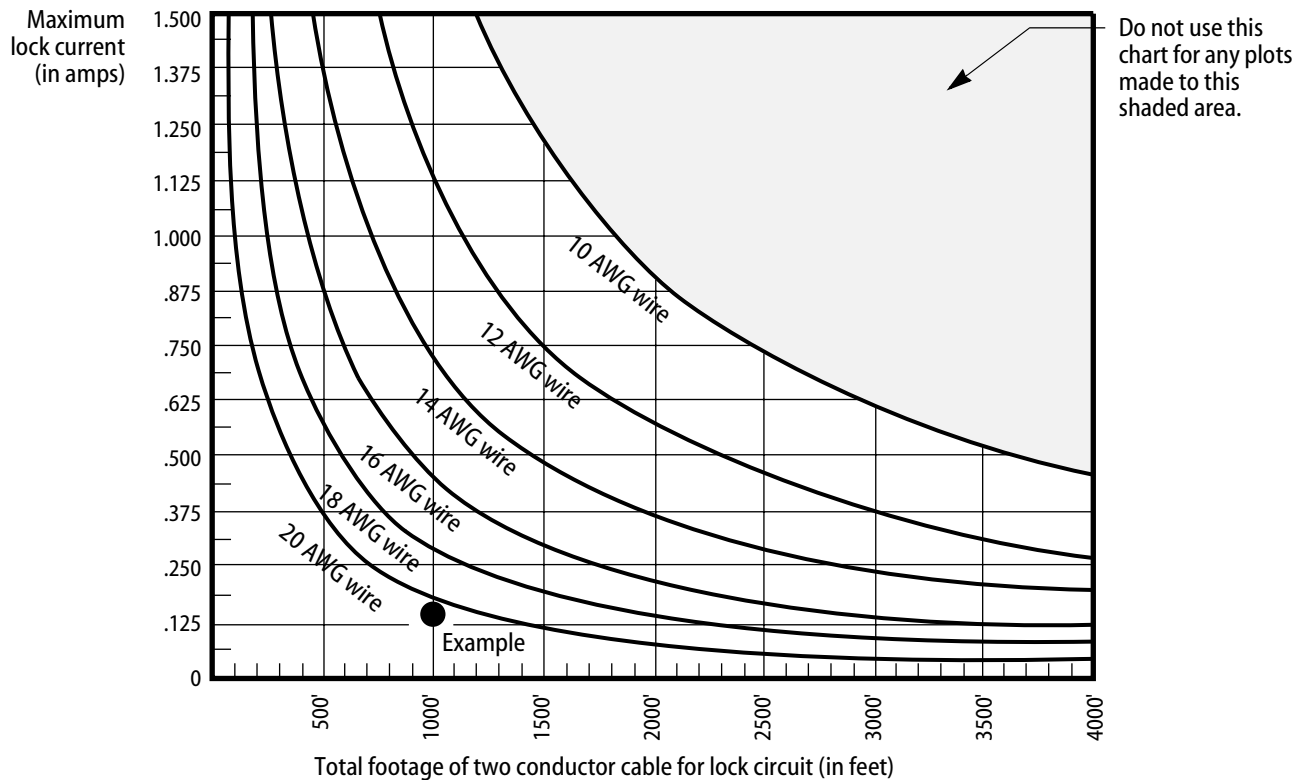


Figure 2—Minimum gauge wire chart for lock circuits

To find the correct gauge wire

- 1 Determine the maximum lock current and find that value on the left side of the chart.
- 2 Determine the total footage of cable to be used in the lock circuit and find that value at the bottom of the chart.
- 3 Locate the intersection of current and footage. The line above or to the right of the intersection shows what minimum gauge wire you need.

Example

- ▲ Lock current: 0.169 amp maximum
- ▲ Total wire run: 1000 feet

Wire gauge needed: 20 AWG two conductor cable

Note: For 12 volt locks, double the maximum lock current, then use that value on the left side of the chart.

Installation hints

- 1 Wire gauge (or size) determines how efficiently the lock will operate. Consider wire gauge before installation. To find the recommended minimum wire gauge for all wire runs, see Figure 2.
- 2 Use wire of 20 AWG (gauge) or larger. We do not recommend using a smaller wire gauge than 20 AWG.
- 3 When wiring two or more locks to a single power supply, make sure that the power rating of the power supply is 1 ½ times greater than the sum of the lock's power requirement.

Example

For two locks powered by one supply:

- ▲ Lock 1 (8K) is rated at 24 volts, 0.18 amps—24 volts × 0.18 amps = 4.32 volt-amps
- ▲ Lock 2 (35H) is rated at 24 volts, 0.75 amps—24 volts × 0.75 amps = 18 volt-amps

Choose a transformer with a rating of at least: (4.32 volt-amps + 18 volt-amps) × 1 ½ = **33.48 volt-amps**

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9K SERIES

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *9K Series Service Manual* contains essential information to help you maintain your 9K Series Lock. This manual addresses standard and electrified 9K Series Locks. Throughout this manual, the term electrified is used to refer to 93KW-95KW DEL, DEU function locks.

CERTIFICATIONS AND STANDARDS

- 9K Series Locks**
- The locks comply with ANSI A156.2, Series 4000 Grade 1 standards.
 - The locks are listed by Underwriter's Laboratories for use on 3 Hr., A label single swinging doors (4' x 10'), or pairs of doors 8' wide and 10' high.
 - When used with the 3/4" throw latch, the locks comply with Miami-Dade County standards with a design pressure rating of ±90 PSF for single doors and ±50 PSF for double door openings.
 - The AB, C, D, EA, G, IN, NX, Q, R, and YD function locks comply with ANSI A250.13 Windstorm standards with a design load rating of 1750 pounds.
 - The chassis conforms to ANSI A115.2.
 - The 8KS3 strike fits the standard door frame cutout as specified in ANSI A115.2.
 - The #14 and #15 lever handles conform to California Administrative Code Title 19 and Title 24.
 - The #14, #15, and #16 lever handles conform to the Illinois Accessibility Standard.

- Electrified Locks**
- The 9KW Locks are UL listed for GYQS electrically controlled single point locks or latches.
 - The 9KW Locks are approved by the California State Fire Marshal (CSFM) pursuant to section 13144.1 of the California Health and Safety Code.
 - The 9KW Locks are approved by the city of New York Board of Standards and Appeals under calendar number 730-89-SA. See CSFM listing number 4136-1175:103.

- Accessories**
- The 8W599 transformer is UL listed.
 - The 8WCON AC to DC converter full wave bridge rectifier is UL recognized.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your 9K Series Lock.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
<i>Installation Instructions for 9K Cylindrical Locks^a</i>	T56075
<i>Single and Double Dummy Trim Assembly Instructions for 9K1DT/2DT</i>	T56076
<i>Wiring Instructions for 8K and 9K Series Electrified Cylindrical Locks with RQE^a</i>	T56090
<i>Door Wiring Instructions for Electrically-Operated Locks</i>	T61926

a. These installation instructions are included in this manual. See Installation Instructions on [page A-1](#).

The templates required for lock installations also can be ordered separately:

Document Title	Doc. No.
<i>K08 Template for Door and Frame Preparation for 63, 73, 83, 93K Locks</i>	T56052
<i>K09 Template for Door and Frame Preparation for 63, 73, 83, 93K Locks</i>	T56053
<i>K10 Template for Door and Frame Preparation for 64, 84, 94K Locks</i>	T56054
<i>K11 Template for Door and Frame Preparation for 64, 84, 94K</i>	T56055
<i>K12 Template for Door Frame Preparation for 65, 85, 95K</i>	T56056
<i>K13 Template for Door Frame Preparation for 65, 85, 95K</i>	T56057
<i>K18 Template for 8K/9K Dummy Trim</i>	T56059
<i>K21 Template for Strike Specification for Cylindrical Locks</i>	T56060
<i>W14 Template; Installation Specifications for 83KW/93KW-85KW/95KW IDH Max Cylindrical Locks</i>	T60777
<i>W16 Template; Installation Template for 83KW/93KW-85KW/95KW IDH Max Cylindrical Locks</i>	T60773

TECHNICAL SUPPORT

Support services When you have a question about the 9K Series Lock, your first resource for help is the *9K Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure you are where the 9K Series Lock is, and that you are prepared to give the following information:

- what happened and what you were doing when the question arose
- what you have done so far to answer the question.

Best Access Systems Representatives provide telephone technical support for all 9K Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

Training seminars BEST holds training sessions for its customers. The seminars are specifically designed for BEST end-users who have a registered BEST masterkeyed system and registered BEST security equipment. If you are interested, you may contact your local BEST representative for details.

2

FUNCTIONS AND PARTS LISTS

The following pages contain function descriptions for all 9K Series Locks. This chapter also includes exploded diagrams that show all field serviceable mechanical parts, diagrams of trim and other miscellaneous parts, and function conversion information.

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- single-keyed (page 2-3)
- double-keyed (page 2-5)
- non-keyed (page 2-7)
- special (page 2-8)
- electrified (page 2-11).

For a list of the BEST designation for each ANSI-defined function, see page 2-11.

Note: If the function is ANSI defined, the ANSI designation appears by the function name.

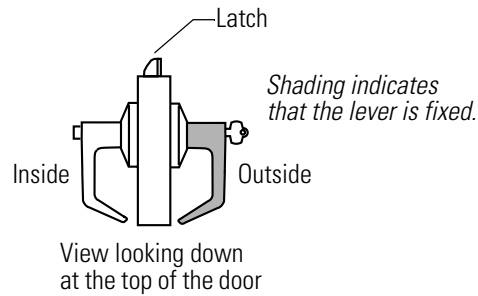
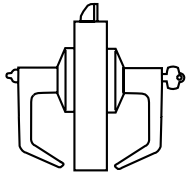


Figure 2.1 Understanding function drawings

Single-keyed functions The following lists describe how the latchbolt, outside lever, and inside lever operate for each single-keyed 9K function.

AB—Entrance (ANSI F109)



Latchbolt operated by:

- inside lever
- outside key
- outside lever when the inside button is in the unlocked position

Outside lever locked by:

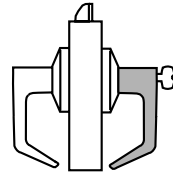
- inside button when pushed in
- inside button when pushed in and rotated clockwise

Outside lever unlocked by:

- inside lever when the inside button is pushed in but not rotated
- outside key when the inside button is pushed in but not rotated
- closing the door when the inside button is pushed in but not rotated

Inside lever is always unlocked

D—Storeroom (ANSI F86)

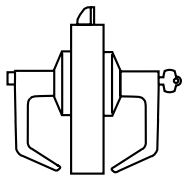


Latchbolt operated by:

- inside lever
- outside key

**Outside lever is always fixed
Inside lever is always unlocked**

E—Service station (ANSI F92)



Latchbolt operated by:

- inside lever
- outside key
- outside lever when the inside button is in the unlocked position

Outside lever locked by:

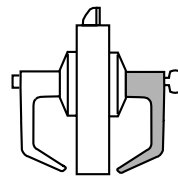
- inside slotted button
- inside slotted button when pushed in and rotated clockwise

Outside lever unlocked by:

- inside lever
- inside slotted button when rotated counterclockwise
- outside key
- closing the door when the inside button is pushed in but not rotated

Inside lever is always unlocked

H and HJ—Hotel guest room (ANSI F93 for H only)



Latchbolt operated by:

- inside lever
- outside key when the inside button is in the unlocked position
- special emergency key after the core is removed with the control key

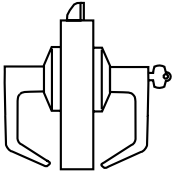
**Outside lever is always fixed
Key block feature released by:**

- inside lever
- closing the door

Inside lever is always unlocked

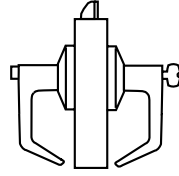
Note: For the H function, pushing the inside button projects an “Occupied” indicator in the outside lever and blocks all operating keys. For the HJ function, pushing the inside button blocks all operating keys.

R-Classroom (ANSI F84)



- Latchbolt operated by:**
- inside lever
 - outside key
 - outside lever when not locked
- Outside lever locked by:**
- outside key
- Outside lever unlocked by:**
- outside key
- Inside lever is always unlocked**

T-Dormitory (ANSI F90)



- Latchbolt operated by:**
- inside lever
 - outside lever when not locked
- Outside lever locked by:**
- inside button
 - outside key
- Outside lever unlocked by:**
- inside lever when the inside button is pushed in
 - outside key
 - closing the door when the inside button is pushed in
- Inside lever is always unlocked**

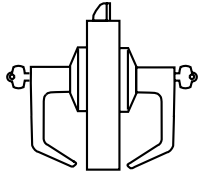
Double-keyed functions

The following lists describe how the latchbolt, outside lever, and inside lever operate for each double-keyed 9K function.

Warning:

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

C–Corridor (ANSI F88)



Latchbolt operated by:

- inside lever
- outside key
- outside lever when not locked

Outside lever locked by:

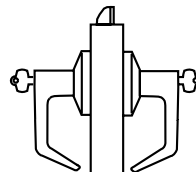
- inside key

Outside lever unlocked by:

- inside key

Inside lever is always unlocked

G–Storeroom (ANSI F91)



Latchbolt operated by:

- inside lever when not locked
- outside lever when not locked

Outside lever locked by:

- inside key
- outside key

Outside lever unlocked by:

- inside key
- outside key

Inside lever locked by:

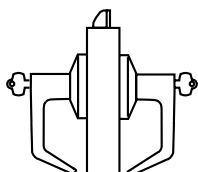
- inside key
- outside key

Inside lever unlocked by:

- inside key
- outside key

Note: Turning the key in either the inside or outside lever locks or unlocks both sides.

IN–Intruder



Latchbolt operated by:

- inside lever
- outside lever when not locked

Outside lever locked by:

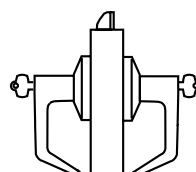
- inside key
- outside key

Outside lever unlocked by:

- inside key
- outside key

Inside lever is always unlocked

S–Communicating (ANSI F80)



Latchbolt operated by:

- inside key
- inside lever when not locked
- outside key
- outside lever when not locked

Outside lever locked by:

- outside key

Outside lever unlocked by:

- outside key

Inside lever locked by:

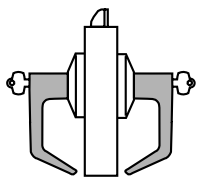
- inside key

Inside lever unlocked by:

- inside key

Note: Turning the key in either lever locks or unlocks that lever independently.

W-Institutional (ANSI F87)



Latchbolt operated by:

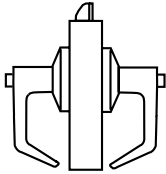
- inside key
- outside key

Outside lever is always fixed

Inside lever is always fixed

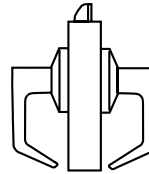
Non-keyed functions The following lists describe how the latchbolt, outside lever, and inside lever operate for each non-keyed 9K function.

L-Privacy (ANSI F76)



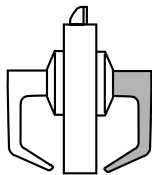
- Latchbolt operated by:**
- inside lever
 - outside lever when the inside button is in the unlocked position
- Outside lever locked by:**
- inside button
- Outside lever unlocked by:**
- inside lever
 - outside slotted button when pushed in and rotated counterclockwise
 - closing the door
- Inside lever is always unlocked**

N-Passage (ANSI F75)



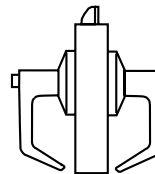
- Latchbolt operated by:**
- inside lever
 - outside lever
- Outside lever is always unlocked**
- Inside lever is always unlocked**

NX-Exit (ANSI F89)



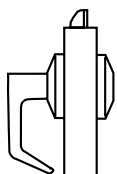
- Latchbolt operated by:**
- inside lever
- Outside lever is always fixed**
- Inside lever is always unlocked**

P-Patio (ANSI F77)



- Latchbolt operated by:**
- inside lever
 - outside lever when the inside button is in the unlocked position
- Outside lever locked by:**
- inside button
- Outside lever unlocked by:**
- inside lever
 - closing the door
- Inside lever is always unlocked**

Y-Exit



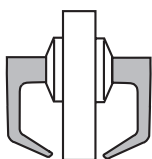
- Latchbolt operated by:**
- inside lever
- Inside lever is always unlocked**

1DT-Single dummy trim



This lock is a single, surface mounted lever for an inactive door or a non-latching door.

2DT-Double dummy trim



This lock is a through-bolt mounted pair of matching levers for an inactive door or a non-latching door.

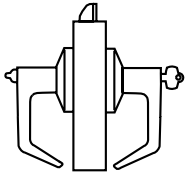
Special functions

The following lists describe how the latchbolt, outside lever, and inside lever operate for each special 9K function.

Warning:

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

A–Dormitory or storeroom lock (ANSI F81)



Latchbolt operated by:

- inside lever
- outside key
- outside lever when the inside button is in the unlocked position

Outside lever locked by:

- inside button

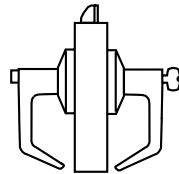
Outside lever unlocked by:

- inside button

Inside lever is always unlocked

Note: Inside button must be rotated counterclockwise to unlock the outside lever.

B–Office (ANSI F82)



Latchbolt operated by:

- inside lever
- outside key
- outside lever when the inside button is in the unlocked position

Outside lever locked by:

- inside button

Outside lever unlocked by:

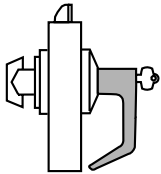
- inside lever

- outside key

Inside lever is always unlocked

Note: Inside button is released by turning the key in the outside lever or rotating the inside lever. Closing the door does not release the inside button.

DZ–Closet or storeroom



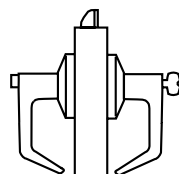
Latchbolt operated by:

- inside turn knob
- outside key

Outside lever is always fixed

Inside turn knob is always unlocked

EA–Entrance or Office



Latchbolt operated by:

- inside lever
- outside key
- outside lever when the inside button is in the unlocked position

Outside lever locked by:

- inside button

- inside button when pushed in and rotated clockwise

Outside lever unlocked by:

- inside lever

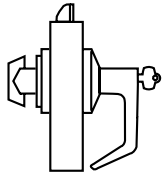
- inside button when rotated counterclockwise

- outside key

Inside lever is always unlocked

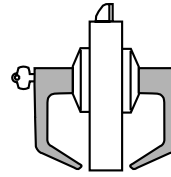
Note: Turning the slotted button keeps the outside lever locked until the button is turned back.

RZ—Closet or storeroom



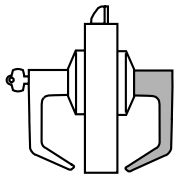
- Latchbolt operated by:**
- inside turn knob
 - outside key
 - outside lever when not locked
- Outside lever locked by:**
- outside key
- Outside lever unlocked by:**
- outside key
- Inside turn knob is always unlocked**

XD—Special



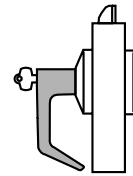
- Latchbolt operated by:**
- inside key
- Outside lever is always fixed**
- Inside lever is always fixed**

XR—Special



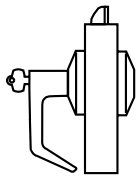
- Latchbolt operated by:**
- inside key
 - inside lever when not locked
- Outside lever is always fixed**
- Inside lever locked by:**
- inside key
- Inside lever unlocked by:**
- inside key

YD—Exit



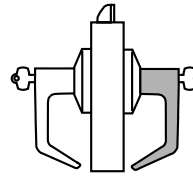
- Latchbolt operated by:**
- inside key
- Inside lever is always fixed**

YR—Special



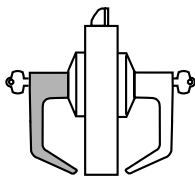
- Latchbolt operated by:**
- inside key
 - inside lever when not locked
- Inside lever locked by:**
- inside key
- Inside lever unlocked by:**
- inside key

DR—Special



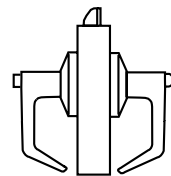
- Latchbolt operated by:**
- inside key
 - inside lever when not locked
 - outside key
- Outside lever is always fixed**
- Inside lever locked by:**
- inside key
- Inside lever unlocked by:**
- inside key

RD—Special



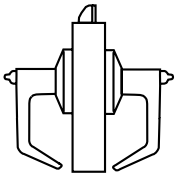
- Latchbolt operated by:**
- inside key
 - outside key
 - outside lever when not locked
- Outside lever locked by:**
- outside key
- Outside lever unlocked by:**
- outside key
- Inside lever is always fixed**

LL—Hospital privacy



- Latchbolt operated by:**
- inside lever
 - outside lever when not locked
- Outside lever locked by:**
- inside button when pushed in
- Outside lever unlocked by:**
- inside lever
 - outside button when pushed in and rotated counterclockwise
 - closing the door
- Inside lever is always unlocked**

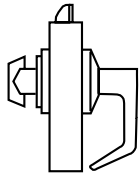
M-Communicating (ANSI F78)



- Latchbolt operated by:**
- inside lever when not locked
 - outside lever when not locked
- Outside lever locked by:**
- inside button
- Outside lever unlocked by:**
- inside button
- Inside lever locked by:**
- outside button
- Inside lever unlocked by:**
- outside button

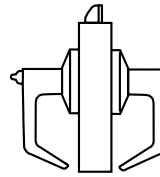
Note: Do not use this function for rooms that have no other entrance.

Z-Closet latch



- Latchbolt operated by:**
- inside turn knob
 - outside lever
- Outside lever is always unlocked**
- Inside turn knob is always unlocked**

Q-Exit (ANSI F83)

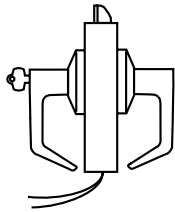


- Latchbolt operated by:**
- inside lever
 - outside lever when not locked
- Outside lever locked by:**
- inside button
- Outside lever unlocked by:**
- inside button
- Inside lever is always unlocked**

Electrified cylindrical functions

The following lists describe how the latchbolt, outside lever, and inside lever operate for each electrified 9K function.

DEL—Electrically Locked—Fail Safe



Latchbolt operated by:

- inside lever
- outside lever when electric power is removed from the solenoid
- outside key

Outside lever locked by:

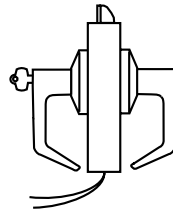
- applying 24 VDC to the solenoid; remains locked only while power continues to be applied

Outside lever unlocked by:

- removing 24 VDC from the solenoid

Inside lever is always unlocked

DEU—Electrically Unlocked—Fail Secure



Latchbolt operated by:

- inside lever
- outside lever when electric power is applied to the solenoid
- outside key

Outside lever locked by:

- removing 24 VDC from the solenoid

Outside lever unlocked by:

- applying 24 VDC to the solenoid; remains unlocked only while power continues to be applied

Inside lever is always unlocked

Functions by ANSI designation	ANSI no.	Function
	F75	N
	F76	L
	F77	P
	F78	M
	F80	S
	F81	A
	F82	B
	F83	Q
	F84	R
	F86	D
	F87	W
	F88	C
	F89	NX
	F90	T
	F91	G
	F92	E
	F93	H
	F109	AB

STANDARD FUNCTIONS AB FUNCTION CHASSIS—ENTRANCE LOCK (ANSI F109)

Item	Part No.	Qty.	Description
1	B55692	1	Turn button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54886	1	Retractor assembly with long catchplate
8	A55673	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

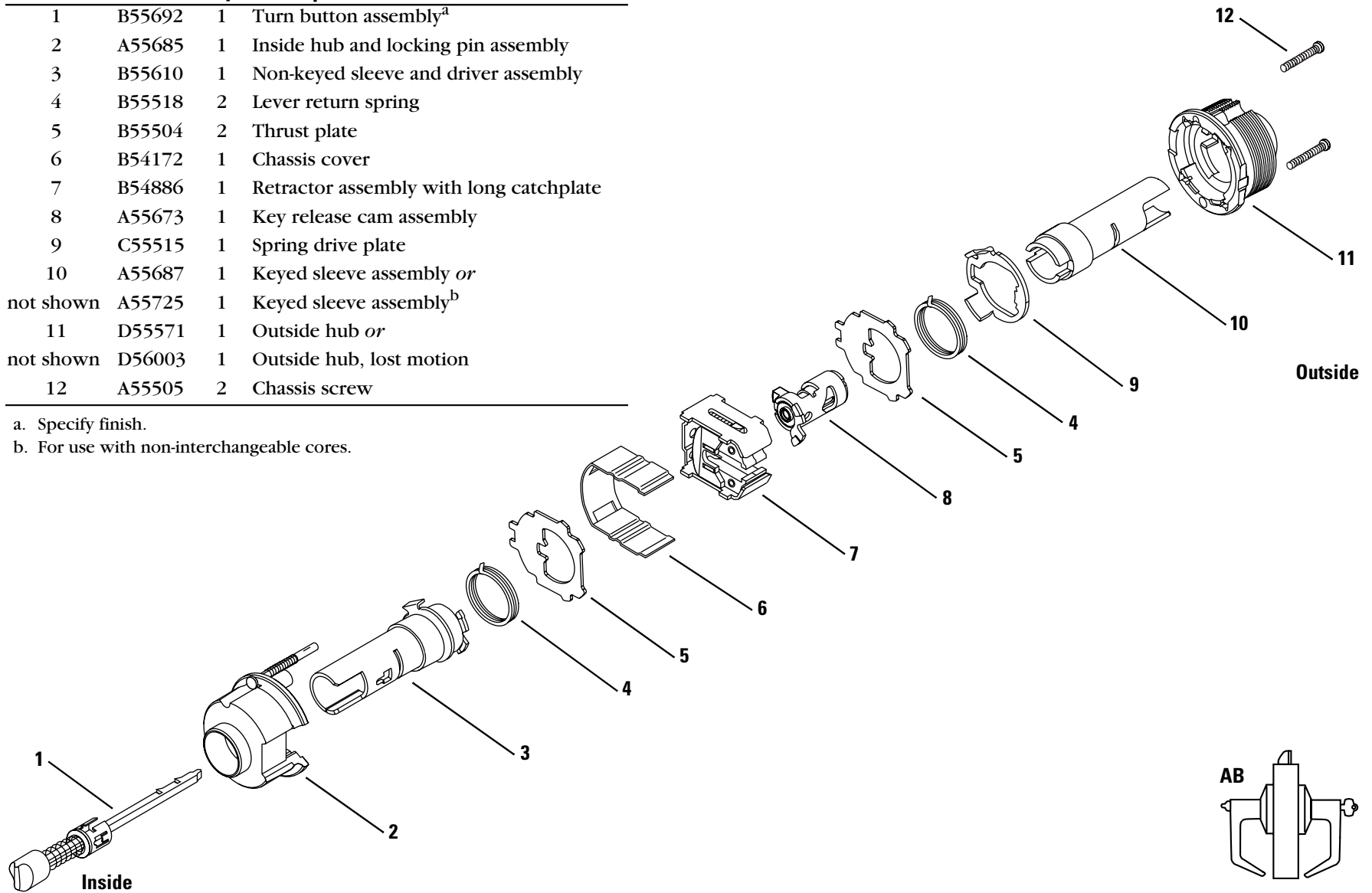


Figure 2.2 AB function exploded diagram

C FUNCTION CHASSIS—CORRIDOR LOCK (ANSI F88)

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	B55700	1	Sleeve & key release cam assembly <i>or</i>
not shown	B56024	1	Sleeve & key release cam assembly ^a
3	C55515	2	Spring drive plate
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	A54190	1	Locking bar
8	B54888	1	Retractor assembly without catchplate
9	A55673	1	Key release cam assembly
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

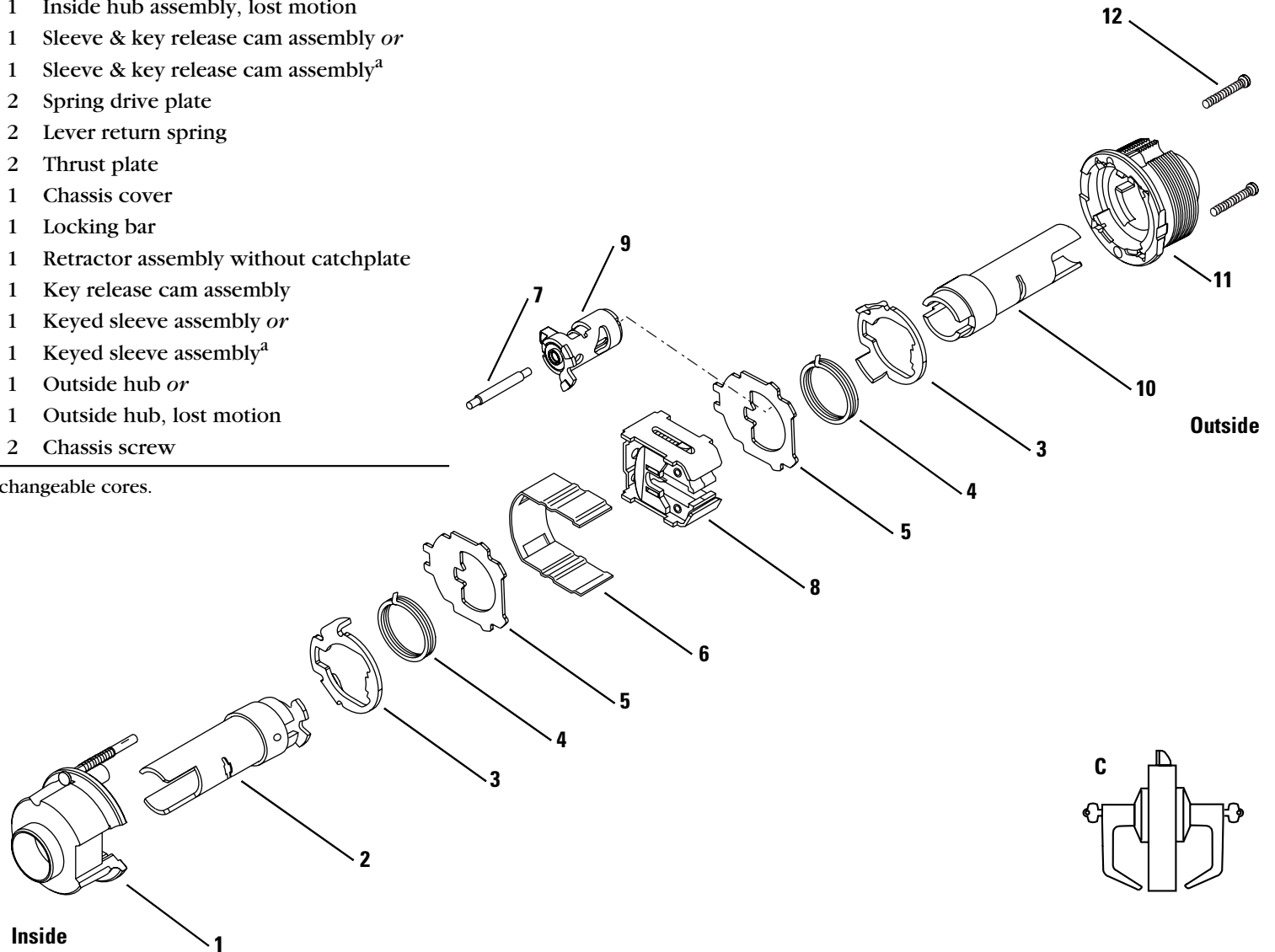


Figure 2.3 C function exploded diagram

D FUNCTION CHASSIS—STOREROOM LOCK (ANSI F86)

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly
2	B55610	1	Non-keyed sleeve and driver assembly
3	B55518	1	Lever return spring
4	B55504	2	Thrust plate
5	B54172	1	Chassis cover
6	B54888	1	Retractor assembly without catchplate
7	A55675	1	Key release cam assembly
8	C55515	1	Spring drive plate
9	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
10	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
11	A55505	2	Chassis screw

a. For use with non-interchangeable cores

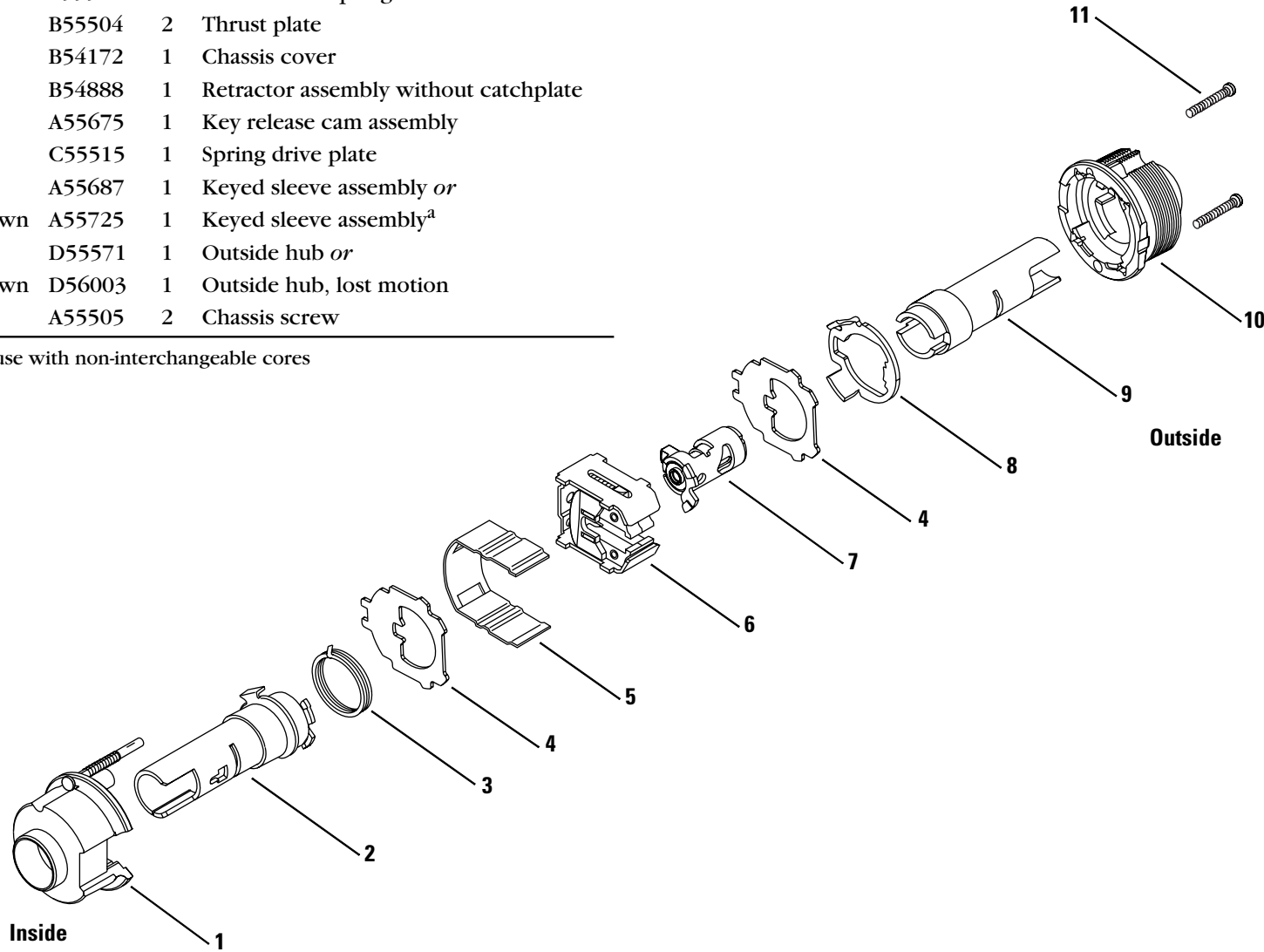


Figure 2.4 D function exploded diagram

E FUNCTION CHASSIS—SERVICE STATION LOCK (ANSI F92)

Item	Part No.	Qty.	Description
1	B55694	1	Slotted button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54886	1	Retractor assembly with long catchplate
8	A55673	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

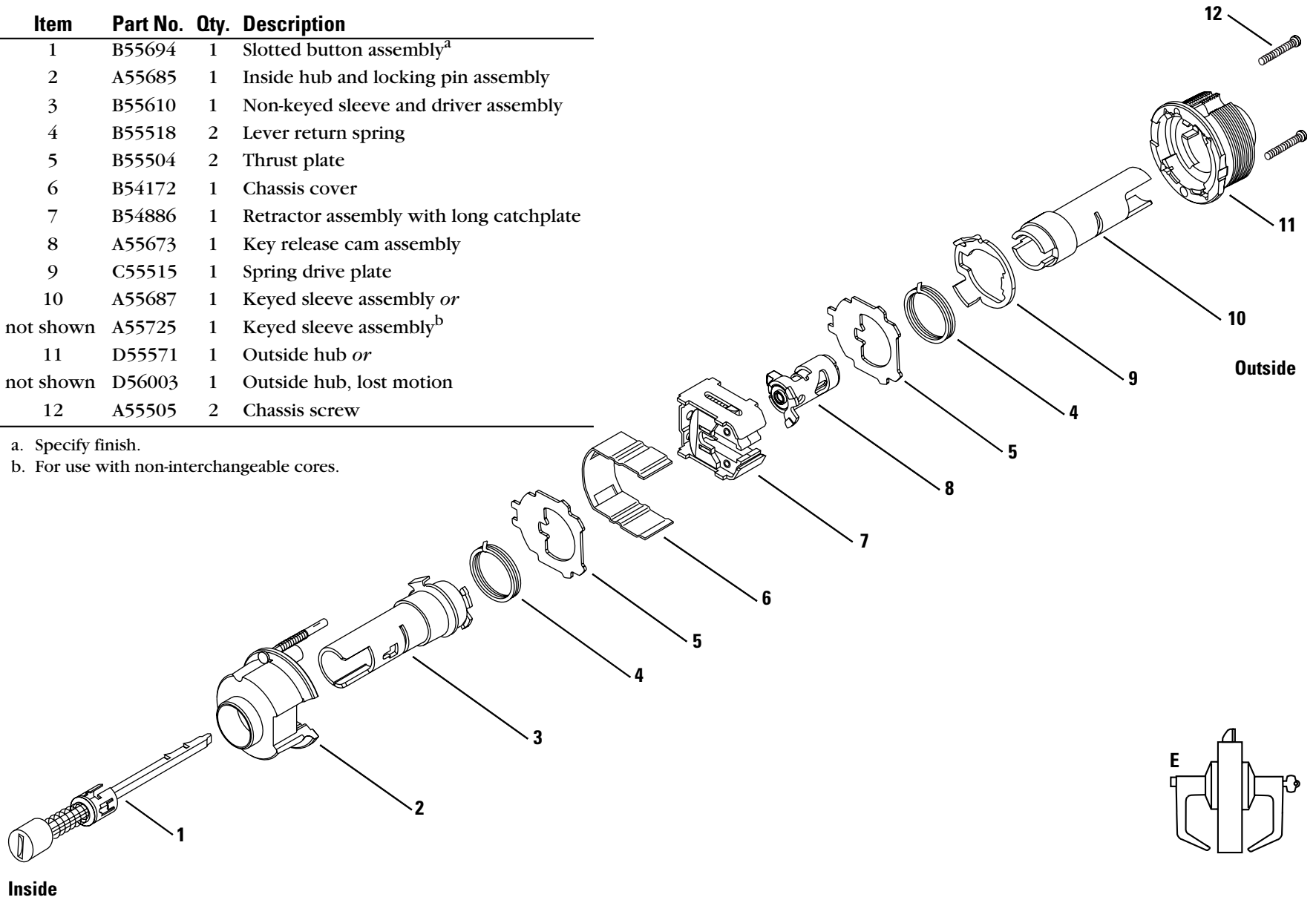


Figure 2.5 E function exploded diagram

G FUNCTION CHASSIS—STOREROOM LOCK (ANSI F91)

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	2	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	A55676	2	Key release cam assembly
8	B54888	1	Retractor assembly without catchplate
9	A54195	1	Locking bar
10	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
11	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

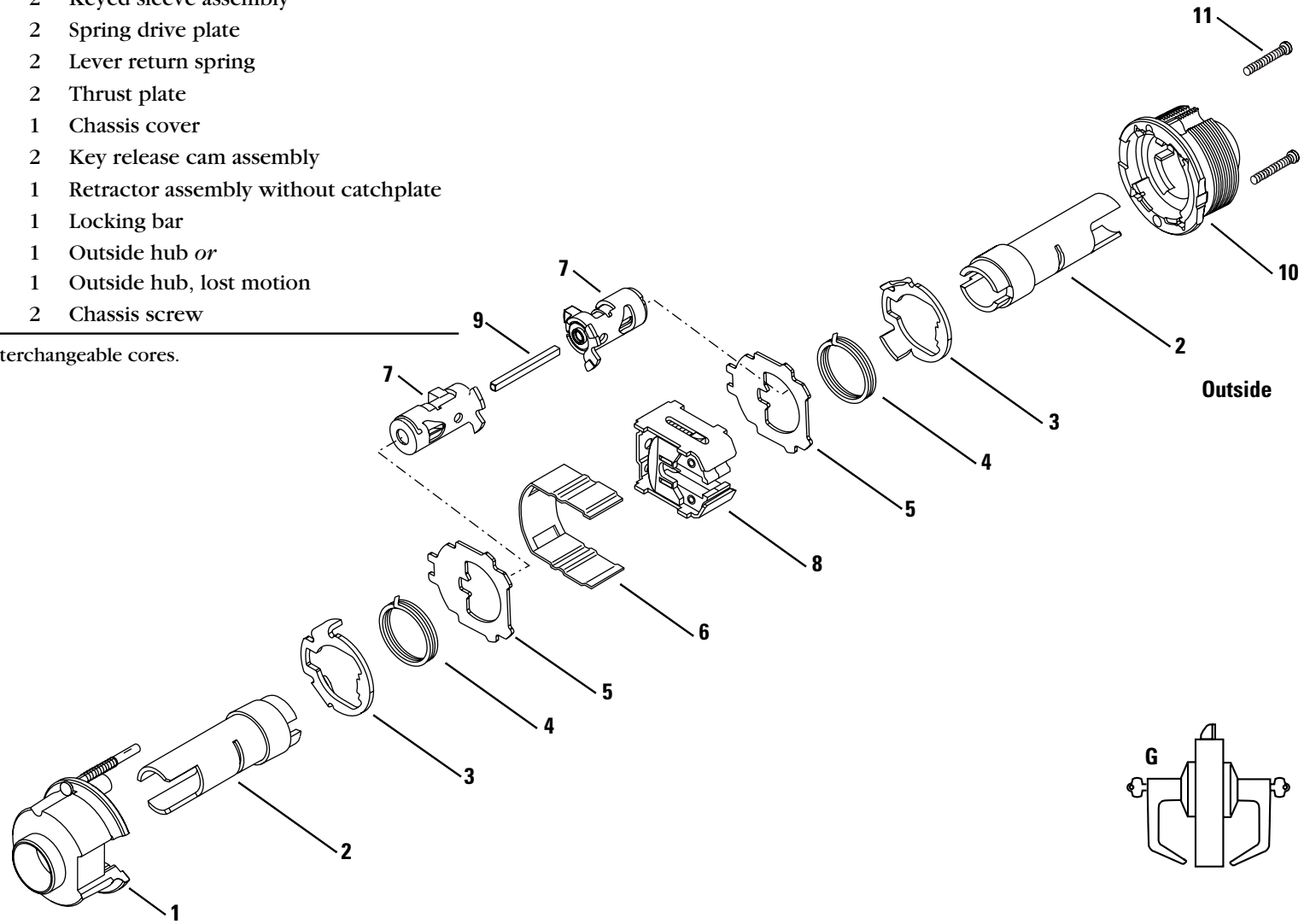


Figure 2.6 G function exploded diagram

H FUNCTION CHASSIS—HOTEL GUEST ROOM LOCK WITH INDICATOR (ANSI F93)
HJ FUNCTION CHASSIS—HOTEL GUEST ROOM LOCK WITHOUT INDICATOR

Item ^a	Part No.	Qty.	Description
1	B55693	1	Push button assembly ^b
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	1	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54886	1	Retractor assembly with long catchplate
8	A55677	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. These functions require a special throw member. See [page 2-54](#).
 b. Specify finish.

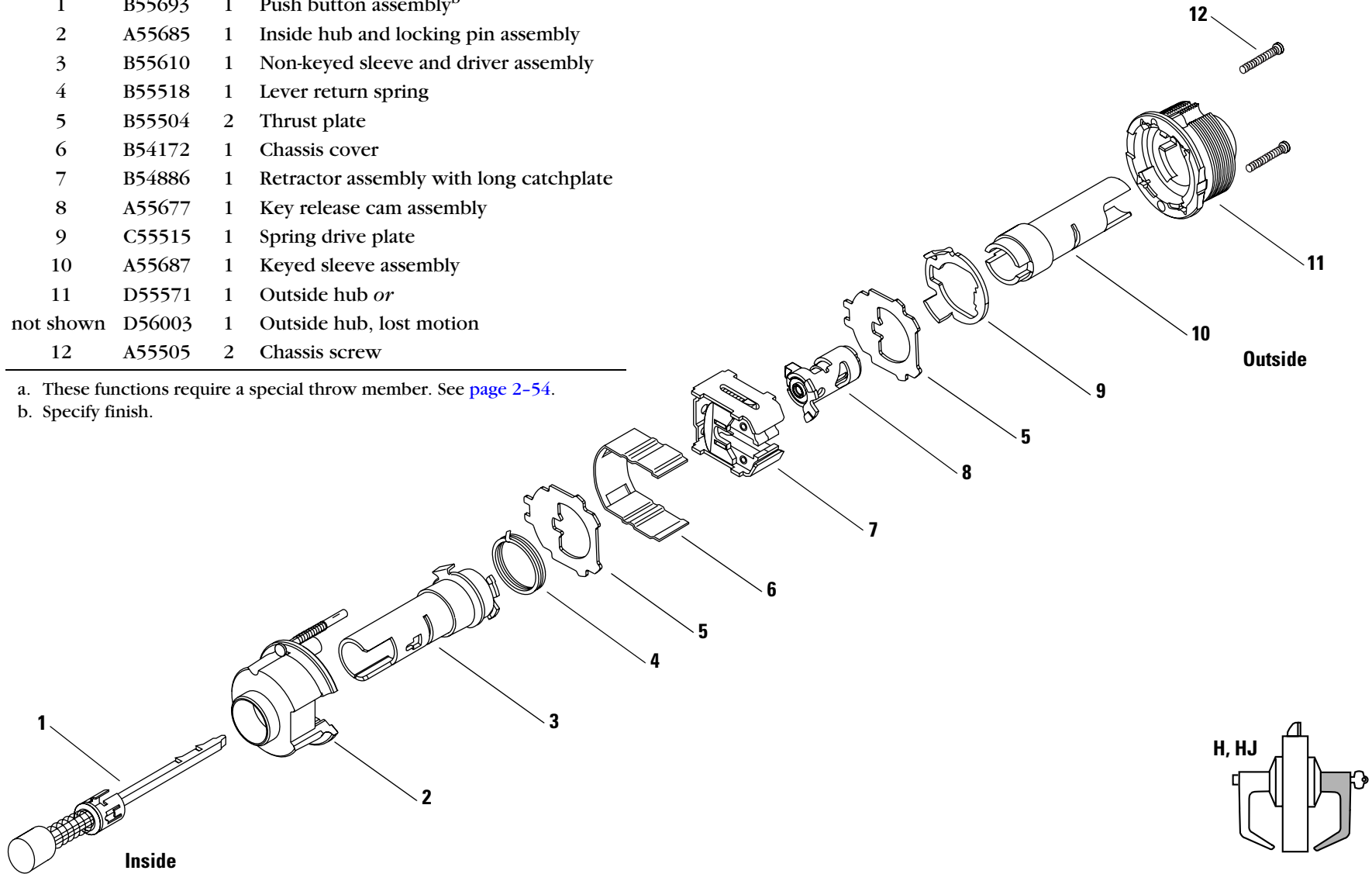


Figure 2.7 H/HJ function exploded diagram

L FUNCTION CHASSIS—PRIVACY LOCK (ANSI F76)

Item	Part No.	Qty.	Description
1	B55693	1	Push button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54886	1	Retractor assembly with long catchplate
8	A55673	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55701	1	Keyed sleeve assembly
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A54745	1	Button release assembly
13	A55505	2	Chassis screw

a. Specify finish.

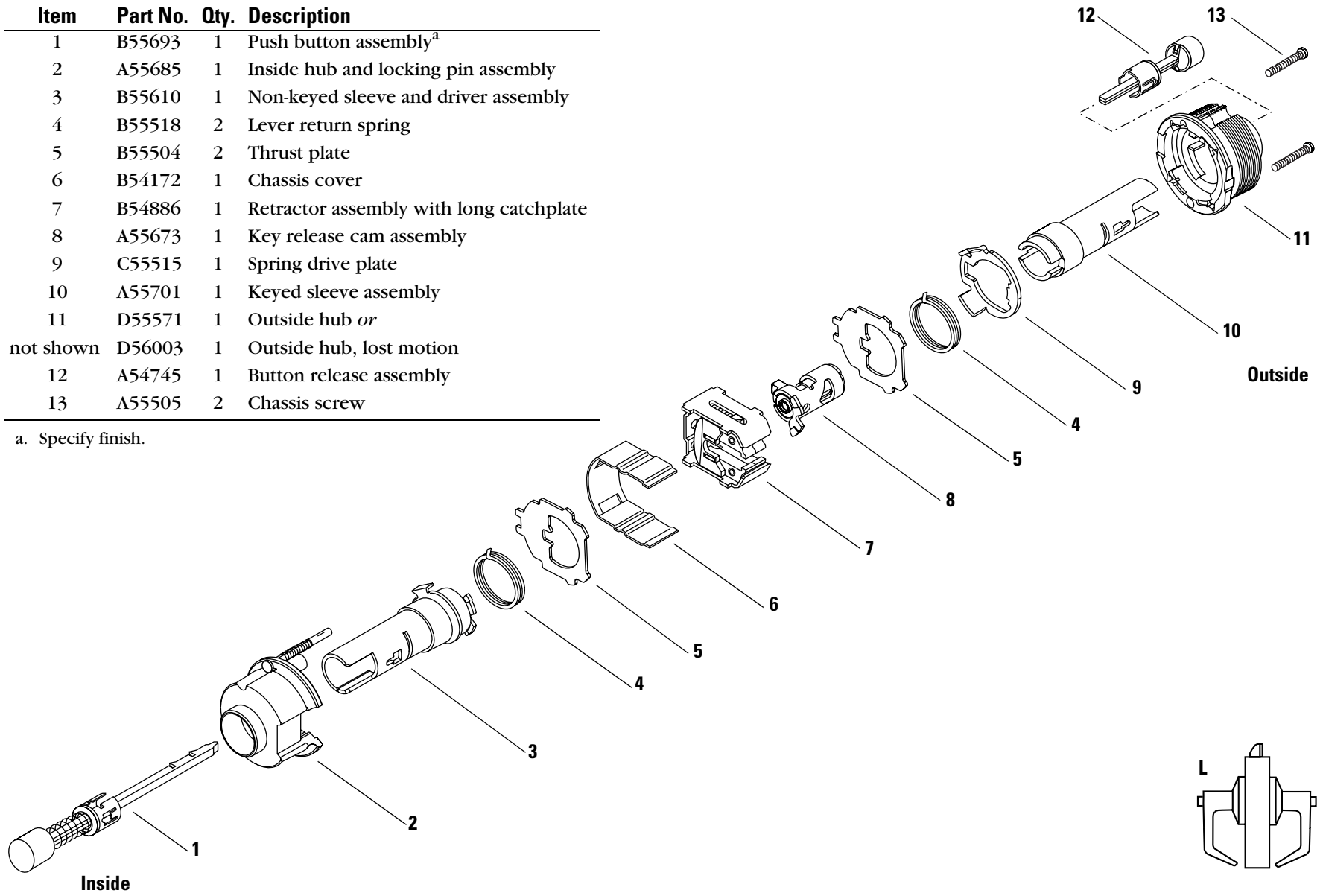


Figure 2.8 L function exploded diagram

N FUNCTION CHASSIS—PASSAGE LOCK (ANSI F75)

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly
2	B55610	2	Non-keyed sleeve and driver assembly
3	B55518	2	Lever return spring
4	B55504	2	Thrust plate
5	B54172	1	Chassis cover
6	B54888	1	Retractor assembly without catchplate
7	D55571	1	Outside hub
8	A55505	2	Chassis screw

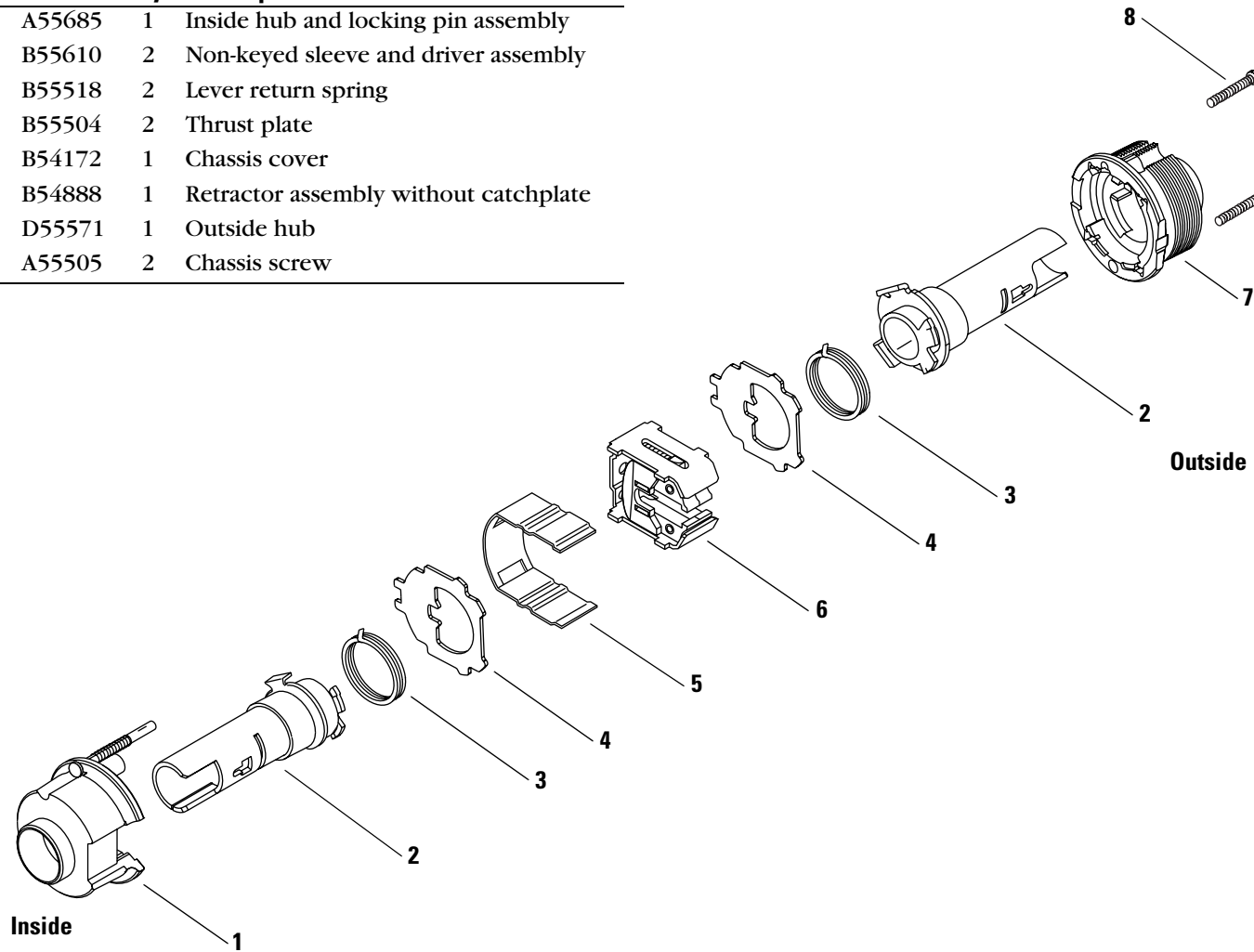


Figure 2.9 N function exploded diagram

NX FUNCTION CHASSIS—EXIT LOCK (ANSI F89)

Item	Part No.	Qty.	Description
1	B55690	1	Locking bar assembly for “NX” function ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	1	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	A55680	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

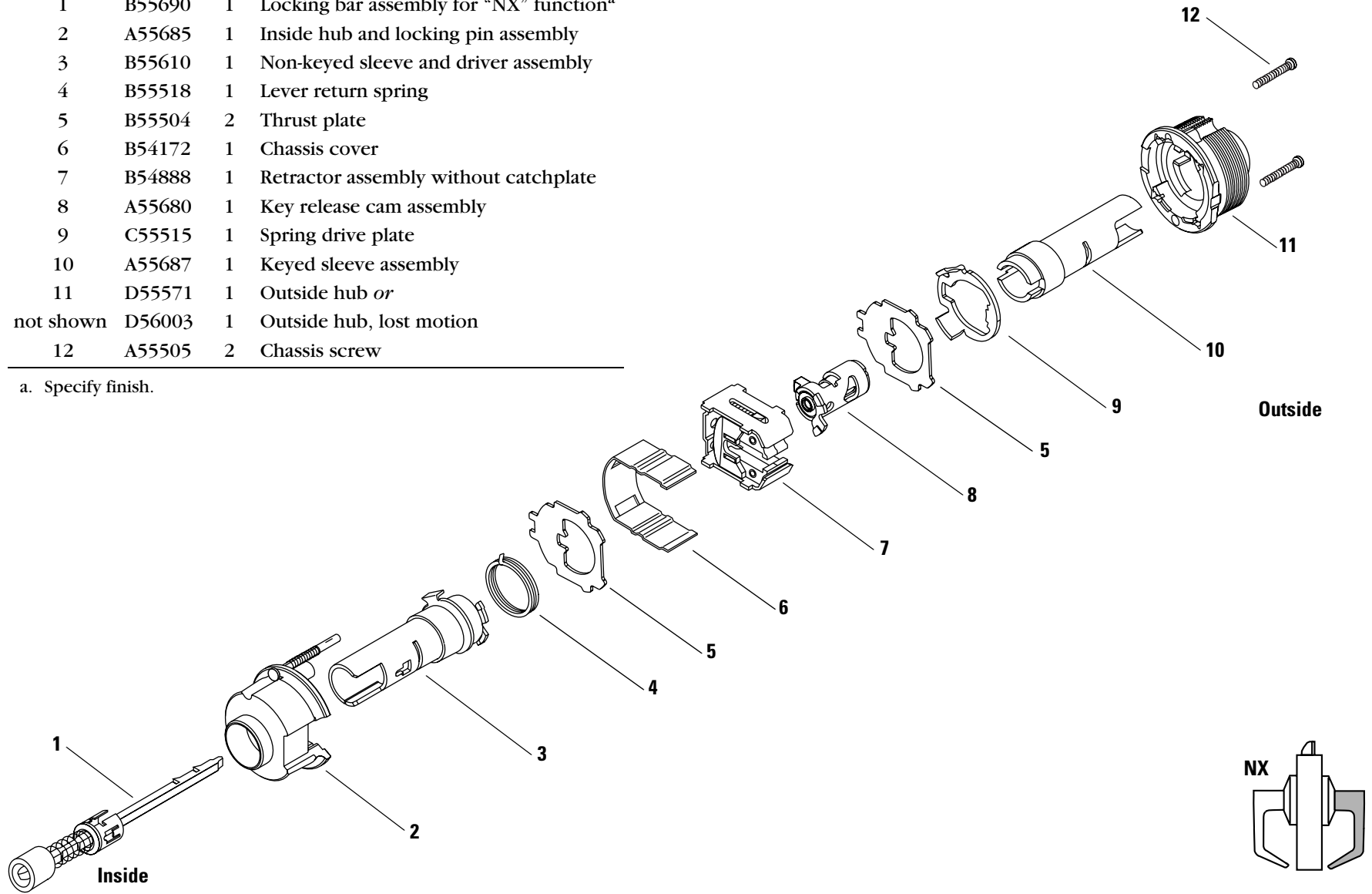


Figure 2.10 NX function exploded diagram

P FUNCTION CHASSIS—PATIO LOCK (ANSI F77)

Item	Part No.	Qty.	Description
1	B55693	1	Push button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54886	1	Retractor assembly with long catchplate
8	A55680	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

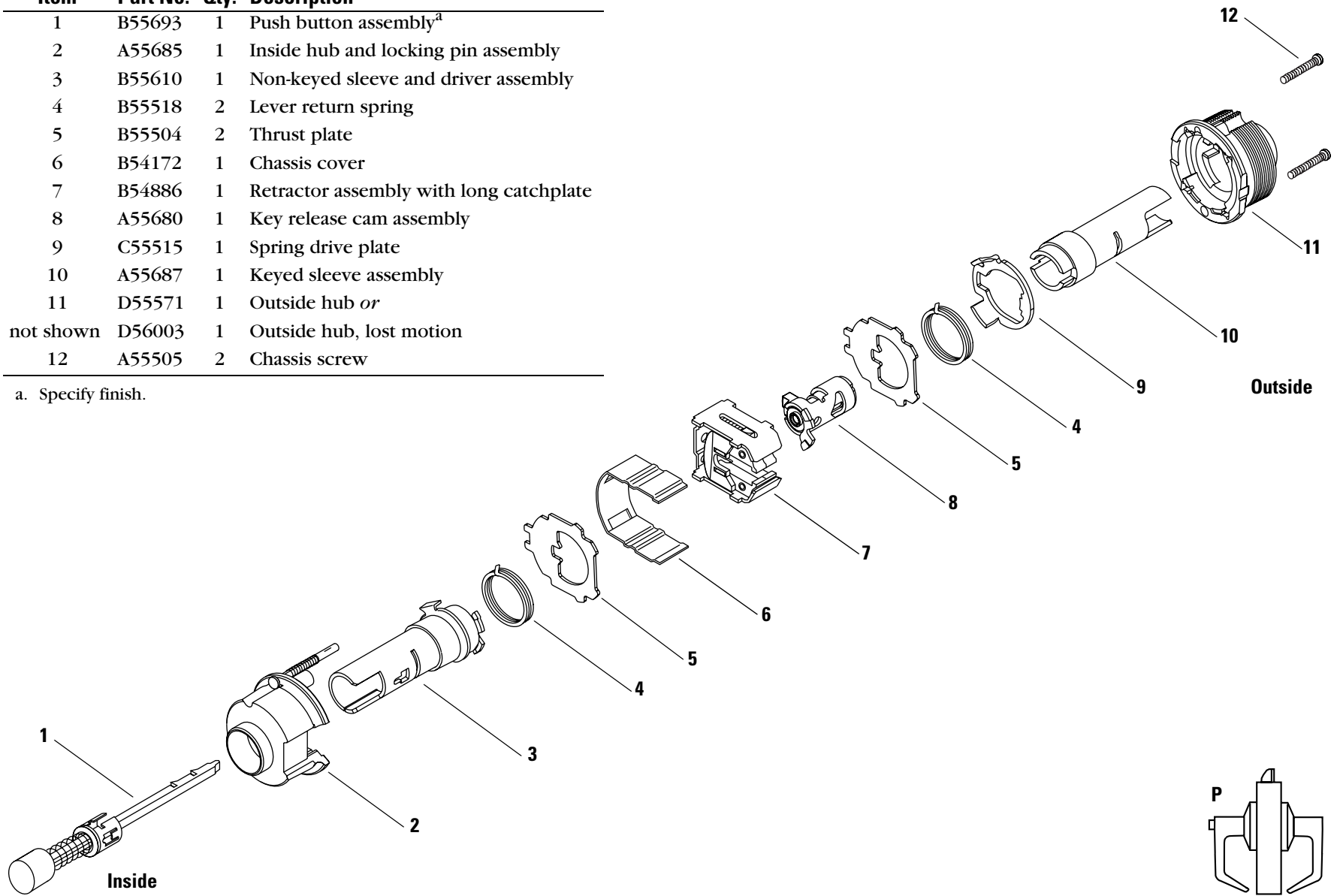


Figure 2.11 P function exploded diagram

R FUNCTION CHASSIS—CLASSROOM LOCK (ANSI F84)

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly
2	B55610	1	Non-keyed sleeve and driver assembly
3	B55518	2	Lever return spring
4	B55504	2	Thrust plate
5	B54172	1	Chassis cover
6	B54888	1	Retractor assembly without catchplate
7	A55681	1	Key release cam assembly
8	C55515	1	Spring drive plate
9	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
10	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
11	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

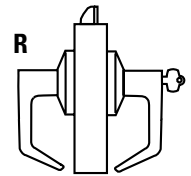
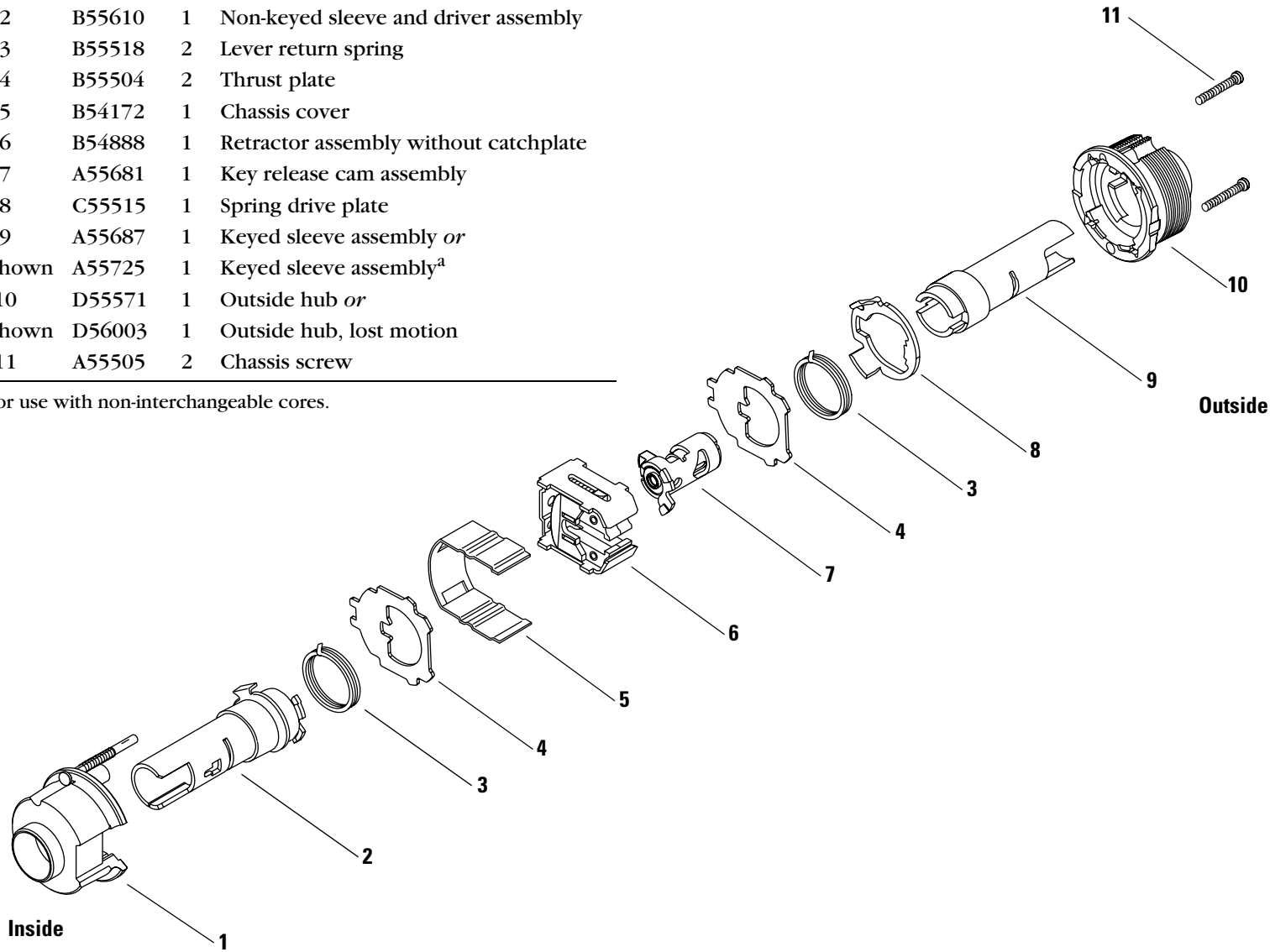


Figure 2.12 R function exploded diagram

S FUNCTION CHASSIS—COMMUNICATING LOCK (ANSI F80)

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	2	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	A55681	2	Key release cam assembly
7	B54172	1	Chassis cover
8	B54888	1	Retractor assembly without catchplate
9	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
10	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

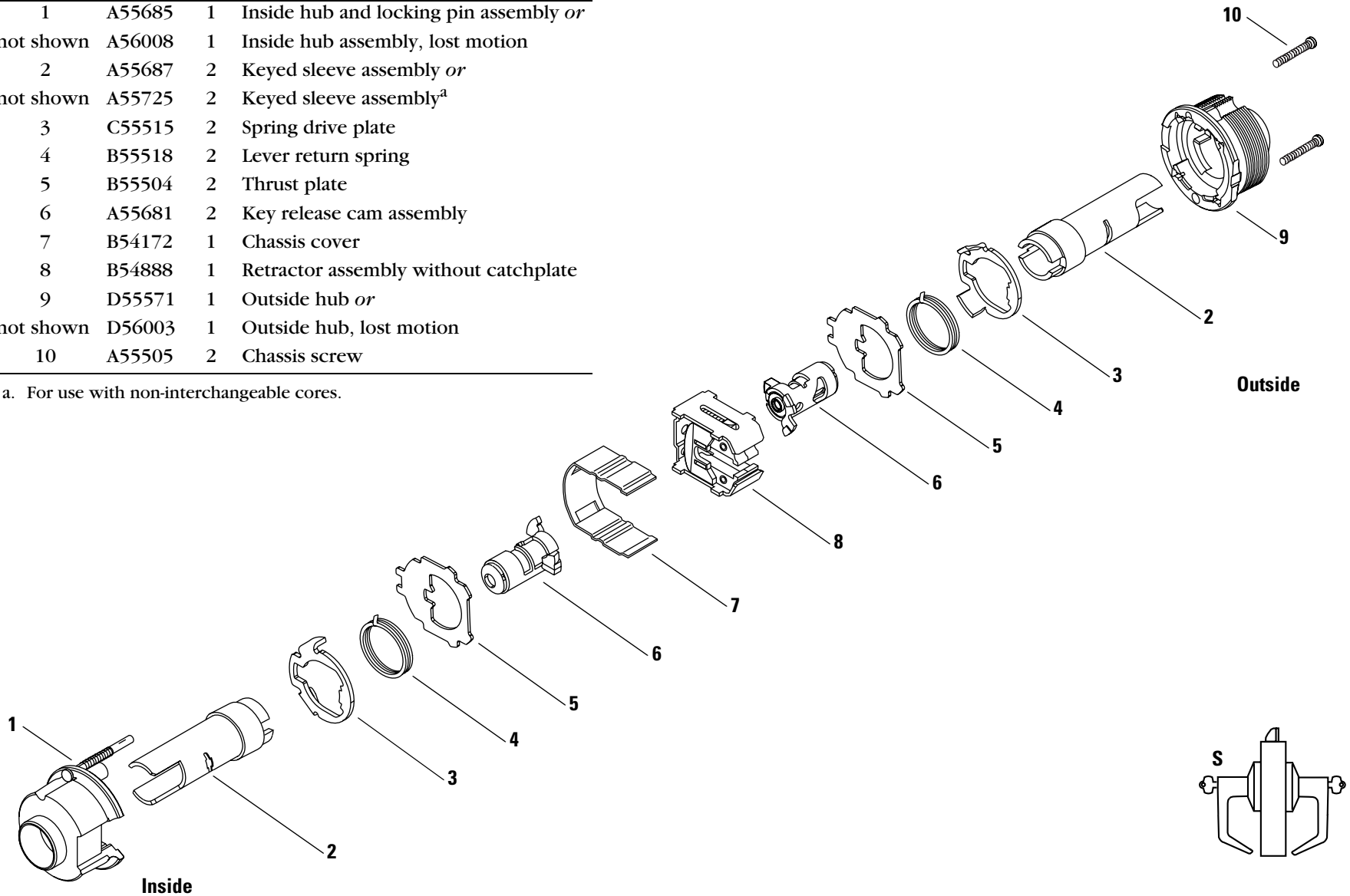


Figure 2.13 S function exploded diagram

T FUNCTION CHASSIS—DORMITORY LOCK (ANSI F90)

Item	Part No.	Qty.	Description
1	B55693	1	Push button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54886	1	Retractor assembly with long catchplate
8	A55681	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

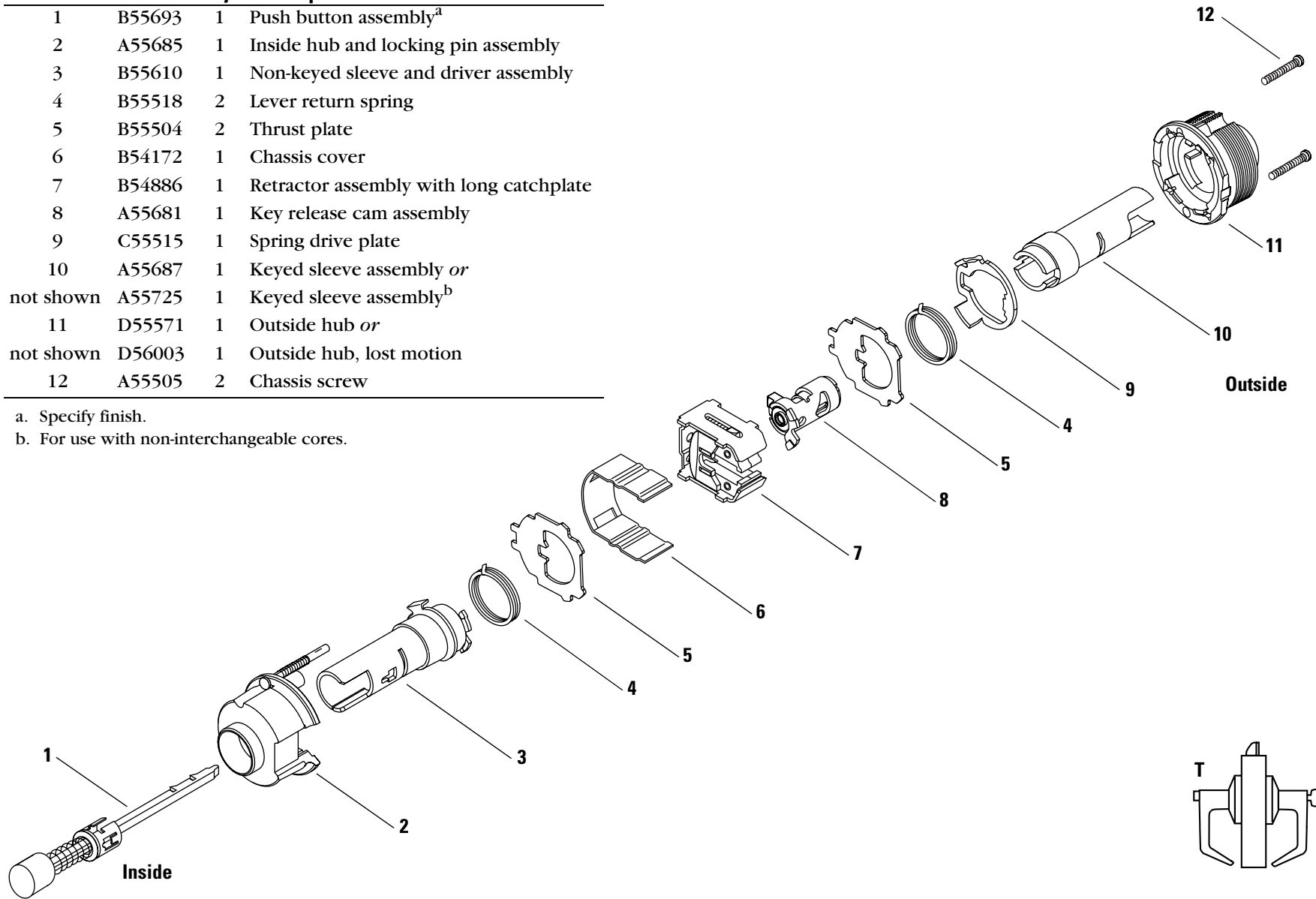


Figure 2.14 T function exploded diagram

W FUNCTION CHASSIS—UTILITY OR INSTITUTIONAL LOCK (ANSI F87)

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	2	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55504	2	Thrust plate
5	A55675	2	Key release cam assembly
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
9	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

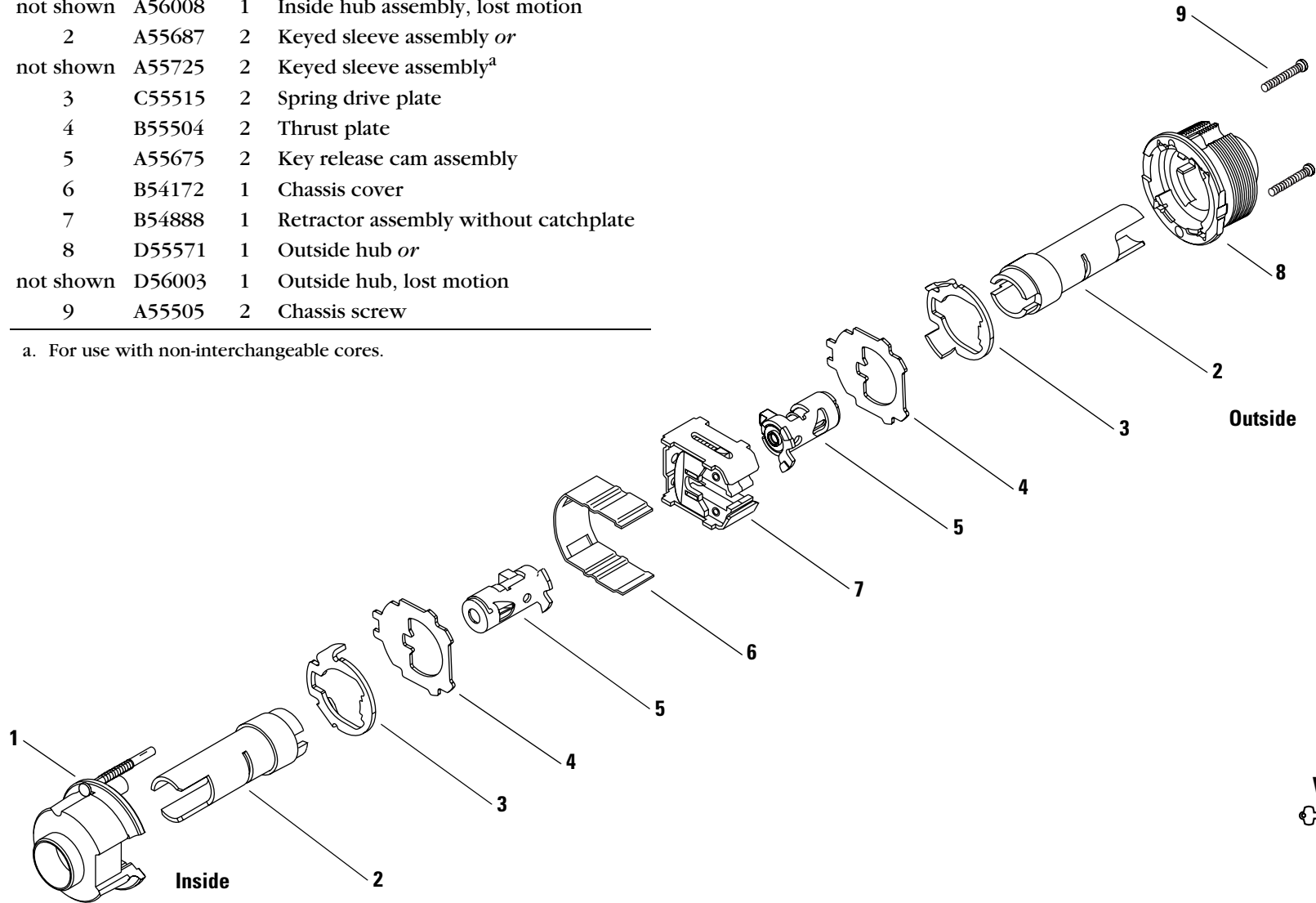


Figure 2.15 W function exploded diagram

Y FUNCTION CHASSIS—EXIT LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly
2	B55610	1	Non-keyed sleeve and driver assembly
3	B55518	1	Lever return spring
4	B55504	1	Thrust plate
5	B54172	1	Chassis cover
6	B54888	1	Retractor assembly without catchplate
7	B54809	1	Outside hub and plate assembly
8	A55511	2	Chassis screw

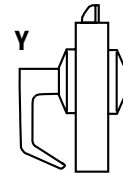
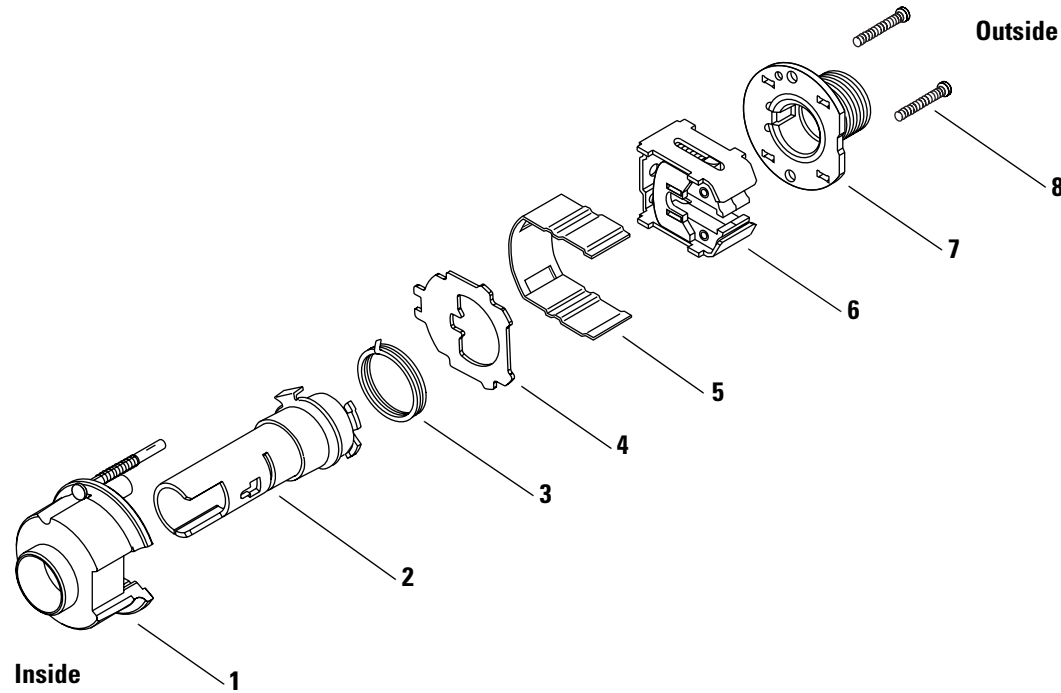


Figure 2.16 Y function exploded diagram

NON-STANDARD FUNCTIONS

A FUNCTION CHASSIS—ENTRANCE LOCK (ANSI F81)

Item	Part No.	Qty.	Description
1	B55692	1	Turn button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	A55673	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

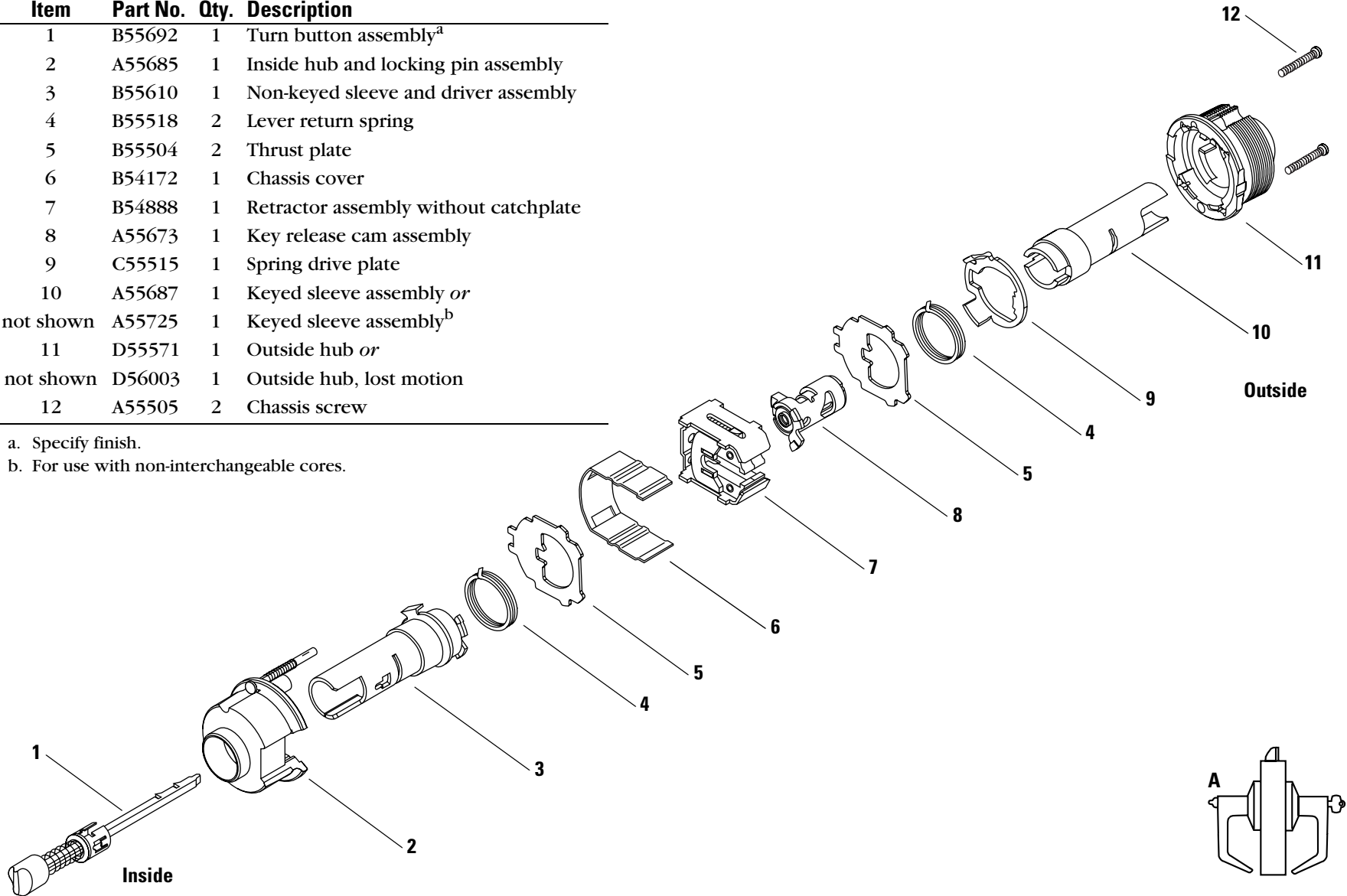


Figure 2.17 A function exploded diagram

B FUNCTION CHASSIS—OFFICE LOCK (ANSI F82)

Item	Part No.	Qty.	Description
1	B55693	1	Push button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54887	1	Retractor assembly with short catchplate
8	A55673	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

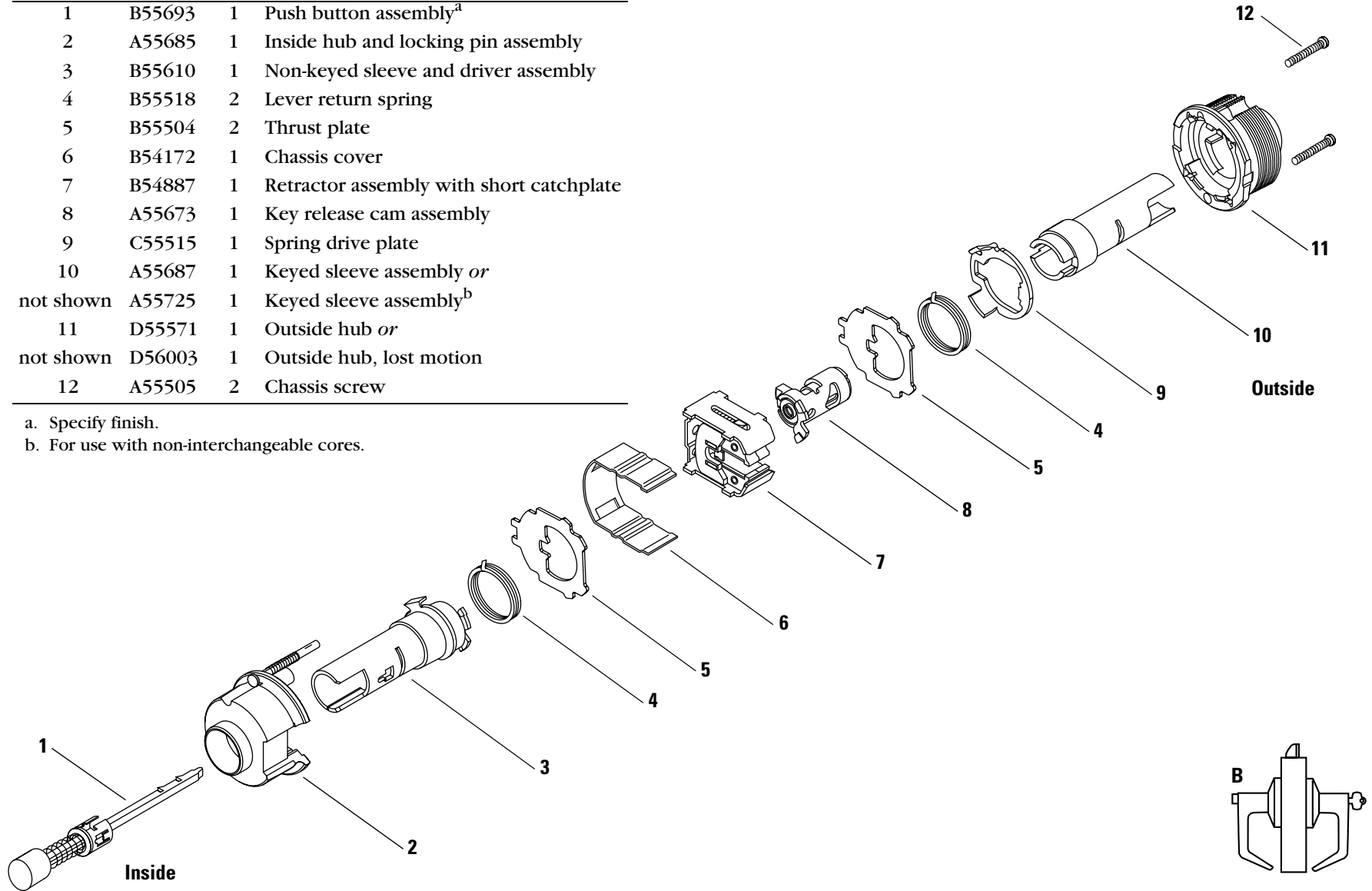


Figure 2.18 B function exploded diagram

DR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub, and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	2	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55518	1	Lever return spring
5	B55504	2	Thrust plate
6	A55681	1	Key release cam assembly
7	B54172	1	Chassis cover
8	B54888	1	Retractor assembly without catchplate
9	A55675	1	Key release cam assembly
10	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
11	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

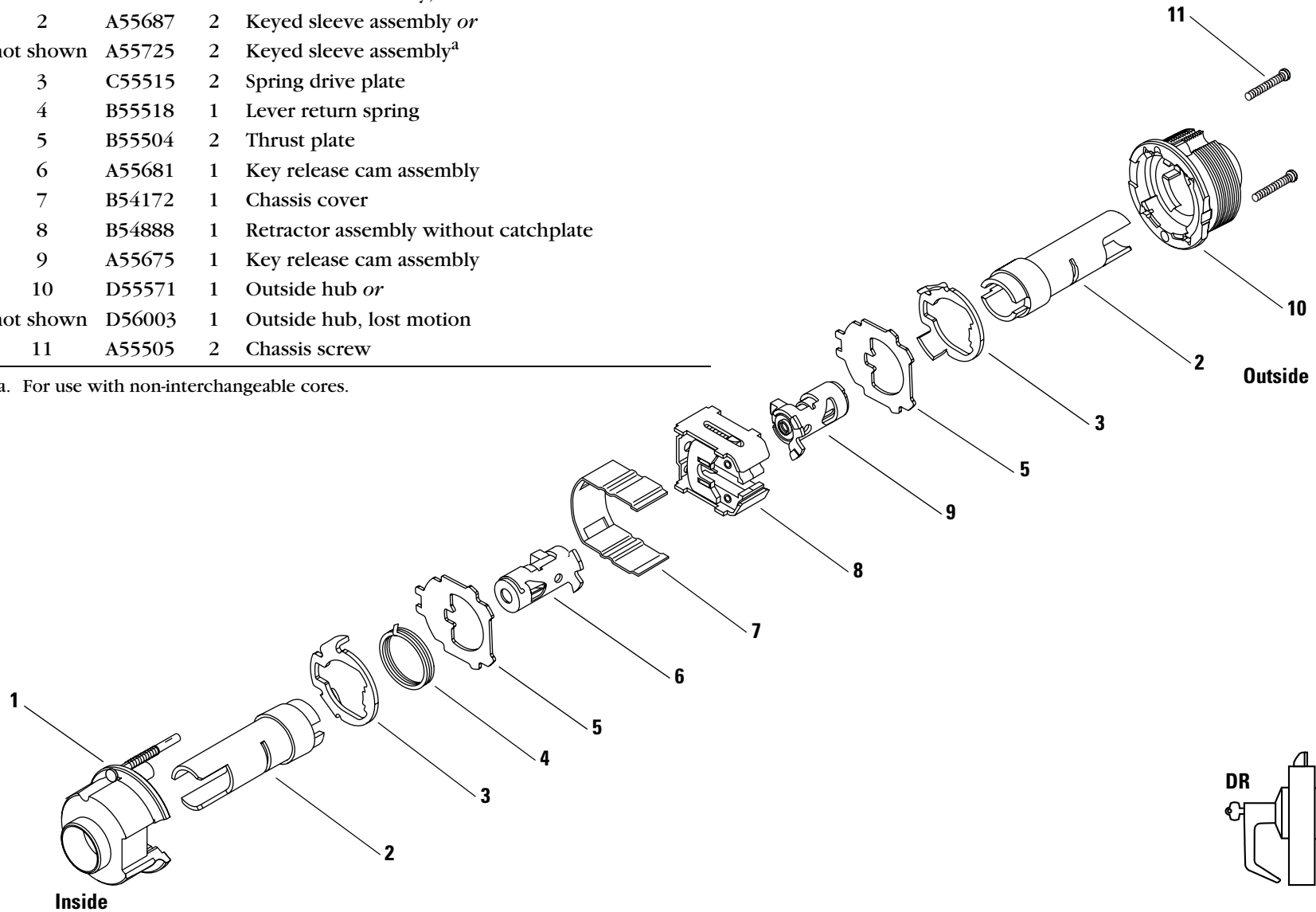


Figure 2.19 DR function exploded diagram

DZ FUNCTION CHASSIS—CLOSET OR STOREROOM LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for Z function ^a
2	B54810	1	Inside hub and side plate assembly
3	A54835	1	Non-keyed sleeve and driver assembly
4	B54172	1	Chassis cover
5	B54888	1	Retractor assembly without catchplate
6	A55675	1	Key release cam assembly
7	B55504	1	Thrust plate
8	C55515	1	Spring drive plate
9	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
10	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
11	A55511	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

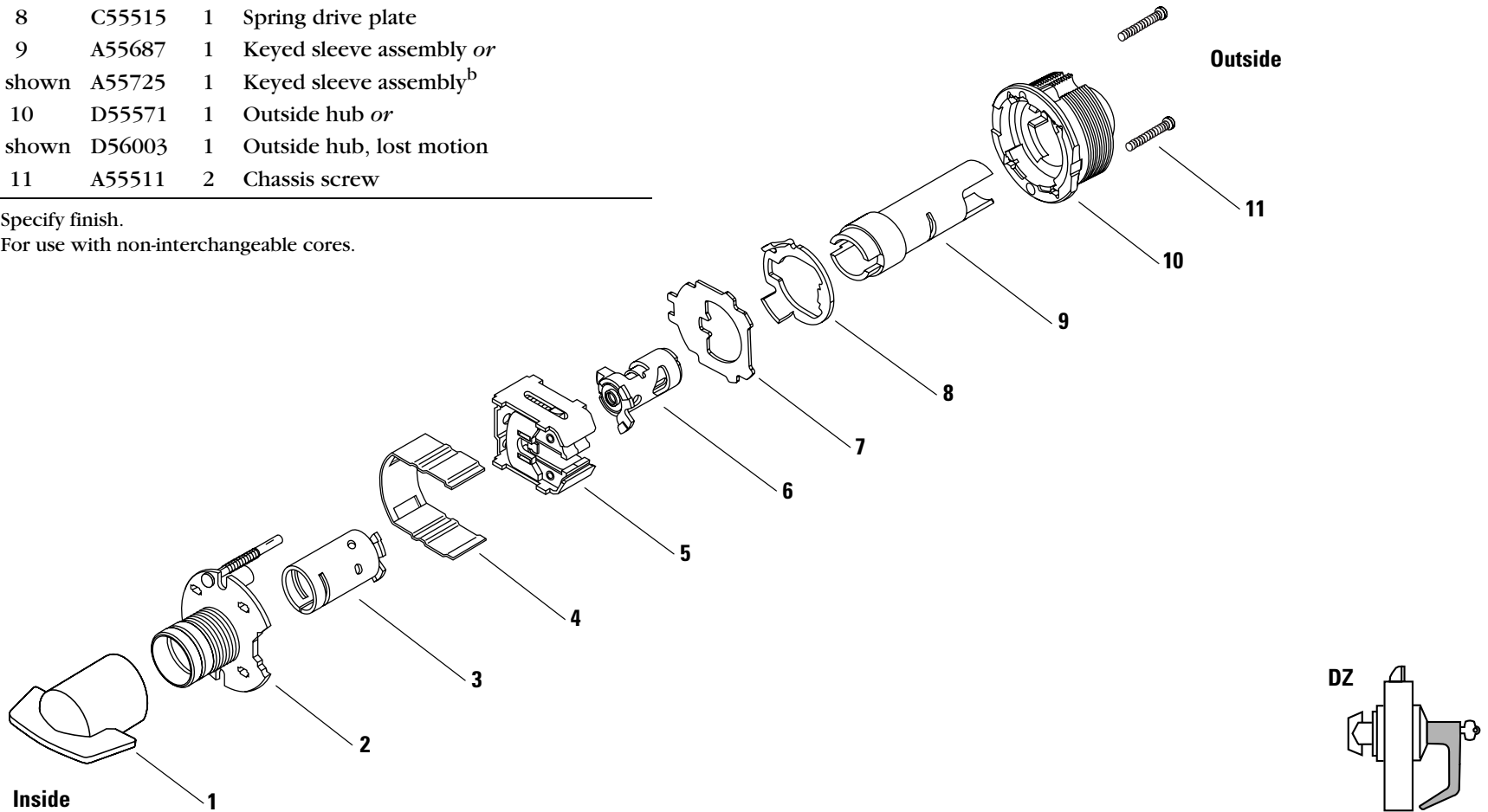


Figure 2.20 DZ function exploded diagram

EA FUNCTION CHASSIS—ENTRANCE OR OFFICE LOCK

Item	Part No.	Qty.	Description
1	B55694	1	Slotted button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54887	1	Retractor assembly with short catchplate
8	A55673	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

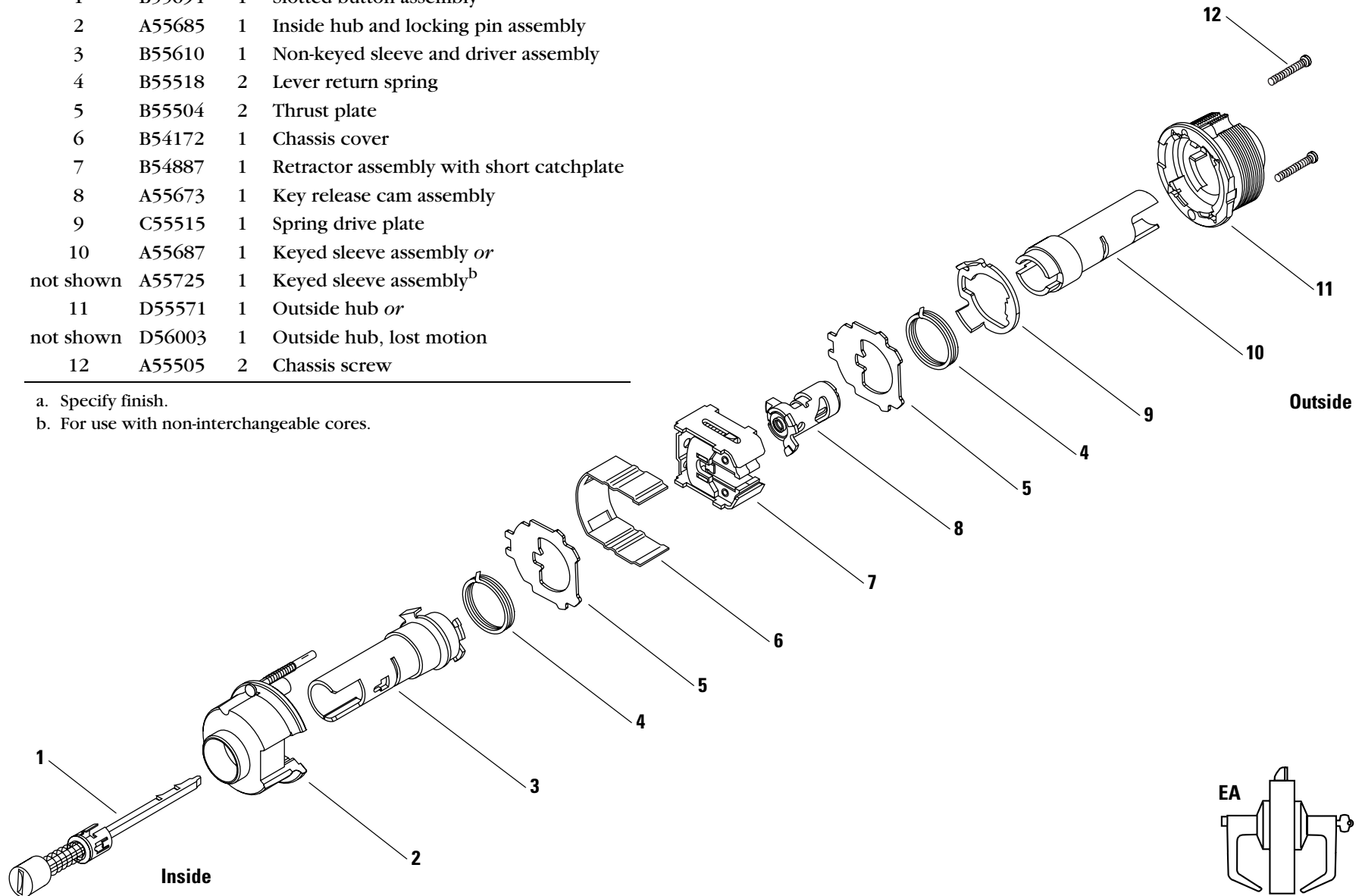


Figure 2.21 EA function exploded diagram

IN FUNCTION CHASSIS—INTRUDER LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub and locking pin assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	2	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	A56038	1	Key release cam assembly
7	B54172	1	Chassis cover
8	A54195	1	Locking bar
9	B54888	1	Retractor assembly without catchplate
10	A55676	1	Key release cam assembly
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

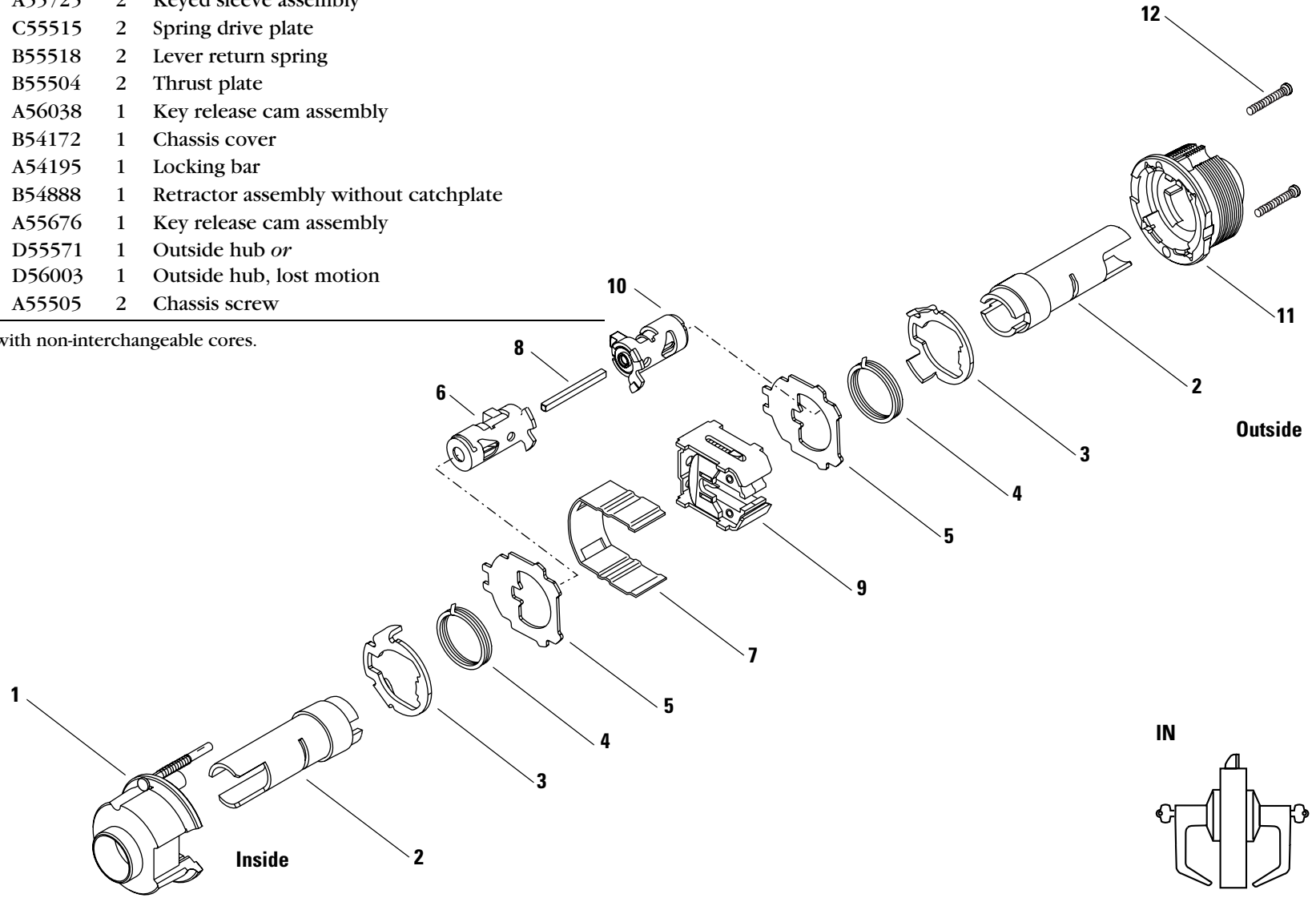


Figure 2.22 IN function exploded diagram

LL FUNCTION CHASSIS—HOSPITAL PRIVACY LOCK

Item	Part No.	Qty.	Description
1	B55693	1	Push button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54886	1	Retractor assembly with long catchplate
8	A55673	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55701	1	Keyed sleeve assembly for "M" function
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	B54210	1	6 Pin throw member
13	A55699	1	Outside button assembly for "LL" function ^b
14	A55505	2	Chassis screw

a. Specify finish.

b. Fits into the button lever, not shown. See [page 2-54](#) for button levers.

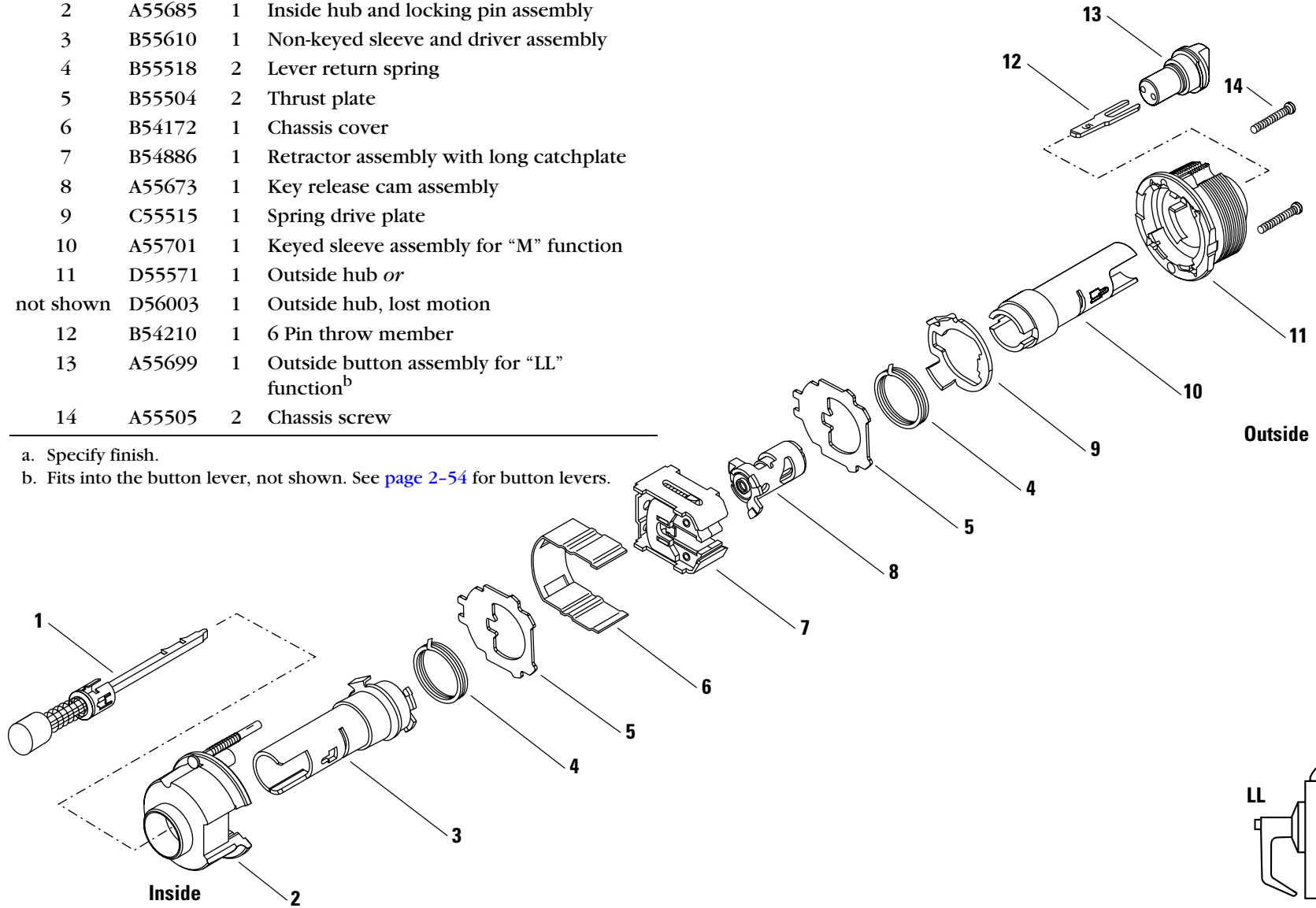


Figure 2.23 LL function exploded diagram

M FUNCTION CHASSIS—COMMUNICATING LOCK (ANSI F78)

Item	Part No.	Qty.	Description
1	A55695	2	Turn button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
not shown	A56008	1	Inside hub and locking pin assembly, lost motion
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	A55678	2	Key release cam assembly
9	A55540	1	Bridge bar
10	C55515	1	Spring drive plate
11	A55701	1	Keyed sleeve assembly for "M" function
12	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
13	A55505	2	Chassis screw

a. Specify finish.

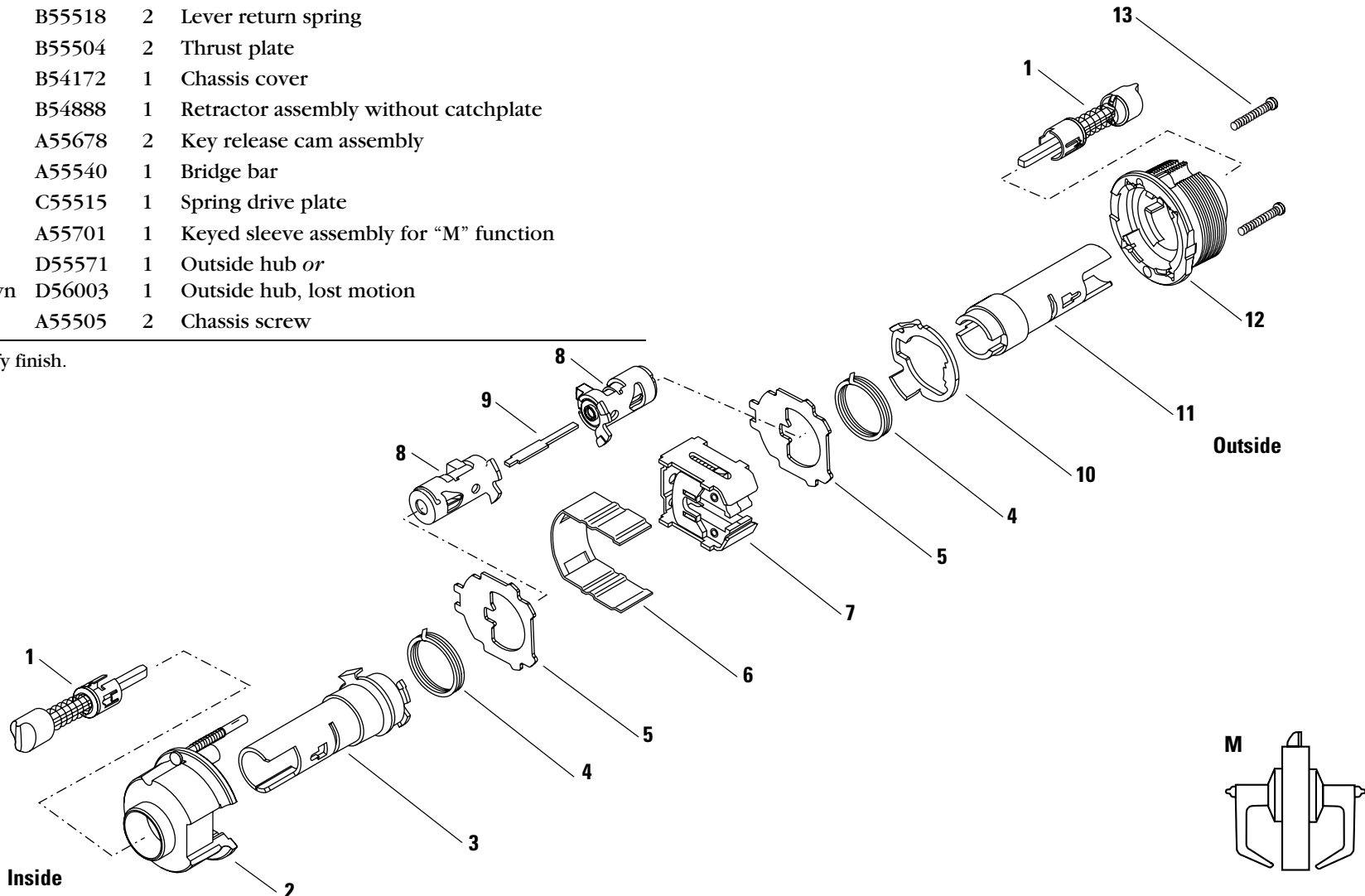


Figure 2.24 M function exploded diagram

Q FUNCTION CHASSIS—EXIT LOCK (ANSI F83)

Item	Part No.	Qty.	Description
1	B55692	1	Turn button assembly ^a
2	A55685	1	Inside hub and locking pin assembly
3	B55610	1	Non-keyed sleeve and driver assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	A55680	1	Key release cam assembly
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly
11	D55571	1	Outside hub
12	A55505	2	Chassis screw

a. Specify finish.

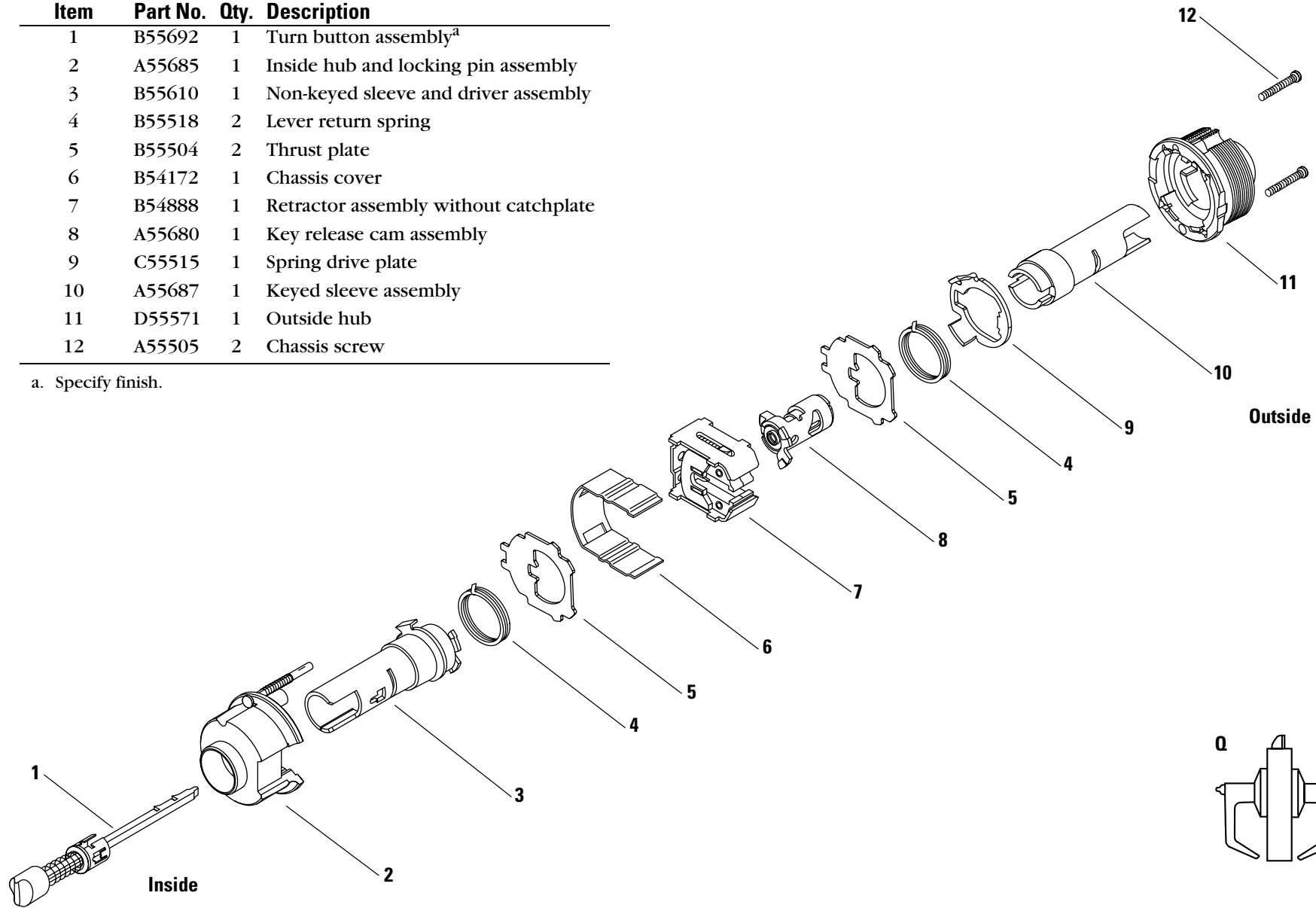


Figure 2.25 Q function exploded diagram

RD FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	2	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55504	2	Thrust plate
5	A55675	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	B55681	1	Key release cam assembly
9	B55518	1	Lever return spring
10	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
11	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

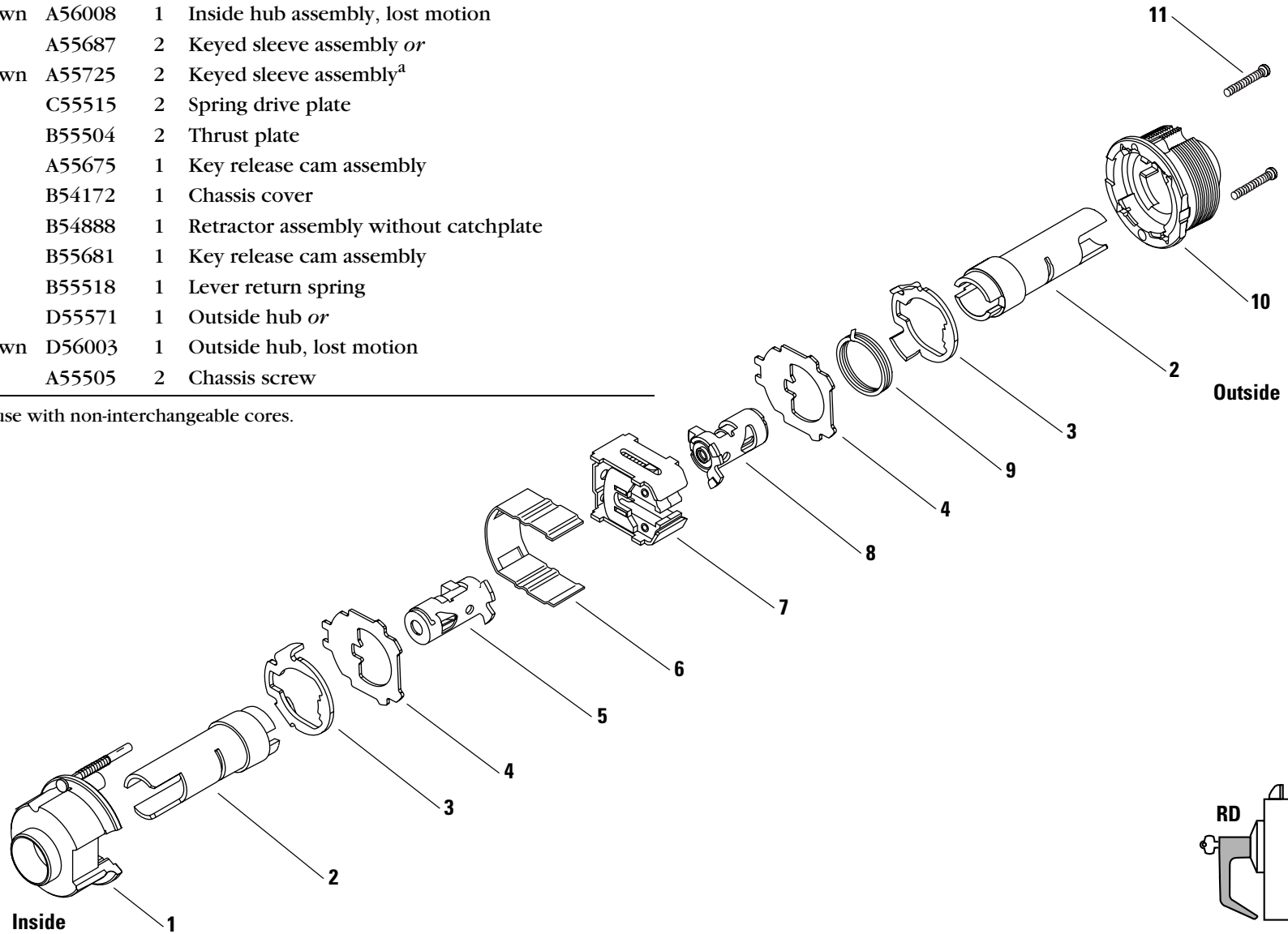


Figure 2.26 RD function exploded diagram

RZ FUNCTION CHASSIS—CLOSET OR STOREROOM LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for Z function ^a
2	A54810	1	Inside hub and side plate assembly
3	A54835	1	Non-keyed sleeve and driver assembly
4	B54172	1	Chassis cover
5	B54888	1	Retractor assembly without catchplate
6	B55681	1	Key release cam assembly
7	B55504	1	Thrust plate
8	B55518	1	Lever return spring
9	C55515	1	Spring drive plate
10	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^b
11	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
12	A55511	2	Chassis screw

a. Specify finish.

b. For use with non-interchangeable cores.

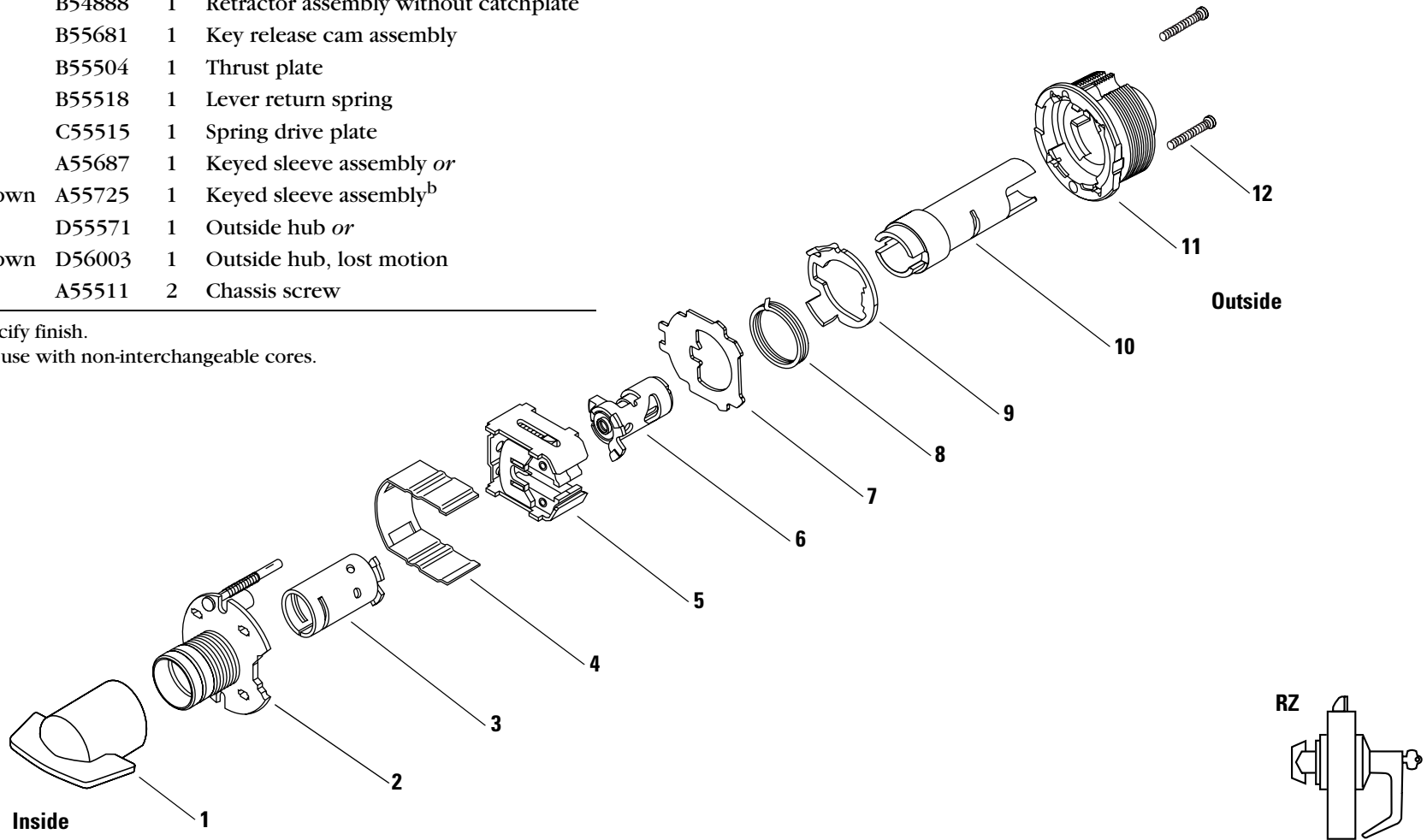


Figure 2.27 RZ function exploded diagram

XD FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55504	2	Thrust plate
5	A55675	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	B55682	1	Key release cam assembly
9	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
10	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

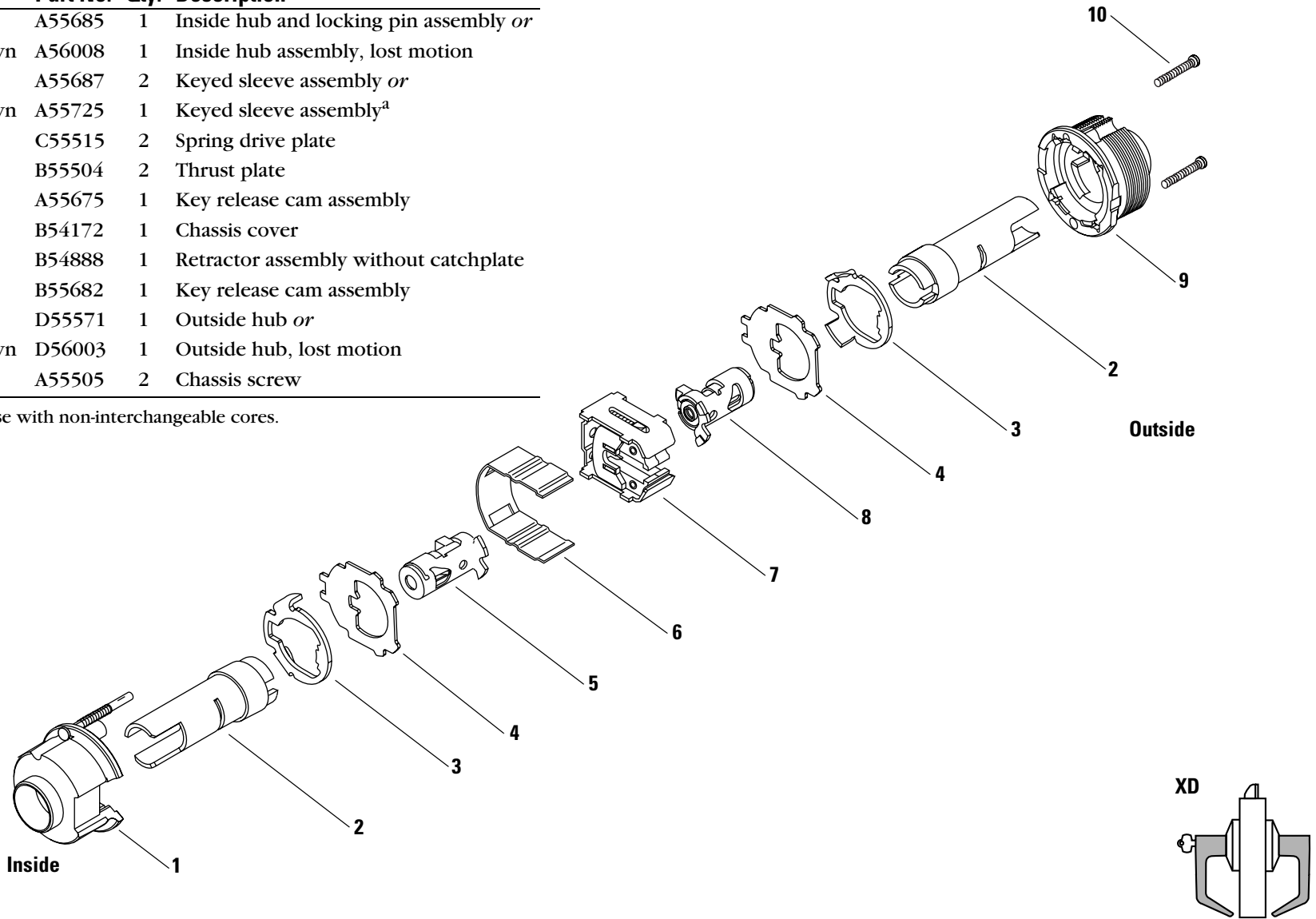


Figure 2.28 XD function exploded diagram

XR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	2	Keyed sleeve assembly <i>or</i>
not shown	A55725	2	Keyed sleeve assembly ^a
3	C55515	2	Spring drive plate
4	B55518	1	Lever return spring
5	B55504	2	Thrust plate
6	A55681	1	Key release cam assembly
7	B54172	1	Chassis cover
8	B54888	1	Retractor assembly without catchplate
9	B55682	1	Key release cam assembly
10	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
11	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

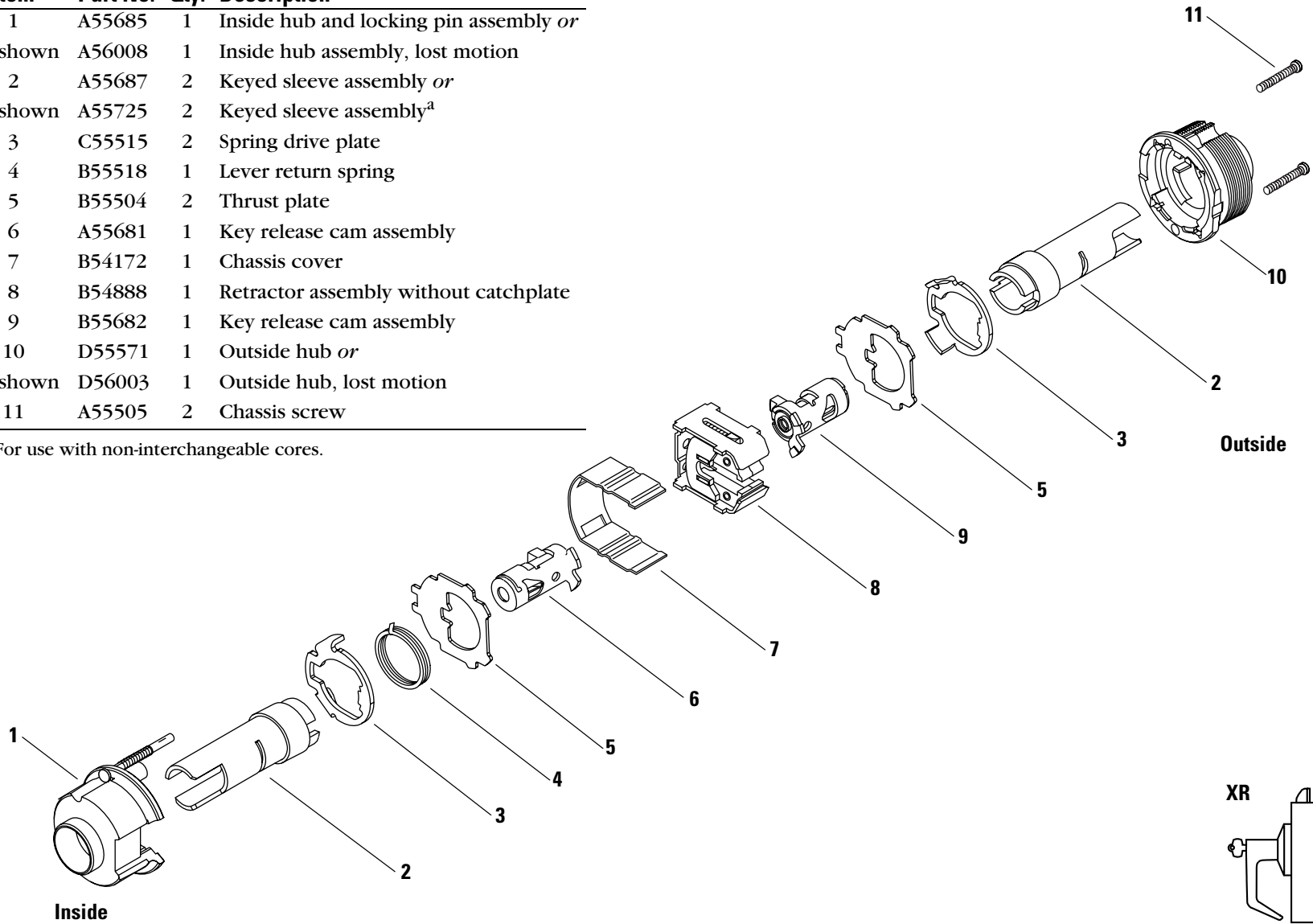


Figure 2.29 XR function exploded diagram

YD FUNCTION CHASSIS—EXIT LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
3	C55515	1	Spring drive plate
4	B55504	1	Thrust plate
5	A55675	1	Key release cam assembly
6	B54172	1	Chassis cover
7	B54888	1	Retractor assembly without catchplate
8	B54809	1	Outside hub
9	A55511	2	Chassis screw

a. For use with non-interchangeable cores.

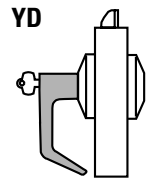
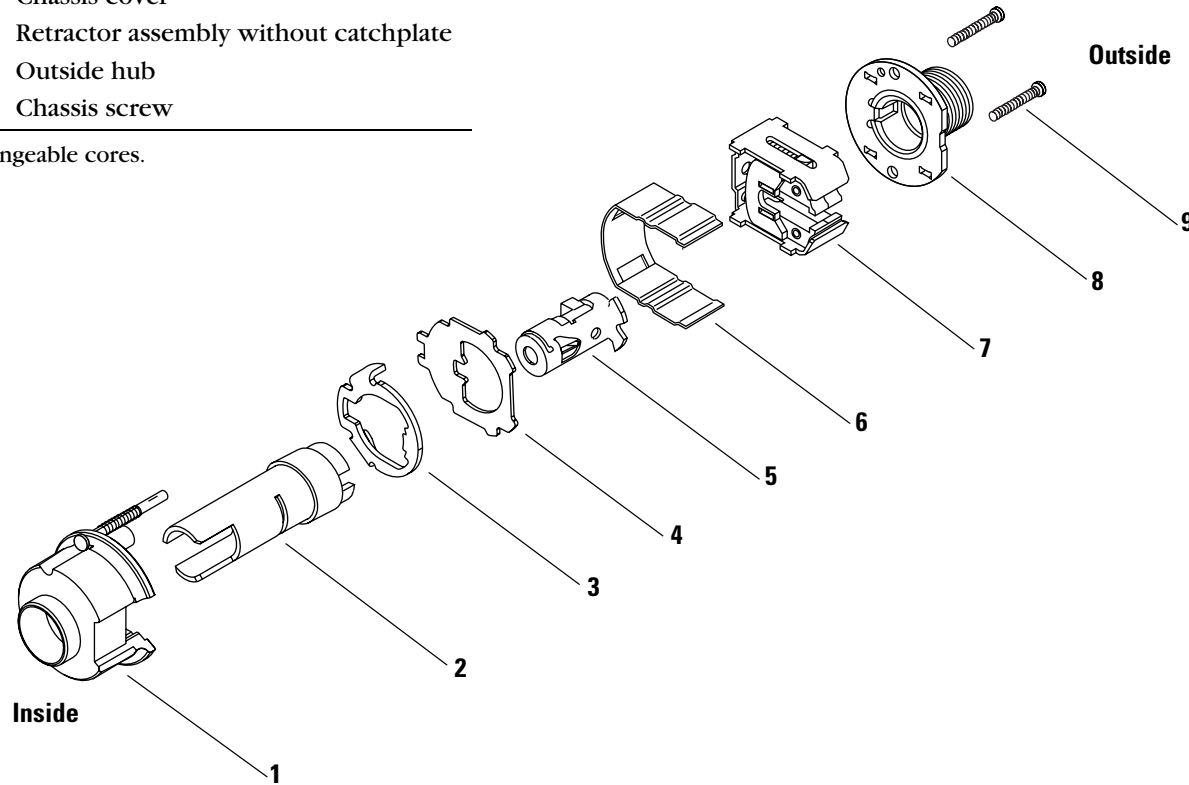


Figure 2.30 YD function exploded diagram

YR FUNCTION CHASSIS—SPECIAL LOCK

Item	Part No.	Qty.	Description
1	A55685	1	Inside hub and locking pin assembly <i>or</i>
not shown	A56008	1	Inside hub assembly, lost motion
2	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
3	C55515	1	Spring drive plate
4	B55518	1	Lever return spring
5	B55504	1	Thrust plate
6	A55681	1	Key release cam assembly
7	B54172	1	Chassis cover
8	B54888	1	Retractor assembly without catchplate
9	B54809	1	Outside hub
10	A55511	2	Chassis screw

a. For use with non-interchangeable cores.

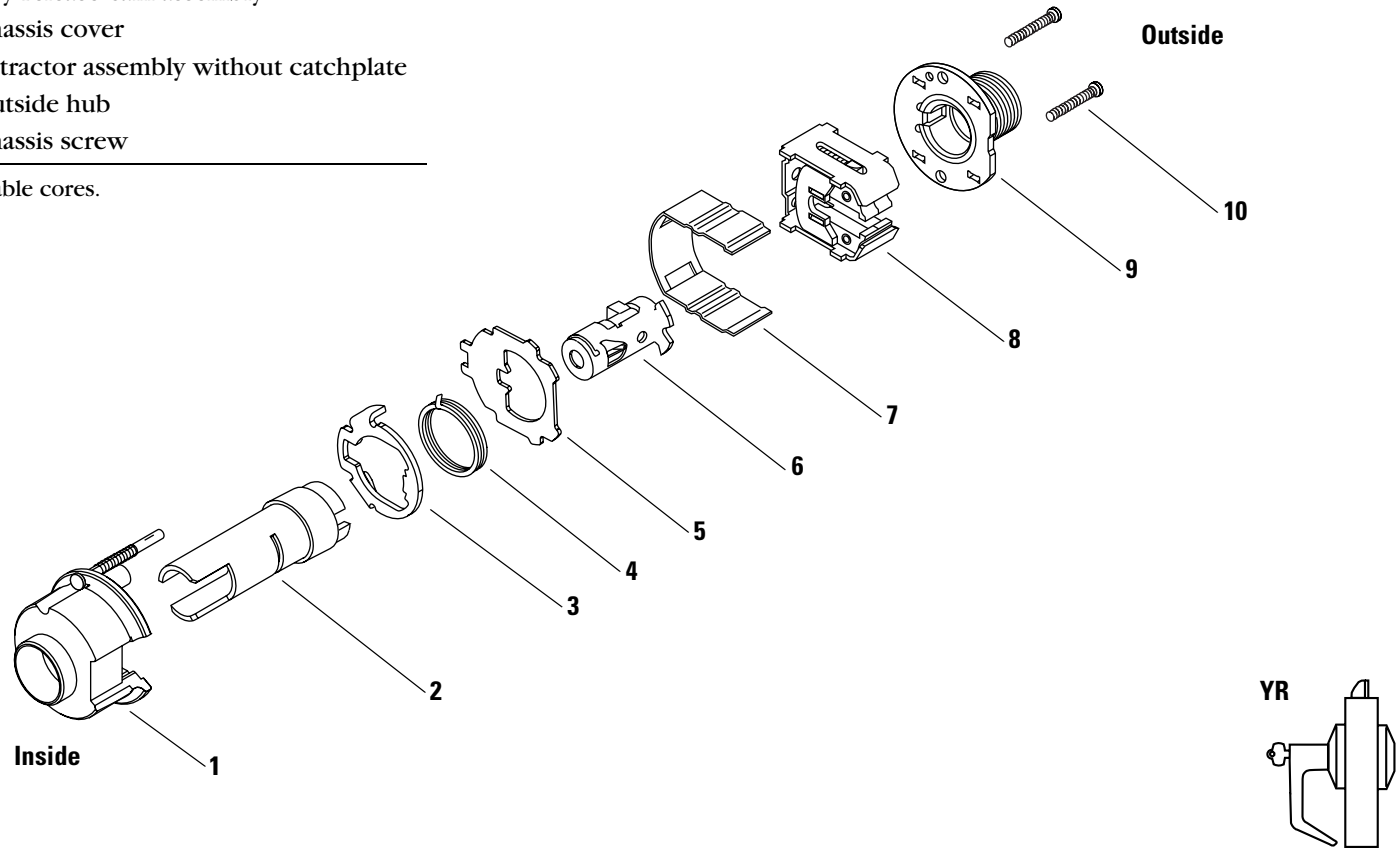


Figure 2.31 YR function exploded diagram

Z FUNCTION CHASSIS—CLOSET LOCK

Item	Part No.	Qty.	Description
1	A54736	1	Turn blade assembly for Z function ^a
2	A54810	1	Inside hub and side plate assembly
3	A54835	1	Non-keyed sleeve and driver assembly
4	B54172	1	Chassis cover
5	B54888	1	Retractor assembly without catchplate
6	B55504	1	Thrust plate
7	B55518	1	Lever return spring
8	A55610	1	Non-keyed sleeve and driver assembly
9	D55571	1	Outside hub
10	A55511	2	Chassis screw

a. Specify finish.

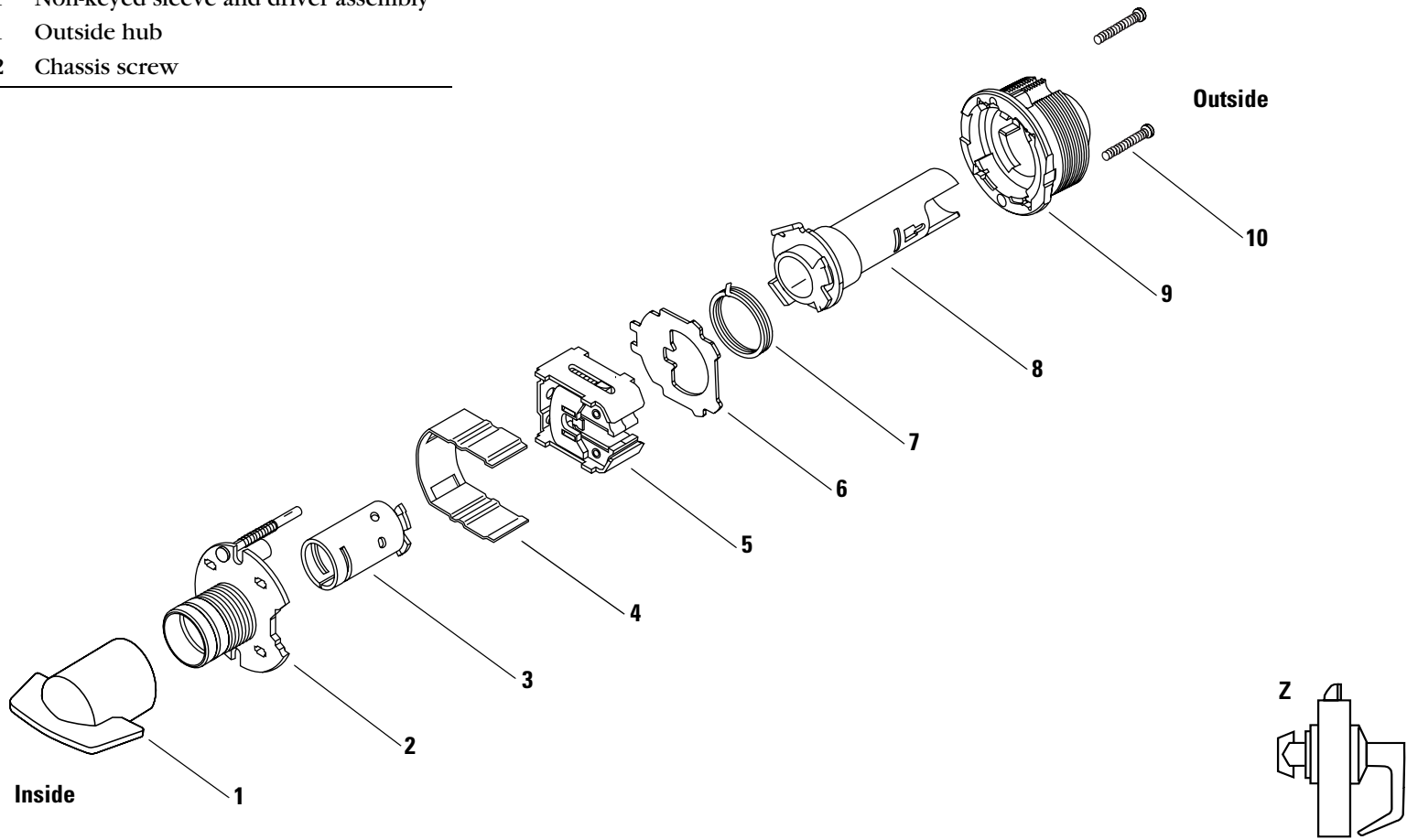


Figure 2.32 Z function exploded diagram

ELECTRIFIED FUNCTIONS DEL FUNCTION CHASSIS—ELECTRICALLY LOCKED FAIL SAFE

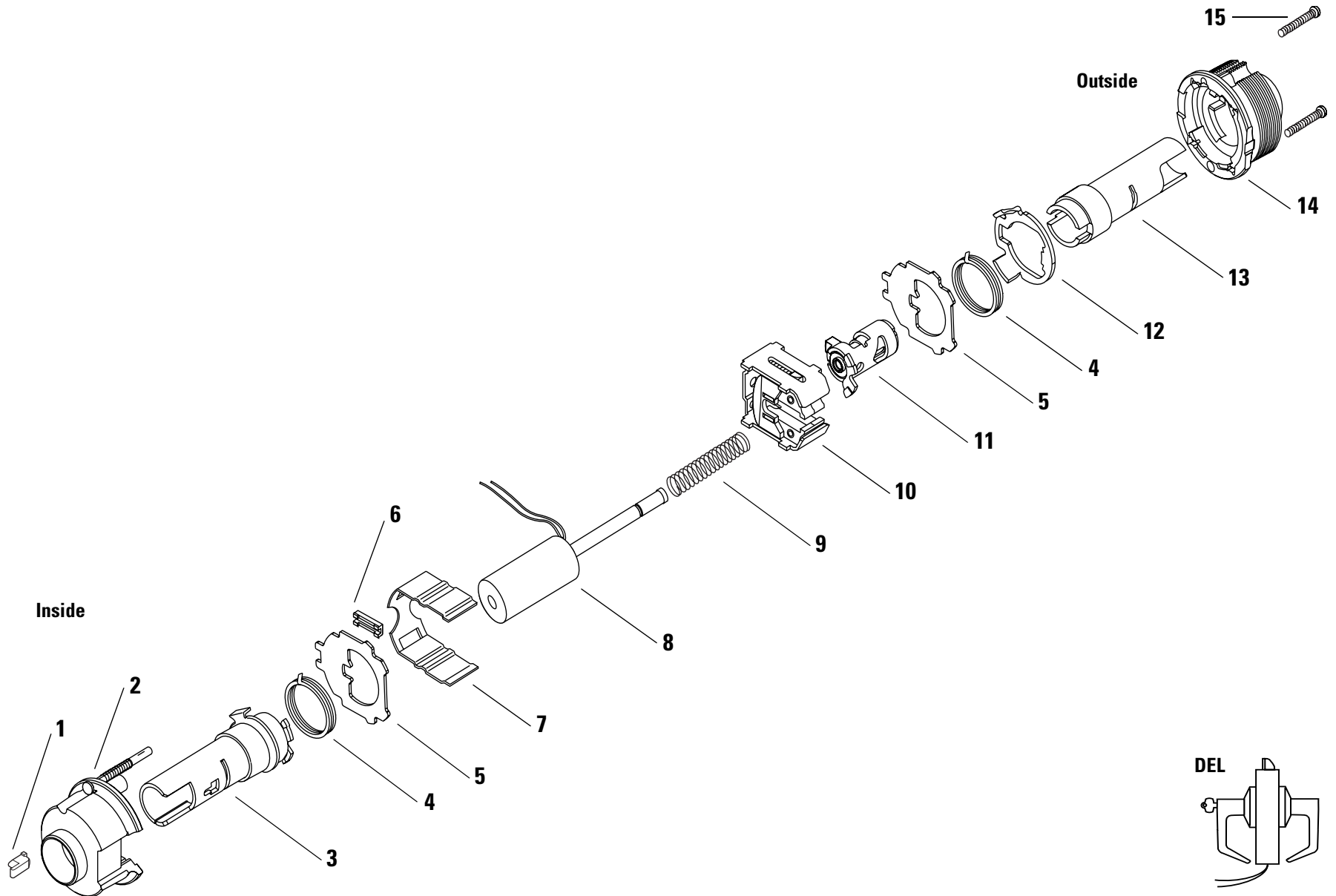


Figure 2.33 DEL function exploded diagram

DEL function parts list

Refer to [Figure 2.33](#) and the table below to find the part you need or to convert the function of the lock.

Item	Part no.	Qty.	Description
1	B60207	1	Switch plunger
2	A55685	1	Inside hub assembly <i>or</i>
not shown	C60206	1	Inside hub assembly for RQE
3	B60217	1	Modified drive collar & non-keyed sleeve assembly <i>or</i>
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B60470	1	Wire protector cap
7	B54172	1	Chassis cover
not shown	A60227	1	ID label (affixed to the chassis cover)
8	C60232	1	Solenoid
9	A60224	1	Solenoid spring
10	B60463	1	Chassis frame and retractor assembly
11	A60541	1	Key release cam assembly
12	C55515	1	Spring drive plate
13	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
14	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
15	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

DEU FUNCTION CHASSIS—ELECTRICALLY UNLOCKED FAIL SAFE

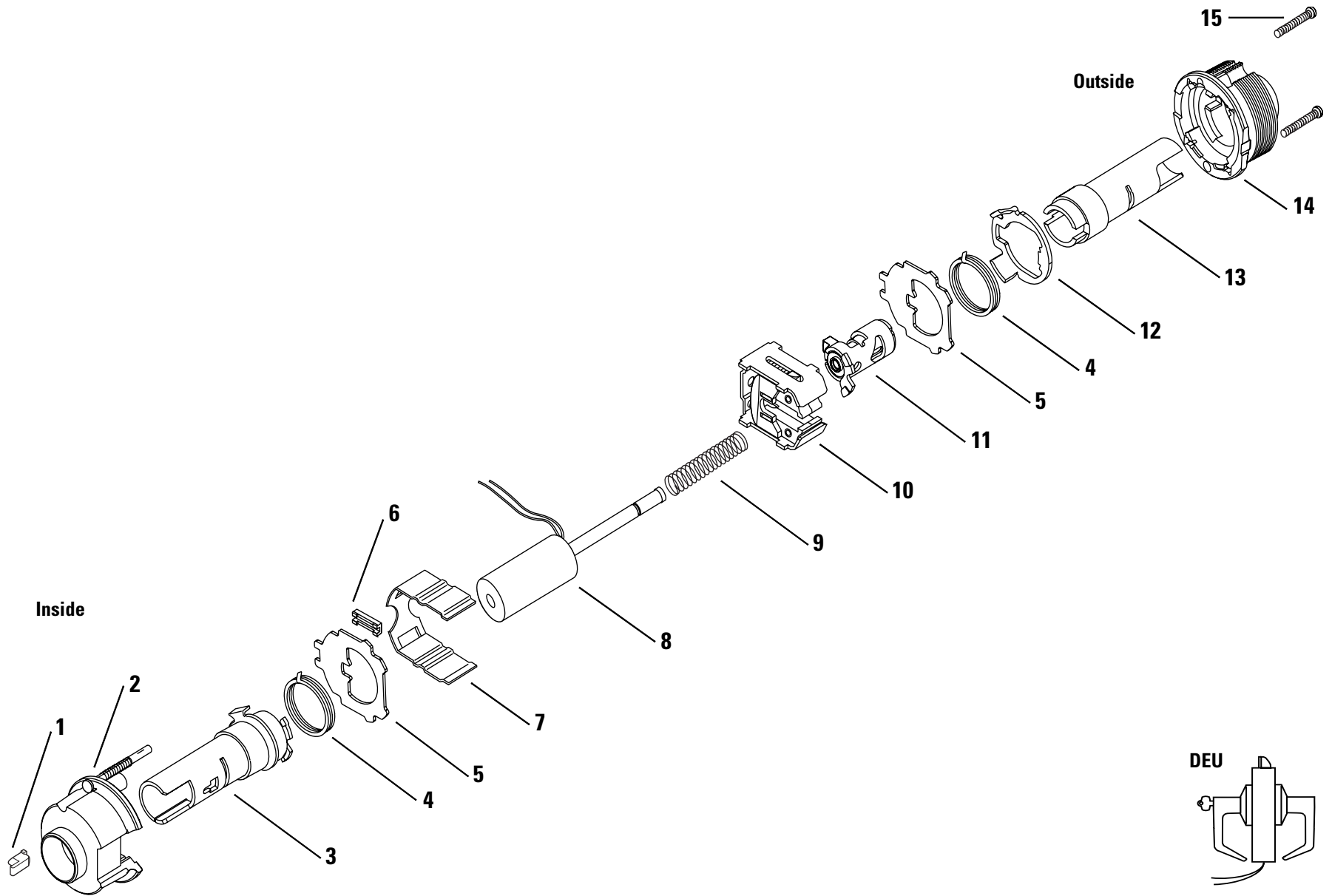


Figure 2.34 DEU function exploded diagram

DEU function parts list

Refer to [Figure 2.34](#) and the table below to find the part you need or to convert the function of the lock.

Item	Part no.	Qty.	Description
1	B60207	1	Switch plunger
2	A55685	1	Inside hub assembly <i>or</i>
not shown	C60206	1	Inside hub assembly for RQE
3	B60217	1	Modified drive collar & non-keyed sleeve assembly
4	B55518	2	Lever return spring
5	B55504	2	Thrust plate
6	B60470	1	Wire protector cap
7	B54172	1	Chassis cover
not shown	A60227	1	ID label (affixed to the chassis cover)
8	C60231	1	Solenoid
9	A60223	1	Solenoid spring
10	B60463	1	Chassis frame and retractor assembly
11	A60531	1	Key release cam assembly
12	C55515	1	Spring drive plate
13	A55687	1	Keyed sleeve assembly <i>or</i>
not shown	A55725	1	Keyed sleeve assembly ^a
14	D55571	1	Outside hub <i>or</i>
not shown	D56003	1	Outside hub, lost motion
15	A55505	2	Chassis screw

a. For use with non-interchangeable cores.

FUNCTION CONVERSION

If you want to convert the function of an existing 9K Lock, use the following tables to determine the internal parts that you need. Unless otherwise noted, a quantity of one is used for each part.

Standard functions

Part No.	Description	AB	C	D	E	G	H/HJ	L	N	NX	P	R	S	T	W	Y
A54745	Button release assembly							■								
B55690	Locking bar assembly for “NX” function									■						
B55692	Turn button assembly	■														
B55693	Push button assembly						■	■			■			■		
B55694	Slotted button assembly				■											
A55685	Inside hub and locking pin assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A56008	Inside hub assembly, lost motion ^a		■			■							■		■	
B54809	Outside hub & plate assembly															■
D55571	Outside hub	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
D56003	Outside hub, lost motion ^b	■	■	■	■	■	■	■		■	■	■	■	■	■	■
B55610	Non-keyed sleeve and driver assembly	■		■	■		■	■	■	■	■	■		■		■
A55687	Keyed sleeve assembly	■	■	■	■	■ ^c	■		■	■	■	■	■ ^c	■	■ ^c	
B55700	Sleeve & key release cam assembly		■													
A55701	Keyed sleeve assembly for “M” function							■								
A55725	Non-IC keyed sleeve assembly ^d	■	■	■	■	■ ^c						■	■ ^c	■	■ ^c	
B56024	Non-IC sleeve & key release cam assembly ^e		■													
B54172	Chassis cover	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
B55504	Thrust plate (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■ ^f
C55515	Spring drive plate	■	■ ^c	■	■	■ ^c	■	■		■	■	■	■ ^c	■	■ ^c	
B55518	Lever return spring (quantity 2)	■	■	■ ^f	■	■	■ ^f	■	■	■ ^f	■	■	■	■	■	■ ^f
B54886	Retractor assembly with long catchplate	■			■		■	■			■			■		
B54888	Retractor assembly without catchplate		■	■		■			■	■		■	■		■	■
A55673	Key release cam assembly	■	■		■			■								
A55675	Key release cam assembly			■											■ ^c	
A55676	Key release cam assembly					■ ^c										
A55677	Key release cam assembly						■									
A55680	Key release cam assembly									■	■					
A55681	Key release cam assembly											■	■ ^c	■		
A54190	Locking bar		■													
A54195	Locking bar					■										
A55505	Chassis screw (quantity 2)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A55511	Chassis screw (quantity 2)															■

- a. For the lost motion function, use in place of the inside hub assembly, A55685.
- b. For the lost motion function, use in place of the outside hub, D55571.
- c. Use a quantity of two (2).
- d. For the non-IC function, use in place of the keyed sleeve assembly, A55687.
- e. For the non-IC function, use in place of the sleeve & key release cam assembly, B55700.
- f. Use a quantity of one (1).

Non-standard functions

Part No.	Description	A	B	DR	DZ	EA	IN	LL	M	O	RD	RZ	XD	XR	YD	YR	Z
A54736	Turn blade assembly for "Z" function				■							■					■
B55692	Turn button assembly	■								■							
B55693	Push button assembly		■					■									
B55694	Slotted button assembly					■											
A55695	Turn button assembly (quantity 2)								■								
A55699	Outside button assembly for "LL" function ^a							■									
B54810	Inside hub and side plate assembly				■							■					■
A55685	Inside hub and locking pin assembly	■	■	■		■	■	■	■	■	■		■	■	■	■	■
A56008	Inside hub assembly, lost motion ^b			■			■		■		■		■	■	■	■	
B54809	Outside hub & plate assembly														■	■	
D55571	Outside hub	■	■	■	■	■		■	■	■	■	■	■	■			■
D56003	Outside hub, lost motion ^c	■	■		■	■	■	■	■		■	■	■	■			
A54835	Non-keyed sleeve and driver assembly				■							■					■
B55610	Non-keyed sleeve and driver assembly	■	■			■		■	■	■							■
A55687	Keyed sleeve assembly	■	■	■ ^d	■	■	■ ^d			■	■ ^d	■	■ ^d	■ ^d	■	■	■
A55701	Keyed sleeve assembly for "M" function							■	■								
A55725	Keyed sleeve assembly ^e	■	■	■ ^d	■	■	■ ^d				■ ^d	■	■	■	■	■	■
B54172	Chassis cover	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A54195	Locking bar						■										
B55504	Thrust plate (quantity 2)	■	■	■	■ ^f	■	■	■	■	■	■	■ ^f	■	■	■ ^f	■ ^f	■ ^f
C55515	Spring drive plate	■	■	■ ^d	■	■	■ ^d	■	■	■	■ ^d	■	■ ^d	■ ^d	■	■	■
B55518	Lever return spring (quantity 2)	■	■	■ ^f		■	■	■	■	■	■ ^f	■ ^f		■ ^f		■ ^f	■ ^f
A55540	Bridge bar								■								
B54886	Retractor assembly with long catchplate							■									
B54887	Retractor assembly with short catchplate		■			■											
B54888	Retractor assembly without catchplate	■		■	■		■		■	■	■	■	■	■	■	■	■
A55673	Key release cam assembly	■	■			■		■									
A55675	Key release cam assembly			■	■						■		■		■		
A55676	Key release cam assembly						■										
A55678	Key release cam assembly (quantity 2)								■								
A55680	Key release cam assembly									■							
A55681	Key release cam assembly			■							■	■		■		■	
A55682	Key release cam assembly												■	■			
A56038	Key release cam assembly						■										
A55505	Chassis screw (quantity 2)	■	■	■		■	■	■	■	■	■		■	■			
A55511	Chassis screw (quantity 2)				■							■			■	■	■

- a. One (1) six pin throw member, B54210, is also required.
- b. For the lost motion function, use in place of the inside hub assembly B55056 or A55685.
- c. For the lost motion function, use in place of the outside hub, D55571.
- d. Use a quantity of two (2).
- e. For the non-interchangeable function, use in place of the keyed sleeve and driver assembly, A55687.
- f. Use a quantity of one (1).

TRIM PARTS

Standard strikes and strike boxes

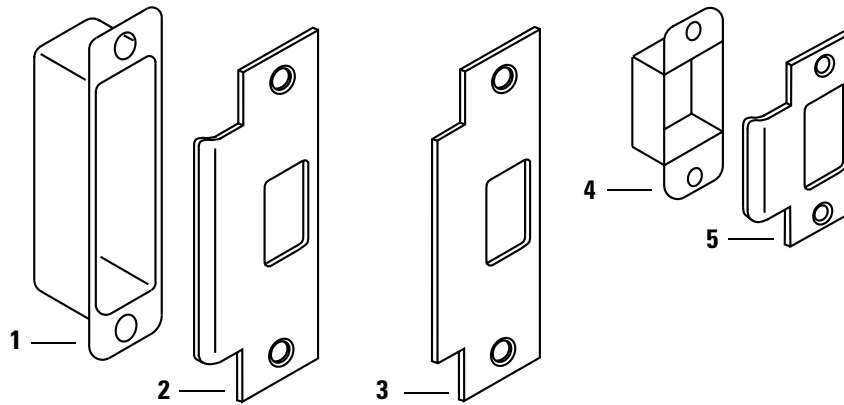


Figure 2.35 Standard strikes and strike boxes

Standard strikes and strike boxes parts list

Item	Nomenclature	Part no.	Description
1	30HS4	B34380	ANSI plastic strike box
2	8KS3 ^a	B25641	ANSI strike plate
3	83KS3	C63016	ANSI 7/8" flat lip strike
4	8KS1	B25640	Standard steel strike box
5	8KS2 ^b	B25639	Standard strike plate

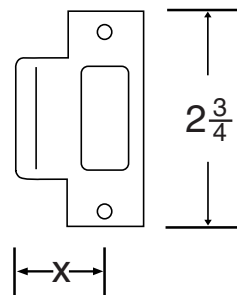
- a. Two (2) A25359 latch screws and two (2) A18724 strike screws are included with the 8KS3 strike. The 30HS4 ANSI Strike box is not included.
- b. Four (4) A25359 screws are included with the 8KS2 strike—two (2) for the latch and two (2) for the strike.

Non-standard strikes

Non-standard strikes parts list

Part no. ^a	X dimension
B54063	7/8"
B54064	1"
B54065	1 1/8"
B54066	1 1/2"
B54067	1 3/4"
B54068	2"
B54069	2 1/4"
B54070	2 1/2"
B54071	3"
B54072	4"

a. Specify finish.



The measurement is taken from the edge of the lip to the center of the screw holes.

Figure 2.36 Understanding strike lip measurement

Lead-lined parts The lead-lined option is available for new lock orders only. Because individual lead-lined parts are not field-serviceable, they are not available to order for replacement parts. In the following graphic, the shaded portions indicate the lead shields.

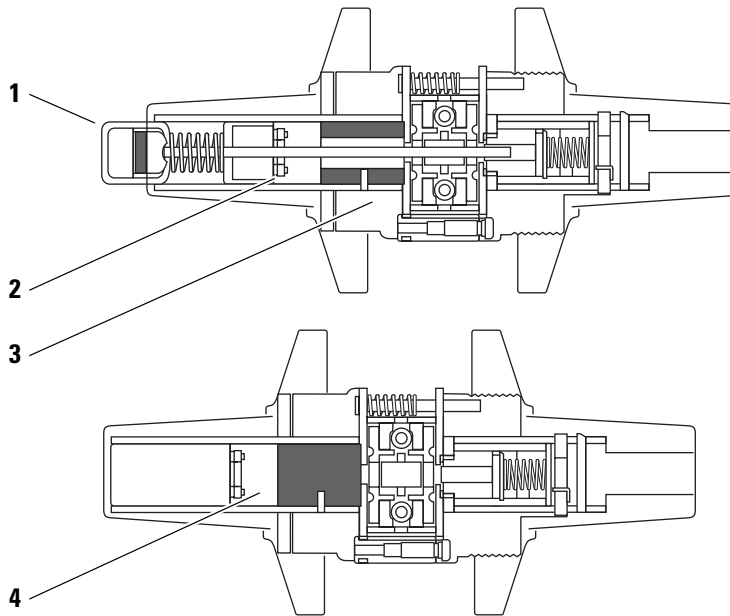


Figure 2.37 Cross-section of 9K locks showing lead-lined parts

Lead-lined parts list

Item	Description
1	Turn button liner with shield
2	Inside lever sleeve with shield (for button levers)
3	Hub and side plate with shield
4	Inside lever sleeve with shield (for plain levers)

Roses, rose liners, and rose spacers

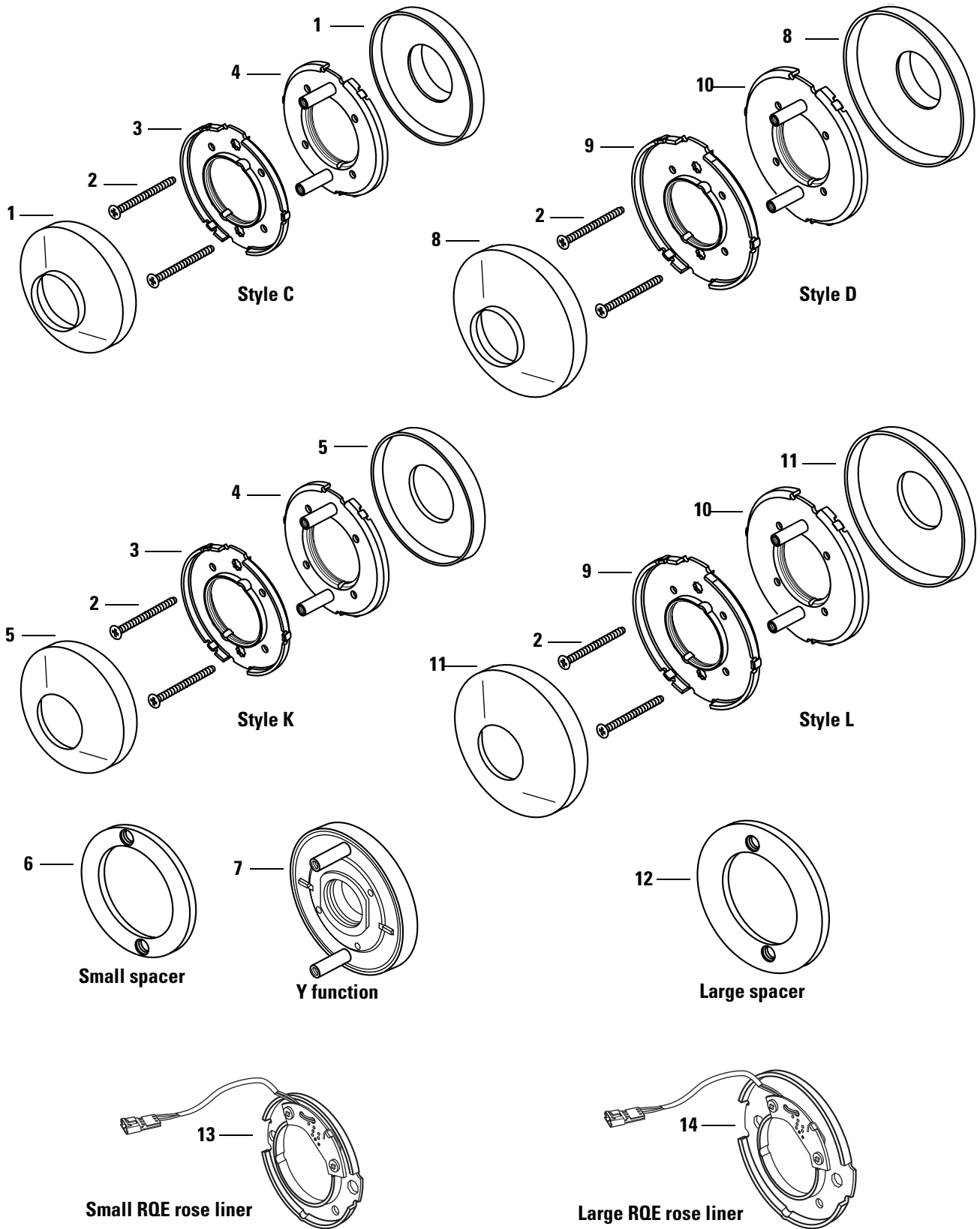


Figure 2.38 Roses, rose liners, and rose spacers

Roses, rose liners, and rose spacers parts list

Item	Style	Part no.	Description
1	C	B55015 ^a	Small rose
2	C, D, K, L	A55557	Through-bolt screws
3	C & K	C55556	Small inside rose liner
4	C & K	B55603	Small outside rose liner
5	K	B55018 ^a	Small rose
6	C & K	B55043 ^b	Small rose spacer
7	N/A	A55711	Y function outside rose assembly
8	D	B55007 ^a	Large rose
9	D & L	C55555	Large inside rose liner
10	D & L	B55602	Large outside rose liner
11	L	B55017 ^a	Large rose
12	D & L	B55044 ^b	Large rose spacer
13	N/A	B61049	Small RQE rose liner
14	N/A	B60221	Large RQE rose liner

a. Inside and outside are the same.

b. Two (2) spacers are required for 1 3/8" thick doors.

Rose and rose liner assemblies parts list

Item	Style	Part no.	Description
1 & 3	C	B55609	Small inside rose and liner assembly
1 & 4	C	B55605	Small outside rose and liner assembly
3 & 5	K	B55607	Small inside rose and liner assembly
4 & 5	K	B55604	Small outside rose and liner assembly
8 & 9	D	B55608	Large inside rose and liner assembly
8 & 10	D	B55601	Large outside rose and liner assembly
9 & 11	L	B55606	Large inside rose and liner assembly
10 & 11	L	B55600	Large outside rose and liner assembly

Standard levers and components

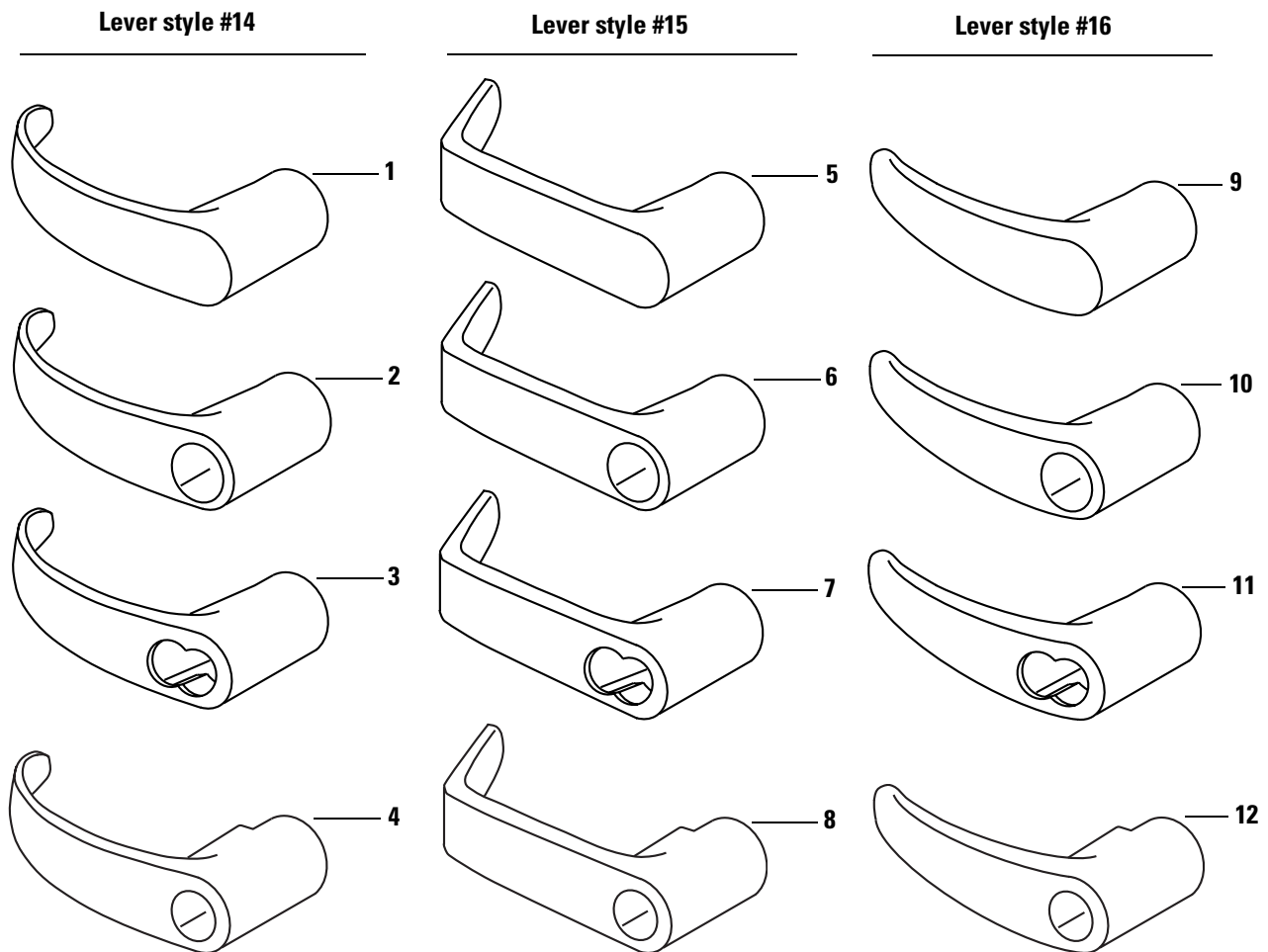


Figure 2.39 Levers

Levers parts list

Style	Item	Part no.	Description
14	1	D55022	Plain lever
	2	D55021	Button lever
	3	D55020	Keyed lever
	not shown	B55100	Keyed lever for H functions
	4	D80989	Universal lever for use with non-interchangeable cores
15	5	B55169	Plain lever
	6	B55170	Button lever
	7	B55168	Keyed lever
	not shown	B55177	Keyed lever for H functions
	8	D55723	Universal lever for use with non-interchangeable cores
16	9	D55025	Plain lever
	10	D55024	Button lever
	11	D55023	Keyed lever
	not shown	B55110	Keyed lever for H functions
	12	D80992	Universal lever for use with non-interchangeable cores

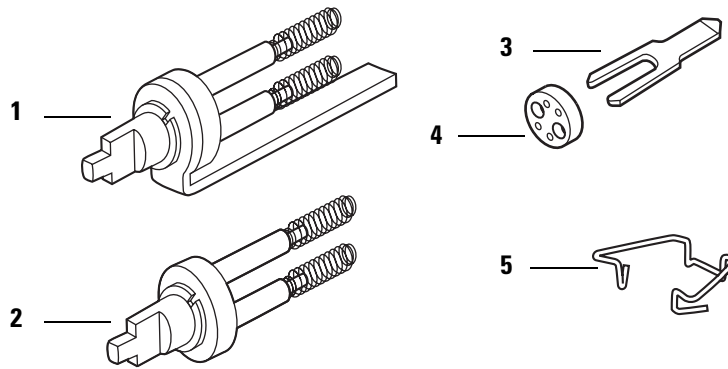


Figure 2.40 Standard lever components

Lever components parts list

Item	Part no.	Qty.	Description
1	A55697	1	“H” throw member
2	A55696	1	“HJ” throw member
3	B54200	1 ^a	Seven pin throw member ^b
4	1882120	50	Six pin spacer
5	B54182	1	Lever keeper spring

a. Single-keyed locks require one (1); double-keyed locks require two (2).

b. For information about cores and keys, see the *Core and Key Service Manual*.

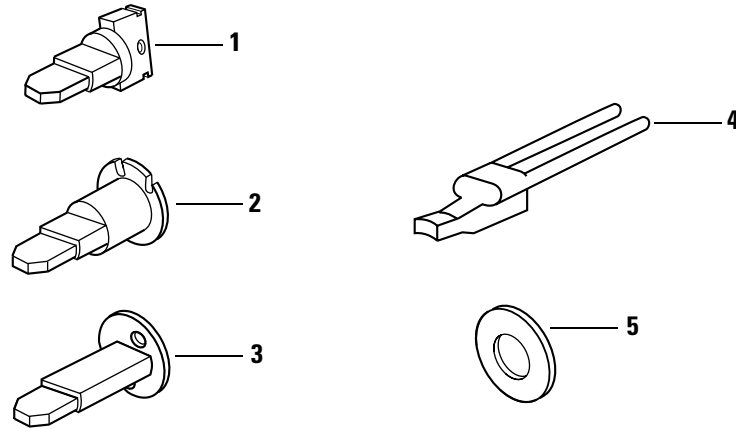


Figure 2.41 Lever components for use with non-interchangeable cores

Lever components for use with non-interchangeable cores parts list

Item	Part no.	Qty.	Description
1	B55709 ^a	1 ^b	Throw member for use with Sargent and Yale cores ^c
2	A55708 ^d	1 ^b	Throw member for use with Schlage, Corbin, KA, KD, and OB cores ^c
3	A55712 ^e	1 ^b	Throw member for use with Medeco core ^c
4	C55714	1 ^b	Lever handle insert for use with non-interchangeable cores
5	A55713	1 ^b	Throw member support ring for use with non-interchangeable cores

- a. To order the kit that contains the throw member, insert, and support ring for use with Sargent cores, use number 1770600. For Yale cores, use number 1770642; this kit contains two throw members, two inserts, and two support rings.
- b. Single-keyed locks require one (1); double-keyed locks require two (2).
- c. For information about cores and keys, see the *Core and Key Service Manual*.
- d. To order the kit that contains the throw member, insert, and support ring for use with Schlage, Corbin, KA, KD, and OB cores, use number 1770527.
- e. To order the kit that contains the throw member, insert, and support ring for use with Medeco cores, use number 1778196.

Non-interchangeable cylinders parts list

Part no. ^a	Finish	Description
1888913	626	Non-interchangeable cylinder, keyed different
1888955	606	Non-interchangeable cylinder, keyed different
1891329 ^b	626	Non-interchangeable cylinder, keyed alike
1891287 ^a	606	Non-interchangeable cylinder, keyed alike
1888756	626	Non-interchangeable cylinder, zero-bitted
1888798	606	Non-interchangeable cylinder, zero-bitted

- a. The throw members shipped with non-interchangeable cylinders are incompatible with 9K Series Locks. Refer to *Lever components for use with non-interchangeable cores parts list* above to select the appropriate throw member.
- b. Contains a set of 4 cylinders.

Dummy trim

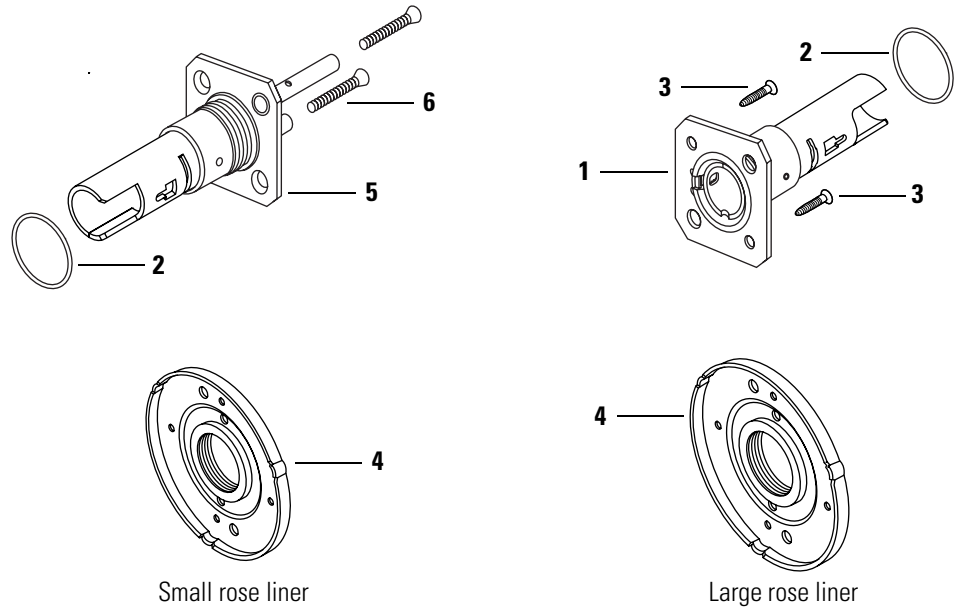


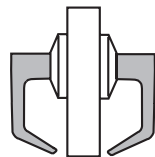
Figure 2.42 Dummy trim parts

Single dummy trim parts list



Item	Part No.	Qty.	Description
1	B55067	1	Chassis sub-assembly
2	A54465	1	“O” ring
3	A39217	2	#8 × 1 PFH type AB screw
4	B55051	1	Small liner and ring assembly <i>or</i>
	B55050	1	Large liner and ring assembly

Double dummy trim parts list



Item	Part No.	Qty.	Description
1	B55239	1	Chassis sub-assembly
2	A54465	2	“O” ring
4	B55051	2	Small liner and ring assembly <i>or</i>
	B55050	2	Large liner and ring assembly
5	B55067	1	Chassis sub-assembly
6	A18991	2	#8-32 × 1 1/8 Phil. FHMS screw

Latches

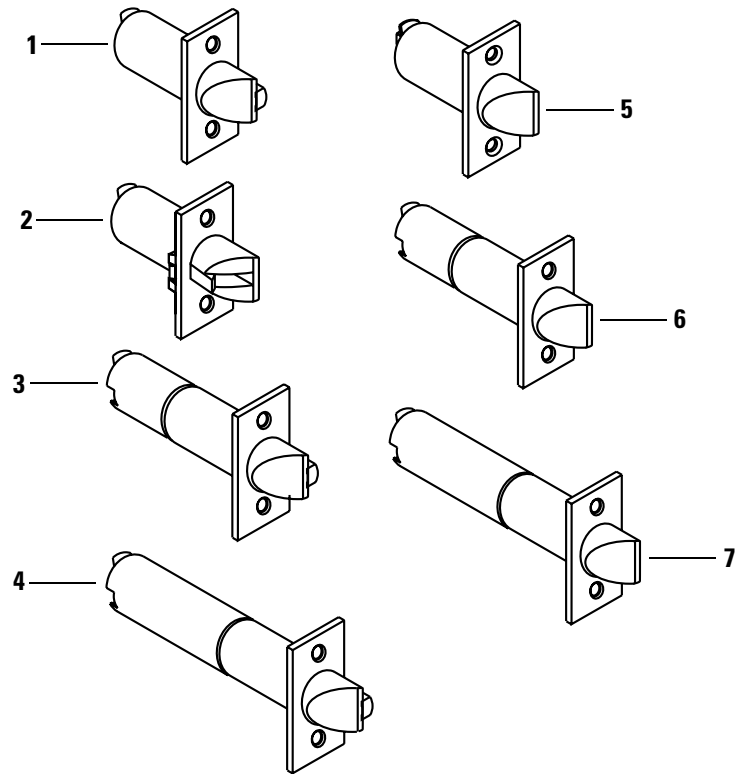


Figure 2.43 Latches

Latches parts list

Item	Latch type	Backset	Part no.	Nomenclature	Description
1	Deadlocking	2 3/4"	C54680	8KL3	Latch
2	Deadlocking	2 3/4"	A54661	N/A	Latch with 3/4" throw
3	Deadlocking	3 3/4"	C54682	8KL4	Latch
4	Deadlocking	5"	C54684	8KL5	Latch
5	Spring	2 3/4"	C54681	8KSL3	Latch
6	Spring	3 3/4"	C54683	8KSL4	Latch
7	Spring	5"	C54685	8KSL5	Latch

Installation tools

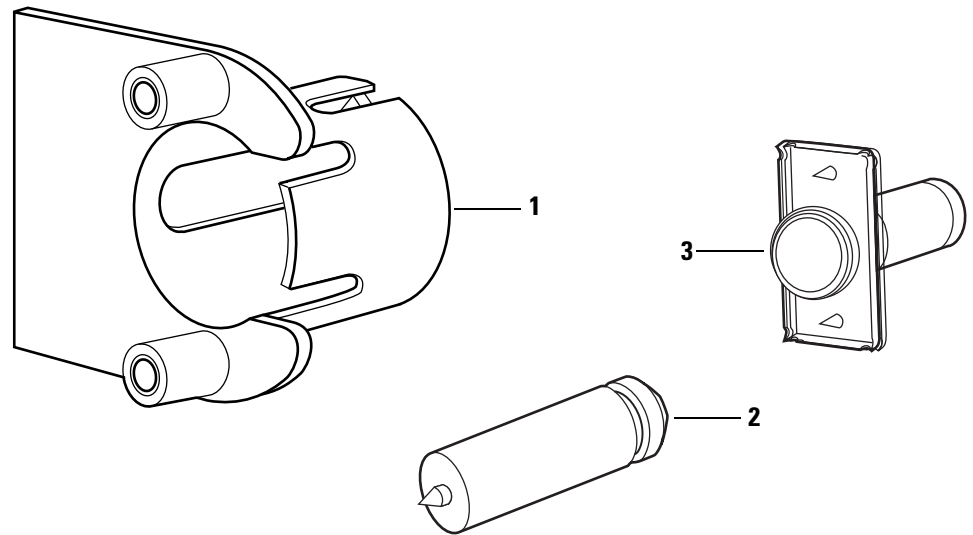


Figure 2.44 Installation tools

Installation tools parts list

Item	Nomenclature	Part no.	Description
1	KD303	C55034	Drill jig
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel

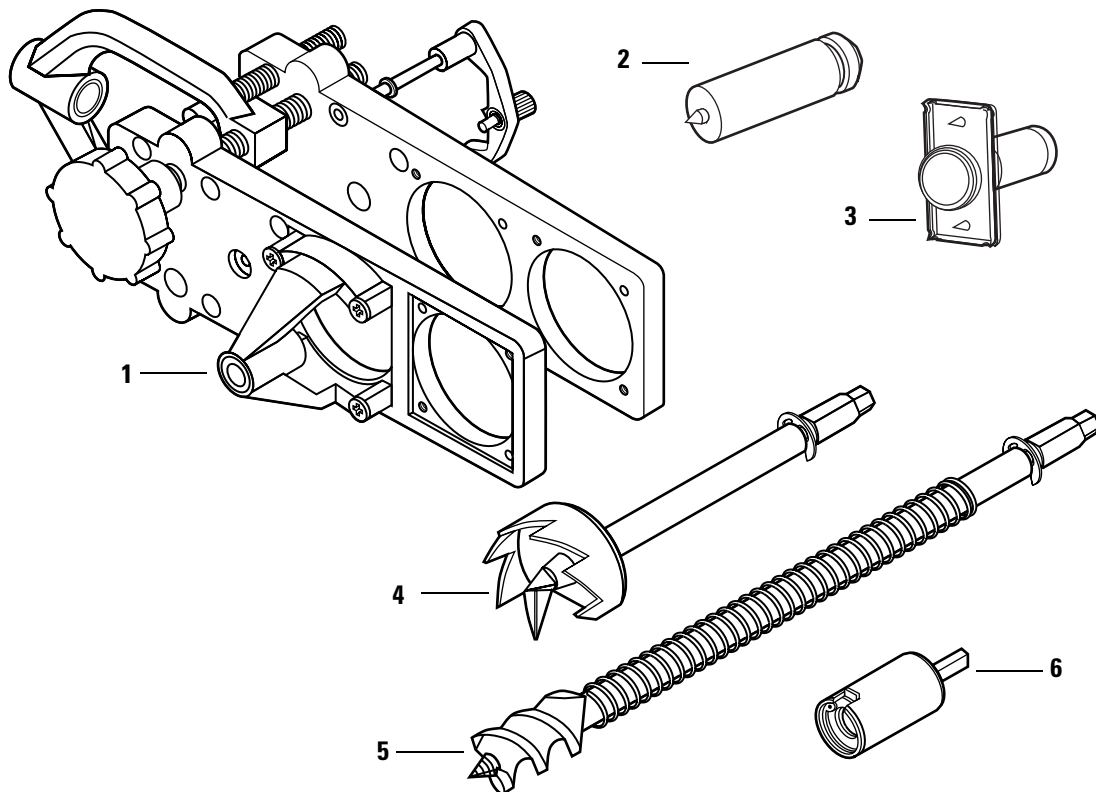


Figure 2.45 Boring jig kit

Boring jig kit parts list

Item	Nomenclature	Part no.	Description
1	N/A	N/A	Boring jig ^a
2	KD325	A01514	Strike plate locating pin
3	KD315	1350393	Faceplate marking chisel (1 1/8" × 2 1/4")
not shown	KD312	1487975	Faceplate marking chisel (1" × 2 1/4")
4	KD309	A54084	2 1/8" diameter chassis hole bit assembly
5	KD318	A54085	1" diameter drill bit assembly
6	N/A	N/A	Adaptor for 3/8" drill chuck ^a
1-6	KD304A	N/A	Boring jig kit

a. Can only be ordered as part of the KD304A boring jig kit.

3

SERVICE AND MAINTENANCE

This chapter contains instructions for removing and replacing components, servicing and maintaining components, and troubleshooting common questions.

To	See page
Replace levers	3-3
Replace roses	3-4
Replace the RQE rose liner	3-7
Replace button assemblies	3-8
Replace the lever keeper spring	3-10
Replace the lever return spring	3-11
Replace the key release cam assembly	3-15
Replace the spring drive plate	3-16
Replace the sleeve assembly	3-17
Replace the solenoid	3-19
Lubricate cores	3-19
Add the RQE switch to a function	3-19
Reverse the solenoid when changing functions	3-20
Align chassis and trim	3-19
Position the locking cam for C function locks	3-22
Position the locking cam for G and IN function locks	3-23
Use the emergency key for H and HJ function locks	3-24
Troubleshoot common problems	3-25

MAINTENANCE TOOLS

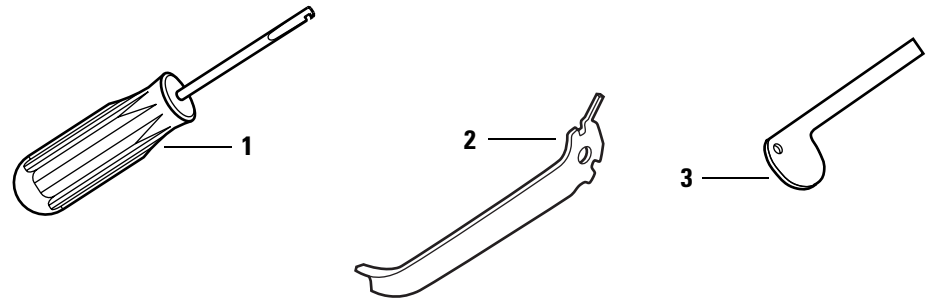


Figure 3.1 Maintenance tools

Maintenance tools parts list

Item	Nomenclature	Part no.	Description
1	KD340	N/A	Spring loading tool
2	KD317	C55506	Spanner wrench
3	N/A	A25586	Emergency driver ^a

a. For use with hotel function locks (H and HJ).

REPLACING PARTS

Replacing the lever

To remove the keyed lever:

1. Insert the control key into the core and rotate the key 15 degrees to the right.
2. Remove the core and throw member from the lever.
3. Insert a flat blade screwdriver into the figure-8 core hole and into the lever keeper.
4. Press the screwdriver blade in the direction of the arrow in [Figure 3.2](#).

Note: You will not be able to remove the lever if the screwdriver blade is inserted too far past the keeper.

5. Slide the lever off the sleeve.

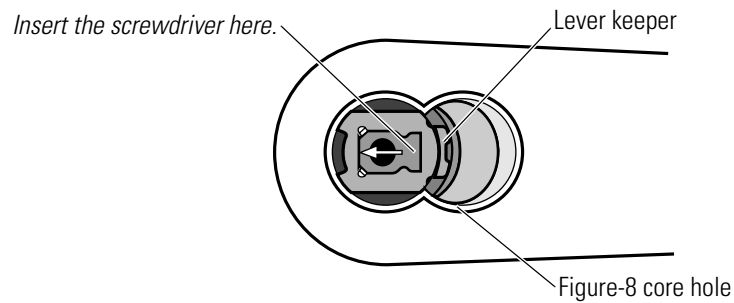


Figure 3.2 Removing the keyed lever

To remove the plain lever or button lever:

1. Insert the protrusion on the spanner wrench into the hole on the shaft of the lever, as shown in [Figure 3.3](#). Slide the lever off the sleeve.

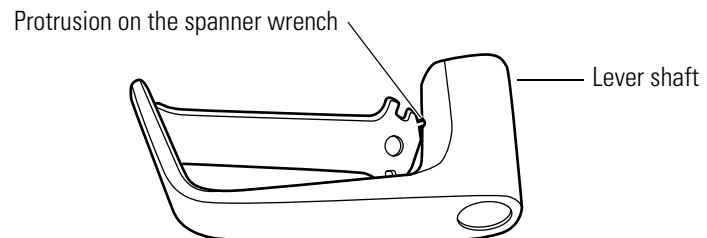


Figure 3.3 Removing the plain lever or button lever

To reinstall the lever:

1. Position the lever so that the handle points toward the door hinges.
2. Slide the lever onto the sleeve and firmly push on the lever until it is seated.

3. Turn the levers to check that they operate smoothly.

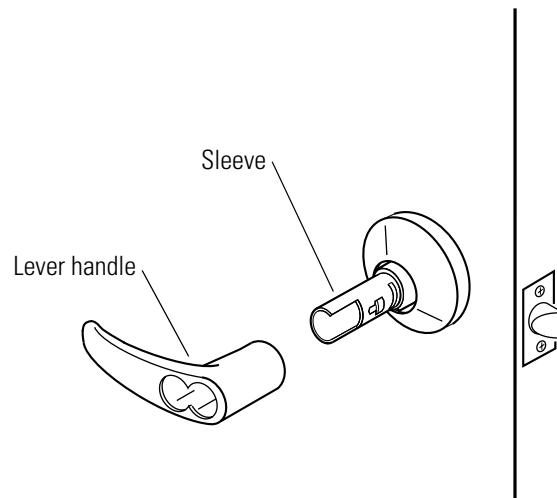


Figure 3.4 Replacing the lever (keyed lever shown)

4. If the lever is keyed, insert the control key into the core and rotate the key 15 degrees to the right. Using the control key, insert the core and throw member into the lever. Rotate the control key 15 degrees to the left and remove the key.

Replacing the inside rose and rose liner

To remove the inside rose and rose liner:

1. Remove the inside lever ([page 3-3](#)).
2. Insert the solid, curved end of the spanner wrench in between the rose and the sleeve, as shown in [Figure 3.5](#). Pry the rose until it pops off of the liner.

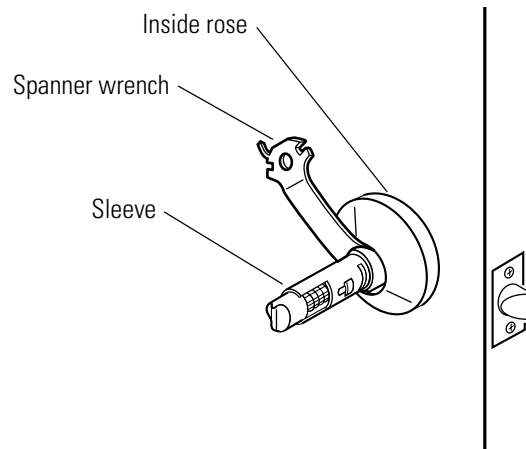


Figure 3.5 Removing the inside rose with the spanner wrench

3. Unscrew the two through-bolts, as shown in [Figure 3.6](#). Save the through-bolts.

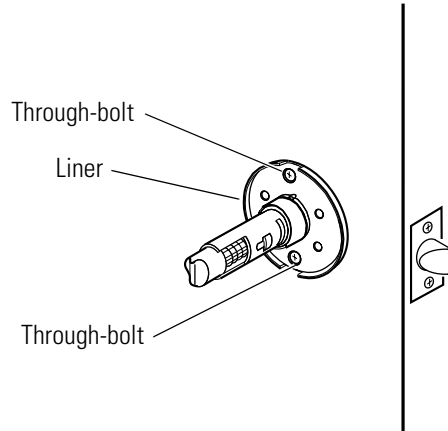


Figure 3.6 Removing the two through-bolts

4. *If there is an RQE rose liner, disconnect it.*
5. Slide the liner off of the sleeve.

To reinstall the inside rose and rose liner:

1. Align the holes in the liner with the holes prepared in the door.
2. Install the two through-bolts through the liner and door in the top and bottom holes.
3. Tighten the liner onto the door with the through-bolts.
4. *If there is an RQE rose liner, connect it.*
5. Install the rose.
6. Reinstall the lever. See [page 3-3](#)

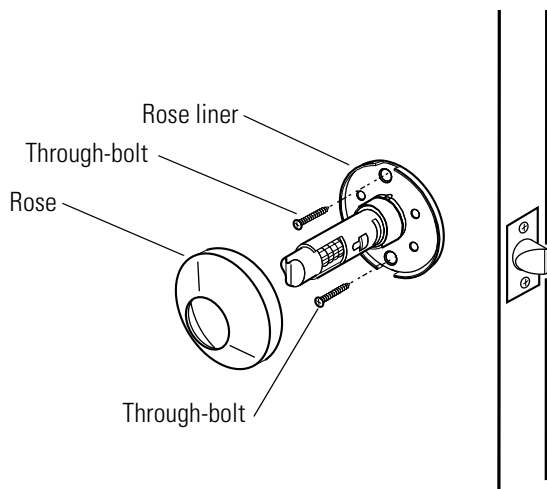


Figure 3.7 Replacing the inside rose and rose liner

**Replacing the
outside rose
and liner
assembly**

To remove the outside rose and liner assembly:

1. Remove the following components:
 - levers (page 3-3)
 - inside rose and rose liner (page 3-4).
2. Slide the chassis assembly out of the door.
3. Retract the rose locking pin, and rotate the rose and liner assembly counterclockwise until it is free from the hub.
4. Remove the rose and liner assembly from the sleeve.

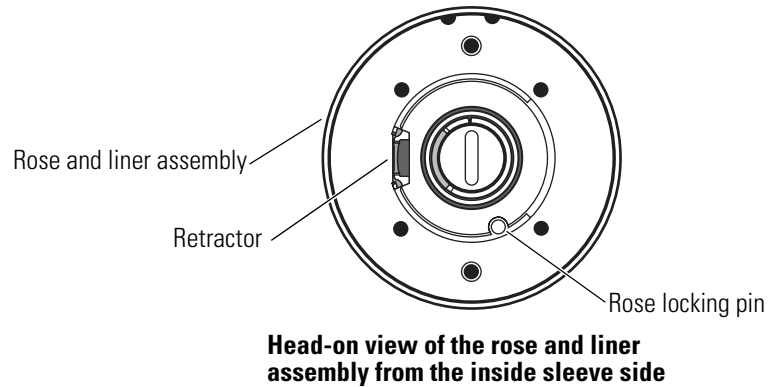
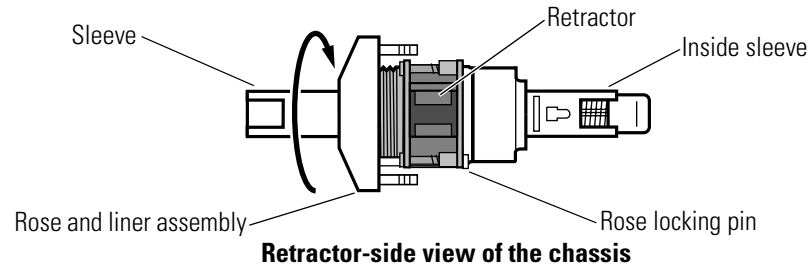


Figure 3.8 Removing the outside rose and liner assembly

To reinstall the outside rose and liner assembly:

1. Retract the rose locking pin, and rotate the rose and liner assembly clockwise until the proper door thickness groove on the through-bolt stud lines up with the hub face.

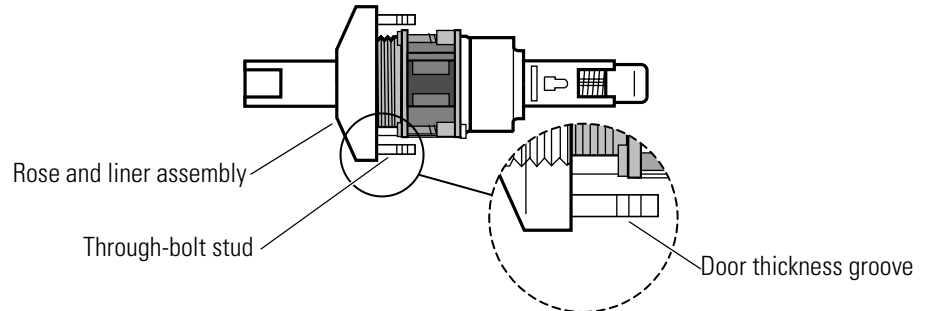


Figure 3.9 Replacing the outside rose and liner assembly

2. Release the rose locking pin. It should lock into the rose liner.
3. Install the lock chassis assembly from the outside. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor.
4. Reinstall the following components:
 - inside rose and rose liner (page 3-5)
 - levers (page 3-3).

Replacing the RQE rose liner for electrified locks

To remove the RQE rose liner:

1. Remove the following components:
 - levers (page 3-3)
 - inside rose and rose liner (page 3-4).
2. Disconnect the RQE connector.
3. Remove the through-bolts and the RQE rose liner.

To reinstall the RQE rose liner:

1. Place the RQE rose liner on the chassis, aligning the holes in the rose liner with the holes prepared in the door.

Make sure that there is clearance for the solenoid wire between the RQE rose liner and the door.



2. Install the through-bolts through the RQE rose liner and door in the top and bottom holes.
3. Tighten the RQE rose liner on the door with the through-bolts.
4. Connect the RQE connector.

5. Reinstall the following components:
 - inside rose and rose liner (page 3-5)
 - levers (page 3-3).

**Replacing the
button
assembly**

To remove the button assembly:

Note: These instructions apply for all types of button assemblies.

1. Remove the following components:
 - levers (page 3-3)
 - roses and rose liners (page 3-4 or page 3-6).
2. Use a flat screwdriver to press down on the button assembly tab, which is visible through the cutout in the sleeve. The tab should now lie flat.

Note: When performing this step, it is best to position the lock on a flat surface so that the retractor faces upward.

3. Press down on the retractor and slide the button assembly out of the sleeve.

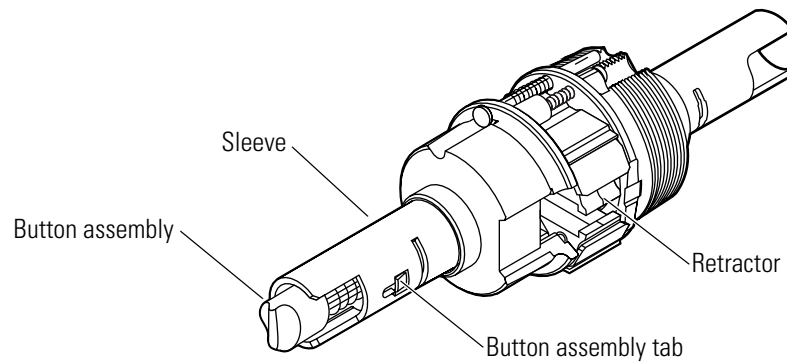


Figure 3.10 Removing the button assembly

To reinstall the button assembly:

1. Insert the new button assembly into the sleeve, as shown in [Figure 3.11](#), until the tab lines up with the cutout in the sleeve. It may be necessary to slightly press in the retractor with your thumb so that the locking bar can properly align itself through the chassis and into the key release cam assembly.

Note: The button assembly should not pop out of the sleeve. If it does, it is misaligned and will not function properly.

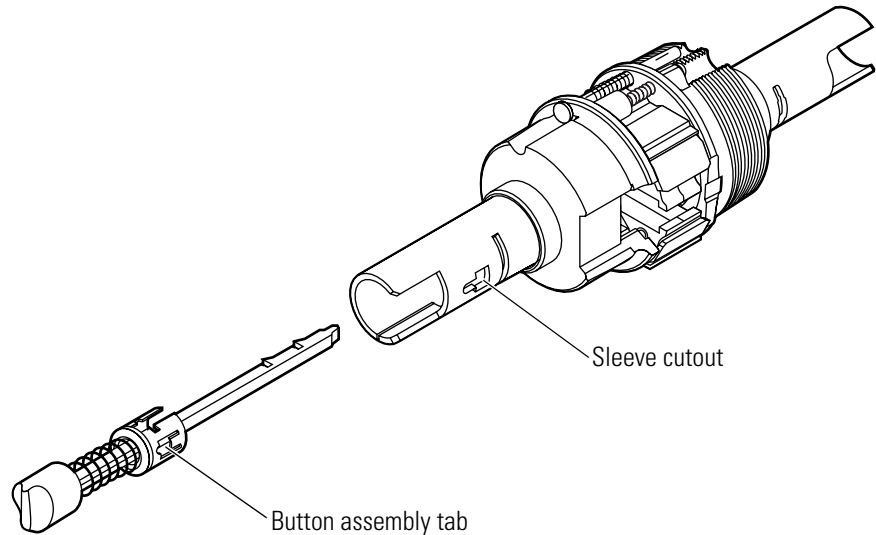


Figure 3.11 Inserting the button assembly into the sleeve

2. Insert a small screwdriver into the cutout in the sleeve and under the button assembly tab. Bend the tab into the cutout, as shown in [Figure 3.12](#).

Note: Do not bend the tab so that it protrudes further than the diameter of the sleeve. It could interfere with the lever function.

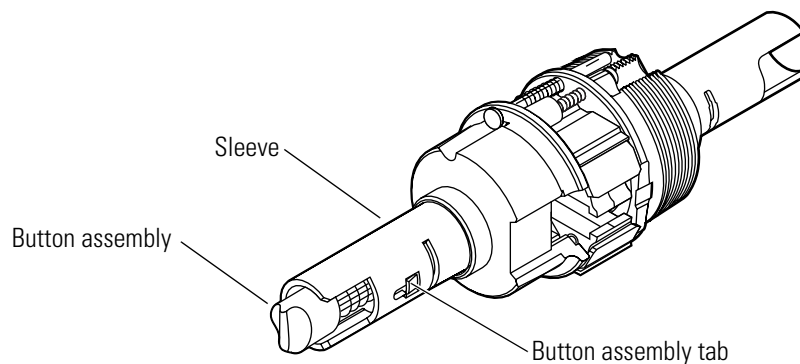


Figure 3.12 Bending the button assembly tab

3. Reinstall the following components:
 - roses and rose liners (page 3-5 or page 3-7)
 - levers (page 3-3).

Replacing the lever keeper spring

To remove the lever keeper spring:

1. Remove the following components:
 - levers (page 3-3)
 - roses and rose liners (page 3-4 and page 3-6)
 - button assembly, if present (page 3-8).
2. Using a pair of needle-nosed pliers, reach into the sleeve and remove the lever keeper spring, as shown in Figure 3.13.

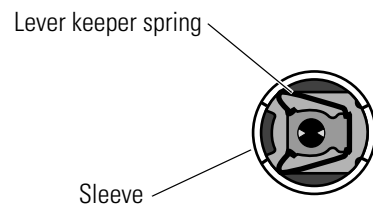


Figure 3.13 Removing the lever keeper spring

To reinstall the lever keeper spring:

1. Position the lever keeper spring as shown in Figure 3.14.

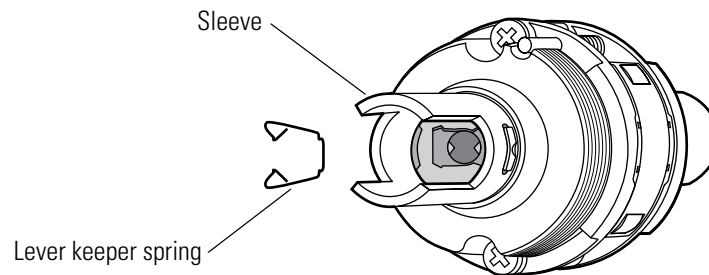


Figure 3.14 Positioning the lever keeper spring

2. Use a pair of needle-nosed pliers to insert the lever keeper spring into the sleeve. Using the pliers, work the spring into position so that the spring is gripping the lever keeper. See [Figure 3.15](#).

Note: If the lever keeper spring is not installed correctly, the lever may fall off of the chassis.

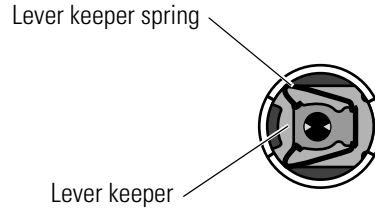


Figure 3.15 Lever keeper spring in position

3. Reinstall the following components:
 - button assembly, if present ([page 3-9](#))
 - roses and rose liners ([page 3-5](#) and [page 3-7](#))
 - levers ([page 3-3](#)).

Replacing the lever return spring



To remove the lever return spring:

Use extreme caution when performing the steps below. Point the lever return spring away from you while disassembling the lock. The lever return spring may unexpectedly pop out and could injure you.

1. Remove the following components:
 - levers ([page 3-3](#))
 - roses and rose liners ([page 3-4](#) and [page 3-6](#))
 - button assembly, if present ([page 3-8](#)).

2. Remove the two chassis screws shown in [Figure 3.16](#), and separate the hub and sleeve assembly from the rest of the chassis. Save the two screws.

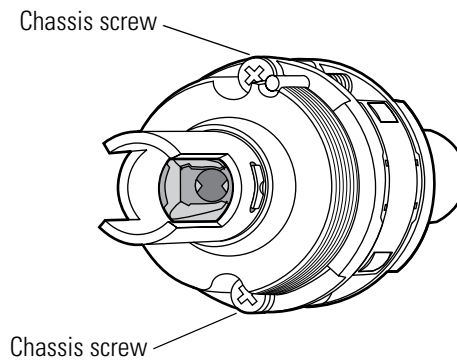


Figure 3.16 Separating the hub and sleeve assembly from the chassis

3. Raise the key release cam assembly or non-keyed sleeve assembly slightly, and slide the thrust plate out from under it. See [Figure 3.17](#).

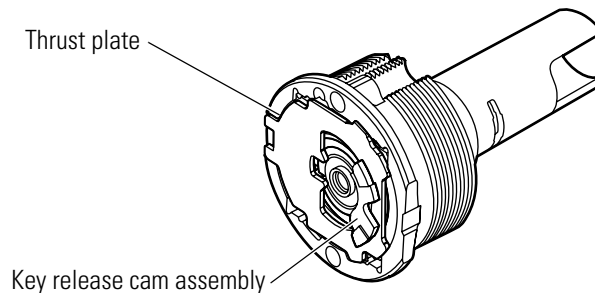


Figure 3.17 Removing the thrust plate

4. Pull the end of the lever return spring up and over the raised edge on the spring drive plate or non-keyed sleeve. See [Figure 3.18](#).

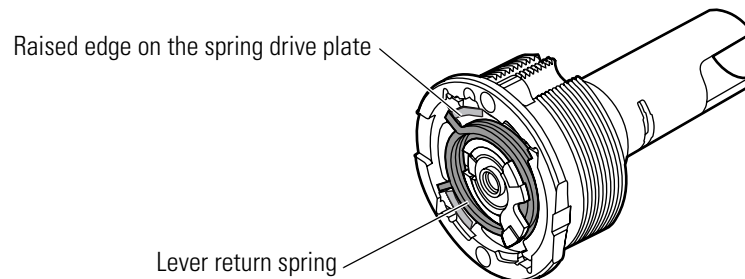
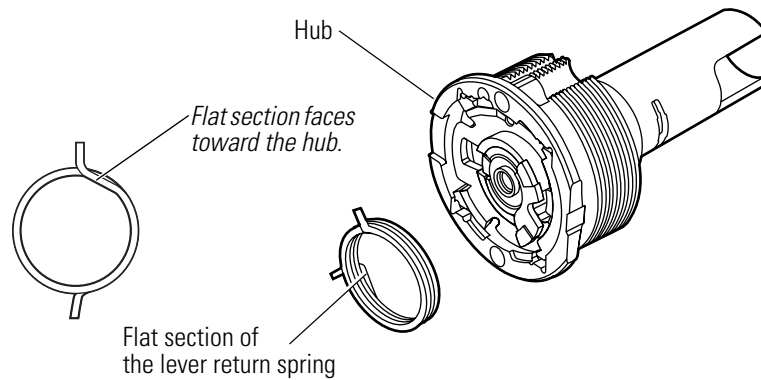


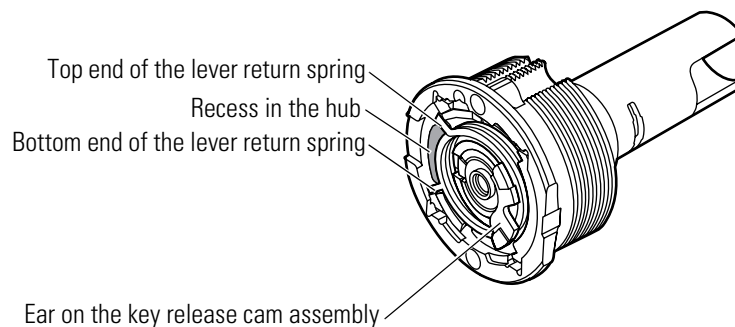
Figure 3.18 Removing the lever return spring

To reinstall the lever return spring:

1. Position the lever return spring so that the flat section of the spring faces toward the hub, as shown in [Figure 3.19](#).

**Figure 3.19** Positioning the lever return spring

2. Raise the key release cam assembly or non-keyed sleeve assembly slightly, and insert the lever return spring so it fits under the ears on the key release cam assembly or non-keyed sleeve assembly. The bottom end of the lever return spring should line up with the edge of the recess in the hub, as shown in [Figure 3.20](#).

**Figure 3.20** Inserting the lever return spring

3. Use the KD340 spring loading tool or a pair of needle-nosed pliers to pull the top end of the lever return spring around to rest against the other edge of the recess in the hub, as shown in [Figure 3.20](#).

Note: Make sure that the lever return spring does not separate and ride onto the top of the sleeve.

4. Raise the key release cam assembly or non-keyed sleeve assembly slightly, and insert the flat end of the thrust plate under the ears, as shown in [Figure 3.21](#). The plate should be flush with the top of the hub.

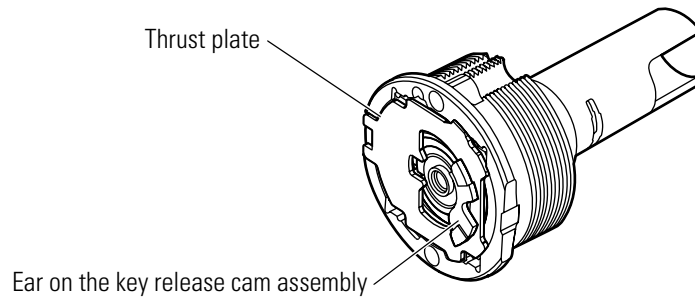


Figure 3.21 Installing the thrust plate

5. Slide the chassis cover over the retractor assembly.
6. Align the open end of the retractor assembly with the ears on the key release cam assembly in the inside hub assembly.
7. Press the retractor toward the retractor springs and insert the feet of the retractor assembly into the notches in the inside hub, as shown in [Figure 3.22](#).

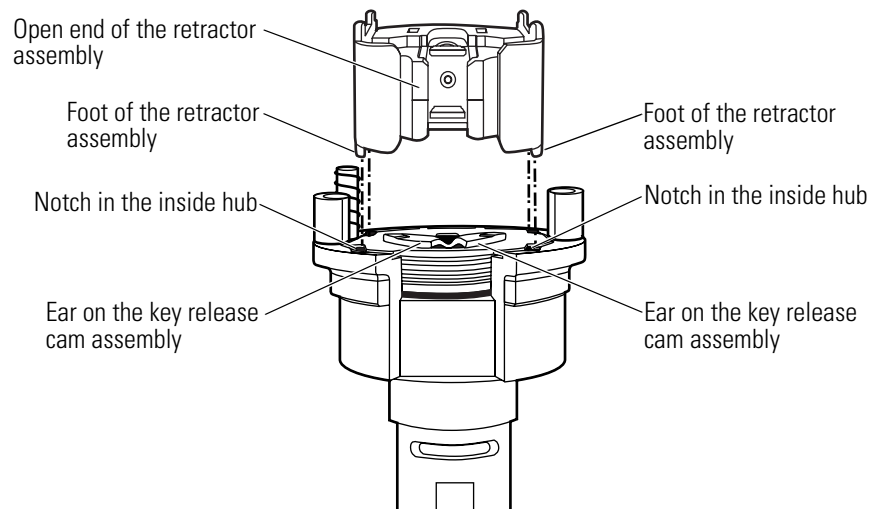


Figure 3.22 Positioning the retractor assembly

8. Align the feet of the retractor assembly with the notches in the outside hub assembly, and the rose locking pin with the smaller of the two holes on the outside assembly, as shown in [Figure 3.23](#). Press the retractor toward the retractor springs and slide the two sections together.

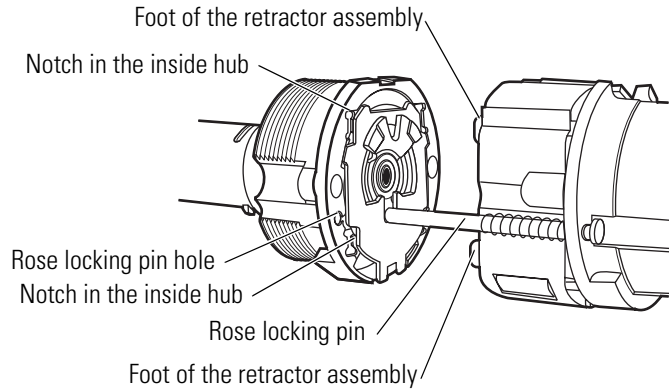


Figure 3.23 Installing the retractor assembly

9. Install the two chassis screws.
10. Reinstall the following components:
 - button assembly, if present ([page 3-9](#))
 - roses and rose liners ([page 3-5](#) and [page 3-7](#))
 - levers ([page 3-3](#)).

Replacing the key release cam assembly

To remove the key release cam assembly:

1. Remove the following components:
 - levers ([page 3-3](#))
 - roses and rose liners ([page 3-4](#) and [page 3-6](#))
 - button assembly, if present ([page 3-8](#))
 - lever return spring ([page 3-11](#)).
2. Pull the key release cam assembly out of the sleeve.

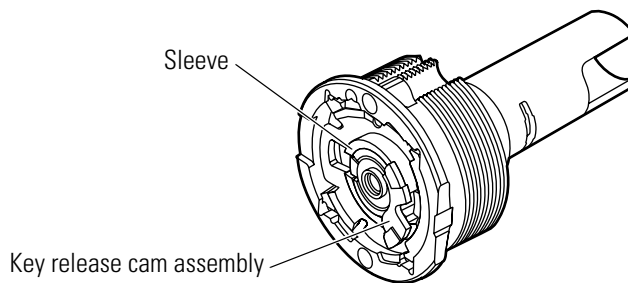


Figure 3.24 Removing the key release cam assembly

To reinstall the key release cam assembly:

1. Insert the key release cam assembly into the sleeve so that the locking lug fits into the notch in the sleeve and spring drive plate. See [Figure 3.25](#).

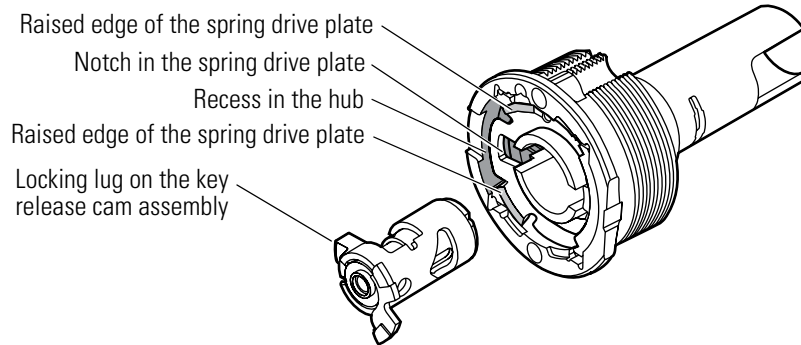


Figure 3.25 Installing the key release cam assembly

2. Make sure that the raised edges of the spring drive plate line up with the recess in the hub, as shown in [Figure 3.25](#).
3. Reinstall the following components:
 - lever return spring ([page 3-13](#))
 - button assembly, if present ([page 3-9](#))
 - roses and rose liners ([page 3-5](#) and [page 3-7](#))
 - levers ([page 3-3](#)).

Replacing the spring drive plate

To remove the spring drive plate:

1. Remove the following components:
 - levers ([page 3-3](#))
 - roses and rose liners ([page 3-4](#) and [page 3-6](#))
 - button assembly, if present ([page 3-8](#))
 - lever return spring ([page 3-11](#))
 - key release cam assembly ([page 3-15](#)).
2. Pull the spring drive plate out of the hub, as shown in [Figure 3.26](#).

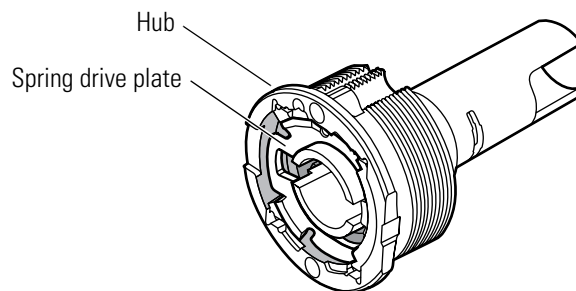


Figure 3.26 Removing the spring drive plate

To reinstall the spring drive plate:

1. Align the sleeve so that the deep slot in the sleeve lines up with the slot in the hub, as shown in [Figure 3.27](#).

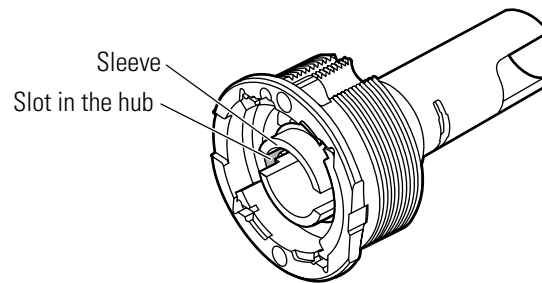


Figure 3.27 Positioning the sleeve

2. Place the spring drive plate over the sleeve as shown in [Figure 3.27](#).

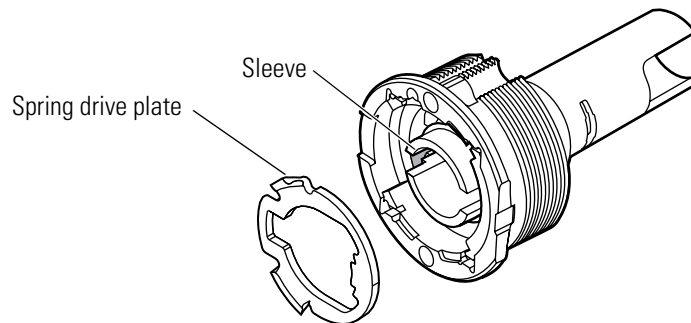


Figure 3.28 Installing the spring drive plate

3. Reinstall the following components:
 - key release cam assembly ([page 3-16](#))
 - lever return spring ([page 3-13](#))
 - button assembly, if present ([page 3-9](#))
 - roses and rose liners ([page 3-5](#) and [page 3-7](#))
 - levers ([page 3-3](#)).

Replacing the sleeve assembly

To remove the sleeve assembly:

1. Remove the following components:
 - levers ([page 3-3](#))
 - rose and rose liner ([page 3-4](#) or [page 3-6](#))
 - button assembly, if present ([page 3-8](#))
 - lever return spring ([page 3-11](#))
 - key release cam assembly ([page 3-15](#))
 - spring drive plate ([page 3-16](#)).

2. Press on the lever keeper, which protrudes through the cutout in the sleeve, as shown in [Figure 3.29](#). Pull the sleeve out of the hub, keeping the lever keeper pushed in until it clears the hub.

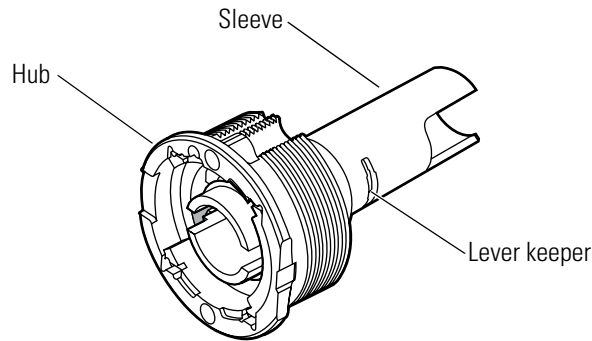


Figure 3.29 Removing the sleeve assembly from the hub

To reinstall the sleeve assembly:

1. Insert the sleeve through the hub as far as possible.
2. Insert a flat blade screwdriver through the sleeve and into the lever keeper.
3. Press the screwdriver blade in the direction of the arrow in [Figure 3.30](#). Push the sleeve the rest of the way through the hub.

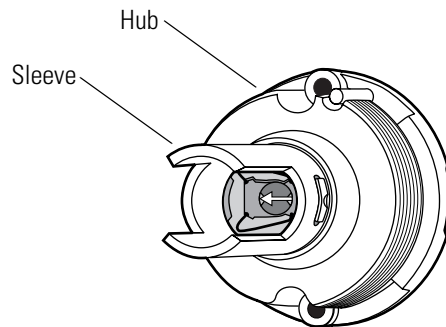


Figure 3.30 Replacing the sleeve assembly

4. Align the sleeve so that the deep slot in the sleeve lines up with the slot in the hub, as shown in [Figure 3.31](#).

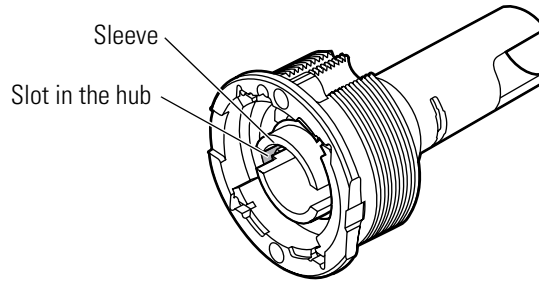


Figure 3.31 Positioning the sleeve

5. Reinstall the following components:
 - spring drive plate ([page 3-17](#))
 - key release cam assembly ([page 3-16](#))
 - lever return spring ([page 3-13](#))
 - button assembly, if present ([page 3-9](#))
 - rose and rose liner ([page 3-5](#) or [page 3-7](#))
 - levers ([page 3-3](#)).

Replacing the solenoid for electrified locks

Because of the complex nature of this procedure, BEST recommends that you order a new cylindrical chassis. Contact your BEST representative.

Use the part numbers listed in *Reversing the solenoid when changing the function* when ordering a new cylindrical chassis. See [page 3-20](#).

ADDING THE RQE SWITCH TO ELECTRIFIED LOCKS

Because of the complex nature of this procedure, BEST recommends that you order a new electrified function chassis and an RQE rose liner. Contact your BEST representative.

Use the following part numbers when ordering a new electrified function chassis and RQE rose liner.

Chassis type	Part number
9KW DEL	C60245
9KW DEL, for use with non-interchangeable cores	C60334
9KW DEU	C60241
9KW DEU, for use with non-interchangeable cores	C60336

RQE rose liner	Part number
Small	B61049
Large	B60221

REVERSING THE SOLENOID WHEN CHANGING THE FUNCTION

Because of the complex nature of this procedure, BEST recommends that you order a new electrified function chassis. Contact your BEST representative.

Use the following part numbers when ordering a new electrified function chassis.

Chassis type	Part number
9KW DEL	C60245
9KW DEL (without RQE)	C60244
9KW DEL, for use with non-interchangeable cores	C60334
9KW DEL, for use with non-interchangeable cores (without RQE)	C60333
9KW DEU	C60241
9KW DEU (without RQE)	C60240
9KW DEU, for use with non-interchangeable cores	C60336
9KW DEU, for use with non-interchangeable cores (without RQE)	C60335

LUBRICATING THE CORES



Caution

Do not lubricate cores with oil. Doing so will only attract dirt.

For powdered graphite lubrication:

1. Dip a key in graphite. Insert the key into the keyhole and remove it; repeat several times. *OR*
 Spray graphite into the keyhole. Insert the key into the keyhole and remove it; repeat several times.
2. Allow the graphite to sift into the pin segment holes.

For silicone type lubrication:

1. Clean all existing lubricant out of the core.



Caution

Do not mix graphite with a silicone-type lubricant.

2. With the core inverted, spray the lubricant into the key opening allowing the spray to penetrate the pin segment holes.

Note: When cores are installed and exposed to harsh weather conditions, silicone-type lubricants can help displace moisture as well as spread into pin segment holes and other surfaces.

ALIGNING THE CHASSIS AND TRIM

Establish a schedule to inspect locks, doors, and door hardware for proper alignment and operation. Occasionally a lock chassis and/or rose trim may become loose and require tightening.

To retighten a loose or misaligned chassis or rose trim:

1. Remove the inside trim. See [page 3-4](#) for instructions.
2. Align the chassis with the latch. Make sure that the latch tabs engage the chassis frame and the latch tailpiece engages the retractor, as shown in [Figure 3.32](#).

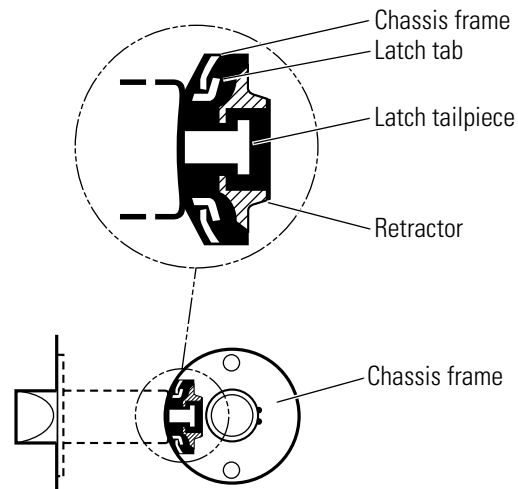


Figure 3.32 Engaging the retractor in the latch

3. Tighten the chassis screws.
4. Test the lever operation to make sure that the latch tailpiece does not bind with the chassis retractor.
5. Reinstall the inside trim. See [page 3-5](#) for instructions.

CAM POSITIONING INSTRUCTIONS

Positioning the cam for C function locks

Vibration during the shipment of the C function locks may cause the inside locking cam to rotate out of position. You might notice this problem in one of the following ways.

- The inside key does not rotate the full 360° and the outside key does not rotate the full 135°. Remove the inside core and throw member, and perform the steps below to reposition the inside locking cam.
- Before you install the core and throw member, you can see that the inside locking cam is not positioned as shown in [Figure 3.33](#). Perform the following steps to reposition the inside locking cam.

To reposition the locking cam:

1. Looking into the figure-8 core hole in the inside lever, turn the locking cam ears counterclockwise to match the position shown in [Figure 3.33](#).

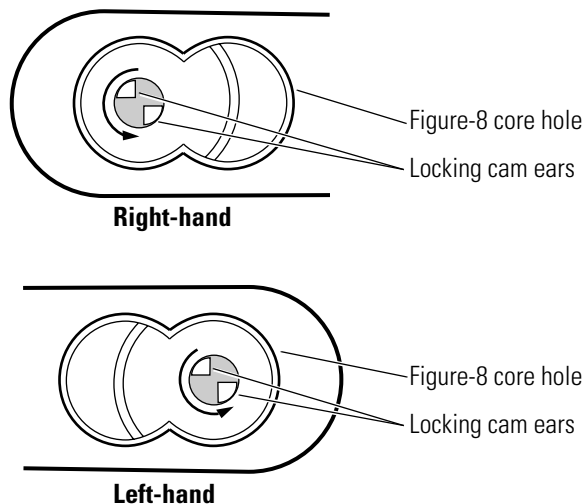


Figure 3.33 Correct position of the C function inside locking cam

2. Install the core and throw member.
3. Check the operation of the levers while the door is open. The outside lever is locked by rotating the inside key 360° counterclockwise and unlocked by rotating the inside key 360° clockwise.

Positioning the cam for G and IN function locks

Vibration during the shipment of the G and IN function locks may cause the inside locking cam to rotate out of position. You might notice this problem in one of the following ways.

- With the levers in the locked position, both the inside and outside keys do not rotate one full turn in both directions. Remove both cores and throw members, and perform the following steps to reposition the locking cam.
- Before you install the core and throw member, you can see that the locking cam is not positioned as shown in [Figure 3.34](#). Perform the following steps to reposition the locking cam.

To reposition the locking cam:

1. Looking through the figure-8 core hole in either lever, turn the locking cam drive slot to match the position shown in [Figure 3.34](#).
2. Reinstall that lever's core and throw member.
3. Looking into the figure-8 core hole in the other lever, turn the locking cam drive slot counterclockwise until it stops, as shown in [Figure 3.35](#).
4. Turn the drive slot clockwise to match the position shown [Figure 3.34](#).

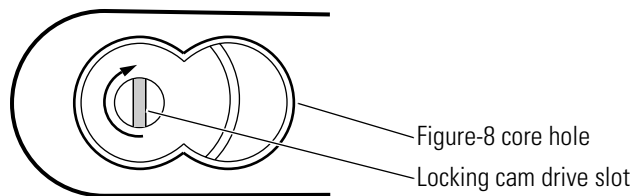


Figure 3.34 Correct position of the G and IN function locking cam

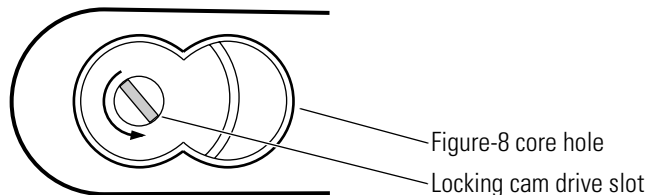


Figure 3.35 Intermediate position of the G and IN function locking cam

5. Reinstall that lever's core and throw member.
6. Check the operation of the levers while the door is open. The levers are locked by rotating the key 1 1/4 turns counterclockwise and unlocked by rotating the key 1 1/4 turns clockwise.

EMERGENCY KEY INSTRUCTIONS FOR H AND HJ FUNCTION LOCKS

To use the emergency key:

1. Remove the core and the throw member.
2. Insert the blade of the emergency key into the slot, as shown in [Figure 3.36](#).

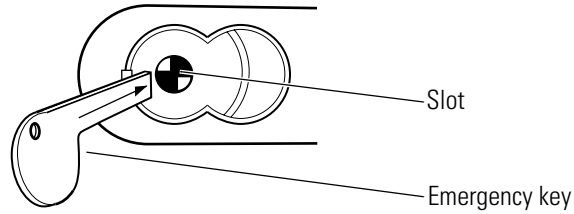


Figure 3.36 Inserting the emergency key

3. Turn the key and retract the latch.

TROUBLESHOOTING

This table summarizes the possible causes for certain lock questions. The causes are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice...	Possible causes include...	You should...
Lever won't return to its normal position.	<ul style="list-style-type: none"> a. Lever return spring is out of position. b. Lever return spring is broken. c. There is binding between the lever and rose. 	<ul style="list-style-type: none"> a. Reposition the lever return spring (pg. 3-11). Replace the spring drive plate, if damaged (pg. 3-16). b. Replace the lever return spring (pg. 3-11). c. Ensure that the lock chassis is centered within the door (pg. 3-19).
Key spins freely, but won't retract the latch or unlock the door.	<ul style="list-style-type: none"> a. Throw member is not installed. b. 6-pin core is installed with a 7-pin throw member. 	<ul style="list-style-type: none"> a. Install the throw member. b. Change the core or throw member.
Core doesn't fit into the lever core hole.	<ul style="list-style-type: none"> a. 7-pin core is installed with a 6-pin throw member. b. Keyed lever is defective. 	<ul style="list-style-type: none"> a. Change the core or throw member. b. Replace the keyed lever (pg. 3-3).
Button doesn't pop out as expected.	Button shaft is damaged or bent.	Replace the button assembly (pg. 3-8).
Latch doesn't retract.	<ul style="list-style-type: none"> a. Latch tailpiece is broken. b. Latch tailpiece didn't engage the retractor correctly during installation. 	<ul style="list-style-type: none"> a. Replace the latch assembly. b. Reinstall the lock chassis (pg. 3-6).
For a C function lock, the inside key does not rotate the full 360°, and the outside key does not rotate the full 135°.	Inside locking cam is out of position.	Reposition the inside locking cam (pg. 3-22).
For a G or IN function lock with levers in the locked position, the key does not rotate one full turn in both directions.	Locking cam is out of position.	Reposition the locking cam (pg. 3-22).
Cannot remove the operating key from an H or HJ function lock.	Key is turned 180° past the correct position.	Push the inside button, turn the key back clockwise 180°, and remove the key.

A

INSTALLATION INSTRUCTIONS

The following pages contain the *Installation Instructions for 9K Cylindrical Locks* and the *Wiring Instructions for 8K & 9K Series Electrified Cylindrical Locks*.

For factory-prepared doors only

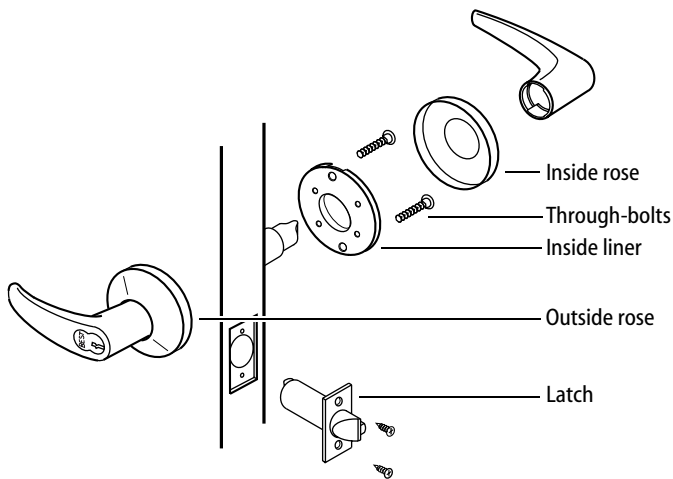


Figure 1 — Overview diagram

Caution: If you use hollow metal doors, determine whether the doors are reinforced enough to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.

Simplified instructions

- 1 Install the latch so that the bevel on the latchbolt faces the strike.
- 2 Adjust the outside rose assembly so that the chassis is centered in the door. Install the chassis from the outside of the door.
- 3 Install the inside liner, through-bolts, rose, lever and strike.

For field door preparation and detailed installation instructions, see the following tasks.

1 Position template

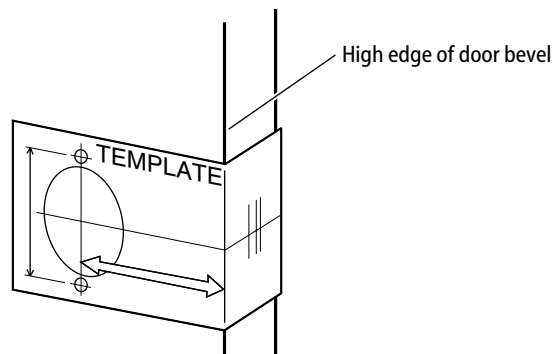


Figure 2 — Placing the template on the high side of the door bevel

- 1 Fold the template and place in position on the high edge of the door bevel (see Figure 2).
- 2 Mark the drill points.

Note: Suggested height from floor to centerline of the lock is 40 5/16". If steel frames are used, the latch centerline must be in line with the center of the strike preparation.

2 Bore two holes and install latch

- 1 Bore a 2 1/8" diameter hole from both sides of the door, to the center of the door.
- 2 Drill a 1" diameter hole from the edge of the door that intersects the 2 1/8" hole.
- 3 Mortise the door edge for the latch face.
- 4 Install the latch and check the door swing. Latch tabs should project into the 2 1/8" diameter hole. See figure 3 in task 3.

3 Install boring jig and drill two 5/16" diameter holes

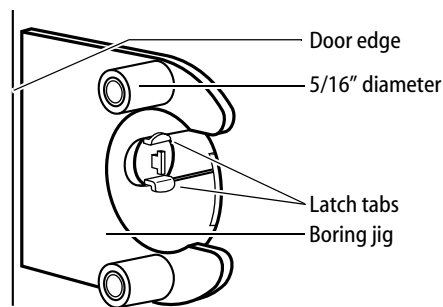


Figure 3 — Positioning the boring jig for drilling the 5/16" holes

- 1 Install the boring jig (KD303) onto the door and engage with latch tabs. Make sure the front edge of the jig is parallel with the door edge (see Figure 3).
- 2 Drill two 5/16" diameter holes halfway into the door.
- 3 Turn the boring jig over and repeat steps one and two from the opposite side of the door.

Note: Replace the boring jig after ten door preparations.

4 Adjust lockset to door thickness

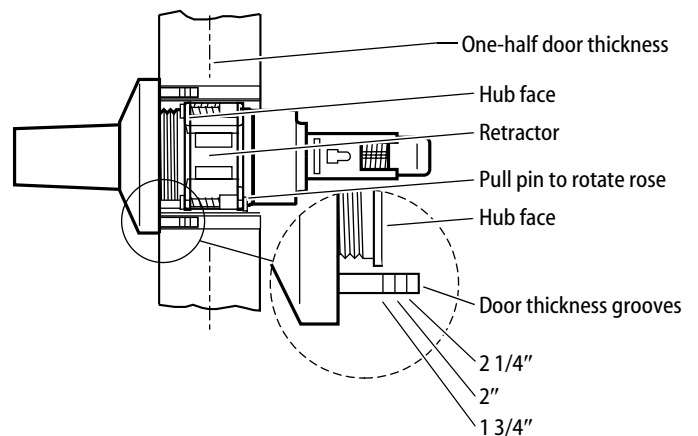


Figure 4 — Adjusting the lock chassis for door thickness

- Pull the rose locking pin and rotate the outside rose liner in or out

until the proper door thickness groove on the through bolt stud, lines up with the hub face (see Figure 4—blow-up).

Note 1: Make sure the locking pin locks into the rose liner.

Note 2: Locksets will fit doors 1 3/4" to 2 1/4" thick. (A spacer is available for 1 3/8" doors.) See the enlarged view for the correct rose adjustment for these thicknesses.

5 Engage retractor in latch

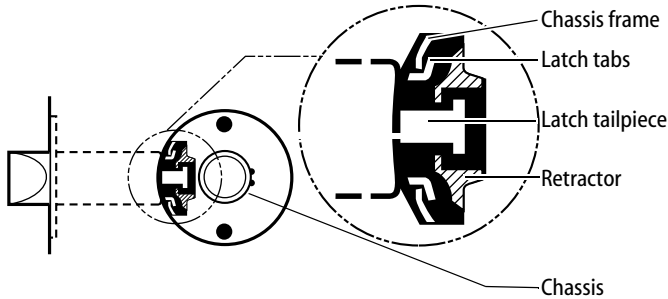


Figure 5 — Engaging the latch and retractor

- With the latch in place, install the chassis from the outside. Make sure the latch tabs engage the chassis frame and the latch tailpiece engages the retractor (see Figure 5).

6 Install liner, through-bolts, rose and lever

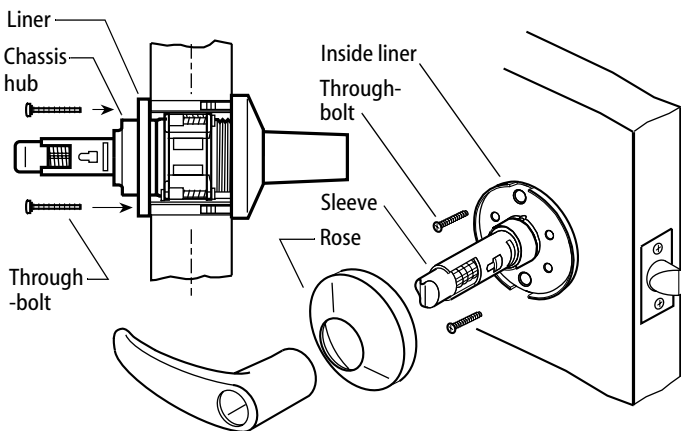


Figure 6 — Installing liner, through bolts, rose, and lever

Note: For lead-lined locksets, slide the lead shield (not shown) over the sleeve and into the 2 1/8" hole.

- Align the holes in the liner with the holes prepared in the door.
- Install through-bolts through the liner and door in the top and bottom holes (see Figure 6).
- Tighten the liner onto the door with the through-bolts.
- Slide the rose over the sleeve, then press the rose onto the liner. The rose should fit closely to the door surface.
- With the lever pointing toward the hinges, push the lever on firmly until seated.

7 Install strike plate

- In alignment with the center of the latchbolt, mortise the door jamb to fit the strike box and strike plate.

Caution: The deadlocking plunger of the latchbolt must not enter the strike plate opening. The plunger deadlocks the latchbolt and prevents forcing the latch when the door is closed. A gap of more than 1/8" may reduce security and/or cause improper operation of the latchbolt.

- Insert the strike box and secure the strike with screws provided (see Figure 7).

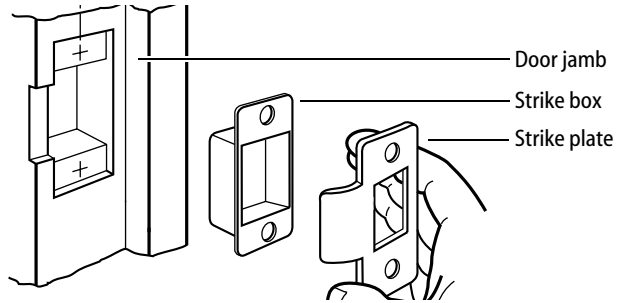


Figure 7 — Installing the strike

8 Install core

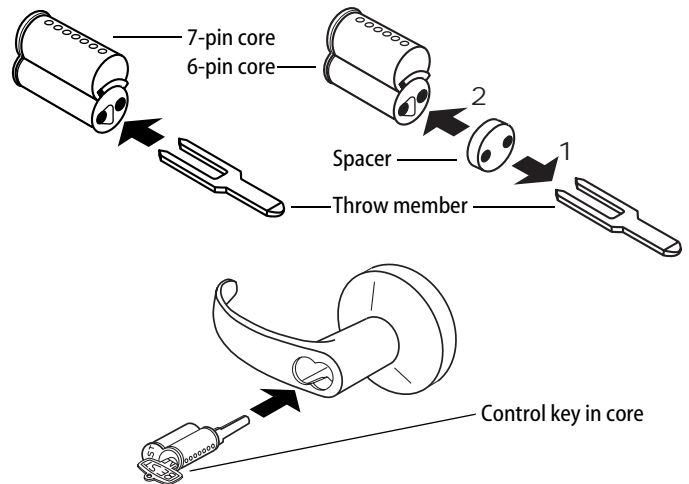


Figure 8 — Installing the core

For 6-pin core users only: Slide the spacer — supplied with your 6-pin cores — over the 7-pin throw member (see Figure 8, top right).

Note: If you have ordered 6-pin cores, you will get one spacer per core with your order. Spacers are not supplied with locks.

- Insert the throw member (or throw member and spacer) into the back of the core (see Figure 8, top).
- Put the control key into the core and turn the key 15 degrees clockwise.
- Put the core and throw member into the lever with the control key (see Figure 8, bottom).
- Turn the key 15 degrees counterclockwise and remove the key.

Caution: Since the control key is a high-security key, make sure to keep it protected.

Wiring diagram

The diagram below shows how to wire 8K and 9K electrified locks.

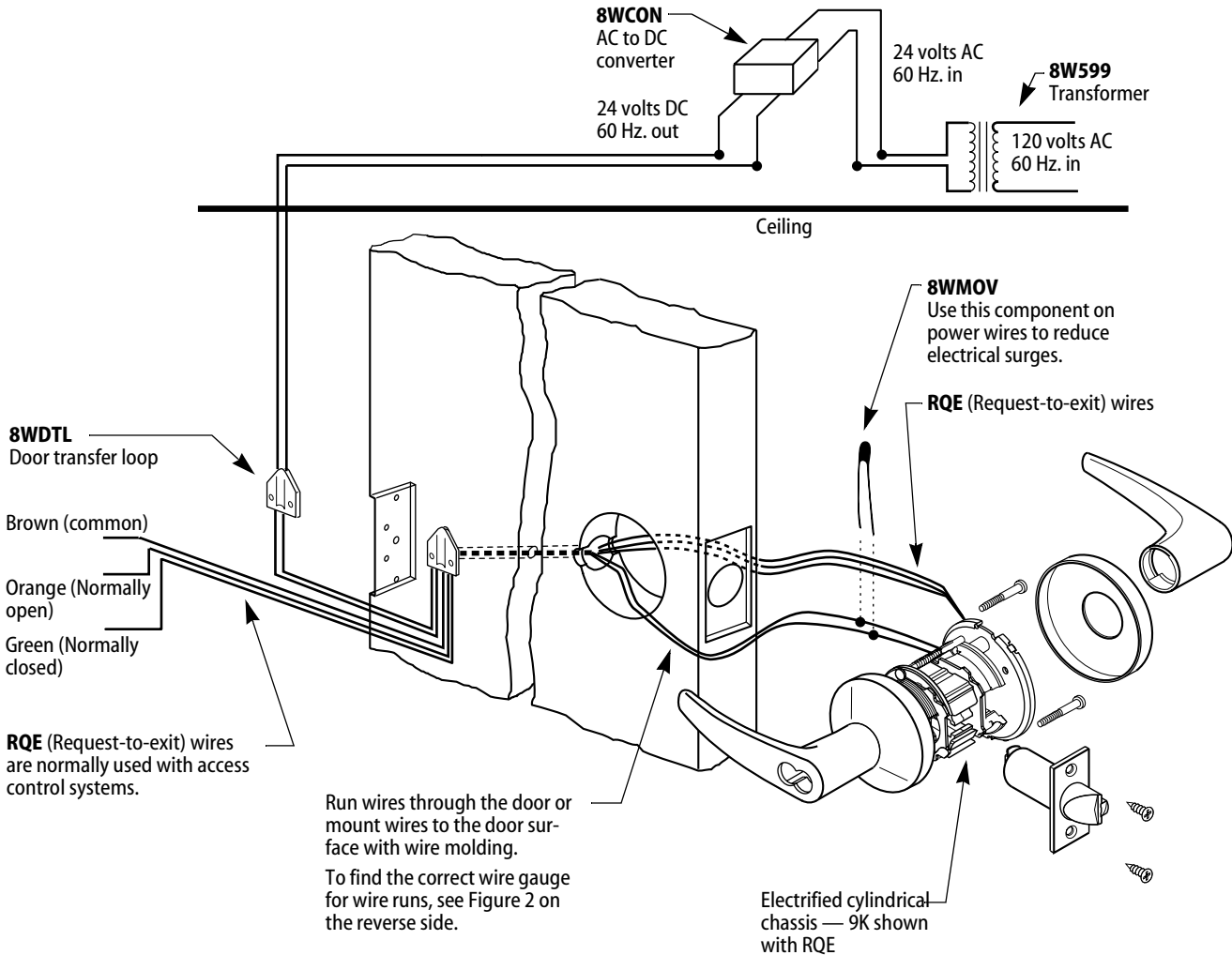


Figure 1—Wiring diagram for 8K and 9K electrified locks (9K with RQE shown)

Electrical requirements

The following table describes the voltage and current specifications for the 8K and 9K locks, with RQE (REX) switch, and door monitoring switch.

Unit	Voltage	Current
8K (RQE not available)	24 volts DC	0.18 amp continuous duty
9K with and without RQE	24 volts DC	0.169 amp continuous duty
RQE switch	30 volts DC maximum	0.7 amp inductive 0.7 amp resistive

Parts list

The following table describes the parts illustrated in Figure 1. You may substitute most components with equivalent parts.

Part number	Description
8W599	Transformer—24 volt AC, 40 volt-amps. See the examples under Installation Hints on the reverse side.
8WDTL	Door transfer loop. You may substitute this with a power transfer hinge.
8WMOV	Metal oxide varistor
8WCON	AC to DC converter (full-wave bridge rectifier)

Minimum gauge wire chart for lock circuits

The chart in Figure 2 helps you find the minimum wire gauge needed for a specific length wire run. It assumes that the lock circuit is made of two conductor cable. The chart also factors in a 15% voltage loss at 24 volts.

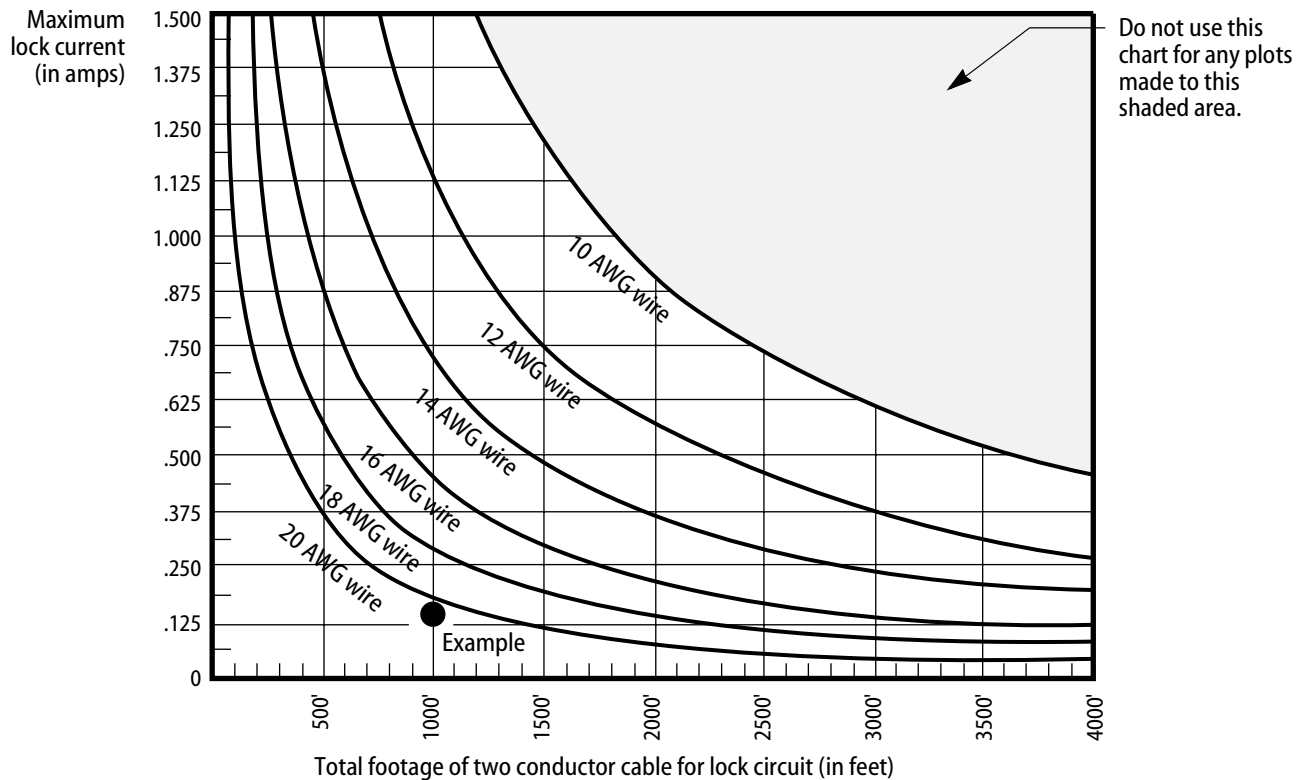


Figure 2—Minimum gauge wire chart for lock circuits

To find the correct gauge wire

- 1 Determine the maximum lock current and find that value on the left side of the chart.
- 2 Determine the total footage of cable to be used in the lock circuit and find that value at the bottom of the chart.
- 3 Locate the intersection of current and footage. The line above or to the right of the intersection shows what minimum gauge wire you need.

Example

- ▲ Lock current: 0.169 amp maximum
- ▲ Total wire run: 1000 feet

Wire gauge needed: 20 AWG two conductor cable

Note: For 12 volt locks, double the maximum lock current, then use that value on the left side of the chart.

Installation hints

- 1 Wire gauge (or size) determines how efficiently the lock will operate. Consider wire gauge before installation. To find the recommended minimum wire gauge for all wire runs, see Figure 2.
- 2 Use wire of 20 AWG (gauge) or larger. We do not recommend using a smaller wire gauge than 20 AWG.
- 3 When wiring two or more locks to a single power supply, make sure that the power rating of the power supply is 1 ½ times greater than the sum of the lock's power requirement.

Example

For two locks powered by one supply:

- ▲ Lock 1 (8K) is rated at 24 volts, 0.18 amps—24 volts × 0.18 amps = 4.32 volt-amps
- ▲ Lock 2 (35H) is rated at 24 volts, 0.75 amps—24 volts × 0.75 amps = 18 volt-amps

Choose a transformer with a rating of at least: (4.32 volt-amps + 18 volt-amps) × 1 ½ = **33.48 volt-amps**

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STANLEY[®]

Security Solutions



40H SERIES

HEAVY DUTY MORTISE LOCKS



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1

GETTING STARTED

INTRODUCTION

The *40H Series Service Manual* contains essential information to help you maintain your 40H Series Locks.

CERTIFICATIONS AND STANDARDS



- The 40H Series Locks are listed by Underwriters Laboratories (U.S. and Canada) for use on 3 hr., A label doors.
- The 40H Series Locks with deadbolt are certified by Miami-Dade County Code Compliance Office for use in applications requiring a design pressure rating of ± 100 PSF for single doors and ± 50 PSF for double door openings.
- The 40H Series Locks without deadbolt are certified by Miami-Dade County Code Compliance Office for use in applications requiring a design pressure rating of ± 60 PSF for single doors and ± 35 PSF for double door openings.
- The 45HW and 47HW Locks are UL listed for GYQS electrically controlled single point locks or latches.
- The 45HW and 47HW Locks are approved by the California State Fire Marshall (CSFM) pursuant to section 13144.1 of the California Health and Safety Board.

- The 45HW and 47HW locks are approved by the city of New York Board of Standards and Appeals under calendar number 49-88-SA. See CSFM listing number 4136-1175:101.
- 45H Locks meet or exceed ANSI A156.13, Series 1000, Grade 1 Operational and Grade 2 Security standards, when used with the 1CD core.
- 47H Locks meet or exceed ANSI A156.13, Series 1000, Grade 1 Operational and Grade 1 Security standards.
- 47H Locks conform to UL437 Standard for Key Locks, referencing Door Locks.
- 49H Locks conform to ANSI 156.5, Grade 1 standards.
- The 1E7J4 cylinder used in 47H Locks conforms to UL437 Standard for Key Locks, referencing High Security Cylinders, and is listed for Canada as well as the United States.
- The lock case and faceplate dimensions fit the standard door preparation as specified in ANSI A115.1.
- The strike fits the standard door frame cutout as specified in ANSI A115.1.
- Lever styles 3, 14 and 15 conform to California Administrative Code Title 19 and Title 24.

45H & 47H OVERVIEW

Lock characteristics

All 45H & 47H Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	5 7/8" × 4 1/4" × 1"
Backset	2 3/4"
Door thickness range	1 3/4" standard-up to 5" [†]

†. All mortise functions, except trim one side only functions, can be installed on 5" thick doors if the mortise is centered in the door. Trim one-side-only functions can be installed on doors up to 2 1/2" thick if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions for the 45H & 47H mortise case and strike.

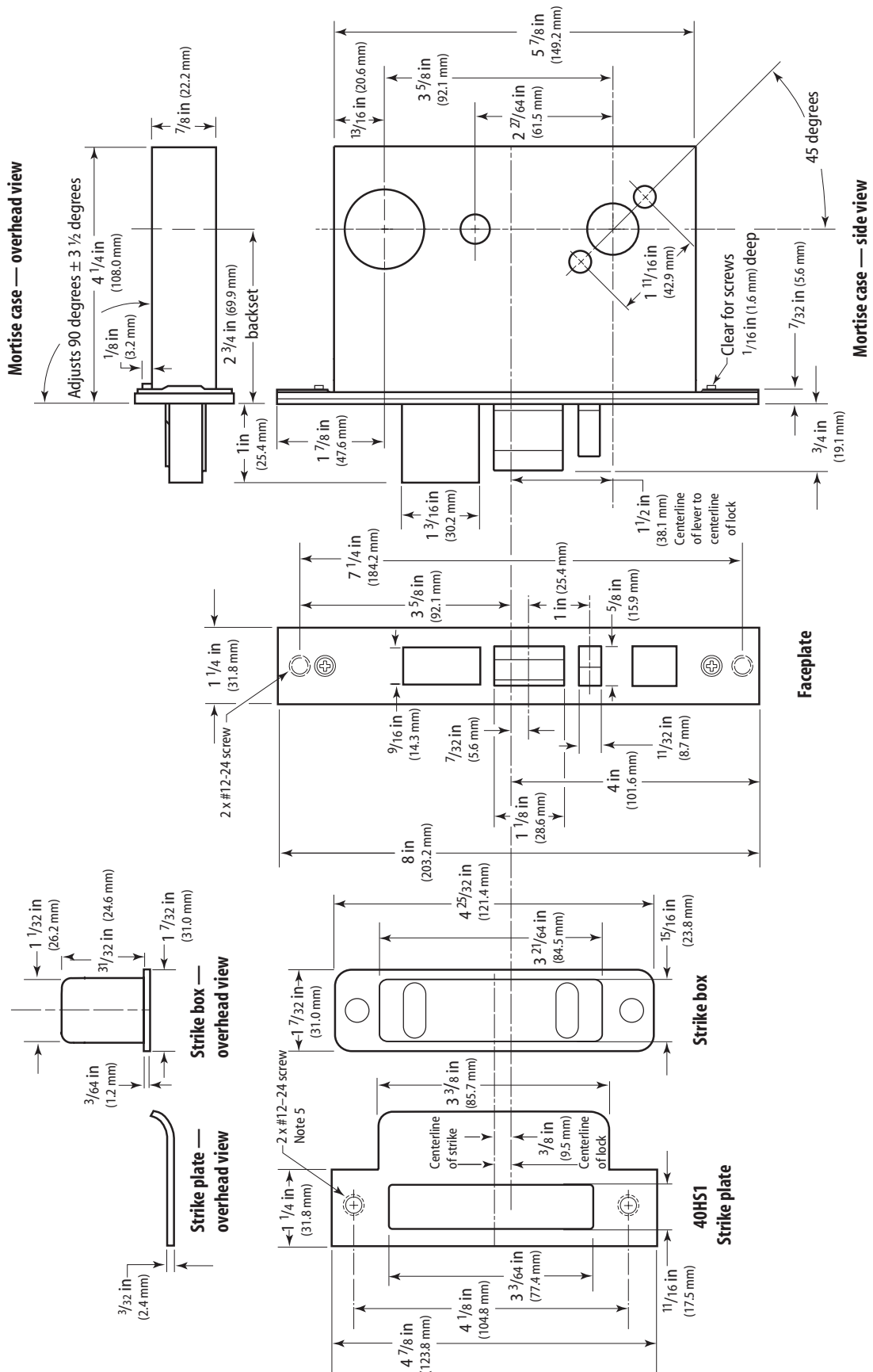


Figure 1.1 45H & 47H mortise case and strike dimensions

45HW & 47HW OVERVIEW

Lock characteristics

All 45HW & 47HW Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	5 7/8" × 4 1/4" × 1"
Backset	2 3/4"
Door thickness range	1 3/4" standard-up to 5" [†]

[†]. All mortise functions, except trim one side only functions, can be installed on 5" thick doors if the mortise is centered in the door. Trim one-side-only functions can be installed on doors up to 2 1/2" thick if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions for the 45HW & 47HW mortise case and strike.

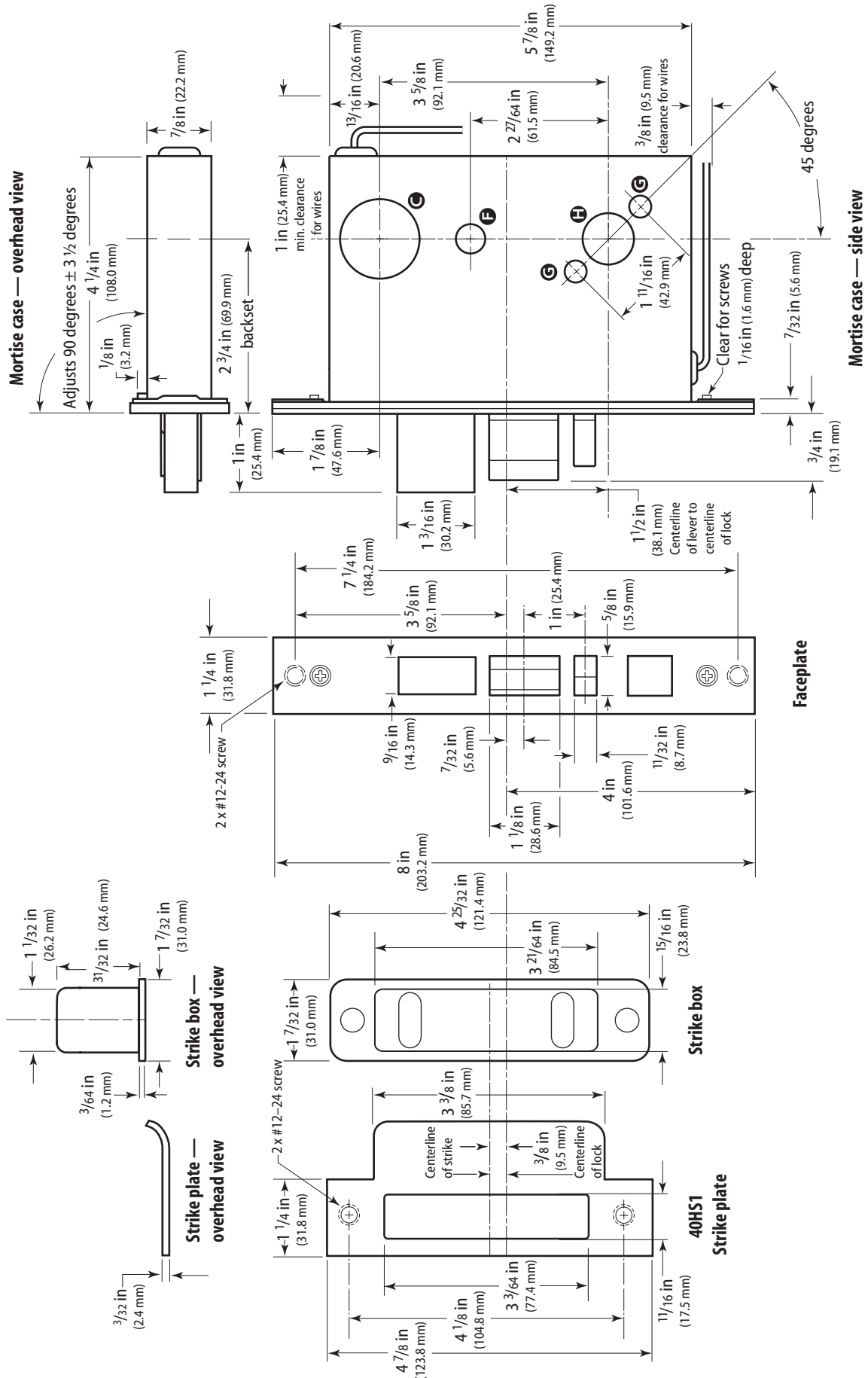


Figure 1.2 45HW & 47HW mortise case and strike dimensions
40H Series Service Manual

48H & 49H OVERVIEW

Lock characteristics

All 48H & 49H Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	4 3/16" × 3 5/8" × 1"
Backset	2 3/4"
Door thickness range	1 3/4" standard-up to 5" [†]

[†]. All mortise functions, except R and trim one side only functions, can be installed on 5" thick doors if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions of the 48H & 49H mortise case and strike.

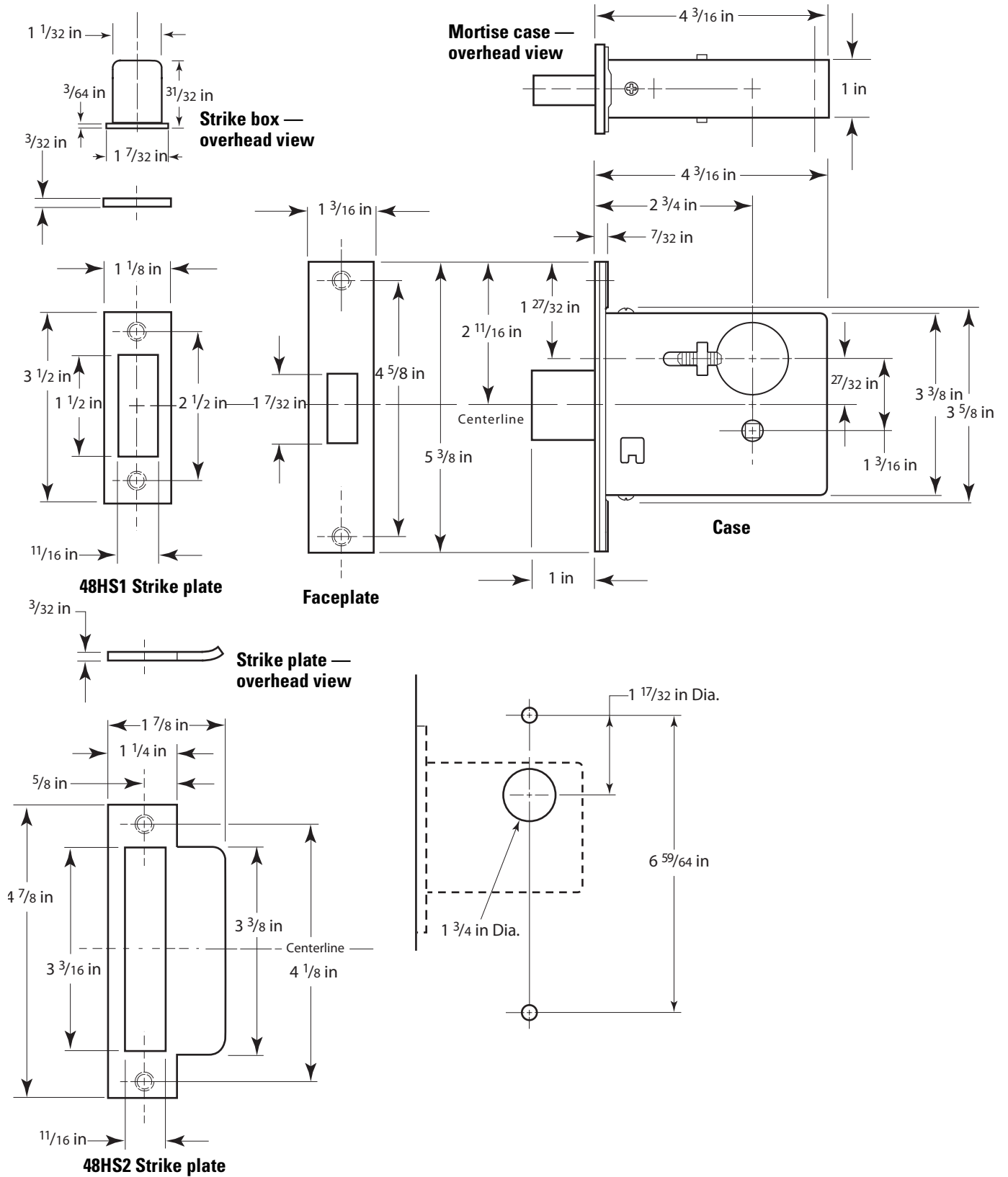


Figure 1.3 48H & 49H mortise case and strike dimensions

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your 40H Series Locks.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
<i>Installation Instructions for 45H & 47H Mortise Locks</i>	T81162
<i>Installation Instructions for 45HW & 47HW Electrified Mortise Locks</i>	T81612
<i>Installation Instructions for 48H & 49H Mortise Locks</i>	T81175
<i>Installation Instructions for the Mortise Lock Cylinder</i>	T61972

The templates required for lock installations also can be ordered separately:

Document Title	Doc. No.
<i>H15 Template; Installation Template for 45H & 47H and 45HW & 47HW Mortise Locks</i>	T81163
<i>H16 Template; Installation Specifications for 45H & 47H Mortise Locks</i>	T81166
<i>H18 Template; Installation Template for 48H & 49H Mortise Locks</i>	T81184
<i>H17 Template; Installation Specifications for 48H & 49H Mortise Locks</i>	T81183
<i>H19 Template; Installation Specifications for 45HW & 47HW Electrified Mortise Locks</i>	T81611
<i>E01 Template for 1E Cylinders</i>	T61965
<i>E06 Template for 1E7J4 and 1E7K4 Cylinders</i>	T61970

TECHNICAL SUPPORT

Support services

When you have a problem with a 40H Series Lock, your first resource for help is the *40H Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure you are where the hardware is located, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to fix the problem.

Best Access Systems Representatives provide telephone technical support for all 40H Series products. You may locate the Representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page www.BestAccess.com.

2

INTRODUCING THE 40H LOCK

OVERVIEW

The 40H Series Lock was designed to be easy to use, while at the same time maintaining the strength, durability, and dependability expected of a BEST mortise lock. In addition to the ability to quickly change the lock handing, the universal case design of the 40H Series Lock provides the ability to reconfigure a lock into many different functions easily and quickly, often by rearranging existing parts without opening the lock case. The 40H Series Lock lets you postpone decisions about how the lock will be configured all the way up to the point of installation, making it one of the most flexible and user-friendly mortise locks available.

WAYS TO ORDER

There are three ways to order 40H Series Locks—function-specific locks, universal locks, and three-part locks.

Function-specific locks

If you know exactly what you need in a mortise lock and are confident these needs will not change, order your 40H Series Locks in the traditional manner by specifying the exact function, trim, finish, and handing. The lock will be built to work exactly as specified, so it may not have the ability to be converted to another function.

Universal locks Order a universal lock to allow for the option of changing functions to meet future needs. Three universal functions are available that can be configured to a variety of common functions, all without opening the lock case. When any of the universal functions are ordered as a complete lock, all necessary parts (including trim) are provided to configure any of the functions in that group. Universal locks can only be ordered with sectional (rose) trim. If escutcheon (J/M/N) trim is needed, order a three-part lock as described below.

Three-part locks For maximum flexibility, a 40H Series Lock can be ordered in three parts—inside trim, case only, and outside trim. The kits associated with each of the three parts are designed so that when combined, all necessary components of a 40H Series Lock are present. This method of ordering is ideal for customers who want to stock a variety of trim designs with a minimal number of lock cases.

THE ADVANTAGE OF KITS

Often a service manual is nothing more than a parts catalog. With 40H Series Locks, we've raised the bar regarding the ease of ordering, installing, and maintaining the lock. This service manual reflects this streamlined approach.

When you order a part kit, rather than individual components, you get peace of mind knowing that the manufacturer has already gone through the work of matching up the right parts to ensure they all work together and, more importantly, that you get all the pieces you'll need. Through the use of nomenclature, you specify what you need based on the required application, and the factory assembles the appropriate parts to fill that need.

WORKING WITH UNIVERSAL FUNCTIONS

The universal case design allows a number of common functions to be configured starting from three universal functions. Some functions can be configured using the parts provided when ordering the complete lock. Others require additional or different trim that is applied to the universal case assembly. Also, some of the functions normally included in the universal locks have unnecessary internal parts that are removed when the lock is ordered as a specific function, limiting their ability to be converted to other functions.

The table below summarizes the conversion capabilities of the 40H Universal Function Locks.

	UNR	UNT	UNAB
What is the default function for the universal lock?	R	T	AB
Which functions can be configured when ordering a universal lock?	A, AT, D, N, NX, R	L, T	AB, TA, TD
Which functions can be built from a universal case, but require additional or different trim?	C, INL, ZD, XR, W	IND	H, HJ
Which functions found in universal locks have parts removed when they are ordered as specific functions, limiting their ability to be converted?	A, N, NX	L	TA, TD

The following functions must always be ordered by their specific function letters and require the case to be opened when converting to a different function:

- B
- B5
- B7
- BA
- BW
- CHB
- G
- LB
- LT
- RHB
- S

WORKING WITH TRIM KITS

A 40H trim kit is half of a complete trim package. An outside trim kit must be matched with the appropriate inside trim kit to operate with a lock. Each kit includes all parts, including fasteners, required for installation of the trim on one side of the door.

Because many lock functions share a common case assembly and differ only in trim, using trim kits is an easy and efficient way to convert between functions. The table below shows how to match the appropriate inside trim kit and outside trim kit with each function. For information about how to order 45 & 47H trim kits, see *Trim Parts* on [page 5-1](#).

Function	Outside trim kit				Inside trim kit				
	OS1	OS2	OS3	OS4	IS1	IS2	IS3	IS4	IS5
A [†]		■			■				
AB [‡]		■				■			
AD				■					■
AT [†]		■				■			
B		■				■			
BA		■				■			
BW		■				■			
D [†]		■			■				
DEL		■			■				
DEU		■			■				
G		■					■		
HJ		■				■			
IND		■					■		
INL		■					■		
L ^{††}			■			■			
LB			■			■			
LEL	■					■			
LEU	■					■			
LT			■			■			
N [†]	■				■				
NX [†]	■				■				
NXEL	■				■				
NXEU	■				■				
R [†]		■			■				
RHB		■			■				
S		■					■		
T ^{††}		■				■			
TA [‡]		■				■			
TD [‡]		■				■			
TDEL		■			■				
TDEU		■			■				
TWEL		■					■		
TWEU		■					■		
W		■					■		
WD				■				■	
WEL		■					■		
WEU		■					■		
YD				■					

†. Function can be created using a UNR case assembly.
 ‡. Function can be created using a UNAB case assembly.
 ††. Function can be created using a UNT case assembly.

The following functions, as well as any trim one side only applications, cannot use trim kits because they contain specialized trim components:

- 1DT
- 2DT
- B5
- B7
- C
- CHB
- H
- RD
- XR
- ZD

TRIM ONE SIDE LOCKS

Occasionally an application calls for a commonly-used lock function with either the inside or outside trim removed. These specialized configurations require a special letter designation to be appended to the function letter.

- If the inside trim is removed, a “Z” is added to the standard function letter.
- If the outside trim is removed, an “X” is added to the standard function letter.

The following table shows common applications with their corresponding speciality function designation.

Application	Standard function	Specialty function	Description
Classroom	R	XR	R function less outside trim
Storeroom	D	XD	D function less outside trim
Utility	D	ZD	D function less inside trim
Closet	R	ZR	R function less inside trim

Although only XR and ZD functions are included in this manual, nearly all 40H functions can be configured as X or Z functions. Contact your local BEST Representative for more details.

All trim one side locks use the special hook spindle to attach the remaining lever to the lock. See [page 5-17](#) for more information about the hook spindle.

3

LOCK FUNCTIONS

The following pages contain function descriptions for all 45H & 47H Locks and 45HW & 47HW Locks. For function descriptions for 48H & 49H Locks, see *Function descriptions* on [page 7-2](#).

45H & 47H FUNCTIONS BY ANSI DESIGNATION & LOCK FUNCTION QUICK REFERENCE

ANSI No.	45H & 47H Function	45H & 47H Function	35H–37H Function [†]	Description page number	Diagram page number
F01	N	1DT	1DT	See page 3-12	
F02	LB	2DT	2DT	See page 3-12	
F04	A, AT	A	E	See page 3-5	See page 4-2
F05	R	AB	AW	See page 3-5	See page 4-14
F06	RHB	AD	P	See page 3-10	See page 4-34
F07	D	AT		See page 3-5	See page 4-4
F08	BA	B	B	See page 3-5	See page 4-16
F09	C	BA	A	See page 3-6	See page 4-18
F10	BA	BW	BW	See page 3-6	See page 4-20
F12	TA	B5 [‡]	B4/B5	See page 3-13	See page 4-22
F13	T	B7 [‡]	B6/B7	See page 3-13	See page 4-22
F14	G	C	G	See page 3-8	See page 4-4
F15	H, HJ	CHB	GHB	See page 3-8	See page 4-12
F16	YD	D	EW	See page 3-6	See page 4-4
F17	AD	G	C	See page 3-8	See page 4-22
F18	WD	H	HF	See page 3-6	See page 4-24
F19	L	HJ	HJ	See page 3-6	See page 4-24
F20	AB	IND	IND	See page 3-8	See page 4-26
F21	B	INL	INL	See page 3-9	See page 4-4
F29	RD	L	LF	See page 3-11	See page 4-28
F30	W	LB	L	See page 3-11	See page 4-30
F31	NX	LT		See page 3-11	See page 4-6
F32	INL	N	N	See page 3-11	See page 4-8
F33	IND	NX	Y	See page 3-11	See page 4-10
F35	S	R	J	See page 3-7	See page 4-4
		RD	R	See page 3-10	See page 4-36
		RHB	JHB	See page 3-7	See page 4-12
		S	W	See page 3-9	See page 4-18
		T	FW	See page 3-7	See page 4-26
		TA	F	See page 3-7	See page 4-32
		TD	FD	See page 3-7	See page 4-24
		W	WW	See page 3-9	See page 4-4
		WD	T	See page 3-10	See page 4-34
		XR		See page 3-13	See page 4-4
		YD	S	See page 3-10	See page 4-34
		ZD		See page 3-13	See page 4-4
		UNR			
		UNT			
		UNAB			

†. With the introduction of the 40H Series Lock, BEST changed the mortise function letter designations to align them with the BEST cylindrical lock functions. This column shows the old 30H function designation for each.

‡. The only difference between the 35H–37H B4 versus B5 functions and the B6 versus B7 functions was the cylinder retaining screw. The B4 and B5 functions have been combined into the 45H & 47H B5 function. The B6 and B7 functions have been combined into the 45H & 47H B7 function.

45HW & 47HW LOCK FUNCTION QUICK REFERENCE

45HW & 47HW Function	35HW & 37HW Function	Description page number	Diagram page number
DEL	EWEL	See page 3-14	See page 4-38
DEU	EWEU	See page 3-14	See page 4-40
LEL		See page 3-14	See page 4-58
LEU		See page 3-14	See page 4-60
NXEL	YEL	See page 3-15	See page 4-46
NXEU	YEU	See page 3-15	See page 4-48
TDEL		See page 3-15	See page 4-50
TDEU		See page 3-15	See page 4-52
TWEL		See page 3-16	See page 4-54
TWEU		See page 3-16	See page 4-56
WEL	WWEL	See page 3-16	See page 4-42
WEU	WWEU	See page 3-16	See page 4-44

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- single-keyed (page 3-5)
- double-keyed (page 3-8)
- deadlocked (page 3-10)
- non-keyed (page 3-11)
- special (page 3-13)
- electrified (page 3-14)

Note: If the function is ANSI defined, the ANSI designation appears by the function name.

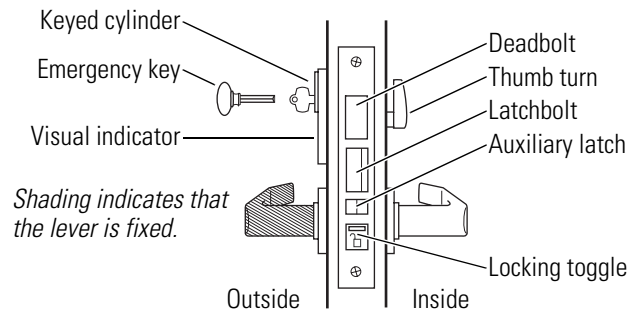
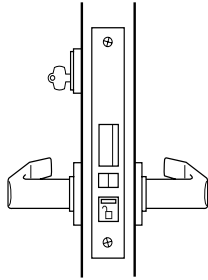


Figure 3.1 Understanding function drawings

Single-keyed functions

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each single-keyed 45H & 47H function.

A–Office lock (ANSI F04)



Latchbolt operated by:

- outside key
- outside lever when the locking toggle is in the unlocked position
- inside lever

Latchbolt is deadlocked by an auxiliary latch

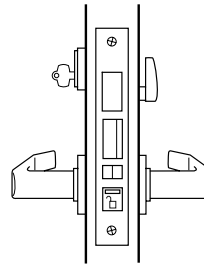
- Outside lever locked by:**
- placing the locking toggle in the locked position

Outside lever unlocked by:

- placing the locking toggle in the unlocked position

Inside lever is always unlocked

AB–Office lock (ANSI F20)



Latchbolt operated by:

- outside key
- outside lever when the locking toggle is in the unlocked position
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Deadbolt operated by:

- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:

- placing the locking toggle in the locked position

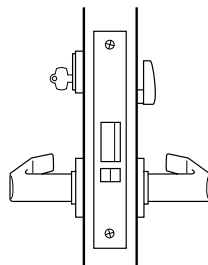
■ extending the deadbolt

Outside lever unlocked by:

- placing the locking toggle in the unlocked position

Inside lever is always unlocked

AT–Office lock (ANSI F04)



Latchbolt operated by:

- outside key
- outside lever when unlocked by outside or thumb turn
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:

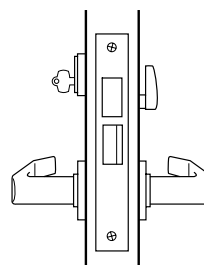
- outside key
- inside thumb turn

Outside lever unlocked by:

- outside key
- inside turn knob

Inside lever is always unlocked

B–Entrance lock (ANSI F21)



Latchbolt operated by:

- outside key
- outside lever when the deadbolt is retracted
- inside lever when the deadbolt is retracted

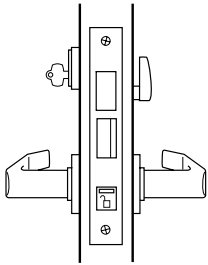
Deadbolt operated by:

- outside key
- inside thumb turn

Inside and outside lever locked by:

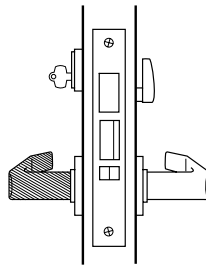
- extending the deadbolt

BA—Entrance lock (ANSI F08)



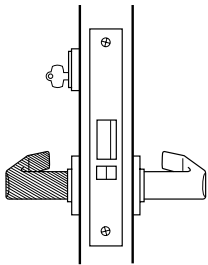
- Latchbolt operated by:**
- outside key
 - outside lever when the locking toggle is in the unlocked position
 - inside lever when the deadbolt is retracted
- Deadbolt operated by:**
- outside key
 - inside thumb turn
- Outside lever locked by:**
- extending the deadbolt
 - placing the locking toggle in the locked position
- Inside lever locked by:**
- extending the deadbolt

BW—Entrance or storeroom lock



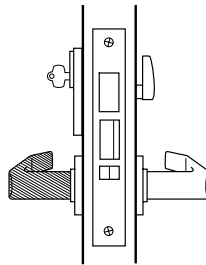
- Latchbolt operated by:**
- outside key
 - inside lever when the deadbolt is retracted
- Latchbolt is deadlocked by an auxiliary latch**
- Deadbolt operated by:**
- outside key
 - inside thumb turn
- Outside lever is always fixed**
- Inside lever locked by:**
- extending the deadbolt

D—Storeroom lock (ANSI F07)



- Latchbolt operated by:**
- outside key
 - inside lever
- Latchbolt is deadlocked by an auxiliary latch**
- Outside lever is always fixed**
- Inside lever is always unlocked**

H—Hotel lock (ANSI F15)

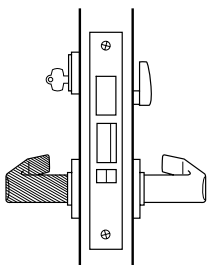


- Latchbolt operated by:**
- outside key
 - inside lever
- Latchbolt is deadlocked by an auxiliary latch**
- Deadbolt operated by:**
- outside special master key
 - inside thumb turn
 - inside lever retracts the deadbolt and latchbolt simultaneously
- Outside lever is always fixed**
- Inside lever is always unlocked**

Note 1: When the deadbolt is extended, the visual indicator shows the locked icon.

Note 2: Available for 45H Locks only.

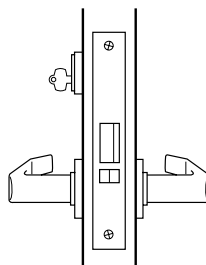
HJ—Hotel lock (ANSI F15)



- Latchbolt operated by:**
- outside key
 - inside lever
- Latchbolt is deadlocked by an auxiliary latch**
- Deadbolt operated by:**
- outside special master key
 - inside thumb turn
 - inside lever retracts the deadbolt and latchbolt simultaneously
- Outside lever is always fixed**
- Inside lever is always unlocked**

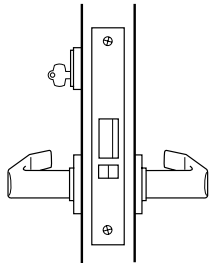
Note: Available for 45H Locks only.

R—Classroom lock (ANSI F05)



- Latchbolt operated by:**
- outside key
 - outside lever when unlocked by the outside key
 - inside lever
- Latchbolt deadlocked by an auxiliary latch**
- Outside lever locked and unlocked by:**
- outside key
- Inside lever is always unlocked**

RHB—Classroom holdback (ANSI F06)



Latchbolt operated by:

- outside key/lever
- outside lever except when locked by the outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Latchbolt stays retracted after:

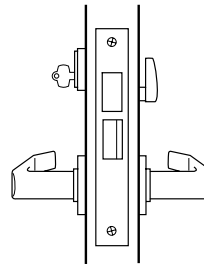
- turning the inside lever up and then rotating the outside key

Outside lever locked and unlocked by:

- outside key

Inside lever is always unlocked

T—Dormitory lock (ANSI F13)



Latchbolt operated by:

- outside lever when deadbolt is retracted
- inside lever

Deadbolt operated by:

- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:

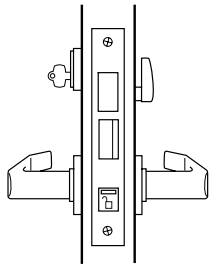
- extending the deadbolt

Outside lever unlocked by:

- retracting the deadbolt

Inside lever is always unlocked

TA—Dormitory lock (ANSI F12)



Latchbolt operated by:

- outside key
- outside lever when the locking toggle is in the unlocked position and the deadbolt is retracted
- inside lever

Deadbolt operated by:

- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:

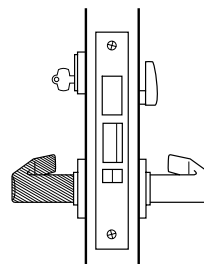
- placing the locking toggle in the locked position
- extending the deadbolt

Outside lever unlocked by:

- outside key and placing the locking toggle in the unlocked position

Inside lever is always unlocked

TD—Dormitory lock



Latchbolt operated by:

- outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Deadbolt operated by:

- outside key
- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever is always fixed

Inside lever is always unlocked

Double-keyed functions

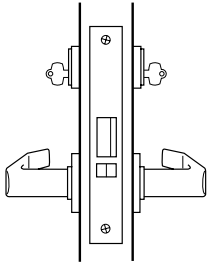
The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each double-keyed 45H & 47H function.



Warning!

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

C—Public entrance (ANSI F09)



Latchbolt operated by:

- outside key
- outside lever except when locked by inside key
- inside lever

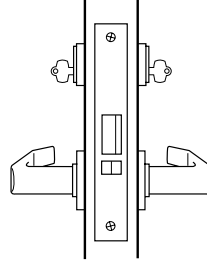
Latchbolt is deadlocked by an auxiliary latch

Outside lever locked and unlocked by:

- inside key

Inside lever is always unlocked

CHB—Holdback



Latchbolt operated by:

- outside key
- outside lever except when locked by inside key
- inside lever

Latchbolt stays retracted after:

- turning the inside lever up and then rotating the inside key

Latchbolt is deadlocked by an auxiliary latch

Outside lever locked and unlocked by:

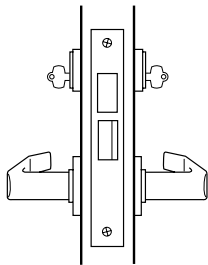
- inside key

Inside lever is always unlocked

Note: The inside cylinder may be combined to operate by the master key only.



G—Communicating lock (ANSI F14)



Latchbolt operated by:

- inside lever when deadbolt is retracted
- outside lever when deadbolt is retracted

Deadbolt operated by:

- outside key
- inside key

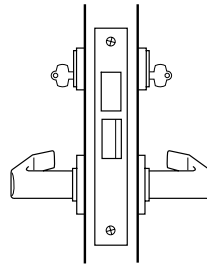
Outside lever locked by:

- extending the deadbolt

Inside lever locked and unlocked by:

- inside key
- outside key

IND—Intruder lock (ANSI F33)



Latchbolt operated by:

- outside key
- inside key
- outside lever when deadbolt is retracted
- inside lever

Deadbolt operated by:

- outside key
- inside key
- inside lever retracts the deadbolt and latchbolt simultaneously

Outside lever locked by:

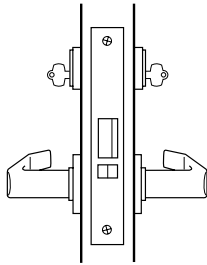
- extending the deadbolt

Outside lever unlocked by:

- retracting the deadbolt

Inside lever is always unlocked

INL–Intruder lock (ANSI F32)



Latchbolt operated by:

- outside and inside key
- outside lever when not locked by inside or outside key
- inside lever

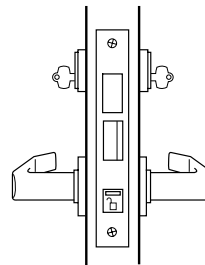
Latchbolt is deadlocked by an auxiliary latch

Outside lever locked and unlocked by:

- outside key and inside key

Inside lever is always unlocked

▲ S–Storeroom lock (ANSI F35)



Latchbolt operated by:

- outside and inside key
- outside lever when the locking toggle is in the unlocked position
- inside lever when the deadbolt is retracted

Deadbolt operated by:

- outside key
- inside key

Outside lever locked by:

- placing the locking toggle in the locked position

Outside lever unlocked by:

- retracting the deadbolt and placing the locking toggle in the unlocked position

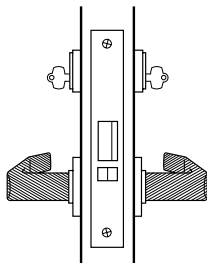
Inside lever locked by:

- extending the deadbolt

Inside lever unlocked by:

- retracting the deadbolt

▲ W–Storeroom lock (ANSI F30)



Latchbolt operated by:

- inside key
- outside key

Latchbolt is deadlocked by an auxiliary latch

Outside lever is always fixed

Inside lever is always fixed

Note: When required, the inside cylinder may be combined to operate by master key only.

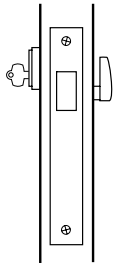
Deadlocked functions



The following lists describe how the deadbolt operates for each deadlocked 45H & 47H function.

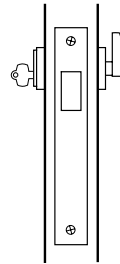
Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or event fatal.

AD–Deadlock (ANSI F17)



- Deadbolt extended by:**
- outside key
- Deadbolt retracted by:**
- inside thumb turn

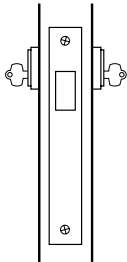
RD–Classroom deadlock (ANSI F29)



- Deadbolt extended by:**
- outside key
- Deadbolt retracted by:**
- outside key
 - inside thumb turn

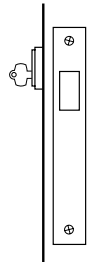
Note: Specify the hand of the door.

⚠ WD–Deadlock (ANSI F16)



- Deadbolt operated by:**
- outside key
 - inside key

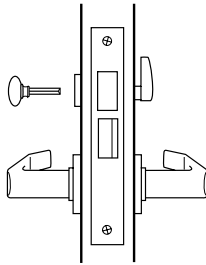
⚠ YD–Deadlock (ANSI F18)



- Deadbolt operated by:**
- outside key

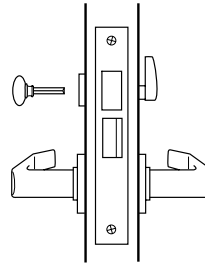
Non-keyed functions The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each non-keyed 45H function.

L-Privacy lock (ANSI F19)



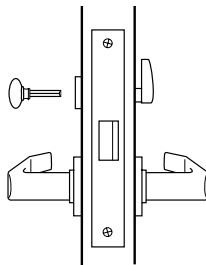
- Latchbolt operated by:**
- outside lever when the deadbolt is retracted
 - inside lever
- Deadbolt operated by:**
- outside emergency key
 - inside thumb turn
 - inside lever retracts the deadbolt and latchbolt simultaneously
- Outside lever locked by:**
- outside emergency key
 - inside thumb turn
- Outside lever unlocked by:**
- outside emergency key
 - inside thumb turn
 - inside lever
- Inside lever is always unlocked**

LB-Privacy lock (ANSI F02)



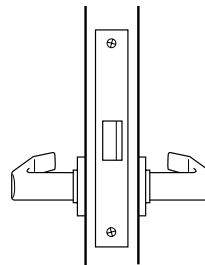
- Latchbolt operated by:**
- outside lever when the deadbolt is retracted
 - inside lever when the deadbolt is retracted
- Deadbolt operated by:**
- outside emergency key
 - inside thumb turn
- Inside and outside lever locked by:**
- extending the deadbolt
- Inside and outside lever unlocked by:**
- retracting the deadbolt

LT-Privacy lock



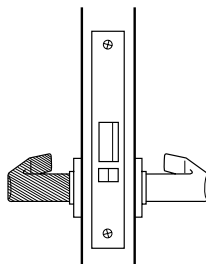
- Latchbolt operated by:**
- outside lever when thumb turn is unlocked
 - inside lever
- Outside lever locked by:**
- outside emergency key
 - inside thumb turn
- Outside lever unlocked by:**
- outside emergency key
 - inside thumb turn
 - inside lever
- Inside lever is always unlocked**

N-Passage lock (ANSI F01)



- Latchbolt operated by:**
- outside lever
 - inside lever
- Inside and outside levers are always unlocked**

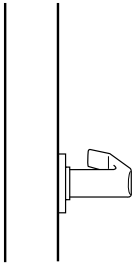
NX-Exit lock (ANSI F31)



- Latchbolt operated by:**
- inside lever
- Latchbolt is deadlocked by an auxiliary latch**
- Outside lever is always fixed**
- Inside lever is always unlocked**

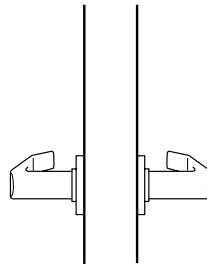
Lock Functions

1DT–Single dummy trim



This product is a single, surface mounted lever for an inactive door or a non-latching door.

2DT–Double dummy trim



This product is a through-bolt mounted pair of matching levers for an inactive door or a non-latching door.

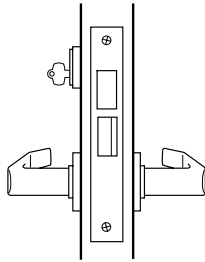
Special functions



The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each special 45H & 47H function.

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

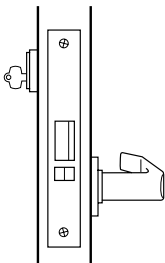
⚡ B5—Entrance lock



- Latchbolt operated by:**
- outside key
 - outside lever when the deadbolt is retracted
 - inside lever when the deadbolt is retracted
- Deadbolt operated by:**
- outside key
- Inside and outside lever locked by:**
- extending the deadbolt

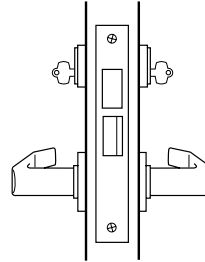
Note 1: Trim is removable from the outside only.
Note 2: The only difference between the 35H-37H B4 and B5 functions was the cylinder retaining screw. The B4 and B5 functions have been combined into the 45H & 47H B5 function.

XR—Classroom lock



- Latchbolt operated by:**
- outside key
 - inside lever
- Inside lever is always unlocked**

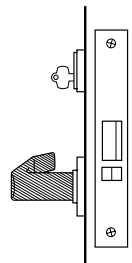
⚡ B7—Entrance lock



- Latchbolt operated by:**
- inside key
 - outside key
 - outside lever when the deadbolt is retracted
 - inside lever when the deadbolt is retracted
- Deadbolt operated by:**
- outside key
 - inside key
- Inside and outside lever locked by:**
- extending the deadbolt

Note 1: Trim is removable from the outside only.
Note 2: The only difference between the 35H-37H B6 and B7 functions was the cylinder retaining screw. The B6 and B7 functions have been combined into the 45H & 47H B7 function.

⚡ ZD—Storeroom lock



- Latchbolt operated by:**
- outside key
- Latchbolt is deadlocked by an auxiliary latch**
- Outside lever is always locked**

Electrified functions

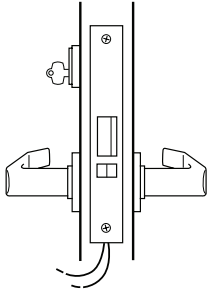


Warning!

The following lists describe how the latchbolt, deadbolt, outside lever, and inside lever operate for each electrified 45HW & 47HW function.

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door could be hazardous, or even fatal.

DEL—Electrically locked—Fail safe lock



Latchbolt operated by:

- outside lever when power is removed from the solenoid
- outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:

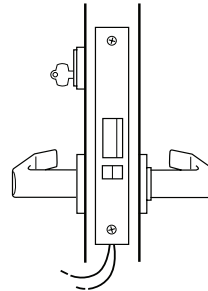
- applying power to solenoid; remains locked while power is continuously applied

Outside lever unlocked by:

- removing power from the solenoid

Inside lever is always unlocked

DEU—Electrically unlocked—Fail secure lock



Latchbolt operated by:

- outside lever when power is applied to the solenoid
- outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:

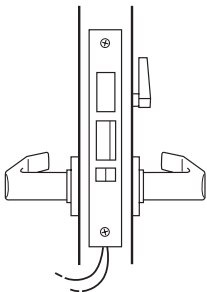
- removing power from solenoid

Outside lever unlocked by:

- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked

LEL—Electrically locked—Fail safe lock



Latchbolt operated by:

- outside lever when power is removed from the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Deadbolt extended by:

- inside thumb turn

Deadbolt retracted by:

- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously
- outside lever when power is removed

Outside lever locked by:

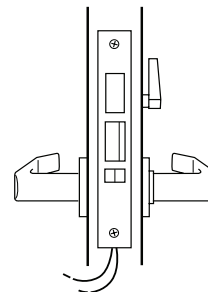
- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:

- removing power from the solenoid

Inside lever is always unlocked

LEU—Electrically unlocked—Fail secure lock



Latchbolt operated by:

- outside lever when power is applied to the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Deadbolt extended by:

- inside thumb turn

Deadbolt retracted by:

- inside thumb turn
- inside lever retracts the deadbolt and latchbolt simultaneously
- outside lever when power is applied

Outside lever locked by:

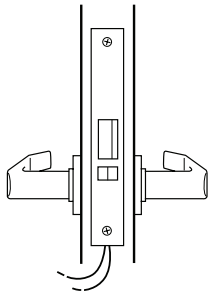
- removing power from the solenoid

Outside lever unlocked by:

- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked

NXEL—Electrically locked—Fail safe lock



Latchbolt operated by:

- outside lever when power is removed from the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:

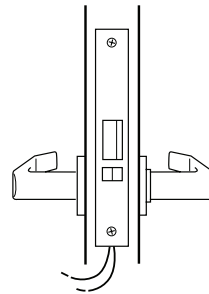
- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:

- removing power from the solenoid

Inside lever is always unlocked

NXEU—Electrically unlocked—Fail secure lock



Latchbolt operated by:

- outside lever when power is applied to the solenoid
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Outside lever locked by:

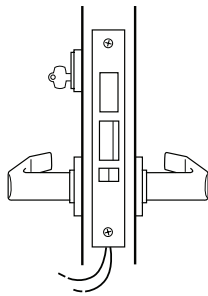
- removing power from the solenoid

Outside lever unlocked by:

- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked

TDEL—Electrically locked—Fail safe lock



Latchbolt operated by:

- outside key
- outside lever when power is removed from the solenoid

Latchbolt is deadlocked by an auxiliary latch

Deadbolt operated by:

- outside key

Outside lever locked by:

- applying power to the solenoid; remains locked while power is continuously applied

Outside lever unlocked by:

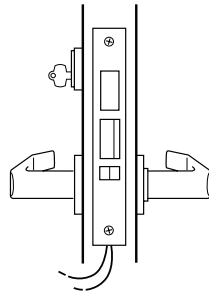
- removing power from the solenoid

Inside lever is always unlocked

Deadbolt and latchbolt retracted simultaneously by:

- inside lever
- outside lever when power is removed

TDEU—Electrically unlocked—Fail secure lock)



Latchbolt operated by:

- outside key
- outside lever when power is applied to the solenoid

Latchbolt is deadlocked by an auxiliary latch

Deadbolt operated by:

- outside key

Outside lever locked by:

- removing power from the solenoid

Outside lever unlocked by:

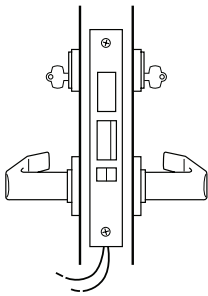
- applying power to the solenoid; remains unlocked while power is continuously applied

Inside lever is always unlocked

Deadbolt and latchbolt retracted simultaneously by:

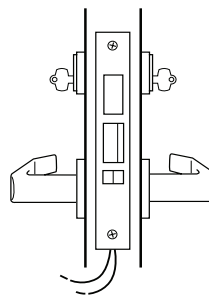
- inside lever
- outside lever when power is applied

TWEL—Electrically locked—Fail safe lock



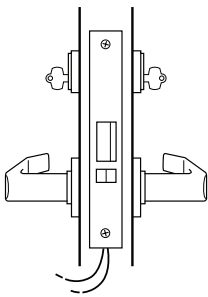
- Latchbolt operated by:**
- outside and inside key
 - outside and inside lever when power is removed from the solenoid
- Latchbolt is deadlocked by an auxiliary latch**
- Deadbolt operated by:**
- outside key
 - inside key
 - outside and inside lever when power is removed from the solenoid
- Outside lever locked by:**
- applying power to the solenoid; remains locked while power is continuously applied
- Outside lever unlocked by:**
- removing power from the solenoid
- Inside lever locked by:**
- applying power to the solenoid; remains locked while power is continuously applied
- Inside lever unlocked by:**
- removing power from solenoid

TWEU—Electrically unlocked—Fail secure lock



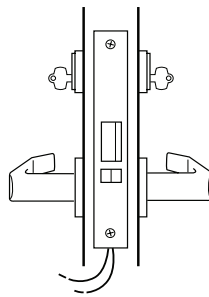
- Latchbolt operated by:**
- outside and inside key
 - outside and inside lever when power is applied to the solenoid
- Latchbolt is deadlocked by an auxiliary latch**
- Deadbolt operated by:**
- outside key
 - inside key
 - outside and inside lever when power is applied to the solenoid
- Outside lever locked by:**
- removing power from the solenoid
- Outside lever unlocked by:**
- applying power to the solenoid; remains unlocked while power is continuously applied
- Inside lever locked by:**
- removing power from the solenoid
- Inside lever unlocked by:**
- applying power to the solenoid; remains locked while power is continuously applied

▲ WEL—Electrically locked—Fail safe lock



- Latchbolt operated by:**
- inside lever when power is removed from the solenoid
 - outside lever when power is removed from the solenoid
 - inside key
 - outside key
- Latchbolt is deadlocked by an auxiliary latch**
- Outside lever locked by:**
- applying power to the solenoid; remains locked while power is continuously applied
- Outside lever unlocked by:**
- removing power from the solenoid
- Inside lever locked by:**
- applying power to the solenoid; remains locked while power is continuously applied
- Inside lever unlocked by:**
- removing power from the solenoid

▲ WEU—Electrically unlocked—Fail secure lock



- Latchbolt operated by:**
- inside lever when power is applied to the solenoid
 - outside lever when power is applied to the solenoid
 - inside key
 - outside key
- Latchbolt is deadlocked by an auxiliary latch**
- Outside lever locked by:**
- removing power from the solenoid
- Outside lever unlocked by:**
- applying power to the solenoid; remains locked while power is continuously applied
- Inside lever locked by:**
- removing power from the solenoid
- Inside lever unlocked by:**
- applying power to the solenoid; remains locked while power is continuously applied

4

MORTISE CASE PARTS

The following pages contain exploded diagrams and parts lists for 45H & 47H and 45HW & 47HW mortise cases. Use the table below to find the page number for a particular function. For exploded diagrams and parts lists for 48H mortise cases, see *48H & 49H Mortise case parts* on [page 7-2](#).

For this function	See page	For this function	See page	For this function	See page
A	4-2	H	4-24	S	4-18
AB	4-14	HJ	4-24	T	4-26
AD	4-34	IND	4-26	TA	4-32
AT	4-4	INL	4-4	TD	4-24
B	4-16	L	4-28	TDEL	4-50
BA	4-18	LB	4-30	TDEU	4-52
BW	4-20	LEL	4-58	TWEL	4-54
B5	4-22	LEU	4-60	TWEU	4-56
B7	4-22	LT	4-6	W	4-4
C	4-4	NX	4-10	WEL	4-42
CHB	4-12	NXEL	4-46	WEU	4-44
D	4-4	NXEU	4-48	WD	4-34
DEL	4-38	R	4-4	XR	4-4
DEU	4-40	RD	4-36	YD	4-34
G	4-22	RHB	4-12	ZD	4-4

A FUNCTION CASE—OFFICE LOCK

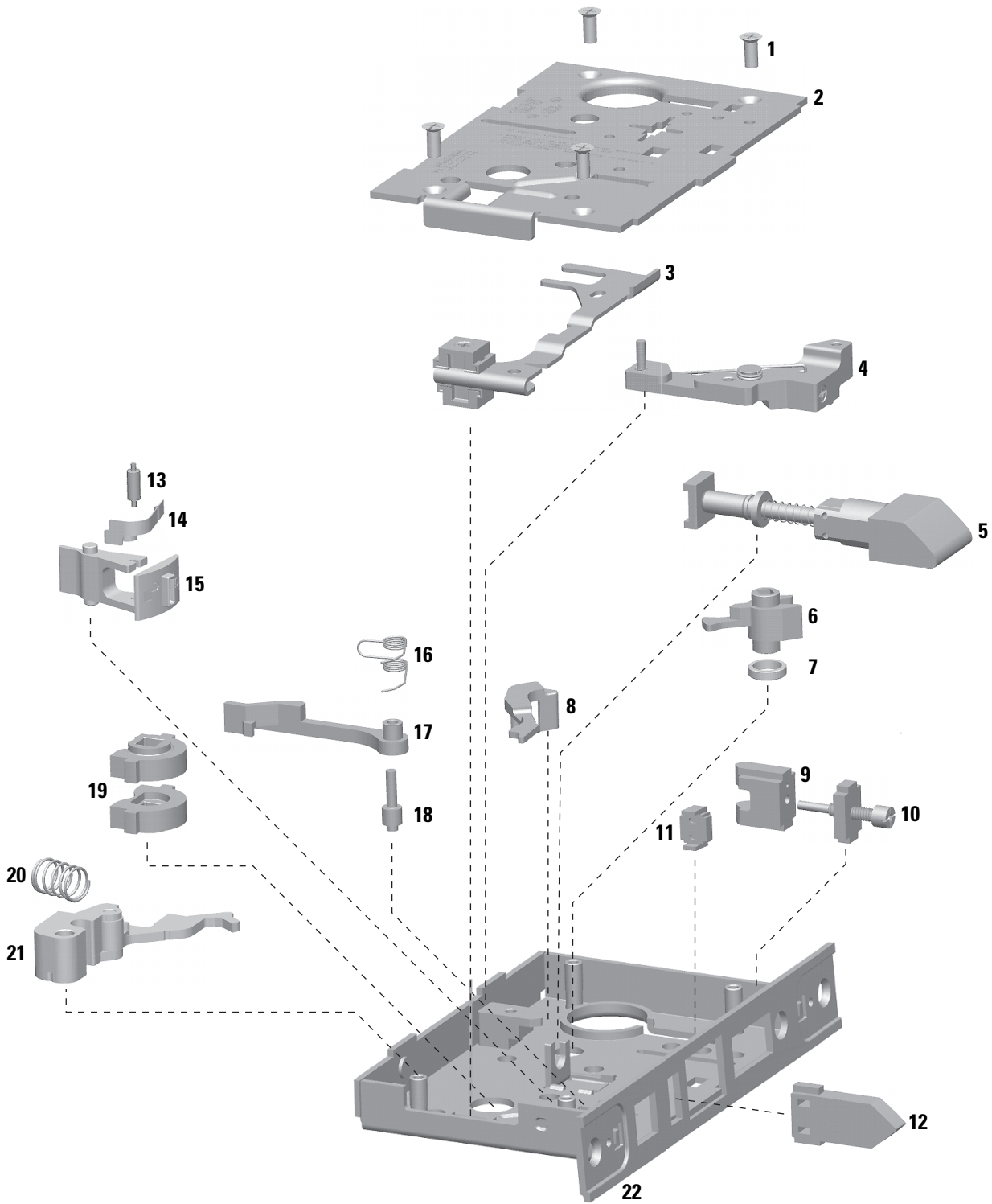


Figure 4.1 A function case exploded diagram

A function case parts list

Refer to [Figure 4.1](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44108	1	Turn knob hub (lost motion)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	A44188	1	Toggle roller
14	B44190	1	Toggle lever spring
15	C44100	1	Toggle lever
16	B44194	1	Deadlocking lever spring
17	C44148	1	Deadlocking lever
18	A44184	1	Deadlocking lever pin
19	C44146	2	Hub
20	A44193	1	Release lever spring
21	C45010	1	Release lever sub-assembly
22	C45000	1	Case sub-assembly

a. For a complete case, use C45504. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

AT FUNCTION CASE—OFFICE LOCK
C FUNCTION CASE—PUBLIC ENTRANCE LOCK
D FUNCTION CASE—STOREROOM LOCK
INL FUNCTION CASE—INTRUDER LOCK

R FUNCTION CASE—CLASSROOM LOCK
W FUNCTION CASE—STOREROOM LOCK
ZD FUNCTION CASE—STOREROOM LOCK
XR FUNCTION CASE—CLASSROOM LOCK

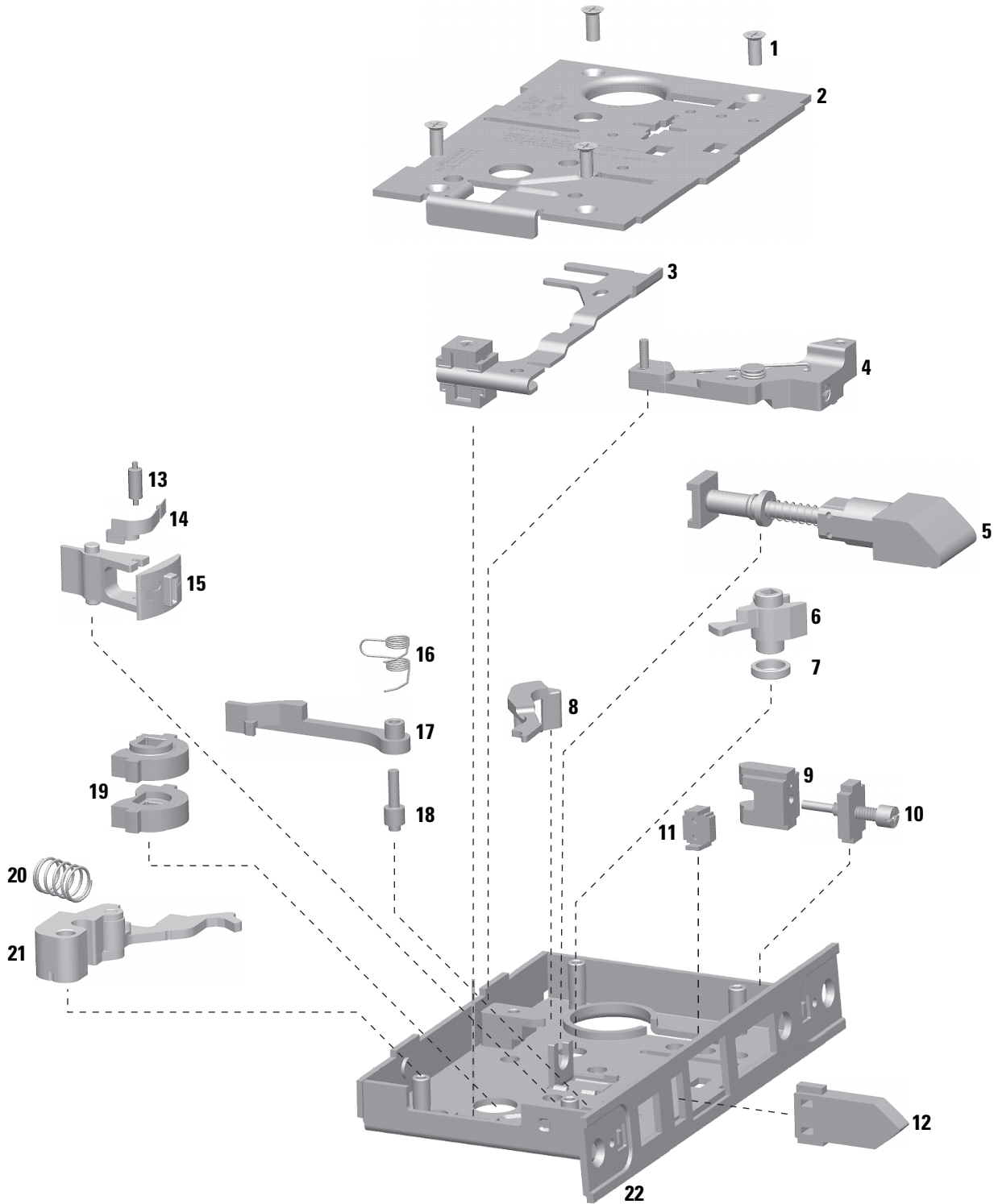


Figure 4.2 AT, C, D, INL, R, W, ZD, XR function case exploded diagram

**AT, C, D, INL, R, W,
ZD, XR function
case parts list**

Refer to [Figure 4.2](#) and the table below to find the part you need.

Item	Part No.^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44106	1	Turn knob hub (non-deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	A44188	1	Toggle roller
14	B44190	1	Toggle lever spring
15	C44100	1	Toggle lever
16	B44194	1	Deadlocking lever spring
17	C44148	1	Deadlocking lever
18	A44184	1	Deadlocking lever pin
19	C44146	2	Hub
20	A44193	1	Release lever spring
21	C45010	1	Release lever sub-assembly
22	C45000	1	Case sub-assembly

- a. For a complete case assembly, use C45507 and reconfigure the shuttle screws as needed. See *Changing the function for universal cases* on [page 6-5](#). To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

LT FUNCTION CASE—PRIVACY LOCK

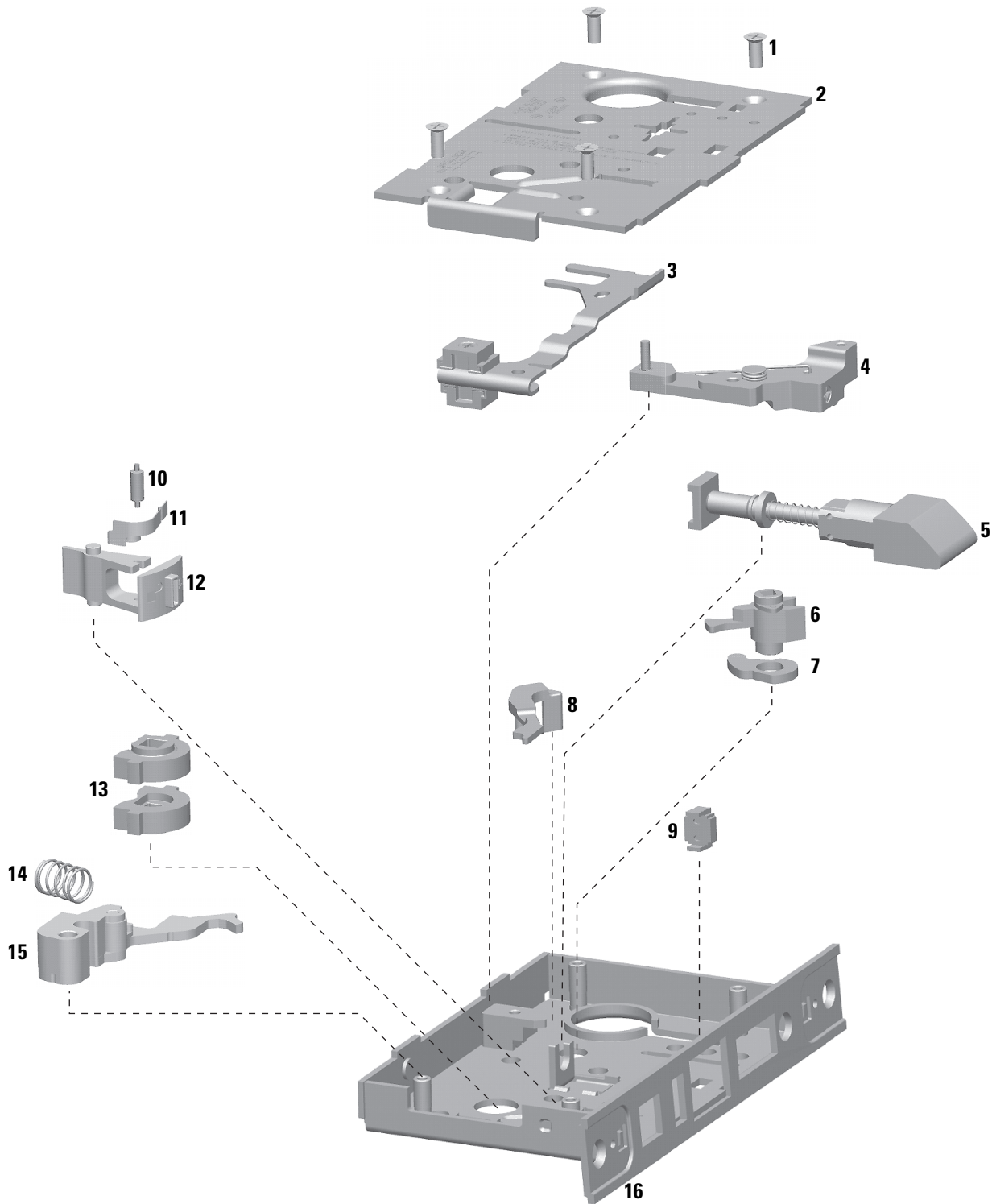


Figure 4.3 LT function case exploded diagram

**LT function case
parts list**

Refer to [Figure 4.3](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	A44188	1	Toggle roller
11	B44190	1	Toggle lever spring
12	C44100	1	Toggle lever
13	C44146	2	Hub
14	A44193	1	Release lever spring
15	C45010	1	Release lever sub-assembly
16	C45000	1	Case sub-assembly

a. For a complete case, use C45520. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

N FUNCTION CASE—PASSAGE LOCK

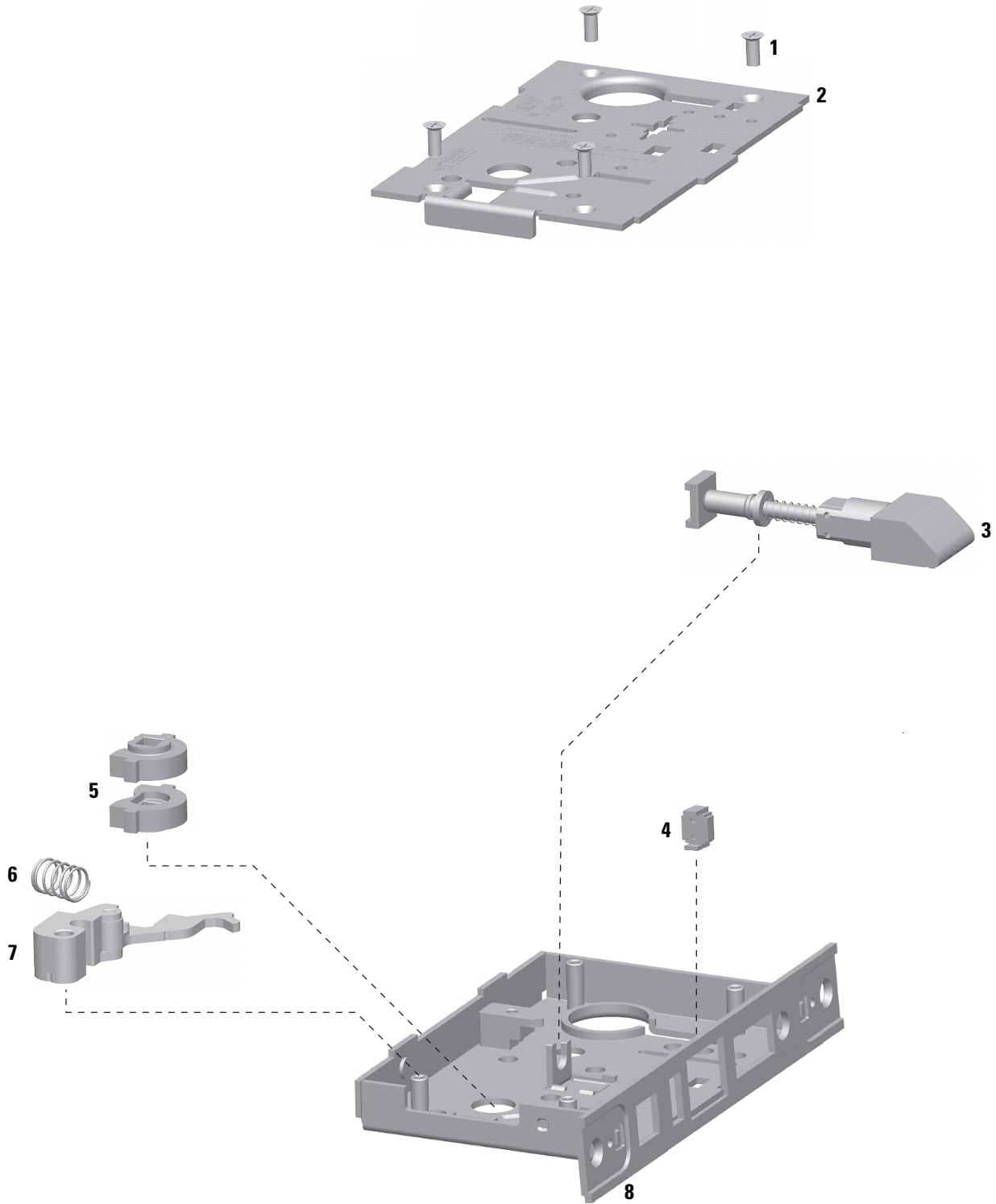


Figure 4.4 N function case exploded diagram

**N function case
parts list**

Refer to [Figure 4.4](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B45020	1	Latchbolt sub-assembly
4	B44166	1	Fusible link molded assembly
5	C44146	2	Hub
6	A44193	1	Release lever spring
7	C45010	1	Release lever sub-assembly
8	C45000	1	Case sub-assembly

a. For a complete case, use C45505. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

NX FUNCTION CASE—EXIT LOCK

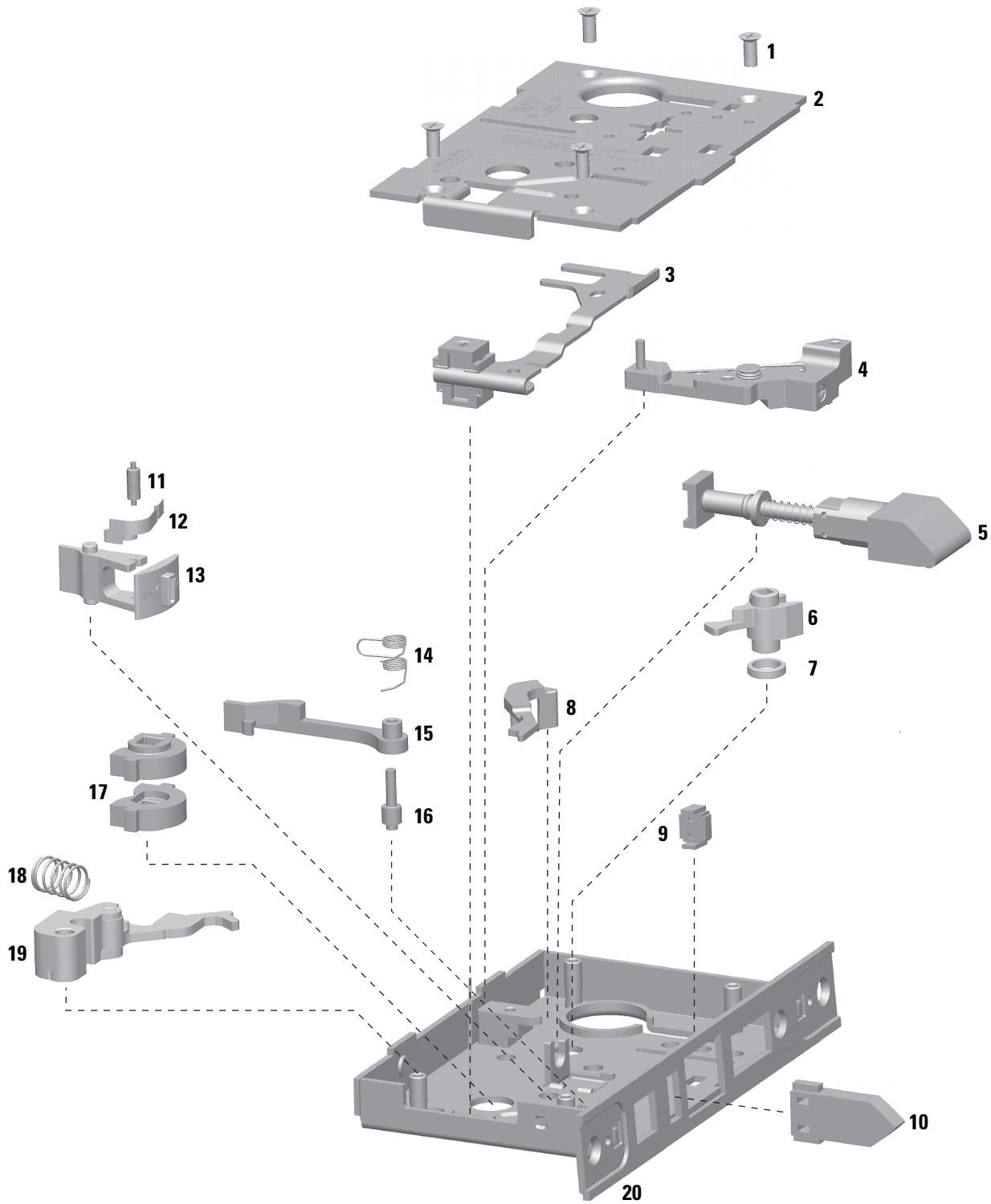


Figure 4.5 NX function case exploded diagram

**NX function case
parts list**

Refer to [Figure 4.5](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45040	1	Key release shuttle assembly
5	B45020	1	Latchbolt sub-assembly
6	C44106	1	Turn knob hub (non-deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	C44142	1	Auxiliary bolt
11	A44188	1	Toggle roller
12	B44190	1	Toggle lever spring
13	C44100	1	Toggle lever
14	B44194	1	Deadlocking lever spring
15	C44148	1	Deadlocking lever
16	A44184	1	Deadlocking lever pin
17	C44146	2	Hub
18	A44193	1	Release lever spring
19	C45010	1	Release lever sub-assembly
20	C45000	1	Case sub-assembly

a. For a complete case, use C45506. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

CHB FUNCTION CASE—HOLDBACK LOCK
RHB FUNCTION CASE—CLASSROOM HOLDBACK LOCK

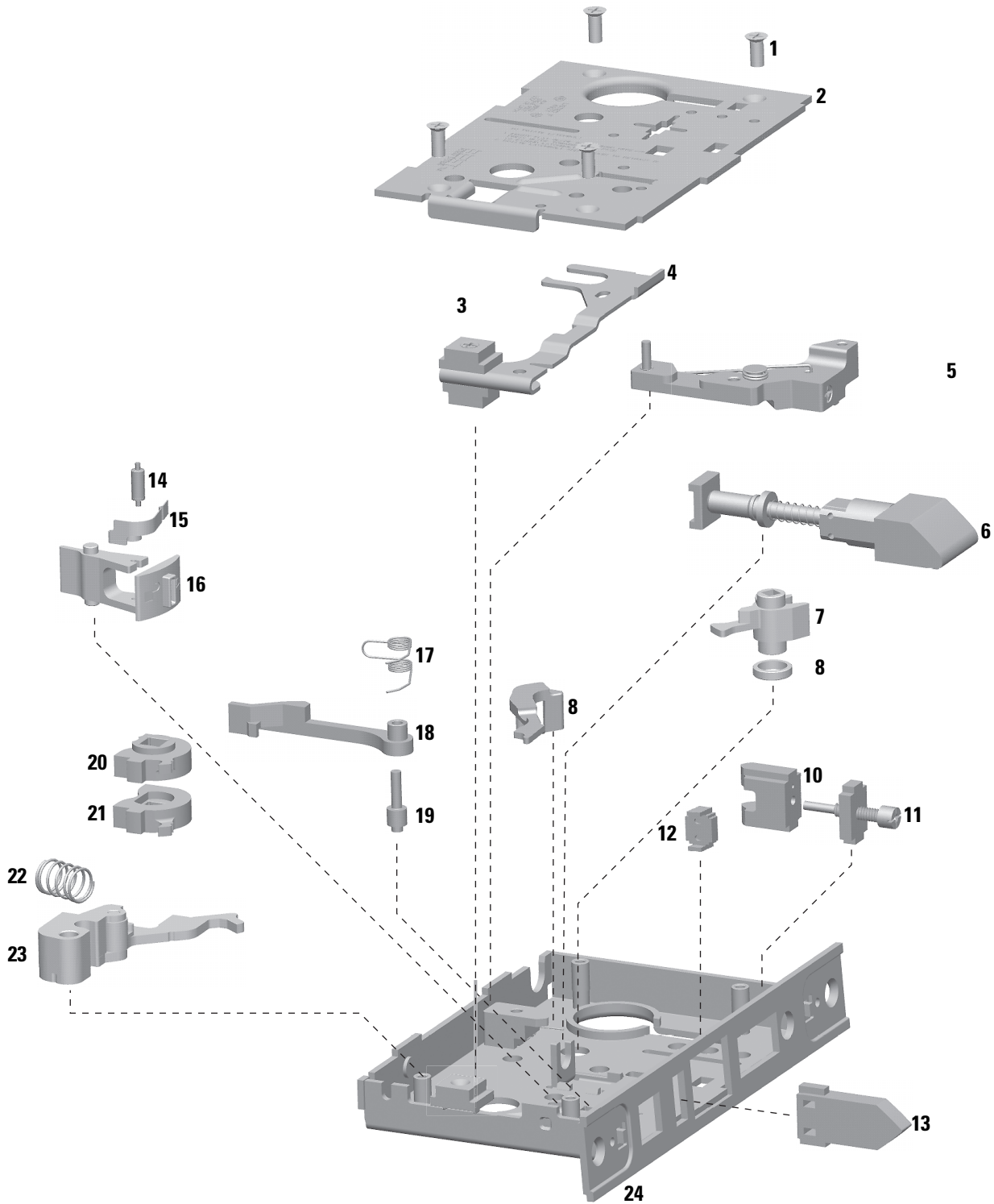


Figure 4.6 CHB, RHB function case exploded diagram

**CHB, RHB function
case parts list**Refer to [Figure 4.6](#) and the table below to find the part you need

Item	Part No.^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	C44537	1	Holdback cover
3	B44535	2	Holdback locking toggle
4	C44054	1	Locking lever
5	B45040	1	Key release shuttle assembly
6	B45020	1	Latchbolt sub-assembly
7	C44106	1	Turn knob hub (non-deadbolt)
8	A34120	1	Turn knob hub spacer
9	C44110	1	Key release lever
10	C44144	1	Cylinder retainer
11	B45090	1	Cylinder retainer assembly
12	B44166	1	Fusible link molded assembly
13	C44142	1	Auxiliary bolt
14	A44188	1	Toggle roller
15	B44190	1	Toggle lever spring
16	C44100	1	Toggle lever
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44532	1	Holdback hub LH
21	C44533	1	Holdback hub RH
22	A44193	1	Release lever spring
23	C45010	1	Release lever sub-assembly
24	C45002	1	Holdback case sub-assembly

a. For a complete case, use C45523. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

AB FUNCTION CASE—OFFICE LOCK

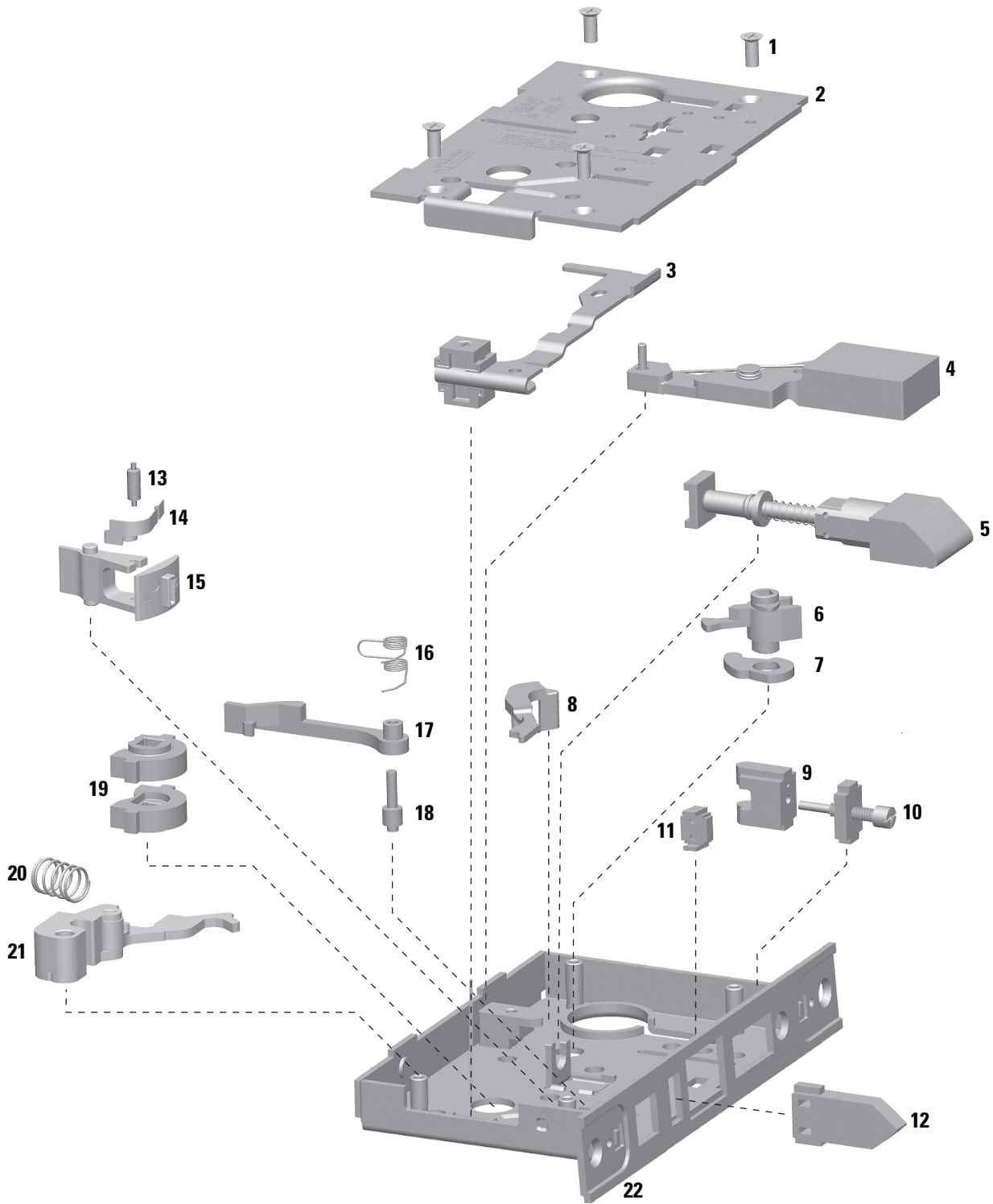


Figure 4.7 AB function case exploded diagram

AB function case parts list

Refer to [Figure 4.7](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45032	1	“F” locking lever sub-assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	A44188	1	Toggle roller
14	B44190	1	Toggle lever spring
15	C44100	1	Toggle lever
16	B44194	1	Deadlocking lever spring
17	C44148	1	Deadlocking lever
18	A44184	1	Deadlocking lever pin
19	C44146	2	Hub
20	A44193	1	Release lever spring
21	C45010	1	Release lever sub-assembly
22	C45000	1	Case sub-assembly

a. For a complete case, use C45502. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

B FUNCTION CASE—ENTRANCE LOCK

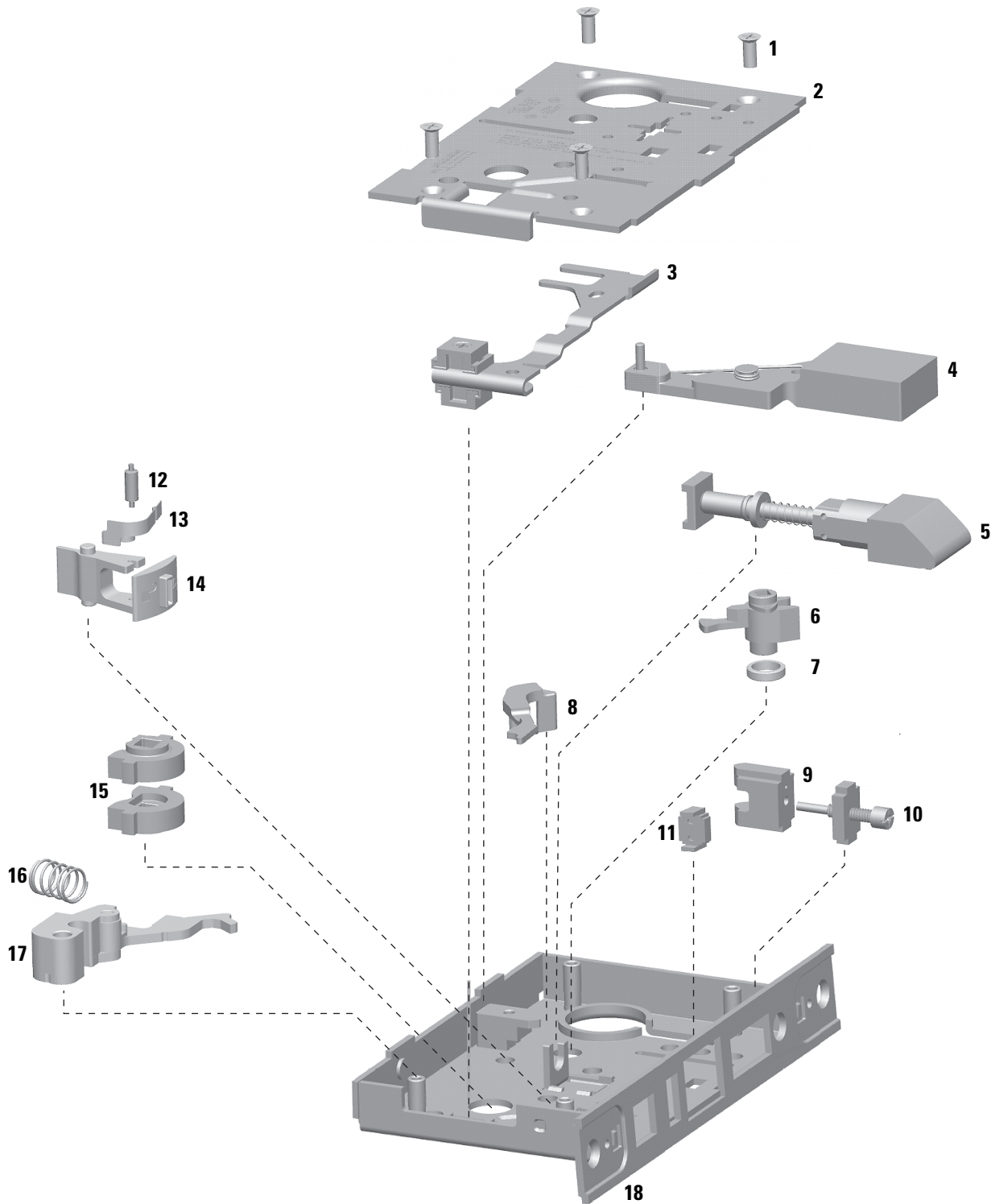


Figure 4.8 B function case exploded diagram

B function case parts list

Refer to [Figure 4.8](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45510. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

BA FUNCTION CASE—ENTRANCE LOCK
S FUNCTION CASE—STOREROOM LOCK

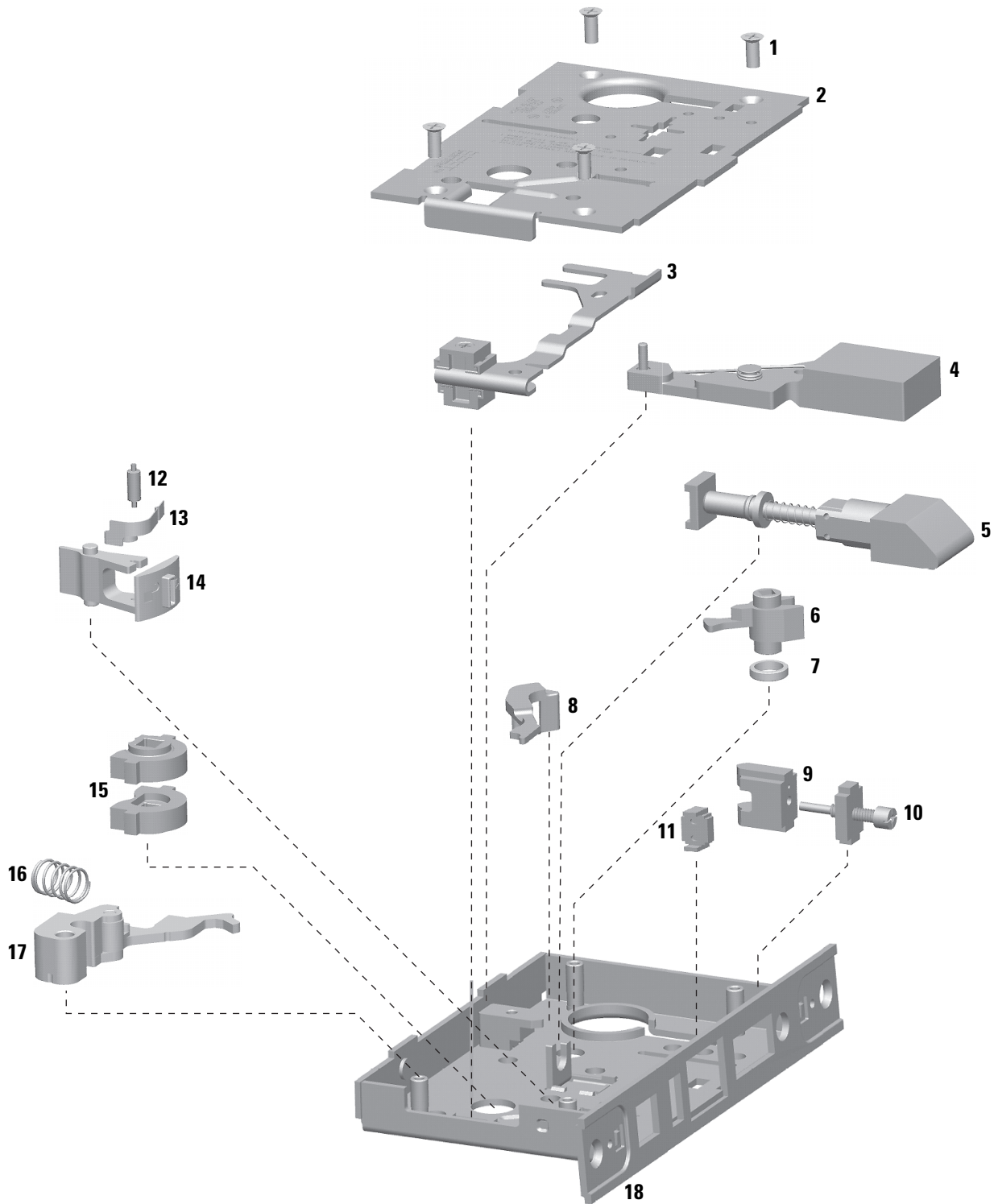


Figure 4.9 BA, S function case exploded diagram

**BA, S function case
parts list**

Refer to [Figure 4.9](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44108	1	Turn knob hub (lost motion)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45517. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

BW FUNCTION CASE—ENTRANCE LOCK

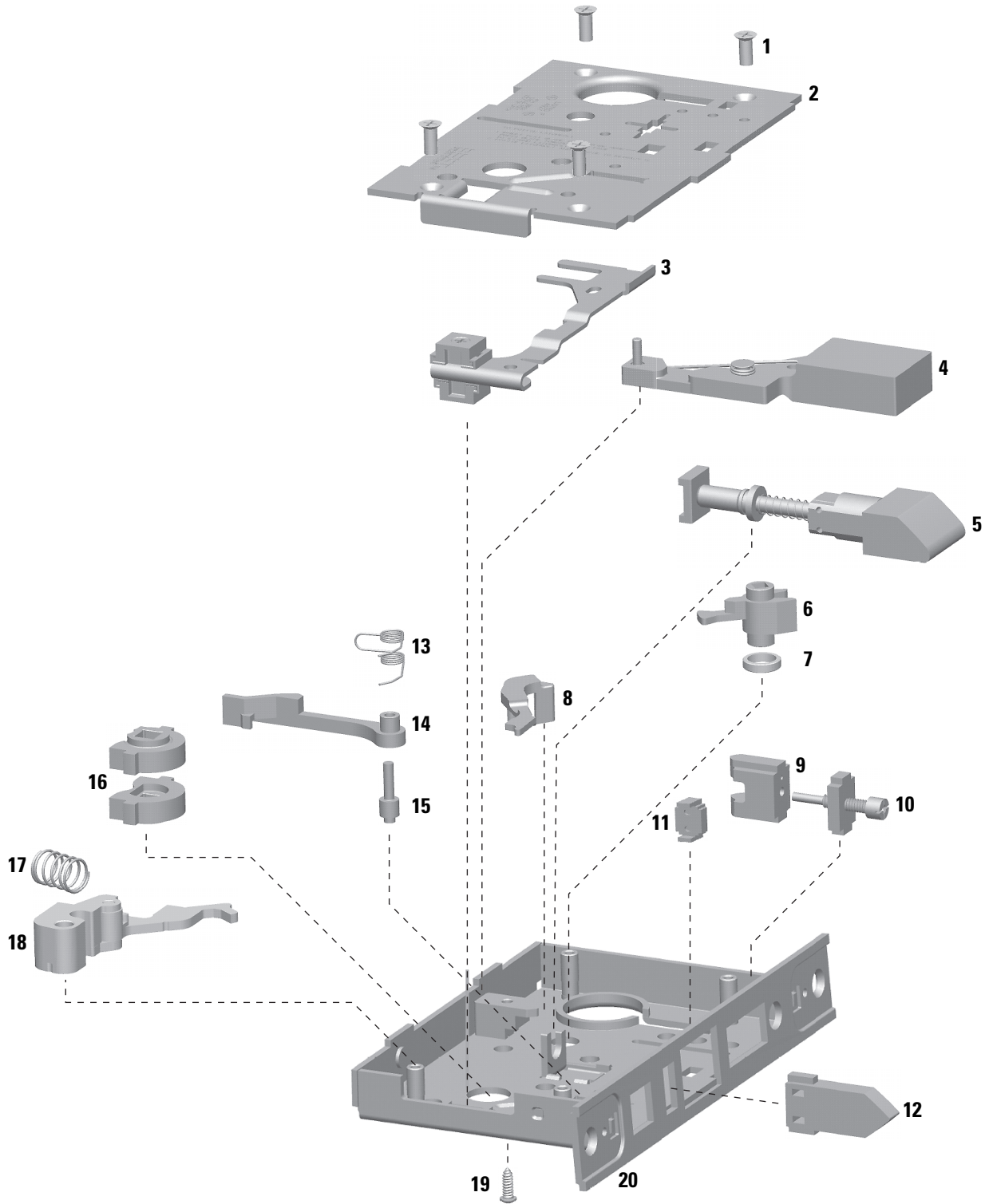


Figure 4.10 BW function case exploded diagram

BW function case parts list

Refer to [Figure 4.10](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44108	1	Turn knob hub (lost motion)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	B44194	1	Deadlocking lever spring
14	C44148	1	Deadlocking lever
15	A44184	1	Deadlocking lever pin
16	C44146	2	Hub
17	A44193	1	Release lever spring
18	C45010	1	Release lever sub-assembly
19	A44234	1	Self tapping screw
20	C45000	1	Case sub-assembly

a. For a complete case, use C45518. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

G FUNCTION CASE—COMMUNICATING LOCK
B5 FUNCTION CASE—ENTRANCE LOCK
B7 FUNCTION CASE—ENTRANCE LOCK

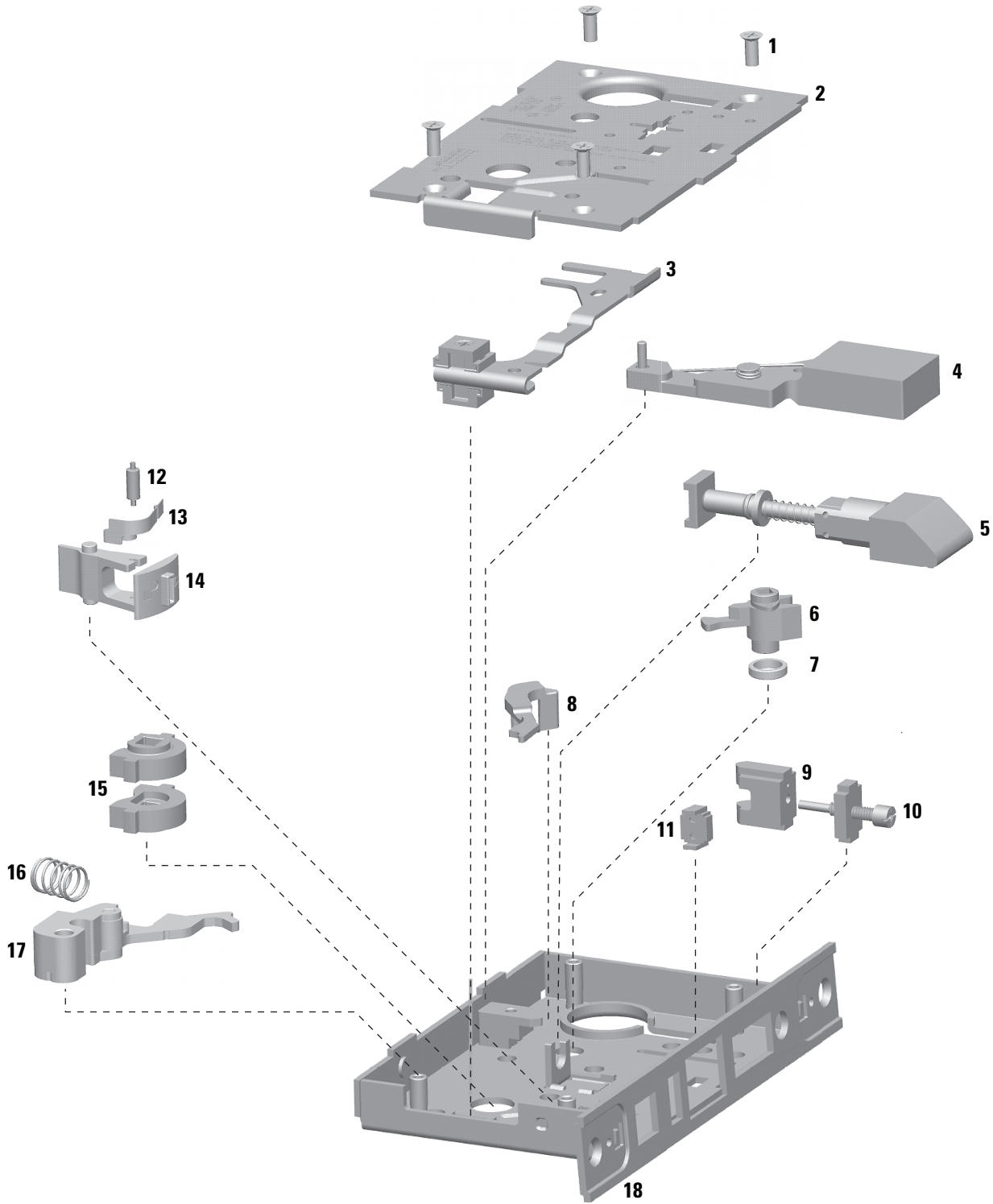


Figure 4.11 G, B5, B7 function case exploded diagram

**G, B5, B7, function
case parts list**

Refer to [Figure 4.11](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45508. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

H FUNCTION CASE—HOTEL LOCK
HJ FUNCTION CASE—HOTEL LOCK
TD FUNCTION CASE—DORMITORY LOCK

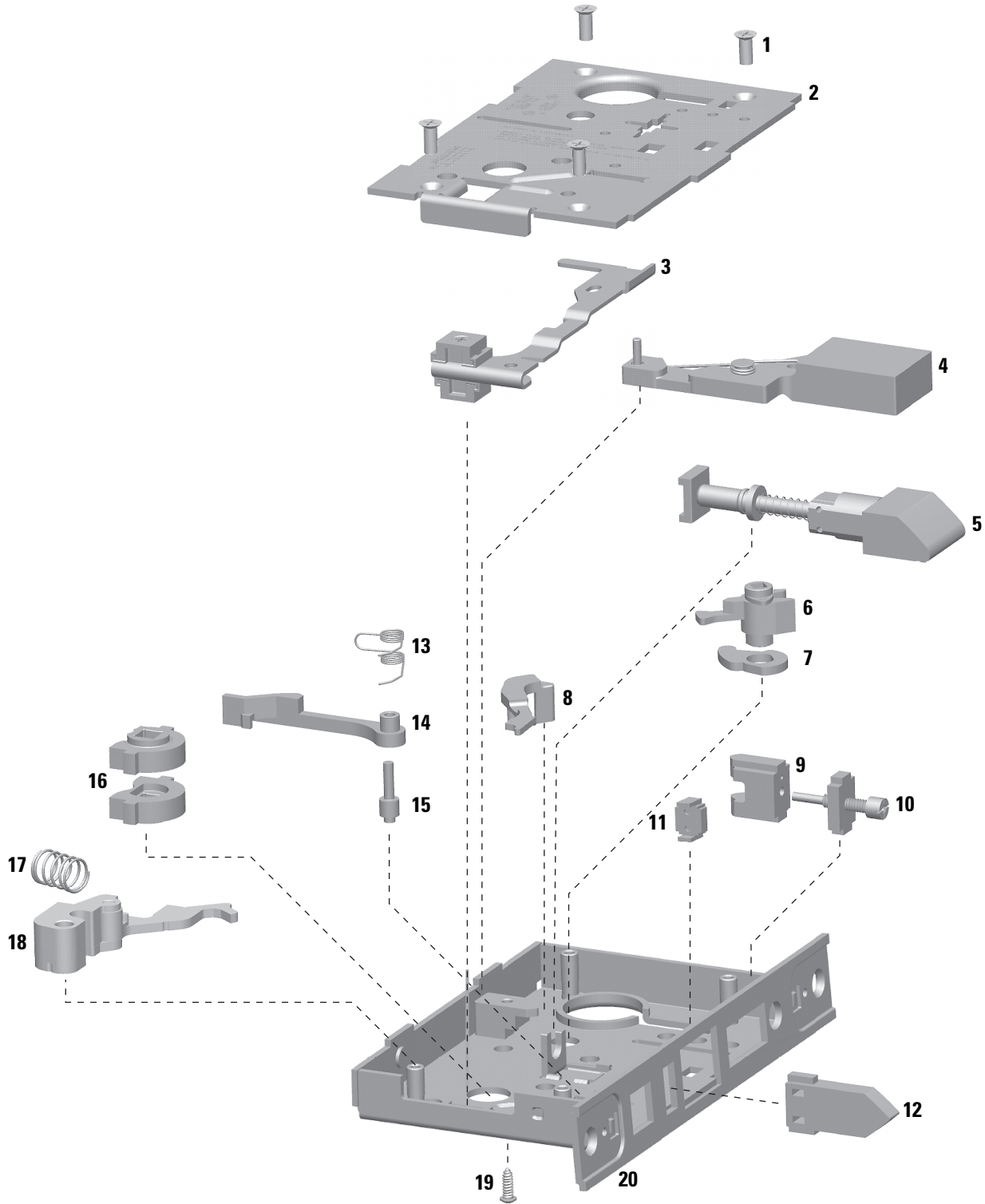


Figure 4.12 H, HJ, TD function case exploded diagram

**H, HJ, TD function
case parts list**

Refer to [Figure 4.12](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45032	1	“F” Locking lever sub-assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	C44142	1	Auxiliary bolt
13	B44194	1	Deadlocking lever spring
14	C44148	1	Deadlocking lever
15	A44184	1	Deadlocking lever pin
16	C44146	2	Hub
17	A44193	1	Release lever spring
18	C45010	1	Release lever sub-assembly
19	A44234	1	Self tapping screw
20	C45000	1	Case sub-assembly

a. For a complete case, use C45516. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

IND FUNCTION CASE—INTRUDER LOCK
T FUNCTION CASE—DORMITORY LOCK

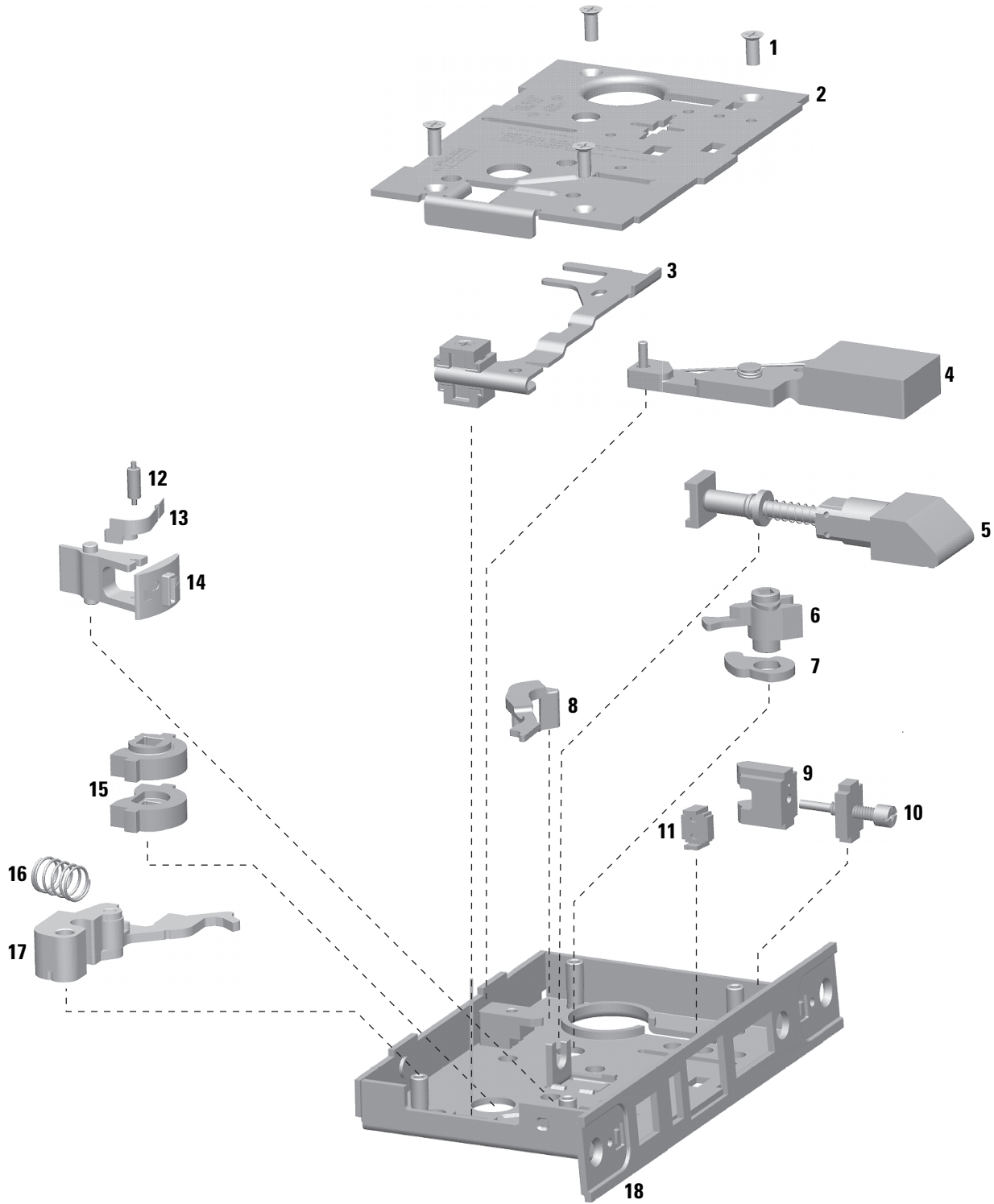


Figure 4.13 IND, T function case exploded diagram

**IND, T case
parts list**

Refer to [Figure 4.13](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45500. To order a "case only" lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

L FUNCTION CASE—PRIVACY LOCK

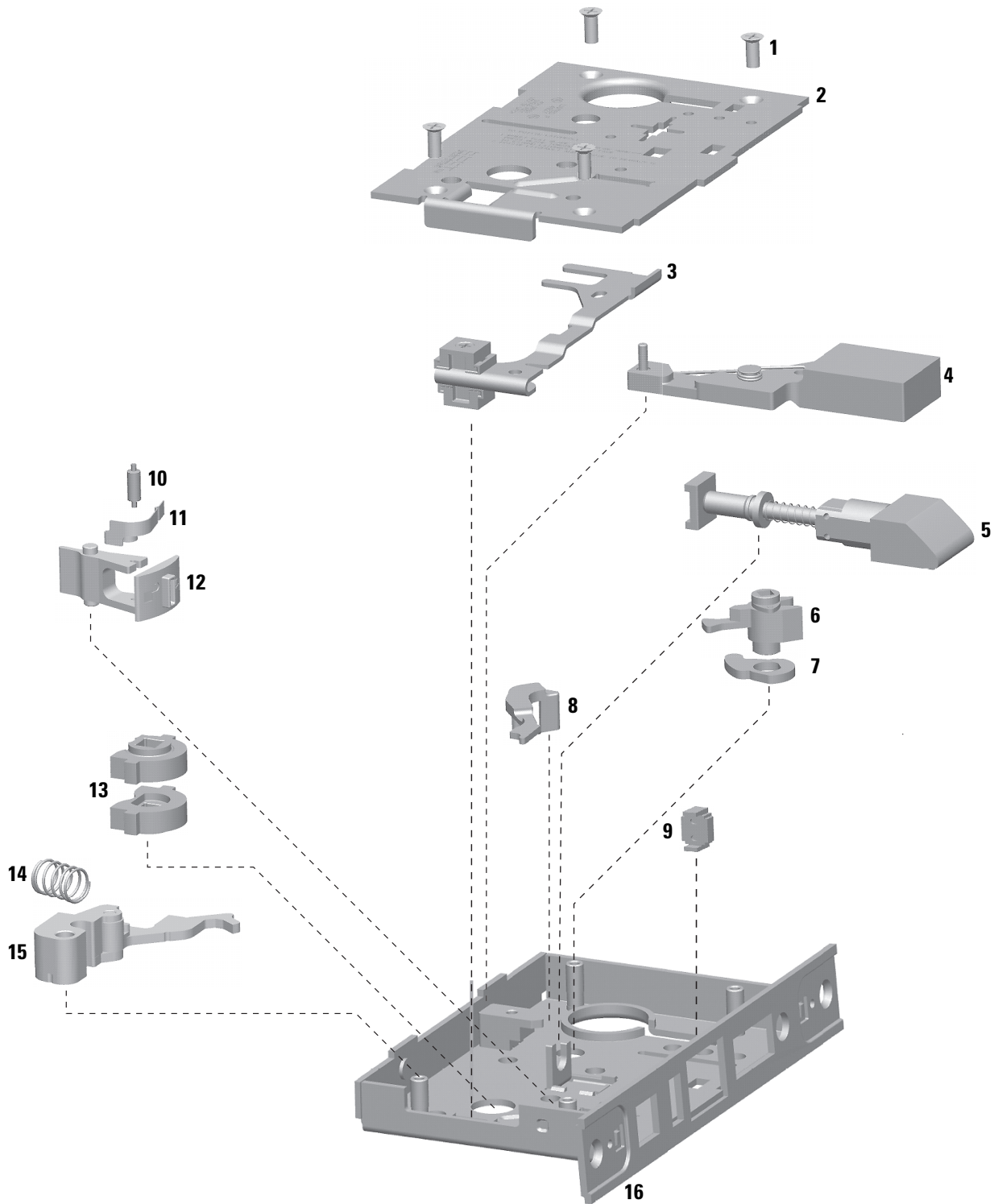


Figure 4.14 L function case exploded diagram

**L function case
parts list**

Refer to [Figure 4.14](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	A44188	1	Toggle roller
11	B44190	1	Toggle lever spring
12	C44100	1	Toggle lever
13	C44146	2	Hub
14	A44193	1	Release lever spring
15	C45010	1	Release lever sub-assembly
16	C45000	1	Case sub-assembly

a. For a complete case, use C45509. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

LB FUNCTION CASE—PRIVACY LOCK

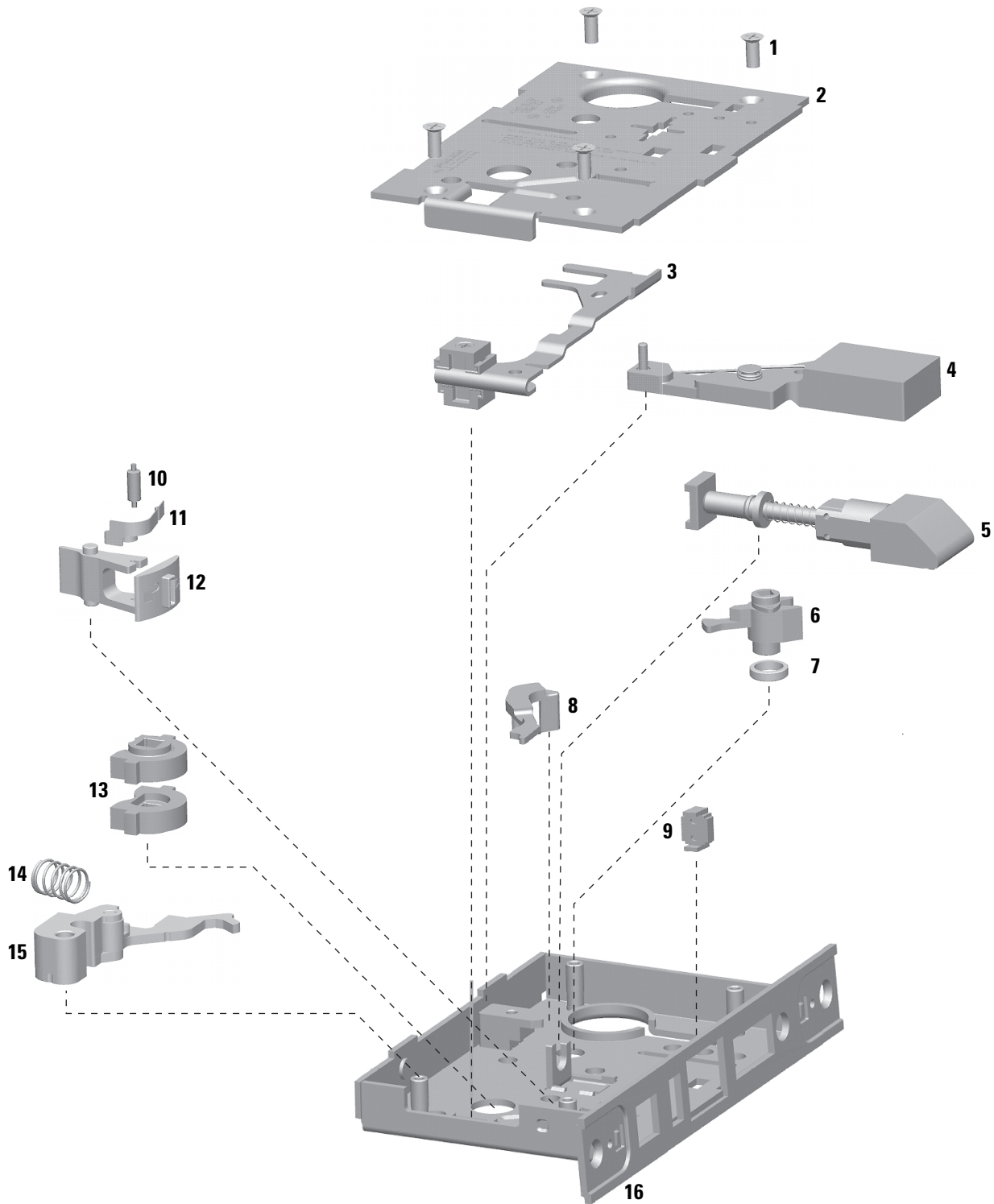


Figure 4.15 LB function case exploded diagram

**LB function case
parts list**

Refer to [Figure 4.15](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45030	1	Locking lever and toggle assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	A34120	1	Turn knob hub spacer
8	C44110	1	Key release lever
9	B44166	1	Fusible link molded assembly
10	A44188	1	Toggle roller
11	B44190	1	Toggle lever spring
12	C44100	1	Toggle lever
13	C44146	2	Hub
14	A44193	1	Release lever spring
15	C45010	1	Release lever sub-assembly
16	C45000	1	Case sub-assembly

a. For a complete case, use C45511. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

TA FUNCTION CASE—DORMITORY LOCK

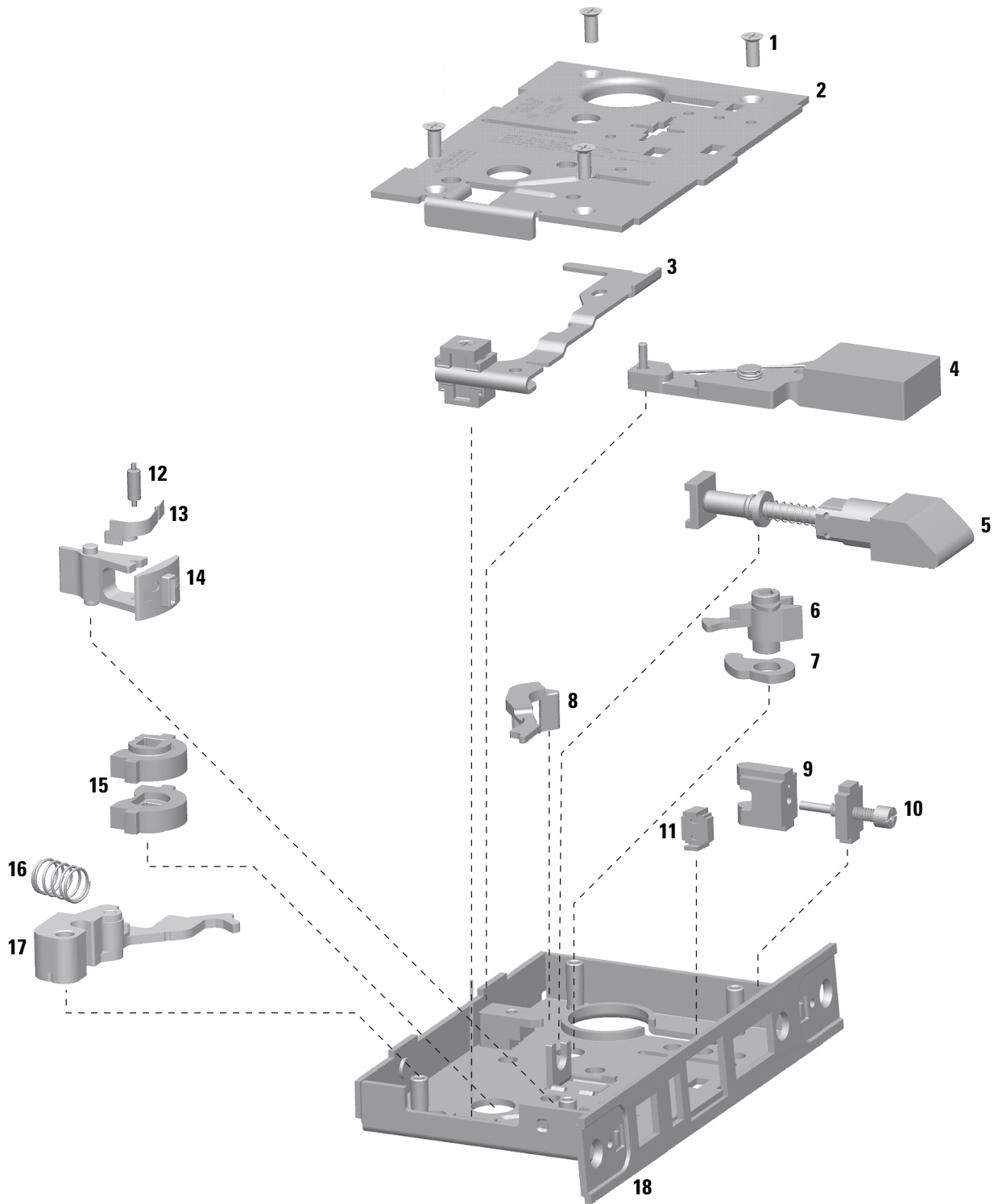


Figure 4.16 TA function case exploded diagram

**TA function case
parts list**

Refer to [Figure 4.16](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	C45032	1	“F” Locking lever sub-assembly
4	B45060	1	Deadbolt sub-assembly
5	B45020	1	Latchbolt sub-assembly
6	C44104	1	Turn knob hub (deadbolt)
7	B34032	1	Turn knob hub cam
8	C44110	1	Key release lever
9	C44144	1	Cylinder retainer
10	B45090	1	Cylinder retainer assembly
11	B44166	1	Fusible link molded assembly
12	A44188	1	Toggle roller
13	B44190	1	Toggle lever spring
14	C44100	1	Toggle lever
15	C44146	2	Hub
16	A44193	1	Release lever spring
17	C45010	1	Release lever sub-assembly
18	C45000	1	Case sub-assembly

a. For a complete case, use C45515. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

AD FUNCTION CASE—DEADLOCK
WD FUNCTION CASE—DEADLOCK
YD FUNCTION CASE—DEADLOCK

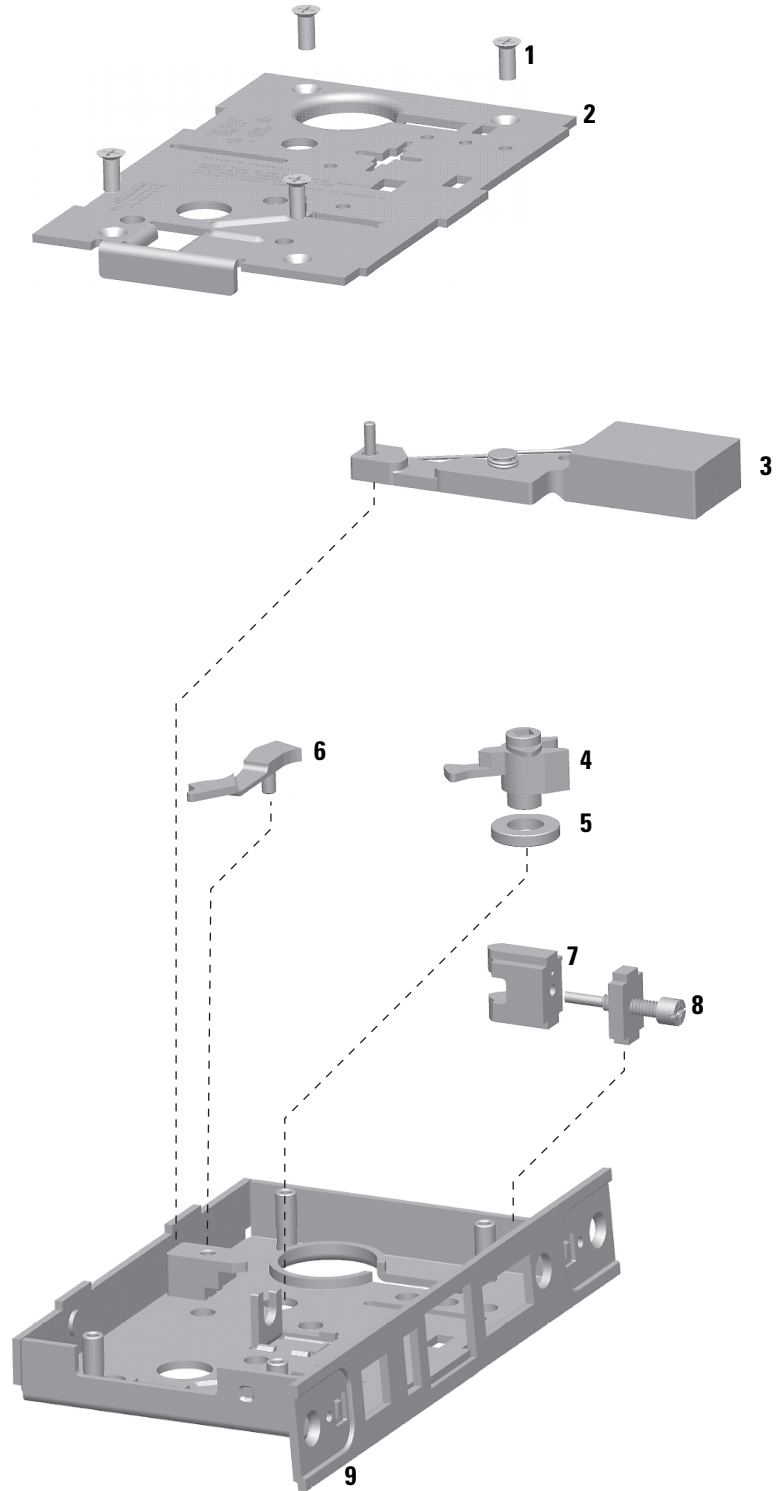


Figure 4.17 AD, WD, YD function case exploded diagram

**AD, WD, YD function
case parts list**

Refer to [Figure 4.17](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B45060	1	Deadbolt sub-assembly
4	C44104	1	Turn knob hub (deadbolt)
5	A34194	1	Spacer for 38/39H
6	C44111	1	Modified key release lever
7	C44144	1	Cylinder retainer
8	B45090	1	Cylinder retainer assembly
9	C45000	1	Case sub-assembly

a. For a complete case, use C45512. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

RD FUNCTION CASE—CLASSROOM DEADLOCK

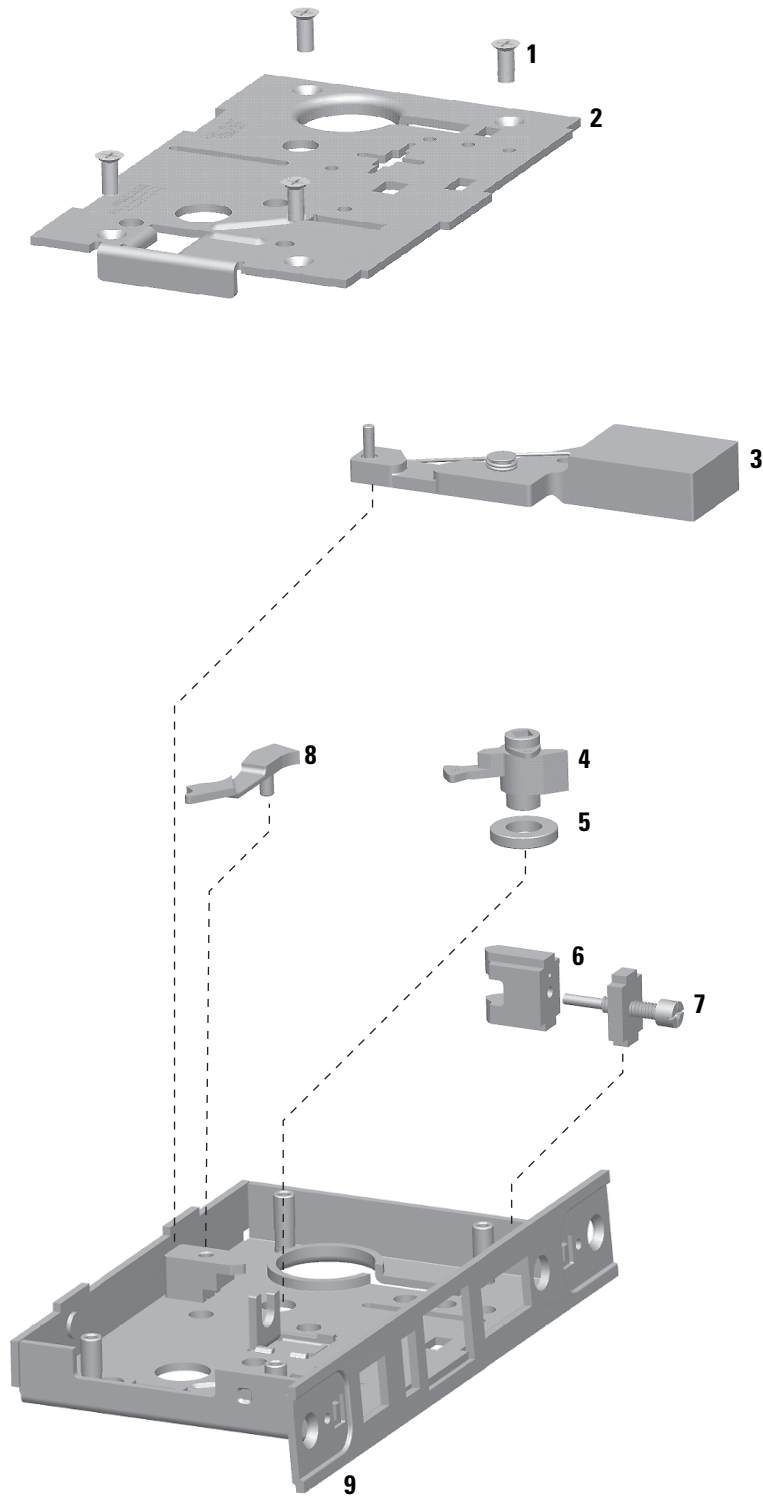


Figure 4.18 RD function case exploded diagram

RD function case parts list

Refer to [Figure 4.18](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw ^b
2	D44010	1	Cover
3	B45060	1	Deadbolt sub-assembly
4	C44107	1	Turn knob hub (deadbolt - machined for RD (RH))
not shown	C44109	1	Turn knob hub (deadbolt - machined for RD (LH))
5	A34194	1	Spacer for 38/39H
6	C44144	1	Cylinder retainer
7	B45090	1	Cylinder retainer assembly
8	C44111	1	Modified key release lever
9	C45000	1	Case sub-assembly

a. For a complete RD (RH) function case, use C45513.

For a complete RD (LH) function case, use C45514.

To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-62](#).

b. For information to order screws, see [page 5-18](#).

DEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

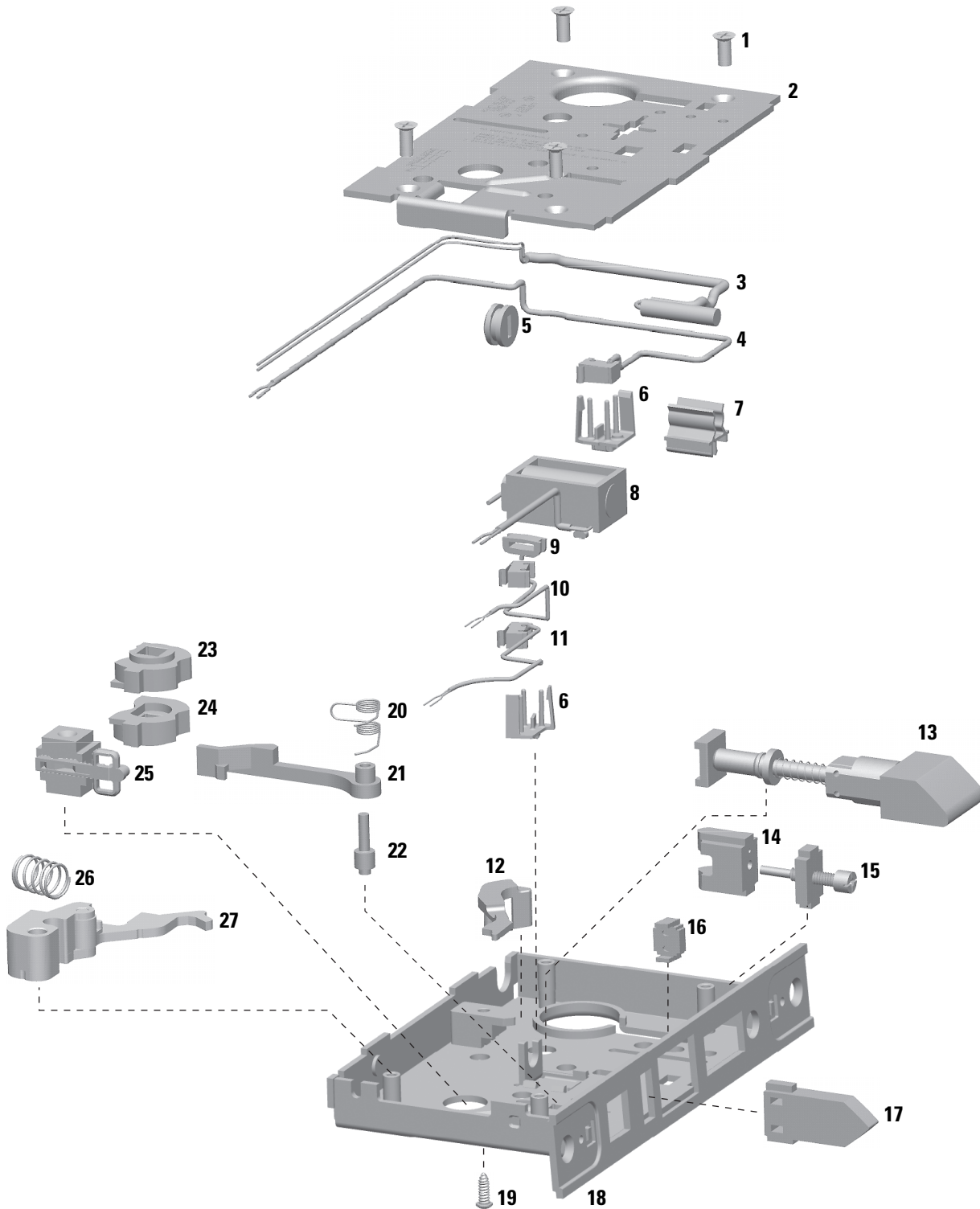


Figure 4.19 DEL function case exploded diagram

DEL function case parts list

Refer to [Figure 4.19](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44539	1	Electrified hub (RH)
24	C44538	1	Electrified hub (LH)
25	^b	1	Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Door	Sensors		Case part number	
	Latch	RQE	12 V solenoid	24 V solenoid
■			C45710	C45711
	■		C45563	C45568
		■	C45564	C45569
■		■	C45562	C45567
	■	■	C45566	C45571
■	■	■	C45565	C45570

b. To obtain the parts for the electronic locking toggle assembly, order:

- ▶ locking slide (B44611)
- ▶ locking bar (A44612)
- ▶ electronic locking toggle (B44627)
- ▶ toggle screws (see *Screw kits* on [page 5-19](#)).

DEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

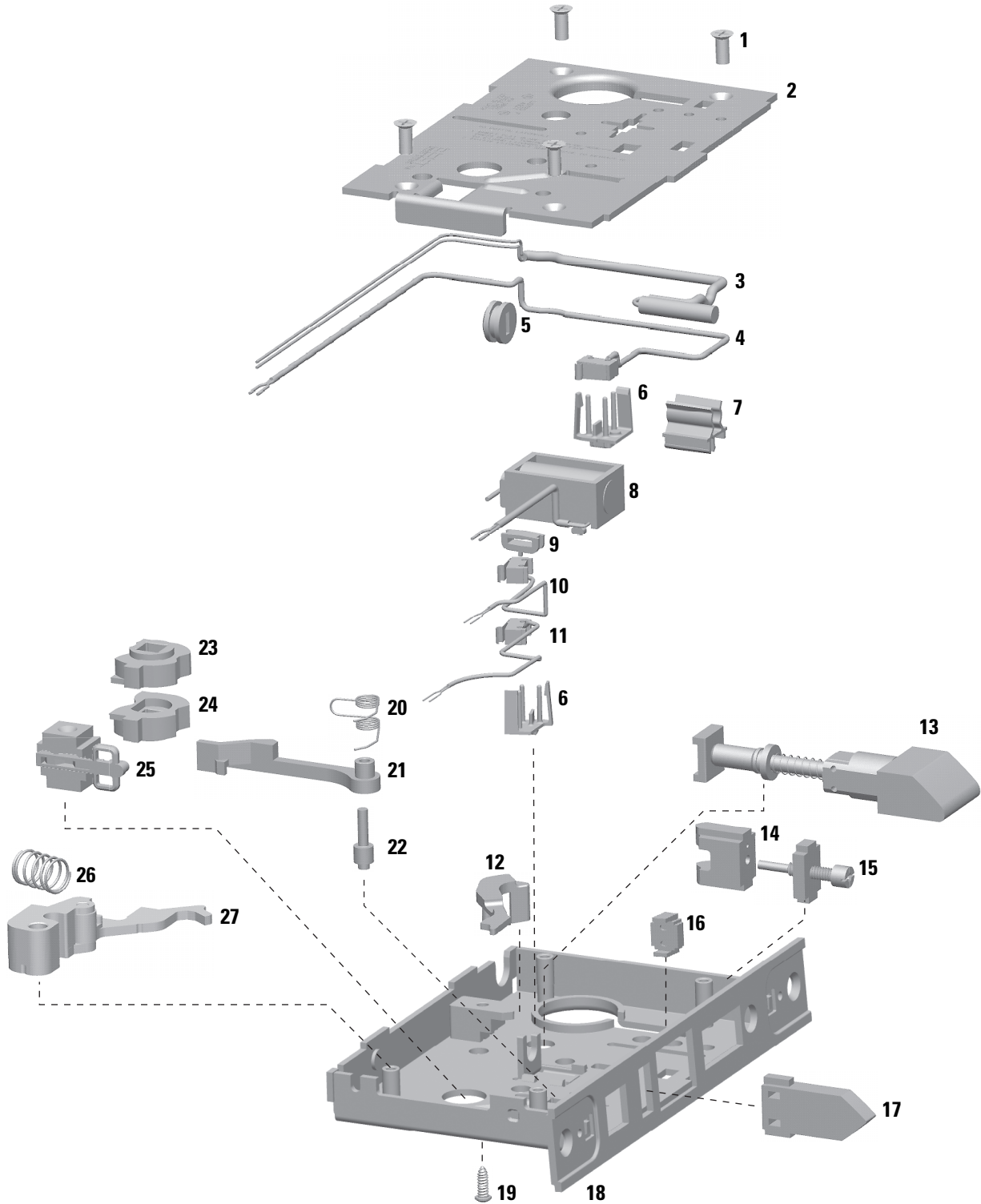


Figure 4.20 DEU function case exploded diagram

DEU function case parts list

Refer to [Figure 4.20](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44539	1	Electrified hub (RH)
24	C44538	1	Electrified hub (LH)
25	^b		Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Door	Sensors		Case part number	
	Latch	RQE	12 V solenoid	24 V solenoid
■			C45708	C45709
	■		C45552	C45557
		■	C45553	C45558
	■	■	C45555	C45560
■		■	C45551	C45556
■	■	■	C45554	C45559

b. To obtain the parts for the electronic locking toggle assembly, order:

- ▶ locking slide (B44611)
- ▶ locking bar (A44612)
- ▶ electronic locking toggle (B44627)
- ▶ toggle screws (see *Screw kits* on [page 5-19](#)).

WEL FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SAFE

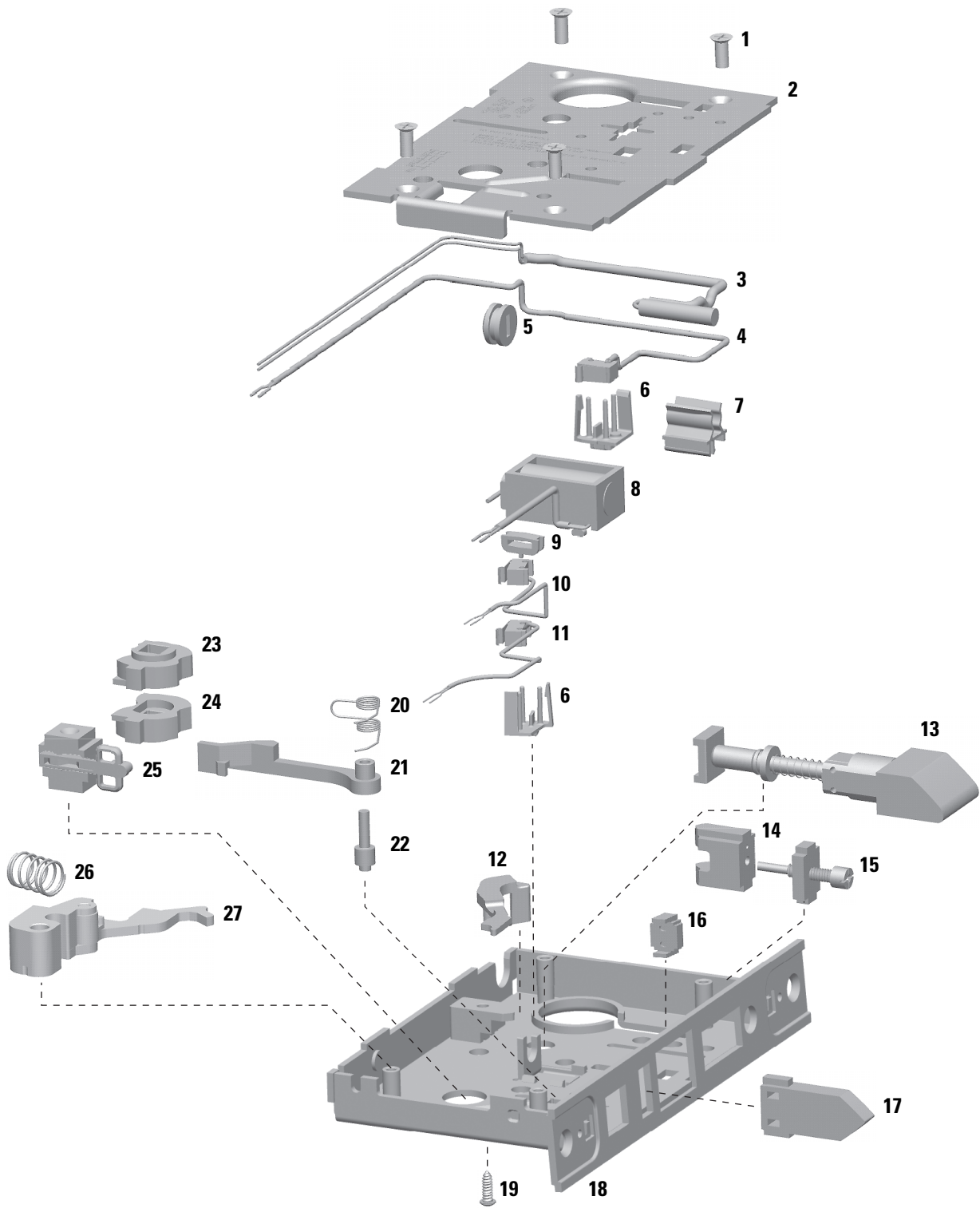


Figure 4.21 WEL function case exploded diagram

WEL function case parts list

Refer to [Figure 4.21](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44538	1	Electrified hub (LH)
24	C44539	1	Electrified hub (RH)
25	^b	1	Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Door	Sensors		Case part number	
	Latch	RQE	12 V solenoid	24 V solenoid
■			C45714	C45715
	■		C45683	C45688
		■	C45684	C45689
	■	■	C45686	C45691
■		■	C45682	C45687
■	■	■	C45685	C45690

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

WEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

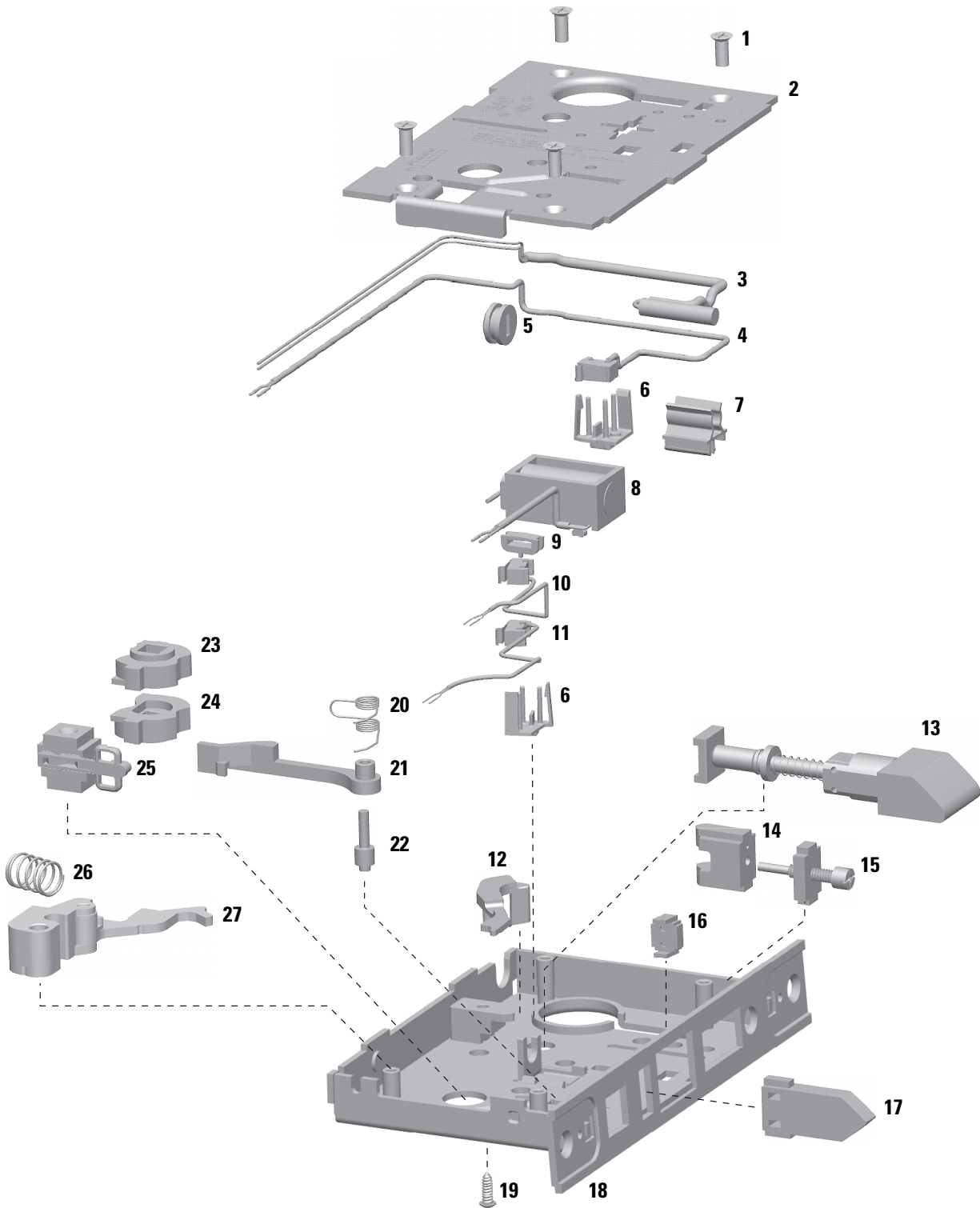


Figure 4.22 WEU function case exploded diagram

WEU function case parts list

Refer to [Figure 4.22](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A44601	1	Door position clip
8	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	C44110	1	Key release lever
13	B45020	1	Latchbolt sub-assembly
14	C44144	1	Cylinder retainer
15	B45090	1	Cylinder retainer assembly
16	B44166	1	Fusible link molded assembly
17	C44142	1	Auxiliary bolt
18	C45000	1	Case sub-assembly
19	A44234	1	Self tapping screw
20	B44194	1	Deadlocking lever spring
21	C44148	1	Deadlocking lever
22	A44184	1	Deadlocking lever pin
23	C44538	1	Electrified hub (LH)
24	C44539	1	Electrified hub (RH)
25	^b	1	Electronic locking toggle assembly
26	A44193	1	Release lever spring
27	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Door	Sensors		Case part number	
	Latch	RQE	12 V solenoid	24 V solenoid
■			C45712	C45713
	■		C45672	C45677
		■	C45673	C45678
	■	■	C45675	C45680
■		■	C45671	C45676
■	■	■	C45674	C45679

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

NXEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

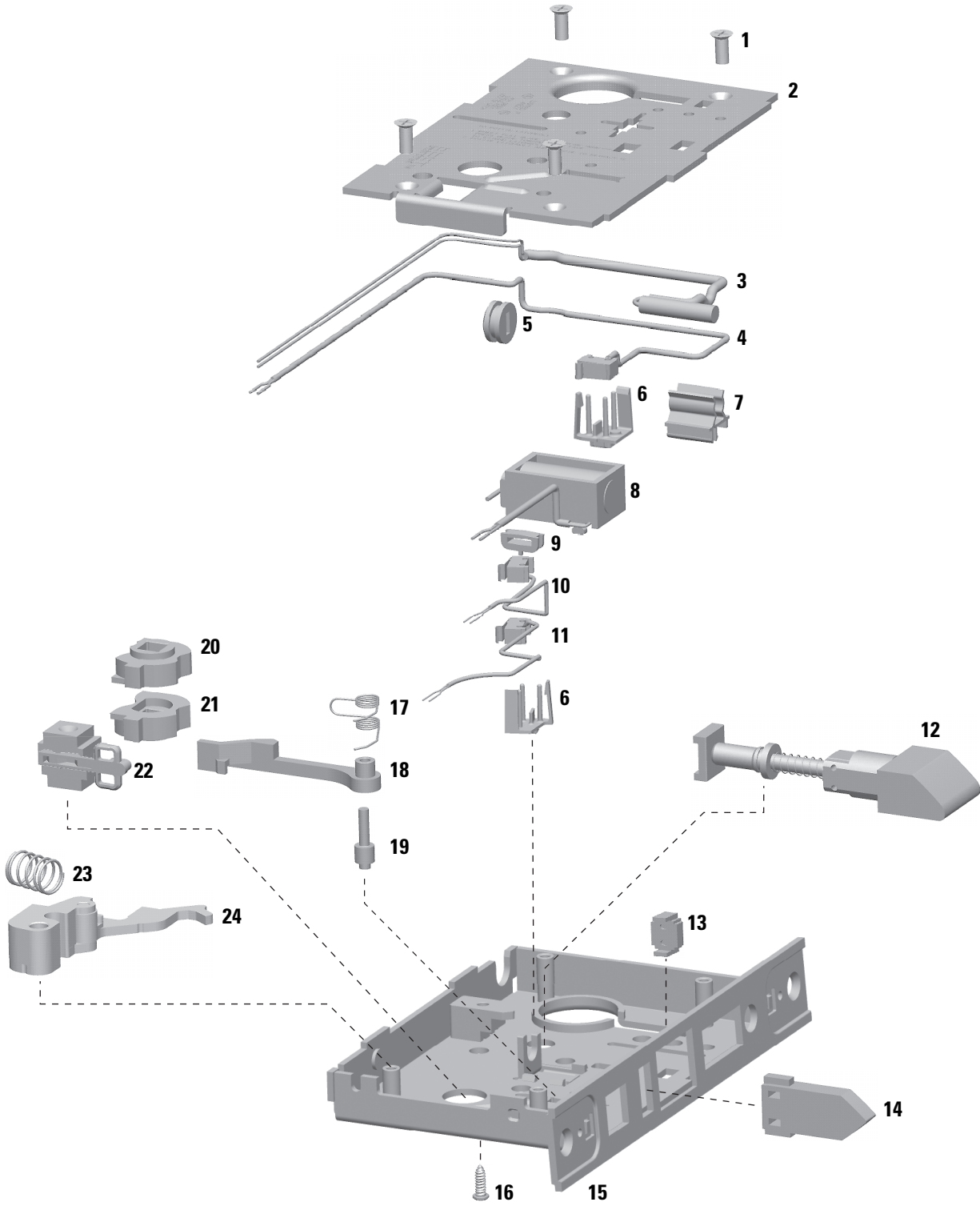


Figure 4.23 NXEL function case exploded diagram

NXEL function case parts list

Refer to [Figure 4.23](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A4601	1	Door position clip
8	B44613	1	12 V solenoid
not shown	B44610	1	24 V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44538	1	Electrified hub (LH)
21	C44539	1	Electrified hub (RH)
22	^b	1	Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Door	Sensors		Case part number	
	Latch	RQE	12 V solenoid	24 V solenoid
■			C45706	C45707
	■		C45541	C45546
		■	C45542	C45547
	■	■	C45544	C45549
■		■	C45540	C45545
■	■	■	C45543	C45548

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

NXEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE LOCK

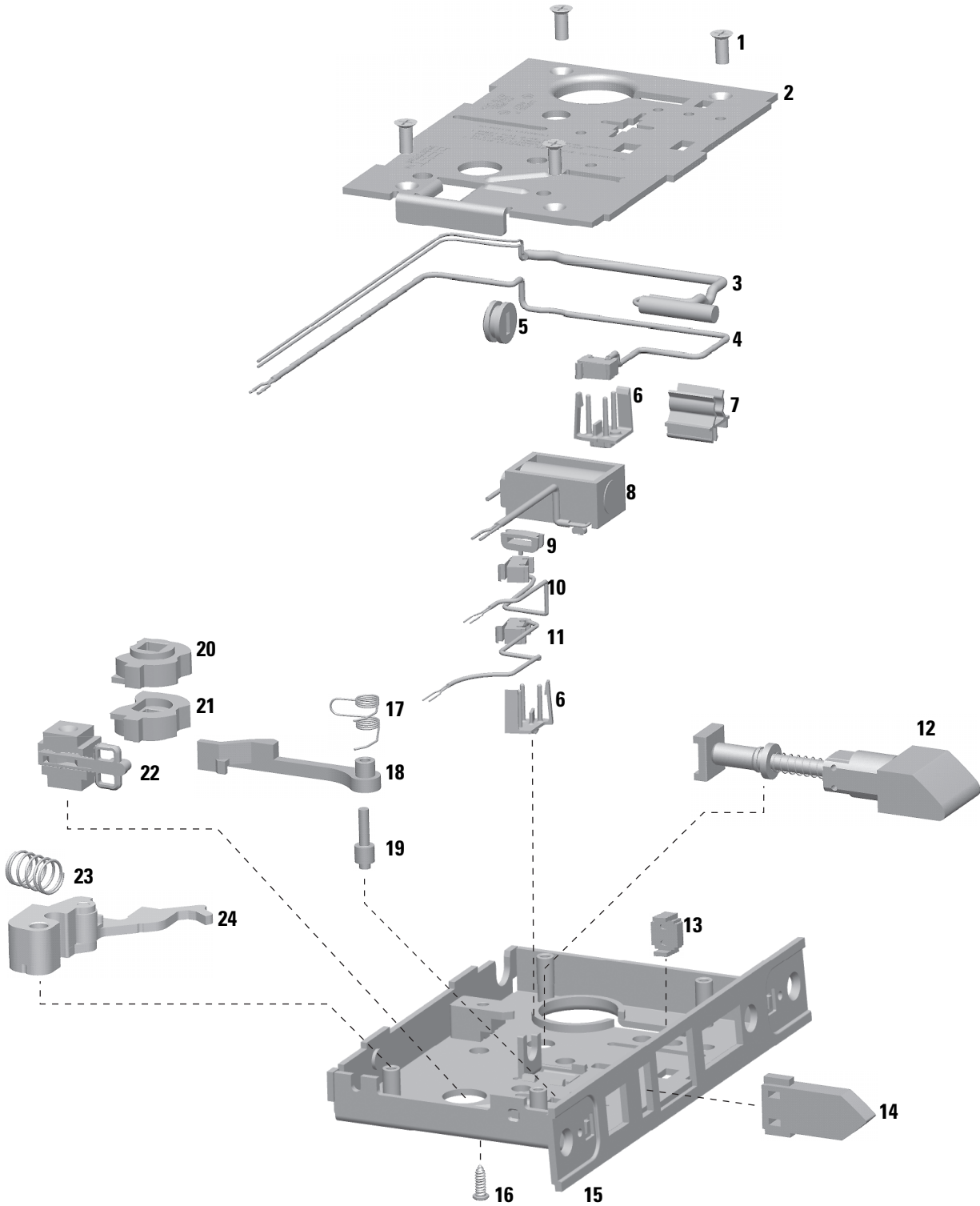


Figure 4.24 NXEU function case exploded diagram

NXEU function case parts list

Refer to [Figure 4.24](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	A60452	1	Door status switch
4	B44615	1	Latchbolt sensor switch assembly
5	A34236	1	Wire strain relief
6	B44602	2	RQE and latch status switch holder
7	A4601	1	Door position clip
8	B44613	1	12 V solenoid
not shown	B44610	1	24 V solenoid
9	A44622	1	Strain relief
10	B44616	1	RQE switch assembly (monitors cover side)
11	B44624	1	RQE switch assembly (monitors case side)
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44538	1	Electrified hub (LH)
21	C44539	1	Electrified hub (RH)
22	^b	1	Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Door	Sensors		Case part number	
	Latch	RQE	12 V solenoid	24 V solenoid
■			C45704	C45705
	■		C45530	C45535
		■	C45531	C45536
	■	■	C45533	C45538
■		■	C45529	C45534
■	■	■	C45532	C45537

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

TDEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

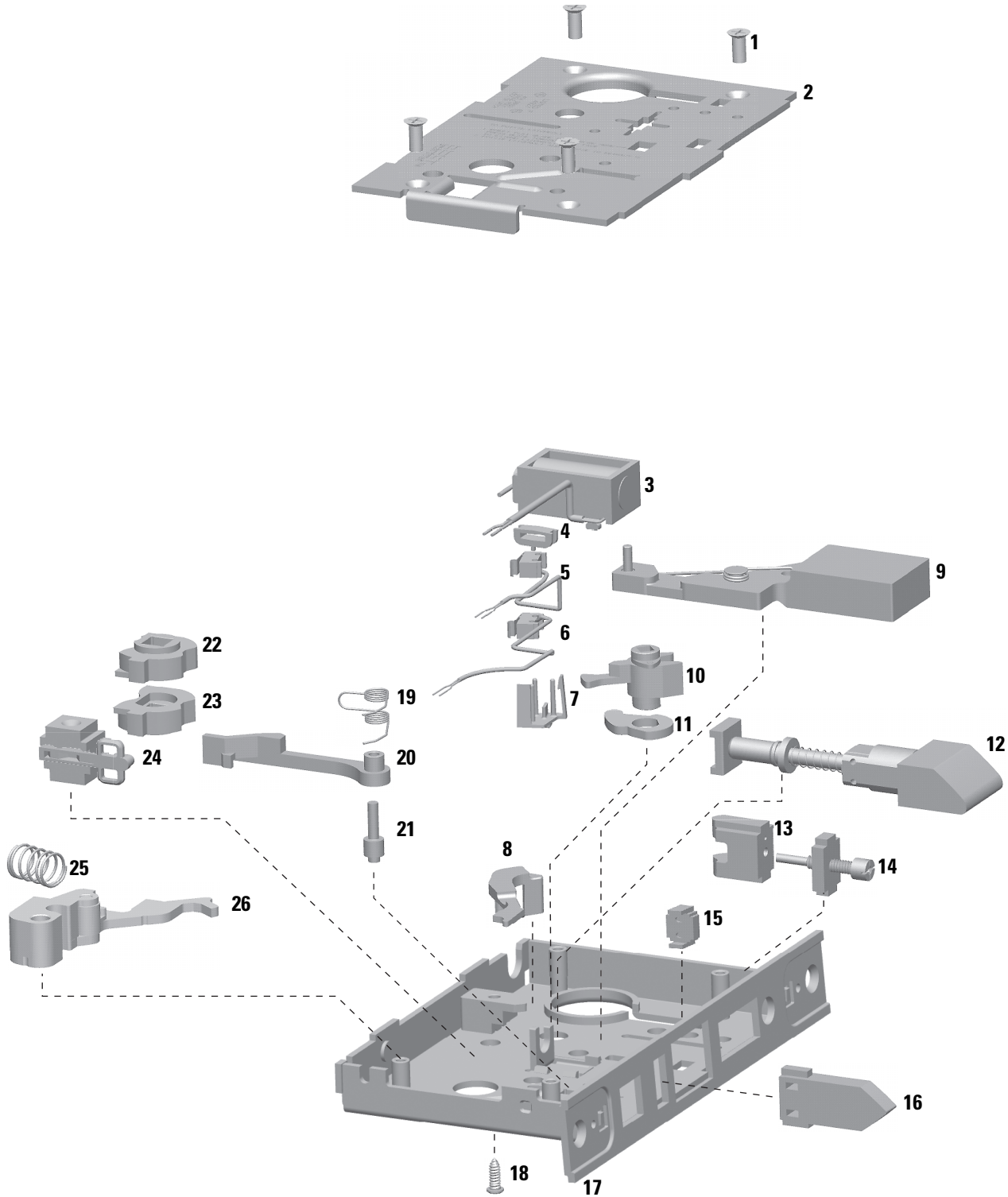


Figure 4.25 TDEL function case exploded diagram

TDEL function case parts list

Refer to [Figure 4.25](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	B34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	^b		Electronic locking toggle assembly
25	A44193		Release lever spring
26	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Sensors	Case part number		
	RQE	12 V solenoid	24 V solenoid
■		C45591	C45592
		C45728	C45729

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

TDEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

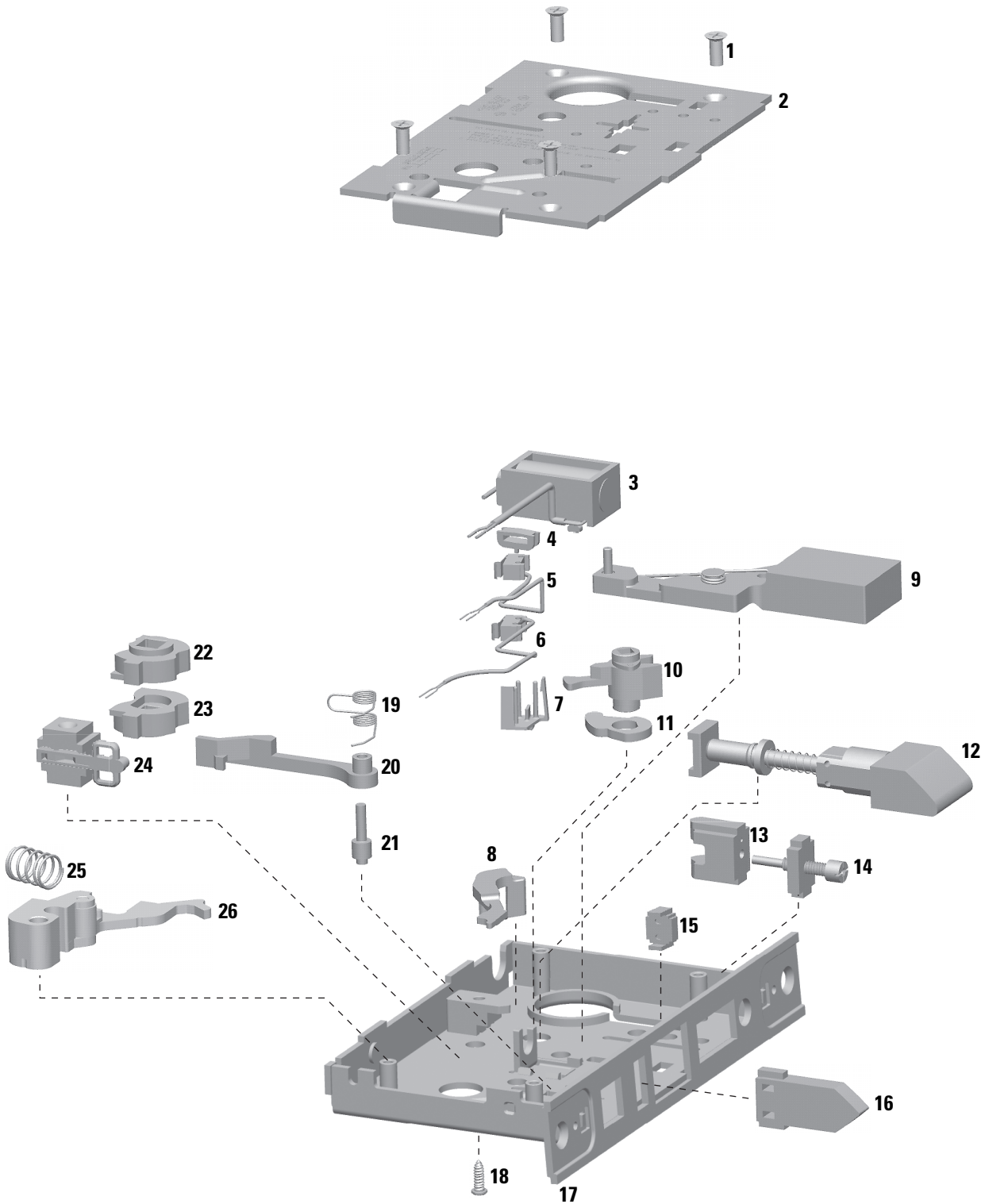


Figure 4.26 TDEU function case exploded diagram

TDEU function case parts list

Refer to [Figure 4.2](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	B34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	^b		Electronic locking toggle assembly
25	A44193	1	Release lever spring
26	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Sensor	Case part number	
	12 V solenoid	24 V solenoid
RQE		
■	C45586	C45586
	C45724	C45725

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

TWEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

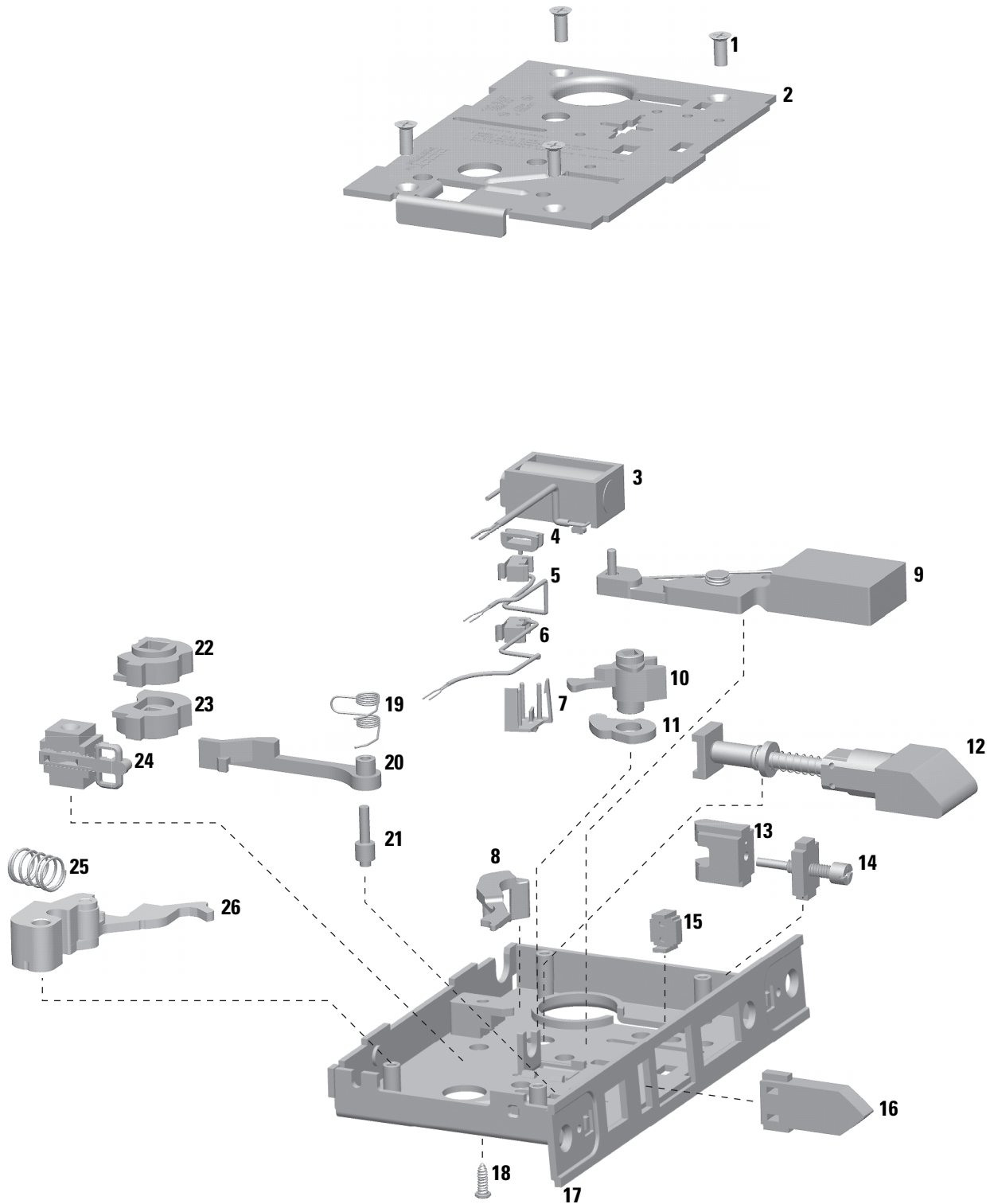


Figure 4.27 TWEL function case exploded diagram

TWEL function case parts list

Refer to [Figure 4.2](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	^b	1	Electronic locking toggle assembly
25	A44193	1	Release lever spring
26	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Sensors	Case part number		
	RQE	12 V solenoid	24 V solenoid
■		C45699	C45700
		C45736	C45737

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

TWEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

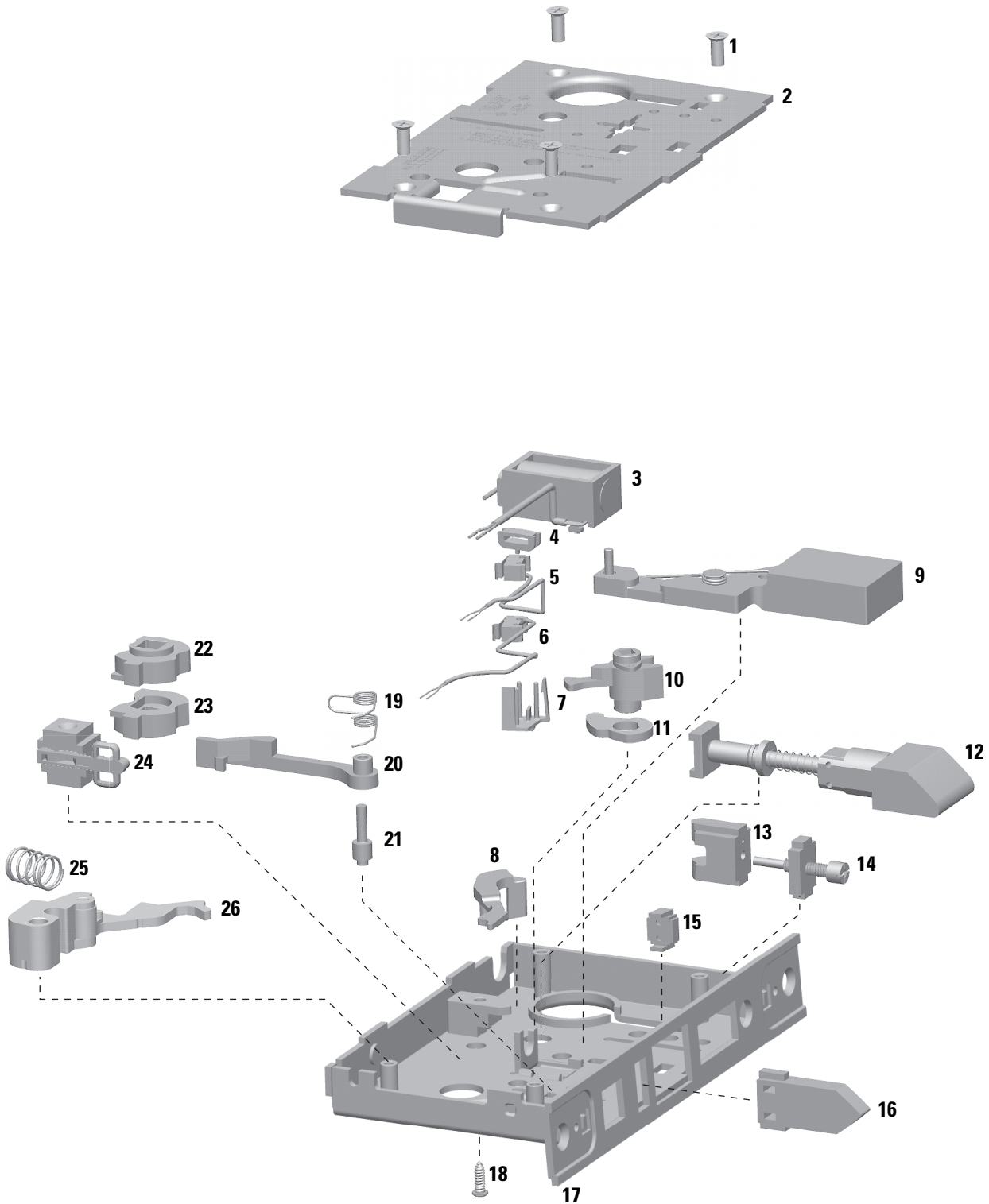


Figure 4.28 TWEU function case exploded diagram

TWEU function case parts list

Refer to [Figure 4.2](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44616	1	RQE switch assembly (monitors cover side)
6	B44624	1	RQE switch assembly (monitors case side)
7	B44602	1	RQE and latch status switch holder
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	C44144	1	Cylinder retainer
14	B45090	1	Cylinder retainer assembly
15	B44166	1	Fusible link molded assembly
16	C44142	1	Auxiliary bolt
17	C45000	1	Case sub-assembly
18	A44234	1	Self tapping screw
19	B44194	1	Deadlocking lever spring
20	C44148	1	Deadlocking lever
21	A44184	1	Deadlocking lever pin
22	C44538	1	Electrified hub (LH)
23	C44539	1	Electrified hub (RH)
24	^b	1	Electronic locking toggle assembly
25	A44193	1	Release lever spring

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Sensors	Case part number		
	RQE	12 V solenoid	24 V solenoid
■		C45693	C45694
		C45732	C45733

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

LEL FUNCTION CASE—ELECTRICALLY LOCKED FAIL SAFE LOCK

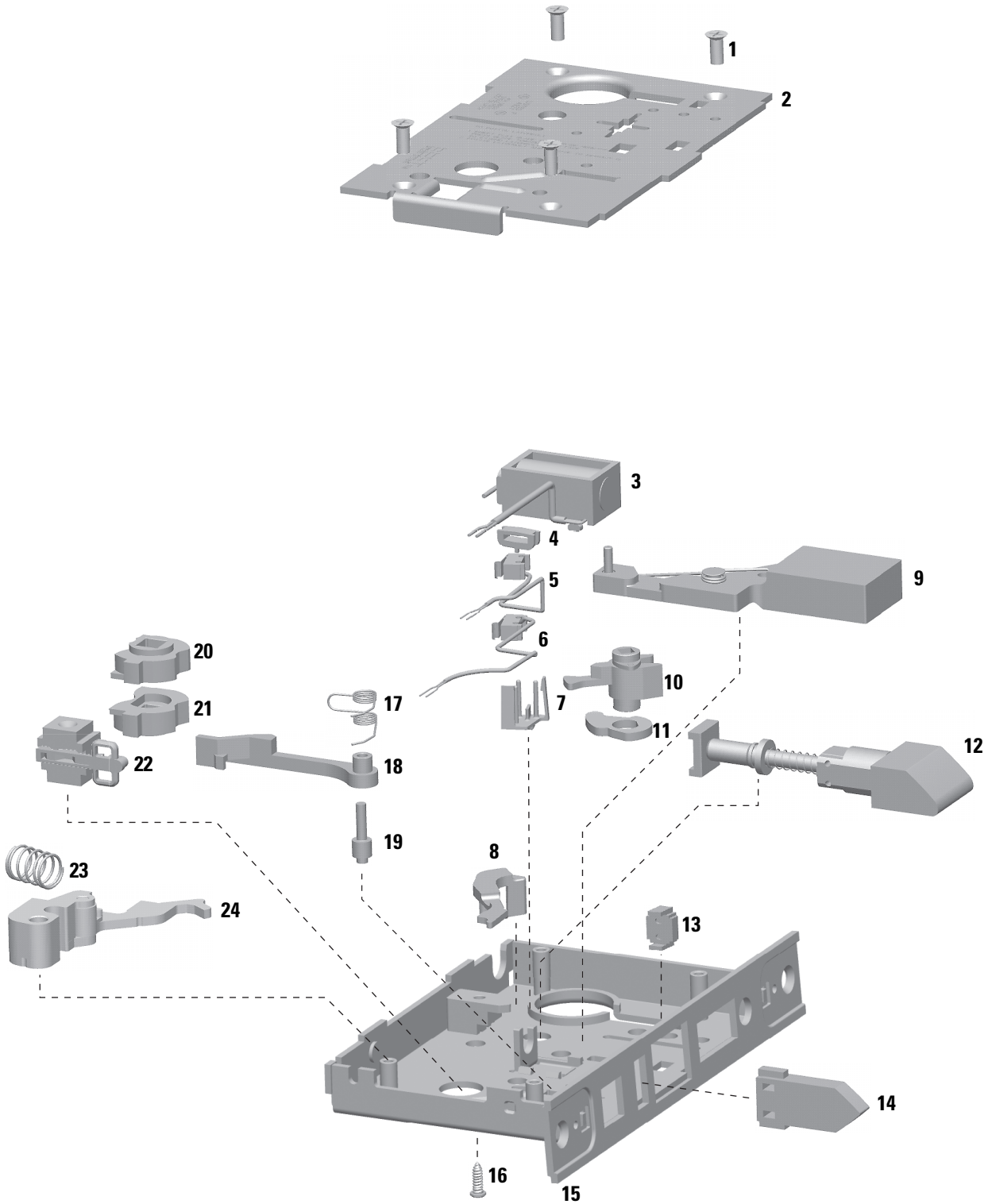


Figure 4.29 LEL function case exploded diagram

LEL function case parts list

Refer to [Figure 4.29](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44602	2	RQE and latch status switch holder
6	B44616	1	RQE switch assembly (monitors cover side)
7	B44624	1	RQE switch assembly (monitors case side)
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44539	1	Electrified hub (RH)
21	C44538	1	Electrified hub (LH)
22	^b		Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Sensors	Case part number		
	RQE	12 V solenoid	24 V solenoid
■	C45579	C45580	
	C45720	C45721	

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

LEU FUNCTION CASE—ELECTRICALLY UNLOCKED FAIL SECURE

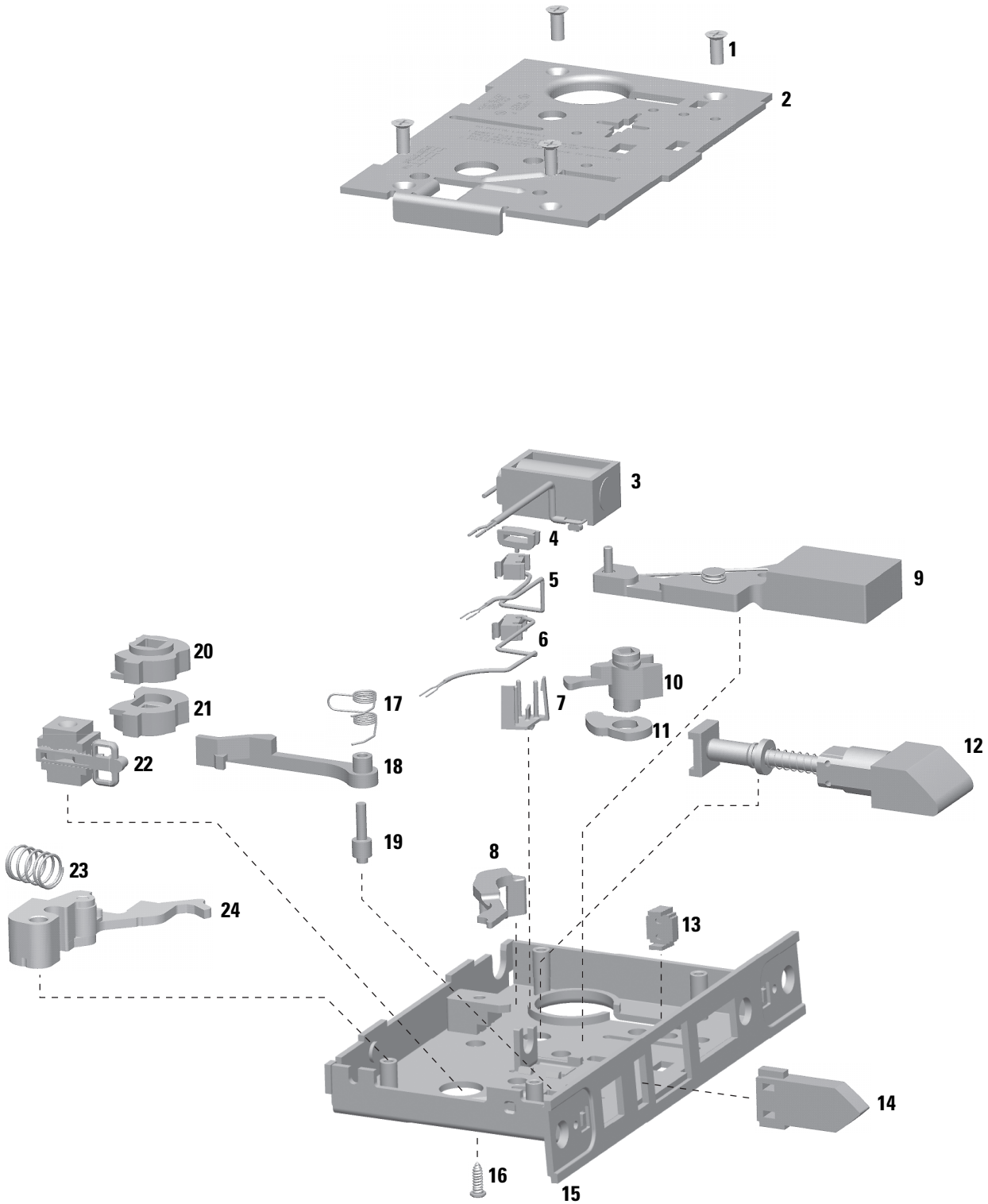


Figure 4.30 LEU function case exploded diagram

LEU function case parts list

Refer to [Figure 4.30](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	4	Case cover mounting screw
2	D44010	1	Cover
3	B44613	1	12V solenoid
not shown	B44610	1	24V solenoid
4	A44622	1	Strain relief
5	B44602	2	RQE and latch status switch holder
6	B44616	1	RQE switch assembly (monitors cover side)
7	B44624	1	RQE switch assembly (monitors case side)
8	C44110	1	Key release lever
9	B45060	1	Deadbolt sub-assembly
10	C44104	1	Turn knob hub (deadbolt)
11	A34032	1	Turn knob hub cam
12	B45020	1	Latchbolt sub-assembly
13	B44166	1	Fusible link molded assembly
14	C44142	1	Auxiliary bolt
15	C45000	1	Case sub-assembly
16	A44234	1	Self tapping screw
17	B44194	1	Deadlocking lever spring
18	C44148	1	Deadlocking lever
19	A44184	1	Deadlocking lever pin
20	C44539	1	Electrified hub (RH)
21	C44538	1	Electrified hub (LH)
22	^b		Electronic locking toggle assembly
23	A44193	1	Release lever spring
24	C45010	1	Release lever sub-assembly

a. For a complete case, determine what type of solenoid and optional sensors you need. Then use the table below to find the part number for the case. To order a “case only” lock, which includes a mortise case, faceplate, and strike, see [page 4-63](#).

Sensors	Case part number		
	RQE	12 V solenoid	24 V solenoid
■	C45573	C45574	
	C45716	C45717	

b. To obtain the parts for the electronic locking toggle assembly, order:

- locking slide (B44611)
- locking bar (A44612)
- electronic locking toggle (B44627)
- toggle screws (see *Screw kits* on [page 5-19](#)).

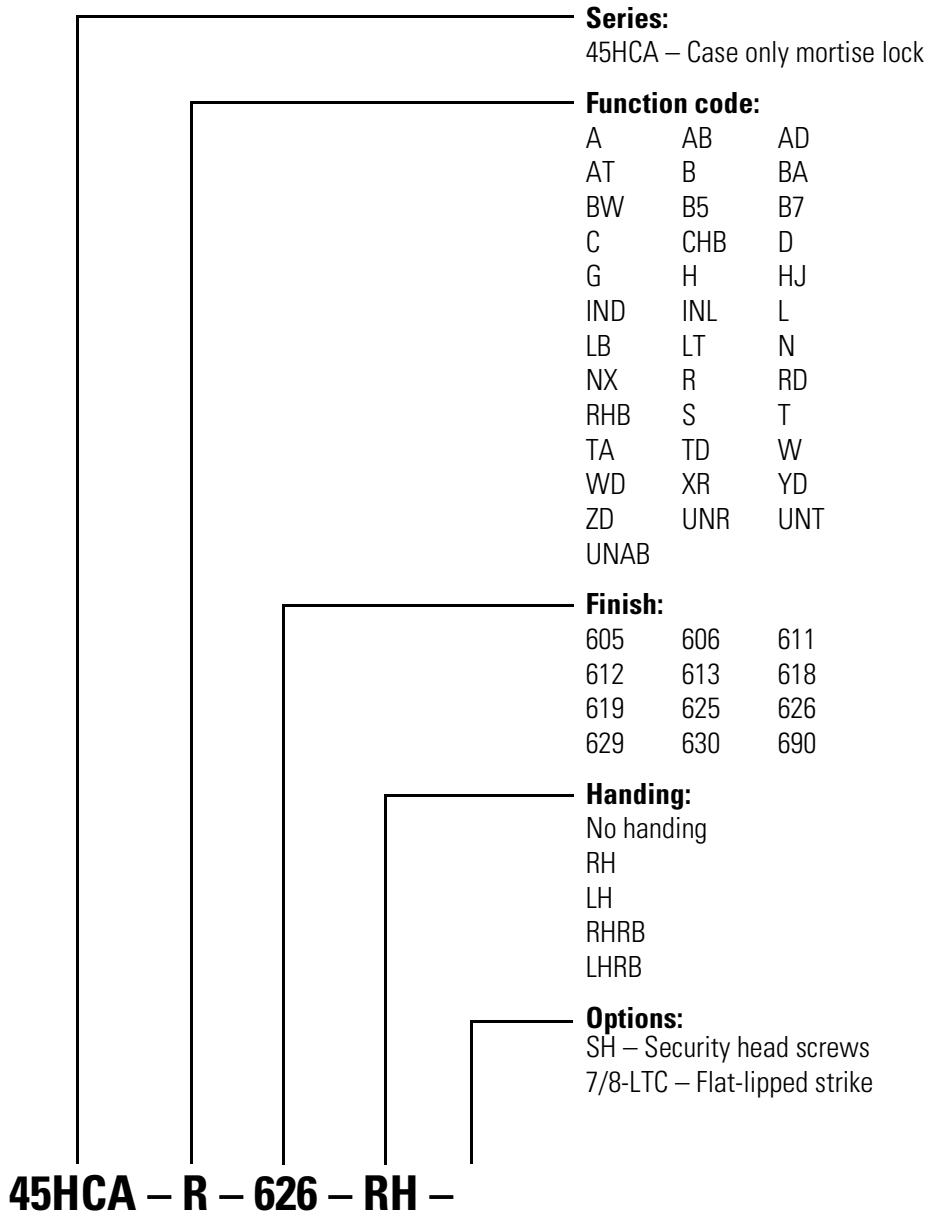
CASE ONLY LOCKS

For most functions, 40H Series Locks can be ordered as complete locks or can be assembled using a “case only” lock, an inside trim kit, and an outside trim kit. A case only lock includes the items not specifically associated with inside or outside trim (lock case, faceplate, strike, strike box, fasteners for case and strike, and installation instructions).

Note: Two faceplates are provided with UNR and UNAB functions.

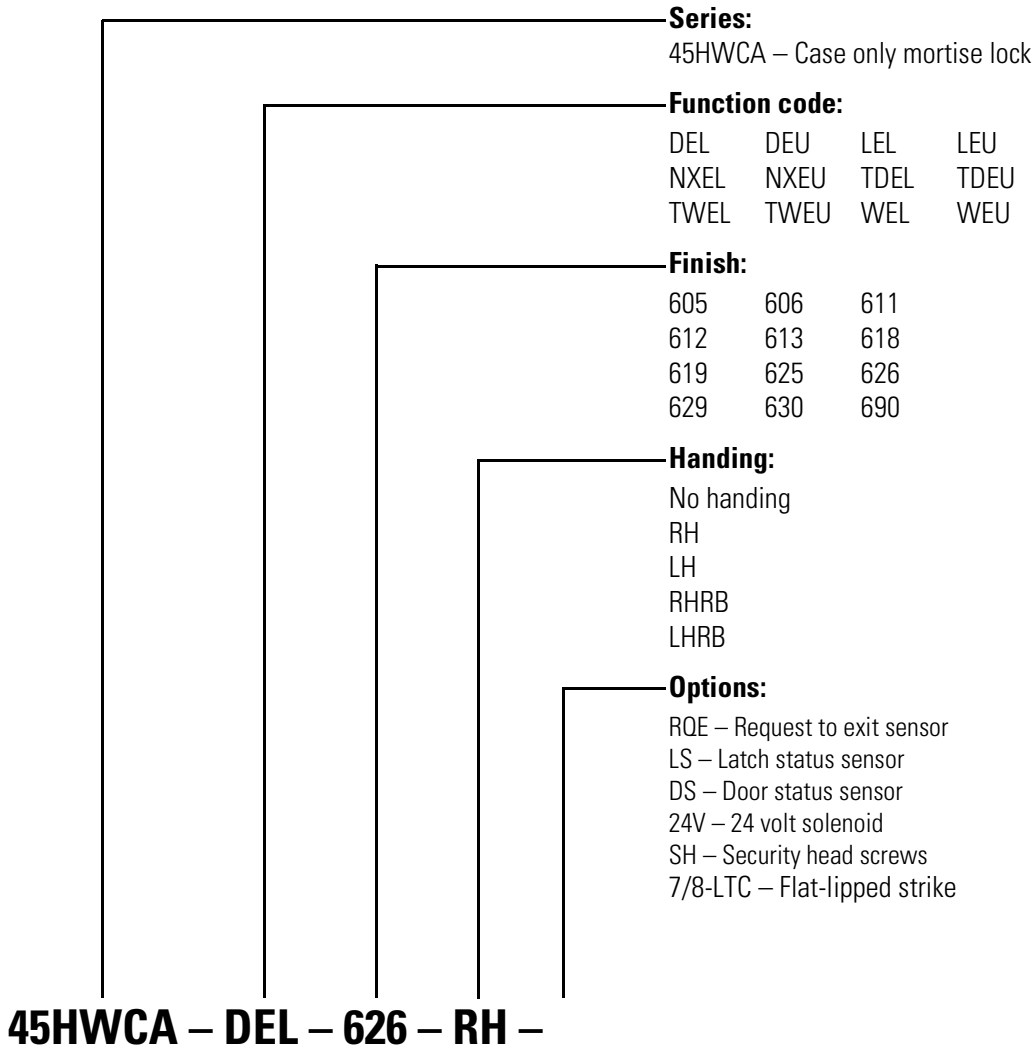
How to order standard mortise locks

To order standard case only locks, use the nomenclature shown in the example below. To order just a case assembly (without faceplate and strike) see the function’s case part list in this chapter.



How to order electrified mortise locks

To order electrified case only locks, use the nomenclature shown in the example below.



Case only components

The components of case only locks are described in the table below. The figure below shows an example of the components included for each case only lock configuration.

Item	Description	Qty.
1	40H universal strike box	1
2	40H strike ^a	1
3	Strike screw (#12-12 × 3/4" PHFH) ^b	2
not shown	Door status magnet ^c	1
not shown	Door status switch ^c	1
4	Faceplate screw (#8-32 × 1/4" PHFHMS) ^b	2
5	Faceplate ^d	1
6	Case mounting screw (#12-12 × 3/4" PHFH) ^b	2
7	Mortise case assembly ^e	1

- a. For strike kit information see [page 5-11](#).
- b. For information to order screws, see [5-18](#).
- c. Provided with deadbolt function electrified case only locks with optional door status monitoring.
- d. For faceplate kit information, see [page 5-15](#).
- e. For part numbers for mortise cases, see the appropriate parts list in this chapter.

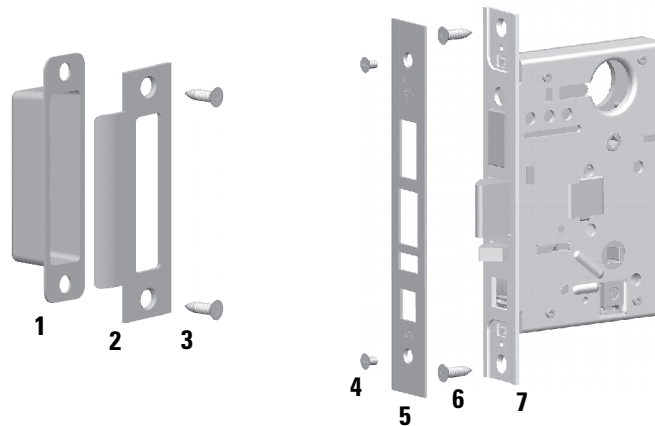


Figure 4.31 Case only lock – faceplate and case for AB function shown

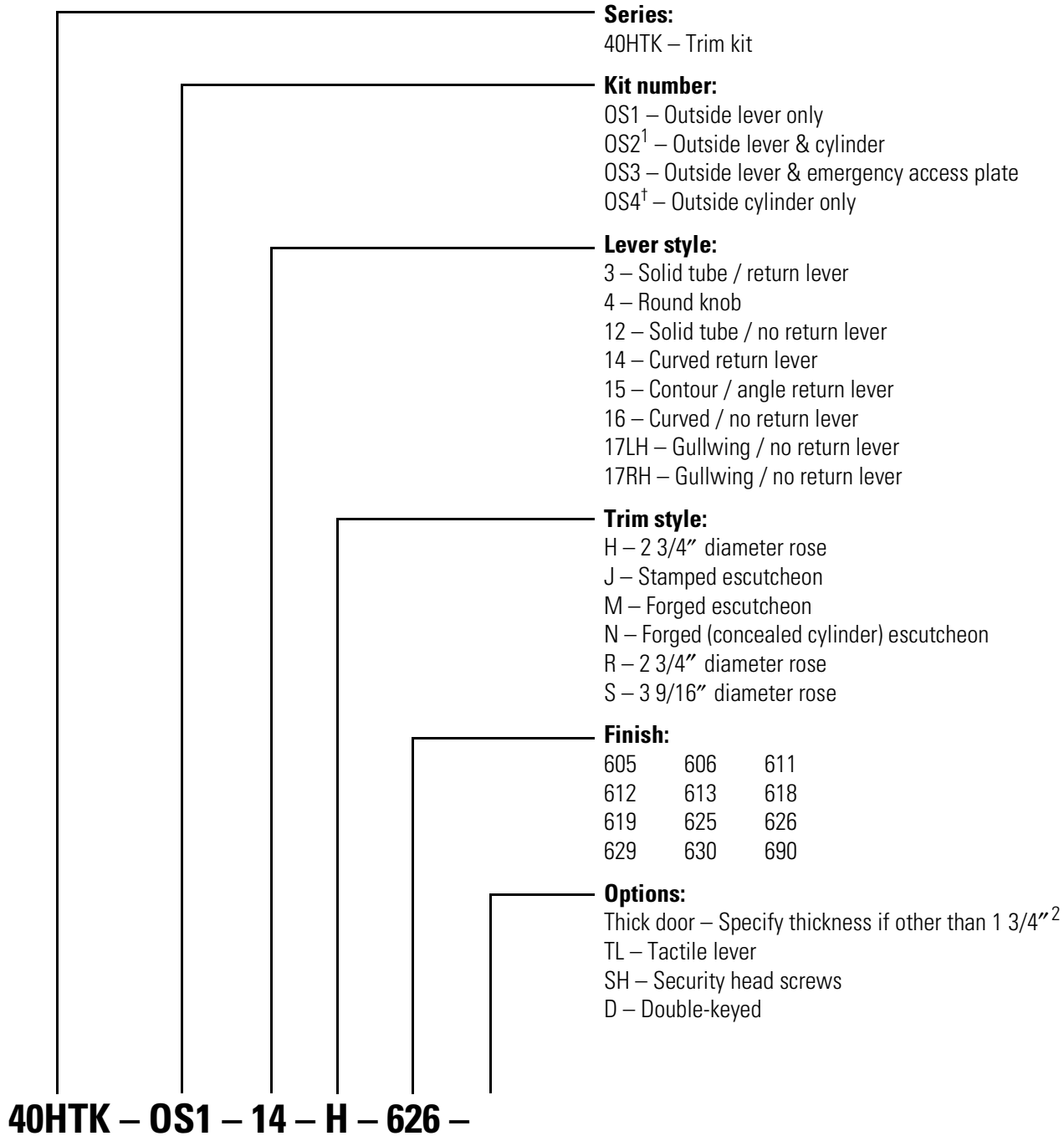
5

TRIM PARTS

The following pages describe the trim parts available for 45H & 47H Locks and 45HW & 47HW Locks. Information for how to order trim kits is provided. For information about 48H & 49H trim parts, see *48H Trim parts* on [page 7-5](#).

OUTSIDE TRIM KITS

How to order To order outside trim kits, use the nomenclature shown in the example below.



¹ By default, OS2 and OS4 include a cylinder ring for single-keyed applications. For double-keyed applications, specify the D option in the nomenclature.

² For door thickness information, see the table on the next page.

The table below lists available door thicknesses. If a door's thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local BEST Representative.

Available door thicknesses

2"	3 3/4"
2 1/4"	4"
2 1/2"	4 1/4"
2 3/4"	4 1/2"
3"	4 3/4"
3 1/4"	5"
3 1/2"	

Kit components

The components of each outside trim kit are described in the table below. [Figure 5.1](#) through [Figure 5.4](#) show the components included in each outside trim kit. A sectional trim example (H style trim) and an escutcheon trim example (J style trim) are shown for each kit.

Item	Description	Qty. per kit			
		OS1	OS2	OS3	OS4
1	Outside lever and spindle assembly ^a	1	1	1	
2	Rose / escutcheon ring	1	1	1	
3	Rose or outside escutcheon ^b	1	1	1	
4	Outside trim mounting plate ^c	1	1	1	
5	J alignment plate ^d	1	1	1	
6	Trim mounting plate screw (#8-32 UNC-2A) ^e	2	2	2	
7	J alignment plate mounting screw ^{d, e}	1	1	1	
not shown	M/N escutcheon screw (#10-32 × 2 1/8")	2	2	2	
8	Cylinder and cam assembly		1		1
9	Wavy washer		1		1
10	Cylinder ring ^f		1		1
not shown	Cylinder set screw (#10-24 × .330")		1		1
11	Emergency key ^g			1	
12	Emergency rose mounting screw ^e (#6 × 1/2" POH)			2	
13	Emergency access rose			1	

a. For information to order lever sets, see [page 5-13](#).

b. For part numbers for roses and rose rings, see [page 5-25](#).

For part numbers for outside escutcheons, see [page 5-23](#).

c. To obtain an outside trim mounting plate with a lever spring, use B45081. To obtain an outside trim mounting plate without a lever spring (used with the #4 knob), use B45080.

d. The J alignment plate (B35466) is included in J trim kits only.

e. For information to order screw kits, see [page 5-19](#).

f. The B45103 cylinder ring for single-keyed functions is shown. Double-keyed functions use B35105.

g. To obtain the sectional trim emergency key kit (rose, mounting screws, and key), use A35150. The outside escutcheon assembly for J, M, and N trim includes an integrated emergency access rose. To obtain the emergency key only, use A18719.

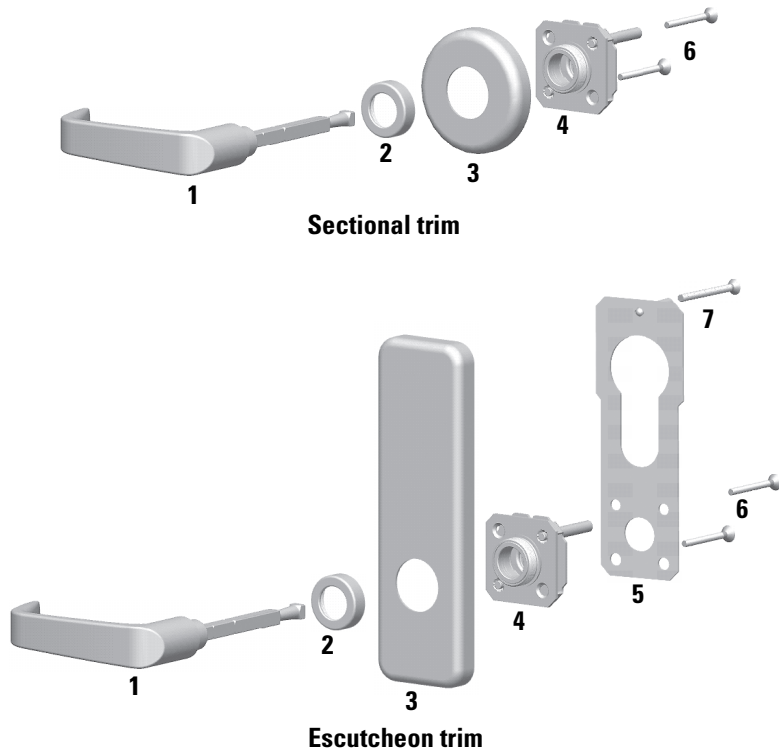


Figure 5.1 OS1 – Outside lever only

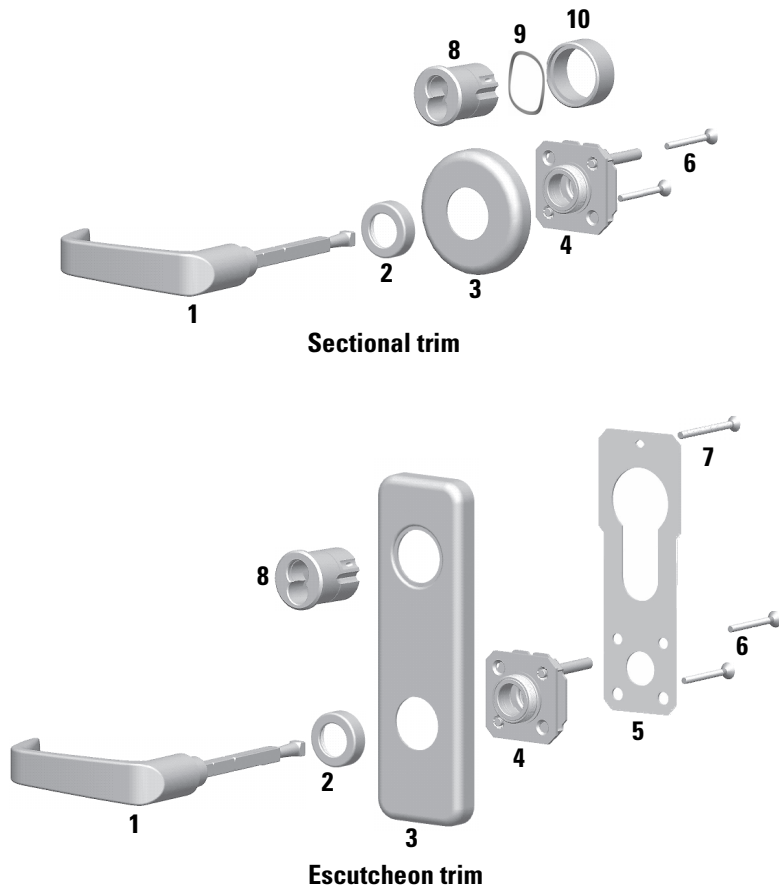
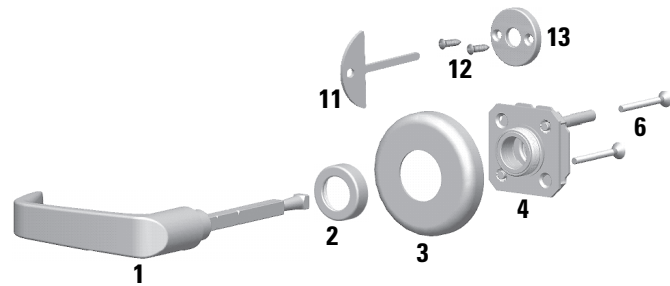
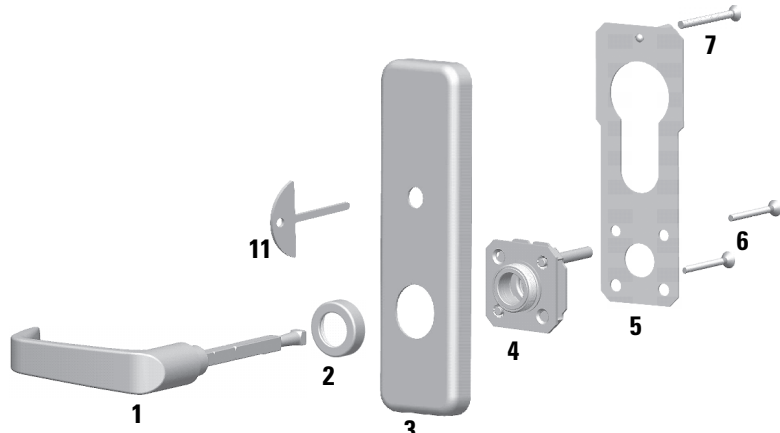


Figure 5.2 OS2 – Outside lever & cylinder

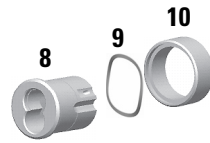


Sectional trim



Escutcheon trim

Figure 5.3 OS3 – Outside lever & access plate

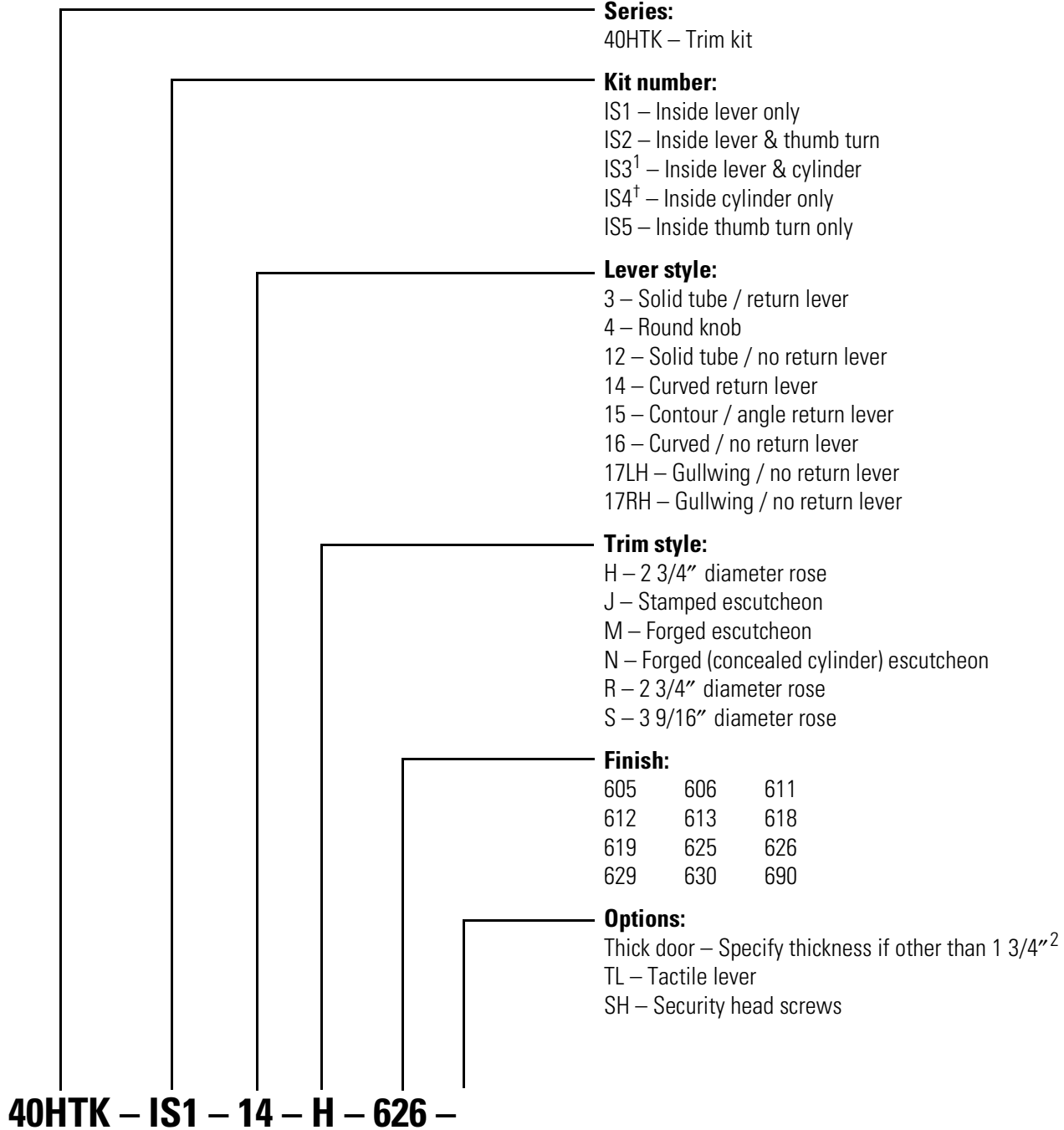


All trim

Figure 5.4 OS4 – Outside cylinder only

INSIDE TRIM KITS

How to order To order inside trim kits, use the nomenclature shown in the example below.



¹ IS3 and IS4 include the cylinder ring used for double-keyed applications.

² For door thickness information, see the table on the next page.

The table below lists available door thicknesses. If a door's thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local BEST Representative.

Available door thicknesses	
2"	3 3/4"
2 1/4"	4"
2 1/2"	4 1/4"
2 3/4"	4 1/2"
3"	4 3/4"
3 1/4"	5"
3 1/2"	

Kit components

The components of each inside trim kit are described in the table below. [Figure 5.5](#) through [Figure 5.9](#) show the components included in each inside trim kit. A sectional trim example (H style trim) and an escutcheon trim example (J style trim) are shown for each kit.

Item	Description	Qty. per kit				
		IS1	IS2	IS3	IS4	IS5 ^a
1	Inside trim mounting plate ^b	1	1	1		
2	Rose or inside escutcheon assembly ^c	1	1	1		
3	Rose / escutcheon ring	1	1	1		
4	Inside lever ^d	1	1	1		
not shown	Socket set screw for lever handle ^e	1	1	1		
5	Thumb turn and rose assembly ^f		1			1
6	Thumb turn mounting screw (#6 × 1/2" POH) ^d		2			2
7	Cylinder ring ^g			1	1	
8	Wavy washer			1	1	
9	Cylinder and cam assembly			1	1	
not shown	Cylinder set screw (#10-24 × .330") ^e			1	1	

- a. IS5 is available for sectional trim only.
- b. To obtain an inside trim mounting plate with a lever spring, use B45071.
To obtain an inside trim mounting plate without a lever spring (used with the #4 knob), use B45070.
- c. For part numbers for roses and rose rings, see [page 5-25](#).
For part numbers for inside escutcheons, see [page 5-23](#).
- d. For information to order lever sets, see [page 5-13](#).
- e. For information to order screw kits, see [page 5-19](#).
- f. The inside escutcheon assembly for J, M, and N trim includes an integrated thumb turn.
- g. The cylinder ring provided is for double-keyed applications.

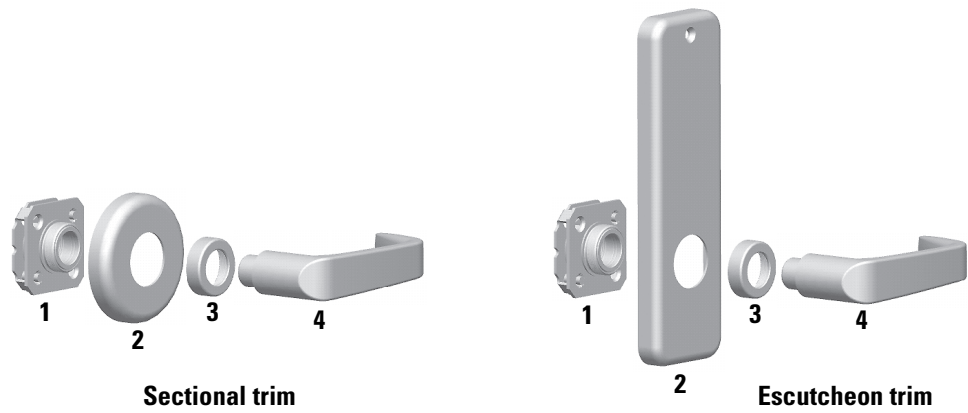


Figure 5.5 IS1 – Inside lever only

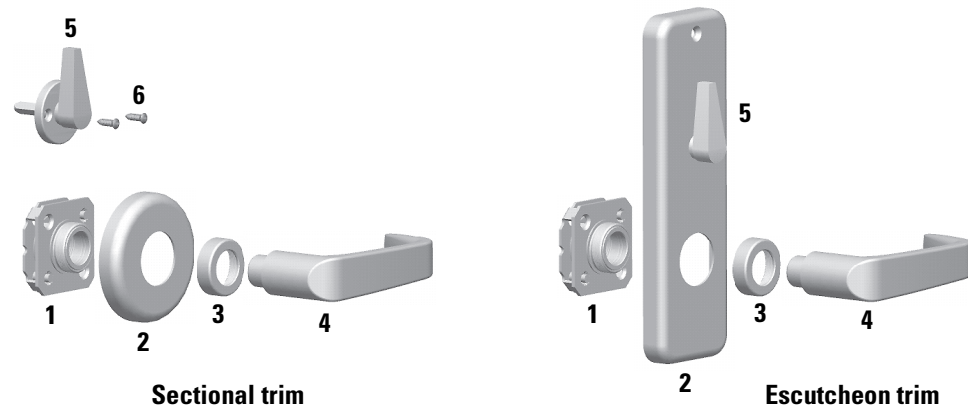


Figure 5.6 IS2 – Inside lever & thumb turn

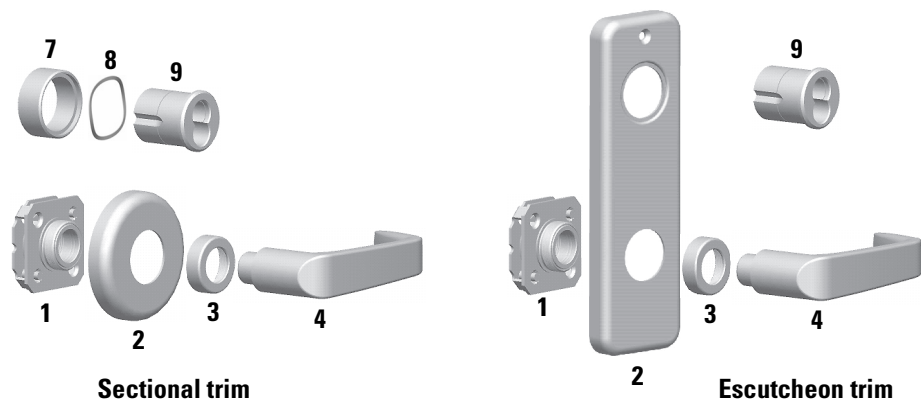


Figure 5.7 IS3 – Inside lever & cylinder

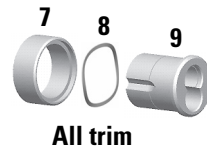


Figure 5.8 IS4 – Inside cylinder only



Figure 5.9 IS5 – Inside thumb turn only

STRIKE PACKAGES

How to order To order strike packages, use the nomenclature shown in the example below.

Series:
40HST – Strike package

Kit number:
1 – Universal strike (non-handed)
4 – Strike box only
5 – Magnetic strike box only

Finish:

605	606	611
612	613	618
619	625	626
629	630	690

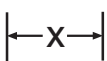
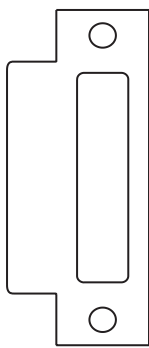
Options:
SH – Security head screws
Thick door – Specify thickness if other than 1 3/4"¹
7/8-LTC – Flat-lipped strike

40HST – 1 – 626 –

¹ For door thickness information, see the table below.

The table below lists available door thicknesses (assuming the mortise case is centered in the door) and indicates the lip to center dimension of the corresponding strike.

Door thickness	Lip to center dimension	Nomenclature example
2 1/4"	1.424"	40HST - 1 - 626 - - 2 1/4
2 1/2"	1.549"	40HST - 1 - 626 - - 2 1/2
2 3/4"	1.674"	40HST - 1 - 626 - - 2 3/4
3"	1.799"	40HST - 1 - 626 - - 3
3 1/4"	1.924"	40HST - 1 - 626 - - 3 1/4
3 1/2"	2.049"	40HST - 1 - 626 - - 3 1/2
3 3/4"	2.174"	40HST - 1 - 626 - - 3 3/4
4"	2.299"	40HST - 1 - 626 - - 4
4 1/4"	2.424"	40HST - 1 - 626 - - 4 1/4
4 1/2"	2.549"	40HST - 1 - 626 - - 4 1/2
4 3/4"	2.674"	40HST - 1 - 626 - - 4 3/4
5"	2.799"	40HST - 1 - 626 - - 5



Lip to center dimension—
taken from the edge of the lip to
the center of the screw holes

Figure 5.10 Lip to center dimension

Strike packages

The components of each strike package are described in the table below. [Figure 5.11](#) and [Figure 5.13](#) show the components included in each strike package.

Item	Description	Qty. per kit		
		1	4	5
1	Universal strike box	1	1	
2	40HS1 Universal strike	1		
3	Strike screw (#12-12 × 3/4" PHFH) ^a	1		
4	Magnetic strike box			1

a. For information to order screw kits, see [page 5-19](#).

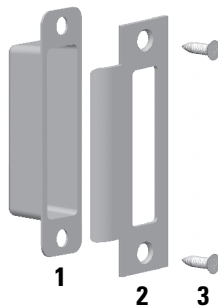


Figure 5.11 Strike kit 1— Universal strike package

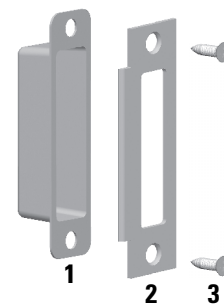


Figure 5.13 Strike kit 1— Universal strike package with flat-lipped option



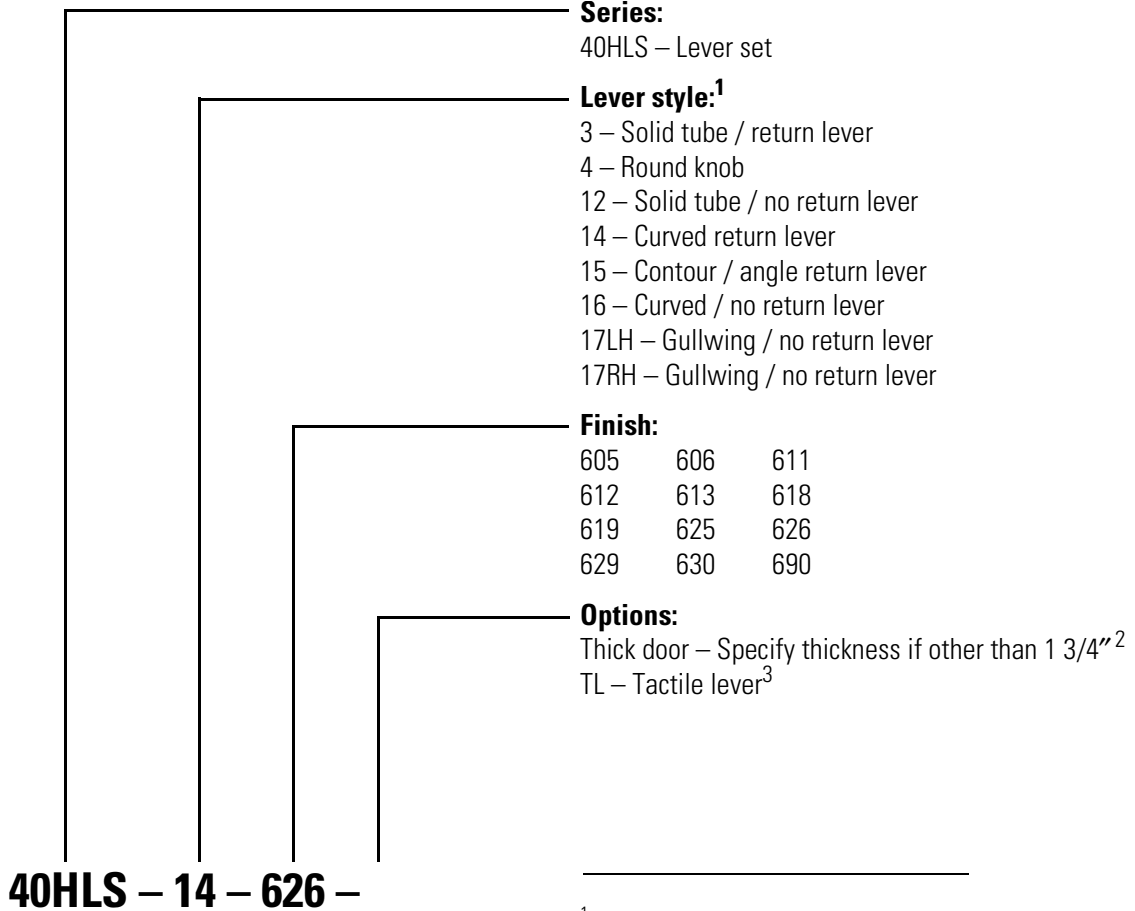
Figure 5.12 Strike kit 4— Strike box only



Figure 5.14 Strike kit 5— Magnetic strike box only

LEVER SETS

How to order To order lever sets, use the nomenclature shown in the example below.



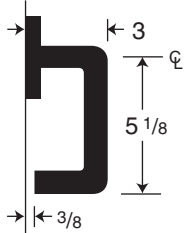
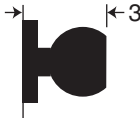
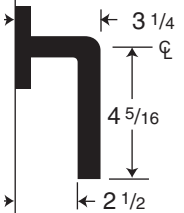
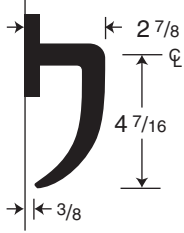
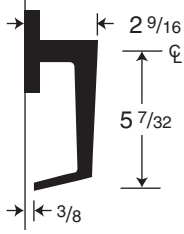
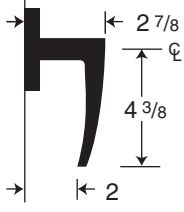
1. For decorative levers see the 40H catalog and the decorative le brochure.
2. For door thickness information, see the table below.
3. The method for achieving a tactile lever can vary depending on lever style and finish.

The table below lists available door thicknesses. If a door's thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local BEST Representative.

Available door thicknesses

2"	3 3/4"
2 1/4"	4"
2 1/2"	4 1/4"
2 3/4"	4 1/2"
3"	4 3/4"
3 1/4"	5"
3 1/2"	

Lever sets The components of each lever set are described in the table on the next page. [Figure 5.15](#) through [Figure 5.16](#) show the components included in each lever set.

Style	Item	Description	Part number	
			Standard	Tactile
	1	Solid tube / return lever set Outside lever and spindle assembly	B45120 ^a	B45121 ^a
	2	Inside lever	B45110	B44306
	not shown	Socket set screw for lever handle ^b		
	Knob set			
	1	Outside knob and spindle assembly	B45180 ^a	B45181 ^a
	2	Inside knob	B45170	B45171
	not shown	Socket set screw for lever handle ^a		
	Solid tube / no return			
	not shown	Outside lever and spindle assembly	C45423 ^a	B44310 ^a
	not shown	Inside lever	C45408	B44311
	not shown	Socket set screw for lever handle ^a		
	Curved return lever set			
	1	Outside lever and spindle assembly	B45140 ^a	B45141 ^a
	2	Inside lever	B45130	B45131
	not shown	Socket set screw for lever handle ^b		
	Contour / angle return lever set			
	1	Outside lever and spindle assembly	B45160 ^a	B45161 ^a
	2	Inside lever	B45150	B45151
	not shown	Socket set screw for lever handle ^b		
	Curve / no return lever set			
	1	Outside lever and spindle assembly	B45182 ^a	B45183 ^a
	2	Inside lever	B45172	B45173
	not shown	Socket set screw for lever handle ^b		

Style	Item	Description	Part number	
			Standard	Tactile
17LH		Gullwing / no return		
	not shown	Outside lever and spindle assembly	C45420 ^a	
	not shown	Inside lever	C45405	
	not shown	Socket set screw for lever handle ^b		
17RH		Gullwing / no return		
	not shown	Outside lever and spindle assembly	C45421 ^a	
	not shown	Inside lever	C45406	
	not shown	Socket set screw for lever handle ^b		

a. For part numbers for door thicknesses other than 1 3/4", contact your local BEST Representative.

b. For information to order screw kits, see [page 5-19](#).

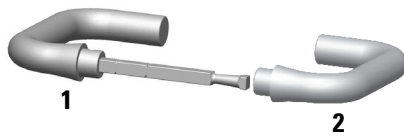


Figure 5.15 Solid tube / return (style 3)



Figure 5.16 Knob (style 4)

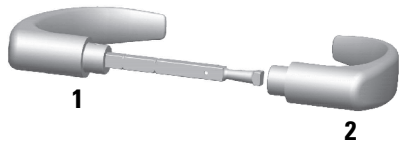


Figure 5.17 Curved return (style 14)

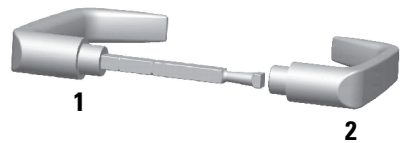


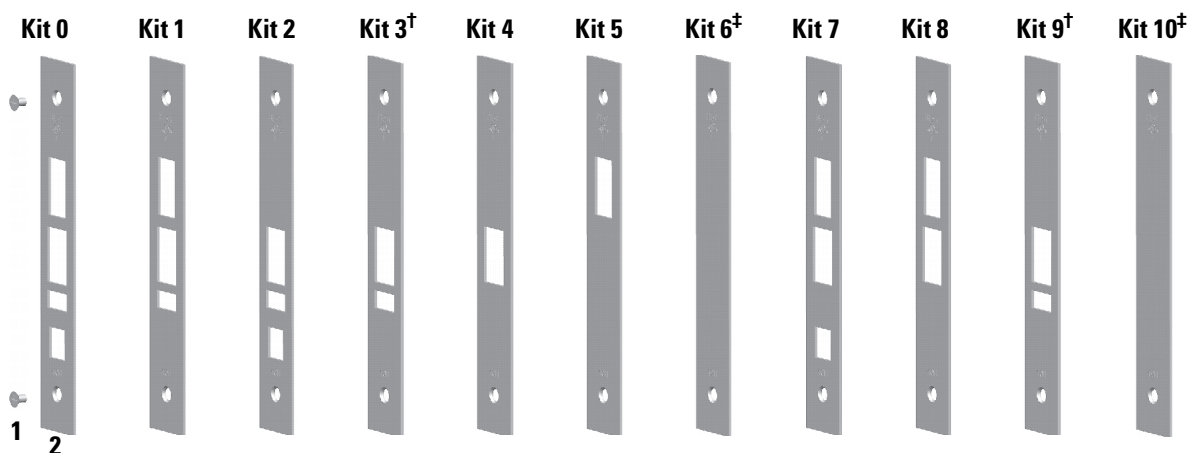
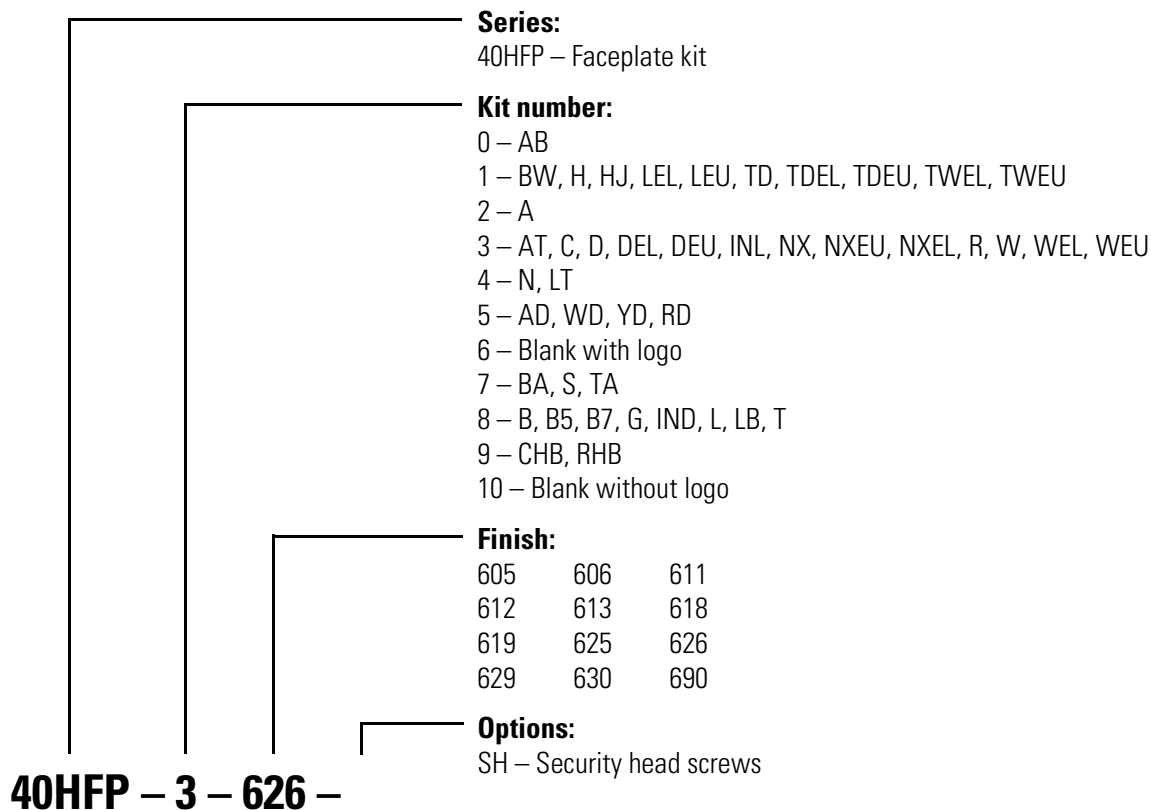
Figure 5.18 Contour/angle return (style 15)



Figure 5.19 Curve / no return (style 16)

FACEPLATE KITS

How to order To order faceplate trim kits, use the nomenclature shown in the example below.



† The faceplate in Kit 3 has the UL mark. The faceplate in Kit 9 does not have the UL mark.
‡ The faceplate in Kit 6 has the BEST logo. The faceplate in Kit 10 does not have the BEST logo.

Figure 5.20 Faceplate kits

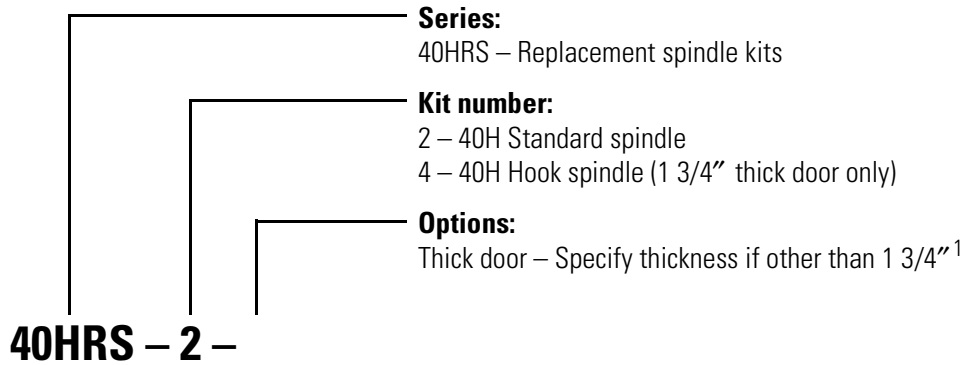
Faceplate kits All faceplate kits contain the components listed in the table below. [Figure 5.20](#) shows the faceplate for each kit.

Item	Description	Qty.
1	Faceplate screw (#8-32 × 1/4" PHFHMS) ^a	2
2	Faceplate	1

a. For information to order screw kits, see [page 5-19](#).

REPLACEMENT SPINDLES

How to order To order replacement spindles, use the nomenclature shown in the example below.



¹. For door thickness information, see the table below.

The table below lists available door thicknesses. If a door's thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local BEST Representative.

Available door thicknesses	
2"	3 3/4"
2 1/4"	4"
2 1/2"	4 1/4"
2 3/4"	4 1/2"
3"	4 3/4"
3 1/4"	5"
3 1/2"	

**Replacement
spindles**

The components of each replacement spindle kit are described in the table below. [Figure 5.20](#) shows each replacement spindle.

Item	Description	Part number	Qty, per kit	
			2 (Standard)	4 (Hook)
1	Inside spindle	B34016	1	
2	Outside spindle	B44181	1	
3	Spring pin (1/8 × 5/8")	A63101	1	
not shown	Socket set screw for lever handle ^a		1	
not shown	Allen wrench (1/8") ^b		1	
4	Lower hook spindle	A34205		1
5	Upper hook spindle	A34204		1
6	Pin (1/8 × 0.215")	A34203		1

a. For information to order screw kits, see [page 5-19](#).

b. For information to order an allen wrench, see [page 5-29](#)

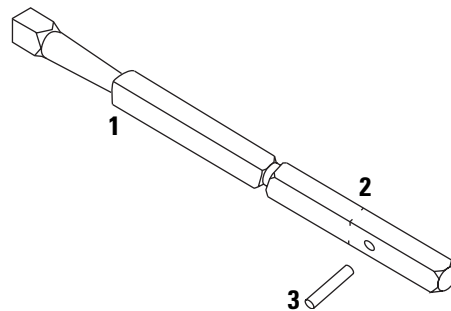


Figure 5.21 Spindle kit 2 – Standard replacement spindle

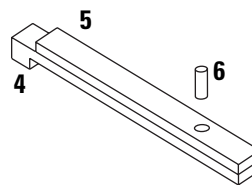
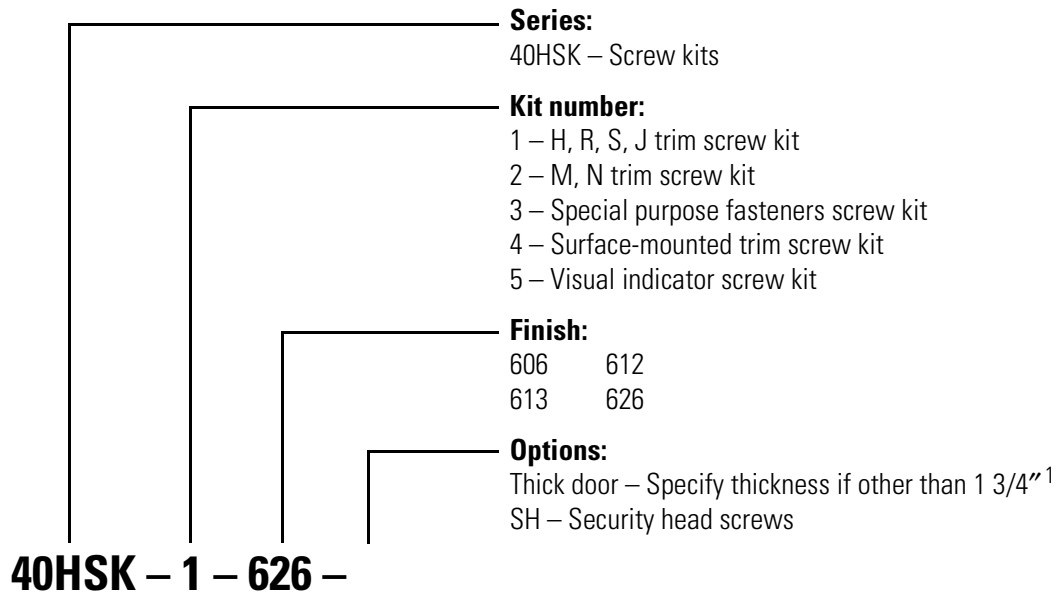


Figure 5.22 Spindle kit 4 – Hook replacement spindle

SCREW KITS

How to order To order screw kits, use the nomenclature shown in the example below.



¹. For door thickness information, see the table below.

The table below lists available door thicknesses. If a door’s thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local BEST Representative.

Available door thicknesses

2”	3 3/4”
2 1/4”	4”
2 1/2”	4 1/4”
2 3/4”	4 1/2”
3”	4 3/4”
3 1/4”	5”
3 1/2”	

Screw kits The components of screw kits are described in the table below. [Figure 5.23](#) shows the components included in each screw kit.

Item	Description	Qty. per kit				
		1	2	3	4	5
1	Faceplate screw (#8-32 × 1/4" PHFHMS) ^a	2	2			
2	Strike screw / case mounting screw (#12-12 × 3/4" PHFH) ^b	4	4			
3	Trim plate mounting screw (#8-32 UNC-2A) ^c	2	2			
4	J alignment plate mounting screw (#8-32 × 1.75" UNC-2A POHMS) ^{a, c}	1				
5	Thumb turn mounting / emergency access plate screw (#6 × 1/2" POH)	2				
6	M/N escutcheon screw (#10-32 × 2 1/8") ^{b, c}		2			
7	Shuttle guide pin			2		
8	Hub toggle screw			2		
9	Self tapping screw (TD, HJ, BW functions) / Visual indicator bracket mounting screw			1		2
10	Socket set screw for lever handle ^d			1		
11	Upper J escutcheon screw (#6 × 5/8" POH surface mounting)				1	
12	Single dummy trim mounting screw (#8 × 1" PFH surface mounting)				2	

a. Security head option accepts T15 bit.

b. Security head option accepts T25 bit.

c. When the thick door option is selected, a longer screw is provided.

d. Security head option accepts spanner head bit.

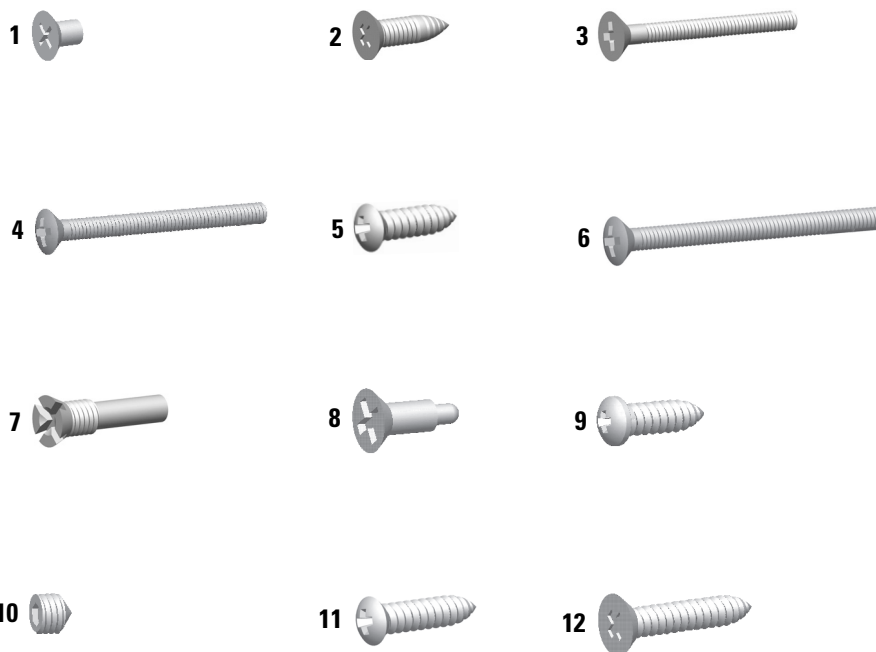
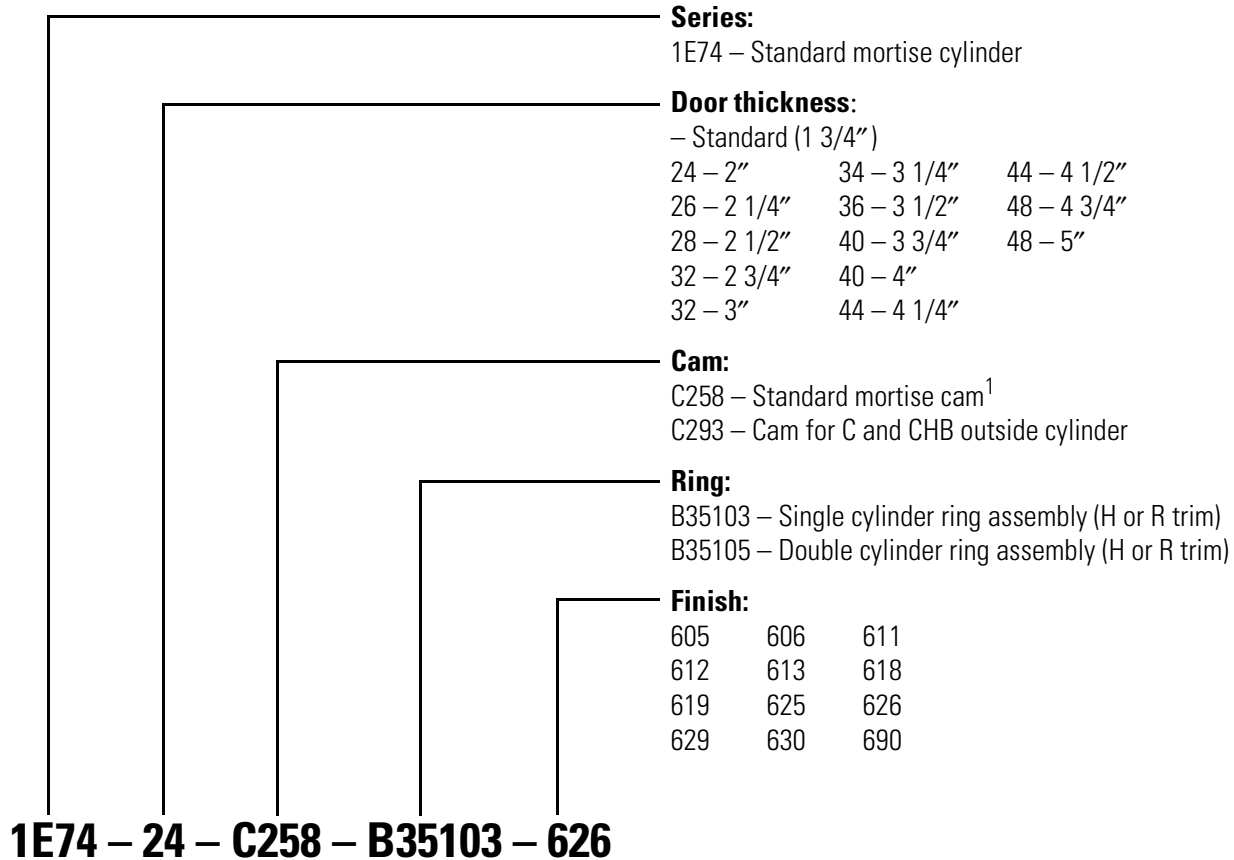


Figure 5.23 Screw kit components

CYLINDERS AND CAMS

How to order To order a cylinder and cam assembly and cylinder ring for a 40H Series Lock with sectional trim, J trim, or M trim, use the nomenclature shown in the example below. For information for ordering a cylinder and cam assembly and cylinder ring for a 40H Series Lock with N trim or a hotel function, see the tables on the next page.



¹. The turn knob cylinder for the RD function (classroom deadbolt) has specialized components and must be ordered with the lock.

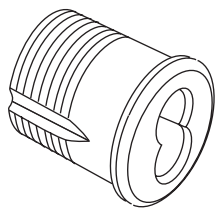
Cylinders by door thickness

The table below lists cylinders by door thicknesses. If a door's thickness falls between two thicknesses listed below, round up. For doors where the mortise case is not centered in the door, contact your local BEST Representative.

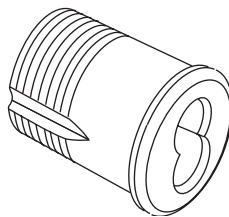
Door thickness	Sectional, J, and		
	M cylinder	Hotel cylinder	N cylinder
2"	B35170	B35200	1E7N4
2 1/4"	B35171	B35201	B35284
2 1/2"	B35172	B35202	B35285
2 3/4"	B35173	B35203	B35286
3"	B35174	B35204	B35287
3 1/4"	B35175	B35205	B35288
3 1/2"	B35176	B35206	B35289
3 3/4"	B35177	B35207	B35290
4"	B35178	B35208	B35291
4 1/4"	B35179	B35209	B35292
4 1/2"	B35180	B35210	B35293
4 3/4"	B35181	B35211	B35294
5"	B35182	B35212	B35295

Cylinder ring lengths

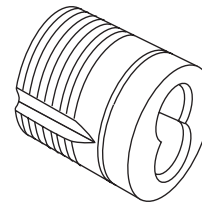
Ring part no.	Length (decimal)
B35100	7/32" (.219)
B35101	11/32" (.344)
B35102	13/32" (.406)
B35103	7/16" (.438)
B35104	9/16" (.562)
B35105	19/32" (.594)
B35106	21/32" (.656)
B35107	23/32" (.719)
B35108	13/16" (.812)
B35109	5/16" (.312)



Standard cylinder

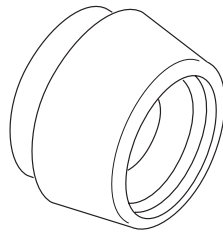


Hotel cylinder

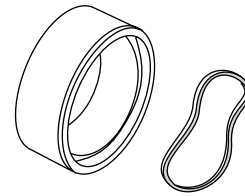


N trim cylinder

Figure 5.24 Cylinders

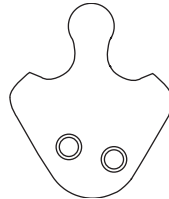


High security cylinder ring

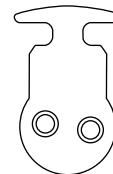


Cylinder ring Wavy washer

Figure 5.25 Cylinder rings



Standard cam (C258)



**Cam for CHB & RHB
O/S cylinder (C293)**

Figure 5.26 Cylinder cams

ESCUTCHEON ASSEMBLIES

J trim outside escutcheons

J trim outside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	Outside escutcheon	LEL, LEU N, NX, NXEL, NXEU	C44091
2	Outside escutcheon	A, AB, AT, B, BA, BW, B5, B7, C, CHB, D, DEL, DEU, G, HJ, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, TWEL, TWEU, W, WEL, WEU	C44092
3	Outside escutcheon	L, LB, LT	C44093
4	Outside escutcheon for keyed visual indicator	H, HJ ^a	D44094
5	Outside escutcheon for privacy visual indicator (with emergency key)	L, LB, LT	D44095

a. The keyed visual indicator may also be used with IND, INL, and TD function locks.

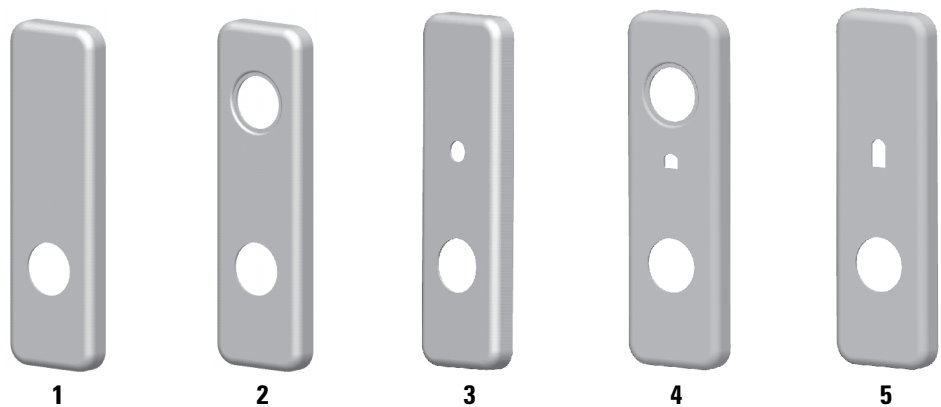


Figure 5.27 Outside J trim escutcheons

J trim inside escutcheons

J trim inside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	Inside escutcheon	A, B5, D, DEL, DEU, N, NX, NXEL, NXEU, R, RHB, TDEL, TDEU	D44081
2	Inside escutcheon and turn knob assembly	AB, AT, B, BA, BW, H, HJ, L, LB, LEL, LEU, LT, T, TA, TD	B45200 ^a
3	Inside escutcheon	B7, C, CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	D44082
4	Inside escutcheon for keyed visual indicator	INL, IND	D44084

a. For part numbers for door thicknesses other than 1 3/4", contact your local BEST Representative.

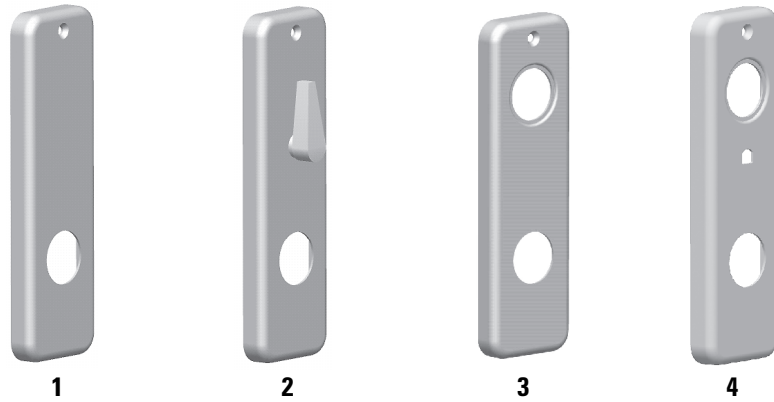


Figure 5.28 Inside J trim escutcheons

M & N trim outside escutcheons M and N trim outside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	M trim outside blank escutcheon	For lever one side only applications	C44451
2	M trim outside escutcheon for 45H	For lever only applications	C44452
3	M trim outside escutcheon for 45H	XR	C44453
4	M trim outside escutcheon for 45H	A, AB, AT, B, BA, BW, B5, B7, C, CHB, D, DEL, DEU, G, HJ, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, TWEL, TWEU, W, WEL, WEU	C44454
5	M trim outside escutcheon for 45H	L, LB, LT	C44455
6	M trim outside escutcheon for 47H	XR	B45221 ^a
7	M trim outside escutcheon for 47H	A, AB, AT, B, BA, BW, B5, B7, C, CHB, D, DEL, DEU, G, HJ, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, W, WEL, WEU	B45222 ^a
8	N trim outside escutcheon for 45H	XR	C44458
9	N trim outside escutcheon for 45H	A, AB, AT, B, B5, B7, D, DEL, DEU, G, IND, INL, R, RHB, S, T, TA, TD, TDEL, TDEU, W, WEL, WEU	C44459

a. These escutcheon assemblies include the hardened security plate (A34377).

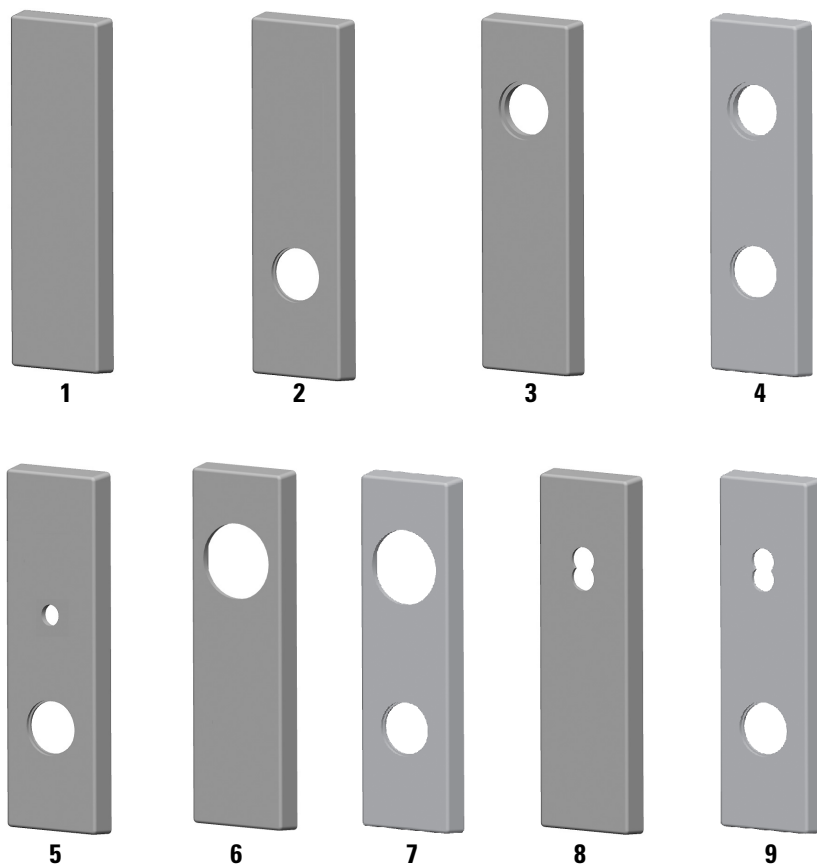


Figure 5.29 Outside M & N trim escutcheons

M & N trim inside escutcheons

M and N trim inside escutcheon assemblies are described in the table and figures below.

Item	Description	Functions	Part number
1	M & N trim inside escutcheon for 45H	A, AT, B5, B7, D, DEL, DEU, NXEL, NXEU, R, RHB, TDEL, TDEU, XR	C44462
2	M trim inside escutcheon for 45H	C, CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	C44464
3	M & N trim inside escutcheon for 45H	AB, B, BA, BW, LEL, LEU, TA, TD	B45210 ^a
4	N trim inside escutcheon for 45H	CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	C44469
5	M trim inside blank escutcheon for 45H	For lever one side only applications	D44461
6	M trim inside escutcheon for 45H	For lever one side only applications with only a cylinder on the inside	C44463
7	M trim inside escutcheon for 47H	C, CHB, G, IND, INL, S, TWEL, TWEU, W, WEL, WEU	B45223 ^b
8	M trim inside escutcheon for 47H	For lever one side only applications with only a cylinder on the inside	B45220 ^b

- a. For part numbers for door thicknesses other than 1 3/4", contact your local BEST Representative.
- b. These escutcheon assemblies include the hardened security plate (A34377).

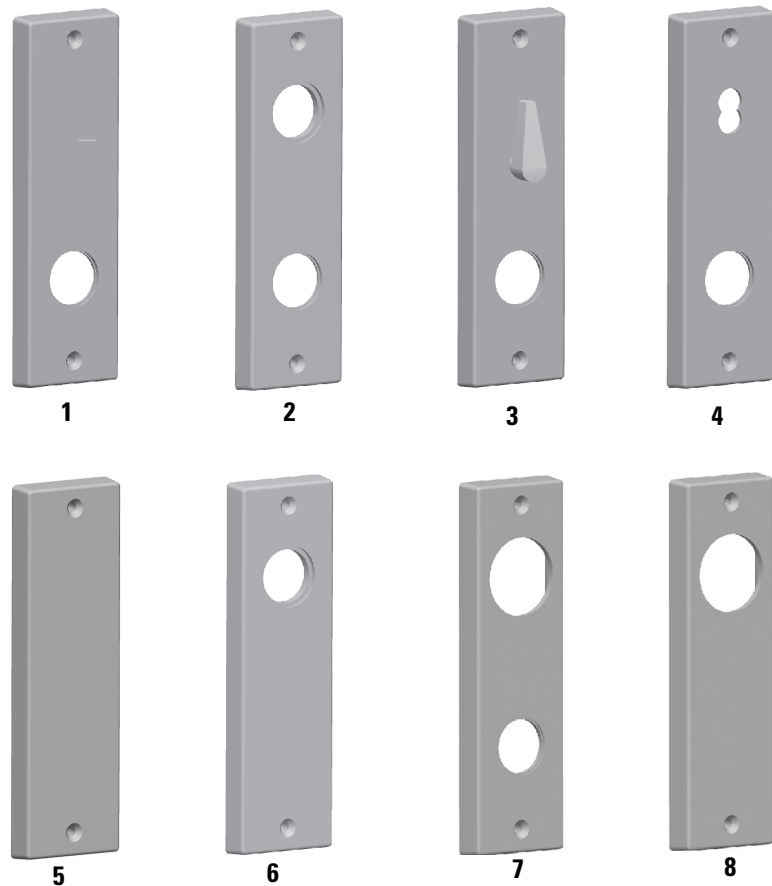


Figure 5.30 Inside M & N trim escutcheons

ROSES AND ROSE RINGS

Rose and rose ring components are described in the table and figure below.

Item	Description	Part number	
		Rose	Ring
1	H trim	A44070	B44182
2	R trim	A44074	B44182
3	S trim	A44080	B44182

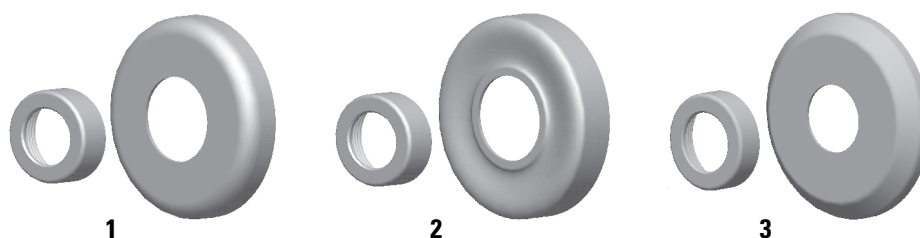


Figure 5.31 Roses & rose rings

DUMMY TRIM

Dummy trim parts are described in the table and figures below.

Item	Description	Part number	1DT (qty.)	2DT (qty.)
1	Dummy trim rose ring ^a	B44183		
2	Outside trim mounting plate	B35027		1
3	Dummy trim assembly	A45050	1	2
4	Inside trim mounting plate	A35028	1	1
5	40H Trim cassette mounting screw (for 1 3/4" to 2 1/4" thick doors)	A44215 ^b		2
6	Single dummy trim mounting screw (#8 × 1" PFH surface mounting) ^c	A39217	2	

a. Used with double dummy trim for single dummy trim applications.

b. For part numbers for door thicknesses other than 1 3/4", contact your local BEST Representative.

c. For information to order screw kits, see [page 5-19](#).

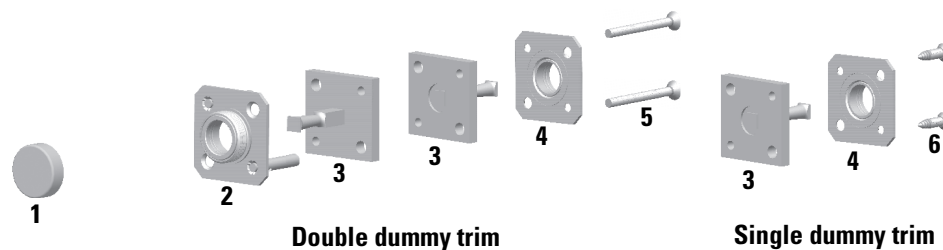


Figure 5.32 Dummy trim parts

VISUAL INDICATOR TRIM

The table below lists visual indicator trim components. Sectional trim and J style trim are shown below. Visual indicator trim is not available for M & N trim.

Item	Description	Part number	Sectional trim (qty.)	J trim (qty.)
1	Keyed visual indicator cover	B44510	1	
2	Visual indicator dial assembly (deadbolt)	A45053	1	1
not shown	Visual indicator dial assembly (latchbolt)	A45052	1	1
not shown	Visual indicator bracket mounting screw ^a		2	
3	Visual indicator mounting bracket	B44512	1	
4	J trim outside escutcheon for keyed visual indicator	D44094		1
not shown	J trim inside escutcheon for keyed visual indicator	D44084		1
5	J trim escutcheon cam spacer	B44515		1
6	Privacy visual indicator cover	B44511	1	
7	J trim outside escutcheon for privacy visual indicator	D44095		1

a. For information to order screw kits, see [page 5-19](#).

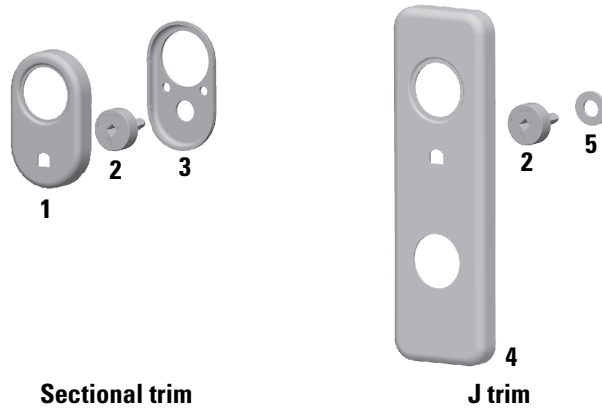


Figure 5.33 Keyed visual indicator trim

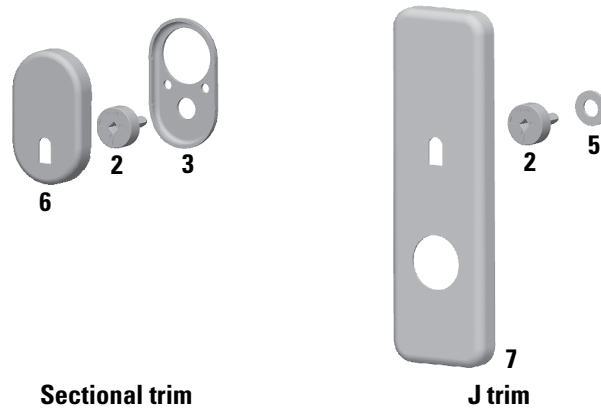


Figure 5.34 Privacy visual indicator trim

SERVICE EQUIPMENT

Tools for use with 40H Series Locks are described in the table and figure below.

Item	Nomenclature	Description	Used for
1	ED212	Mortise cylinder cam assembly tool	Tool for assembling cams to mortise cylinders
2	ED211	Cylinder wrench	Tool for installing, removing, and testing cylinders
3	KD316	Spanner wrench	Tool for installing sectional trim
4	1233659	Allen wrench (1/8")	Tool for installing and removing the inside lever
5	ED225	Cylinder tap	Tool for rethreading case threads
6	ED221	Cylinder die	Tool for rethreading 1 5/32" diameter cylinders

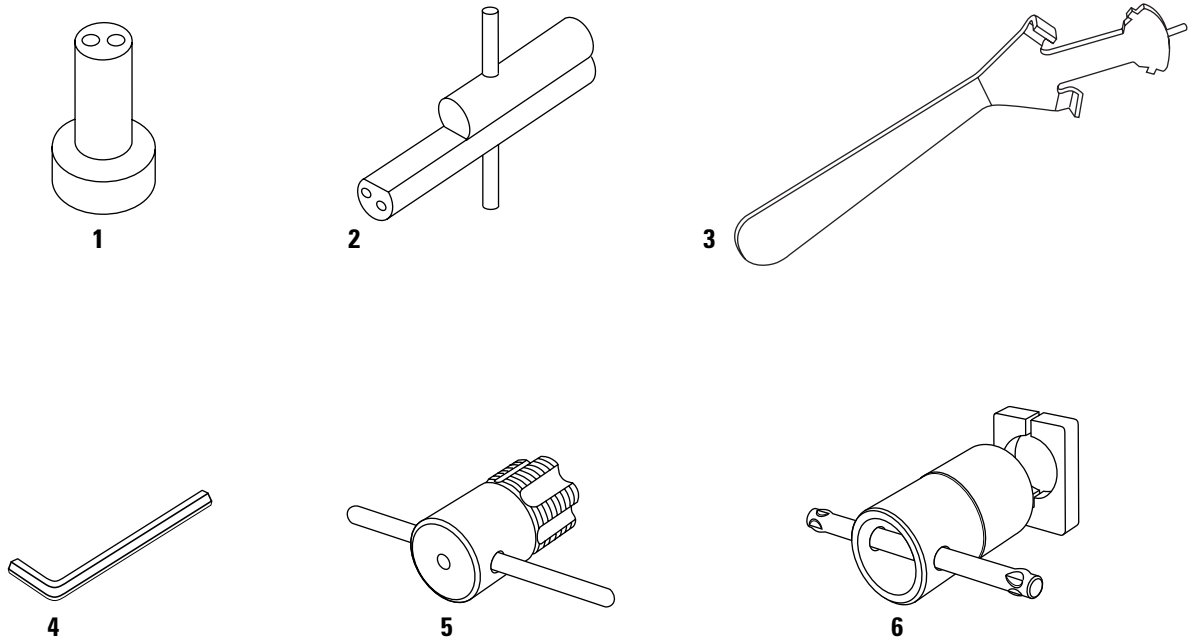


Figure 5.35 Service equipment

DRIVER BITS

Special driver bits for security head screws are described in the table and figure below.

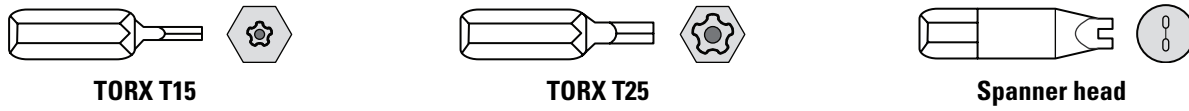


Figure 5.36 Driver bits

Type	Part number	Used for
TORX T15 ^a	A34457	Security head trim mounting screw, thumb turn mounting screw, faceplate screw
TORX T25	A34458	Security head case mounting screw, strike screw
Spanner head	A34407	Lever set screw

a. TORX is a registered trademark of the Camcar Division of Textron.

ACCESSORIES FOR ELECTRIFIED LOCKS

Accessories for use with 45HW & 47HW Series Electrified Mortise Locks are described in the table and figure below.

Item	Nomenclature	Description
1	8W599	Transformer (converts 120 volts AC to 24 volts AC)
2	8WCON	AC to DC converter full wave bridge rectifier
3	8WDTL	Door transfer loop
4	8WMOV	Metal oxide varistor
5	8WTCM	Temperature control module
not shown	CECB 179-66 CECB 168-66 CECB 191-66	Electrified hinge ^a

a. BEST recommends one of the listed concealed electric hinges from Stanley Security Solutions. For more information, contact your BEST representative.

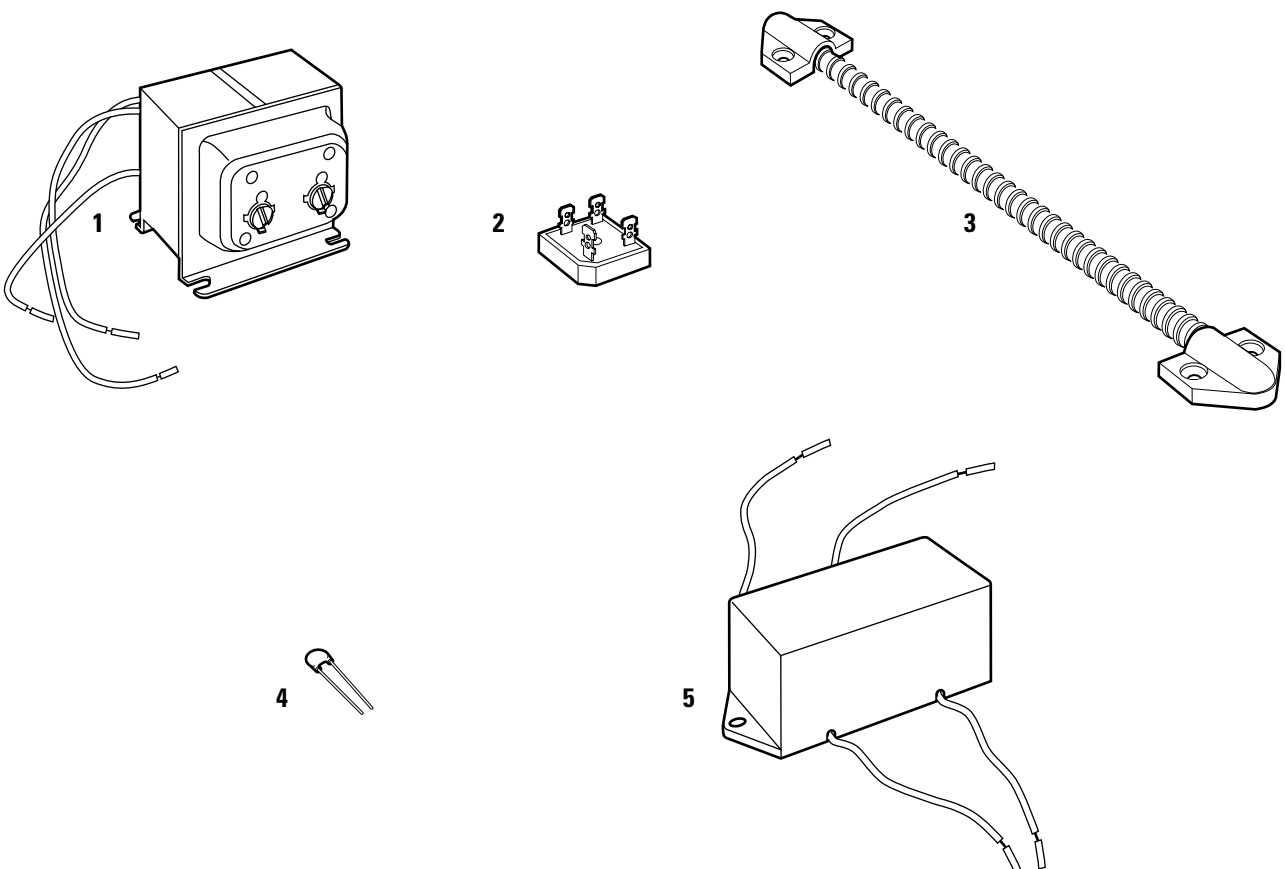


Figure 5.37 Accessories for electrified locks

6

SERVICE AND MAINTENANCE

This chapter contains instructions for servicing and maintaining 45H & 47H Locks and 45HW & 47HW Locks. For instructions for servicing and maintaining 48H & 49H Locks, see *Troubleshooting* on [page 7-8](#).

CHANGING THE HAND

This section describes how to change the hand and/or bevel of the 45H, 47H, 45HW & 47HW mortise case. The section includes a quick reference and instructions.

Changing hand quick reference

Review the diagram below to understand the hand and bevel of the door.

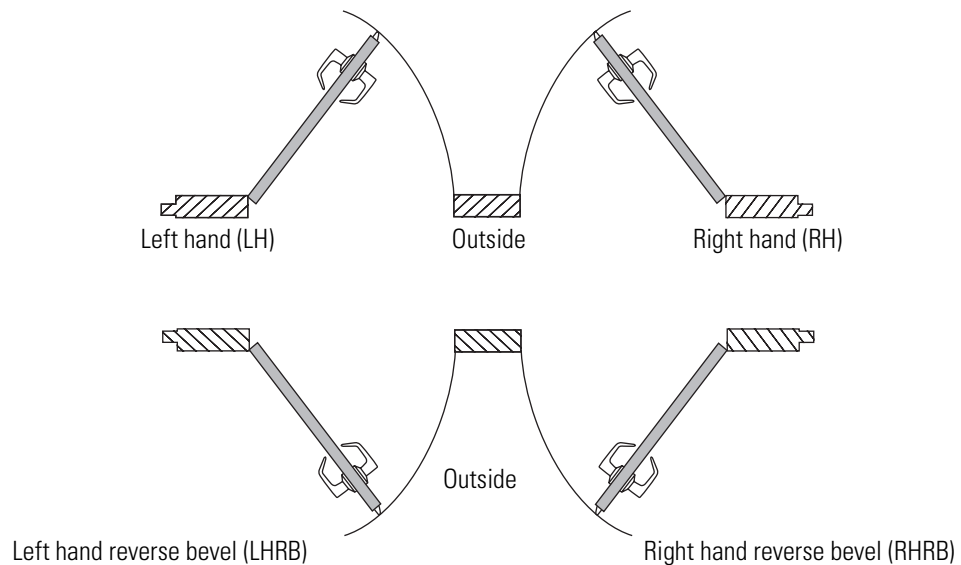


Figure 6.1 Explanation of the hand and bevel of the door

Changing handing for the mortise case

The handing of a 45H & 47H mortise case or 45HW & 47HW mortise case can be changed without opening the case. To change the hand, you need to rotate the latchbolt. For all lock functions except W and N, you also need to adjust the hub toggle positions. No steps are required for adjusting the bevel since the armored front on the 45H & 47H mortise case automatically adjusts to the bevel of the door when the case is installed.

To rotate the latchbolt:

1. Confirm that you need to rotate the latchbolt to match the handing of the door.

Note: The angled surface of the latchbolt must contact the strike when the door closes.

2. To rotate the latchbolt, insert a flat blade screwdriver into the latch access point approximately 1/2" into the case and press to extend the latch out of the case. See [Figure 6.2](#).
3. Rotate the latchbolt 180 degrees and allow it to retract.

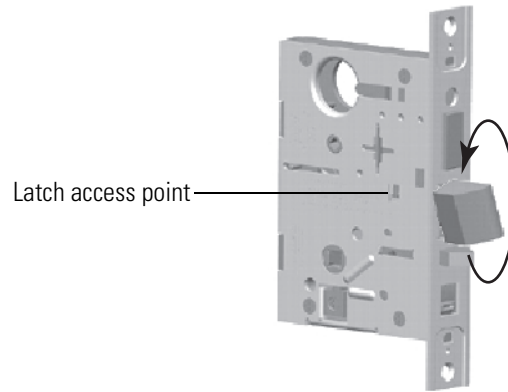


Figure 6.2 Rotating the latchbolt

To change the position of the hub toggles:

1. Refer to the table below and determine the proper position for the hub toggles.

Function	Hub toggle position
A, AB, AT, C, CHB, D, DEL, DEU, H, HJ, IND, INL, L, LEL, LEU, LT, NX, NXEL, NXEU, R, RHB, T, TA, TD, TDEL, TDEU, TWEL, TWEU, WEL, WEU, XR, ZD	Inside down (always unlocked) & outside up (lockable)
B, BA, BW, B5, B7, G, LB, S, W	Both up
N	Both down

Note: For LH and LHRB doors, the inside is the back side of the case and the outside is the cover side of the case. For RH and RHRB doors, the inside is the cover side of the case and the outside is the back side of the case.

2. To change the position of a hub toggle, remove the toggle screw, move the toggle into the desired position, and re-tighten the screw. See [Figure 6.3](#).

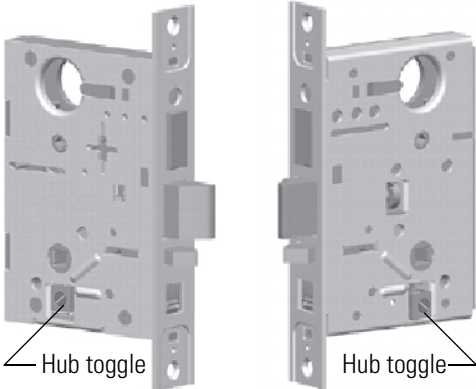


Figure 6.3 Positioning the hub toggles

CHANGING THE FUNCTION FOR UNIVERSAL CASES

This section provides instructions for changing the function for the 45H & 47H universal mortise cases (UNR, UNAB, and UNT). For information about which inside and outside trim kits to use with each function, see *Working with trim kits* on [page 2-3](#).

Changing the function for UNR cases

The UNR mortise case can be configured for any of the following functions:

- A
- AT
- D
- INL
- N
- NX
- R

To convert the UNR case from one function to another, you need to adjust the shuttle screw positions and possibly the hub toggle positions.

To adjust the shuttle screw positions:

Refer to the table and guidelines below. Also, see [Figure 6.4](#).

Note: To position the shuttle, insert a screwdriver into the opening for the thumb turn hub and rotate the shuttle.

- *For an N function*, position the shuttle towards the face of the case and move the shuttle screw from position 0, 2, or 3 to position 1. If converting from an A function configuration, move the shuttle screw from position 4 to position 5.
- *For a D, NX, or W function*, position the shuttle towards the back edge of the case and move the shuttle screw from position 0, 1, or 2 to position 3. If converting from an A function configuration, move the shuttle screw from position 4 to position 5.
- *For an A function*, position the shuttle in the middle of the case and move the shuttle screw from position 0, 1, 2, or 3 to position 4. Then move the shuttle screw from position 5 to position 2.

Function	Shuttle screw positions
A	2 & 4
AT, INL, R	0 & 5
D, NX, W	3 & 5
N	1 & 5

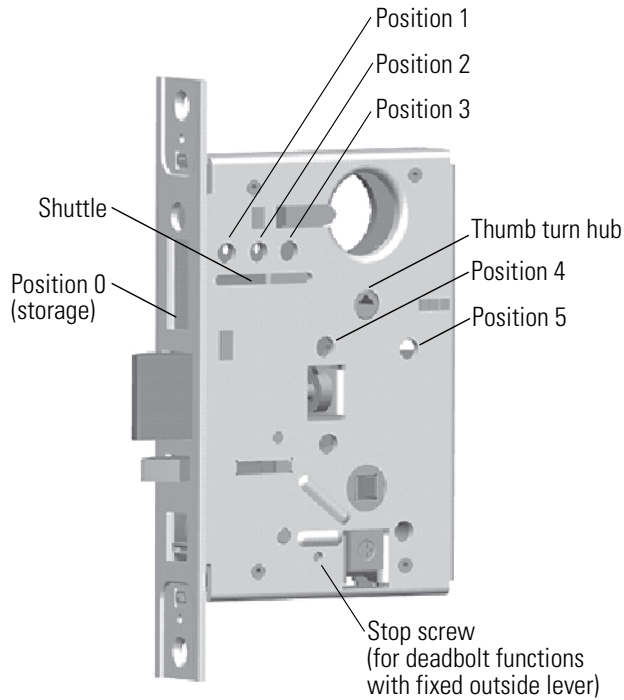


Figure 6.4 Positioning the shuttle screws and stop screw

To change the position of the hub toggles:

See *To change the position of the hub toggles:* on [page 6-3](#).

Changing the function for UNAB cases

The UNAB mortise case can be configured for any of the following functions:

- AB
- TA
- TD

When converting from a TA or AB function configuration to a TD function configuration, install the self-tapping stop screw. See [Figure 6.4](#).

When converting from a TD function configuration to a TA or AB function configuration, remove the stop screw. See [Figure 6.4](#).

Changing the function for UNT cases

The UNT mortise case can be configured for either the L or T function. No change to the mortise case is required when changing between these functions; only trim changes are required.

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems.

For problems with the core and key, such as difficulty removing or inserting the key or difficulty turning the key, see the *Core and Key Service Manual*.

You notice...	Possible causes include...	You should...
Knobs or levers won't turn.	a. Spindle is not backed off.	a. Unscrew the inside spindle one full turn to allow the spindle to turn freely.
	b. Trim is out of alignment.	b. Loosen the trim and realign it so that the deadbolt does not bind.
Inside knob or lever does not remain unlocked.	Handing is reversed.	Change the handing (pg. 6-2).
Outside knob or lever won't lock.	Handing is reversed.	Change the handing (pg. 6-2).
Outside knob or lever droops.	Spindle has been twisted.	Replace the spindle (pg. 5-16).
Key will not operate latch or deadbolt.	a. Incorrect cam has been installed.	a. Install cylinder with proper cam (pg. 5-20).
	b. Cam has fallen to an inverted position.	b. Rotate the cam to the home position with a mortise wrench before installing the core.
Core will not install.	Cam has fallen to an inverted position.	Rotate the cam to the home position with a mortise wrench before installing the core.
Deadbolt will not or is difficult to retract or extend.	Trim is out of alignment.	Loosen the trim and realign it so that the deadbolt does not bind.
Deadbolt on deadbolt-only function will not extend.	Lock was ordered as an RD function.	Check the part nomenclature and ensure the RD function is needed for the application.
Deadbolt on deadbolt-only function will not retract.	Handing has been ordered incorrectly.	Check to ensure the case and thumb turn cylinder are the correct handing for the door. If not, order the correct case and thumb turn cylinder.
Lock does not function properly.	Universal case is incorrectly configured.	Configure the case to the desired function (pg. 6-5).

7

48H & 49H LOCKS

The following pages contain information about 48H & 49H Lock parts and maintenance.

FUNCTION QUICK REFERENCE

48H / 49H Functions	Description page number	Diagram page number
K	See page 7-2	See page 7-3
L	See page 7-2	See page 7-3
M	See page 7-2	See page 7-3
R	See page 7-2	See page 7-4

FUNCTION DESCRIPTIONS

The following lists describe how the deadbolt operates for 48H & 49H cylinder deadlock functions. When ordering a deadlock, specify the handing of the door.

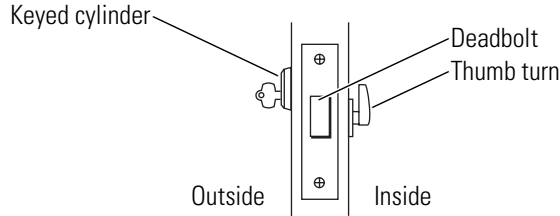


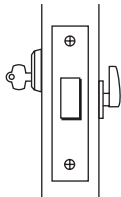
Figure 7.1 Understanding function drawings



Warning!

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the door could be hazardous or even fatal.

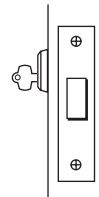
K-Cylinder deadlock



Deadbolt operated by:

- inside thumb turn
- outside key

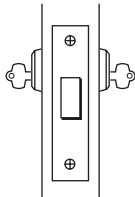
L-Cylinder deadlock



Deadbolt operated by:

- outside key

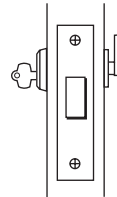
M-Cylinder deadlock



Deadbolt operated by:

- inside or outside key

R-Cylinder deadlock



Deadbolt operated by:

- outside key
- inside thumb turn

Note 1: Specify the hand of the door.

Note 2: Inside turn knob retracts the deadbolt, but does not project it.

Note 3: Can be used on 1 3/4" thick doors only.

48H & 49H MORTISE CASE PARTS

The following pages contain exploded diagrams and parts lists for 48H & 49H mortise cases.

K FUNCTION CASE—CYLINDER DEADLOCK
L FUNCTION CASE—CYLINDER DEADLOCK
M FUNCTION CASE—CYLINDER DEADLOCK

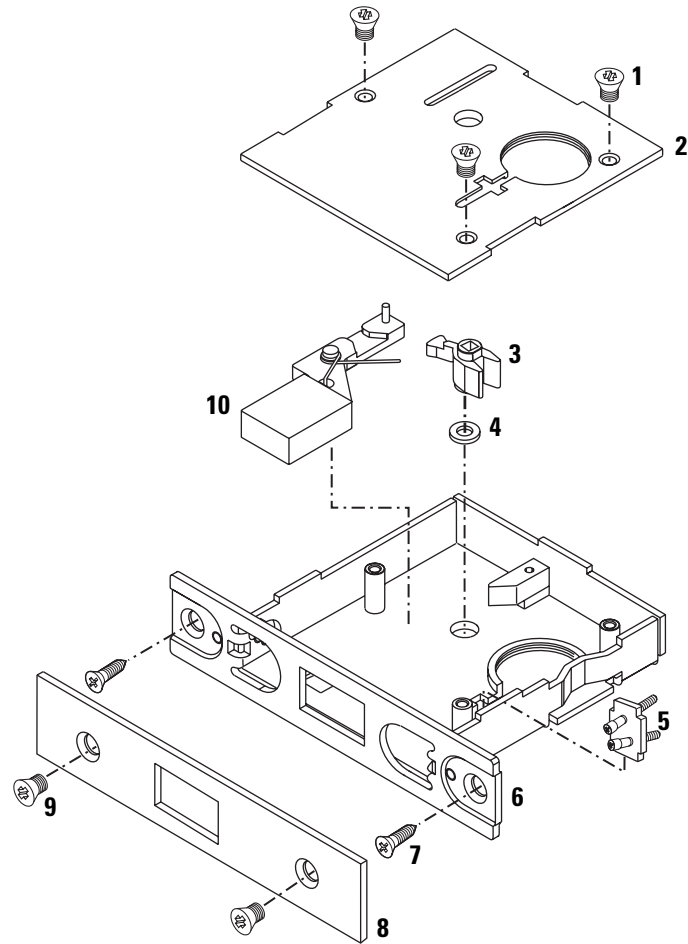


Figure 7.2 K, L, M function case

**K, L, M function
parts list**

Refer to [Figure 7.2](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	3	Case cover mounting screw
2	C34351	1	Cover
3	C34011	1	Turn knob hub
4	A34194	1	Turn knob hub spacer
5	A35022	1	Double cylinder clamp plate
6	B35402	1	Case sub-assembly
7	A18724	2	Case mounting screw (#12-12 × 3/4" PHFH)
8	B34353	1	Faceplate
9	A18722	2	Faceplate screw (#8-32 × 1/4" PHFHMS)
10	B35399	1	Deadbolt

a. For a complete case, use B35403.

R FUNCTION CASE—CLASSROOM DEADLOCK

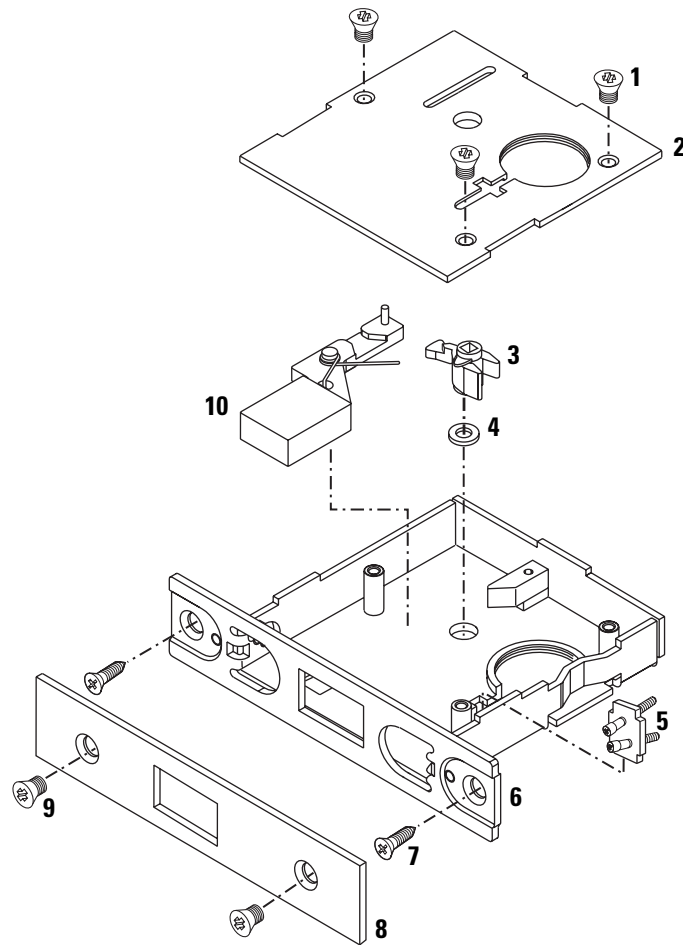


Figure 7.3 R function case

R function parts list

Refer to [Figure 7.3](#) and the table below to find the part you need.

Item	Part No. ^a	Qty.	Description
1	A34087	3	Case cover mounting screw
2	C34351	1	Cover
3	A63001	1	"R" turn knob hub (left hand)
not shown	A63002	1	"R" turn knob hub (right hand)
4	A34194	1	Turn hub spacer
5	A35022	1	Double cylinder clamp plate
6	B35402	1	Case sub-assembly
7	A18724	2	Case mounting screw (#12-12 × 3/4" PHFH)
8	B34353	1	Faceplate
9	A18722	2	Faceplate screw (#8-32 × 1/4" PHFHMS)
10	B35399	1	Deadbolt

a. For a complete LH case, use C45524. For a complete RH case, use C45525.

48H TRIM PARTS

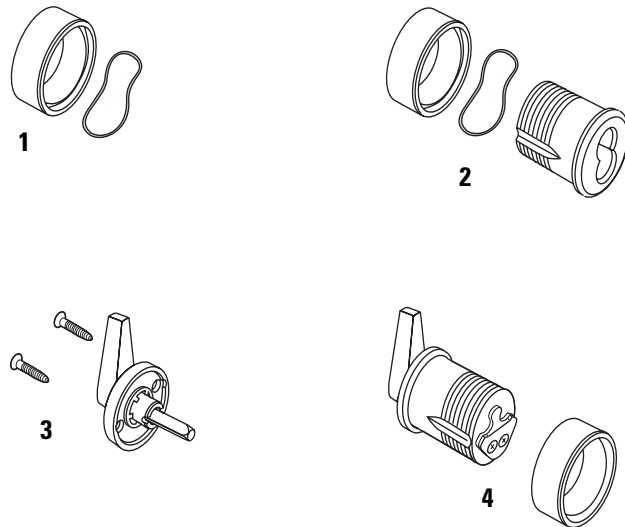


Figure 7.4 Deadbolt trim

Parts list Refer to [Figure 7.4](#) and the table below to find the trim part you need.

Item	Part No.	Description	Qty. per function			
			K	L	M	R
1	B35103	Cylinder ring assembly for single-keyed functions ^a	1	1		1
not shown	B35105	Cylinder ring assembly for double-keyed functions [†]			2	1
2	See page 5-3	OS4 trim kit	1	1	2	1
3	See page 5-7	IS5 trim kit	1			
4	B35401	Turn knob cylinder for right hand doors				1
not shown	B35405	Turn knob cylinder for left hand doors				1

a. Includes wavy washer.

49H HIGH SECURITY DEADBOLT TRIM PARTS

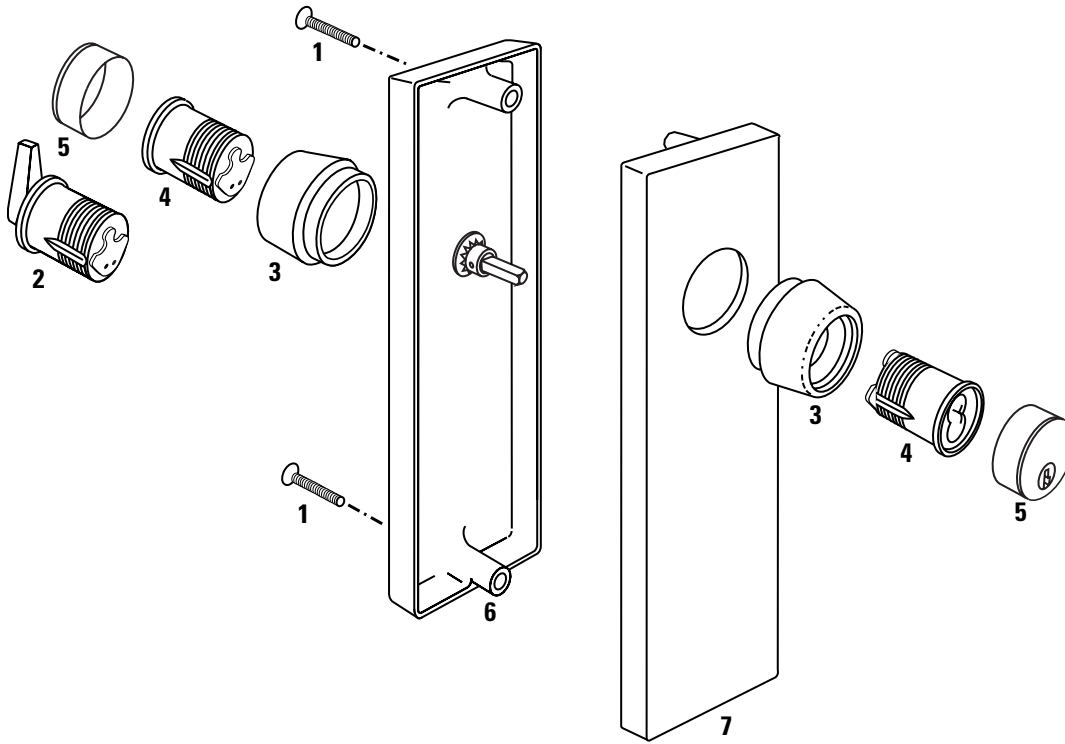


Figure 7.5 High security deadbolt trim

Parts list Refer to [Figure 7.5](#) and the table below to find the trim part you need.

Item	Part No.	Description	Qty. per function			
			K	L	M	R
1	^a	M trim escutcheon screw	1	1	1	1
2	B35519	Turn knob cylinder for right hand doors				1
not shown	B35520	Turn knob cylinder for left hand doors				1
3	C44470	High security cylinder ring	1	1	2	1
4	B19436	High security cylinder	1	1	2	1
5	B19563	Non-UL cylinder face	1	1	2	1
not shown	B19446	UL cylinder face	1	1	2	1
6	B45213	Inside escutcheon assembly	1			
not shown	C44463	Inside escutcheon assembly				1
not shown	B45220 ^b	Inside escutcheon assembly			1	
not shown	C44461	Inside escutcheon assembly		1		
7	B45221 ^b	Outside escutcheon	1	1	1	1

a. Use screw kit #2. For screw kit information, see [page 5-19](#).

b. These escutcheon assemblies include the hardened security plate (A34377).

STRIKES AND STRIKE BOXES

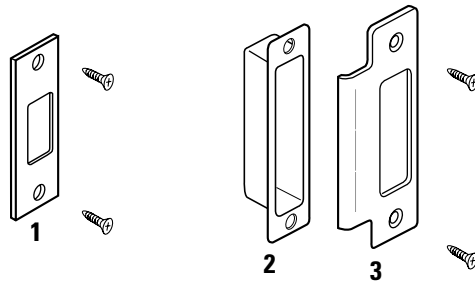


Figure 7.6 Strikes and strike box

Parts list Refer to [Figure 7.6](#) and the table below to determine what strike part number to use for your 1 3/4" thick door.

Item	Part No.	Description
not shown	C34361	48HS1 strike box
1	A34360	48HS1 strike (non-beveled)
2	B34380	48HS2 strike box
3	C18731	48HS2 strike (beveled)

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems.

For problems with the core and key, such as difficulty removing or inserting the key or difficulty turning the key, see the *Core and Key Service Manual*.

You notice...	Possible causes include...	You should...
Deadbolt will not extend.	Lock was ordered as an R function.	Check the part nomenclature and ensure the R function is needed for the application.
Deadbolt will not retract.	Handing has been ordered incorrectly.	Check to ensure the case and thumb turn cylinder are the correct handing for the door. If not, order the correct case and thumb turn cylinder.
Key will not operate deadbolt.	Incorrect cam has been installed.	Install cylinder with proper cam (pg. 7-5).

A

GLOSSARY

Armored front	The mortise lock front and faceplate designed to prevent tampering with the cylinder retainer screw and case mounting screws.
Auxiliary dead latch	A latch that prevents the latchbolt from being loided when the door is closed. See <i>loiding</i> .
Backset	The distance from the faceplate to the center of the cylinder or lever/knob.
Bevel	See <i>Door bevel</i> .
Cam	See <i>Cylinder cam</i> .
Core	See <i>Interchangeable core</i> .
Cylinder	See <i>Mortise cylinder</i> .
Cylinder cam	A rotating part of a keyed cylinder that drives the deadbolt or latchbolt.
Cylinder die	A tool for rethreading a 1 5/32" diameter cylinder.
Cylinder ring	A metal ring that fits around the cylinder and protects it from tampering. The cylinder ring also spaces the cylinder out to the right position.
Cylinder tap	A tool for rethreading case threads.
Cylinder wrench	A tool for installing, removing, and testing cylinders.
Door bevel	The angle on the edge of a door.
Dummy cylinder	A nonfunctional mortise cylinder used only to plug a cylinder hole.
Dummy trim	Trim only (without lock). Used mainly on the inactive door of a double door.

Emergency key	The key that retracts the deadbolt of a privacy lock (L or LT function).
Escutcheon	A surface-mounted plate that covers holes that were made in the door for knobs and cylinders.
Faceplate	A finished part of a mortise lock that covers the armored front. See <i>Armored front</i> .
Figure-8	The basic shape of the interchangeable core and its housing (door knob, cylinder, padlock, and so forth). See also <i>Interchangeable core</i> .
Hand of door	The swing direction of the door as viewed from the outside of the door. A right-handed (RH) door is hinged on the right and swings inward. A left-handed (LH) door is hinged on the left and swings inward. If either of these doors swings outward, it is a right-hand reverse bevel (RHRB) door, or a left-hand reverse bevel (LHRB) door respectively.
High edge of door bevel	The edge of the door that is closer to the frame.
Hub toggle	Mortise case feature used upon installation to configure the inside and outside knob/levers as always unlocked or lockable for selected lock functions.
Interchangeable core	A figure-8 shaped device that contains all mechanical parts for a masterkeyed system. The interchangeable core can be removed by a special control key and can be recombined without disassembling the lock. See also <i>Figure-8</i> .
Life Safety Code®	A document, developed by the National Fire Protection Association (NFPA) that regulates building construction to prevent injury in case of fire. Code sections 2-4, and 5-2.1.5 apply to locks and latches.
Lock function	The way a lock operates. The function determines appropriate applications for the lock, such as; how the latchbolt is operated, how the deadbolt is operated, and how the knobs/levers are locked and unlocked.
Locking toggle	Mortise case feature that allows a user to lock or unlock the outside lever or knob for selected lock functions.
Loiding	A burglary attack method that uses a credit card-like object. This object is inserted between the door and the frame to separate the latchbolt from the strike.
Mortise cylinder	A threaded lock cylinder that screws directly into the lock case. A key-driven rotating cam, attached to the back, drives the locking mechanism.
Mortise cylinder cam assembly tool	A tool for assembling the cylinder cam to the mortise cylinder.
Mortise	A rectangular cavity cut into the edge of a door. Can also mean the act of making such a cavity.
Mortise lock	A lock that fits into a mortise. Other locks fit into bored holes or mount to a surface. See also <i>Mortise</i> .

Removable core	See <i>Interchangeable core</i> .
Reverse bevel	See <i>Hand of door</i> .
Shifting cam	A spring-loaded cam that shifts back to drive another mechanism. See also <i>Cylinder cam</i> .
Spanner wrench	A wrench used to tighten a rose ring onto a door.
Stop screw	Mortise case feature that fixes the position of the outside lever for TD, B, BW, H, and HJ deadbolt function locks.
Swing	See <i>Hand of door</i> .
Tactile lever/knob	A lever/knob with deep grooves cut into its surface or a lever with an abrasive strip affixed to the inside of the lever. Tactile levers and knobs improve grip and can also serve as a warning when entering hazardous areas.
Template	A precise, detailed hole pattern that serves as a guide for the mortising and drilling of doors and frames.
Visual indicator	A dial assembly, used primarily hotel function locks, that shows whether the deadbolt or latchbolt is locked. Icons on the dial indicate vacant or occupied status.

B

INSTALLATION INSTRUCTIONS

The following pages contain:

- *Installation Instructions for 45H & 47H Mortise Locks*
- *Installation Instructions for 45HW & 47HW Electrified Mortise Locks*
- *Installation Instructions for 48H & 49H Mortise Locks*



Installation Instructions for 45H & 47H Mortise Locks

Contents

These installation instructions describe how to install your 45H & 47H Mortise Lock. Topics covered include:

Finishing the door preparation 1
Configuring and installing the mortise case 3
Installing the trim 5
Finishing the installation 11

For instructions to install 45HW & 47HW electrified functions, see the *Installation Instructions for 45HW & 47HW Electrified Mortise Locks (T81612)*.

1 Identify holes to drill

- 1 Determine the lock function to be installed.
- 2 Determine the inside and outside, hand, and bevel of the door.
- 3 See the *Holes by Function* table and Figure 1 to determine the holes to be drilled for the lock function.

For hole sizes, see the H15 Template (T81163).

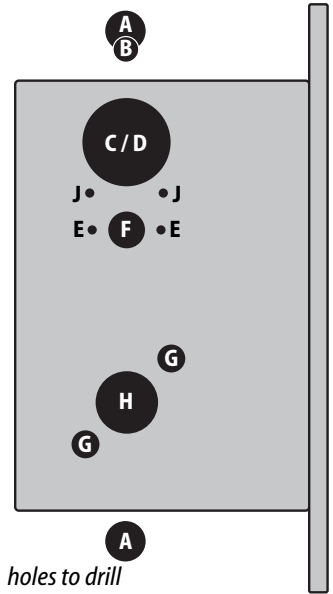


Figure 1 Identifying holes to drill

Holes by Function

Functions

Holes to drill	A, D, R, RHB, B5		AB, AT, B, BA, BW, HJ, T, TA, TD		AD		C, CHB, G, IND, INL, S, W, B7		H		L, LB, LT		N, NX		RD, WD		YD	
	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S
A M & N forged trim (2 holes) [†]	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door	Through door
B J trim [†]	Through door	Through door	Through door	Through door			Through door	Through door	Through door	Through door	Through door	Through door						
C Standard cylinder <i>or</i> D High security cylinder [‡]		■		■		■	■	■	■						■	■		■
E H, R & S trim thumb turn mounting screw (2 holes) [†]			■		■				■		■							
F Emergency key / thumb turn access			■		■				■	■	■	■						
G Trim mounting (2 holes) ^{††}	■	■	■	■			■	■	■	■	■	■	■	■				
H Lever ^{††}	■	■	■	■			■	■	■	■	■	■	■	■				
J H & R trim visual indicator mounting screw (2 holes) [†]										■								

† Determine trim holes based on trim type.

‡ To qualify for the UL 437 high security listing, use the M escutcheon and the 1E7J4 cylinder. The 1E7K4 cylinder is available for use with either M trim or sectional trim, but does not qualify for the UL437 high security listing. This option is not available for H and HJ function locks.

†† Because these holes pass through the mortise pocket, it is recommended that each hole be drilled separately rather than straight through.

Finishing the door preparation

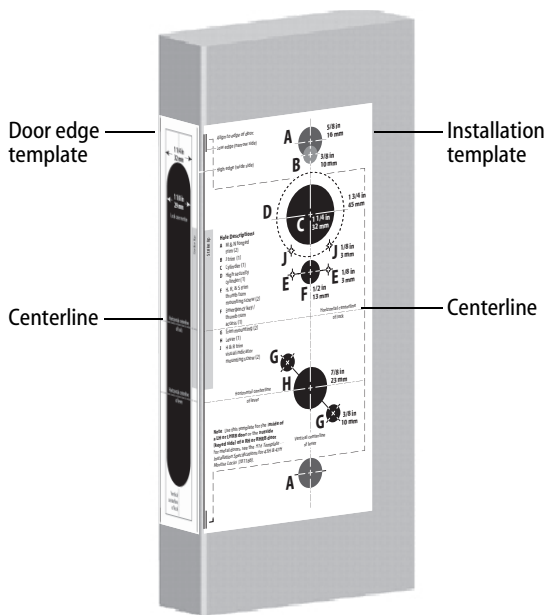


Figure 2 Aligning the templates

2 Align templates

Note: If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the H16 Template—Installation Specifications for 45H & 47H Mortise Locks (T81166).

- 1 Separate the 4 templates provided on the H15 Template—Installation Template for 45H & 47H Mortise Locks and 45HW & 47HW Electrified Mortise Locks (T81163).
- 2 Position one of the door edge templates on the door, making sure that the lock case mortise shown on the template aligns with the mortise pocket prepared in the door.
- 3 Using the centerlines on the door edge template as a guide, position the appropriate door template on each side of the door. You need to take the bevel into account. Tape the templates to the door.

3 Center punch and drill holes

- 1 Center punch the necessary drill points. See the instructions on the template.
- 2 Drill the holes.

Note 1: To locate the center of a hole on the opposite side of the door, drill a pilot hole completely through the door.

Note 2: For holes through the door, it is best to drill halfway from each side of the door to prevent the door from splintering.

Note 3: For trim outside only functions (such as ZD and ZR) and trim inside only functions (such as XD and XR), prepare surface mount trim holes on the trim side of the door as needed. Do not prepare trim holes on the opposite side of the door. For 1DT and 2DT hole preparation, see H15 Template—Installation Template for 45H & 47H Mortise Locks and 45HW & 47HW Electrified Mortise Locks (T81163).

Configuring & installing the mortise case

4 Rotate latchbolt (if necessary)

Note: If a function specific mortise case was ordered, some steps for configuring the case have already been performed at the factory.

- 1 Determine whether you need to rotate the latchbolt to match the handing of the door.

Note: The angled surface of the latchbolt must contact the strike when the door closes.

- 2 If you need to rotate the latchbolt, insert a flat blade screwdriver into the latch access point approximately 1/2" into the case and press to extend the latch out of the case. See Figure 4.
- 3 Rotate the latchbolt 180 degrees and allow it to retract into the case.

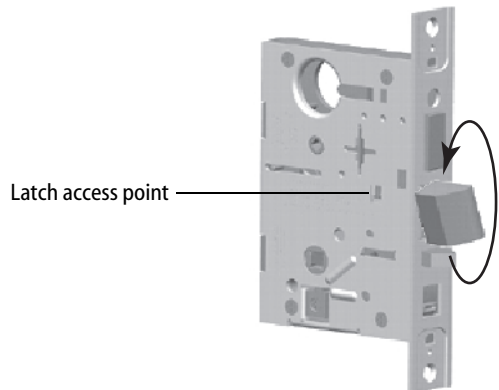


Figure 4 Rotating the latchbolt

5 Set shuttle screws (UNR case only)

Note 1: The UNR (universal latch) mortise case is shipped with the shuttle screws in position 0 and position 5.

Note 2: To position the shuttle, insert a screwdriver into the opening for the thumb turn hub and rotate the shuttle.

- For an N function, position the shuttle towards the face of the case and move the shuttle screw from position 0 to position 1.
- For a D, NX, or W function, position the shuttle towards the back edge of the case and move the shuttle screw from position 0 to position 3.
- For an A function, position the shuttle in the middle of the case and move the shuttle screw from position 0 to position 4. Then move the shuttle screw from position 5 to position 2.

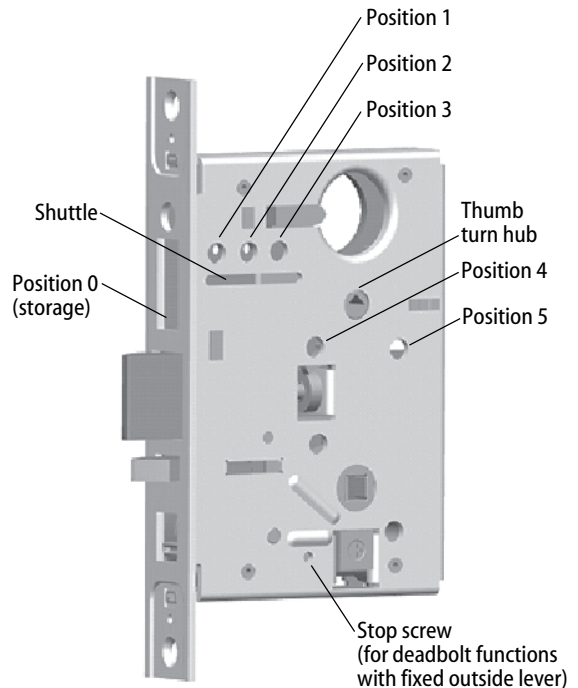


Figure 5 Setting the shuttle screws and stop screw

Shuttle screw positions

Function	Shuttle screw positions
A	2 & 4
AT, C, INL, R, RHB	0 & 5
D, NX, W	3 & 5
N	1 & 5

Configuring & installing the mortise case

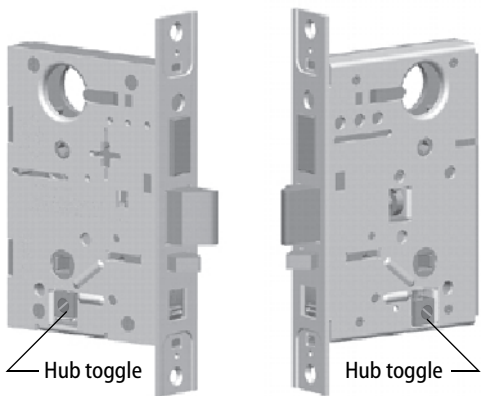


Figure 6 Positioning hub toggles

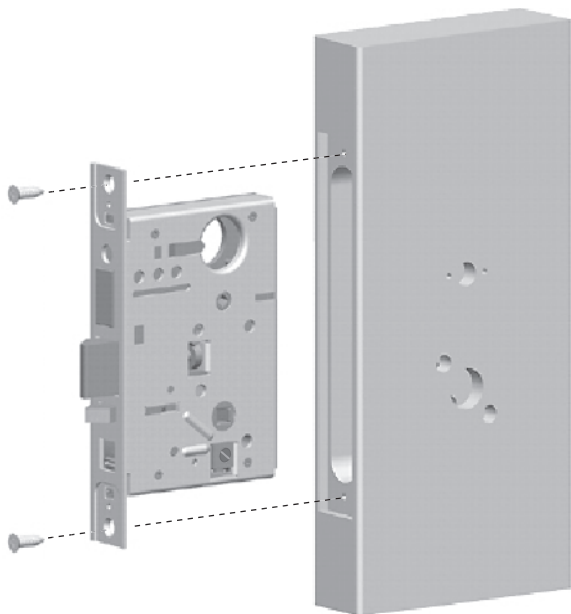


Figure 8 Installing the mortise case

6 Position hub toggles (if necessary)

- 1 Check whether the hub toggles are in the proper position for the lock. See the table below and Figure 6.

Hub toggle positions

Function	Hub toggle positions
A, AB, AT, C, CHB, D, H, HJ, IND, INL, L, LT, NX, R, RHB, T, TA, TD, X, XR, ZD	Inside down (always unlocked) & outside up (lockable)
B, BA, BW, B5, B7, G, LB, S, W	Both up
N	Both down

Note: For LH & LHRB doors, the inside is the back side of the case and the outside is the cover side of the case. For RH & RHRB doors, the inside is the cover side of the case and the outside is the back side of the case.

- 2 To change the position of a hub toggle, remove the toggle screw, move the toggle into the desired position, and re-tighten the screw.

7 Install stop screw (deadbolt functions with fixed outside lever only)

Note: The TD, BW, H, and HJ deadbolt functions, which have a fixed outside lever, require the stop screw.

If converting a UNAB (universal deadbolt) mortise case to one of the above functions, install the self-tapping stop screw. See Figure 5 on page 3.

8 Install mortise case

- 1 Drill the holes for the case mounting screws.
- 2 Insert the mortise case into the mortise cavity.

Note: The armored front of the mortise case self-adjusts to the door bevel.
- 3 Secure the mortise case with the case mounting screws.

Installing the trim

9 Install trim mounting plates

- 1 For J trim, position the J alignment plate (Figure 11b) on the outside of the door.

Note: For J trim on one side only, do not install the alignment plate.

- 2 For all trim, insert the outside trim mounting plate through the door and mortise case.

Note: For trim on one side only, surface mount the inside mounting plate to the trim side of the door using two #8 × 1" PFH surface mounting screws. Do not install the outside mounting plate.

- 3 Position the inside trim mounting plate opposite the outside trim mounting plate and screw them securely in place.

Caution: Do not overtighten the trim mounting plate screws. Overtightening may damage the locking mechanism.

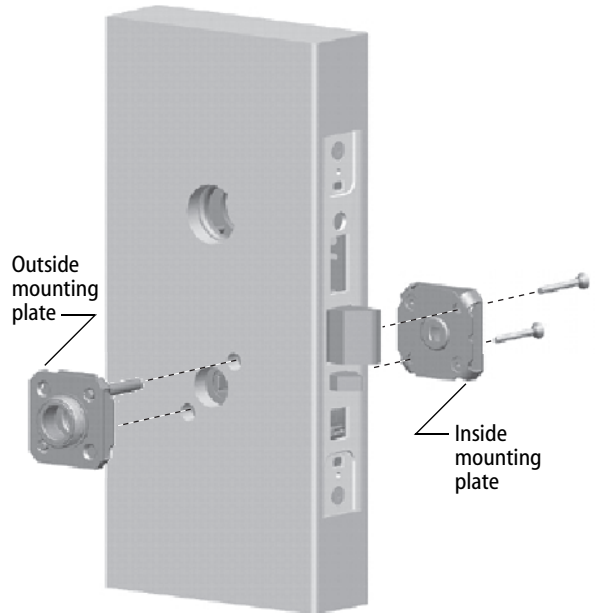


Figure 9 Installing the trim mounting plates

10 Install concealed cylinder (N trim only)

- 1 Use a cylinder wrench (ED211) to thread the cylinder into the mortise case so that the groove around the cylinder is even with the door surface.

Caution: A malfunction can occur if the cylinder is threaded in too far.

- 2 Secure the cylinder in the mortise case with the cylinder retainer screw.

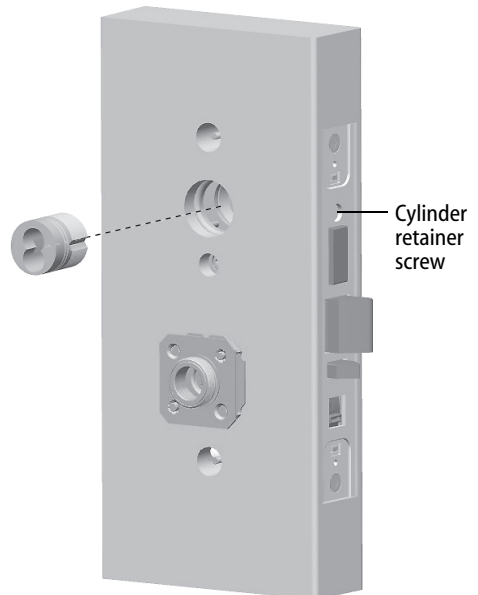


Figure 10 Installing the concealed cylinder

Installing the trim

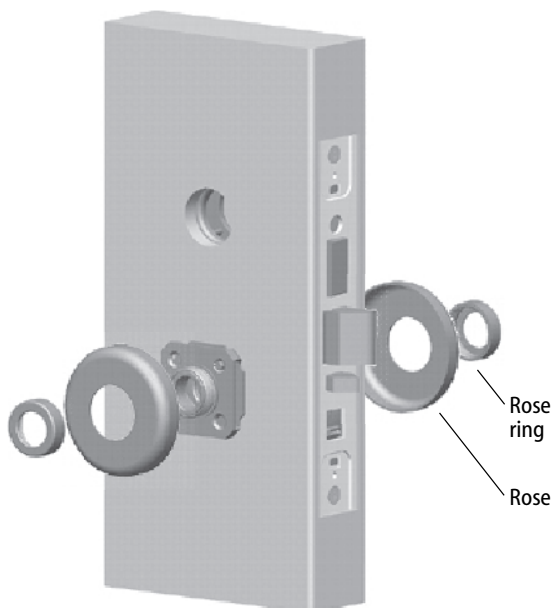


Figure 11a Installing the roses

11 Install roses or escutcheons

For sectional trim (Figure 11a)

- 1 Position the inside rose on the door so it is centered on the trim mounting plate.
- 2 Use the spanner wrench (KD316) to install the rose ring onto the inside mounting plate.
- 3 Position the outside rose on the door so it is centered on the trim mounting plate.
- 4 Use the spanner wrench to install the rose ring onto the outside mounting plate.

Note: For instructions for installing the visual indicator with sectional trim, see Task 13 on page 8.

For J trim (Figure 11b)

- 1 For H function locks, position the plastic spacer on the spindle of the visual indicator dial. With the deadbolt retracted, position the visual indicator (VIN) dial in the door with the text oriented at the top.
- 2 Position the inside escutcheon on the door so it is centered on the trim mounting plate. Install the escutcheon screw.

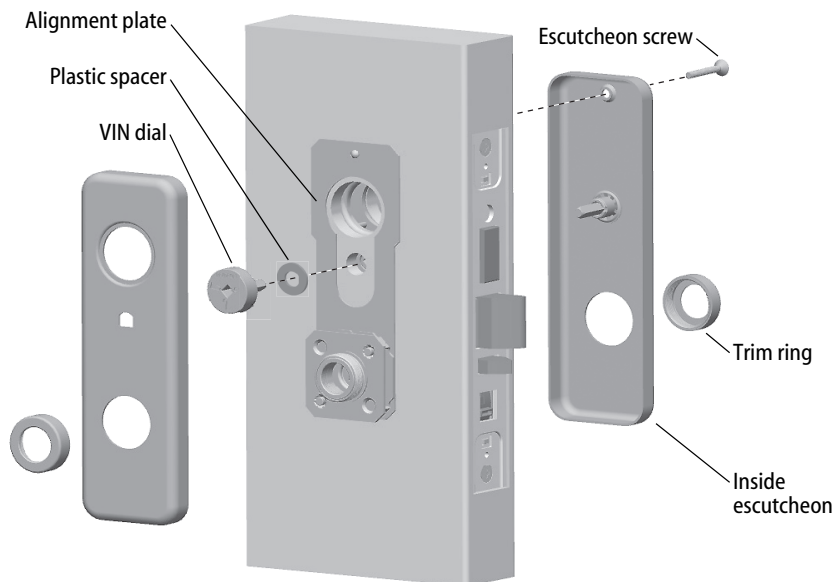


Figure 11b Installing the J trim escutcheons

- 3 Use the spanner wrench (KD316) to install the trim ring onto the inside mounting plate.
- 4 Position the outside escutcheon on the door over the alignment plate.
- 5 Use the spanner wrench to install the trim ring onto the outside trim mounting plate.

Installing the trim

For M trim (Figure 11c) or
N trim (Figure 11d)

- 1 Position the inside and outside escutcheons on the door so they are centered on the trim mounting plates.
- 2 Install the upper and lower escutcheon screws from the inside of the door.
- 3 Use the spanner wrench (KD316) to install the trim rings onto the inside and outside trim mounting plates.

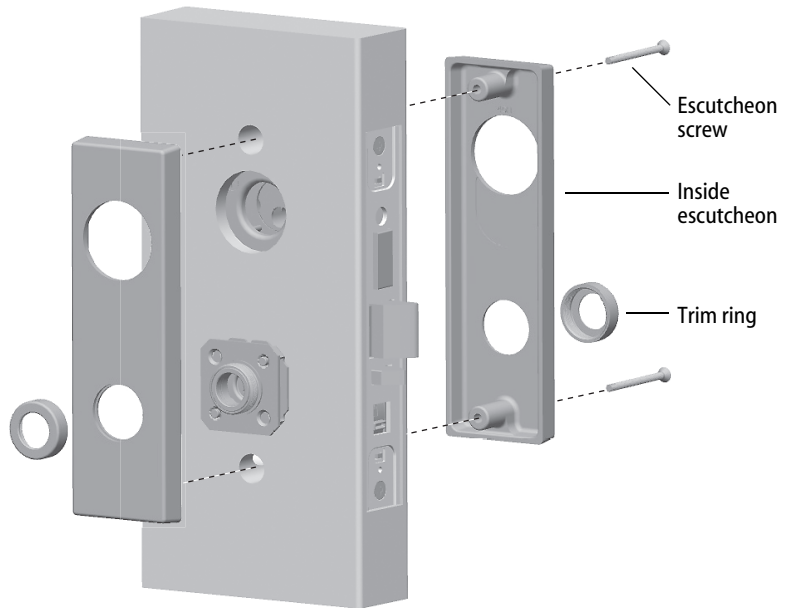


Figure 11c Installing the M trim escutcheons
(47H M trim shown)

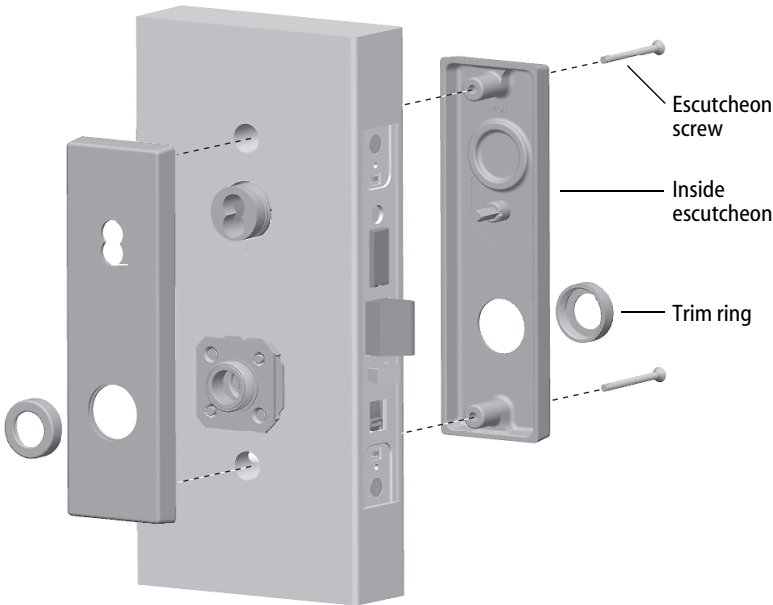


Figure 11d Installing the N trim escutcheons

Installing the trim

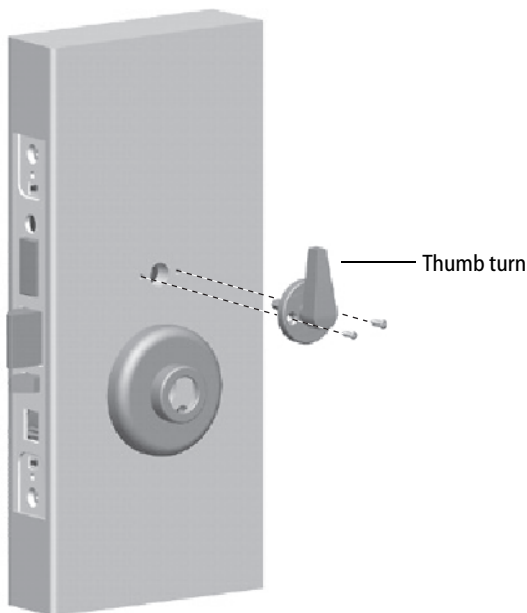


Figure 12 Installing the thumb turn or emergency access plate (not shown)

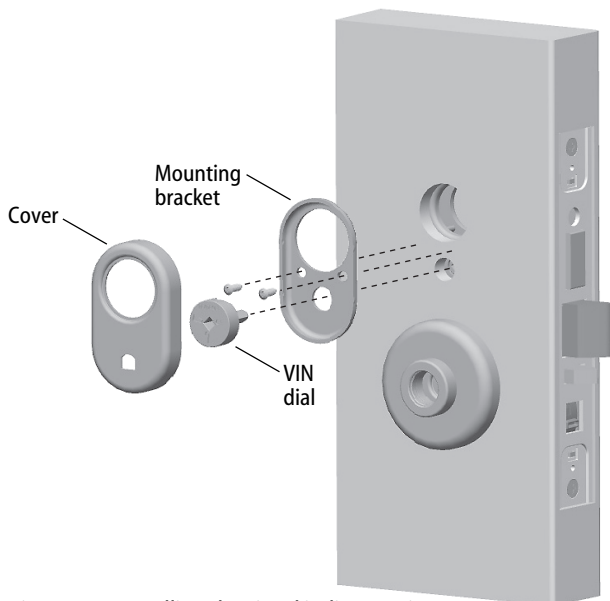


Figure 13 Installing the visual indicator trim

12 Install thumb turn or emergency access plate (if necessary)

Note 1: To determine which functions require a thumb turn on the inside of the door, refer to the Holes by Function table on page 1.

Note 2: The UNR (universal latch) mortise case is shipped with a thumb turn. Install it only for an A or AT function lock.

Note 3: Install the emergency access plate on the outside of the door for privacy function (L, LB, LT) locks.

- 1 Orient the thumb turn so it points up when the deadbolt is retracted and towards the hinge edge of the door when the deadbolt is extended.
- 2 Install the thumb turn or emergency access plate using the two screws provided. See Figure 12.

13 Install visual indicator trim (H or R sectional trim)

Note: Install the visual indicator trim on the outside of the door for H function locks. The visual indicator also can be installed with other functions (such as IND, INL, L, LB, LT, TD) as needed. The visual indicator is available for H, R, and J trim.

- 1 Aligning the cylinder opening in the visual indicator mounting bracket with the cylinder opening in the door, install the mounting bracket using the two screws provided.
- 2 Make sure that the deadbolt is retracted (the thumb turn is pointing up).
- 3 Orient the visual indicator (VIN) dial with the text at the top and position it in the door as shown in Figure 13.
- 4 Aligning the cylinder opening in the visual indicator cover with the cylinder hole in the door, press the cover onto the mounting bracket.
- 5 Rotate the thumb turn and check that the visual indicator operates properly.

Note: The unlocked icon should show when the deadbolt is retracted. The locked icon should show when the deadbolt is extended.

Installing the trim

14 Install standard or high security cylinder (if necessary)

- 1 Using a narrow-blade screwdriver, insert the blade into the cylinder's figure-8 opening and back the set screw into the cylinder until the tip of the set screw is below the threads of the cylinder.
- 2 Make sure the washer (standard cylinder only) and cylinder ring are positioned on the cylinder.
- 3 Rotate the cylinder cam to the 12 o'clock position.
- 4 Use a cylinder wrench (ED211) to thread the cylinder into the mortise case.

For a standard cylinder, rotate the cylinder until the cylinder ring is flush against the door.

For a high-security cylinder, rotate the cylinder until the cylinder head touches the inside rim of the cylinder ring.

Caution: A malfunction can occur if the cylinder is threaded in too far.

- 5 Using a narrow-blade screwdriver, insert the blade into the figure-8 opening and tighten the small set screw (installed in the cylinder) into the lock case.
- 6 Secure the cylinder in the mortise case with the cylinder retainer screw.

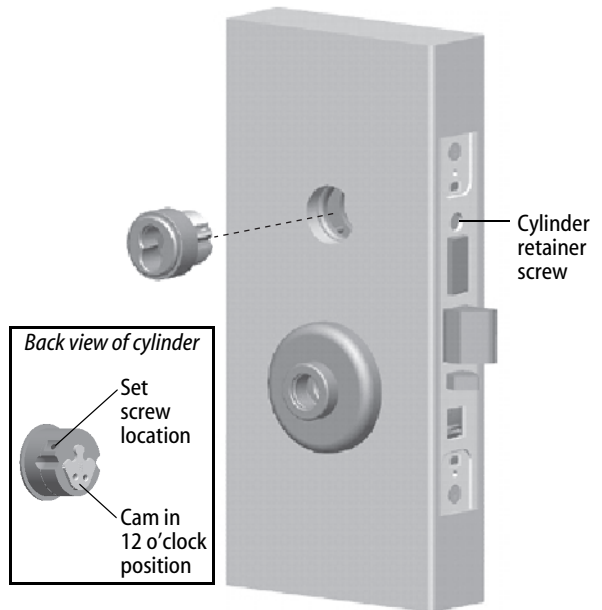


Figure 14a Installing the standard cylinder



Figure 14b Installing the high-security cylinder

Installing the trim

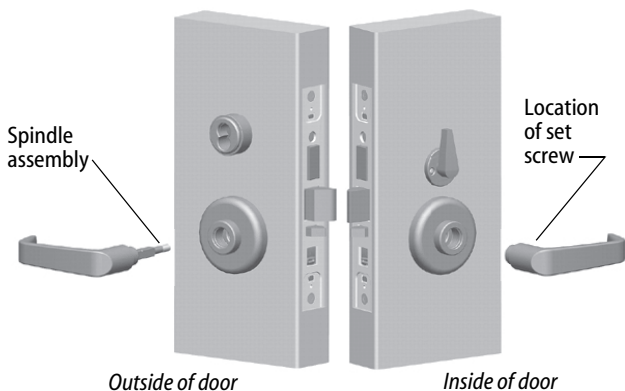


Figure 15a Installing the levers

15 Install inside and outside levers

For standard lever installation (Figure 15a)

- 1 Unscrew the inside spindle one full turn to allow the spindles to turn freely.
Note: Remove the label from the inside spindle.
- 2 With the handle pointing toward the door hinges, insert the outside lever and spindle assembly into the lock from the outside of the door.
Note: The 17 style lever is handed. The lever should curve downward when installed on the door.
- 3 Slide the inside lever onto the inside spindle and secure it with the set screw.
- 4 Turn the levers to check that they operate smoothly.

For one side only lever installation (Figure 15b)

For one side only lever installation, use a hook spindle.

Note: The hook spindle can be installed on either side of the door, but the inside lever should always be used with the hook spindle.

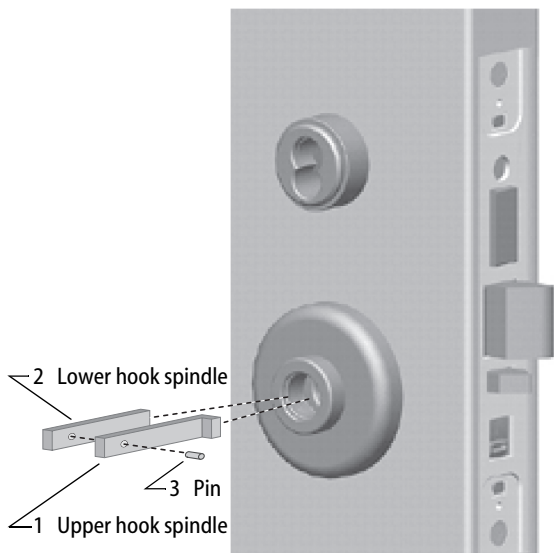


Figure 15b Installing the hook spindle

- 1 Insert the upper hook spindle into the hub cavity with the hook towards the latch as shown in Figure 15b.
- 2 Insert the lower hook spindle alongside the upper spindle and align the pin holes.
- 3 Push the pin into the spindles. Make sure the pin is fully inserted.
- 4 Slide the lever onto the spindle and secure with the set screw.
- 5 Turn the lever to check that it operates smoothly.

Finishing the installation

16 Install mortise case faceplate

Note: Most locks ship with only one faceplate. The UNAB and UNR locks ship with two faceplates each, allowing for multiple function configurations. For AB (UNAB) and A (UNR) function locks, use the faceplate that exposes the locking toggle.

- 1 Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.
- 2 Check the lock for proper operation.

17 Install strike box and strike plate

- 1 If the door jamb has not been mortised for the strike box and strike plate, perform these steps:
 - a On the door jamb, locate the horizontal centerline of the strike ($3/8$ " above the centerline of the lock), as well as the vertical centerline of the strike.
 - b Mortise the door jamb to fit the strike box and strike plate.
 - c Drill the holes for the screws used to install the strike box and strike plate.
- 2 If the strike box has a filled area, orient the strike box so that the filled area is down.
- 3 Insert the strike box into the mortise in the door jamb. Place the strike plate over the strike box and secure the strike with the screws provided.
- 4 Check the position of the auxiliary bolt against the strike plate (or the filled area of the strike box).

Note: The recommended gap between the door and jamb is $1/8$ " .

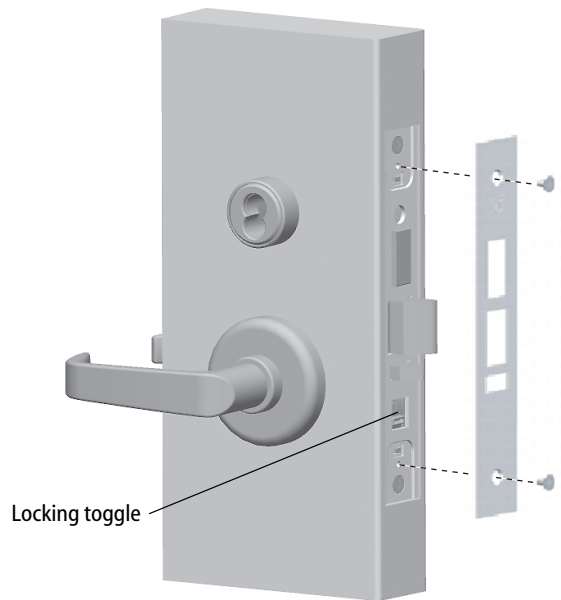


Figure 16 Installing the mortise case faceplate

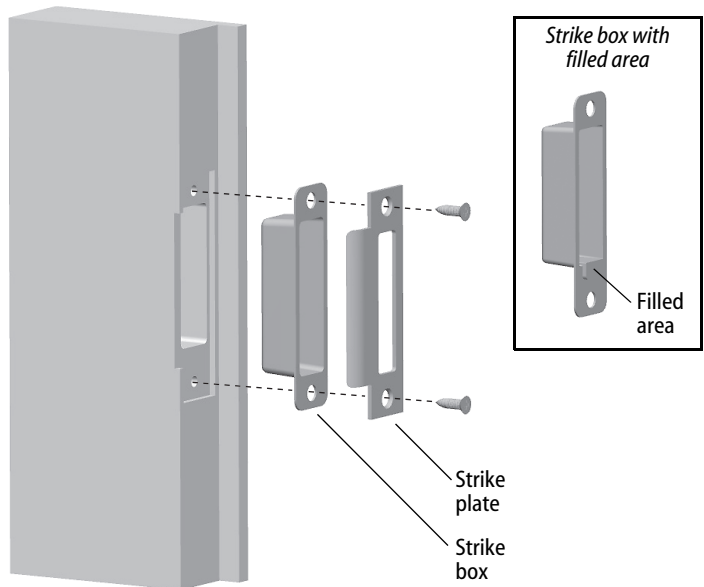


Figure 17 Installing the strike box and strike plate

Finishing the installation

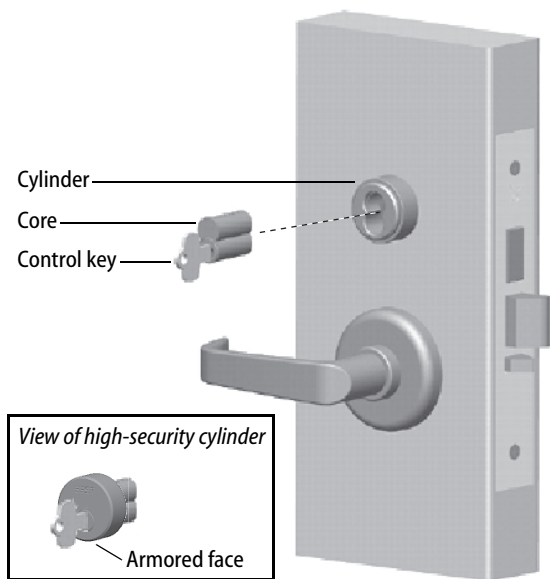


Figure 18 Installing the core(s)

Using the latch holdback feature

The latch holdback feature lets you temporarily operate a door with a CHB or RHB function mortise lock as a free-swinging door. When latch holdback is engaged, the latch stays retracted, and both the inside and outside levers become fixed pull handles.

To engage latch holdback:

- 1 With the lock unlocked and the door open, turn the inside lever to the up position.
- 2 While holding the inside lever in the up position, turn the key as if to lock the door.
- 3 Release the inside lever and remove the key at the 12 o'clock position. The latch and inside lever become fixed.

To disengage latch holdback:

- 1 Turn the key as if to unlock the door.
- 2 Remove the key at the 12 o'clock position. The latch and inside lever release, and the lock operates normally.

18 Install cores

- 1 For a high-security cylinder, slide the armored face down over the core.
- 2 Insert the control key into the core and rotate the key 15 degrees to the right.
- 3 With the control key in the core, insert the core and armored face (high-security cylinder only) into the cylinder.
- 4 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: The control key can be used to remove cores and to access doors. Provide adequate security for the control key.

19 Check operation

Check the operation of the lock. For example, check that:

- door latches and opens properly
- deadbolt operates properly
- visual indicator operates properly
- key access works
- door gap is 1/8"
- auxiliary bolt is held inside the case when the door is closed.

For assistance, contact your local BEST representative.

Installation Instructions for 45HW & 47HW Electrified Mortise Locks

Contents

These installation instructions describe how to install your 45HW & 47HW Electrified Mortise Lock. Topics covered include:

- Finishing the door preparation* 2
- Configuring and installing the mortise case* 6
- Installing the trim* 8
- Finishing the installation* 13

For hole sizes, see the H15 Template (T81163).

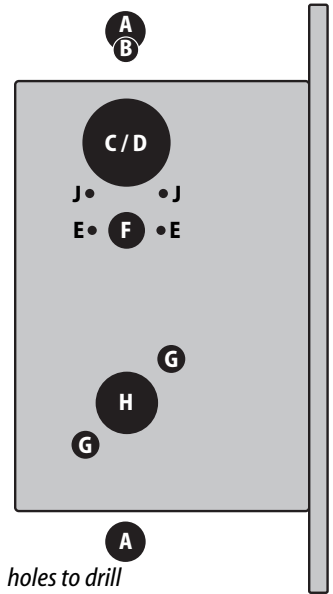
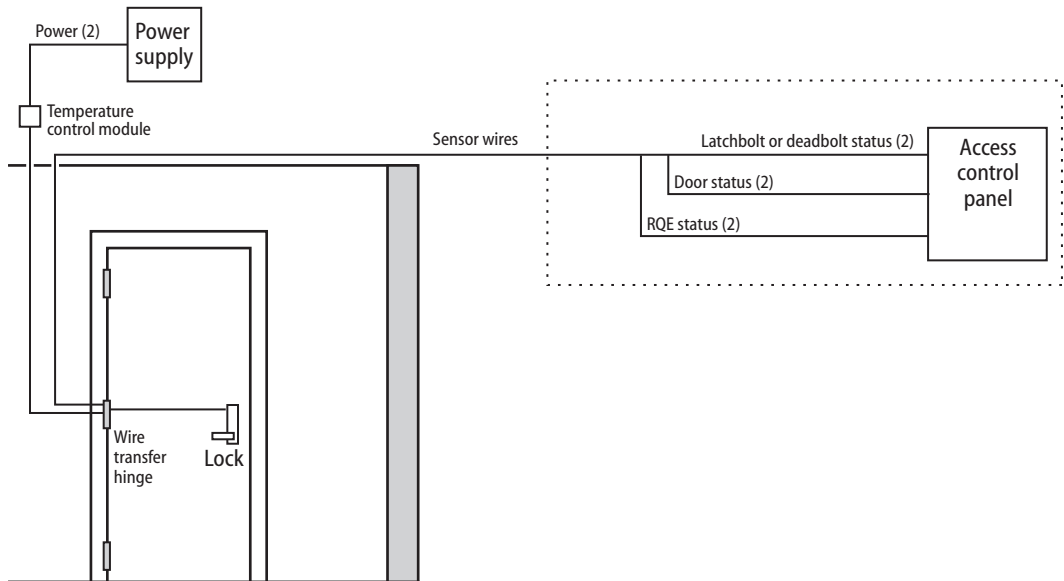


Figure 1 Identifying holes to drill



Wiring diagram for 45HW & 47HW Electrified Mortise Locks

Finishing the door preparation

Holes by Function

Holes to drill	Functions									
	DEL, DEU		TDEL, TDEU		TWEL, TWEU, WEL, WEU		LEL, LEU		NXEL, NXEU	
	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S	I/S	O/S
A M & N forged trim (2 holes) [†]	Through door		Through door		Through door		Through door		Through door	
B J trim [†]	Through door		Through door		Through door		Through door		Through door	
C Standard cylinder or D High security cylinder [†]		■		■	■	■				
E H, R & S trim thumb turn mounting screw (2 holes) [†]			■				■			
F Emergency key / thumb turn access			■				■	■		
G Trim mounting (2 holes) ^{††}	■	■	■	■	■	■	■	■	■	■
H Lever ^{††}	■	■	■	■	■	■	■	■	■	■

† Determine trim holes based on trim type.

‡ To qualify for the UL 437 high security listing, use the M escutcheon and the 1E7J4 cylinder. The 1E7K4 cylinder is available for use with either M trim or sectional trim, but does not qualify for the UL437 high security listing.

†† Because these holes pass through the mortise pocket, it is recommended that each hole be drilled separately rather than straight through.

1 Identify holes to drill

- 1 Determine the lock function to be installed.
- 2 Determine the inside and outside, hand, and bevel of the door.
- 3 See the Holes by Function table and Figure 1 on page 1 to determine the holes to be drilled for the lock function.

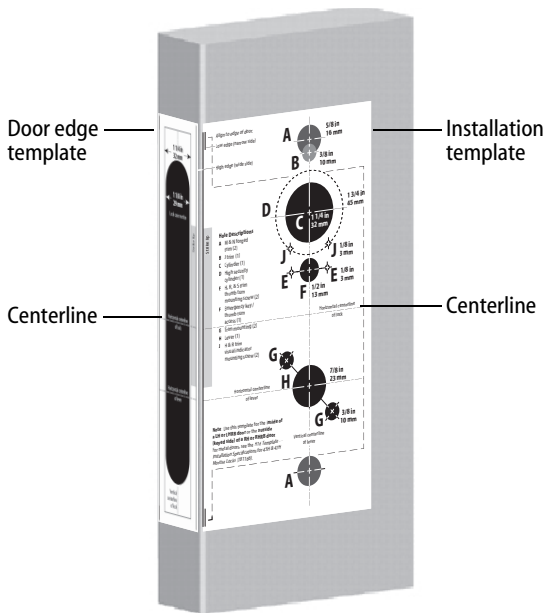


Figure 2 Aligning the templates

2 Align templates

Note: If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement. For dimensions for preparing metal doors, see the H19 Template—Installation Specifications for 45HW & 47HW Electrified Mortise Locks (T81611).

- 1 Separate the 4 templates provided on the H15 Template—Installation Template for 45H & 47H Mortise Locks and 45HW & 47HW Electrified Mortise Locks (T81163).
- 2 Position one of the door edge templates on the door, making sure that the lock case mortise shown on the template aligns with the mortise pocket prepared in the door.
- 3 Using the centerlines on the door edge template as a guide, position the appropriate door template on each side of the door. You need to take the bevel into account. Tape the templates to the door.

Finishing the door preparation

3 Center punch and drill holes

- 1 Center punch the necessary drill points. See the instructions on the template.
- 2 Drill the holes.

Note 1: To locate the center of a hole on the opposite side of the door, drill a pilot hole completely through the door.

Note 2: For holes through the door, it is best to drill halfway from each side of the door to prevent the door from splintering.

4 Drill wire channel through door

Caution 1: Check with your local fire marshal before drilling a fire-rated door. Drilling through a fire-rated door may void the fire label.

Caution 2: Be careful to drill straight through the door, making sure the drill does not break through the face of the door.

- 1 Remove the hinge nearest the mortise cavity.
- 2 Using a 3 to 4 foot drill bit, drill a 3/8" diameter channel through the upper back of the mortise cavity to the center of the nearest hinge mortise.

Note: It may be easier to drill halfway from each side of the door.

5 Prepare door for door status switch (optional for deadbolt function locks)

- 1 Locate the centerpoint for the door status switch 2.5" above the top of the faceplate mortise on the edge of the door (as shown in Figure 5).
- 2 Drill a 1" diameter hole 1 3/4" deep for the door status switch.
- 3 Position the drill so the tip of the bit is approximately 1" into the hole and the bit is close to the top edge of the hole. Then drill a 3/8" channel at approximately a 35° angle from the door status switch hole into the mortise cavity (as shown in Figure 5).

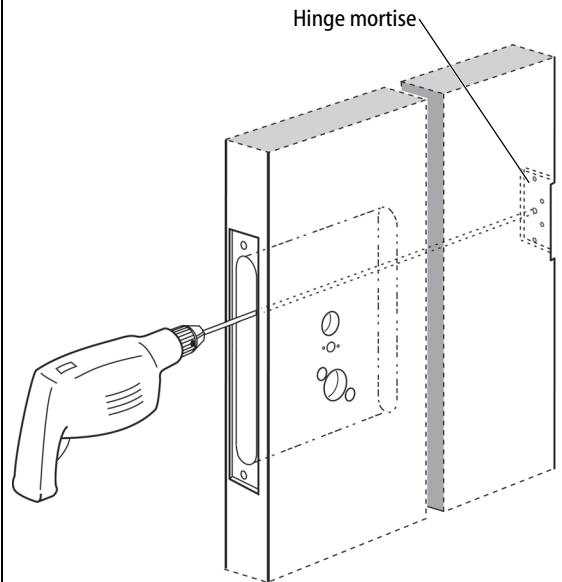


Figure 4 Drilling the wire channel through the door

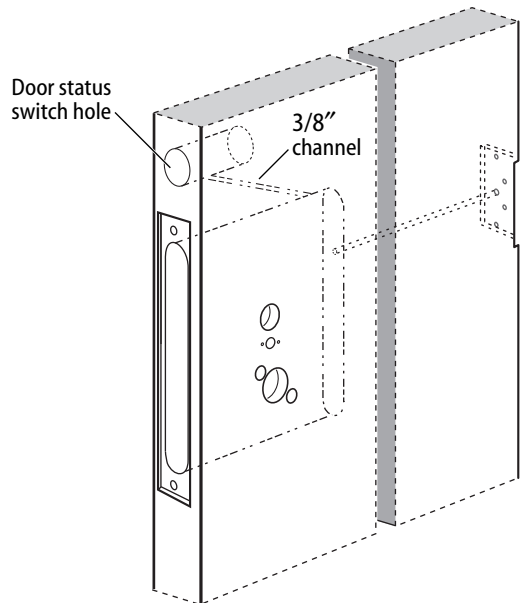


Figure 5 Preparing for the door status switch

Finishing the door preparation

6 Determine wire gauge for power wiring

- Calculate the total length of the power wire run by summing:
 - The distance from the power supply to the first door.
 - If powering more than one door daisy-chained to the same power supply, add the total distance of the power runs between the doors.
- For both 12 volt and 24 volt locks, refer to the table below to determine the minimum wire gauge based on the number of doors sharing the power supply and the total length of the wire run.

1 door	2 doors	3 doors	4 doors	Min. wire gauge
250 ft.	125 ft.	75 ft.	60 ft.	18 AWG
400 ft.	200 ft.	130 ft.	100 ft.	16 AWG
600 ft.	300 ft.	185 ft.	150 ft.	14 AWG

7 Prepare door for wire transfer hinge and run field wiring

- Drill a wire access hole through the frame side of the hinge mortise where you removed the hinge in Task 4, Step 1 on page 3.
- Drill holes (or pockets) for splice connectors in the frame and door. Refer to the hinge manufacturer's specifications for the hole location.
- De-burr the holes to prevent damage to the hinge leads.
- Run the power field wiring from the location for the lock's power supply to the location for the wire transfer hinge.

Note 1: To match the lock's wire color, use yellow for 12 volts DC power and blue for 24 volts DC power.

Note 2: To minimize lever temperature, install an 8WTCM (temperature control module) in series with the power and ground wiring within 20 feet of the lock. Use only one 8WTCM per lock. This module is supplied with electrically locked (EL) functions and is optional with electrically unlocked (EU) functions.

(Continued)

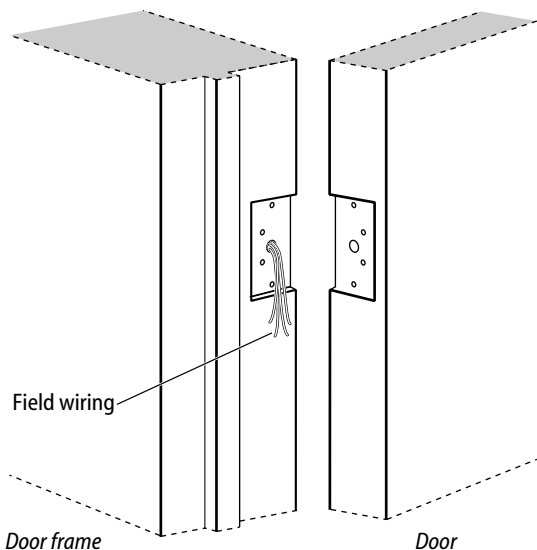


Figure 7 Running field wiring

Finishing the door preparation

- If the lock has an optional door status sensor, latchbolt status sensor, deadbolt status sensor, and/or RQE status sensor, run the sensor wiring from the location of the access control panel to the location for the wire transfer hinge.

To match the sensor wire colors, refer to the table below.

Wire connection	Color	No. of wires
Deadbolt status sensor	Blue	2
Door status sensor	White	2
Latchbolt status sensor	Violet	2
RQE status sensor	Brown & Orange	2

- Pull the field wiring down the wall and through the access hole in the frame.

8 Install door status switch (optional for deadbolt function locks)

- Position the shield on the door status switch with the notch facing downwards (towards the mortise pocket).

Caution: Make sure the wires are not routed across any sharp edges or over any surface that could damage its sleeving.

- Feed the wires for the door status switch into the door status switch hole and through the channel into the mortise cavity.
- Insert the door status switch assembly into the door status switch hole.

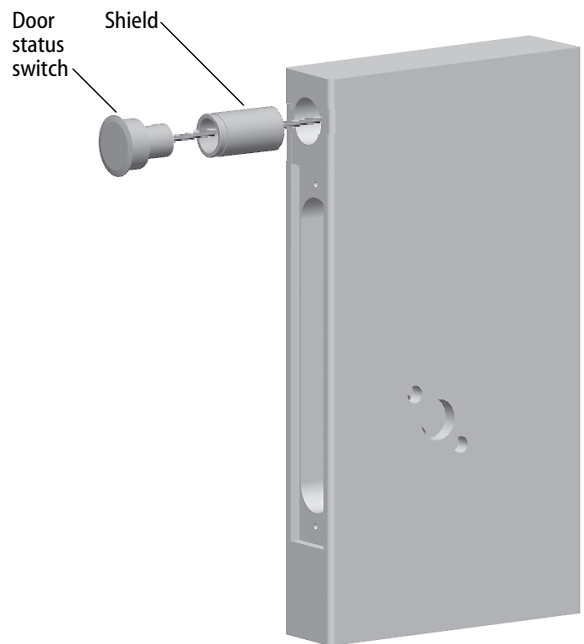


Figure 8 Installing the door status switch

Configuring & installing the mortise case

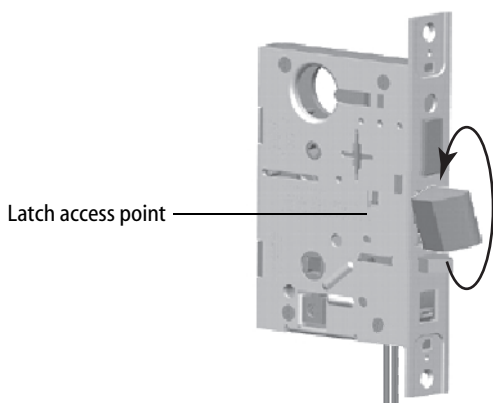


Figure 9 Rotating the latchbolt

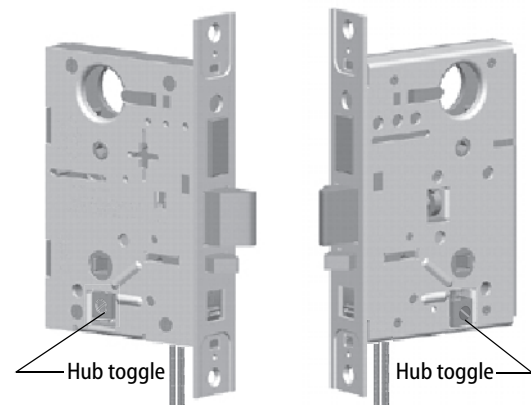


Figure 10 Positioning the hub toggles

9 Rotate latchbolt (if necessary)

- 1 Determine whether you need to rotate the latchbolt to match the handing of the door.

Note: The angled surface of the latchbolt must contact the strike when the door closes.

- 2 If you need to rotate the latchbolt, insert a flat blade screwdriver into the latch access point approximately 1/2" into the case and press to extend the latch out of the case (Figure 9).
- 3 Rotate the latchbolt 180 degrees and allow it to retract into the case.

10 Position hub toggles (if necessary)

- 1 Check whether the hub toggles are in the proper position for the lock (Figure 10). The inside hub toggle should be down (always latched) and the outside hub toggle should be up (lockable).

Note 1: For LH & LHRB doors, the inside is the back side of the case and the outside is the cover side of the case. For RH & RHRB doors, the inside is the cover side of the case and the outside is the back side of the case. The cover is mounted to the case with 4 screws.

Note 2: If the lock has an optional RQE status sensor, two RQE status switches are installed in the mortise case. However, only the switch for the inside of the lock needs to be connected. Before you install the mortise case in the door, determine whether you need to connect the 'Case Side' pair of RQE wires or the 'Cover Side' pair of RQE wires, based on the handing of the door.

- 2 To change the position of a hub toggle, remove the toggle screw, move the toggle into the desired position, and re-tighten the screw.

Configuring & installing the mortise case

11 Install mortise case

- 1 Drill the holes for the case mounting screws.
- 2 Insert the mortise case into the mortise cavity, feeding all sensor and solenoid wires into the mortise cavity.

Note: *The armored front of the mortise case self-adjusts to the door bevel.*

- 3 From the hinge edge of the door, fish all sensor and solenoid wires from the mortise cavity through the wire channel to the hinge mortise.
- 4 Secure the mortise case with the case mounting screws (Figure 11).

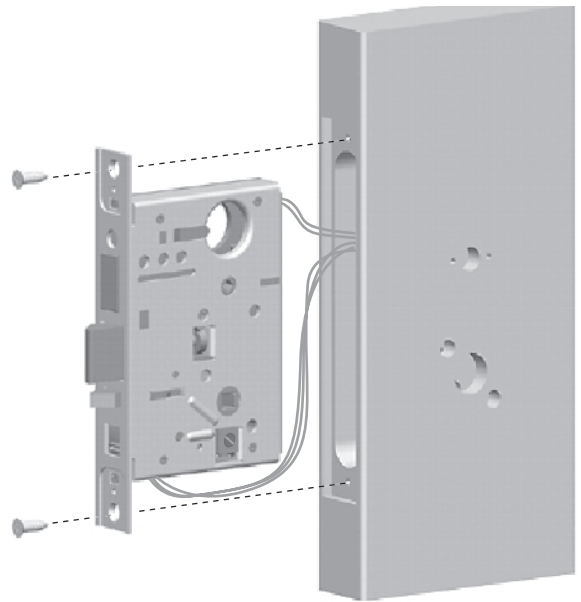


Figure 11 Installing the mortise case

12 Install wire transfer hinge

Note: *BEST recommends one of the following concealed electric hinges from Stanley Security Solutions. For more information, contact your BEST representative.*

Hinge	Description†
CECB 179-66	Standard weight; steel
CECB 168-66	Heavy weight; steel
CECB 191-66	Standard weight; brass

† All hinges measure 4.5" × 4.5" and have a 26D finish. All hinges have two 24 AWG wires rated for 2 A at 12 or 24 volts (AC or DC) and four 28 AWG wires rated for 1 A at 12 or 24 volts (AC or DC).

- 1 Trim the power and sensor wires that you pulled through the hinge edge of the door. Leave sufficient length to connect to the wire transfer hinge and to allow for future splices.
- 2 Splice the field wires to the leads on the frame side of the hinge, following the hinge manufacturer's instructions.
- 3 Splice the power and sensor wires from the lock to the leads on the door side of the hinge, matching each lead to its corresponding wire.

Note: *If the lock has an optional RQE status sensor, splice only the pair of RQE wires for the switch on the inside of the door, which you identified in Task 10 on page 6. Put the unused pair of RQE wires in the door.*

- 4 Insert the wires and splice connectors into the holes or pockets in the door and frame, being careful not to pinch the wires. Install the wire transfer hinge.

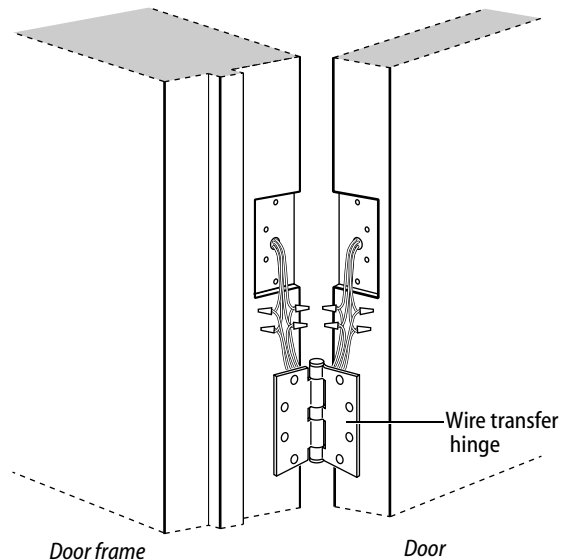


Figure 12 Installing the wire transfer hinge

Installing the trim

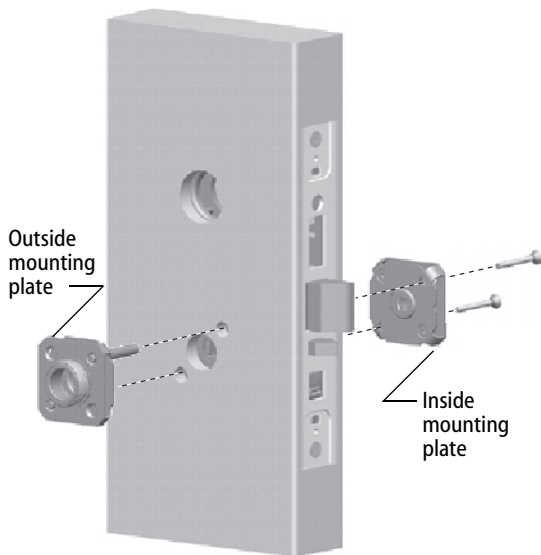


Figure 13 Installing the trim mounting plates

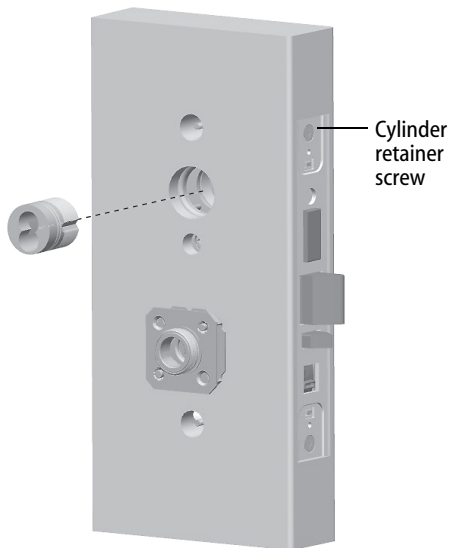


Figure 14 Installing the concealed cylinder

13 Install trim mounting plates

- 1 For *J trim*, position the J alignment plate (Figure 15b) on the outside of the door.
- 2 For all trim, insert the outside trim mounting plate through the door and mortise case.
- 3 Position the inside trim mounting plate opposite the outside trim mounting plate and screw them securely in place.

Caution: Do not overtighten the trim mounting plate screws. Overtightening may damage the locking mechanism.

14 Install concealed cylinder (*N trim only*)

- 1 Use a cylinder wrench to thread the cylinder into the mortise case so that the groove around the cylinder is even with the door surface.
Caution: A malfunction can occur if the cylinder is threaded in too far.
- 2 Secure the cylinder in the mortise case with the cylinder retainer screw.

Installing the trim

15 Install roses or escutcheons

For sectional trim (Figure 15a)

- 1 Position the inside rose on the door so it is centered on the trim mounting plate.
- 2 Use the spanner wrench to install the rose ring onto the inside mounting plate.
- 3 Position the outside rose on the door so it is centered on the trim mounting plate.
- 4 Use the spanner wrench to install the rose ring onto the outside mounting plate.

For J trim (Figure 15b)

- 1 Position the inside escutcheon on the door so it is centered on the trim mounting plate. Install the escutcheon screw.
- 2 Use the spanner wrench to install the trim ring onto the inside mounting plate.
- 3 Position the outside escutcheon on the door over the alignment plate.
- 4 Use the spanner wrench to install the trim ring onto the outside trim mounting plate.

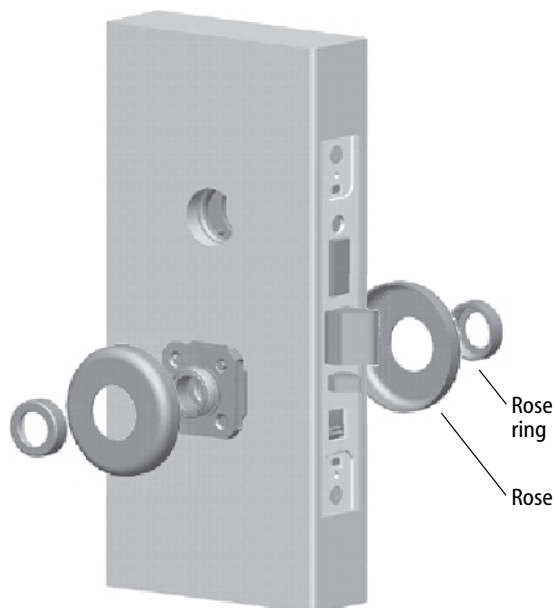


Figure 15a Installing the roses

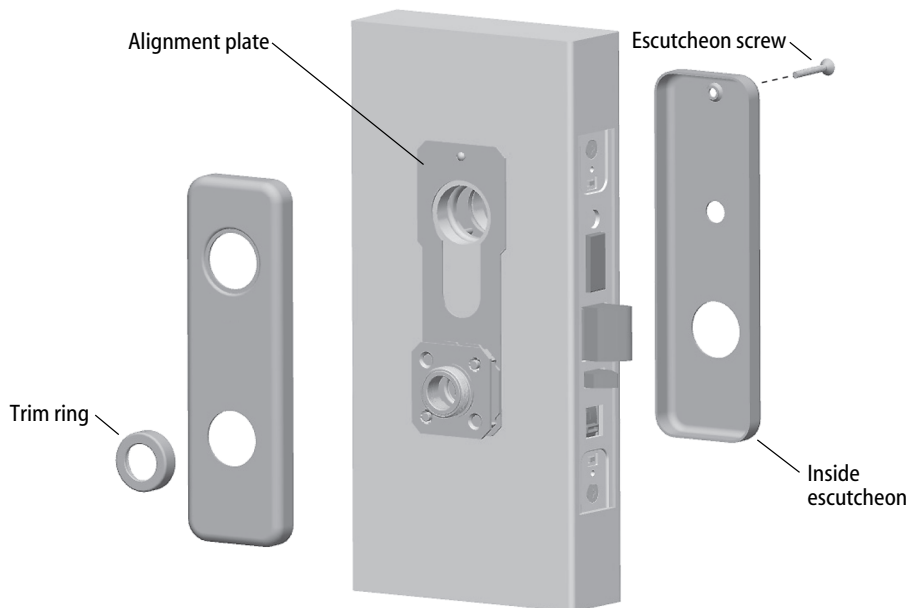


Figure 15b Installing the J trim escutcheons

Installing the trim

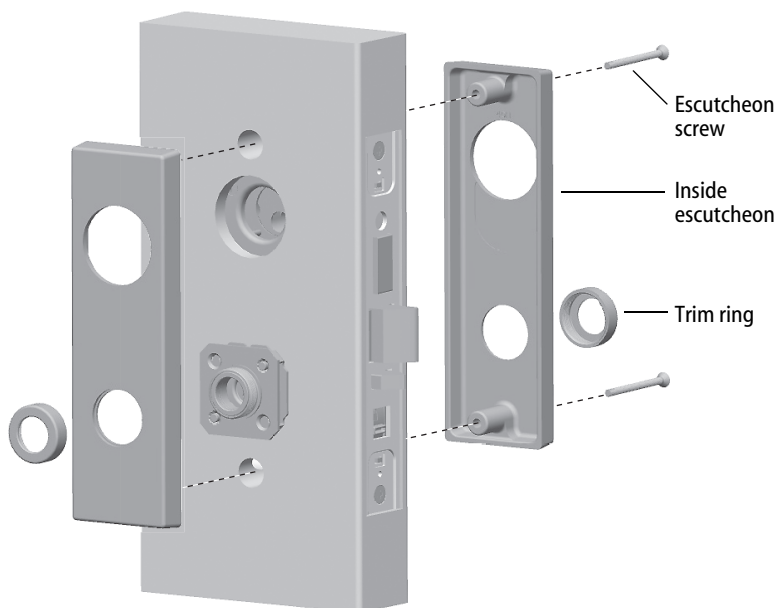


Figure 15c Installing the M trim escutcheons
(47H M trim shown)

For M trim (Figure 15c) or N trim (Figure 15d)

- 1 Position the inside and outside escutcheons on the door so they are centered on the trim mounting plates.
- 2 Install the upper and lower escutcheon screws from the inside of the door.
- 3 Use the spanner wrench to install the trim rings onto the inside and outside trim mounting plates.

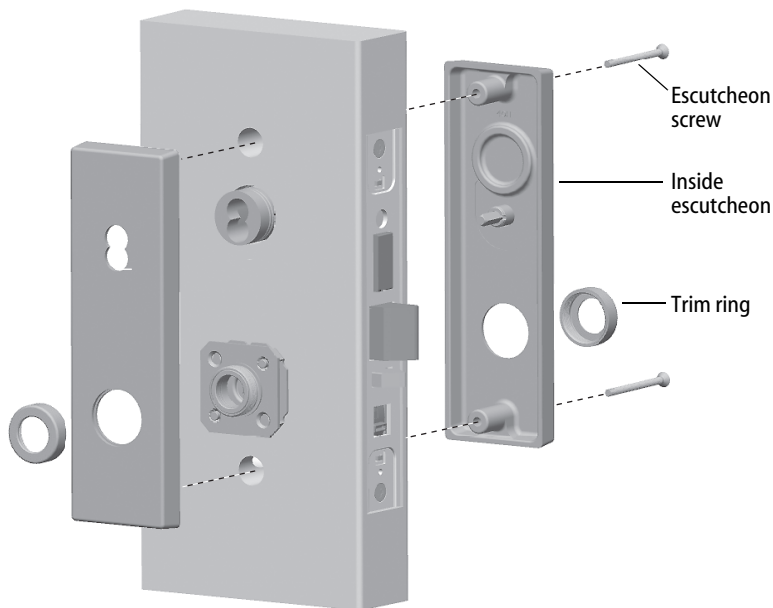


Figure 15d Installing the N trim escutcheons

Installing the trim

16 Install thumb turn or emergency access plate (if necessary)

Note 1: Install the thumb turn on the inside of the door for the following lock functions:

- TDEL ■ TDEU
- LEL ■ LEU

Note 2: Install the emergency access plate on the outside of the door for privacy function (LEL and LEU) locks.

- 1 Orient the thumb turn so it points up when the deadbolt is retracted and towards the hinge edge of the door when the deadbolt is extended.
- 2 Install the thumb turn or emergency access plate using the two screws provided (Figure 16).

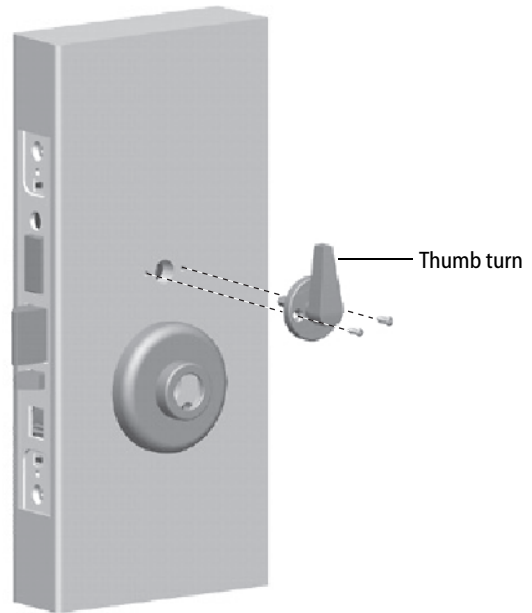


Figure 16 Installing the thumb turn or emergency access plate

Installing the trim

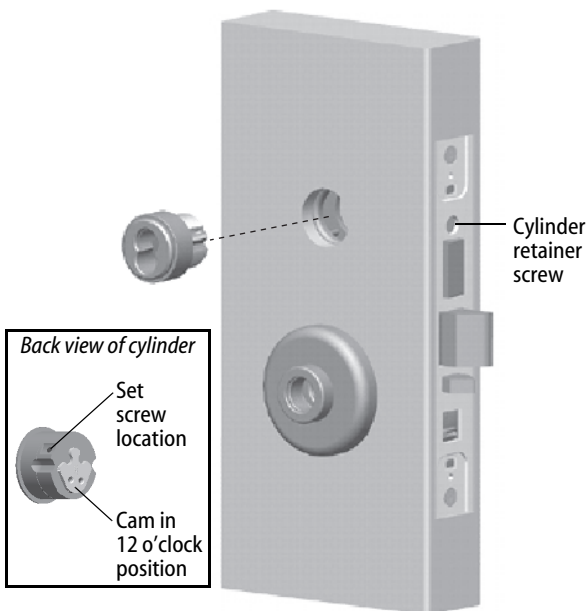


Figure 17a Installing the standard cylinder

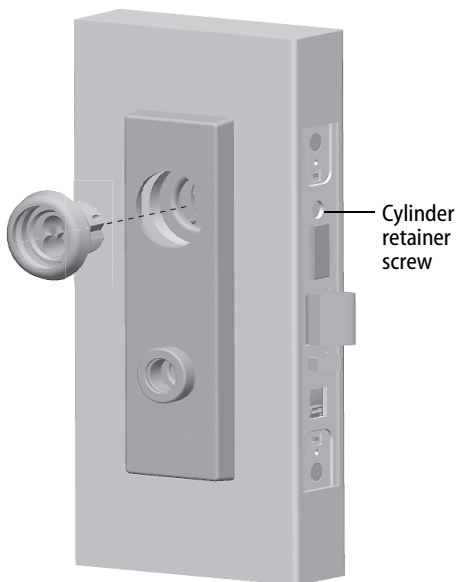


Figure 17b Installing the high-security cylinder

17 Install standard or high security cylinder (if necessary)

- 1 Using a narrow-blade screwdriver, insert the blade into the cylinder's figure-8 opening and back the set screw into the cylinder until the tip of the set screw is below the threads of the cylinder.
- 2 Make sure the washer (standard cylinder only) and cylinder ring are positioned on the cylinder.
- 3 Rotate the cylinder cam to the 12 o'clock position.
- 4 Use a cylinder wrench to thread the cylinder into the mortise case.

For a standard cylinder, rotate the cylinder until the cylinder ring is flush against the door.

For a high-security cylinder, rotate the cylinder until the cylinder head touches the inside rim of the cylinder ring.

Caution: A malfunction can occur if the cylinder is threaded in too far.

- 5 Using a narrow-blade screwdriver, insert the blade into the figure-8 opening and tighten the small set screw (installed in the cylinder) into the lock case.
- 6 Secure the cylinder in the mortise case with the cylinder retainer screw.

Finishing the installation

18 Install inside and outside levers

For standard lever installation (Figure 18)

- 1 Unscrew the inside spindle one full turn to allow the spindles to turn freely.
Note: Remove the label from the inside spindle.
- 2 With the handle pointing toward the door hinges, insert the outside lever and spindle assembly into the lock from the outside of the door.
Note: The 17 style lever is handed. The lever should curve downward when installed on the door.
- 3 Slide the inside lever onto the inside spindle and secure it with the set screw.
- 4 Turn the levers to check that they operate smoothly.

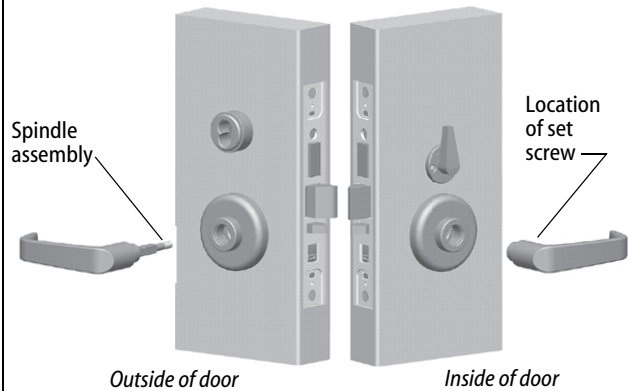


Figure 18 Installing the levers

19 Install mortise case faceplate

- 1 Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.
- 2 Check the lock for proper operation.

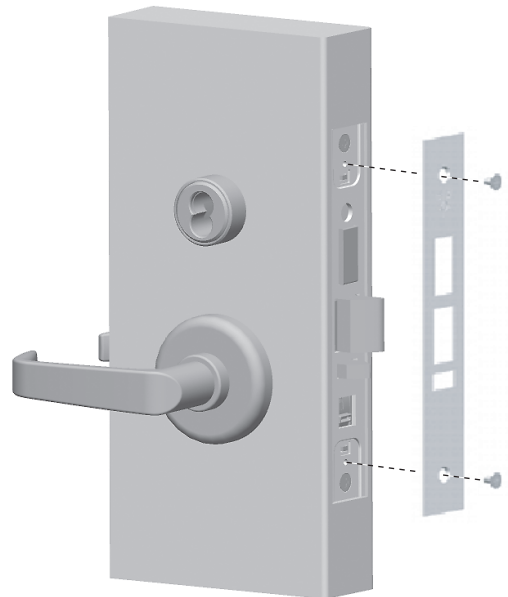


Figure 19 Installing the mortise case faceplate

Finishing the installation

20 Install strike box and strike plate

- 1 If the door jamb has not been mortised for the strike box and strike plate, perform these steps:
 - a On the door jamb, locate the horizontal centerline of the strike ($3/8''$ above the centerline of the lock), as well as the vertical centerline of the strike.
 - b Mortise the door jamb to fit the strike box and strike plate.
 - c Drill the holes for the screws used to install the strike box and strike plate.
- 2 If using a strike box with a magnet (for the optional door status sensor), orient the strike box so that the magnet is at the top of the strike box.
- 3 Insert the strike box into the mortise in the door jamb. Place the strike plate over the strike box and secure the strike with the screws provided.
- 4 Check the position of the auxiliary bolt against the strike plate.

Note: The recommended gap between the door and jamb is $1/8''$.

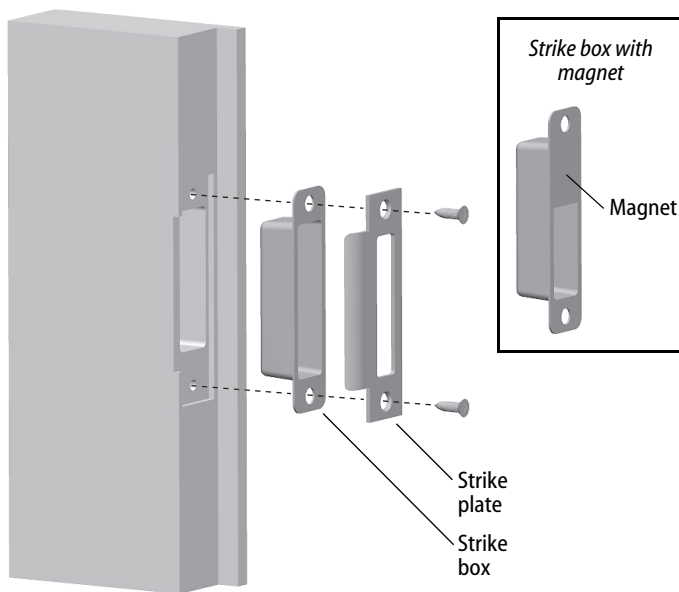


Figure 20 Installing the strike box and strike plate

Finishing the installation

21 Install door status magnet (optional for deadbolt function locks)

- 1 On the door jamb, mark the drill point for the door status magnet hole.
Note: This hole should be directly opposite the door status switch when the door is closed.
- 2 Drill a 1" diameter hole for the magnet, at least 1 3/4" deep.
- 3 Insert the magnet into the hole.

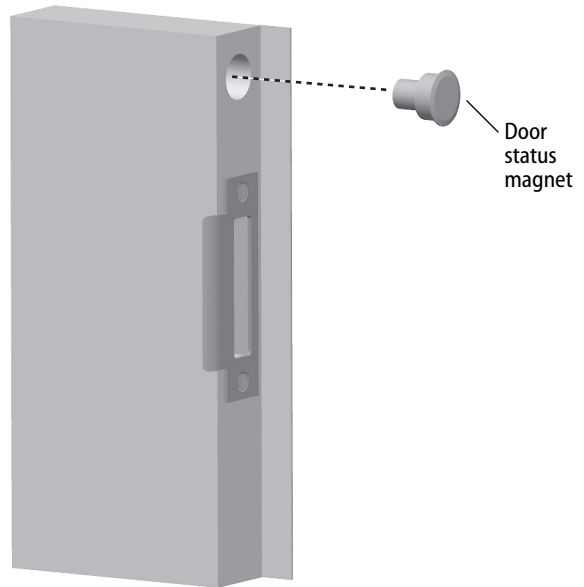


Figure 21 Installing the door status magnet

22 Install cores

- 1 For a high-security cylinder, slide the cylinder face down over the core.
- 2 Insert the control key into the core and rotate the key 15 degrees to the right.
- 3 With the control key in the core, insert the core and cylinder face (high-security cylinder only) into the cylinder.
- 4 Rotate the control key 15 degrees to the left and withdraw the key.

Caution: The control key can be used to remove cores and to access doors. Provide adequate security for the control key.

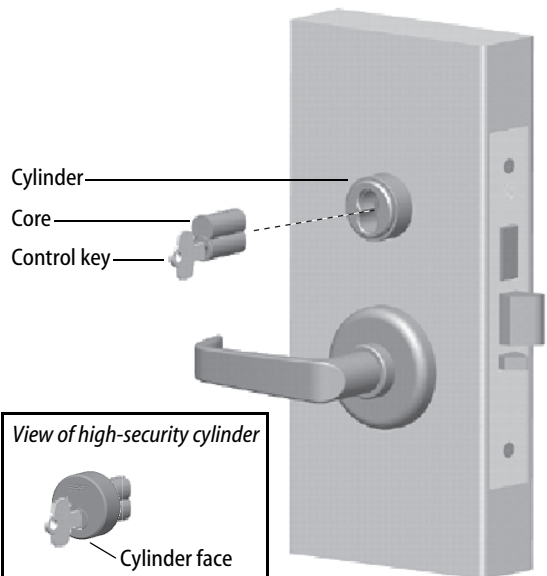


Figure 22 Installing the core(s)

Finishing the installation

23 Install lock power supply

Determine the power supply requirements for the lock.

- For a lock with a 12 volt solenoid, use a regulated power supply rated for 12 volts DC at 1.1 amps.
- For a lock with a 24 volt solenoid, use a regulated power supply rated for 24 volts DC at 0.75 amps.
- To power more than one lock with the same power supply, sum the total volt-amps (power) for the circuit and then multiply that number by 1.5. This is the minimum power rating in volt-amps recommended for the power supply.

Example for two locks powered by one supply:

Both locks are rated at 12 volts, 1.1 amps

$(12 \text{ volts} \times 1.1 \text{ amps}) + (12 \text{ volts} \times 1.1 \text{ amps}) = 26.4 \text{ volt-amps}$

$26.4 \text{ volt-amps} \times 1.5 = 39.6 \text{ volt-amps}$

Choose a power supply with a rating of 39.6 volt-amps or higher.

24 Make sensor connections

Connect the field wiring for the lock sensors to the access control panel.

Refer to the table below and the manufacturer's instructions for the access control panel.

Wire connection	Color	No. of wires	Switch type
Deadbolt status sensor	Blue	2	NO [†]
Door status sensor	White	2	NO
Latchbolt status sensor	Violet	2	NC [‡]
RQE status sensor	Brown & Orange	2	NO

† Normally open

‡ Normally closed

25 Check operation

- 1 Supply power to the lock and check its operation. For example, check that:
 - door latches and opens properly
 - deadbolt operates properly
 - key access works
 - door gap is 1/8"
 - auxiliary bolt is held inside the case when the door is closed.
- 2 When installation of the access control system has been completed, apply power to the system and check that the door's sensors operate properly.

For assistance, contact your local BEST representative.

Installation Instructions for 48H & 49H Mortise Locks

Overview

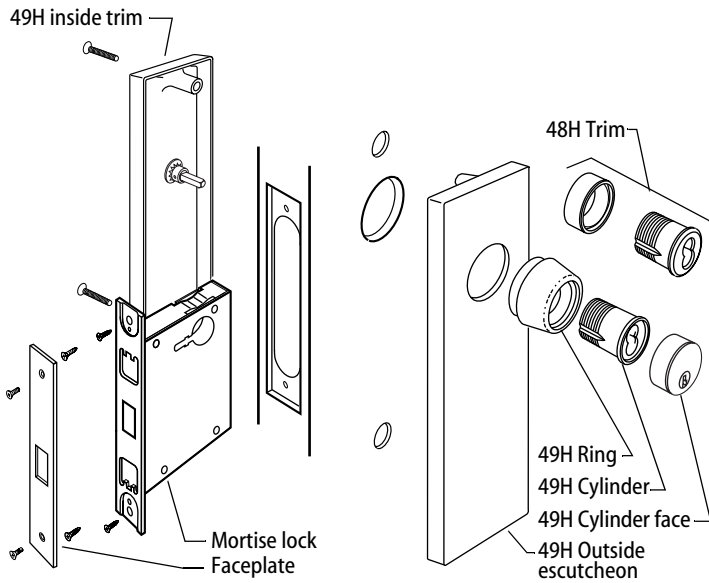


Figure 1 48H and 49H Mortise Lock overview diagram

1 Mark centerlines

Caution: If you use hollow metal doors, decide whether the doors are reinforced enough to support the lock. If the door reinforcement is not adequate, consult the door manufacturer about proper reinforcement.

Note: Prepare the door according to ANSI A115.1 before using these instructions.

- 1 Mark the horizontal centerline of the lock on both sides of the door and on the door's edge.

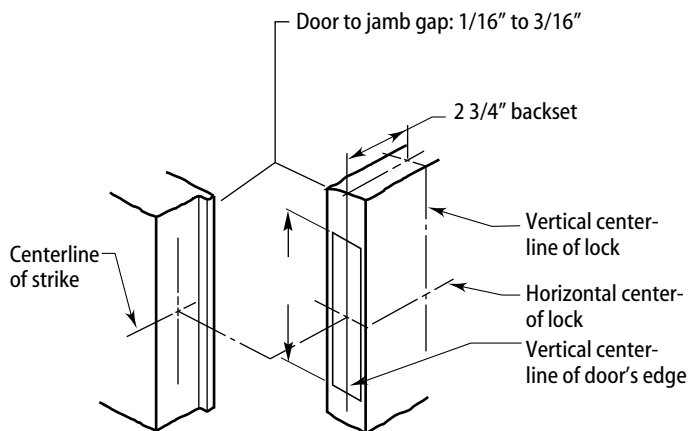


Figure 2 Marking the centerlines on the door

Note: BEST suggests a 38" height as measured from floor to lock centerline.

- 2 Mark the vertical centerline of the lock on the door edge.
- 3 Mark the vertical centerline of the lock on both sides of the door as measured from the vertical centerline on the door's edge.
- 4 Mark the horizontal centerline of the strike on the door jamb in line with the centerline of the lock.

2 Mark drill points

- 1 Cut the H18 template along the dotted line and align the horizontal and vertical arrows to the marked centerlines on the door.

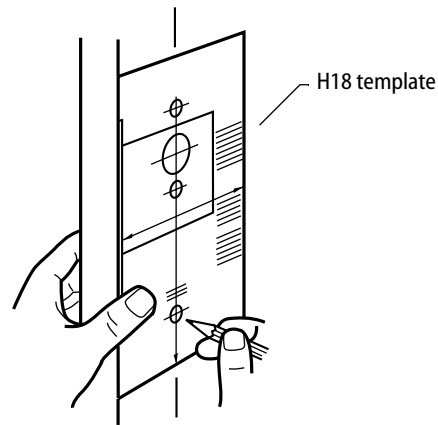


Figure 3 Marking the drill points with the template

- 2 Tape the template onto the door.

3 Install strike

- 1 Using the H18 template, mortise the jamb and install the strike and strike box. See *Installation Specifications*, Template H17 for dimensions.

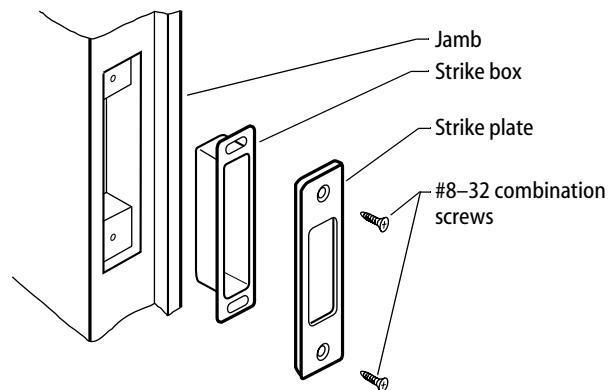


Figure 4 Installing the strike box and strike

4 Mortise and drill holes

- 1 Mortise the door for the lock case and faceplate.

Note: Check the lock for function before drilling.

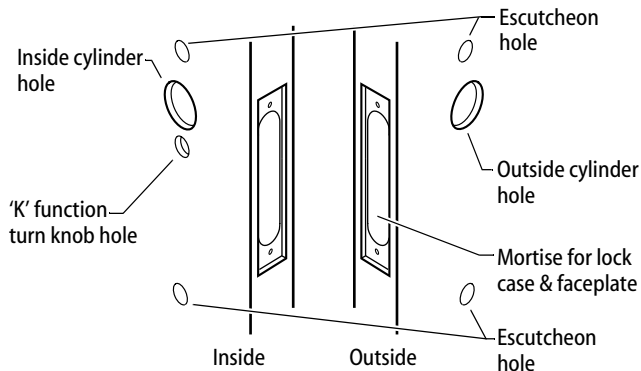


Figure 5 Mortising and drilling holes

- 2 Drill only those holes required for the lock function and trim. See Installation Specifications for hole requirements in Template H17.

5 Install mortise case

- 1 Remove the faceplate from the lock.

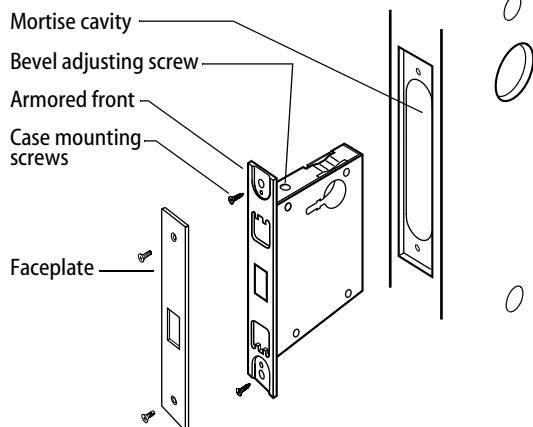


Figure 6 Installing the mortise case

- 2 Loosen the bevel adjusting screws on the top and bottom of the lock case and adjust the bevel of the armored front to match the door bevel. Retighten the screws.

For 'R' function only:

- Check the cylinder and lock for proper operation.

Caution: If the handing of the 'R' turn knob is incorrect, you can be locked in.

- 3 Install the lock into the mortise cavity.
- 4 Secure the lock case with the case mounting screws.

6 Install trim

To install 48H trim:

- 1 Install cylinder(s) and ring(s) and fasten with cylinder clamp screw(s).
- 2 Install thumb turn if needed.

- 3 Reinstall the faceplate.

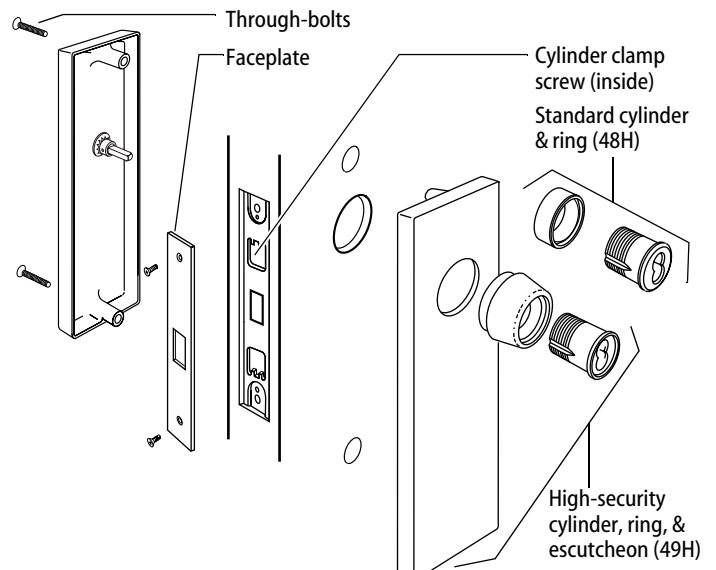


Figure 7 Installing 48H or 49H trim

- 4 Check the lock for proper operation.

To install 49H trim:

- 1 Position inside and outside escutcheons opposite each other and screw them loosely in place.
- 2 Put the high security cylinder(s) and ring(s) into the cylinder hole(s). Thread the cylinder(s) into the case until the cylinder head touches the inside rim of the ring.
- 3 Secure the cylinder(s) with the cylinder clamp screw(s).
- 4 Tighten the through-bolts.
- 5 Reinstall the faceplate.

7 Install core

For 5C cores only:

- Slide the cylinder face down over the 5C core.

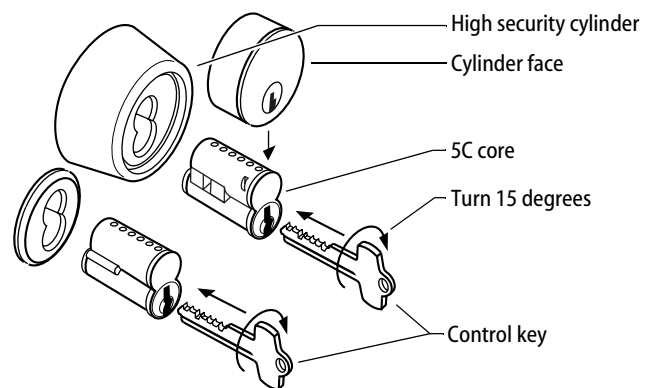


Figure 8 Installing the core

For all cores:

- 1 Put the control key into the core (or cylinder face) and turn the key 15 degrees clockwise.
- 2 Adjust the throw pins if needed, then put the core (and cylinder face) into the cylinder with the control key.
- 3 Turn the key 15 degrees counterclockwise and remove the key.

Note: Follow these steps to remove the core also.

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H SERIES

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *H Series Service Manual* contains essential information to help you maintain your H Series Lock.

CERTIFICATIONS AND STANDARDS

- The strike fits the standard door frame cutout as specified in ANSI A115.1.
- The lock case and faceplate dimensions fit the standard door preparation as specified in ANSI A115.1.
- The 34H/35H Locks meet or exceed ANSI A156.13, Series 1000, Grade 1 Operational, and Grade 2 Security standards.
- The 36H/37H Locks meet or exceed ANSI A156.13, Series 1000, Grade 1 Operational, and Grade 1 Security standards.
- The H Series Mortise Locks are certified in the Builders Hardware Manufacturers Association Directory and comply with the FF-HH-106C standard.
- The H Series Mortise Locks are listed by Underwriter's Laboratories for use on 3 Hr., A label doors. These locks also carry the C-UL mark.
- The 36H/37H Locks conform to UL437 Standard for Key locks, referencing door locks.

- The 36H/37H high security cylinder complies with ANSI Grade 1 Security and is UL listed (UL 437), in both Canada and the US. The cylinder also conforms to ANSI A156.5 mortise cylinder, Grade 1A standards.
- The 38H Lock conforms to ANSI 156.5, Grade 2 standards.
- The 39H Lock conforms to ANSI 156.5, Grade 1 standards.

34H-37H OVERVIEW

Lock characteristics

All 34H-37H Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	5 7/8" x 4 1/4" x 1"
Backset	2 3/4"
Door thickness range	1 3/4" standard-up to 5" ^a

- a. All mortise functions, except R and trim one-side-only functions, can be installed on 5" thick doors if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions for the 34H-37H mortise case and strike.

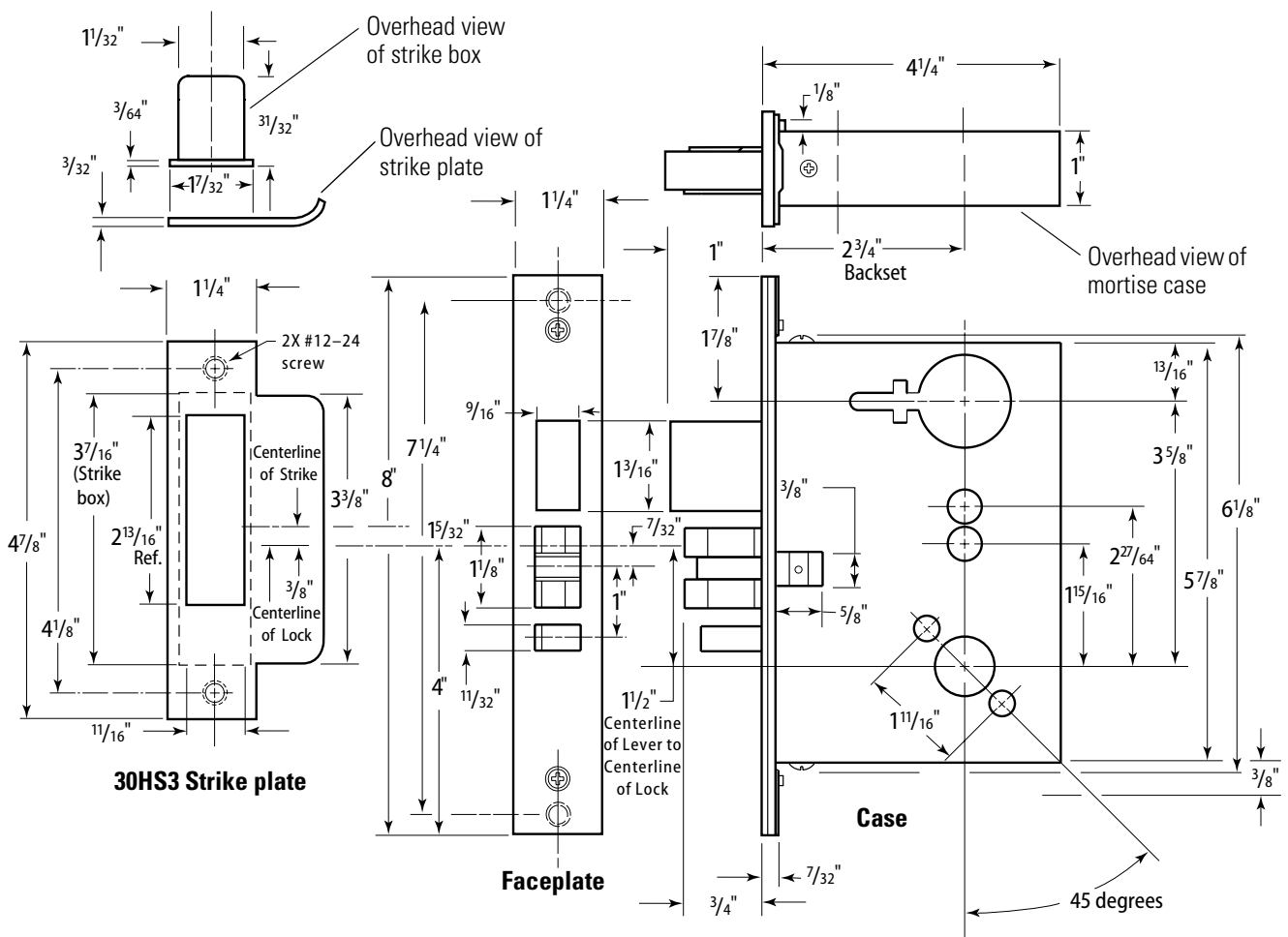


Figure 1.1 34H-37H mortise case and strike dimensions^a

- a. The 30HS1 strike hole is 3 3/16" long. The 30HS2 strike hole is 1 13/16" long.

Door prep by trim

The following chart describes what holes need to be drilled for different 34H-37H escutcheon styles. Escutcheons and lock cases are superimposed over the hole patterns.



Drill holes only on the side of the door on which they are required. Some holes shown below are drilled only on the inside or outside of the door. For more information, see the appropriate template.

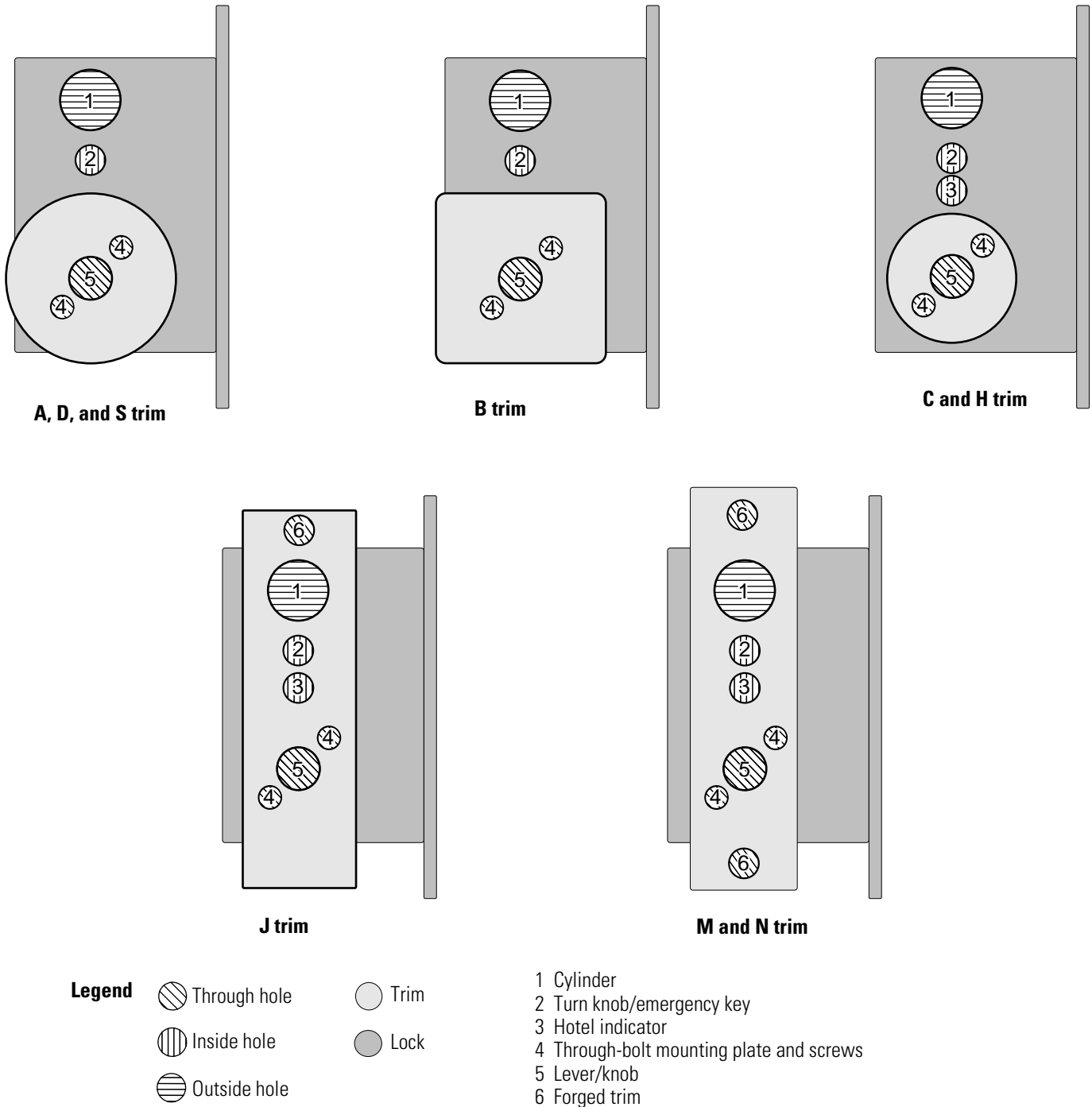


Figure 1.2 34H-37H trim hole overview

38H–39H OVERVIEW

Lock characteristics

All 38H–39H Mortise Locks have the following characteristics:

Feature	Dimensions
Case size	4 3/16" x 3 5/8" x 1"
Backset	2 3/4"
Door thickness range	1 3/4" standard–up to 5" ^a

- a. All mortise functions, except R and trim one-side-only functions, can be installed on 5" thick doors if the mortise is centered in the door.

Lock dimensions

The following diagram shows the dimensions of the 38H-39H mortise case and strike.

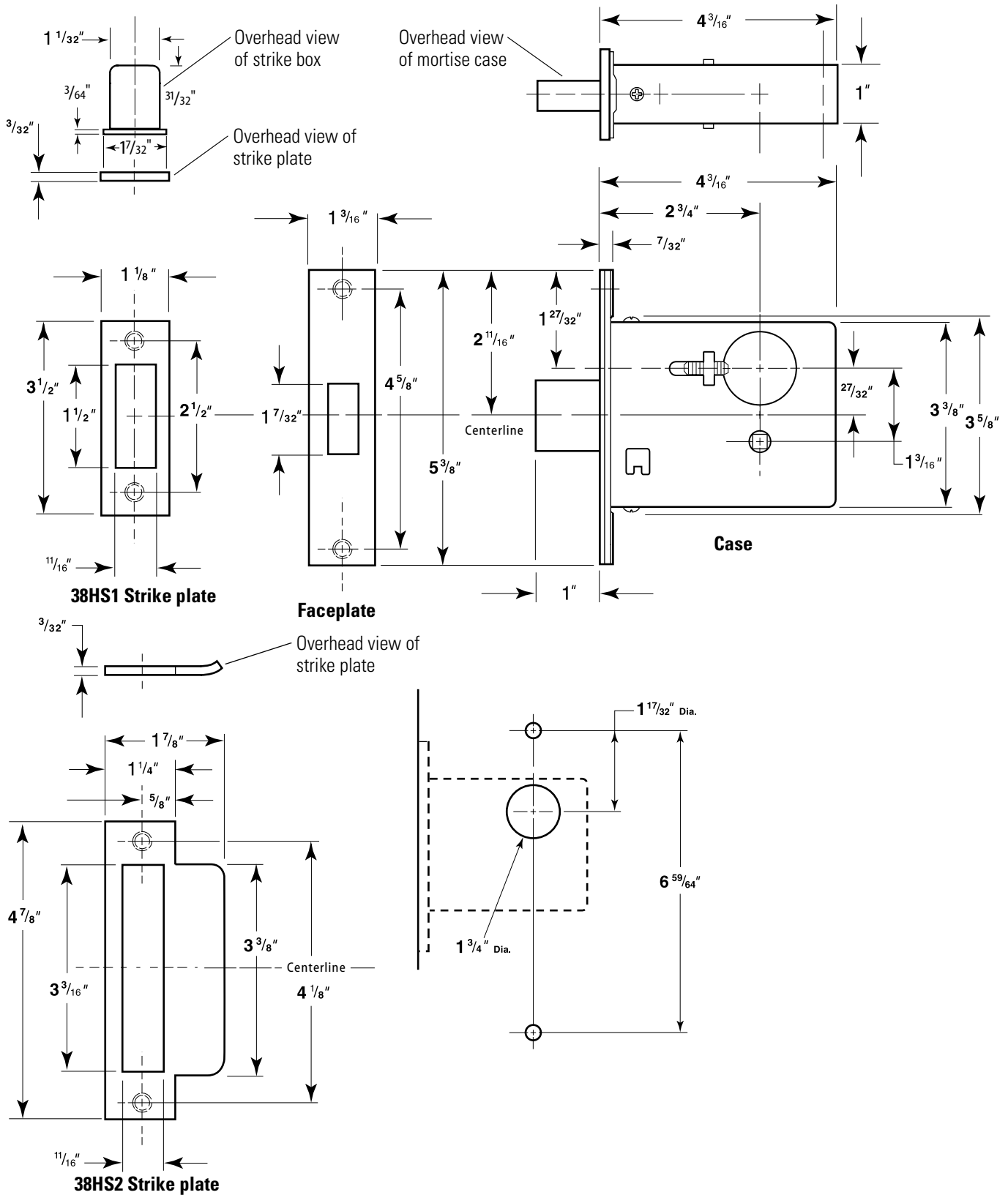


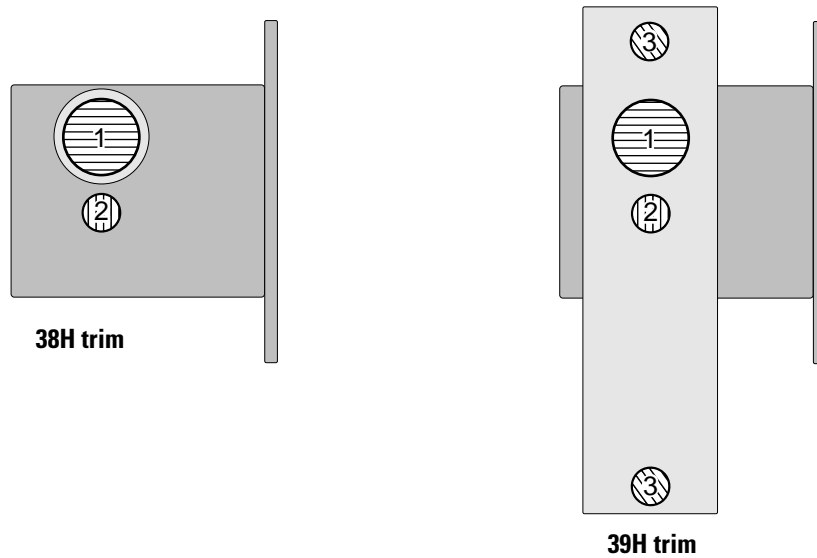
Figure 1.3 38H-39H mortise case and strike dimensions

Door prep by trim

The following chart describes what holes need to be drilled for 38H-39H M & N escutcheon styles. Escutcheons and lock cases are superimposed over the hole patterns.



Drill holes only on the side of the door on which they are required. Some holes shown below are drilled only on the inside or outside of the door. For more information, see the appropriate template.



- Legend**
- Through holes
 - Inside holes
 - Outside holes
 - Trim
 - Lock
 - 1 Cylinder
 - 2 Turn knob/emergency key
 - 3 Forged trim

Figure 1.4 38H-39H trim hole overview

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your H Series Lock.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
<i>Installation Instructions for 34H-37H Mortise Locks</i>	T61959
<i>Adjustment Instructions for 30H Hotel Indicator Trim</i>	T61960
<i>35H/37H Latch Holdback Operating Instructions</i>	T61961
<i>Installation Instructions for 30H Hook Spindles</i>	T61962
<i>Installation Instructions for 34H/35H Dummy Trim</i>	T61963
<i>Door Wiring Instructions for Electrically-Operated Locks</i>	T61926
<i>Wiring Instructions for 34H-37H Series Electrically-Operated Mortise Locks</i>	T61993

The templates required for lock installations also can be ordered separately:

Document Title	Doc. No.
<i>H03 Template; Installation Specification for the 34H-37H Mortise Lock</i>	T61950
<i>H04 Template; Hole Pattern Chart for 34H-37H Mortise Locks</i>	T61951
<i>H06 Template; Installation Specifications for 38/39H Mortise Locks</i>	T61952
<i>H08 Template; Installation Template for 38H/39H Mortise Locks</i>	T61953
<i>H09 Template; Installation Template for the 34H-37H Mortise Lock (A, B, C, D, H, S trim)</i>	T61954
<i>H11 Template; Strike Specifications for 34H-37H Mortise Locks</i>	T61955
<i>H12 Template; Installation Template for the 34H-37H Mortise Lock (J trim)</i>	T61956
<i>H13 Template; Installation Template for the 34H-37H Mortise Lock (M & N trim)</i>	T61957
<i>H14 Template; Installation Specification for the 34H-37H Mortise Lock with Integrated Door Hardware (IDH) Option</i>	T61958
<i>E01 Template for 1E Cylinders</i>	T61965
<i>E02 Template for 1E_D4 Cylinders</i>	T61966
<i>E03 Template for 1E_E4 Cylinders</i>	T61967
<i>E04 Template for 3E Cylinders</i>	T61968
<i>E05 Template for 5E Cylinders</i>	T61969
<i>E06 Template for 1E7J4 and 1E7K4 Cylinders</i>	T61970

Document Title	Doc. No.
<i>Installation Instructions for the Rim Lock Cylinder</i>	T61971
<i>Installation Instructions for the Mortise Lock Cylinder</i>	T61972
<i>Installation Instructions for 38H-39H Mortise Locks</i>	T61994

TECHNICAL SUPPORT

Support services When you have a problem with an H Series Lock, your first resource for help is the *H Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST representative.

Telephone technical support A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure you are where the hardware is, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to fix the problem.

Best Access Systems Representatives provide telephone technical support for all H Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

Training seminars BEST holds training sessions for its customers. The seminars are specifically designed for BEST end-users who have a registered BEST masterkeyed system and registered BEST security equipment. If you are interested, you may contact your local BEST representative for details.

2

LOCK PARTS AND FUNCTIONS

The following pages contain function descriptions for all H Series Locks. This chapter also includes exploded diagrams that show all field serviceable mechanical parts and function conversion information.

For information about the EWEU/EL, WWEU/EL, and YEU/EL functions, see the *W Series Service Manual*.

FUNCTIONS BY ANSI DESIGNATION AND LOCK FUNCTION QUICK REFERENCE

ANSI No.	Function	Function	Description page number	Diagram page number
F01	N	A	2-3	2-12
F02	L	AW	2-3	2-13
F04	E	B	2-4	2-15
F05	J	BW	2-4	2-14
F07	EW	B4/B5	2-10	2-28
F08	A	B6/B7	2-10	2-29
F09	G	C	2-6	2-15
F10	A	E	2-4	2-16
F12	F	EW	2-4	2-17
F13	FW	F	2-4	2-18
F14	C	FD	2-4	2-19
F15	HF	FW	2-5	2-20
F16	T	G	2-6	2-21
F17	P	GHB	2-10	2-27
F18	S	HF	2-5	2-19
F19	LF	HJ	2-5	2-19
F20	AW	IND	2-6	2-20
F21	B	INL	2-6	2-21
		J	2-5	2-21
		JHB	2-10	2-27
		K	2-11	2-34
		L	2-11	2-34
		LF	2-9	2-20
		M	2-11	2-34
		N	2-9	2-22
		P	2-8	2-23
		R	2-8	2-23
		S	2-8	2-23
		T	2-8	2-23
		TR	2-11	2-25
		TRK	2-11	2-26
		W	2-7	2-12
		WW	2-7	2-24
		Y	2-9	2-17

FUNCTION DESCRIPTIONS

This section includes function descriptions grouped by the following function types:

- 34H-37H single-keyed
- 34H-37H double-keyed
- 34H-37H deadlocked
- 34H-37H non-keyed
- 34H-37H special
- 38-39H cylinder deadlocked.

Note: If the function is ANSI defined, BHMA defined, or has a federal number, the appropriate designation appears by the function name.

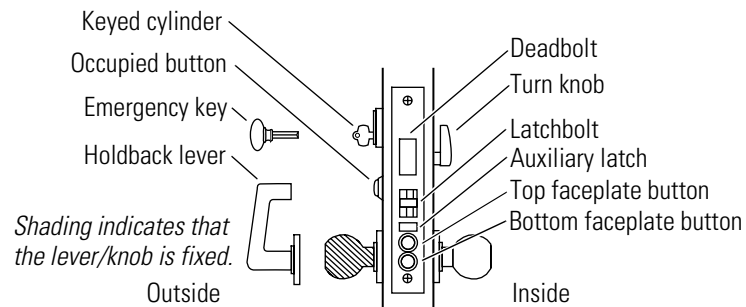
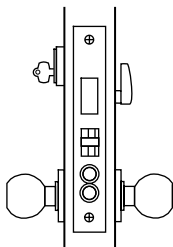


Figure 2.1 Understanding function drawings

34H-37H single-keyed functions

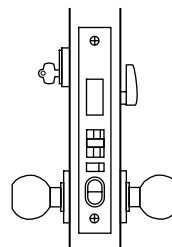
The following lists describe how the latchbolt, deadbolt, outside lever/knob, and inside lever/knob operate for each single-keyed 34H-37H function.

A-Entrance lock (ANSI F08/F10, Fed. 86A)



- Latchbolt operated by:
- outside key
 - outside lever/knob when the bottom faceplate button is pressed in
 - inside lever/knob when the deadbolt is retracted
- Deadbolt operated by:
- outside key
 - inside turn knob
- Outside lever/knob locked by:
- extending the deadbolt
 - top faceplate button
- Inside lever/knob locked by:
- extending the deadbolt

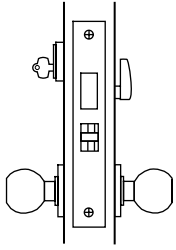
AW-Entrance lock (ANSI F20)



- Latchbolt operated by:
- outside key
 - outside lever/knob when the bottom faceplate button is depressed and the deadbolt is retracted
 - inside lever/knob
- Deadbolt operated by:
- outside key
 - inside turn knob
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob locked by:
- top faceplate button
 - extending the deadbolt
- Outside lever/knob unlocked by:
- bottom faceplate button
- Inside lever/knob is always unlocked

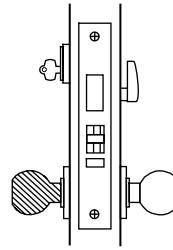
Note: The latchbolt is deadlocked with an auxiliary deadlatch.

B—Entrance lock (ANSI F21, Fed. 86B)



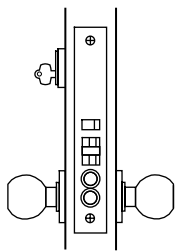
- Latchbolt operated by:
- outside key
 - outside lever/knob when the deadbolt is retracted
 - inside lever/knob when the deadbolt is retracted
- Deadbolt operated by:
- outside key
 - inside turn knob
- Inside and outside lever/knob locked by:
- extending the deadbolt

BW—Entrance or storeroom lock



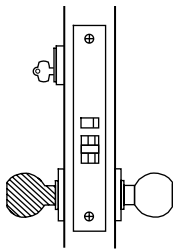
- Latchbolt operated by:
- outside key
 - inside lever/knob when the deadbolt is retracted
- Latchbolt is deadlocked by an auxiliary latch
- Deadbolt operated by:
- outside key
 - inside turn knob
- Outside lever/knob is always fixed
- Inside lever/knob locked by:
- extending the deadbolt

E—Entrance lock (ANSI F04, Fed. 86A, 87B)



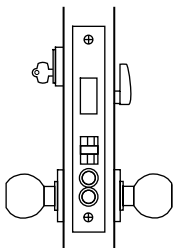
- Latchbolt operated by:
- outside key
 - outside lever/knob when the bottom faceplate button is depressed
 - inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Outside lever/knob locked by:
- top faceplate button
- Outside lever/knob unlocked by:
- bottom faceplate button
- Inside lever/knob is always unlocked

EW—Storeroom lock (ANSI F07, Fed. 86EW)



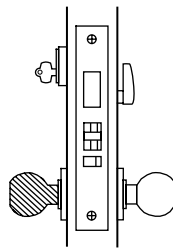
- Latchbolt operated by:
- outside key
 - inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Outside lever/knob is always fixed
- Inside lever/knob is always unlocked

F—Dormitory or exit lock (ANSI F12, Fed. 86F)



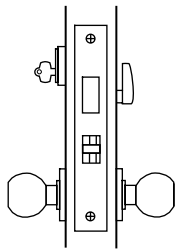
- Latchbolt operated by:
- outside key
 - outside lever/knob when the bottom faceplate button is depressed and the deadbolt is retracted
 - inside lever/knob
- Deadbolt operated by:
- outside key
 - inside turn knob
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob locked by:
- top faceplate button
- Outside lever/knob unlocked by:
- bottom faceplate button
- Inside lever/knob is always unlocked

FD—Dormitory or exit lock



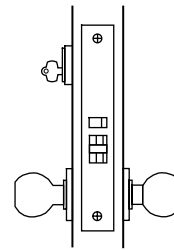
- Latchbolt operated by:
- outside key
 - inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Deadbolt operated by:
- outside key
 - inside turn knob
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob is always fixed
- Inside lever/knob is always unlocked

FW–Dormitory or exit lock (ANSI F13, Fed. 86FW)



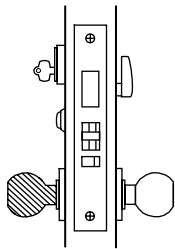
- Latchbolt operated by:
- outside lever/knob when deadbolt is retracted
 - inside lever/knob
- Deadbolt operated by:
- outside key
 - inside turn knob
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob locked by:
- extending the deadbolt
- Outside lever/knob unlocked by:
- retracting the deadbolt
- Inside lever/knob is always unlocked

J–Classroom lock (ANSI F05, Fed. 86J)



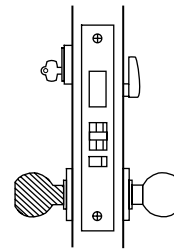
- Latchbolt operated by:
- outside key
 - outside lever/knob when unlocked by the outside key
 - inside lever/knob
- Latchbolt deadlocked by an auxiliary latch
- Outside lever/knob locked and unlocked by:
- outside key
- Inside lever/knob is always unlocked

HF–Hotel lock (ANSI F15, Fed. 86H)



- Latchbolt operated by:
- outside key
 - inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Deadbolt operated by:
- outside special master key
 - inside turn knob
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob is always fixed
- Inside lever/knob is always unlocked

HJ–Hotel lock



- Latchbolt operated by:
- outside key
 - inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Deadbolt operated by:
- outside special master key
 - inside turn knob
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob is always fixed
- Inside lever/knob is always unlocked

Note 1: Extending the deadbolt sets the “occupied” button and blocks all operating keys.
 Note 2: Available in 34H and 35H locks only.

Note: Available in 34H and 35H locks only.

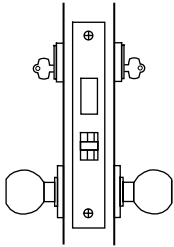
34H–37H double-keyed functions



The following lists describe how the latchbolt, deadbolt, outside lever/knob, and inside lever/knob operate for each double-keyed 34H–37H function.

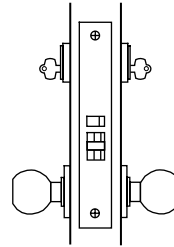
Locks that secure both sides of the door are controlled by building codes and the Life Safety Code[®]. In an emergency exit situation, failure to quickly unlock the door could be hazardous or even fatal.

C–Communicating lock (ANSI F14, Fed. 86C)



- Latchbolt operated by:
- outside lever/knob when deadbolt is retracted
 - inside lever/knob when deadbolt is retracted
- Deadbolt operated by:
- outside key
 - inside key
- Outside and inside lever/knob locked and unlocked by:
- outside key
 - inside key

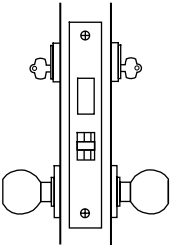
G–Public entrance lock (ANSI F09, Fed 86G, 87G)



- Latchbolt operated by:
- outside key
 - outside lever/knob when unlocked by inside key
 - inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Outside lever/knob locked by:
- inside key
- Outside lever/knob unlocked by:
- inside key
- Inside lever/knob is always unlocked

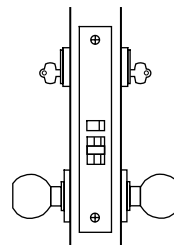
Note: The inside cylinder may be combined to operate by the master key only.

IND–Intruder lock



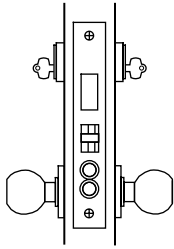
- Latchbolt operated by:
- outside and inside key
 - outside lever/knob when deadbolt is retracted
 - inside lever/knob
- Deadbolt operated by:
- outside and inside key
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob locked by:
- extending the deadbolt
- Outside lever/knob unlocked by:
- retracting the deadbolt
- Inside lever/knob is always unlocked

INL–Intruder lock



- Latchbolt operated by:
- outside and inside key
 - outside lever/knob when not locked by inside or outside key
 - inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Outside lever/knob locked and unlocked by:
- outside key and inside key
- Inside lever/knob is always unlocked

▲ W-Storeroom lock



Latchbolt operated by:

- outside key
- outside lever/knob when the bottom faceplate button is pressed in
- inside lever/knob when the deadbolt is retracted
- inside key

Deadbolt operated by:

- outside key
- inside key

Outside lever/knob locked by:

- top faceplate button
- extending the deadbolt

Outside lever/knob unlocked by:

- bottom faceplate button
- retracting the deadbolt

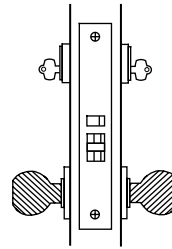
Inside lever/knob locked by:

- extending the deadbolt

Inside lever/knob unlocked by:

- retracting the deadbolt

▲ WW-Storeroom lock



Latchbolt operated by:

- outside key
- inside key

Latchbolt is deadlocked by an auxiliary latch

Outside lever/knob is always fixed

Inside lever/knob is always fixed

**34H-36H
deadlocked
functions**

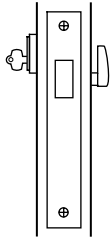
The following lists describe how the deadbolt operates for each deadlocked 34H-36H function.



Warning!

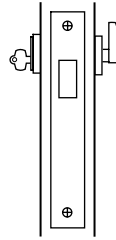
Locks that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the door could be hazardous or even fatal.

P-Deadlock (ANSI F17, Fed. 86P)



- Deadbolt operated by:
- outside key
 - inside turn knob

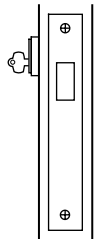
R-Classroom deadlock



- Deadbolt operated by:
- outside key
 - inside turn knob

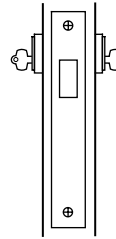
Note 1: Specify the hand of the door.
Note 2: Inside turn knob retracts the deadbolt, but will not project it.

⚠ S-Deadlock (ANSI F18, Fed. 86S)



- Deadbolt operated by:
- outside key

⚠ T-Deadlock (ANSI F16, Fed. 86T)



- Deadbolt operated by:
- outside key
 - inside key

34H–35H non-keyed functions

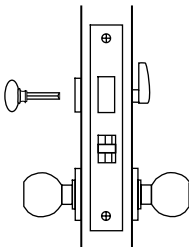
The following lists describe how the latchbolt, deadbolt, outside lever/knob, and inside lever/knob operate for each non-keyed 34H–35H function.



Warning!

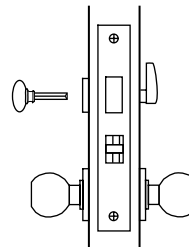
Locks that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the door could be hazardous or even fatal.

L–Privacy lock (ANSI F02, Fed. 86L)



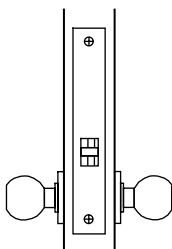
- Latchbolt operated by:
- outside lever/knob when the deadbolt is retracted
 - inside lever/knob when the deadbolt is retracted
- Deadbolt operated by:
- outside emergency key
 - inside turn knob
- Inside and outside lever/knob locked by:
- extending the deadbolt
- Inside and outside lever/knob unlocked by:
- retracting the deadbolt

LF–Privacy lock (ANSI F19)



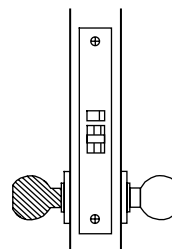
- Latchbolt operated by:
- outside lever/knob when the deadbolt is retracted
 - inside lever/knob
- Deadbolt operated by:
- outside emergency key
 - inside turn knob
 - inside lever/knob retracts the deadbolt and latchbolt simultaneously
- Outside lever/knob locked by:
- outside emergency key
 - inside turn knob
- Outside lever/knob unlocked by:
- outside emergency key
 - inside turn knob
 - inside lever/knob
- Inside lever/knob is always unlocked

N–Passage lock (ANSI F01, Fed. 86N, 87N)



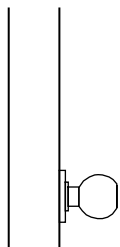
- Latchbolt operated by:
- outside lever/knob
 - inside lever/knob
- Inside and outside levers/knobs are always unlocked

Y–Exit lock



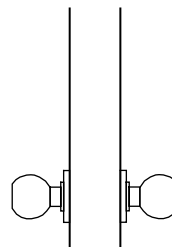
- Latchbolt operated by:
- inside lever/knob
- Latchbolt is deadlocked by an auxiliary latch
- Outside lever/knob is always fixed
- Inside lever/knob is always unlocked

1DT–Single dummy trim



This product is a single, surface mounted lever/knob for an inactive door or a non-latching door.

2DT–Double dummy trim



This product is a through-bolt mounted pair of matching levers/knobs for an inactive door or a non-latching door.

34H–37H special functions

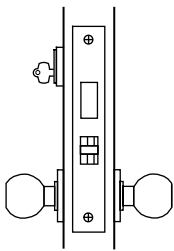
The following lists describe how the latchbolt, deadbolt, outside lever/knob, and inside lever/knob operate for each special 34H–37H function.



Warning!

Locks that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the door could be hazardous or even fatal.

B4/B5–Entrance lock



Latchbolt operated by:

- outside key
- outside lever/knob when the deadbolt is retracted
- inside lever/knob when the deadbolt is retracted

Deadbolt operated by:

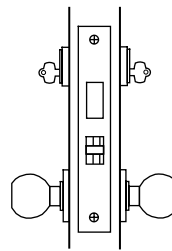
- outside key

Inside and outside lever/knob locked by:

- extending the deadbolt

Note 1: Trim is removable from the outside only.
Note 2: The B4 function lock accepts a shallow grooved non-BEST cylinder. The B5 function lock accepts the standard BEST cylinder.

B6/B7–Entrance lock



Latchbolt operated by:

- inside key
- outside key
- outside lever/knob when the deadbolt is retracted
- inside lever/knob when the deadbolt is retracted

Deadbolt operated by:

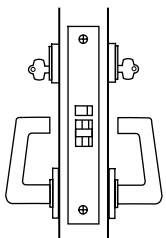
- outside key
- inside key

Inside and outside lever/knob locked by:

- extending the deadbolt

Note 1: Trim is removable from the outside only.
Note 2: The B6 function lock accepts a shallow grooved non-BEST cylinder. The B7 function lock accepts the standard BEST cylinder.

GHB–Latch hold back lock



Latchbolt operated by:

- outside key
- outside lever except when locked by the inside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Latchbolt held retracted by:

- turning inside key while holding up the inside lever

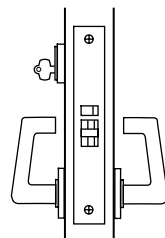
Outside lever locked and unlocked by:

- inside key

Inside lever is always unlocked

Note: Available in 35H and 37H locks only.

JHB–Latch hold back lock



Latchbolt operated by:

- outside key
- outside lever except when locked by the outside key
- inside lever

Latchbolt is deadlocked by an auxiliary latch

Latchbolt held retracted by:

- turning the outside key while holding up the inside lever

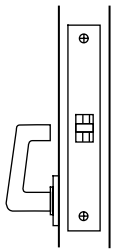
Outside lever locked and unlocked by:

- outside key

Inside lever is always unlocked

Note: Available in 35H and 37H locks only.

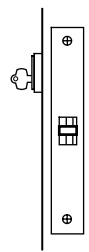
TR–Time out by lever



Latchbolt operated by:
 ■ outside lever

Note 1: The latchbolt is extended only while holding up the lever.
 Note 2: This function is used to detain a person inside a “time out room”.

TRK–Time out by key



Latchbolt operated by:
 ■ outside key

Note 1: The latchbolt is extended only while turning and holding the key.
 Note 2: This function is used to detain a person inside a “time out room”.
 Note 3: BEST recommends using the large access bow key.

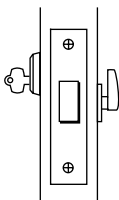
38H–39H cylinder deadlock functions



The following lists describe how the deadbolt operates for each cylinder deadlock 38H–39H function. When ordering a deadlock, specify the handing of the door.

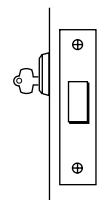
Locks that secure both sides of the door are controlled by building codes and the Life Safety Code. In an emergency exit situation, failure to quickly unlock the door could be hazardous or even fatal.

K–Cylinder deadlock (BHMA E06071, Fed. 190K)



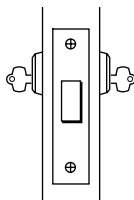
Deadbolt operated by:
 ■ rotating the inside turn knob
 ■ outside key

L–Cylinder deadlock (BHMA E06081, Fed. 190L)



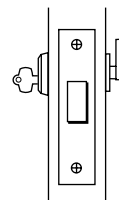
Deadbolt operated by:
 ■ outside key

M–Cylinder deadlock (BHMA E06061, Fed. 191M)



Deadbolt operated by:
 ■ inside or outside key

R–Cylinder deadlock (BHMA E06091, Fed. 191)



Deadbolt operated by:
 ■ outside key
 ■ inside turn knob

Note 1: Inside turn knob retracts the deadbolt, but does not extend it.
 Note 2: Can be used only on 1 3/4” thick doors.
 Note 3: Specify the hand of door when ordering the lock.

34-37H FUNCTIONS

A FUNCTION CASE—ENTRANCE LOCK

W FUNCTION CASE—STOREROOM LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

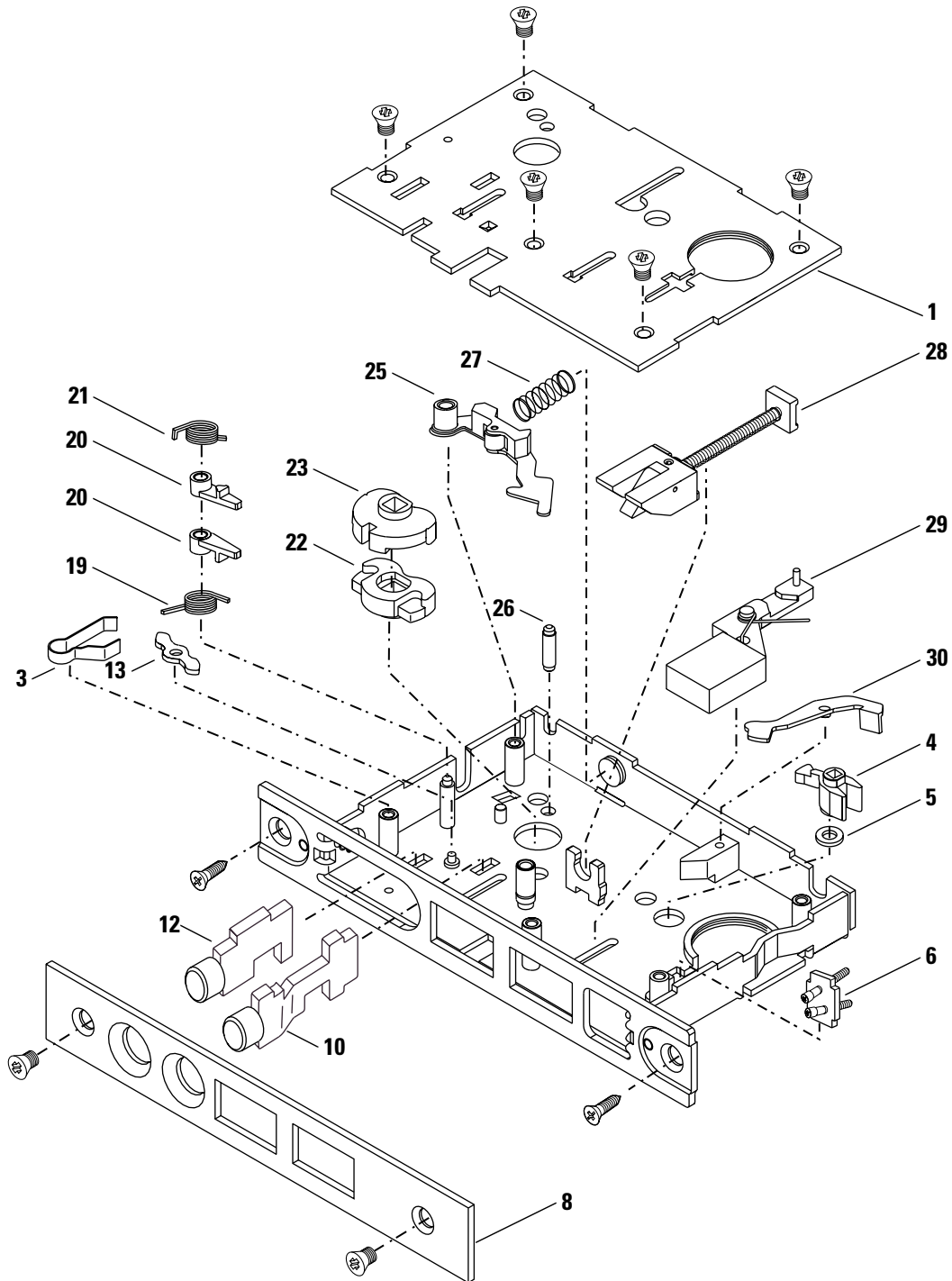


Figure 2.2 A, W function case

AW FUNCTION CASE—ENTRANCE LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

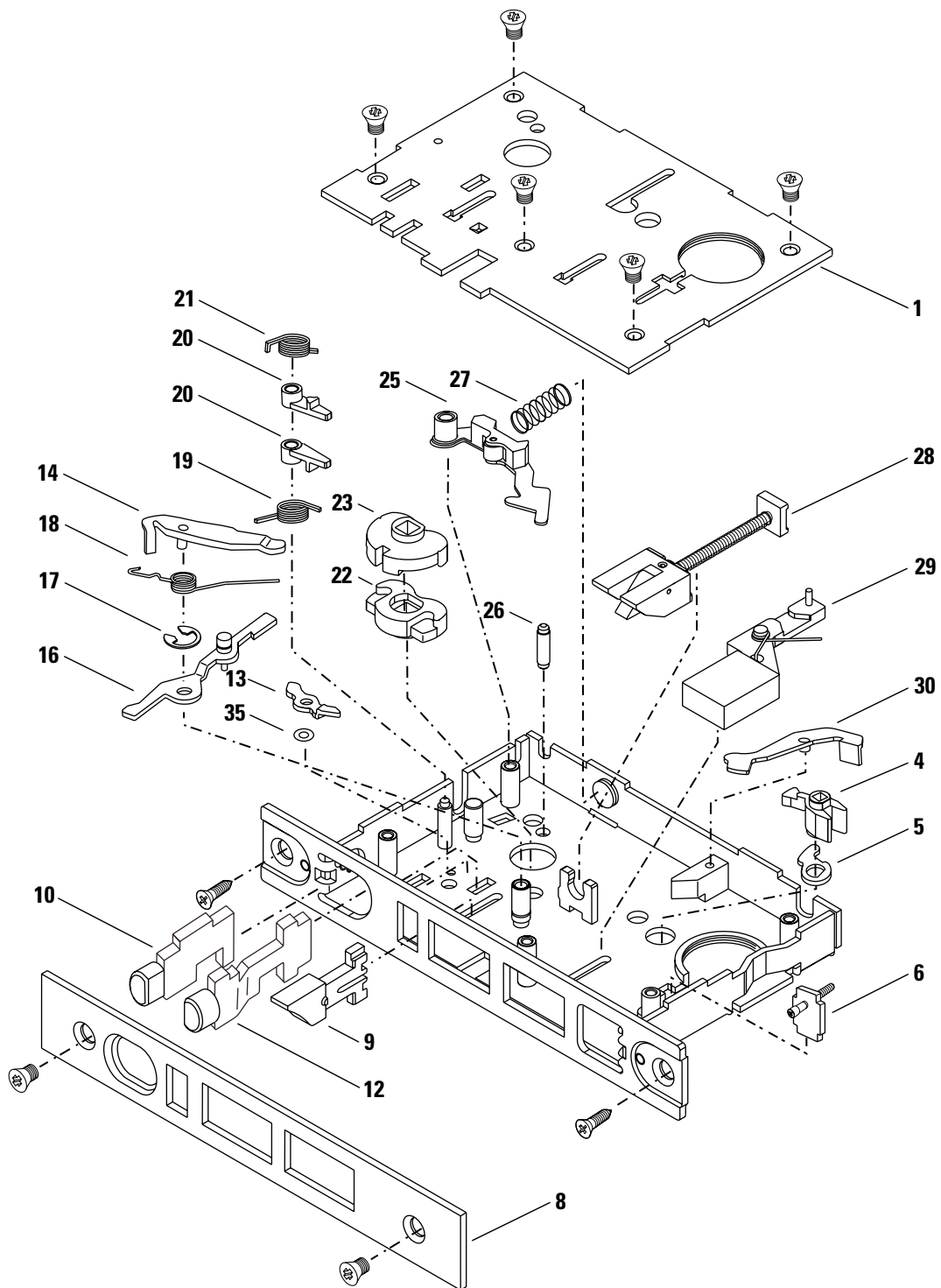


Figure 2.3 AW function case

BW FUNCTION CASE—ENTRANCE OR STOREROOM LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

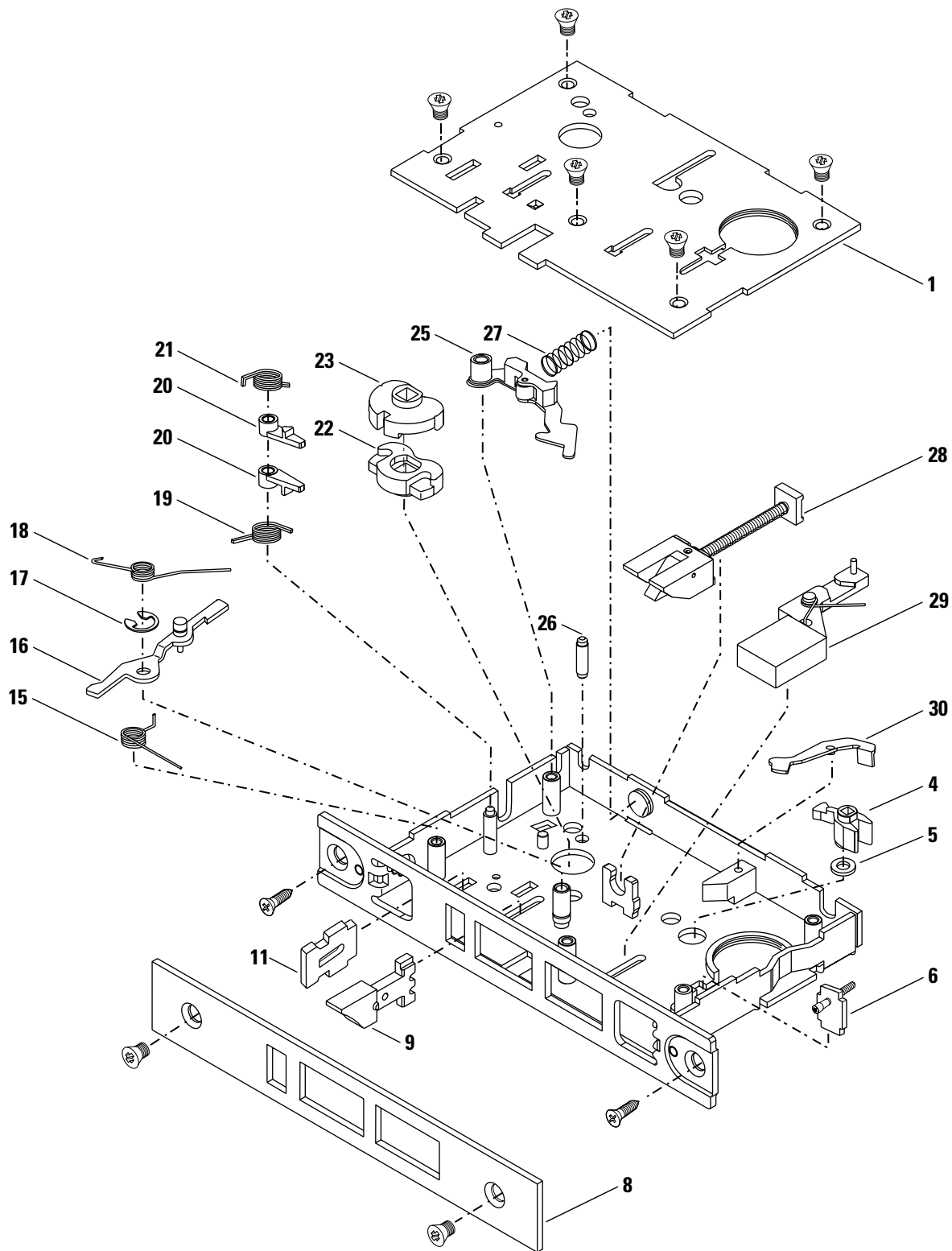


Figure 2.4 BW function case

B FUNCTION—ENTRANCE LOCK
C FUNCTION—COMMUNICATING DOOR LOCK
L FUNCTION CASE—PRIVACY LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

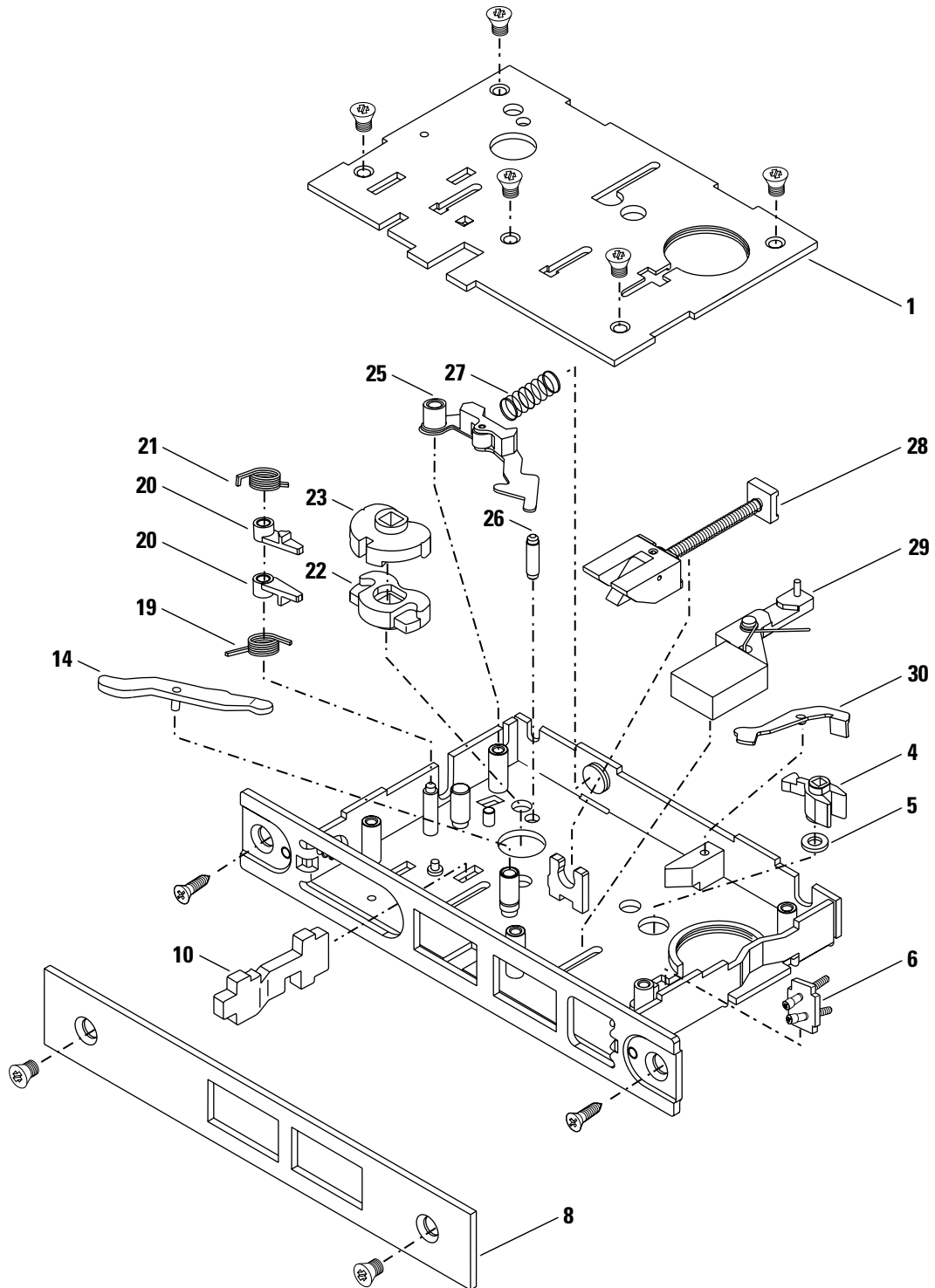


Figure 2.5 B, C, L function case

E FUNCTION CASE—ENTRANCE LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

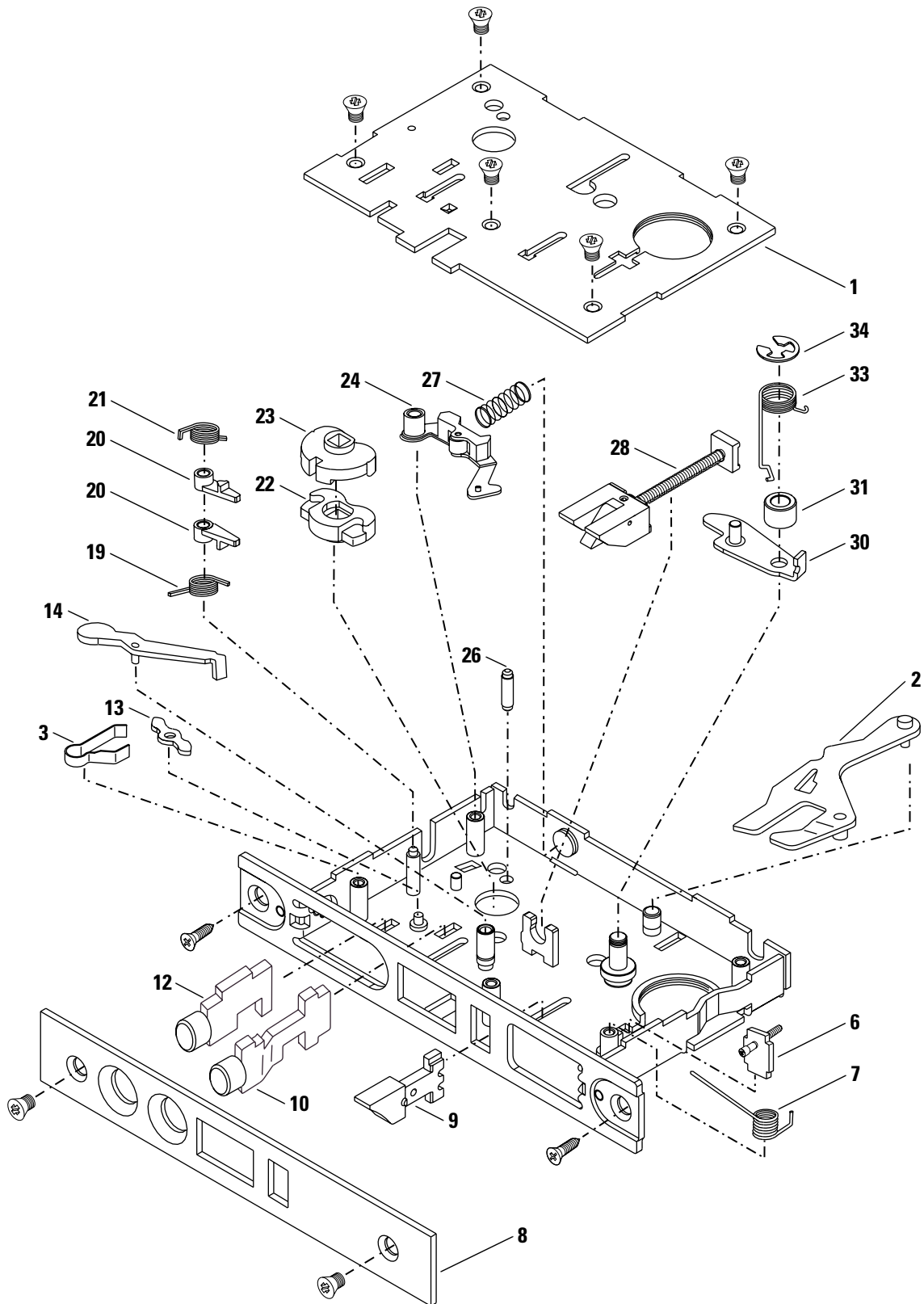


Figure 2.6 E function case

EW FUNCTION—STOREROOM LOCK Y FUNCTION CASE—EXIT LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

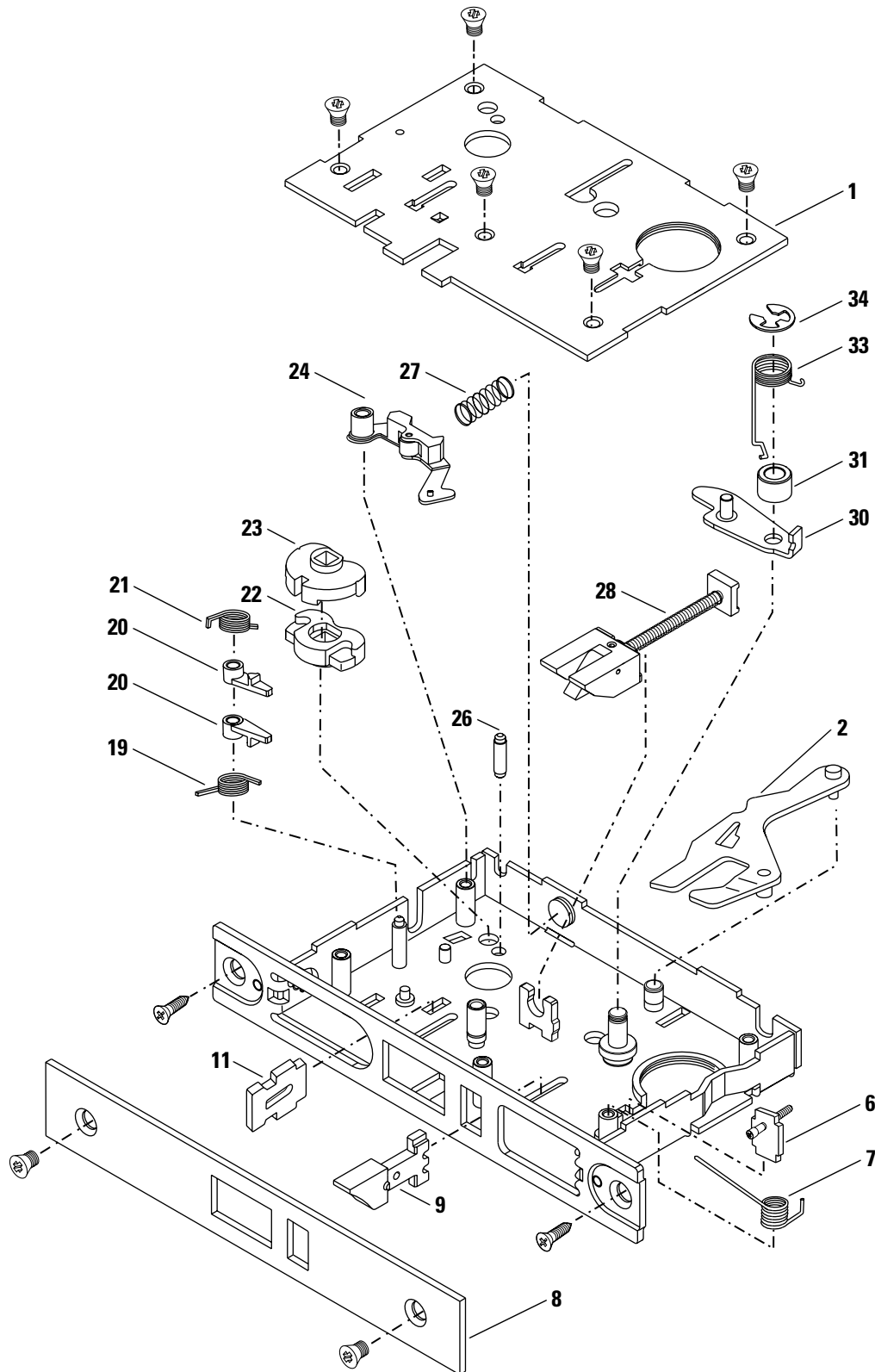


Figure 2.7 EW, Y function case

F FUNCTION CASE—DORMITORY OR EXIT LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

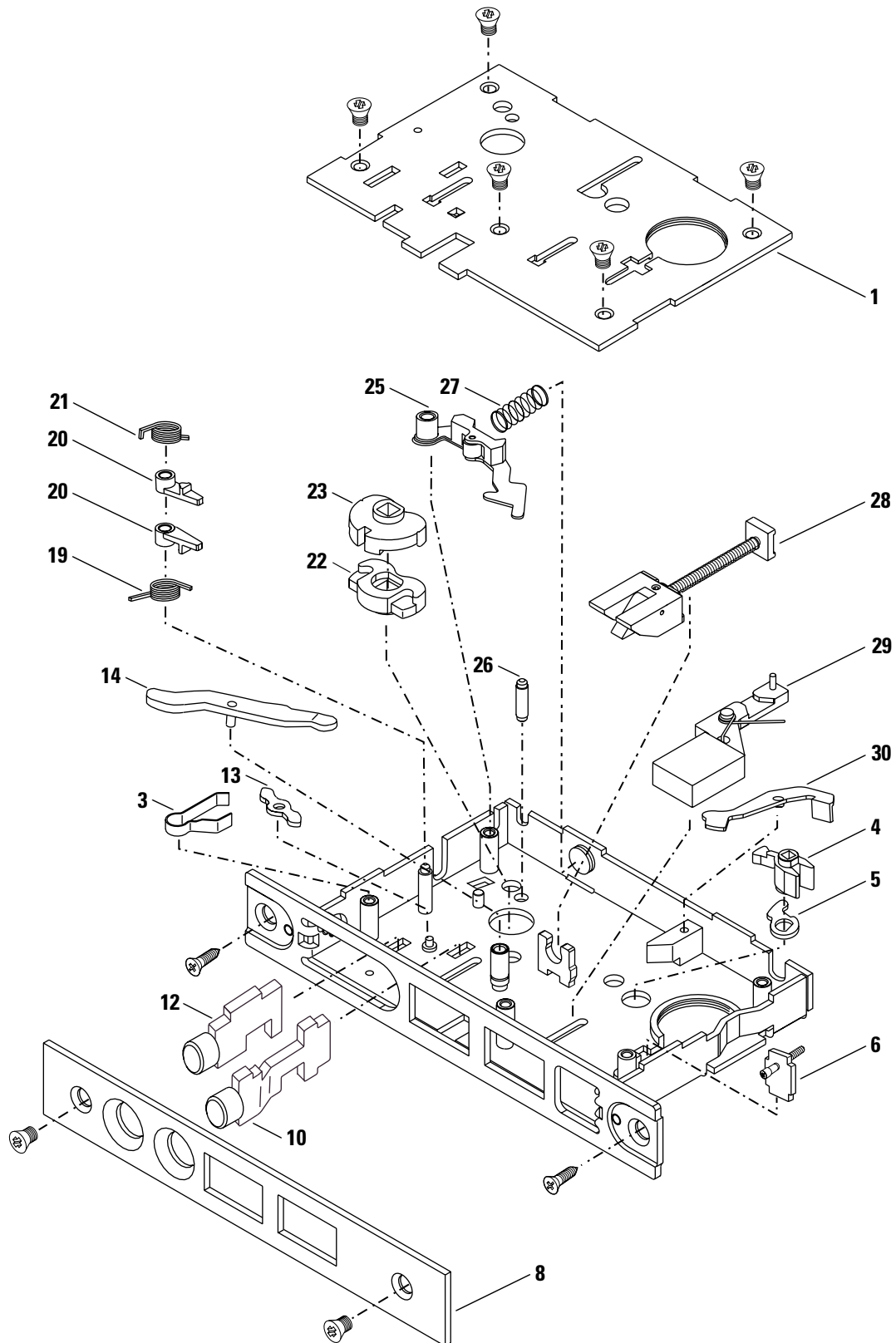


Figure 2.8 F function case

FD FUNCTION CASE—DORMITORY OR EXIT LOCK
HF FUNCTION CASE—HOTEL LOCK
HJ FUNCTION CASE—HOTEL LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

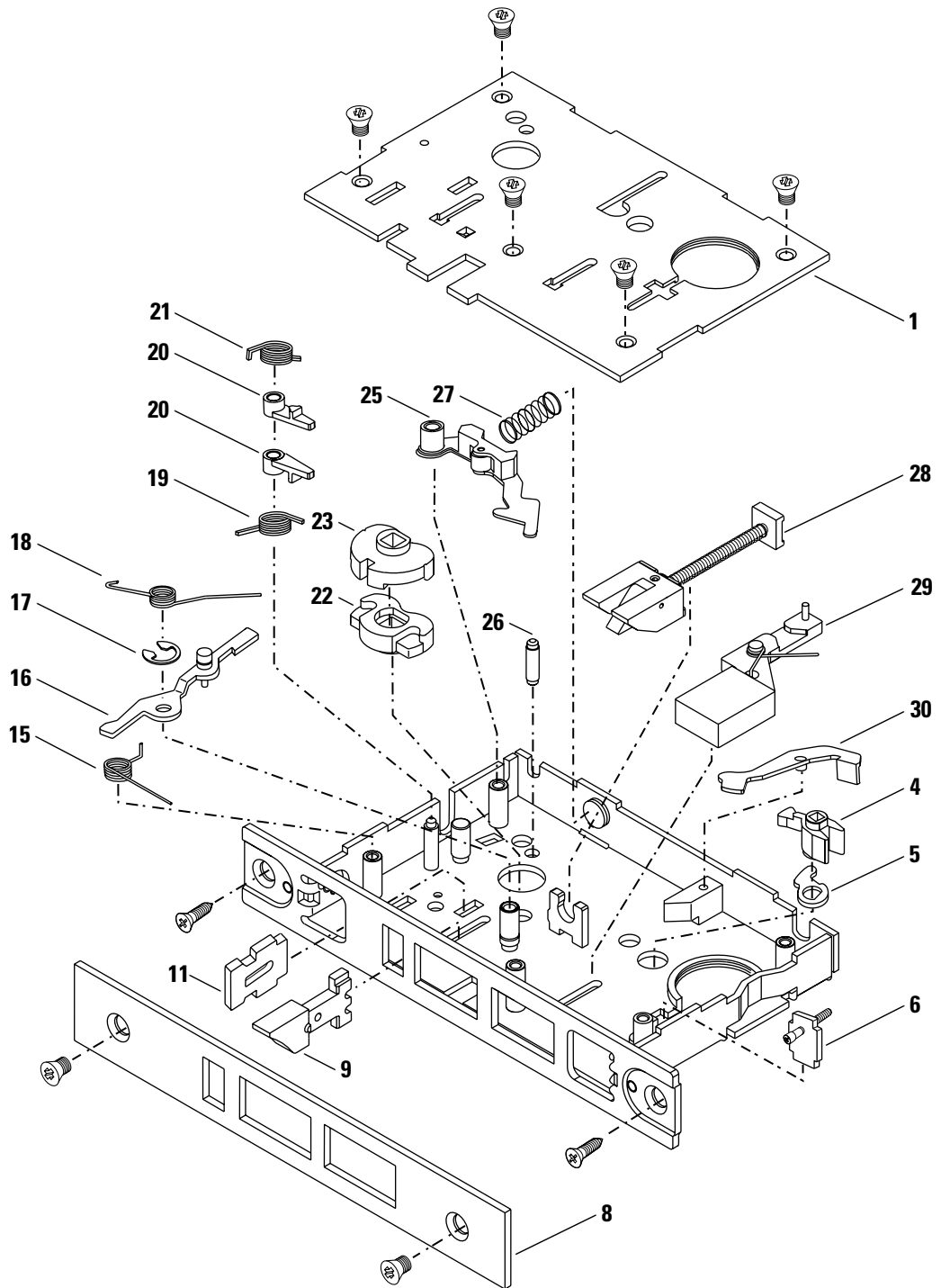


Figure 2.9 FD, HF, HJ function case

FW FUNCTION CASE—DORMITORY OR EXIT LOCK
LF FUNCTION CASE—PRIVACY LOCK
IND FUNCTION CASE—INTRUDER LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

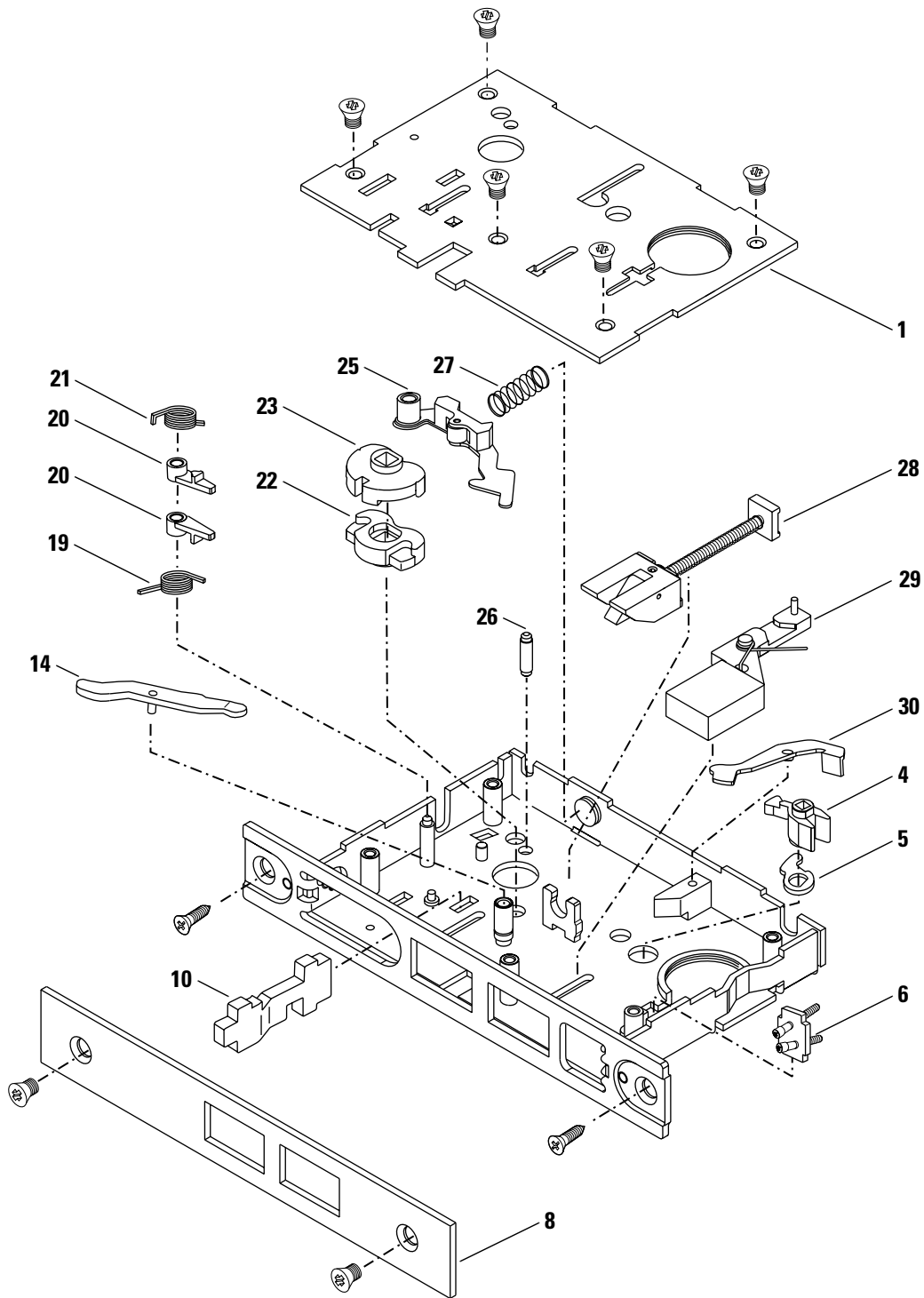


Figure 2.10 FW, LF, IND function case

G FUNCTION CASE—PUBLIC ENTRANCE LOCK
J FUNCTION CASE—CLASSROOM LOCK
INL FUNCTION CASE—INTRUDER LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

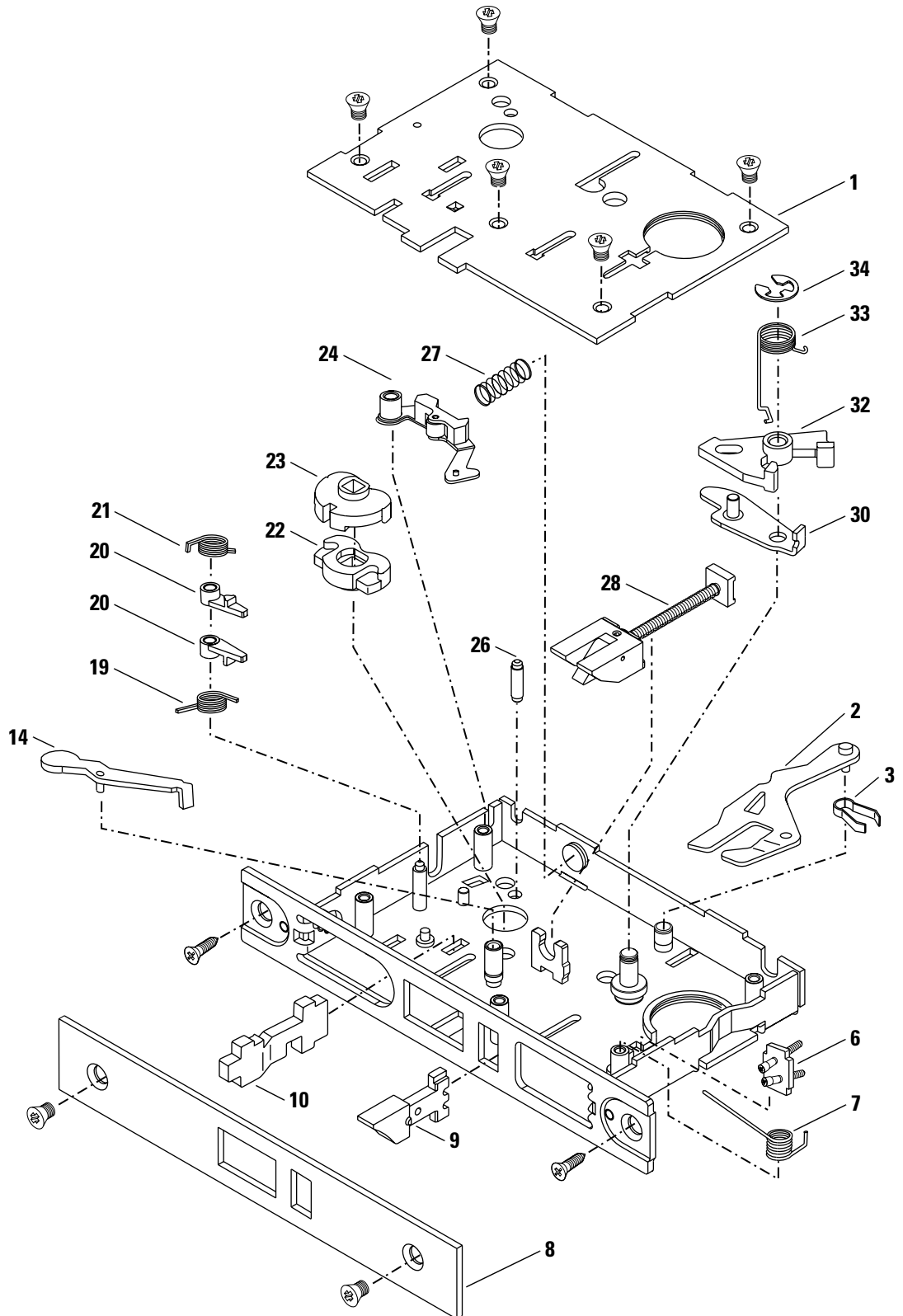


Figure 2.11 G, J, INL function case

N FUNCTION CASE—PASSAGE LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

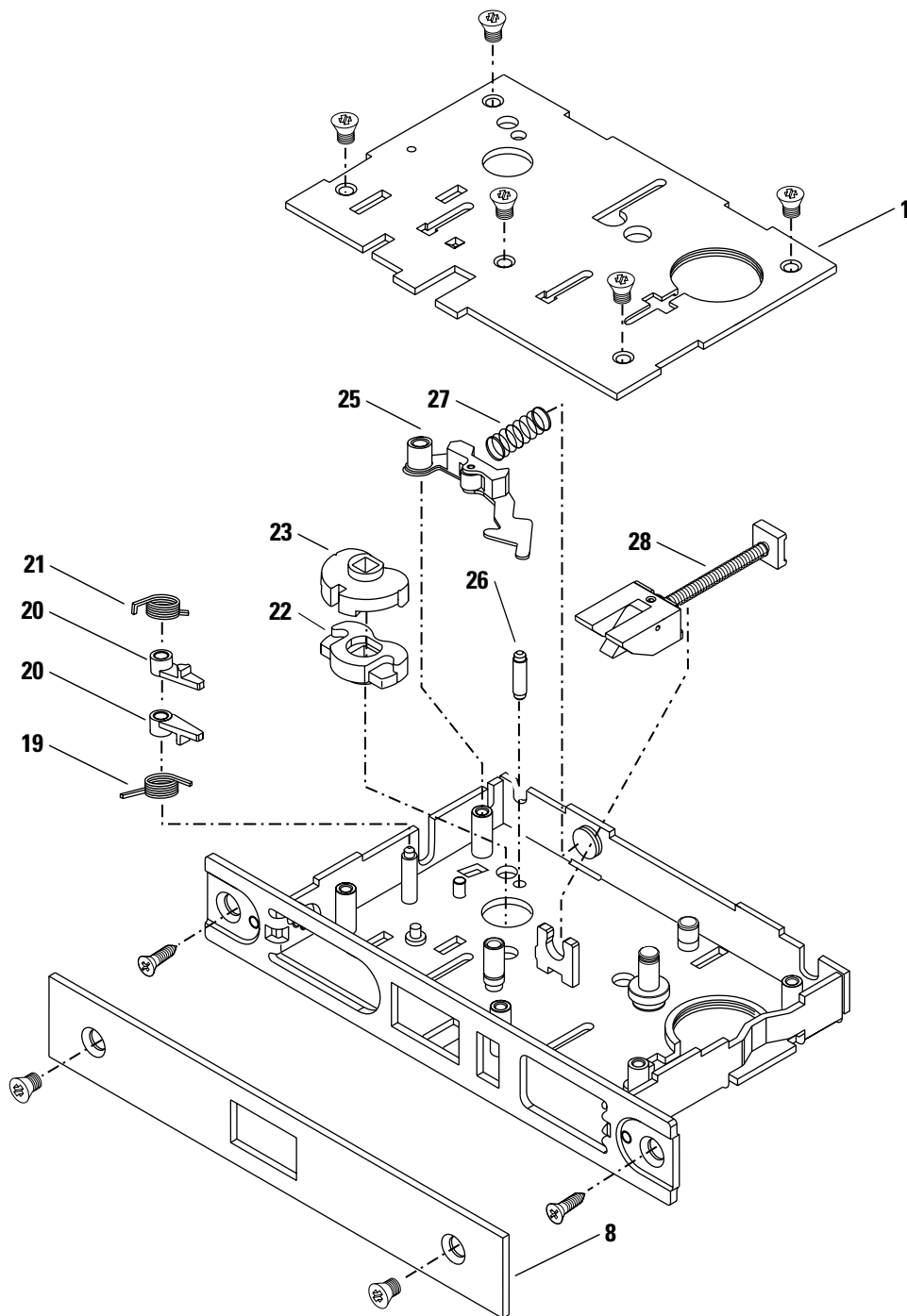


Figure 2.12 N function case

P FUNCTION CASE—DEADLOCK
R FUNCTION CASE—DEADLOCK
S FUNCTION CASE—DEADLOCK
T FUNCTION CASE—DEADLOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

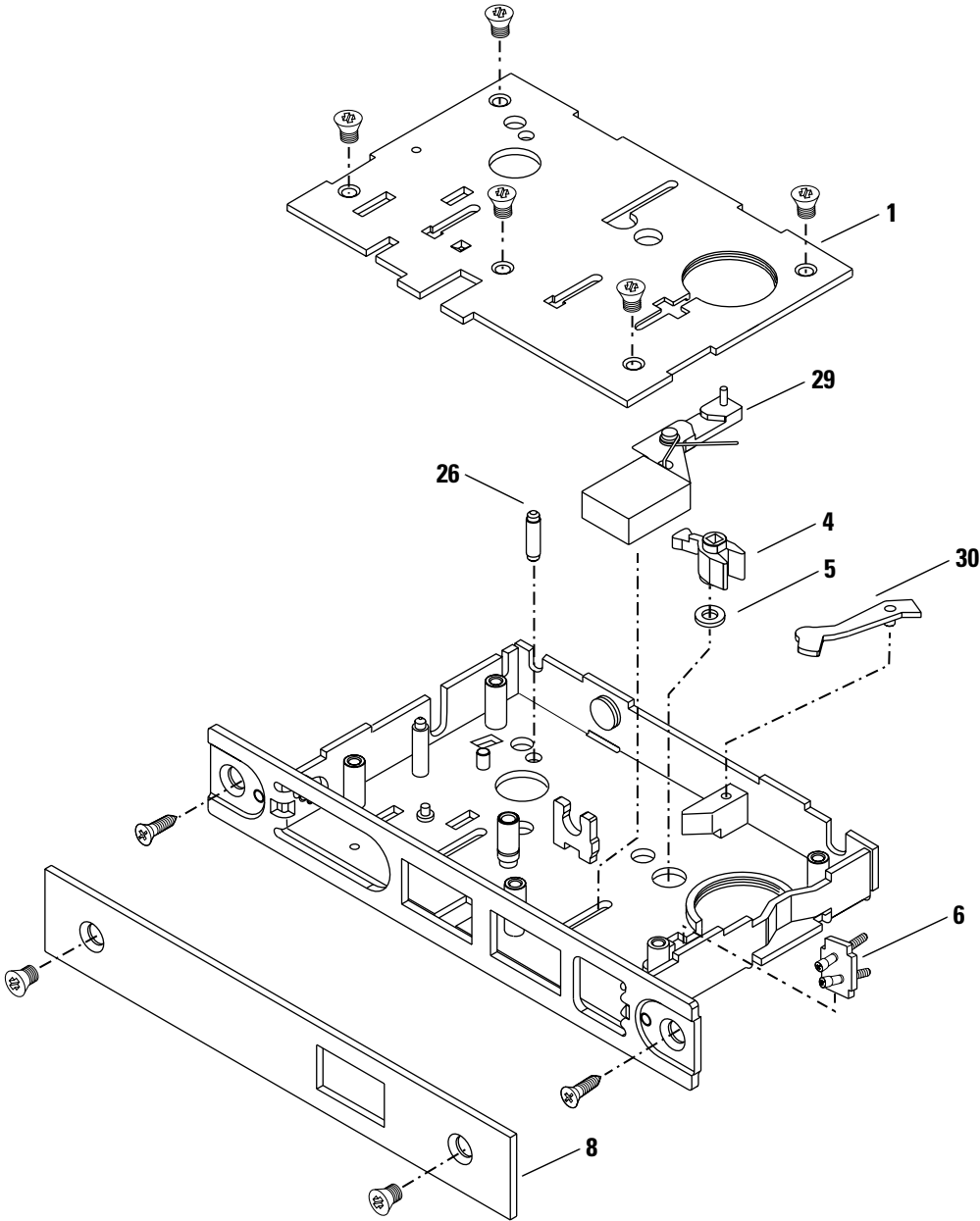


Figure 2.13 P, R, S, T function case

WW FUNCTION CASE—STOREROOM OR ENTRANCE LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

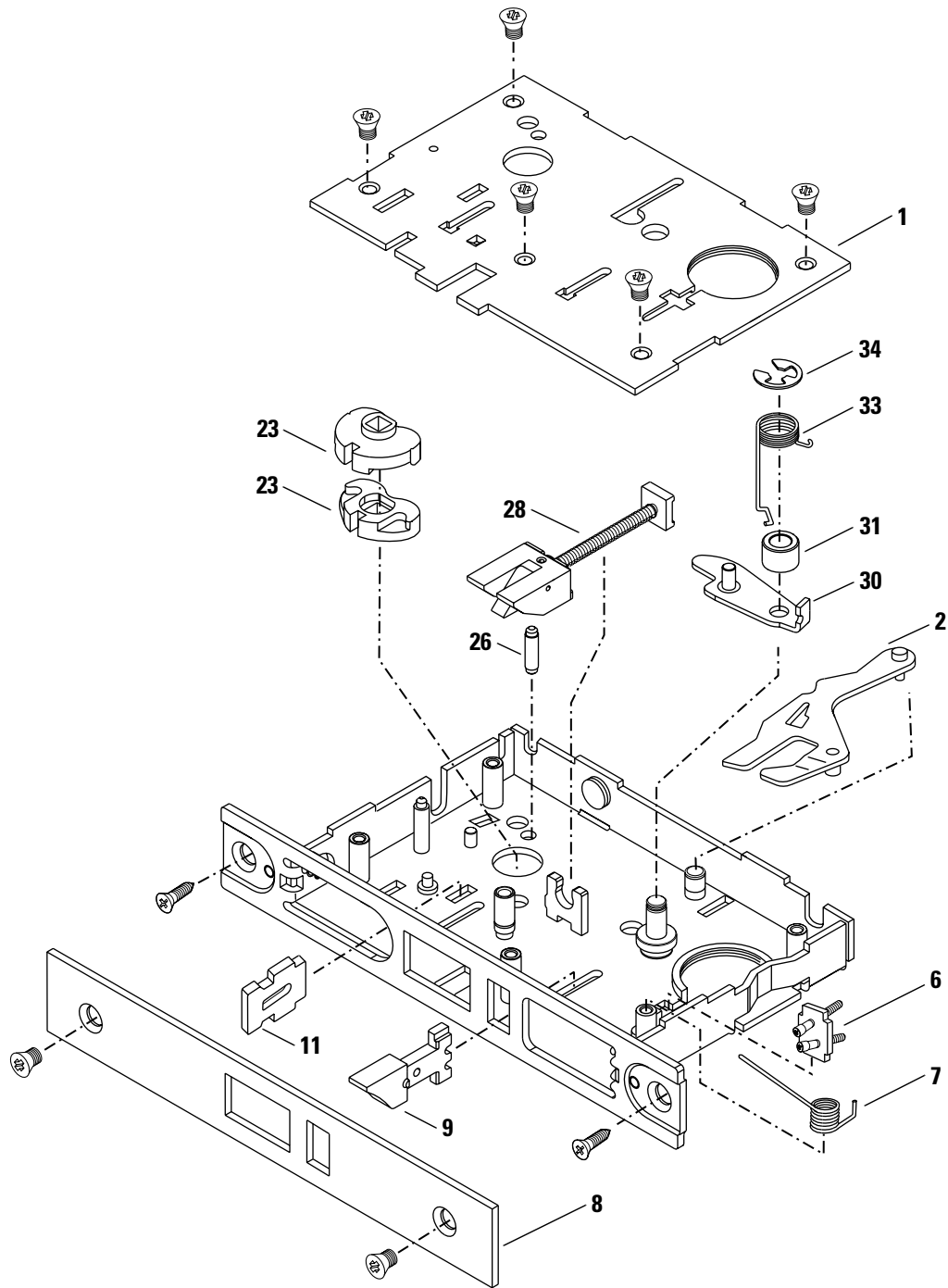


Figure 2.14 WW function case

TR FUNCTION CASE—TIME OUT BY LEVER/KNOB

For part numbers, see pages 2-31, 2-32, and 3-31.

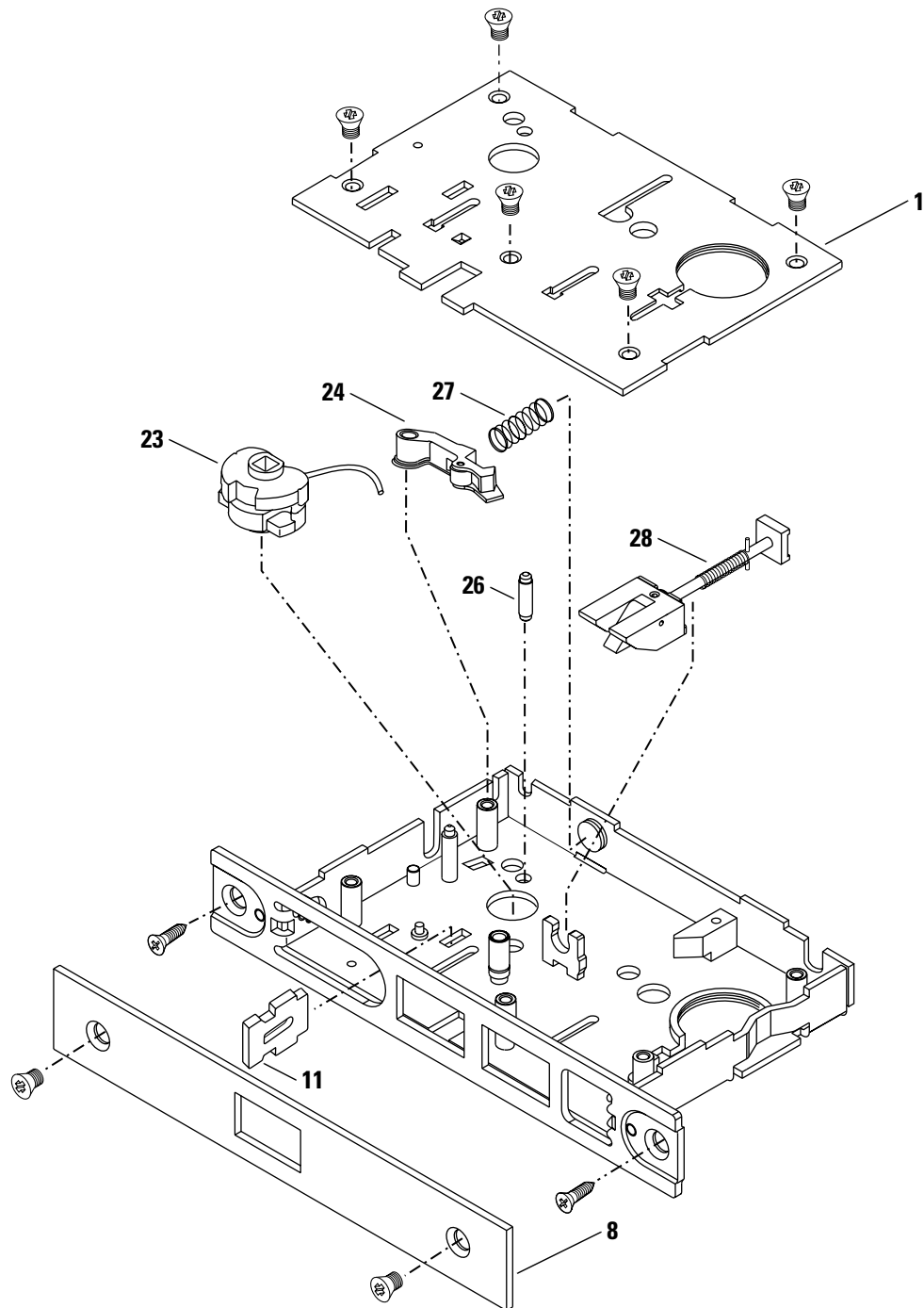


Figure 2.15 TR function case

TRK FUNCTION CASE—TIME OUT BY KEY

For part numbers, see pages 2-31, 2-32, and 3-31.

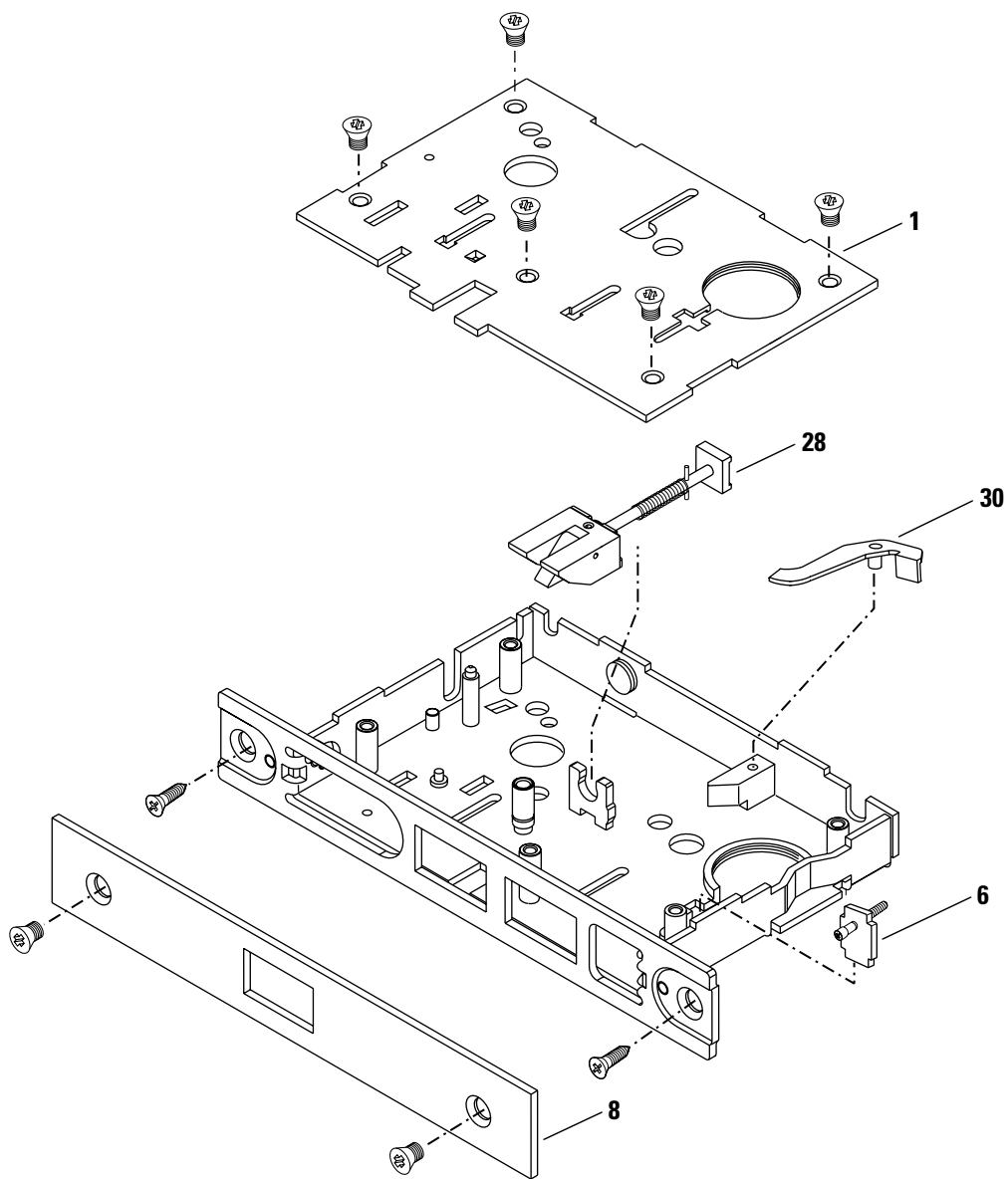


Figure 2.16 TRK function case

GHB FUNCTION CASE—LATCH HOLD BACK LOCK JHB FUNCTION CASE—LATCH HOLD BACK LOCK

For part numbers, see pages 2-31, 2-32, and 3-31.

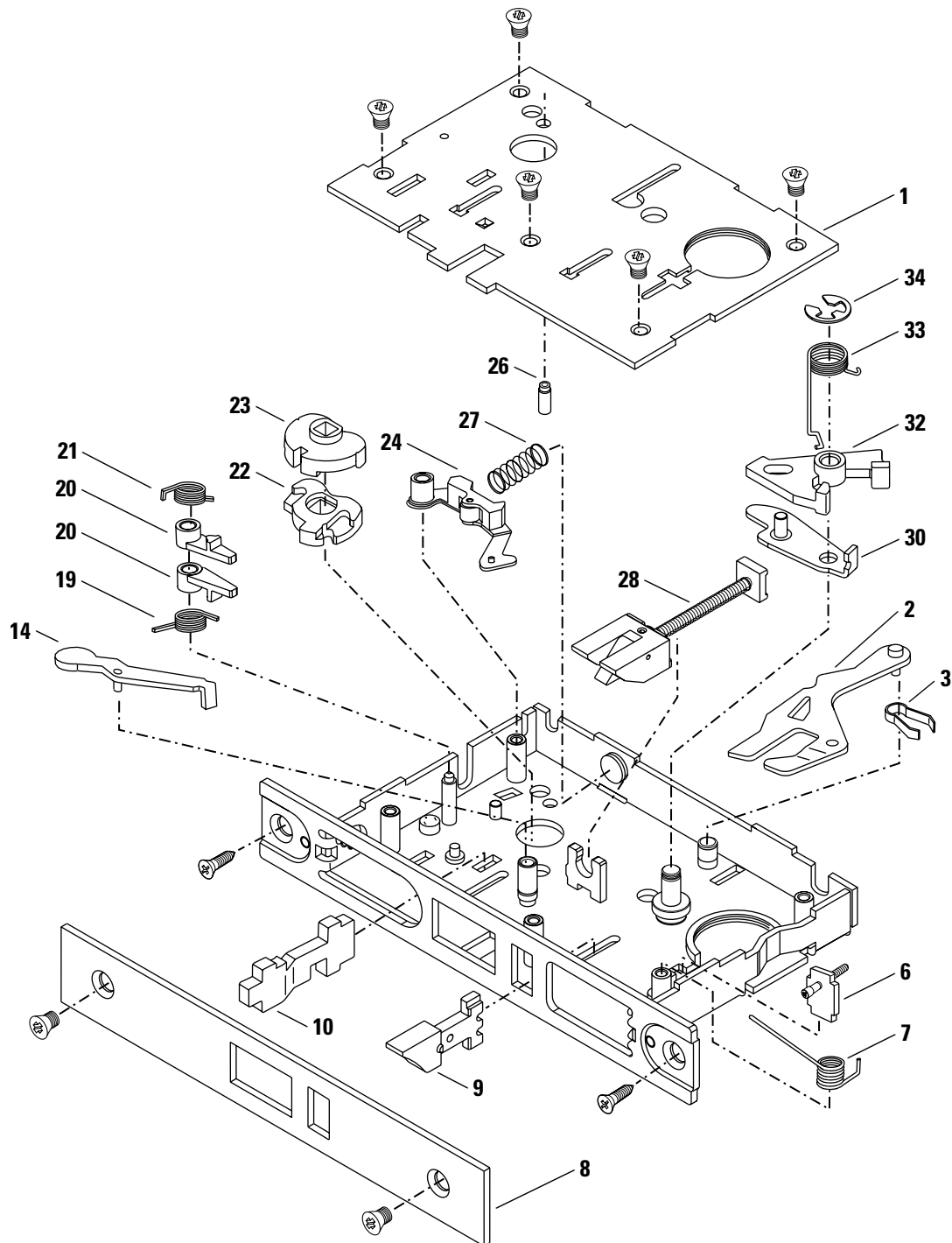


Figure 2.17 GHB, JHB function case

B4 & B5 FUNCTION CASES—ENTRANCE LOCK (FEDERAL BUREAU OF PRISONS)

For part numbers, see pages 2-31, 2-32, and 3-31.

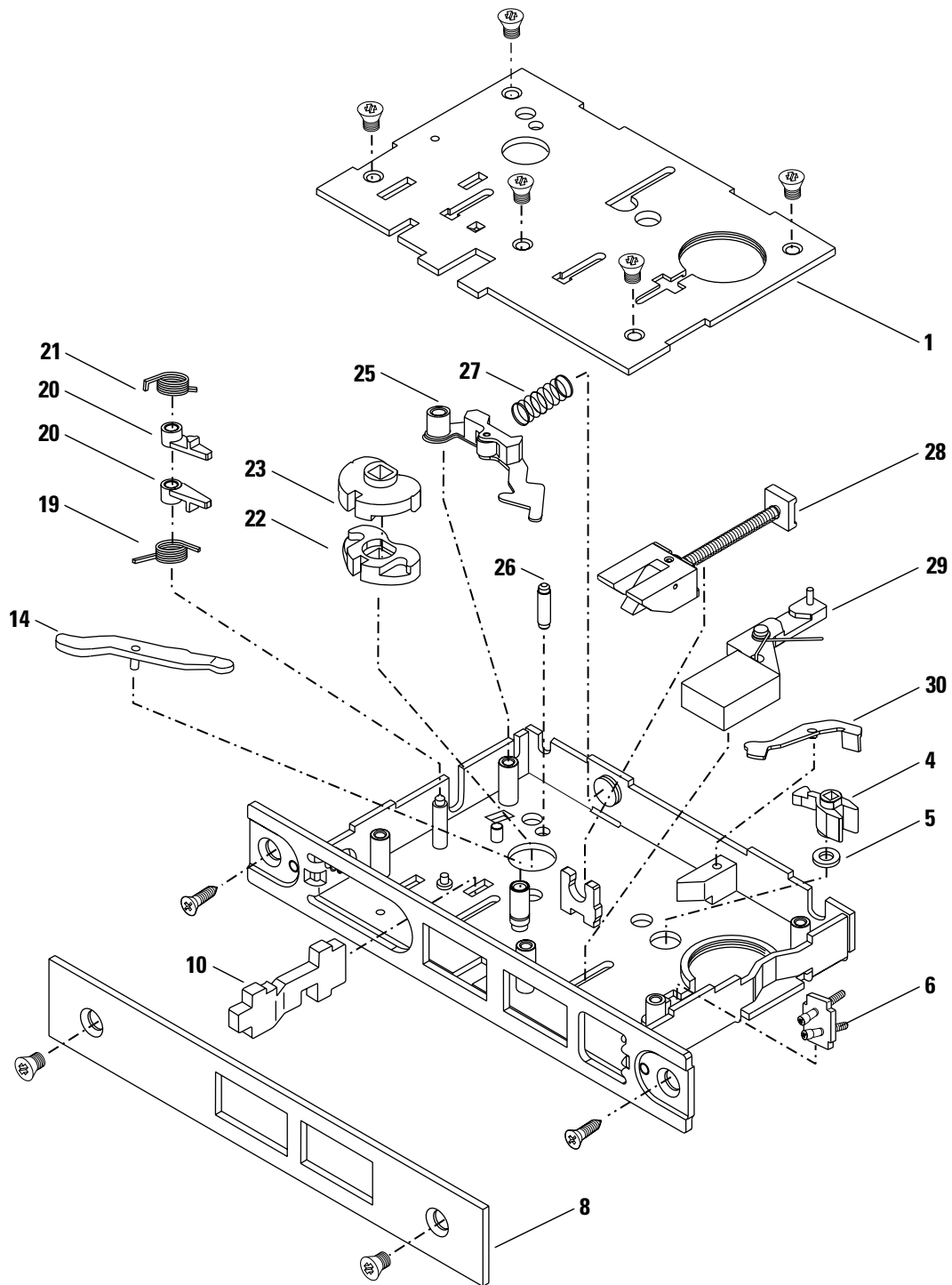


Figure 2.18 B4, B5 function case

B6 & B7 FUNCTION CASES—ENTRANCE LOCK (FEDERAL BUREAU OF PRISONS)

For part numbers, see pages 2-31, 2-32, and 3-31.

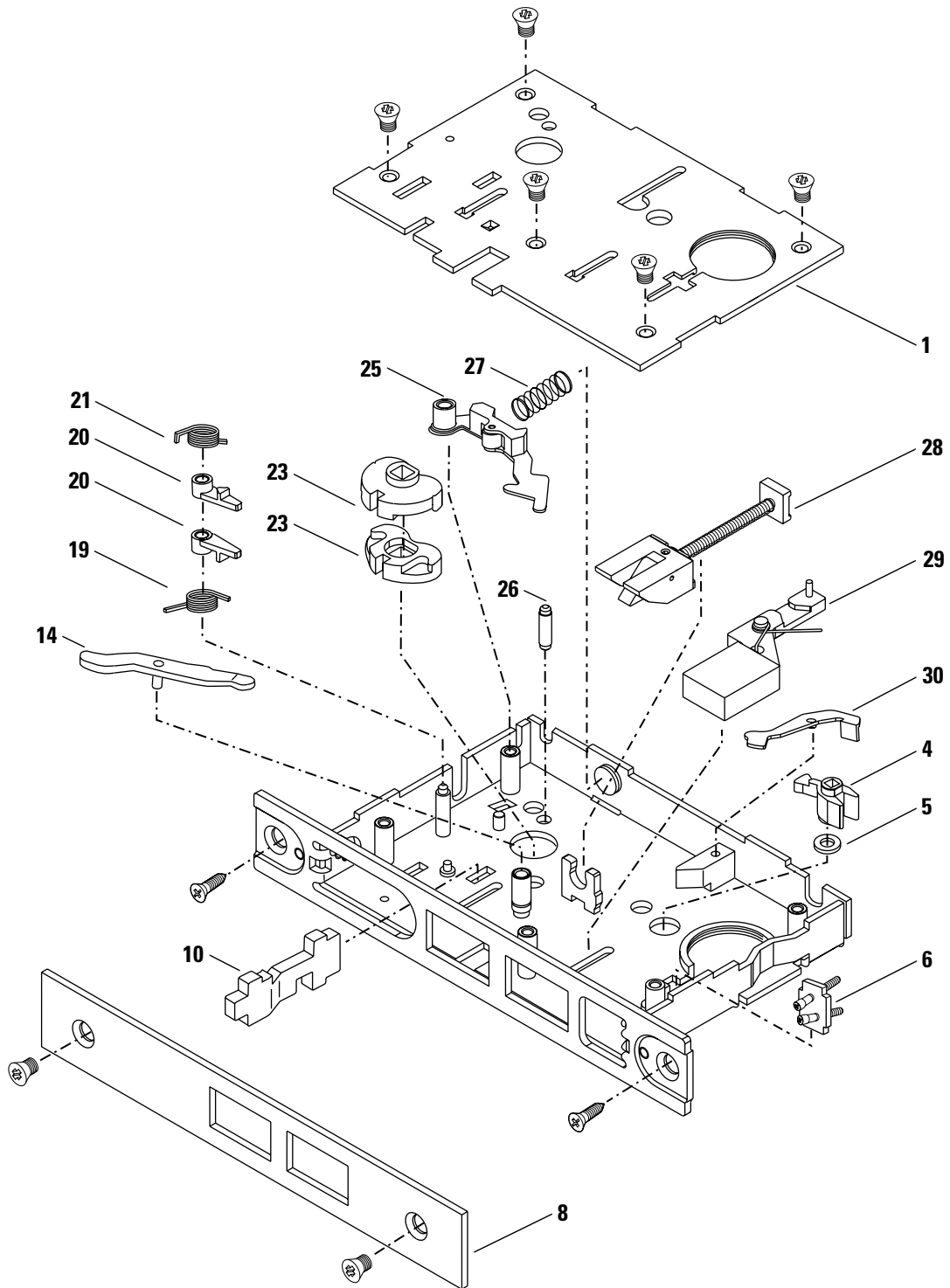


Figure 2.19 B6, B7 function case

34H–37H MORTISE CASE PARTS LIST

If you want to convert the function of an existing H Series Lock, use the following parts list table to determine the parts that you need. The parts are organized by case number.

Note: For screw part numbers, see [page 3-31](#).

For screw part numbers, see page 3-31.

Item	Part No.	Qty.	Description	Functions												Part No.	Item							
				B35070 case						B35071 case								B35072 case						
				E	EW, Y	G, J, INL	N	GHB, JHB	WW	A, W	B, C, L	F	FW, IND, LF	TR	TRK	P, R, S, T	B4, B5	B6, B7	AW	BW	FD, HF, HJ			
1	D34070	1	Standard UL case cover	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	D34070	1
	D34316	1	Non-UL case cover					■							■	■	■						D34316	
2	A35021	1	"E" Tumbler	■	■				■														A35021	2
	A35005	1	"G" Tumbler			■		■															A35005	
3	A34064	1	Pivot spring	■		■		■		■		■								■			A34064	3
4	C34011	1	Turn knob hub							■	■	■	■			■ ^a	■	■	■	■	■	■	C34011	4
	A63001	1	Turn knob hub (for R function left hand)														■						A63001	
	A63002	1	Turn knob hub (For R function right hand)														■						A63002	
5	A34120	1	"A" Turn knob hub spacer							■	■					■	■	■		■			A34120	5
	B34032	1	"F" Turn knob hub cam									■	■							■		■	B34032	
6	A35022	1	Double-keyed cylinder clamp plate (for B5, B7, C, G, GHB, IND, INL, T, W, WW)			■		■	■	■	■	■	■			■	■	■					A35022	6
	A35257	1	Single-keyed cylinder clamp plate (for A, B, FW, J, JHB, L, LF, P, R, S)	■	■	■		■		■	■	■	■			■	■			■	■	■	A35257	
	A35256	1	B4-B6 Cylinder clamp plate															■	■				A35256	
7	A34071	1	Auxiliary bolt spring	■	■	■		■	■														A34071	7
8	D34093	1	Faceplate							■		■											D34093	8
	D34094	1	Faceplate								■		■					■	■				D34094	
	D34095	1	Faceplate																	■	■		D34095	
	D34096	1	Faceplate				■																D34096	
	D34097	1	Faceplate														■						D34097	
	D34098	1	Faceplate	■																			D34098	
	D34099	1	Faceplate		■	■			■														D34099	
	A34309	1	Faceplate												■	■							A34309	
	A34235	1	Faceplate					■															A34235	
	B80573	1	Faceplate																	■			B80573	
9	B34092	1	Auxiliary bolt	■	■	■		■	■											■	■		B34092	9
	C08578	1	Auxiliary bolt																	■			C08578	
10	A35017	1	"E" Locking bar and button assembly	■																			A35017	10
	A34041	1	"FW" Locking bar			■		■		■		■	■				■	■					A34041	
	A35006	1	"F" Locking bar and button assembly							■		■											A35006	
	A80580	1	"AW" Locking bar							■		■								■			A80580	
11	A34027	1	Locking plate		■			■						■						■	■		A34027	11
12	B80577	1	Unlocking bar and button assembly																	■			B80577	12
	B35008	1	Unlocking bar and button assembly	■						■		■											B35008	
13	A34038	1	Pivot cam	■						■		■											A34038	13
	A80575	1	Pivot cam																	■			A80575	

a. The P, R, S, T functions also require the A34194 spacer.

Item	Part No.	Functions												Description	Part No.	Qty.	Item								
		B35070 Case						B35071 Case										B35072							
		E	EW, Y	G, J, INL	N	GHB, JHB	WW	A, W	B, C, L	F	FW, IND, LF	TR	TRK	P, R, S, T	B4, B5	B6, B7	AW	BW	FD, HF, HJ						
14	A35001	■		■		■																	A35001	1	14
	A35003							■	■	■					■	■							A35003	1	
	A80581																■						A80581	1	
15	A34049																	■	■				A34049	1	15
16	A35002																■	■	■				A35002	1	16
17	A34315																■	■	■				A34315	1	17
18	A34018																	■	■				A34018	1	18
	A80582																■						A80582	1	
19	A34065	■	■	■	■	■		■	■	■	■				■	■	■	■	■				A34065	1	19
20	B34020	■	■	■	■	■		■	■	■	■				■	■	■	■	■				B34020	2	20
21	A34066	■	■	■	■	■		■	■	■	■						■	■	■				A34066	1	21
22	B34043	■	■	■	■			■	■	■	■						■	■	■				B34043	1	22
	A34563					■																	A34563	1	
	A34564					■																	A34564	1	
23	B34003	■	■	■	■	■ ^a	■ ^b	■	■	■	■				■ ²	■ ²	■	■	■				B34003	1	23
	B35026										■												B35026	2	
24	B35248	■	■	■		■																	B35248	1	24
	A34206										■												A34206	1	
25	B35490				■			■	■	■	■				■	■	■	■	■				B35490	1	25
26	A34048	■	■	■	■	■ ^c		■	■	■	■	■ ³			■	■		■	■				A34048	1	26
27	A34081	■	■	■	■	■		■	■	■	■				■	■	■	■	■				A34081	1	27
28	B35018	■	■	■	■	■	■	■	■	■	■				■	■	■	■	■				B35018	1	28
	B35019	■	■	■	■	■	■	■	■	■	■				■	■		■	■				B35019	1	
	B35038										■	■											B35038	1	
29	B35035							■	■	■	■			■	■	■	■	■	■				B35035	1	29
30	A35004							■	■	■	■				■	■	■	■	■				A35004	1	30
	A35020												■										A35020	1	
	A35013	■	■	■		■	■																A35013	1	
	A35246										■												A35246	1	
31	A34068	■	■			■																	A34068	1	31
32	C34063			■		■																	C34063	1	32
33	A34072	■	■	■		■	■																A34072	1	33
34	A34013	■	■	■		■	■																A34013	1	34
35	A80583																■						A80583	1	35

For screw part numbers, see page 3-31.

a. For trim-inside-only, use B34043.
 b. Use a quantity of two.
 c. Trim-inside-only requires no stop pin. Trim-both-sides requires the A34090 stop pin and the A34088 screw on the same side as the outside hub.

RQE SWITCH

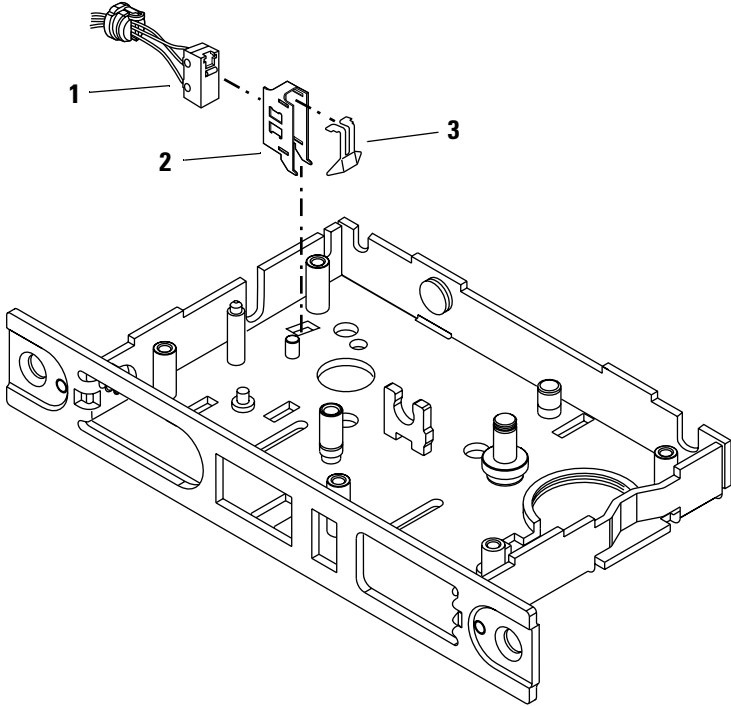


Figure 2.20 RQE switch assembly

RQE switch parts list

Item	Part no. ^a	Qty.	Description
1	A60300	1	Switch and wire assembly
2	C60400	1	Hub switch mounting bracket
3	B60401	1	Hub switch lever

a. To order the entire switch assembly, use part number B60301.

38-39H FUNCTIONS

K FUNCTION CASE—CYLINDER DEADLOCK

L FUNCTION CASE—CYLINDER DEADLOCK

M FUNCTION CASE—CYLINDER DEADLOCK

R FUNCTION CASE—CLASSROOM DEADLOCK

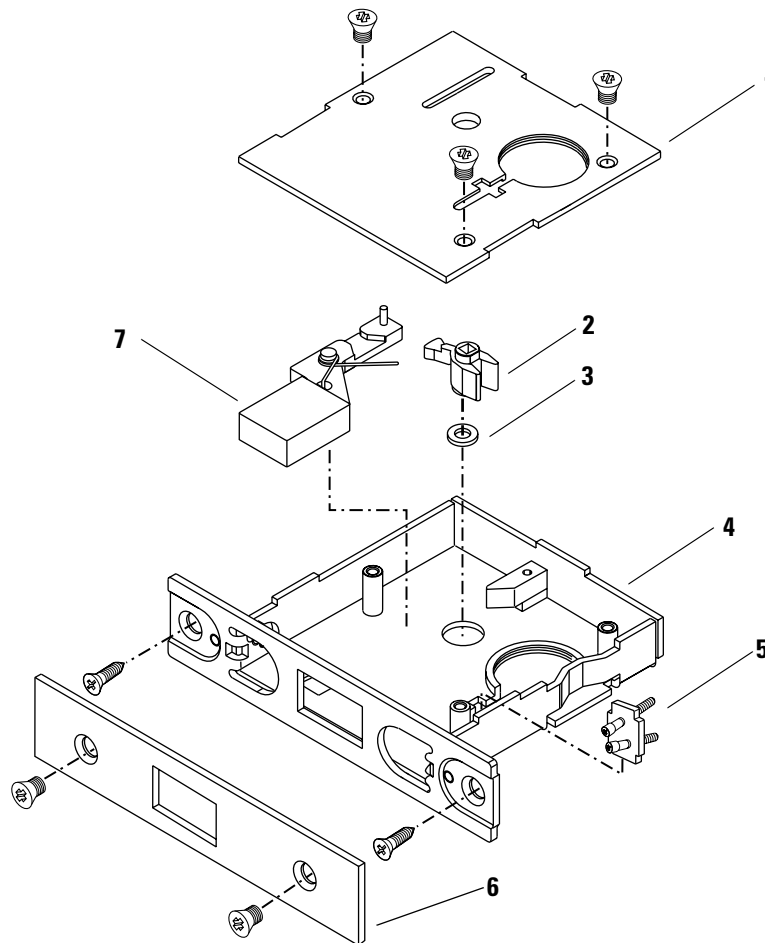


Figure 2.21 K, L, M, R function case

38-39H parts list

Item	Part no.	Qty.	Description	K	L	M	R
1	C34351	1	Case cover	■	■	■	■
2	B34011	1	Turn knob hub	■			
not shown	A63001	1	“R” turn knob hub (left hand)				■
not shown	A63002	1	“R” turn knob hub (right hand)				■
3	A34194	1	Turn hub spacer	■	■	■	■
4	B35402	1	Case	■	■	■	■
5	A35022	1	Double cylinder clamp plate			■	
not shown	A35257	1	Single cylinder clamp plate	■	■		■
6	B34353	1	Faceplate	■	■	■	■
7	B35399	1	Deadbolt	■	■	■	■

3

TRIM PARTS

The following pages contain diagrams and parts lists for all H Series Lock trim and miscellaneous parts.

CONVERTING AN EXISTING TRIM STYLE

To convert a lock from one trim style to another, use the diagrams and tables provided to compare part numbers. Order the trim hardware accordingly.

34H A, B, C, & D TRIM

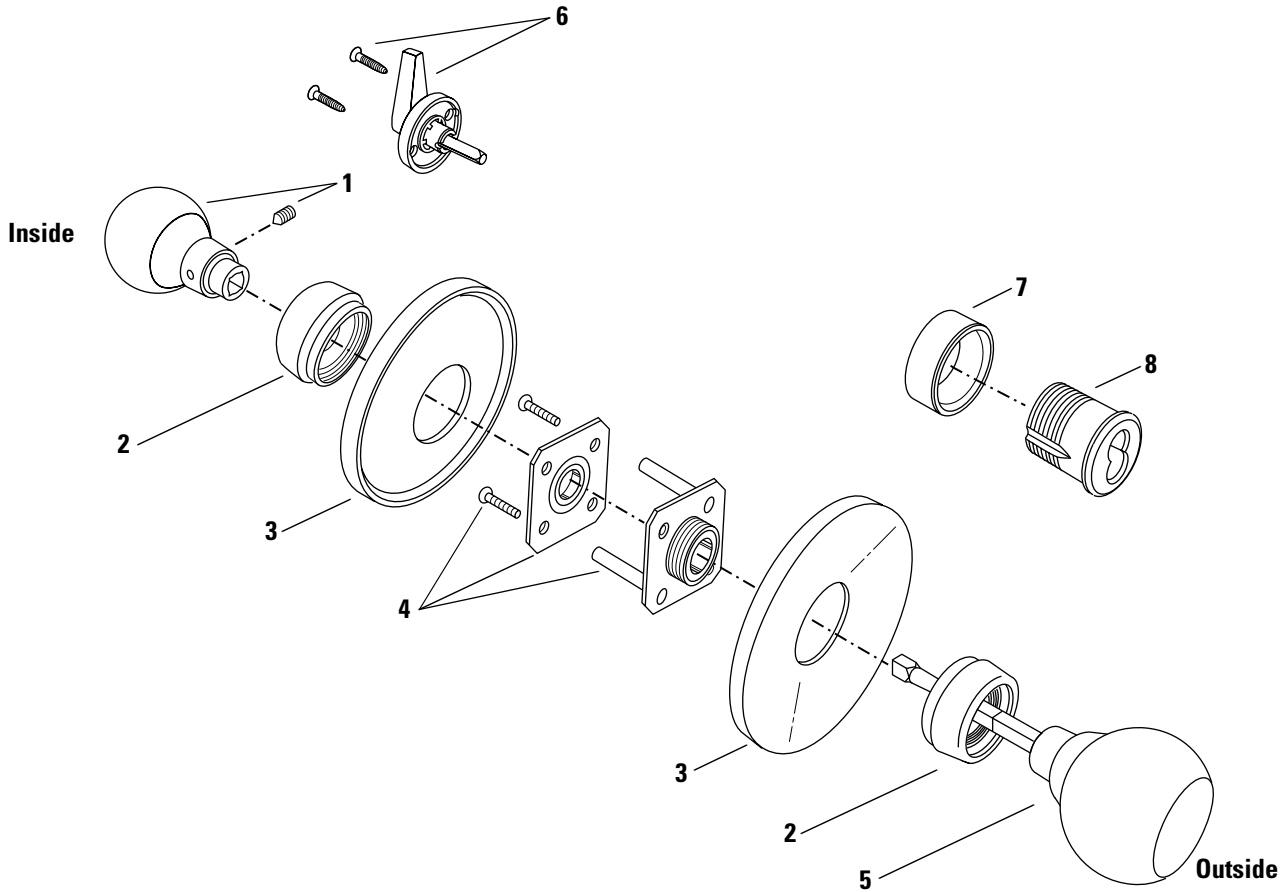


Figure 3.1 34H A, B, C, D trim

Item	Part No.	Qty.	Description	Function																			
				A, AW	B	BW	C	E	EW	F	FD	FW	G	HF	HJ	IND	INL	J	L	LF	N	W	WW
1	Pg. 3-15	1	#4 inside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	Pg. 3-18	2	Rose ring	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3	Pg. 3-18	2	Rose ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
4	B35029	1	Mounting plate assembly ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
5	Pg. 3-15, Pg. 3-26	1	#4 outside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6	A19286	1	Turn knob assembly	■	■	■			■	■	■		■	■				■	■				
7	Pg. 3-23		Cylinder ring ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■					■	■
8	Pg. 3-21, Pg. 3-22		Cylinder ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■					■	■
not shown	A35034	1	Hotel indicator plate ^d											■									

a. HF function is available only with C and H sectional roses.

b. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.

c. Double-keyed functions (C, G, IND, INL, W, WW) require two cylinders and two rings.

d. See [page 3-29](#) for the part numbers of the individual components that make up the hotel indicator plate.

34H J TRIM

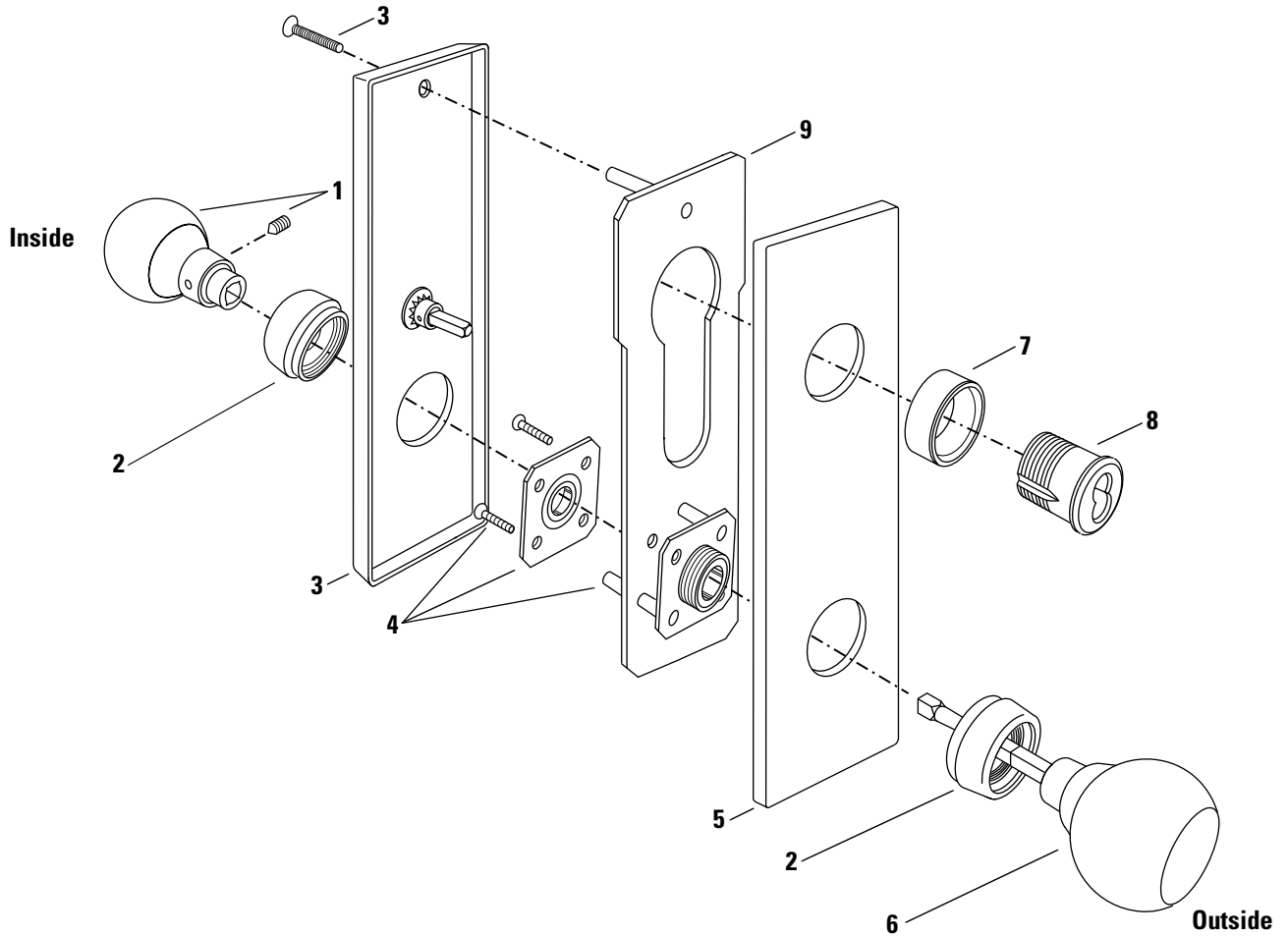


Figure 3.2 34H J trim

Item	Part No.	Qty.	Description	A,AW	B	BW	C	E	EW	F	FD	FW	G	HF	HJ	IND	INL	J	L	LF	N	W	WW	Y
1	Pg. 3-15	1	#4 inside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	B34543	2	Escutcheon ring	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3	A35463	1	Inside escutcheon assembly	■	■	■				■	■	■		■	■				■	■				
not shown	A35461	1	Inside escutcheon assembly				■						■			■	■						■	■
not shown	A35460	1	Inside escutcheon assembly					■	■									■			■			■
4	B35029	1	Mounting plate assembly ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
5	C34413	1	Outside escutcheon	■	■	■	■	■	■	■	■	■	■			■	■	■					■	■
not shown	C34415	1	Outside escutcheon																■	■				
not shown	A35465	1	Outside escutcheon											■										
not shown	C34416	1	Outside escutcheon																		■			■
6	Pg. 3-15, Pg. 3-26	1	#4 outside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
7	Pg. 3-23		Cylinder ring ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					■	■
8	Pg. 3-21		Cylinder ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					■	■
9	A35466	1	J alignment plate ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

a. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.

b. Double-keyed functions (C, G, W, WW, IND, INL) require two cylinders and two rings.

c. Use the A35468 J alignment plate with security head screws.

34H M TRIM

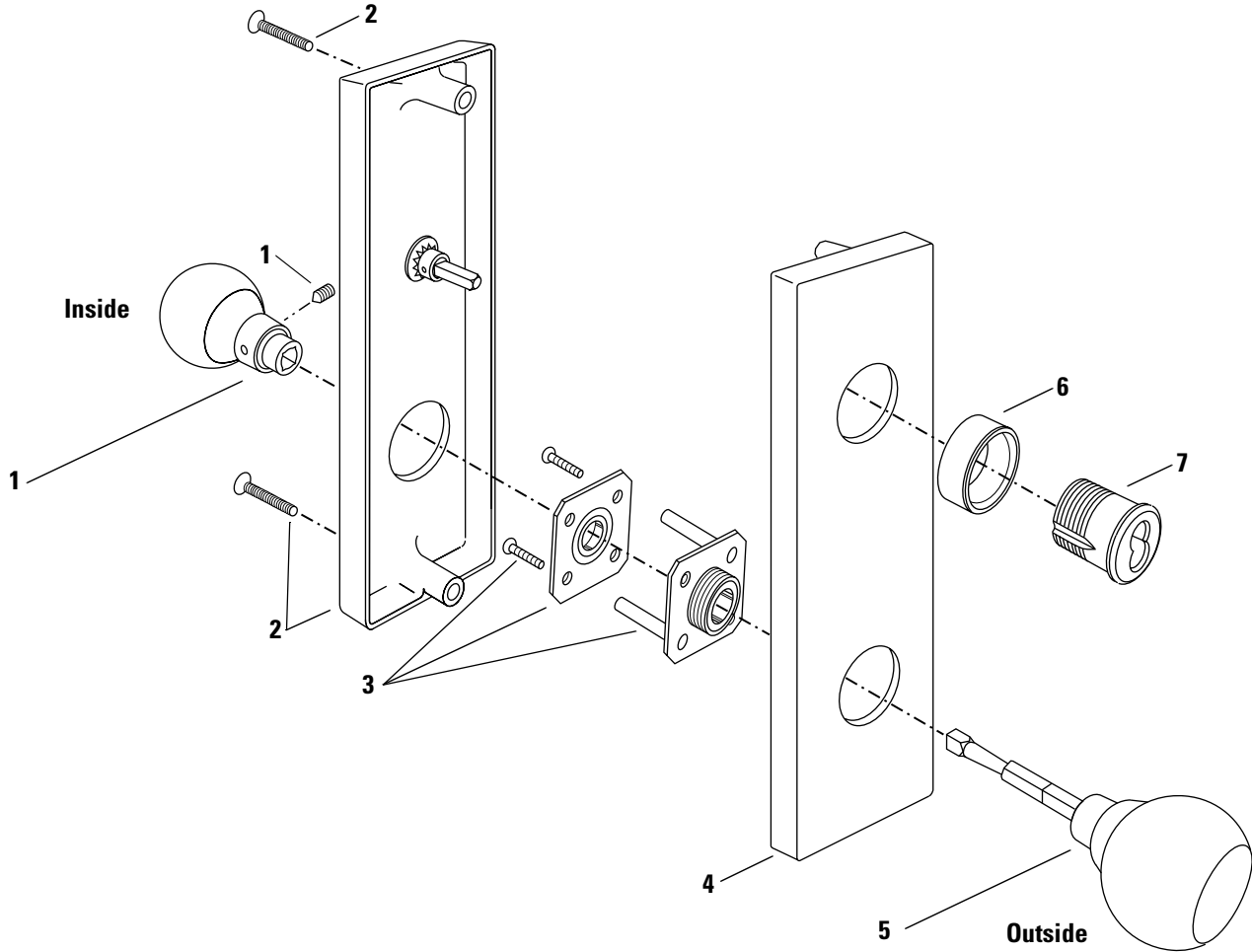


Figure 3.3 34H M trim

Item	Part No.	Qty.	Description	A, AW	B, BW	C	E	EW	F, FD	FW	G	HF	HJ	IND	INL	J	L, LF	N	W	WW	Y	B4	B5	B6	B7
1	Pg. 3-15	1	#4 inside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	A35495	1	Inside escutcheon assembly	■	■				■	■		■	■				■								
not shown	A35494	1	Inside escutcheon assembly				■	■								■		■				■			
not shown	A35496	1	Inside escutcheon assembly			■					■									■	■				
not shown	C34447	1	Inside escutcheon assembly																			■ ^a	■ ^a	■ ^a	■ ^a
3	B35249	1	Mounting plate assembly ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
4	C34445	1	Outside escutcheon	■	■	■	■	■	■	■	■			■	■	■	■			■	■			■ ^c	■ ^c
not shown	C34473	1	Outside escutcheon														■								
not shown	C34472	1	Outside escutcheon															■				■ ^c	■ ^c		
not shown	B35334	1	Outside escutcheon									■													
5	Pg. 3-15, Pg. 3-26	1	#4 outside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6	Pg. 3-23		Cylinder ring ^d	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■			■	■
7	Pg. 3-21		Cylinder ^d	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■			■	■

a. Assembled on the outside of the door.
 b. See page 3-27 for the part numbers of the individual components that make up the mounting plate assembly.
 c. Assembled on the inside of the door.
 d. Double-keyed functions (B7, C, G, IND, INL, W, WW) require two cylinders and two rings.

34H N TRIM

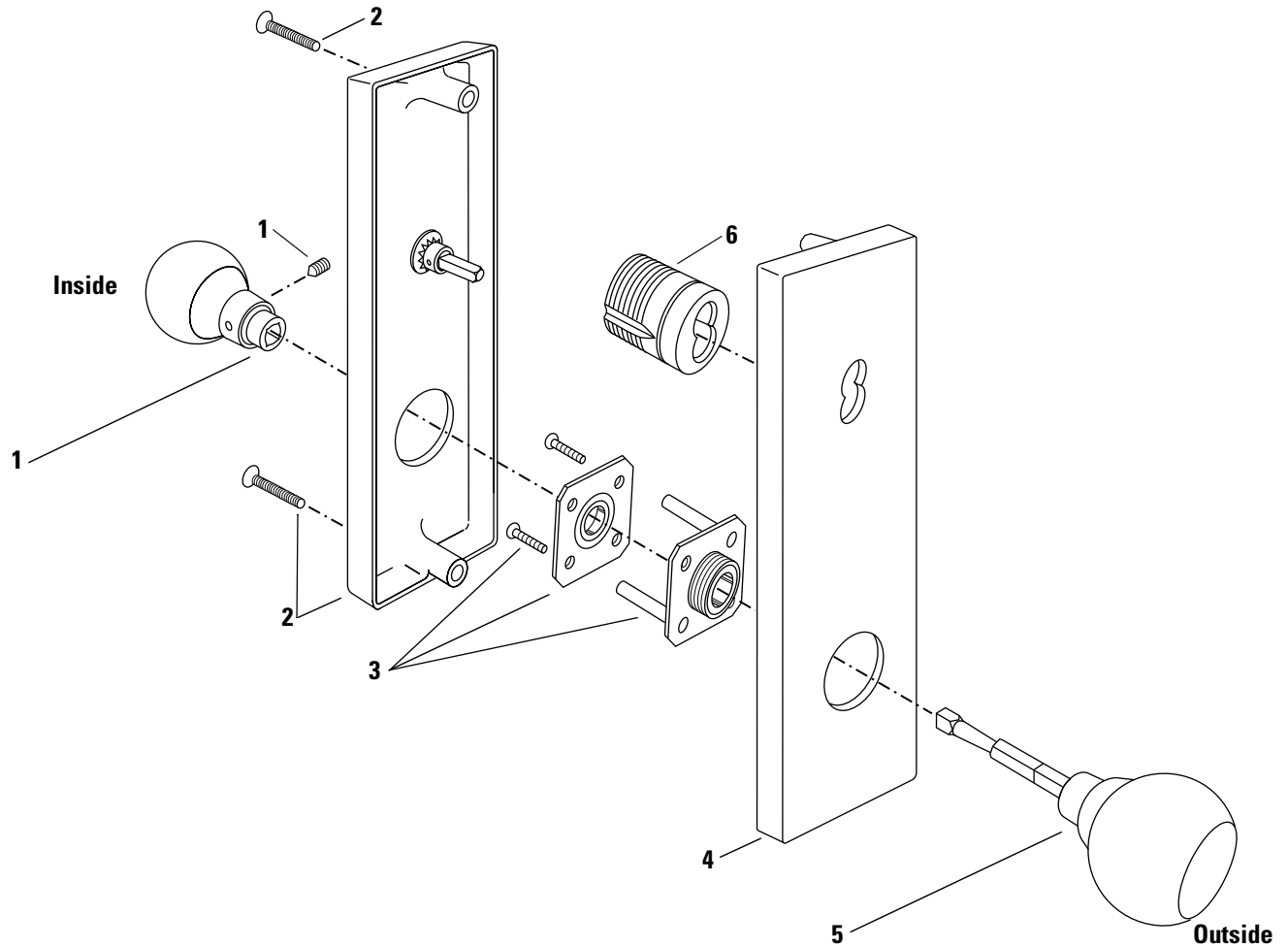


Figure 3.4 34H N trim

Item	Part No.	Qty.	Description	A, AW	B	BW	E	EW	F	FD	FW	HJ	J	L	LF	N	Y
1	Pg. 3-15	1	#4 inside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	A35495	1	Inside escutcheon assembly	■	■	■			■	■	■	■			■	■	
not shown	A35494	1	Inside escutcheon assembly				■	■					■			■	■
3	B35249	1	Mounting plate assembly ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■
4	C34474	1	Outside escutcheon	■	■	■	■	■	■	■	■	■	■				
not shown	C34473	1	Outside escutcheon											■	■		
not shown	C34472	1	Outside escutcheon													■	■
5	Pg. 3-15, Pg. 3-26	1	#4 outside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6	Pg. 3-21		Cylinder ^b	■	■	■	■	■	■	■	■	■	■				

a. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.

b. Double-keyed functions (B7, C, G, IND, INL, W, WW) require two cylinders.

35H H & S SECTIONAL TRIM

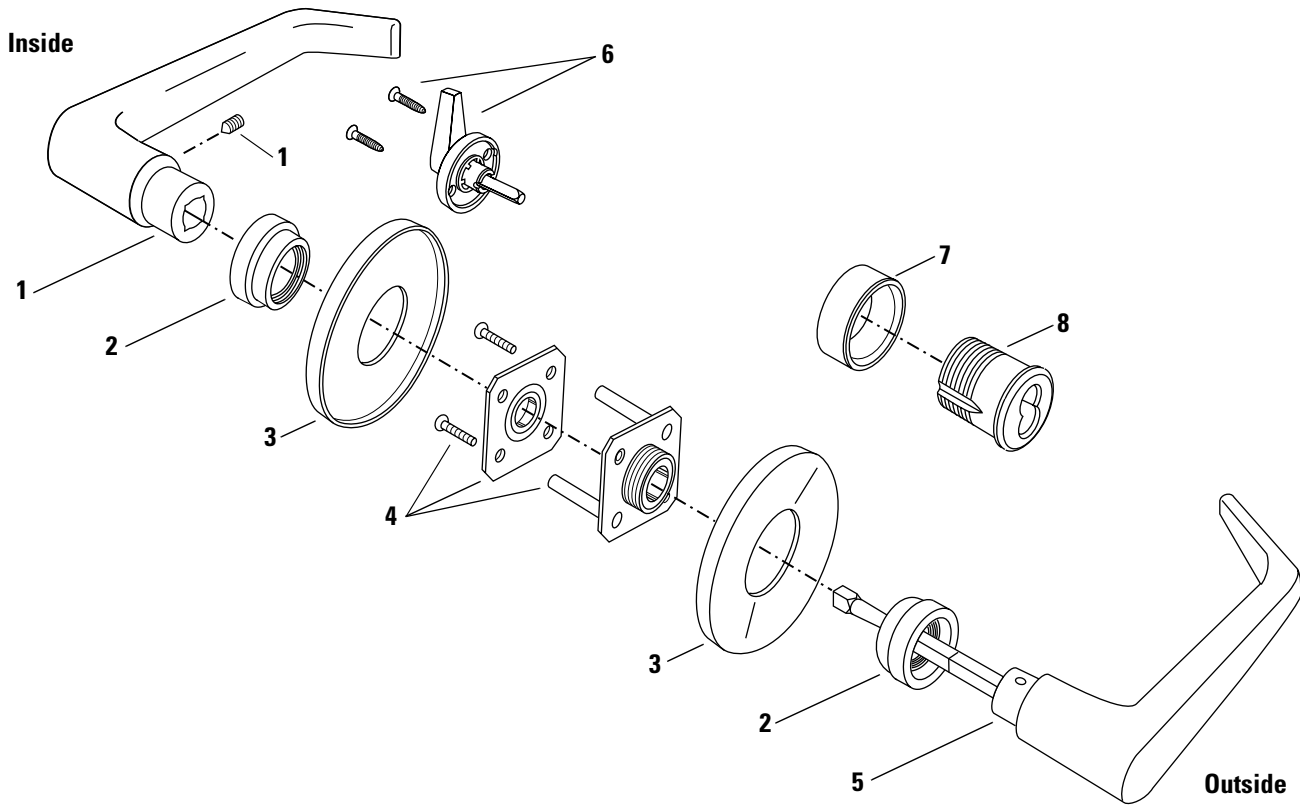


Figure 3.5 35H H, S sectional trim

Item	Part No.	Qty.	Description	A, AW	B, BW	C	E	EW	F	FD	FW	G	GHB	HF	HJ	IND	INL	J	JHB	L, LF	N	TR	TRK	W	WW	Y
1	Pg. 3-16	1	#15 inside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	Pg. 3-18	2	Rose ring	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3	Pg. 3-18	2	Rose	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
4	B35029	1	Mounting plate assembly ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
5	Pg. 3-16, Pg. 3-26	1	#15 outside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
6	A19286	1	Turn knob assembly	■	■				■	■	■			■	■					■						
7	Pg. 3-23		Cylinder ring ^e	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
8	Pg. 3-21		Cylinder ^e	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
not shown	A35034	1	Hotel indicator plate											■												

- a. Use one A35031 hook spindle, and one inside lever and set screw on the outside of the lock.
- b. Use a quantity of one.
- c. See page 3-27 for the part numbers of the individual components that make up the mounting plate assembly.
- d. Use one A35028 inside mounting plate and two A39217 inside mounting plate surface mounting screws.
- e. Double-keyed functions (C, G, GHB, W, WW) require two cylinders and two rings.

35H J TRIM

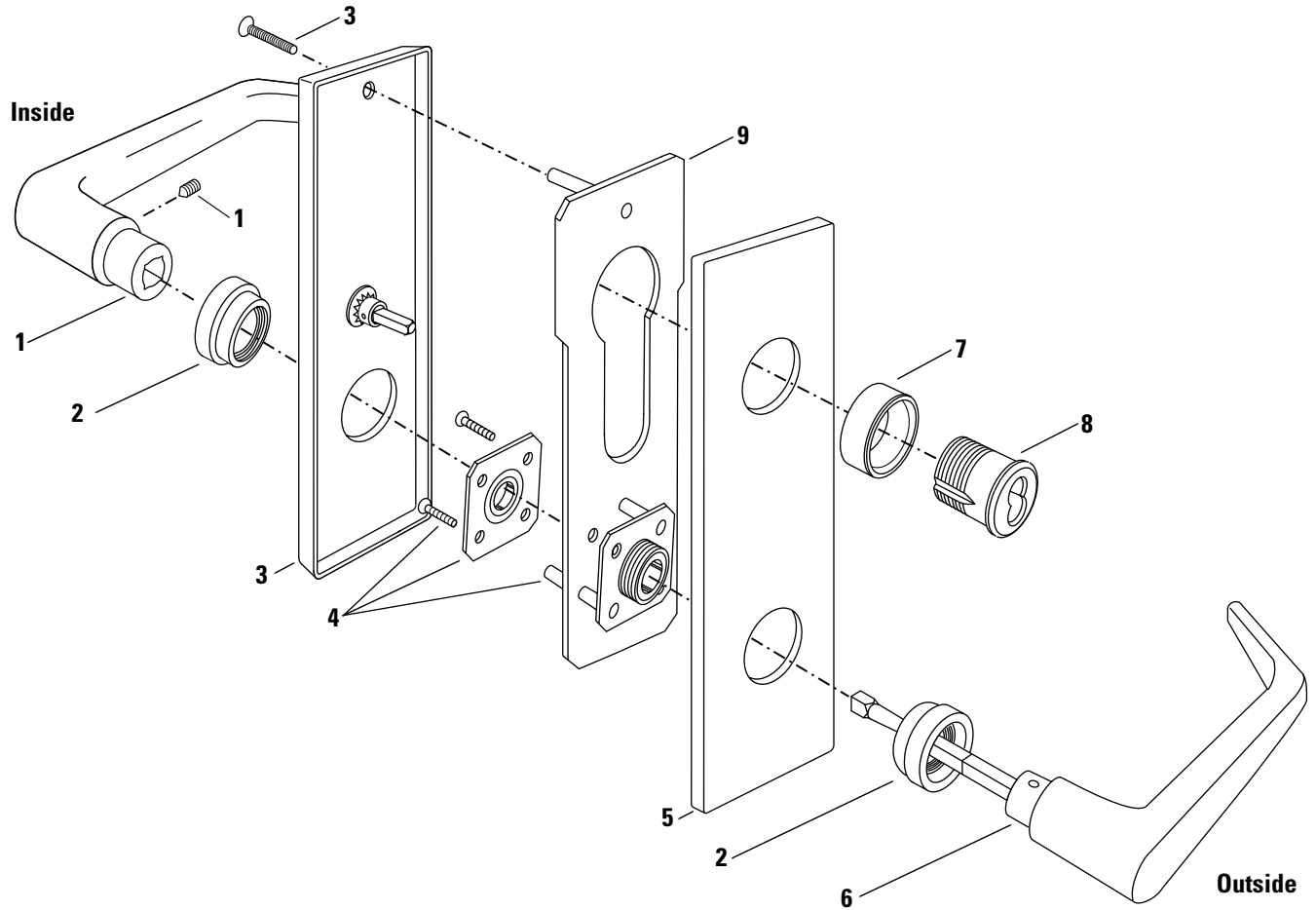


Figure 3.6 35H J trim

Item	Part No.	Qty.	Description	A, AW	B, BW	C	E	EW	F, FD	FW	G	GHB	HF	HJ	IND	INL	J	JHB	L, LF	N	TR	W	WW	Y
1	Pg. 3-16	1	#15 inside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	B34131	2	Escutcheon ring	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
3	A35463	1	Inside escutcheon assembly	■	■				■	■			■	■							■			
not shown	A35461	1	Inside escutcheon assembly			■					■	■			■	■							■	■
not shown	A35460	1	Inside escutcheon assembly				■	■									■	■			■	■		■
4	B35029	1	Mounting plate assembly ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■	■	■
5	C34413	1	Outside escutcheon	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■
not shown	C34415	1	Outside escutcheon																■					
not shown	A35465	1	Outside escutcheon										■											
not shown	C34416	1	Outside escutcheon																	■				■
6	Pg. 3-16, Pg. 3-26	1	#15 outside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■	■
7	Pg. 3-23		Cylinder ring ^d	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■
8	Pg. 3-21		Cylinder ^e	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■
9	A35466	1	J alignment plate	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■	■

- a. Use one A35031 hook spindle, and one inside lever and set screw.
- b. Assembled on the outside of the door.
- c. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.
- d. Use one A35028 inside mounting plate and two A39217 inside mounting plate surface mounting screws.
- e. Double-keyed functions (C, G, IND, INL, W, WW) require two cylinders and two rings.

35H M TRIM

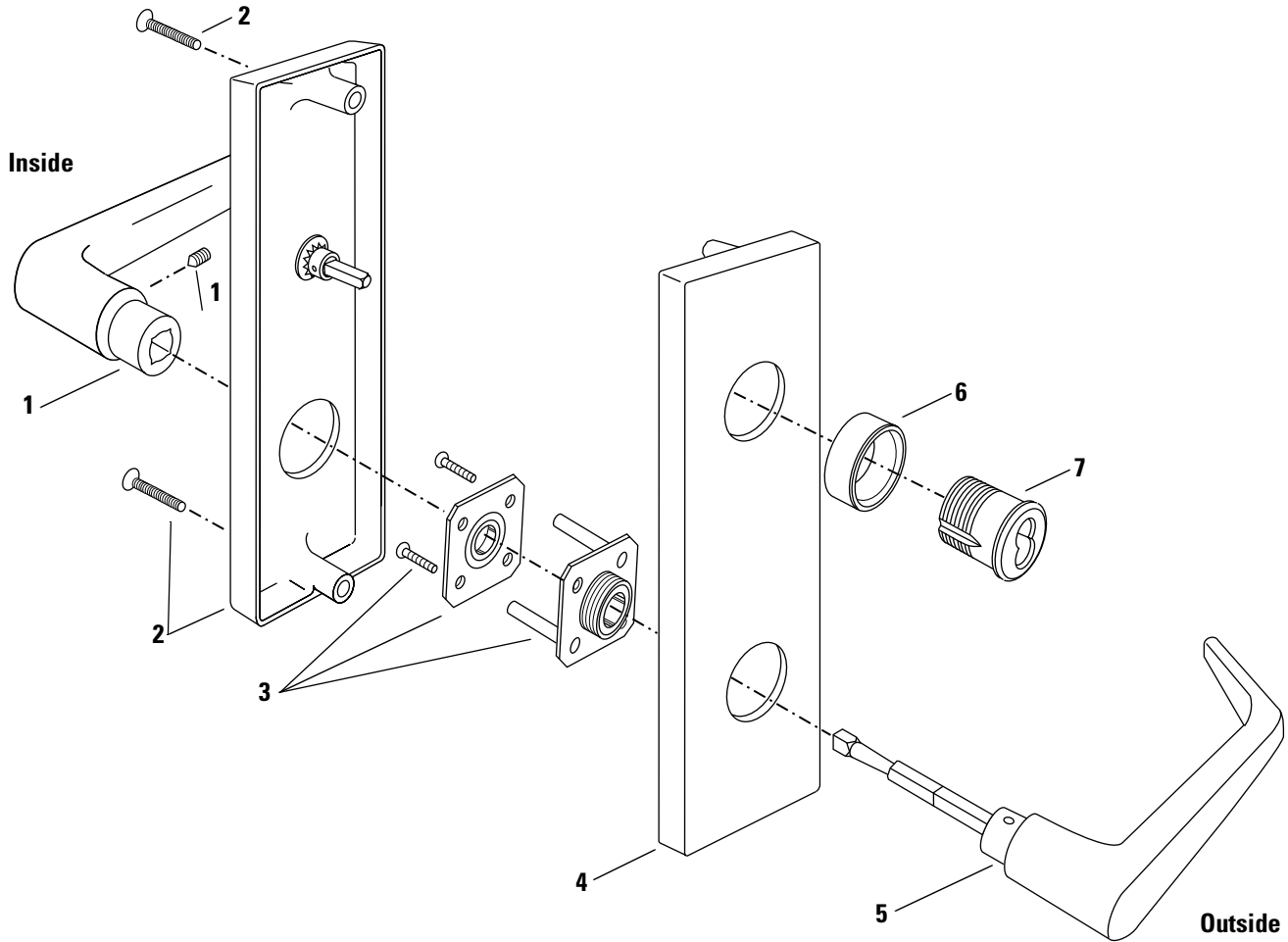


Figure 3.7 35H M trim

Item	Part No.	Qty.	Description	A, AW	B, BW	C	E	EW	F, FD	FW	G	GHB	HF	HJ	IND	INL	J	JHB	L, LF	N	TR	TRK	W	WW	Y
1	Pg. 3-16	1	#15 inside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■ ^{a,b}	■	■	■
2	A35495	1	Inside escutcheon assembly	■	■				■	■			■	■						■					
not shown	A35494	1	Inside escutcheon assembly				■	■										■	■		■				■
not shown	A35496	1	Inside escutcheon assembly			■					■	■			■	■								■	■
not shown	C34446	1	Inside escutcheon assembly																				■ ^b		
3	B35249	1	Mounting plate assembly ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■ ^d		■	■
4	C34445	1	Outside escutcheon	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				■	■
not shown	C34473	1	Outside escutcheon																	■					
not shown	C34472	1	Outside escutcheon																		■				■
not shown	B35334	1	Outside escutcheon										■												
not shown	C34334	1	Outside escutcheon																		■ ^e	■ ^e			
5	Pg. 3-16, Pg. 3-26	1	#15 outside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■
6	Pg. 3-23		Cylinder ring ^f	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■	■
7	Pg. 3-21		Cylinder ^f	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■	■

- a. Use one (1) A35031 hook spindle, and one inside lever and set screw.
- b. Assembled on the outside of the door.
- c. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.
- d. Use one A35028 inside mounting plate and two A39217 inside mounting plate surface mounting screws.
- e. Assembled on the inside of the door.
- f. Double-keyed functions (C, G, IND, INL, W, WW) require two cylinders and two rings.

35H N TRIM

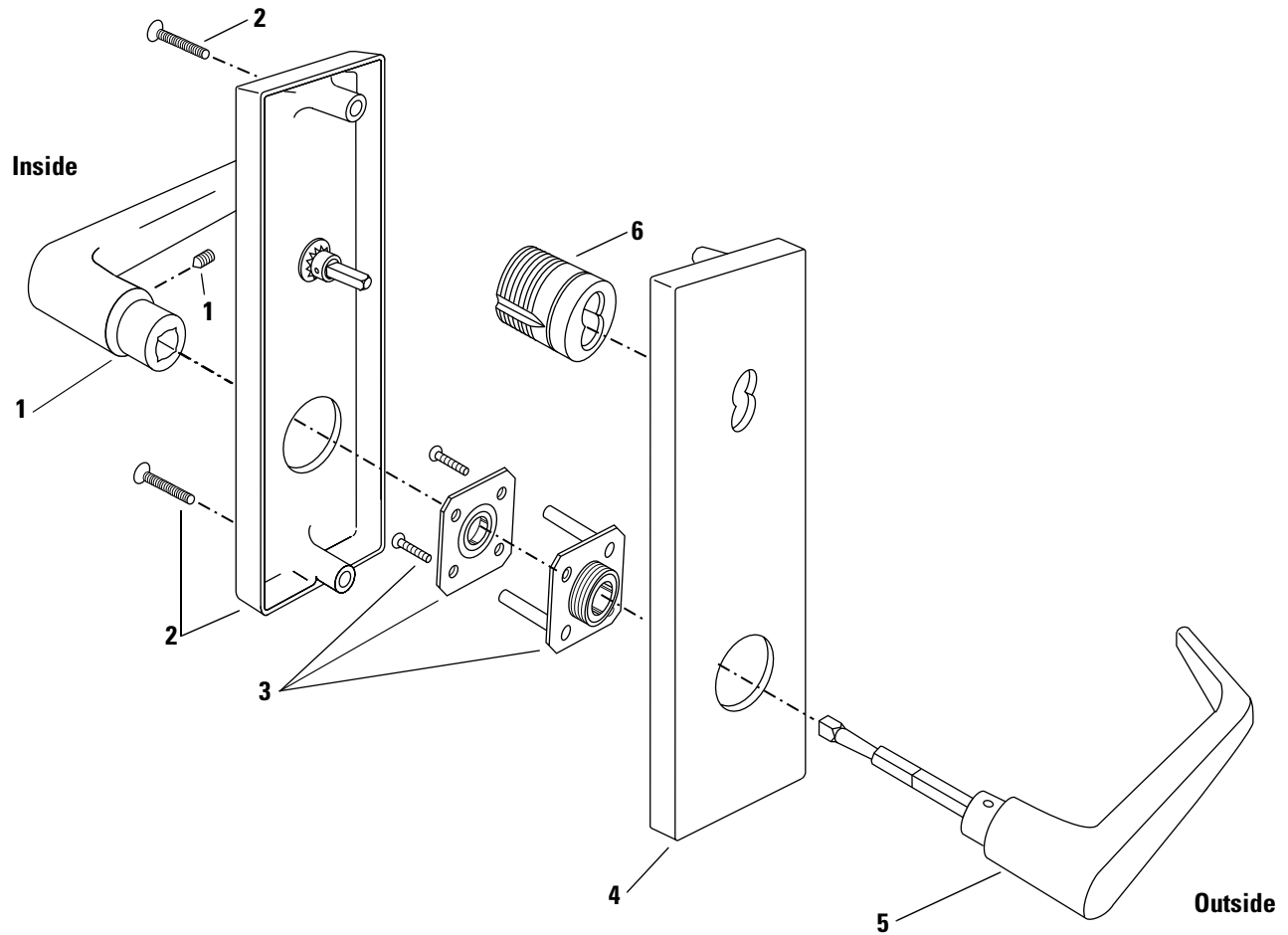


Figure 3.8 35H N trim

Item	Part No.	Qty.	Description	A, AW	B	BW	E	EW	F	FD	FW	J	JHB	L	LF	N	TR	TRK	Y
1	Pg. 3-16	1	#15 inside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■ ^{a,b}	■
	A35495	1	Inside escutcheon assembly	■	■	■			■	■	■			■	■				
not shown	A35494	1	Inside escutcheon assembly				■	■				■	■				■	■	■
not shown	B34448	1	Inside escutcheon assembly																■ ^b
3	B35249	1	Mounting plate assembly ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■ ^d	■
4	C34474	1	Outside escutcheon	■	■	■	■	■	■	■	■	■	■						
not shown	C34473	1	Outside escutcheon											■	■				
not shown	C34472	1	Outside escutcheon														■		■
not shown	C34334	1	Outside escutcheon															■ ^e	■ ^f
5	Pg. 3-16, Pg. 3-26	1	#15 outside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■
6	Pg. 3-21		Cylinder	■	■	■	■	■	■	■	■	■	■						■

- a. Use one A35031 hook spindle, and one inside lever and set screw.
- b. Assembled on the outside of the door.
- c. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.
- d. Use one A35028 inside mounting plate and two A39217 inside mounting plate surface mounting screws.
- e. Assembled on the inside of the door.

36H M TRIM

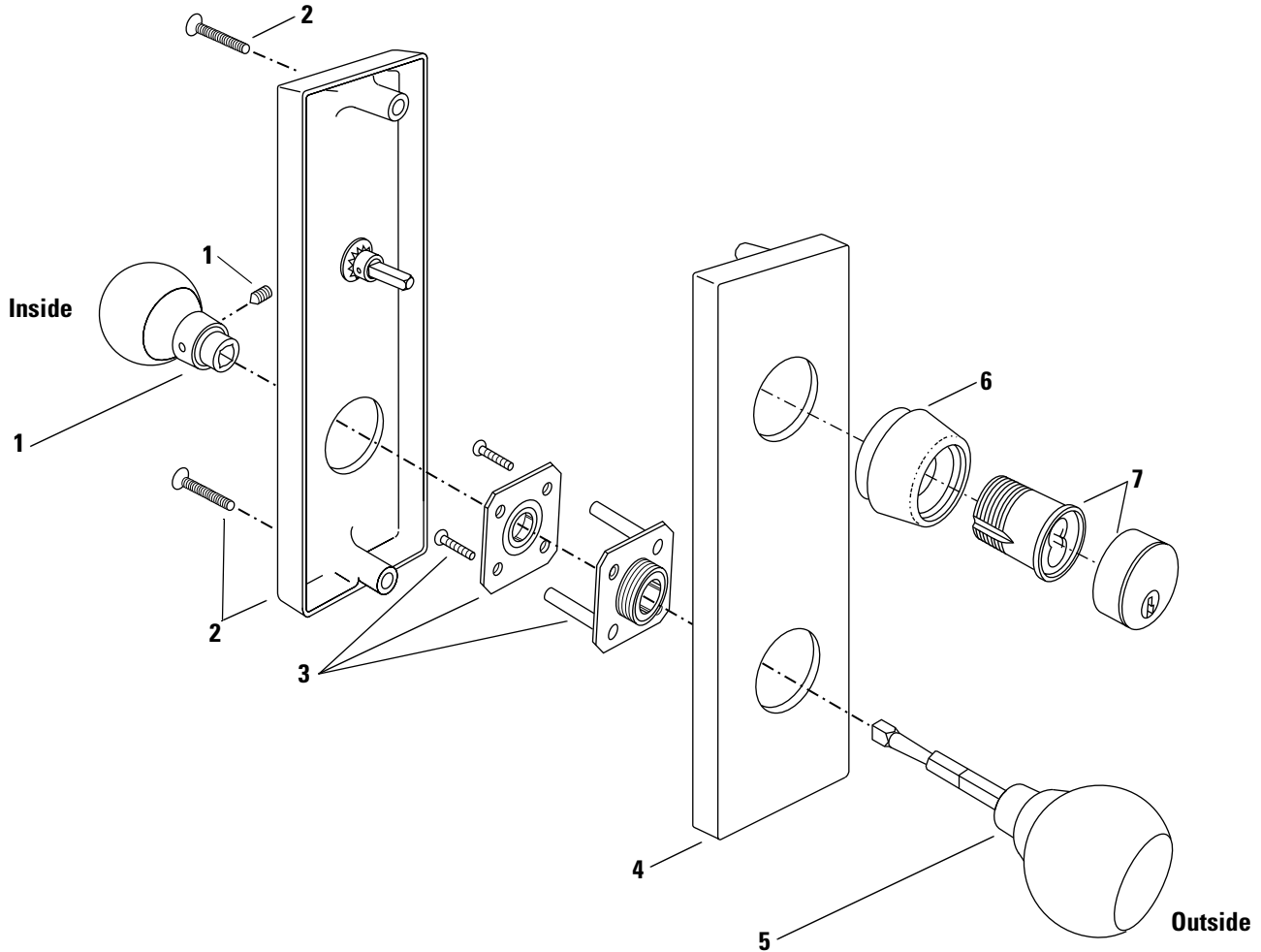


Figure 3.9 36H M trim

Item	Part No.	Qty.	Description	A, AW	B	BW	C	E	EW	F	FD	FW	G	IND	INL	J	W	WW	
1	Pg. 3-15	1	#4 inside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
2	A35495	1	Inside escutcheon assembly	■	■	■				■	■	■							
not shown	A35494	1	Inside escutcheon assembly					■	■								■		
not shown	A35497	1	Inside escutcheon assembly				■							■	■	■		■	■
3	B35249	1	Mounting plate assembly ^a	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
4	B34511	1	Outside escutcheon	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
5	Pg. 3-15, Pg. 3-26	1	#4 outside knob assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
6	Pg. 3-23		High security cylinder ring ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
7	Pg. 3-21		High security cylinder & face ^b	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

a. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.
 b. Double-keyed functions (C, G, IND, INL, W, WW) require two cylinders and two rings.

37H M TRIM

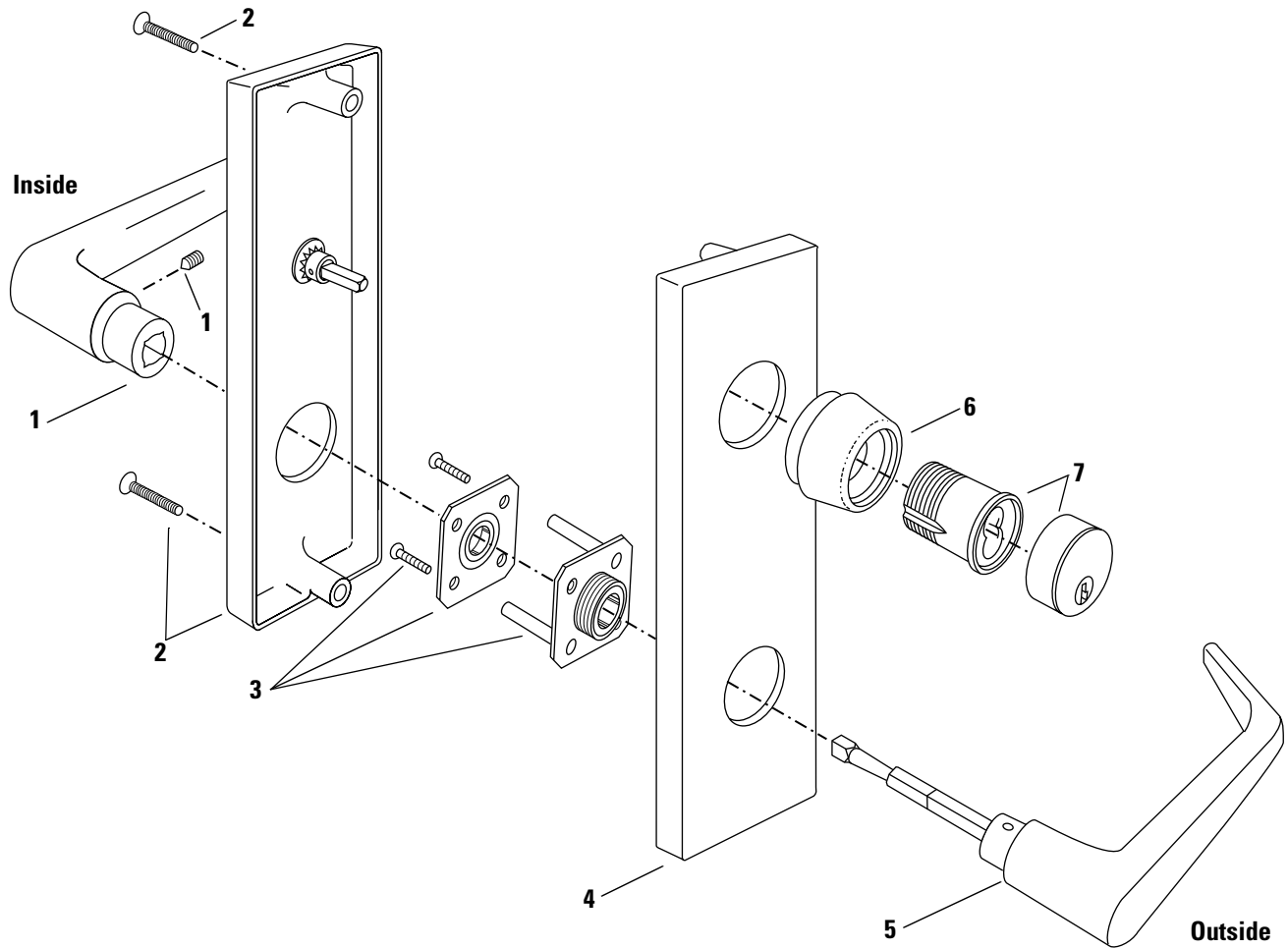


Figure 3.10 37H M trim

Item	Part No.	Qty.	Description	A, AW	B	BW	C	E	EW	F	FD	FW	G	GHB	IND	INL	J	JHB	TR	TRK	W	WW
1	Pg. 3-16	1	#15 Inside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■ ^{a,b}	■	■
2	A35495	1	Inside escutcheon assembly	■	■	■				■	■	■										
not shown	A35494	1	Inside escutcheon assembly					■	■								■	■	■ ²			
not shown	A35497	1	Inside escutcheon assembly				■							■	■	■						■
not shown	C34486	1	Inside escutcheon assembly																		■ ^b	
3	B35249	1	Mounting plate assembly ^c	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■ ^d		■
4	B34511	1	Outside escutcheon	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■
not shown	C34334	1	Outside escutcheon																	■ ^e	■ ^e	
5	Pg. 3-16, Pg. 3-26	1	Outside lever assembly	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■
6	Pg. 3-23		High security cylinder ring ^f	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■
7	Pg. 3-21		High security cylinder & face ^f	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		■

- a. Use one A35031 hook spindle, and one inside lever and set screw.
- b. Assembled on the outside of the door.
- c. See [page 3-27](#) for the part numbers of the individual components that make up the mounting plate assembly.
- d. Use one A35028 inside mounting plate and two A39217 inside mounting plate surface mounting screws.
- e. Assembled on the inside of the door.
- f. Double-keyed functions (C, G, IND, INL, W, WW) require two cylinders and two rings.

DEADBOLT TRIM

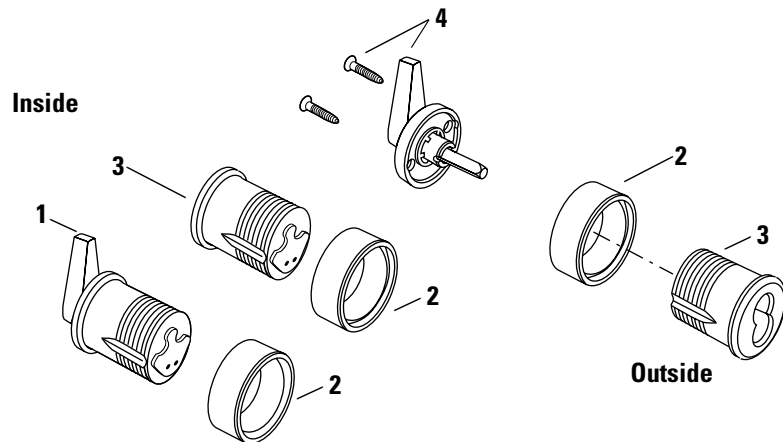


Figure 3.11 Deadbolt trim

34H deadbolt trim parts list

Item	Part No.	Qty.	Description	P	S	T	R
1	B35519	1	Turn knob cylinder (right hand doors)				■
not shown	B35520	1	Turn knob cylinder (left hand doors)				■
2	B35103	1	Cylinder ring	■	■		■
not shown	B35105	1	Cylinder ring			■ ^a	■
3	1E74 × C258	1	Cylinder	■	■	■ ^a	■
4	A19286	1	Turn knob assembly	■			

a. Requires two.

38H deadbolt trim parts list

Item	Part No.	Qty.	Description	K	L	M	R
1	B35401	1	Turn knob cylinder (right hand doors)				■
not shown	B35405	1	Turn knob cylinder (left hand doors)				■
2	B35103	1	Cylinder ring	■	■		■
not shown	B35105	1	Cylinder ring			■ ^a	■
3	1E74 × C258	1	Cylinder	■	■	■ ^a	■
4	A19286	1	Turn knob assembly	■			

a. Requires two.

HIGH SECURITY DEADBOLT TRIM

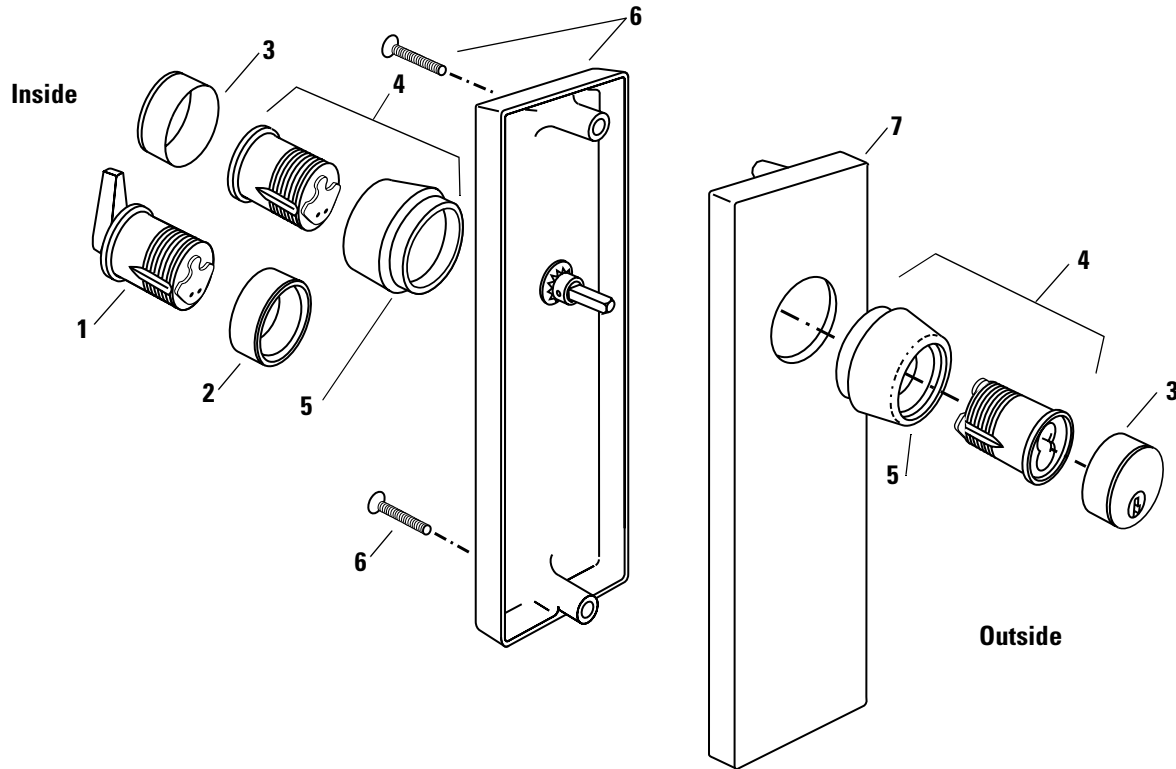


Figure 3.12 High security deadbolt trim

36H high security deadbolt trim parts list

The following parts are available only in 630 finish.

Item	Part No.	Qty.	Description	P	S	T	R
1	B35519	1	Turn knob cylinder (right hand doors)				■
not shown	B35520	1	Turn knob cylinder (left hand doors)				■
2	B35100	1	Cylinder ring			■	■
3	B19563	1	Non-UL cylinder face	■	■	■ ^b	■
not shown	B19446	1	UL cylinder face	■	■	■ ^b	■
4	1E7J4 × C258 <i>or</i> 1E7K4 × C258	1	Cylinder	■ ^a	■ ^a	■ ^{ab}	■ ^a
5	C34493	1	High security cylinder ring	■	■	■ ^b	■
not shown	C19409	1	High security cylinder ring				■
6	B35336	1	Inside escutcheon assembly	■			
not shown	C34446	1	Inside escutcheon assembly				■
not shown	B34512	1	Inside escutcheon assembly			■	
not shown	C34481	1	Inside escutcheon assembly		■		
7	B34512	1	Outside escutcheon	■	■	■	■

a. Includes a C34493 high security cylinder ring.

b. Requires two.

**39H high security
deadbolt trim
parts list**

Item	Part No.	Qty.	Description	K	L	M	R
1	B35519	1	Turn knob cylinder (right hand doors)				■
not shown	B35520	1	Turn knob cylinder (left hand doors)				■
2	B35100	1	Cylinder ring				■
3	B19563		Non-UL cylinder face	■	■	■ ^a	■
not shown	B19446		UL cylinder face	■	■	■ ^a	■
4	B19436		Cylinder	■	■	■ ^a	■
5	C34493	1	High security cylinder ring	■	■	■ ^a	■
6	B35336	1	Inside escutcheon assembly	■			
not shown	C34446	1	Inside escutcheon assembly				■
not shown	B34513	1	Inside escutcheon assembly			■	
not shown	C34481	1	Inside escutcheon assembly		■		
7	B34512	1	Outside escutcheon	■	■	■	■

a. Requires two.

DUMMY TRIM

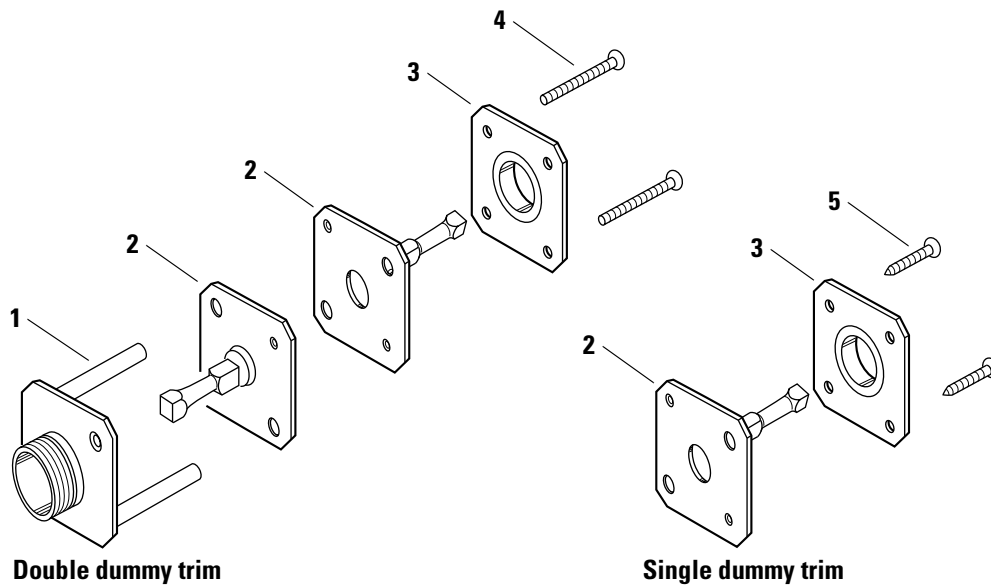


Figure 3.13 Dummy trim parts

**Dummy trim
parts list**

Item	Part No.	Qty.	Description	1DT	2DT
1	B35027	1	Outside mounting plate		■
2	A35047	1	Dummy trim assembly	■	■ ^a
3	A35028	1	Inside mounting plate	■	■
4	A18991	2	#8 machine screw		■
5	A39217	2	#8 sheet metal screw	■	

a. Requires two.

KNOB ASSEMBLIES

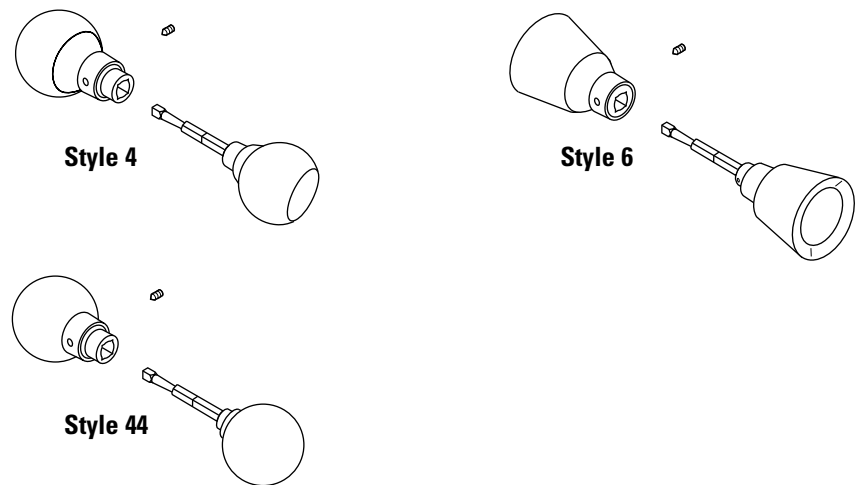


Figure 3.14 Knob assemblies

Knob assemblies parts list To order parts that are listed in the following table as N/A, call BEST Mechanical Product Support for the part numbers.

Style	Knob diagram	Knob assembly parts	Standard	Knurled	Tactile
4		Entire knob assembly	A35134	N/A	A35135
		Outside knob & spindle assembly	A35084	N/A	A80515
		Inside knob assembly	B62520	N/A	B62533
6		Entire knob assembly	A35136	N/A	A80516
		Outside knob & spindle assembly	A35086	N/A	A80517
		Inside knob assembly	C62518	N/A	B62538
44		Entire knob assembly	A80500	A80512	N/A
		Outside knob & spindle assembly	A80501	A80513	N/A
		Inside knob assembly	A80502	A80514	N/A

LEVER ASSEMBLIES

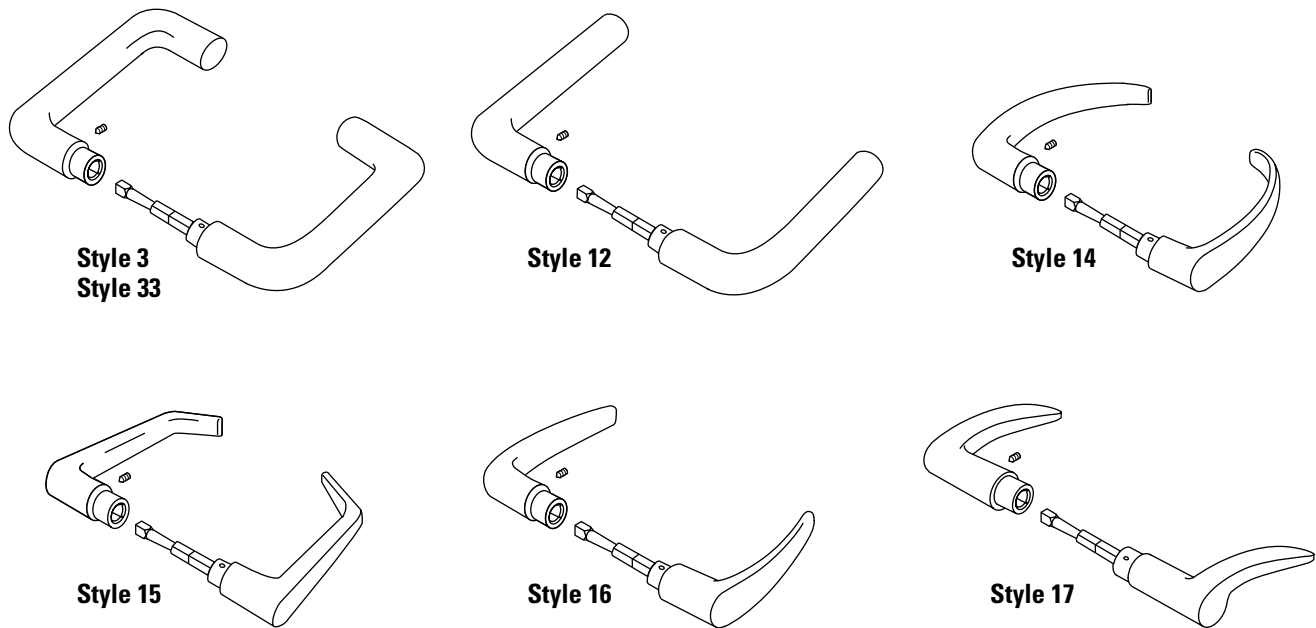


Figure 3.15 Lever assemblies

Lever assemblies parts list

To order parts that are listed in the following table as N/A, call BEST Mechanical Product Support for the part numbers.

Style	Lever diagram	Lever assembly parts	Standard	Abrasive	Knurled	Tactile ^a
3 ^{b, c}		Entire lever assembly	A35133	A35474	A35475	N/A
		Outside lever & spindle assembly ^d	A35067	A35387	A35500	N/A
		Inside lever assembly ^e	A35045	A35383	A80518	N/A
12		Entire lever assembly	A35125	A35478	A35479	N/A
		Outside lever & spindle assembly ^d	B35449	A80519	A80528	N/A
		Inside lever assembly ^e	A35396	B35348	A80529	N/A
14 ^b		Entire lever assembly	A35189	A35481	N/A	A35482
		Outside lever & spindle assembly ^d	A80503	A80520	N/A	A35503
		Inside lever assembly ^e	A80504	A80521	N/A	A80530
15 ^b		Entire lever assembly	A35152	A35483	N/A	A35484
		Outside lever & spindle assembly ^d	A35455	B35422	N/A	A35505
		Inside lever assembly ^e	A35454	A80522	N/A	A80531
16		Entire lever assembly	A35153	A35485	N/A	A35486
		Outside lever & spindle assembly ^d	A80505	B35423	N/A	A35507
		Inside lever assembly ^e	A80506	A80523	N/A	A80532

Style	Lever diagram	Lever assembly parts	Standard	Abrasive	Knurled	Tactile ^a
17		Entire lever assembly				
		Right hand	A35443	A35487	N/A	N/A
		Left hand	A35444	B35488	N/A	N/A
		Outside lever & spindle assembly ^d				
		Right hand	A80507	A35424	N/A	N/A
		Left hand	A80508	A35425	N/A	N/A
		Inside lever assembly ^e				
Right hand	A80509	A80524	N/A	N/A		
Left hand	A80510	A80525	N/A	N/A		
33 ^{2,3}		Entire lever assembly	A80511	A80526	N/A	N/A
		Outside lever & spindle assembly ^d	B35513	A35515	N/A	N/A
		Inside lever assembly ^e	A35511	A80527	N/A	N/A

- a. Tactile levers are grooved in the back of the lever.
- b. Returns to within 3/8" to 1/2" of the door surface.
- c. Style 3 is wrought and filled with aluminum. Style 33 is cast solid.
- d. See [page 3-26](#) for a complete list of spindle part numbers.
- e. Includes the A63110 set screw.

ROSES & ROSE RINGS

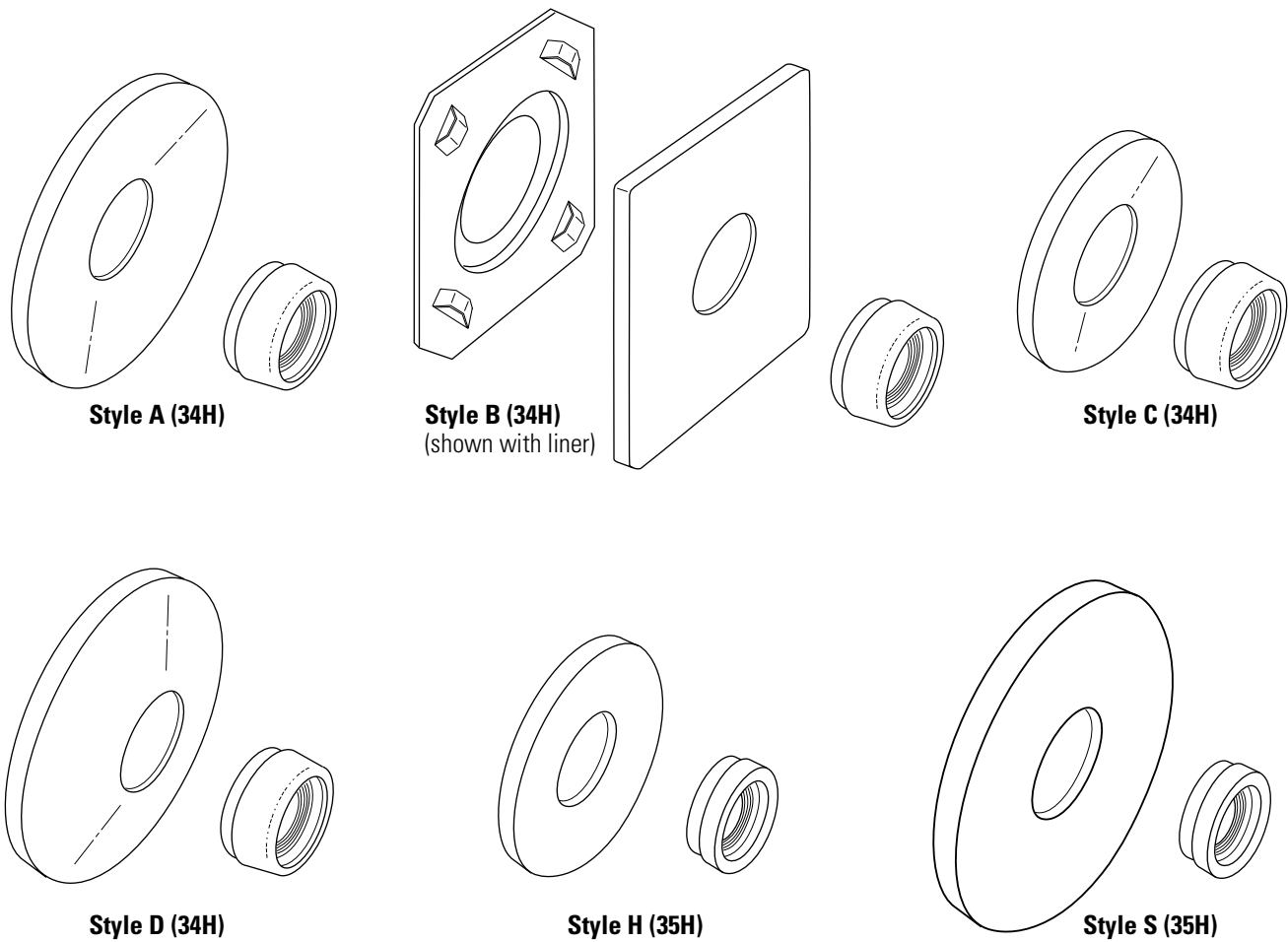


Figure 3.16 Roses and rose rings

Rose and rose rings parts list

Style	Description	Rose	Rose ring	Dimensions
A	Concave round	A29508	B34544	3 3/8" diameter
B	Flat square	A54479 ^a	B34544	3 3/8" square
C	Concave round	A54478	B34544	2 9/16" diameter
D	Convex round	A54476	B34545	3 3/8" diameter
H	Flat round	A34129	B34131	2 9/16" diameter
S	Flat round	B34585	B34131	3 1/2" diameter

a. Does not include the A29510 liner.

STRIKES AND STRIKE BOXES

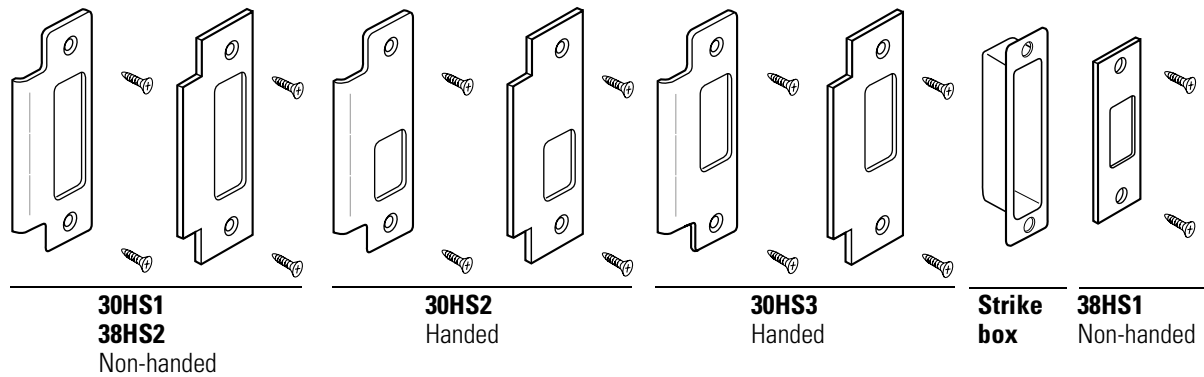


Figure 3.17 Strikes and strike box

Strikes parts list by function for standard doors

To determine what strike part number to use for your 1 3/4" thick door, use the table below. Find the intersection of the row for the function of the lock and the column for the hand of the door.

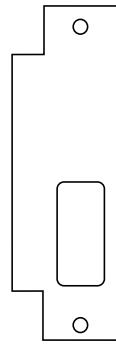
Functions	Strike Type	Standard		Flat-lipped		Strike Box ^a
		RH/LHRB	LH/RHRB	RH/LHRB	LH/RHRB	
A, B, B4-B7, C, F, FW, IND, L, LF, N, P, R, S, T, TR, TRK, W	30HS1	B18731	B18731	C63015	C63015	B34380
E, EW, GHB, G, INL, J, JHB, WW, Y	30HS2	B29552	B29553	C63014	C63013	B34380
AW, BW, FD, HF, and HJ	30HS3	B29516	B29517	C63012	C63011	B34380
All 38H-39H functions (for non-beveled strike)	38HS1	A34360	A34360	N/A	N/A	C34361
All 38H-39H functions (for beveled strike)	38HS2	C18731	C18731	N/A	N/A	B34380

a. The strike box is ordered separately from the strike.

**Strikes parts list
by door thickness
for thick doors**

To determine what strike part number to use for your thick door, first use the table above to find the intersection of the row for the function of the lock and the column for the strike type. In the table below, find the intersection of the row for the thickness of the door and hand of the door and the column for the strike type. If the function of your door requires a 30HS1 strike, use the 30HS3 strike instead.

Note: See [Figure 3.17](#) for an illustration of the strike styles.



Lip to center dimension—taken from the edge of the lip to the center of the screw holes

Figure 3.18 Lip to center dimension

Door thickness	Hand of door	30HS2	30HS3	Lip to center dimension
2 1/4"	RH/LHRB	B29724	B29700	1.424"
	LH/RHRB	B29736	B29712	
2 1/2"	RH/LHRB	B29725	B29701	1.549"
	LH/RHRB	B29737	B29713	
2 3/4"	RH/LHRB	B29726	B29702	1.674"
	LH/RHRB	B29738	B29714	
3"	RH/LHRB	B29727	B29703	1.799"
	LH/RHRB	B29739	B29715	
3 1/4"	RH/LHRB	B29728	B29704	1.924"
	LH/RHRB	B29740	B29716	
3 1/2"	RH/LHRB	B29729	B29705	2.049"
	LH/RHRB	B29741	B29717	
3 3/4"	RH/LHRB	B29730	B29706	2.174"
	LH/RHRB	B29742	B29718	
4"	RH/LHRB	B29731	B29707	2.299"
	LH/RHRB	B29743	B29719	
4 1/4"	RH/LHRB	B29732	B29708	2.424"
	LH/RHRB	B29744	B29720	
4 1/2"	RH/LHRB	B29733	B29709	2.549"
	LH/RHRB	B29745	B29721	
4 3/4"	RH/LHRB	B29734	B29710	2.674"
	LH/RHRB	B29746	B29722	
5"	RH/LHRB	B29735	B29711	2.799"
	LH/RHRB	B29747	B29723	

CYLINDERS & RINGS

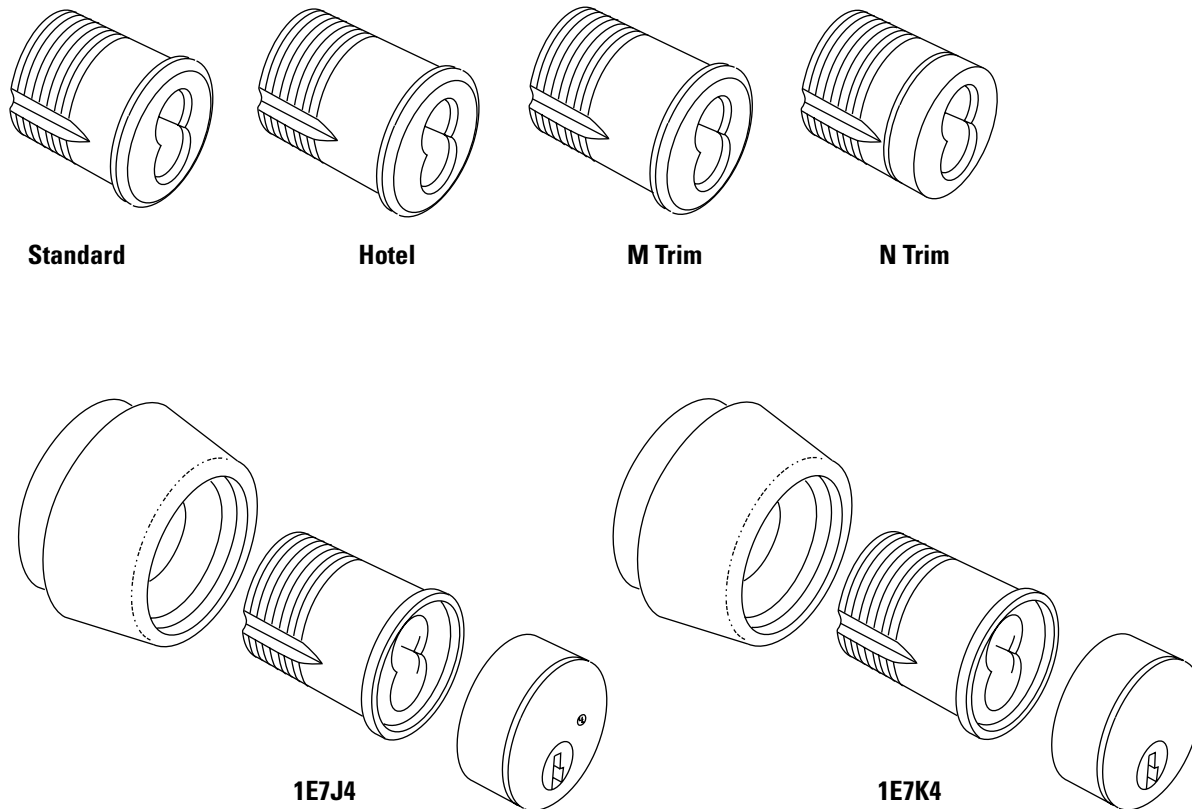


Figure 3.19 Cylinders and rings

Cylinders parts list

Type	Nomenclature	Notes
Standard	1E74 × cam	See page 3-25 for a list of cams.
Hotel	1E7G4 × C258	See page 3-25 for a list of cams.
M Trim	1E7M4 × cam	See page 3-25 for a list of cams.
N Trim	1E7N4 × cam	See page 3-25 for a list of cams.
High security ^{a b c}	1E7J4 × cam	The 1E7J4 cylinder must be ordered with a combined 5C security core to qualify for the UL [®] listing. See page 3-25 for a list of cams.
High security ^a	1E7K4 × cam	The 1E7K4 cylinder can be ordered uncombined or less core. It does not carry the UL [®] listing. See page 3-25 for a list of cams.

a. Cylinder face is shown without the BEST logo.

b. 5C cores must be combined at the factory to qualify for the UL listing.

c. 1E7J4 cylinders must be used with M style escutcheons to qualify for the UL listing.

**Cylinders parts list
by door thickness**

Door thickness	Standard cylinder	Hotel cylinder	M cylinder	N cylinder
2"	B35170	B35200	B35172	1E7N4
2 1/4"	B35171	B35201	B35173	B35284
2 1/2"	B35172	B35202	B35174	B35284
2 3/4"	B35173	B35203	B35175	B35285
3"	B35174	B35204	B35176	B35285
3 1/4"	B35175	B35205	B35177	B35286
3 1/2"	B35176	B35206	B35178	B35286
3 3/4"	B35177	B35207	B35179	B35287
4"	B35178	B35208	B35180	B35287
4 1/4"	B35179	B35209	B35181	B35288
4 1/2"	B35180	B35210	B35182	B35288
4 3/4"	B35181	B35211	B35498	B35289
5"	B35182	B35212	B35499	B35289

Cylinder rings

Wrench resistant cylinder rings are required by ANSI 156.13. The following cylinder rings are required for the 34H-35H Mortise Locks based on lock function, trim style, and cylinder length.



Caution

Installing cylinder rings of lengths other than those designated may cause the lock to malfunction.

Note: Specify the finish when ordering cylinder rings. Each ring requires one wavy washer, part number B34115.

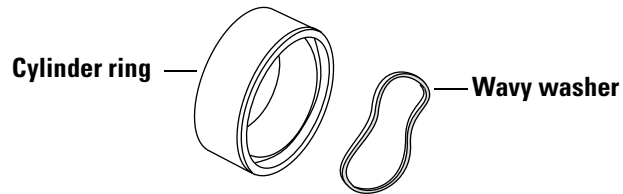


Figure 3.20 Cylinder ring and wavy washer

**Cylinder rings
parts list by
function**

Function ^a	Trim style	Pin size	Ring part no.	Ring length (decimal)
A, AW, B, BW, B4, B5, E, EW, F, FD, FW, J, JHB, L, P ^b , S ^b , TRK	A, B, C, D, H	6	B35101	11/32" (0.344)
		7	B35103	7/16" (0.438)
	J, M	6	B35100	7/32" (0.219)
		7	B35100	7/32" (0.219)
B6, B7, C, G, GHB, IND, INL, R ^b , T ^b , W, WW	A, B, C, D, H	6	B35103	7/16" (0.438)
		7	B35105	19/32" (0.594)
	J, M	6	B35100	7/32" (0.219)
		7	B35101	11/32" (0.344)
HF	A, B, C, D, H	6	B35104	9/16" (0.562)
		7	B35107	23/32" (0.719)
	J, M	6	B35102	13/32" (0.406)
		7	B35104	9/32" (0.562)
HJ	A, B, C, D, H	6	B35106	21/32" (0.656)
		7	B35108	13/16" (0.812)
	J, M	6	B35102	13/32" (0.406)
		7	B35104	9/16" (0.562)

a. Double-keyed functions require two rings.

b. Requires cylinder rings for sectional trim.

**Cylinder rings parts
list by part number**

Ring part no.	Length (decimal)
B35100	7/32" (.219)
B35101	11/32" (.344)
B35102	13/32" (.406)
B35103	7/16" (.438)
B35104	9/16" (.562)
B35105	19/32" (.594)
B35106	21/32" (.656)
B35107	23/32" (.719)
B35108	13/16" (.812)
B35109	5/16" (.312)

**Cylinder cams parts
list by function**

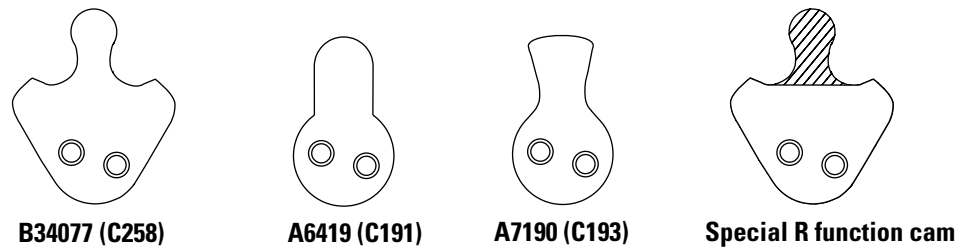


Figure 3.21 Cylinder cams

Function	Outside cam		Inside cam	
	Part no.	Nomenclature	Part no.	Nomenclature
A	B34077	C258		
AW	B34077	C258		
B	B34077	C258		
B4	B34077	C258		
B5	B34077	C258		
B6	B34077	C258	B34077	C258
B7	B34077	C258	B34077	C258
C	B34077	C258	B34077	C258
E	A6419	C191		
EW	A6419	C191		
F	B34077	C258		
FD	B34077	C258		
FW	B34077	C258		
G	A7190	C193	A6419	C191
GHB	A6419	C191	A6419	C191
HF	B34077	C258 ^a		
HJ	B34077	C258 ^a		
IND	B34077	C258	B34077	C258
INL	A6419	C191	A6419	C191
J	A6419	C191		
JHB	A6419	C191		
P	B34077	C258		
R	B34077	C258	Special R function cam ^{b, c}	
S	B34077	C258		
T	B34077	C258		
TRK	A6419	C191		
W	B34077	C258	B34077	C258
WW	A6419	C191	A6419	C191

- a. Requires the shifting cam cylinder, part number and nomenclature B35119 (1E6G4 xC258) or B35120 (1E7G4 x C258).
- b. The R function inside turn knob cylinder is handed. For RH/RHRB doors, use B35401; for LH/LHRB doors, use B35405. For M trim RH/RHRB doors, use B35519; for M trim LH/LHRB doors, use B35520.
- c. The special R function cam includes cams B63003 and A10526. The B63003 cam is modified by removing the middle lobe. The full-size cam A10526 mounts against the cylinder.

MISCELLANEOUS PARTS

Standard tapered and hook spindles

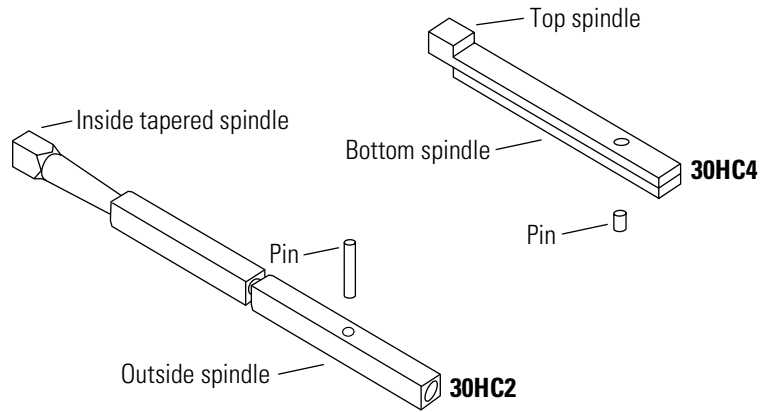


Figure 3.22 Standard tapered and hook spindles

Standard tapered and hook spindles parts list

Type	Inside	Outside	One side only	Pin
Standard tapered				
30HC2	B34016	B34211		A29518
Hook ^a				
30HC4 Assembly			A35031	
Top section			A34204	
Bottom section			A34205	A34203

a. Used only on doors that are 1 3/4" to 2 1/2" thick.

Thick door spindles parts list

Door thickness ^a	34H–37H spindles	
	Inside	Outside ^b
2"	B34016	B34252
2 1/4"	B34016	B34253
2 1/2"	B34016	B34254
2 3/4"	B34016	B34255
3"	B34165	B34256
3 1/4"	B34165	B34257
3 1/2"	B34165	B34258
3 3/4"	B34165	B34259
4"	B34165	B34260
4 1/4"	B34550	B34261
4 1/2"	B34550	B34262
4 3/4"	B34550	B34263
5"	B34550	B34264

a. If your door thickness measurements are in between those listed, round up.

b. The A29518 pin is required for all outside spindles. It is ordered separately from the spindle.

Mounting plates

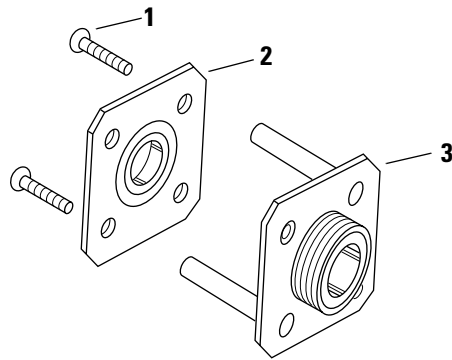


Figure 3.23 Mounting Plate Assembly (B35029 shown)

Mounting plates parts list

Item	Description	Part No. for A, B, C, D, H, S, J trim	Part No. for M, N trim
All	Mounting plate assembly	B35029	B35249
1	Screw	A18991	A18991
2	Inside mounting plate	A35028	B35030
3	Outside mounting plate	B35027	B35247

**Knob-to-lever
conversion kit**

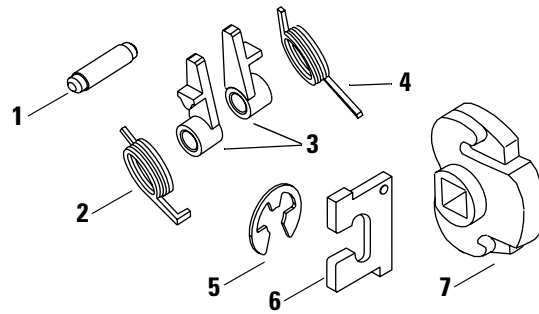


Figure 3.24 Knob-to-lever conversion kit

Knob-to-lever conversion kit parts list

Item	Description	Part No.
All	Knob-to-lever conversion kit	A35074
1	Stop pin <i>or</i> Special stop pin ^a Screw ^a	A34048 <i>or</i> A34090 <i>and</i> A34088 <i>and</i>
	Spacer for knob by lever ^a	A34089
2	Upper return spring	A34066
3	Auxiliary return levers	A34020
4	Lower return spring	A34065
5	Retainer ring	A34013
6	Fusible slide plate	A35009
7	Inside hub ^b	B34043

a. Used on knob by lever trim, GHB, and JHB functions only.

b. Required only for the old style screw-on knobs. The new style knobs have a set screw and already use this part.

Hotel indicator The hotel indicator plate is required for C and H rose styles only. Specify the finish when ordering.

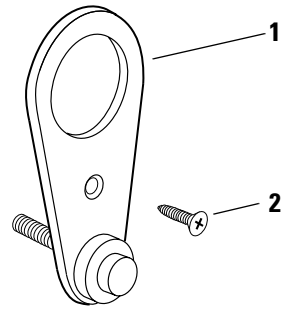


Figure 3.25 Hotel indicator

Hotel indicator parts list

Item	Description	Part No.
All	Hotel indicator plate	A35034
1	Plate	A35033
2	Screw	A18513

Emergency key kit The emergency key kit is required for L and LF functions using A, B, C, D, H, or S rose styles only. Specify the finish when ordering.

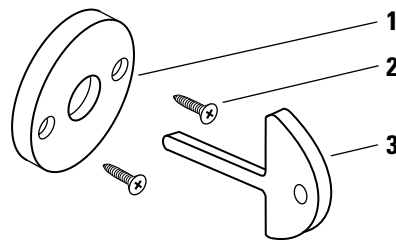


Figure 3.26 Emergency key kit

Emergency key kit parts list

Item	Description	Part No.
All	Emergency key and rose kit	A35150
1	Rose	B17796
2	Screw	A18513
3	Emergency key	A18719

Faceplates

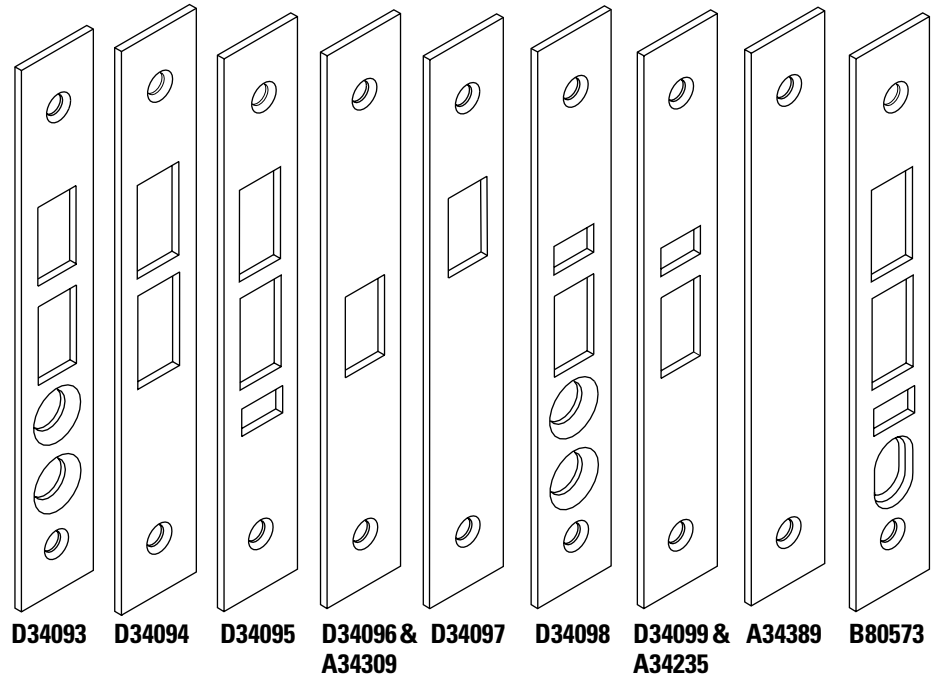


Figure 3.27 Faceplates (shown without the BEST logo)

Faceplates parts list by function

Function	Part no.
A, F, W	D34093
AW	B80573
B, B4, B5, B6, B7, C, FW, IND, L, LF	D34094
BW, FD, HF, HJ	D34095
N	D34096
P, R, S, T	D34097
E	D34098
EW, G, INL, J, WW, Y	D34099
GHB, JHB	A34235 ^a
TR, TRK	A34309 ^b
1DT, 2DT	A34389 ^c

- The D34099 faceplate is identical to the A34235 faceplate except that A34235 has no UL markings.
- The D34096 faceplate is identical to the A34309 faceplate except that A34309 has no UL markings.
- Used as a “dummy” faceplate.

Screws



Figure 3.28 Screws

Screws parts list

Component	Screw specification	Standard	Security	Driver
Case screws ^a				
Case cover screw	#8-32 X 3/8" PHFHMS	A34087	N/A	N/A
Case mounting screw	#12-24 X 3/4" PHFHMS	A18724	A34450	T25
Strike screws	#12-24 X 3/4" PHFHMS	A18724	A34450	T25
Trim screws ^b				
Chassis mounting screw	#8-32 X 1 1/4" PHFHMS	A18991	N/A	N/A
Lever set screw	#1/4-20 SHCPSS	A63110	A34406	Spanner head
J escutcheon screw ^c	#8-32	A34418	A34451	T15
M & N escutcheon bolt	#10-32 X 2 1/8"	A34463	A34553	T25
Turn knob rose screw	#6 X 1/2" POH	A18513	A34452	T15
Faceplate screws	#8-32 X 1/4" PHFHMS	A18722	A34454	T15

a. See Chapter 2, *Lock Parts and Functions*, for case screw illustrations.

b. See [page 3-2](#) to [page 3-13](#) for trim screw illustrations.

c. The standard head screw is 1 1/4"; the security head screw is 3/4" long.

Bit drivers parts list

Type	Part number
TORX [®] T10 ^a	A34462
TORX T15	A34457
TORX T25	A34458
Spanner head	A34407

a. TORX is a registered trademark of the Camcar Division of Textron.

4

SERVICE AND MAINTENANCE

This chapter contains instructions for removing and replacing components, servicing and maintaining components, and troubleshooting common problems.

TOOLS

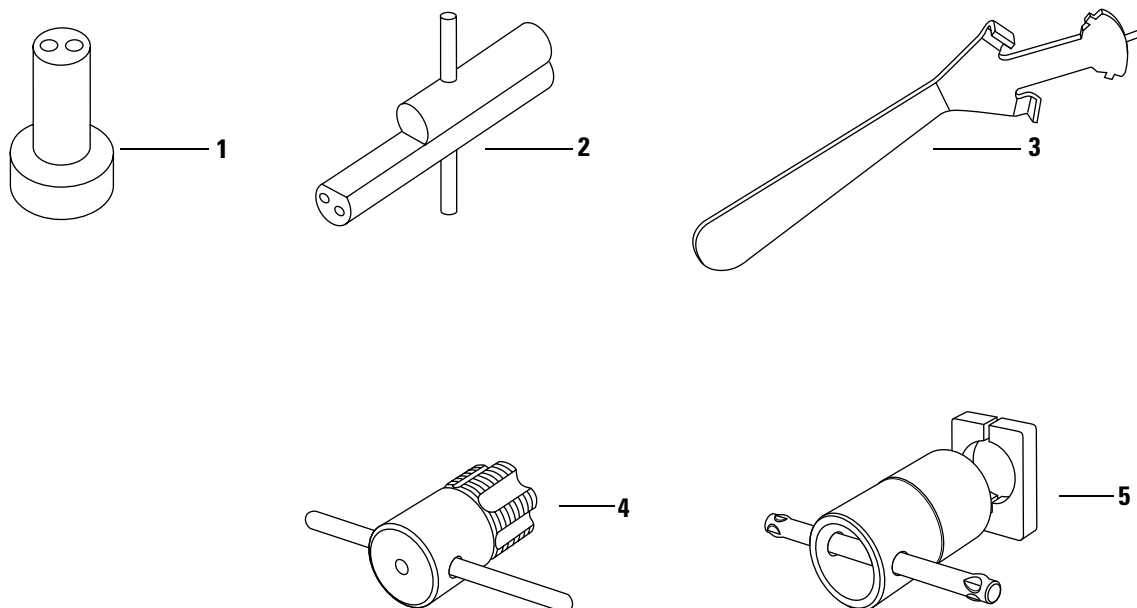


Figure 4.1 Tools

Item	Nomenclature	Description	Use
1	ED212	Mortise cylinder cam assembly tool	Tool for assembling cams to mortise cylinders
2	ED211	Cylinder wrench	Tool for installing, removing, and testing cylinders
3	KD316	Spanner wrench	Tool for installing sectional trim
4	ED225	Cylinder tap	Tool for rethreading case threads
5	ED221	Cylinder die	Tool for rethreading 1 5/32" diameter cylinders

REMOVING THE TRIM

In order to perform any maintenance on your H Series Lock, you must first remove the trim from the door. The next four sections outline the tasks to perform in order to remove the different types of trim. Each section references the appropriate trim diagrams in Chapter 3 and the detailed instructions for each task found in *Tasks for removing the trim*.

Removing the A, B, C, D, H, & S sectional trim

Refer to the trim diagrams on [page 3-2](#) and [page 3-6](#) and the detailed instructions for each task that follows.

1. Perform Task A, *To remove the levers/knobs*. See [page 4-4](#).
2. Perform Task B, *To remove the faceplate*. See [page 4-4](#).
3. Perform Task C, *To remove the cylinder*. See [page 4-4](#).
4. Perform Task D, *To remove the turn knob assembly*. See [page 4-5](#).
5. Perform Task E, *To remove the rose rings*. See [page 4-6](#).
6. Perform Task F, *To remove the roses*. See [page 4-6](#).
7. Perform Task H, *To remove the mounting plates*. See [page 4-6](#).

Removing the J trim

Refer to the trim diagrams on [page 3-3](#) and [page 3-7](#) and the detailed instructions for each task that follows.

1. Perform Task A, *To remove the levers/knobs*. See [page 4-4](#).
2. Perform Task B, *To remove the faceplate*. See [page 4-4](#).
3. Perform Task C, *To remove the cylinder*. See [page 4-4](#).
4. Perform Task E, *To remove the rose rings*. See [page 4-6](#).
5. Perform Task G, *To remove the escutcheons*. See [page 4-6](#).
6. Perform Task H, *To remove the mounting plates*. See [page 4-6](#).

Removing the M trim

Refer to the trim diagrams on [page 3-4](#), [page 3-8](#) and [page 3-10](#), and the detailed instructions for each task that follows.

1. Perform Task A, *To remove the levers/knobs*. See [page 4-4](#).
2. Perform Task B, *To remove the faceplate*. See [page 4-4](#).
3. Perform Task C, *To remove the cylinder*. See [page 4-4](#).
4. Perform Task G, *To remove the escutcheons*. See [page 4-6](#).
5. Perform Task H, *To remove the mounting plates*. See [page 4-6](#).

Removing the N trim

Refer to the trim diagram on [page 3-5](#) and the detailed instructions for each task that follows.

1. Perform Task A, *To remove the levers/knobs*. See [page 4-4](#).
2. Perform Task B, *To remove the faceplate*. See [page 4-4](#).
3. Perform Task G, *To remove the escutcheons*. See [page 4-6](#).
4. Perform Task H, *To remove the mounting plates*. See [page 4-6](#).
5. Perform Task C, *To remove the cylinder*. See [page 4-4](#).

**Tasks for removing
the trim**

Task A. To remove the levers/knobs:

1. Use a 1/8" Allen wrench to loosen the set screw from the inside lever/knob.
2. Remove the inside lever/knob, then the outside lever/knob and spindle assembly from the door.

Task B. To remove the faceplate:

Unscrew the two faceplate screws and remove the faceplate from the lock. Save the screws.

Task C. To remove the cylinder:

1. Insert the control key into the core and rotate the key 15 degrees clockwise. Remove the core.
2. Loosen the cylinder clamp screw, found on the inside of the lock case.

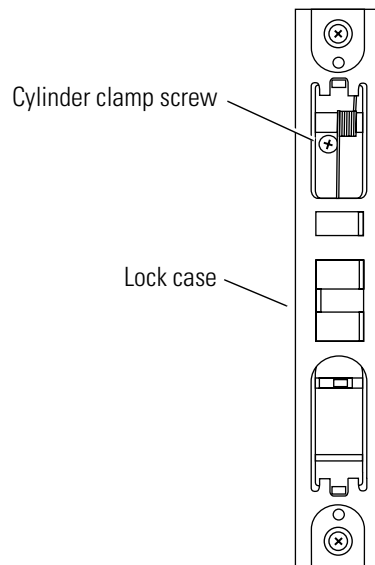


Figure 4.2 Location of the cylinder clamp screw (view from the edge of the door)

3. Insert the mortise cylinder wrench into the cylinder and turn it counterclockwise until you can remove the cylinder and cylinder ring.

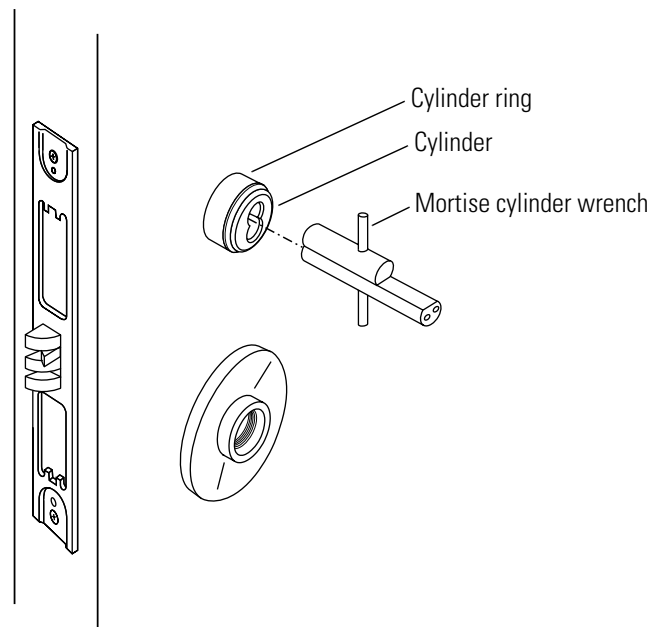


Figure 4.3 Removing the cylinder

4. If the lock is double-keyed, repeat steps 1 through 3 for the other cylinder.

Task D. To remove the turn knob assembly:

Remove the two turn knob assembly screws and the turn knob assembly.

Task E. To remove the rose rings:

1. Insert the protrusion on the spanner wrench into the hole in the inside rose ring and rotate counterclockwise until you can remove the inside rose ring.

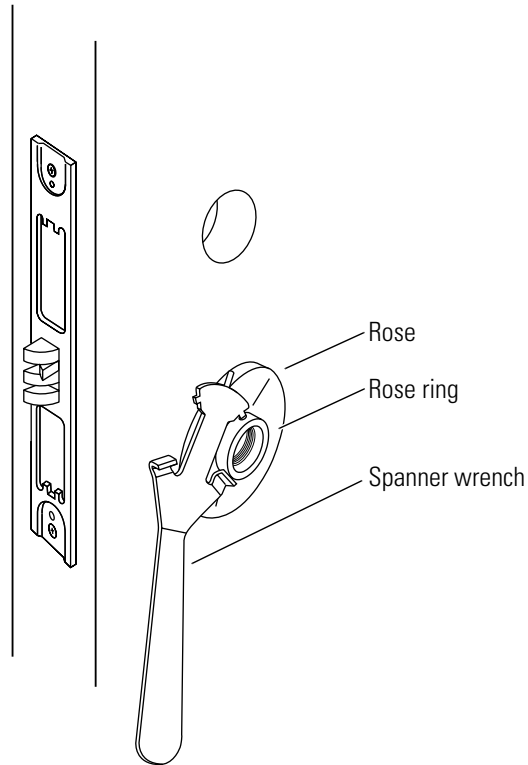


Figure 4.4 Removing the rose rings

2. Repeat step 1 for the outside rose ring.

Task F. To remove the roses:

Pull the inside and outside roses off of the door.

Task G. To remove the escutcheons:

1. Remove the upper and lower escutcheon screws.

Note: The J escutcheon only has an upper escutcheon screw.

2. Remove the inside and outside escutcheons.

Task H. To remove the mounting plates:

1. Remove the two mounting plate screws from the inside of the door. Save the screws.
2. Remove the outside and inside mounting plates.
3. For J trim, remove the J alignment plate.

REPLACING THE TRIM

After you have performed any maintenance on your H Series Lock, you must replace the trim on the door. The next four sections outline the tasks to perform in order to replace the different types of trim. Each section references the appropriate trim diagrams in Chapter 3 and the detailed instructions for each task found in *Tasks for replacing the trim*.

Replacing the A, B, C, D, H & S sectional trim

Refer to the trim diagrams on [page 3-2](#) and [page 3-6](#) and the detailed instructions for each task that follows.

1. Perform Task A, *To replace the mounting plates*. See [page 4-8](#).
2. Perform Task C, *To replace the roses*. See [page 4-8](#).
3. Perform Task D, *To replace the rose rings*. See [page 4-8](#).
4. Perform Task E, *To replace the turn knob assembly*. See [page 4-8](#).
5. Perform Task F, *To replace the cylinder*. See [page 4-8](#).
6. Perform Task G, *To replace the faceplate*. See [page 4-9](#).
7. Perform Task H, *To replace the levers/knobs*. See [page 4-9](#).

Replacing the J trim

Refer to the trim diagrams on [page 3-3](#) and [page 3-7](#) and the detailed instructions for each task that follows.

1. Perform Task A, *To replace the mounting plates*. See [page 4-8](#).
2. Perform Task B, *To replace the escutcheons*. See [page 4-8](#).
3. Perform Task D, *To replace the rose rings*. See [page 4-8](#).
4. Perform Task F, *To replace the cylinder*. See [page 4-8](#).
5. Perform Task G, *To replace the faceplate*. See [page 4-9](#).
6. Perform Task H, *To replace the levers/knobs*. See [page 4-9](#).

Replacing the M trim

Refer to the trim diagrams on [page 3-4](#), [page 3-8](#), [page 3-10](#), and [page 3-11](#) and the detailed instructions for each task that follows.

1. Perform Task A, *To replace the mounting plates*. See [page 4-8](#).
2. Perform Task B, *To replace the escutcheons*. See [page 4-8](#).
3. Perform Task F, *To replace the cylinder*. See [page 4-8](#).
4. Perform Task G, *To replace the faceplate*. See [page 4-9](#).
5. Perform Task H, *To replace the levers/knobs*. See [page 4-9](#).

Replacing the N trim

Refer to the trim diagram on [page 3-5](#) and the detailed instructions for each task that follows.

1. Perform Task F, *To replace the cylinder*. See [page 4-8](#).
2. Perform Task A, *To replace the mounting plates*. See [page 4-8](#).
3. Perform Task B, *To replace the escutcheons*. See [page 4-8](#).
4. Perform Task G, *To replace the faceplate*. See [page 4-9](#).
5. Perform Task H, *To replace the levers/knobs*. See [page 4-9](#).

**Tasks for replacing
the trim**

Task A. To replace the mounting plates:

1. For J trim, position the J alignment plate on the outside of the door. For all other trim, go to step 2.
2. Install the outside and inside mounting plates.
3. Install the two (2) mounting plate screws from the inside of the door.

Task B. To replace the escutcheons:

1. Position the inside and outside escutcheons on the door.
2. Install the upper and lower escutcheon screws from the inside of the door.

Note: The J escutcheon only has an upper escutcheon screw.

Task C. To replace the roses:

Position the inside and outside roses on the door. They should rest on the mounting plates.

Task D. To replace the rose rings:

1. If there are roses or escutcheons, hold them in position so that they are centered on the mounting plates.
2. Use the spanner wrench to install the inside and outside rose rings onto the mounting plates.

Task E. To replace the turn knob assembly:

1. Position the turn knob assembly on the inside of the door.
2. Install the two turn knob assembly screws.

Task F. To replace the cylinder:

1. Make sure that the washer, if present, and cylinder ring are positioned on the cylinder.

Note: The high security cylinder ring does not have a washer.

2. With the mortise cylinder wrench inserted into the core hole, insert the cylinder assembly into the cylinder hole on the outside of the door.
3. *For standard cylinders*, rotate the mortise cylinder wrench clockwise until the cylinder ring is flush against the door.

For concealed cylinders, rotate the mortise cylinder wrench clockwise until the groove around the cylinder head is even with the door surface.

For *high security cylinders*, rotate the mortise cylinder wrench clockwise until the cylinder head touches the inside rim of the cylinder ring.



Caution

A malfunction can occur if the cylinder is threaded in too far.

4. Tighten the cylinder clamp screw, found on the inside of the lock case, into the cylinder groove.

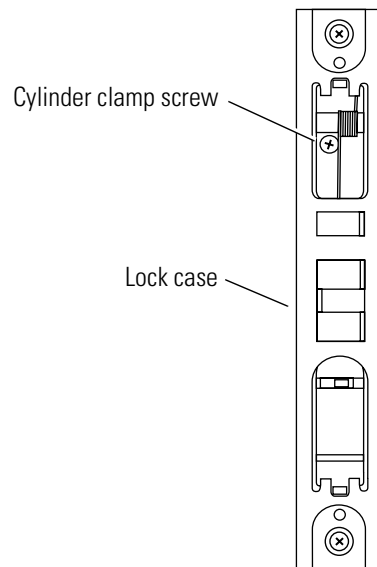


Figure 4.5 Location of the cylinder clamp screw (view from the edge of the door)

5. Insert the control key and core into the cylinder. Rotate the control key 15 degrees counterclockwise and then remove the key.
6. If the lock is double-keyed, repeat steps 1 through 4 for the other cylinder.

Task G. To replace the faceplate:

Position the faceplate on the lock and install the two faceplate screws.

Task H. To replace the levers/knobs:

1. From the outside of the door, insert the outside lever/knob and spindle assembly through the door.

Note: For lever trim, position the lever so that the handle points toward the door hinges.

2. Install the inside lever/knob onto the inside spindle.
3. Use a 1/8" Allen wrench to tighten the set screw on the inside lever/knob.
4. Turn the levers/knobs to check that they work smoothly.

REMOVING AND REPLACING THE CASE AND CASE COVER

Removing the case and case cover

In order to perform any maintenance on your H Series Locks, you must remove the trim and the lock from the door. Perform these steps to remove the lock case and cover:

1. Remove the trim. For more information, see *Removing the trim* on [page 4-3](#).
2. From the edge of the door, remove the two case mounting screws.
3. Remove the case from the door.
4. Set the case on a flat surface.
5. Remove the five case cover screws. Carefully remove the case cover. Many parts are spring loaded and may shift.

Replacing the case and case cover

After you have performed any maintenance on your 30H Lock, you must replace the case cover and the case before replacing the trim. Perform these steps to replace the lock case cover and case:

1. Place the case cover on the case and install the five case cover screws.
2. Check to see if the lock works properly.
3. Slide the case into the door.
4. Install the two case mounting screws.
5. Replace the trim. For more information, see *Replacing the trim* on [page 4-7](#).

CHANGING THE HAND AND BEVEL

This section describes how to change the hand and/or bevel of the lock. The section includes a quick reference, outlines of the tasks required to change the hand and/or bevel, and detailed instructions for each task. Each outline references the detailed instructions for each task found in *Tasks for changing the hand and bevel*.

Changing hand and bevel quick reference

Review the diagram below to understand the hand and bevel of the door.

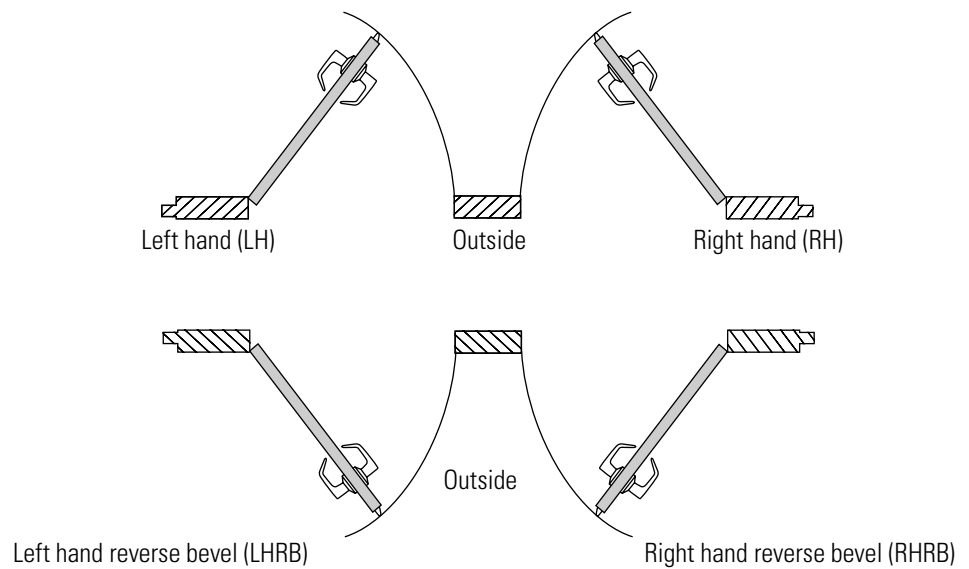


Figure 4.6 Explanation of the hand and bevel of the door

The following diagram and table shows which components need to be turned over when changing the hand and bevel. See the sections that follow for instructions.

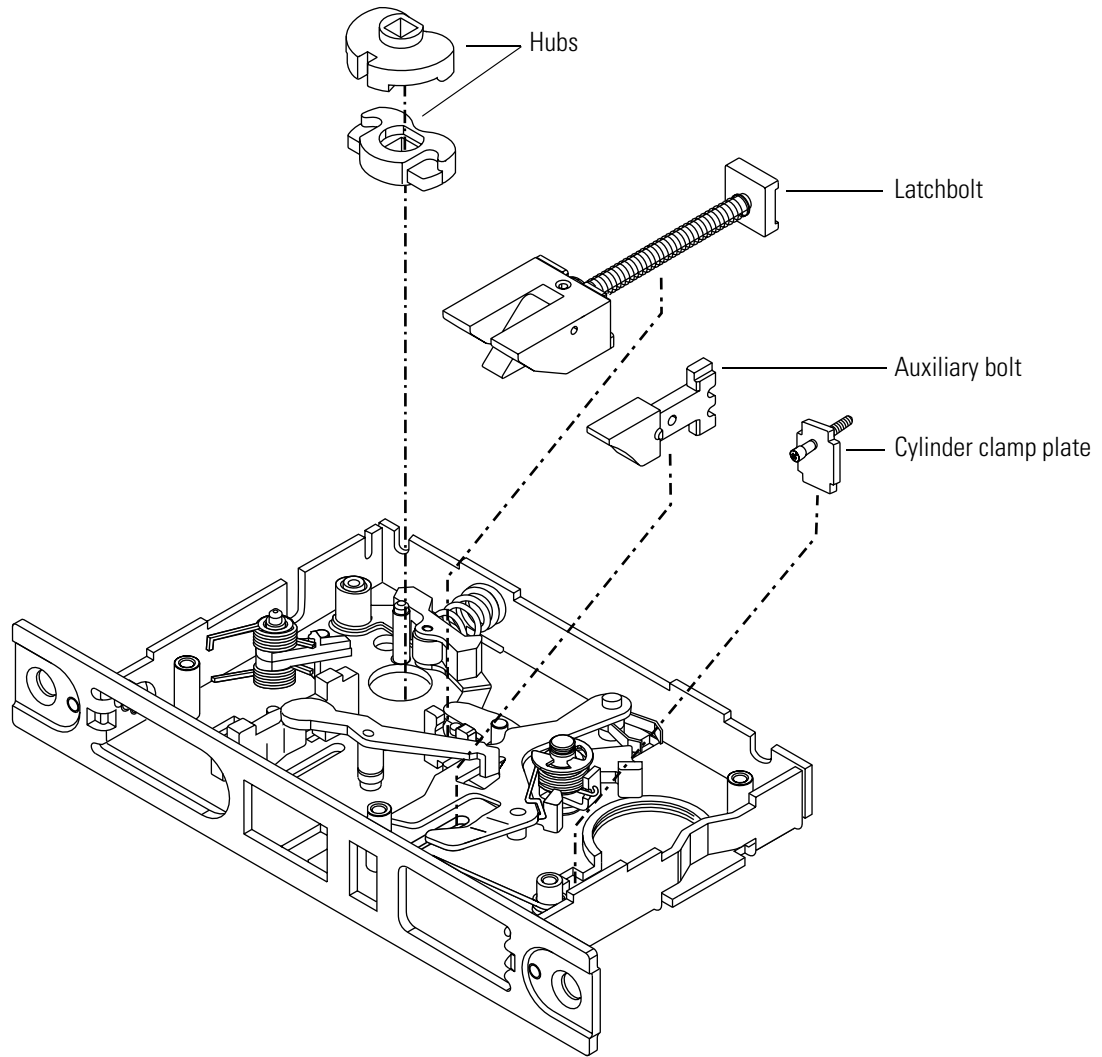


Figure 4.7 Overview of changing the hand and bevel

- B represents the latch and auxiliary bolts.
- H represents the hubs
- C represents the cylinder clamp plate assembly.

	LH	RH	LHRB	RHRB
LH		B/H/C	B	H/C
RH	B/H/C		H/C	B
LHRB	B	H/C		B/H/C
RHRB	H/C	B	B/H/C	

**Changing the hand
only**

Refer to the detailed instructions for each task that follows.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Perform Task A, *To remove and turn over the hubs*. See [page 4-15](#).
4. Perform Task C, *To replace the hubs*. See [page 4-17](#).
5. If the lock is single-keyed, perform Task D, *To turn over the cylinder clamp plate*. See [page 4-18](#).
6. Perform Task E, *To turn over the auxiliary bolt*. See [page 4-18](#).
7. Perform Task F, *To turn over the latchbolt*. See [page 4-19](#).
8. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
9. Replace the trim. See *Replacing the trim* on [page 4-7](#).

**Changing the hand
only with
the RQE switch**

Refer to the detailed instructions for each task that follows.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Perform Task A, *To remove and turn over the hubs*. See [page 4-15](#).
4. Perform Task B, *To turn over the RQE switch*. See [page 4-15](#).
5. Perform Task C, *To replace the hubs*. See [page 4-17](#).
6. If the lock is single-keyed, perform Task D, *To turn over the cylinder clamp plate*. See [page 4-18](#).
7. Perform Task E, *To turn over the auxiliary bolt*. See [page 4-18](#).
8. Perform Task F, *To turn over the latchbolt*. See [page 4-19](#).
9. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
10. Replace the trim. See *Replacing the trim* on [page 4-7](#).

**Changing the bevel
only for
non-deadbolt locks**

Refer to the detailed instructions for each task that follows.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Perform Task E, *To turn over the auxiliary bolt*. See [page 4-18](#).
4. Perform Task F, *To turn over the latchbolt*. See [page 4-19](#).
5. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
6. Replace the trim. See *Replacing the trim* on [page 4-7](#).

Changing the bevel only for deadbolt locks

Refer to the detailed instructions for each task that follows.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Perform Task F, *To turn over the latchbolt*. See [page 4-19](#).
4. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
5. Replace the trim. See *Replacing the trim* on [page 4-7](#).

Changing the hand and bevel

Refer to the detailed instructions for each task that follows.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Perform Task A, *To remove and turn over the hubs*. See [page 4-15](#).
4. Perform Task C, *To replace the hubs*. See [page 4-17](#).
5. If the lock is single-keyed, perform Task D, *To turn over the cylinder clamp plate*. See [page 4-18](#).
6. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
7. Replace the trim. See *Replacing the trim* on [page 4-7](#).

Changing the hand and bevel with the RQE switch

Refer to the detailed instructions for each task that follows.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Perform Task A, *To remove and turn over the hubs*. See [page 4-15](#).
4. Perform Task B, *To turn over the RQE switch*. See [page 4-15](#).
5. Perform Task C, *To replace the hubs*. See [page 4-17](#).
6. If the lock is single-keyed, perform Task D, *To turn over the cylinder clamp plate*. See [page 4-18](#).
7. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
8. Replace the trim. See *Replacing the trim* on [page 4-7](#).

Tasks for changing the hand and bevel

Task A. To remove and turn over the hubs:

1. If there is a locking lever, remove it.
2. If there is a locking bar, remove it.
3. Remove the top hub from the case, maintaining the hub's orientation.
4. Push the hub lever toward the side of the case and remove the bottom hub from the case. Maintain the hub's orientation.
5. Turn over the hubs.

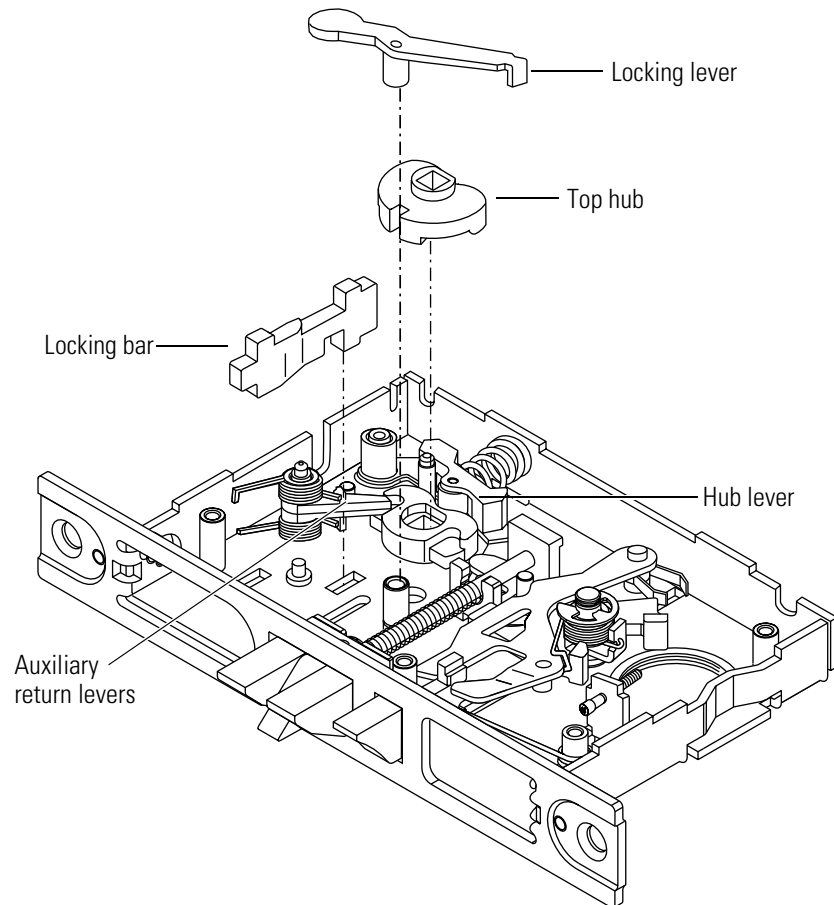


Figure 4.8 Turning over the hubs (LH orientation shown)

Task B. To turn over the RQE switch:

1. Pull the wire strain relief up and out of the case.
2. Tilt the RQE switch toward the middle of the case, then pull it up and out of the case.

3. Gently pull the switch bracket feet apart and remove the bracket from the switch.

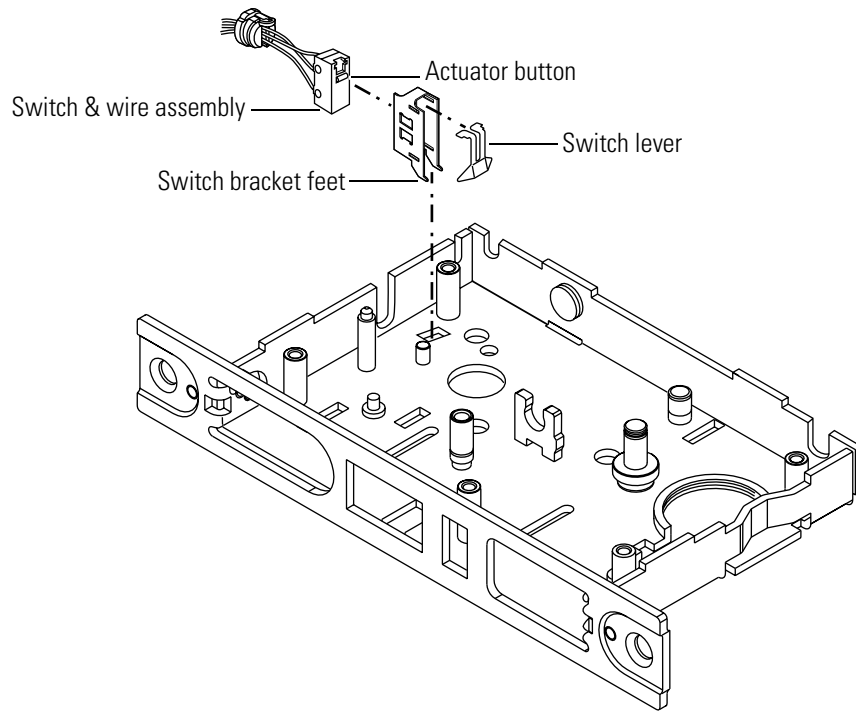


Figure 4.9 RQE switch assembly anatomy (LH orientation shown)

4. Reposition the switch lever. For RH/RHRB, the switch lever pivots at the bottom of the bracket (near the feet). For LH/LHRB, the switch lever pivots at the top of the bracket.
5. Position the bracket so that the RQE actuator button is on the same end as the pivot point of the switch lever. Gently bend the bracket feet apart and slide the bracket forward on the switch until the bracket tabs enter the two switch mounting holes.

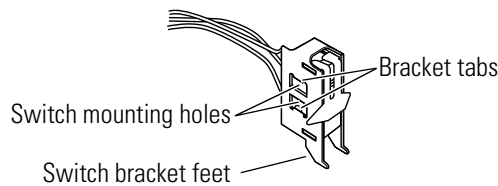


Figure 4.10 Assembled RQE switch assembly (LH orientation shown)

6. Clamp the wires in the strain relief. Slide the strain relief into position on the case. It should lock into place.
7. Tilt the RQE switch forward and slide it into place in the case.

Task C. To replace the hubs:

1. Push the hub lever toward the side of the case and slide the now bottom hub under the auxiliary levers.
2. Insert the now top hub onto the bottom hub.

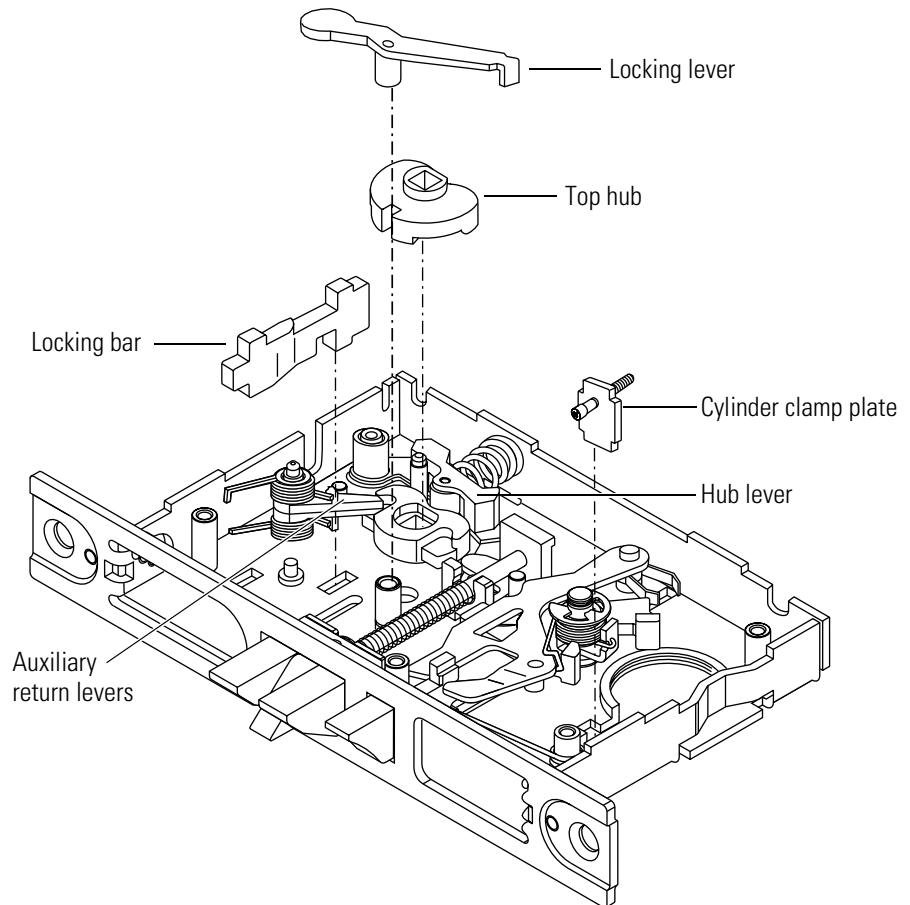


Figure 4.11 Turning over the hubs and cylinder clamp plate (LH orientation shown)

Note: If there is an RQE switch, the flat side of the outside hub should be opposite the pivot point on the RQE switch, as shown in [Figure 4.12](#).

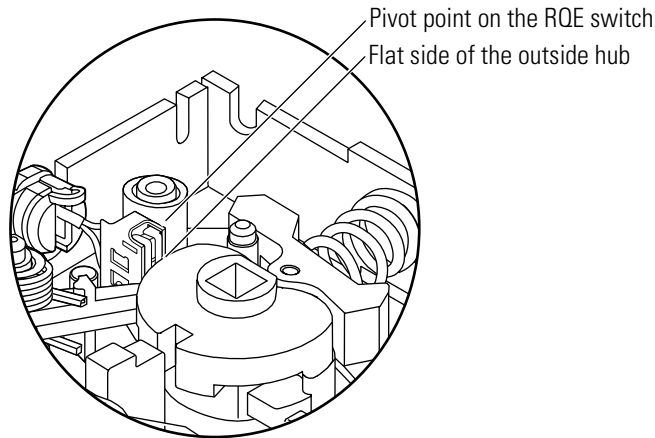


Figure 4.12 RQE switch and hub orientation (close-up, LH orientation shown)

3. If there is a locking bar, install it.
4. If there is a locking lever, install it.

Task D. To turn over the cylinder clamp plate:

If the lock is single-keyed, turn over the cylinder clamp plate and insert it in the case. See [Figure 4.11](#).

Note: The screw must be on the same side of the lock case as the mortise cylinder.

Task E. To turn over the auxiliary bolt:

1. Remove the auxiliary bolt spring.
2. Remove the auxiliary bolt from the case and turn it over.
3. Insert the auxiliary bolt into the case. The angled portion of the bolt should be pushed through the front of the case and the feet should be resting in the slot.
4. Place the long, straight end of the auxiliary bolt spring into the hole on the auxiliary bolt. The center of the spring coil should rest around the screw post.

5. Press the L-shaped end of the spring so that the center of the spring can slide to the bottom of the screw post. The spring tension should push the bolt toward the front of the case.

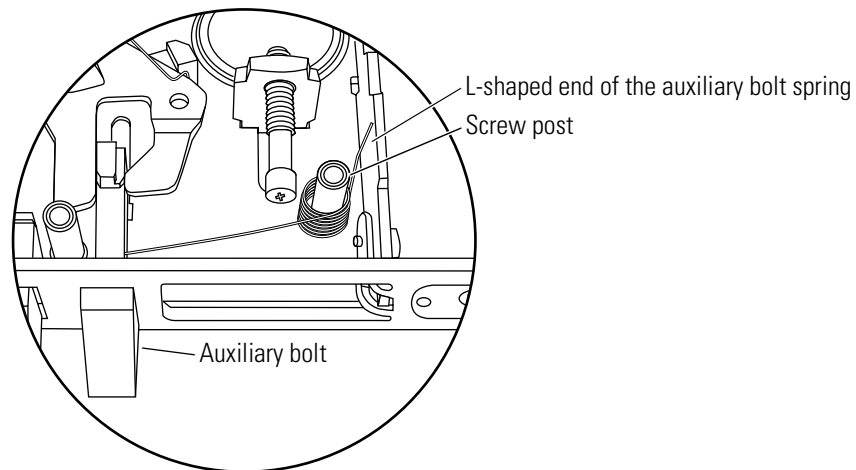


Figure 4.13 Turning over the auxiliary bolt (close-up)

Task F. To turn over the latchbolt:

1. If there is a locking lever, remove it.
2. Slide the brass grommet on the latchbolt away from the U-shaped latchbolt rod support. Grasp the latchbolt by the square-shaped tail and pull the latchbolt up and out of the case.
3. Turn over the latchbolt and rotate the anti-friction latch lever into position. Place the latchbolt in the case.

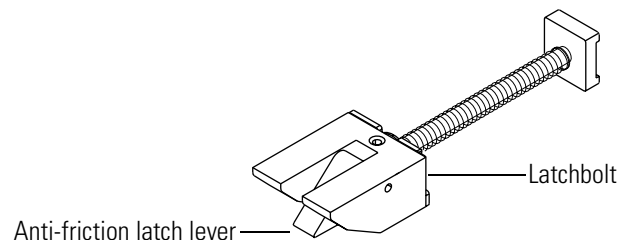


Figure 4.14 Latchbolt with anti-friction latch lever in position

4. Slide the brass grommet on the latchbolt away from the U-shaped latchbolt rod support. Rest the latchbolt rod into the U-shaped support. Release the grommet. It should snap into place.

Note: If you can pull the square-shaped tail out of the rod support, the latchbolt is not placed properly. Reposition the latchbolt.

5. If there is a locking lever, replace it.

6. Make sure that the tumbler spring rests against the E tumbler.

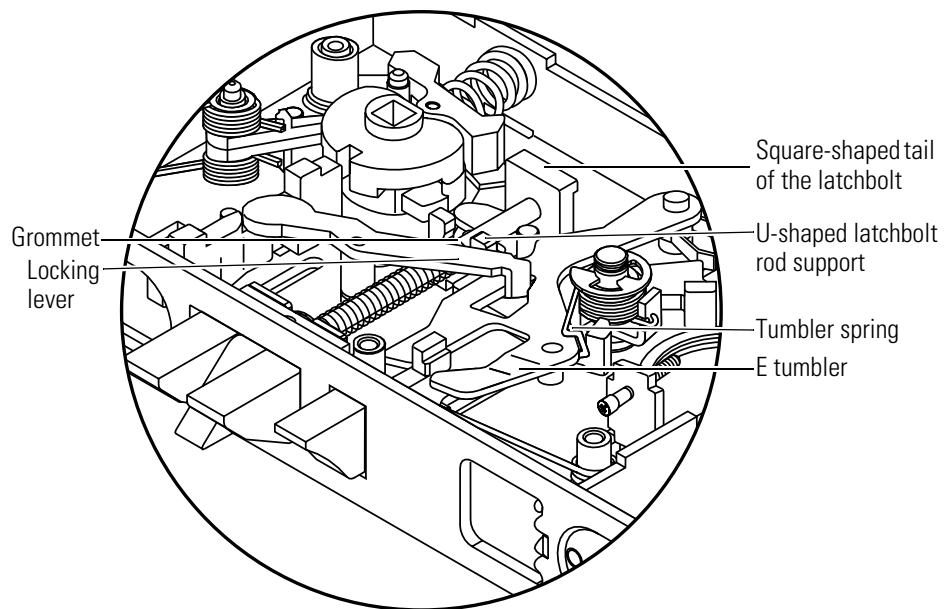


Figure 4.15 Turning over the latchbolt (close-up, LHRB orientation shown)

ADDING THE RQE SWITCH

Perform the following steps in order to add an RQE switch to your lock.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. While maintaining the orientation of the hubs, remove the hubs from the case. See *Task A. To remove and turn over the hubs:* on [page 4-15](#).
4. Make sure that the RQE switch components have the correct orientation. When installed, the pivot point on the RQE switch should be opposite the flat side of the outside hub, as shown in [Figure 4.16](#).

Note: If you need to change the orientation of the RQE switch, see step 3 through step 5, *Task B. To turn over the RQE switch:* on [page 4-15](#).

5. Clamp the wires in the strain relief. Slide the strain relief into position on the case. It should lock into place.
6. Tilt the RQE switch forward and slide it into place in the case.
7. Reinstall the hubs. See *Task C. To replace the hubs:* on [page 4-17](#). The flat side of the outside hub should be opposite of the pivot point on the RQE switch.

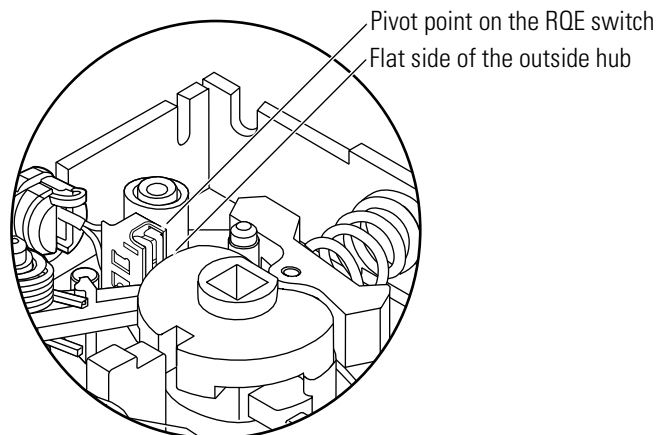


Figure 4.16 RQE switch and hub orientation (close-up)

8. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
9. Replace the trim. See *Replacing the trim* on [page 4-7](#).

PERFORMING KNOB-TO-LEVER CONVERSION

This section describes how to convert a lock with knobs to a lock with levers using the knob-to-lever conversion kit. The kit is shown on [page 3-28](#).

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. If there is a locking lever, remove it.
4. Slide the brass grommet on the latchbolt away from the U-shaped latchbolt rod support. Notice the orientation of the latchbolt. Grasp the latchbolt by the square-shaped tail and pull the latchbolt up and out of the case.

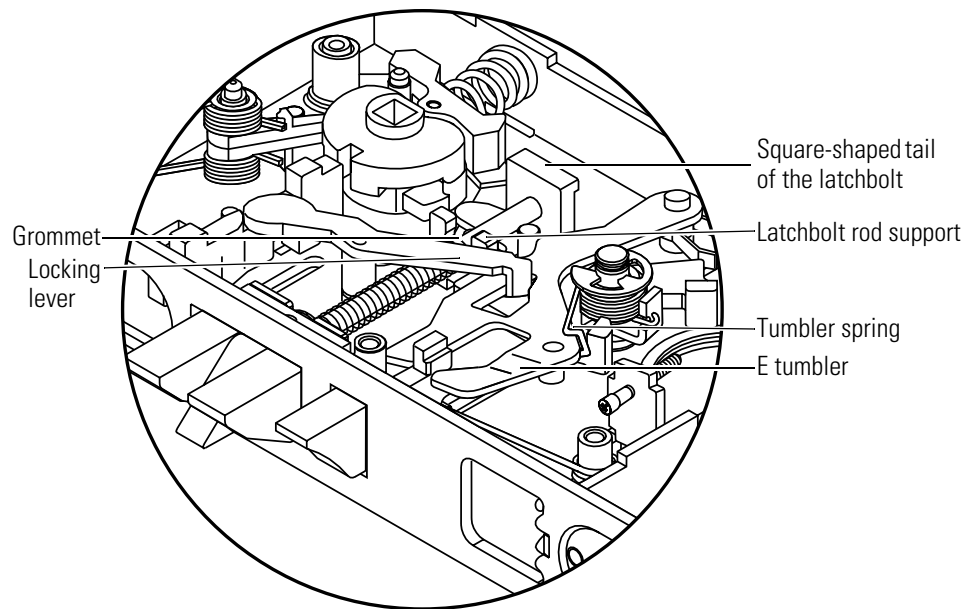


Figure 4.17 Turning over the latchbolt (close-up, LHRB orientation shown)

5. Position the fusible slide plate onto the latchbolt head so that the pin on the fusible slide plate inserts into the hole on the latchbolt head.
6. Install the retainer ring into the groove on the latchbolt rod near the latchbolt head.

7. Rotate the anti-friction latch lever into position. Place the latchbolt in the case the same orientation as before.

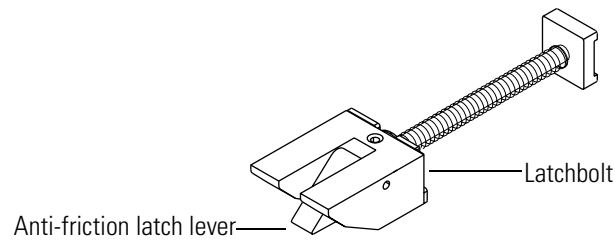


Figure 4.18 Latchbolt with anti-friction latch lever in position

8. Slide the brass grommet on the latchbolt away from the U-shaped latchbolt rod support. Rest the latchbolt rod into the U-shaped support. Release the grommet. It should snap into place.

Note: If you can pull the square-shaped tail out of the rod support, the latchbolt is not placed properly. Reposition the latchbolt.

9. If there is a locking lever, replace it.
10. Install the lower auxiliary spring onto the post located at the bottom center of the case, as shown in [Figure 4.19](#).
11. Position the two auxiliary return levers so that the flat sides are together and install them onto the post.
12. Position the upper auxiliary spring onto the post, as shown in [Figure 4.19](#).
13. Place the stop pin in the smaller of the two holes between the hub lever and hubs.

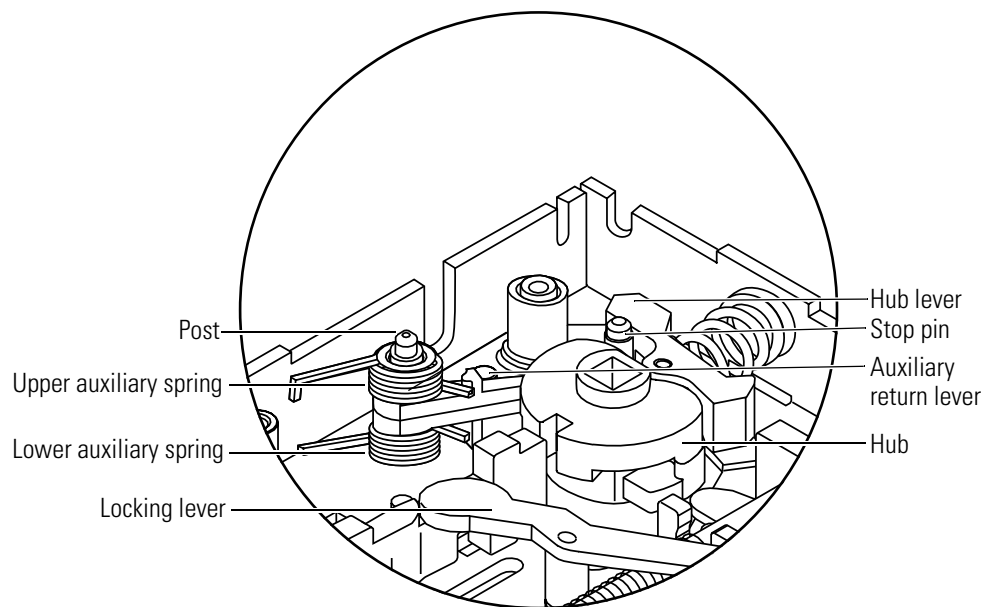


Figure 4.19 Performing knob to lever conversion

14. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
15. Replace the trim. See *Replacing the trim* on [page 4-7](#).

REPLACING PARTS

Replacing the spindle, locking bar, and locking lever

When the 30HC2 spindle has been broken or twisted, it must be replaced. A new mortise spindle has been designed that requires almost double the amount of force to twist and break as the old one.

If the lock was produced since October 1994, order the 30HC2 mortise spindle. Follow the instructions below to install it. Also, inspect the case, locking bar, and locking lever for damage.

If the lock was produced before October 1994, order the 30HC2 mortise spindle replacement kit and specify the function of the lock. For example, for a J function lock, order 30HC2-J.

The 30HC2 mortise spindle replacement kit contains the parts you'll need to replace the spindle and locking bar. The new locking bar has been designed with increased strength. Follow the instructions below to replace the spindle and locking bar.

If the lock was produced before October 1994 and is a B, C, or L function, order the 30HC2 mortise spindle replacement kit *and* a locking lever. The new locking lever has been designed with increased strength. Follow the instructions below to replace the spindle, locking bar, and locking lever.



If you do not replace or add the locking bar and/or locking lever, the lock will be weakened and more vulnerable to attack. This failure to replace the components may also void the manufacturer's warranty and any service agreement you may have.

To replace the spindle:

1. Remove the levers/knobs. See *Task A. To remove the levers/knobs:* on [page 4-4](#).
2. Push the pin through the base of the outside lever/knob.
3. Remove the spindle assembly from the outside lever/knob.
4. Insert the new spindle assembly into the outside lever/knob and install the pin.
5. Replace the levers/knobs. See *Task H. To replace the levers/knobs:* on [page 4-9](#).

To replace the locking bar and locking lever:

The following steps apply to locks made before October 1994.

Note: If the new locking bar has already been installed, you should be able to change the spindle several times without needing to change the locking bar. But, if the lock has been repeatedly abused, check the case, and particularly the locking bar, for damage.

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Remove the locking lever. Remove the locking bar.
4. Replace the new locking bar.
5. Replace the locking lever.

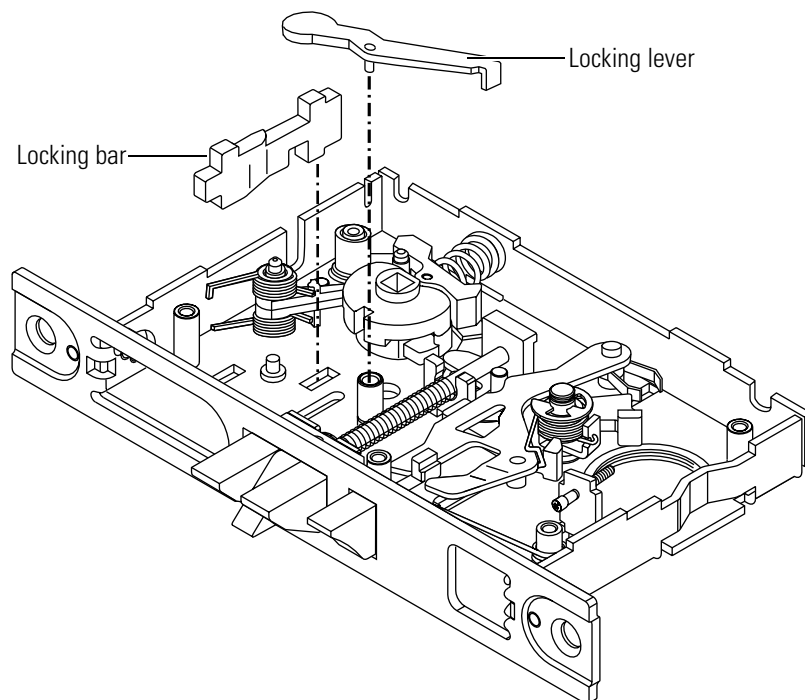


Figure 4.20 Replacing the locking bar and locking lever

6. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
7. Replace the trim. See *Replacing the trim* on [page 4-7](#).

Replacing the turn knob hubs and R function turn knob cylinder

The R function turn knob cylinder has been redesigned and requires a special turn knob hub. After these new parts are installed and the deadbolt is retracted, the turn knob will rotate freely in the direction that the deadbolt retracts.

Note: To order a R function turn knob cylinder, use the following part numbers:

- RH/RHRB, B35401
- LH/LHRB, B35405
- M trim RH/RHRB, B35519
- M trim LH/LHRB, B35520.

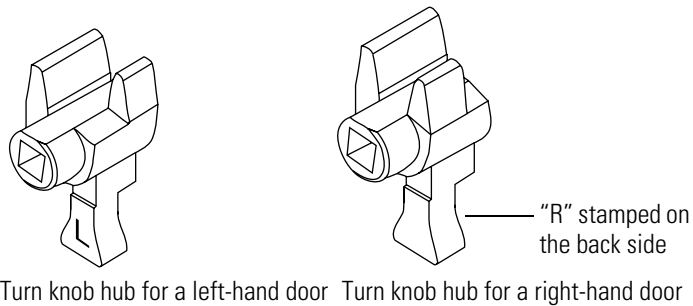


Figure 4.21 Left hand and right hand turn knob hubs

Perform the following steps to replace the turn knob hub and turn knob cylinder:

1. Remove the trim. See *Removing the trim* on [page 4-3](#).
2. Remove the case and case cover. See *Removing the case and case cover* on [page 4-10](#).
3. Remove the turn knob hub from the case.

4. Install the new turn knob hub.

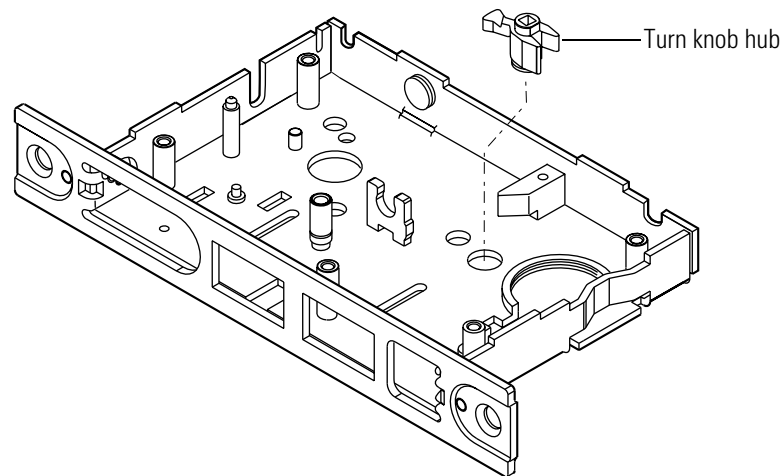


Figure 4.22 Replacing the turn knob hub

5. Replace the case cover and case. See *Replacing the case and case cover* on [page 4-10](#).
6. Replace the trim. See *Replacing the trim* on [page 4-7](#).
7. Check that the deadbolt and keyed cylinder are operating properly.
 - a. Use the key to slowly extend the deadbolt.
 - b. Grasp the deadbolt with your fingers. The deadbolt should extend fully.
 - c. Use the key to slowly retract the deadbolt. Make sure that the deadbolt retracts fully.
8. Check that the deadbolt and turn knob cylinder are operating properly.
 - a. Use the key to extend the deadbolt.
 - b. Use the turn knob to slowly retract the deadbolt while grasping the deadbolt with your fingers. Make sure that the deadbolt retracts fully.
9. If the deadbolt does not fully extend or retract, adjust the turn knob cylinder or keyed cylinder in or out.
 - a. Remove the faceplate. See [page 4-4](#).
 - b. Adjust the cylinder. See [page 4-4](#).
 - c. Repeat step 7 and step 8 to check again that the components are operating properly.

TROUBLESHOOTING

This table summarizes the possible causes for certain lock problems. The causes of failure are listed in the order of likelihood. (The most likely cause is first, and so forth.)

For problems with the core and key, such as difficulty removing or inserting the key or difficulty turning the key, see the *Core and Key Service Manual*.

You notice...	Possible causes include...	You should...
Knobs or levers won't turn.	<ul style="list-style-type: none"> a. Spindle is not backed off. b. Trim is out of alignment. 	<ul style="list-style-type: none"> a. Unscrew the inside spindle one full turn to allow the spindle to turn freely. b. Loosen the trim and realign it so that the deadbolt does not bind.
Outside knob won't lock.	Handing is reversed.	Change the handing (pg. 4-11).
Latch won't extend and is not working smoothly.	No notch in the door to accommodate the anti-friction latch.	Notch out the wood door to accommodate the anti-friction latch.
Cannot remove the core.	Set screw is inverted.	Remove the mortise case faceplate (pg. 4-4) and reverse the cylinder set screw.
Deadbolt won't or is difficult to retract and throw.	Trim is out of alignment.	Loosen the trim and realign it so that the deadbolt does not bind.
Outside lever droops.	Spindle has been twisted.	Replace the spindle (pg. 4-24).
Door won't open.	Auxiliary latch projects into the strike.	Attempt to jimmy or loid the lock, or call your local BEST Representative.
Inside lever droops.	Spindle is not backed off.	Unscrew the inside spindle one full turn to allow the spindle to turn freely.

A

GLOSSARY

Abrasive lever	A lever handle with an abrasive strip on the inside of the handle.
Anti-friction latch	A latchbolt designed to reduce friction between the main latchbolt and strike.
Armored front	The mortise lock front and faceplate designed to prevent tampering with the cylinder set screw and case mounting screws.
Auxiliary dead latch	A latch that prevents the latchbolt from being loided when the door is closed. See <i>loiding</i> .
Backset	The distance from the faceplate to the center of the cylinder or lever/knob.
Bevel	See <i>Door bevel</i> .
Cam	See <i>Cylinder cam</i> .
Core	See <i>Interchangeable core</i> .
Cylinder	See <i>Mortise cylinder</i> .
Cylinder cam	A rotating part of a keyed cylinder that drives the deadbolt or latchbolt.
Cylinder die	A tool for rethreading a 1 5/32" diameter cylinder.
Cylinder ring	A metal ring that fits around the cylinder and protects it from tampering. The cylinder ring also spaces the cylinder out to the right position.
Cylinder tap	A tool for rethreading case threads.
Cylinder wrench	A tool for installing, removing, and testing cylinders.
Door bevel	The angle on the edge of a door.

Dummy cylinder	A nonfunctional mortise cylinder used only to plug a cylinder hole.
Dummy trim	Trim only (without lock). Used mainly on the inactive door of a double door.
Electrically-operated lock	A lock that is locked or unlocked—usually from another location—by applying or removing electric power.
Emergency key	The key that retracts the deadbolt of a privacy lock (L or LF function).
Escutcheon	A surface-mounted plate that covers holes that were made in the door for knobs and cylinders.
Faceplate	A finished part of a mortise lock that covers the armored front. See <i>Armored front</i> .
Faceplate buttons	Two push buttons in the faceplate—one locks, the other unlocks the outside knob or lever.
Figure-8	The basic shape of the interchangeable core and its housing (door knob, cylinder, padlock, and so forth). See also <i>Interchangeable core</i> .
Hand of door	The swing direction of the door as viewed from the outside of the door. A right-handed (RH) door is hinged on the right and swings inward. A left-handed (LH) door is hinged on the left and swings inward. If either of these doors swings outward, it is a right-hand reverse bevel (RHRB) door, or a left-hand reverse bevel (LHRB) door respectively.
High edge of door bevel	The edge of the door that is closer to the frame.
Interchangeable core	A figure-8 shaped device that contains all mechanical parts for a masterkeyed system. The interchangeable core can be removed by a special control key and can be recombined without disassembling the lock. See also <i>Figure-8</i> .
Knurled lever/knob	A lever/knob with a crisscross groove pattern cut into its surface. Knurling improves grip and can also serve as a warning when entering hazardous areas.
Life Safety Code®	A document, developed by the National Fire Protection Association (NFPA) that regulates building construction to prevent injury in case of fire. Code sections 2-4, and 5-2.1.5 apply to locks and latches.
Lock function	The way a lock operates. The function determines appropriate applications for the lock, such as; how the latchbolt is operated, how the deadbolt is operated, and how the knobs/levers are locked and unlocked.
Loiding	A burglary attack method that uses a credit card-like object. This object is inserted between the door and the frame to separate the latchbolt from the strike.
Mortise cylinder	A threaded lock cylinder that screws directly into the lock case. A key-driven rotating cam, attached to the back, drives the locking mechanism.

Mortise cylinder cam assembly tool	A tool for assembling the cylinder cam to the mortise cylinder.
Mortise	A rectangular cavity cut into the edge of a door. Can also mean the act of making such a cavity.
Mortise lock	A lock that fits into a mortise. Other locks fit into bored holes or mount to a surface. See also <i>Mortise</i> .
Occupied button	The button on a hotel function lock that, when pressed, shows whether the deadbolt is thrown (and therefore whether the room is occupied).
Removable core	See <i>Interchangeable core</i> .
Reverse bevel	See <i>Hand of door</i> .
Shifting cam	A spring-loaded cam that shifts back to drive another mechanism. See also <i>Cylinder cam</i> .
Spanner wrench	A wrench used to tighten a rose ring onto a door.
Swing	See <i>Hand of door</i> .
Tactile lever/knob	A lever/knob with deep grooves cut into its surface. Tactile grooves improve grip and can also serve as a warning when entering hazardous areas.
Template	A precise, detailed hole pattern that serves as a guide for the mortising and drilling of doors and frames.

B

INSTALLATION INSTRUCTIONS

The following pages contain the *Installation Instructions for 34H-37H Mortise Locks* and *Installation Instructions for 38H & 39H Mortise Locks*.

Overview

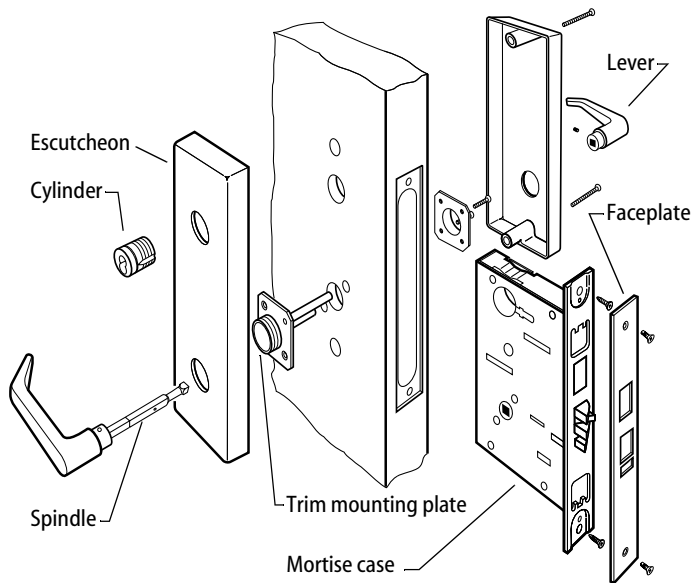


Figure 1—Exploded view of the mortise lock (M trim shown)

1 Mark centerlines

Caution: If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.

Note: Prepare the door according to ANSI A115.1 before using these instructions.

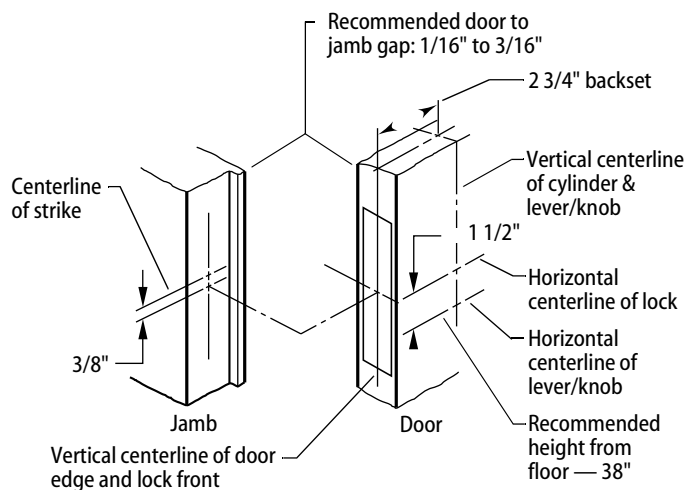


Figure 2—Marking the centerlines

- 1 Mark the horizontal centerline of the lock on both sides of the door and on the door's edge.
- 2 Mark the vertical centerline of the lock on the door edge.

- 3 Mark the vertical centerline of the cylinder & lever/knob on both sides of the door as measured from the vertical centerline on the door's edge.
- 4 Mark the horizontal centerline of the strike on the door jamb 3/8" above the horizontal centerline of the lock.

2 Center punch drill points

Caution: Only center punch the holes required for the function and trim you are installing.

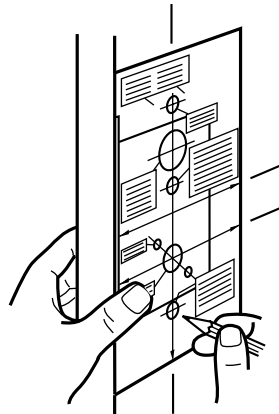


Figure 3—Punching the drill points

- 1 Cut the template along the dotted line and align the horizontal and vertical arrows to the marked centerlines on the door.
- 2 Tape the template to the door.
- 3 Center punch the appropriate drill points.

3 Install strike plate

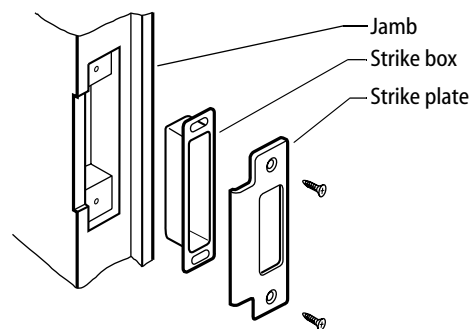


Figure 4—Installing the strike plate

- 1 Mortise the door jamb for the strike box and strike plate. When the strike box is not used, mortise the jamb deep enough to allow the latch bolt and dead bolt to fully extend. (See Installation Specifications for dimensions, template H03 and H11.)
- 2 Insert the strike box and secure the strike with screws provided.

Caution: The auxiliary bolt must make contact with the strike plate. The auxiliary bolt deadlocks the latchbolt and prevents someone from forcing the latch open when the door is closed. If the incorrect strike is installed, a lock-in can occur.

—Continued on the next page

4 Mortise and drill holes

Note: Check the lock for function, hand, and bevel before drilling.

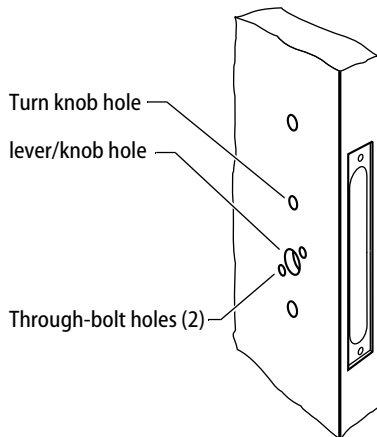


Figure 5—Hole pattern for inside of door

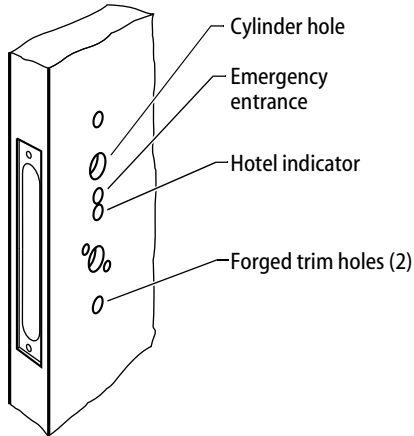


Figure 6—Hole pattern for outside of door

- 1 Mortise the door for the lock case and faceplate.
- 2 Drill only those holes required for the lock function and trim. See Installation Specifications and Hole Pattern Chart for hole requirements (templates H03 and H04).

5 Optional: Change hand and bevel

Check the hand and bevel of the mortise case before installing it in the door. Complete these steps if the lock hand or bevel needs to be changed.

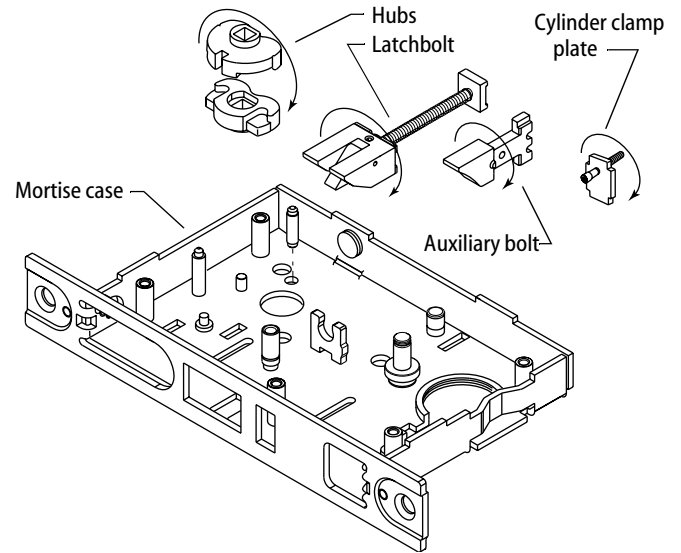


Figure 7—Changing the hand and bevel

- 1 Put the mortise case on a level surface and remove its cover.
- 2 Complete one of the following three steps:
 - To change the hand only (for example, from LH to RH)**
 - ▲ Turn over the latchbolt, auxiliary bolt, hubs (keeping the hubs together), and cylinder clamp plate, if applicable.
 - To change the bevel only: (for example, from LH to LHRB)**
 - ▲ Turn over the latchbolt and auxiliary bolt.
 - To change the hand and bevel (for example, from LH to RHRB)**
 - ▲ Turn over the hubs (keeping them together), and the cylinder clamp plate, if applicable.
- 3 Screw the cover back onto the mortise case.
- 4 Check to see if the lock works properly.

—Continued on the next page

6 Install mortise case

Note: For electrically-operated locks see the instructions in Wiring Diagrams for Electrically-Operated Locks.

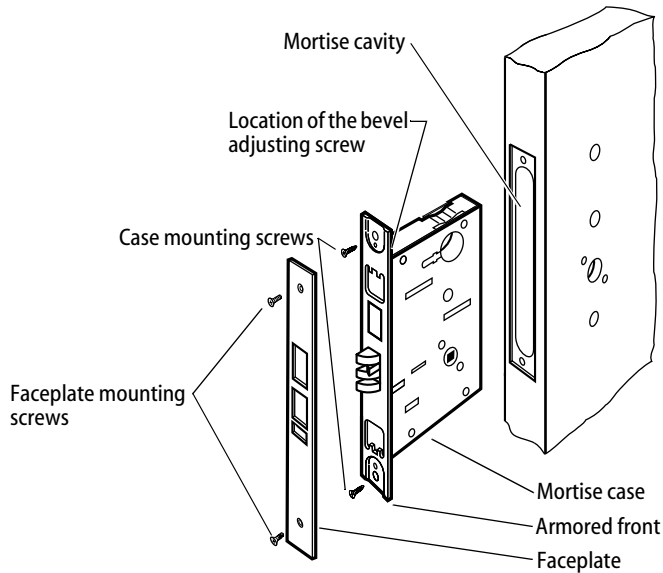


Figure 8—Installing the mortise case

- 1 Remove the faceplate from the lock.
- 2 If necessary, loosen the screws on the top and bottom of the lock case and adjust the bevel of the armored front to match the door bevel. Retighten the screws.
- 3 Install the mortise case into the mortise cavity.
- 4 Secure the mortise case in the door with the case mounting screws.

Note: Do not put the faceplate back on yet.

7 Install mounting plates, escutcheons or roses, & cylinders

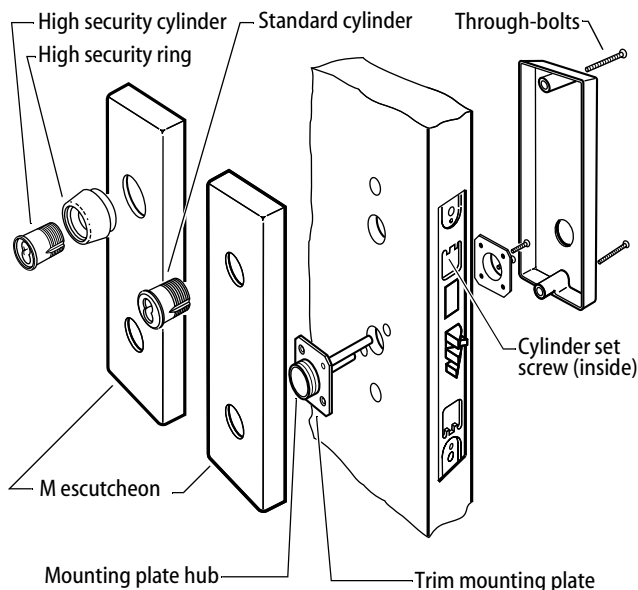


Figure 9—Installing the mounting plates, escutcheons, & cylinders

To install the mounting plates:

- 1 For J trim, position the J alignment plate on the outside of the door. For all other trim, go to step 2.
- 2 Install the outside and inside mounting plates.
- 3 Install the two mounting plate screws from the inside of the door.

Caution: Do not overtighten the mounting plate screws. Overtightening may compress the mortise cavity and bind the locking mechanism.

To install the concealed cylinder (for N trim only):

- 1 With the mortise cylinder wrench inserted into the core hole, insert the cylinder into the cylinder hole on the outside of the door. Rotate the cylinder wrench clockwise until the groove around the cylinder head is even with the door surface.

Caution: A malfunction can occur if the cylinder is threaded in too far.

- 2 Secure the cylinder in the mortise case with the cylinder set screw.

To install the escutcheons or roses:

- 1 Position the inside and outside escutcheons or roses on the door so they are centered on the mounting plates.
- 2 If there are escutcheon screws, install the upper and lower escutcheon screws from the inside of the door.

Note: The J escutcheon only has an upper escutcheon screw.

- 3 If there are escutcheon or rose rings, use the spanner wrench to install the inside and outside rings onto the mounting plates.

Note 1: To adjust the hotel indicator for hotel functions, see the Hotel Indicator Adjustment Instructions (Document T61960).

Note 2: For complete instructions on installing the mortise cylinder, see the Mortise Lock Cylinder Instructions (Document T61972).

To install the standard cylinder or high security cylinder:

- 1 Make sure that the washer, if present, and cylinder ring are positioned on the cylinder.

Note: The high security cylinder does not have a washer.

- 2 With the mortise cylinder wrench inserted into the core hole, insert the cylinder assembly into the cylinder hole on the outside of the door.
- 3 For standard cylinders, rotate the mortise cylinder wrench clockwise until the cylinder ring is flush against the door.

For high security cylinders, rotate the mortise cylinder wrench clockwise until the cylinder head touches the inside rim of the cylinder ring.

Caution: A malfunction can occur if the cylinder is threaded in too far.

- 4 Secure the cylinder in the mortise case with the cylinder set screw.

To install the faceplate:

Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.

—Continued on the next page

8 Install knobs or levers

For both levers and knobs

Unscrew the inside spindle one full turn to allow the spindles to turn freely.

For levers

- 1 With the handle pointing toward the door hinges, put the outside lever and spindles into the lock from the outside of the door.
- 2 Slide the inside lever onto the tapered inside spindle.
- 3 Turn the set screw until it makes contact with the spindle. Then tighten the set screw approximately 3/4 of a turn.
- 4 Turn the levers to check that they work smoothly.

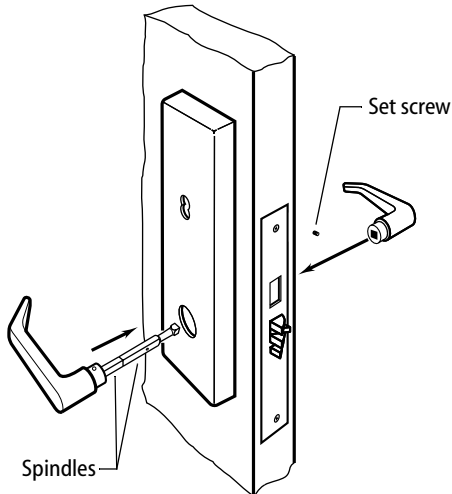


Figure 10—Installing the levers

For knobs

- 1 From the outside of the door, put the outside knob and spindles into the lock.
- 2 Slide the inside knob onto the tapered inside spindle.
- 3 Turn the set screw until it makes contact with the spindle. Then tighten the set screw approximately 3/4 of a turn.
- 4 Push the set screw cap into the set screw hole.
- 5 Turn the knobs to check that they work smoothly.

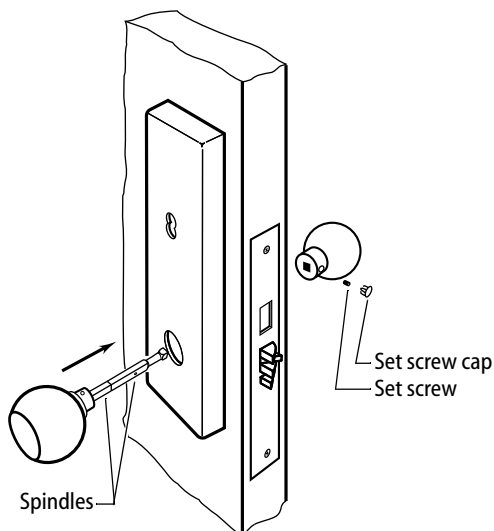


Figure 11—Installing the knobs

9 Install core

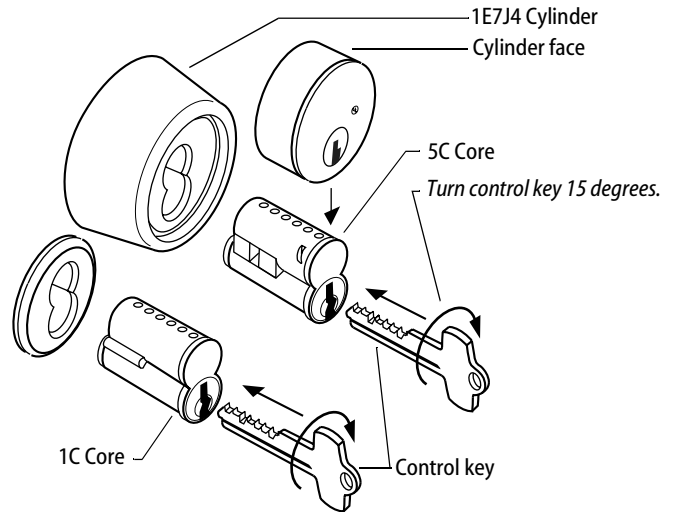


Figure 12—Installing the core

- 1 For 5C cores, slide the cylinder face down over the 5C core. For all other cores, go to step 2.
- 2 Put the control key into the core (or cylinder face) and turn the key 15 degrees clockwise.
- 3 Adjust the throw pins if needed, then put the core (and cylinder face) into the cylinder with the control key.
- 4 Turn the key 15 degrees counterclockwise and remove the key.

Note: You may also follow these steps to remove the core.

Overview

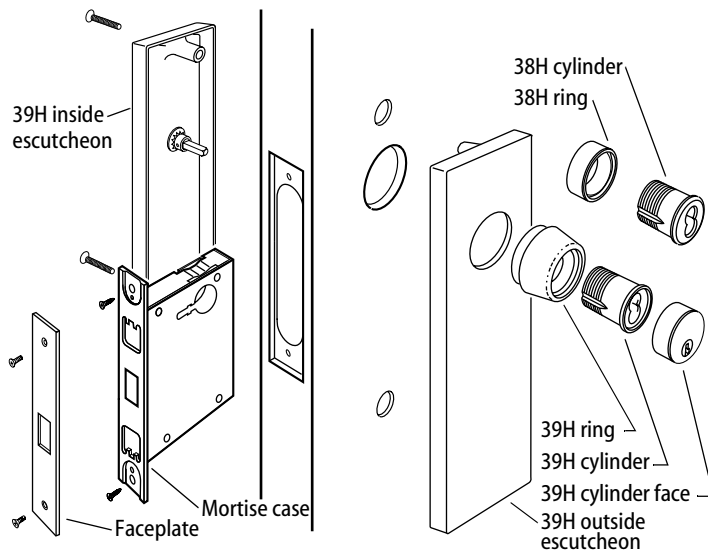


Figure 1—38H and 39H Mortise Lock overview diagram

1 Mark centerlines

Caution: If the door is a fabricated hollow metal door, determine whether it is properly reinforced to support the lock. If the door reinforcement is not adequate, consult the door manufacturer for information on proper reinforcement.

Note: Prepare the door according to ANSI A115.1 before using these instructions.

- 1 Mark the horizontal centerline of the lock on both sides of the door and on the door's edge.

Note: BEST suggests a 38" height as measured from floor to lock centerline. The recommended gap between the door and jamb is 1/16" to 3/16".

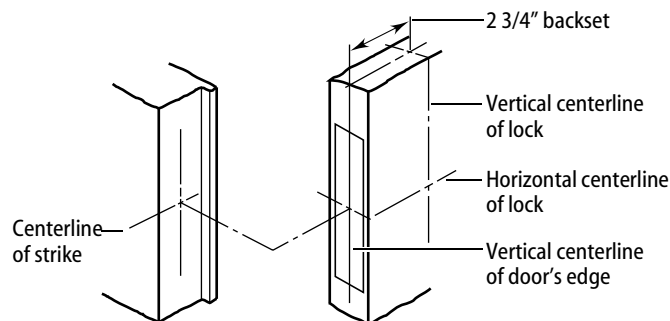


Figure 2—Marking the centerlines on the door

- 2 Mark the vertical centerline of the lock on the door edge.
- 3 Mark the vertical centerline of the lock on both sides of the door as measured from the vertical centerline on the door's edge.
- 4 Mark the horizontal centerline of the strike on the door jamb in line with the centerline of the lock.

2 Mark drill points

- 1 Cut the H08 template along the dotted line and align the horizontal and vertical arrows to the marked centerlines on the door.
- 2 Tape the template onto the door.
- 3 Center punch the drill points.

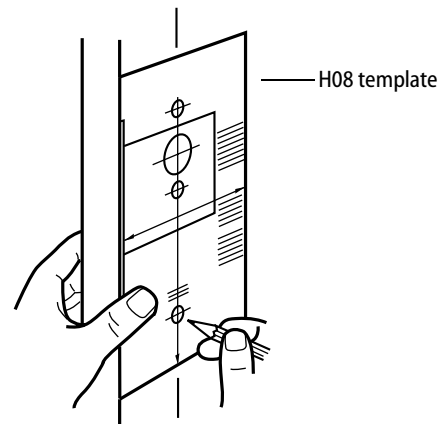


Figure 3—Marking the drill points

3 Install strike plate

- 1 Use the H08 template to mortise the door jamb for the strike box and strike plate. When the strike box is not used, mortise the jamb deep enough to allow the deadbolt to fully extend. (See *Installation Specifications* for dimensions, Template H06.)
- 2 Insert the strike box and secure the strike with the screws provided.

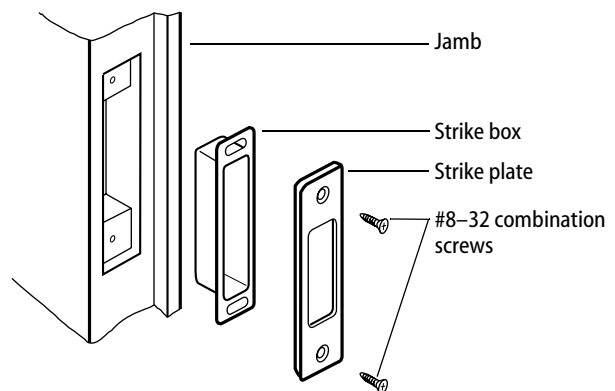


Figure 4—Installing the strike box and strike

4 Drill holes

Note: Check the lock for the function before drilling.

- 1 Mortise the edge of the door for the lock case and faceplate.
- 2 Drill only those holes required for the lock function and trim. See the Installation Specifications for hole requirements in Template H06.

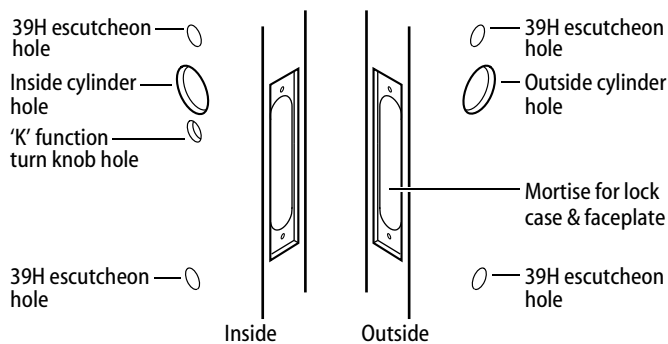


Figure 5—Mortising and drilling holes

5 Install mortise case

- 1 Remove the faceplate from the lock.

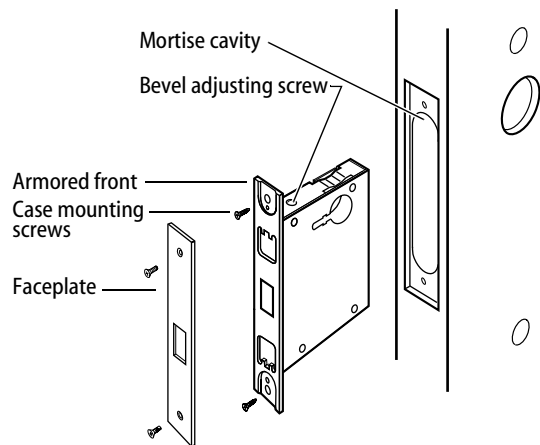


Figure 6—Installing the mortise case

- 2 Loosen the bevel adjusting screws on the top and bottom of the lock case and adjust the bevel of the armored front to match the door bevel. Tighten the screws.
- 3 Install the lock into the mortise cavity.
- 4 Secure the lock case with the case mounting screws.

6 Install trim

Caution: If the handing of the 'R' turn knob is incorrect, you can be locked in.

Caution: A malfunction can occur if the cylinder is threaded in too far.

To install 38H trim:

- 1 Position the washer and cylinder ring on the cylinder.
- 2 With the mortise cylinder wrench inserted into the core hole, insert the cylinder assembly into the cylinder hole. Rotate the mortise cylinder wrench clockwise until the cylinder ring is flush against the door.
- 3 Secure the cylinder in the mortise case with the cylinder clamp screw.
- 4 If there is a turn knob, position the turn knob assembly on the inside of the door. Install the two turn knob assembly screws.

- 5 Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.
- 6 Check the lock to see that it operates properly.

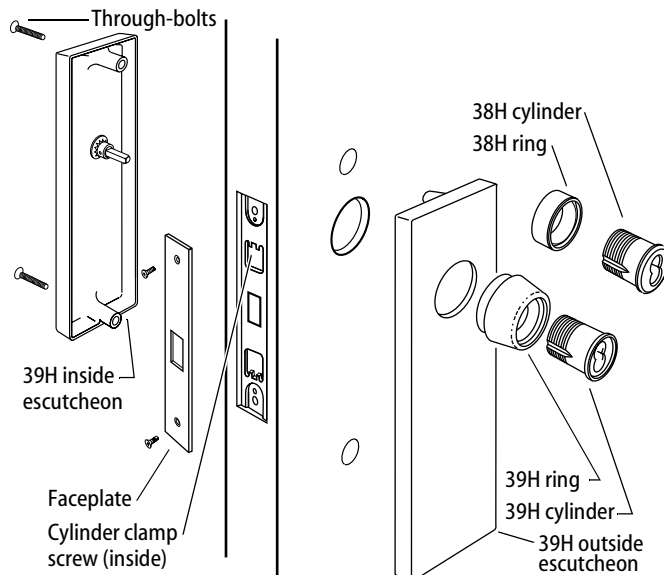


Figure 7—Installing 38H or 39H trim

To install 39H trim:

- 1 Position the inside and outside escutcheons opposite each other and screw them loosely in place.
- 2 Position the washer and cylinder ring on the cylinder.
- 3 With the mortise cylinder wrench inserted into the core hole, insert the cylinder assembly into the cylinder hole. Rotate the mortise cylinder wrench clockwise until the cylinder head touches the inside rim of the cylinder ring.
- 4 Secure the cylinder with the cylinder clamp screw.
- 5 Tighten the through-bolts.
- 6 Secure the mortise case faceplate to the mortise case with the faceplate mounting screws.
- 7 Check the lock to see that it operates properly.

7 Install core

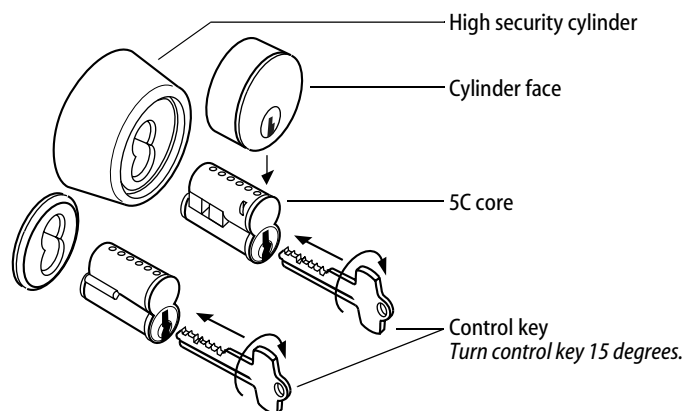


Figure 8—Installing the core

- 1 For 5C cores, slide the cylinder face down over the 5C core.
- 2 Put the control key into the core (or cylinder face) and turn the key 15 degrees clockwise.
- 3 Adjust the throw pins if needed, then put the core (and cylinder face) into the cylinder with the control key.
- 4 Turn the key 15 degrees counterclockwise and remove the key.

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Y case

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CORE AND KEY

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *Core and Key Service Manual* contains essential information to help you maintain your BEST cores and keys.

PRODUCT FAMILY DIAGRAM

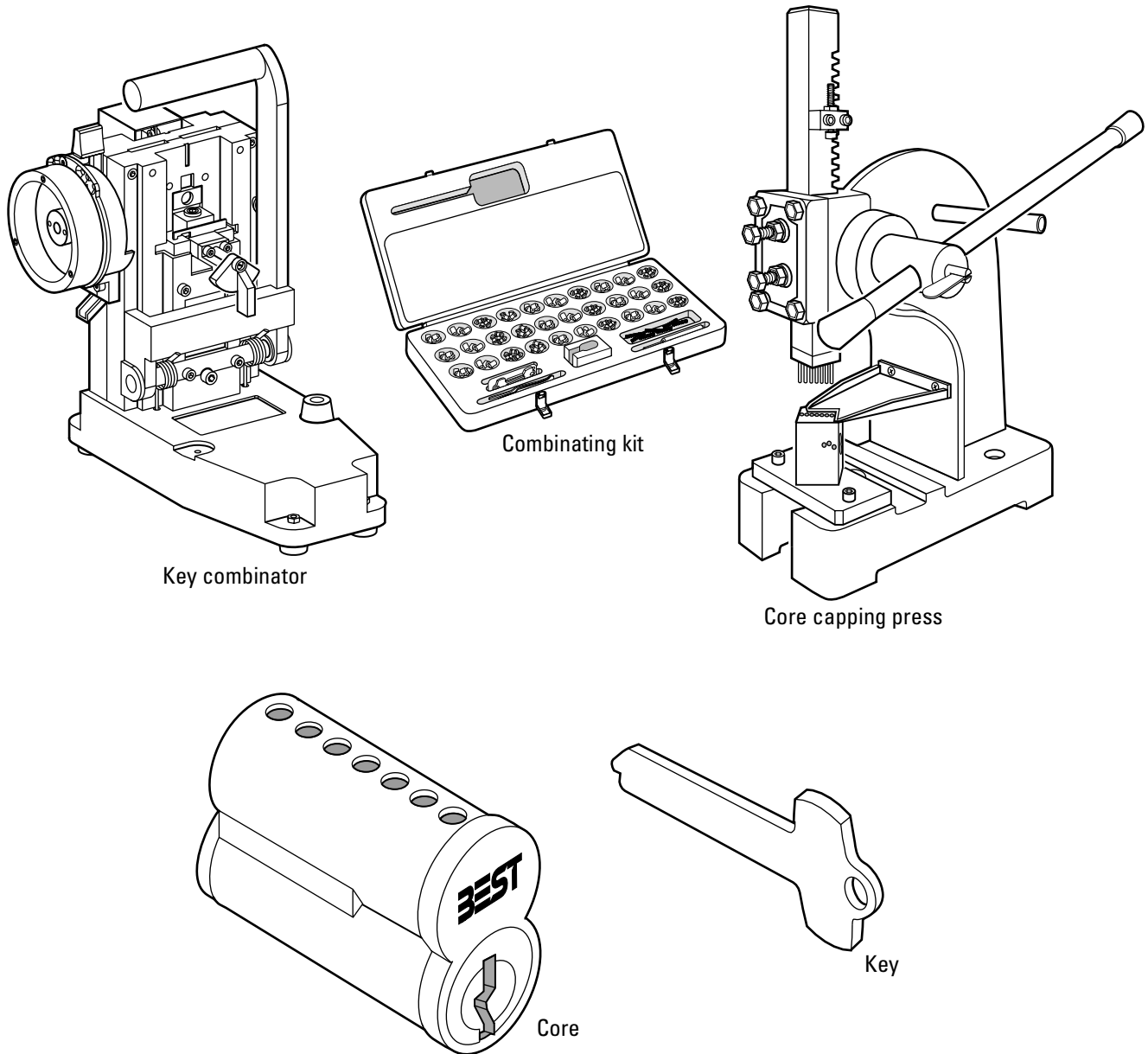


Figure 1.1 Core and key product family

CERTIFICATIONS AND STANDARDS

- BEST cores conform to ANSI/BHMA 156.5.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, operation, and maintenance of your BEST cores and keys along with associated service equipment. These documents also can be ordered separately from the product.

Document Title	Doc. No.
<i>Installation Instructions for Construction Cores</i>	T35533
<i>Operating Instructions for AD432 Key Combinator</i>	T35531
<i>Operating Instructions for AD433 Key Combinator</i>	T35529
<i>Operating Instructions for AD502 Micrometer Key Gauge</i>	T35530
<i>Key Combinator Service Manual</i>	T35532
<i>A2 System Service Manual</i>	T35534
<i>A3 System Service Manual</i>	T35535
<i>A4 System Service Manual</i>	T35536

TECHNICAL SUPPORT

Support services

When you have a problem with a BEST core or key, your first resource for help is the *Core and Key Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for all core and key products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

2

PARTS

The following pages contain descriptions and figures of cores, keys, and tools for servicing them.

OVERVIEW OF THE BEST CORE

Exploded view of the 1C 7-pin core

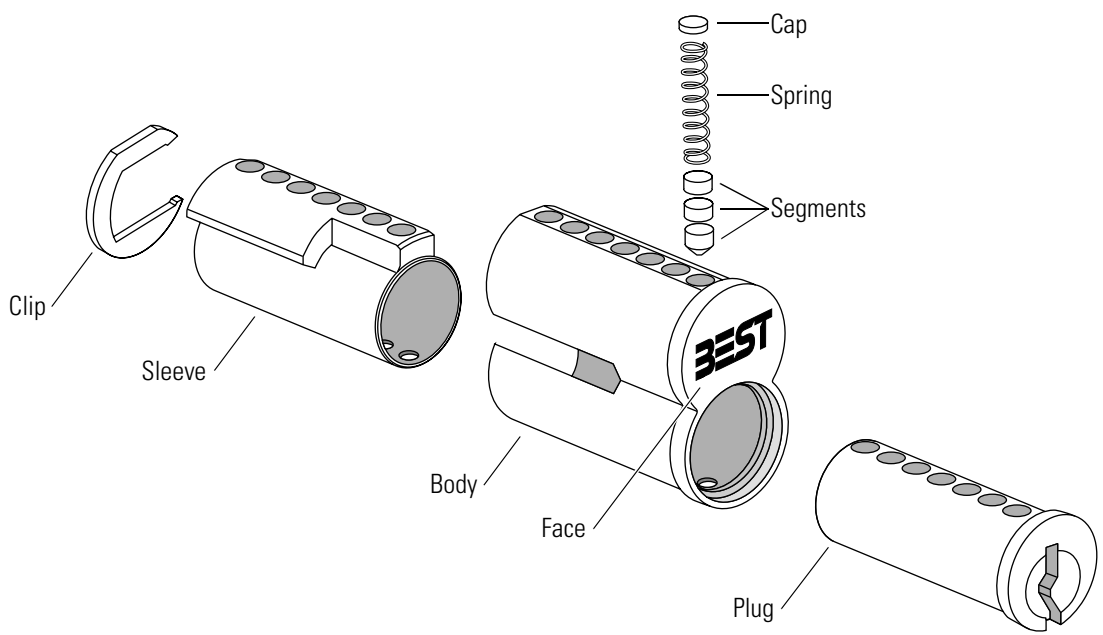


Figure 2.1 1C 7-pin core

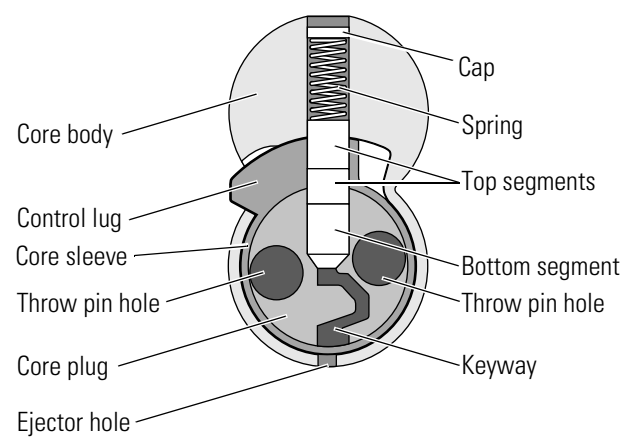


Figure 2.2 Cross section view of a core

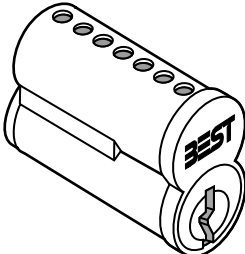
Core descriptions and figures Use the following table to help you order a BEST core.

1C	7	A	1		606
Core type	Core size	Keyway	Combining code	Options	Standard finishes
1C-Standard	5-5-pin	Designate specific keyway (A, E, etc.)	1-Uncombined	Blank-Standard	605-Bright brass
1CP-Premium key system	(1C core only)		2-Combined	B-Pick & drill resistant	606-Satin brass 612-Satin bronze
1CCOBP-Plastic construction core	6-6-pin	(1C and 2C cores only)		C-Dust cover	613-Oxidized
2C-Extended plug	(1C and 2C cores only)			D-Drill resistant	satin bronze, oil rubbed
3C-European	7-7-pin			K-Key trap	
5C-High security				P-Pick resistant	625-Bright chromium plated
6C-Core for 4S				S-Set screw (6C only)	626-Satin chromium plated
				T-Key retained operation (6C only)	
				W-Wear resistant	
See Table 2.3 for more information.				See Table 2.4 for more information.	

Table 2.3 Core type descriptions

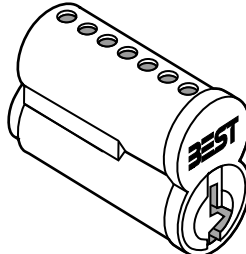
1C core

Standard interchangeable core.



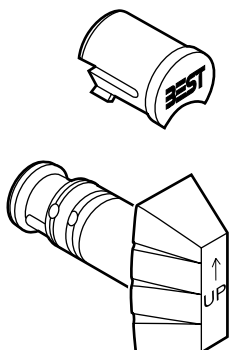
1CP core

Premium interchangeable core.



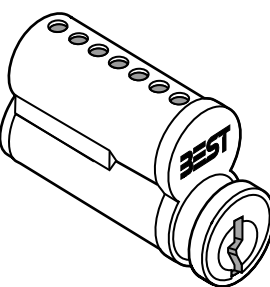
1CC0BP core

Black plastic, non-keyed construction core used to secure interior doors at a construction site.



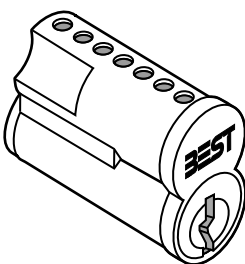
2C core

Interchangeable core used in the 8L mailbox lock.



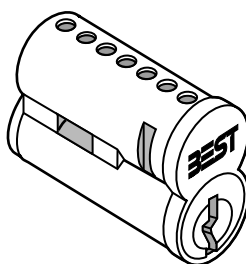
3C core

Interchangeable core used with the 8E European lock adaptation.



5C core

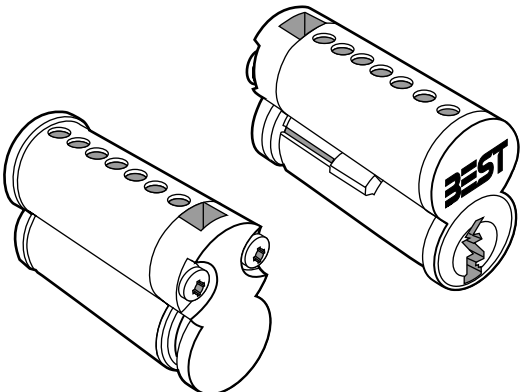
High security interchangeable core used in the 1E cylinder for mortise applications.



6C core^a

Interchangeable core used in the 4S sliding door cylinder lock.

Regardless of the cores's finish, the lost-motion assembly on the back of the core has a stainless steel finish.



a. The set screw style is not shown.

Table 2.4 Core options

Option	Nomenclature	Description
Pick & drill resistant	B	Provides enhanced resistance to picking and drilling the core. Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used as the top and bottom segments in the first two barrels of the core. Spooled segments are used as the top and bottom segments in each remaining barrel of the core.
Dust cover	C	Prevents the keyway from accumulating dust and dirt. Stainless steel spring-loaded dust cover is installed over the keyway. For part numbers, see page 2-8 . Note: If the core is housed in a cylinder, use the cylinder dust cover instead of the core dust cover for maximum protection.
Drill resistant	D	Provides enhanced resistance to drilling the core. Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used as the top and bottom segments in the first two barrels of the core.
Key trap	K	Eliminates a key from the system by trapping it in the core. This option is useful if a key has been lost, or if someone has a key and will not give it back. When the key is inserted into the core and is turned, the key is trapped in the core. The key cannot be returned vertically nor withdrawn from the core. The core and trapped key must be drilled out of the lock. This special core is modified at the factory to match the key that you want to trap.
Pick resistant	P	Provides enhanced resistance to picking the core. Spooled segments are used as the top and bottom segments in each barrel of the core.
Set screw (for 6C core only)	S	Alternate design of the 6C core used in the 4S sliding door cylinder lock. A set screw is used to hold the core in the lock.
Key retained (for 6C core only)	T	Provides an extra measure of security by trapping the key in the core while the core is unlocked. The core stays locked unless the key is left in it. A sleeve without a slot is used to hold the key in the core.
Wear resistant	W	Provides longer life for cores in high traffic areas. Hardened stainless steel segments are used as the bottom segments in each barrel of the core.

Segments, springs, and caps

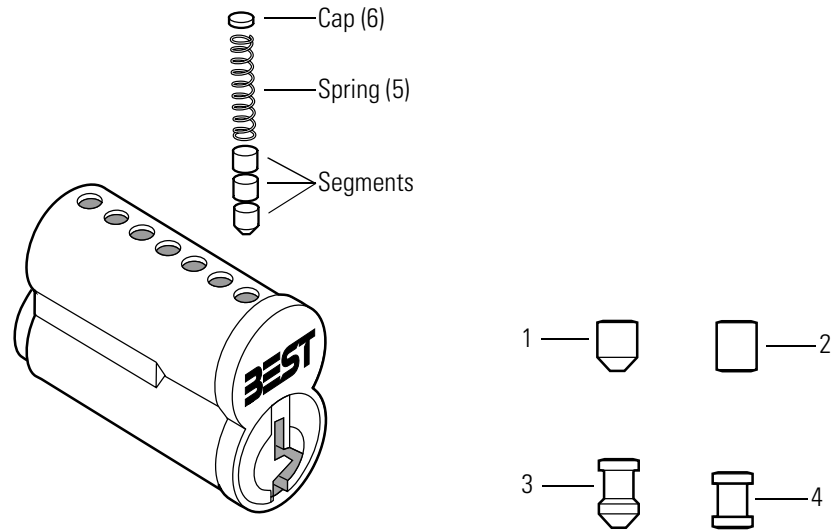


Figure 2.5 Segments, springs, and caps

Item	System	Nomenclature	Description
1	A2	A	Standard beveled (bottom) segment. Available in nickel silver or hardened stainless steel.
	A3	C	
	A4	E	
2	A2	B	Standard flat (top) segment. Available in brass or hardened stainless steel.
	A3	D	
	A4	F	
3	A2	A	Spooled beveled (bottom) segment. Available in nickel silver.
	A3	C	
	A4	E	
4	A2	B	Spooled flat (top) segment. Available in brass.
	A3	D	
	A4	F	
5		22S	Spring (500 per package)
		22S20M	Spring (20,000 per package)
6		21C	Cap (500 per package)

Note: For more information, see the *A2 System Service Manual* (T35534), the *A3 System Service Manual* (T35535), and the *A4 System Service Manual* (T35536).

UL application of the 5C core

The 5C core is used in the 1E7J4 and 1E7K4 high-security cylinders. It is also used in the 71B, 81B, and 91B high-security padlocks.

To have the 1E7J4 cylinder qualify for the Underwriters Laboratories (UL) high-security rating, the 5C core must be combined and loaded at the factory. Likewise, any core that needs to be recombined and reloaded must be sent to the factory. If the 5C core is combined and loaded outside of the factory, the cylinder no longer qualifies for the UL rating, and the UL-stamped cylinder faceplate cannot be used.

The 1E7K4 cylinder does not have the UL-stamped faceplate. You can combine and load the 5C core to be used in a 1E7K4 cylinder. For high-security applications, combine and load the 5C core as you would any other core *with the following exceptions*:

- Use hardened stainless steel segments in barrels six and seven.
- Use spooled segments in all remaining barrels, except where 6B segments are required. In those cases, use standard 6B segments.

Note: 5C cores used in 71B, 81B, and 91B padlocks do not need to be combined and loaded as described above to provide high-security features.

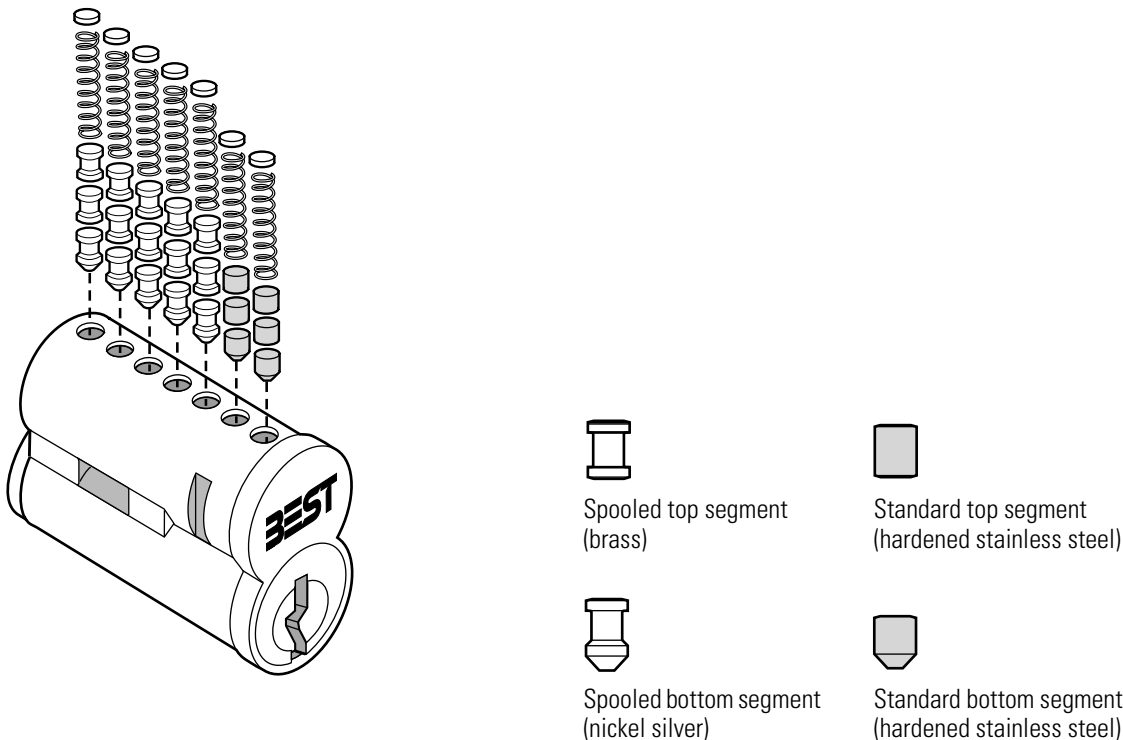


Figure 2.6 Loading the 5C core for the 1E7K4 cylinder

Dust cover option

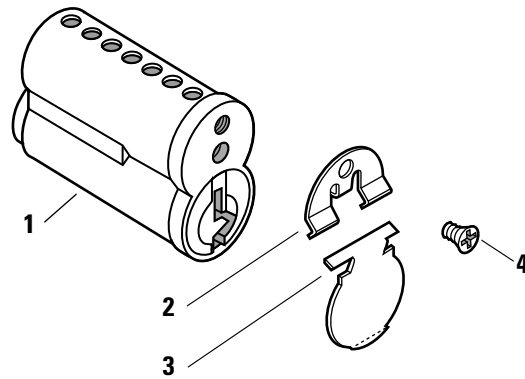


Figure 2.7 Dust cover components

Item	Part No.	Description
1	A40305	Core
2	B26247	Dust cover hinge
3	A00127	Dust cover
4	A40083	#4-40 Pan head screw

OVERVIEW OF THE BEST KEY

Diagram of the 1A key

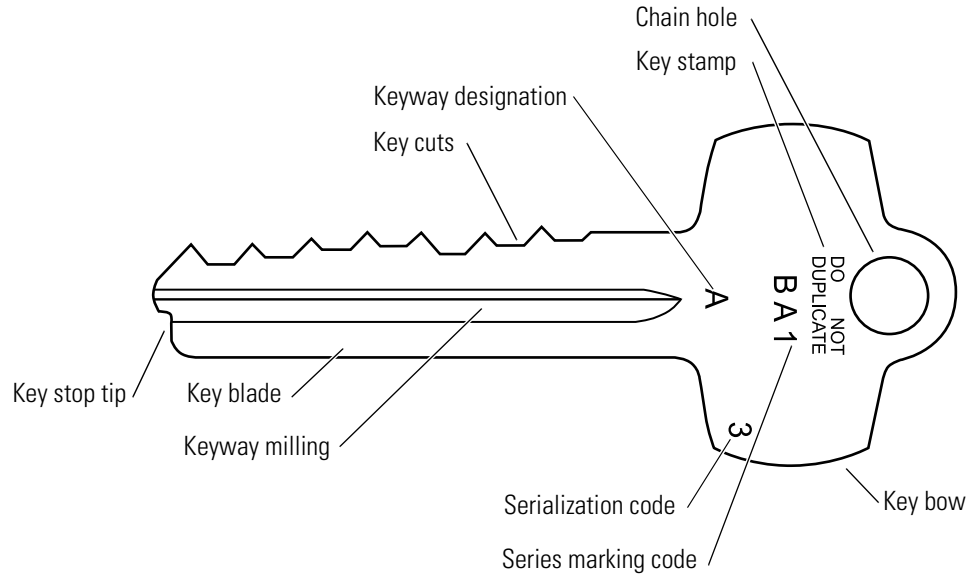


Figure 2.8 Standard key features

Key types

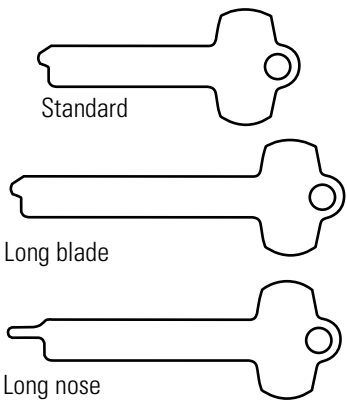
1A	1	A	1	Key stamp ^a	Options
Key shape (bow)	Key type	Keyway	Cut code		
1A-Standard	0-Blockout blade	Designate specific keyway or keyways if multiple milling ^b is required. (A, E, etc.)	1-Blank	KS654 & KS292-Standard embossing supplied if not designated.	B-Long blade ^b
1AP-Premium (PKS)	1-Operating or blank		2-Cut		H-No hole (For 2A only)
2A-Round bow	2-Control			KS567-Premium (For 1AP only)	N-Long nose ^b
3A-Rectangular bow	3-Master			KS594-Premium (For 1AP only)	NKW-No keyway designation (Standard for 1AP)
4A-Access bow	4-Submaster			Specify KS#-Price for most custom design stamps available upon request.	P-Plastic insert (For 4A only)
9A-Extractor keys and blockout blades.	5-Grandmaster				S-Key serialization
9AP-Blockout blade (Premium)	9-Extractor key				
See Table 2.9 for more information.				See Table 2.10 for more information.	

a. You must designate a front key stamp and a back key stamp. There is no standard back key stamp for the Premium key.

b. Not available for 1AP keys.

Table 2.9 Key type descriptions

1A key



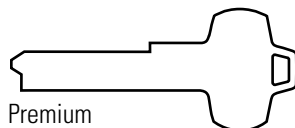
Standard key with the standard bow.

Standard

Long blade

Long nose

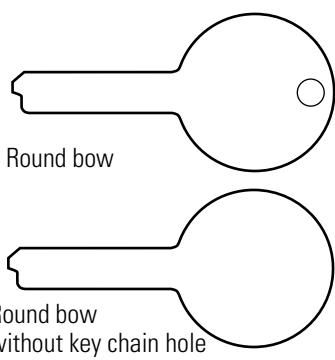
1AP key



Premium key used with the 1CP core.

Premium

2A key

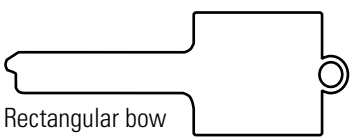


Standard key with the round bow.

Round bow

Round bow without key chain hole

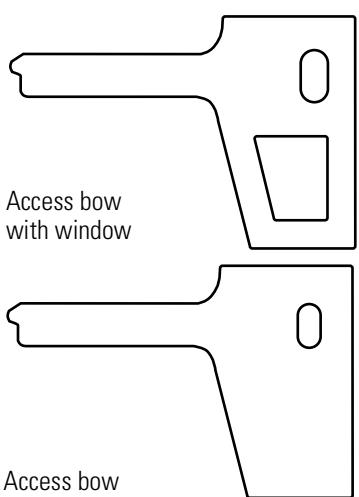
3A key



Standard key with a rectangular bow.

Rectangular bow

4A key

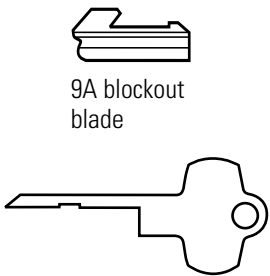


Standard key with the large offset bow. Comes with or without a window and plastic insert. Used with hotel locks.

Access bow with window

Access bow

9A blackout blade and 9A9 blackout blade extractor

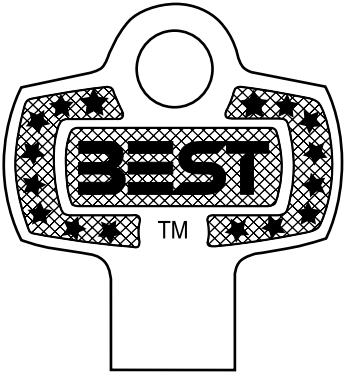





The 9A blackout blade slides in a keyway and blocks out other keys. 9A9 is a special tool used to remove the 9A blackout blade segment.

9A blackout blade

9A9 blackout blade extractor key (included with 9A blade)

Table 2.10 Key stamp descriptions

<p>KS654 key stamp</p>  <p>Standard front key stamp for full embossing.</p>	<p>KS292 key stamp</p>  <p>Standard back key stamp for embossing.</p>
<p>KS567 key stamp</p>  <p>Standard front key stamp for the 1AP premium key.^a</p>	<p>KS594 key stamp</p>  <p>Alternative front key stamp for the 1AP premium key.^a</p>

a. There is no standard back key stamp for the 1AP premium key.

Note: Custom stamps are available upon request.

TOOLS

The following tools are used for servicing cores and keys.

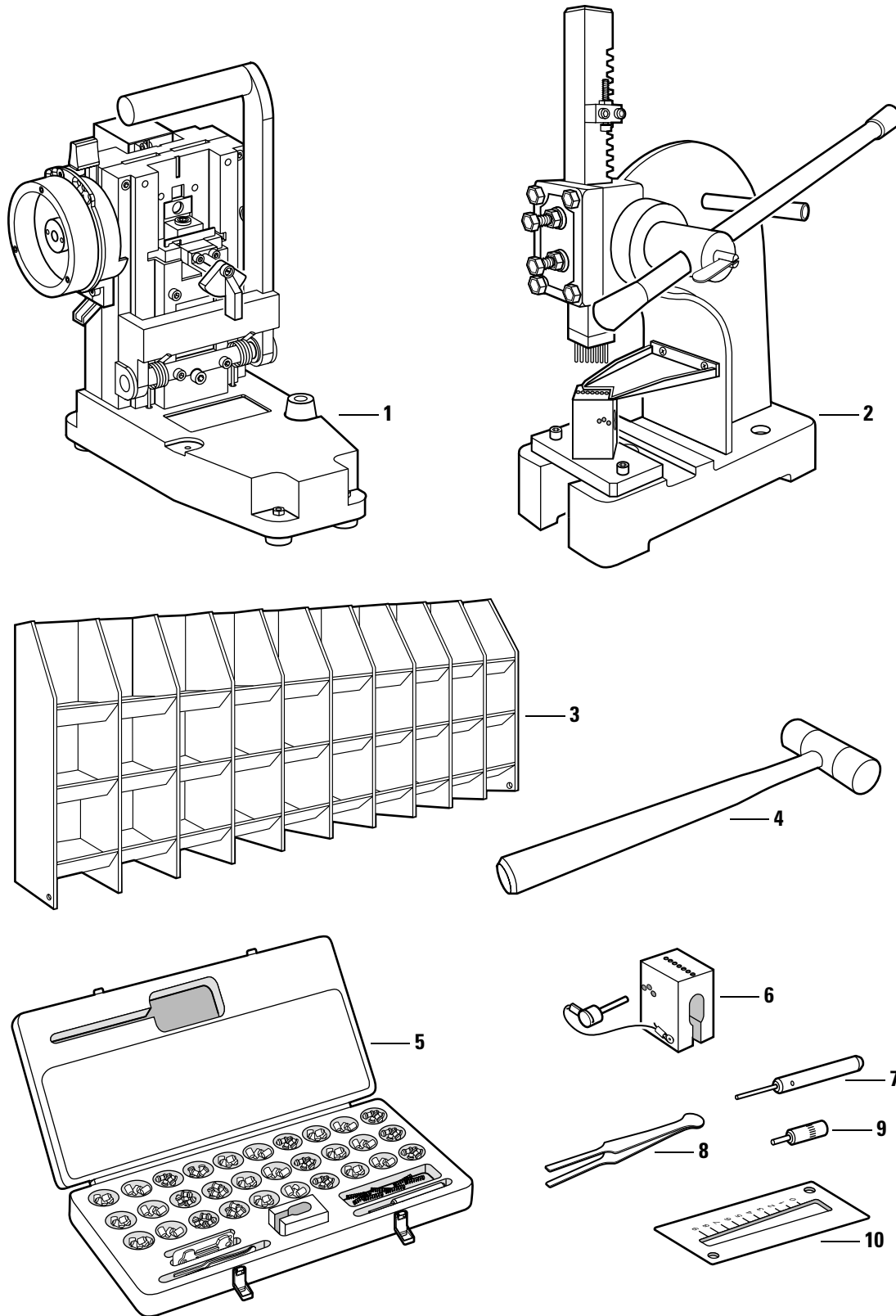


Figure 2.11 Tools used for servicing cores and keys

Item	Nomenclature	Description
1	AD433	Key combinator ^{a, b}
2	CD517	Core capping press
3	CD433	Combining bin
4	DD550	Combining hammer
not shown	DD551	Plastic heads for combining hammer
5	CD431	Complete combining kit ^b
6	CD540	Capping block ^c
7	CD548	Ejector pin ^c
8	CD549	Tweezers ^c
9	CD547	Hand capping pin ^c
10	AD501	Key cut indicator ^{b, c}

a. For other parts associated with the key combinator, see the *Key Combinator Service Manual*.

b. Specify A2, A3, or A4 Keying System when ordering.

c. Also is included in the complete combining kit (CD431).

The following tools are used for stamping cores and keys in your system.

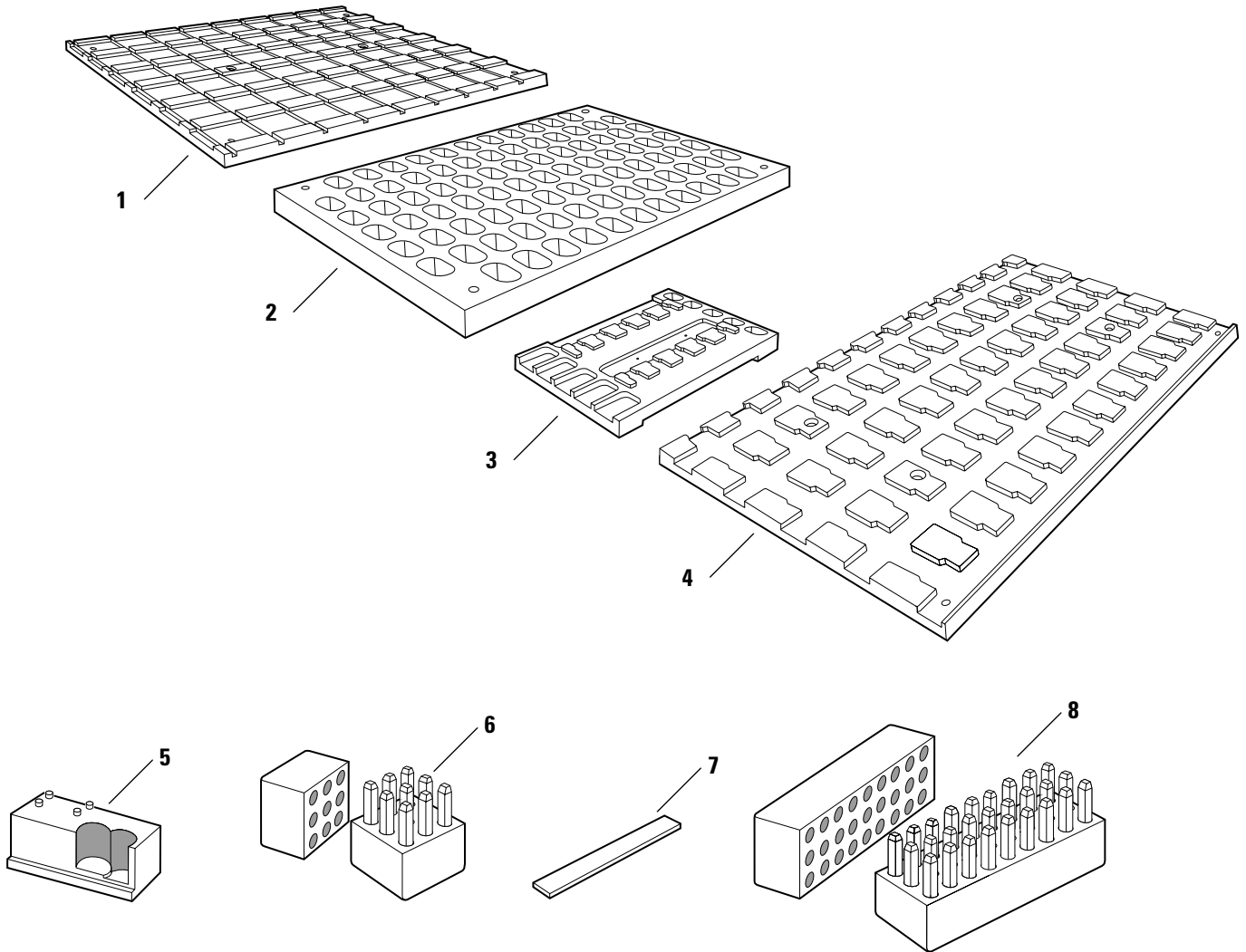


Figure 2.12 Stamping tools

Item	Nomenclature	Description
1	CD504C	Core stamping plate-side only (for 50 cores)
2	CD504B	Core stamping plate-face only (for 87 cores)
3	DD514	Core/key marking plate
4	AD504A	Key stamping plate (for 55 keys)
5	DD513	Core/key marking block
6	DD503	Number dies (1/16" or 3/32")
7	DD514A	Magnetic strip ^a
8	DD502	Letter dies (1/16" or 3/32")

a. A set of 3 is included with the core/key marking plate (DD514).

The following items are used to lubricate cores and keys.

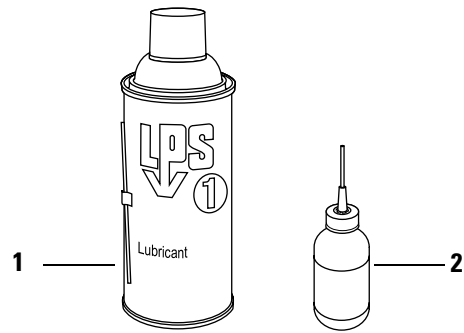


Figure 2.13 Lubrication items

Item	Nomenclature	Description
1	DD537	LPS spray can
2	CD535	Graphite gun
not shown	CD535A	1 pound container of graphite

3

SERVICING AND TROUBLESHOOTING

This chapter contains instructions for servicing components and troubleshooting common problems.

PLACING PIN SEGMENTS, SPRINGS, AND CAPS IN A CORE

Overview of how a key works in the core

BEST cores have two shearlines. The upper, or control, shearline lets you remove the core from the door. The lower, or operating, shearline lets you operate the key in the lock.

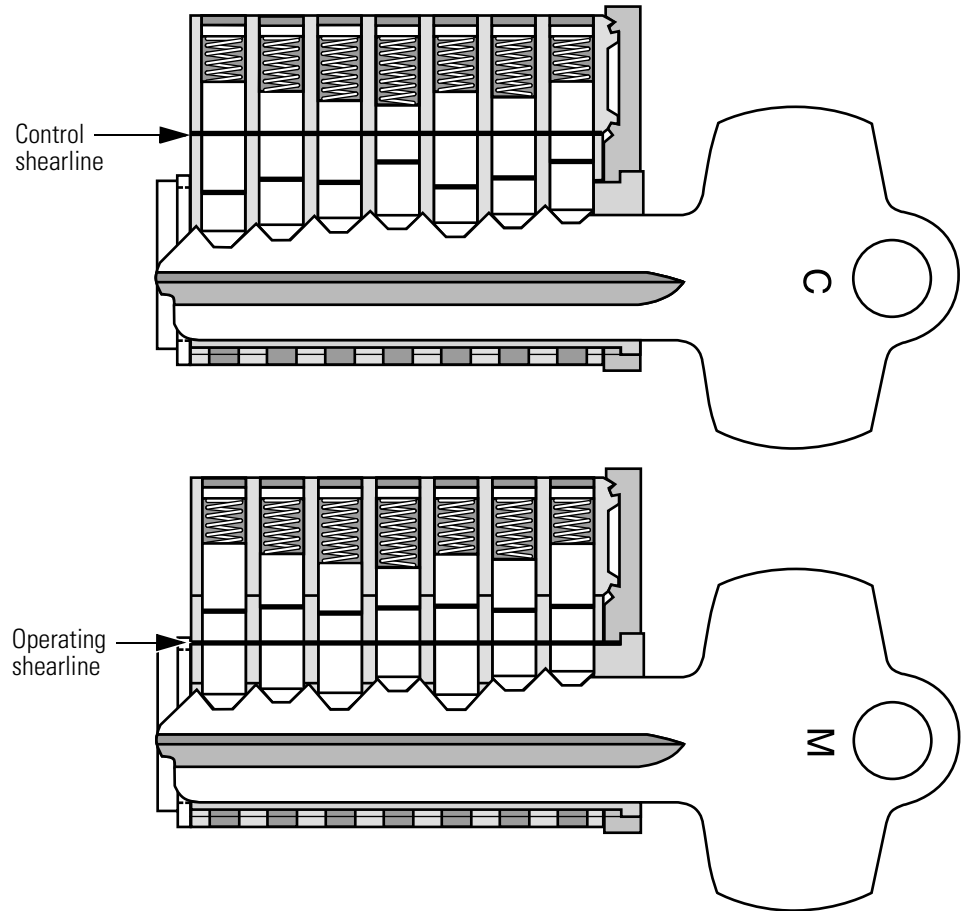


Figure 3.1 Cross section of a core showing control and operating shearlines

Loading the core To determine the specific sequence of segments to place in each core, please refer to the *Masterkey Code Sheet* and the *Combinating Instruction Sheet* supplied to you by BEST.

Note: For information about loading cores used for UL applications, see [page 2-7](#).

1. Before you begin, identify the parts of the core you will be working with. The front of the core is identified by the BEST logo. Barrel number one is at the back of the core.

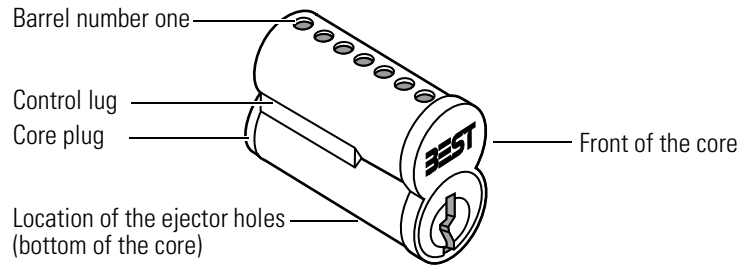


Figure 3.2 Identifying the parts of the core

2. Insert the ejector pin into the notch on the back of the sleeve and push the control lug into the thrown (extended) position. Remove the ejector pin from the notch.

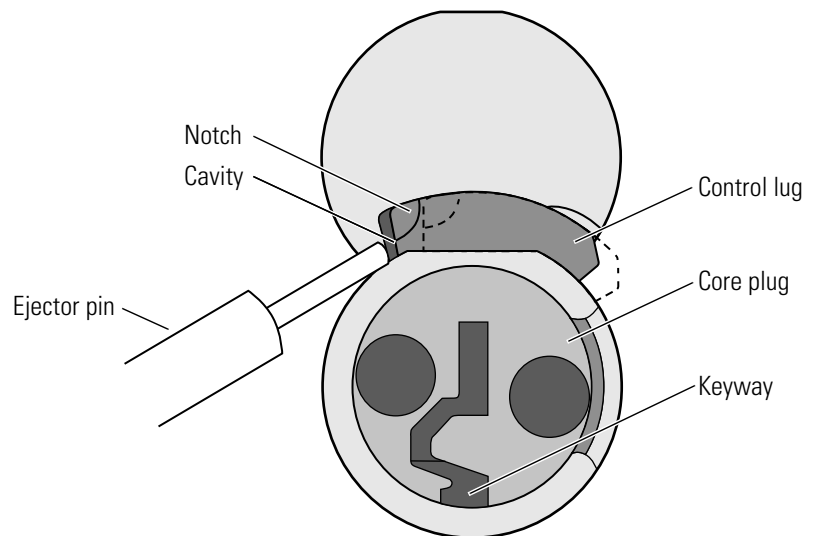


Figure 3.3 Pushing the control lug into the thrown position

3. Insert the ejector pin into the cavity between the lug and core body to hold the lug in the thrown position. Use your thumb and forefinger to rotate the core plug until the keyway is straight up and down, and the bottom of the keyway is in the six o'clock position. Remove the ejector pin from the cavity.

4. Insert the ejector pin into barrel number seven to ensure that the barrels stay aligned. Leave the ejector pin inserted while you perform the next step.
5. Use your combining instruction sheet to determine what segments are required for barrel number one. Insert the bottom segment, beveled end down, into barrel number one.
6. Remove the ejector pin from barrel number seven and use it to tap down the segment until it seats at the bottom of the barrel. You should see the segment protruding into the keyway.
7. Insert the next required segment into barrel number one. Use the ejector pin to tap down the segment until it is seated.
8. Repeat step 5 through step 7 until all of the required segments are loaded into all of the barrels.

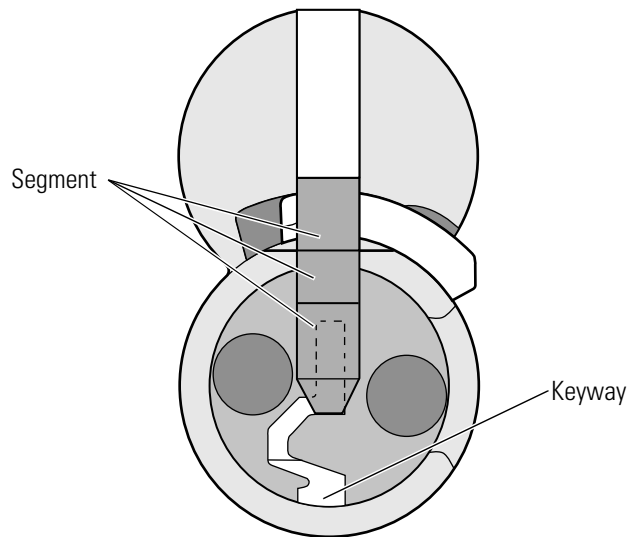


Figure 3.4 Inserting the segments into the barrel

9. Insert the stop pin into the appropriate hole in the side of the capping block to align the core barrels with the holes in the capping block.

10. Insert the core into the capping block.

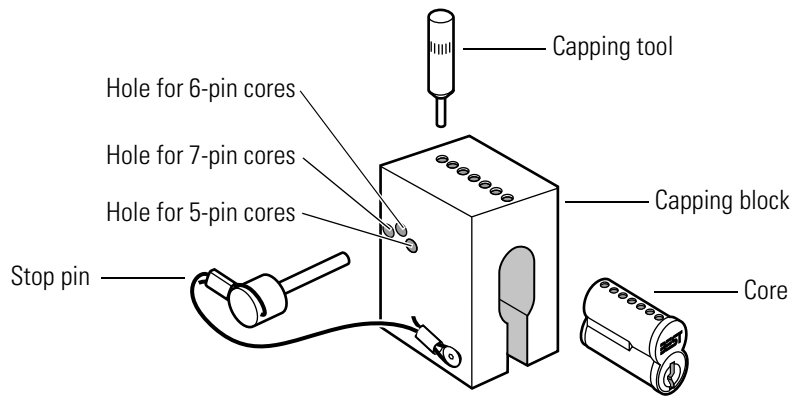


Figure 3.5 Inserting the stop pin and core into the capping block

11. Insert a spring into barrel number one. Place a cap over the barrel.

Note: Do not cut the segment springs and insert an extra cap.

12. Insert the capping tool into barrel number one. Use a hammer to tap the capping tool and drive down the cap until the bottom of the capping tool hits the top of the capping block.

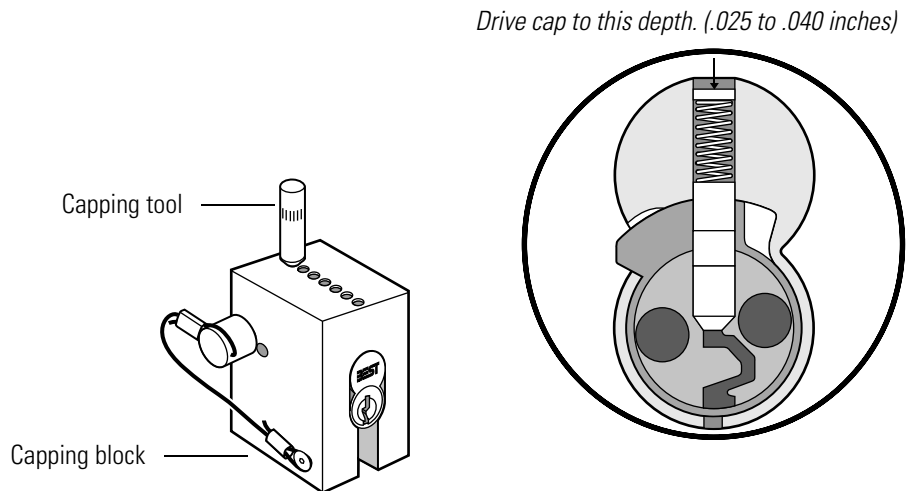


Figure 3.6 Seating the cap in the barrel

13. Repeat step 11 and step 12 until all of the barrels are capped.

14. Test all keys, including the control, grandmaster, and operating keys, in the core to make sure that each barrel is loaded correctly.

Note: If a barrel is not loaded correctly, insert the ejector pin through the ejector holes and tap out the segments, spring, and cap. Discard the used segments, spring, and cap, and reload the barrel.

Special guidelines

When stamping and loading the core, follow the guidelines below.

- If the core is not operating smoothly while you are loading it, do not tap the core against a metallic block. Use a block made of nylon or an equivalent material.
- Do not use a metal-headed hammer on cores. Use a plastic-headed hammer only.
- Do not use excessive force to stamp core markings on the side of cores. Excessive force may cause the barrel opening to close slightly.
- Do not stamp the core on the bottom lobe.
- Do not enlarge segment holes. This may cause problems with segment capping.

Checking a core for proper operation

Periodically test all of your keys, including the control, grandmaster, and operating keys in the core to make sure that the core is operating properly.

Insert a key in the core. If you can insert, turn, and remove the key easily, the core and key are working properly. If not, see the troubleshooting section on [page 3-11](#).

REPLACING A DUST COVER ASSEMBLY

1. Unscrew the screw and remove the dust cover and dust cover hinge.
2. Place the dust cover over the key hole in the core so that the lip faces away from the core. Place the dust cover hinge on the face of the core with the prongs covering the dust cover, as shown in [Figure 3.7](#). Install the screw.

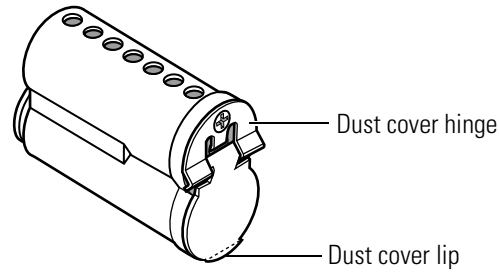


Figure 3.7 Dust cover assembly in position

LUBRICATING A CORE

Create a preventive maintenance plan that includes lubricating the core. To extend the life of the core, lubricate it regularly. Powdered graphite is the best choice for lubrication; LPS spray is also used.



Do not lubricate a core with oil. Doing so will attract dirt.

For powdered graphite lubrication:

1. Remove the core from the lock.
2. Dip a key in graphite. With the core inverted, insert the key into the keyhole and remove it; repeat several times, allowing the graphite to penetrate the barrels. *OR*

With the core inverted, spray graphite into the keyhole. Insert the key into the keyhole and remove it; repeat several times, allowing the graphite to penetrate the barrels.

For LPS lubrication:

1. Remove the core from the lock.
2. Spray compressed air or LPS lubricant into the core to clean out all of the existing lubricant.
3. With the core inverted, spray the lubricant into the key opening, allowing the spray to penetrate the barrels.



Do not mix graphite with LPS lubricant.

THAWING A CORE



Caution

Do not heat the core with a propane torch. This will cause internal damage and possibly cause the core to become inoperable.

If the core is frozen, try the following techniques to thaw it.

- Spray LPS lubricant into the key opening to reduce the moisture inside the core.
- Heat the key and insert it into the core.
- Spray a commercial lock antifreeze or ice dissolver into the core.

TROUBLESHOOTING

This table summarizes the possible causes for the most common core and key problems. The causes are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice...	Possible causes include...	You should...
It is difficult to insert or remove the key.	<ul style="list-style-type: none"> a. Key's keyway is not compatible with the core. b. Key is damaged. c. There is foreign material on the key or in keyway of the core. d. Keyway of the core has been damaged. e. Barrels of the core are not loaded correctly. f. Caps are inserted too deeply into the barrels. 	<ul style="list-style-type: none"> a. Look at the end of the key and the keyway of the core. If the profiles do not match, check your <i>Masterkey Specification</i> to see what type of keyway must be used with the core. b. Check the key to see whether it has been damaged. If it has, replace the key. c. Check the key and the keyway of the core for foreign material. If there is foreign material, remove it with compressed air or LPS lubricant. d. Check the keyway of the core for damage. If it is damaged, contact your BEST Representative. e1. Check inside the keyway to see whether the ends of the bottom segments that protrude into the keyway are flat or beveled. If any of the bottom segments appear to be inserted incorrectly, reload that barrel with new segments, spring, and cap. Make sure the beveled end of the bottom segment is inserted first into the barrel. e2. Perform the thumb check procedure to see whether the height of any segment stack varies. (See page 3-14.) e3. If the problem still is not solved, check the <i>Masterkey Specification</i> for errors. Reload the core and cut new keys as necessary. f. From the top of the core, look into the barrels, or use a depth gauge to see whether one or more caps is inserted more deeply into the barrel. (The correct cap depth is .025 to .040 inches from the top of the core.) If so, reload the barrel with new segments, spring, and cap.

You notice...	Possible causes include...	You should...
Key does not rotate the core plug or control lug.	<ul style="list-style-type: none"> a. Key is cut improperly. b. Barrels of the core are not loaded correctly. c. Key combinator needs to be recalibrated. 	<ul style="list-style-type: none"> a. Use the key cut indicator to determine whether the key was cut correctly. (See page 3-15.) If the key cuts are not correct, cut a new key. b. Reload the core with new segments, springs, and caps. If the key still does not rotate, check the <i>Masterkey Specification</i> for errors. c. If you cut a new key and you are still having the problem, the Key Combinator may need to be recalibrated. See the <i>Key Combinator Service Manual</i>.
Key does not rotate smoothly.	<ul style="list-style-type: none"> a. Key is cut improperly. b. Barrels of the core are not loaded correctly. c. Key combinator needs to be recalibrated. 	<ul style="list-style-type: none"> a. Use the key cut indicator to determine whether the key was cut correctly. (See page 3-15.) If the key cuts are not correct, cut a new key. b1. Check inside the keyway to see whether the ends of the bottom segments that protrude into the keyway are flat or beveled. If any of the bottom segments appear to be inserted incorrectly, reload that barrel with new segments, spring, and cap. Make sure the beveled end of the bottom segment is inserted first into the barrel. b2. Perform the thumb check procedure to see whether the height of any segment stack varies. (See page 3-14.) b3. If the problem still is not solved, check the <i>Masterkey Specification</i> for errors. Reload the core and cut new keys as necessary. c. If you cut a new key and you are still having the problem, the Key Combinator may need to be recalibrated. See the <i>Key Combinator Service Manual</i>.

You notice...	Possible causes include...	You should...
Core does not insert into cylinder/receptacle.	<ul style="list-style-type: none">a. Core lug is not fully retracted.b. Throw pins inside the receptacle are not aligned with the holes in the core.c. There is foreign material in the cylinder/receptacle.d. For mortise locks only, the cylinder set screw is installed too tightly.	<ul style="list-style-type: none">a. Check behind the lug for any foreign material. Clean it as necessary.b. Check to see whether the throw pins are out of alignment. Use a screwdriver to align the throw pins with the throw pin holes in the core.c. Check the cylinder/receptacle for foreign material. Clean it as necessary.d. Remove the mortise case faceplate and loosen the cylinder set screw.

Performing the thumb check procedure

Perform the following steps to check each barrel of the core to make sure that the segment stacks are of equal height.

1. Insert the ejector pin into the number one ejector hole.
2. Use your thumb to mark the depth on the ejector pin. Keep your thumb in place.

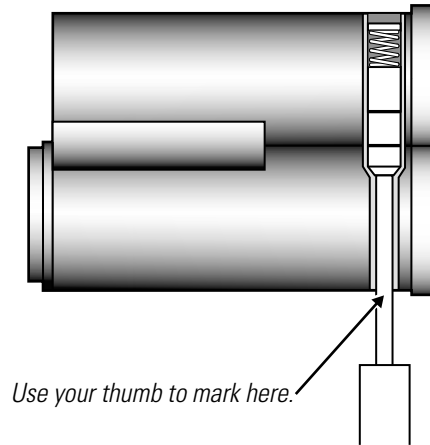


Figure 3.8 Using the ejector pin to mark the segment stack height

3. Insert the pin into the other ejector holes. If the segment stack height varies, use the ejector pin to force out the segments, springs, and caps of the barrels that are incorrectly loaded. Discard the used segments, springs, and caps. Reload the barrels with new segments, springs, and caps.

Using the key cut indicator

1. Insert your key into the key cut indicator that is appropriate for your keying system, with the key cuts facing the numbers on the key cut indicator.
2. Slide the key until it contacts the indicator at the top and bottom. Read the key cut number that aligns with the position of the key.
3. Make sure that the key cut corresponds to the key cut for that position listed on your *Masterkey Specification*. If the key cut does not match what is listed, cut a new key.
4. Repeat step 1 through step 3 for each key cut on your key.

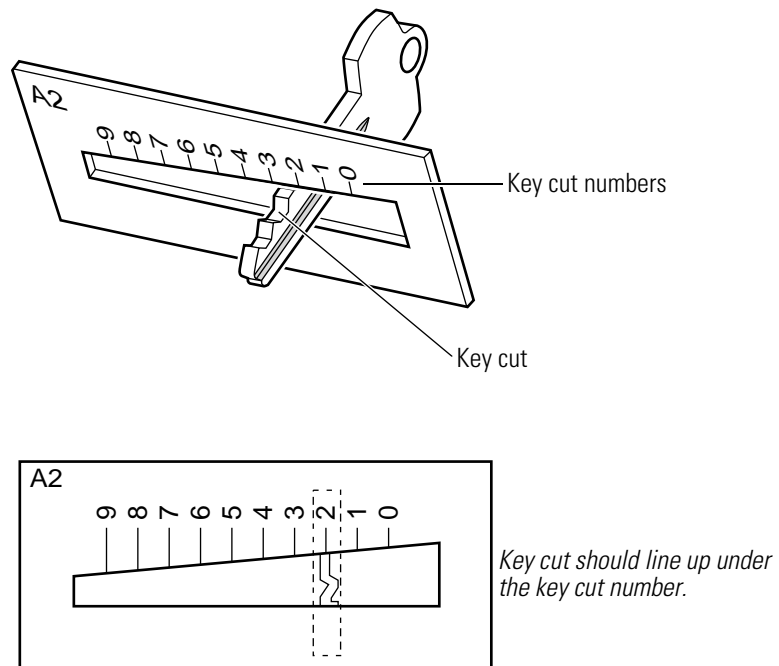


Figure 3.9 Using the key cut indicator

A

GLOSSARY

Combining	The process of determining the combination of the length of segments used and the order they are loaded into the barrels of a core. Also, the process of making the cuts of different depths in a key blade that let it operate or remove a corresponding core.
Control key	A key that can insert or remove any core in a system.
Grandmaster key	A key that can unlock any lock in a system.
Interchangeable core	A figure-8 shaped device that contains all mechanical parts for a masterkeyed system. The interchangeable core can be removed by a special control key and can be recombined without disassembling the lock.
Key blank	A key that has no key cuts.
Key cut	A notch in a key.
Keyway	The slot in the core used to receive and guide the key. Also, the shape of the key blade determined by the location, length, width, and depth of grooves milled in the key blade.
Loading a core	The process of inserting segments, springs, and caps into each barrel of a core according to predetermined specifications.
Masterkeying	A method of keying locks that allows a single key to operate many locks, but also allows each lock to be operated by its own key.
Operating key	A key that can unlock a single lock within a system.

Shearline	The alignment of segments in the core that is created when a key is inserted. The shearline lets the key operate the core or remove the core from the lock.
Submaster key	A key that can unlock only specified groups of locks within a system.
Thumb check procedure	A series of steps performed to check that the segment stacks are of equal height in each barrel of a core.

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A2 SYSTEM

SERVICE MANUAL



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GETTING STARTED

INTRODUCTION

The *A2 System Service Manual* contains essential information to help you maintain your A2 System.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your A2 System.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
Core and Key Service Manual	T35527
Key Combinator Service Manual	T35532
Keystone 600 Getting Started Guide	E-774

TECHNICAL SUPPORT

Support services

When you have a question about the A2 System, your first resource for help is the *A2 System Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone and web technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for all A2 System products. You may locate the Representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

Training seminars

BEST holds training sessions for its customers. The seminars are specifically designed for BEST end-users who have a registered BEST Masterkey system and registered BEST security equipment. If you are interested, you may contact your local BEST Representative for details.

2

OVERVIEW OF A MASTERKEY SYSTEM

This chapter discusses the benefits of a BEST system and defines how a masterkey system works. It also describes some of the components of a masterkey system such as interchangeable cores, keys, and codes. Finally, it provides guidelines for protecting a masterkey system.

UNDERSTANDING THE BEST DIFFERENCE

Best Access Systems has positioned itself to be your complete provider for access security systems. Our sales team has been trained to analyze the specific needs of your facility and recommend products and solutions that will most effectively address your access control requirements.

Benefits By choosing BEST, you are automatically guaranteed resources to help you with all of your security needs including:

- full installation services for all systems' products
- staff training services for various product lines and processes
- 24-hour assistance and consultation for any security need
- full specification preparation for new construction
- superior product availability and delivery.

Support from BEST Your BEST Representative will support you in all aspects of administering the system provided by BEST including:

- security consulting for all phases of security administration
- designing customized access control systems
- customizing a masterkey system for any size facility
- maintaining accurate records of the system
- expanding the system in the future.

Training **In-house system maintenance and service**

BEST Representatives provide local inventories, expertise, and training in servicing BEST's security system. Formal training is available to help you develop an in-house service department as well as to give you the ability to:

- combine cores
- recombine cores
- cut keys
- program and maintain electronics
- maintain lock hardware.

Formal training is available from BEST with special "Advanced Systems Curriculum" training being offered by the corporate factory headquarters.

BEST warranty BEST warrants that all of its products sold under its trade name are free of defects in materials, workmanship and operation, normal wear and tear excepted, for a period of three years from the date of sale to the original purchaser. BEST does not, however, warrant against defects that may be due to improper uses or installation, poor or no maintenance, shipping and/or handling, improper storage, accident, abuse or unauthorized service. BEST cannot be responsible for services provided by other companies to the system. Contacting your BEST Representative for installation and maintenance needs will ensure that you keep your warranty. The liability of BEST under this warranty is limited to the repair or replacement of any product covered by the warranty.

DEFINING A MASTERKEY SYSTEM

Definition of a masterkey system

A masterkey system is often misunderstood because it is not a tangible product and can have many variations. A BEST Masterkey system can be customized to meet any particular customer needs.

Masterkeying is a mathematical process that shows the number of different combinations available within a given plan and allows all cores to be combined into your system. It also assists the user in controlling the doors that people can access in the given facility.

Several security levels of keys are usually able to operate a single lock in a masterkey system. This feature offers flexibility as well as control to your system. Careful planning and consultation with your BEST Representative can help you maximize the benefits and avoid common pitfalls of a masterkey system. In most systems, 7-pin cores are used because they permit more combinations and allow greater flexibility for future expansion.

General design guidelines

BEST Representatives use the following guidelines when designing a customized masterkey system for the customer:

- Design the keying system around the function of the building and not the actual organization, if possible.
- Develop a simple design.
- Try to predict where, when, and how people move throughout the building.
- Plan for any future expansion that may be needed.
- Recognize the families of keys that are established, because they can restrict the flexibility of the system.

Moreover, once a system is established, it is not necessary to use all of your codes at one time. Codes may be set up as needed. Then, if growth occurs, BEST refers to its own secure files for the remaining available combinations. This activity is conducted as directed by the customer. It is the customer's responsibility to keep track of which core markings have been used in a given series.

**Product family
diagram**

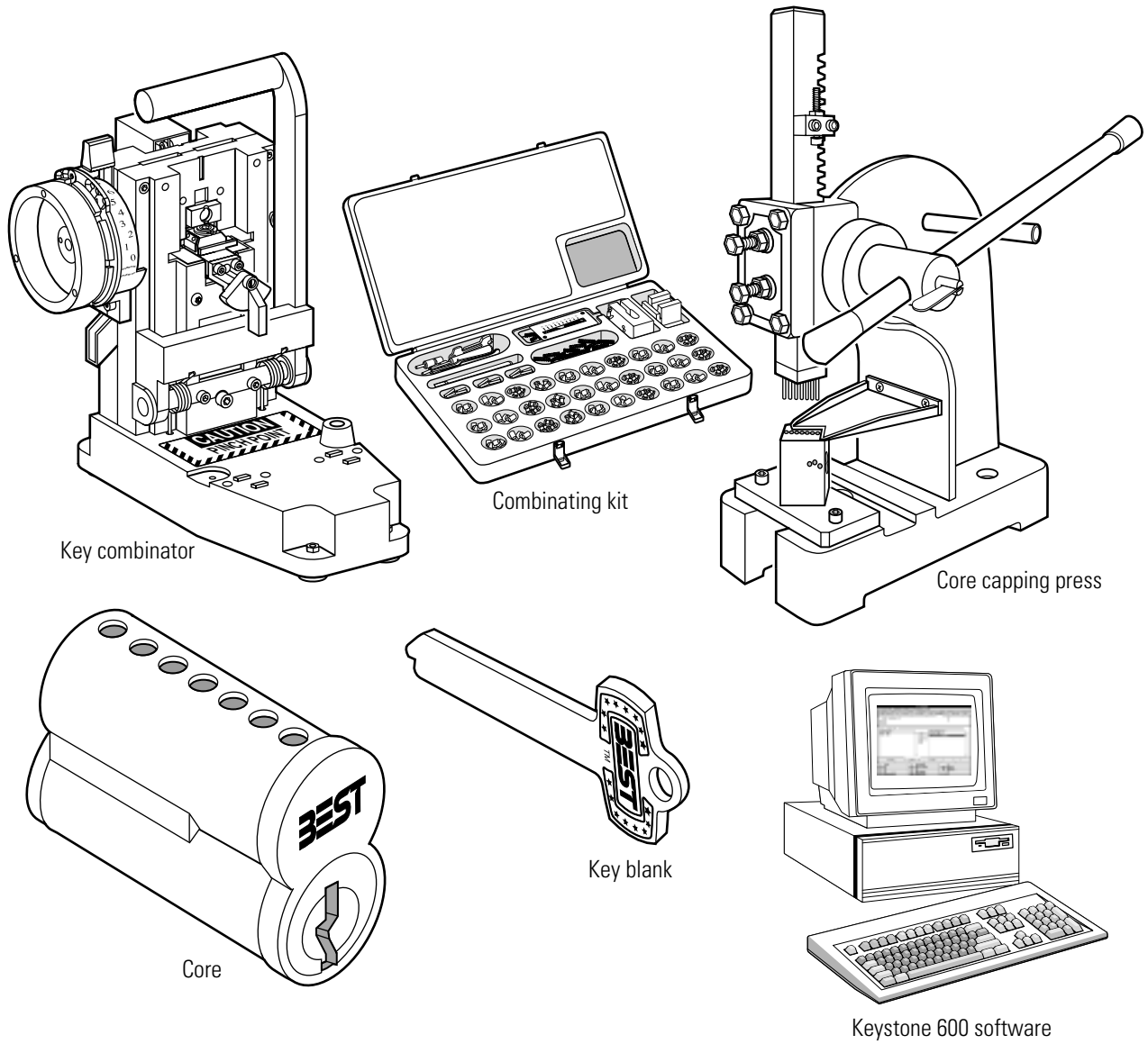


Figure 2.1 Product family diagram

Interchangeable core The standard figure-8 core that is interchangeable throughout the entire product line is a major feature of BEST. This interchangeability permits BEST locks of any type, size, or style to be masterkeyed into one system. Therefore your system can easily expand to include new facilities. Also, no BEST core needs alterations to fit any other BEST lock. You simply remove the core with the control key and insert a new core that operates by different keys. This unique feature lets you perform a re-lock in seconds. See [page 5-9](#).

Keys It is important to understand several key terms to more fully comprehend the concepts of masterkeying. See [Figure 2.2](#).

Control key

The control key installs and removes the interchangeable core in your BEST system. The control key has the same security level as a grandmaster and must receive the same level of protection.

Grandmaster key

The grandmaster key operates all locks in a masterkey system (unless locks are specifically excluded from the grandmaster for security or safety reasons such as cash boxes, drug cabinets, hazardous waste areas, and so forth).

Master key

The master key operates a large group of locks. For example, one master key can have access to an entire building, floor, or department.

Submaster key

The submaster key operates a smaller group of locks that are part of a master group.

Operating key

The individual key is also known as the operating key and is the lowest level key. This key operates only one lock or keyed-alike group of locks. (This type of key is also called “change key” in the locksmith industry.)

It is important to note that keying is not limited to just the organization of the keys listed above. More levels in the hierarchy may be created if needed. For example, a sub-submaster key level may be added.

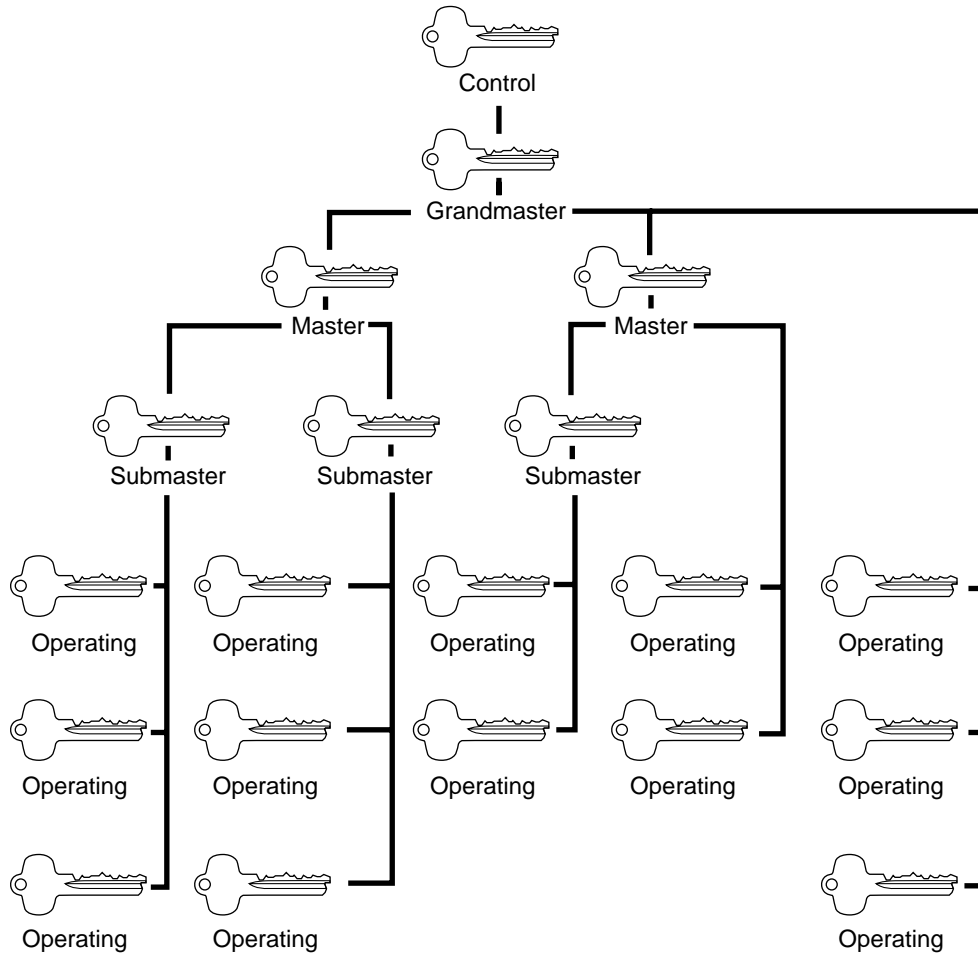


Figure 2.2 Sample masterkey hierarchy

Keyways The keyway of a core is a specific design or shape of the key blade and is manufactured into the core plug. This specific design keeps keys of other keyways from working in a dissimilar core. The keyway shapes can be grouped into the following categories:

- Standard keyways
- Restricted keyways
- Patented keyways.

Codes One of the most significant elements of a masterkey system is the codes on which the entire system is based. Codes are the number sequences that directly relate to key cuts and indirectly relate to the pin segments or combinations within the interchangeable core. Codes originate at the corporate headquarters and are used by BEST offices to establish systems around the world. All codes remain proprietary property of BEST.

Codes are only supplied to the customer when BEST authorized service equipment has been ordered and received. Once generated, the codes arrive in the form of a code sheet or biting list. This sheet then becomes a printed record of your keying system. It contains information about your system that is highly confidential. See [page 5-8](#) for an example of a code sheet.

SYSTEM ORGANIZATION AND SIZE

The size of your system is determined by the following factors:

- The number of individual locks you need
- The pin size of your cores
- The code system you need.

The number of actual locks you require is taken from the information you received from the site survey. A general rule of thumb is to estimate your future core needs by doubling the number of locks determined by the site survey. Then you will have codes available when you need to re-key one or several locks due to lost or stolen keys. Planning for extra codes will also let you add an additional building or wing under the same system.

The pin size of cores refers to the number of barrels in each core. BEST uses 7-pin cores as a standard in order to provide greater flexibility in the number of combinations that can be generated. However, if your existing system uses 5-pin or 6-pin cores, BEST offers these pin sizes as well. Using 5-pin or 6-pin, though, will decrease the number of total combinations that are available to you.

Manufacturing tolerances, as designed, are a vital factor in consistent key control. For each specific system, keys and core segments must be designed to mate exactly as coded. BEST holds a very close tolerance throughout its product lines.

Your BEST Representative can help you determine which options not only meet your facility's current needs, but also provide maximum flexibility and efficiency as your system evolves.

SYSTEM SECURITY

To increase the level of security within your system, you need to protect sensitive security products or information. These may include:

- Code sheets
- Service equipment
- Authorized security personnel contacts
- Key/core inventory.

BEST will help you with these procedures by maintaining code records at local BEST offices. In addition, authorized security contacts are kept on file. These contacts are people who are responsible for receiving all products and information. Security policies and procedures such as these help assure the integrity of your keying system.

KEY AND CORE CONTROL

A good mechanical locking system involves more than hardware. A key and core control system is a recording and filing plan that provides complete information on keying, doors, locks, and personnel. The system should include formal policies and procedures to regulate the distribution and control of key, core and code issuance. The following five elements must be controlled in all lock and key systems in order to maintain security:

- Keys
- Cores
- Forms
- Doors
- People.

Common control problems

Based on a survey conducted by BEST, security system users revealed the following problems with managing and administering the locking system:

- Loss of keys—either lost or stolen
- Not retrieving keys from employees that have been replaced or have retired
- Management indifference to security problems
- Theft—internal and external
- Too many keys issued
- Poor management of records resulting in keys being misplaced or stolen by employees within the facility
- Code expansion without BEST involvement
- Too many people involved with the system.

G-Series forms

Keeping accurate and up-to-date records is essential for the overall management of a BEST system. It is important to use adequate forms, in detail, to account for all keys/cores in your facility. The BEST G-Series form system provides color coding, cross-referencing, and space for continuous relocks and key changes. Contact your BEST Representative to obtain these forms.

Keystone 600 Software

For larger systems (systems with 100 or more users), the Keystone 600 Software is the recommended means of maintaining the A2 System. BEST's Keystone 600 key and core control software is a valuable tool for managing records. This user-friendly, Windows-based system allows for expedited entry of data and the generation of multiple standard reports. This program records, cross-references, and accesses all key and core information. Modeled after the proven G-Series form system, Keystone 600 helps you to efficiently make the transition from a manual system to a computer.

3

PARTS

The following pages contain descriptions and figures for BEST A2 System cores, keys, and tools for servicing them. To order these items, refer to the *Core and Key Service Manual* (T35527).

OVERVIEW OF THE BEST CORE

Core with segments, springs, and caps

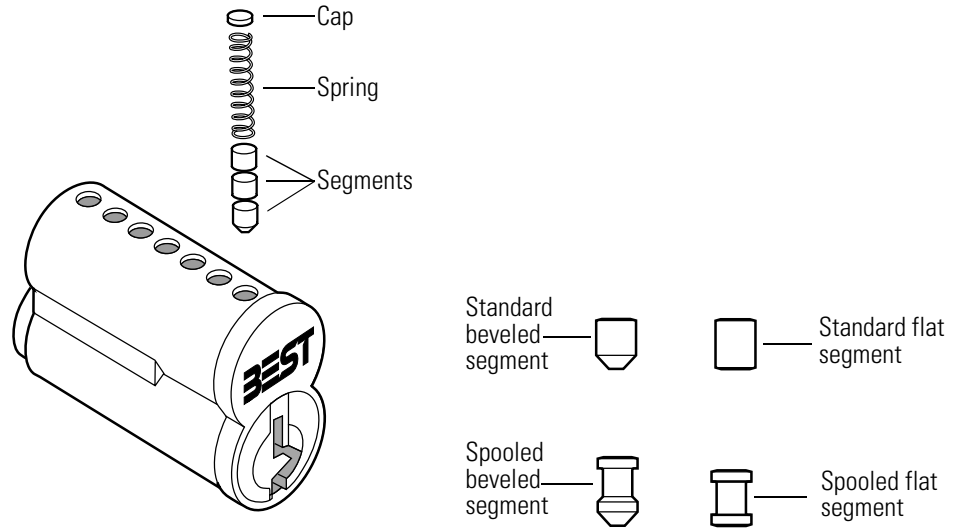


Figure 3.1 Segments, springs, and caps

Cross-section view of a core

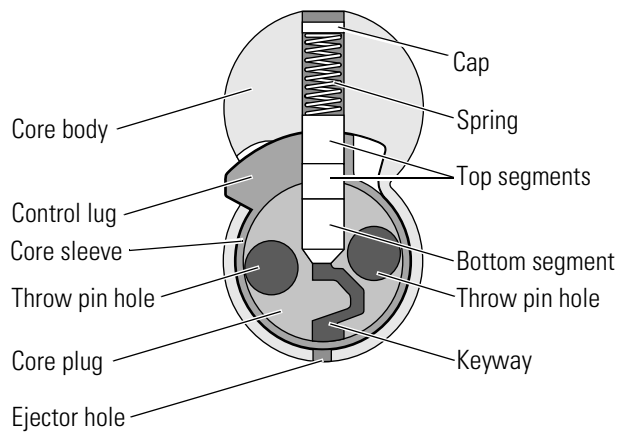


Figure 3.2 Cross-section view of core

OVERVIEW OF THE BEST KEY

Diagram of an operating key

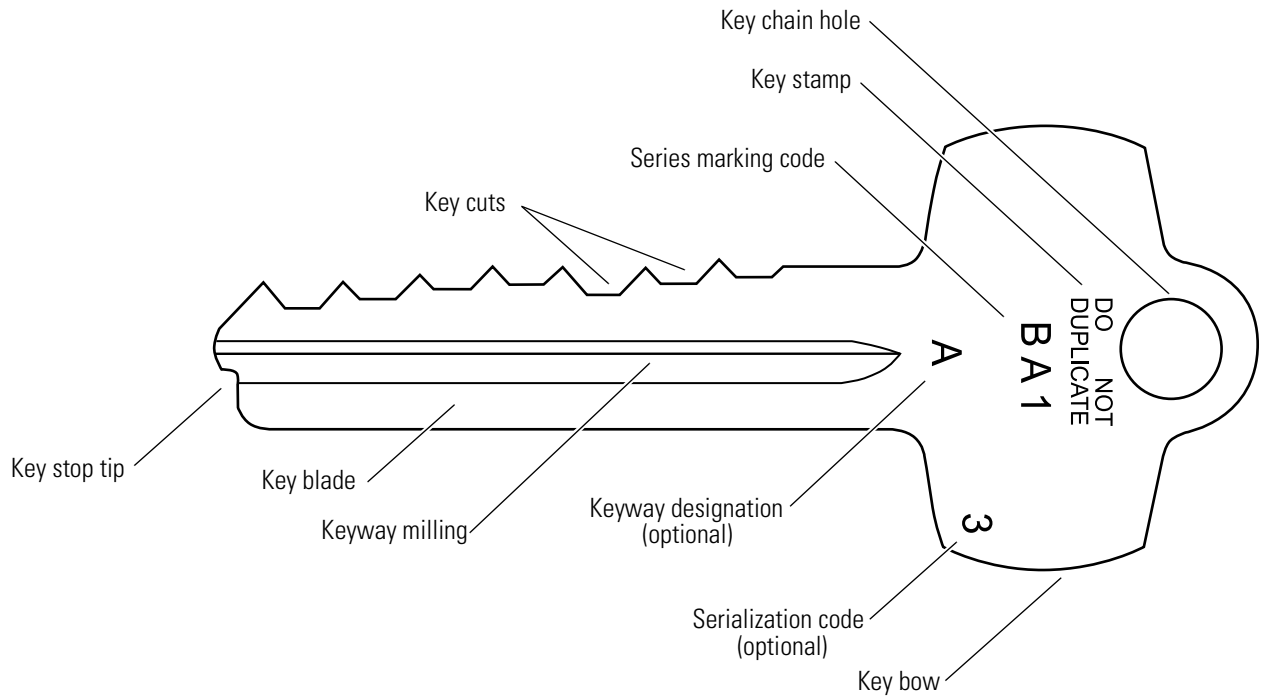


Figure 3.3 Standard key features

TOOLS

The following tools are used for servicing cores and keys.

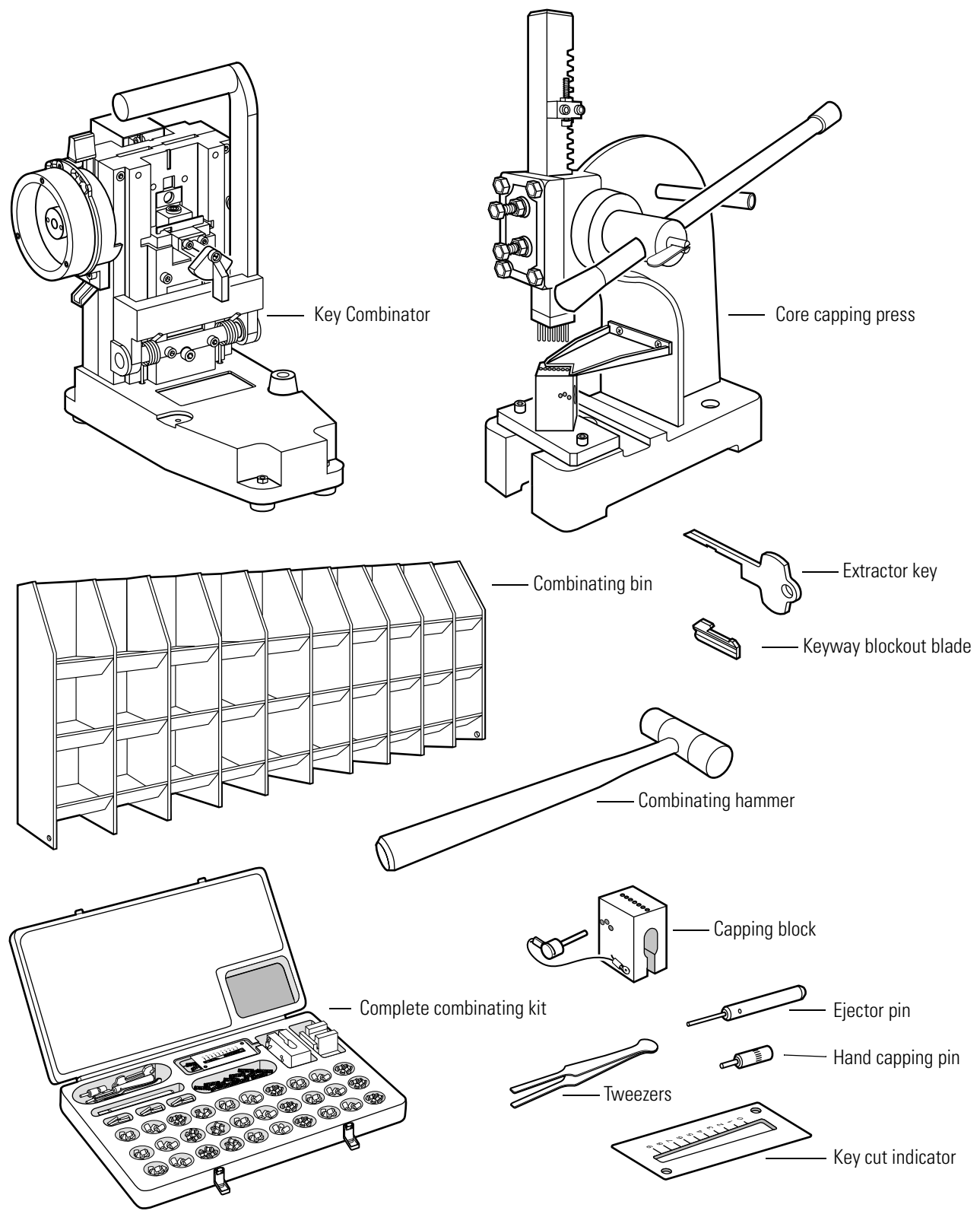


Figure 3.4 Tools used for servicing cores and keys

Stamping tools The following tools are used for stamping cores and keys in your system.

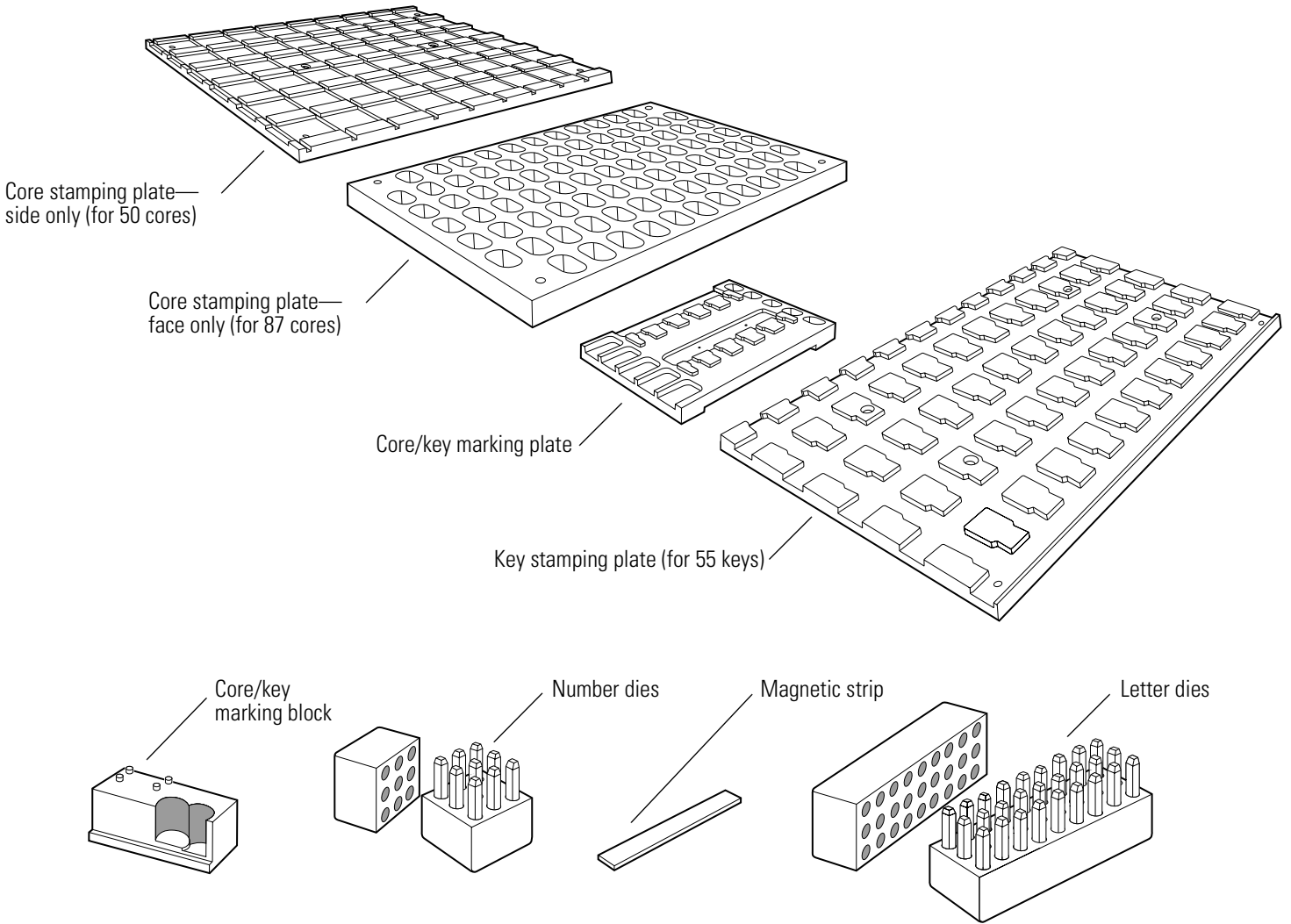


Figure 3.5 Stamping tools

Lubrication items The following items are used to lubricate cores.

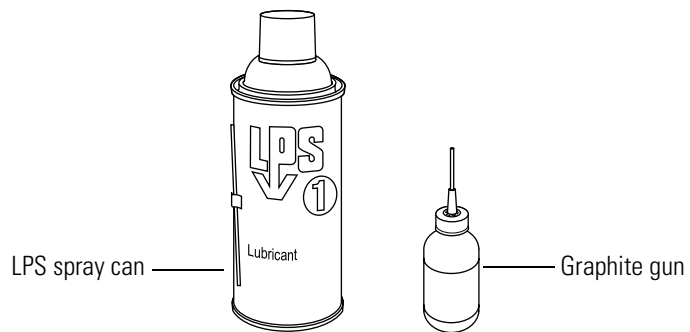


Figure 3.6 Lubrication items

4

OPTIONS AND APPLICATIONS

This chapter contains keyway options and special core options with their applications for the BEST A2 System.

KEYWAY OPTIONS

The following table describes possible keyway options that BEST offers for the A2 System.

Keying option[†]	Description
Standard keyway	BEST offers standard keyways for general use by customers that are compatible with existing systems and provide a cost effective means for system expansion.
Restricted keyway	BEST offers non-patented keyways, which BEST restricts by volume and proximity usage for limited distribution.
Patented keyway	BEST offers patented keyways that cannot legally be duplicated by other manufacturers.

[†] Multi-milled key blanks are available for up to a family of four keyways. Keyway families are typically used for only the highest key levels. These keyways are chosen when you have an existing system and have no available codes; or you have a large system and need more flexibility.

SPECIAL OPTIONS AND APPLICATIONS

The following table describes special core options that BEST offers for the A2 System and gives examples for when they are used.

Option	Description	Application
Key trap core	<p>When the key is inserted into the core and is turned, the key is trapped in the core. The key cannot be returned vertically nor withdrawn from the core. The core and trapped key must be drilled out of the lock.</p> <p>This special core is modified at the factory to match the key that you want to trap.</p>	Eliminates a key from the system by trapping it in the core. This option is useful if a key has been lost, or if someone has a key and will not return it.
Keyway blockout blade [†]	This blade prevents any and all keys from being inserted in a core. A special extractor key must be used in order to remove the blockout blade from the keyway.	Prevents keys from having access to a given entrance. This option is useful to have in case of a natural disaster or a specified job action such as a strike or lockout.
Wear resistant core	Hardened stainless steel segments are used as the bottom segments in each barrel of the core.	Provides longer life for cores in high traffic areas such as entry doors or other frequently used doors.
Pick resistant core	Spooled segments are used as the top and bottom segments in each barrel of the core.	Provides enhanced resistance to picking the core. This option is useful for high security areas such as narcotics rooms, special equipment rooms, or cash offices.
Drill resistant core	Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used at the top and bottom segments in the first two barrels of the core.	Provides enhanced resistance to drilling the core. This option provides an added measure of security for areas listed above.
Pick and drill resistant core	Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used as the top and bottom segments in the first two barrels of the core. Spooled segments are used as the top and bottom segments in each remaining barrel of the core.	Provides enhanced resistance to picking and drilling of the core. This option provides an added measure of security for areas listed above.
Core dust cover	Stainless steel spring-loaded dust cover is installed over the keyway.	<p>Prevents the keyway from accumulating dust and dirt. This option is useful for cores exposed to the elements such as doors in high humidity climates, selected doors in chemical plants, or for low use exterior doors.</p> <p>Note: If the core is housed in a cylinder, use the cylinder dust cover instead of the core dust cover for maximum protection.</p>

[†] See [page 3-4](#) for illustrations of the keyway blockout blade and extractor key.

5

CHANGES TO THE A2 SYSTEM

This chapter contains guidelines for determining your A2 System needs, guidelines for working with BEST when making changes to the A2 System, and also includes possible re-lock options.

DETERMINING YOUR NEEDS

Questions to consider

There are several questions that customers should consider when assessing what changes need to be made to the A2 System including the following:

- How many keys did I originally plan for?
- How many new locks do I need now and approximately how many will I need in the future?
- How many codes do I have left for my system?
- How many master keys do I want (see [page 2-8](#))?
- Are there any special options or adaptations that I want (see [page 4-3](#))?
- Do I have specific security needs or concerns about re-locks (see [page 5-9](#))?

The way that your system was originally customized may affect how you go about making changes or expanding the system. For instance, if you did not originally plan to add on to your facility, then there may not be enough codes saved to do so. It is necessary to contact your BEST Representative to help you determine how to resolve any issues that may arise.

WORKING WITH BEST

Surveying the facility

After the initial assessment of the system has been made, a physical site survey is conducted for new areas of the facility. Your BEST Representative will inspect and assess all of the requirements associated with securing your facility. The goal of a site survey is to systematically gather information that allows a thorough analysis of each access point. This analysis helps identify all necessary hardware requirements. It also organizes valuable information about the feasibility of integrating additional buildings, wings, and so forth into a system. The survey can then be used with the system schematic to determine how each lock is to be keyed/programmed. For an example of a site survey, see [Figure 5.1](#).

SCHEDULE OF LOCKS							
NAME XYZ Corporation					Order No. SGC-41781		Page 1 of 6
ADDRESS 5555 Z STREET Hometown, USA 55555					Account No. 1-XXXX		Date 00-00-00
					Approved by:		
Item No.	Location	Qty	Catalog Number, Hand of Door	Finish	Core Mak	Keys Cards	Miscellaneous
1	Door 100 Main Office	2	35HV7EV15-KP-RH	626	AA	1 / 20	
2	Door 101 Accounting Office	2	35H-7EW15-M-RH	626	AA2X	2	Oper. by AA2-AA4
3	Door 102 Time Office	1	93K-7AB15-A-STK	626	AB1	2	
4	Door 103 Cash Room	1 1 1	35H7 EWEU15M-IDH Mag Stripe Card Reader Electrified Hinge	626	AA3	1 / 4	RHRB-Hollow metal door approx. 50' to controller
5	Door 105 Purchasing	1 1 1 1	1E-74-C181-R2	626	AA1		Oper. by AA1-AA16
6	Door 110 Exterior Side Ent.	1	1E72 Electric Strike Mag Stripe Card Reader Request to Exit motion	626	AA4		Aluminum frame glass door rim panic 100' to controller
7	Door 120 Research	1	94KV7DV15-MS-STK	626	AA1X	0	
8	<u>Main Factory</u> Elevators at Entrance	4	1W-7B2	626	F	1	
9	Door 130 Engineering Offices	3	83T7K-STK	606	FA1	20	
10	Tool Boxes	2	41B72T		FB1-FB120	240	

Figure 5.1 Sample site survey

Designing the schematic

The keying schematic is a plan or blueprint that illustrates the various levels of security you need for the BEST system. These levels are defined and designated into specific groups. The schematic design is similar to an organizational chart, as shown in [Figure 5.2](#) and [Figure 5.3](#).

General guidelines

When designing a masterkey system schematic, BEST Representatives follow these guidelines:

- Initially structure a control and grandmaster level.
- Determine how the facility is to be grouped as far as buildings, locations, wings, floors, departments, and so forth. The first grouping or level usually determines the master level of keys.
- Develop a second level of control within a building, floor, or wherever necessary by creating a submaster group. Additional levels or groups can be created if needed.
- Determine codes for masters, submasters, and any additional groupings.
- Design special levels of access or restriction for additional system flexibility.

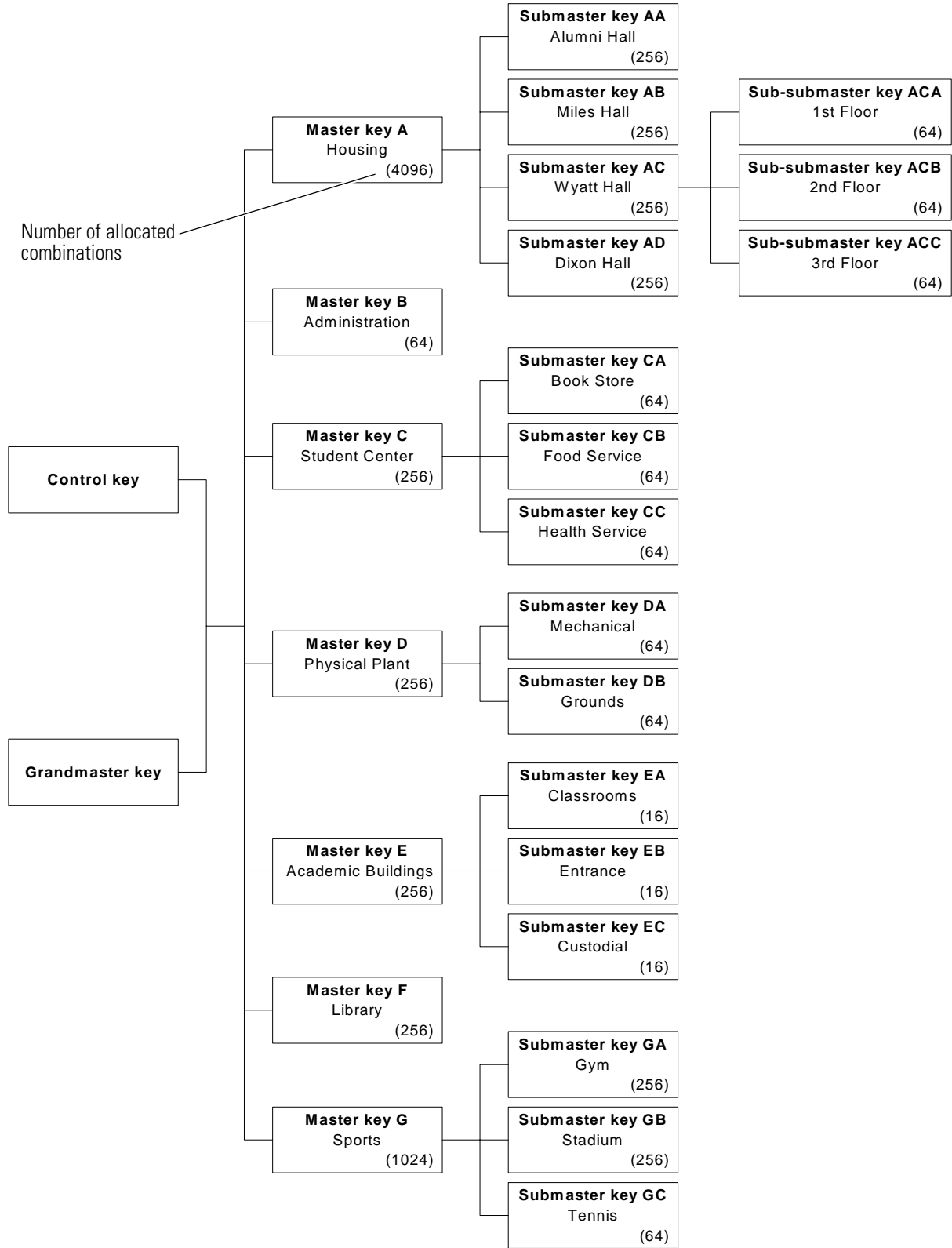


Figure 5.2 Sample keying schematic for buildings

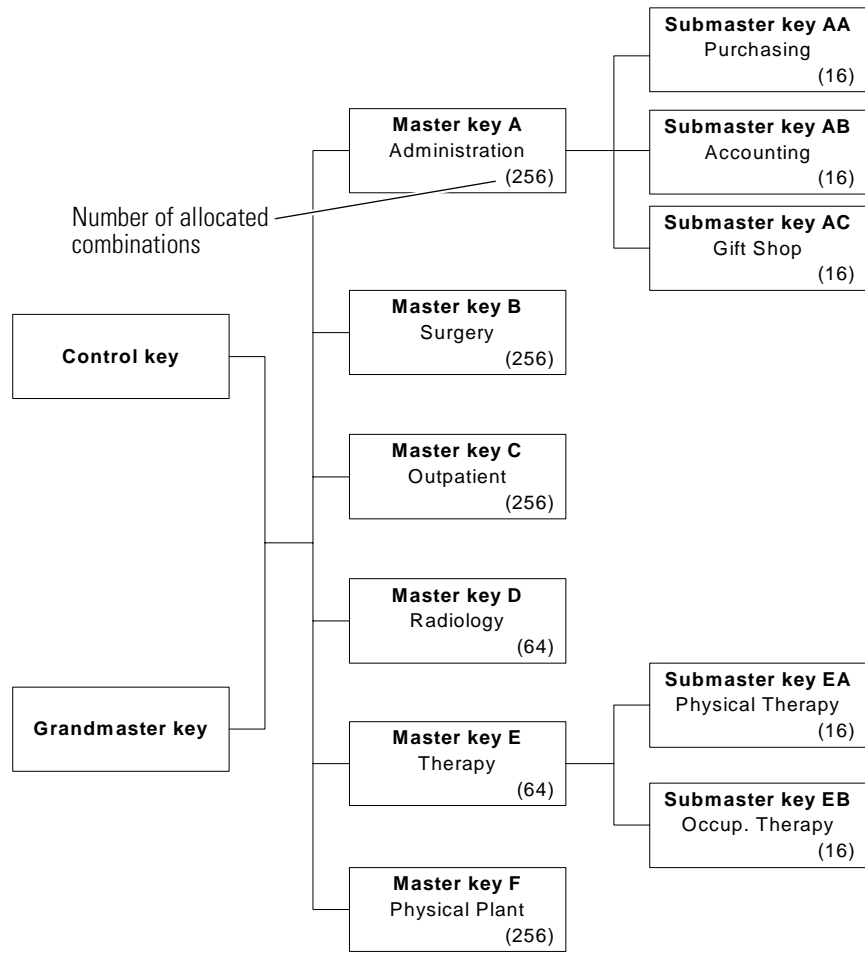


Figure 5.3 Sample keying schematic for departments

Obtaining BEST codes

The code sheets you receive from BEST are a list of numbers used for cutting keys and for determining pin segments when combining cores. See [Figure 5.4](#).



Do not try to create your own coding system. Improper code design could lead to security violations and the loss of your warranty. Obtain all of your codes directly from BEST.

The code sheet is a printed record of the keying system established for your use, which includes:

- Each level of key cuts
- Size of each level in terms of available codes
- Keyway information
- Key and core marking symbols
- Your customer account number
- Key stamp information
- Date that codes were issued
- Location of core stamping.

Note: BEST maintains code records in an authorized restricted area limited to masterkey personnel only. Code charts are sent by registered mail to authorized persons.

CODE PAGE		PROPRIETARY PROPERTY OF BEST ACCESS SYSTEMS			PAGE 1		
SYSTEM ID	7801	ORDER NO:	_____	ACCT. NO:	29003		
DATE:	13-APR-2001			LOC. ID:	1		
PINS:	7	TYPE:	A2	MARK ON:	S	KEYWAY:	A
				KEYSTAMP:	208		
CONTROL:	41 89 25 0						
GM:	83 01 83 6						
M:	67 01 83 6						
SM:	67 83 83 6						
CORE MARK	KEY CODE	OP BY	CORE MARK	KEY CODE			
BA-1	67 83 05 8		BA-35	67 83 25 2			
BA-2	67 83 25 8		BA-36	67 83 45 2			
BA-3	67 83 45 8		BA-37	67 83 65 2			
BA-4	67 83 65 8		BA-38	67 83 07 2			
BA-5	67 83 07 8		BA-39	67 83 27 2			
BA-6	67 83 27 8		BA-40	67 83 47 2			
BA-7	67 83 47 8		BA-41	67 83 67 2			
BA-8	67 83 67 8		BA-42	67 83 09 2			
BA-9	67 83 09 8		BA-43	67 83 29 2			
BA-10	67 83 29 8		BA-44	67 83 49 2			
BA-11	67 83 49 8		BA-45	67 83 69 2			
BA-12	67 83 69 8		BA-46	67 83 01 2			
BA-13	67 83 01 8		BA-47	67 83 21 2			
BA-14	67 83 21 8		BA-48	67 83 41 2			
BA-15	67 83 41 8		BA-49	67 83 61 2			
BA-16	67 83 61 8		BA-50	67 83 05 4			
BA-17	67 83 05 0		BA-51	67 83 25 4			
BA-18	67 83 25 0		BA-52	67 83 45 4			
BA-19	67 83 45 0		BA-53	67 83 65 4			
BA-20	67 83 65 0		BA-54	67 83 07 4			
BA-21	67 83 07 0		BA-55	67 83 27 4			
BA-22	67 83 27 0		BA-56	67 83 47 4			
BA-23	67 83 47 0		BA-57	67 83 67 4			
BA-24	67 83 67 0		BA-58	67 83 09 4			
BA-25	67 83 09 0		BA-59	67 83 29 4			
BA-26	67 83 29 0		BA-60	67 83 49 4			
BA-27	67 83 49 0		BA-61	67 83 69 4			
BA-28	67 83 69 0		BA-62	67 83 01 4			
BA-29	67 83 01 0		BA-63	67 83 21 4			
BA-31	67 83 21 0		BA-64	67 83 41 4			
BA-32	67 83 41 0						
BA-33	67 83 61 0						
BA-34	67 83 05 2						

Figure 5.4 Sample BEST code sheet

RE-LOCK OPTIONS

The process of adapting existing locks to meet new needs is referred to as a “re-lock.” Re-locks within your facility can vary from a simple one-core re-lock to complex total re-locks. Some of the variations in masterkeying which may apply to established BEST systems are listed below.

Option	Description
Core change	replace all cores with newly combined cores on an emergency (immediate) or periodic (pre-planned) basis
Recombine total core	recombine every barrel in an existing core
Partial recombination	recombine some barrels in an existing core
Departmental re-lock	replace all cores in a department with newly combined cores on a periodic basis
Rotation of cores	preplanned from one floor or department to another
Master change	contact your BEST Representative for more information
New series of codes	obtain new codes from your BEST Representative
New keyway	contact your BEST Representative for more information
New system	contact your BEST Representative for more information
Total corporate re-lock	contact your BEST Representative for more information

Guidelines for performing re-locks

When performing any re-lock procedure, be sure to follow these guidelines to ensure the security of the system:

- Use only authorized system codes from BEST.
- Use the code sheet to determine which barrels need to be combined.
- Recombine only the barrels necessary for the new combination.
- Always record which combinations have been used to avoid any duplications.

6

SERVICE AND MAINTENANCE

This chapter contains information for servicing and maintaining components of the A2 System. It includes references to the appropriate BEST manuals where you can get more detailed instructions.

A2 SYSTEM BASIC PROCEDURES OVERVIEW

Combining cores

Overview of using a code sheet

When you need to combine new cores, you should get code sheets from your BEST Representative. For an illustrated example of a code sheet, see [page 5-8](#).

For detailed instructions with illustrations on combining cores, see the *Core and Key Service Manual (T35527)* or contact your BEST Representative.

General guidelines for combining cores

- Use only authorized system codes from BEST.
- Begin combining from the rear of the core and work your way to the face of the core.
- Always complete the pin loading process for each individual barrel before proceeding to the next barrel.
- Never split pin segments. For example, do not use two number 2 pin segments in place of a number 4.

Basic steps for combining cores

1. Make sure that the core plug turns freely before you begin combining.
2. Align the barrels to receive segments.
3. Load the segments into the core.
4. Load one spring per barrel.
5. Place one cap onto each barrel.
6. Check the core for proper operation by inserting a key in the core. If you can insert, turn, and remove the key easily, then the core and key are working properly.
7. Check the control key for proper installation by inserting the control key into the core and turning it. If you can turn the key 15° clockwise and the core can be removed, then the core and control key are working properly.

Cutting keys

Keys may be cut to any combination up to seven digits long using your BEST key combinator. If your organization needs a key combinator, contact your BEST Representative.

For detailed instructions with illustrations on cutting keys, see the *Key Combinator Service Manual (T35532)* or contact your BEST Representative.



Always keep fingers and hands out of the way of moving parts. Be especially careful of the pinch point between the base and operating handle.

Basic steps for cutting keys

Use BEST original key blanks to ensure consistent results. With the machine bolted down or free standing you can start cutting keys.

1. Load a key into the key combinator.
2. Cut the key.
3. Unload the key from the key combinator.
4. Test the key for proper measurements.

Stamping cores and keys

For detailed instructions on stamping cores and keys, contact your BEST Representative.

General guidelines for stamping cores and keys

To avoid causing any damage when stamping cores, follow these guidelines:

- Do not use a metal-headed hammer on cores and keys.
- Do not use excessive force to stamp core markings on the side of cores. Excessive force may cause the barrel opening to deform.
- Do not stamp the core on the bottom lobe. Stamp only the top lobe.

Basic steps for stamping cores and keys

1. Be sure that you have selected the appropriate die and that it is facing the correct direction.
2. Place the core/key into the selected holder to hold it in place.
3. Stamp the core/key with a ball-peen hammer.
4. Continue this process until the desired marking is complete.

Installing cores For more detailed instructions on how to properly install cores into locks, see the *Core and Key Service Manual* (T35527) or contact your BEST Representative.

Installing new cores

After you have combined new cores, you may choose to install them into the locks on your own. It is important to install cores in an undetectable pattern to ensure that your system is protected. It may be possible for someone to figure out the pattern if the cores are installed in the order in which they were combined.

Checking cores for proper installation

Once your cores have been installed in an undetectable order, be sure to check that they have been properly installed. Insert the operating key in the core. If you can insert the operating key, turn, and remove the key easily, the core and key are working properly installed.

Periodically test all of your keys, including the control, grandmaster, and operating keys in the core to make sure that the core is operating properly.

DEVELOPING A KEY CONTROL SYSTEM

Key control is one of the most important aspects of any security program. Without proper key control, unauthorized entry into your facility is possible. It is essential that each operating facility implement an adequate key control program.

Purpose of a key control system

Experience has shown that keys are often handled carelessly. They are loaned, duplicated, exposed to theft, abused, and lost. Often there are no up-to-date records tracking keys that have been distributed, keys that have been lost, keys that are still in the custody of employees no longer employed at the facility, and spare keys that have not been officially issued. At some locations, spare keys to important exterior doors are displayed in the open, sometimes even hanging on a nail inside the door that the key unlocks. To adequately protect company assets, you must eliminate such practices and implement formal, positive key controls. The guidelines below serve as the minimum standards of key control for all of your facilities.

A good key control system effectively manages any size network of locks by pinpointing the responsibility of each individual and by providing quick access to information on all locks, keys, and personnel. It also stores additional keys, lock parts, and service equipment. The system shows who has keys to which locks, and when each key has been issued or returned.

Objectives of a key control system

Develop a key control system with the following objectives in mind:

- Limit the number of keys distributed to individuals.
- Maintain a record of the location of every lock that is used in the facility, with the number of the BEST core assigned to the lock.
- Maintain a record of the location of all lock numbers and BEST cores.
- Maintain a record of all keys that have been issued, showing the number of the key and the name of the holder, as well as a record of keys not issued.
- Maintain a record of all keys held by each individual, with signatures for each key held.
- Securely store all key records, spare codes, spare keys, and key equipment.

Updating key and core records

It is important to update your key and core records when making changes to the masterkey system. When records are not properly updated, it becomes too difficult to maintain your high level of security. Unless information has been properly recorded, there can be no way to trace a key back to the proper holder.

General guidelines for recordkeeping

Accurate records allow management to track facts quickly and hold each employee accountable. The following tips will help you maintain your records:

- Keep key records on updated forms, not code sheets.
- Record every key issue and return immediately.
- Record every core placement and change immediately.

BEST recommends using the Keystone 600 software program when your system exceeds more than 150 individuals. Otherwise, BEST offers the G-Series paper forms to ensure effective key control.

G-Series cards and equipment

The following cards and equipment are essential to implement a key control program if you do not have the Keystone 600 software program. Contact your local BEST Representative to obtain the G-Series cards and equipment. Refer to the table below and the figures that follow for descriptions of the listed G-Series products.

Card	Description	Figure No.
G-10	Door Number card	Figure 6.1
G-11	CoreNumber card	Figure 6.2
G-12	Key Marking card	Figure 6.3
G-13	Employee Name card	Figure 6.4
G-271	Key Request card	Figure 6.5
G-275	Key Receipt card	Figure 6.6
G-274	Lock Request card	Figure 6.7
G-272	Safety Lock Opening Request card	Figure 6.8
G-276	Lost Key Report card	Figure 6.9
G-21	Key envelope	Figure 6.10
G-20	Core envelope	Figure 6.11
G-30	Key Return tag	Figure 6.12

Door Number card

This card records specific information about the doors in a particular building, such as door numbers, door locations, what core is installed, as well as other pertinent data.

DOOR NUMBER or Alphabetical Location					
CORE NUMBER	DATE INSTALLED	CORE NUMBER	DATE INSTALLED	CORE NUMBER	DATE INSTALLED
KEY CONTROL		Printed in USA		BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250	G-10 1359050

Figure 6.1 Door Number card

Core Number card

This card records where specific cores are located in a facility, and also installation and removal dates.

CORE NUMBER			
LOCATION OF CORE	DOOR NUMBER	DATE INSTALLED	DATE REMOVED
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250	G-11 1284510

Figure 6.2 Core Number card

Key Marking card

This card records all personnel carrying a specific key. It also indicates when that key was issued and returned.

KEY NUMBER			
Individual Key ID	NAME OF KEY HOLDER	DATE ISSUED	DATE RETURNED
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250	G-12 1284551

Figure 6.3 Key Marking card

Employee Name card

This card records individual employee information. It also identifies keys that the individual carries and serves as a signed acknowledgement of internal policy and procedures. The agreement section is left blank so that you can write or stamp your company’s key agreement statement. For sample key agreements, see [page 6-13](#).

Last Name		First Name		Middle In.	Locker #	Clock #
Agreement:						
Key Number	Signature	Date Issued	Issued by	Date Issued	Date Issued	Remarks
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250		G-13 1284593		

Figure 6.4 Employee Name card

Key Request card

This card is used to request a key to be issued to employees for defined areas and requires an employee signature and date.

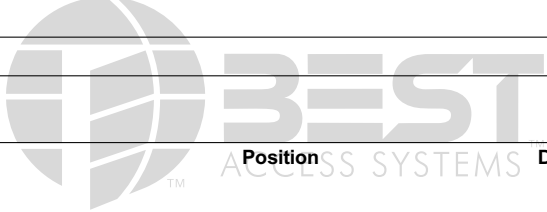
KEY REQUEST		
Last Name	First Name	Middle In.
To KEY CONTROL DEPARTMENT: I request that the above person be issued a key to open _____		
		
Signed	Position	Date
Approved by	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-271 1358979

Figure 6.5 Key Request card

Key Receipt card

This card records the name of the employee who has returned a key.


KEY RECEIPT		
To KEY CONTROL DEPARTMENT: Has received from _____		
Key number	_____	
		
Signed	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-275 1359176

Figure 6.6 Key Receipt card

Lock Request card

This card is used to request that lock changes or additions take place.

LOCK REQUEST		
Last Name	First Name	Middle In.
To KEY CONTROL DEPARTMENT: the above named person requests the following lock changes or additions be made _____		
Reason for making the change _____		
Signed	Position	Date
Approved by	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-274 1359129

Figure 6.7 Lock Request card

Safety Lock Opening Request card

This card is used to authorize key control personnel to open a designated lock for a particular person.

SAFETY LOCK OPENING REQUEST		
Last Name	First Name	Middle In.
To KEY CONTROL DEPARTMENT: You are authorized to open the SAFETY LOCK belonging to the above named person _____		
Reason for making the change _____		
Signed	Position	Date
Approved by	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-273 1359019

Figure 6.8 Safety Lock Opening Request card

Lost Key Report card

This card is used to report when a key has been lost or stolen. The circumstances of the missing key can be listed here to give to the key control department.

LOST KEY REPORT		
_____ Last Name	_____ First Name	_____ Middle In.
To KEY CONTROL DEPARTMENT: This is to report that the above named person has lost his or her key on _____ under the following circumstances _____ _____ _____ _____		
and requests that a replacement key be issued.		
_____ Signed	_____ Position	_____ Date
_____ Approved by	_____ Position	_____ Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
		G-276 1359815

Figure 6.9 Lost Key Report card

Key envelope

One envelope is used per spare key and can be filed numerically according to key markings. Keep all envelopes containing spare keys in a secure location.

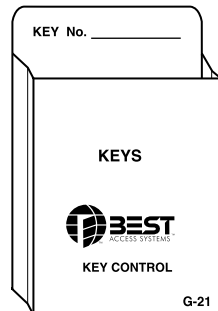


Figure 6.10 Key envelope

Core envelope

One envelope is used per spare core and can be filed numerically according to core markings. Keep all envelopes containing cores in a secure location.

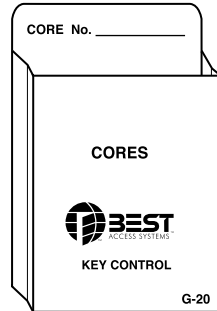


Figure 6.11 Core envelope

Key Return tag

The tag is labeled with the BEST address on the front and a number that identifies the employee who uses a particular key on the back. If this tag is found with a key, the key can be returned to BEST postage paid so that the finder cannot trace the key's origin.

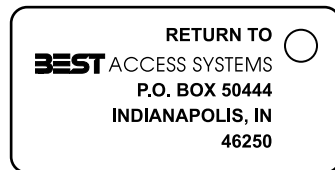


Figure 6.12 Key Return tag

Procedures to administer your key control system

The following actions are necessary to implement an effective key control program (adapt the following as needed for your facility).

- Obtain the appropriate cards and storage equipment, either by purchase from BEST or through local design.
- Inventory all locks throughout the facility that are in use, or should be used and list these locks by door number on a Door Number card. See [Figure 6.1 on page 6-7](#).
- Inventory all BEST cores in use at the facility and list the core numbers on the Core Number cards. See [Figure 6.2 on page 6-7](#).
- Inventory all keys that have been issued for the various locks, as well as spare keys on hand, and list them on the Key Marking card. See [Figure 6.3 on page 6-8](#).
- Compile a listing of all individuals holding keys to the building. Review this list thoroughly and reduce the number of key holders to an absolute minimum.
- Use the Employee Name card to record what keys are held by each employee with each of their signatures. See [Figure 6.4 on page 6-8](#).
- Store all key record cards in a lockable container, using dividers when needed.
- Store all unused keys and cores for future use:
 - ▲ Place each spare key and spare core in the appropriate envelopes.
 - ▲ Identify the key/core on the outside of the envelope.
 - ▲ Store all envelopes in a lockable container.

Sample key agreements

The Employee Name card (see [Figure 6.4 on page 6-8](#)) includes a blank section for written agreements that employees must agree to before receiving a key. For ideas of what might be printed in the “Agreement” section of an Employee Name card, see the examples listed below:

- I, the undersigned, hereby acknowledge receipt of the key/s described below. I promise and agree not to duplicate or have duplicated the key/s issued to me and to return it/them to the issuing office upon demand or when my need for said key/s no longer exists. I further agree that if said key/s is/are lost or otherwise not available for return, I will pay to the issuing office the sum of ____.
- I, the undersigned, hereby acknowledge receipt of the key/s described below, with the understanding that if I attempt to make duplicates, or loan this/these key/s to any other person, I, herewith, present myself to receive whatever punishment or disciplinary action the administration of this institution deems reasonable and just.
- I, the undersigned, by accepting the identified key/s, hereby agree to take diligent care and promptly report any loss thereof. I further agree to not give possession of said key/s to any other person nor cause or allow any copies to be made of such key. I understand that any violation of this agreement may result in termination of my employment with_____.

Issuing and returning keys

To issue a new key:

1. The employee submits a Key Request card. See [Figure 6.5](#) on [page 6-9](#).
2. Fill out an Employee Name card and file this alphabetically. See [Figure 6.4](#) on [page 6-8](#).
3. On a Key Marking card, indicate the following (see [Figure 6.3](#) on [page 6-8](#)):
 - key number
 - employee's name
 - date the key is issued.
4. The employee signs the Employee Name card which becomes, in effect, a contract.

When a key is returned:

1. Fill out a Key Receipt card and make a copy for your records. See [Figure 6.6](#) on [page 6-9](#).
2. Give the original copy to the employee in exchange for the key.
3. On the appropriate Key Marking card, strike out the employee's name and indicate the date that the key is returned. See [Figure 6.3](#) on [page 6-8](#).
4. On the appropriate Employee Name card, do the following (see [Figure 6.4](#) on [page 6-8](#)):
 - strike out the "key number" line
 - initial your changes and record the date
 - place this card in the inactive file if no other keys are currently signed out by this employee.
5. File the Key Receipt card copy.

Tips for managing your keys

- Send a test key to the factory or to your BEST Representative periodically for inspection.
- Destroy returned or worn keys but do not throw them in the trash.
- Replace master keys annually.
- Do not keep a file of your key cuts.
- Keep your control key in a secure location. Do not carry one with you.

When keys are lost or stolen

Guidelines for dealing with lost/stolen keys

It is important to be prepared when keys are lost or stolen. Follow the guidelines below.

- Establish a policy that requires employees to report missing keys immediately in person or by phone.
- Obtain BEST key trap cores for emergencies (see [page 4-3](#)).
- Attach Key Return tags to keys distributed to employees (see [page 6-12](#)).

Reporting lost or stolen keys

If an employee has lost a key or has had a key stolen from them, perform the following steps.

1. On a Lost Key Report card, record the employee's name and the date that the key was lost for the key control department. See [Figure 6.9](#) on [page 6-11](#).
2. Determine the security need for a relock (see [page 5-9](#)) or for installing a key trap core at the lost key location.
3. Take proper disciplinary actions against the appropriate employee if necessary and record proceedings.
4. On a Key Request card, record the employee's name and the date of the request for the key control department. See [Figure 6.5](#) on [page 6-9](#).

Adding, removing and changing cores

To add a new core:

1. Enter the door number at the top of a new Door Number card. See [Figure 6.1](#) on [page 6-7](#).
2. Enter the core number and date of installation.
3. Find the appropriate Core Number card (or start a new card if a new core number is used) and add the location of the newly installed core. See [Figure 6.2](#) on [page 6-7](#).

To remove a core:

1. Find the appropriate Door Number card and strike off the core number and date. See [Figure 6.1](#) on [page 6-7](#).
2. Enter "none" under "Core No." and specify the date of removal.
3. Find the appropriate Core Number card and strike out the line for core location. See [Figure 6.1](#) on [page 6-7](#).

To change a core:

1. Find the appropriate Door Number card and strike out the old core number and date. See [Figure 6.1](#) on [page 6-7](#).
2. Enter the new core number and date of installation.
3. Find the Core Number card that has the new core number and enter the following (see [Figure 6.2](#) on [page 6-7](#)):
 - location
 - date
 - door number.
4. Find the Core Number card for the old core. Strike out the entry name and then record the date of removal.

Tips for managing your cores

- Destroy all worn cores but do not throw them in the trash.
- Do not leave any barrels empty when loading the core.
- Do not keep a file of your pin segment order for combining cores.

Planning for emergencies

Setting aside extra codes

It is important to have extra codes set aside in the event that you need to change several or all of the locks in a particular area of your facility. For instance, if an employee's master key is lost or stolen, then the cores for the locks that the key has access to need to be recombined or replaced.

Having precombined cores available

In the event of an emergency where you need to replace a core, you may want to have precombined cores at your disposal for a quick and efficient changeover. You may need to replace only one particular core, but it is possible that you will need to replace several cores at once ([page 5-9](#)).

Emergency blackout blade

If no other measures can be taken, you can insert a keyway blackout blade into a core to prevent unauthorized entry ([page 4-3](#)). The blackout blade requires a special tool to remove it from the core. Contact your BEST Representative to order blackout blades and the removal tool.

PARTS SERVICING

For parts servicing, refer to the following manuals for your specific needs.

Instructions for	Refer to	
Replacing a dust cover assembly Lubricating a core Thawing a core Cleaning a core	<i>Core and Key Service Manual (T35527)</i>	
Replacing components on the key combinator: <ul style="list-style-type: none"> ■ punch and die ■ key carriage ■ operating lever Adjusting the key clamp spring Calibrating the key combinator Cleaning the key combinator Lubricating the key combinator		<i>Key Combinator Service Manual (T35532)</i>

GENERAL CORE MAINTENANCE

It is necessary to periodically clean and inspect your cores to ensure that they are functioning properly. Perform the following tasks as needed:

- Check for proper installation of any new cores
- Conduct periodic checks of the cores
 - ▲ operation of core in lockset
 - ▲ determine general wear
 - ▲ schedule a preventive maintenance plan
- Service and replace parts
- Lubricate cores according to your maintenance plan.

A

GLOSSARY

Calibrate	To check against a known standard and adjust to that standard.
Cap	Small piece of brass that is seated within a barrel, just below the surface of a core, to contain the segments and springs in each barrel.
Capping block	Small steel block used to hold a core while a cap is being seated within a barrel of the core.
Code	A number that specifies the cuts of a key that will properly operate a core (also relates to the combination of a core).
Combinating	Selecting a core's pin segments to match the key cuts.
Control key	A high-security key—unique for each BEST system—designed to remove and insert the figure-8 core.
Coremark	Sequence of letters and/or numbers that identifies a particular core.
Depth selector	Dial on a key combinator, marked with numbers, that is used for selecting key cut depths.
Ejector pin	Tool used to remove pin segments, springs, and caps from a core one barrel at a time.
Grandmaster key	Key that normally operates all locks in a masterkey system. However, a masterkey system might be designed so that the grandmaster key cannot operate selected locks such as cash boxes, hazardous waste areas, or drug cabinets.
Hand capping pin	Pin used to seat the cap within a barrel of a core.

Interchangeable core	Figure-8 shaped device that contains the main parts of a masterkey system. The interchangeable core can be removed by a special control key and can be recombined without disassembling the lock.
Key agreement	Document describing rules for a key issued to an employee and often signed by the employee. A key agreement might indicate how the employee should treat the key, when the key must be returned, and what the employee should do if the key is lost or stolen.
Key blade	Portion of a key that contains the keyway milling and key cuts.
Key blank	Key that has no key cuts.
Key carriage	Housing on a key combinator that moves the key to each keycut position.
Key combinator	Machine that cuts BEST key blanks for BEST masterkey systems.
Keycut depth	The distance from the bottom of the key cut to the underside of the key blade.
Keymark	Sequence of letters and numbers that indirectly corresponds to a keycut pattern for a key or group of keys that operates a particular core or lock.
Keystamp	Code number indicating the words stamped on all keys in a particular masterkey system. For example, "DO NOT DUPLICATE" or a company name can be keystamps.
Keyway	Cross-section shape milled into the key blank and broached into core plugs.
Keyway milling	Grooves machined into the length of the key blade to allow entry into the opening of a core.
Loading a core	Process of inserting segments, springs, and caps into each barrel of a core according to predetermined specifications.
Master key	Key that operates a large group of cores or locks, such as all locks in a building, on a floor, or for a department.
Masterkeying	Process of combining locks to allow a single key to operate many locks and at the same time allow each lock to be operated by a unique key.
Masterkey system	A complete hierarchical system provided by BEST Access Systems. A system normally consists of keymarks and coremarks that lets a single key operate many cores, and also lets each core be operated by its own key.
Multi-milling	Milling of a key to pass more than one keyway.
Operating key	Key that operates only one core or one group of keyed alike cores in a keying system.
Pin segment	Cylindrical-shaped part that fits into all barrels of a core. The sequence of pin segments varying in length inside a core permits a key to operate the core.

Punch and die	Part of the key combinator that notches keys to a precise shape.
Registered codes	Customized security codes assigned to a BEST Masterkey System. Only authorized personnel may receive these codes by registered mail.
Service equipment	Devices that allow a company to maintain and repair their own BEST Locking System. Service equipment includes key combinators, capping presses, and so forth.
Submaster key	Key that can unlock only specified groups of locks within a system.

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AB SYSTEM

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *A3 System Service Manual* contains essential information to help you maintain your A3 System.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your A3 System.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
Core and Key Service Manual	T35527
Key Combinator Service Manual	T35532
Keystone 600 Getting Started Guide	E-774

TECHNICAL SUPPORT

Support services

When you have a question about the A3 System, your first resource for help is the *A3 System Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone and web technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for all A3 System products. You may locate the Representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

Training seminars

BEST holds training sessions for its customers. The seminars are specifically designed for BEST end-users who have a registered BEST Masterkey system and registered BEST security equipment. If you are interested, you may contact your local BEST Representative for details.

2

OVERVIEW OF A MASTERKEY SYSTEM

This chapter discusses the benefits of a BEST system and defines how a masterkey system works. It also describes some of the components of a masterkey system such as interchangeable cores, keys, and codes. Finally, it provides guidelines for protecting a masterkey system.

UNDERSTANDING THE BEST DIFFERENCE

Best Access Systems has positioned itself to be your complete provider for access security systems. Our sales team has been trained to analyze the specific needs of your facility and recommend products and solutions that will most effectively address your access control requirements.

Benefits By choosing BEST, you are automatically guaranteed resources to help you with all of your security needs including:

- full installation services for all systems' products
- staff training services for various product lines and processes
- 24-hour assistance and consultation for any security need
- full specification preparation for new construction
- superior product availability and delivery.

Support from BEST Your BEST Representative will support you in all aspects of administering the system provided by BEST including:

- security consulting for all phases of security administration
- designing customized access control systems
- customizing a masterkey system for any size facility
- maintaining accurate records of the system
- expanding the system in the future.

Training **In-house system maintenance and service**

BEST Representatives provide local inventories, expertise, and training in servicing BEST's security system. Formal training is available to help you develop an in-house service department as well as to give you the ability to:

- combine cores
- recombine cores
- cut keys
- program and maintain electronics
- maintain lock hardware.

Formal training is available from BEST with special "Advanced Systems Curriculum" training being offered by the corporate factory headquarters.

BEST warranty BEST warrants that all of its products sold under its trade name are free of defects in materials, workmanship and operation, normal wear and tear excepted, for a period of three years from the date of sale to the original purchaser. BEST does not, however, warrant against defects that may be due to improper uses or installation, poor or no maintenance, shipping and/or handling, improper storage, accident, abuse or unauthorized service. BEST cannot be responsible for services provided by other companies to the system. Contacting your BEST Representative for installation and maintenance needs will ensure that you keep your warranty. The liability of BEST under this warranty is limited to the repair or replacement of any product covered by the warranty.

DEFINING A MASTERKEY SYSTEM

Definition of a masterkey system

A masterkey system is often misunderstood because it is not a tangible product and can have many variations. A BEST Masterkey system can be customized to meet any particular customer needs.

Masterkeying is a mathematical process that shows the number of different combinations available within a given plan and allows all cores to be combined into your system. It also assists the user in controlling the doors that people can access in the given facility.

Several security levels of keys are usually able to operate a single lock in a masterkey system. This feature offers flexibility as well as control to your system. Careful planning and consultation with your BEST Representative can help you maximize the benefits and avoid common pitfalls of a masterkey system. In most systems, 7-pin cores are used because they permit more combinations and allow greater flexibility for future expansion.

General design guidelines

BEST Representatives use the following guidelines when designing a customized masterkey system for the customer:

- Design the keying system around the function of the building and not the actual organization, if possible.
- Develop a simple design.
- Try to predict where, when, and how people move throughout the building.
- Plan for any future expansion that may be needed.
- Recognize the families of keys that are established, because they can restrict the flexibility of the system.

Moreover, once a system is established, it is not necessary to use all of your codes at one time. Codes may be set up as needed. Then, if growth occurs, BEST refers to its own secure files for the remaining available combinations. This activity is conducted as directed by the customer. It is the customer's responsibility to keep track of which core markings have been used in a given series.

**Product family
diagram**

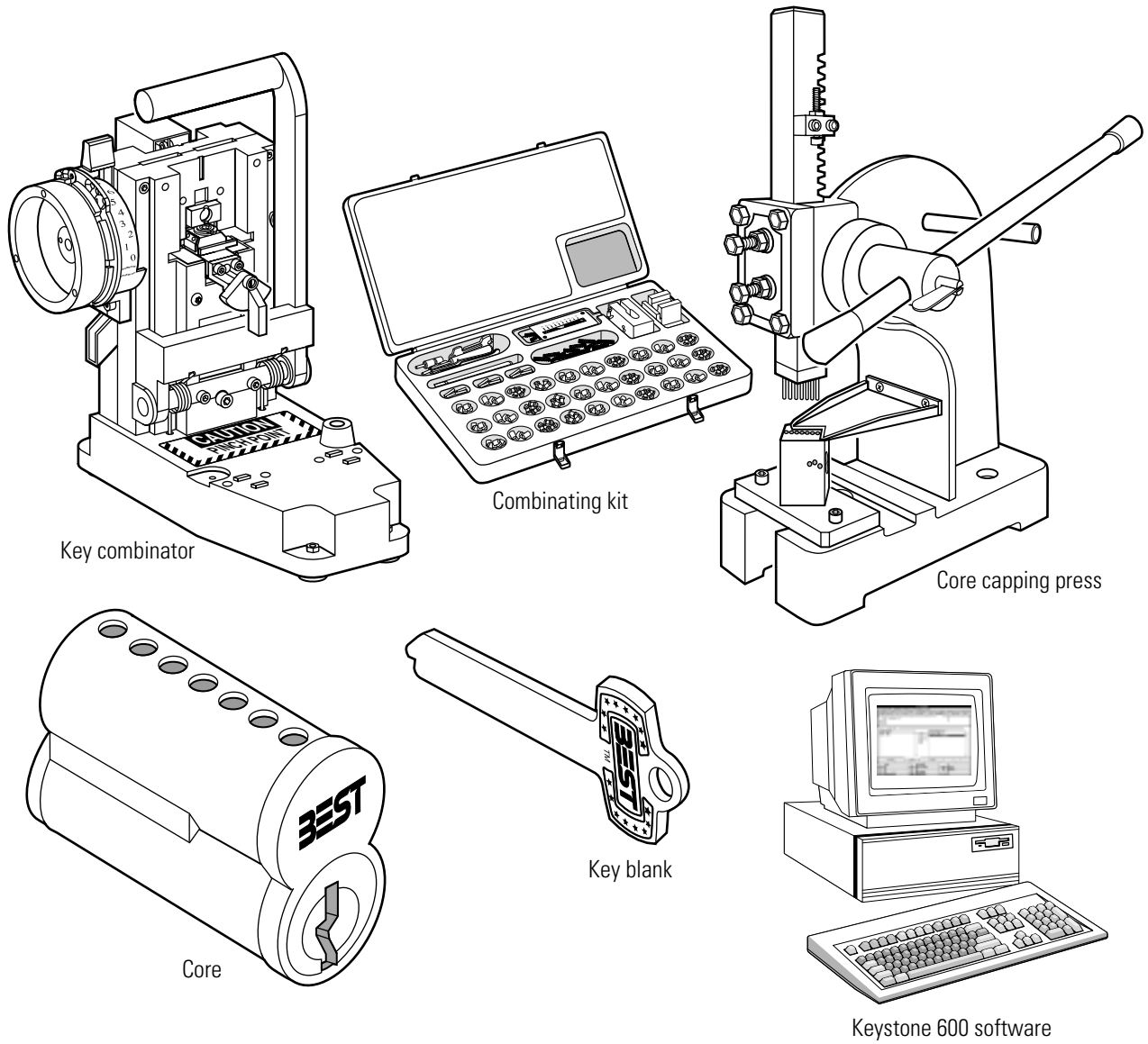


Figure 2.1 Product family diagram

Interchangeable core The standard figure-8 core that is interchangeable throughout the entire product line is a major feature of BEST. This interchangeability permits BEST locks of any type, size, or style to be masterkeyed into one system. Therefore your system can easily expand to include new facilities. Also, no BEST core needs alterations to fit any other BEST lock. You simply remove the core with the control key and insert a new core that operates by different keys. This unique feature lets you perform a re-lock in seconds. See [page 5-9](#).

Keys It is important to understand several key terms to more fully comprehend the concepts of masterkeying. See [Figure 2.2](#).

Control key

The control key installs and removes the interchangeable core in your BEST system. The control key has the same security level as a grandmaster and must receive the same level of protection.

Grandmaster key

The grandmaster key operates all locks in a masterkey system (unless locks are specifically excluded from the grandmaster for security or safety reasons such as cash boxes, drug cabinets, hazardous waste areas, and so forth).

Master key

The master key operates a large group of locks. For example, one master key can have access to an entire building, floor, or department.

Submaster key

The submaster key operates a smaller group of locks that are part of a master group.

Operating key

The individual key is also known as the operating key and is the lowest level key. This key operates only one lock or keyed-alike group of locks. (This type of key is also called “change key” in the locksmith industry.)

It is important to note that keying is not limited to just the organization of the keys listed above. More levels in the hierarchy may be created if needed. For example, a sub-submaster key level may be added.

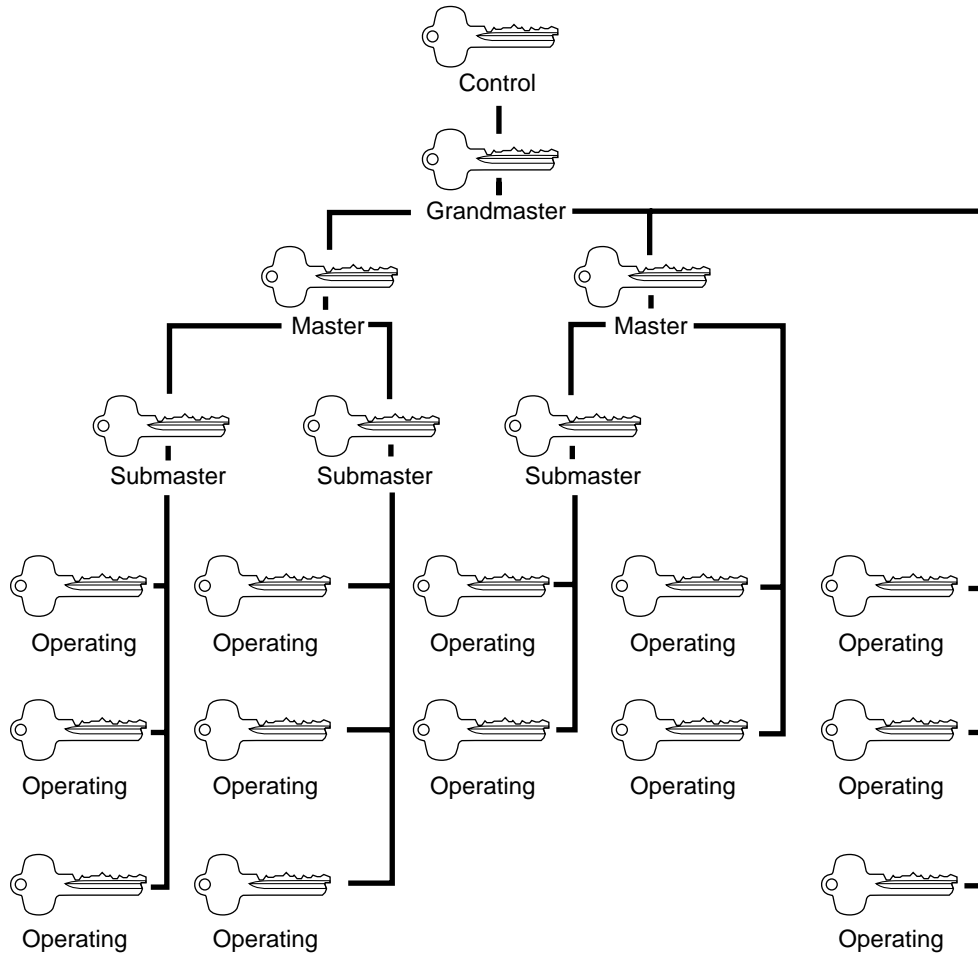


Figure 2.2 Sample masterkey hierarchy

Keyways The keyway of a core is a specific design or shape of the key blade and is manufactured into the core plug. This specific design keeps keys of other keyways from working in a dissimilar core. The keyway shapes can be grouped into the following categories:

- Standard keyways
- Restricted keyways
- Patented keyways.

Codes One of the most significant elements of a masterkey system is the codes on which the entire system is based. Codes are the number sequences that directly relate to key cuts and indirectly relate to the pin segments or combinations within the interchangeable core. Codes originate at the corporate headquarters and are used by BEST offices to establish systems around the world. All codes remain proprietary property of BEST.

Codes are only supplied to the customer when BEST authorized service equipment has been ordered and received. Once generated, the codes arrive in the form of a code sheet or biting list. This sheet then becomes a printed record of your keying system. It contains information about your system that is highly confidential. See [page 5-8](#) for an example of a code sheet.

SYSTEM ORGANIZATION AND SIZE

The size of your system is determined by the following factors:

- The number of individual locks you need
- The pin size of your cores
- The code system you need.

The number of actual locks you require is taken from the information you received from the site survey. A general rule of thumb is to estimate your future core needs by doubling the number of locks determined by the site survey. Then you will have codes available when you need to re-key one or several locks due to lost or stolen keys. Planning for extra codes will also let you add an additional building or wing under the same system.

The pin size of cores refers to the number of barrels in each core. BEST uses 7-pin cores as a standard in order to provide greater flexibility in the number of combinations that can be generated. However, if your existing system uses 5-pin or 6-pin cores, BEST offers these pin sizes as well. Using 5-pin or 6-pin, though, will decrease the number of total combinations that are available to you.

Manufacturing tolerances, as designed, are a vital factor in consistent key control. For each specific system, keys and core segments must be designed to mate exactly as coded. BEST holds a very close tolerance throughout its product lines.

Your BEST Representative can help you determine which options not only meet your facility's current needs, but also provide maximum flexibility and efficiency as your system evolves.

SYSTEM SECURITY

To increase the level of security within your system, you need to protect sensitive security products or information. These may include:

- Code sheets
- Service equipment
- Authorized security personnel contacts
- Key/core inventory.

BEST will help you with these procedures by maintaining code records at local BEST offices. In addition, authorized security contacts are kept on file. These contacts are people who are responsible for receiving all products and information. Security policies and procedures such as these help assure the integrity of your keying system.

KEY AND CORE CONTROL

A good mechanical locking system involves more than hardware. A key and core control system is a recording and filing plan that provides complete information on keying, doors, locks, and personnel. The system should include formal policies and procedures to regulate the distribution and control of key, core and code issuance. The following five elements must be controlled in all lock and key systems in order to maintain security:

- Keys
- Cores
- Forms
- Doors
- People.

Common control problems

Based on a survey conducted by BEST, security system users revealed the following problems with managing and administering the locking system:

- Loss of keys—either lost or stolen
- Not retrieving keys from employees that have been replaced or have retired
- Management indifference to security problems
- Theft—internal and external
- Too many keys issued
- Poor management of records resulting in keys being misplaced or stolen by employees within the facility
- Code expansion without BEST involvement
- Too many people involved with the system.

G-Series forms

Keeping accurate and up-to-date records is essential for the overall management of a BEST system. It is important to use adequate forms, in detail, to account for all keys/cores in your facility. The BEST G-Series form system provides color coding, cross-referencing, and space for continuous relocks and key changes. Contact your BEST Representative to obtain these forms.

Keystone 600 Software

For larger systems (systems with 100 or more users), the Keystone 600 Software is the recommended means of maintaining the A3 System. BEST's Keystone 600 key and core control software is a valuable tool for managing records. This user-friendly, Windows-based system allows for expedited entry of data and the generation of multiple standard reports. This program records, cross-references, and accesses all key and core information. Modeled after the proven G-Series form system, Keystone 600 helps you to efficiently make the transition from a manual system to a computer.

3

PARTS

The following pages contain descriptions and figures for BEST A3 System cores, keys, and tools for servicing them. To order these items, refer to the *Core and Key Service Manual* (T35527).

OVERVIEW OF THE BEST CORE

Core with segments, springs, and caps

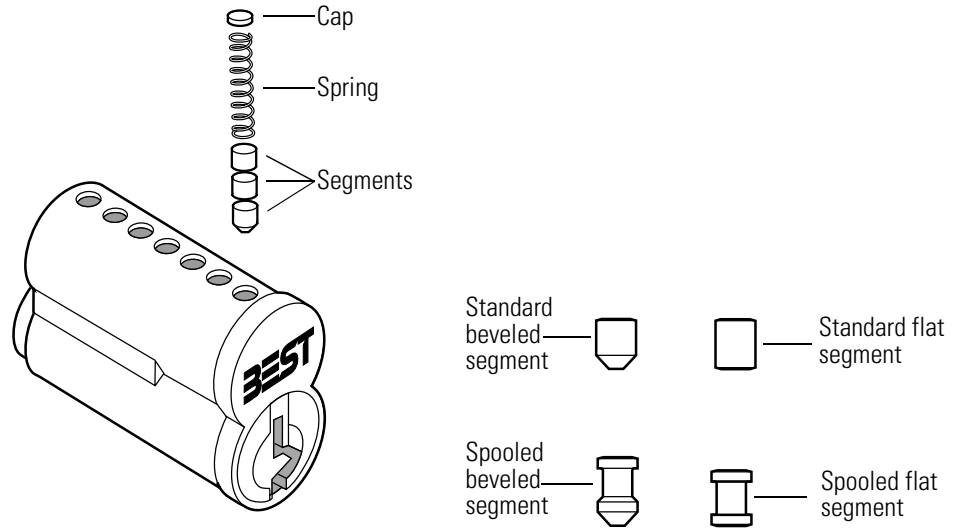


Figure 3.1 Segments, springs, and caps

Cross-section view of a core

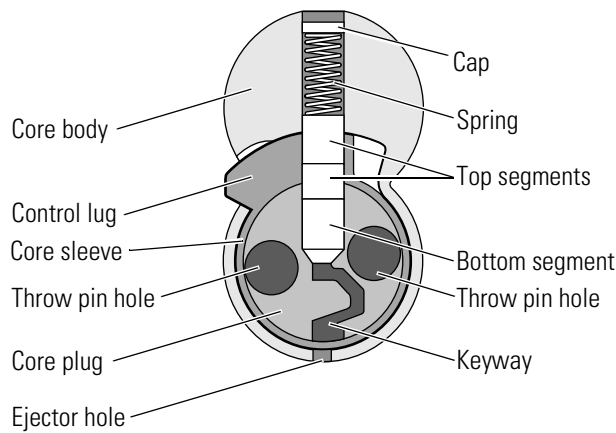


Figure 3.2 Cross-section view of core

OVERVIEW OF THE BEST KEY

Diagram of an operating key

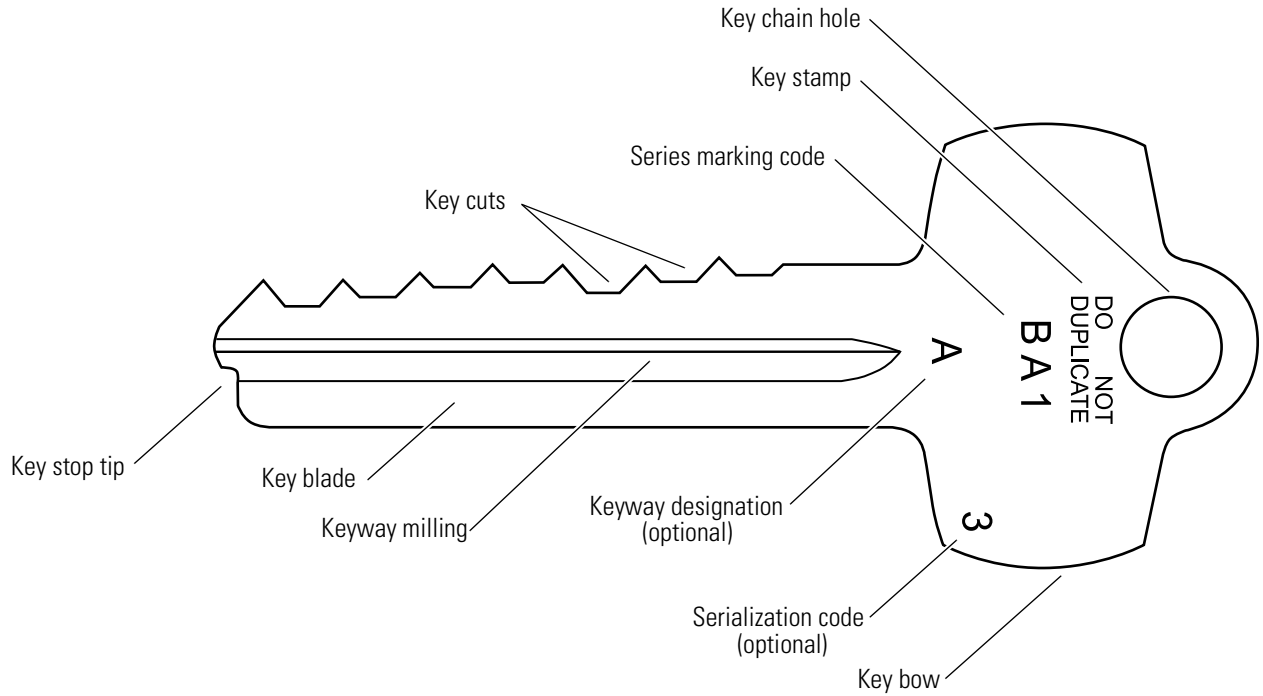


Figure 3.3 Standard key features

TOOLS

The following tools are used for servicing cores and keys.

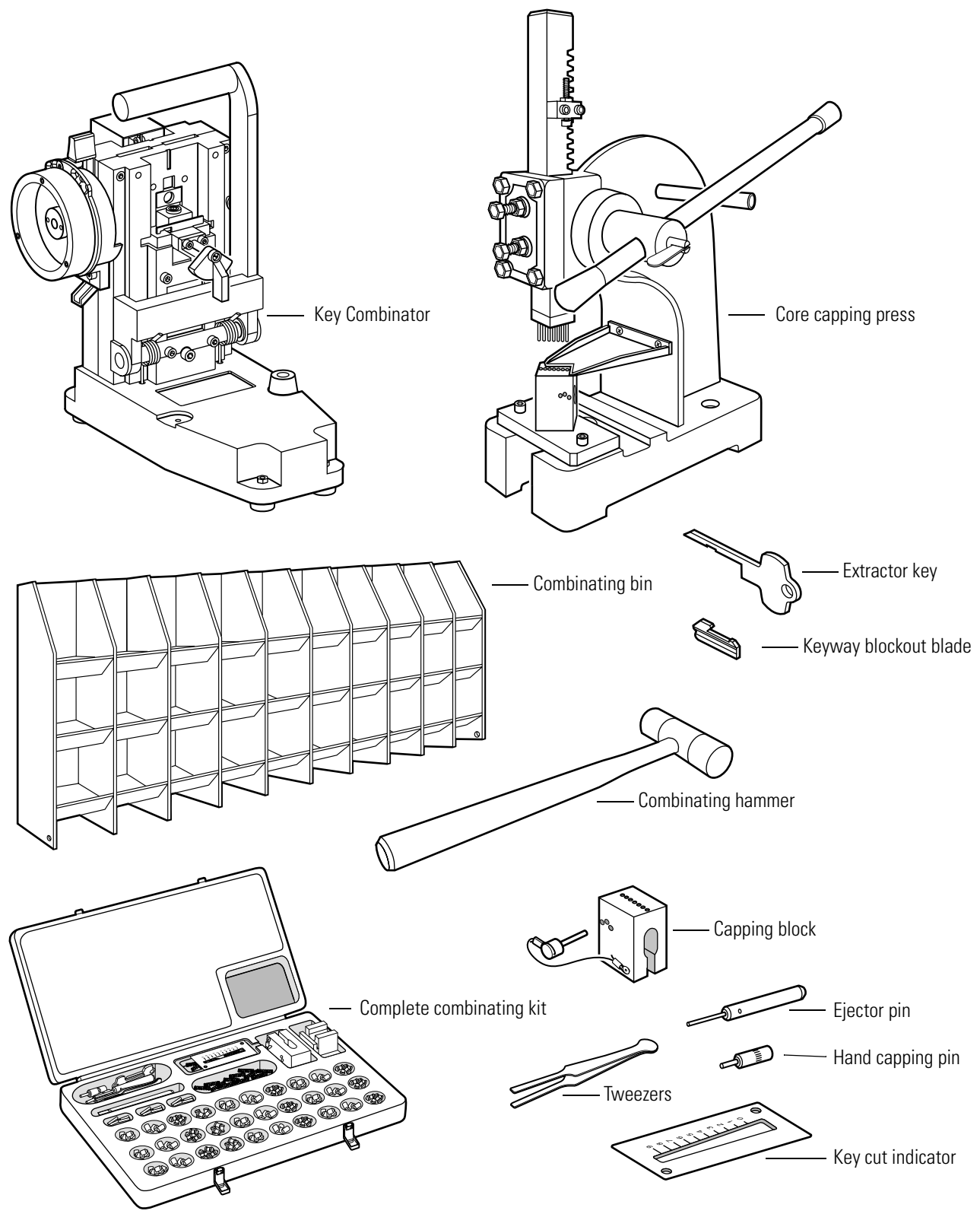


Figure 3.4 Tools used for servicing cores and keys

Stamping tools The following tools are used for stamping cores and keys in your system.

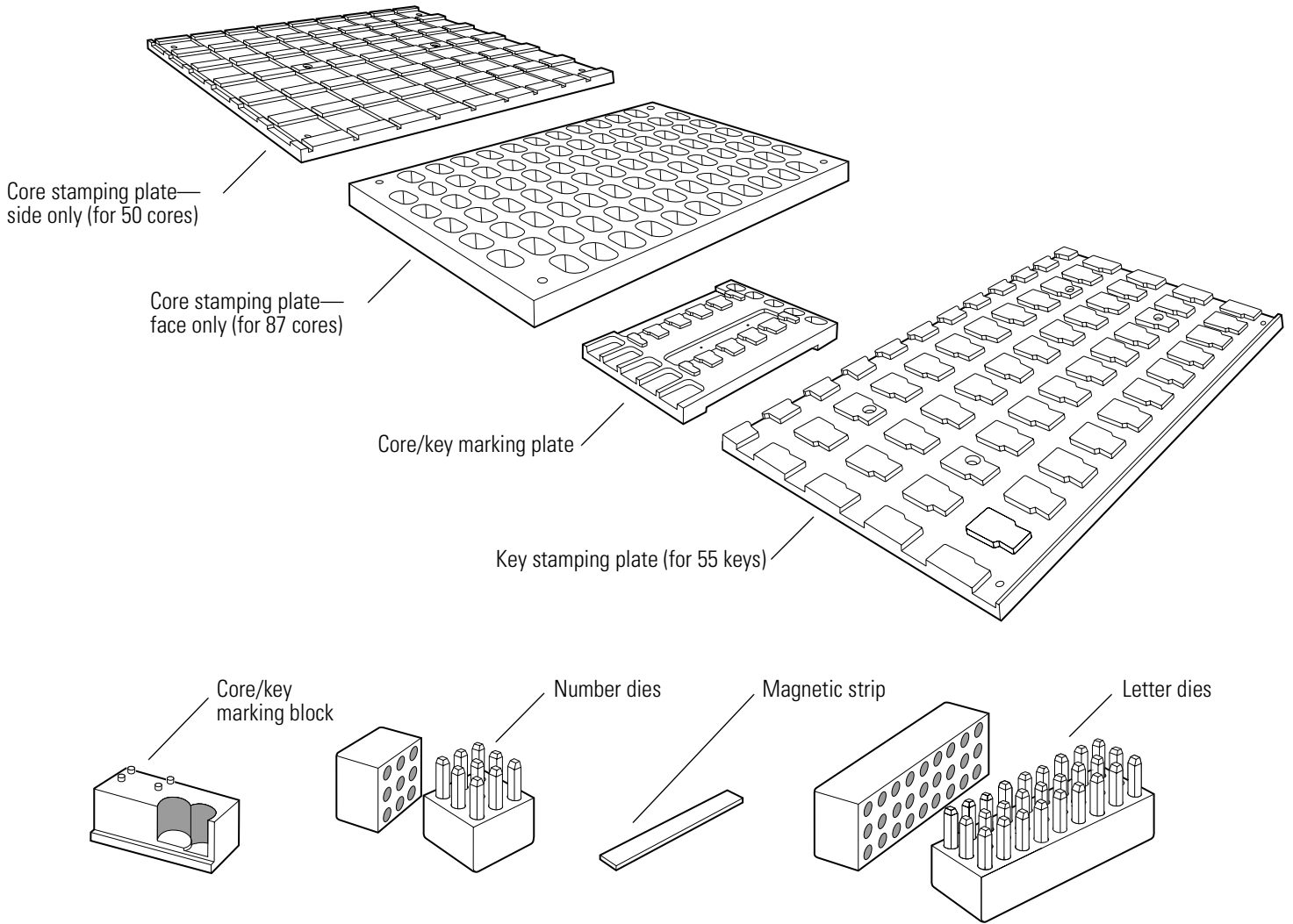


Figure 3.5 Stamping tools

Lubrication items The following items are used to lubricate cores.

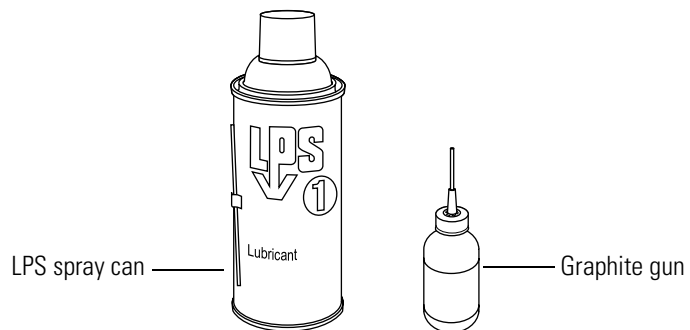


Figure 3.6 Lubrication items

4

OPTIONS AND APPLICATIONS

This chapter contains keyway options and special core options with their applications for the BEST A3 System.

KEYWAY OPTIONS

The following table describes possible keyway options that BEST offers for the A3 System.

Keying option[†]	Description
Standard keyway	BEST offers standard keyways for general use by customers that are compatible with existing systems and provide a cost effective means for system expansion.
Restricted keyway	BEST offers non-patented keyways, which BEST restricts by volume and proximity usage for limited distribution.
Patented keyway	BEST offers patented keyways that cannot legally be duplicated by other manufacturers.

[†] Multi-milled key blanks are available for up to a family of four keyways. Keyway families are typically used for only the highest key levels. These keyways are chosen when you have an existing system and have no available codes; or you have a large system and need more flexibility.

SPECIAL OPTIONS AND APPLICATIONS

The following table describes special core options that BEST offers for the A3 System and gives examples for when they are used.

Option	Description	Application
Key trap core	<p>When the key is inserted into the core and is turned, the key is trapped in the core. The key cannot be returned vertically nor withdrawn from the core. The core and trapped key must be drilled out of the lock.</p> <p>This special core is modified at the factory to match the key that you want to trap.</p>	Eliminates a key from the system by trapping it in the core. This option is useful if a key has been lost, or if someone has a key and will not return it.
Keyway blackout blade [†]	This blade prevents any and all keys from being inserted in a core. A special extractor key must be used in order to remove the blackout blade from the keyway.	Prevents keys from having access to a given entrance. This option is useful to have in case of a natural disaster or a specified job action such as a strike or lockout.
Wear resistant core	Hardened stainless steel segments are used as the bottom segments in each barrel of the core.	Provides longer life for cores in high traffic areas such as entry doors or other frequently used doors.
Pick resistant core	Spooled segments are used as the top and bottom segments in each barrel of the core.	Provides enhanced resistance to picking the core. This option is useful for high security areas such as narcotics rooms, special equipment rooms, or cash offices.
Drill resistant core	Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used at the top and bottom segments in the first two barrels of the core.	Provides enhanced resistance to drilling the core. This option provides an added measure of security for areas listed above.
Pick and drill resistant core	Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used as the top and bottom segments in the first two barrels of the core. Spooled segments are used as the top and bottom segments in each remaining barrel of the core.	Provides enhanced resistance to picking and drilling of the core. This option provides an added measure of security for areas listed above.
Core dust cover	Stainless steel spring-loaded dust cover is installed over the keyway.	<p>Prevents the keyway from accumulating dust and dirt. This option is useful for cores exposed to the elements such as doors in high humidity climates, selected doors in chemical plants, or for low use exterior doors.</p> <p>Note: If the core is housed in a cylinder, use the cylinder dust cover instead of the core dust cover for maximum protection.</p>

[†] See [page 3-4](#) for illustrations of the keyway blackout blade and extractor key.

5

CHANGES TO THE A3 SYSTEM

This chapter contains guidelines for determining your A3 System needs, guidelines for working with BEST when making changes to the A3 System, and also includes possible re-lock options.

DETERMINING YOUR NEEDS

Questions to consider There are several questions that customers should consider when assessing what changes need to be made to the A3 System including the following:

- How many keys did I originally plan for?
- How many new locks do I need now and approximately how many will I need in the future?
- How many codes do I have left for my system?
- How many master keys do I want (see [page 2-8](#))?
- Are there any special options or adaptations that I want (see [page 4-3](#))?
- Do I have specific security needs or concerns about re-locks (see [page 5-9](#))?

The way that your system was originally customized may affect how you go about making changes or expanding the system. For instance, if you did not originally plan to add on to your facility, then there may not be enough codes saved to do so. It is necessary to contact your BEST Representative to help you determine how to resolve any issues that may arise.

WORKING WITH BEST

Surveying the facility After the initial assessment of the system has been made, a physical site survey is conducted for new areas of the facility. Your BEST Representative will inspect and assess all of the requirements associated with securing your facility. The goal of a site survey is to systematically gather information that allows a thorough analysis of each access point. This analysis helps identify all necessary hardware requirements. It also organizes valuable information about the feasibility of integrating additional buildings, wings, and so forth into a system. The survey can then be used with the system schematic to determine how each lock is to be keyed/programmed. For an example of a site survey, see [Figure 5.1](#).

SCHEDULE OF LOCKS							
NAME XYZ Corporation					Order No. SGC-41781	Page 1 of 6	
ADDRESS 5555 Z STREET Hometown, USA 55555					Account No. 1-XXXX	Date 00-00-00	
					Approved by:		
Item No.	Location	Qty	Catalog Number, Hand of Door	Finish	Core Mak	Keys Cards	Miscellaneous
1	Door 100 Main Office	2	35HV7EV15-KP-RH	626	AA	1 / 20	
2	Door 101 Accounting Office	2	35H-7EW15-M-RH	626	AA2X	2	Oper. by AA2-AA4
3	Door 102 Time Office	1	93K-7AB15-A-STK	626	AB1	2	
4	Door 103 Cash Room	1 1 1	35H7 EWEU15M-IDH Mag Stripe Card Reader Electrified Hinge	626	AA3	1 / 4	RHRB-Hollow metal door approx. 50' to controller
5	Door 105 Purchasing	1 1 1 1	1E-74-C181-R2	626	AA1		Oper. by AA1-AA16
6	Door 110 Exterior Side Ent.	1	1E72 Electric Strike Mag Stripe Card Reader Request to Exit motion	626	AA4		Aluminum frame glass door rim panic 100' to controller
7	Door 120 Research	1	94KV7DV15-MS-STK	626	AA1X	0	
8	<u>Main Factory</u> Elevators at Entrance	4	1W-7B2	626	F	1	
9	Door 130 Engineering Offices	3	83T7K-STK	606	FA1	20	
10	Tool Boxes	2	41B72T		FB1-FB120	240	

Figure 5.1 Sample site survey

Designing the schematic

The keying schematic is a plan or blueprint that illustrates the various levels of security you need for the BEST system. These levels are defined and designated into specific groups. The schematic design is similar to an organizational chart, as shown in [Figure 5.2](#) and [Figure 5.3](#).

General guidelines

When designing a masterkey system schematic, BEST Representatives follow these guidelines:

- Initially structure a control and grandmaster level.
- Determine how the facility is to be grouped as far as buildings, locations, wings, floors, departments, and so forth. The first grouping or level usually determines the master level of keys.
- Develop a second level of control within a building, floor, or wherever necessary by creating a submaster group. Additional levels or groups can be created if needed.
- Determine codes for masters, submasters, and any additional groupings.
- Design special levels of access or restriction for additional system flexibility.

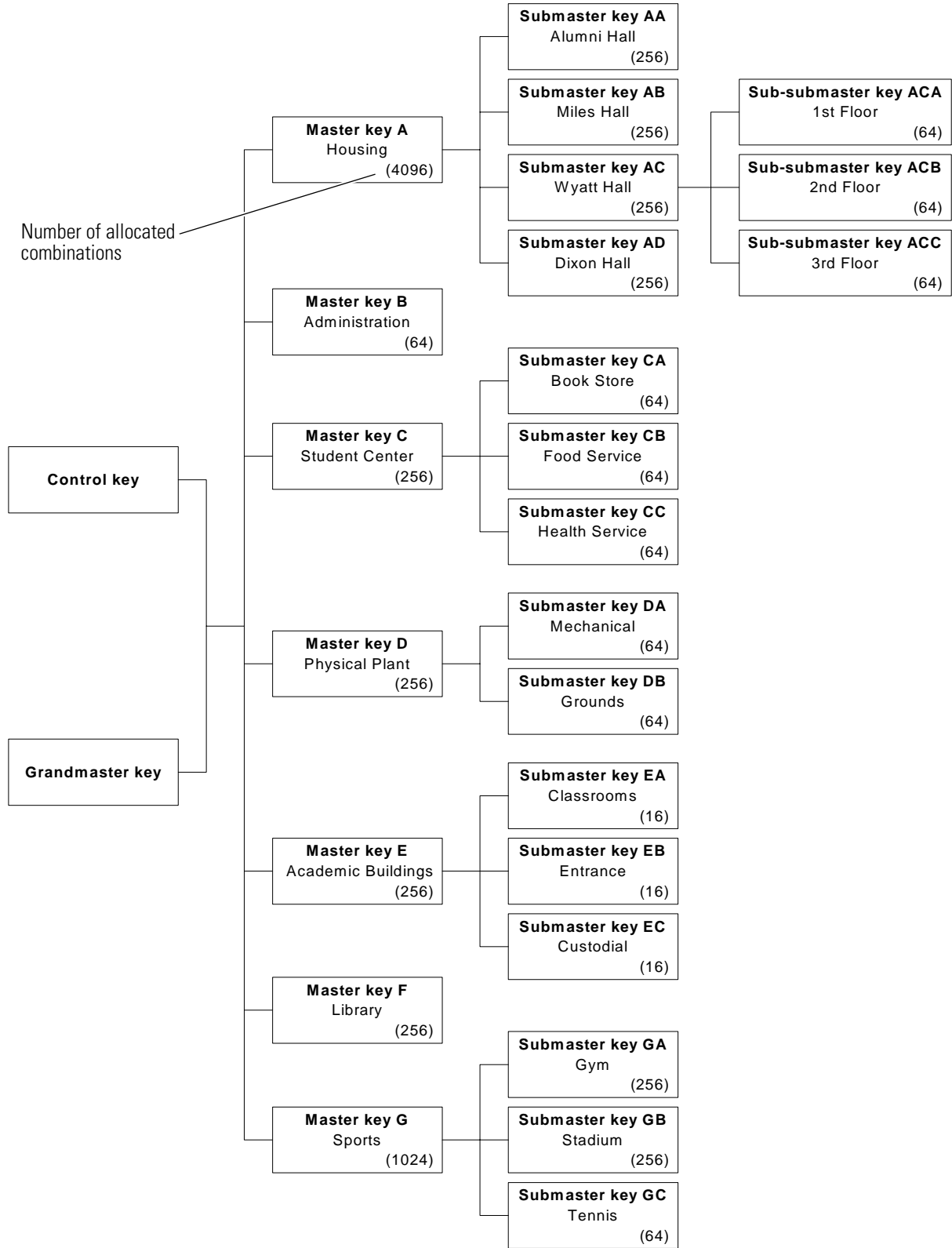


Figure 5.2 Sample keying schematic for buildings

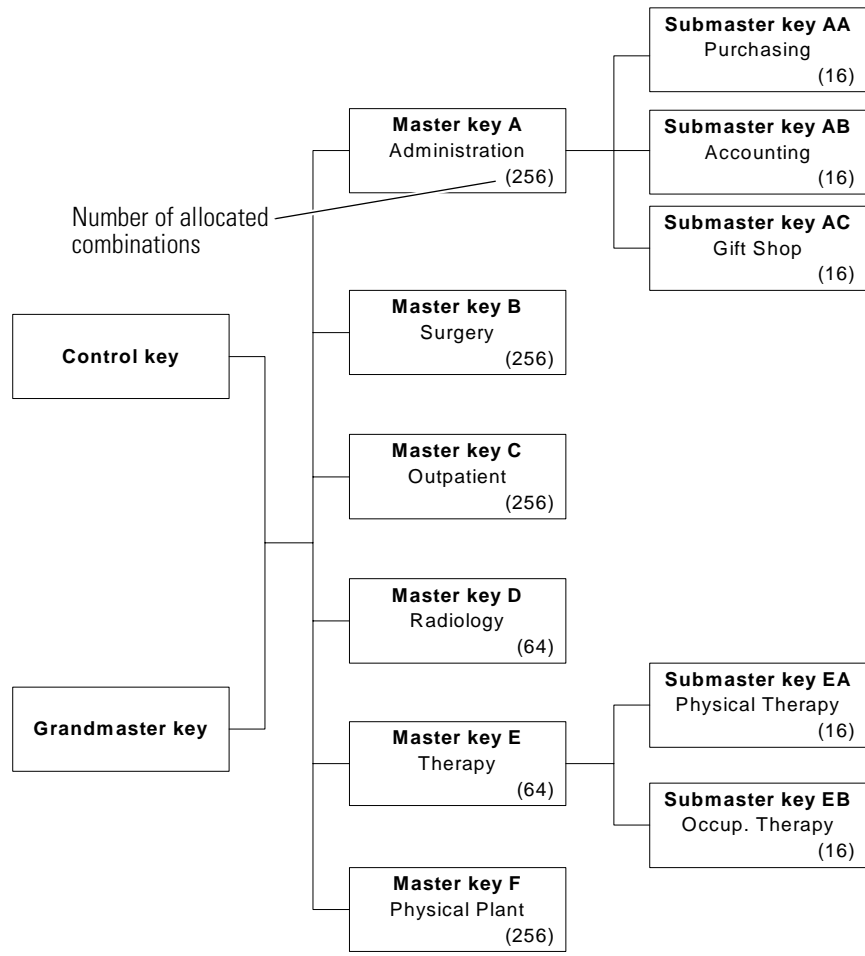


Figure 5.3 Sample keying schematic for departments

Obtaining BEST codes

The code sheets you receive from BEST are a list of numbers used for cutting keys and for determining pin segments when combining cores. See [Figure 5.4](#).



Do not try to create your own coding system. Improper code design could lead to security violations and the loss of your warranty. Obtain all of your codes directly from BEST.

The code sheet is a printed record of the keying system established for your use, which includes:

- Each level of key cuts
- Size of each level in terms of available codes
- Keyway information
- Key and core marking symbols
- Your customer account number
- Key stamp information
- Date that codes were issued
- Location of core stamping.

Note: BEST maintains code records in an authorized restricted area limited to masterkey personnel only. Code charts are sent by registered mail to authorized persons.

CODE PAGE PROPRIETARY PROPERTY OF BEST ACCESS SYSTEMS PAGE 1				
SYSTEM ID: 30768		ORDER NO: _____		ACCOUNT NO: 100235
DATE : 13-AUG-2001			LOC ID : 1	
PINS: 6	TYPE:A3	MARK ON: S	KEYWAY: K	KEYSTAMP: 280 X 800
	51 60 31	C		51 60 31
	24 05 63	GM		24 05 63
	46 35 63	M	N117	46 35 63
CORE MARK	KEY CODE	OP BY	CORE MARK	KEY CODE
N117-1	46 30 06		N117-48	46 30 04
N117-2	46 30 06		N117-49	46 30 26
N117-3	46 30 00		N117-50	46 30 22
N117-4	46 30 02		N117-51	46 30 30
N117-5	46 30 42		N117-52	46 30 25
N117-6	46 30 20		N117-53	46 30 56
N117-7	46 30 06		N117-54	46 30 46
N117-8	46 30 46		N117-55	46 30 42
N117-9	46 30 24		N117-56	46 30 45
N117-10	46 30 26		N117-57	46 30 10
N117-11	46 30 04		N117-58	46 30 05
N117-12	46 30 44		N117-59	46 30 56
N117-13	46 30 26		N117-60	46 30 15
N117-14	46 30 26		N117-61	46 30 01
N117-15	46 30 00		N117-62	46 30 55
N117-16	46 30 00		N117-63	46 30 52
N117-17	46 30 02		N117-64	46 30 51
N117-18	46 30 24		N117-65	46 30 45
N117-19	46 30 04		N117-66	46 30 41
N117-20	46 30 20		N117-67	46 30 51
N117-21	46 30 42		N117-68	46 30 44
N117-22	46 30 04		N117-69	46 30 15
N117-23	46 30 44		N117-70	46 30 10
N117-24	46 30 02		N117-71	46 30 30
N117-25	46 30 46		N117-72	46 30 41
N117-26	46 30 24		N117-73	46 30 12
N117-27	46 30 40		N117-74	46 30 20
N117-28	46 30 02		N117-75	46 30 05
N117-29	46 30 42		N117-76	46 30 36
N117-30	46 30 22		N117-77	46 30 35
N117-31	46 30 44		N117-78	46 30 31
N117-32	46 30 40		N117-79	46 30 15
N117-33	46 30 26		N117-80	46 30 50
N117-34	46 30 46		N117-81	46 30 11
N117-35	46 30 20		N117-82	46 30 00
N117-36	46 30 40		N117-83	46 30 16
N117-37	46 30 22		N117-84	46 30 44
N117-38	46 30 42		N117-85	46 30 16
N117-39	46 30 40		N117-86	46 30 06
N117-40	46 30 44		N117-87	46 30 02
N117-41	46 30 22		N117-88	46 30 50
N117-42	46 30 06		N117-89	46 30 15
N117-43	46 30 20		N117-90	46 30 24
N117-44	46 30 22		N117-91	46 30 54
N117-45	46 30 24		N117-92	46 30 05
N117-46	46 30 00		N117-93	46 30 35
N117-47	46 30 46		N117-94	46 30 11

Figure 5.4 Sample code sheet

RE-LOCK OPTIONS

The process of adapting existing locks to meet new needs is referred to as a “re-lock.” Re-locks within your facility can vary from a simple one-core re-lock to complex total re-locks. Some of the variations in masterkeying which may apply to established BEST systems are listed below.

Option	Description
Core change	replace all cores with newly combined cores on an emergency (immediate) or periodic (pre-planned) basis
Recombine total core	recombine every barrel in an existing core
Partial recombination	recombine some barrels in an existing core
Departmental re-lock	replace all cores in a department with newly combined cores on a periodic basis
Rotation of cores	preplanned from one floor or department to another
Master change	contact your BEST Representative for more information
New series of codes	obtain new codes from your BEST Representative
New keyway	contact your BEST Representative for more information
New system	contact your BEST Representative for more information
Total corporate re-lock	contact your BEST Representative for more information

Guidelines for performing re-locks

When performing any re-lock procedure, be sure to follow these guidelines to ensure the security of the system:

- Use only authorized system codes from BEST.
- Use the code sheet to determine which barrels need to be combined.
- Recombine only the barrels necessary for the new combination.
- Always record which combinations have been used to avoid any duplications.

6

SERVICE AND MAINTENANCE

This chapter contains information for servicing and maintaining components of the A3 System. It includes references to the appropriate BEST manuals where you can get more detailed instructions.

A3 SYSTEM BASIC PROCEDURES OVERVIEW

Combining cores

Overview of using a code sheet

When you need to combine new cores, you should get code sheets from your BEST Representative. For an illustrated example of a code sheet, see [page 5-8](#).

For detailed instructions with illustrations on combining cores, see the *Core and Key Service Manual (T35527)* or contact your BEST Representative.

General guidelines for combining cores

- Use only authorized system codes from BEST.
- Begin combining from the rear of the core and work your way to the face of the core.
- Always complete the pin loading process for each individual barrel before proceeding to the next barrel.
- Never split pin segments. For example, do not use two number 2 pin segments in place of a number 4.

Basic steps for combining cores

1. Make sure that the core plug turns freely before you begin combining.
2. Align the barrels to receive segments.
3. Load the segments into the core.
4. Load one spring per barrel.
5. Place one cap onto each barrel.
6. Check the core for proper operation by inserting a key in the core. If you can insert, turn, and remove the key easily, then the core and key are working properly.
7. Check the control key for proper installation by inserting the control key into the core and turning it. If you can turn the key 15° clockwise and the core can be removed, then the core and control key are working properly.

Cutting keys

Keys may be cut to any combination up to seven digits long using your BEST key combinator. If your organization needs a key combinator, contact your BEST Representative.

For detailed instructions with illustrations on cutting keys, see the *Key Combinator Service Manual* (T35532) or contact your BEST Representative.



Always keep fingers and hands out of the way of moving parts. Be especially careful of the pinch point between the base and operating handle.

Basic steps for cutting keys

Use BEST original key blanks to ensure consistent results. With the machine bolted down or free standing you can start cutting keys.

1. Load a key into the key combinator.
2. Cut the key.
3. Unload the key from the key combinator.
4. Test the key for proper measurements.

Stamping cores and keys

For detailed instructions on stamping cores and keys, contact your BEST Representative.

General guidelines for stamping cores and keys

To avoid causing any damage when stamping cores, follow these guidelines:

- Do not use a metal-headed hammer on cores and keys.
- Do not use excessive force to stamp core markings on the side of cores. Excessive force may cause the barrel opening to deform.
- Do not stamp the core on the bottom lobe. Stamp only the top lobe.

Basic steps for stamping cores and keys

1. Be sure that you have selected the appropriate die and that it is facing the correct direction.
2. Place the core/key into the selected holder to hold it in place.
3. Stamp the core/key with a ball-peen hammer.
4. Continue this process until the desired marking is complete.

Installing cores For more detailed instructions on how to properly install cores into locks, see the *Core and Key Service Manual* (T35527) or contact your BEST Representative.

Installing new cores

After you have combined new cores, you may choose to install them into the locks on your own. It is important to install cores in an undetectable pattern to ensure that your system is protected. It may be possible for someone to figure out the pattern if the cores are installed in the order in which they were combined.

Checking cores for proper installation

Once your cores have been installed in an undetectable order, be sure to check that they have been properly installed. Insert the operating key in the core. If you can insert the operating key, turn, and remove the key easily, the core and key are working properly installed.

Periodically test all of your keys, including the control, grandmaster, and operating keys in the core to make sure that the core is operating properly.

DEVELOPING A KEY CONTROL SYSTEM

Key control is one of the most important aspects of any security program. Without proper key control, unauthorized entry into your facility is possible. It is essential that each operating facility implement an adequate key control program.

Purpose of a key control system

Experience has shown that keys are often handled carelessly. They are loaned, duplicated, exposed to theft, abused, and lost. Often there are no up-to-date records tracking keys that have been distributed, keys that have been lost, keys that are still in the custody of employees no longer employed at the facility, and spare keys that have not been officially issued. At some locations, spare keys to important exterior doors are displayed in the open, sometimes even hanging on a nail inside the door that the key unlocks. To adequately protect company assets, you must eliminate such practices and implement formal, positive key controls. The guidelines below serve as the minimum standards of key control for all of your facilities.

A good key control system effectively manages any size network of locks by pinpointing the responsibility of each individual and by providing quick access to information on all locks, keys, and personnel. It also stores additional keys, lock parts, and service equipment. The system shows who has keys to which locks, and when each key has been issued or returned.

Objectives of a key control system

Develop a key control system with the following objectives in mind:

- Limit the number of keys distributed to individuals.
- Maintain a record of the location of every lock that is used in the facility, with the number of the BEST core assigned to the lock.
- Maintain a record of the location of all lock numbers and BEST cores.
- Maintain a record of all keys that have been issued, showing the number of the key and the name of the holder, as well as a record of keys not issued.
- Maintain a record of all keys held by each individual, with signatures for each key held.
- Securely store all key records, spare codes, spare keys, and key equipment.

Updating key and core records

It is important to update your key and core records when making changes to the masterkey system. When records are not properly updated, it becomes too difficult to maintain your high level of security. Unless information has been properly recorded, there can be no way to trace a key back to the proper holder.

General guidelines for recordkeeping

Accurate records allow management to track facts quickly and hold each employee accountable. The following tips will help you maintain your records:

- Keep key records on updated forms, not code sheets.
- Record every key issue and return immediately.
- Record every core placement and change immediately.

BEST recommends using the Keystone 600 software program when your system exceeds more than 150 individuals. Otherwise, BEST offers the G-Series paper forms to ensure effective key control.

G-Series cards and equipment

The following cards and equipment are essential to implement a key control program if you do not have the Keystone 600 software program. Contact your local BEST Representative to obtain the G-Series cards and equipment. Refer to the table below and the figures that follow for descriptions of the listed G-Series products.

Card	Description	Figure No.
G-10	Door Number card	Figure 6.1
G-11	CoreNumber card	Figure 6.2
G-12	Key Marking card	Figure 6.3
G-13	Employee Name card	Figure 6.4
G-271	Key Request card	Figure 6.5
G-275	Key Receipt card	Figure 6.6
G-274	Lock Request card	Figure 6.7
G-272	Safety Lock Opening Request card	Figure 6.8
G-276	Lost Key Report card	Figure 6.9
G-21	Key envelope	Figure 6.10
G-20	Core envelope	Figure 6.11
G-30	Key Return tag	Figure 6.12

Door Number card

This card records specific information about the doors in a particular building, such as door numbers, door locations, what core is installed, as well as other pertinent data.

DOOR NUMBER or Alphabetical Location					
CORE NUMBER	DATE INSTALLED	CORE NUMBER	DATE INSTALLED	CORE NUMBER	DATE INSTALLED
KEY CONTROL		Printed in USA		BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250	
				G-10 1359050	

Figure 6.1 Door Number card

Core Number card

This card records where specific cores are located in a facility, and also installation and removal dates.

CORE NUMBER			
LOCATION OF CORE	DOOR NUMBER	DATE INSTALLED	DATE REMOVED
KEY CONTROL		Printed in USA	
		BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250	
		G-11 1284510	

Figure 6.2 Core Number card

Key Marking card

This card records all personnel carrying a specific key. It also indicates when that key was issued and returned.

KEY NUMBER			
Individual Key ID	NAME OF KEY HOLDER	DATE ISSUED	DATE RETURNED
KEY CONTROL		Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250

Figure 6.3 Key Marking card

Employee Name card

This card records individual employee information. It also identifies keys that the individual carries and serves as a signed acknowledgement of internal policy and procedures. The agreement section is left blank so that you can write or stamp your company’s key agreement statement. For sample key agreements, see [page 6-13](#).

Last Name	First Name	Middle In.	Locker #	Clock #		
Agreement:						
Key Number	Signature	Date Issued	Issued by	Date Issued	Date Issued	Remarks
KEY CONTROL		Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250	G-13 1284593		

Figure 6.4 Employee Name card

Key Request card

This card is used to request a key to be issued to employees for defined areas and requires an employee signature and date.


KEY REQUEST		
Last Name	First Name	Middle In.
To KEY CONTROL DEPARTMENT: I request that the above person be issued a key to open _____		
		
Signed	Position	Date
Approved by	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
		G-271 1358979

Figure 6.5 Key Request card

Key Receipt card

This card records the name of the employee who has returned a key.


KEY RECEIPT		
To KEY CONTROL DEPARTMENT: Has received from _____		
Key number	_____	
		
Signed	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
		G-275 1359176

Figure 6.6 Key Receipt card

Lock Request card

This card is used to request that lock changes or additions take place.

LOCK REQUEST		
Last Name _____	First Name _____	Middle In. _____
To KEY CONTROL DEPARTMENT: the above named person requests the following lock changes or additions be made _____ _____		
Reason for making the change _____ _____		
Signed _____	Position _____	Date _____
Approved by _____	Position _____	Date _____
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-274 1359129

Figure 6.7 Lock Request card

Safety Lock Opening Request card

This card is used to authorize key control personnel to open a designated lock for a particular person.

SAFETY LOCK OPENING REQUEST		
Last Name _____	First Name _____	Middle In. _____
To KEY CONTROL DEPARTMENT: You are authorized to open the SAFETY LOCK belonging to the above named person _____ _____		
Signed _____	Position _____	Date _____
Approved by _____	Position _____	Date _____
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-273 1359019

Figure 6.8 Safety Lock Opening Request card

Lost Key Report card

This card is used to report when a key has been lost or stolen. The circumstances of the missing key can be listed here to give to the key control department.

LOST KEY REPORT		
_____ Last Name	_____ First Name	_____ Middle In.
To KEY CONTROL DEPARTMENT: This is to report that the above named person has lost his or her key on _____ under the following circumstances _____ _____ _____ _____		
and requests that a replacement key be issued.		
_____ Signed	_____ Position	_____ Date
_____ Approved by	_____ Position	_____ Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
		G-276 1359815

Figure 6.9 Lost Key Report card

Key envelope

One envelope is used per spare key and can be filed numerically according to key markings. Keep all envelopes containing spare keys in a secure location.

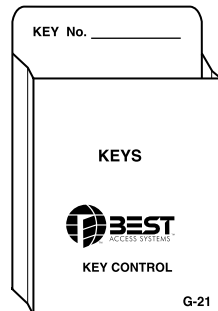


Figure 6.10 Key envelope

Core envelope

One envelope is used per spare core and can be filed numerically according to core markings. Keep all envelopes containing cores in a secure location.

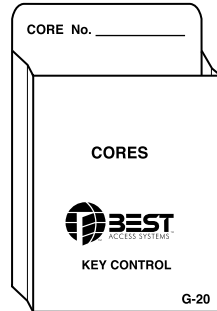


Figure 6.11 Core envelope

Key Return tag

The tag is labeled with the BEST address on the front and a number that identifies the employee who uses a particular key on the back. If this tag is found with a key, the key can be returned to BEST postage paid so that the finder cannot trace the key's origin.

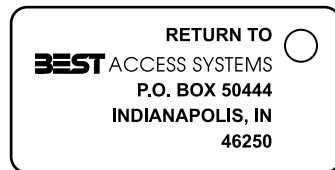


Figure 6.12 Key Return tag

Procedures to administer your key control system

The following actions are necessary to implement an effective key control program (adapt the following as needed for your facility).

- Obtain the appropriate cards and storage equipment, either by purchase from BEST or through local design.
- Inventory all locks throughout the facility that are in use, or should be used and list these locks by door number on a Door Number card. See [Figure 6.1](#) on [page 6-7](#).
- Inventory all BEST cores in use at the facility and list the core numbers on the Core Number cards. See [Figure 6.2](#) on [page 6-7](#).
- Inventory all keys that have been issued for the various locks, as well as spare keys on hand, and list them on the Key Marking card. See [Figure 6.3](#) on [page 6-8](#).
- Compile a listing of all individuals holding keys to the building. Review this list thoroughly and reduce the number of key holders to an absolute minimum.
- Use the Employee Name card to record what keys are held by each employee with each of their signatures. See [Figure 6.4](#) on [page 6-8](#).
- Store all key record cards in a lockable container, using dividers when needed.
- Store all unused keys and cores for future use:
 - ▲ Place each spare key and spare core in the appropriate envelopes.
 - ▲ Identify the key/core on the outside of the envelope.
 - ▲ Store all envelopes in a lockable container.

Sample key agreements

The Employee Name card (see [Figure 6.4](#) on [page 6-8](#)) includes a blank section for written agreements that employees must agree to before receiving a key. For ideas of what might be printed in the “Agreement” section of an Employee Name card, see the examples listed below:

- I, the undersigned, hereby acknowledge receipt of the key/s described below. I promise and agree not to duplicate or have duplicated the key/s issued to me and to return it/them to the issuing office upon demand or when my need for said key/s no longer exists. I further agree that if said key/s is/are lost or otherwise not available for return, I will pay to the issuing office the sum of ____.
- I, the undersigned, hereby acknowledge receipt of the key/s described below, with the understanding that if I attempt to make duplicates, or loan this/these key/s to any other person, I, herewith, present myself to receive whatever punishment or disciplinary action the administration of this institution deems reasonable and just.
- I, the undersigned, by accepting the identified key/s, hereby agree to take diligent care and promptly report any loss thereof. I further agree to not give possession of said key/s to any other person nor cause or allow any copies to be made of such key. I understand that any violation of this agreement may result in termination of my employment with_____.

Issuing and returning keys

To issue a new key:

1. The employee submits a Key Request card. See [Figure 6.5](#) on [page 6-9](#).
2. Fill out an Employee Name card and file this alphabetically. See [Figure 6.4](#) on [page 6-8](#).
3. On a Key Marking card, indicate the following (see [Figure 6.3](#) on [page 6-8](#)):
 - key number
 - employee's name
 - date the key is issued.
4. The employee signs the Employee Name card which becomes, in effect, a contract.

When a key is returned:

1. Fill out a Key Receipt card and make a copy for your records. See [Figure 6.6](#) on [page 6-9](#).
2. Give the original copy to the employee in exchange for the key.
3. On the appropriate Key Marking card, strike out the employee's name and indicate the date that the key is returned. See [Figure 6.3](#) on [page 6-8](#).
4. On the appropriate Employee Name card , do the following (see [Figure 6.4](#) on [page 6-8](#)):
 - strike out the "key number" line
 - initial your changes and record the date
 - place this card in the inactive file if no other keys are currently signed out by this employee.
5. File the Key Receipt card copy.

Tips for managing your keys

- Send a test key to the factory or to your BEST Representative periodically for inspection.
- Destroy returned or worn keys but do not throw them in the trash.
- Replace master keys annually.
- Do not keep a file of your key cuts.
- Keep your control key in a secure location. Do not carry one with you.

When keys are lost or stolen

Guidelines for dealing with lost/stolen keys

It is important to be prepared when keys are lost or stolen. Follow the guidelines below.

- Establish a policy that requires employees to report missing keys immediately in person or by phone.
- Obtain BEST key trap cores for emergencies (see [page 4-3](#)).
- Attach Key Return tags to keys distributed to employees (see [page 6-12](#)).

Reporting lost or stolen keys

If an employee has lost a key or has had a key stolen from them, perform the following steps.

1. On a Lost Key Report card, record the employee's name and the date that the key was lost for the key control department. See [Figure 6.9](#) on [page 6-11](#).
2. Determine the security need for a relock (see [page 5-9](#)) or for installing a key trap core at the lost key location.
3. Take proper disciplinary actions against the appropriate employee if necessary and record proceedings.
4. On a Key Request card, record the employee's name and the date of the request for the key control department. See [Figure 6.5](#) on [page 6-9](#).

Adding, removing and changing cores

To add a new core:

1. Enter the door number at the top of a new Door Number card. See [Figure 6.1](#) on [page 6-7](#).
2. Enter the core number and date of installation.
3. Find the appropriate Core Number card (or start a new card if a new core number is used) and add the location of the newly installed core. See [Figure 6.2](#) on [page 6-7](#).

To remove a core:

1. Find the appropriate Door Number card and strike off the core number and date. See [Figure 6.1](#) on [page 6-7](#).
2. Enter "none" under "Core No." and specify the date of removal.
3. Find the appropriate Core Number card and strike out the line for core location. See [Figure 6.1](#) on [page 6-7](#).

To change a core:

1. Find the appropriate Door Number card and strike out the old core number and date. See [Figure 6.1 on page 6-7](#).
2. Enter the new core number and date of installation.
3. Find the Core Number card that has the new core number and enter the following (see [Figure 6.2 on page 6-7](#)):
 - location
 - date
 - door number.
4. Find the Core Number card for the old core. Strike out the entry name and then record the date of removal.

Tips for managing your cores

- Destroy all worn cores but do not throw them in the trash.
- Do not leave any barrels empty when loading the core.
- Do not keep a file of your pin segment order for combining cores.

Planning for emergencies

Setting aside extra codes

It is important to have extra codes set aside in the event that you need to change several or all of the locks in a particular area of your facility. For instance, if an employee's master key is lost or stolen, then the cores for the locks that the key has access to need to be recombined or replaced.

Having precombined cores available

In the event of an emergency where you need to replace a core, you may want to have precombined cores at your disposal for a quick and efficient changeover. You may need to replace only one particular core, but it is possible that you will need to replace several cores at once ([page 5-9](#)).

Emergency blackout blade

If no other measures can be taken, you can insert a keyway blackout blade into a core to prevent unauthorized entry ([page 4-3](#)). The blackout blade requires a special tool to remove it from the core. Contact your BEST Representative to order blackout blades and the removal tool.

PARTS SERVICING

For parts servicing, refer to the following manuals for your specific needs.

Instructions for	Refer to	
Replacing a dust cover assembly Lubricating a core Thawing a core Cleaning a core	<i>Core and Key Service Manual (T35527)</i>	
Replacing components on the key combinator: ■ punch and die ■ key carriage ■ operating lever Adjusting the key clamp spring Calibrating the key combinator Cleaning the key combinator Lubricating the key combinator		<i>Key Combinator Service Manual (T35532)</i>

GENERAL CORE MAINTENANCE

It is necessary to periodically clean and inspect your cores to ensure that they are functioning properly. Perform the following tasks as needed:

- Check for proper installation of any new cores
- Conduct periodic checks of the cores
 - ▲ operation of core in lockset
 - ▲ determine general wear
 - ▲ schedule a preventive maintenance plan
- Service and replace parts
- Lubricate cores according to your maintenance plan.

A

GLOSSARY

Calibrate	To check against a known standard and adjust to that standard.
Cap	Small piece of brass that is seated within a barrel, just below the surface of a core, to contain the segments and springs in each barrel.
Capping block	Small steel block used to hold a core while a cap is being seated within a barrel of the core.
Code	A number that specifies the cuts of a key that will properly operate a core (also relates to the combination of a core).
Combinating	Selecting a core's pin segments to match the key cuts.
Control key	A high-security key—unique for each BEST system—designed to remove and insert the figure-8 core.
Coremark	Sequence of letters and/or numbers that identifies a particular core.
Depth selector	Dial on a key combinator, marked with numbers, that is used for selecting key cut depths.
Ejector pin	Tool used to remove pin segments, springs, and caps from a core one barrel at a time.
Grandmaster key	Key that normally operates all locks in a masterkey system. However, a masterkey system might be designed so that the grandmaster key cannot operate selected locks such as cash boxes, hazardous waste areas, or drug cabinets.
Hand capping pin	Pin used to seat the cap within a barrel of a core.

Interchangeable core	Figure-8 shaped device that contains the main parts of a masterkey system. The interchangeable core can be removed by a special control key and can be recombined without disassembling the lock.
Key agreement	Document describing rules for a key issued to an employee and often signed by the employee. A key agreement might indicate how the employee should treat the key, when the key must be returned, and what the employee should do if the key is lost or stolen.
Key blade	Portion of a key that contains the keyway milling and key cuts.
Key blank	Key that has no key cuts.
Key carriage	Housing on a key combinator that moves the key to each keycut position.
Key combinator	Machine that cuts BEST key blanks for BEST masterkey systems.
Keycut depth	The distance from the bottom of the key cut to the underside of the key blade.
Keymark	Sequence of letters and numbers that indirectly corresponds to a keycut pattern for a key or group of keys that operates a particular core or lock.
Keystamp	Code number indicating the words stamped on all keys in a particular masterkey system. For example, "DO NOT DUPLICATE" or a company name can be keystamps.
Keyway	Cross-section shape milled into the key blank and broached into core plugs.
Keyway milling	Grooves machined into the length of the key blade to allow entry into the opening of a core.
Loading a core	Process of inserting segments, springs, and caps into each barrel of a core according to predetermined specifications.
Master key	Key that operates a large group of cores or locks, such as all locks in a building, on a floor, or for a department.
Masterkeying	Process of combining locks to allow a single key to operate many locks and at the same time allow each lock to be operated by a unique key.
Masterkey system	A complete hierarchical system provided by BEST Access Systems. A system normally consists of keymarks and coremarks that lets a single key operate many cores, and also lets each core be operated by its own key.
Multi-milling	Milling of a key to pass more than one keyway.
Operating key	Key that operates only one core or one group of keyed alike cores in a keying system.
Pin segment	Cylindrical-shaped part that fits into all barrels of a core. The sequence of pin segments varying in length inside a core permits a key to operate the core.

Punch and die	Part of the key combinator that notches keys to a precise shape.
Registered codes	Customized security codes assigned to a BEST Masterkey System. Only authorized personnel may receive these codes by registered mail.
Service equipment	Devices that allow a company to maintain and repair their own BEST Locking System. Service equipment includes key combinators, capping presses, and so forth.
Submaster key	Key that can unlock only specified groups of locks within a system.

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A4 SYSTEM

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *A4 System Service Manual* contains essential information to help you maintain your A4 System.

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, start-up, and maintenance of your A4 System.

The installation and assembly instructions also can be ordered separately:

Document Title	Doc. No.
Core and Key Service Manual	T35527
Key Combinator Service Manual	T35532
Keystone 600 Getting Started Guide	E-774

TECHNICAL SUPPORT

Support services

When you have a question about the A4 System, your first resource for help is the *A4 System Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone and web technical support

A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for all A4 System products. You may locate the Representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

Training seminars

BEST holds training sessions for its customers. The seminars are specifically designed for BEST end-users who have a registered BEST Masterkey system and registered BEST security equipment. If you are interested, you may contact your local BEST Representative for details.

2

OVERVIEW OF A MASTERKEY SYSTEM

This chapter discusses the benefits of a BEST system and defines how a masterkey system works. It also describes some of the components of a masterkey system such as interchangeable cores, keys, and codes. Finally, it provides guidelines for protecting a masterkey system.

UNDERSTANDING THE BEST DIFFERENCE

Best Access Systems has positioned itself to be your complete provider for access security systems. Our sales team has been trained to analyze the specific needs of your facility and recommend products and solutions that will most effectively address your access control requirements.

Benefits By choosing BEST, you are automatically guaranteed resources to help you with all of your security needs including:

- full installation services for all systems' products
- staff training services for various product lines and processes
- 24-hour assistance and consultation for any security need
- full specification preparation for new construction
- superior product availability and delivery.

Support from BEST Your BEST Representative will support you in all aspects of administering the system provided by BEST including:

- security consulting for all phases of security administration
- designing customized access control systems
- customizing a masterkey system for any size facility
- maintaining accurate records of the system
- expanding the system in the future.

Training **In-house system maintenance and service**

BEST Representatives provide local inventories, expertise, and training in servicing BEST's security system. Formal training is available to help you develop an in-house service department as well as to give you the ability to:

- combine cores
- recombine cores
- cut keys
- program and maintain electronics
- maintain lock hardware.

Formal training is available from BEST with special "Advanced Systems Curriculum" training being offered by the corporate factory headquarters.

BEST warranty BEST warrants that all of its products sold under its trade name are free of defects in materials, workmanship and operation, normal wear and tear excepted, for a period of three years from the date of sale to the original purchaser. BEST does not, however, warrant against defects that may be due to improper uses or installation, poor or no maintenance, shipping and/or handling, improper storage, accident, abuse or unauthorized service. BEST cannot be responsible for services provided by other companies to the system. Contacting your BEST Representative for installation and maintenance needs will ensure that you keep your warranty. The liability of BEST under this warranty is limited to the repair or replacement of any product covered by the warranty.

DEFINING A MASTERKEY SYSTEM

Definition of a masterkey system

A masterkey system is often misunderstood because it is not a tangible product and can have many variations. A BEST Masterkey system can be customized to meet any particular customer needs.

Masterkeying is a mathematical process that shows the number of different combinations available within a given plan and allows all cores to be combined into your system. It also assists the user in controlling the doors that people can access in the given facility.

Several security levels of keys are usually able to operate a single lock in a masterkey system. This feature offers flexibility as well as control to your system. Careful planning and consultation with your BEST Representative can help you maximize the benefits and avoid common pitfalls of a masterkey system. In most systems, 7-pin cores are used because they permit more combinations and allow greater flexibility for future expansion.

General design guidelines

BEST Representatives use the following guidelines when designing a customized masterkey system for the customer:

- Design the keying system around the function of the building and not the actual organization, if possible.
- Develop a simple design.
- Try to predict where, when, and how people move throughout the building.
- Plan for any future expansion that may be needed.
- Recognize the families of keys that are established, because they can restrict the flexibility of the system.

Moreover, once a system is established, it is not necessary to use all of your codes at one time. Codes may be set up as needed. Then, if growth occurs, BEST refers to its own secure files for the remaining available combinations. This activity is conducted as directed by the customer. It is the customer's responsibility to keep track of which core markings have been used in a given series.

**Product family
diagram**

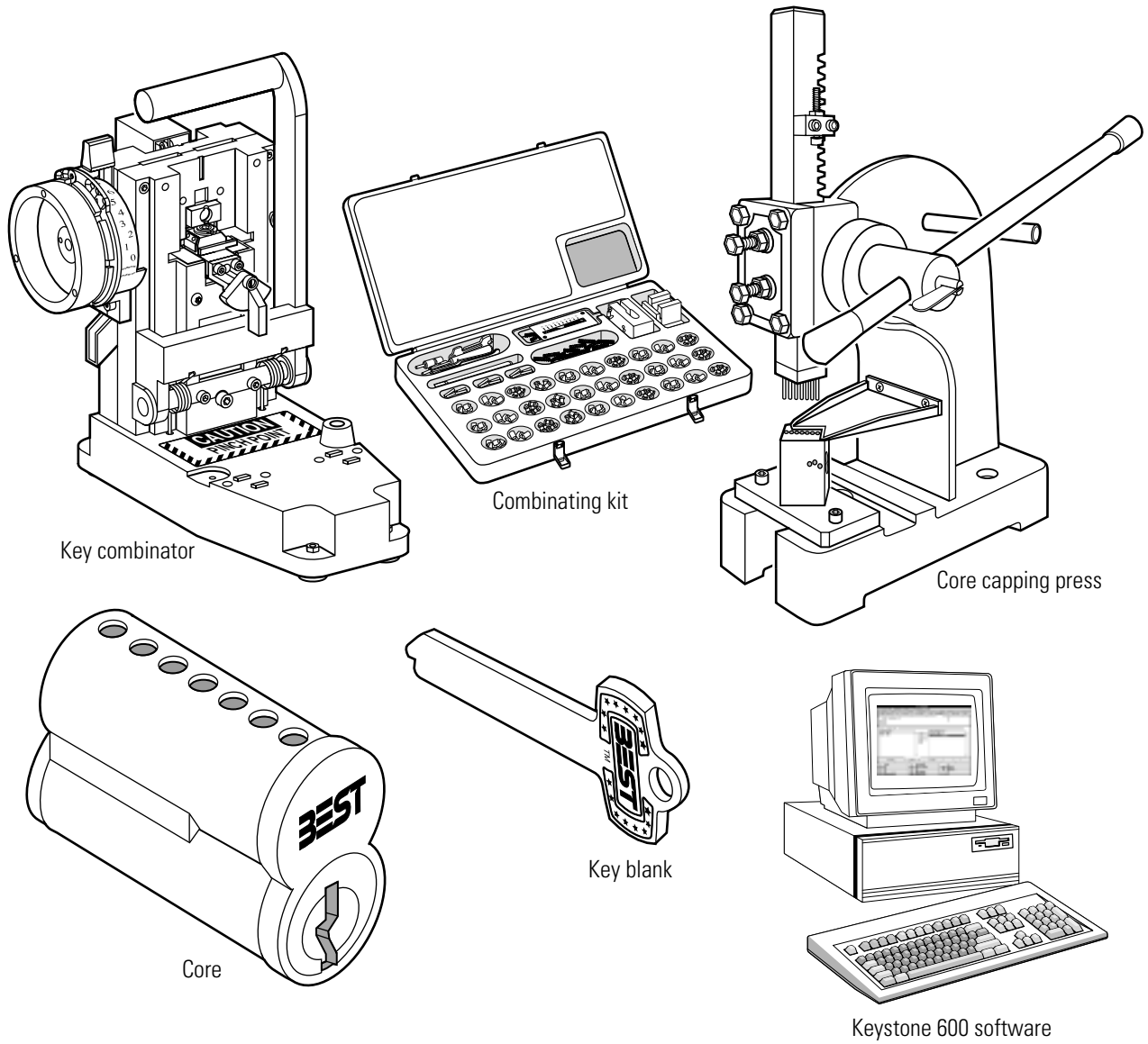


Figure 2.1 Product family diagram

Interchangeable core The standard figure-8 core that is interchangeable throughout the entire product line is a major feature of BEST. This interchangeability permits BEST locks of any type, size, or style to be masterkeyed into one system. Therefore your system can easily expand to include new facilities. Also, no BEST core needs alterations to fit any other BEST lock. You simply remove the core with the control key and insert a new core that operates by different keys. This unique feature lets you perform a re-lock in seconds. See [page 5-9](#).

Keys It is important to understand several key terms to more fully comprehend the concepts of masterkeying. See [Figure 2.2](#).

Control key

The control key installs and removes the interchangeable core in your BEST system. The control key has the same security level as a grandmaster and must receive the same level of protection.

Grandmaster key

The grandmaster key operates all locks in a masterkey system (unless locks are specifically excluded from the grandmaster for security or safety reasons such as cash boxes, drug cabinets, hazardous waste areas, and so forth).

Master key

The master key operates a large group of locks. For example, one master key can have access to an entire building, floor, or department.

Submaster key

The submaster key operates a smaller group of locks that are part of a master group.

Operating key

The individual key is also known as the operating key and is the lowest level key. This key operates only one lock or keyed-alike group of locks. (This type of key is also called “change key” in the locksmith industry.)

It is important to note that keying is not limited to just the organization of the keys listed above. More levels in the hierarchy may be created if needed. For example, a sub-submaster key level may be added.

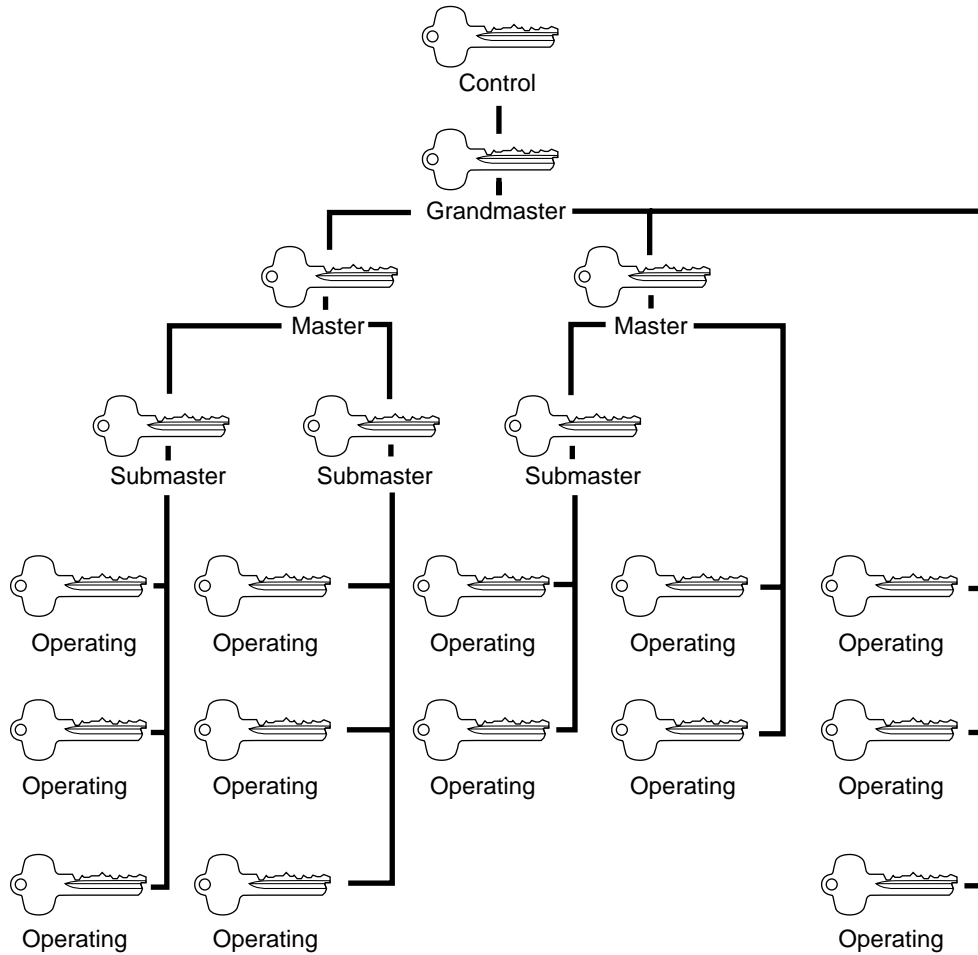


Figure 2.2 Sample masterkey hierarchy

Keyways The keyway of a core is a specific design or shape of the key blade and is manufactured into the core plug. This specific design keeps keys of other keyways from working in a dissimilar core. The keyway shapes can be grouped into the following categories:

- Standard keyways
- Restricted keyways
- Patented keyways.

Codes One of the most significant elements of a masterkey system is the codes on which the entire system is based. Codes are the number sequences that directly relate to key cuts and indirectly relate to the pin segments or combinations within the interchangeable core. Codes originate at the corporate headquarters and are used by BEST offices to establish systems around the world. All codes remain proprietary property of BEST.

Codes are only supplied to the customer when BEST authorized service equipment has been ordered and received. Once generated, the codes arrive in the form of a code sheet or bitting list. This sheet then becomes a printed record of your keying system. It contains information about your system that is highly confidential. See [page 5-8](#) for an example of a code sheet.

SYSTEM ORGANIZATION AND SIZE

The size of your system is determined by the following factors:

- The number of individual locks you need
- The pin size of your cores
- The code system you need.

The number of actual locks you require is taken from the information you received from the site survey. A general rule of thumb is to estimate your future core needs by doubling the number of locks determined by the site survey. Then you will have codes available when you need to re-key one or several locks due to lost or stolen keys. Planning for extra codes will also let you add an additional building or wing under the same system.

The pin size of cores refers to the number of barrels in each core. BEST uses 7-pin cores as a standard in order to provide greater flexibility in the number of combinations that can be generated. However, if your existing system uses 5-pin or 6-pin cores, BEST offers these pin sizes as well. Using 5-pin or 6-pin, though, will decrease the number of total combinations that are available to you.

Manufacturing tolerances, as designed, are a vital factor in consistent key control. For each specific system, keys and core segments must be designed to mate exactly as coded. BEST holds a very close tolerance throughout its product lines.

Your BEST Representative can help you determine which options not only meet your facility's current needs, but also provide maximum flexibility and efficiency as your system evolves.

SYSTEM SECURITY

To increase the level of security within your system, you need to protect sensitive security products or information. These may include:

- Code sheets
- Service equipment
- Authorized security personnel contacts
- Key/core inventory.

BEST will help you with these procedures by maintaining code records at local BEST offices. In addition, authorized security contacts are kept on file. These contacts are people who are responsible for receiving all products and information. Security policies and procedures such as these help assure the integrity of your keying system.

KEY AND CORE CONTROL

A good mechanical locking system involves more than hardware. A key and core control system is a recording and filing plan that provides complete information on keying, doors, locks, and personnel. The system should include formal policies and procedures to regulate the distribution and control of key, core and code issuance. The following five elements must be controlled in all lock and key systems in order to maintain security:

- Keys
- Cores
- Forms
- Doors
- People.

Common control problems

Based on a survey conducted by BEST, security system users revealed the following problems with managing and administering the locking system:

- Loss of keys—either lost or stolen
- Not retrieving keys from employees that have been replaced or have retired
- Management indifference to security problems
- Theft—internal and external
- Too many keys issued
- Poor management of records resulting in keys being misplaced or stolen by employees within the facility
- Code expansion without BEST involvement
- Too many people involved with the system.

G-Series forms

Keeping accurate and up-to-date records is essential for the overall management of a BEST system. It is important to use adequate forms, in detail, to account for all keys/cores in your facility. The BEST G-Series form system provides color coding, cross-referencing, and space for continuous relocks and key changes. Contact your BEST Representative to obtain these forms.

Keystone 600 Software

For larger systems (systems with 100 or more users), the Keystone 600 Software is the recommended means of maintaining the A4 System. BEST's Keystone 600 key and core control software is a valuable tool for managing records. This user-friendly, Windows-based system allows for expedited entry of data and the generation of multiple standard reports. This program records, cross-references, and accesses all key and core information. Modeled after the proven G-Series form system, Keystone 600 helps you to efficiently make the transition from a manual system to a computer.

3

PARTS

The following pages contain descriptions and figures for BEST A4 System cores, keys, and tools for servicing them. To order these items, refer to the *Core and Key Service Manual (T35527)*.

OVERVIEW OF THE BEST CORE

Core with segments, springs, and caps

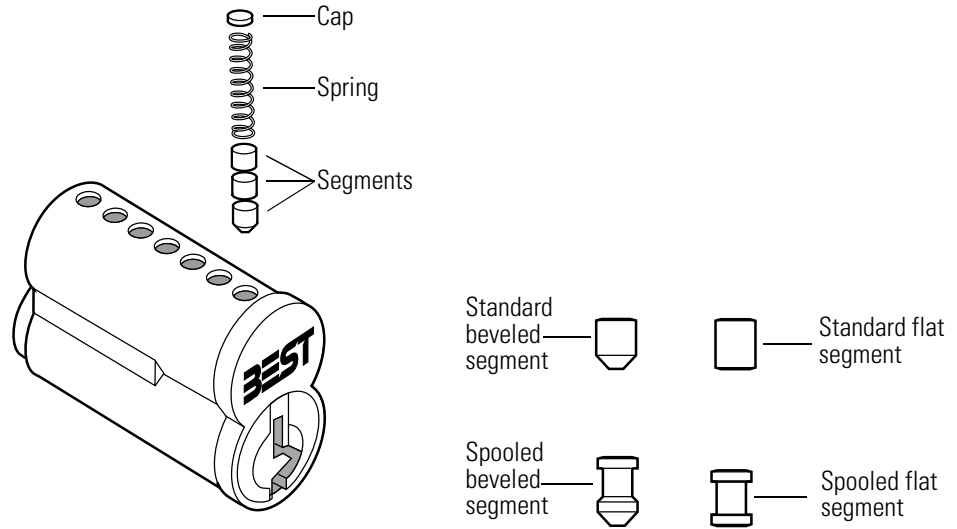


Figure 3.1 Segments, springs, and caps

Cross-section view of a core

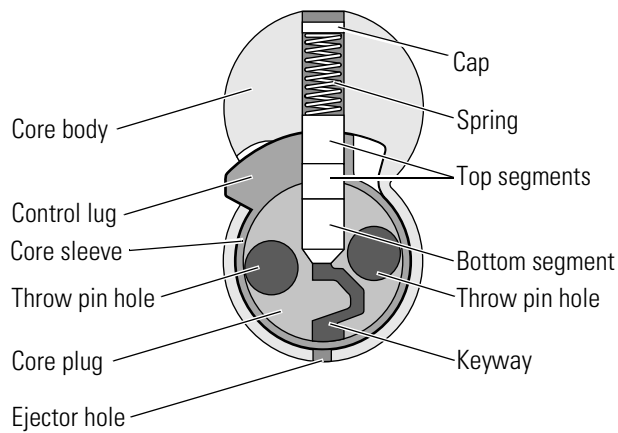


Figure 3.2 Cross-section view of core

OVERVIEW OF THE BEST KEY

Diagram of an operating key

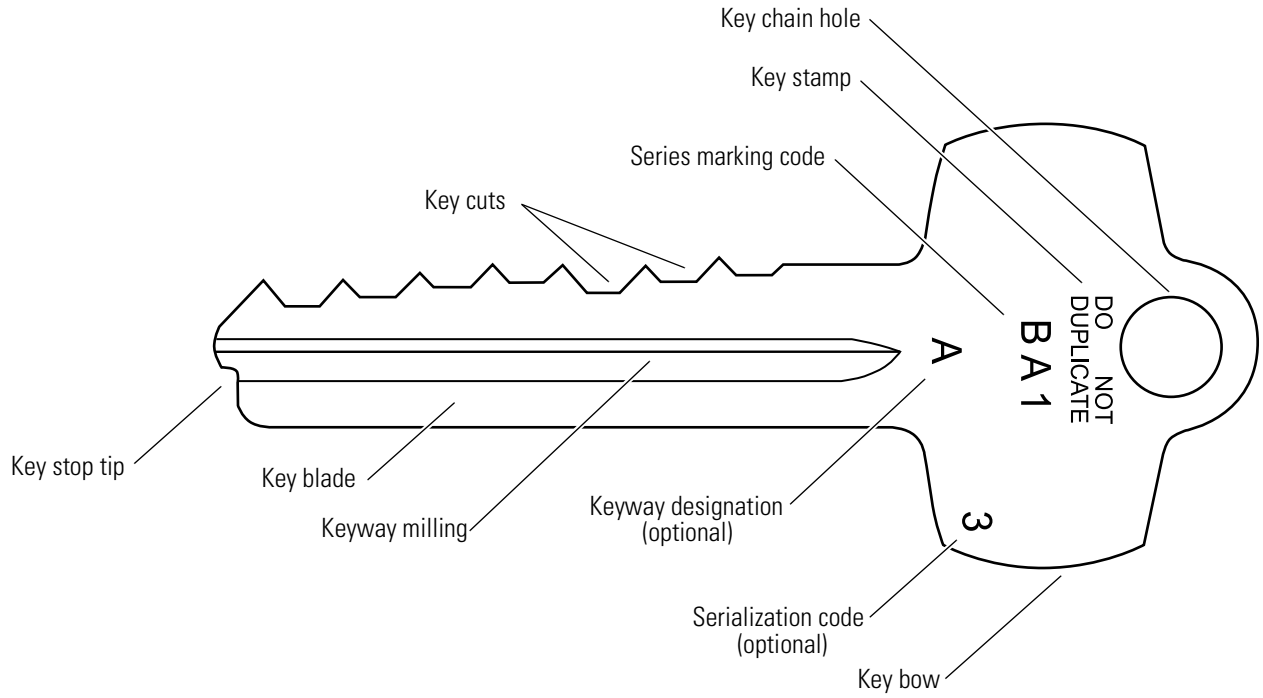


Figure 3.3 Standard key features

TOOLS

The following tools are used for servicing cores and keys.

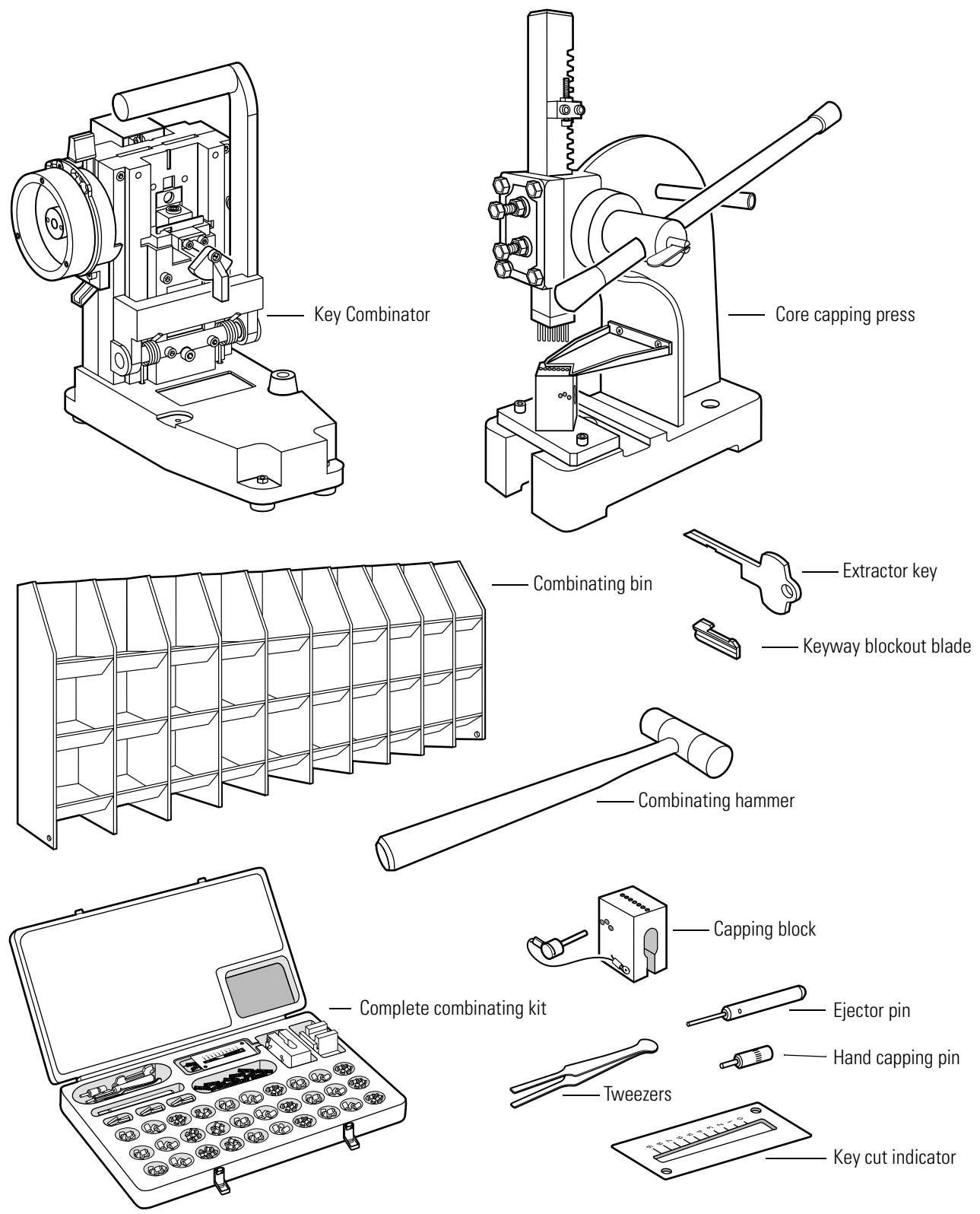


Figure 3.4 Tools used for servicing cores and keys

Stamping tools The following tools are used for stamping cores and keys in your system.

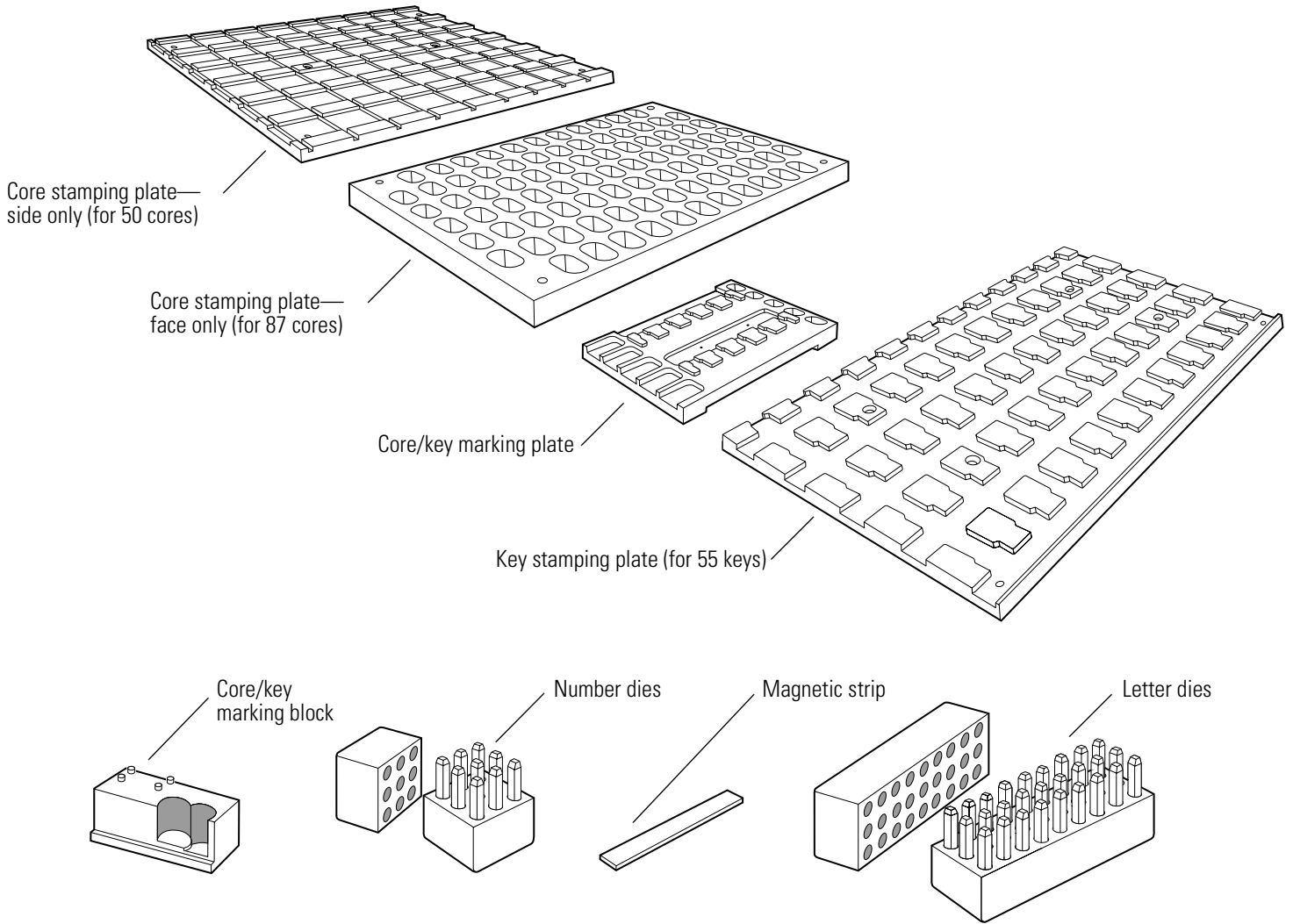


Figure 3.5 Stamping tools

Lubrication items The following items are used to lubricate cores.

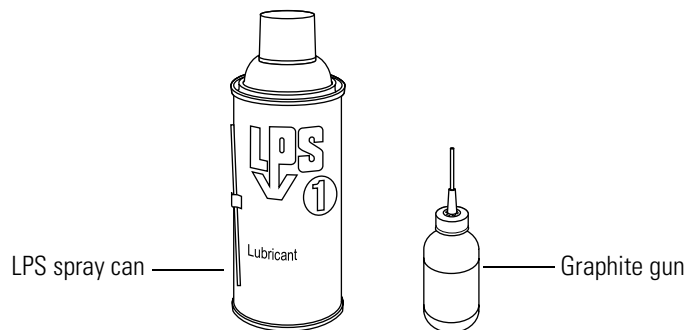


Figure 3.6 Lubrication items

4

OPTIONS AND APPLICATIONS

This chapter contains keyway options and special core options with their applications for the BEST A4 System.

KEYWAY OPTIONS

The following table describes possible keyway options that BEST offers for the A4 System.

Keying option [†]	Description
Standard keyway	BEST offers standard keyways for general use by customers that are compatible with existing systems and provide a cost effective means for system expansion.
Restricted keyway	BEST offers non-patented keyways, which BEST restricts by volume and proximity usage for limited distribution.
Patented keyway	BEST offers patented keyways that cannot legally be duplicated by other manufacturers.

[†] Multi-milled key blanks are available for up to a family of four keyways. Keyway families are typically used for only the highest key levels. These keyways are chosen when you have an existing system and have no available codes; or you have a large system and need more flexibility.

SPECIAL OPTIONS AND APPLICATIONS

The following table describes special core options that BEST offers for the A4 System and gives examples for when they are used.

Option	Description	Application
Key trap core	<p>When the key is inserted into the core and is turned, the key is trapped in the core. The key cannot be returned vertically nor withdrawn from the core. The core and trapped key must be drilled out of the lock.</p> <p>This special core is modified at the factory to match the key that you want to trap.</p>	Eliminates a key from the system by trapping it in the core. This option is useful if a key has been lost, or if someone has a key and will not return it.
Keyway blockout blade [†]	This blade prevents any and all keys from being inserted in a core. A special extractor key must be used in order to remove the blockout blade from the keyway.	Prevents keys from having access to a given entrance. This option is useful to have in case of a natural disaster or a specified job action such as a strike or lockout.
Wear resistant core	Hardened stainless steel segments are used as the bottom segments in each barrel of the core.	Provides longer life for cores in high traffic areas such as entry doors or other frequently used doors.
Pick resistant core	Spooled segments are used as the top and bottom segments in each barrel of the core.	Provides enhanced resistance to picking the core. This option is useful for high security areas such as narcotics rooms, special equipment rooms, or cash offices.
Drill resistant core	Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used at the top and bottom segments in the first two barrels of the core.	Provides enhanced resistance to drilling the core. This option provides an added measure of security for areas listed above.
Pick and drill resistant core	Hardened ball bearings are used in the throw pin holes and hardened stainless steel segments are used as the top and bottom segments in the first two barrels of the core. Spooled segments are used as the top and bottom segments in each remaining barrel of the core.	Provides enhanced resistance to picking and drilling of the core. This option provides an added measure of security for areas listed above.
Core dust cover	Stainless steel spring-loaded dust cover is installed over the keyway.	<p>Prevents the keyway from accumulating dust and dirt. This option is useful for cores exposed to the elements such as doors in high humidity climates, selected doors in chemical plants, or for low use exterior doors.</p> <p>Note: If the core is housed in a cylinder, use the cylinder dust cover instead of the core dust cover for maximum protection.</p>

[†] See [page 3-4](#) for illustrations of the keyway blockout blade and extractor key.

5

CHANGES TO THE A4 SYSTEM

This chapter contains guidelines for determining your A4 System needs, guidelines for working with BEST when making changes to the A4 System, and also includes possible re-lock options.

DETERMINING YOUR NEEDS

Questions to consider There are several questions that customers should consider when assessing what changes need to be made to the A4 System including the following:

- How many keys did I originally plan for?
- How many new locks do I need now and approximately how many will I need in the future?
- How many codes do I have left for my system?
- How many master keys do I want (see [page 2-8](#))?
- Are there any special options or adaptations that I want (see [page 4-3](#))?
- Do I have specific security needs or concerns about re-locks (see [page 5-9](#))?

The way that your system was originally customized may affect how you go about making changes or expanding the system. For instance, if you did not originally plan to add on to your facility, then there may not be enough codes saved to do so. It is necessary to contact your BEST Representative to help you determine how to resolve any issues that may arise.

WORKING WITH BEST

Surveying the facility After the initial assessment of the system has been made, a physical site survey is conducted for new areas of the facility. Your BEST Representative will inspect and assess all of the requirements associated with securing your facility. The goal of a site survey is to systematically gather information that allows a thorough analysis of each access point. This analysis helps identify all necessary hardware requirements. It also organizes valuable information about the feasibility of integrating additional buildings, wings, and so forth into a system. The survey can then be used with the system schematic to determine how each lock is to be keyed/programmed. For an example of a site survey, see [Figure 5.1](#).

SCHEDULE OF LOCKS							
NAME XYZ Corporation					Order No. SGC-41781	Page 1 of 6	
ADDRESS 5555 Z STREET Hometown, USA 55555					Account No. 1-XXXX	Date 00-00-00	
					Approved by:		
Item No.	Location	Qty	Catalog Number, Hand of Door	Finish	Core Mak	Keys Cards	Miscellaneous
1	Door 100 Main Office	2	35HV7EV15-KP-RH	626	AA	1 / 20	
2	Door 101 Accounting Office	2	35H-7EW15-M-RH	626	AA2X	2	Oper. by AA2-AA4
3	Door 102 Time Office	1	93K-7AB15-A-STK	626	AB1	2	
4	Door 103 Cash Room	1 1 1	35H7 EWEU15M-IDH Mag Stripe Card Reader Electrified Hinge	626	AA3	1 / 4	RHRB-Hollow metal door approx. 50' to controller
5	Door 105 Purchasing	1 1 1 1	1E-74-C181-R2	626	AA1		Oper. by AA1-AA16
6	Door 110 Exterior Side Ent.	1	1E72 Electric Strike Mag Stripe Card Reader Request to Exit motion	626	AA4		Aluminum frame glass door rim panic 100' to controller
7	Door 120 Research	1	94KV7DV15-MS-STK	626	AA1X	0	
8	<u>Main Factory</u> Elevators at Entrance	4	1W-7B2	626	F	1	
9	Door 130 Engineering Offices	3	83T7K-STK	606	FA1	20	
10	Tool Boxes	2	41B72T		FB1-FB120	240	

Figure 5.1 Sample site survey

Designing the schematic

The keying schematic is a plan or blueprint that illustrates the various levels of security you need for the BEST system. These levels are defined and designated into specific groups. The schematic design is similar to an organizational chart, as shown in [Figure 5.2](#) and [Figure 5.3](#).

General guidelines

When designing a masterkey system schematic, BEST Representatives follow these guidelines:

- Initially structure a control and grandmaster level.
- Determine how the facility is to be grouped as far as buildings, locations, wings, floors, departments, and so forth. The first grouping or level usually determines the master level of keys.
- Develop a second level of control within a building, floor, or wherever necessary by creating a submaster group. Additional levels or groups can be created if needed.
- Determine codes for masters, submasters, and any additional groupings.
- Design special levels of access or restriction for additional system flexibility.

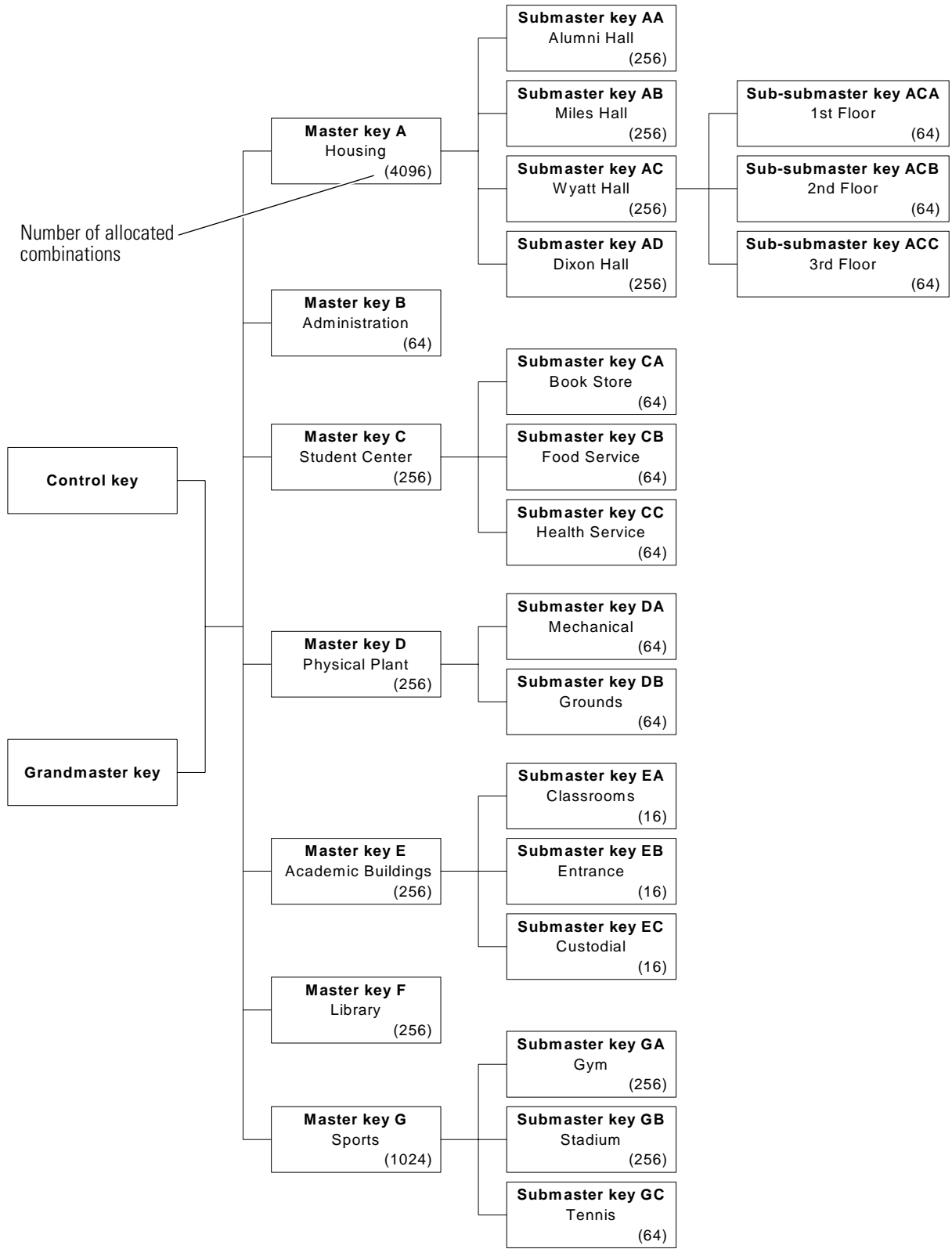


Figure 5.2 Sample keying schematic for buildings

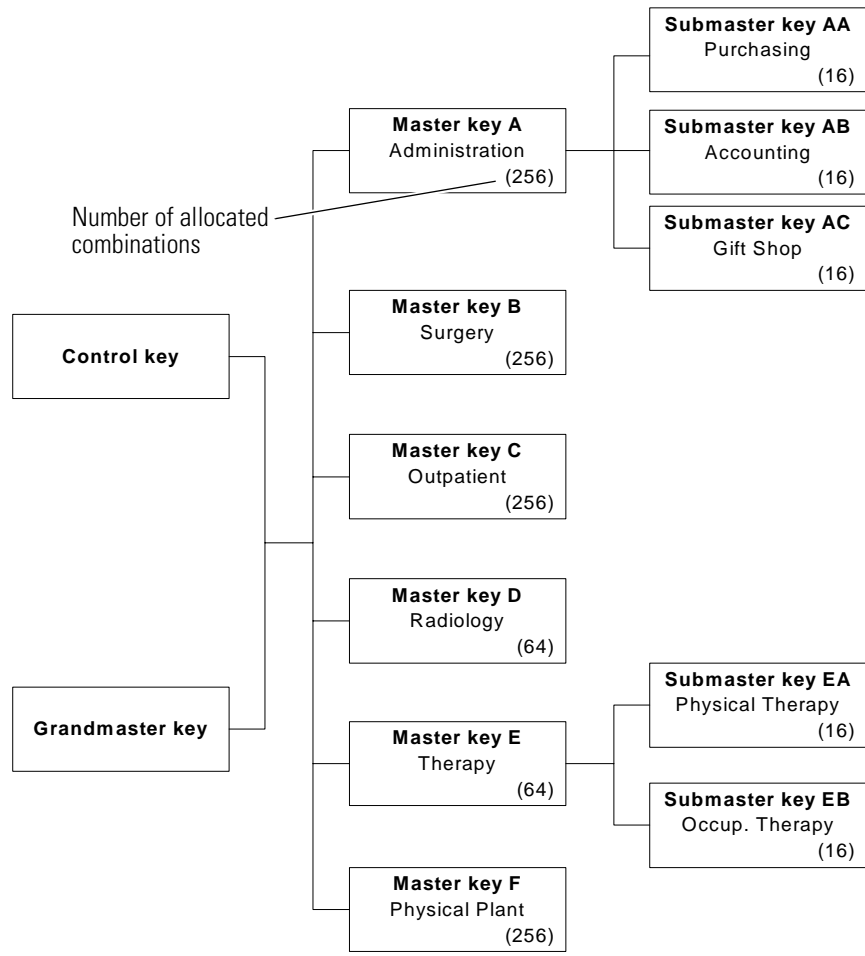


Figure 5.3 Sample keying schematic for departments

Obtaining BEST codes

The code sheets you receive from BEST are a list of numbers used for cutting keys and for determining pin segments when combining cores. See [Figure 5.4](#).



Do not try to create your own coding system. Improper code design could lead to security violations and the loss of your warranty. Obtain all of your codes directly from BEST.

The code sheet is a printed record of the keying system established for your use, which includes:

- Each level of key cuts
- Size of each level in terms of available codes
- Keyway information
- Key and core marking symbols
- Your customer account number
- Key stamp information
- Date that codes were issued
- Location of core stamping.

Note: BEST maintains code records in an authorized restricted area limited to masterkey personnel only. Code charts are sent by registered mail to authorized persons.

CODE PAGE					PROPRIETARY PROPERTY OF BEST ACCESS SYSTEMS					PAGE 1			
SYSTEM ID:		16222		ORDER NO:		_____		ACCOUNT NO:		100200			
DATE		: 30-AUG-2001				LOC ID		:		1			
PINS: 7		TYPE:A4		MARK ON: S		KEYWAY: M		KEYSTAMP:		280 X 800			
		05	20	02	1	SC	56		05	20	02	1	
		05	24	21	0	C			05	24	21	0	
		33	31	13	1	GM	56		33	31	13	1	
		33	31	13	2	M	56A		33	31	13	2	
CORE MARK		KEY CODE		OP BY		CORE MARK		KEY CODE					
56A-1		33 31 24 2											
56A-2		33 31 34 2											
56A-3		33 31 44 2											
56A-4		33 31 54 2											
56A-5		33 31 04 2											
56A-6		33 31 25 2											
56A-7		33 31 35 2											
56A-8		33 31 45 2											
56A-9		33 31 55 2											
56A-10		33 31 05 2											
56A-11		33 31 20 2											
56A-12		33 31 30 2											
56A-13		33 31 40 2											
56A-14		33 31 50 2											
56A-15		33 31 00 2											
56A-16		33 31 21 2											
56A-17		33 31 31 2											
56A-18		33 31 41 2											
56A-19		33 31 51 2											
56A-20		33 31 01 2											
56A-21		33 31 22 2											
56A-22		33 31 32 2											
56A-23		33 31 42 2											
56A-24		33 31 52 2											
56A-25		33 31 02 2											

Figure 5.4 Sample code sheet

RE-LOCK OPTIONS

The process of adapting existing locks to meet new needs is referred to as a “re-lock.” Re-locks within your facility can vary from a simple one-core re-lock to complex total re-locks. Some of the variations in masterkeying which may apply to established BEST systems are listed below.

Option	Description
Core change	replace all cores with newly combined cores on an emergency (immediate) or periodic (pre-planned) basis
Recombine total core	recombine every barrel in an existing core
Partial recombination	recombine some barrels in an existing core
Departmental re-lock	replace all cores in a department with newly combined cores on a periodic basis
Rotation of cores	preplanned from one floor or department to another
Master change	contact your BEST Representative for more information
New series of codes	obtain new codes from your BEST Representative
New keyway	contact your BEST Representative for more information
New system	contact your BEST Representative for more information
Total corporate re-lock	contact your BEST Representative for more information

Guidelines for performing re-locks

When performing any re-lock procedure, be sure to follow these guidelines to ensure the security of the system:

- Use only authorized system codes from BEST.
- Use the code sheet to determine which barrels need to be combined.
- Recombine only the barrels necessary for the new combination.
- Always record which combinations have been used to avoid any duplications.

6

SERVICE AND MAINTENANCE

This chapter contains information for servicing and maintaining components of the A4 System. It includes references to the appropriate BEST manuals where you can get more detailed instructions.

A4 SYSTEM BASIC PROCEDURES OVERVIEW

Combining cores

Overview of using a code sheet

When you need to combine new cores, you should get code sheets from your BEST Representative. For an illustrated example of a code sheet, see [page 5-8](#).

For detailed instructions with illustrations on combining cores, see the *Core and Key Service Manual (T35527)* or contact your BEST Representative.

General guidelines for combining cores

- Use only authorized system codes from BEST.
- Begin combining from the rear of the core and work your way to the face of the core.
- Always complete the pin loading process for each individual barrel before proceeding to the next barrel.
- Never split pin segments. For example, do not use two number 2 pin segments in place of a number 4.

Basic steps for combining cores

1. Make sure that the core plug turns freely before you begin combining.
2. Align the barrels to receive segments.
3. Load the segments into the core.
4. Load one spring per barrel.
5. Place one cap onto each barrel.
6. Check the core for proper operation by inserting a key in the core. If you can insert, turn, and remove the key easily, then the core and key are working properly.
7. Check the control key for proper installation by inserting the control key into the core and turning it. If you can turn the key 15° clockwise and the core can be removed, then the core and control key are working properly.

Cutting keys Keys may be cut to any combination up to seven digits long using your BEST key combinator. If your organization needs a key combinator, contact your BEST Representative.

For detailed instructions with illustrations on cutting keys, see the *Key Combinator Service Manual* (T35532) or contact your BEST Representative.



Always keep fingers and hands out of the way of moving parts. Be especially careful of the pinch point between the base and operating handle.

Basic steps for cutting keys

Use BEST original key blanks to ensure consistent results. With the machine bolted down or free standing you can start cutting keys.

1. Load a key into the key combinator.
2. Cut the key.
3. Unload the key from the key combinator.
4. Test the key for proper measurements.

Stamping cores and keys

For detailed instructions on stamping cores and keys, contact your BEST Representative.

General guidelines for stamping cores and keys

To avoid causing any damage when stamping cores, follow these guidelines:

- Do not use a metal-headed hammer on cores and keys.
- Do not use excessive force to stamp core markings on the side of cores. Excessive force may cause the barrel opening to deform.
- Do not stamp the core on the bottom lobe. Stamp only the top lobe.

Basic steps for stamping cores and keys

1. Be sure that you have selected the appropriate die and that it is facing the correct direction.
2. Place the core/key into the selected holder to hold it in place.
3. Stamp the core/key with a ball-peen hammer.
4. Continue this process until the desired marking is complete.

Installing cores For more detailed instructions on how to properly install cores into locks, see the *Core and Key Service Manual* (T35527) or contact your BEST Representative.

Installing new cores

After you have combined new cores, you may choose to install them into the locks on your own. It is important to install cores in an undetectable pattern to ensure that your system is protected. It may be possible for someone to figure out the pattern if the cores are installed in the order in which they were combined.

Checking cores for proper installation

Once your cores have been installed in an undetectable order, be sure to check that they have been properly installed. Insert the operating key in the core. If you can insert the operating key, turn, and remove the key easily, the core and key are working properly installed.

Periodically test all of your keys, including the control, grandmaster, and operating keys in the core to make sure that the core is operating properly.

DEVELOPING A KEY CONTROL SYSTEM

Key control is one of the most important aspects of any security program. Without proper key control, unauthorized entry into your facility is possible. It is essential that each operating facility implement an adequate key control program.

Purpose of a key control system

Experience has shown that keys are often handled carelessly. They are loaned, duplicated, exposed to theft, abused, and lost. Often there are no up-to-date records tracking keys that have been distributed, keys that have been lost, keys that are still in the custody of employees no longer employed at the facility, and spare keys that have not been officially issued. At some locations, spare keys to important exterior doors are displayed in the open, sometimes even hanging on a nail inside the door that the key unlocks. To adequately protect company assets, you must eliminate such practices and implement formal, positive key controls. The guidelines below serve as the minimum standards of key control for all of your facilities.

A good key control system effectively manages any size network of locks by pinpointing the responsibility of each individual and by providing quick access to information on all locks, keys, and personnel. It also stores additional keys, lock parts, and service equipment. The system shows who has keys to which locks, and when each key has been issued or returned.

Objectives of a key control system

Develop a key control system with the following objectives in mind:

- Limit the number of keys distributed to individuals.
- Maintain a record of the location of every lock that is used in the facility, with the number of the BEST core assigned to the lock.
- Maintain a record of the location of all lock numbers and BEST cores.
- Maintain a record of all keys that have been issued, showing the number of the key and the name of the holder, as well as a record of keys not issued.
- Maintain a record of all keys held by each individual, with signatures for each key held.
- Securely store all key records, spare codes, spare keys, and key equipment.

Updating key and core records

It is important to update your key and core records when making changes to the masterkey system. When records are not properly updated, it becomes too difficult to maintain your high level of security. Unless information has been properly recorded, there can be no way to trace a key back to the proper holder.

General guidelines for recordkeeping

Accurate records allow management to track facts quickly and hold each employee accountable. The following tips will help you maintain your records:

- Keep key records on updated forms, not code sheets.
- Record every key issue and return immediately.
- Record every core placement and change immediately.

BEST recommends using the Keystone 600 software program when your system exceeds more than 150 individuals. Otherwise, BEST offers the G-Series paper forms to ensure effective key control.

G-Series cards and equipment

The following cards and equipment are essential to implement a key control program if you do not have the Keystone 600 software program. Contact your local BEST Representative to obtain the G-Series cards and equipment. Refer to the table below and the figures that follow for descriptions of the listed G-Series products.

Card	Description	Figure No.
G-10	Door Number card	Figure 6.1
G-11	CoreNumber card	Figure 6.2
G-12	Key Marking card	Figure 6.3
G-13	Employee Name card	Figure 6.4
G-271	Key Request card	Figure 6.5
G-275	Key Receipt card	Figure 6.6
G-274	Lock Request card	Figure 6.7
G-272	Safety Lock Opening Request card	Figure 6.8
G-276	Lost Key Report card	Figure 6.9
G-21	Key envelope	Figure 6.10
G-20	Core envelope	Figure 6.11
G-30	Key Return tag	Figure 6.12

Door Number card

This card records specific information about the doors in a particular building, such as door numbers, door locations, what core is installed, as well as other pertinent data.

DOOR NUMBER or Alphabetical Location					
CORE NUMBER	DATE INSTALLED	CORE NUMBER	DATE INSTALLED	CORE NUMBER	DATE INSTALLED

KEY CONTROL Printed in USA **BEST ACCESS SYSTEMS** **G-10**
INDIANAPOLIS, IN 46250 1359050

Figure 6.1 Door Number card

Core Number card

This card records where specific cores are located in a facility, and also installation and removal dates.

CORE NUMBER			
LOCATION OF CORE	DOOR NUMBER	DATE INSTALLED	DATE REMOVED

KEY CONTROL Printed in USA **BEST ACCESS SYSTEMS** **G-11**
INDIANAPOLIS, IN 46250 1284510

Figure 6.2 Core Number card

Key Marking card

This card records all personnel carrying a specific key. It also indicates when that key was issued and returned.

KEY NUMBER			
Individual Key ID	NAME OF KEY HOLDER	DATE ISSUED	DATE RETURNED
KEY CONTROL		Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
			G-12 1284551

Figure 6.3 Key Marking card

Employee Name card

This card records individual employee information. It also identifies keys that the individual carries and serves as a signed acknowledgement of internal policy and procedures. The agreement section is left blank so that you can write or stamp your company’s key agreement statement. For sample key agreements, see [page 6-13](#).

Last Name		First Name		Middle In.	Locker #	Clock #
Agreement:						
Key Number	Signature	Date Issued	Issued by	Date Issued	Date Issued	Remarks
KEY CONTROL		Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250		G-13 1284593	

Figure 6.4 Employee Name card

Key Request card

This card is used to request a key to be issued to employees for defined areas and requires an employee signature and date.

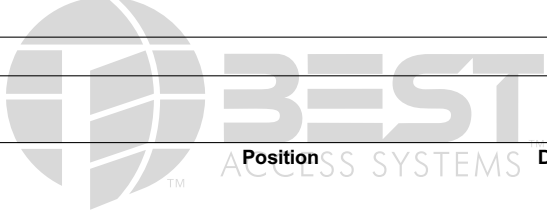
KEY REQUEST		
Last Name	First Name	Middle In.
To KEY CONTROL DEPARTMENT: I request that the above person be issued a key to open _____		
		
Signed	Position	Date
Approved by	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
		G-271 1358979

Figure 6.5 Key Request card

Key Receipt card

This card records the name of the employee who has returned a key.


KEY RECEIPT		
To KEY CONTROL DEPARTMENT: Has received from _____		
Key number	_____	
		
Signed	Position	Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
		G-275 1359176

Figure 6.6 Key Receipt card

Lock Request card

This card is used to request that lock changes or additions take place.

LOCK REQUEST		
Last Name _____	First Name _____	Middle In. _____
To KEY CONTROL DEPARTMENT: the above named person requests the following lock changes or additions be made _____ _____		
Reason for making the change _____ _____		
Signed _____	Position _____	Date _____
Approved by _____	Position _____	Date _____
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-274 1359129

Figure 6.7 Lock Request card

Safety Lock Opening Request card

This card is used to authorize key control personnel to open a designated lock for a particular person.

SAFETY LOCK OPENING REQUEST		
Last Name _____	First Name _____	Middle In. _____
To KEY CONTROL DEPARTMENT: You are authorized to open the SAFETY LOCK belonging to the above named person _____ _____		
Signed _____	Position _____	Date _____
Approved by _____	Position _____	Date _____
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250 G-273 1359019

Figure 6.8 Safety Lock Opening Request card

Lost Key Report card

This card is used to report when a key has been lost or stolen. The circumstances of the missing key can be listed here to give to the key control department.

LOST KEY REPORT		
_____ Last Name	_____ First Name	_____ Middle In.
To KEY CONTROL DEPARTMENT: This is to report that the above named person has lost his or her key on _____ under the following circumstances _____ _____ _____ _____ and requests that a replacement key be issued.		
_____ Signed	_____ Position	_____ Date
_____ Approved by	_____ Position	_____ Date
KEY CONTROL	Printed in USA	BEST ACCESS SYSTEMS INDIANAPOLIS, IN 46250
		G-276 1359815

Figure 6.9 Lost Key Report card

Key envelope

One envelope is used per spare key and can be filed numerically according to key markings. Keep all envelopes containing spare keys in a secure location.



Figure 6.10 Key envelope

Core envelope

One envelope is used per spare core and can be filed numerically according to core markings. Keep all envelopes containing cores in a secure location.

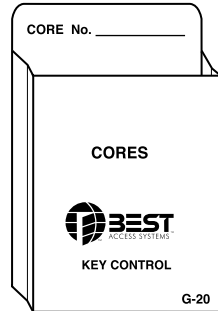


Figure 6.11 Core envelope

Key Return tag

The tag is labeled with the BEST address on the front and a number that identifies the employee who uses a particular key on the back. If this tag is found with a key, the key can be returned to BEST postage paid so that the finder cannot trace the key's origin.

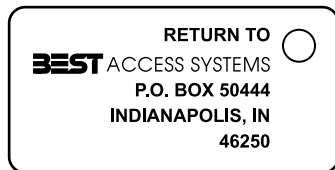


Figure 6.12 Key Return tag

Procedures to administer your key control system

The following actions are necessary to implement an effective key control program (adapt the following as needed for your facility).

- Obtain the appropriate cards and storage equipment, either by purchase from BEST or through local design.
- Inventory all locks throughout the facility that are in use, or should be used and list these locks by door number on a Door Number card. See [Figure 6.1](#) on [page 6-7](#).
- Inventory all BEST cores in use at the facility and list the core numbers on the Core Number cards. See [Figure 6.2](#) on [page 6-7](#).
- Inventory all keys that have been issued for the various locks, as well as spare keys on hand, and list them on the Key Marking card. See [Figure 6.3](#) on [page 6-8](#).
- Compile a listing of all individuals holding keys to the building. Review this list thoroughly and reduce the number of key holders to an absolute minimum.
- Use the Employee Name card to record what keys are held by each employee with each of their signatures. See [Figure 6.4](#) on [page 6-8](#).
- Store all key record cards in a lockable container, using dividers when needed.
- Store all unused keys and cores for future use:
 - ▲ Place each spare key and spare core in the appropriate envelopes.
 - ▲ Identify the key/core on the outside of the envelope.
 - ▲ Store all envelopes in a lockable container.

Sample key agreements

The Employee Name card (see [Figure 6.4](#) on [page 6-8](#)) includes a blank section for written agreements that employees must agree to before receiving a key. For ideas of what might be printed in the “Agreement” section of an Employee Name card, see the examples listed below:

- I, the undersigned, hereby acknowledge receipt of the key/s described below. I promise and agree not to duplicate or have duplicated the key/s issued to me and to return it/them to the issuing office upon demand or when my need for said key/s no longer exists. I further agree that if said key/s is/are lost or otherwise not available for return, I will pay to the issuing office the sum of ____.
- I, the undersigned, hereby acknowledge receipt of the key/s described below, with the understanding that if I attempt to make duplicates, or loan this/these key/s to any other person, I, herewith, present myself to receive whatever punishment or disciplinary action the administration of this institution deems reasonable and just.
- I, the undersigned, by accepting the identified key/s, hereby agree to take diligent care and promptly report any loss thereof. I further agree to not give possession of said key/s to any other person nor cause or allow any copies to be made of such key. I understand that any violation of this agreement may result in termination of my employment with_____.

Issuing and returning keys

To issue a new key:

1. The employee submits a Key Request card. See [Figure 6.5](#) on [page 6-9](#).
2. Fill out an Employee Name card and file this alphabetically. See [Figure 6.4](#) on [page 6-8](#).
3. On a Key Marking card, indicate the following (see [Figure 6.3](#) on [page 6-8](#)):
 - key number
 - employee's name
 - date the key is issued.
4. The employee signs the Employee Name card which becomes, in effect, a contract.

When a key is returned:

1. Fill out a Key Receipt card and make a copy for your records. See [Figure 6.6](#) on [page 6-9](#).
2. Give the original copy to the employee in exchange for the key.
3. On the appropriate Key Marking card, strike out the employee's name and indicate the date that the key is returned. See [Figure 6.3](#) on [page 6-8](#).
4. On the appropriate Employee Name card, do the following (see [Figure 6.4](#) on [page 6-8](#)):
 - strike out the "key number" line
 - initial your changes and record the date
 - place this card in the inactive file if no other keys are currently signed out by this employee.
5. File the Key Receipt card copy.

Tips for managing your keys

- Send a test key to the factory or to your BEST Representative periodically for inspection.
- Destroy returned or worn keys but do not throw them in the trash.
- Replace master keys annually.
- Do not keep a file of your key cuts.
- Keep your control key in a secure location. Do not carry one with you.

When keys are lost or stolen

Guidelines for dealing with lost/stolen keys

It is important to be prepared when keys are lost or stolen. Follow the guidelines below.

- Establish a policy that requires employees to report missing keys immediately in person or by phone.
- Obtain BEST key trap cores for emergencies (see [page 4-3](#)).
- Attach Key Return tags to keys distributed to employees (see [page 6-12](#)).

Reporting lost or stolen keys

If an employee has lost a key or has had a key stolen from them, perform the following steps.

1. On a Lost Key Report card, record the employee's name and the date that the key was lost for the key control department. See [Figure 6.9](#) on [page 6-11](#).
2. Determine the security need for a relock (see [page 5-9](#)) or for installing a key trap core at the lost key location.
3. Take proper disciplinary actions against the appropriate employee if necessary and record proceedings.
4. On a Key Request card, record the employee's name and the date of the request for the key control department. See [Figure 6.5](#) on [page 6-9](#).

Adding, removing and changing cores

To add a new core:

1. Enter the door number at the top of a new Door Number card. See [Figure 6.1](#) on [page 6-7](#).
2. Enter the core number and date of installation.
3. Find the appropriate Core Number card (or start a new card if a new core number is used) and add the location of the newly installed core. See [Figure 6.2](#) on [page 6-7](#).

To remove a core:

1. Find the appropriate Door Number card and strike off the core number and date. See [Figure 6.1](#) on [page 6-7](#).
2. Enter "none" under "Core No." and specify the date of removal.
3. Find the appropriate Core Number card and strike out the line for core location. See [Figure 6.1](#) on [page 6-7](#).

To change a core:

1. Find the appropriate Door Number card and strike out the old core number and date. See [Figure 6.1 on page 6-7](#).
2. Enter the new core number and date of installation.
3. Find the Core Number card that has the new core number and enter the following (see [Figure 6.2 on page 6-7](#)):
 - location
 - date
 - door number.
4. Find the Core Number card for the old core. Strike out the entry name and then record the date of removal.

Tips for managing your cores

- Destroy all worn cores but do not throw them in the trash.
- Do not leave any barrels empty when loading the core.
- Do not keep a file of your pin segment order for combining cores.

Planning for emergencies

Setting aside extra codes

It is important to have extra codes set aside in the event that you need to change several or all of the locks in a particular area of your facility. For instance, if an employee's master key is lost or stolen, then the cores for the locks that the key has access to need to be recombined or replaced.

Having precombined cores available

In the event of an emergency where you need to replace a core, you may want to have precombined cores at your disposal for a quick and efficient changeover. You may need to replace only one particular core, but it is possible that you will need to replace several cores at once ([page 5-9](#)).

Emergency blackout blade

If no other measures can be taken, you can insert a keyway blackout blade into a core to prevent unauthorized entry ([page 4-3](#)). The blackout blade requires a special tool to remove it from the core. Contact your BEST Representative to order blackout blades and the removal tool.

PARTS SERVICING

For parts servicing, refer to the following manuals for your specific needs.

Instructions for	Refer to	
Replacing a dust cover assembly Lubricating a core Thawing a core Cleaning a core	<i>Core and Key Service Manual (T35527)</i>	
Replacing components on the key combinator: ■ punch and die ■ key carriage ■ operating lever Adjusting the key clamp spring Calibrating the key combinator Cleaning the key combinator Lubricating the key combinator		<i>Key Combinator Service Manual (T35532)</i>

GENERAL CORE MAINTENANCE

It is necessary to periodically clean and inspect your cores to ensure that they are functioning properly. Perform the following tasks as needed:

- Check for proper installation of any new cores
- Conduct periodic checks of the cores
 - ▲ operation of core in lockset
 - ▲ determine general wear
 - ▲ schedule a preventive maintenance plan
- Service and replace parts
- Lubricate cores according to your maintenance plan.

A

GLOSSARY

Calibrate	To check against a known standard and adjust to that standard.
Cap	Small piece of brass that is seated within a barrel, just below the surface of a core, to contain the segments and springs in each barrel.
Capping block	Small steel block used to hold a core while a cap is being seated within a barrel of the core.
Code	A number that specifies the cuts of a key that will properly operate a core (also relates to the combination of a core).
Combinating	Selecting a core's pin segments to match the key cuts.
Control key	A high-security key—unique for each BEST system—designed to remove and insert the figure-8 core.
Coremark	Sequence of letters and/or numbers that identifies a particular core.
Depth selector	Dial on a key combinator, marked with numbers, that is used for selecting key cut depths.
Ejector pin	Tool used to remove pin segments, springs, and caps from a core one barrel at a time.
Grandmaster key	Key that normally operates all locks in a masterkey system. However, a masterkey system might be designed so that the grandmaster key cannot operate selected locks such as cash boxes, hazardous waste areas, or drug cabinets.
Hand capping pin	Pin used to seat the cap within a barrel of a core.

Interchangeable core	Figure-8 shaped device that contains the main parts of a masterkey system. The interchangeable core can be removed by a special control key and can be recombined without disassembling the lock.
Key agreement	Document describing rules for a key issued to an employee and often signed by the employee. A key agreement might indicate how the employee should treat the key, when the key must be returned, and what the employee should do if the key is lost or stolen.
Key blade	Portion of a key that contains the keyway milling and key cuts.
Key blank	Key that has no key cuts.
Key carriage	Housing on a key combinator that moves the key to each keycut position.
Key combinator	Machine that cuts BEST key blanks for BEST masterkey systems.
Keycut depth	The distance from the bottom of the key cut to the underside of the key blade.
Keymark	Sequence of letters and numbers that indirectly corresponds to a keycut pattern for a key or group of keys that operates a particular core or lock.
Keystamp	Code number indicating the words stamped on all keys in a particular masterkey system. For example, "DO NOT DUPLICATE" or a company name can be keystamps.
Keyway	Cross-section shape milled into the key blank and broached into core plugs.
Keyway milling	Grooves machined into the length of the key blade to allow entry into the opening of a core.
Loading a core	Process of inserting segments, springs, and caps into each barrel of a core according to predetermined specifications.
Master key	Key that operates a large group of cores or locks, such as all locks in a building, on a floor, or for a department.
Masterkeying	Process of combining locks to allow a single key to operate many locks and at the same time allow each lock to be operated by a unique key.
Masterkey system	A complete hierarchical system provided by BEST Access Systems. A system normally consists of keymarks and coremarks that lets a single key operate many cores, and also lets each core be operated by its own key.
Multi-milling	Milling of a key to pass more than one keyway.
Operating key	Key that operates only one core or one group of keyed alike cores in a keying system.
Pin segment	Cylindrical-shaped part that fits into all barrels of a core. The sequence of pin segments varying in length inside a core permits a key to operate the core.

Punch and die	Part of the key combinator that notches keys to a precise shape.
Registered codes	Customized security codes assigned to a BEST Masterkey System. Only authorized personnel may receive these codes by registered mail.
Service equipment	Devices that allow a company to maintain and repair their own BEST Locking System. Service equipment includes key combinators, capping presses, and so forth.
Submaster key	Key that can unlock only specified groups of locks within a system.

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≡ SERIES

SERVICE MANUAL



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Figure-8 opening	5-11
Reinstalling the rim cylinder	5-11
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Reinstalling the spindle	5-12
Securing the spindle	5-12
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Reinstalling the cabinet cylinder (5E Series cylinder assembly shown)	5-15
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THUMBTURN CAM CONVERSION TABLE

C4 standard cam and equivalent C140 thumbturn cam	B-2
---------------------------------------------------	-----

1

GETTING STARTED

INTRODUCTION

The *E Series Service Manual* contains essential information to help you maintain your E Series product. This manual includes information for 1E Series, 3E Series, and 5E Series 7-pin cylinder products only.

PRODUCT FAMILY DIAGRAM

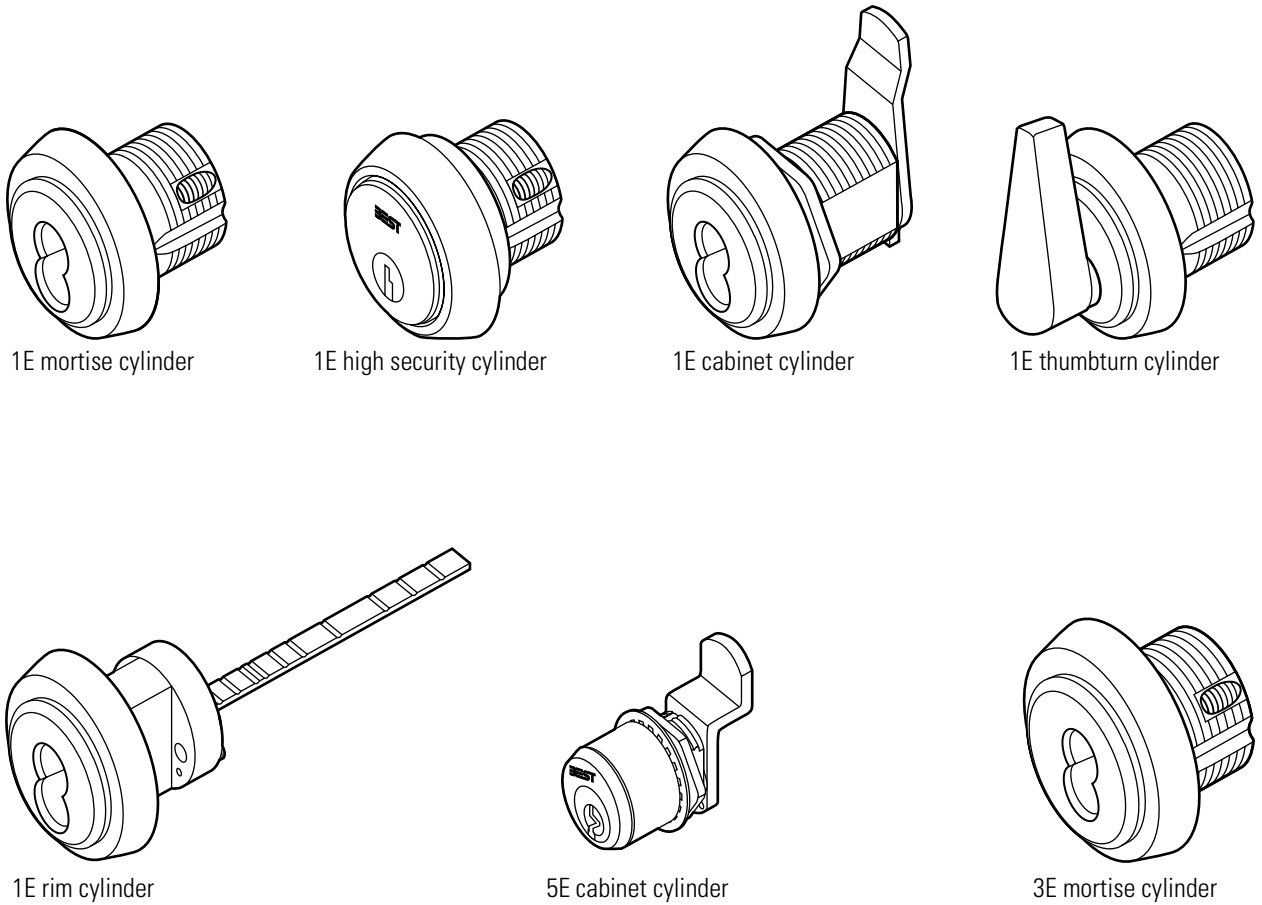


Figure 1.1 E Series product family diagram

CERTIFICATIONS AND STANDARDS

- The 1E7J4 high security cylinder is listed by Underwriter's Laboratories when used with 36H/37H mortise locks.
- The 1E74 mortise cylinder complies with ANSI/BHMA, Grade 2 standards when used with 30H Series mortise locks and the 1CD core.
- The 1E74 mortise cylinder complies with ANSI/BHMA, Grade 3 standards when used with the standard 1C core.

DOCUMENTATION PACKAGE

The following resources are available to help you with the installation, start-up, and maintenance of your BEST E Series product.

These documents can be ordered separately from the product:

Documentation Title	Doc. No.
<i>BEST Installation Instructions for 1E Mortise Cylinders</i>	T61781
<i>BEST Installation Instructions for 1E Rim Cylinders</i>	T61971
<i>H Series Service Manual</i>	T61964
<i>Best Adaptation & Equivalent List (8th edition)</i>	B120-1
<i>Core and Key Service Manual</i>	T35527

TECHNICAL SUPPORT

Support services When you have a problem with an E Series product, your first resource for help is the *E Series Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone and web technical support A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure you are where the E Series product is, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to solve the problem.

Best Access Systems Representatives provide telephone technical support for all E Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web site, www.BestAccess.com.

2

PARTS FOR 1E SERIES

The following pages contain exploded diagrams that show all field serviceable parts for common 1E Series mortise, rim, and cabinet cylinders. This chapter also contains diagrams of special application mortise cylinders, diagrams of trim and other miscellaneous parts, and diagrams of common cams.

EXPLODED DIAGRAMS AND PARTS LISTS MORTISE CYLINDER

Item	Part no.	Qty.	Description
1	A06831	1	Spacer for 6-pin cores
2	A40095	2	Throw pin
3	A10390	1	Throw plug
4	A10391	1	Stamped head
5	C34075	1	7-pin cylinder
6	See page 2-10	1	Cylinder ring
7	See page 2-15	1	Cam [†] (C4 shown)
8	A34123	1	Set screw

† Specify cylinder length when ordering cams.
Cylinders 2 inches or longer require a thumbturn cam.
See *Appendix B* for available thumbturn cams.

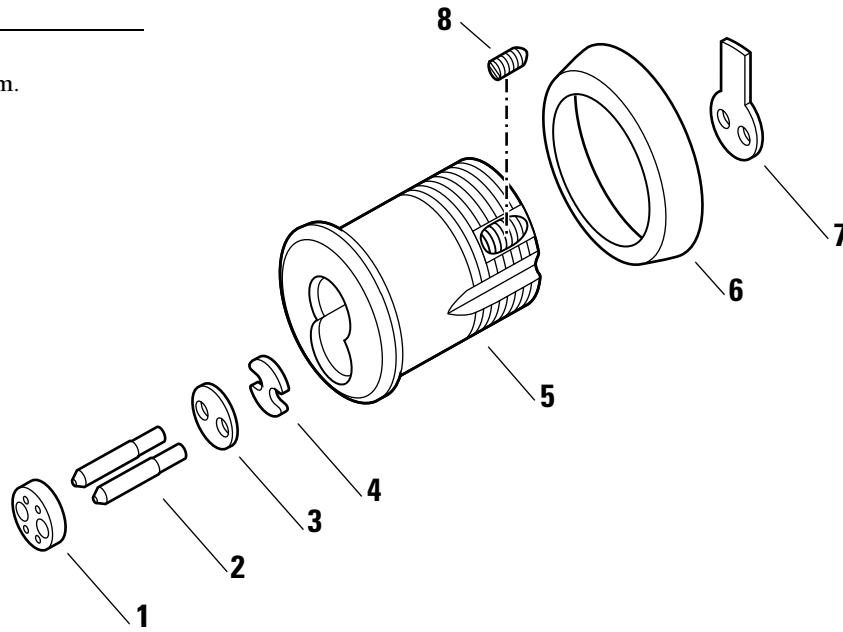


Figure 2.1 1E74 mortise cylinder exploded view

RIM CYLINDER

Item	Part no.	Qty.	Description
1	A06831	1	Spacer for 6-pin cores
2	C00121	1	7-pin cylinder
3	See page 2-10	1	Cylinder ring
4	A40110	1	Throw plug assembly
5	A40100	1	Spindle
6	B40109	1	Throw plug retainer
7	A14553	2	Retainer screw
8	C13910	1	Clamp plate
9	A08544	2	Mounting screw

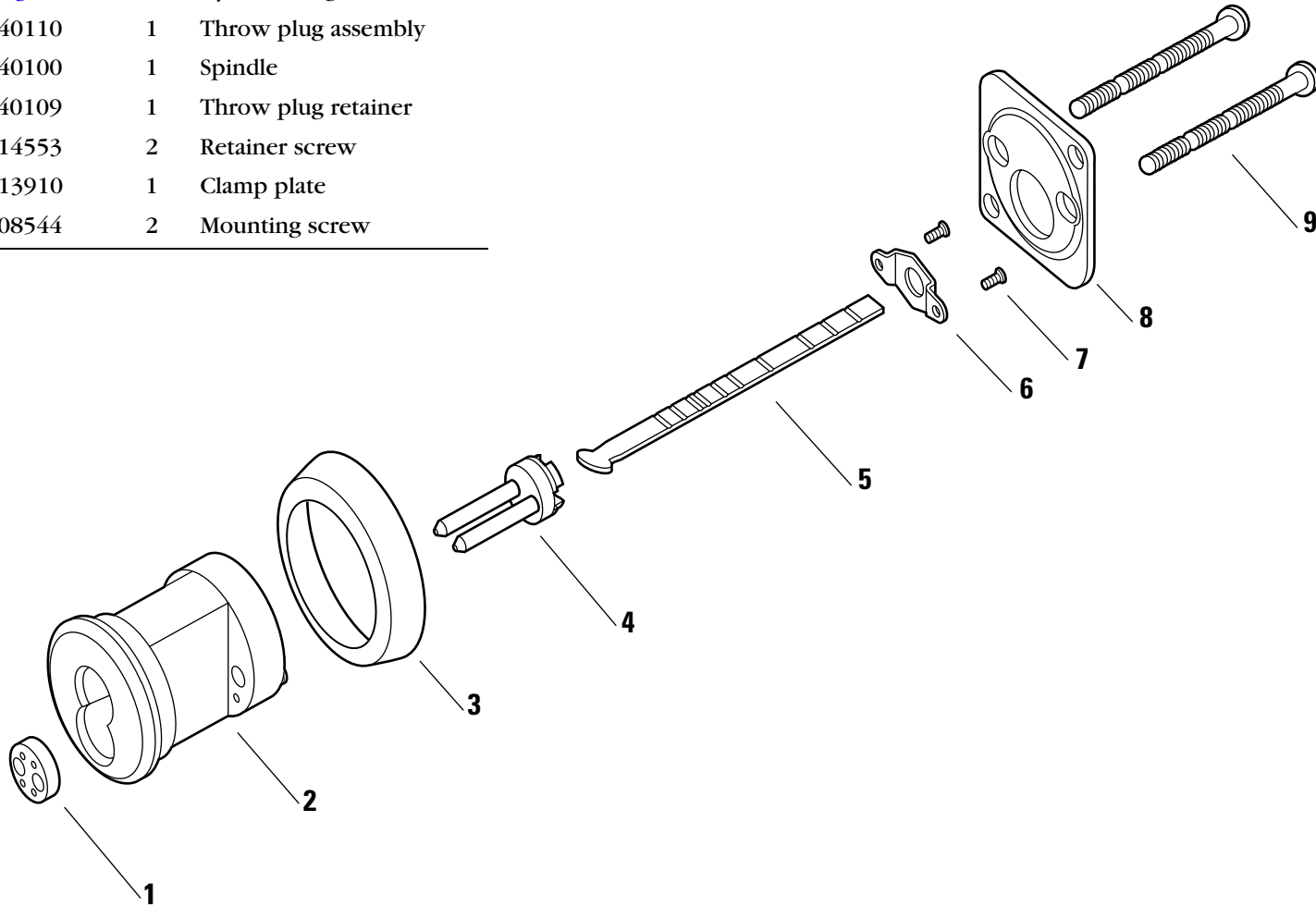


Figure 2.2 1E72 rim cylinder exploded view

THUMBTURN CYLINDER

Item	Part no.	Qty.	Description
1	B61572	1	ADA thumbturn
not shown	A24046	1	Non-ADA thumbturn
2	A03612	1	Spring plug
3	A18033	1	Spring
4	B04781	1	7-pin cylinder
5	See page 2-10	1	Cylinder ring
6	See page B-2	1	Cam (C413 shown)
7	A04838	2	Cam screw

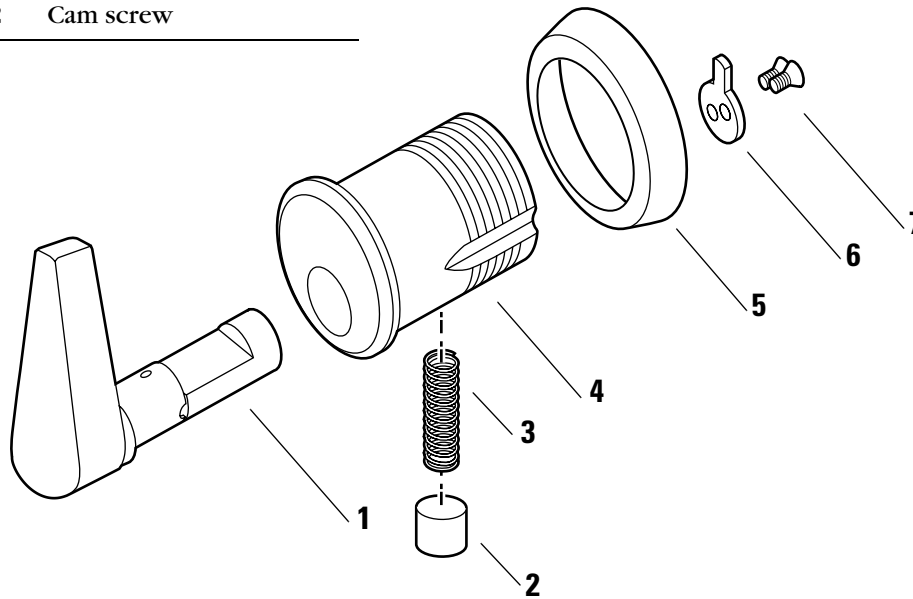


Figure 2.3 1E7A4 thumbturn cylinder exploded view

DIRECT MOTION CABINET CYLINDER

Item	Part no.	Qty.	Description
1	A06831	1	Spacer for 6-pin cores
2	A00539	2	Throw pin
3	A07544	1	Throw plug
4	B07547	1	7-pin cylinder
5	See page 2-10	1	Cylinder ring
6	A00836	1	Nut
7	A04460	1	Throw plug retainer
8	See page 2-20	1	Cam† (C228 shown)
9	A07542	2	Cam screw

† See [page 5-16](#) for cam rotations.

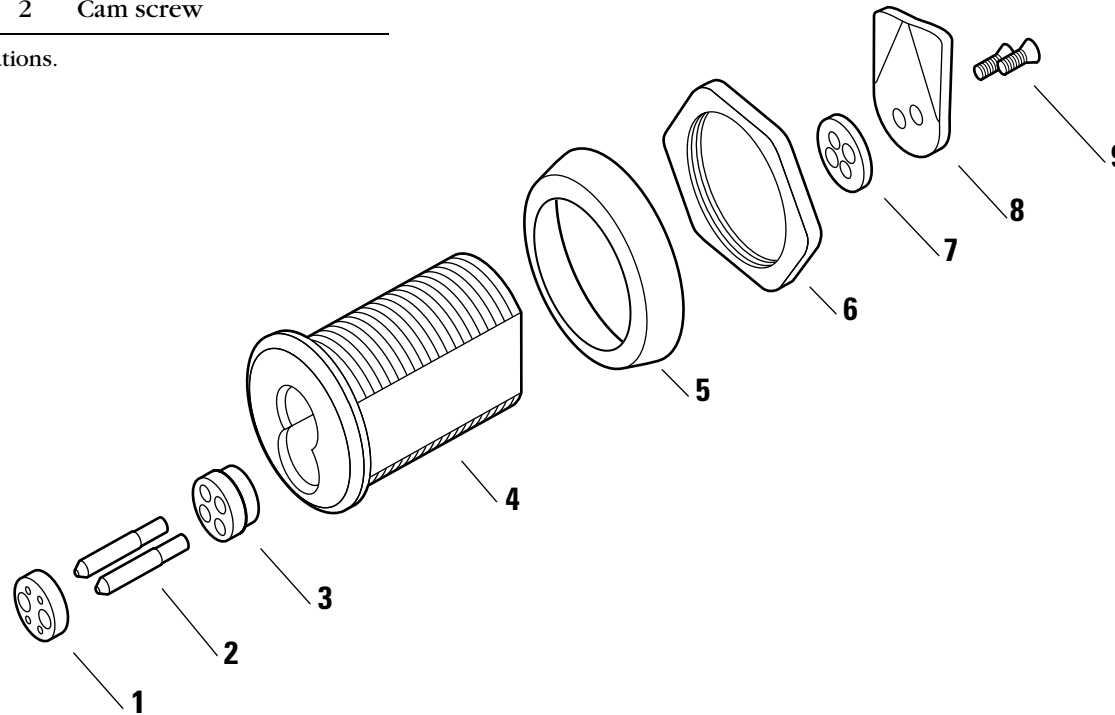


Figure 2.4 1E7D4 direct motion cabinet cylinder exploded view

LOST MOTION CABINET CYLINDER

Item	Part no.	Qty.	Description
1	A06831	1	Spacer for 6-pin cores
2	A07986	1	Throw member assembly
3	A07993	1	7-pin cylinder
4	See page 2-10	1	Cylinder ring
5	A00836	1	Nut
6	B40412	1	Cam stop pin
7	See page 2-20	1	Cam with drive pin [†] (C229 shown)
8	A07988	1	Cam driver
9	A07954	1	Washer
10	A07956	1	Cam screw

[†] See [page 5-17](#) for cam rotations.

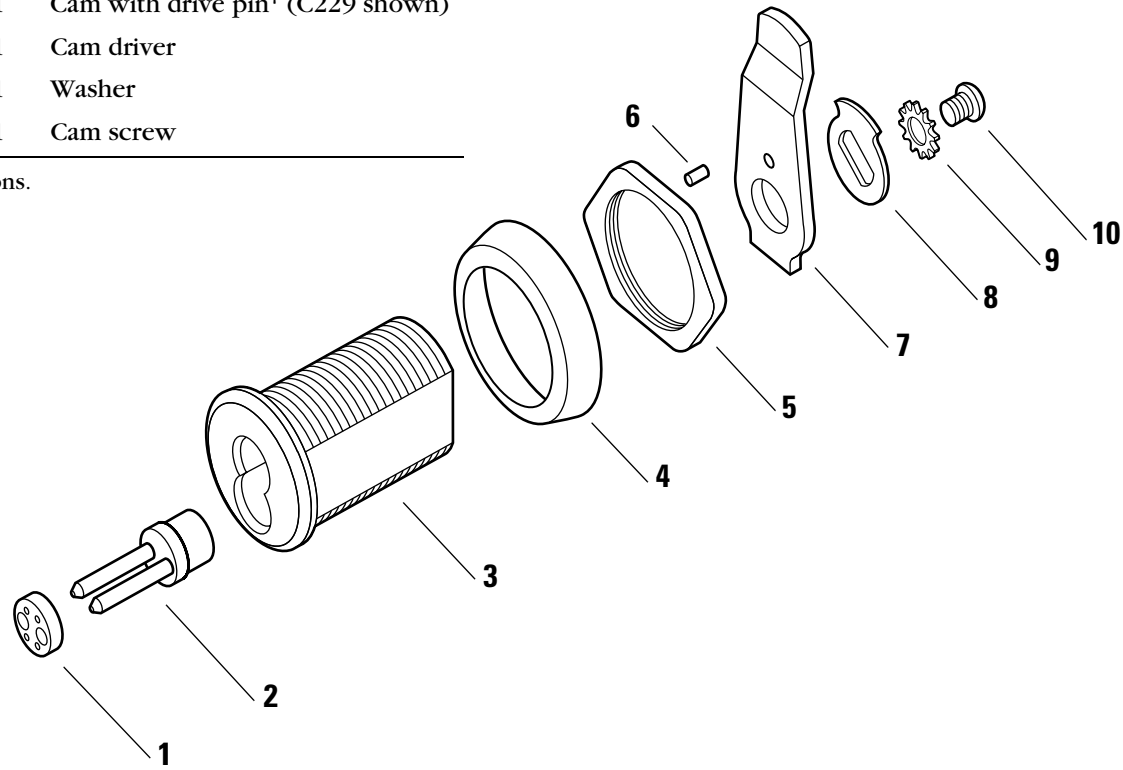


Figure 2.5 1E7E4 lost motion cabinet cylinder exploded view

SPECIAL MORTISE CYLINDER APPLICATIONS

Dust cover cylinder

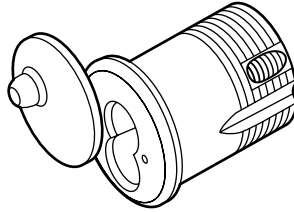


Figure 2.6 1E7B4 dust cover cylinder

Wrench-resistant cylinder

Note: See [page 2-12](#) for wrench-resistant cylinder rings.

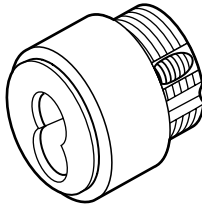


Figure 2.7 1E7C4 wrench-resistant cylinder

Lost motion cylinder

Note: Specify cylinder handing when ordering (for example, “RHI” = right hand, inside door).

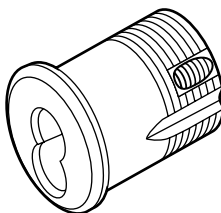


Figure 2.8 1E7F4 lost motion cylinder

**Hotel shifting cam
cylinder**

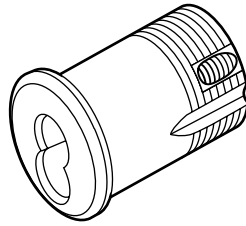


Figure 2.9 1E7G4 hotel cylinder

**Non-UL high
security cylinder**

Note: To order the 1E7J4 high security cylinder listed by Underwriters Laboratories (UL), contact your BEST Representative.

Note: High security cylinders require long blade keys for operation.

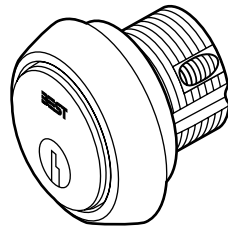


Figure 2.10 1E7K4 non-UL high security cylinder

**Tapered-head
cylinder**

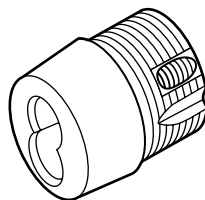


Figure 2.11 1E76 tapered-head cylinder

TRIM PARTS

Rim dummy trim

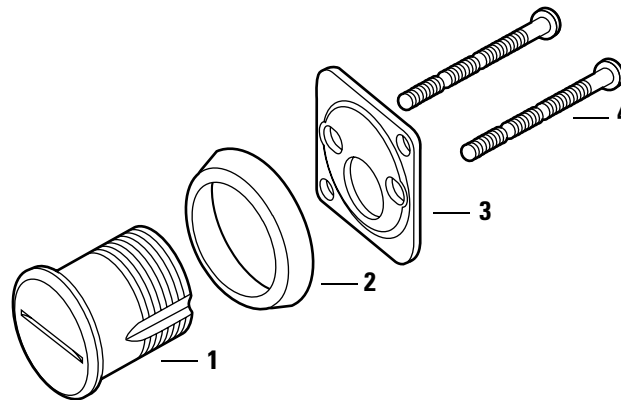


Figure 2.12 1E02 rim cylinder dummy trim

Rim dummy trim parts list

Item	Part no.	Qty.	Description
1	A05032	1	Dummy cylinder
2	See page 2-10	1	Cylinder ring
3	C13910	1	Clamp plate
4	A08544	2	Mounting screw

Mortise dummy trim

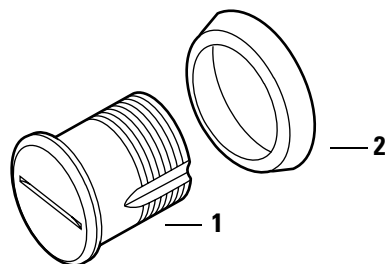


Figure 2.13 1E04 mortise cylinder dummy trim

Mortise dummy trim parts list

Item [†]	Part no.	Qty.	Description
1	A05032	1	Dummy cylinder
2	See page 2-10	1	Cylinder ring

[†] The C13910 clamp plate and two A08544 mounting screws for rim dummy trim applications are also included in the mortise dummy trim package.

Stamped cylinder rings

A cylinder ring is required if there is a gap between the cylinder head and the mounting surface when the cam is positioned for proper lock operation. Stamped cylinder rings may be stacked, if necessary, for some door applications.

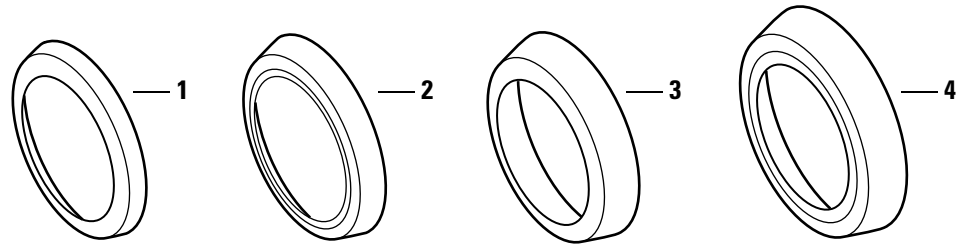


Figure 2.14 Standard cylinder rings

Stamped cylinder rings parts list

Item	Nomenclature	Part no.	Length
1	1E-R2	A40102	1/8"
2	1E-R3	A40103	3/16"
3	1E-R4	A40104	1/4"
4	1E-R5	A40105	3/8"

Stamped cylinder ring packages

Nomenclature	Rings included
RP [†]	1E-R3—3/16" 1E-R5—3/8"
RP1	1E-R2—1/8" 1E-R3—3/16"
RP2	1E-R2—1/8" 1E-R4—1/4"
RP3 [‡]	1E-R2—1/8" 1E-R4—1/4" 1E-R5—3/8"

† Supplied standard with 7-pin rim cylinders.

‡ Supplied standard with 7-pin mortise cylinders.

Straight cylinder rings

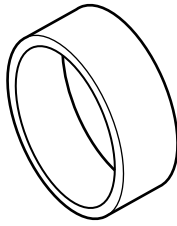


Figure 2.15 Straight cylinder ring (1E-R708 shown)

Straight cylinder ring part numbers

Nomenclature	Part no.	Length
1E-R702	A06280	1/8"
1E-R703	A06281	3/16"
1E-R704	A06282	1/4"
1E-R705	A04370	5/16"
1E-R706	A06283	3/8"
1E-R707	A06284	7/16"
1E-R708	A06285	1/2"
1E-R709	A04369	9/16"
1E-R710	A06286	5/8"
1E-R711	A06288	11/32"
1E-R712	A06287	3/4"

Wrench-resistant cylinder rings

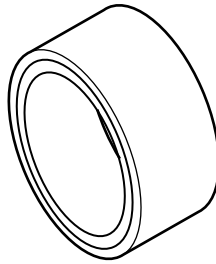


Figure 2.16 Wrench-resistant cylinder ring (1E-R808 shown)

Wrench-resistant cylinder ring part numbers

Nomenclature	Part no.	Length
1E-R802	A05963	1/8"
1E-R803	A05958	3/16"
1E-R804	A05959	1/4"
1E-R805	A05960	5/16"
1E-R806	A05961	3/8"
1E-R807	A05962	7/16"
1E-R808	A05957	1/2"
1E-R809	A05964	9/16"
1E-R810	A05965	5/8"
1E-R811	A05966	11/16"
1E-R812	A05967	3/4"
1E-R814	A05969	13/16"
1E-R815	A05970	7/8"
1E-R816	A05971	15/16"

Mounting plates The following mounting plates can be used with 1E7D4 and 1E7E4 cabinet cylinders.

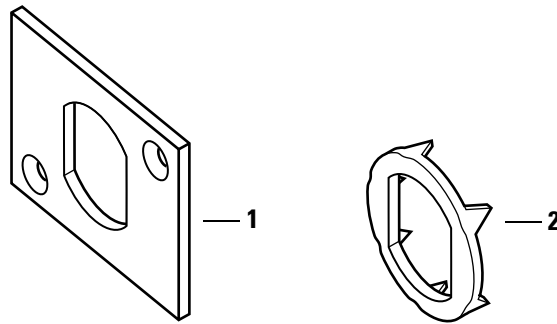


Figure 2.17 Mounting plates

Mounting plates part numbers

Item	Part no.	Description
1	A14543	Large mounting plate
2	A20361	Wood mounting plate

Tools The following tools are used to install and service 1E Series cylinders.

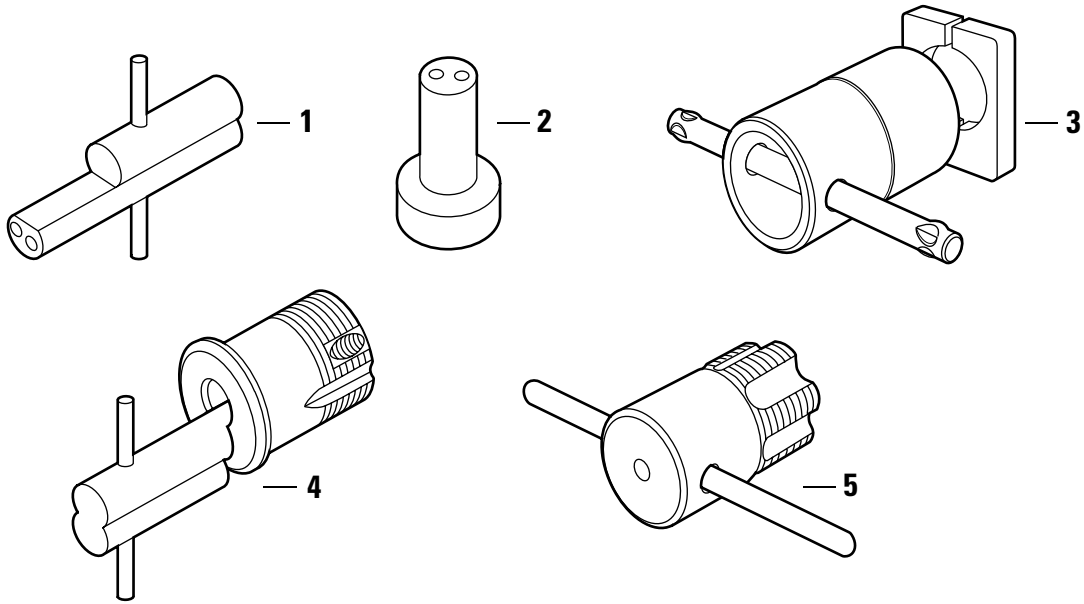


Figure 2.18 Tools

Tools parts list

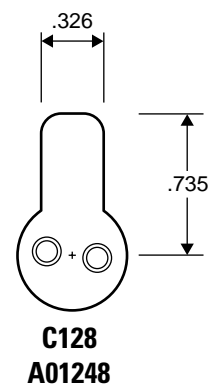
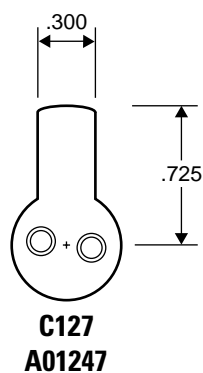
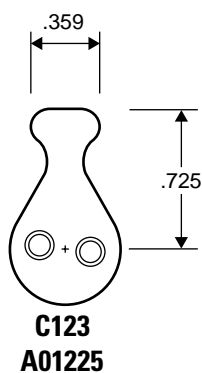
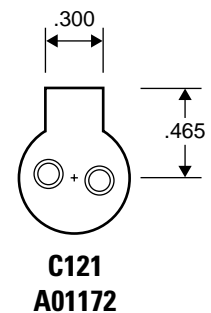
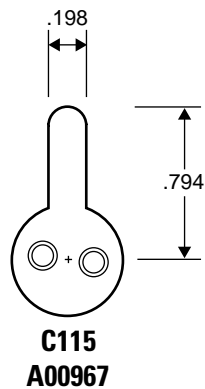
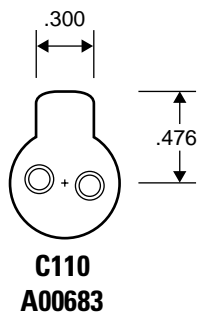
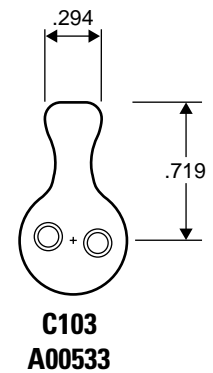
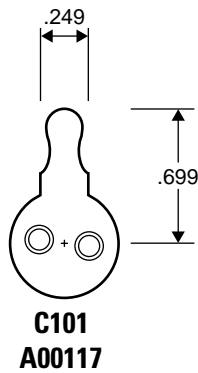
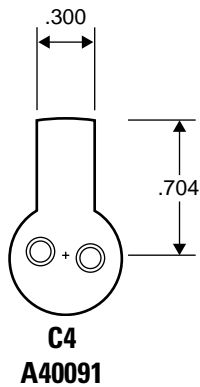
Item	Nomenclature	Part no.	Description	Use
1	ED211	A09612	Mortise cylinder wrench	Tool for installing, removing, and testing cylinders
2	ED212	A19370	Mortise cylinder cam assembly tool	Tool for assembling cams to mortise cylinders
3	ED221	A06206	Mortise cylinder thread repair die	Tool for rethreading 1 5/32" cylinders
4	ED222	A06399	Cylinder cam testing tool	Tool for testing the functionality of cams when installed in a door
5	ED225	A01474	1E cylinder hole tap	Tool for rethreading case threads

CAM IDENTIFICATION

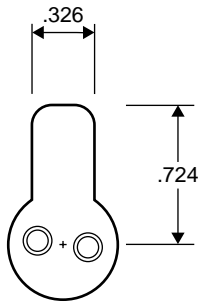
The following common cams are grouped by shape and then sorted by cam number, listing dimensions in inches for each. All cams are shown approximately their size. See *Appendix A Cams Table* for a table of E Series cams listed by part number.

Note: Specify “1E” when ordering cams separately (for example, “1E-C4”).

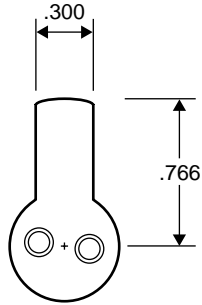
Straight cams



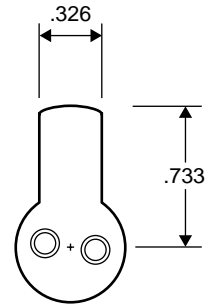
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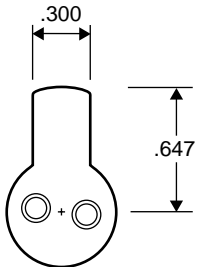
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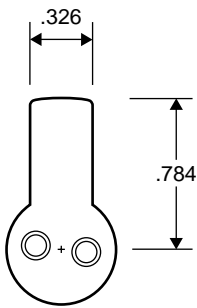
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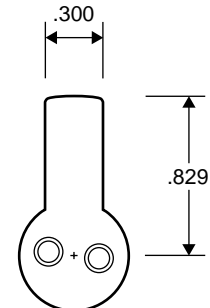
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A01401



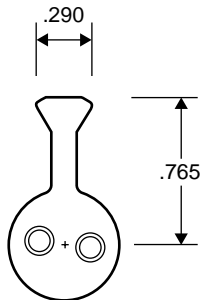
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A01414



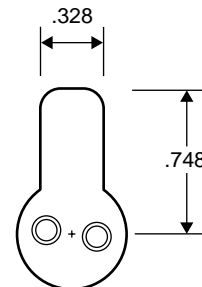
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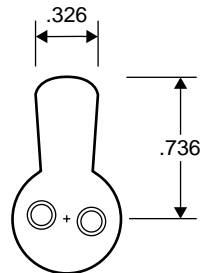
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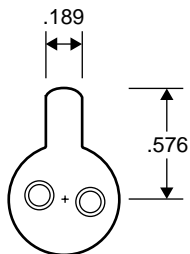
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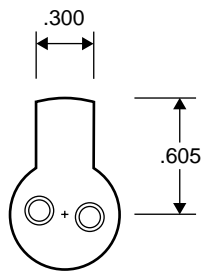
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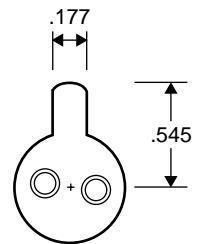
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A04387



C165
A04399

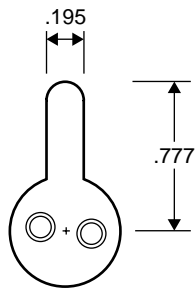


C169
A04445

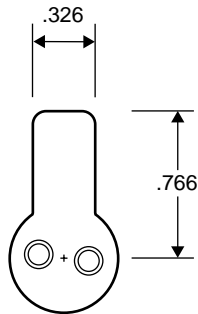


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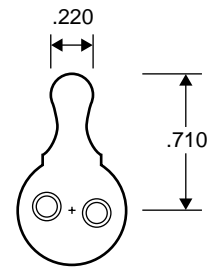
Straight cams cont'd.



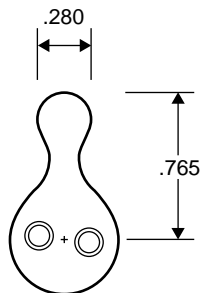
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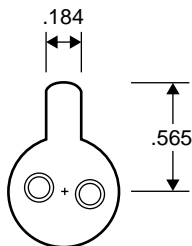
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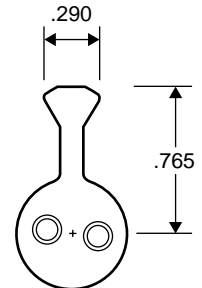
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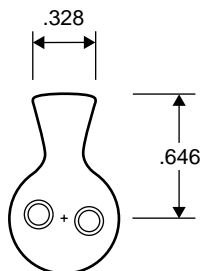
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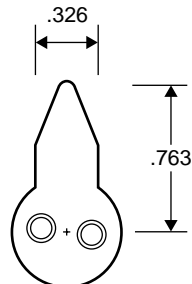
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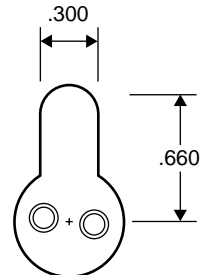
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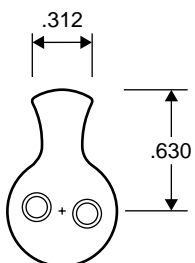
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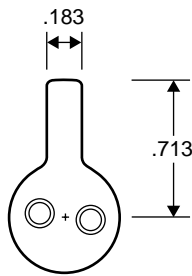
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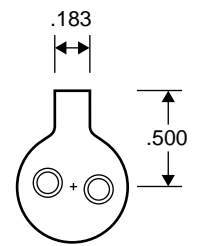
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A06419



C193
A07190

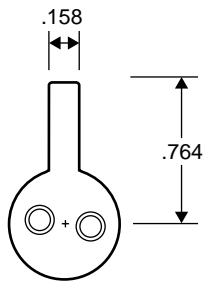


C208
A14520

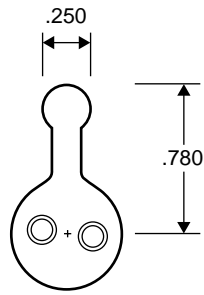


C209
A14521

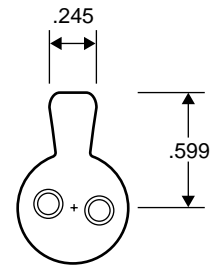
Straight cams cont'd.



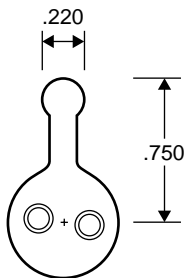
C210
A14472



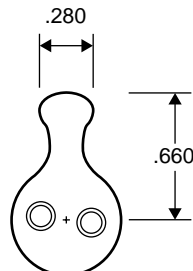
C211
A15981



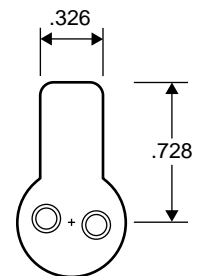
C223
A09229



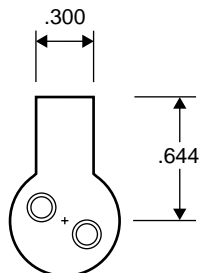
C231
A20931



C233
A09359

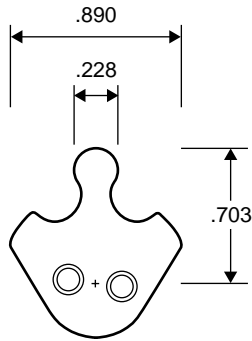


C234
A40088

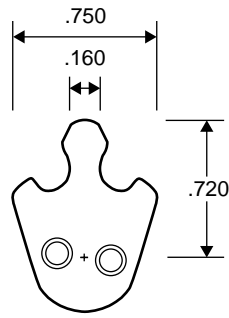


C239
A07212

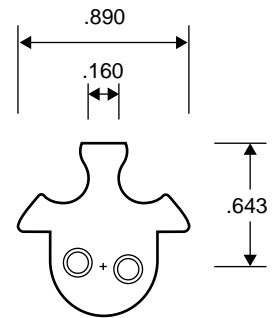
Cloverleaf cams



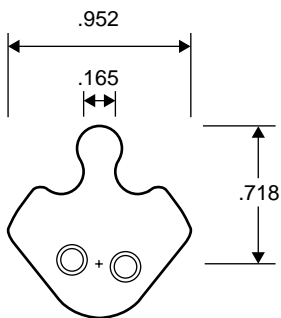
C118
A00995



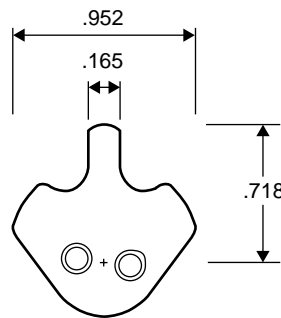
C161
A02770



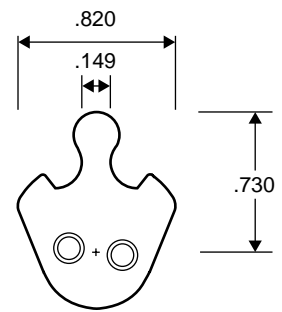
C204
A07880



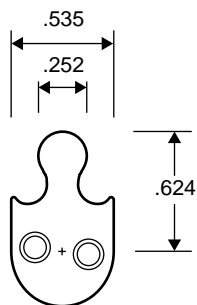
C222
A20877



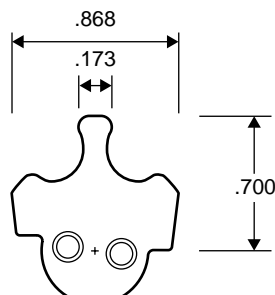
C256
A23770



C258
B34077

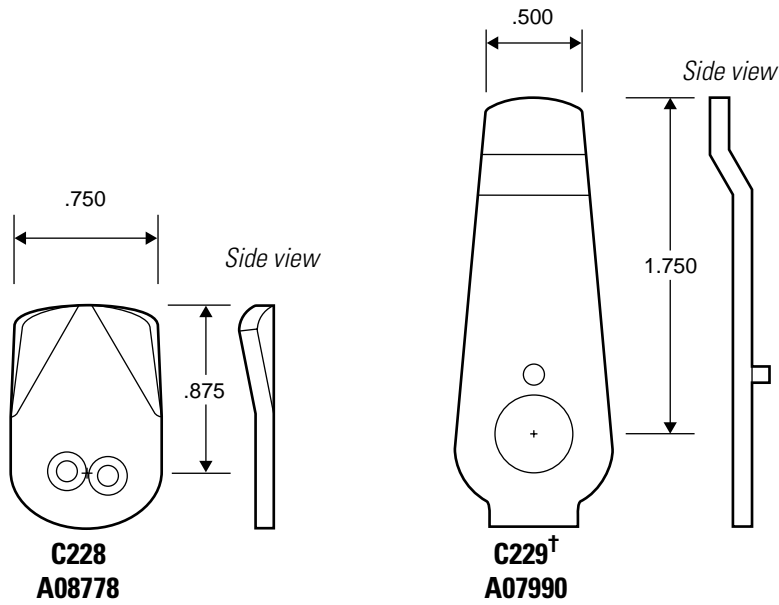
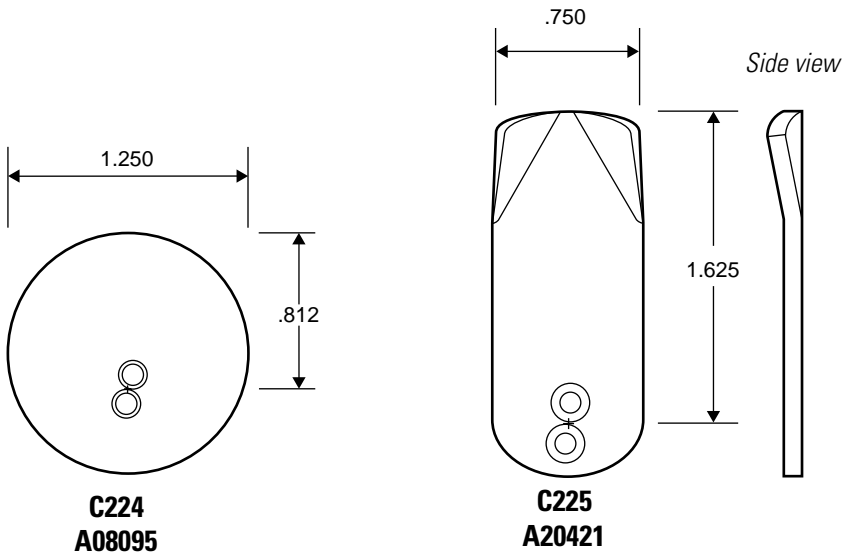


C265
B39256



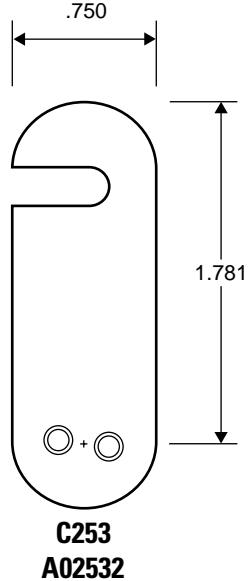
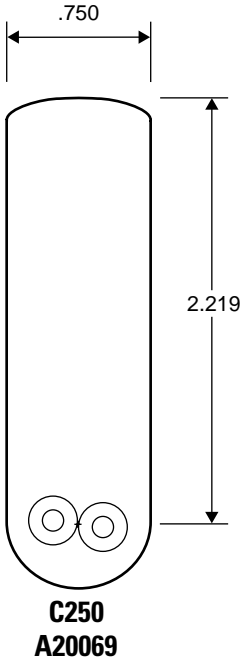
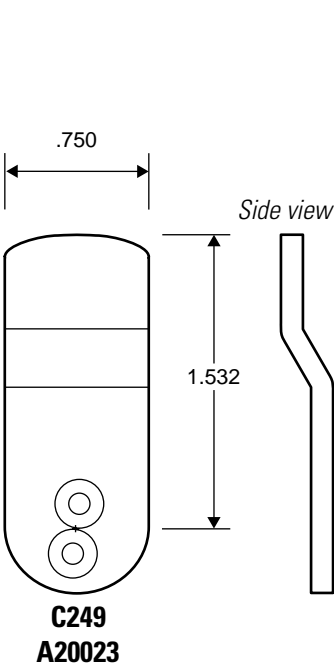
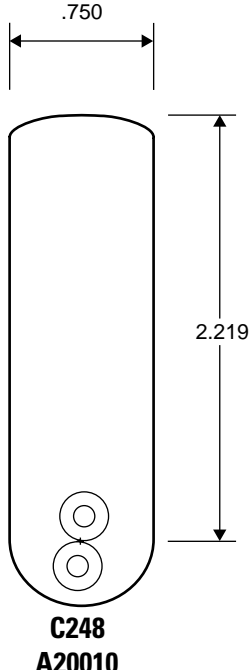
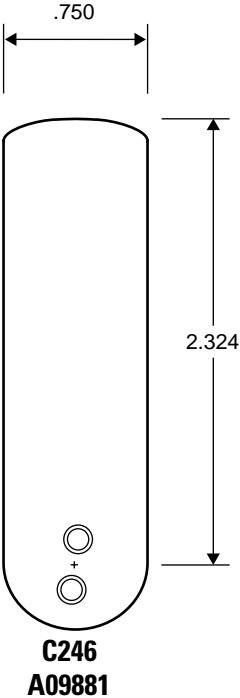
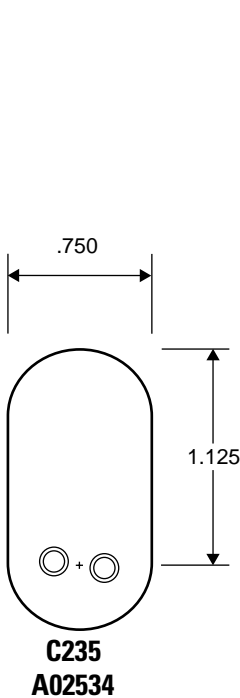
C281
B34562

Cabinet cams

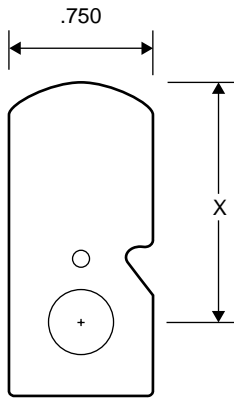


† Drive pin location shown.

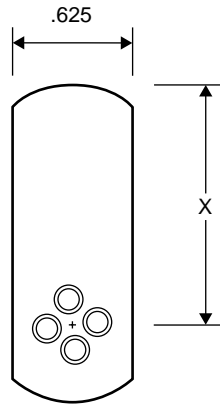
Cabinet cams cont'd.



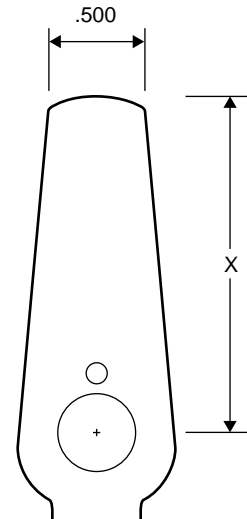
Cabinet cams cont'd.



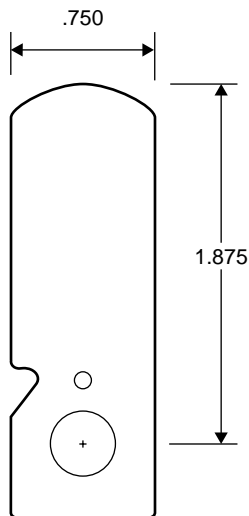
C500-C502^{†,‡}



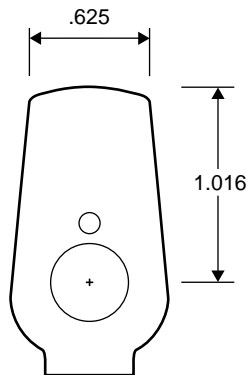
C503-C505[†]



C506-C508^{†,‡}



A11468[‡]



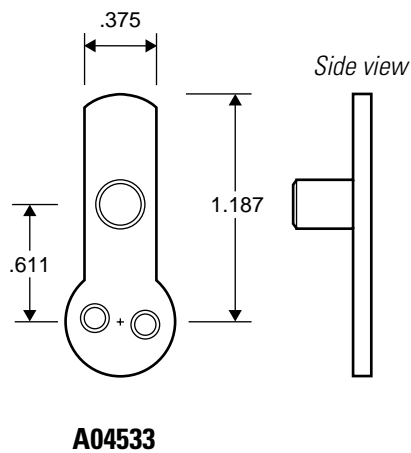
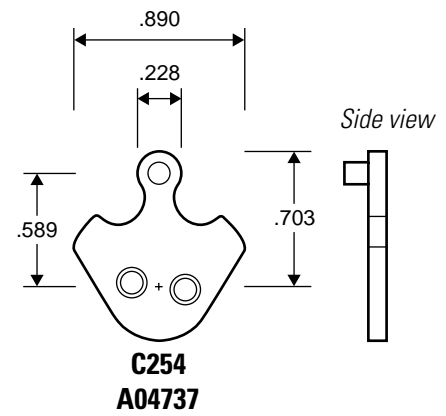
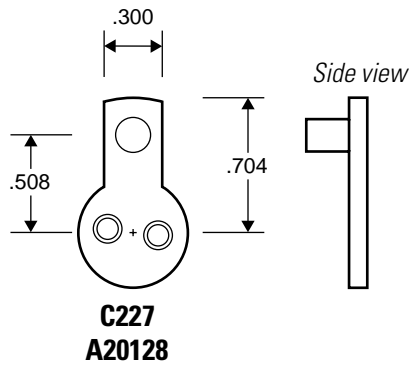
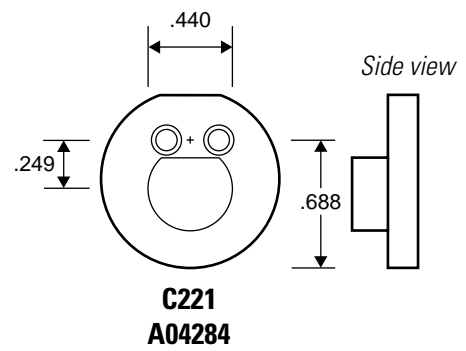
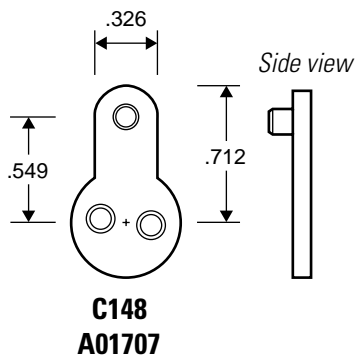
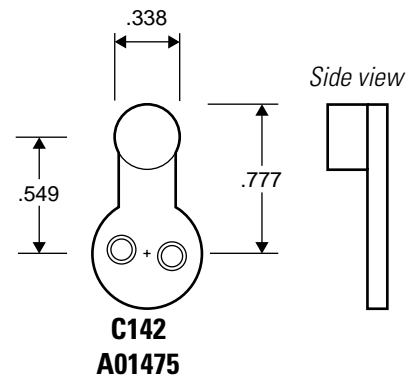
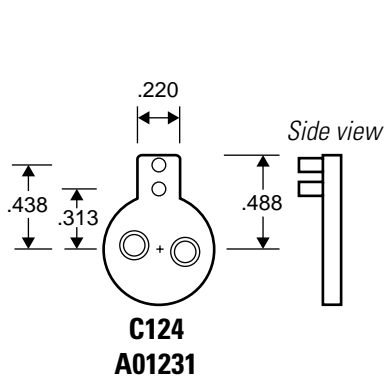
A04607[‡]

† Specify cam length "X" when ordering. See the table below. See [page 5-16](#) for 1E Series cam rotations.

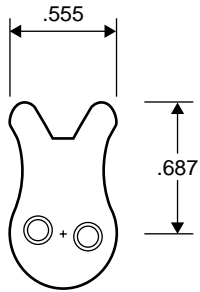
‡ Drive pin hole location shown.

Cam	Part No.	Length "X"
C500	A63060	1 1/8"
C501	A63061	1 1/2"
C502	A63062	2 1/4"
C503	A63063	1 1/8"
C504	A63064	1 1/2"
C505	A63065	2 1/4"
C506	A63066	1 1/8"
C507	A63067	1 1/2"
C508	A63068	2 1/4"

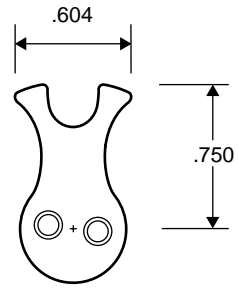
Roller cams



Two-point cams



C102
A00490



C114
A00921

3

PARTS FOR 3E SERIES

The following pages contain an exploded diagram showing all field serviceable parts for the 3E Series mortise cylinder, diagrams of trim and other miscellaneous parts, and diagrams of common cams.

MORTISE CYLINDER EXPLODED DIAGRAM AND PARTS LIST

Item	Part no.	Qty.	Description
1	A06831	1	Spacer for 6-pin cores
2	A40095	2	Throw pin
3	A10390	1	Throw plug
4	A10391	1	Stamped head
5	C40090	1	7-pin cylinder
6	See page 3-3	1	Cylinder ring
7	See page 3-4	1	Cam (C3 shown)
8	A34123	1	Set screw

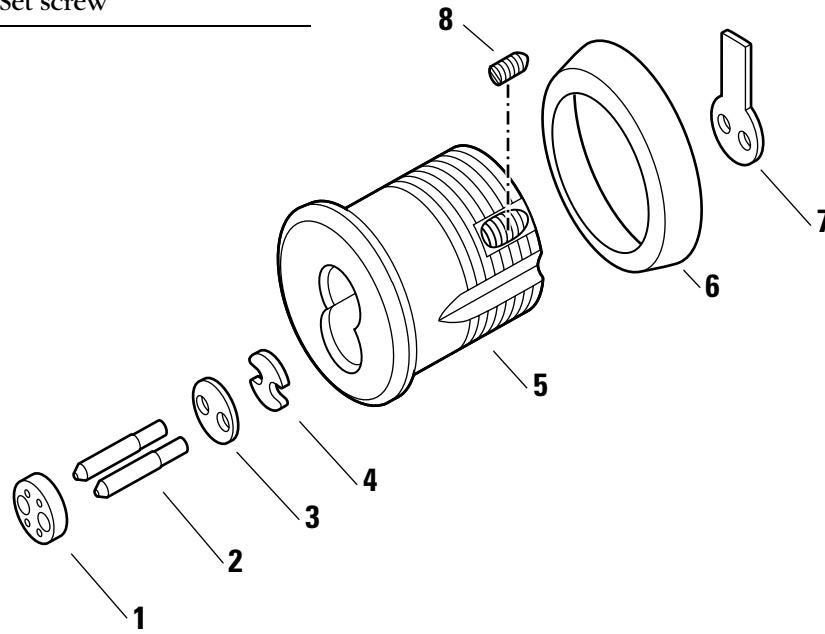


Figure 3.1 3E74 mortise cylinder exploded view

TRIM PARTS

Stamped cylinder rings

A cylinder ring is required if there is a gap between the cylinder head and the mounting surface when the cam is positioned for proper lock operation. Stamped cylinder rings may be stacked, if necessary, for some door applications.

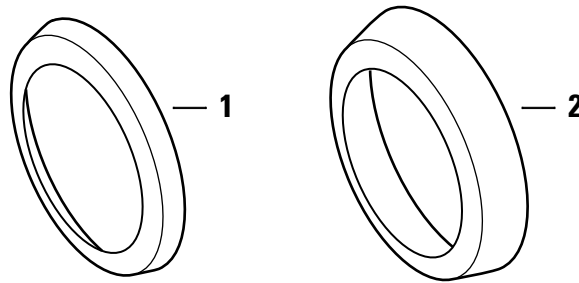


Figure 3.2 Cylinder rings

Cylinder rings parts list

Item	Nomenclature	Part no.	Length
1	3E-R2	A40106	1/8"
2	3E-R4	A40107	1/4"
not shown	3E-R8	A09198	3/8"

Tools

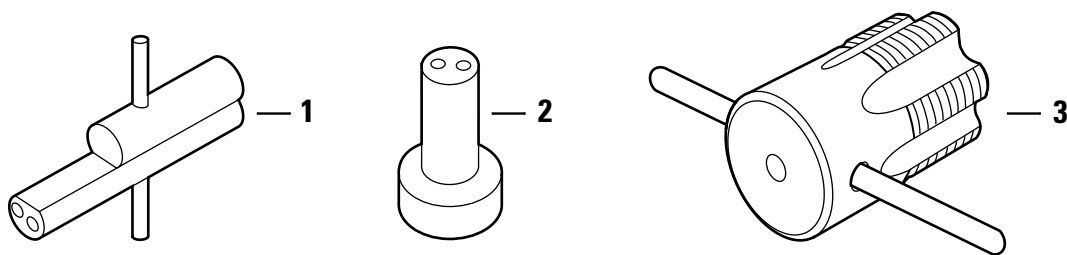


Figure 3.3 Tools

Tools parts list

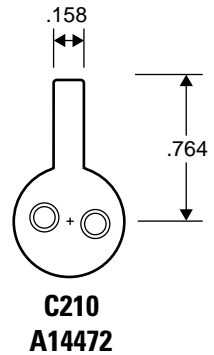
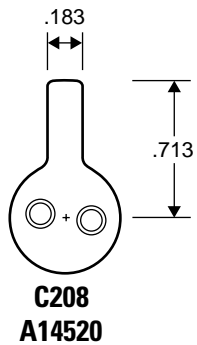
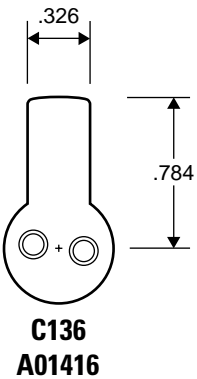
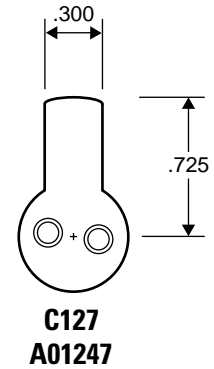
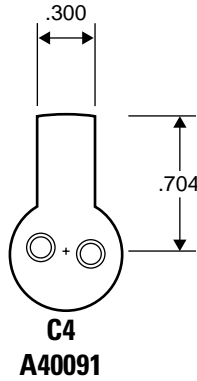
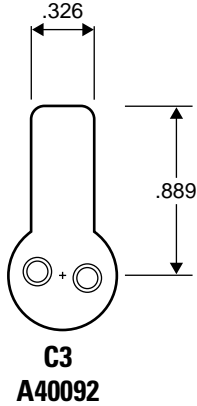
Item	Nomenclature	Part no.	Description	Use
1	ED211	A09612	Mortise cylinder wrench	Tool for installing, removing, and testing cylinders
2	ED212	A19370	Mortise cylinder cam assembly tool	Tool for assembling cams to mortise cylinders
3	ED224	A07861	3E cylinder hole tap	Tool for rethreading case threads

CAM IDENTIFICATION

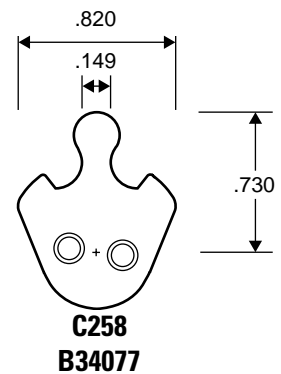
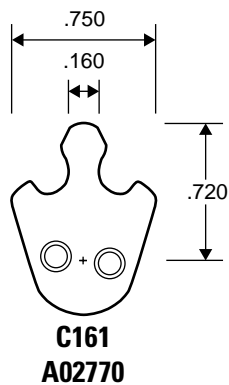
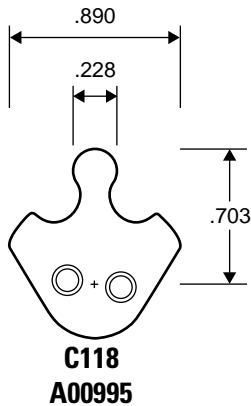
The following section shows common 3E cams and their dimensions in inches. Cams are shown approximately their size. See *Appendix A E Series Cams Table* for a list of E Series cams sorted by part number.

Note: Specify “3E” when ordering cams separately (for example, “3E-C3”).

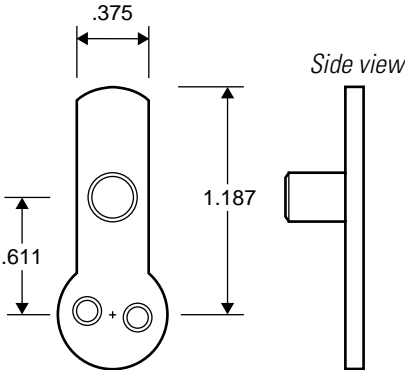
Straight cams



Cloverleaf cams



Roller cams



A04533

4

PARTS FOR 5E SERIES

The following pages contain exploded diagrams showing all field serviceable parts for the 5E Series cylinders, diagrams of trim and other miscellaneous parts, and drawings of common cams.

EXPLODED DIAGRAM AND PARTS LIST LOST MOTION CABINET CYLINDER

Item	Part no.	Qty.	Description
1	C10861	1	7-pin cylinder and plug assembly†
2	A12350	2	Groove pin
3	B10852	1	Slide cap for 7-pin cylinders
4	See page 4-5	1	Cylinder ring
5	A21068	1	Lock washer
6	A08049	1	Nut
7	A21150	1	Throw plug
8	See page 4-7	1	Cam‡ (C4A shown)
9	A21099	1	Drive pin
10	A21151	1	Cam driver
11	A14045	2	Washer
12	A04845	2	Screw

† Specify keyway when ordering.

‡ See [page 5-18](#) for cam rotations.

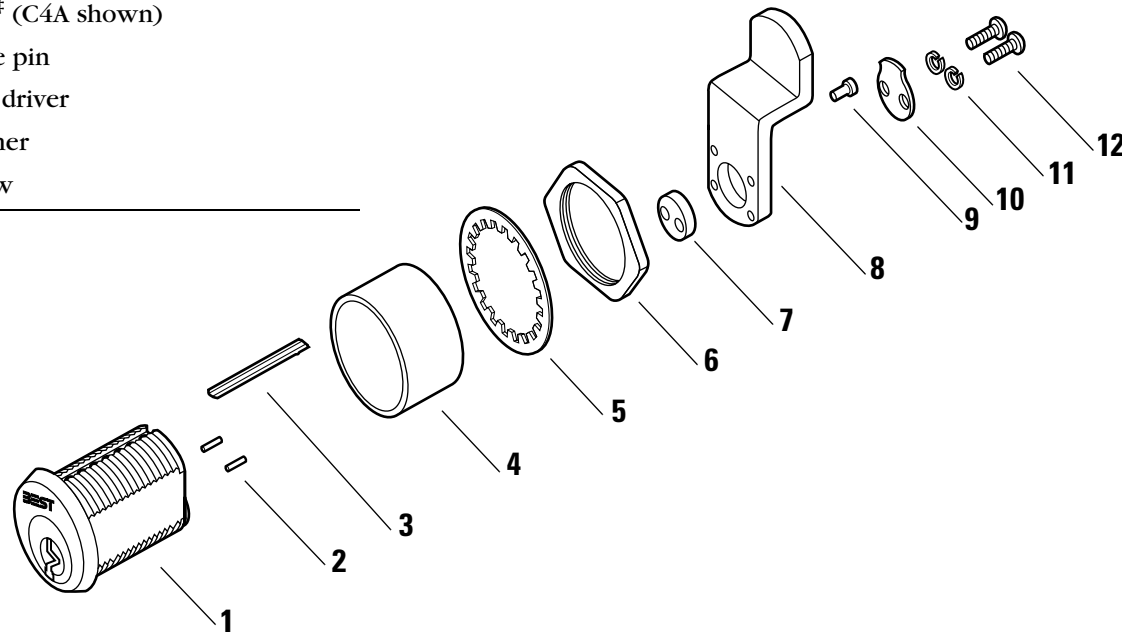


Figure 4.1 5E7 lost motion cabinet cylinder exploded view

LIMITED MOTION CABINET CYLINDER

Item	Part no.	Qty.	Description
1	C10861	1	7-pin cylinder and plug assembly [†]
2	A12350	2	Groove pin
3	B10852	1	Slide cap for 7-pin cylinders
4	See page 4-5	1	Cylinder ring
5	A21068	1	Lock washer
6	A08049	1	Nut
7a	A21302	1	Stop plate (for 180° rotation) <i>OR</i>
7b	A14065	1	Stop plate (for 90° rotation)
8	See page 4-7	1	Cam [‡] (C1 shown)
9	A14045	2	Washer
10	A04845	2	Screw

[†] Specify keyway when ordering.

[‡] See [page 5-22](#) for cam rotations.

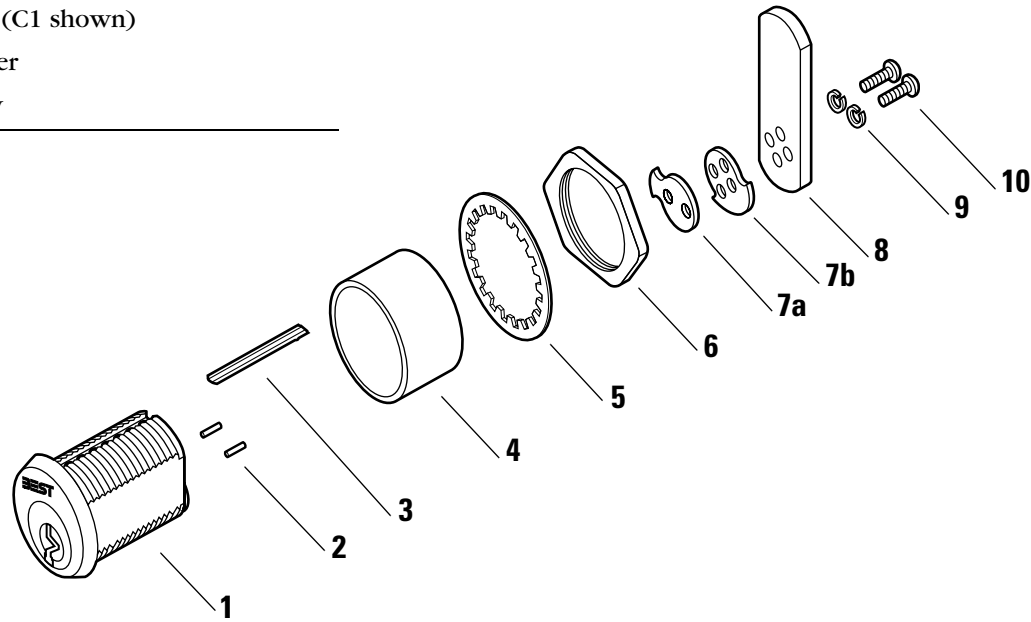


Figure 4.2 5E7 limited motion cabinet cylinder exploded view

TRIM PARTS

Cylinder rings **Determining the ring length for 5E7 cylinders**

A cylinder ring is required if there is a gap between the cylinder head and the mounting surface when the cam is positioned for proper lock operation. To determine what length cylinder ring is needed, see [Figure 4.3](#) and perform the following steps:

1. Measure in inches the thickness of the mounting surface. See length "A" in [Figure 4.3](#).
2. Measure in inches the desired distance from the cam to the inside of the mounting surface. See length "B" in [Figure 4.3](#).
3. Add together the measurement for "A" from Step 1 and the measurement for "B" from Step 2.

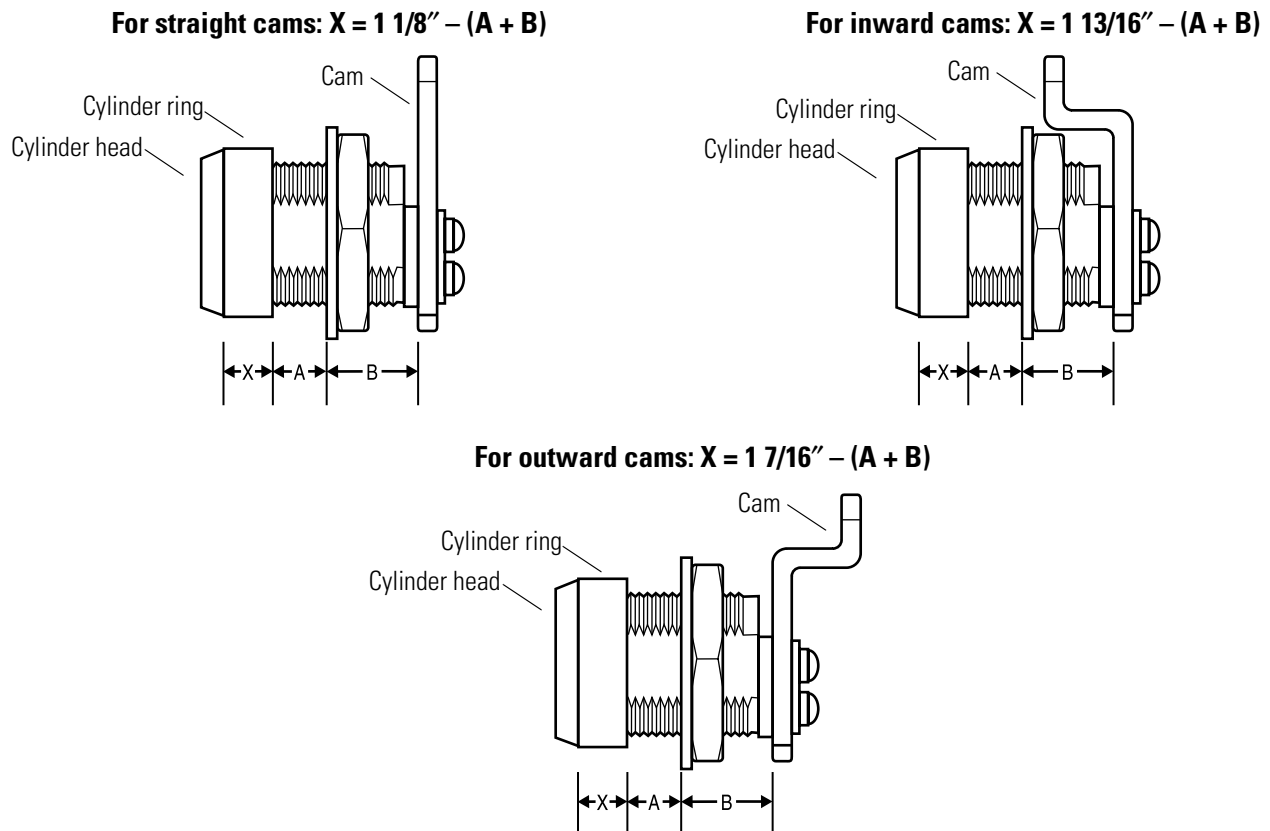


Figure 4.3 Determining the cylinder ring length

4. *For straight cams*, subtract the total in Step 3 from $1 \frac{1}{8}"$. The difference is the length of the cylinder ring needed. See straight cam length "X" in [Figure 4.3](#).
For inward mounted cams, subtract the total in Step 3 from $1 \frac{13}{16}"$. The difference is the length of the cylinder ring needed. See inward cam length "X" in [Figure 4.3](#).

For outward mounted cams, subtract the total in Step 3 from 1 7/16". The difference is the length of the cylinder ring needed. See inward cam length "X" in Figure 4.3.

See the parts table below for available cylinder ring lengths.

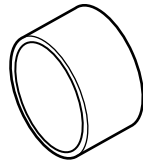


Figure 4.4 Cylinder ring (R708 shown)

Cylinder ring part numbers

Nomenclature	Part no.	Length
5E-R701	A10253	1/16"
5E-R702	A10250	1/8"
5E-R703	A10260	3/16"
5E-R704	A10257	1/4"
5E-R705	A10265	5/16"
5E-R706	A10263	3/8"
5E-R707	A10266	7/16"
5E-R708	A10258	1/2"
5E-R709	A10269	9/16"
5E-R710	A10256	5/8"
5E-R711	A10268	11/16"
5E-R712	A10267	3/4"

Mounting plates

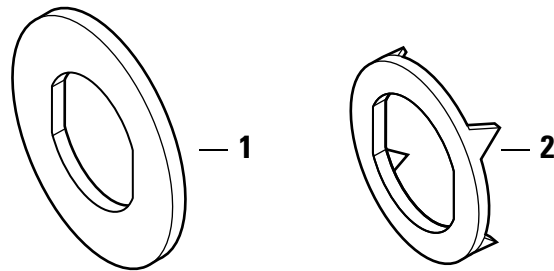


Figure 4.5 Mounting plates

Mounting plates part numbers

Item	Part no.	Qty.	Description
1	A14533	1	Round mounting plate
2	A14534	1	Wood mounting plate

Tools

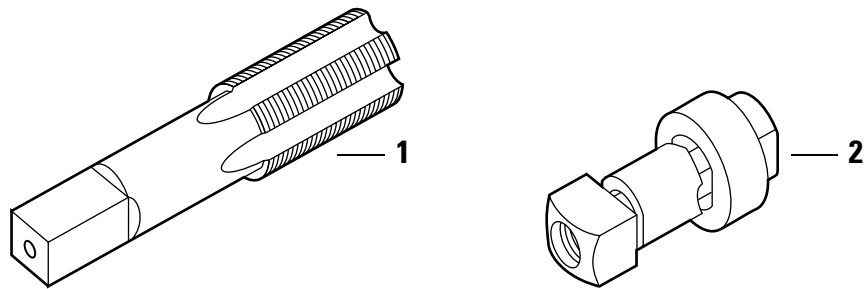


Figure 4.6 Tools

Tools parts list

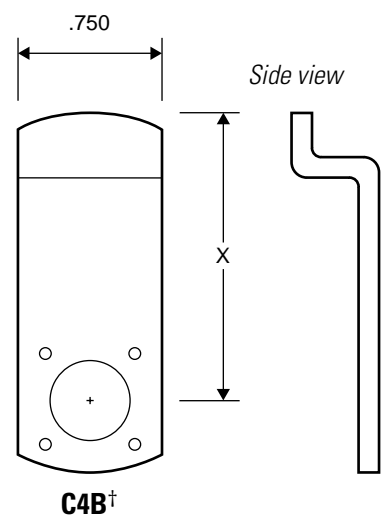
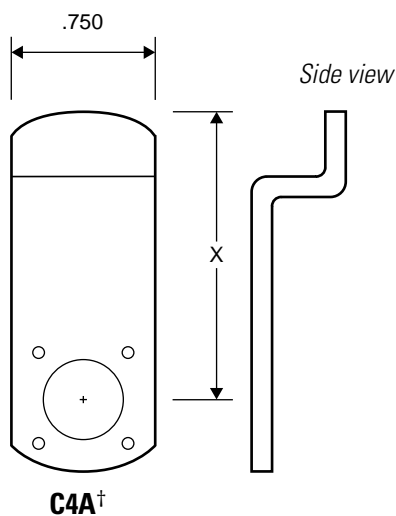
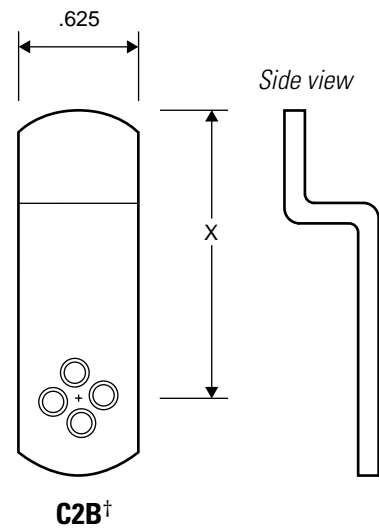
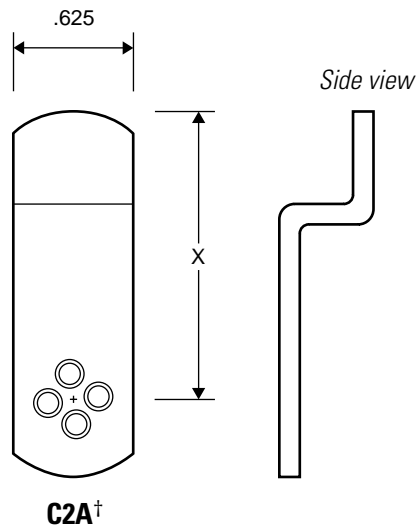
Item	Nomenclature	Part no.	Qty.	Description	Use
1	5ED253	A14053	1	5E cylinder hole tap	Tool for rethreading case threads
2	5ED254	BT-21071	1	SE-5E 3/4" metal punch die	Tool for punching cabinet holes for cylinder installation

CAM IDENTIFICATION

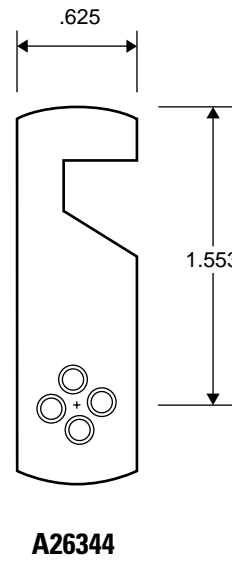
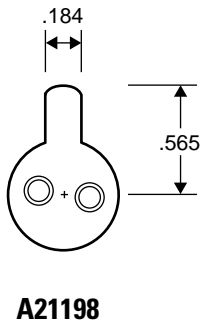
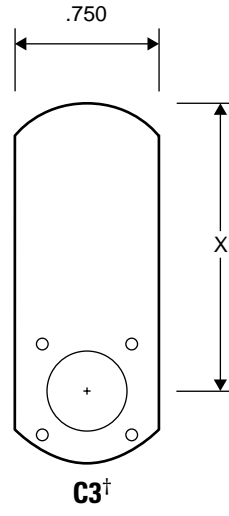
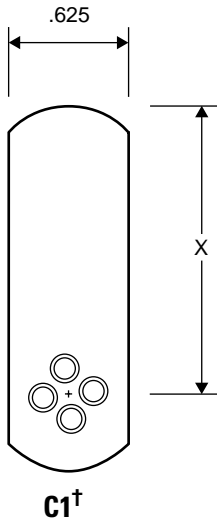
The following section shows common 5E cams and their dimensions in inches. See *Appendix A Cams Table* for a list of E Series cams sorted by part number.

Note: Specify “5E” when ordering cams separately (for example, “5E-C2A”).

Note: For 5E cam rotations, see [page 5-18](#).



† Specify cam length when ordering. See the BEST Catalog for available cam lengths.



† Specify cam length "X" when ordering. See the BEST Catalog for available cam lengths.

5

SERVICE AND MAINTENANCE

This chapter contains instructions for replacing components, servicing and maintaining components, and troubleshooting common problems for the 1E Series, 3E Series, and 5E Series cylinders.

To	See page
Replace mortise cylinders	5-2
Replace rings	5-7
Replace riveted cams	5-8
Replace rim cylinders	5-10
Replace spindles	5-12
Replace cabinet cylinders	5-13
View 1E Series cam rotations	5-16
View 5E Series cam rotations	5-18
Troubleshoot problems	5-25

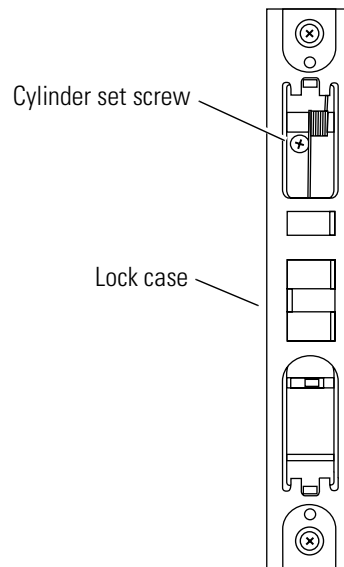
REPLACING PARTS

Replacing the standard mortise cylinder

For information about servicing your BEST mortise lock case, see the *H Series Service Manual* [T61964].

To remove the mortise cylinder:

1. Unscrew the two faceplate screws and remove the faceplate from the lock case.
2. Insert the control key into the core and rotate the key 15 degrees to the right. Remove the core.
3. Loosen the cylinder set screw, found on the inside of the lock case. See [Figure 5.1](#).



View from the edge of the door

Figure 5.1 Location of the cylinder set screw

4. Using a narrow-bladed screwdriver, insert the blade into the figure-8 opening and back the small set screw into the cylinder until the tip of the screw is below the threads of the cylinder.

5. Insert the mortise cylinder wrench into the cylinder unscrew the cylinder from the lock mortise case.
See [Figure 5.2](#).

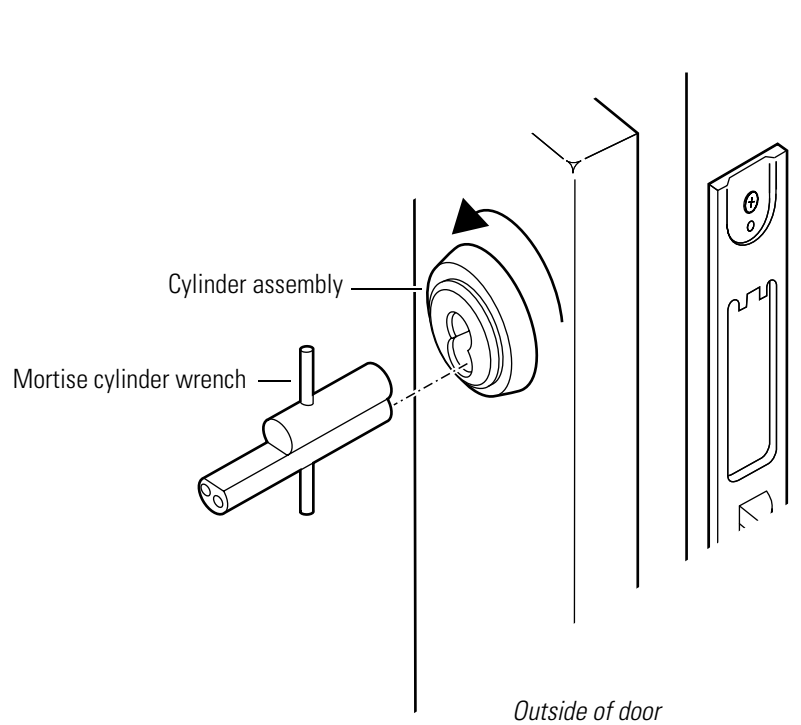


Figure 5.2 Removing the mortise cylinder

6. Slide the cylinder assembly out of the door.
7. If the lock is double-keyed, repeat steps 2 through 6 for the other cylinder.

To reinstall the mortise cylinder:

1. *If installing a new cylinder:*
 - a. From the outside of the cylinder, thread the slotted head of the set screw into the cylinder. See [Figure 5.3](#).
 - b. Using a narrow-blade screwdriver, insert the blade into the cylinder's figure-8 opening and back the set screw into the cylinder until the tip of the set screw is below the threads of the cylinder.

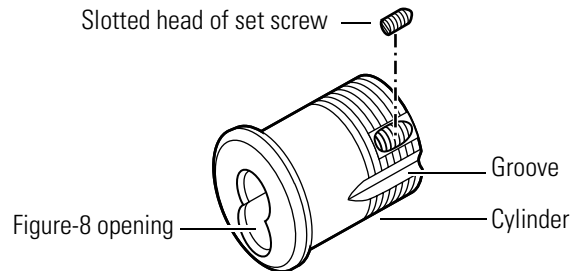


Figure 5.3 Threading the set screw

2. Place the cylinder ring, if used, on the cylinder.
3. From the back end of the cylinder, rotate the cam to the 12 o'clock position. See [Figure 5.4](#).

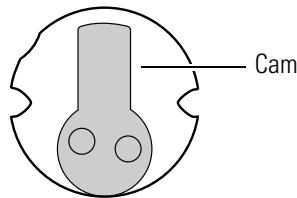


Figure 5.4 Back view of cam in 12 o'clock position

4. With the mortise cylinder wrench inserted into the figure-8 opening, insert the cylinder assembly into the cylinder hole on the outside of the door. See [Figure 5.5](#).

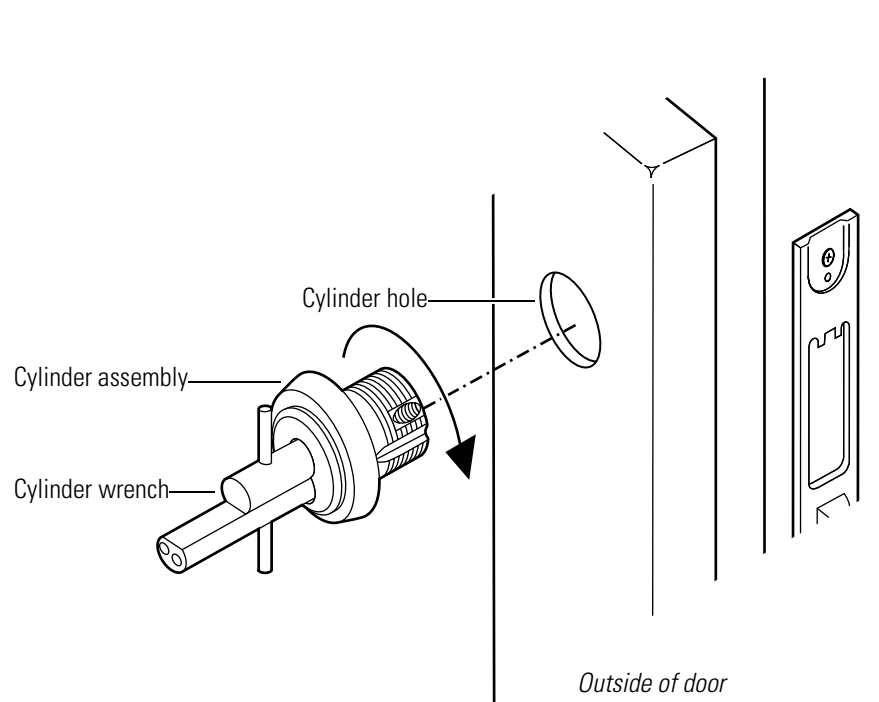


Figure 5.5 Reinstalling the mortise cylinder

5. *For standard cylinders*, screw the cylinder into the lock case until the cylinder ring is flush against the door.
For concealed cylinders, screw the cylinder into the lock case until the groove around the cylinder head is even with the door surface.
For high security cylinders, screw the cylinder into the lock case until the cylinder head touches the inside rim of the cylinder ring.



Caution

Be careful not to cross-thread the cylinder during the rotation process to avoid jamming the cylinder in the door.

Do not screw the cylinder in too tightly. Doing so may cause you or someone else to be locked out.

6. Using a narrow-blade screwdriver, insert the blade into the figure-8 opening and tighten the small set screw (installed in the cylinder) into the lock case.

7. Tighten the cylinder set screw, found on the inside of the lock case, into the cylinder groove (see [Figure 5.3](#) for the location of the cylinder groove). See [Figure 5.6](#).

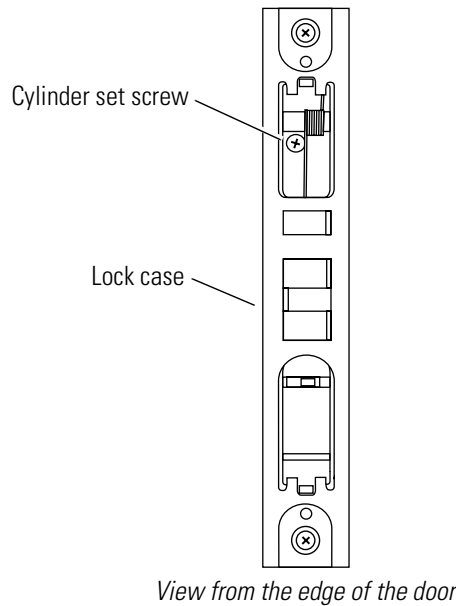


Figure 5.6 Location of the cylinder set screw (view from the edge of the door)

8. Insert the control key and core into the cylinder. Rotate the control key 15 degrees counterclockwise and then remove the key.
9. If the lock is double-keyed, repeat steps 1 through 8 for the other cylinder.
10. Position the faceplate on the lock case and reinstall the two faceplate screws.
11. Lock and unlock the door to be sure the cylinder is properly installed.

Replacing the cylinder ring

To remove the cylinder ring:

1. *For mortise cylinders*, remove the faceplate from the lock case and the cylinder assembly from the door ([page 5-2](#)).

For rim cylinders, remove the cylinder assembly from the door ([page 5-10](#)).

For cabinet cylinders, remove the cylinder assembly from the cabinet door ([page 5-13](#)).

2. Slide the cylinder ring off of the cylinder assembly. See [Figure 5.7](#).

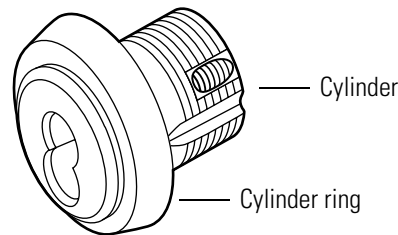


Figure 5.7 Removing the cylinder ring (mortise cylinder shown)

To reinstall the cylinder ring:

1. Select a cylinder ring that will position the cylinder assembly to the correct length in the door.
2. Slide the cylinder ring onto the cylinder assembly. See [Figure 5.8](#).

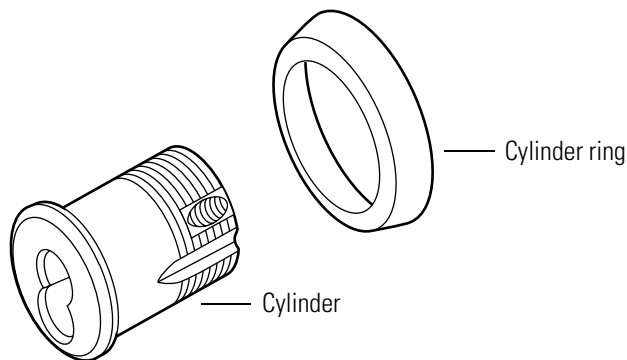


Figure 5.8 Reinstalling the cylinder ring (mortise cylinder shown)

3. *For mortise cylinders*, reinstall the cylinder assembly in the door and the faceplate on the lock case ([page 5-4](#)).

For rim cylinders, reinstall the cylinder assembly in the door ([page 5-10](#)).

For cabinet cylinders, reinstall the cylinder assembly in the cabinet door ([page 5-14](#)).

Replacing riveted cams

Before beginning this process, get the following parts:

- two new throw pins
- one new throw plug
- one new stamped head.

Note: For ordering information, see the parts tables starting on [page 2-2](#) or refer to the BEST Catalog.

To the remove the cam:

1. Remove the lock case faceplate, core, and cylinder from the door ([page 5-2](#)).
2. Remove the cylinder ring from the cylinder ([page 5-7](#)).
3. Place the cylinder face down on a flat cloth-covered surface to avoid scratching the front of the cylinder.
4. Position a standard 3/32" punch at the center point of one of the two throw pins. See [Figure 5.9](#).

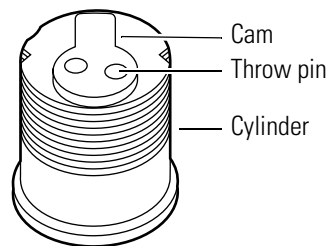


Figure 5.9 Removing the cam

5. Using a ballpeen hammer, hit the punch two or three times to drive the throw pin out of the cam.
6. Repeat steps 4 and 5 to remove the remaining throw pin. Discard the throw pins.
7. Remove the cam.
8. Discard the stamped head and throw plug.

To reinstall the cam:

1. *If installing a new cam*, use the cylinder cam testing tool (page 2-14) to make sure the cam will function properly when installed in the door.
2. Refer to **Figure 5.10** and assemble the following parts onto the cam assembly tool:
 - two throw pins
 - throw plug
 - stamped head
 - cylinder.

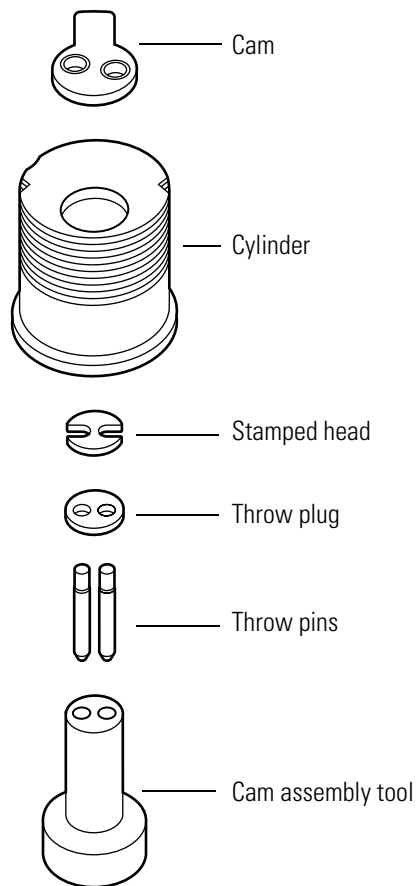


Figure 5.10 Reinstalling the cam

3. Position the cam on the back of the cylinder so that the throw pins go through the two cam holes.
4. Using a ballpeen hammer, hit around the edges of the two throw pins until the ends of the throw pins are level with the surface of the cam.

5. Remove the cam assembly tool.

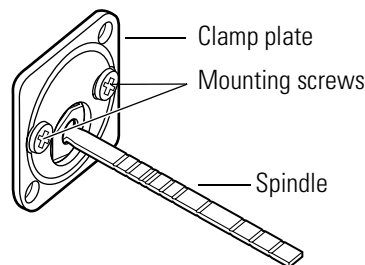
Note: If the tool cannot be removed from the cylinder, hold the cylinder in one hand (with the cam in the palm of your hand) and strike the bottom of the cam assembly tool with the ballpeen hammer to loosen the cylinder.

6. Turn the cam clockwise and counterclockwise to make sure it is installed properly.
7. Reinstall the cylinder ring, if present onto the cylinder ([page 5-7](#)).
8. Reinstall the cylinder, the core, and the lock case faceplate on the door ([page 5-4](#)).

Replacing the rim cylinder

To remove the rim cylinder:

1. Remove the necessary trim components to expose the front and back of the rim cylinder. Contact your BEST Representative for more information.
2. On the inside of the door, remove the two mounting screws and the clamp plate. See [Figure 5.11](#).



Inside of door

Figure 5.11 Removing the rim cylinder

3. Note the orientation of the spindle and slide the cylinder assembly out from the outside of the door.
4. Insert the control key into the core and rotate the key 15 degrees to the right. Remove the core.

To reinstall the rim cylinder:

1. Make sure that the cylinder ring, if present, is positioned on the cylinder, as shown in [Figure 5.12](#).
2. Orient the cylinder assembly so that the throw pins are on the bottom of the figure-8 opening.
3. Make sure that the spindle is oriented in the position that you noted above.

Note: Depending on the application, spindles may be installed vertically and horizontally.

4. From the outside of the door, insert the rim cylinder assembly into the cylinder hole.

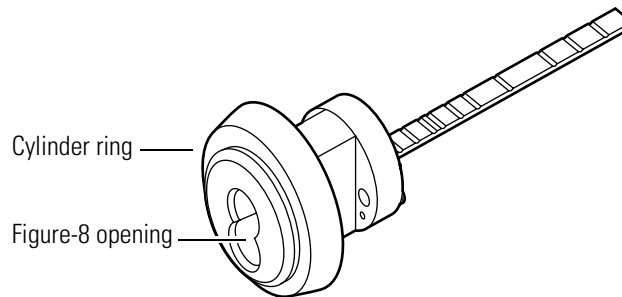


Figure 5.12 Figure-8 opening

5. *If installing a new cylinder:*
 - a. Break off the new spindle to match the length of the old spindle.
 - b. Break off the new mounting screws to match the length of the old mounting screws.
6. On the inside of the door, orient the cylinder and clamp plate as shown in [Figure 5.13](#).

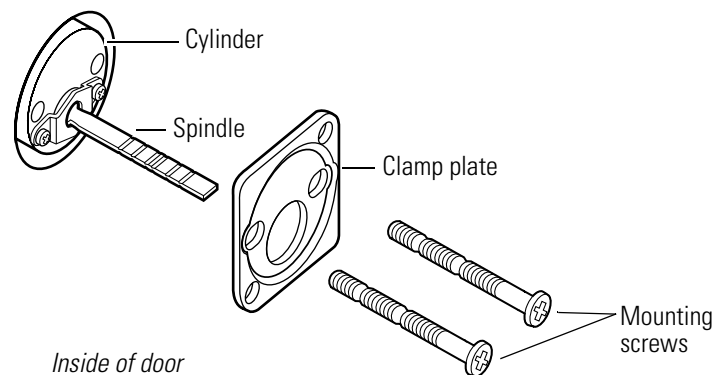


Figure 5.13 Reinstalling the rim cylinder

7. Secure the clamp plate to the cylinder with the mounting screws.
8. Insert the control key and core into the cylinder. Rotate the control key 15 degrees counterclockwise and then remove the key.
9. Reinstall the necessary trim components. Contact your BEST Representative for more information.
10. Lock and unlock the door to be sure the cylinder is installed properly.

Replacing the spindle

To remove the spindle:

1. Remove the cylinder from the door ([page 5-10](#)).
2. Note the orientation of the spindle (horizontal or vertical).
3. Using a narrow-blade screwdriver, unscrew the two retainer screws and remove the throw member retainer and spindle. See [Figure 5.14](#).

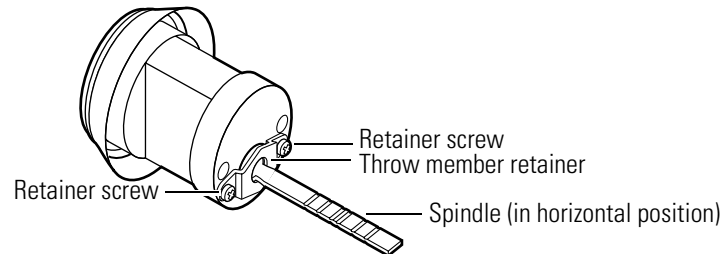


Figure 5.14 Removing the spindle

To reinstall the spindle:

1. Break off the new spindle to match the length of the old spindle.
2. Using the same orientation as the old spindle (horizontal or vertical), align the spindle so that it fits into the throw plug. See [Figure 5.15](#).

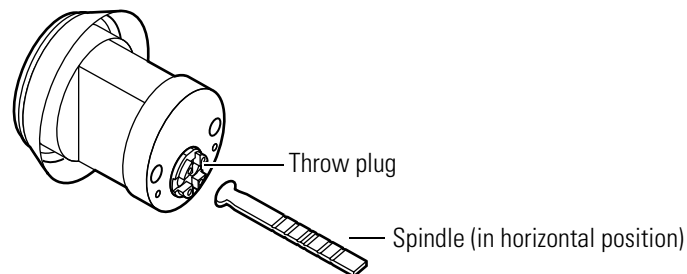


Figure 5.15 Reinstalling the spindle

3. While holding the spindle in place, use a narrow-blade screwdriver to secure the throw member retainer to the back of the cylinder with the two retainer screws. See [Figure 5.16](#).

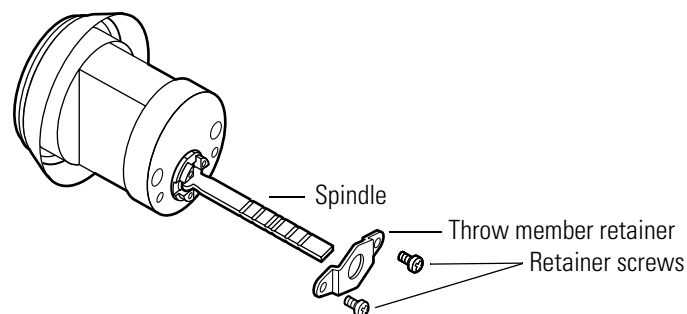


Figure 5.16 Securing the spindle

4. Reinstall the cylinder in the door (see [page 5-10](#)).

Replacing cabinet cylinders

To remove the cabinet cylinder:

1. Using an operating key, open the cabinet to expose the back of the cylinder assembly.
2. Using a narrow-blade screwdriver, unscrew the two cam screws located on the back of the cylinder assembly. See [Figure 5.17](#).

Note: The 1E7E4 cylinder has only one cam screw.

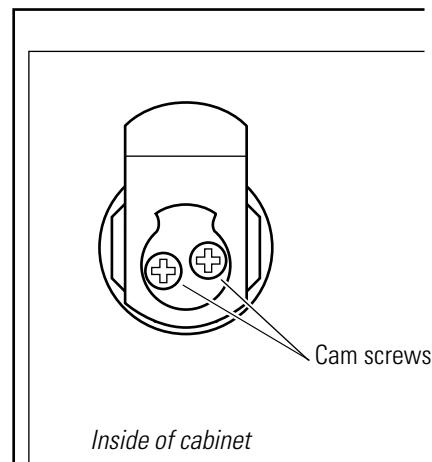


Figure 5.17 Location of cam screws (5E Series cylinder assembly shown)

3. *For the 1E7D4 cylinder*, remove the following parts (see [page 2-5](#) for part numbers and drawings):

- cam
- throw plug retainer.

For the 1E7E4 cylinder, remove the following parts (see [page 2-6](#) for part numbers and drawings):

- washer
- cam driver
- cam with drive pin.

For 5E Series cylinders, remove the following parts, if present (see [page 4-2](#) and [page 4-3](#) for part numbers and drawings):

- two washers
- cam driver
- stop plate
- cam
- plug throw.

4. Unscrew the nut and remove it from the cylinder.
5. Remove the lock washer, if present.
6. Slide the cylinder assembly out from the front of the cabinet door.

To reinstall the cabinet cylinder:

1. Make sure that the cylinder ring is positioned on the cylinder.
2. Insert the cylinder into the front of the cabinet door.
3. While holding the front of the cylinder in place, attach the lock washer, if present, to the back end of the cylinder assembly so that it is flush with the cabinet door.
4. Thread the nut onto the cylinder and tighten it to secure the cylinder in the cabinet door.
5. *For the 1E7D4 cylinder*, reinstall the following parts (see [page 2-5](#) for part numbers and drawings):

- throw plug retainer
- cam in the locked position (see [page 5-16](#) for 1E7D4 cam rotations).

For the 1E7E4 cylinder, reinstall the following parts (see [page 2-6](#) for part numbers and drawings):

- cam in the locked position (see [page 5-17](#) for 1E7E4 cam rotations).
- cam driver
- washer.

For 5E cylinders, reinstall the following parts, if present (see [page 4-2](#) and [page 4-3](#) for part numbers and drawings):

- plug throw
- cam in the locked position (see [page 5-18](#) for 5E cam rotations).
- cam driver
- stop plate
- two washers.

6. Secure the two cam screws to the back of the cylinder assembly. See [Figure 5.18](#).

Note: 1E7E4 cylinders have only one cam screw.

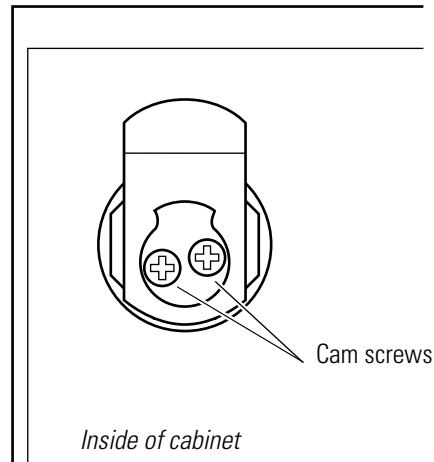


Figure 5.18 Reinstalling the cabinet cylinder (5E Series cylinder assembly shown)

7. Lock and unlock the cabinet to make sure the cylinder is installed properly.

CAM ROTATIONS FOR 1E SERIES CYLINDERS

Direct motion cabinet cylinders

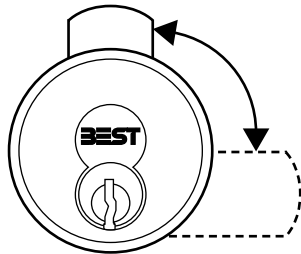
This section shows the cam rotation options for 1E7D4 direct motion cabinet cylinders.

Note: The following cam rotations only apply to cylinders with cores installed in the orientation shown.

For direct motion cylinders, the key and cam rotation is direct and both rotate 360°. The key can be removed in the locked position only. The figures below indicate the direction of the cam rotation and the locked position.

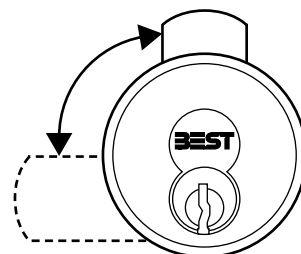
Note: See [page 2-20](#) for common cabinet cams.

1E7D4 LH 12



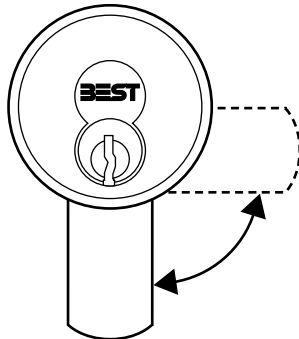
- For upward locking applications
- Cam locks in the 12 o'clock position

1E7D4 RH 12



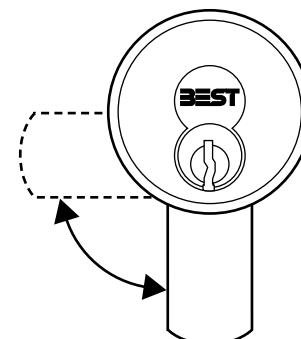
- For upward locking applications
- Cam locks in the 12 o'clock position

1E7D4 LH 6



- For downward locking applications
- Cam locks in the 6 o'clock position

1E7D4 RH 6



- For downward locking applications
- Cam locks in the 6 o'clock position

Lost motion cabinet cylinders

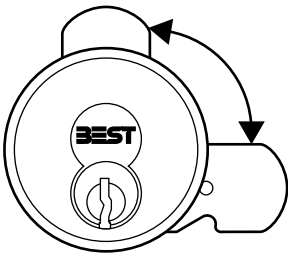
This section shows the cam rotation options for 1E7E4 lost motion cabinet cylinders.

Note: The following cam rotations only apply to cylinders with cores installed in the orientation shown.

For lost motion cylinders, the cam rotates 90° and the key rotates 360°. The key can be removed with the cam in the locked or unlocked position. The figures below indicate the direction and range of cam rotation, as well as the locked positions.

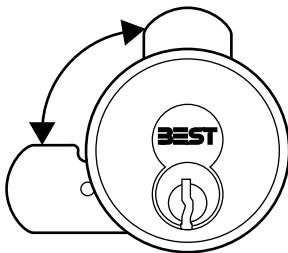
Note: See [page 2-20](#) for common cabinet cam options.

1E7E4 LH 12 or 3



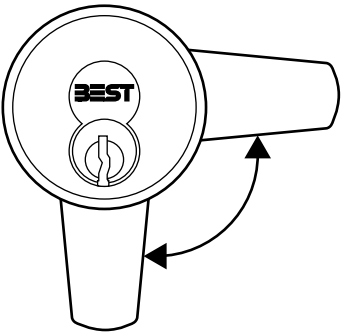
- For upward locking applications
- Cam locks in the 12 o'clock or 3 o'clock position

1E7E4 RH 12 or 9



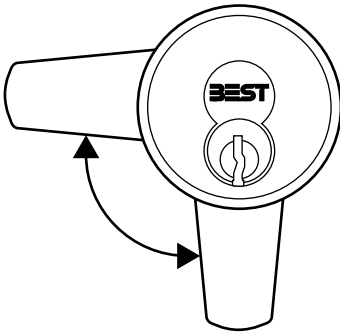
- For upward locking applications
- Cam locks in the 12 o'clock or 9 o'clock position

1E7E4 LH 3 or 6



- For downward locking applications
- Cam locks in the 3 o'clock or 6 o'clock position

1E7E4 RH 6 or 9



- For downward locking applications
- Cam locks in the 6 o'clock or 9 o'clock position

CAM ROTATIONS FOR 5E SERIES CYLINDERS

The following section contains cam rotation options for 5E Series 7-pin cylinders. 5E Series cylinders are categorized by cam motion type. The table below shows the cam motion types described in this section.

Type	Motion	Height of groove pins are:	Cam rotation	Key rotation	Key can be removed when cam is in:
B	Limited	Above the throw plug. See Figure 5.19 .	90° or 180°	90° or 180°	Locked position
C	Lost	Level with the throw plug. See Figure 5.20 .	90°	360°	Locked or unlocked position

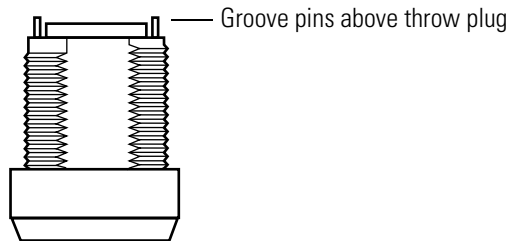


Figure 5.19 Groove pins installed for limited motion rotations

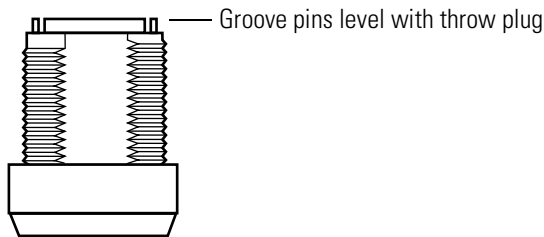
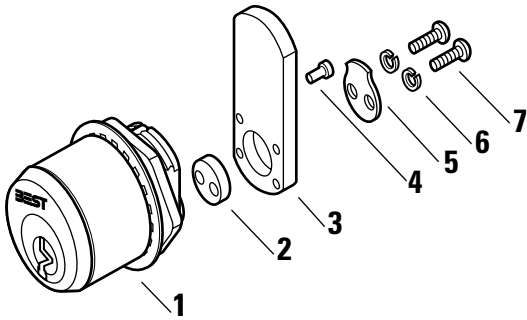


Figure 5.20 Groove pins installed for lost motion rotations

LOST MOTION C3 CAM ROTATION

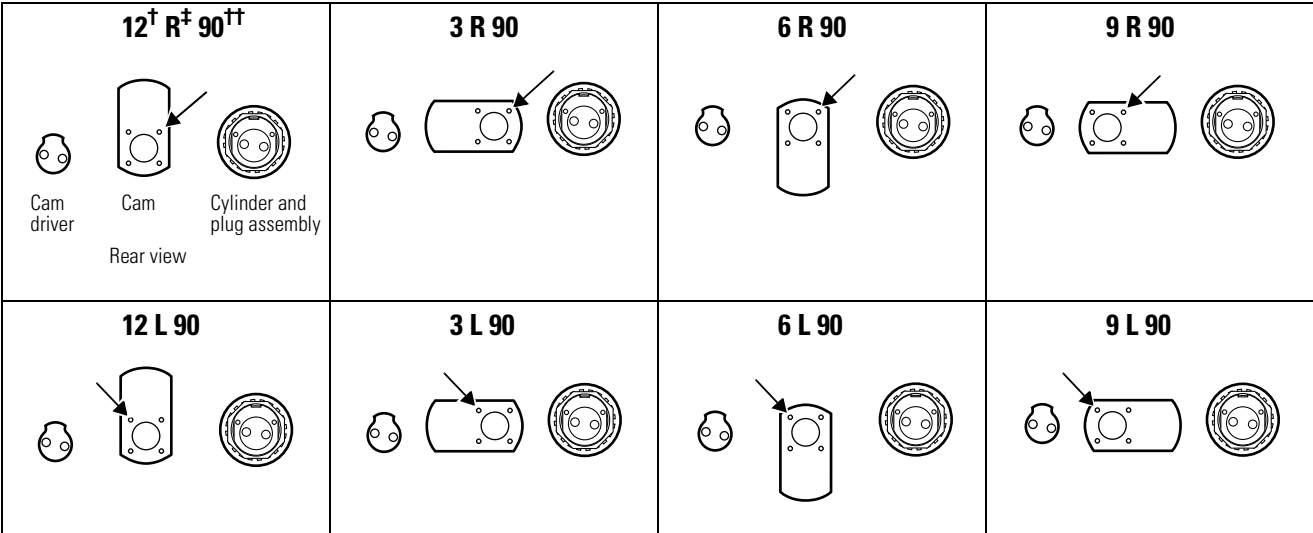


Item	Part No.	Qty.	Description
1	C10861	1	Cylinder and plug assembly [†]
2	A21150	1	Throw plug
3	A21124	1	Cam
4	A21099	1	Drive pin
5	A21151	1	Cam driver
6	A14045	2	Washer
7	A04845	2	Screw

[†] Shown with cylinder ring, washer, and nut.

Figure 5.21 5E Series lost motion C3 cam rotation

The C3 cam is a straight cam mounted for lost motion operation. The diagrams below show rotation assemblies for the C3 cam. The arrow in each diagram indicates where the drive pin should be inserted into the cam. When assembling the cylinder, orient the cam driver and cam in the position shown.

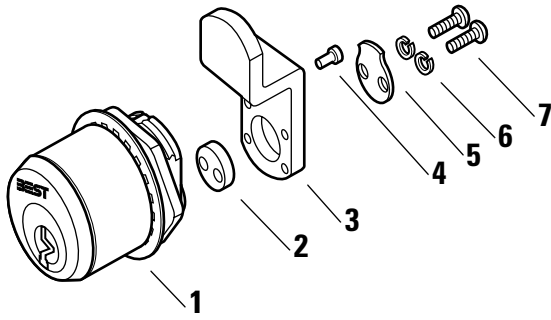


[†] Indicates the locked cam mounting position as seen from the front of the cylinder (for example, 12 = 12 o'clock position).

[‡] Indicates the direction of cam rotation as seen from the front of the cylinder (L = left, R = right).

^{††} Indicates the degree of cam rotation (90 = 90°, 180 = 180°).

LOST MOTION C4A CAM ROTATION

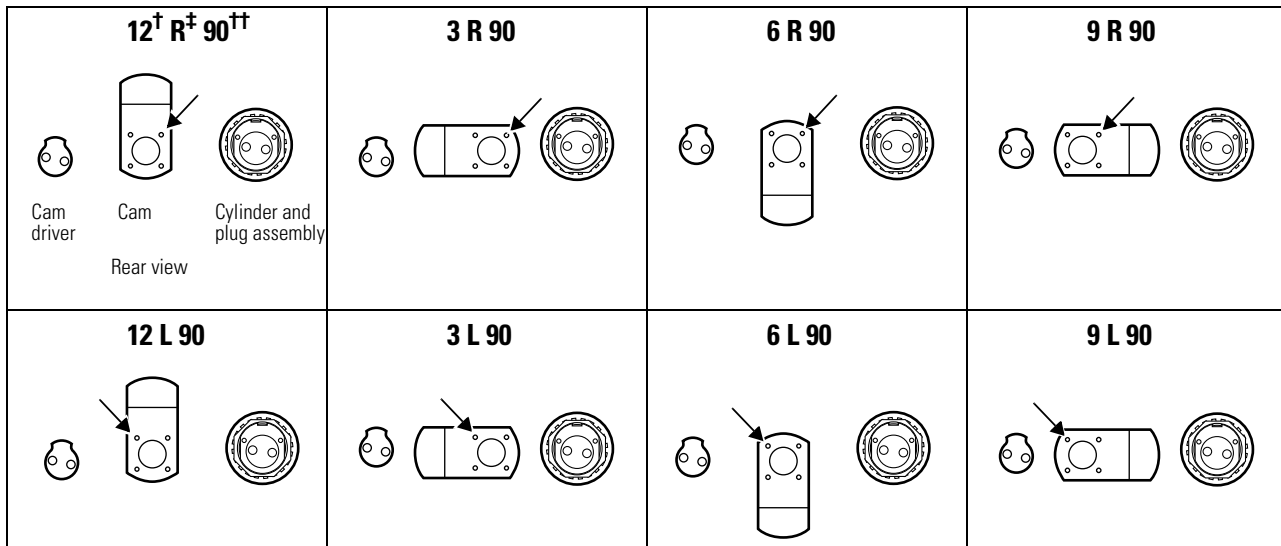


Item	Part No.	Qty.	Description
1	C10861	1	Cylinder and plug assembly†
2	A21150	1	Plug throw
3	A13909	1	Cam
4	A21099	1	Drive pin
5	A21151	1	Cam driver
6	A14045	2	Washer
7	A04845	2	Screw

† Shown with cylinder ring, washer, and nut.

Figure 5.22 5E Series lost motion 4A cam rotation

The 4A cam is an offset cam (inward mount) for lost motion operation. The diagrams below show rotation assemblies for the 4A cam. The arrow in each diagram indicates where the drive pin should be inserted into the cam. When assembling the cylinder, orient the cam driver and cam in the position shown.

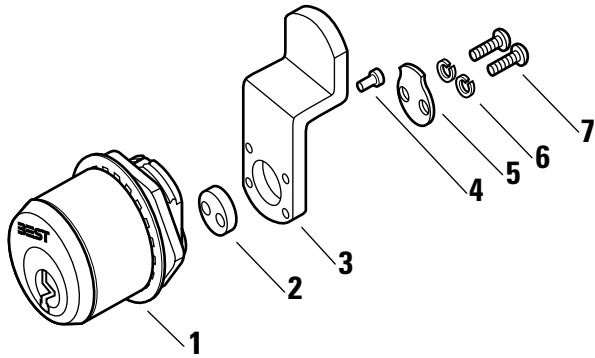


† Indicates the locked cam mounting position as seen from the front of the cylinder (for example, 12 = 12 o'clock position).

‡ Indicates the direction of cam rotation as seen from the front of the cylinder (L = left, R = right).

†† Indicates the degree of cam rotation (90 = 90°, 180 = 180°).

LOST MOTION C4B CAM ROTATION

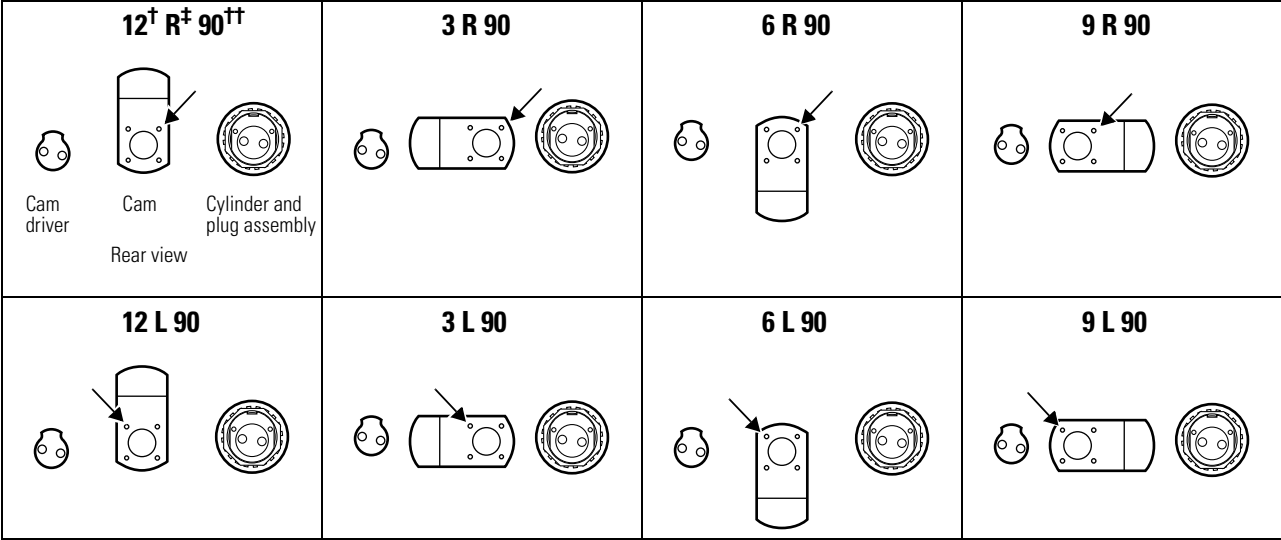


Item	Part No.	Qty.	Description
1	C10861	1	Cylinder and plug assembly [†]
2	A21150	1	Plug throw
3	A21125	1	Cam
4	A21099	1	Drive pin
5	A21151	1	Cam driver
6	A14045	2	#4 lock washer
7	A04845	2	Screw

[†] Shown with cylinder ring, washer, and nut.

Figure 5.23 5E Series lost motion 4B cam rotation

The 4B cam is an offset cam (outward mount) for lost motion operation. The diagrams below show rotation assemblies for the 4B cam. The arrow in each diagram indicates where the drive pin should be inserted into the cam. When assembling the cylinder, orient the cam driver and cam in the position shown.

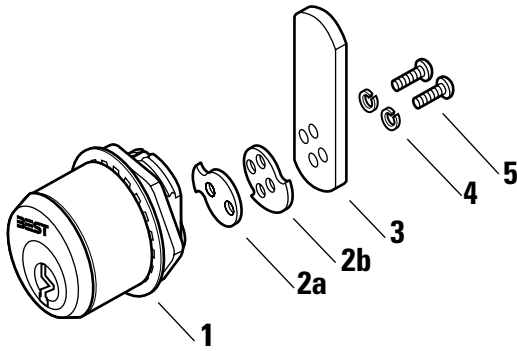


[†] Indicates the locked cam mounting position as seen from the front of the cylinder (for example, 12 = 12 o'clock position).

[‡] Indicates the direction of cam rotation as seen from the front of the cylinder (L = left, R = right).

^{††} Indicates the degree of cam rotation (90 = 90°, 180 = 180°).

LIMITED MOTION C1 CAM ROTATION



Item	Part No.	Qty.	Description
1	C10861	1	Cylinder and plug assembly [†]
2a	A21302	1	180° rotation stop plate
2b	A14065	1	90° rotation stop plate
3	A10281	1	Cam
4	A09930	2	Washer
5	A09929	2	Screw

[†] Shown with cylinder ring, washer, and nut.

Figure 5.24 5E Series limited motion C1 cam rotation

The C1 cam is a straight cam mounted for fixed motion operation. The diagrams below show rotation assemblies for the C1 cam. Use the diagrams below to determine the orientation of the stop plate and cam.

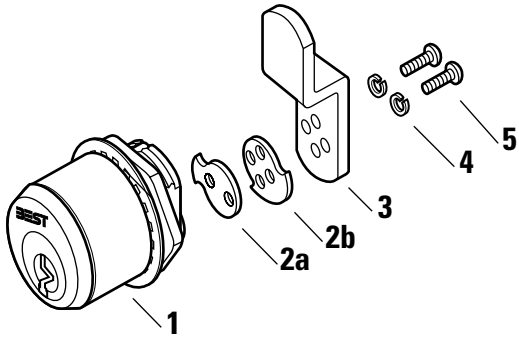
<p>12[†] R[‡] 90^{††}</p> <p>Stop plate Cam Rear view Cylinder and plug assembly</p>	<p>3 R 90</p>	<p>6 R 90</p>	<p>9 R 90</p>
<p>12 R 180</p> <p>Stop plate</p>	<p>3 R 180</p>	<p>6 R 180</p>	<p>9 R 180</p>
<p>12 L 90</p>	<p>3 L 90</p>	<p>6 L 90</p>	<p>9 L 90</p>
<p>12 L 180</p>	<p>3 L 180</p>	<p>6 L 180</p>	<p>9 L 180</p>

[†] Indicates the locked cam mounting position as seen from the front of the cylinder (for example, 12 = 12 o'clock position).

[‡] Indicates the direction of cam rotation as seen from the front of the cylinder (L = left, R = right).

^{††} Indicates the degree of cam rotation (90 = 90°, 180 = 180°).

LIMITED MOTION C2A CAM ROTATION



Item	Part No.	Qty.	Description
1	C10861	1	Cylinder and plug assembly†
2a	A21302	1	180° rotation stop plate
2b	A14065	1	90° rotation stop plate
3	A14050	1	Cam
4	A09930	2	Washer
5	A09929	2	Screw

† Shown with cylinder ring, washer, and nut.

Figure 5.25 5E Series limited motion C2A cam rotation

The C2A cam is an offset cam (inward mount) for fixed motion operation. The diagrams below show rotation assemblies for the 2A cam. Use the diagrams below to determine the orientation of the stop plate and cam.

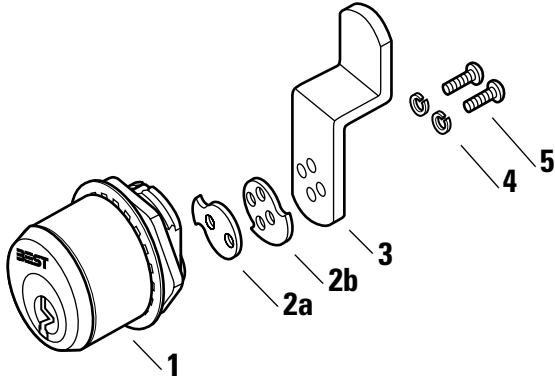
<p>12† R‡ 90††</p> <p>Stop plate Cam Cylinder and plug assembly Rear view</p>	<p>3 R 90</p>	<p>6 R 90</p>	<p>9 R 90</p>
<p>12 R 180</p> <p>Stop plate</p>	<p>3 R 180</p>	<p>6 R 180</p>	<p>9 R 180</p>
<p>12 L 90</p>	<p>3 L 90</p>	<p>6 L 90</p>	<p>9 L 90</p>
<p>12 L 180</p>	<p>3 L 180</p>	<p>6 L 180</p>	<p>9 L 180</p>

† Indicates the locked cam mounting position as seen from the front of the cylinder (for example, 12 = 12 o'clock position).

‡ Indicates the direction of cam rotation as seen from the front of the cylinder (L = left, R = right).

†† Indicates the degree of cam rotation (90 = 90°, 180 = 180°).

LIMITED MOTION C2B CAM ROTATION



Item	Part No.	Qty.	Description
1	C10861	1	Cylinder and plug assembly [†]
2a	A21302	1	180° rotation stop plate
2b	A14065	1	90° rotation stop plate
3	A14051	1	Cam
4	A09930	2	Washer
5	A09929	2	Screw

[†] Shown with cylinder ring, washer, and nut.

Figure 5.26 5E Series limited motion C2B cam rotation

The C2B cam is an offset cam (outward mount) for fixed motion operation. The diagrams below show rotation assemblies for the 2B cam. Use the diagrams below to determine the orientation of the stop plate and cam.

<p>12[†] R[‡] 90^{††}</p> <p>Stop plate Cam Rear view Cylinder and plug assembly</p>	<p>3 R 90</p>	<p>6 R 90</p>	<p>9 R 90</p>
<p>12 R 180</p> <p>Stop plate</p>	<p>3 R 180</p>	<p>6 R 180</p>	<p>9 R 180</p>
<p>12 L 90</p>	<p>3 L 90</p>	<p>6 L 90</p>	<p>9 L 90</p>
<p>12 L 180</p>	<p>3 L 180</p>	<p>6 L 180</p>	<p>9 L 180</p>

[†] Indicates the locked cam mounting position as seen from the front of the cylinder (for example, 12 = 12 o'clock position).

[‡] Indicates the direction of cam rotation as seen from the front of the cylinder (L = left, R = right).

^{††} Indicates the degree of cam rotation (90 = 90°, 180 = 180°).

TROUBLESHOOTING

The table summarizes the possible causes for certain cylinder problems. The causes of failure are listed in the order of likelihood. (The most like cause is first, and so forth.)

For problems with the core and key, such as difficulty removing or inserting the key or difficulty turning the key, see the *Core and Key Service Manual* [T35527].

For problems with the BEST mortise lock case, see the *H Series Service Manual* [T61964].

You notice...	Possible causes include...	You should...
Cannot remove the core from the cylinder.	Set screw is installed with the slotted head toward the outside of the cylinder, securing the core in the cylinder.	<p>Remove the mortise case faceplate (pg. 5-2). Using a narrow-bladed screwdriver, loosen the set screw so that the core can be removed from the cylinder.</p> <p>Note: To use the set screw to secure the cylinder to the mortise case, reverse the position of the set screw in the cylinder (pg. 5-4).</p>
Cannot insert the core into the cylinder.	<ul style="list-style-type: none"> a. Set screw is installed too far down in the cylinder. b. Throw pins are not horizontally aligned. c. A 7-pin core is being inserted into a 7-pin cylinder that has a 6-pin spacer installed. 	<ul style="list-style-type: none"> a. Remove the mortise case faceplate (pg. 5-2) and use a screwdriver to adjust the position of the set screw (pg. 5-4). b. Adjust the two throw pins so they are aligned with the two core holes. c. Remove the spacer from the cylinder.
Cannot turn key easily in the core.	<ul style="list-style-type: none"> a. Cam is riveted too tightly onto the cylinder. b. Cylinder ring is too deep or too shallow for the cylinder being used. c. Wrong cam is being used for the lock application. 	<ul style="list-style-type: none"> a. Place the cylinder on the cam assembly tool and strike the cam once or twice with a ballpeen hammer to loosen it. Repeat if necessary. b. Replace the old ring with a ring of appropriate size. c. Replace the old cam with the cam appropriate for the lock application.

A

E SERIES CAMS TABLE

The following table lists E Series cams according to their part numbers.

Note: Cylinders 2 inches or longer require a thumbturn cam.

E SERIES CAMS

Part no.	Cam	Series	Description
A00117	C101	1E	Straight
A00490	C102	1E	Two-point
A00533	C103	1E	Straight
A00683	C110	1E	Straight
A00921	C114	1E	Two-point
A00967	C115	1E	Straight
A00995	C118	1E, 3E	Cloverleaf
A01172	C121	1E	Straight
A01225	C123	1E	Straight
A01231	C124	1E	Straight
A01247	C127	1E, 3E	Straight
A01248	C128	1E	Straight
A01249	C129	1E	Straight
A01400	C130	1E	Straight
A01401	C131	1E	Straight
A01414	C134	1E	Straight
A01416	C136	1E, 3E	Straight
A01417	C137	1E	Straight
A01449	C140	1E	Thumbturn
A01475	C142	1E	Roller
A01487	C143	1E	Straight
A01707	C148	1E	Straight
A01799	C152	1E	Straight
A02532	C253	1E	Cabinet
A02534	C235	1E	Cabinet
A02770	C161	1E, 3E	Cloverleaf
A04284	C221	1E	Roller
A04387	C162	1E	Straight
A04399	C165	1E	Straight
A04445	C169	1E	Straight

Part no.	Cam	Series	Description
A04492	C171	1E	Straight
A04533	NA	1E, 3E	Roller
A04607	NA	1E	Cabinet
A04737	C254	1E	Cloverleaf
A05397	C177	1E	Straight
A05466	C178	1E	Straight
A05979	C181	1E	Straight
A05989	C182	1E	Straight
A06060	C185	1E	Straight
A06190	C186	1E	Straight
A06246	C187	1E	Straight
A06419	C191	1E	Straight
A06421	C238	1E	Cabinet
A07190	C193	1E	Straight
A07212	C239	1E	Straight
A07221	C240	1E	Roller
A07543	C199	1E	Cabinet
A07605	C200	1E	Straight
A07747	C203	1E	Straight
A07880	C204	1E	Cloverleaf
A07990	C229	1E	Cabinet
A08095	C224	1E	Cabinet
A08778	C228	1E	Cabinet
A08854	NA	1E	Cabinet
A09225	C241	1E	Cabinet
A09229	C223	1E	Straight
A09230	C243	1E	Cloverleaf
A09359	C233	1E	Straight
A09419	C245	5E	Cabinet
A09881	C246	1E	Cabinet
A10281	NA	5E	Cabinet
A10500	C401	1E	Thumbturn

E Series Cams Table

Part no.	Cam	Series	Description
A10501	C402	1E	Thumbturn
A10502	C403	1E	Thumbturn
A10503	C404	1E	Thumbturn
A10504	C405	1E	Thumbturn
A10505	C406	1E	Thumbturn
A10506	C407	1E	Thumbturn
A10507	C408	1E	Thumbturn
A10508	C409	1E	Thumbturn
A10509	C410	1E	Thumbturn
A10510	C411	1E	Thumbturn
A10511	C412	1E	Thumbturn
A10512	C413	1E	Thumbturn
A10513	C414	1E	Thumbturn
A10514	C415	1E	Thumbturn
A10515	C416	1E	Thumbturn
A10516	C417	1E	Thumbturn
A10517	C418	1E	Thumbturn
A10518	C419	1E	Thumbturn
A10519	C420	1E	Thumbturn
A10520	C421	1E	Thumbturn
A10521	C422	1E	Thumbturn
A10522	C423	1E	Thumbturn
A10523	C424	1E	Thumbturn
A10524	C425	1E	Thumbturn
A10525	C426	1E	Thumbturn
A10526	C427	1E	Thumbturn
A10527	C428	1E	Thumbturn
A10528	C429	1E	Thumbturn
A10529	C430	1E	Thumbturn
A10530	C431	1E	Thumbturn
A10531	C432	1E	Thumbturn
A10532	C433	1E	Thumbturn

Part no.	Cam	Series	Description
A10533	C434	1E	Thumbturn
A10534	C435	1E	Thumbturn
A10535	C436	1E	Thumbturn
A10536	C437	1E	Thumbturn
A10537	C438	1E	Thumbturn
A10538	C439	1E	Thumbturn
A10539	C440	1E	Thumbturn
A10540	C441	1E	Thumbturn
A10541	C442	1E	Thumbturn
A10542	C443	1E	Thumbturn
A10543	C444	1E	Thumbturn
A10544	C445	1E	Thumbturn
A10545	C446	1E	Thumbturn
A10546	C447	1E	Thumbturn
A10547	C448	1E	Thumbturn
A10548	C449	1E	Thumbturn
A10549	C450	1E	Thumbturn
A13909	C4A	5E	Cabinet
A14050	C2A	5E	Cabinet
A14051	C2B	5E	Cabinet
A14154	NA	1E	Cabinet
A14333	C220	1E	Straight
A14472	C210	1E, 3E	Straight
A14520	C208	1E, 3E	Straight
A14521	C209	1E	Straight
A15981	C211	1E	Straight
A17744	C226	1E	Straight
A19851	C247	1E	Straight
A20010	C248	1E	Cabinet
A20023	C249	1E	Cabinet
A20069	C250	1E	Cabinet
A20128	C227	1E	Roller

E Series Cams Table

Part no.	Cam	Series	Description
A20332	C251	1E	Roller
A20421	C225	1E	Cabinet
A20474	C252	1E	Straight
A20877	C222	1E	Cloverleaf
A20931	C231	1E	Straight
A20942	C242	1E	Straight
A21124	C3	5E	Cabinet
A21125	4B	5E	Cabinet
A21198	NA	5E	Cabinet
A23770	C256	1E	Cloverleaf
A26344	NA	5E	Cabinet
A40088	C234	1E	Straight
A40091	C4	1E, 3E	Straight
A40092	C3	3E	Straight
A63060	C500	1E	Cabinet
A63061	C501	1E	Cabinet
A63062	C502	1E	Cabinet
A63063	C503	1E	Cabinet
A63064	C504	1E	Cabinet
A63065	C505	1E	Cabinet
A63066	C506	1E	Cabinet
A63067	C507	1E	Cabinet
A63068	C508	1E	Cabinet
A63069	C509	1E	Cabinet
B04796	C173	1E	Straight
B05467	C179	1E	Straight
B34077	C258	1E	Cloverleaf
B34562	C281	1E	Cloverleaf
B39256	C265	1E	Cloverleaf

B

THUMBTURN CAM CONVERSION TABLE

The following pages list standard cams with part numbers and their equivalent counter-sunk thumbturn cams with part numbers.

Note: Cylinders 2 inches or longer require a thumbturn cam.

THUMBTURN CAM CONVERSION TABLE

The following table lists standard cams with part numbers and their equivalent counter-sunk thumbturn cams with part numbers. [Figure 2.1](#) shows a standard cam and its equivalent thumbturn cam.

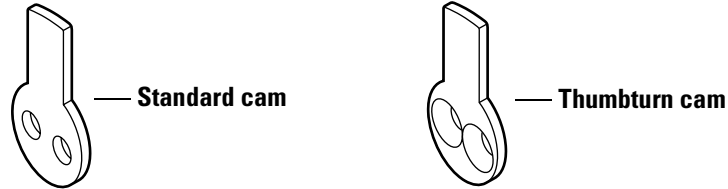


Figure 2.1 C4 standard cam and equivalent C140 thumbturn cam

Standard		Thumbturn	
Cam	Part no.	Cam	Part no.
C4	A40091	C140	A01449
C101	A00117	C425	A10524
C103	A00533	C447	A10546
C115	A00967	C444	A10543
C118	A00995	C401	A10500
C121	A01172	C402	A10501
C123	A01225	C443	A10542
C127	A01247	C403	A10502
C128	A01248	C404	A10503
C129	A01249	C405	A10504
C134	A01414	C406	A10505
C136	A01416	C432	A10531
C137	A01417	C442	A10541
C142	A01513	C426	A10525
C143	A01487	C407	A10506
C151	A01798	C434	A10533
C161	A02770	C408	A10507
C162	A04387	C409	A10508
C164	A04398	C430	A10529
C165	A04399	C424	A10523
C169	A04445	C410	A10509

Standard		Thumbturn	
Cam	Part no.	Cam	Part no.
C171	A04492	C423	A10522
C173	B04796	C411	A10510
C178	A05466	C433	A10532
C179	B05467	C412	A10511
C181	A05979	C413	A10512
C186	A06190	C414	A10513
C191	A06419	C428	A10527
C193	A07190	C429	A10528
C200	A07605	C436	A10535
C201	A07698	C445	A10544
C203	A07747	C441	A10540
C208	A14520	C417	A10516
C209	A14521	C418	A10517
C210	A14472	C416	A10515
C211	A15981	C419	A10518
C222	A17744	C420	A10519
C226	A17744	C422	A10521
C231	A20931	C421	A10520
C241	A09229	C415	A10514
C244	A20511	C446	A10545
C258	B34077	C427	A10526
C265	B39256	C431	A10530
C273	A24039	C437	A10536
C277	A34312	C439	A10538
C278	A34313	C438	A10537
C279	A20701	C440	A10539
C281	B34562	C448	A10547
NA	A09404	C435	A10534
NA	A20010	C449	A10548
NA	A23770	C450	A10549

Thumbturn Cam Conversion Table

C

GLOSSARY

Cam	Part of the cylinder that rotates to actuate the deadbolt or latchbolt as the key is turned. The cam may also act as the bolt in a utility cam lock.
Cam assembly tool	Tool used for assembling the cam to the mortise cylinder.
Clamp plate	Metal plate on the inside of a door used to secure a rim lock cylinder to the door by means of clamp screws. The spindle of the cylinder extends through a hole in the clamp plate.
Core	Interchangeable figure-8 device that can be installed in a lock or door and operated by a key.
Cylinder	Subassembly of a lock containing a plug with keyway and a body with tumbled mechanism. Cylinders may have either a cam (See <i>Mortise cylinder</i>) or a spindle (see <i>Rim cylinder</i>) as the actuator.
Cylinder die	Tool for rethreading a 1 5/32" diameter cylinder.
Cylinder lock	Lock in which the locking mechanism is controlled by a cylinder. A double-cylinder lock has a cylinder on both the inside and outside of the door.
Cylinder ring	Metal ring, surrounding the exposed portion of a lock cylinder, which protects the cylinder from being wrenched, turned, pried, cut, or pulled with attack tools. The cylinder ring also adapts the cylinder to the door thickness.
Cylinder tap	Tool for rethreading lock case threads.
Cylinder wrench	Tool for installing, removing, and testing cylinders.

Dummy cylinder	Nonfunctional cylinder without an operating mechanism used for appearance only. Dummy cylinders are available for mortise and rim locks.
Faceplate	Part of the mortise lock that serves as a facing or covering over the front of the lock.
Hand-of-door	Opening direction of the door. A right-hand door (RH) is called “right-hand” because it is opened with the right hand. A right-hand door is hinged on the right and swings inward when viewed from the outside. A left-handed door (LH) is hinged on the left and swings inward when viewed from the outside. If a door swings outward, it is referred to as a right hand reverse bevel door (RHRB) or a left-hand reverse bevel door (LHRB).
Latchbolt	Beveled, spring-actuated, bolt which may or may not include a deadlocking feature. The latchbolt must be actuated by a key, knob, or turn knob.
Lock	Device that secures openings and entrances such as doors, gates, cabinets, and so forth. Locks include mechanical, electromechanical, and electronic security devices.
Mortise	Rectangular cavity cut into the edge of a door. Mortise also can mean the act of making such a cavity.
Mortise cylinder	Threaded lock cylinder that screws directly into the lock case; usually includes a key-driven rotating cam, attached to the back of the cylinder, which drives the locking mechanism. The cylinder houses the BEST interchangeable core.
Mortise lock	Lock that fits into a mortise. Other locks fit into bored holes or mount to a surface.
Rim cylinder	Lock cylinder that is secured to a door with a clamp plate and clamp screws. The rim cylinder’s spindle actuates the bolt or latch. The cylinder houses the BEST interchangeable core.
Shifting cam	Spring-loaded cam that shifts back to actuate another mechanism.
Spindle	Unit on a rim cylinder lock, which actuates the bolt or latch when the key is turned.
Throw member	Connecting piece between core and lock mechanism that transfers key motion to the locking device.
Thumbturn	Part that someone grips between the thumb and forefinger, and turns to project or retract a bolt.

D

INSTALLATION INSTRUCTIONS

The following pages contain *Installation Instructions for 1E Mortise Cylinders* and *Installation Instructions for 1E Rim Cylinders*.



Installation Instructions for 1E Mortise Cylinders

Use these instructions to install a BEST 1E mortise cylinder in either a BEST mortise lock or another manufacturer's mortise lock.

Caution: Other lock manufacturers may make changes to their product that affect the operation or compatibility of the BEST cylinder. When this occurs, they are not obligated to notify us.

If you are using a BEST cylinder in another manufacturer's lock and find that it does not operate properly, please contact your local BEST representative.

1 Install cylinder set screw

- 1 From the outside of the cylinder, thread the set screw, slotted head first, as shown in Figure 1.
- 2 With a narrow screwdriver, insert the blade through the figure-8 hole and back the set screw in until the tip of the screw is below the threads of the cylinder.

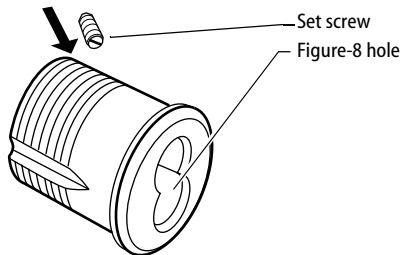


Figure 1 Threading the set screw into the cylinder

2 Install cylinder

- 1 Loosen the cylinder clamp screw in the front edge of the mortise lock and remove the old cylinder. See Figure 2.
- 2 Note the length "L" of the old cylinder. See Figure 3. If the BEST cylinder is longer, select a cylinder ring that will provide the correct length.

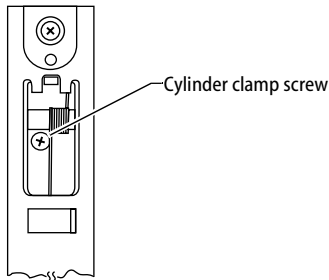


Figure 2 Loosening the cylinder clamp screw

- 3 Turn the cam to the 12 o'clock position as shown in Figure 3.
- 4 With a BEST cylinder wrench, screw the cylinder into the mortise case so that the figure-8 hole stops in the 12 o'clock position and the set screw is to the right.

Caution: Do not screw the cylinder in too tightly. Doing so may cause you or someone else to be locked out.

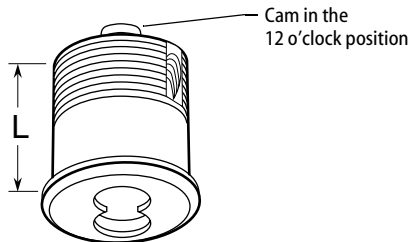


Figure 3 Turning the cam to the 12 o'clock position

- 5 Tighten the set screw into the mortise case. This prevents a thief from removing the cylinder and figure-8 core.
- 6 Tighten the cylinder clamp screw as shown in Figure 2.

3 Install core

- 1 Put the control key into the core and turn the key 15 degrees clockwise.
- 2 Adjust the throw pins if needed, then put the core into the cylinder with the control key.
- 3 Turn the key 15 degrees counterclockwise and remove the key.



Installation Instructions for 1E Rim Cylinders

Use these instructions to install a BEST 1E rim cylinder in rim lock applications.

Only if you are replacing a cylinder:

- 1 Remove the lock case (examples of lock cases include rim locks and panic devices) from the inside of the door and remove the cylinder.
- 2 Measure and make note of the length of the old ring, spindle, and screws. See Figure 1.

1 Prepare cylinder

Perform the following steps by either: (a) comparing the new BEST rings, spindle, and screws to the existing ring, spindle, and screws, or (b) trying and measuring the new BEST cylinder in the door with the lock case.

- 1 Select the cylinder ring that will position the cylinder to the correct length.
- 2 Break off the spindle at the point that will position it to the correct length.

- 3 Break off the screws so that the clamp plate and cylinder will tighten onto the door.

2 Install cylinder

- 1 Insert the BEST cylinder from the outside of the door and secure it in place with the clamp plate. See Figure 1.

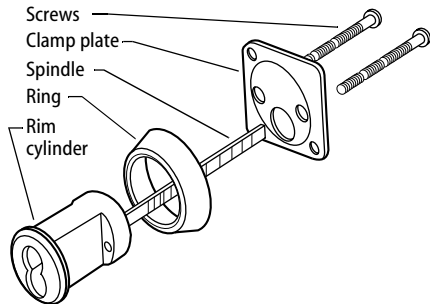


Figure 1 Securing the rim cylinder

Note: Make sure that the cylinder stays in the upright, centered position and that the spindle stays in the spindle hole in the lock case.

- 2 Reinstall the lock case.
- 3 Check the installation by inserting the key and turning. The key will operate the bolt freely if the cylinder and case are in proper alignment.

3 Install core

- 1 Put the control key into the core and turn the key 15 degrees clockwise. See Figure 2.

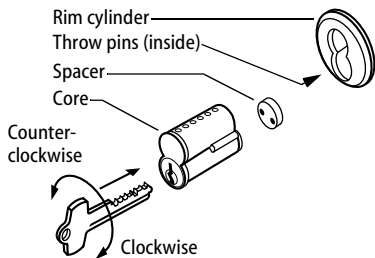


Figure 2 Installing the spacer (six-pin cores only) and core

- 2 When installing a six-pin core, slide the spacer onto the throw pins.
- 3 Adjust the throw pins if needed, then put the core into the cylinder with the control key.
- 4 Turn the key 15 degrees counterclockwise and remove the key.

E

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B SERIES

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *B Series Padlock Service Manual* contains essential information to help you assemble, install, and maintain your BEST padlocks. BEST recommends that your lock maintenance personnel be thoroughly familiar with the contents of this manual.

CERTIFICATIONS AND STANDARDS

All of the padlocks comply with ASTM F883 Grade 6 standards for option E.

11B Padlock

- The steel shackle complies with ASTM F883 Grade 1 standards.

21B, 41B Padlocks

- The steel shackle complies with ASTM F883 Grade 4 standards.
- The 21B XSPL shackle complies with ASTM F883 Grade 6 standards for shackle cutting force.

TECHNICAL SUPPORT

Support services When you have a question about a B Series Padlock, your first resource for help is the *B Series Padlock Service Manual*. If you cannot find a satisfactory answer, contact your local BEST representative.

Telephone technical support A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure you are where the padlock is, and that you are prepared to give the following information:

- what happened and what you were doing when the question arose
- what you have done so far to answer the question.

Best Access Systems Representatives provide telephone technical support for all B Series products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.bestaccess.com.

2

COMPONENT REPLACEMENT

The following pages contain exploded diagrams and parts lists for all B Series Padlocks. The diagrams include all field serviceable parts. Use the diagrams and parts lists to find the part numbers that you need. For more information about ordering parts, see your B Series Catalog. This chapter also contains function conversion information, instructions for disassembling and assembling the padlocks, and instructions for lubricating the padlocks.

11B EXPLODED DIAGRAM

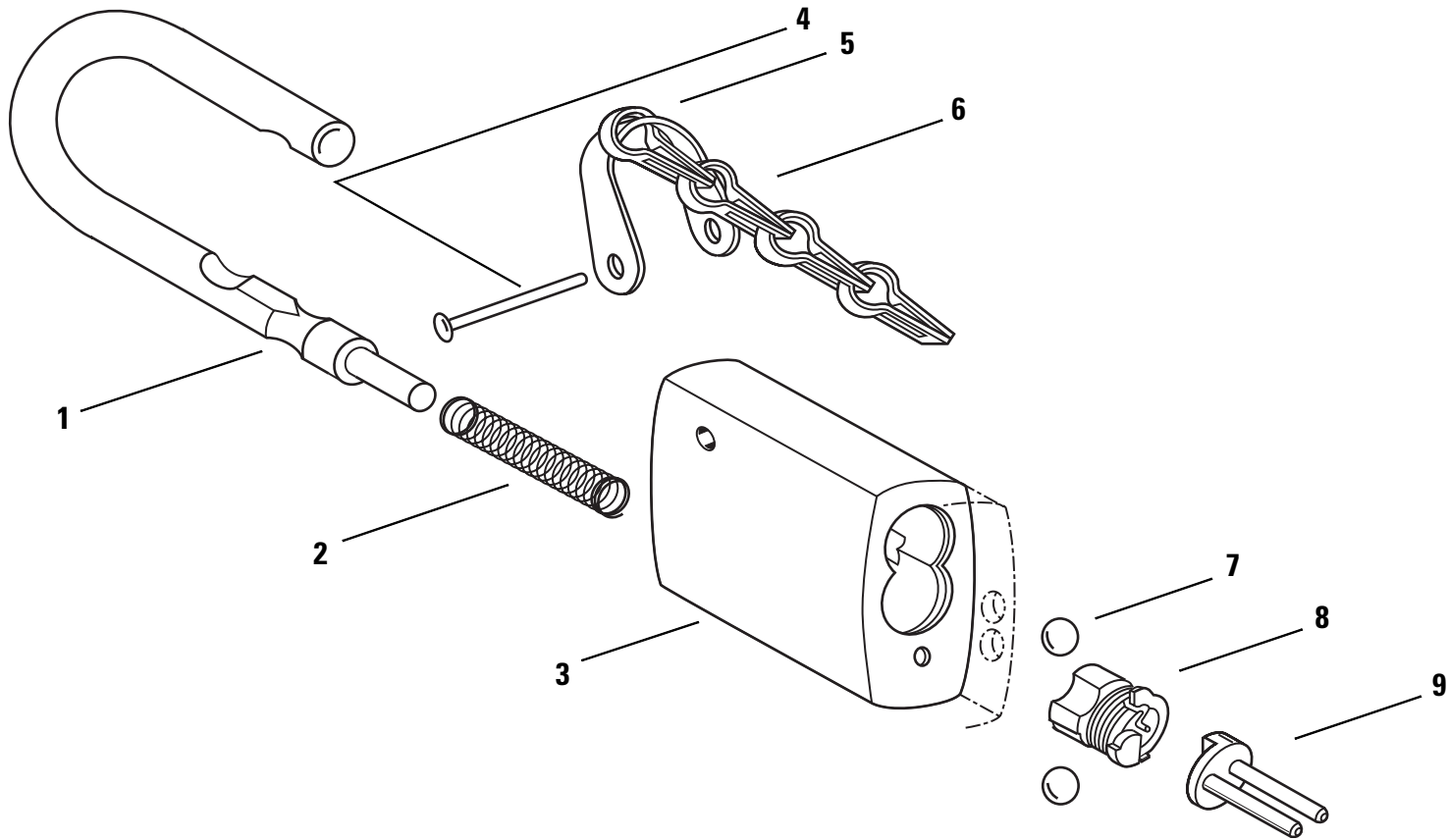


Figure 2.1 11B exploded diagram

11B parts list Refer to [Figure 2.1](#) and the table below to find the part that you need.

Item	Part No.	Qty.	Description
1	C26195	1	Stainless steel shackle for 3/4" opening*
not shown	C26197	1	Stainless steel shackle for 1 1/2" opening
not shown	C26199	1	Stainless steel shackle for 2" opening
not shown	C26203	1	Stainless steel shackle for 4" opening
not shown	C26194	1	Bronze shackle for 3/4" opening
not shown	C26196	1	Bronze shackle for 1 1/2" opening
not shown	C26198	1	Bronze shackle for 2" opening
not shown	C26202	1	Bronze shackle for 4" opening
not shown	C26250	1	Frangible shackle for 1 1/2" opening
not shown	C26249	1	Frangible shackle for 4" opening
2	A26193	1	Shackle spring
3	C26179	1	Standard case
	A26265	1	Double lockout case for chain (indicated by dashed lines)
	C26175	1	Double lockout case (indicated by dashed lines)
	A26252	1	Case for chain
4	A26255	1	Clevis rivet
5	B26261	1	Clevis
6	A21417	1	M1 Chain <i>[there is no distinction between length and bulk for M1 chain like the M5 chain]</i>
not shown	A21420	1	M5 Chain - 9 inch [†]
7	A26192	2	Tumbler
8	B26187	1	Locking cam assembly
9	A26177	1	Key retained throw member
not shown	A26185	1	Non-key retained throw member
not shown	A06831	‡	Spacer (For 6-pin or 5-pin core only)
not shown	B70146	1	Colored O.S.H.A. cover**
not shown	C26517	1	Weather cover

* The length of the shackle opening is measured from the top of the case to the inside of the shackle when the padlock is locked.

† To order M5 bulk chain use part number A23121 and specify the length.

‡ One needed for 6-pin core. Two needed for 5-pin core.

** When ordering the O.S.H.A. cover, indicate color: red; yellow; blue; black; orange; or green.

21B EXPLODED DIAGRAM

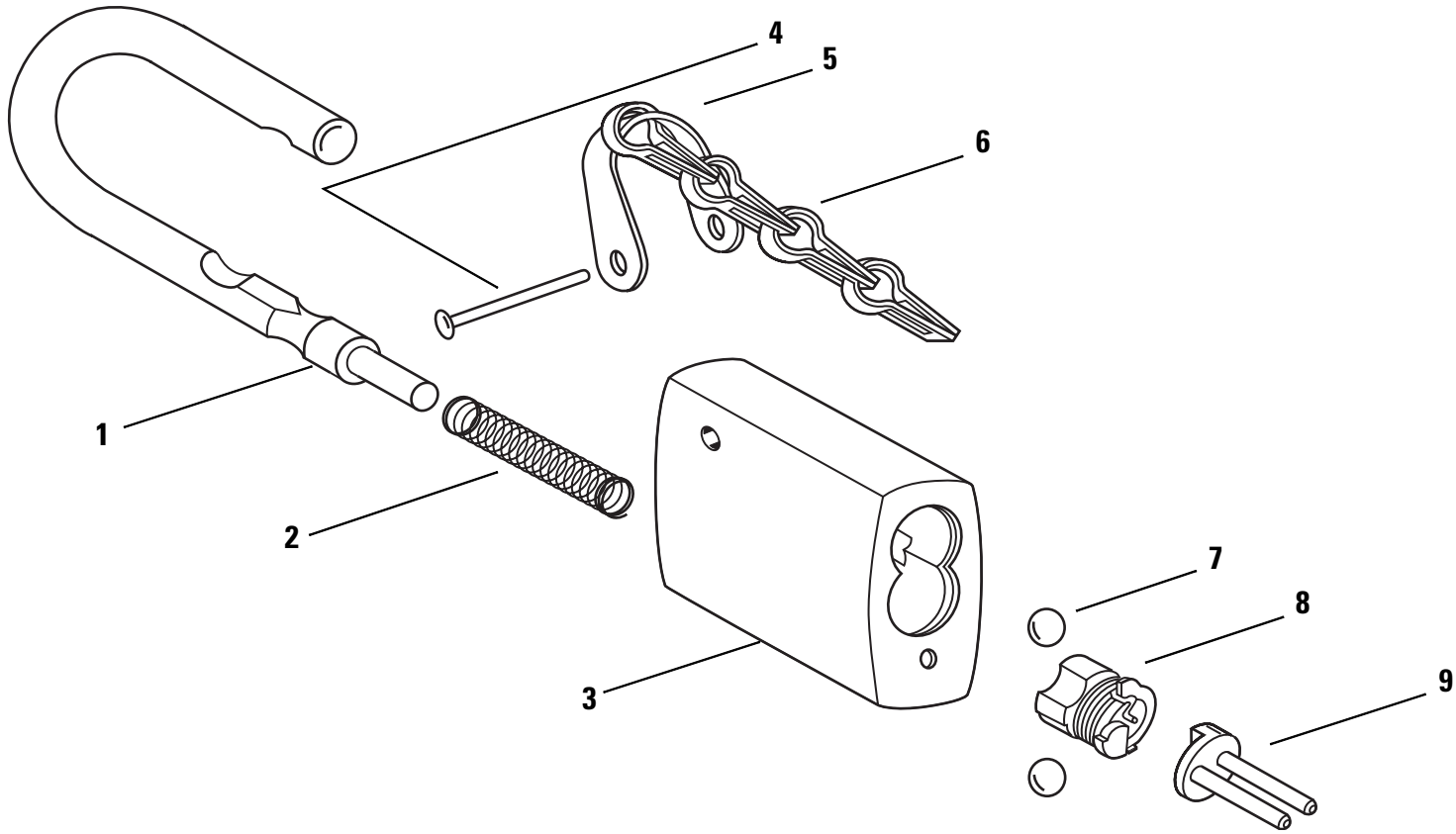


Figure 2.2 21B exploded diagram

21B parts list Refer to [Figure 2.2](#) and the table below to find the part that you need.

Item	Part No.	Qty.	Description
1	C26211	1	Stainless steel shackle for 3/4" opening*
not shown	C26213	1	Stainless steel shackle for 1 1/2" opening
not shown	C26215	1	Stainless steel shackle for 2" opening
not shown	C26219	1	Stainless steel shackle for 4" opening
not shown	C26210	1	Bronze shackle for 3/4" opening
not shown	C26212	1	Bronze shackle for 1 1/2" opening
not shown	C26214	1	Bronze shackle for 2" opening
not shown	C26218	1	Bronze shackle for 4" opening
not shown	C26540	1	Cut-resistant shackle for 3/4" opening
not shown	C26541	1	Cut-resistant shackle for 1 1/2" opening
not shown	C26542	1	Cut-resistant shackle for 2" opening
not shown	C26543	1	Cut-resistant shackle for 4" opening
2	A26193	1	Shackle spring†
3	A26253	1	Case for chain
not shown	C26180	1	Standard case
4	A26256	1	Clevis rivet
5	B26261	1	Clevis
6	A21417	1	M1 Chain
not shown	A23120	1	M5 Chain - 9 inch‡
7	A26192	2	Tumbler
8	B26187	1	Locking cam assembly
9	A26177	1	Key retained throw member
not shown	A26185	1	Non-key retained throw member
not shown	A06831	**	Spacer (For 6-pin or 5-pin core only)
not shown	B70147	1	Colored O.S.H.A. cover††
not shown	C26518	1	Weather cover
not shown	C81131	1	Shroud
not shown	B81132	1	Shroud pin

* The length of the shackle opening is measured from the top of the case to the inside of the shackle when the padlock is locked.

† Not needed for 21B shrouded.

‡ To order M5 bulk chain use part number A23121 and specify the length.

** One needed for 6-pin core. Two needed for 5-pin core.

†† When ordering the O.S.H.A. cover, indicate color: red; yellow; blue; black; orange; or green.

21B SHROUDED EXPLODED DIAGRAM

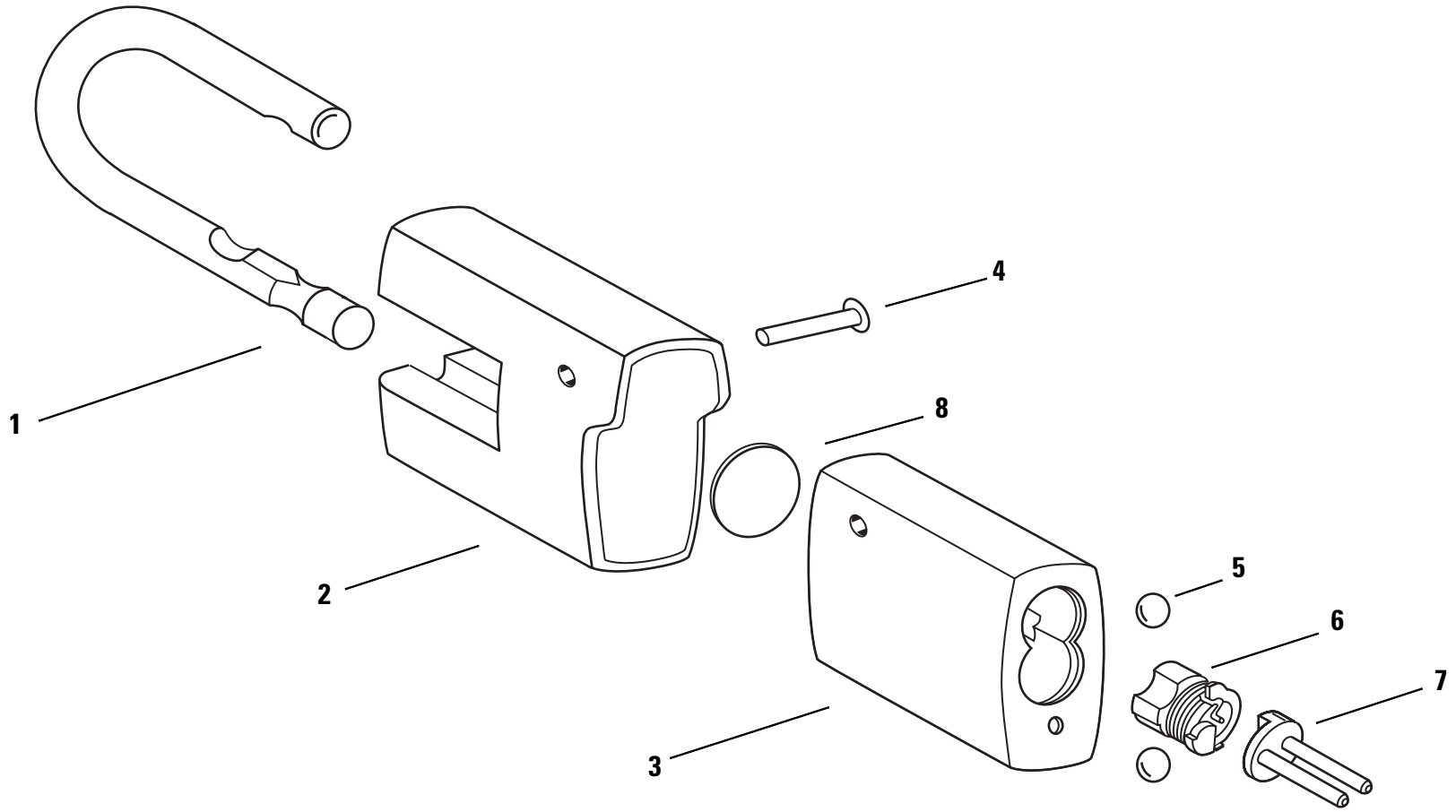


Figure 2.3 21B shrouded exploded diagram

21B shrouded parts list

Refer to [Figure 2.3](#) and the table below to find the part that you need.

Item	Part No.	Qty.	Description
1	C81133	1	Cut-resistant shackle
2	C81131	1	Shroud
3	A26268	1	Case
4	A26257	1	Clevis rivet
5	A26192	2	Tumbler
6	B26187	1	Locking cam assembly
7	A26177	1	Key retained throw member
not shown	A26185	1	Non-key retained throw member
8	A81136	1	Rubber spacer
not shown	A06831	*	Spacer (For 6-pin or 5-pin core only)

* One needed for 6-pin core. Two needed for 5-pin core.

21JB EXPLODED DIAGRAM

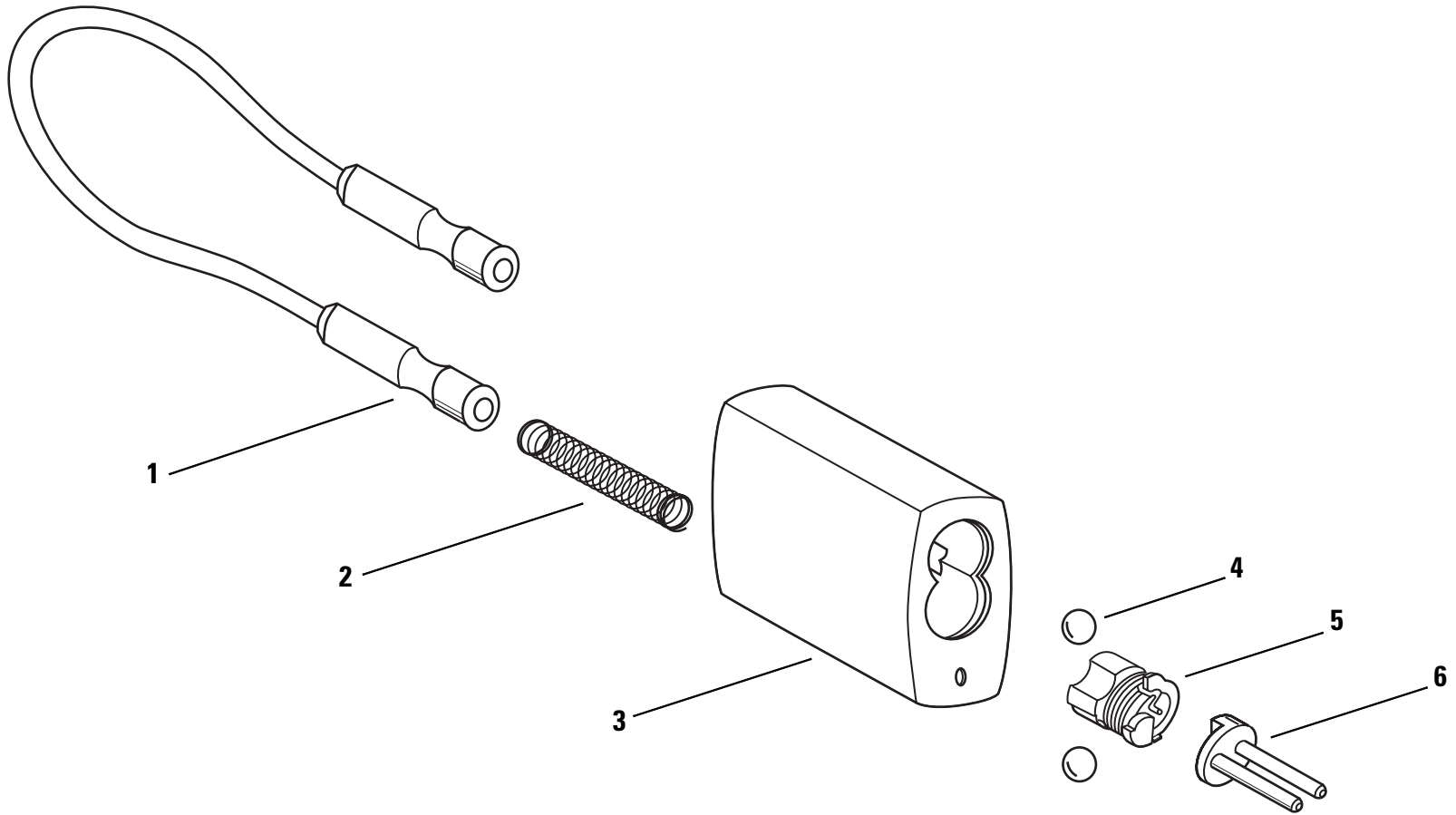


Figure 2.4 21JB exploded diagram

21JB parts list Refer to [Figure 2.4](#) and the table below to find the part that you need.

Item	Part No.	Qty.	Description
1	B26209 [*]	1	Cable assembly
2	A26193	1	Shackle spring
3	C26180	1	Standard case
4	B26289	1	Locking cam assembly
5	A26192	2	Tumbler
6	A26177	1	Key retained throw member
not shown	A06831	†	Spacer (For 6-pin or 5-pin core only)

* The cable assembly number is determined by the length of the cable ordered. When ordering, indicate number B26209 followed by a dash and the length of the cable in inches.

† One needed for 6-pin core. Two needed for 5-pin core.

41B EXPLODED DIAGRAM

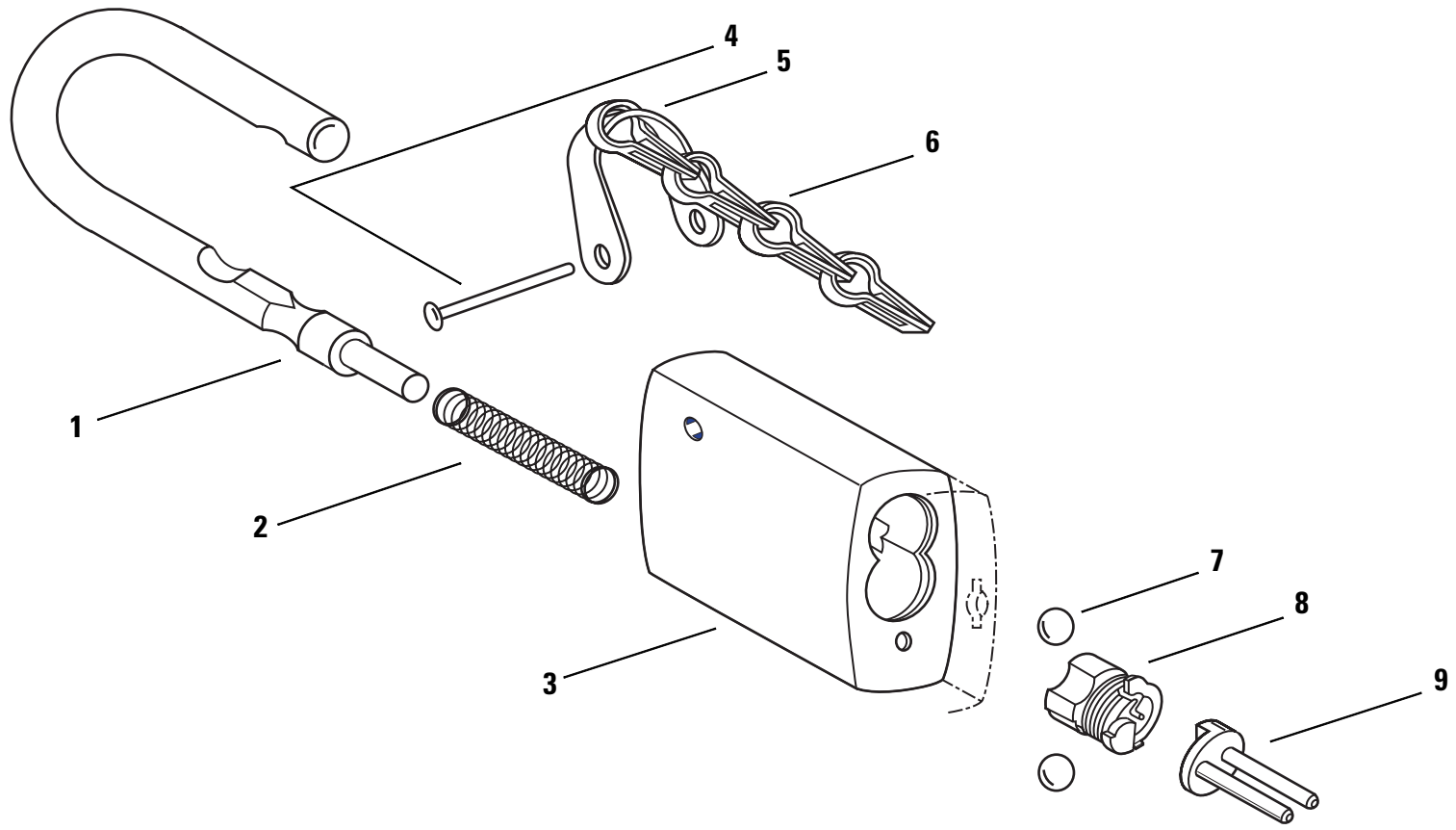


Figure 2.5 41B exploded diagram

41B parts list Refer to [Figure 2.5](#) and the table below to find the part that you need.

Item	Part No.	Qty.	Description
1	C26227	1	Stainless steel shackle for 3/4" opening*
not shown	C26229	1	Stainless steel shackle for 1 1/2" opening
not shown	C26231	1	Stainless steel shackle for 2" opening
not shown	C26235	1	Stainless steel shackle for 4" opening
not shown	C26226	1	Bronze shackle for 3/4" opening
not shown	C26228	1	Bronze shackle for 1 1/2" opening
not shown	C26230	1	Bronze shackle for 2" opening
not shown	C26234	1	Bronze shackle for 4" opening
not shown	C26544	1	Cut-resistant shackle for 3/4" opening
not shown	C26545	1	Cut-resistant shackle for 1 1/2" opening
not shown	C26546	1	Cut-resistant shackle for 2" opening
not shown	C26547	1	Cut-resistant shackle for 4" opening
2	A26193	1	Shackle spring
3 not shown	C26262	1	Cutaway padlock case
not shown	A26254	1	Case for clevis and chain
not shown	A26266	1	Car seal case for chain
not shown	C26161	1	Car seal case
not shown	C26181	1	Standard case
4	A26257	1	Clevis rivet
5	B26261	1	Clevis
6	A21417	1	M1 Chain
not shown	A23120	1	M5 Chain - 9 inch [†]
7	A26192	2	Tumbler
8	B26187	1	Locking cam assembly
9	A26177	1	Key retained throw member
not shown	A26185	1	Non-key retained throw member
not shown	A06831	‡	Spacer (For 6-pin or 5-pin core only)
not shown	B70148	1	Colored O.S.H.A. cover**
not shown	C26519	1	Weather cover

* The length of the shackle opening is measured from the top of the case to the inside of the shackle when the padlock is locked.

† To order M5 bulk chain use part number A23121 and specify the length.

‡ One needed for 6-pin core. Two needed for 5-pin core.

** When ordering the O.S.H.A. cover, indicate color: red; yellow; blue; black; orange; or green.

MISCELLANEOUS PARTS

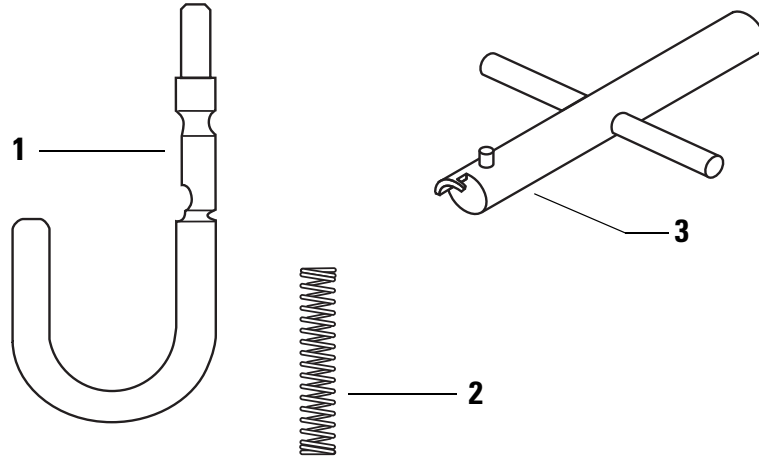


Figure 2.6 11B Frangible Shackle Kit

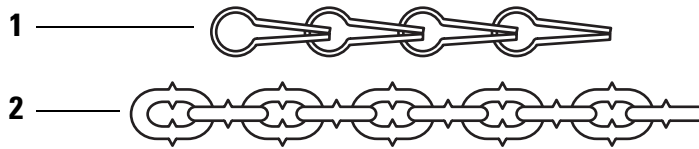


Figure 2.7 Chains

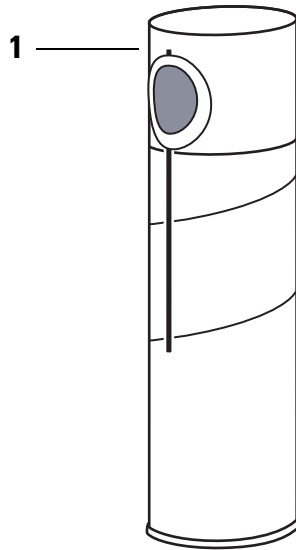


Figure 2.8 Corrosion Free Lubricant

**11B Frangible
Shackle Kit
parts list**

Refer to [Figure 2.6](#) and the table below to find the part that you need.

Item*	Part. No.	Qty.	Description
1	C26249	3	Shackle
2	A26193	3	Shackle spring
3	A26270	1	Disassembly tool

* These parts can be ordered as a kit by indicating part number is B26290.

**Chains
parts list**

Refer to [Figure 2.7](#) and the table below to find the part that you need.

Item	Part No.	Description
1	A21417	M1 Bronze chain
2	A23120	M5 Galvanized steel chain with gray plastic polycoat covering - 9 inch (10 links)
not shown	A23121	M5 Galvanized steel chain with gray plastic polycoat covering - bulk; specify length

**Lubricant
parts list**

Refer to [Figure 2.8](#) and the table below to find the part that you need.

Item	Nomenclature	Description
1	BD660	Corrosion Free Formula 8000 Industrial Lubricant

FUNCTION CONVERSION

To convert the function of 11B, 21B, and 41B Padlocks, change the throw member:

- to convert to key retained, order part number A26177.
- to convert to non-key retained, order part number A26185.

Figure 2.9 shows the available throw members. To remove and replace the throw member, see *Disassembling the 11B, 21B, 21JB, and 41B Padlocks* on [page 2-15](#) and *Assembling the 11B, 21B, 21JB, and 41B Padlocks* on [page 2-16](#).

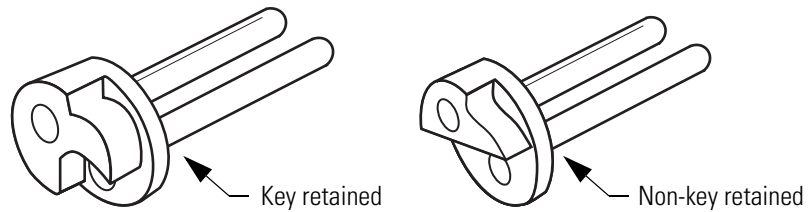


Figure 2.9 11B, 21B, and 41B throw members

DISASSEMBLING AND ASSEMBLING PADLOCKS

Disassembling the 11B, 21B, 21JB, and 41B Padlocks

To disassemble the 11B, 21B, 21JB, and 41B Padlocks, perform the following steps:

1. If there is a dust cover assembly on the lock, unscrew the screw and remove the dust cover with the rubber seal and dust cover hinge.
2. With the padlock in the locked position, insert the control key into the core and rotate the key to the right. Remove the core and throw member from the core receptacle, as shown in [Figure 2.10](#).

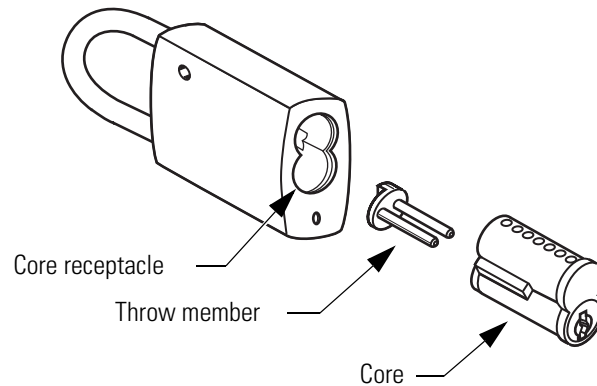


Figure 2.10 Removing the core and throw member

3. With the padlock in the locked position, insert the disassembly tool into the bottom core receptacle lobe, as shown in [Figure 2.11](#), until it touches the locking cam.

Note: The assembly tool guidepost allows the tool to be inserted only one way.



Caution

When performing Step 3, be sure to hold the shackle. The shackle could eject from the case while you're removing the locking cam.

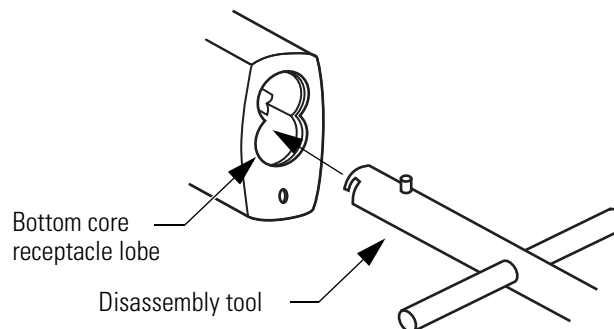


Figure 2.11 Inserting the disassembly tool

4. Press in on the disassembly tool and turn it counterclockwise until it is engaged between the locking cam assembly and the spring positioner, as shown in [Figure 2.12](#). Gently pull the tool to remove the locking cam assembly from the core receptacle.

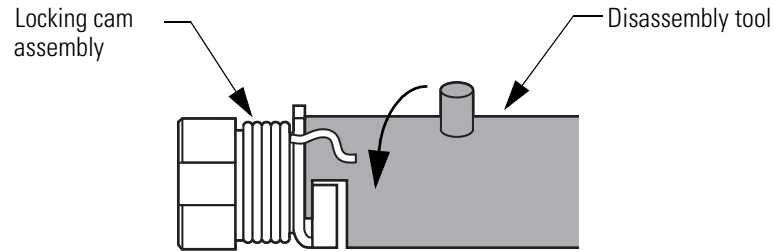


Figure 2.12 Engaging and rotating the disassembly tool

5. Remove the shackle, shackle spring, and tumblers.

Assembling the 11B, 21B, 21JB, and 41B Padlocks

To assemble the 11B, 21B, 21JB, and 41B Padlocks, perform the following steps:

1. Place the shackle spring on the shackle spring post, as shown in [Figure 2.13](#).

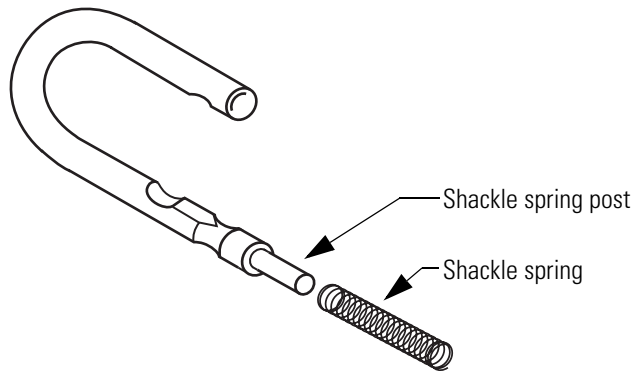


Figure 2.13 Placing the shackle spring

2. Insert the long shackle leg and shackle spring into the long shackle hole, and the short shackle leg into the short shackle hole. Hold the shackle in the locked position.

3. Turn the case upside-down. Drop the tumblers into the core receptacle and push the tumblers into the case cross holes, as shown in [Figure 2.14](#).

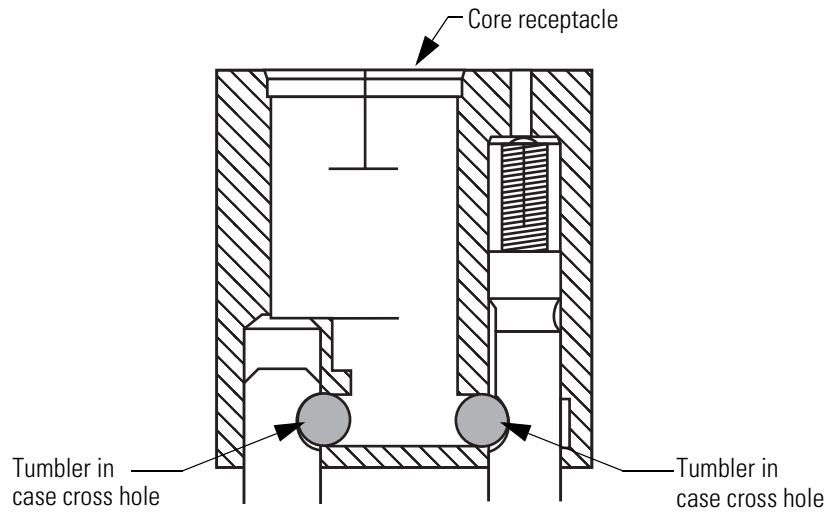


Figure 2.14 Pushing the tumblers into position (side, cross-section view)

4. Insert the locking cam into the bottom core receptacle lobe so that the round tip of the spring positioner is pointed toward the top core receptacle lobe, as shown in [Figure 2.15](#).

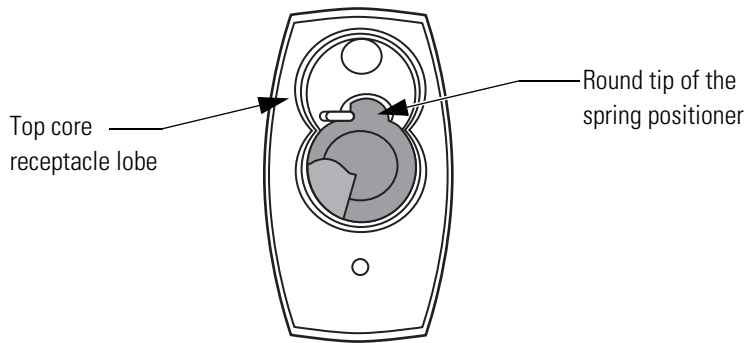


Figure 2.15 Inserting the locking cam (bottom view)

- Using a punch or screwdriver, push on the round tip of the spring positioner until the locking cam snaps clockwise into the slot, as shown in [Figure 2.16](#).



If the locking cam doesn't seat fully, the tumblers may have rolled out of position. Remove the locking cam and reposition the tumblers before continuing.

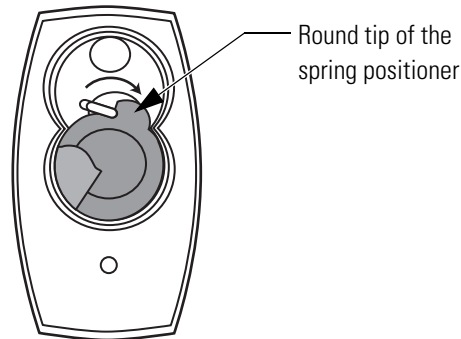


Figure 2.16 Pushing the locking cam into position (bottom view)

- With the throw member's recess on the same side as the core lug, insert the throw member into the core, as shown in [Figure 2.17](#). With the control key in the core, insert the core with the throw member into the core hole. Turn the control key to the left and remove it.

Note: If the throw member is not installed properly, the core cannot be installed.

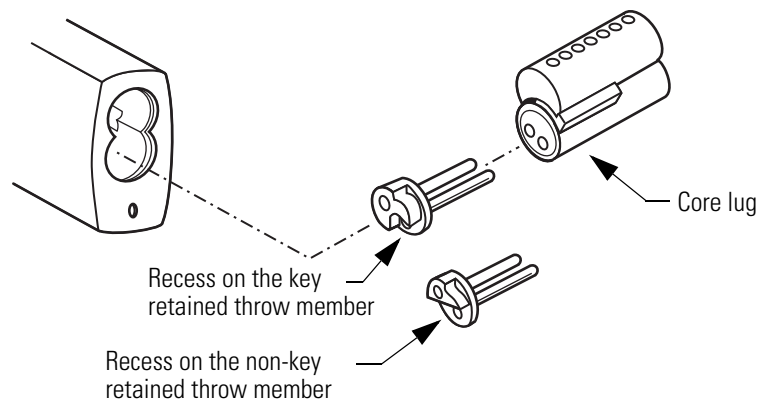


Figure 2.17 Installing the core and throw member

- If there is a dust cover assembly for the lock, position the dust cover so that the lip faces upwards. Position the rubber seal under the dust cover and push the button on the rubber seal through the opening in the dust cover.

**Disassembling
Lubricating
padlock parts**

Apply one quick spray of BD660 Corrosion Free Formula 8000 Industrial Lubricant in both shackle holes every six months. The shackle can be in either the locked or unlocked position. It is not necessary to disassemble the padlock in order to lubricate it.

Note: Lubricate more often if the padlock is used frequently or is located in a corrosive environment.

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T SERIES

SERVICE MANUAL



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1

GETTING STARTED

The 8T Deadbolt Service Manual contains essential information to help you install and maintain your 8T deadbolt locks.

TECHNICAL SUPPORT

Support services When you have a problem with the 8T deadbolt lock, your first resource for help is this 8T Deadbolt Service Manual. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone technical support Best Access Systems Representatives provide telephone technical support for all products. You may locate the Representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

Training seminars BEST provides training sessions for its customers. If interested, contact your local Representative for details.

2

8T OVERVIEW

INTRODUCTION

The Best 8T Series deadbolt locks meet or exceed the highest operational and security standards in the industry. Every part of the 8T series tubular lock is designed to precise tolerances and is made with the highest quality materials.

This manual covers the installation, operation, and maintenance of the 8T tubular locks. It contains exploded diagrams and part numbers of all internal components and trim components.

**ANSI Standard
compliance**

8T deadbolt locks meet or exceed American National Standard BHMA/ANSI A156.5, Grade 1.

8T OVERVIEW

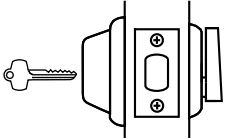
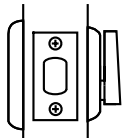
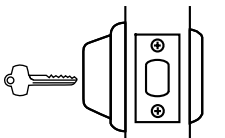
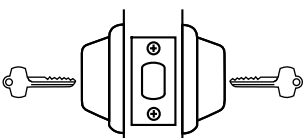
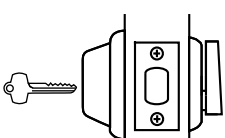
All 8T deadbolt locks have the following characteristics in common:

Lock characteristics

Feature	Description
Deadbolt	1" throw, 5/8" x 7/8" bolt
Faceplate	82T: 1" x 2 1/4" 83T: 1 1/8" x 2 1/4"
Backset	82T: 2 3/8" 83T: 2 3/4"
Trim	Wrought brass or bronze cylinder, rose, and thumbturn rose
Door thickness range	1 3/8" through 3"

FUNCTION DESCRIPTIONS

The table below summarizes how each of the five deadbolt lock functions operate.

Diagram	Function	ANSI No.	Fed. No.	Deadbolt operated by . . .
	K	E2151	181K	<ul style="list-style-type: none"> ■ Turning the key in the outside cylinder, or ■ Turning the inside turn knob.
	KL	E2191	N/A	<ul style="list-style-type: none"> ■ Turning the inside turn knob.
	L	E2161	181L	<ul style="list-style-type: none"> ■ Turning the key in the outside cylinder <p>The inside cylinder is blank.</p>
	M	E2141	181M	<ul style="list-style-type: none"> ■ Turning the key in the inside or outside cylinder. The inside mounting screws are concealed.
	S	E2171		<ul style="list-style-type: none"> ■ Turning the key in the outside cylinder, or ■ Turning the inside turn knob. The turn knob only retracts the deadbolt—it cannot throw the deadbolt.

3

INTERNAL COMPONENTS

This section diagrams all 8T Series deadbolt exploded views. These diagrams detail all available replacement parts. To find a replacement part, first identify the lock function in question. Then identify the part you need and find its corresponding part number on the same page. For more information on 8T functions, see [page 2-2](#).

K FUNCTION—DEADBOLT THUMBTURN

Item	Qty.	Part No.	Description
1	2	A23921	Trim screw
2	1	A23952	Turn knob rose
3	2	B23907	Clamp screw
4	1	A23906	Clamp plate ^a
5	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
6	1	A21259	Cylinder rose
7	1	A21314	Cylinder ring
8	1	A23956	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

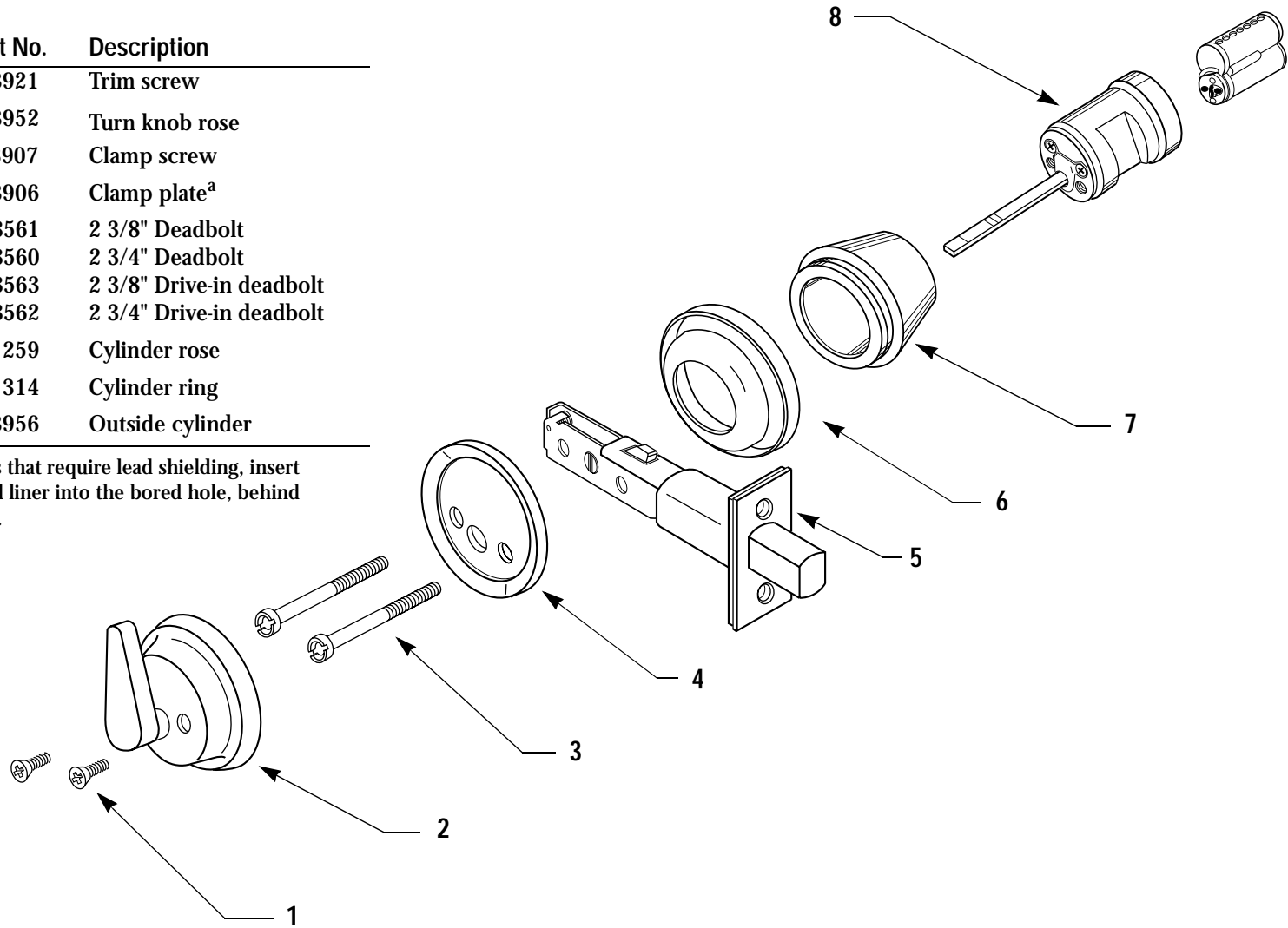


Figure 3.1 K function exploded diagram—deadbolt operated by outside key or inside thumbturn

K (CS) FUNCTION—THUMBTURN DEADBOLT WITH CONCEALED SCREWS

Item	Qty.	Part No.	Description
1	1	A23954	Turn knob rose
2	2	A21259	Cylinder rose ^a
3	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
4	1	A21314	Cylinder ring
5	1	A23959	Outside cylinder
6	2	A23907	Clamp screw
7	1	A23909	Trim plate

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose.

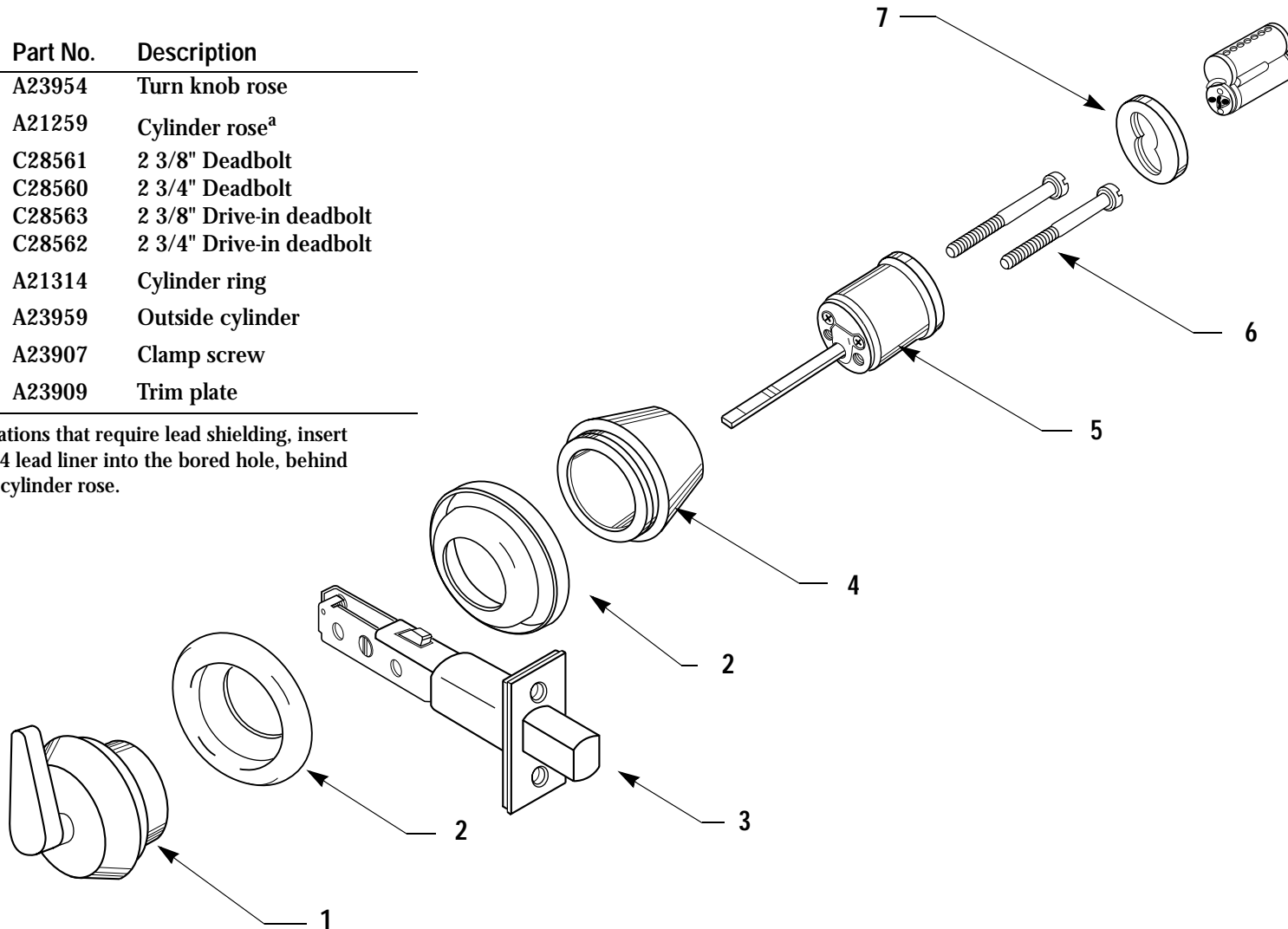


Figure 3.2 K function with concealed screws exploded diagram—deadbolt operated by outside key or inside thumbturn

L FUNCTION—ONE-WAY DEADBOLT

Item	Qty.	Part No.	Description
1	2	A23921	Trim screw
2	1	A23912	Blank rose
3	2	B23907	Clamp screw
4	1	A23906	Clamp plate ^a
5	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
6	1	A21259	Cylinder rose
7	1	A21314	Cylinder ring
8	1	A23956	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

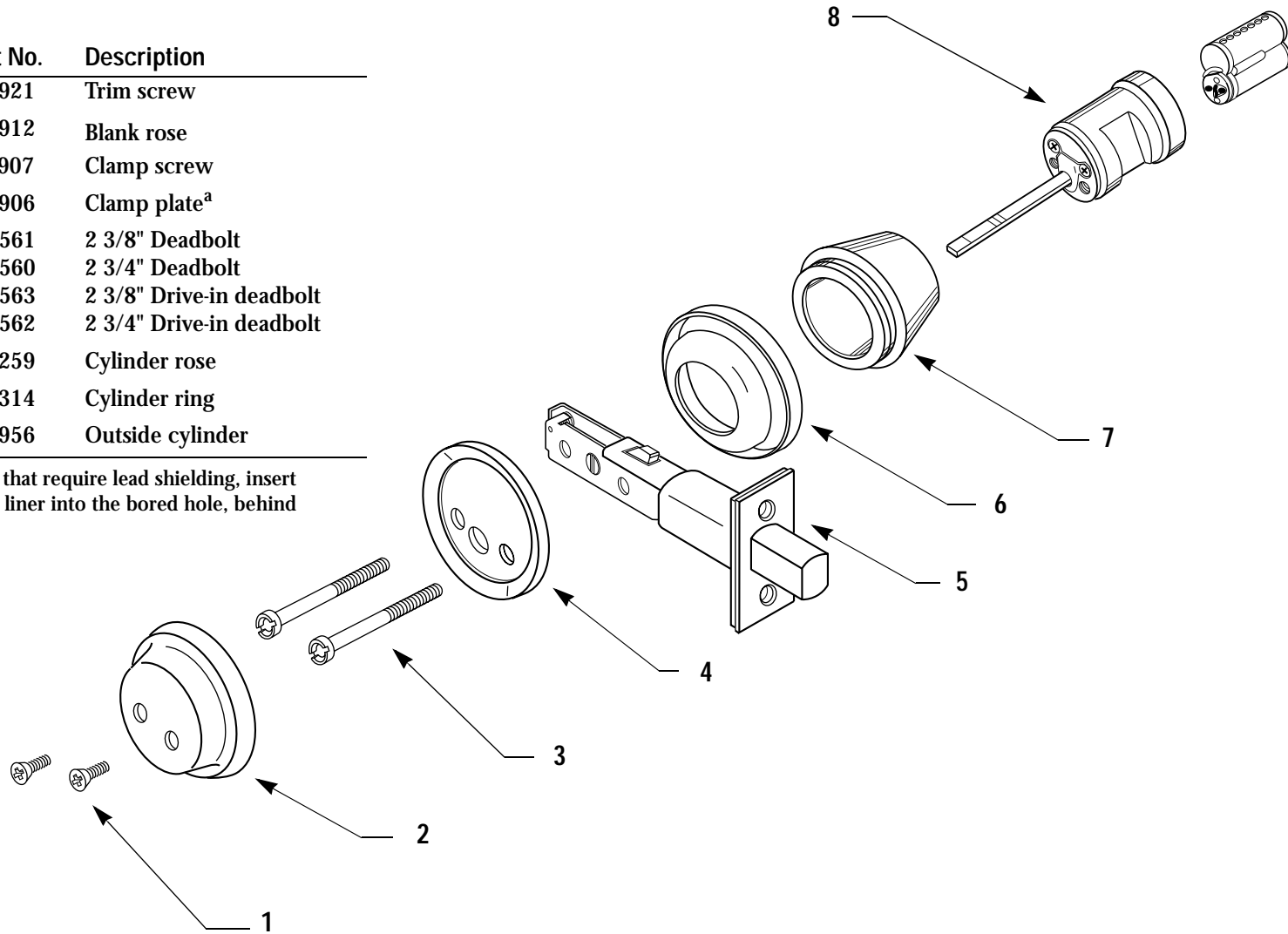


Figure 3.3 L function exploded diagram—deadbolt operated from one side only

L (CS) FUNCTION—ONE-WAY DEADBOLT WITH CONCEALED SCREWS

Item	Qty.	Part No.	Description
1	2	B23911	Blank rose
2	2	A21259	Cylinder rose ^a
3	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
4	1	A21314	Cylinder ring
5	1	A23959	Outside cylinder
6	2	A23907	Clamp screws
7	1	A23909	Trim plate

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose.

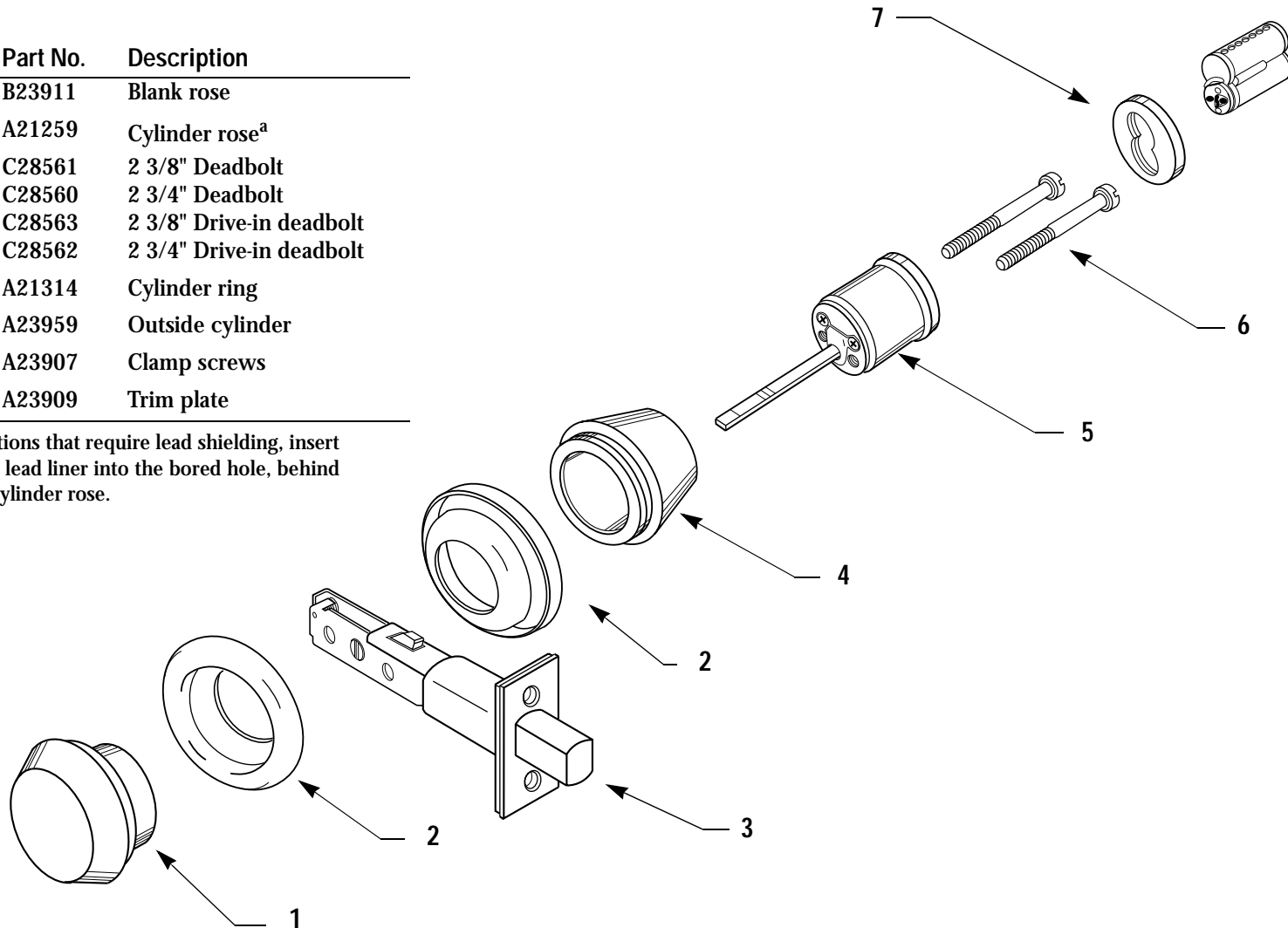


Figure 3.4 L function with concealed screws exploded diagram—deadbolt operated from one side only

M FUNCTION—DOUBLE CYLINDER DEADBOLT

Item	Qty.	Part No.	Description
1	1	A23909	Trim plate
2	2	A23907	Clamp screw
3	1	A23958	Inside cylinder
4	2	A21314	Cylinder ring
5	2	A21259	Cylinder rose ^a
6	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
7	1	A23957	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose. For standard 1 3/4" doors, add one A23942 spacer ring to the trim on the same side as the lead liner.

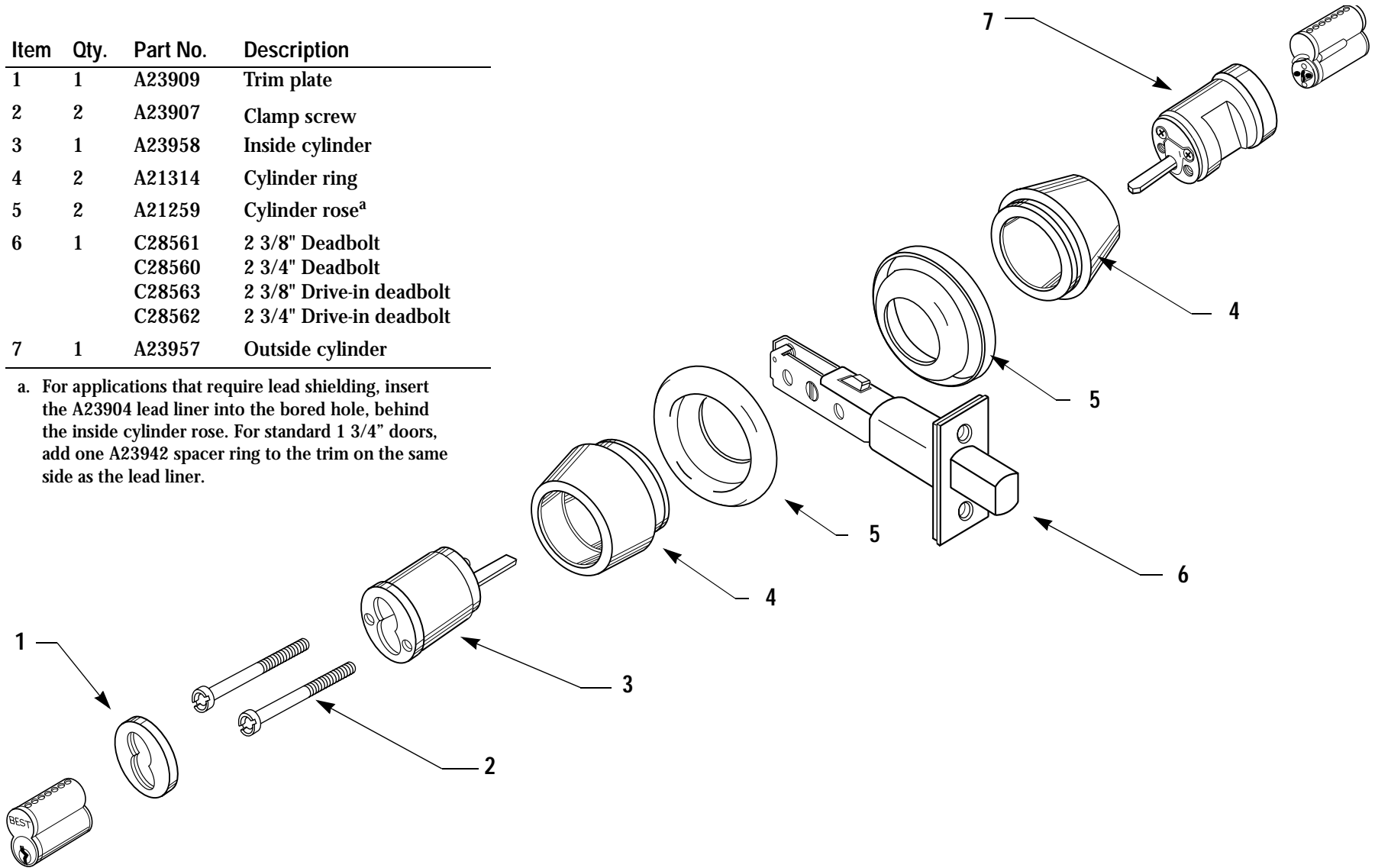


Figure 3.5 M function exploded diagram—deadbolt operated from either side—concealed mounting screws are standard.

S FUNCTION—CLASSROOM DEADBOLT

Item	Qty.	Part No.	Description
1	2	A23921	Trim screw
2	1	A23953	Turn knob rose
3	2	A23907	Clamp screw
4	1	A23906	Clamp plate ^a
5	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
6	1	A21259	Cylinder rose
7	1	A21314	Cylinder ring
8	1	A23956	Outside cylinder

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

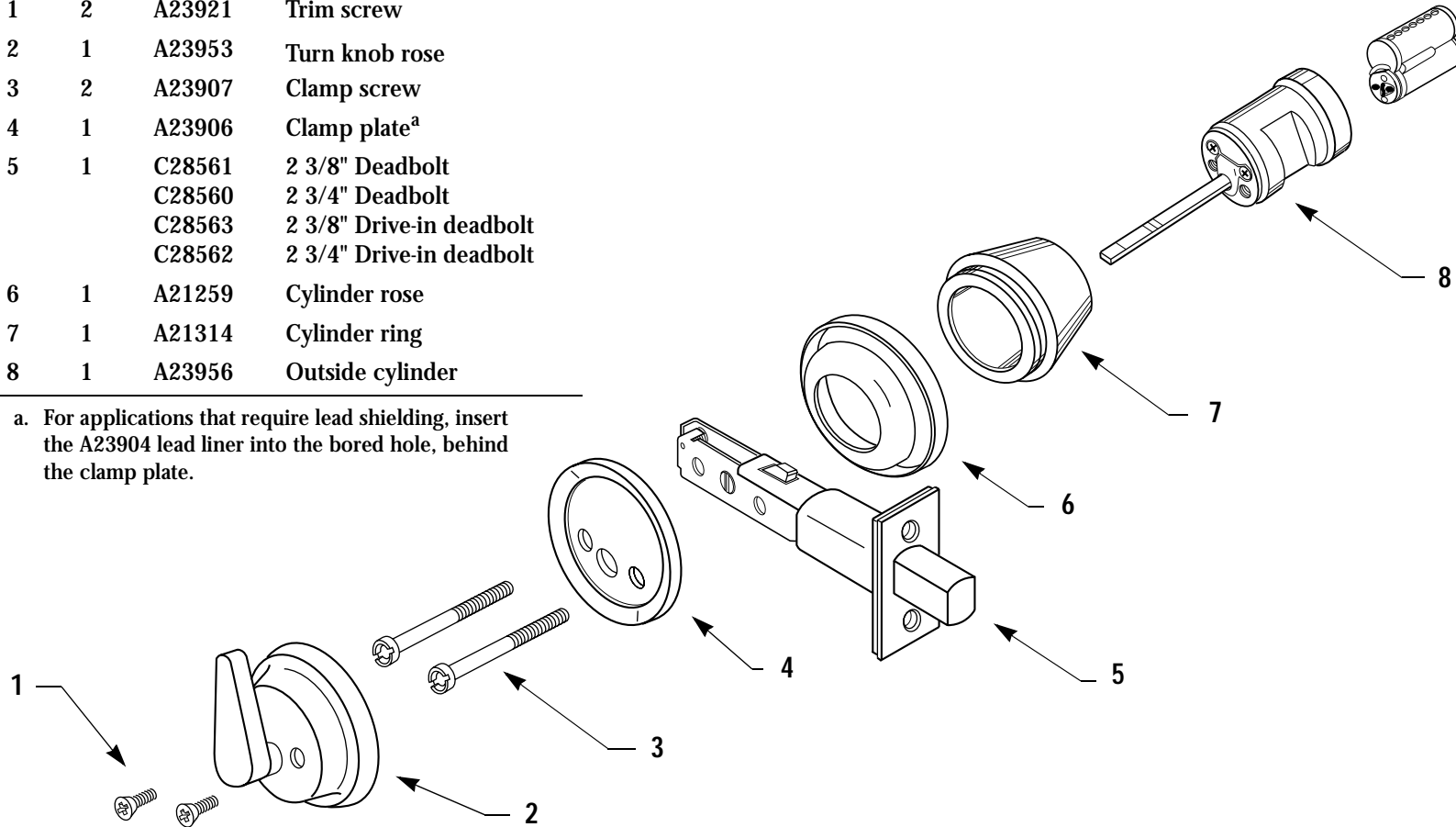


Figure 3.6 S function exploded diagram—deadbolt operated from outside by key. The thumbturn only retracts the deadbolt.

S (CS) FUNCTION—CLASSROOM DEADBOLT WITH CONCEALED SCREWS

Item	Qty.	Part No.	Description
1	1	A23955	Turn knob rose
2	2	A21275	Clamp stud
3	2	A21259	Cylinder rose ^a
4	1	C28561	2 3/8" Deadbolt
		C28560	2 3/4" Deadbolt
		C28563	2 3/8" Drive-in deadbolt
		C28562	2 3/4" Drive-in deadbolt
5	1	A21314	Cylinder ring
6	1	A23959	Outside cylinder
7	2	A23989	Clamp screw
8	1	A23909	Trim plate

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the inside cylinder rose.

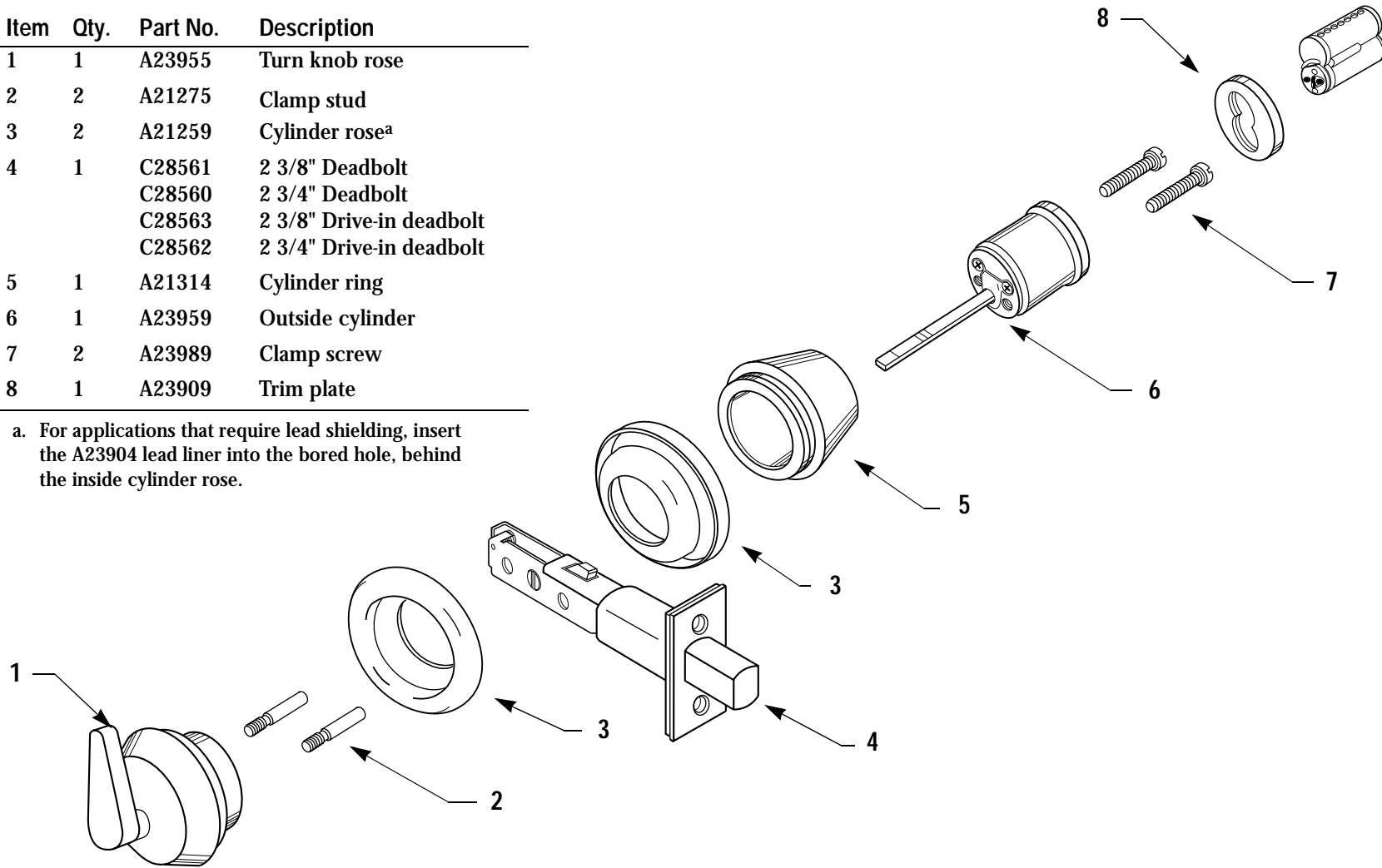


Figure 3.7 S function with exploded view diagram—deadbolt operated from outside by key. The thumbturn only retracts the deadbolt.

KL FUNCTION—ONE-WAY TURN KNOB DEADBOLT

Item	Qty.	Part No.	Description
1	2	A23921	Trim screws
2	1	A23952	Turn knob rose
3	2	A23907	Clamp screw
4	1	B21262	Spindle
5	1	A39194	Retaining ring
6	1	A23906	Clamp plate ^a
7	1	C28561 C28560 C28563 C28562	2 3/8" Deadbolt 2 3/4" Deadbolt 2 3/8" Drive-in deadbolt 2 3/4" Drive-in deadbolt
8	1	A23942	Spacer ring
9	1	A21259	Cylinder rose
10	1	B23911	Blank rose

a. For applications that require lead shielding, insert the A23904 lead liner into the bored hole, behind the clamp plate.

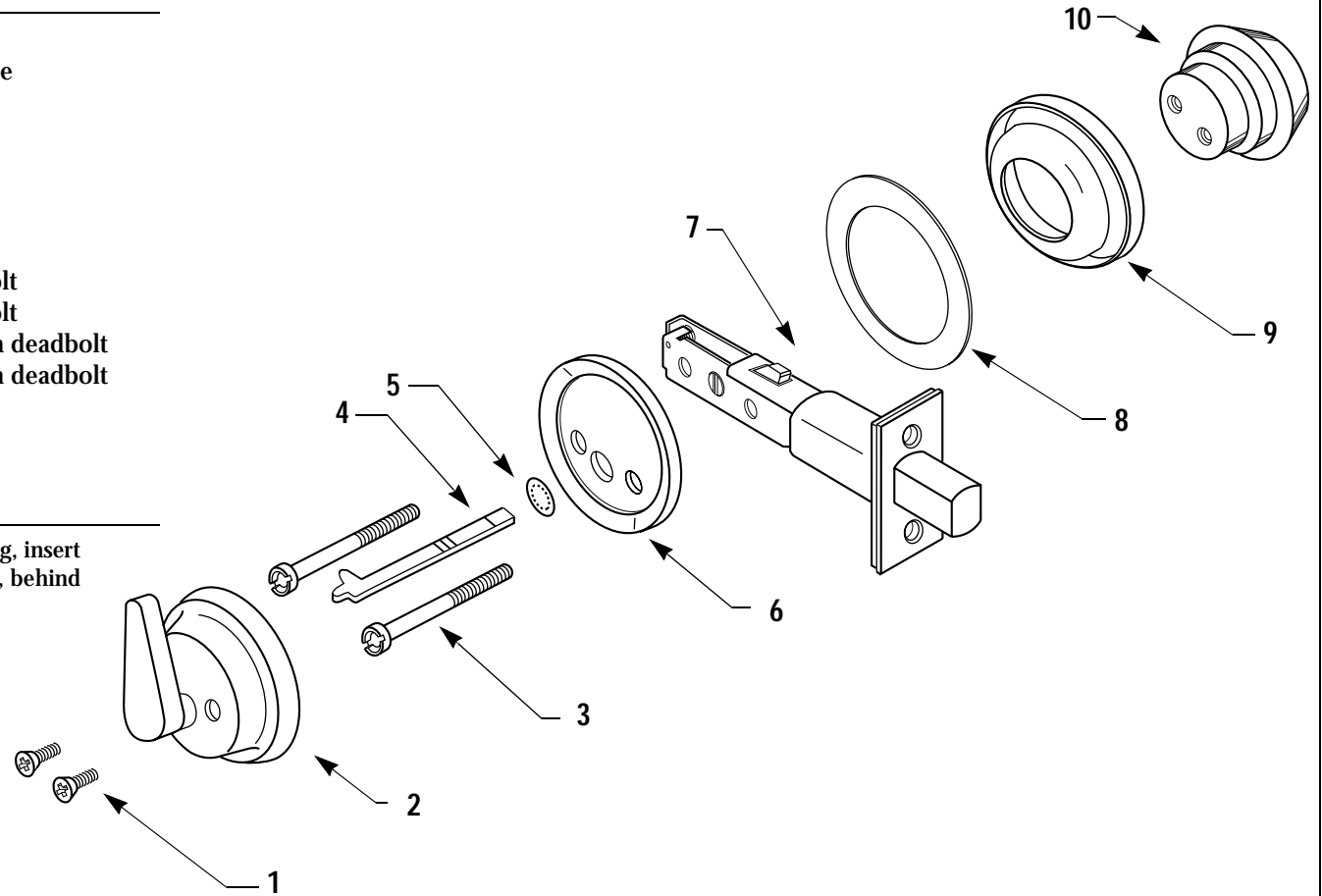


Figure 3.8 KL function with exploded view diagram—deadbolt operated by turn knob only.

4

MISCELLANEOUS PARTS

The following pages list all miscellaneous parts for the 8T deadbolt. These parts consist of strikes, strike boxes, screws, cylinder parts, and thick door parts.

STRIKES AND STRIKE BOXES

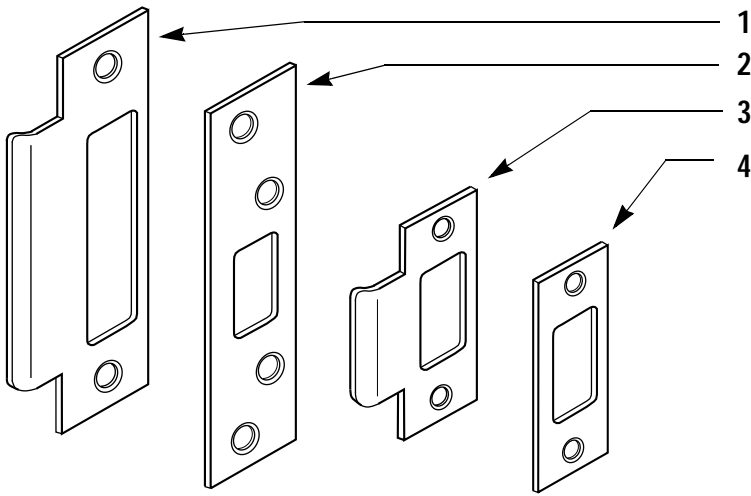


Figure 4.1 Strikes—see the table below for part numbers and descriptions.

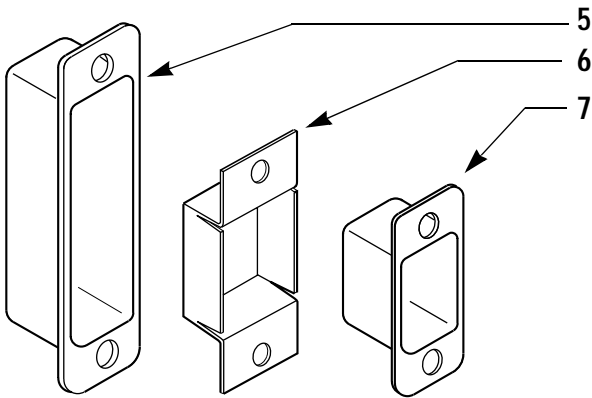


Figure 4.2 Strike boxes—see the table below for part numbers and descriptions.

Item	Nom- enclature	Description	Screw part no. ^a	Corresponding strike box no.
1	8TS1	ANSI deadbolt strike	A18724	B34380
2	8TS5	High security deadbolt strike	A28523 ^b	B34380
3	8TS4	Lip deadbolt strike	A25359	B24026
4	8TSTK	Standard deadbolt strike	A25359	B24026
5	30HS4	ANSI strike box—plastic	N/A	N/A
6	8KS1	Standard strike box—metal	N/A	N/A
7	B24026	Standard strike box—plastic	N/A	N/A

a. Two screws are supplied with every strike unless otherwise noted.

b. The 8TS5 uses four (4) screws.

CYLINDERS

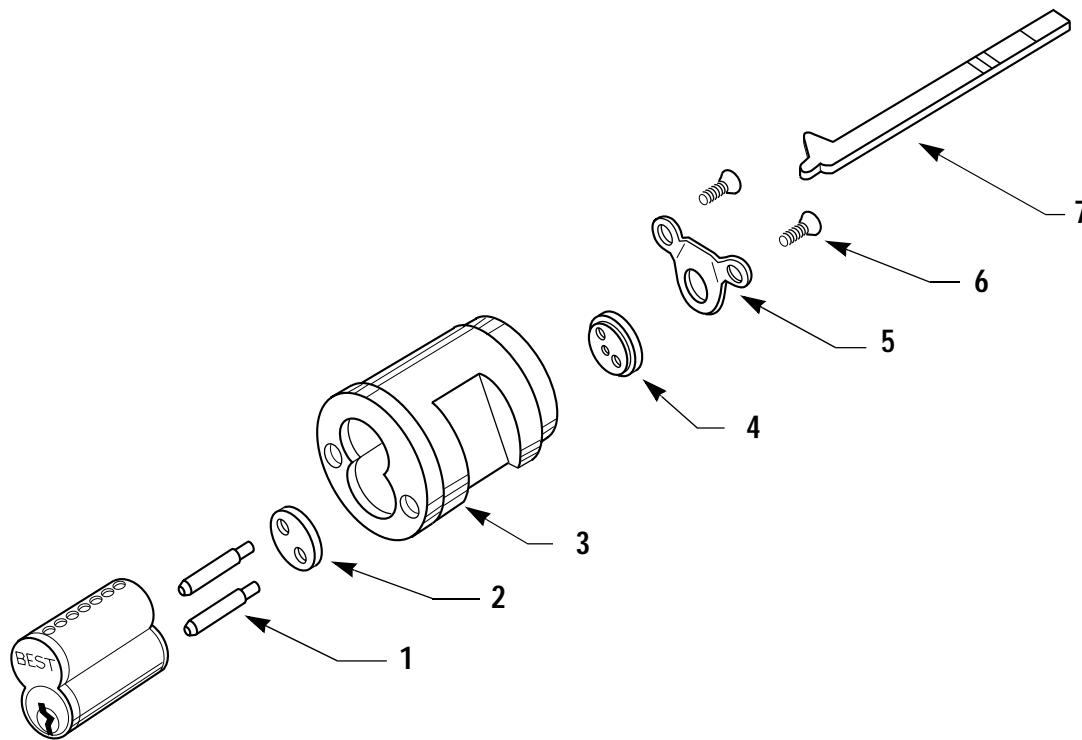


Figure 4.3 Exploded view of a standard 8T cylinder

Item	Qty.	Part no.	Description
1	2	A10470	Throw pin
2	1	A10390	Spacer ^a
3	1	C23901	Cylinder housing
4	1	A28521	Throw plug
5	1	A20941	Retainer
6	2	A14553	Retainer screw
7	1	A21262	Standard spindle ^b

a. To rivet the throw member parts to the cylinder, use the ED212 mortise tool.

b. For the M function use the A21264 spindle. See the thick door chart on [page 4-4](#) for more information about various length spindles.

THICK DOOR PARTS—SPACER RINGS, SPINDLES, AND CLAMP SCREWS

When retrofitting a tubular deadbolt to a non-standard door thickness, two parts vary in length to accommodate the additional thickness. These parts are the spindle and the clamp screws. To find the correct parts for the door thickness, follow the table below.

Part	Door thickness	K	K(cs)	L	L(cs)	M	S	S(cs)	KL
Spacer ring	1 3/8" ^a	A23942	A23942	A23942	A23942	A23942 ^b	A23942	A23942	A23942
	1 3/4"					A23942 ^c			A23942
Spindle	1 3/8"	A21262	A21262	A21262	A21262	A21263 ^d	A21262	A21262	A21262
	1 3/4"	A21262	A21262	A21262	A21262	A21264 ^d	A21262	A21262	A21262
	2"	A21262	A21262	A21262	A21262	A21264 ^d	A21262	A21262	A21262
	2 1/4"	A21262	A21262	A21262	A21262	A21288 ^d	A21262	A21262	A21262
	2 1/2"	A21262	A21262	A21262	A21262	A21288 ^d	A21262	A21262	A21262
	2 3/4"	A21262	A21262	A21262	A21262	A21289 ^d	A21262	A21262	A21262
	3"	A24053	A24053	A24053	A24053	A21289 ^d	A24053	A24053	A24053
Clamp screw ^e	1 3/8"	B23907	B23907	B23907	B23907	B23907	B23907	A23988	B23950
	1-3/4"	B23907	B23907	B23907	B23907	B23907	B23907	A23989	B23907
	2"	B23907	B61412	B23907	B61412	B61412	B23907	A24055	B23907
	2 1/4"	B61413	B61413	B61413	B61413	B61413	B61413	A24056	B61412
	2 1/2"	B61414	B61414	B61414	B61414	B61414	B61414	A24057	B61413
	2 3/4"	B23985	B23985	B23985	B23985	B23985	B23985	A24058	B61414
	3"	B61415	B61415	B61415	B61415	B61415	B61415	A24059	B23985

- The lead liner (A23904) is available on all functions in all door thicknesses except the narrow 1 3/8" thick door.
- For the M function, use two spacer rings on 1 3/8" thick doors.
- For the M function with lead liner on standard 1 3/4" thick doors, add one spacer ring on the same trim side as the lead liner.
- Use two spindles on all M functions.
- Use two clamp screws on all functions.

5

GLOSSARY

Auxiliary lock	A lock having a latchbolt or deadbolt operated by a key or a thumbturn or both. This type of lock is often used in conjunction with another lock which may or may not be key operated, but has a latchbolt operated by knobs or levers.
Bored deadlock	A lock that fits round, bored holes drilled into the face and edge of a door. Bored deadlocks have a deadbolt operated by a key or thumbturn or both.
Chassis	The internal frame of the lock.
Deadbolt lock	A lock having a bolt whose end protrudes from and retracts into, the lock front. When the door is closed and the deadbolt thrown, the deadbolt extends into a hole provided in the strike, locks the door, and does not retract when pressure is applied to the end.
Drive-in deadbolt	A deadbolt that is installed by hammering it into the edge of the door.
Hand of door	The swing direction of the door as viewed from the outside of the door. A right-handed (RH) door is hinged on the right and swings inward. A left-handed (LH) door is hinged on the left and swings inward. If either of these doors swing outward, it becomes a right-hand reverse bevel (RHRB) door, or a left-hand reverse bevel (LHRB) door, respectively.
Spindle	A bar that projects from the back of a cylinder that engages the lock mechanism. When the spindle is rotated by the key or thumbturn, it either locks or unlocks the lock. Also called "tailpiece."

Glossary

Strike	A plate fastened to the door frame that the bolt projects into.
Strike box	A housing used in back of a strike to enclose the bolt or bolt openings.
Thumbturn	The component that projects or retracts a deadbolt operated by grasping and turning. Also called “turn knob” or “turnpiece.”
Tubular	The shape (tube-like) of the lock chassis and bolt enclosure.

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A

INSTALLATION INSTRUCTIONS

The following pages contains the *Installation Instructions for 82T - 83T Deadbolt Locks*.

1 Center punch the drill points

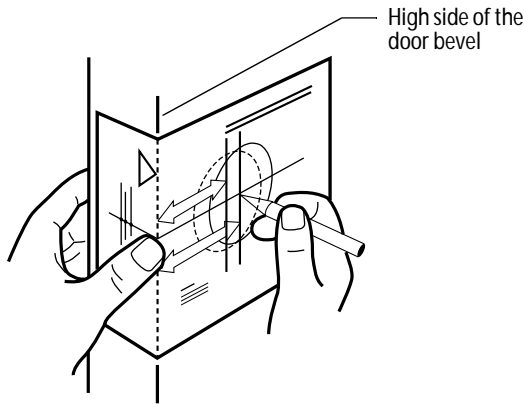


Figure 1 Positioning and marking with the template

- 1 Place the template at the desired height, on the high side of the door bevel.
- 2 Tape the template to the door.
- 3 Center punch the drill points.

2 Bore two holes

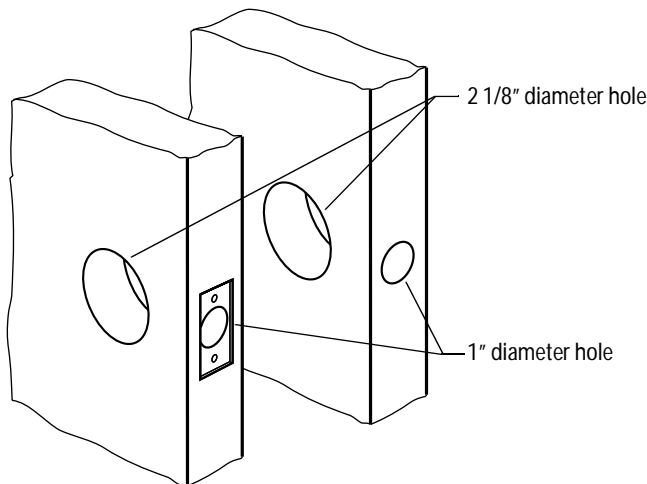


Figure 2 Holes for standard and drive-in deadbolts

- 1 Bore a 2 1/8" diameter hole. To avoid splintering a wood door, bore the hole from both sides of the door.
- 2 Drill a 1" diameter hole from the edge of the door that intersects the 2 1/8" hole.

For deadbolts with faceplates

- Using the deadbolt faceplate as a guide, mortise the edge of the door to recess the faceplate.

3 Install strike plate

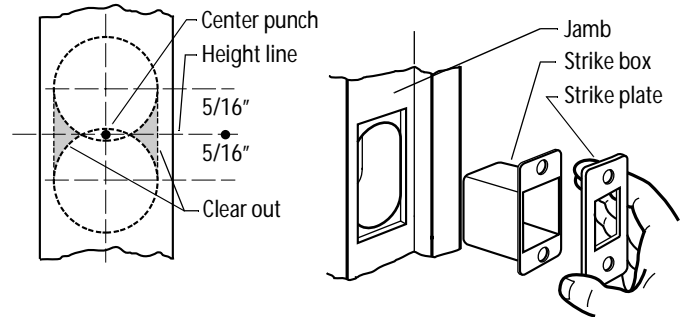


Figure 3 Installing the strike

- 1 Center punch the jamb directly opposite the bolt hole in the door. See Figure 3.
- 2 Drill two 1" diameter holes, located 5/16" above and below the center punch to a depth of 1 1/8".

Note: For S1 strike plates only, drill two additional 1" diameter holes located 15/16" above and below the center punch. Clear out the material between the holes.

- 3 Using the strike as a guide, mortise the jamb and install the strike box and strike plate as shown in Figure 3.

4 Install deadbolt assembly

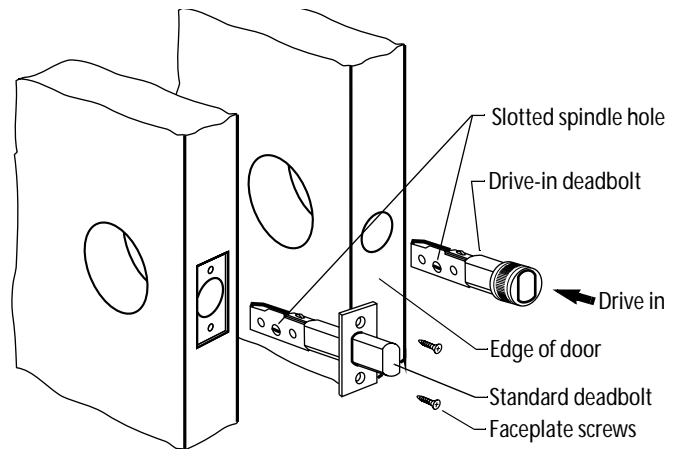


Figure 4 Installing the standard and drive-in deadbolts

For standard deadbolts

- 1 Insert the standard deadbolt with the slotted spindle hole at the bottom of the assembly as shown in Figure 4.
- 2 Secure the standard deadbolt to the door with the faceplate screws.

For drive-in deadbolts

- 1 Make sure the drive-in deadbolt is in the retracted position.
- 2 Insert the deadbolt into the door with the slotted hole at the bottom of the assembly. See Figure 4.

- Using a hammer and wooden block, lightly drive the deadbolt into the hole until the face of the deadbolt is flush with the edge of the door.

5 Install cylinder or cylinders

For 1 3/8" thick doors only

- Slip the spacer ring behind the outside cylinder and trim assembly as shown in Figure 5.

Note: Use two spacer rings for M function deadbolts, one behind the outside cylinder and the other behind the inside cylinder.

For single-keyed cylinder deadbolts except 'S' (classroom) functions

- Extend the bolt with a screwdriver.
- Install the cylinder and trim assembly with the spindle in the **vertical** position as shown in Figure 5.

For non-keyed KL functions

- Extend the bolt with a screwdriver.
- Slip the spacer ring behind the outside rose.

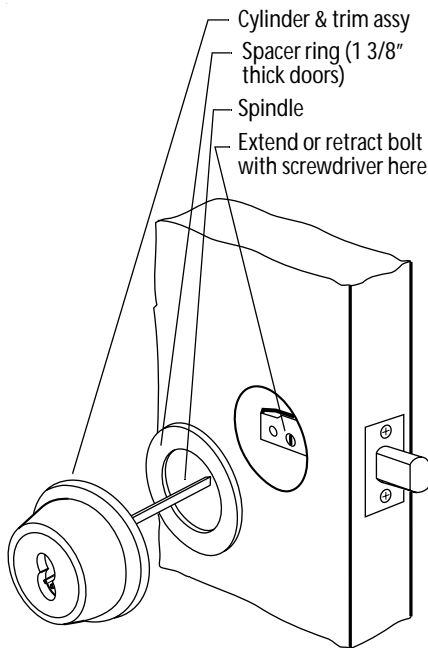


Figure 5 Installing the cylinder and trim assembly

For 'S' (classroom) function deadbolts

- Retract the deadbolt with a screwdriver.
- Install the cylinder and trim assembly with the spindle in the **horizontal** position.

For double-keyed cylinder deadbolts ('M' function)

- Extend the bolt with a screwdriver.

- Install each cylinder with its ring and rose as shown in Figure 6.

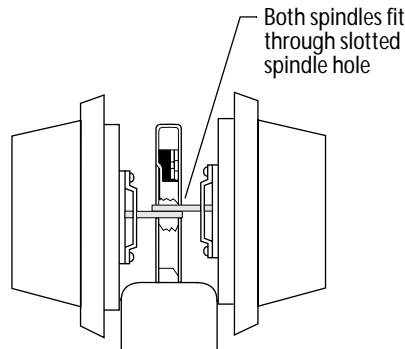


Figure 6 Side view of a double-keyed deadbolt

6 Attach inside trim

For standard mounting screws

- Secure the cylinder to the door with the clamp plate and mounting screws as shown in Figure 7.

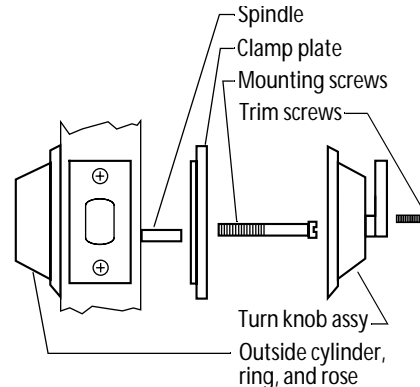


Figure 7 Standard trim mounting

- Break the spindle at the appropriate notch to suit the installation.
- Slide the turn knob assembly over the spindle and secure it with the trim screws supplied.

For concealed mounting screws

- With the inside rose and turn knob unit in place, put the two mounting screws through the outside cylinder as shown in Figure 8.

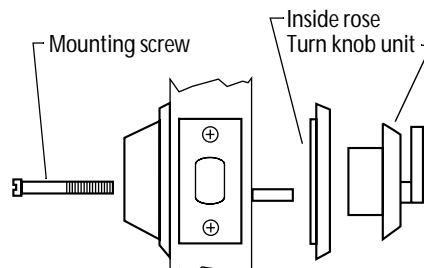


Figure 8 Concealed trim mounting

- Break the spindle at the appropriate notch to suit the installation.
- Screw the mounting screws into the back of the turn knob unit.

7 Install core or cores

For double-keyed deadbolts or deadbolts with concealed screws

- To cover the mounting screw holes, put the cylinder face into the ring. See Figure 9.

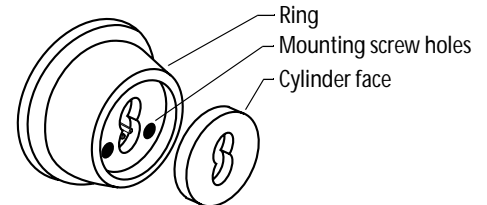


Figure 9 Installing the cylinder face for double-keyed deadbolts and deadbolts with concealed screws

For all deadbolt locks

- Put the control key into the core and turn the key 15 degrees clockwise as shown in Figure 10.

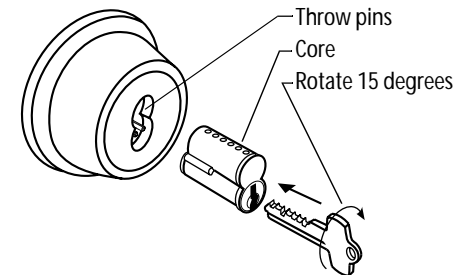


Figure 10 Installing the core on standard deadbolts

- Adjust the throw pins if needed, then put the core into the cylinder with the control key.
- Turn the key 15 degrees counterclockwise and remove the key.

Caution: Locks that secure both sides of the door are controlled by building codes and the Life Safety Code®. In an emergency exit situation, failure to quickly unlock the door from the inside could be hazardous or even fatal.

Patents

Products are covered by one or more of the following patents:

U.S. Patents

D290085, 4444034, 4424693, 4386510, 4294093, 4301667, 4655063, 4843852

Other patents pending.

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Best Adaptation & Equivalent List

Eighth Edition

This publication is an updated seventh edition with many changes and corrections that should be used with care. Report any errors to BEST in writing immediately when noted so that corrections may be issued. Update this list with all relevant sales letter information as it is made available.

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ACCURATE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
304	Mortise Deadlock	1E74xA1247	C127	NA
304-1/4	Mortise Deadlock	1E74xA1247 (2 req.)	C127	NA
305	Mortise Deadlock	1E74xA1247	C127	NA
316	Mortise Deadlock	No Adaptation Available		NA
316-1/4	Mortise Deadlock	No Adaptation Available		NA
317	Mortise Deadlock	No Adaptation Available		NA
325	Mortise Deadlock	1E74xA1247	C127	NA
336	Mortise Deadlock	1E74xA1247	C127	NA
336-1/4	Mortise Deadlock	1E74xA1247 (2 Req.)	C127	NA
337	Mortise Deadlock	1E74xA1247	C127	NA
338	Mortise Deadlock	1E74xA1247	C127	NA
338-1/4	Mortise Deadlock	1E74xA1247 (2 Req.)	C127	NA
339	Mortise Deadlock	1E74xA1247	C127	NA
7802	Mortise D.L. Latch	1E74xA1247	C127	NA
7802-1/4	Mortise D.L. Latch	1E74xA1247 (2 Req.)	C127	NA
7804	Mortise D.L. Latch	1E74xA1247	C127	NA
7804-1/4	Mortise D.L. Latch	1E74xA1247 (2 Req.)	C127	NA
H7804	Mortise D.L. Latch	1E74xA1247	C127	NA
H7804-1/4	Mortise D.L. Latch	1E74xA1247 (2 Req.)	C127	NA
H7805-1/4	Mortise D.L. Latch	1E74xA1247 (2 Req.)	C127	NA

ADAMS-RITE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
970	Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
971	Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
973	Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1131	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C184	
1340	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1341	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1342	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1450	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1451	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1452	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1453	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1455	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1456	Mortise Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
1830	Bottom Deadlock	*1E74xA5979	C181	
MS1837	Deadlock, Two Point	*1E74xA5979	C181	

*For aesthetic and security reasons, with 1E74 Cylinder on 1-3/4 thick door; recommend R810 Ring outside on RHRB or LHRB doors, inside on pairs of doors, and inside on single leaf RH or LH doors. And, recommend R710 Ring inside on single leaf RHRB or LHRB doors or outside on RH or LH doors to clear door stop when space is limited. Other Adams-Rite Locks may use other Ring Packages. Locks require one or two cylinders as specified.

ADAMS-RITE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1848	Sliding Door Latch	A2714-16 (Single)		
1848	Sliding Door Latch	B9265-67 (Double)		
MS1850	Deadlock, Max. Sec.	*1E74xA5979	C181	
MS1850 A	Deadlock, Max. Sec.	*1E74xA5979	C181	
MS1850 A-11	Deadlock, Two Point	*1E74xA5979	C181	
MS1850 A-505	Deadlock, Sliding Door	*1E74xA5979	C181	
MS1850 USA	Deadlock	*1E74xA5979	C181	
MS1850 USA-505	Deadlock, Sliding Door	*1E74xA5979	C181	
SCH1850 A	Deadlock, Schoolhouse	*1E74xA5979	C181	
SCH1850 A USA	Deadlock, Schoolhouse	*1E74xA5979	C181	
MS1851	Deadlock	*1E74xA5979	C181	
MS1851 A	Deadlock	*1E74xA5979	C181	
MS1851 A-111	Deadlock, Three Point	*1E74xA5979	C181	
MS1851 USA	Deadlock	*1E74xA5979	C181	
MS1852	Deadlock	*1E74xA5979	C181	
MS1852 A	Deadlock	*1E74xA5979	C181	
MS1852 AW	Deadlock	*1E74xA5979	C181	
MS1852 USA	Deadlock	*1E74xA5979	C181	
MS1860	Ultra-Narrow Stile	*1E74xA5979	C181	
MS1861-1	Deadlock, Bottom Rail	*1E74xA5979	C181	
MS1861-2	Deadlock, Bottom Rail	*1E74xA5979	C181	
MS1870	Flushbolt, Cyl. Operated	*1E74xA5979	C181	
MS1880	Two-Point Bolt	Not Keyed		

*For aesthetic and security reasons, with 1E74 Cylinder on 1-3/4 thick door; recommend R810 Ring outside on RHRB or LHRB doors, inside on pairs of doors, and inside on single leaf RH or LH doors. And, recommend R710 Ring inside on single leaf RHRB or LHRB doors or outside on RH or LH doors to clear door stop when space is limited. Other Adams-Rite Locks may use other Ring Packages. Locks require one or two cylinders as specified.

ADAMS-RITE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
MS1890	Latch Type Lock	*1E74xA5979	C181	
MS1891	Latch Type Lock	*1E74xA5979	C181	
MS1891W	Latch Type Lock	*1E74xA5979	C181	
MS1892	Latch Type Lock	*1E74xA5979	C181	
2331	Deadlock, Sliding Door	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C4	
4004	Lock, Sliding Door	Not Keyed		
4024	Cyl. Pull	No Adaptation Available		
4025 (Single)	Single Cyl. Handle	A2716		
4025 (Double)	Double Cyl. Handle	A9267		
4029	Single Cyl. Handle	A2716		
4050	Hold Back Deadlatch	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C169	
4052	Hold Back Deadlatch	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C169	
4070	Deadlock	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C169	
4071	Dead Bolt	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C169	
4072	Dead Bolt	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C169	
4073	Dead Bolt	1ESPL-A35118 (6 Pin) 1ESPL-B35124 (7 Pin)	C169	
MS4093	Dead Lock Replacer Kit	*1E74xA5979	C181	
4510	Deadlatch	*1E74xA5979	C181	
4511	Deadlatch	*1E74xA5979	C181	

*For aesthetic and security reasons, with 1E74 Cylinder on 1-3/4 thick door; recommend R810 Ring outside on RHRB or LHRB doors, inside on pairs of doors, and inside on single leaf RH or LH doors. And, recommend R710 Ring inside on single leaf RHRB or LHRB doors or outside on RH or LH doors to clear door stop when space is limited. Other Adams-Rite Locks may use other Ring Packages. Locks require one or two cylinders as specified.

ADAMS-RITE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4512	Deadlatch	*1E74xA5979	C181	
4520	Deadlatch	*1E74xA5979	C181	
4521	Deadlatch	*1E74xA5979	C181	
4522	Deadlatch	*1E74xA5979	C181	
4530	Deadlatch	*1E74xA5979	C181	
4531	Deadlatch	*1E74xA5979	C181	
4532	Deadlatch	*1E74xA5979	C181	
4540	Deadlatch	*1E74xA5979	C181	
4541	Deadlatch	*1E74xA5979	C181	
4542	Deadlatch	*1E74xA5979	C181	
4550	Deadlatch	*1E74xA5979	C181	
4551	Deadlatch	*1E74xA5979	C181	
4552	Deadlatch	*1E74xA5979	C181	
4560	Handle	No Key		
4710	Deadlatch	*1E74xA5979	C181	
4711	Deadlatch	*1E74xA5979	C181	
4712	Deadlatch	*1E74xA5979	C181	
4720	Deadlatch	*1E74xA5979	C181	
4722	Deadlatch	*1E74xA5979	C181	
8412	Panic Device	1E72		
8611 X 8066	Conc. Exit Device	1E74	C181	
8622	Panic Device	1E72		
8622 X 8650	Conc. Exit Device	1E74	C181	

*For aesthetic and security reasons, with 1E74 Cylinder on 1-3/4 thick door; recommend R810 Ring outside on RHRB or LHRB doors, inside on pairs of doors, and inside on single leaf RH or LH doors. And, recommend R710 Ring inside on single leaf RHRB or LHRB doors or outside on RH or LH doors to clear door stop when space is limited. Other Adams-Rite Locks may use other Ring Packages. Locks require one or two cylinders as specified.

ADAMS-RITE

NUMBER	ARTICLE	CAM ORDER CODE NO.	EQUIV.
8703	Panic Device	1E72	
8802	Panic Device	1E72	

ALARM LOCK CORP.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
PG10	Pilferguard	1E72 Out - Optional 1E74 Inside	C4	
#11	Alarm Lock	1E72 Out - Optional 1E72 Inside		
PG20	Alarm Lock	1E72 Out - Optional 1E74 Inside	C4	
70R	Alarm Lock	1E72 Out - Optional 1E72 Inside		
250	Exit Alarm	1E72		
265	Exit Alarm (Delayed Exit)	1E72		

AMARLITE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
PF3	Concealed Exit Device (Integral w/door)	1E74	C221	
None	Deadlock	1E74xA1414	C134	
None	Telescoping Bolt	1E74	C4	
None	Amarlite Adams-Rite DL.	1E74xA4445	C169	
None	Amarlite Adams-Rite MS	1E74xA5979	C181	
None	Mort. Spec.	1E74xA1247	C127	

AMERICAN DEVICE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
11C	Concealed Panic Device	1E72		
11CH	Concealed Panic Device	1E72		
11CHT	Concealed Panic Device	1E72		
11CT	Concealed Panic Device	1E72		
11DTx422DT	Concealed Panic Device	No Key		
11DTx623DT	Concealed Panic Device	No Key		
11EO	Concealed Panic Device	No Key		
11LC	Concealed Panic Device	1E74	C4	
AC12	Mail Box, Continental	8L7SPRxA7175-1		
12C	Concealed Panic Device	1E72		
12CH	Concealed Panic Device	1E72		
12CHT	Concealed Panic Device	1E72		
12CT	Concealed Panic Device	1E72		
12DTx422DT	Concealed Panic Device	No Key		
12DTx623DT	Concealed Panic Device	No Key		
12EO	Concealed Panic Device	No Key		
12LC	Concealed Panic Device	1ESPL-7-B35124	C4	
12LCX422LC	Concealed Panic Device	1ESPL-7-B35124	C4	
14C	Surface Panic Device	1E72		
14CH	Surface Panic Device	1E72		
14/CHT	Surface Panic Device	1E72		
14CT	Surface Panic Device	1E72		
14DTx422DT	Surface Panic Device	No Key		
14DTx623DT	Surface Panic Device	No Key		
14EO	Surface Panic Device	No Key		
14LC	Surface Panic Device	1ESPL-7-B35124	C4	

AMERICAN DEVICE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
53C	Ctr. Latch Panic Device	1E72		
53C x 26C	Ctr. Latch Panic Device	1E72		
53C x 36DT	Ctr. Latch Panic Device	1E72		
53C x 77C	Ctr. Latch Panic Device	1E72		
53CHT x 26C	Ctr. Latch Panic Device	1E72		
53CHT x 36DT	Ctr. Latch Panic Device	1E72		
53CHT x 77C	Ctr. Latch Panic Device	1E72		
53DT x 20DT	Ctr. Latch Panic Device	No Key		
53DT x 26DT	Ctr. Latch Panic Device	No Key		
53DT x 36DT	Ctr. Latch Panic Device	No Key		
53DT x 70DT	Ctr. Latch Panic Device	No Key		
53DT x 77DT	Ctr. Latch Panic Device	No Key		
53EO	Ctr. Latch Panic Device	No Key		
53K	Ctr. Latch Panic Device	No Key		
53K x 14K	Ctr. Latch Panic Device	No Key		
53KC	Ctr. Latch Panic Device	1E72		
53KC x 14KC	Ctr. Latch Panic Device	1E72		
53T x 26T	Ctr. Latch Panic Device	No Key		
53T x 26T x T8415MP	Ctr. Latch Panic Device	No Key		
53T x 36T	Ctr. Latch Panic Device	No Key		
53T x 77T	Ctr. Latch Panic Device	No Key		
53TC x 26TC	Ctr. Latch Panic Device	1E72		
53TC x 36T	Ctr. Latch Panic Device	1E72		
53TC x 77TC	Ctr. Latch Panic Device	1E72		
54DT x 20DT	Two Point Panic Device	No Key		

AMERICAN DEVICE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
54DT x 26DT	Two Point Panic Device	No Key		
54DT x 36DT	Two Point Panic Device	No Key		
54DT x 70DT	Two Point Panic Device	No Key		
54DTx77DT	Two Point Panic Device	No Key		
54EO	Two Point Panic Device	No Key		
54Kx14K	Two Point Panic Device	No Key		
54KCx14KC	Two Point Panic Device	1E72		
54LCx26LC	Two Point Panic Device	1E72		
54LCx36LC	Two Point Panic Device	1E72		
54Tx26T	Two Point Panic Device	No Key		
54Tx36T	Two Point Panic Device	No Key		
54Tx77T	Two Point Panic Device	No Key		
54TCx26TC	Two Point Panic Device	1E72		
54TCx36T	Two Point Panic Device	1E72		
54TCx77TC	Two Point Panic Device	1E72		
55C	Mortise Panic Device	1E74	C4	
55CxM26C	Mortise Panic Device	1E74	C4	
55Cx36DT	Mortise Panic Device	1E74	C4	
55CxM77C	Mortise Panic Device	1E74	C4	
55DTx20DT	Mortise Panic Device	No Key		
55DTx26DT	Mortise Panic Device	No Key		
55DTx36DT	Mortise Panic Device	No Key		
55DTx70DT	Mortise Panic Device	No Key		
55DTx77DT	Mortise Panic Device	No Key		
55EO	Mortise Panic Device	No Key		
55KxM14K	Mortise Panic Device	No Key		

AMERICAN DEVICE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
55KCxM14KC	Mortise Panic Device	1E74	C4	
55TxM26T	Mortise Panic Device	No Key		
55Tx36T	Mortise Panic Device	No Key		
55TxM77T	Mortise Panic Device	1E74	C4	
55TCxM36T	Mortise Panic Device	1E74	C4	
55TCxM77TC	Mortise Panic Device	1E74	C4	
63DTB	Dummy Trim Panic	No Key		
2000 Series	Highland Mailbox	8L7SPRxA7117		
2600 Series	Centurian Mailbox	8L7SPRxA7117		
3000 Series	Classic Mailbox	8L7SPRxA7117		
4503 x JP03		1E74	C4	
6302	Panic Device	No Key		
6303	Panic Device	1E72		
6305	Panic Device	1E72		
6305 X A105	Panic Device	1E72		
6308	Panic Device	1E72		
6322	Panic Device	No Key		
6401 X 64DT	Panic Device	No Key		
6405	Panic Device	1E72		
6405 X A105	Panic Device	1E72		
6408 x EL108	Panic Device	1E72		
6503	Panic Device	1E74	C4	
6503 X A103	Panic Device	1E74	C4	
6508	Panic Device	1E74	C4	

ARCHITECTURAL CONTROL SYSTEMS

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1310	Key Switch	1E74	C4	

ARROW

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A01	1600N Mortise	No Key		34HON
B01	1700N Mortise	No Key		35HON
A02	1600L Mortise	No Key		34HOL
B02	1700L Mortise	No Key		35HOL
A07	1600X Mortise	No Key	N/A	N/A
A11	1600F Mortise	1E74xA2770	C161	34H_F
B11	1700F Mortise	1E74xA2770	C161	35H_F
A12	1600EW Mortise	1E74xA1247	C127	34H_EW
B12	1700EW Mortise	1E74xA1247	C127	35H_EW
A13	1600B Mortise	1E74xA2770	C161	34H_B
B13	1700B Mortise	1E74xA2770	C161	35H_B
A15	1600HFI Mortise	1E6G4 (B29760 Assy.) 1E7G4 (B29761 Assy.)	C222 C222	34H_HF
B15	1700HFI Mortise	1E6G4 (B29760 Assy.) 1E7G4 (B29761 Assy.)	C222 C222	35H_HF
A16	1600HF Mortise	1E6G4 (B29760 Assy.) 1E7G4 (B29761 Assy.)	C222 C222	34H_HJ
B16	1700HF Mortise	1E6G4 (B29760 Assy.) 1E7G4 (B29761 Assy.)	C222 C222	35H_HJ
A17	1600J Mortise	1E74xA6419	C191	34H_J
B17	1700J Mortise	1E74xA6419	C191	35H_J
A19	1600FD Mortise	1E74xA2770	C161	34H_FW
B19	1700FD Mortise	1E74xA2770	C161	35H_FW
A21	1600A Mortise	1E74xA2770	C161	34H_A
B21	1700A Mortise	1E74xA2770	C161	35H_A
A22	1600E Mortise	1E74xA1247	C127	34H_E
B22	1700E Mortise	1E74xA1247	C127	35H_E
A23	1600D Mortise	1E74xA1247	C127	N/A

ARROW

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
B23	1700D Mortise	1E74xA1247	C127	N/A
A24	1600DW Mortise	1E74xA1247	C127	N/A
B24	1700DW Mortise	1E74xA1247	C127	N/A
A31	1600C Mortise	1E74xA2770 (2 Req.)	C161	34H_C
B31	1700C Mortise	1E74xA2770 (2 Req.)	C161	35H_C
A32	1600G Mortise	1E74xA7190 Outside 1E74xA6190 Inside	C193 C186	34H_G
B32	1700G Mortise	1E74xA7190 Outside 1E74xA6190 Inside	C193 C186	35H_G
A33	1600WW Mortise	1E74xA1247 (2 Req.)	C127	34H_WW
B33	1700WW Mortise	1E74xA1247 (2 Req.)	C127	35H_WW
A34	1600AC Mortise	1E74xA2770 (2 Req.)	C161	34H_W
B34	1700AC Mortise	1E74xA2770 (2 Req.)	C161	35H_W
A35	1600 Mortise	No Adaptation Available		
N40	836X Deadlock	No Adaptation Available		
A41	1600P Mortise	1E74xA2770	C161	34H_P
N41	836K Deadlock	1E74xA14520	C208	38H_K
A42	1600T Mortise	1E74xA2770 (2 Req.)	C161	34H_T
N42	836M Deadlock	1E74xA14520 (2 Req.)	C208	38H_M
N43	836L Deadlock	1E74xA14520	C208	38H_L
A44	1600S Mortise	1E74xA2770	C161	34H_S
N44	836S Deadlock	1E74xA14520	C208	38H_R
420	Alarm Exit	1E74xA14520	C208	
430	Alarm Exit	1E74xA14520	C208	
832K	Mortise Deadlock	1E74xA995	C118	38H_K
832L	Mortise Deadlock	1E74xA995	C118	38H_L
832M	Mortise Deadlock	1E74xA995 (2 Req.)	C118	38H_M

ARROW

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
832S	Mortise Deadlock	1E74xA995	C118	38H_R
836	Thumb Turn Deadlock	No Key		N/A
836K	Cylinder Deadlock	1E74xA14520	C208	38H_K
836L	One Way Deadlock	1E74xA14520	C208	38H_L
836M	Double Cylinder Deadlock	1E74xA14520 (2 Req.)	C208	38H_M
836S	Schoolhouse Deadlock	1E74xA14520	C208	38H_R
861A	Front Door Lock	1E74xA995	C118	34H_A
861AC	Front Door Lock	1E74xA995 (2 Req.)	C118	34H_W
861B	Entrance Door Lock	1E74xA995	C118	34H_B
861C	Comm. Door, Latch & DL	1E74xA995 (2 Req.)	C118	34H_C
861D	Office Lock	1E74xA1247	C127	
861DW	Office Lock, Rigid Knob	1E74xA1247	C127	
861E	Office Lock	1E74xA1247	C127	34H_E
861-1/2E*	Office Lock	1E74xA1247	C127	34H_E
861EW	Office Lock, Rigid Knob	1E74xA1247	C127	34H_EW
861F	Exit Door Lock	1E74xA995	C118	34H_F
861FW	Exit Door Lock	1E74xA995	C118	34H_FW
861G	Apartment, Office, Public Toilet Lock	1E74xA7190 Outside 1E74xA6190 Inside	C186 C193	34H_G
861H	Hotel (Use Emergency Key)	1E7G4xA995	C118	34H_H
861J	Classroom Lock	1E74xA6419	C191	34H_J
861-1/2J*	Classroom Lock	1E74xA6419	C191	34H_J
861P	Deadlock	1E74xA995	C118	34H_P
861S	Deadlock	1E74xA995	C118	34H_S

*Suffix 1/2 for antifriction latch does not change adaptation. Change in nomenclature from 861 to 871 is for 3/4" latch throw, which does not change adaptation.

ARROW

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
861T	Deadlock	1E74xA995 (2 Req.)	C118	34H_T
861-1/2T*	Deadlock	1E74xA995 (2 Req.)	C118	34H_T
1000 Series	H_TB Cylindrical	A9527		8K
1600A	Front Door	1E74xA2770	C161	34H_A
1600AC	Front Door	1E74xA2770 (2 Req.)	C161	34H_W
1600B	Entrance	1E74xA2770	C161	34H_B
1600BW	Entrance, Rigid Knob	** 1E74xA2770	C161	34H_BW
1600C	Store Door	1E74xA2770 (2 Req.)	C161	34H_C
1600D	Office	1E74xA1247	C127	
1600DW	Office, Rigid Knob	1E74xA1247	C127	
1600E	Office Lock	1E74xA1247	C127	34H_E
1600EW	Office, Rigid Knob	1E74xA1247	C127	34H_EW
1600F	Exit	**1E74xA2770	C161	34H_W
1600FD	Exit	1E74xA2770	C161	34H_FW
1600FW	Exit	1E74xA2770	C161	34H_FD
1600G	Apartment, Entrance	1E74xA7190 Outside 1E74xA6190 Inside	C193 C186	34H_G
1600HF	Hotel	***1E6G4 (B29760 Assy.) ***1E7G4 (B29761 Assy.)	C222	34H_H
1600J	Classroom	1E74xA6419	C191	34H_J
1600L	Bathroom	No Key		34HOL
1600N	Continuous Passage	No Key		34HON
1600X	Out Passage	No Key		NA
1600WW	Asylum, Utility	**1E74xA1247 (2 Req.)	C127	NA
1600P	Deadlock	1E74xA2770	C161	34H_P

*Suffix 1/2 for antifriction latch does not change adaptation. Change in nomenclature from 861 to 871 is for 3/4" latch throw, which does not change adaptation.

**For Best retrofits and Arrow Adaptations with non-coined latch lever (A29414) use A29575 cam (C259).

***For Best HF Function retrofits and Arrow H & HF Function Adaptations with non-coined latch lever (A29414) use A23770 cam (C256). Use shifting cam cylinder B29760 (1E6G4) or B29761 (1E7G4).

ARROW

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1600S	Deadlock	1E74xA2770	C161	34H_S
1600T	Deadlock	1E74xA2770 (2 Req.)	C161	34H_T
1700A	Front Door	** 1E74xA2770	C161	35H_A
1700AC	Front Door	1E74xA2770 (2 Req.)	C161	35H_W
1700B	Entrance	1E74xA2770	C161	35H_B
1700BW	Entrance, Rigid Knob	** 1E74xA2770	C161	35H_BW
1700C	Store Door	1E74xA2770 (2 Req.)	C161	35H_C
1700D	Office	1E74xA1247	C127	
1700DW	Office, Rigid Knob	1E74xA1247	C127	
1700E	Office Lock	1E74xA1247	C127	35H_E
1700EW	Office, Rigid Knob	1E74xA1247	C127	35H_EW
1700F	Exit	**1E74xA2770	C161	35H_F
1700FD	Exit	1E74xA2770	C161	35H_FW
1700FW	Exit	1E74xA2770	C161	NA
1700G	Apartment, Entrance	1E74xA7190 Outside 1E74xA6190 Inside	C193 C186	35H_G
1700HF	Hotel	*** 1E6G4 (B29760 Assy.) *** 1E7G4 (B29761 Assy.)	C222 C222	35H_H
1700J	Classroom	1E74xA6419	C191	35H_J
1700L	Bathroom	No Key		35HOL
1700N	Passage	No Key		35HON
1700WW	Asylum, Utility	1E74xA1247 (2 Req.)	C127	NA
FS1701	Exit Device	No Key		
FS1705	Exit Device	1ESPL-7-A5994		
S1905	Exit Device	1E74	C208	
S3808		1ESPL-7-A5994		

**For Best retrofits and Arrow adaptations with non-coined latch lever (A29414) use A29675 cam (C-259)

**For Best HF Function retrofits and Arrow H & HF Function Adaptations with non-coined latch lever (A29414) use A23770 cam (C256). Use shifting cam cylinder B29760 (1E6G4) or B29761 (1E7G4). (Examine door preparation for 9K Compatibility.)

ARROW

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5000 Series	H_DB Cylindrical	No Adaptation Available		8K Series
H Series	Sierra Lever Handle	****Use Equiv.		9K7_15D

****Examine door preparation for 9K compatibility.

BALDWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5704	Deadbolt	Cannot Adapt		
6001	Mortise	1ESPL-7-B35124	C4	34H_A
6010	Mortise	1ESPL-7-B35124	C4	34H_B
6020	Mortise	1ESPL-7-B35124	C4	34H_A
6030	Mortise	1ESPL-7-B35124(2 Req)	C4	34H_C
6050	Mortise	1ESPL-7-B35124	C4	
6060	Mortise	1ESPL-7-B35124	C4	34H_E
6065	Mortise	1ESPL-7-B35124	C4	34H_EW
6070	Mortise	1ESPL-7-B35124	C4	34H_FW
6080	Mortise	1ESPL-7-B35124(2 Req)	C4	
6085	Mortise	1ESPL-7-B35124	C4	
6085 x 5000	Mortise	1ESPL-7-B35124	C4	
6100	Mortise	No Key		34HOL
6110	Mortise	No Key		34HON
6120	Mortise	1ESPL-7-B35124(2 Req)	C4	34H_C
6130	Mortise	1ESPL-7-B35124	C4	34H_J
6140	Mortise	No Key		N/A
6150	Mortise	1ESPL-7-B35124	C4	34H_P
6160	Mortise	1ESPL-7-B35124	C4	34H_S
6170	Mortise	1ESPL-7-B35124(2 Req)	C4	34H_T
6200	Mortise	1ESPL-7-B35124	C4	N/A
6210	Mortise	1ESPL-7-B35124	C4	N/A
6301	Mortise	1ESPL-7-B35124	C4	
6301 x 5000	Mortise	1ESPL-7-B35124	C4	
6310	Mortise	1ESPL-7-B35124	C4	
6330	Mortise	1ESPL-7-B35124	C4	N/A

BALDWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6375	Mortise	1ESPL-7-B35124	C4	
6800	Mortise	1ESPL-7-B35124	C4	
6814	Mortise	1ESPL-7-B35124	C4	
6859	Mortise	No Key		
6860	Mortise	1ESPL-7-B35124	C4	
6875	Mortise	1ESPL-7-B35124	C4	
8555	Deadlock	1ESPL-7-B35124	C4	
8595	Mortise	1ESPL-7-B35124	C4	

BARROWS

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5	Mortise	1E74	C4	
9	Mortise	1E74	C4	
10	Rim Lock	1E72		
1252	Mortise	1E74xA921	C114	

BLUMCRAFT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE.NO.	EQUIV.
H-100D	Panic Device	1E74	C4	
H-100A	Exit Device	1E74	C4	
4110A	Exit Device	1E74	C4	
DB-160-X	Deadbolt	1E74	C4	

BOMMER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6101	Mail Box Lock	8L7SPR - A7117		N/A
6200 Series	Mail Box Lock	8L7SPR - A7117		N/A
6300 Series	Mail Box Lock	8L7SPR - A7117		N/A
9000 Series	Must be installed by Bommer - no retrofit	8L7SPR - A7117		N/A

BRINKS

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2020FSE	Electric Lock	1E74	C4	
2050	Electric Deadbolt	1E74	C4	
3020	Mortise Deadlatch	1E74xA1247	C127	
3020 (Specials)	Special Mortise D.L.	No Adaptation Available		
3020	Mortise Deadlatch (SPL FOR METHODIST HOSPITAL)	1E74xA21481 (RH) 1E74xA21482 (LH)		
3020FS KCE LSS	Mortise Deadlatch	*1ESPL-7-B40130		
3020FSE KCE LSS	Mortise Deadlatch	*1ESPL-7-B40130		
3020KCE	Mortise Deadlatch	*1ESPL-7-B40130		
3030 KLE	Mortise Deadlatch	1ESPL-7-B40130		
3020	Extension Sleeve	** 1ESPL-7-A27019 (non-handed) or 1ESPL-7-A27022 RH or 1ESPL-7-A27023 LH		
8030	Gate Lock	1E74xC4		

*The 1ESPL-7-B40130 Adaptation Cylinder must be sent to Brinks for them to adapt to their lock.

**The (non-handed) adaptation for the 3020 extension sleeve should be used where electrical operation is not used. It is recommended that electrical power be disconnected when using this cylinder. The handed cylinders are designed to prevent activation of the electrical operation and only allow mechanical operation. Currently, we do not supply a core that duplicates the original operation (one key operates electrically another key operates mechanically).

CECO METAL DOORS

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
(Use various Russwin & Yale locksets)				
E12	Mortise Panic	1E74	C4	NA
F23	Exit Device (similar to Corbin 3126)	1E74	C4	
F52	Exit Device (similar to Corbin 3726NT)	1E72		
F53	Exit Device	1E72		
Note:	All F50 are rim devices per Ceco catalog in 1975 Sweets copy.			
E1230	Mortise	1E74	C4	
F1230	Exit Device (similar to Corbin 3126NT)	1E74	C4	
E2330	Mortise Panic	1E74	C4	NA
Note:	The "F" prefix has been obsoleted and changed to the "E" prefix. All functions are the same. Only the prefix changed.			
5311	Mortise	1E74xA995	C118	
5321	Mortise (Russwin A2058-5/8)	1E74xA1248	C128	
A8001	Entrance	1E74xA995	C118	34H_S
A8002	Entrance	1E74xA995 (2 Req.)	C118	34H_T
A8003	Entrance	1E74xA995	C118	34H_P
8010	Vestibule/Rest Room - Single Acting	No Key		
L8010	Vestibule/Rest Room - Single Acting	No Key		
8020	Vestibule/Rest Room - Double Acting	No Key		
L8020	Vestibule/Rest Room - Double Acting	No Key		
A8022	Store Door	1E74xA995 (2 Req.)	C118	34H_C
A8025	Passage	No Key		34H_N
8030	Vestibule/Locker Room	No Key		

CECO METAL DOORS

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A8045	Classroom	1E74xA1249	C129	34H_J
A8048	Entrance	1E74xA995	C118	34H_A
A8049	Special	No Adaptation Available		NA
A8056	Office	No Adaptation Available		34H_E
A8059	Closet	No Adaptation Available		34H_EW
A8061	Dormitory	1E74xA995	C118	34H_FW
8410	Vestibule/Rest Room - Single Acting	No Key		
8411	Entrance/Locker Room	1E74xA995	C118	
8412	Entrance	1E74xA995 (2 Req.)	C118	
8414	Entrance	1E74xA995	C118	
8430	Vestibule/Locker Room	No Key		
8431	Entrance	1E74xA995	C118	

CHALLENGER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
112B	Deadlock	1E74xA1249 (2 Req.)	C129	38H_M
112B RAB	Deadlock	1E74xA1249	C129	
113B	Deadlock	1E74xA1249	C129	38H_K
113B RAB	Deadlock	1E74xA1249	C129	
114B	Deadlock	1E74xA1249	C129	38H_L
114B RAB	Deadlock	1E74xA1249	C129	38H_L
115B	Deadlock	1E74xA1249	C129	38H_R
116	Bolt	No Key		
122B	Deadlock	1E74xA490 (2 Req.)	C102	
123B	Deadlock	1E74xA490	C102	
124B	Deadlock	1E74xA490	C102	
125B	Deadlock	1E74xA921	C114	
127B	Deadlock	1E74xA921 (2 Req.)	C114	
200S	Passage Latch	No Key		34HON
210	Bathroom Lock	No Key		34HOL
231	Communicating Lock	No Key		
251B	Communicating Lock	1E74xA1247	C127	
254B	Storeroom Lock	1E74xA1247	C127	34H_C(1Cyl)
255B	Storeroom Lock	1E74xA1247	C127	34H_B
260DB	Office Lock	1E74xA1247	C127	34H_E
260SB	Vestibule or Office	1E74xA1247	C127	
263B	Front Door Lock	1E74xA1247	C127	34H_A
H263B	Entrance Handle Lock	1E74xA1247	C127	
271DB	Public Toilet Lock	1E74xA1247 (2 Req.)	C127	34H_G
271SB	Public Toilet Lock	1E74xA1247 (2 Req.)	C127	34H_G
280DB	Classroom Lock	1E74xA1247	C127	34H_J
280SB	Classroom Lock	1E74xA1247	C127	34H_J

CHALLENGER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
281B	Communicating Lock	1E74xA1247 (2 Req.)	C127	
282B	Storeroom Lock	1E74xA1247 (2 Req.)	C127	34H_C
H282B	Entrance Handle Store Door Lock	1E74xA1247 (2 Req.)	C127	
290DB	Storeroom Lock	1E74xA1247	C127	34H_EW
290SB	Storeroom Lock	1E74xA1247	C127	
292B	Deadlock	1E74xA1247 (2 Req.)	C127	34H_T
293B	Deadlock	1E74xA1247	C127	34H_P
294B	Deadlock	1E74xA1247	C127	34H_S
300S	Passage Latch	No Key		34HON
310	Bathroom Lock	No Key		34HOL
331	Communicating Lock	No Key		
351B	Communicating Lock	1E74xA1247	C127	
354B	Storeroom Lock	1E74xA1247	C127	34H_C (1 Cyl)
355B	Storeroom Lock	1E74xA1247	C127	34H_B
360DB	Office Lock	1E74xA1247	C127	34H_E
360SB	Vestibule or Office	1E74xA1247	C127	
363B	Entrance Handle Lock	1E74xA1247	C127	34H_A
H363B	Entrance Handle Lock	1E74xA1247	C127	
371DB	Public Toilet Lock	1E74xA1247 (2 Req.)	C127	34H_G
H371B	Entrance Handle Lock	1E74xA1247 (2 Req.)	C127	
371SB	Public Toilet Lock	1E74xA1247 (2 Req.)	C127	34H_G
372B	Hotel Lock	No Adaptation Available		
373B	Hotel Lock	No Adaptation Available		
380DB	Classroom Lock	1E74xA1247	C127	34H_J
380SB	Classroom Lock	1E74xA1247	C127	34H_J
381B	Communicating Lock	1E74xA1247 (2 Req.)	C127	

CHALLENGER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
382B	Storeroom Lock	1E74xA1247 (2 Req.)	C127	34H_C
H382B	Entrance Handle Store Door Lock	1E74xA1247 (2 Req.)	C127	
390DB	Storeroom Lock	1E74xA1247	C127	34H_EW
390SB	Storeroom Lock	1E74xA1247	C127	
392B	Deadlock	1E74xA1247 (2 Req.)	C127	34H_T
393B	Deadlock	1E74xA1247	C127	34H_P
394B	Deadlock	1E74xA1247	C127	34H_S
396	Bolt	No Key		
400D-3/4	Knob Latch Reg.	No Key		34HON
460DB-3/4	Office Door Lock	1E74xA1247 C127		
471DB-3/4	Entrance Door Lock	1E74xA1247 (2 Req.)	C127	34H_G
480	Dead Bolt	1E74xA1247	C127	
500	No adaptation for this series			

CYLINDRICAL LOCKSETS - MEDIUM DUTY

800S	Passage	No Key		62KON
803S	Closet Latch	No Key		62KON
804D	Exit Latch	No Key		
810S	Bathroom - Bedroom	No Key		62KOL
812D	Communicating Lock	No Key		
820D	Patio Lock	No Key		62KOP
830D	Exit Latch	No Key		
833D	Twin Communicating Lock	No Key		
840D	Exit Latch	No Key		
850DC	Office Door Lock	Cannot Adapt		62K_AB
855DC	Dorm & Motel Lock	Cannot Adapt		
860DC	Exterior Lock	Cannot Adapt		62K_AB

CHALLENGER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
870DC	All Purpose Lock	Cannot Adapt		62K_AB
871DC	Entrance Lock	Cannot Adapt		
872DC	Motel & Hotel Lock	Cannot Adapt		
877DC	Service Station Lock	Cannot Adapt		62K_E
880DC	Classroom Lock	Cannot Adapt		62K_R
881DC	Communicating Lock	Cannot Adapt		
882DC	Store Door Lock	Cannot Adapt		
883DC	Closet Latch	Cannot Adapt		
884DC	Cabinet Lock	Cannot Adapt		
890DC	Storeroom Lock	Cannot Adapt		62K_D
891DC	Fixed Knob	Cannot Adapt		
893DC	Storeroom Closet Latch	Cannot Adapt		
894DC	Cabinet Lock	Cannot Adapt		
898DC	Double Cylinder Lock	Cannot Adapt		
<u>CYLINDRICAL LOCKSETS - HEAVY DUTY</u>				
900 Series	Knob Adaptation	No Adaptation Available		8K Series
X900	Dummy	No Key		
X900WT	Working Trim	No Key		
900S	Passage Latch			
900S-3/4	Passage Latch	No Key		83KOZ-3/4
903S	Closet Latch	No Key		83KOZ
904D	Exit Latch	No Key		83KOY
910S	Privacy Lock	No Key		83KOL
920D	Patio Lock	No Key		83KOP
930	Exit Lock	No Key		83KOQ
931D	Communicating Lock	No Key		83KOM
933D	Communicating Lock	No Key		

CHALLENGER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
940D	Exit Lock	No Key		83KONX
950DP	Office Lock	Cannot Adapt		83K_B
955DP	Dorm Lock	Cannot Adapt		83K_T
960DP	Exterior Lock	Cannot Adapt		83K_A
960DP-3/4	Exterior Lock	Cannot Adapt		83K_A-3/4
970DP	All Purpose Lock	Cannot Adapt		83K_AB
971DP	Entrance Lock	Cannot Adapt		83K_C
871DP-3/4	Entrance Lock	Cannot Adapt		83K_C-3/4
972DP	Hotel Lock	Cannot Adapt		83K_H
975DP	Communicating Lock	Cannot Adapt		
977DP	Service Station Lock	Cannot Adapt		83K_E
980DP	Classroom Lock	Cannot Adapt		83K_R
980DP-HB	Classroom Lock/Holdback	Cannot Adapt		
981DP	Communicating Lock	Cannot Adapt		83K_S
982DP	Storeroom Lock	Cannot Adapt		83K_G
983DP-HB	Store Door Holdback	Cannot Adapt		
983DP	Closet Latch	Cannot Adapt		
984DP	Cabinet Lock	Cannot Adapt		
985DP	Communicating Lock	Cannot Adapt		
987DP	Exit Lock	Cannot Adapt		
988DP	Institution	Cannot Adapt		
989DP	Institution	Cannot Adapt		
990DP	Storeroom Lock	Cannot Adapt		83K_D
991DP	Fixed Knob Lock	Cannot Adapt		83K_W
993DP	Storeroom Closet Latch	Cannot Adapt		
994DP	Cabinet Lock	Cannot Adapt		
998DP	Double Cylinder Lock	Cannot Adapt		

CHALLENGER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
H2380M	Panic Device	1E74	C4	
H2380V	Vertical Rod Panic Device	A8736		

COOKSON CO.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
None	Rolling grilles that use a Welch #207	1E74xR710	C4	
None	Rolling grilles that use MS cam.	1E74X5979	C181	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
29x52BK	Exit Device	1ESPL-7-A35297-R811	C101 (2 cams)	
30x52BL	Exit Device	1ESPL-7-A35297-R811	C101 (2 cams)	
30Ux51AL 977L	Vertical Rod Exit	No Key		
30Ux52BK	Exit Device	1ESPL-7-A35297-R811	C101 (2 cams)	
30Ux52BL 977L	Vertical Rod Exit	1ESPL-7-A35297-R811	C101 (2 cams)	
35U-5MBL	Mortise Exit	1E74	C129	
39x32P	Exit Device	1E72		
39x52BL	Exit Device	1ESPL-7-A35297-R811	C101 (2 cams)	
39Ux52BK	Exit Device	1ESPL-7-A35297-R811	C101 (2 cams)	
39Ux52BL	Exit Device	1ESPL-7-A35297-R811	C101 (2 cams)	
49 Series	Panic Devices	1E72 (Outside)		
49DCx5211	Rim Exit Device	1E72 (Outside)		
37 Trim for 3727	Rim Device	1E74(Cyl Dog Inside) C4 1ESPL-7-A35297-R811	C101 (2 cams)	
120	Exit Device	No Key		
121	Exit Device	1E72		
122	Exit Device	No Key		
122NB	Exit Device	No Key		
122x121	Exit Device	1E72		
122x122	Exit Device	No Key		
122x126	Exit Device	1E74	C4	
122x126NT	Exit Device	1E74	C4	
122x126-1/2	Exit Device	No Adaptation Available		
122x126-1/2NT	Exit Device	No Adaptation Available		
122x127	Exit Device	1E74	C4	
122x127-1/2	Exit Device	No Adaptation Available		
122x128	Exit Device	1E72		
122x129	Exit Device	No Key		
122x131	Exit Device	1E72		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
122x138	Exit Device	1E72		
124	Exit Device	1E72		
125	Exit Device	1E72		
126	Exit Device	1E74	C4	
126NT	Exit Device	1E74	C4	
126-1/2	Exit Device	No Adaptation Available		
126-1/2NT	Exit Device	No Adaptation Available		
127	Exit Device	1E74	C4	
127-1/2	Exit Device	No Adaptation Available		
128	Exit Device	1E72		
129	Exit Device	No Key		
131	Exit Device	1E72		
134	Sliding Door Lock	1E74 (2 Req.)	C4	
134-1/4	Sliding Door Lock	1E74	C4	
134-3/4	Sliding Door Lock	1E74	C4	
135	Exit Device	1E72		
138	Exit Device	1E72		
140	Exit Device	No Key		
142	Exit Device	No Key		
144	Bit Key	Cannot Adapt		38H_M
144MK	Bit Key	Cannot Adapt		38H_M
146	Exit Lever	1E74	C4	
146-1/2	Exit Lever	1E74 (2 Req.)	C4	
147	Exit Lever	1E74	C4	
147MK	Bit Key	Cannot Adapt		38H_M
147-1/2	Exit Lever	1E74 (2 Req.)	C4	
149	Exit Lever	No Key		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
150	Mail Box	No Adaptation Available		
151	Mail Box	No Adaptation Available		
152A	Mail Box	No Adaptation Available		
153	Mail Box	No Adaptation Available		
0157	Bit Key	Cannot Adapt		38H_M
158	Mortise Classroom	1E74	C4	38H_R
158-1/4	Mortise Classroom	1E74 (2 Req.)	C4	
0174	Mortise Lock	No Key		
202	Garage Lock	1E72x1ES4		
245	Cylinder	A7517		
250-1/2	Key Plug	Cannot Adapt		
252	Cylinder	1E04		
252-1/2	Cylinder	3E04		
253	Cylinder	1E74		
253Y	Cylinder	No Adaptation Available		
253Z	Cylinder	A8737 RHO, LHI A8740 LHO, RHI		
253-1/4	Cylinder	1E74xA995	C118	
253-1/4H	Cylinder	No Adaptation Available		
253-1/2	Cylinder	3E74		
253-1/2Z	Cylinder	No Adaptation Available		
253-5/8	Cylinder	No Adaptation Available		
253-3/4	Cylinder	No Adaptation Available		
253-7/8	Cylinder	No Adaptation Available		
254	Cylinder	No Adaptation Available		
258	Cylinder	No Adaptation Available		
259	Cylinder	1E7A4		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
259-1/4	Cylinder	1E74xA995	C118	
261	Cylinder	1E72		
261-1/2	Cylinder	No Adaptation Available		
263-1/2	Cylinder	3E74		
300	Communicating Unit	No Key		N/A
301D	Closet Unit Lock	*A7693		N/A
310	Passage Unit Lock	No Key		N/A
320	Privacy Unit Lock	No Key		N/A
320x320	Exit Device	No Key		
320x326	Exit Device	1E74	C4	
320x326NT	Exit Device	1E74	C4	
320x326-1/2	Exit Device	No Adaptation Available		
320x326-1/2NT	Exit Device	No Adaptation Available		
320x327	Exit Device	1E74	C4	
320x327-1/2	Exit Device	No Adaptation Available		
320x329	Exit Device	No Key		
320Y	Privacy Unit Lock	No Key		N/A
322D	Store Door Unit	*A7693 (2 Req.)		N/A
323D	Store Door Unit	*A7693		N/A
326	Exit Device	1E74	C4	
326NT	Exit Device	1E74	C4	
326-1/2	Exit Device	No Adaptation Available		
326-1/2NT	Exit Device	No Adaptation Available		
327	Hotel Unit Lock	Cannot Adapt		

*A7693 is a Round Knob Contour. This adaptation is for locks with a unified design Corbin Core. Older locks may require a different adaptation based on throw member.

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.EQUIV.
327-1/2	Exit Device	No Adaptation Available	
329	Hotel Unit Lock	Cannot Adapt	
332	Institution Unit	* A7693 (2 Req.)	N/A
341	Patio Unit Lock	No Key	N/A
346	Night Latch	1E72	
351	Entrance Unit Lock	*A7693	N/A
354	Office Unit Lock	*A7693 (2 Req.)	N/A
355	Classroom Unit Lock	*A7693	N/A
355-1/4	Hospital Unit Lock	*A7693	N/A
356	Patio Unit Lock	*A7693	N/A
357	Storeroom Unit Lock	*A7693	N/A
360	Deadlock	1E72	
360-1/2	Deadlock	1ESPL-7-A08679	
361	Office Unit Lock	*A7693	N/A
365	Dormitory Unit Lock	*A7693	N/A
366	Night Latch	No Adaptation Available	
0371CX	Cabinet Lock	Cannot Adapt	5L_MD3
375	Dormitory Unit Lock	*A7693	N/A
387	Closet Unit Lock	*A7693	N/A
388	Store Door Unit Lock	*A7693 (2 Req.)	N/A
400	Cylindrical	No Key	
402	Cylindrical	No Adaptation Available	
404	Cylindrical	No Adaptation Available	83K_S

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CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
405	Cylindrical	No Adaptation Available		
410	Passage	No Key		83KON
412AR	Mortise Deadlock	1E74xA1247	C127	38H_M
415	Exit Lock	No Key		83KONX
419	Lockset	No Key		83KOZ
420	Bathroom	No Key		83KOL
420Y	Bathroom	No Key		
421	Mortise Deadlock	1E74xA14472	C210	
422	Mortise Deadlock	1E74xA14472 (2 Req.)	C210	
423	Mortise Deadlock	1E74xA14472	C210	
427	Mortise Deadlock Classroom	1E74xA14472	C210	
428	Hotel H.D. Cylindrical	Cannot Adapt		83K_H
429	Hotel H.D. Cylindrical	Cannot Adapt		83K_H
432	Institution	A7048 (2 Req.)		83K_W
441	Privacy	No Key		83KOP
444	Exit Door	No Key		83KOQ
451	Entrance	A7048		83K_A
454	Entrance	No Adaptation Available		83K_C
455	Classroom	No Adaptation Available		83K_R
455-1/4	Cylindrical Lock	No Adaptation Available		
455-3/4	Cylindrical Lock	No Adaptation Available		
456	Cylindrical Lock	No Adaptation Available		
457	Storeroom	A7048		83K_D
459	Lockset	A7048		
461	Office Lock	No Adaptation Available		83K_B

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
462	Lockset	No Adaptation Available		83K_AB
463	Service Station	No Adaptation Available		83K_E
465	Dormitory	A7090		83K_T
469	Lockset	No Adaptation Available		
487	Lockset	No Adaptation Available		
488	Storeroom Door	No Adaptation Available		83K_G
500	Communicating	No Key		
500D	Communicating	No Key		
507D	Communicating	No Adaptation Available		
508D	Communicating	No Adaptation Available		
510	Passage Lock	No Key		
510-3/4	Passage Lock	No Key		
520	Privacy Lock	No Key		
520D	Privacy Lock	No Key		
522	Entrance Lock	No Adaptation Available		
523	Entrance Lock	No Adaptation Available		
528	Mortise Latch	1E74	C4	
528-1/2	Mortise Latch	1E74 (2 Req.)	C4	
529	Hotel Lock	No Adaptation Available		
531	Mortise Lock	No Adaptation Available		
532	Fixed Knobs	No Adaptation Available		
0538-1/4	Mortise Hotel	No Adaptation Available		
0538-1/2	Mortise Hotel	No Adaptation Available		
0538-3/4	Mortise Hotel	No Adaptation Available		
540	Mortise Hotel	No Adaptation Available		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
542	Mortise Hotel	No Adaptation Available		
543	Entrance Lock	No Adaptation Available		
544	Mortise Hotel	No Adaptation Available		
546	Mortise Hotel	No Adaptation Available		
0547-3/4	Mortise Latch	1E74	C4	
0548	Mortise Latch	1E74	C4	
0548-1/2	Mortise Latch	1E74 (2 Req.)	C4	
551	Entrance Lock	No Adaptation Available		
553	Entrance Lock	No Adaptation Available		
554	Vestibule Lock	No Adaptation Available		
554-3/4	Firedoor	No Adaptation Available		
555	Classroom	No Adaptation Available		
557	Storeroom	No Adaptation Available		
578	Mortise Latch	1E74	C4	
578-1/2	Mortise Latch	1E74 (2 Req.)	C4	
588	Store Door	No Adaptation Available		
589	Closet Lock	No Adaptation Available		
592	Mortise Lock	1E74 (2 Req.)	C4	
593	Mortise Lock	1E74	C4	
598	Asylum Lock	No Adaptation Available		
600	Lockset	No Key		
603	Cylindrical Deadlock	No Key		
610	Passage Lock	No Key		62KON
611	Cylindrical Deadlock	1E74xA1172	C121	83T_L
612	Double Cylinder Deadlock	1E74xA1172 (2 Req.)	C121	83T_M

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
613	Cylindrical Deadlock	1E74xA1172	C121	83T_K
615	Exit Latch	No Key		
617	Cyl. Tubular Deadlock	1E74xA1172	C121	83T_S
620	Bathroom Lock	No Key		62KOL
621	Deadlock	1E74xA5979	C181	
622	Deadlock	1E74xA5979	C181	
623	Deadlock	1E74xA5979	C181	
627	Old Hotel Lock	Cannot Adapt		
627	Tubular Deadlock	No Adaptation Available		
629	Old Hotel Lock	Cannot Adapt		
641	Lockset	No Key		62KOP
644	Exit Latch	No Key		
651	Office Lock	Cannot Adapt		62K_AB
655	Classroom	Cannot Adapt		62K_R
657	Storeroom	Cannot Adapt		62K_D
661	Office Lock	Cannot Adapt		62K_AB
662	General	Cannot Adapt		62K_AB
663	Service Station	Cannot Adapt		62K_E
674	Institution	Cannot Adapt		
675	Communicating	Cannot Adapt		
0686X	Cabinet	Cannot Adapt		5L_MD2
0695-3/4	Bit Key Lock	Cannot Adapt		
709	Closet Door	Cannot Adapt		
710	Passage	No Key		
720	Privacy	No Key		
720Y	Privacy	No Key		
721	Patio	No Key		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
724	Exit	No Key		
726U	Exit Device	1E72		
727U	Exit Device	1E72		
729U	Exit Device	No Key		
729 1/4U	Exit Device	1E72		
731	Entrance	Cannot Adapt		
741	Patio	No Key		
744	Exit	No Key		
751	Entrance	Cannot Adapt		
760	Tubular	A7517		
761	Exterior	Cannot Adapt		
771	Exterior	Cannot Adapt		
779	Cupboard	Cannot Adapt		
800 Series	#75 Lever Handle	**Use Equiv.		9K7_16D
800 Series	#77 Lever Handle	**Use Equiv.		9K7_15D
845	Latch Only			
900	Communicating	No Key		
901D	Communicating	No Adaptation Available		
902	Communicating	No Adaptation Available		
910	Passage	No Key		
915	Exit Lock	No Key		
920	Privacy	No Key		
920Y	Privacy	No Key		
921	Patio	No Key		
922D	Entrance	No Adaptation Available		

**Examine door preparation for 9K compatibility.

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
923D	Entrance	No Adaptation Available		
924D	Patio	No Key		
927	Hotel	No Adaptation Available		
929	Hotel	No Adaptation Available		
932	Lockset	No Adaptation Available		
941	Patio	No Key		
944	Patio	No Key		
951	Entrance	No Adaptation Available		
954	Lockset	No Adaptation Available		
955	Classroom	No Adaptation Available		
955-1/4	Classroom	No Adaptation Available		
955-1/2	Asylum	No Adaptation Available		
956	Patio	No Adaptation Available		
956D	Patio	No Adaptation Available		
957	Storeroom	No Adaptation Available		
961	Office	No Adaptation Available		
964	Vestibule	No Adaptation Available		
965	Dormitory	No Adaptation Available		
975	Dormitory	No Adaptation Available		
987	Closet	No Adaptation Available		
988	Store Door	No Adaptation Available		
989	Institution	No Adaptation Available		
1061	Exit Device	1E74	C4	
1062	Exit Fixture	No Key		
1063	Fixture	1E74	C4	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1068	Fixture	1E74	C4	
1303-3/4	Mortise Lock	1E74	C4	
01329	Fixture	1E74xA40088 Outside A8727 Inside (Specify hand)	C234	
1341	Lock	1E74	C4	
1341 RAB	Lock	1E74	C4	
1386	Lock	3E74 (2 Req.)	C3	
1392	Lock	1E74 (2 Req.)	C4	
1394	Lock	1E74 (2 Req.)	C4	
1395	Lock	A593		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1500	Communicating	No Key		
1512	Bit Key	Cannot Adapt		
1520	Bedroom	No Key		
1522	Bit Key	Cannot Adapt		
1522 RAB	Bit Key	Cannot Adapt		
1700	Communicating	No Key		
1720	Bedroom	No Key		
1722	Bit Key	Cannot Adapt		
1812	Bit Key	Cannot Adapt		
1822	Bit Key	Cannot Adapt		
2060	3 Point Lock	No Adaptation Available		
2060-1/2	3 Point Lock	No Key		
2060-5/8	3 Point Lock	No Adaptation Available		
2060-3/4	3 Point Lock	No Adaptation Available		
2061	Exit Device	1E74	C4	
2062	Exit Panic Lock	None		
2063	Exit Device	1E74	C4	
2063x4379-1/4	3 Point Lock	No Adaptation Available		
2065	3 Point Lock	No Adaptation Available		
2065-1/2	3 Point Lock	No Key		
2065-5/8	3 Point Lock	No Adaptation Available		
2065-3/4	3 Point Lock	No Adaptation Available		
2068	Exit Panic Lock	1E74	C4	
02291 S	Sliding Door	Cannot Adapt		
2715	Utility Cyl.	Cannot Adapt		
2716	Utility Cyl.	Cannot Adapt		
2717	Utility Cyl.	Cannot Adapt		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2826NT	Exit Bolt	1E72		
2829	Exit Device	No key		
2829-1/4	Exit Device	1E72		
2927	Exit Device	1E72		
2927-1/2	Exit Device	1E72 Outside A4317 Inside		
2936	Exit Device	1E72		
2936NT	Exit Device	1E72		
2936-1/2	Exit Device	1E72 Outside A4317 Inside		
2939	Exit Device	No Key		
2939-1/4	Exit Device	1E72		
3000	3 Point Lock	3E74	C3	
3001	3 Point Lock	3E74	C3	
3002	3 Point Lock	No Key		
3010	3 Point Lock	3E74	C3	
3062	Exit Device	No Key		
3062 U	Exit Device	No Key		
3068	Concealed Vert. Rod	1E74	C4	
3068 U	Concealed Vert. Rod	1E74	C4	
3098 U 863	Concealed Vert. Rod	1E74	C4	
3120	Rim Panic	No Key		
3121	Rim Panic	1E72		
3122	Rim Panic	No Key		
3124	Rim Panic	1E72		
3125	Rim Panic	1E72		
3126	Mortise Panic	*1E64 (Min. Size)	C4	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
3126NT	Mortise Panic	*1E64 (Min. Size)	C4	
3126 U x 31M	Mortise Panic	*1E64 (Min. Size)	C4	
3126-1/2	Mortise Panic	1E74-44 I/S, 1E74 O/S	C4	
3126-1/2NT	Mortise Panic	1E74-44 I/S, 1E74 O/S	C4	
3127	Mortise Panic	** 1E74-22	C4	
3127 U	(U.L. Fire) Panic	** 1E74-22	C4	
3127-1/2	Mortise Panic	** 1E74-22 Outside 1E74-44 In (2-3/4 Cyl)	C4 C4	
3127-027M	Exit Device	** 1E74-22	C4	
3128	Rim Panic	1E72		
3129	Mortise Panic	No Key		
3130	Rim Panic	No Key		
3131	Rim Panic	1E72		
3132	Rim Panic	No Key		
3134	Rim Panic	1E72		
3135	Rim Panic	1E72		
3136	Mortise Panic	*1E64 (Min. Size)	C4	
3136NT	Mortise Panic	*1E64 (Min. Size)	C4	
3136-1/2	Mortise Panic	No Adaptation Available		
3136-1/2NT	Mortise Panic	No Adaptation Available		
3137	Mortise Panic	**1E74-22	C4	
3137-1/2	Mortise Panic	No Adaptation Available		
3138	Rim Panic	1E72		
3139	Mortise Panic	No Key		
3145	Rim Panic	1E72		

*Only used if no M.R. (Master Ring) cylinder is specified.
 **1-3/8" Best Cylinder Equivalent to 1-1/2" Corbin Cylinder.

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
3146	Rim Panic	1E72		
3148	Rim Panic	1E72		
3149	Rim Panic	1E72		
3155	Rim Panic	1E72		
3156	Rim Panic	1E72		
3158	Rim Panic	1E72		
3159	Rim Panic	1E72		
3220 U x 310NT	Rim Panic	1E72		
3224 U	Rim Panic	1E72		
3225 U	Rim Panic	1E72		
3225 U x 27B	Rim Panic	1E72		
3530	Rim Panic	Cannot Adapt		
3726	Rim Panic	1ESPL-7-B40145		
3726NT	Rim Panic	1ESPL-7-B40145		
Note: An 8 prefix for the 3726NT is a Corbin option and does not change the Best cylinder that may be used to adapt the lock.				
3726-1/2	Rim Panic	1ESPL-7-B40145 Outside No Adaptation Available Inside Cylinder		
3727	Rim Panic	1ESPL-7-B40145		
3727-1/2	Rim Panic	1ESPL-7-B40145 Outside No Adaptation Available Inside Cylinder		
3727-37	Rim Panic	1ESPL-7-A35297-R811	C101 (2 cams)	
3729	Rim Panic	No Key		
3729-1/4	Rim Panic	1E72		
3736	Rim Panic	1E72		
3736-1/2	Rim Panic	1E72 Outside No Adaptation Available Inside		
3737	Rim Panic	1E72		
3737-1/2	Rim Panic	1E72 Outside 1E64xA19682 Inside or 1E74xA19683 Inside	C130 C130	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
3739	Rim Panic	No Key		
3739-1/4	Rim Panic	1E72		
3826NT	Rim Panic	1E72		
3829	Rim Panic	No Key		
3829-1/4	Rim Panic	1E72		
4000	Lockset	No Key		
4001	Lockset	3E74	C3	
4002	Lockset	3E74 (2 Req.)	C3	
4003	Lockset	3E74	C3	
4021	Lockset	1E74	C4	
4022	Lockset	1E74 (2 Req.)	C4	
4023	Lockset	1E74	C4	
4055	Lockset	1E74	C4	
4061	Exit Device	1E74	C4	
4063	Exit Device	1E74	C4	
4065	Exit Device	1ESPL-7-A14227	Use Original Corbin Cam & Hex Nut	
4068	Exit Device	1E74	C4	
4126	Exit Device	1E74	C4	
4126NT	Exit Device	1E74	C4	
4127K	Exit Device	1E74 Min. Length	C4	
4129	Exit Device	No Key		
4161	Exit Device	1E74	C4	
4162	Exit Device	No Key		
4163	Exit Device	1E74	C4	
4168	Exit Device	1E74	C4	
4518	Rim Lock	Cannot Adapt		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4530	Rim Lock	Cannot Adapt		
4551	Rim Lock	Cannot Adapt		
4570	Rim Lock	1E72		
4581	Rim Lock	1E74	C4	
4631	Medium Cyl.	Cannot Adapt		
4651	Medium Cyl.	Cannot Adapt		
4655	Medium Cyl.	Cannot Adapt		
4657	Medium Cyl.	Cannot Adapt		
4661	Medium Cyl.	Cannot Adapt		
4662	Medium Cyl.	Cannot Adapt		
4663	Medium Cyl.	Cannot Adapt		
4726NTx 47NTA	Exit Device	1E72		
4729	Exit Device	No Key		
4731	Light Cyl.	Cannot Adapt		
4751	Light Cyl.	Cannot Adapt		
4761	Light Cyl.	Cannot Adapt		
4771	Light Cyl.	Cannot Adapt		
5211	Rim Cyl.	1E72		1E_2
5245	Cylinder	A7517		
5250-1/2	Key Plug	No Adaptation Available		
5252	Dummy Cyl.	1E04		1E04
5252-1/2	Dummy Cyl.	3E04		3E04
5253	Cylinder	1E74	C129	1E_4
5253FE-1/8	Cylinder	A7273		
5253Y	Cylinder	No Adaptation Available		
5253Z	Cylinder	A8737 RHO, LHI A8740 LHO, RHI	C230 C230	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5253-1/4	Cylinder	1E74	C118	
5253-1/4H	Cylinder	No Adaptation Available		
5253-1/2	Cylinder	3E74	C3	
5253-1/2Z	Cylinder	A2492		
5253-5/8	Cylinder	No Adaptation Available		
5253-3/4	Cylinder	No Adaptation Available		
5253-7/8	Cylinder	No Adaptation Available		
5258	Cylinder	A7273		
5261	Cylinder	1E72		
5261-1/2	Cylinder	A8679		
5263-1/2	Cylinder	3E74	C3	
5460	Key Plug	Cannot Adapt		
5460-1/2	Key Plug	Cannot Adapt		
5670	Key Plug	Cannot Adapt		
5671	Key Plug	Cannot Adapt		
5870	Key Plug	Cannot Adapt		
6143	Lock	1E74xA995	C118	
6211	Deadlock	1E74	C4	38H_L
6211 RAB	Deadlock	1E74	C4	
6212	Deadlock	1E74 (2 Req.)	C4	38H_M
6212 RAB	Deadlock	1E74 (2 Req.)	C4	
6213	Deadlock	1E74	C4	38H_K
6213 RAB	Deadlock	1E74	C4	
6217	Deadlock	1E74	C4	38H_R
6231	Mortise Lock	1E74xA995	C118	
6243	Mortise Lock	1E74xA995	C118	
6243-1/4	Mortise Lock	1E74xA995	C118	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6248	Mortise Lock	1E74xA995	C118	
6327	Hotel Lock	No Adaptation Available		
6329	Mortise Lock	1E74	C4	
6349	Mortise Lock	1E74	C4	
06411	Cylinder Deadlock	1E74xA1247	C127	38H_L
06411 AR	Deadlock	1E74xA1247	C127	
06411 RAB	Deadlock	1E74xA1247	C127	
06412	Deadlock	1E74xA1247 (2 Req.)	C127	38H_M
06412 RAB	Deadlock	1E74xA1247 (2 Req.)	C127	
06413	Deadlock	1E74xA1247	C127	38H_K
06413 AR	Deadlock	1E74xA1247	C127	
06413 RAB	Deadlock	1E74xA1247	C127	
6415	Deadlock	1E74xA1247	C127	
6416	Deadlock	No Adaptation Available		
06417	Classroom Deadlock	1E74xA1247	C127	38H_R
6444	Lock	A8737 RH Outside A8740 LH Outside 1E74 Inside	C230 C230 C4	
6474	Lock	A8737 RH Outside A8740 LH Outside 1E74 Inside	C230 C230 C4	
6511	Deadlock	1E74	C4	
6512	Deadlock	1E74 (2 Req.)	C4	
6513	Deadlock	1E74	C4	
6572	Lock	1E74 (2 Req.)	C4	
6573	Lock	1E74	C4	
6610	Mortise Lock	No Key		34HON
6651	Mortise	1E74	C4	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6654	Mortise Lock	1E74 (2 Req.)	C4	34H_G
6657	Lock	1E74	C4	
6711	Deadlock	1E74	C4	38H_L
6712	Deadlock	1E74 (2 Req.)	C4	38H_M
6713	Deadlock	1E74	C4	38H_K
6717	Deadlock	1E74	C4	38H_R
6721	Mortise Lock	1E74	C4	
6722	Mortise Lock	1E74 (2 Req.)	C4	
6723	Mortise Lock	1E74	C4	
6892	Mortise Lock	1E74 (2 Req.)	C4	
6893	Mortise Lock	1E74	C4	
7000	Mortise Lock	No Key		
7010	Mortise Lock	No Key		
7011	Mortise Lock	1E74xA995	C118	
7012	Mortise Lock	1E74xA995 (2 Req.)	C118	
7013	Mortise Lock	1E74xA995	C118	
7017	Mortise Lock	1E74xA995	C118	
7020	Mortise Lock	No Key		
7021	Mortise Lock	1E74xA995	C118	
7022	Mortise Lock	1E74xA995 (2 Req.)	C118	
7023	Mortise Lock	1E74xA995	C118	
7023-1/4	Mortise Lock	1E74xA995	C118	
7025	Mortise Lock	1E74xA995	C118	
7027	Hotel Lock	No Adaptation Available		
7031	Mortise Lock	1E74xA995	C118	
7033	Mortise Lock	1E74xA995	C118	
7034	Mortise Lock	1E74xA995 (2 Req.)	C118	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7035	Mortise	1E74	C4	
7037	Mortise Lock	1E74xA995	C118	
7042	Mortise Lock	1E74xA995 (2 Req.)	C118	
7043	Mortise Lock	1E74xA995	C118	
7047	Mortise Lock	1E74xA995	C118	
7048	Mortise Lock	1E74xA995	C118	
7051	Mortise Lock	1E74xA995	C118	
7054	Mortise Lock	1E74xA14333 Outside 1E74 Inside	C220 C4	
7055	Mortise Lock	1E74xA1799	C152	
7057	Mortise Lock	1E74xA995	C118	
7072	Lock	1E74 (2 Req.)	C4	
7073	Lock	1E74	C4	
7088	Lock	1E74xA995 (2 Req.)	C118	
7200	Mortise Lock	No Key		
7210	Passage Lock	No Key		
7220	Mortise Lock	No Key		
7221	Mortise Lock	1E74xA995	C118	
7222	Mortise Lock	1E74xA995 (2 Req.)	C118	
7223	Mortise Lock	1E74xA995	C118	
7223-1/4	Mortise Lock	1E74xA995	C118	
7225	Mortise Lock	1E74xA995	C118	
7227	Hotel Lock	No Adaptation Available		
7231	Mortise Lock	1E74xA995	C118	
7233	Mortise Lock	1E74xA995	C118	
7234	Mortise Lock	1E74xA995 (2 Req.)	C118	
7235	Mortise Lock	1E74	C4	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	
7237	Mortise Lock	1E74xA995	C118	
7242	Mortise Lock	1E74xA995 (2 Req.)	C118	
7243	Mortise Lock	1E74xA995	C118	
7247	Mortise Lock	1E74xA995	C118	
7248	Mortise Lock	1E74xA995	C118	
7251	Mortise Lock	1E74xA995	C118	
7254	Mortise Lock	1E74xA995 Outside 1E74 Inside	C118 C4	
7255	Mortise Lock	1E74xA1799	C152	
7257	Mortise Lock	1E74xA995	C118	
7288	Mortise Lock	1E74xA995 (2 Req.)	C118	
7311	Mortise Lock	1E74xA995	C118	34H_S
7312	Mortise Lock	1E74xA995 (2 Req.)	C118	34H_T
7313	Mortise Lock	1E74xA995	C118	34H_P
7317	Mortise Lock	1E74xA995	C118	
7411	Mortise Lock	1E74xA995	C118	
7412	Mortise Lock	1E74xA995 (2 Req.)	C118	
7413	Mortise Lock	1E74xA995	C118	
7417	Mortise Lock	1E74xA995	C118	
7420	Mortise Lock	No Key		
7421	Mortise Lock	1E74xA995	C118	
7422	Mortise Lock	1E74xA995 (2 Req.)	C118	
7423	Mortise Lock	1E74xA995	C118	
7423-1/4	Mortise Lock	1E74xA995	C118	
7425	Mortise Lock	1E74xA995	C118	
7427	Hotel Lock	No Adaptation Available		
7433	Mortise Lock	1E74xA995	C118	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7442	Mortise Lock	1E74xA995 (2 Req.)	C118	
7443	Mortise Lock	1E74xA995	C118	
7448	Mortise Lock	1E74xA995	C118	
7488	Mortise Lock	1E74xA995 (2 Req.)	C118	
7500	Mortise Lock	No Key		
7510	Passage Lock	No Key		34HON
7510-3/4	Knob Latch	No Key		34HON
7516	Panic Mortise Cyl.	1E74	C4	
7517	Panic Mortise	1E7424 (1-1/2" Cyl.)		
7520	Mortise Lock	No Key		34HOL
7521	Mortise Lock	1E74xA995	C118	
7522	Latch & Deadlock	1E74xA995 (2 Req.)	C118	34H_C
7523	Latch & Deadlock	1E74xA995	C118	34H_B
7523-1/4	Mortise Lock	1E74xA995	C118	
7525	Mortise Lock	1E74xA995	C118	
7527	Hotel Lock	No Adaptation Available		
7529	Hotel Lock	No Adaptation Available		
7531	Office Lock	1E74xA995	C118	
7533	Mortise Lock	1E74xA995	C118	
7534	Mortise Lock	1E74xA995 Outside 1E74 Inside	C118 C4	
7535	Mortise Lock	1E74xA6190	C186	34H_J
7537	Office Lock	1E74xA995	C118	
7539	Hotel Lock	No Adaptation Available		
7542	Office Lock	1E74xA995 (2 Req.)	C118	34H_W
7543	Front Door Lock	1E74xA995	C118	34H_A
7547	Mortise Lock	1E74xA995	C118	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7548	Mortise Lock	1E74xA995	C118	
7551	Mortise Lock	1E74xA995	C118	34H_E
7551-3/4	Mortise Lock	1E74xA995	C118	
7554	Office Lock	1E74xA14333 Outside 1E74 Inside	C220 C4	34H_G
7555	Classroom	1E74xA1799	C152	34H_J
7557	Office Lock	1E74xA995	C118	34H_EW
7557-1/2	Mortise Inst. Lock	1E74xA995 (2 Req.)	C118	
7557-3/4	Office Lock	1E74xA995	C118	
7565	Mortise Lock	1E74xA995	C118	
7586	Mortise Lock	1E74	C4	
7587	Mortise Lock	1E74	C4	
7587-1/2	Mortise Lock	1E74 (2 Req.)	C4	
7588	Mortise Lock	1E74xA995 (2 Req.)	C118	
7621	Mortise Lock	1E74xA995	C118	
7622	Mortise Lock	1E74xA995 (2 Req.)	C118	
7623	Mortise Lock	1E74xA995	C118	
7623-1/4	Mortise Lock	1E74xA995	C118	
7625	Mortise Lock	1E74xA995	C118	
7627	Hotel Lock	No Adaptation Available		
7642	Mortise Lock	1E74xA995 (2 Req.)	C118	
7643	Mortise Lock	1E74xA995	C118	
7648	Mortise Lock	1E74xA995	C118	
7688	Mortise Lock	1E74xA995 (2 Req.)	C118	
7711	Mortise Lock	1E74xA995	C118	
7712	Mortise Lock	1E74xA995 (2 Req.)	C118	
7713	Mortise Lock	1E74xA995	C118	

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7717	Mortise Lock	1E74xA995	C118	
7729Ux27U	Exit Device	1E72		
7729Ux70AU	Exit Device	1E72		
	Note: An 8 prefix for 7729Ux70AU is a Corbin option and does not change the Best cylinder that may be used to adapt the lock.			
7821	Mortise Lock	1E74	C4	
7826	Mortise Lock	1E74xA995	C118	
7826-1/2	Mortise Lock	No Adaptation Available		
7827	Mortise Lock	1E74	C4	
7827-1/2	Mortise Lock	No Adaptation Available		
7920	Mortise Lock	No Key		34HOL
7921	Mortise Lock	1E74xA995	C118	34H_Cx1 Cyl.
7922	Mortise Lock	1E74xA995 (2 Req.)	C118	34H_C
7923	Mortise Lock	1E74xA995	C118	34H_B
7923-1/4	Mortise Lock	1E74xA995	C118	
7925	Mortise Lock	1E74xA995	C118	
7927	Hotel Lock	No Adaptation Available		
7933	Mortise Lock	1E74xA995	C118	
7942	Mortise Lock	1E74xA995 (2 Req.)	C118	34H_W
7943	Mortise Lock	1E74xA995	C118	34H_A
7948	Mortise Lock	1E74xA995	C118	
7965	Mortise Lock	1E74xA995	C118	
7988	Mortise Lock	1E74xA995 (2 Req.)	C118	
8011	Mortise Deadbolt	3E74	C3	38H_L
8012	Mortise Deadbolt	3E74 (2 Req.)	C3	38H_M
8013	Mortise Deadbolt	3E74	C3	38H_K
8017	Mortise Deadbolt	3E74	C3	38H_R
8211	Mortise Deadbolt	3E74	C3	38H_L

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8212	Mortise Deadbolt	3E74 (2 Req.)	C3	38H_M
8213	Mortise Deadbolt	3E74	C3	38H_K
8217	Mortise Deadbolt	3E74	C3	
8311	Mortise Deadbolt	3E74	C3	
8312	Mortise Deadbolt	3E74 (2 Req.)	C3	
8313	Mortise Deadbolt	3E74	C3	
8317	Mortise Deadbolt	3E74	C3	
8327	Hotel Lock	No Adaptation Available		
8343	Entrance	3E74	C3	
8411	Mortise Deadlock	3E74	C3	38H_L
8412	Mortise Deadlock	3E74 (2 Req.)	C3	38H_M
8413	Mortise Deadlock	3E74	C3	38H_K
8417	Mortise Deadlock	3E74	C3	
8427	Panic Device	1E74xA14472	C210	
8500	Communicating	No Key		
8502	Communicating	No Adaptation Available		
8503	Communicating	No Adaptation Available		
8510	Passage	No Key		
8520	Bathroom Lock	No Key		
8521	Storage	No Adaptation Available		
8522	Store Door	No Adaptation Available		
8523	Entrance Lock	No Adaptation Available		
8531	Office	No Adaptation Available		
8534	Office	No Adaptation Available		
8535	Classroom	No Adaptation Available		
8537	Storage	No Adaptation Available		
8551	Office	No Adaptation Available		

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8554	Office	No Adaptation Available		
8555	Classroom	No Adaptation Available		
8557	Storage	No Adaptation Available		
8710	Mortise Lock	No Key		
8721	Mortise Lock	3E74	C3	
8722	Mortise Lock	3E74 (2 Req.)	C3	
8723	Mortise Lock	3E74	C3	
8809	Turnbuckle Lock	3E74	C3	
8826	Mortise Lock	No Adaptation Available		
8826-1/2	Mortise Lock	No Adaptation Available		
8827	Mortise Lock	No Adaptation Available		
8827-1/2	Mortise Lock	No Adaptation Available		
8911	Entrance Deadbolt	3E74xA995	C118	
8912	Double Cyl. Deadbolt	3E74xA995 (2 Req.)	C118	
8923	Mortise Lock	3E74xA995	C118	
8955	Classroom Lock	3E74xA40091	C4	
8957	Closet Door	3E74xA995	C118	
9010	Passage	No Key		
E9020	Privacy	No Cylinder		
9029	Hotel (Use Emergency Key)	1E7G4xA02770	C161	
9051	Entrance	1E74xA02770	C161	
9059	Apartment	1E74xA02770	C161	
9210	Passage	No Key		N/A
9211	Deadlock	1E74xA02770	C161	N/A
9212	Deadlock	1E74xA02770 (2 Req.)	C161	N/A
9213	Deadlock	1E74xA02770	C161	N/A
9220	Bathroom	No Key		N/A

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
E9220	Privacy	No Key		N/A
9222	Store Door	1E74xA02770 (2 Req.)	C161	N/A
9223	Entrance	1E74xA02770	C161	N/A
9229	Hotel (Use Emergency Key)	1E7G4xA02770	C161	N/A
9243	Entrance, Front Door	1E74xA02770	C161	N/A
9249	Apartment, Dormitory	1E74xA02770	C161	N/A
9251	Office Lock	1E74xA02770	C161	N/A
9254	Apartment, Entrance	1E74xA02770 Outside 1E74XA1249 Inside	C161 C129	N/A
9255	Classroom	1E74xA1249	C129	N/A
9257	Storeroom	1E74xA02770	C161	N/A
9265	Dormitory, Entrance	1E74xA02770	C161	N/A
9310	Passage	No Key		
E9320	Privacy	No Cylinder		
9329	Hotel (Use Emergency Key)	1E7G4xA02770	C161	
9351	Entrance	1E74xA02770	C161	
9359	Apartment	1E74xA02770	C161	
9510	Passage	No Key		34HON
9511	Deadlock	1E74xA02770	C161	34H_S
9512	Deadlock	1E74xA02770 (2 Req.)	C161	34H_T
9513	Deadlock	1E74xA02770	C161	34H_P
9520	Bathroom	No Key		34HOL
E9520	Privacy	No Key		N/A
9522	Store Door	1E74xA02770 (2 Req.)	C161	34H_C
9523	Entrance	1E74xA02770	C161	34H_B
9529	Hotel (Use Emergency Key)	1E7G4xA02770	C161	34H_H
9543	Entrance, Front Door	1E74xA02770	C161	34H_A

CORBIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
9549	Apartment, Dormitory	1E74xA02770	C161	34H_F
9551	Office Lock	1E74xA02770	C161	34H_E
9554	Apartment, Entrance	1E74xA02770 Outside 1E74xA1249 Inside	C161 C129	34H_G
9555	Classroom	1E74xA1249	C129	34H_J
9557	Storeroom	1E74xA02770	C161	34H_EW
9557 1/2		1E74 (2 required)	C161	
HT9557 x 435F20	Storeroom	1E74	C4	Hold Back
9565	Dormitory, Entrance	1E74xA02770	C161	34H_FW

CORBIN RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1000-	Cylinder			1E74
A01	Cam - clover leaf		-C161	
A02	Cam - straight		-C129 or C4	
A03	Cam -		-C181	
A04	Cam -		-C210	
A61	Cam - clover leaf		-C118	
A62	Cam -		-C129	
A92	Cam -		-N/A	
1006	Cylinder			A7273
1060	Master Ring Cylinder			3E74
1060- -A63	Cylinder		C3	3E74
1300	Turn Knob Cylinder			1E7A4

CORBIN RUSSWIN**MORTISE LOCKS**

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
ML2210	Passage	No Key		30H0N
ML2211	Deadlock	1E74xA02770	C161	30H_S
ML2212	Deadlock	(2) 1E74xA02770	C161	30H_T
ML2213	Deadlock	1E74xA02770	C161	30H_P
ML2217	Deadlock	1E74xA02770	C161	30H_R
ML2220	Bathroom	No Key		30H0L
ML2222	Store Door	(2) 1E74xA02770	C161	30H_C
ML2224	Entrance	1E74xA02770	C161	30H_B
ML2229	Hotel (Use Emergency Key)	1E7G4xA02770	C161	30H_H
ML2230	Privacy	No Key		30H0LF
ML2232	Institution	(2) 1E74xA02770	C161	30H_WW
ML2242	Apartment, Entrance	1E74xA02770 Outside 1E74XA1249 Inside	C161 C129	30H_G
ML2248	Entrance, Front Door	1E74xA02770	C161	30H_A
ML2251	Office Lock	1E74xA02770	C161	30H_E
ML2255	Classroom	1E74xA1249	C129	30H_J
ML2257	Storeroom	1E74xA02770	C161	30H_EW
ML2265	Dormitory, Entrance	1E74xA02770	C161	30H_FW
ML2267	Apartment, Dormitory	1E74xA02770	C161	30H_F
3000	Rim Cylinder			1E72

**CORBIN RUSSWIN
DEADLOCKS**

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
DL3011	Cylinder x blank	1E74xA5979	C181	
DL3012	Double cylinder	1E74xA5979	C181	
DL3013	Single cylinder	1E74xA5979	C181	
DL3017	Classroom	No Adaptation Available		
DL4011	Cylinder x blank	1E74xA14472	C210	
DL4012	Double cylinder	1E74xA14472 (2 Req.)	C210	
DL4013	Single cylinder	1E74xA14472 (2 Req.)	C210	
DL4017	Classroom	1E74xA14472 (2 Req.)	C210	

CYLINDRICAL LOCKS

CK4200	Cylindrical	No Key		
CK4210	Passage	No Key		83K0N
CK4220	Bathroom	No Key		83K0L
CK4229	Hotel H.D. cylindrical	Cannot Adapt		83K_H
CK4232	Institution cylindrical	A7048 (2 Req.)		83K_W
CK4240	Privacy	No Key		83K0P
CK4251	Entrance	A7048		83K_A
CK4255	Classroom	No Adaptation Available		83K_R
CK4257	Storeroom	A7048		83K_D
CK4261	Office lock	No Adaptation Available		83K_B
CK4272	Apt. exit	No Adaptation Available		83K_C
CK4282	Storeroom door	No Adaptation Available		83K_G

**CORBIN RUSSWIN
UNIT LOCKS**

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
UT5257	Closet Unit Lock	A7693*		N/A
UT5210	Passage	No Key		N/A
UT5220	Privacy	No Key		N/A
UT5229	Hotel	Cannot Adapt		
UT5232	Institution	A7693 (2 Req.)		N/A
UT5240	Patio	No Key		N/A
UT5251	Entrance	A7693*		N/A
UT5272	Office	A7693 (2 Req.)*		N/A
UT5255	Classroom	A7693*		N/A
UT5256	Patio	A7693*		N/A
UT5257	Storeroom	A7693*		N/A
UT5261	Office	A7693*		N/A
UT5275	Dormitory	A7693*		N/A
UT5282	Store door	A7693 (2 Req.)*		N/A

* Only used if no M.R. (Master Ring) cylinder is specified.

**CORBIN RUSSWIN
EXIT LOCKS**

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
ED4200 -M52	Narrow Stile Rim optional cylinder dodging	1E72 1E74	C4	
ED4400 -M52	Narrow Stile Vertical Rod optional cylinder dogging	1E72 1E74	C4	
ED4800 -M52	Narrow Stile Concealed Vert. optional cylinder dogging	1E72 1E74	C4	
ED5200 -M52	Rim Pushbar optional cylinder dogging	1E72 1E74	C4	
ED5400 -M52	Vertical Rod Pushbar optional cylinder dogging	1E72 1E74	C4	
ED5600 -M52	Mortise Pushbar optional cylinder dogging	1E74 1E74	C4 C4	
ED5800 -M52	Concealed Vert. Rod Pushbar optional cylinder dogging	1E72 1E74	C4	
ED6200(A)	Rim Crossbar	1E72		
ED6400(A)	Vertical Rod Crossbar	1E72		
ED6600(A) -A4M,C3M,D3M,E3M,L3M,N4M,R3M esc. trim -B4M, G5M -T_M	Mortise Crossbar escutcheon trim thumbpiece trim	1E74-26 ¹ 1E74-22 ¹ 1E74	C4 C4 C4	
ED6800-B5,G6 O1,O2	Concealed Vert. Rod Crossbar -operator trim	1E74 1E74	C4 N/A	
ED7200	Narrow Stile Crossbar	1E72		
ED7400-C4,D4,E4 -O3,O4	Narrow, Vert. Rod Crossbar -operator trim	1E72 1E74	C4	
ED7600 (A) -C4M,E4M,B5M,G6M -T11M,T12M	Narrow Mortise Crossbar escutcheon trim thumbpiece trim	1E74-22 ¹ 1E74	C4 C4	

¹ Best cylinder length does not include thickness of cam, Corbin Russwin's does.

**CORBIN RUSSWIN
EXIT LOCKS**

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
ED7800 (A)	Concealed Vert.Rod Crossbar	1ESPL-7-A14227		Use Original Cam
ED8200 (A,B)	Rim Pushbar			
-A1,C1,D1,E1,L1,N1,R1,B1,G1	escutcheon trim	1ESPL-7-A35297-R811	C101 (2 cams)	
-A2,N2	key in lever trim	No Adaptation		
-B2,G2,G3	key in knob trim	No Adaptation		
-F1	flat plate trim	1E72		
-P1,P2,P3,P8	pull trim	1E72		
-T1,T2	thumbpiece trim	1E74	C4	
-M61,M62	exit alarm option	1E72 (inside)		
ED8400 (A)	Vertical Rod Pushbar	(see below)		
-A1,C1,D1,E1,L1,N1,R1,B1,G1	escutcheon trim	1ESPL-7-A35297-R811	C101 (2 cams)	
-A2,N2	key in lever trim	No Adaptation		
-B2,G2,G3	key in knob trim	No Adaptation		
-F1	flat plate trim	1E72		
-P1,P2,P3,P8	pull trim	1E72		
-T1,T2	thumbpiece trim	1E74	C4	
ED8600 (A)	Mortise Pushbar (knob or thumbpiece trim)			
-B2M,G2M	knob trim	1E74	C4	
-T1M,T2M	thumbpiece trim	1E74	C4	
ED8600L(A)L	Mortise Pushbar (lever trim)	1E74		C4
ED9200(A,B)	Rim Pushbar			
-A1,C1,D1,E1,L1,N1,R1,B1,G1	escutcheon trim	1ESPL-7-A35297-R811	C101 (2 cams)	
-A2,N2	key in lever trim	No Adaptation		
-B2,G2,G3	key in knob trim	No Adaptation		
-F1	flat plate trim	1E72		
-P1,P2,P3	pull trim	1E72		
-T1,T2	thumbpiece trim	1E74	C4	
-M52	cylinder dogging	1E74 (inside)	C4	
-M61,M62	exit alarm option	1E72 (inside)		
ED9400(A)	Vertical Rod Pushbar			
-A1,C1,D1,E1,L1,N1,R1,B1,G1	escutcheon trim	1ESPL-7-A35297-R811	C101 (2 cams)	
-A2,N2	key in lever trim	No Adaptation		
-B2,G2,G3	key in knob trim	No Adaptation		
-F1	flat plate trim	1E72		
-P1,P2,P3,P8	pull trim	1E72		
-T1,T2	thumbpiece trim	1E74	C4	
-M52	cylinder dogging	1E74 (inside)	C4	
ED9600 (A)	Mortise Pushbar (knob or thumbpiece trim)			
-B2M,G2M	knob trim	1E74	C4	
-T1M,T2M	thumbpiece trim	1E74	C4	
ED9600L(A)L	Mortise Pushbar (lever trim)	1E74		C4

**CORBIN RUSSWIN
ELECTRIFIED MORTISE LOCKS**

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
ML22901	Electric Mortise	1E74xA02770	C161	
ML22903	Electric Mortise	1E74xA02770	C161	
ML22904	Electric Mortise	1E74xA02770	C161	
ML22905	Electric Mortise	1E74xA02770	C161	
ML22906	Electric Mortise	1E74xA02770	C161	
ML22907	Electric Mortise	1E74xA02770	C161	
ML22908	Electric Mortise	1E74xA02770	C161	
ML22909	Electric Mortise	1E74xA02770	C161	
ML22910	Electric Mortise	No Key		
ML22920	Electric Mortise	No Key		
ML22930	Electric Mortise	No Key		
ML22940	Electric Mortise	No Key		
ML22950	Electric Mortise	No Key		
ML22960	Electric Mortise	No Key		
ML22970	Electric Mortise	No Key		
ML22980	Electric Mortise	No Key		

CUPPLES (ALCOA)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
40-132 & 660	Security Deadlock	1E74xA1414	C134	
40-134	Latch Lock	1E74	C4	
40-237	Adams-Rite 1-1/8 Latch Lock (4050)	1E74xA4445	C169	

CUTTER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
800 Series	Mail box lock	8L7SPR-A7117		
Supreme Series		8L7SPR-A7117		

DETEX

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
230	Exit Lock	1E72-R704 (Inside-Reset Bolt) 1E72 (Outside) Optional		
230B	Exit Lock	1E72-R704 (Inside-Reset Bolt) 1E72 (Outside) Optional		
230C	Exit Lock	1E72-R704 (Inside-Reset Bolt) 1E72 (Outside) Optional		
ECL230	Exit Control Lock	1E72-R704 (Inside-Reset Bolt) 1E72 (Outside) Optional		
500B	Exit Lock	1E72		
EA500	Exit Alarm	1E72		
501	Exit Lock	1E72		
501K	Exit Alarm (2 Cyl.)	1E72 (2 Req.)		
502K	Exit Alarm (2 Cyl.)	1E72 (2 Req.)		
503	Exit Alarm (2 Cyl)	1E72 (2 Req.)		
504AC	Exit Alarm	1E72		
600B	Exit Lock	1E72		
600C	Exit Lock	1E72		
ECL2200	Exit Alarm Device	1E72		
2500	Alarm	1E72		
2504AC	Alarm	1E72		
2505AC	Alarm	1E72		
4128	Exit Alarm	1E72		
EA2500S	Exit Alarm	1E72		

DETROIT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
100	Vert. Concealed Panic	1E72 (Fit to Cyl.)		
200	Concealed Panic Device	(Req. a cyl. to replace the cyl. that has been installed) Corbin, Russwin, Yale, Schlage, etc. Each one has a different hole spacing. Send Sample.)		
210	Panic	1E72		
300	Panic Device	1E72		
661	Narrow Deadlock	1E74xA1414 (2 Req.)	C134	
682	Detroit Shur-Lock	1E74xA6060	C185	
782	Detroit Shur-Lock	1E74xA6060	C185	
882	Detroit Shur-Lock	1E74xA6060	C185	
982	Detroit Shur-Lock	1E74xA6060	C185	
None	Detroit Deadlock Pat. #2660875 Extruded Narrow Rail Lock	1E74xA4445	C169	

DEXTER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
M-Series	Night Latch	A2857		
Tubular	Deadlock	A2857		
Cylindrical	Residential Grade	Cannot Adapt		
D, E, or H	Auxiliary Locks	A2857		
P, T, or W	Auxiliary Locks	A2857		
9090	Mortise Cylinder	1E74	C4	
9091	Rim Cylinder	1E72		

DONNER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1151P	Sliding Door Lock	1E74	C4	

DOR-O-MATIC

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
920	Panic Device	1E72		
930	Panic Device	1E72		
990	Panic Device	No Key		
991	Concealed Vertical Rod Has No Cylinder - Exit Only.	No Key		
992	Conc. Panic Device	1E72		
992WDC	Conc. Panic Device	1E72		
993	Conc. Panic Device	1E72		
993WDC	Conc. Panic Device	1E72		
1092	Panic Device	1E72		
1093	Panic Device	1E72		
1190	Panic Device	1E72		
1192	Panic Device	1E72		
1193	Panic Device	1E72		
1194	Panic Device	1E72		
9920	Panic Device	1E72		
9930	Panic Device	1E72		
9931	Panic Device	1E72		

DOOR ALARM DEVICES CORP. (DADCO)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
68	Exit Alarm	1E72 Outside 1E74 Inside	C4	

EAGLE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
3500	Rim Night Latch	1E72		
3500BC	Rim Night Latch	1E72		
3500H	Rim Night Latch	1E72		
3500BCH	Rim Night Latch	1E72		
3532	Rim Night Latch	1E72		
3539	Rim Deadlock	1E72		
3539BC	Rim Deadlock	1E72		
3547	Rim Night Latch	1E72		
3547-1/3	Rim Night Latch	1E72		
3547N	Rim Night Latch	1E72		
3548	Jimmy Proof Deadlock	1E72		
3548B	Jimmy Proof Deadlock	1E72		

FALCON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
X 101	Passage Latch	No Key		83KON
X 141DL	Exit (Latchset)	No Key		83KONX
X 151	Closet (Latchset)	No Key		83KOZ
X 161DL	Connecting or Exit	No Key		83KOY
X 201DL	Patio & Inner Office	No Key		83KOP
X 211DL	Communicating (Keyless)	No Key		83KOM
X 221DL	Exit (Latchset)	No Key		83KOQ
X 241DL	Twin Communicating	No Key		No Equiv.
X 301	Privacy Lock	No Key		83KOL
X 311DL	Closet	No Adaptation Available		No Equiv.
X 321DL	Closet	No Adaptation Available		No Equiv.
X 331DL	Special	No Adaptation Available		No Equiv.
X 341DL	Connecting Room or Exit	No Adaptation Available		No Equiv.
X 361DL	Private Entrance	No Adaptation Available		No Equiv.
X 371DL	Store	No Adaptation Available		83K_G
X 381DL	Entrance, Office	No Adaptation Available		83K_C
X 391DL	Communicating	No Adaptation Available		83K_S
X 401DL	Communicating	No Adaptation Available		No Equiv.
X 411DL	Passage (Rigid Knob)	No Adaptation Available		83KOW
X 421DL	Lock with Hold Back	No Adaptation Available		No Equiv.
X 431DL	Club House	No Adaptation Available		No Equiv.
X 441DL	Hotel & Motel Guest	No Adaptation Available		No Equiv.
X 451DL	Hotel & Motel Guest	No Adaptation Available		
X 461DL	Hotel & Motel Guest	No Adaptation Available.		No Equiv.
X 481DL	Hotel & Motel Guest	No Adaptation Available		83K_H

FALCON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
X 491DL	Entrance Hold Back	No Adaptation Available		No Equiv.
X 501DL	Front or Office	No Adaptation Available		83K_B
X 521DL	Front or Office	No Adaptation Available		83K_A
X 531DL	Service Station	No Adaptation Available		83K_E
X 541DL	Communicating (Suite)	No Adaptation Available		No Equiv.

Explanation of Falcon Numbers, such as 550 , 551 , 552 , 553
 If number is different in last digit only, the backset is different, but the function is the same:

X550DL-----2-3/8"
 X551DL-----2-3/4"
 X552DL-----3-3/4"
 X553DL-----5"

X 551DL	All Purpose	No Adaptation Available		83K_AB
X 561DL	Classroom	No Adaptation Available		83K_R
X 571DL	Restroom or Dormitory	No Adaptation Available		83K_T
X 581DL	Storeroom or Exit	No Adaptation Available		83K_D
X 591DL	Classroom	No Adaptation Available		83K_RHB
K 915	Deadlock	1E74xA20931	C231	38H_R
K 916	Deadlock	1E74xA20931	C231	
K 917	Deadlock	1E74xA20931	C231	38H_R
K 925	Deadlock	1E74xA20931	C231	38H_L
K 926	Deadlock	1E74xA20931	C231	
K 927	Deadlock	1E74xA20931	C231	38H_L
K 935	Deadlock	1E74xA20931 (2 Req.)	C231	38H_M
K 936	Deadlock	1E74xA20931 (2 Req.)	C231	
K 937	Deadlock	1E74xA20931 (2 Req.)	C231	38H_M
K 945	Deadlock	1E74xA20931	C231	38H_K

FALCON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
*M 101	Passage Latch Set	No Key		
*M 301	Privacy Lock	No Key		
*M 311	Privacy Lock	No Key		
*M 371	Store Door Lock	1E74 (Inside) 1E74 (Outside)	C281 C281	
*M 381	Entry Lock	1E74 (Inside) 1E74 (Outside)	C127 C220	
*M 411	Asylum Lock	1E74 (Inside) 1E74 (Outside)	C127 C127	
*M 451	Hotel/Motel Lock	No Adaptation Available		
*M 521	Entry Lock		C127	
*M 531	Entry Lock		C281	
*M 541	Entry Lock		C281	
*M 561	Classroom Lock		C127	
*M 571	Dormitory Lock		C281	
*M 581	Storeroom/Exit Lock		C127	
*M 621	Front Door Lock	No Adaptation Available		
*M 631	Dormitory Lock		C281	
*M 911	Safety Deadlock		C281	
*M 921	Deadlock		C281	
*M 931	Deadlock	1E74 (Inside) 1E74 (Outside)	C281 C281	
*M 941	Deadlock		C281	
*M 961	Deadlock	No Key		
*M 112	Dummy			

*MM Heavy Duty Knob
SM Medium-Duty Knob
LM Lever Handle

FALCON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
K 946	Deadlock	1E74xA20931	C231	
K 947	Deadlock	1E74xA20931	C231	38H_K
M 985-4*	Mortise Cylinder	1E74xA20877	C222	
M 985-5*	Mortise Cylinder	1E74xA14333	C220	
M 985-7*	Mortise Cylinder	1E74xA1247	C127	
M 1560	Classroom	1E74xA1247	C127	
M 2100	Passage	No Key		34HON
M 2140	Exit Latch	No Key		
M 2300	Bathroom Lock	No Key		34HOL
M 2370	Communicating	1E74xA20877 (2 Req.)	C222	34H_C
M 2380	Entrance	1E74xA14333 Outside 1E74xA1247 Inside	C220 C127	34H_G
M 2410	Rigid Knob Lock	1E74xA1247 (2 Req.)	C127	
M 2430	Dormitory	1E74xA20877 (2 Req.)	C222	34H_W
M 2440	Hotel Lock	No Adaptation Available		34H_H
M 2510	Exit Door Lock	1E74xA20877	C222	34H_F
M 2520	Entry Door	1E74xA1247	C127	34H_E
M 2530	Apartment Lock	1E74xA20877	C222	
M 2540	Entry Door	1E74xA20877	C222	34H_B
M 2560	Classroom	1E74xA1247	C127	34H_J
M 2570	Dormitory	1E74xA20877	C222	34H_FW
M 2580	Storeroom	1E74xA1247	C127	34H_EW
M 2620	Front Door	1E74xA20877	C222	34H_A
M 2650	Hotel Lock	No Adaptation Available		
M 2910	Safety Deadlock	1E74xA20877	C222	
M 2920	Deadlock	1E74xA20877	C222	34H_S

*Note: Last digit specifies cam type.

FALCON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
M 2930	Deadlock	1E74xA20877 (2 Req.)	C222	34H_T
M 2940	Deadlock	1E74xA20877	C222	34H_P

(The 1000, 3000, and 4000 Series Adaptations are the same as the 2000 Series).

FENESTRA

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
X-8	Foldoor	No Adaptation Available		
X-12	Foldoor	No Adaptation Available		
1200	Mortise Lock	1E74	C4	
1600	Fenestra Mortise	1E74	C4	
1882	Sentry Lock	Cannot Adapt		
1983	Mortise	1E74	C4	
1979	Entrance	1E74 (2 Req.)	C4	34H_C
2270	Integra Office Lock	No Adaptation Available		
2400	Cylindrical Lockset	No Adaptation Available		83K Series
2772	Integra Lock	No Adaptation Available		
9592	Mortise Panic	1E74	C4	

FOLGER ADAM

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
*110K	Mortise Lock	1ESPL-7-B40130	C280	
120	Adam Mogul Prison Cyl. (Cyl. adaptor furnished by customer or Folger Adam.)	A9405 (6 Pin Only)		
122 ELL	Jamb Mounted Lock	3E74	C255	
*125	Prison Lock	1ESPL-7-B40130	C280	
200	Security Key Switch	1E74x1ER2	C4	
*900 (replaced by the 400 series)	Electro Mechanical Deadlatch	1ESPL-7-B40130	C280	
*902FS (replaced by the 400 series)	Electric Lock	1ESPL-7-B40130	C280	
*906D (replaced by the 400 series)	Dead Lock	1ESPL-7-B40130	C280	
*1100	Key Switch	1ESPL-7-B40130	C280	
*1100RG	Key Switch	1ESPL-7-B40130	C280	
NS402E-01	Motor Driven Deadlatch	1ESPL-7-B40130	C280	
NS402EFS-01	Motor Driven Deadlatch	1ESPL-7-B40130	C280	

*Cylinder must be sent to Folger-Adam for modification. Removable cam is attached with screws.

FOX POLICE LOCK

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
None	Crossbar Deadlock	A20885	N/A	

GEMINI (Architectural Control Systems, Inc.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1310	Switch Lock	1E74	C4	

GENERAL

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
SL84	Mortise Cylinder	A7697		
1153	Rim Cylinder	1E72		
M 2100	Passage	No Key		34HON
M 2100D	Dummy	No Key		
M 2110T	Patio	No Key		
M 2110TxE	Privacy	No Key		34HOL
M 2110A	Storeroom	A7697 (2 Req.)		34H_C
M 2110B	Storeroom	A7697		34H_B
M 2110C	Storeroom	A7697		
M 2210A	Deadbolt	A7697 (2 Req.)		34H_T
M 2210B	Deadbolt	A7697		34H_P
M 2210C	Deadbolt	A7697		34H_S
M 2300A	Playcourt	A7697 (2 Req.)		
M 2300AW	Entrance	A7697 (2 Req.)		34H_G
M 2300B	Office	A7697		
M 2300C	Classroom	A7697		
M 2301A	Playcourt	A7697 (2 Req.)		
M 2301B	Office	A7697		34H_E
M 2301C	Classroom	A7697		34H_J
M 2301CR	Emergency	1E64xA9229	C223	
M 2310A	Bank	A7697 (2 Req.)		
M 2310B	Entrance	A7697		34H_A
M 2310C	Entrance	A7697		
Z Prefix	Mortise Locks	No Adaptation Available		
3000*	Mortise	1E74	C4	

*See Schlage 3000-6000 Series for specific function adaptations and equivalents.

GENERAL

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4000*	Mortise	1E74	C4	
5000*	Mortise	1E74	C4	
6000*	Mortise	1E74	C4	

*See Schlage 3000-6000 Series for specific function adaptations and equivalents.

GETTY

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1113	Mortise Lock	1E74	C4	
1349	Mortise Lock	1E74xA1247	C127	
1365	Mortise Lock	1E74xA1247	C127	
1375	Mortise Lock	1E74xA1247	C127	
1512	Mortise Lock	1E74	C4	
1657	Mortise Lock	1E74	C4	
1659	Mortise Lock	1E74	C4	

HAUSERMAN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6012	Hauserman Mortise	1E74	C4	
6013	Hauserman Mortise	1E74	C4	

HENNE MARINE CONSTRUCTION

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
625	Deadlock	No Adaptation Available		
626	Door Lock	No Adaptation Available		
629	Door Lock	No Adaptation Available		
629R	Door Lock	No Adaptation Available		
635F	Deadlock	Cannot Adapt		
635W	Deadlock	Cannot Adapt		
636R	Deadlock	Cannot Adapt		
636W	Deadlock	1E74	C4	
637R	Deadlock	Cannot Adapt		
638F	Deadlock	Cannot Adapt		
639R	Deadlock	Cannot Adapt		
640F	Deadlock	Cannot Adapt		
641	Deadlock	Cannot Adapt		
642	Deadlock	Cannot Adapt		
642A	Deadlock	Cannot Adapt		
643	Deadlock	Cannot Adapt		
644	Deadlock	1E74	C4	
645	Latch Lock	Cannot Adapt		
646	MS Lock	1E74	C4	
647	Deadlock	1E74	C4	
648	Deadlock	Cannot Adapt		
649	Deadlock	1E74	C4	
650	Deadlock	1E74	C4	
652	Deadlock	1E74	C4	
653	Deadlock	Cannot Adapt		
654	Deadlock	Cannot Adapt		
655	Mortise Lock	Cannot Adapt		

HENNE	MARINE CONSTRUCTION		CAM ORDER	
NUMBER	ARTICLE	ADAPT	CODE NO.	EQUIV.
655W	Mortise Lock	Cannot Adapt		
702	Mortise Lock	1E74 (2 Req.)	C4	
703	Mortise Lock	1E74	C4	
704	Mortise Lock	1E74	C4	
705	Mortise Lock	1E74	C4	
706	Mortise Lock	1E74	C4	
707	Mortise Lock	1E74	C4	
708	Mortise Lock	1E74	C4	
709	Mortise Lock	1E74	C4	
711	Mortise Lock	1E74	C4	
712	Mortise Lock	1E74	C4	
713	Front Door Lock	1E74	C4	
714	Bathroom Lock	No Key		
715	Communicating Door Lock	1E74 (2 Req.)	C4	
716	Deadlock	1E74 (2 Req.)	C4	
717	Exit Lock	1E74 (2 Req.)	C4	
718	Guest Room Lock	1E74	C4	
719	Office Lock	1E74	C4	
720	Bit Key	Cannot Adapt		
721	Bathroom Lock	No Key		
722	Bathroom Lock	No Key		
723	Bathroom Lock	No Key		
724	Storage Lock	1E74	C4	
725	Deadlock	1E74 (2 Req.)	C4	
726	Front Door Lock	1E74	C4	
730	Bit Key	Cannot Adapt		
780	Sliding Door Lock	1E74	C4	

HENNE NUMBER	MARINE CONSTRUCITON ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
781	Sliding Door	1E74	C4	
782	Sliding Door	1E74 (2 Req.)	C4	
783	Sliding Door	1E74	C4	
784	Sliding Door	1E74	C4	
785	Sliding Door	1E74	C4	
786	Sliding Door	No Key		
800	Bit Key	Cannot Adapt		
801	Bit Key	Cannot Adapt		
802	Rim Lock	1E74	C4	
803	Bit Key	Cannot Adapt		
804	Bit Key	Cannot Adapt		
820	Rim Deadlock	1E74	C4	
821	Rim Deadlock	1E74	C4	
850	Toilet Door Lock	No Key		
851	Toilet Door Lock	No Key		
852	Mortise Lock	No Key		
853	Mortise Lock	No Key		
854	Mortise Lock	No Key		
855	Mortise Lock	No Key		
856	Sliding Door	No Key		
857	Mortise Lock	No Key		
858	Mortise KIK	No Adaptation Available		
860	Screen Door	No Key		
862	Screen Door	No Key		

HIBBARD

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
Special	Mortise	1E74xA1799 Outside 1E74xA1798 Inside	C152 C151	

INDEPENDENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
201	Rim Night Latch	1E72		
203	Rim Deadbolt	1E72		
210	Rim Night Latch	1E72		
218	Rim Night Latch	1E72		
219	Rim Night Latch	1E72		
241	Rim Night Latch	1E72		
243	Rim Deadbolt	1E72		
244	Rim Deadbolt	1E72		
245	Rim Deadbolt	1E72		
246	Rim Deadbolt	1E72		
247	Rim Deadbolt	1E72		
248	Rim Deadbolt	1E72		
250	Rim Night Latch	1E72		
263GY	Rim Night Latch	1E72		
263IV	Rim Night Latch	1E72		
264GY	Rim Night Latch	1E72		
264IV	Rim Night Latch	1E72		
265	Rim Night Latch	1E72		
401	Jimmy Proof Lock	1E72		
401C	Jimmy Proof Lock	1E72 (Outside) No Adaptation Available inside		
4001	Mortise Cylinder 1"	1E74	C4	
4001-1/2	Mortise Cylinder 1-1/8"	1E74	C4	
4002	Mortise Cylinder 1-1/4"	1E74	C4	
4002-1/2	Mortise Cylinder 1-3/8"	1E74 Min. Size	C4	
4003	Mortise Cylinder 1-1/2"	1E74-22	C4	
4004	Mortise Cyl. Adjustable	1E74	C4	

INDEPENDENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4014	Rim Cylinder	1E72		
4019	Rim Cylinder	1E72		
4038	Rim Cylinder	1E72		
	MARINE LOCKS			
4054	Cabinet Lock	Cannot Adapt		5L_MD2
4058	Cabinet Lock	Cannot Adapt		5L_MD2
4068	Cabinet Lock	Cannot Adapt		5L_MD2
6391	Rim Deadbolt	1E72		
M7050K	Bit Key Mortise	Cannot Adapt		
M7052K	Bit Key Mortise	Cannot Adapt		
M7234K	Mortise	1E74 (2 Req.)	C4	
M7438K	Mortise Latch	No Key		
8020S	Mortise Knob Lock	No Key		
8030S	Mortise Knob Lock	No Key		
8050S	Bit Key Mortise	Cannot Adapt		
8060S	Bit Key Rim	Cannot Adapt		
M8060K	Bit Key Rim	Cannot Adapt		
M8061S	Bit Key Rim	Cannot Adapt		
8200S	Mortise Lock	1E74	C4	
8230S	Mortise Sliding Lock	1E74 (2 Req.)	C4	
8250P	Cabinet Lock			
8280S	Mortise Deadlock	1E74	C4	
8290S	Mortise Deadlock	1E74 (2 Req.)	C4	
8320S	Mortise Lock	1E74	C4	
8360S	Mortise Lock	1E74	C4	
8370S	Rim Deadlock	1E72		

INDEPENDENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8380S	Rim Night Latch	1E72		
M8390K	Rim Lockset	No Adaptation Available		
8420S	Mortise Latch	No Key		
M8424S	Mortise Latch	No Key		
8440S	Rim Latch	No Key		
8447S	Rim Latch	No Key		
8450S	Rim Latch	No Key		
M8450K	Rim Latch	No Key		
M8455S	Rim Latch	No Key		
M8466S	Rim Lock	Cannot Adapt		
M8496S	Rim Lock	Cannot Adapt		
M9201K	Mortise Lock	1E74	C4	
M9203K	Mortise Lock	1E74	C4	
M9231K	Mortise Sliding Lock	1E74 (2 Req.)	C4	
M9321K	Mortise Lock	1E74	C4	
M9361K	Mortise Lock	1E74	C4	

JACKSON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
885x809-3	Concealed Panic Device	1E64XA5979xR705 1E74xA5979xR707	C181 C181	
880H	Panic Device (Formerly 808E)	1E74	C4	
1085	Jackson Panic Device	1E64xA5979xR705 1E74xA5979xR707	C181 C181	
1095	Rim Panic Device	1E72		
2085	Concealed Panic Device	1E64xA5979xR705 1E74xA5979xR707	C181 C181	

KAWNEER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
CR90	Panic Device	1E74	C4	
190	Concealed Narrow Rail Panic Device	1E72		
37-116	Deadbolt	* 1E74xA5979	C181	
37-163	Round Face Deadbolt (Narrow Stile Doors)	1E74xA4445	C169	
37-164	RH Beveled Face Deadbolt	1E74xA4445	C169	
37-165	LH Beveled Face Deadbolt	1E74xA4445	C169	
37-166	LH Beveled Face Deadbolt (Maximum Security)	No Adaptation Available		
37-167	RH Beveled Face Deadbolt (Maximum Security)	*1E74xA5979	C181	
37-168	Round Face Deadbolt	*1E74xA5979	C181	
37-169	Thumb Turn Cylinder	1E7A4xA1247	C127	
37-172	Mortise Cylinder	1E74xA1247	C127	
37-173	Mortise Cylinder	1E74xA1247	C127	
37-174	Mortise Dummy Cylinder 1-5/32" dia.	1E04		
37-175	Mortise 1-5/32" Cylinder .545 Cam	* 1E74xA5979	C181	
37-176	Mortise Thumb Turn	1E7A4xA5979	C181	
37-177	Mortise 1-5/32" Cylinder .545 Cam	* 1E74xA5979	C181	
37-305	Rim 1-5/32" Cylinder	A9307		
37-309	RH Adams-Rite Latch	1E74xA4445	C169	
37-310	LH Adams-Rite Latch	1E74xA4445	C169	
37-311	RH Round Face	1E74xA4445	C169	

*The 1E74xA5979 (C181) may be used with the cylinder rings shown on Drawing B2752. Locks require either 1 or 2 cylinders as specified.

KAWNEER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
37-312	LH Round Face	1E74xA4445	C169	
37-313	Adams-Rite Latch	1E74xA4445	C169	
37-314	Adams-Rite Latch	1E74xA4445	C169	
37-315	Adams-Rite Latch	1E74xA4445	C169	
37-316	Adams-Rite Latch	1E74xA4445	C169	
37-317	Adams-Rite Latch	1E74xA4445	C169	
37-318	Adams-Rite Latch	1E74xA4445	C169	
37-319	Adams-Rite Latch	1E74xA4445	C169	
37-320	Adams-Rite Latch	1E74xA4445	C169	
37-321	Adams-Rite Latch	1E74xA4445	C169	
37-322	Adams-Rite Latch	1E74xA4445	C169	
37-323	Adams-Rite Latch	1E74xA4445	C169	
37-324	Adams-Rite Latch	1E74xA4445	C169	
37-325	Adams-Rite Latch	1E74xA4445	C169	
37-341	Rim 1-5/32" Cylinder	1E72		
37-371	RH Round Face	1E74xA4445	C169	
37-372	LH Round Face	1E74xA4445	C169	
37-373	RH Round Face	1E74xA4445	C169	
37-374	LH Round Face	1E74xA4445	C169	
47-252	Deadbolt	*1E74xA5979	C181	
47-762	Special Lock Assembly, Style Lite "125" Door	No Adaptation Available		
47-774	Mortise 1-5/32" Cylinder .625 R. Cam	1E74xA4445	C169	
47-775	Mortise 1-5/32" Thumb Turn .625 R. Cam	1E7A4xA10509	C410	

*The 1E74xA5979 (C181 Cam) may be used with the cylinder rings shown on Drawing A2752. Locks require either 1 or 2 cylinders as specified.

KAWNEER

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
47-825	Mortise 1-5/32" Cylinder .625 R. Cam	1E74xA4445	C169	
55-244	Mortise	* 1E74xA5979	C181	
Paneline	Exit Device	1E64xR707 1E74xR709	C4 C4	

*The 1E74xA5979 (C181 Cam) may be used with the cylinder rings shown on Drawing B2752. Locks require either 1 or 2 cylinders as specified.

KEIL

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
29	Rim Cylinder	1E72		
30	Rim Cylinder	1E72		
31	Rim Cylinder	1E72		
35	Mortise Cylinder	1E74xA1225	C123	
S1055	Lock	1E72		
1066	Jimmy Proof	1E72		
1088	Jimmy Proof	1E72 Outside Cannot Adapt Inside		
9158	Keil Truck Unit	No Adaptation Available		
9159	Keil Refrigerator Lock	A1752		
20618	Mortise Deadlock	1E74xA1225	C123	38H_L
20619	Mortise Deadlock	1E74xA1225	C123	38H_K
20620	Mortise Deadlock	1E74xA1225 (2 Req.)	C123	38H_M
20622	Mortise Deadlock	1E74xA1225	C123	38H_L
20623	Mortise Deadlock	1E74xA1225	C123	38H_K
20624	Mortise Deadlock	1E74xA1225 (2 Req.)	C123	38H_M
20666	Mortise Latch	1E74xA1225	C123	
20667	Mortise Latch	1E74xA1225 (2 Req.)	C123	
51000	Rim Deadlock	1E72 Outside Cannot Adapt Inside		
E51001	Rim Deadlock	1E72		
51039	Rim Latch	1E72		
51040	Rim Latch	1E72		
51041	Rim Latch	1E72		
51043	Rim Latch	1E72		
51050	Rim Deadlock	1E72		
51055	Rim Deadlock	1E72		
51060	Rim Night Latch	1E72		

KEIL

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
51063	Rim Night Latch	1E72		
51065	Rim Night Latch	1E72		
B51075	Mortise Deadlock	1E74xA1225	C123	
B51076	Mortise Deadlock	1E74xA1225 (2 Req.)	C123	
B51090	Mortise Lock	1E74xA1225 (2 Req.)	C123	

KIRK

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
Unknown	Kirk Interlock	*A4637, 7 pin or **A7619, 7 pin		

*A4637, 7 pin key removable in only one position, bolt extended or retracted.
**A7619, 7 pin same as A4637 except includes cylinder ring and retaining pin for mounting cylinder in Kirk Housing.

LINCOLN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
Unknown	Panic Device	1E72		

LOCKNETICS SECURITY ENGINEERING**(A Harrow Company.)**

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
640-04/1 X L1	Key Switch	1E74	*C4 Inverted Cam	
640-05	Key Switch	1E74	*C4 Inverted Cam	
642-K04 x P5L1	Key Switch	1E74	*C4 Inverted Cam	
N641-05	Key Switch	1E74	*C4 Inverted Cam	
643 Series	Key Switch	1E74	*C4 Inverted Cam	
643-05	Key Switch	1E74	*C4 Inverted Cam	
753-5 & 6		1E74-A995-R804	C118	
868		1E74	C4	
7500 Series	Key Switch	1E74-A995-R804	C118	
7501	Key Switch	1E74-A995-R804	C118	
7551	Key Switch	1E74-A995-R804	C118	

* Inverting the cam is done at installation. The cylinder is assembled normally.

LOCKWOOD (MATHESON, INC)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
60C	Exit Device	No Key		
61C	Exit Device	1E74xA1247	C127	
70B	Exit Device	No Key		
70BN	Exit Device	No Key		
71B	Exit Device	1E72		
71BN	Exit Device	1E72		
75B	Exit Device	No Adaptation Available		
75BN	Exit Device	No Adaptation Available		
80B	Exit Device	No Key		
81B	Exit Device	1E74xA1247	C127	
81F	Exit Device	1E74xA1247	C127	
81-1/2B	Exit Device	1E74xA1247 Outside 1E7430xA1247 Inside	C127 C127	
82B	Exit Device	1E74xA1247	C127	
82-1/2B	Exit Device	1E74xA1247 Outside 1E7430xA1247 Inside	C127 C127	
83B	Exit Device	1E74xA1247	C127	
83F	Exit Device	1E74xA1247	C127	
90B	Exit Device	No Key		
90F	Exit Device	No Key		
91B	Exit Device	1E72		
91F	Exit Device	1E72		
91-1/2B	Exit Device	1E72 Outside A4471 Inside		
91-1/2F	Exit Device	1E72 Outside A4471 Inside		
92B	Exit Device	1E72		
92F	Exit Device	1E72		

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
92-1/2B	Exit Device	1E72 Outside A4471 Inside		
92-1/2F	Exit Device	1E72 Outside A4471 Inside		
93B	Exit Device	1E72		
93F	Exit Device	1E72		
	HEAVY DUTY			
*H110	Passage	No Key		83KON
*H112DL	Exit	No Key		83KONX
*H115DL	Closet	No Key		83KOZ
*H120	Privacy	No Key		83KOL
*H122DL	Communicating	No Key		83KOM
*H123DL	Exit	No Key		83KOQ
*H124DL	Exit	No Key		83KOP
*H125	Privacy	No Key		
*H130DL	Exterior	No Adaptation Available		83K_A
*H131DL	Classroom	No Adaptation Available		
*H132DL	Store Door	No Adaptation Available		83K_G
*H133DL	Communicating	No Adaptation Available		
*H134DL	Utility	No Adaptation Available		83K_D
*H135DL	Exit	No Adaptation Available		83K_C
*H136DL	Dormitory	No Adaptation Available		83K_T
*H137DL	Office	No Adaptation Available		83K_B
*H138DL	Exterior	No Adaptation Available		83K_AB

*NH prefix is same Cylindrical function as H prefix.

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
*H139DL	Classroom	No Adaptation Available		
*H140DL	Hotel	No Adaptation Available		83K_H
*H141DL	Exterior	No Adaptation Available		83K_E
*H142DL	Store Room	No Adaptation Available		83K_S
*H143DL	Communicating	No Adaptation Available		83K_W
*H144DL	Communicating	No Adaptation Available		
*H148DL	Hotel	No Adaptation Available		
*H160	Passage	No Adaptation Available		83KON-3/4
*H180DL	Exterior	No Adaptation Available		83K_A-3/4
*H181DL	Classroom	No Adaptation Available		
*H184DL	Utility	No Adaptation Available		83K_D-3/4
*H185DL	Exit	No Adaptation Available		83K_C-3/4
	<u>MEDIUM DUTY</u>			
**S110	Passage Latch	No Key		62KON
**S112DL	Exit Latch	No Key		
**S115	Closet Latch	No Key		62KON
**S120	Bathroom-Bedroom	No Key		62KOL
**S123DL	Exit Latch	No Key		
**S124DL	Patio Lock	No Key		
**S130DL	Exterior Lock	Cannot Adapt		62K_AB
**S131DL	Classroom Lock	Cannot Adapt		62K_R
**S134DL	Storeroom Lock	Cannot Adapt		62K_D
**S137DL	Office Door	Cannot Adapt		62K_AB

*NH prefix is same Cylindrical function as H prefix.

**NS prefix is same Cylindrical function as S prefix.

LOCKWOOD (MATHESON, IND.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
*S138DL	All Purpose Lock	Cannot Adapt		62K_AB
*S140DL	Hotel & Motel Lock	Cannot Adapt		
*S141DL	Service Station Lock	Cannot Adapt		62K_E
*S146DL	Classroom-Closet Latch	Cannot Adapt		62K_R
L203	Rim Deadlock	1E72		
L203C	Rim Deadlock	1E72		
300 Series	Panic Exit Devices same as 70, 80 and 90 Series except supplied unfinished and with steel cross bar.			
L401	Jimmy Proof Rim Lock	1E72		
L401C	Jimmy Proof Rim lock	1E72 Outside Only		
930 Series	Lever Handle Cylindrical	** Use Equiv.		9K7_14D
951	Mortise Cylinder	1E72xA1247	C127	
953	Rim Cylinder	1E72		
954	Mortise Cylinder	1E74xA4796	C173	
956	Rim Cylinder	1E72		
959	Dummy Mortise Cylinder	1E04		
961	Mortise Hotel Cylinder	A5999 RH A5998 LH		
967	Mortise Cylinder	1E74xA1247	C127	
968	Rim Cylinder	1E72		
970 Series	Lever Handle Cylindrical	** Use Equiv.		9K7_15D
<u>MORTISE DEADLOCKS AND TUBULARS</u>				
1210	Mortise Latch	1E74xA1247	C127	
1210-3/4	Mortise Latch	1E74xA1247	C127	
1215	Mortise Latch	1E74xA1247	C127	

*NS prefix is same Cylindrical function as S prefix.

**Examine door preparation for 9K compatibility.

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1215-3/4	Mortise Latch	1E74xA1247	C127	
1216-3/4	Mortise Latch	1E74xA1247 Outside A1733 Inside	C127	
A2214	Deadbolt	1E74xA1247	C127	38H_L
A2214-1/2	Deadbolt	1E74xA1247	C127	38H_K
A2214-3/4	Deadbolt	1E74xA1247 (2 Req.)	C127	38H_M
A2214-7/8	Classroom Deadbolt	1E74xA1247	C127	38H_R
2220	Tubular	A2457		
2221	Tubular	A2457		
2222	Tubular	B4309		
2223	Tubular	A9627 RH A9630 LH		
2226-7/8	Classroom Deadbolt	1E74xA1247	C127	38H_R
2227	Deadbolt	1E74xA1247	C127	38H_L
2227-1/2	Deadbolt	1E74xA1247	C127	38H_K
2227-3/4	Deadbolt	1E74xA1247 (2 Req.)	C127	38H_M
2230	Lock 1-1/2" Backset	1E74xA1247	C127	38H_L
2230-1/2	Lock 1-1/2" Backset	1E74xA1247	C127	38H_K
2230-3/4	Lock 1-1/2" Backset	1E74xA1247 (2 Req.)	C127	38H_M
2232	Lock 1" Backset	1E74xA1247	C127	38H_L
2232-1/2	Lock 1" Backset	1E74xA1247	C127	38H_K
2232-3/4	Lock 1" Backset	1E74xA1247 (2 Req.)	C127	38H_M
2243	Lock	1E74xA1247	C127	38H_L
2243-1/2	Lock	1E74xA1247	C127	38H_K
2243-3/4	Lock	1E74xA1247 (2 Req.)	C127	38H_M
2245	Lock	1E74xA4796	C173	
2245-1/2	Lock	1E74xA4796	C173	
2245-3/4	Lock	1E74xA4796 (2 Req.)	C173	38H_M

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2272	Bit Key Lock	Cannot Adapt		
F5000	Entrance Lock	1E74xA1247	C127	
T5000	Entrance Lock	1E74xA1247	C127	34H_A
F5000-1/4	Closet Door	1E74xA1247	C127	
T5000-1/4	Closet Door	1E74xA1247	C127	
F5000-1/2	Office Lock	1E74xA1247	C127	
T5000-1/2	Office Lock	1E74xA1247	C127	
F5000-5/8	Closet Lock	1E74xA1247	C127	
T5000-5/8	Closet Lock	1E74xA1247	C127	34H_EW
F5000-3/4	Office Lock	1E74xA1247	C127	
T5000-3/4	Office Lock	1E74xA1247	C127	34H_E
T5017	Deadbolt	1E74xA1247	C127	34H_S
T5017-1/2	Deadbolt	1E74xA1247	C127	34H_P
T5017-3/4	Deadbolt	1E74xA1247 (2 Req.)	C127	34H_T
F5020	Entrance Lock	1E74xA1247 (2 Req.)	C127	
T5020	Entrance Lock	1E74xA1247 (2 Req.)	C127	
5022	Sliding Door Lock	1E74xA1247	C127	
5023	Sliding Door Lock	1E74xA1247 (2 Req.)	C127	
F5030	Entrance Lock	1E74xA1247	C127	
T5030	Entrance Lock	1E74xA1247	C127	34H_B
5034	Entrance Lock	Send Sample		
F5035	Closet Lock	1E74xA1247	C127	
T5035	Closet Lock	1E74xA1247	C127	34H_C x 1 Cyl.
5036	Entry	Send Sample		
5037	Entry	Send Sample		
F5038	Communicating	No Key		
T5038	Communicating	No Key		

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5039	Closet	No Adaptation Available		
5044	Entrance Lock	1E74xA4796	C173	
5046	Entrance Lock	1E74xA4796	C173	
5048	Entrance Lock	1E74xA4796 (2 Req.)	C173	
F5049	Bathroom Lock	No Key		
T5049	Bathroom Lock	No Key		34HOL
F5055-1/2	Public Toilet	1E74xA1247 (2 Req.)	C127	
T5055-1/2	Public Toilet	1E74xA1247 (2 Req.)	C127	34H_G
F5055-3/4	Public Toilet	1E74xA1247 (2 Req.)	C127	
T5055-3/4	Public Toilet	1E74xA1247 (2 Req.)	C127	34H_G
F5056-1/2	Classroom Lock	1E74xA1247	C127	
T5056-1/2	Classroom Lock	1E74xA1247	C127	
F5056-3/4	Classroom Lock	1E74xA1247	C127	
T5056-3/4	Classroom Lock	1E74xA1247	C127	34H_J
T5070	Hotel Lock	No Adaptation Available		
5074	Entry	1E74xA4796	C173	
5076	Entry	1E74xA4796	C173	
5077	Closet	1E74xA4796	C173	
5078	Entry	1E74xA4796 (2 Req.)	C173	
5080	Hotel Lock	No Adaptation Available		
5082	Hotel Lock	No Adaptation Available		
F5084	Passage Lock	No Key		
T5084	Passage Lock	No Key		34HON
5085	Hotel Lock	No Adaptation Available		
5086	Hotel Lock	No Adaptation Available		
5090	Narrow Backset	1E74xA1247	C127	
R5090	Narrow Backset	No Adaptation Available		

LOCKWOOD (MATHESON,INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5094	Entry	1E74xA4796	C173	
5096	Entry	1E74xA4796	C173	
5097	Closet	1E74xA4796	C173	
B5100	Entrance Lock	1E74xA1247	C127	34H_A
B5100-1/4	Closet Lock	1E74xA1247	C127	
B5100-1/2	Office Lock	1E74xA1247	C127	
B5100-5/8	Closet Lock	1E74xA1247	C127	34H_EW
B5100-3/4	Office Lock	1E74xA1247	C127	34H_E
B5117	Deadbolt	1E74xA1247	C127	34H_S
B5117-1/2	Deadbolt	1E74xA1247	C127	34H_P
B5117-3/4	Deadbolt	1E74xA1247 (2 Req.)	C127	34H_T
B5117-7/8	Deadbolt	1E74xA1247	C127	
B5120	Entrance Lock	1E74xA1247 (2 Req.)	C127	34H_C
B5130	Entrance Lock	1E74xA1247	C127	34H_B
B5135	Closet Lock	1E74xA1247	C127	34H_Cx1 Cyl.
B5138	Communicating Lock	No Key		
B5149	Bathroom Lock	No Key		34HOL
B5155-1/2	Public Toilet Lock	1E74xA1247 (2 Req.)		
B5155-3/4	Public Toilet Lock	1E74xA1247 (2 Req.)		34H_G
B5156-1/2	Classroom Lock	1E74xA1247	C127	
B5156-3/4	Classroom Lock	1E74xA1247	C127	
G5159-1/2	Office Lock	1E74xA4796	C173	
G5159-3/4	Office Lock	1E74xA4796	C173	
B5160	Exit Doors	1E74xA1247 (2 Req.)	C127	
B5164	Dormitory	1E74xA1247	C127	
B5165	Dormitory	1E74xA1247	C127	

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
G5165-3/4	Public Toilet Lock	1E74xA4796 Outside 1E74xA1247 Inside	C173 C127	
G5166-3/4	Classroom Lock	1E74xA4796	C173	
B5170	Hotel Lock	No Adaptation Available		
B5184	Passage Lock	No Key		34HON
G5187	Passage Lock	No Key		34HON
G5189-3/4	Exit Doors	No Key		
T5200	Entrance 3/4" Throw	1E74xA4796	C173	
5117-7/8	Cylinder Deadlock	1E74xA1247	C127	
5164	Dormitory	1E74xA1247	C127	
T5220	Entrance 3/4" Throw	1E74xA4796 (2 Req.)	C173	
T5230	Entrance 3/4" Throw	1E74xA4796	C173	
5232	Lock	1E74xA1247	C127	
T5235	Entrance 3/4" Throw	1E74xA4796	C173	
<u>LEVER HANDLE MORTISE LOCKSETS</u>				
5500	Entrance	1E74xA1247	C127	
5500-5/8	Closet	1E74xA1247	C127	
5500-3/4	Office	1E74xA1247	C127	
5530	Entrance	1E74xA1247	C127	
5549	Bathroom	No Key		
5555-3/4	Public Toilet	1E74xA1247 (2 Req.)	C127	
5556-3/4	Classroom	1E74xA1247	C127	
5584	Passage	No Key		
5818	Sliding Door Lock	1E74xA1247	C127	
5818-1/2	Sliding Door Lock	1E74xA1247 (2 Req.)	C127	
5910	Latch	1E72		
5910C	Latch	1E72		

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5914	Latch	1E72		
6298	Jimmy Proof Rim Deadlock	1E72		
6299	Jimmy Proof Rim Deadlock	1E72		
6377	Rim Deadlock	1E72		
6377C	Rim Deadlock	1E72		
6391B	Rim Deadlock	1E72		
6391C	Rim Deadlock	1E72		
7104	Mortise Lock	1E74	C4	
7107	Mortise Lock	1E74	C4	
7109	Mortise Lock	1E74	C4	
7112	Mortise Lock	1E74xA20877	C222	
7113	Mortise Lock	1E74xA20877	C222	
7114	Mortise Lock	1E74xA20877	C222	
7120	Mortise Lock	1E74xA20877	C222	
8680B	Panic Lock	No Key		
8681B	Panic Lock	1E74xA1247	C127	
8681BH	Panic Lock	Send Sample		
8681-1/2B	Panic Lock	1E74-30xA1247 Outside 1E74xA1247 Inside	C127 C127	
8681-1/2BH	Panic Lock	No Adaptation Available		
8682B	Panic Lock	1E74-30xA1247	C127	
8682BH	Panic Lock	No Adaptation Available		
8682-1/2B	Panic Lock	1E74-30xA1247 Outside 1E74xA1247 Inside	C127 C127	
8683B	Panic Lock	1E74-30xA1247	C127	
8683BHP	Panic Lock	No Adaptation Available		
<u>ENTRANCE HANDLE LOCKSETS</u>				
8702	Lock	1E74xA1247 (2 Req.)	C127	

LOCKWOOD (MATHESON, INC.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
T8702	Lock	1E74xA1247 (2 Req.)	C127	
8702V	Lock	1E74xA1247	C127	
T8702V	Lock	1E74xA1247	C127	
8702-1/2	Lock	1E74xA1247	C127	
T8702-1/2	Lock	1E74xA1247	C127	
8702-3/4	Lock	1E74xA1247	C127	
T8702-3/4	Lock	1E74xA1247	C127	
T8702-3/4V	Lock	1E74xA1247	C127	
8702-3/4V	Lock	1E74xA1247	C127	
8705	Lock	1E74xA1247 (2 Req.)	C127	
T8705	Lock	1E74xA1247 (2 Req.)	C127	
8705-1/2	Lock	1E74xA1247	C127	
T8705-1/2	Lock	1E74xA1247	C127	
8781	Lock	1E74xA1247 (2 Req.)	C127	
8782	Lock	No Adaptation Available		
8783	Lock	1E74xA1247	C127	
T8784	Lock	No Key		
8785	Lock	1E74xA1247	C127	
8788	Lock	1E74xA1247 (2 Req.)	C127	
8789	Lock	No Adaptation Available		
17812	Holdback Lock	A8727 (Must be fitted to lockset.)		
17813	Holdback Lock	A8727 (Must be fitted to lockset.)		

Lloyd Matheson, Inc. has taken over production of some of the Lockwood Mortise Locks. Matheson products are using the same Lockwood catalog numbers except for some prefix letters. The Matheson line also includes previously unlisted mortise lock functions. If you encounter a conflict when adapting any of the Matheson Manufactured Locks, please advise immediately.

LOGAN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
103LR5	Gate Multi-Lock Outside Only	1E74xA9229xR708	C223	

LORI

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4520	Deadlock	1E74	C181	

MAG ENG.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
700	Ultra Deadbolt	1ESPL-7-A8986xA1247	C127	

MAGNOKRON INC.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
550-1	Exit Device	No Key		
550-2	Exit Device	No Key		
550-3	Exit Device	No Key		
550-4	Exit Device	1E72		
550-5	Exit Device	1E72		

MARKS HARDWARE INC.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE_NO.	EQUIV.
*3000 Series	Mortise W/O Deadbolt	1E74	C4	
*4000 Series	Mortise W/O Deadbolt	1E74	C4	
** 4000 Series	Mortise W/Deadbolt	1E74xB34077	C258	
4000-G	"G" Function Mortise	No Adaptation Available		
* 5000 Series	Mortise W/O Deadbolt	1E74	C4	
**5000 Series	Mortise W/Deadbolt	1E74xB34077	C258	
5000-G	"G" Function Mortise	No Adaptation Available		
6000 Series	Mortise Keyed Function	1E74	C4	
7000 Series	Mortise Keyed Function	1E74	C4	
8000 Series	Mortise Keyed Function	1E74	C4	
9000 Series	Mortise Keyed Function	1E74	C4	

*Locks without deadbolt functions use a Marks #2101 Straight Cam, (Best C4).

**Locks with deadbolt functions use a Marks #2102 Cloverleaf Cam, (Best C258).

MCKINNEY

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
None	Lock	1E74xA6246	C187	
B10xCyl.	Mortise Lock	1E74xA40088	C234	

MERIT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1781A	Sliding Door Lock	1E74	C4	
1785	Mortise	1E74	C4	

MODERNFOLD DOOR

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
71	Folding Door Lock	No Key		
72	Folding Door Lock	No Key		
81	Folding Door Lock	No Adaptation Available		
81-1/2B	Door Lock	1ESPL-7-A8687		
82	Folding Door Lock	No Adaptation Available		
91	Folding Door Lock	1ESPL-7-A14438		
92	Folding Door Lock	1ESPL-7-A14438 (2 Req.)		
95	Folding Door Lock	1ESPL-7-A14438		
96	Folding Door Lock	1ESPL-7-A14438 (2 Req.)		
800	Foldor Handle	1E72xR710		

MONARCH PANIC HARDWARE

"ALK" Alarm Kits ("ALK" DESIGNATION ADDED TO PANIC DEVICE AS REQUIRED)

All "ALK" Alarm Kits for the 17, 18 and 19 Series Devices require a 1E74 Mortise Cylinder with a standard C4 Cam. Please note that the cylinder mounts horizontal and there is a 16-24 second delay for the unit to alarm after it is placed in the alarmed position. This will allow for one authorized egress prior to alarming the unit.

"CD" Cylinder Dogging ("CD" DESIGNATION ADDED TO PANIC DEVICE AS REQUIRED) All "CD" Kits for the 17, 18 and 19 Series devices require a 1E74 Mortise Cylinder with a standard C4 Cam. **IMPORTANT** : All cylinders utilized must have cam INVERTED at 6 o'clock position when cylinder is locked. This is 180 degrees different from normal 12 o'clock position. Cylinders mount in the horizontal position.

"DL" Deadlocking Latch Bolt

The "DL" designation for Monarch does not affect the cylinder or cam required.

"F" Fire Rated

THE "F" PREFIX DESIGNATION FOR FIRE EXIT HARDWARE DOES NOT AFFECT THE CYLINDER ADAPTATION OR CAM REQUIREMENT FOR MONARCH. WHEN THE "F" IS OMITTED, THE DEVICE MAY INCLUDE A DOGGING FEATURE.

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
Miscellaneous Devices				
CM -T	Panic Device	1E74	C4	
R-KE1107	Panic Device	1E74	C4	
CV Series Devices				
CV-C-C	Panic Device	1E74	C4	
CV-C-DT	Panic Device	No Key		
CV-C-N	Panic Device	No Key		
CV-C-P	Panic Device	1E74	C4	
CV-C-SL	Panic Device	1E74	C4	
CV-C-SLP	Panic Device	1E74	C4	
CV-C-T	Panic Device	1E74	C4	
CV-C-TDT	Panic Device	No Key		
CV-C-TxLS/LK	Panic Device	No Key		
CV-M-N	Panic Device	No Key		
CV-M-P	Panic Device	1E74	C4	

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
CV-M-T	Panic Device	1E74	C4	
CV-M-TDT	Panic Device	No Key		
CV-M-TxLS/LK	Panic Device	No Key		
CV2-C	Panic Device	1E74	C4	
CV2-P	Panic Device	1E74	C4	
CV2-SL	Panic Device	1E74 (Min. Size)	C4	
CV2-T	Panic Device	1E74	C4	
CV2-TD	Panic Device	No Key		
CV2-TDT	Panic Device	No Key		
<u>XX Series Devices</u>				
XX-C-C	Panic Device	1E74	C4	
XX-C-KE	Panic Device	1E74	C4	
XX-C-KExLS/LK	Panic Device	No Key		
XX-C-LE	Panic Device	1E74	C4	
XX-C-LExLS/LK	Panic Device	No Key		
XX-C-N	Panic Device	No Key		
XX-C-P C4	Panic Device	1E74		
XX-C-SL	Panic Device	1E74	C4	
XX-C-SLP	Panic Device	1E74	C4	
XX-C-T	Panic Device	1E74	C4	
XX-C-TxLS/LK	Panic Device	No Key		
XX-C-TDT	Panic Device	No Key		
XX-M-KE C4	Panic Device	1E74		
XX-M-KE (2)	Panic Device	1E74 (Outside) 1E72 (Inside)	C4	
XX-M-KExLS/LK	Panic Device	No Key		

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
XX-M-LE	Panic Device	1E74	C4	
XX-M-LExLS/LK	Panic Device	No Key		
XX-M-N	Panic Device	No Key		
XX-M-P	Panic Device	1E74	C4	
XX-M-T	Panic Device	1E74	C4	
XX-M-TxLS/LK	Panic Device	No Key		
XX-R-BA	Panic Device	No Key		
XX-R-DT	Panic Device	No Key		
XX-R-KE	Panic Device	1E72		
XX-R-KE (2)	Panic Device	1E72 (Outside) 1E72 (Inside)		
XX-R-KE (2-OC)	Panic Device	1E72 (2 Req.) Outside only		
XX-R-KExLS/LK	Panic Device	No Key		
XX-R-LE	Panic Device	1E72		
XX-R-LE2-LC	Panic Device	1E72 (2 Req.)		
XX-R-LExLS/LK	Panic Device	No Key		
XX-R-P	Panic Device	1E72		
XX-R-T	Panic Device	1E72		
XX-R-T (2)	Panic Device	1E72 (Outside) 1E72 (Inside)		
XX-R-T (2-OC)	Panic Device	1E72 (2 Req.) Outside only		
XX-R-TxLS/LK	Panic Device	No Key		
XX-V-DT	Panic Device	1E74	C4	
XX-V-KE	Panic Device	1E72		
XX-V-KExLS/LK	Panic Device	No Key		
XX-V-LE	Panic Device	1E72		
XX-V-LExLS/LK	Panic Device	No Key		

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
XX-V-N	Panic Device	No Key		
XX-V-SL	Panic Device	1E74	C4	
XX-V-SLE	Panic Device	1E72		
XX-V-SLP	Panic Device	1E74	C4	
XX-V-T	Panic Device	1E72		
XX-V-TxLS/LK	Panic Device	No Key		
XX-V-2-T	Panic Device	1E72		
 <u>11 Series Devices</u>				
11-M-KE	Panic Device	1E74	C4	
11-M-KExLS/LK	Panic Device	No Key		
11-M-LE	Panic Device	1E74	C4	
11-M-LExLS/LK	Panic Device	No Key		
11-M-N	Panic Device	No Key		
11-M-P	Panic Device	1E74	C4	
11-M-T	Panic Device	1E74	C4	
11-M-TxLS/LK	Panic Device	No Key		
11-R-KE	Panic Device	1E72		
11-R-KExLS/LK	Panic Device	No Key		
11-R-LE	Panic Device	1E72		
11-R-LExLS/LK	Panic Device	No Key		
11-R-N	Panic Device	No Key		
11-R-P	Panic Device	1E72		
11-R-T	Panic Device	1E72		
11-R-TxLS/LK	Panic Device	No Key		
11-V-KE	Panic Device	1E72		
11-V-KExLS/LK	Panic Device	No Key		

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
11-V-LE	Panic Device	1E72		
11-V-LExLS/LK	Panic Device	No Key		
11-V-N	Panic Device	No Key		
11-V-SLE	Panic Device	1E72		
11-V-T	Panic Device	1E72		
11-V-TxLS/LK	Panic Device	No Key		
<u>17 Series Devices</u>				
17-C-C	Panic Device	1E74	C4	
17-C-DT-K	Panic Device	No Key		
17-C-DT-L	Panic Device	No Key		
17-C-K	Panic Device	1E74	C4	
17-C-KxLS/LK	Panic Device	No Key		
17-C-L	Panic Device	1E74	C4	
17-C-LxLS/LK	Panic Device	No Key		
17-C-LE	Panic Device	1E74	C4	
17-C-N	Panic Device	No Key (Standard) (Optional 1E72)		
17-C-P	Panic Device	1E74	C4	
17-C-SL	Panic Device	1E74	C4	
17-C-SLP	Panic Device	1E74	C4	
17-C-T	Panic Device	1E74	C4	
17-C-TDT	Panic Device	No Key		
17-LxLS/LK	Panic Device	No Key		
17-M-DT	Panic Device	No Key		
17-M-DT-K	Panic Device	No Key		
17-M-DT-L	Panic Device	No Key		

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
17-M-K	Panic Device	1E74	C4	
17-M-KxLS/LK	Panic Device	No Key		
17-M-L	Panic Device	1E74	C4	
17-M-N	Panic Device	No Key		
17-M-P	Panic Device	1E74	C4	
17-M-T	Panic Device	1E74	C4	
17-M-TxLS/LK	Panic Device	No Key		
17-R-BA	Panic Device	No Key		
17-R-C	Panic Device	1E72		
17-R-DT	Panic Device	No Key		
17-R-DT-K	Panic Device	No Key		
17-R-DT-L	Panic Device	No Key		
17-R-K	Panic Device	1E74	C4	
17-R-KxLS/LK	Panic Device	No Key		
17-R-L	Panic Device	1E74	C4	
17-R-LxLS/LK	Panic Device	No Key		
17-R-LE	Panic Device	1E74	C4	
17-R-P	Panic Device	1E72		
17-R-T	Panic Device	1E74	C4	
17-R-TxLS/LK	Panic Device	No Key		
17-R-TDT	Panic Device	No Key		
17-V-BA	Panic Device	No Key		
17-V-C	Panic Device	1E72		
17-V-DT	Panic Device	No Key		
17-V-DT-K	Panic Device	No Key		
17-V-DT-L	Panic Device	No Key		
17-V-K	Panic Device	1E74	C4	

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
17-V-KxLS/LK	Panic Device	No Key		
17-V-L	Panic Device	1E74	C4	
17-V-LxLS/LK	Panic Device	No Key		
17-V-P	Panic Device	1E72		
17-V-SL	Panic Device	1E74	C4	
17-V-SLP	Panic Device	1E74	C4	
17-V-T	Panic Device	1E74	C4	
17-V-TDT	Panic Device	No Key		
CD-17-V1-BA	Panic Device	No Key (Outside) 1E74(Cyl Dog Inside)	C4	
CD-17-V1-C	Panic Device	1E72 (Outside) 1E74(Cyl Dog Inside)	C4	
CD-17-V1-LE	Panic Device	1E72 (Outside) 1E74(Cyl Dog Inside)	C4	
<u>18 Series Devices</u>				
18-C-C	Concealed Panic Device	1E74	C4	
18-C-DT	Concealed Panic Device	No Key		
18-C-KE	Concealed Panic Device	1E74	C4	
18-C-KExLS/LK	Concealed Panic Device	No Key		
18-C-LE	Concealed Panic Device	1E74	C4	
18-C-LExLS/LK	Concealed Panic Device	No Key		
18-C-N	Concealed Panic Device	No Key		
18-C-P	Concealed Panic Device	1E74	C4	
18-C-SL	Concealed Panic Device	1E74	C4	
18-C-SLP	Concealed Panic Device	1E74	C4	
18-C-T	Concealed Panic Device	1E74	C4	
18-C-TxLS/LK	Concealed Panic Device	No Key		

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
18-C-T (NL)	Concealed Panic Device	1E74	C4	
18-C-TDT	Concealed Panic Device	No Key		
18-M-KE	Panic Device	1E74	C4	
18-M-KE2	Panic Device	1E74 (Outside) 1E72 (Inside)	C4	
18-M-KExLS/LK	Panic Device	No Key		
18-M-LE	Panic Device	1E74	C4	
18-M-LExLS/LK	Panic Device	No Key		
18-M-N	Panic Device	No Key		
18-M-P	Panic Device	1E74	C4	
18-M-T	Panic Device	1E74	C4	
18-M-TxLS/LK	Panic Device	No Key		
18-M-T2	Panic Device	1E74 (Outside) 1E72 (Inside)	C4	
18-R-BA	Panic Device	No Key		
18-R-KE	Panic Device	1E72		
18-R-KExLS/LK	Panic Device	No Key		
18-R-KE(2)	Panic Device	1E72 (Outside) 1E72 (Inside)		
18-R-KE2 (OC)	Panic Device	1E72 (2 Req'd) Outside Only		
18-R-LE	Panic Device	1E72		
18-R-LExLS/LK	Panic Device	No Key		
18-R-P	Panic Device	1E72		
18-R-T	Panic Device	1E72		
18-R-TxLS/LK	Panic Device	No Key		
18-V-BA	Panic Device	No Key		
18-V-KE	Panic Device	1E72		
18-V-KExLS/LK	Panic Device	No Key		

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
18-V-LE	Panic Device	1E72		
18-V-LExLS/LK	Panic Device	No Key		
18-V-SL	Panic Device	1E74	C4	
18-V-SLE	Panic Device	1E72		
18-V-SLP	Panic Device	1E74	C4	
18-V-T	Panic Device	1E72		
18-V-TxLS/LK	Panic Device	No Key		
18-V-T2	Panic Device	1E72		
CD-18-V1-DT	Panic Device	No Key (Outside) 1E74(Cyl Dog Inside) C4		
CD-18-V1-T	Panic Device	1E72 (Outside) 1E74(Cyl Dog Inside) C4		
18-V2-LE	Panic Device	1E72		
<u>19 Series Devices</u>				
19-L	Panic Device	1E74	C4	
19-R-BA	Panic Device	No Key (Standard) (Optional - 1E72)		
19-R-BE	Panic Device	No Key		
19-R-C	Panic Device	1E72		
19-R-DT	Panic Device	No Key		
19-R-K	Panic Device	1E74	C4	
19-R-KxLS/LK	Panic Device	No Key		
19-R-K (NL)	Panic Device	1E74	C4	
19-R-L	Panic Device	1E74	C4	
19-R-LxLS/LK	Panic Device	No Key		
19-R-LE	Panic Device	1E74	C4	
19-R-L (P)	Panic Device	1E72		

MONARCH PANIC HARDWARE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
19-R-P	Panic Device	1E72		
19-R-P AL	Panic Device	1E72		
19-R-T	Panic Device	1E74	C4	
19-R-TxLS/LK	Panic Device	No Key		
19-V-BA	Panic Device	No Key (Standard) (Optional - 1E72)		
19-V-BA-V2	Panic Device	No Key		
19-V-BE	Panic Device	No Key		
19-V-C	Panic Device	1E72		
19-V-K	Panic Device	1E74	C4	
19-V-KxLS/LK	Panic Device	No Key		
19-V-L	Panic Device	1E74	C4	
19-V-LxLS/LK	Panic Device	No Key		
19-V-NL (P)	Panic Device	1E72		
19-V-P	Panic Device	1E72		
19-V-T	Panic Device	1E74	C4	
19-V-TxLS/LK	Panic Device	No Key		
19-V1-BA	Panic Device	No Key (Standard) (Optional 1E72)		
19-V1-BE	Panic Device	No Key		
19-V1-K (NL)	Panic Device	1E74	C4	
19-V1-L	Panic Device	1E74	C4	
19-V1-T	Panic Device	1E74	C4	

MULTI-LOCK (Ford Fence Design - not 4 point lock of N.Y.C.)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
None	Multi-Gate Lock	1E74xA9229xR708	C223	

NATIONAL

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
None	Mortise Lock	1E74xA5990	C183	

NORWALK

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2300 Series	Short Cam Lock	1E74xA683	C110	
None	Offset Lock	1E74xA5397	C177	
None	2E Mortise	No Adaptation Available		

PANELFOLD

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE_NO.	EQUIV.
Folding Door	Handle Lock	A2716		8S_8
Folding Door	Double Handle	B9267		

PDQ

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
SX Series FRE	Lever Handle Cylindrical	*Use Equiv.		9K7_15D
115	Mortise Lock, Storeroom	1E74	C4	34H_EW
116	Mortise Lock, Entry	1E74	C4	34_E
125	Mortise Lock, Passage	No Key		34HON
127	Mortise Lock, Exit	Send Sample		34H_G
131	Mortise Lock, Deadlock	1E74xA995	C118	34H_S
132	Mortise Lock, Deadlock	1E74xA995	C118	34H_P
133	Mortise Lock, Deadlock	1E74xA995 (2 Req.)	C118	34H_T
136	Mortise Lock, Dormitory	1E74xA995	C118	34H_FW
137	Mortise Lock, Store Room	1E74xA995 (2 Req.)	C118	34H_C
148	Mortise Lock, Classroom	1E74	C4	34H_J
156	Mortise Lock, Dwelling	1E74xA995	C118	34H_F
161	Mortise Lock, Hotel	1E7G4xA995	C118	34H_H
176	Mortise Lock, Privacy	No Key		34HOL

*Examine door preparation for 9K compatibility.

PEABODY

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
B74 or 74	Mortise Sliding Lock	1E74	C4	

PELLA

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
558	Wood Folding Door	1E74	C4	

PERKINSON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
300 Series	Three Point Lock	1E74	C4	

PINKERTON & BROWN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
None	Three Point Lock	1E74xA1707	C148	

PITTSBURGH TUBELITE (PPG)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
500-21	Narrow Rail Deadbolt	1E74 (2 Req.)	C4	
500-22	Narrow Rail Latchbolt	1E74	C4	
500-346	PITTCO	1E74xA1414	C134	
500-346MX	Mortise	* 1E74xA5979	C181	
500-347	Mortise	* 1E74xA5979	C181	
500-248	Mortise	* 1E74xA5979	C181	

*The 1E74xA5979 (C181 Cam) may be used with the cylinder rings shown on Drawing A2752. Locks require either one or two cylinders as specified.

PLAZA LOCK CO.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1072	Mortise	No Key		
1073	Mortise	No Key		
4005	Mortise	1E74	C4	

PRECISION HARDWARE INC.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
105 x 17	Exit Device	1E72		
108	Panic Device	1E72		
FLD108	Type I, F08 Exit Device	1E72		
D201	Vert. Rod Exit Device	Not Keyed		
203	Vert. Rod Exit Device	1E72		
205 x 17	Exit Device	1E72		
D208	Vert. Rod Exit Device	1E72		
303	Mortise Exit	1E74	C4	
FL305	Mortise Exit	1E74	C4	
305x17	Mortise Exit	1E74	C4	
FL305x17	Mortise Exit	1E74	C4	
308 x 9	Exit Device	1E74-22	C4	
FL308	Exit Device	1E74	C4	
810	Rim Panic Device	1E72		
810C	Rim Panic Bolts	1E72		
810H	Rim Panic Bolts	1E72		
810HD	Rim Panic Bolts	Not Keyed		
810HP	Rim Panic Bolts	1E72		
810HPD	Rim Panic Device	Not Keyed		
810HPT	Rim Panic Device	1E72		
810HT	Rim Panic Device	1E72		
810K	Rim Panic Device	1E72		
810N	Rim Panic Device	Not Keyed		
810NP	Rim Panic Device	Not Keyed		
810 x 9KR	Exit Device	1E72		
820C	Mortise Panic Device	1E74	C4	
820H	Mortise Panic Device	1E74	C4	

PRECISION HARDWARE INC.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
820HD	Mortise Panic Device	Not Keyed		
820HP	Mortise Panic Device	1E74	C4	
820HPD	Mortise Panic Device	Not Keyed		
820HPT	Mortise Panic Device	1E74	C4	
820HT	Mortise Panic Device	1E74	C4	
820K	Mortise Panic Device	1E74	C4	
820N	Mortise Panic Device	Not Keyed		
820NP	Mortise Panic Device	Not Keyed		
820-9KA	Exit Device	1E74-22	C4	
820-9NP	Exit Device	Not Keyed		
821N	Rim Vertical Device	Not Keyed		
0810H	Panic Device	1E72		
1101	Panic Device	Not Keyed		
1103	Panic Device	1E72		
1103 x 17	Exit Device	1E72		
1103 CD x 17	Horiz. Rim Exit	1E72 (Outside) 1E74(Cyl Dog Inside)	C4	
1105	Panic Device	1E72		
1105-17	Exit Device	1E72		
FL1105-17	Panic Device	1E72		
1108	Panic Device	1E72		
1108 x 9L	Exit Device	1E72		
1108CD x 9LC	Exit Device	1E72 (Outside) 1E74(Cyl Dog Inside)	C4	
1201	Panic Device	1E72		
1201 CD	Vert Rod - Exit Only	Not Keyed (Outside) 1E74(Cyl Dog Inside)	C4	
1201 CD x 9	Panic Device	Not Keyed (Outside) 1E74(Cyl Dog Inside)	C4	

PRECISION HARDWARE INC.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
FL1201	Exit	Not Keyed		
H1201 CD	Panic Device	1E74(Cyl Dog Inside)	C4	
1202 CD x 9LC	Vert Rod Exit Device	Not Keyed (Outside) 1E74(Cyl Dog Inside)	C4	
FL1202	Panic Device	Not Keyed		
FL-1202 x 9LC	Exit Device	Not Keyed		
H1203 CD x 17	Panic Device	1E74(Cyl Dog Inside)	C4	
1205 x 17	Panic Device	1E72		
FL1205	Exit	1E72		
FL1205 x 17	Exit Device	1E72		
H1205	Exit	1E72		
FL1208 x 9L	Exit	1E72		
1301	Panic Device	Not Keyed		
1301 CD x 9	Panic Device	Not Keyed (Outside) 1E74(Cyl Dog Inside)	C4	
CD1303 x 17	Panic Device	1E74	C4	
FL1305	Panic Device	1E74	C4	
FL1305 x 17	Panic Device	1E74	C4	
FL1305A	Panic Device	Not Keyed		
1308	Panic Device	1E74	C4	
FL1308	Exit Device	1E74	C4	
FL1308 x 9LA	Exit Device	1E74-22	C4	
FL1308 x 9LX	Exit Device	1E74-22	C4	

READING

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
517-P26	Lock	1E72		
1640	Tubular Lock	A1591		
1641	Tubular Lock	A1591		
None	Cylinder	1E74xA682	C109	
None	Double Shift Cam	A5916 (check sample)	C4	

REED-EATON (Made by Yale)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1330-400M	Mortise Panic Device	1E74	C127	
3050A	Rim Panic Device	1E72		
3050B	Rim Panic Device	1E72		
3050K	Mortise	1E74	C4	
DF3050AF	Panic Device	1E72		
DF3050BF	Panic Device	1E72		
DF3050CF	Panic Device	No Key		
DF3050DF	Panic Device	No Key		
DF3050KF	Panic Device	1E74	C4	
DF3050DKF	Panic Device	No Key		
DF3050TLF	Panic Device	1E74	C4	
DF3050DTLF	Panic Device	No Key		
DF3050L-1F	Panic Device	1E74	C4	
DF3050LKF	Panic Device	No Key		
NL3A	Rim Panic Lock	1E72		
3551 AxC	Panic Lock	1E72		
3551 AxD	Panic Lock	1E72		
3551 BxD	Panic Lock	1E72		
3551 CxC	Panic Lock	No Key		
3551 CxD	Panic Lock	No Key		
3551 DxD	Panic Lock	No Key		
3551 KxD	Panic Lock	1E74	C4	
3551 KxDK	Panic Lock	1E74	C4	
3551 TLxD	Panic Lock	1E74	C4	
3551 TLxDTL	Panic Lock	1E74	C4	
4000	Panic Lock	1E72		
4010DF	Panic Lock	1E72		

REED-EATON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6050NTL	Rim Panic Lock	1E74xA836 Hex Nut	C4	
9100	Panic Device	1E72		
9105	Panic Device w/Cyl Dog	1E72 Outside 1E74xA5979 Inside	C181	
9130	Panic Device	1E74-A14520	C208	
9225C	Panic Device	1E74	C127	

REESE (formerly SARGENT GREENLEAF PANIC)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5311	Panic Device	1E72		
5413T	Panic Device	1E72		
55TC	Mortise Panic Device	1E74	C4	

RICHARDS WILCOX

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
144	Panic Bolt	1E72		
244	Inactive Panic Bolt	No Key		
517-P26	Cremone Bolts	1E72		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
O	Mortise Cylinder	1E74	C4	
OEM	Mortise Cylinder	No Adaptation Available		
O-L	Mortise Cylinder	A8727		
O-T	Mortise Cylinder	No Adaptation Available		
O-1/2	Mortise Cylinder	1E74	C4	
O-1/2EM	Mortise Cylinder	No Adaptation Available		
O-1/2FE	Mortise Cylinder	A7270 RHO A7273 LHO		
O-1/2L	Mortise Cylinder	A8727		
O-1/2T	Mortise Cylinder	No Adaptation Available		
1	Mortise Cylinder	* 1E64	C4	
1EM	Mortise Cylinder	No Adaptation Available		
1L	Mortise Cylinder	A8727		
1T	Mortise Cylinder	No Adaptation Available		
1-1/2	Mortise Cylinder 1-3/8"	*1E74	C4	
1-1/2L	Mortise Cylinder	A8727		
1-1/2T	Mortise Cylinder	No Adaptation Available		
2	Mortise Cylinder 1-1/2"	1E74-22	C4	
2EM	Mortise Cylinder	No Adaptation Available		
2L	Mortise Cylinder	No Adaptation Available		
2T	Mortise Cylinder	No Adaptation Available		
3	Mortise Cylinder 1-3/4"	1E74-26	C4	
3L	Mortise Cylinder	No Adaptation Available		
3T	Mortise Cylinder	No Adaptation Available		
4	Mortise Cylinder 2"	1E74-30	C4	
4L	Mortise Cylinder	No Adaptation Available		

* Minimum Length

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4T	Mortise Cylinder	No Adaptation Available		
5	Mortise Cylinder 2-1/4"	1E74-34	C4	
5L	Mortise Cylinder	No Adaptation Available		
5T	Mortise Cylinder	No Adaptation Available		
6	Mortise Cylinder 2-1/2"	1E74-40	C4	
6L	Mortise Cylinder	No Adaptation Available		
6T	Mortise Cylinder	No Adaptation Available		
9T	Mortise Cylinder	No Adaptation Available		
11	Mortise Cylinder	1E74xA995	C118	
13	Mortise Cylinder 2-3/4"	1E74-44	C4	
14	Mortise Cylinder 3"	1E74-48	C4	
19	Mortise Cylinder	1E6A4	C4	
20	Mortise Cylinder	3E74	C3	
20-1/2	Mortise Cylinder	3E74	C3	
21	Mortise Cylinder 1-1/4"	* 3E64	C3	
21-1/2	Mortise Cylinder 1-3/8"	* 3E74	C3	
22	Mortise Cylinder 1-1/2"	No Adaptation Available		
23	Mortise Cylinder 1-3/4"	No Adaptation Available		
24	Mortise Cylinder 2"	No Adaptation Available		
25	Mortise Cylinder 2-1/4"	No Adaptation Available		
26	Mortise Cylinder 2-1/2"	No Adaptation Available		
29	Mortise Cylinder 2-3/4"	No Adaptation Available		
31	Mortise Cylinder	No Adaptation Available		
32	Mortise Cylinder	No Adaptation Available		
33	Mortise Cylinder	No Adaptation Available		

*Minimum Length

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
34	Mortise Cylinder	No Adaptation Available		
41	Mortise Cylinder	No Adaptation Available		
CH41	Panic Device	1E74	C4	
42	Mortise Cylinder	No Adaptation Available		
CH42	Panic Device	No Key		
43	Mortise Cylinder	No Adaptation Available		
CH43	Panic Device	No Key		
44	Mortise Cylinder	No Adaptation Available		
CH48	Panic Device	No Key		
51	Exit Bolt	1E72		
52	Exit Bolt	No Key		
56	Exit Bolt	* 1E64	C4	
NT56	Exit Bolt	* 1E64	C4	
56-1/2	Exit Bolt	* 1E64 Outside * 1E74-30 Inside	C4 C4	
57	Exit Bolt	* 1E64	C4	
57-1/2	Exit Bolt	* 1E64 Outside * 1E74-30 Inside	C4 C4	
58	Exit Bolt	1E72		
59A	Exit Bolt	No Key		
CH61	Panic Device	No Key		
CH62	Panic Device	No Key		
CH63	Panic Device	1E74	C4	
CH68	Panic Device	1E74	C4	
CH68RC	Panic Device	1E74	C4	
72	Exit Bolt	No Key		

*Minimum length

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
76	Exit Bolt	*1E64	C4	
76-1/2	Exit Bolt	*1E64 Outside *1E74-30 Inside	C4 C4	
77	Exit Bolt	*1E64	C4	
77-1/2	Exit Bolt	*1E64 Outside *1E74-30 Inside	C4 C4	
078-3/4	Bit Key Lock	Cannot Adapt		
79A	Exit Bolt	No Key		
100	Mortise Cylinder	No Adaptation Available		
100-1/2	Mortise Cylinder	No Adaptation Available		
101	Mortise Cylinder	No Adaptation Available		
102	Mortise Cylinder	No Adaptation Available		
110	Mortise Cylinder	1E74xA995	C118	
110-1/2	Mortise Cylinder	1E74xA995	C118	
111	Mortise Cylinder	1E74xA995	C118	
111-1/2	Mortise Cylinder	1E74xA995	C118	
111-1/2HM	Hotel Cylinder	A5458 (6 Pin)		
112	Mortise Cylinder	1E74-22xA995	C118	
113	Mortise Cylinder	1E74-26xA995	C118	
114	Mortise Cylinder	1E74-30xA995	C118	
115	Mortise Cylinder	1E74-34xA995	C118	
116	Mortise Cylinder	1E74-40xA995	C118	
119	Mortise Cylinder	1E74xA995	C118	
229	Mortise Lock	No Key		
268	Bit Key Lock	Cannot Adapt		
300 Series	Stilemanor Cylindrical	Cannot Adapt		

*Minimum Length

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
0338	Lock 1E	* 1E64 (2 Req.)	C4	
0338-1/4	Lock	* 1E64	C4	
365	Fire Exit Bolt	1E72		None
LT365	Fire Exit Bolt	1E72		None
365-1/4	Fire Exit Bolt	No Key		None
372 x 3P	Exit Device	1E72		
0375	Bit Key Lock	Cannot Adapt		
0375-3/4	Bit Key Lock	Cannot Adapt		
0375-3/4M	Bit Key Lock	Cannot Adapt		
382	Exit Device	No Key		
382 x 3P	Exit Device	1E72		
382 x 3K	Exit Device	No Adaptation Available		
382 x 3PL	Exit Device	1E72		
<u>STILEMAKER HEAVY DUTY CYLINDRICAL</u>				
410	Passage	No Key		83KON
410C	Closet	No Key		83KOZ
414	Exit	No Key		83KONX
416	Communicating	No Key		83KOY
420	Bathroom	No Key		83KOL
ER421	Bathroom	No Key		
422	Communicating	No Key		83KOP
426	Exit	No Key		83KOQ
428	Communicating	No Key		
433E	Hotel	No Adaptation Available		83K_H
433HM	Hotel	No Adaptation Available		

*Minimum Length

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
434EM	Hotel	No Adaptation Available		
435	Rest Room	No Adaptation Available		83K_E
440	Exterior	A7048		83K_A
440-5/8	Classroom	No Adaptation Available		83K_R
H440-5/8	Classroom	A20339 (Tulip) A20340 (Round)		
440-5/8C	Closet	No Adaptation Available		
442	Exterior	No Adaptation Available		83K_AB
446	Exterior	No Adaptation Available		83K_B
446-1/2	Double Key	No Adaptation Available		83K_C
447	Patio	No Adaptation Available		
448-1/2	Entrance	No Adaptation Available		83K_G
450-1/2	Communicating	No Adaptation Available		
451-5/8	Communicating	No Adaptation Available		
452	Storeroom	A7048		83K_D
452C	Closet	A7048		
452-1/2	Institutional	A7048 (2 Req.)		83K_W
453	Dormitory	A7090		83K_T
454	Institution	No Adaptation Available		
456	Communicating	No Adaptation Available		
456-1/2	Communicating	No Adaptation Available		83K_S
	PANIC EXIT BOLTS			
465	Rim Panic	1E_2		
LT465	Rim Panic	1E_2		
465-1/2	Rim Panic	No Key		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
467	Rim Panic	1E_2		
467-1/2	Rim Panic	1E_2 Outside A1745 Inside		
472	Exit Device	No Key		
472 x 1191	Exit Device	1E72		
472 x 53P	Exit Device	1E72		
472 x 53DTP	Exit Device	No Key		
Note 1: LA or U prefix does not affect the cylinder adaptation.				
Note 2: Word suffix designating Trim Style does <u>not</u> affect cylinder adaptation.				
476	Rim Panic	1E72		
476NT	Rim Panic	1E72		
476-1/2	Rim Panic	1E72 Outside A1745 Inside		
476-1/4	Rim Panic	No Key		
<u>UNILOC LOCKSETS</u>				
1/2D500	Dummy Trim	No Key		
D500	Dummy Trim	No Key		
510	Passage	No Key		
514	Exit	No Key		
520	Bathroom	No Key		
ER521	Bathroom	No Key		
522	Exit	No Key		
524	Exit	No Key		
525	Entrance	A7693		
525-1/2	Entrance	A7693		
528	Communicating	No Key		
533EM	Hotel	No Adaptation Available		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
533HM	Hotel	Send Sample		
539	Closet	A7693		
540	Entrance	A7693		
540-5/8	Classroom	A7693		
H540-5/8	Classroom	A7693		
546	Office	A7693		
546-1/2	Entrance	A7693 (2 Req.)		
548-1/2	Store	A7693 (2 Req.)		
550-1/2	Communicating	A7693 (2 Req.)		
551-5/8	Communicating	A7693		
552	Storeroom	A7693		
553	Restroom Uniloc	A7693		
563	Dormitory Uniloc	A7693		
564-1/2	Special Cylinder	No Adaptation Available		
567	Panic Device	A1745		
568	Bit Key Lock	Cannot Adapt		
572	Exit Device	No Key		
572 x DTPL	Exit Device	No Key		
572 x 3DTP	Exit Device	No Key		
572 x 3PL	Exit Device	1E72		
572 x 4DTP	Exit Device	1E72		
572 x 31K	Exit Device	No Key		
572 x 33K	Exit Device	No Adaptation Available		
572 x 33P	Exit Device	1E72		
572 x 39K	Rim Exit Device	No Adaptation Available		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
572 x 43P	Exit Device	1E72		
572 x 50DTK	Exit Device	No Key		
572 x 50DTL	Exit Device	No Key		
572 x 51PK	Exit Device	No Key		
572 x 51PL	Exit Device	No Key		
572 x 53PK	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
572 x 53PL	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
572 x 53PNK	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
572 x 53 PNL	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
572 X 81I	Exit Device	No Key		
572 x 83DT	Exit Device	No Key		
572 x 83L	Exit Device	No Adaptation Available		
572 x 83NT	Exit Device	No Key		
582	Exit Device	No Key		
582 x DTPL	Exit Device	No Key		
582 x DTP	Exit Device	No Key		
582 x 3 PL	Exit Device	1E72		
582 x 4DTP	Exit Device	No Key		
582 x 31K	Exit Device	No Key		
582 x 33K	Exit Device	No Adaptation Available		
582 x 33P	Exit Device	1E72		
582 x 43P	Exit Device	1E72		
582 x 50DTK	Exit Device	No Key		
582 x 50DTL	Exit Device	No Key		
582 x 51PK	Exit Device	No Key		
582 x 51PL	Exit Device	No Key		
582 x 53PK	Exit Device	1ESPL-7-A35297-R811	C101 (2)	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
582 x 53PL	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
582 x 53PNK	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
582 x 53PNL	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
582 x 81L	Exit Device	No Key		
582 x 83DT	Exit Device	No Key		
582 x 83L	Exit Device	No Adaptation Available		
582 x 83NT	Exit Device	No Adaptation Available		
592	Exit Device	No Key		
592 x 53PK	Rim Exit Device	1ESPL-7-A35297-R811	C101 (2)	
592 x 91K	Exit Device	No Key		
592x0-1/2x91K	Exit Device	1E74	C4	
592 x 92K	Exit Device	No Key		
592x0-1/2x92K	Exit Device	1E74		
625	Entrance	No Adaptation Available		
625-1/2	Entrance	No Adaptation Available		
633EM	Hotel	No Adaptation Available		
633HM	Hotel	No Adaptation Available		
638	Patio	No Adaptation Available		
639	Closet	No Adaptation Available		
640	Entrance	No Adaptation Available		
640-5/8	Classroom	No Adaptation Available		
H640-5/8	Classroom	No Adaptation Available		
CH641	Exit Device	1E74	C4	
CH642	Exit Device	No Key		
CH643	Exit Device	1E74	C4	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
H643-1/2	Office	No Adaptation Available		
CH645	Panic Device	A14227 (Use Original Russwin Cam.)		
646	Office	No Adaptation Available		
646-1/2	Entrance	No Adaptation Available		
647	Patio	No Adaptation Available		
CH648	Panic Device	1E74	C4	
648-1/2	Storeroom (Double Key)	No Adaptation Available		
650-1/2	Communicating	No Adaptation Available		
651	Institution	No Adaptation Available		
651-5/8	Institution	No Adaptation Available		
652	Storeroom	No Adaptation Available		
652-1/2	Passage	No Adaptation Available		
653	Dormitory	No Adaptation Available		
654	Asylum	No Adaptation Available		
0686R	Cabinet Lock	Cannot Adapt		5L_MD2
691	Exit Device	1E74	C4	
U696	Exit Device	1E74	C4	
U697L	Exit Device	1E74 Min (1-3/4 Door) 1E74-26 (2-1/4 Door)	C4 C4	
698	Exit Device	1E74	C4	
	<u>PANIC DEVICES</u>			
701	Panic Device	1E72		
H701	Panic Device	1E72		
708	Panic Device	1E72		
H708	Panic Device	1E72		
736	Panic Device	1ESPL-7-B40145-RP		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
NT736	Panic Device	1E72		
736x8415	Panic Device	1E72		
736-1/4	Panic Device (Standard)	No Key		
736-1/4	Panic Device (Keyed)	1E72		
736-1/2	Panic Device	1E72 Outside No Adaptation Available Inside		
737	Panic Device	1E72		
737-1/2	Panic Device	1E72 Outside No Adaptation Available Inside		
CH741	Panic Device	1E74	C4	
CH742	Panic Device	No Key		
CH748	Panic Device	1E74	C4	
0756	Bit Key Lock	Cannot Adapt		
0786	Bit Key Lock	Cannot Adapt		
U788	Panic Device	1E72		
U789-73	Panic Device	No Key		
791	Panic Device	1E72		
H791	Panic Device	1E72		
792	Panic Device	No Key		
H792	Panic Device	No Key		
796	Panic Device	1E74	C4	
NT796	Panic Device	1E74	C4	
796-1/2	Panic Device (1-1/4" Cylinder)	1E74xA995 Outside 1E74-44 Inside	C118 C4	
NT796-1/2	Panic Device	1E74xA995 Outside 1E74-44 Inside	C118 C4	
797	Panic Device	1E74-22	C4	
797-1/2	Panic Device	1E74-22xA995 Outside 1E74-44 Inside	C118 C4	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
797 x CIT	Exit Device	1E74-22	C4	
797 x 426L	Exit Device	1E74-28	C4	
798	Panic Device	1E72		
H798	Panic Device	1E72		
799A	Panic Device (Standard)	No Key		
799A	Panic Device (Keyed)	1E74	C4	
ARH848	Adams-Rite Housing	A2863		
900 Series	Armstrong Lever Handle	*Use Equiv.		9K7_16D
900 Series	Newport Lever Handle	*Use Equiv.		9K7_15D
U936-8416	Panic Device	1E72		
<u>TEN STRIKE MORTISE LOCKS</u>				
1007	Entrance	1E74xA995	C118	
1007-1/4	Entrance	1E74xA995	C118	
1007-1/2	Entrance	1E74xA995 (2 Req.)	C118	
1007-3/4	Entrance	1E74xA995	C118	
1013	Entrance Handle	1E74xA995	C118	
A1013	Entrance Handle	1E74xA995	C118	
1018	Entrance Handle	1E74	C4	
1018-1/2	Entrance Handle	1E74 (2 Req.)	C4	
1023	Entrance Handle	1E74xA995	C118	
A1023	Entrance Handle	1E74xA995	C118	
1024	Entrance	1E74xA995	C118	
A1024	Entrance	1E74xA995	C118	
1024-1/4	Storeroom	1E74xA995	C118	
A1024-1/4	Storeroom	1E74xA995	C118	

* Examine door preparation for 9K compatibility.

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1024-1/2	Communicating	1E74xA995 (2 Req.)	C118	
A1024-1/2	Communicating	1E74xA995 (2 Req.)	C118	
1024-3/4	Entrance	1E74xA995	C118	
A1024-3/4	Entrance	1E74xA995	C118	
1025	Passage	No Key		
A1025	Passage	No Key		
A1027	Mortise Exit	No Key		
1028	Entrance Handle	1E74	C4	
1033HM	Hotel	A5458 (6 pin)		
A1033HM	Hotel	A5458 (6 Pin)		
1036	Public Toilet	1E74xA995	C118	
A1036	Public Toilet	1E74xA995	C118	
1037	Conference	1E74xA995	C118	
A1037	Conference	1E74xA995	C118	
1038	Inner Office	1E74xA995	C118	
A1038	Inner Office	1E74xA995	C118	
1039	Bathroom	No Key		
A1039	Bathroom	No Key		
1040	Communicating	No Key		
A1040	Communicating	No Key		
1040-1/2	Communicating	1E74xA995 (2 Req.)	C118	
A1040-1/2	Communicating	1E74xA995 (2 Req.)	C118	
1040-7/8	Communicating	1E74xA995	C118	
A1040-7/8	Communicating	1E74xA995	C118	
1048	Front Door	1E74xA995	C118	
A1048	Front Door	1E74xA995	C118	
1048-1/2	Special Purpose	1E74xA995 (2 Req.)	C118	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A1048-1/2	Special Purpose	1E74xA995 (2 Req.)	C118	
1049	Special Purpose	1E74xA995	C118	
A1049	Special Purpose	1E74xA995	C118	
1056	Corridor	1E74xA995	C118	
A1056	Corridor	1E74xA995	C118	
1058-1/2	Entrance	1E74xA14333 Outside 1E74 Inside	C220 C4	
A1058-1/2	Entrance	1E74xA14333 Outside 1E74 Inside	C220 C4	
1058-5/8	Classroom	1E74xA1248	C128	
A1058-5/8	Classroom	1E74xA1248	C128	
1059	Closet	1E74xA995	C118	
A1059	Closet	1E74xA995	C118	
1060	Three Point Lock	Cannot Adapt		
1060-1/2	Three Point Lock	No Key		
1060-5/8	Three Point Lock	Cannot Adapt		
1068-1/2	Public Toilet	1E74xA995 Outside 1E74 Inside	C118 C4	
A1068-1/2	Public Toilet	1E74xA995 Outside 1E74 Inside	C118 C4	
1068-5/8	Classroom	1E74	C4	
1098	Entrance Handle	1E74	C4	
A1098	Entrance Handle	1E74	C4	
1098-1/2	Entrance Handle	1E74xA995 (2 Req.)	C118	
A1098-1/2	Entrance Handle	1E74xA995 (2 Req.)	C118	
1107	Storeroom	1E74xA995	C118	
1107-1/4	Lock	1E74xA995	C118	
1107-1/2	Lock	1E74xA995 (2 Req.)	C118	
1107-3/4	Lock	1E74xA995	C118	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1113	Mortise Cylinder 2-3/4"	1E7444xA995	C118	
1114	Mortise Cylinder 3"	1E7448xA995	C118	
1124	Entrance Lockset	1E74xA995	C118	
A1124	Entrance Lockset	1E74xA995	C118	
1124-1/4	Storeroom	1E74xA995	C118	
A1124-1/4	Storeroom	1E74xA995	C118	
1124-1/2	Communicating	1E74xA995 (2 Req.)	C118	
A1124-1/2	Communicating	1E74xA995 (2 Req.)	C118	
1124-3/4	Entrance	1E74xA995	C118	
A1124-3/4	Entrance	1E74xA995	C118	
1133HM	Hotel	A5458 (6 Pin)		
A1133HM	Hotel	A5458 (6 Pin)		
1137	Conference	1E74xA995	C118	
A1137	Conference	1E74xA995	C118	
1139	Bathroom	No Key		
A1139	Bathroom	No Key		
1148	Apartment	1E74xA995	C118	
A1148	Apartment	1E74xA995	C118	
1148-1/2	Special Purpose	1E74xA995 (2 Req.)	C118	
A1148-1/2	Special Purpose	1E74xA995 (2 Req.)	C118	
1149	Special Purpose	1E74xA995	C118	
A1149	Special Purpose	1E74xA995	C118	
1190	Rim Cylinder	1E72		
1191	Rim Cylinder	1E72		
1198	Entrance Handle	1E74	C4	
A1198	Entrance Handle	1E74	C4	
1198-1/2	Entrance Handle	1E74 (2 Req.)	C4	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A1198-1/2	Entrance Handle	1E74 (2 Req.)	C4	
	<u>MISCELLANEOUS</u>			
1202	Mortise Deadbolt	1E64 (Min. Length)	C4	38H_K
1202-1/2	Mortise Deadbolt	1E64 (Min.) (2 Req.)	C4	38H_M
1202-3/4	Mortise Deadbolt	1E64 (Min. Length)	C4	38H_R
01203-1/4	Mortise Deadbolt	1E74	C4	38H_L
01203-1/2	Mortise Deadbolt	1E74 (2 Req.)	C4	38H_M
01203-3/4	Mortise Deadbolt	1E74	C4	38H_R
1204	Mortise Deadbolt	1E74	C4	
1204-1/4	Mortise Deadbolt	1E74	C4	
1204-1/2	Mortise Deadbolt	1E74 (2 Req.)	C4	
1205	Mortise Deadbolt	1E74	C4	
1205-1/4	Mortise Deadbolt	1E74	C4	
1205-1/2	Mortise Deadbolt	1E74 (2 Req.)	C4	
1205-3/4	Mortise Deadbolt	1E74	C4	
01206	Mortise Deadbolt	3E74	C3	
01206-1/4	Mortise Deadbolt	3E74	C3	
01206-1/2	Mortise Deadbolt	3E74 (2 Req.)	C3	
01206-3/4	Mortise Deadbolt	3E74	C3	
1207	Mortise Deadbolt	1E74	C4	
1207-1/4	Mortise Deadbolt	1E74	C4	
1207-1/2	Mortise Deadbolt	1E74 (2 Req.)	C4	
1207-3/4	Mortise Deadbolt	1E74	C4	
1208	Mortise Deadbolt	1E74	C4	
1208-1/4	Mortise Deadbolt	1E74	C4	
1208-1/2	Mortise Deadbolt	1E74 (2 Req.)	C4	
1210	Mortise Deadbolt	No Adaptation Available		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1210-1/4	Mortise Deadbolt	No Adaptation Available		
1210-1/2	Mortise Deadbolt	No Adaptation Available		
1210-3/4	Mortise Deadbolt	No Adaptation Available		
01213	Mortise Deadbolt	1E74	C4	38H_K
1233AEM	Mortise Deadbolt	No Adaptation Available		
1233EM	Mortise Deadbolt	No Adaptation Available		
1233RM	Mortise Deadbolt	No Adaptation Available		
1233-1/2RM	Mortise Deadbolt	No Adaptation Available		
1233SOM	Mortise Deadbolt	No Adaptation Available		
1238	Mortise Deadbolt	1E74	C4	
F1238	Mortise Deadbolt	1E74	C4	
F1247	Mortise Deadbolt	1E74	C4	
F1277	Mortise Deadbolt	1E74	C4	
1278	Mortise Deadbolt	No Adaptation Available		
F1278	Mortise Deadbolt	No Adaptation Available		
1282	Rim Deadbolt	1E72		
1290	Rim Cylinder	1E72		
1291	Rim Cylinder	1E72		
1297	Mortise Latch	1E74	C4	
1297-1/2	Mortise Latch	1E74 (2 Req.)	C4	
1299	Rim Night Latch	1E72		
01303	Lock	1E74	C4	
01303-1/4	Lock	1E74	C4	
01303-1/2	Lock	1E74 (2 Req.)	C4	
01303-3/4	Lock	1E74	C4	
1334	Sliding Door Lock	1E74 (2 Req.)	C4	
1334-1/2	Sliding Door Lock	1E74 (2 Req.)	C4	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1403	Cylindrical Deadlock	No Adaptation Available		
*1413	Cylindrical Deadlock	1E74xA5979	C181	
*1413-1/4	Cylindrical Deadlock	1E74xA5979	C181	
*1413-1/2	Cylindrical Deadlock	1E74xA5979 (2 Req.)	C181	
*1413-3/4	Cylindrical Deadlock	1E74xA5979	C181	
*1413-7/8	Cylindrical Deadlock	No Key		
1429	Mortise Latch	1E74 Outside A8727 Inside (Specify Hand)	C4	
H1453-1/2	Mortise Latch	1E74 (2 Req.)	C4	
1454	Mortise Latch H.B.	1E74	C4	No Equiv.
H1454	Mortise Latch	1E74	C4	
1454-1/2	Mortise Latch	1E74 (2 Req.)	C4	
H1454-1/2	Mortise Latch	1E74 (2 Req.)	C4	
1457	Fire Door	1E74	C4	
1457-1/2	Fire Door	1E74 (2 Req.)	C4	
1460	Mortise Deadbolt	1E74	C4	
1490	Rim Night Latch	1E72		
1503	Mortise Deadbolt	1E74xA14472	C210	38H_K
1503-1/4	Mortise Deadbolt	1E74xA14472	C210	
1503-1/2	Mortise Deadbolt	1E74xA14472 (2 Req.)	C210	
1503-3/4	Mortise Deadbolt Classroom	1E74xA14472	C210	
1505	Mortise Deadbolt	1E74	C4	
1505-1/4	Mortise Deadbolt	1E74	C4	
1505-1/2	Mortise Deadbolt	1E74 (2 Req.)	C4	
1507	Mortise Deadbolt	1E74	C4	
1507-1/4	Mortise Deadbolt	1E74	C4	

*1413 Series replaces the old 1403 Series.

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1507-3/4	Mortise Deadbolt	1E74	C4	
1510	Mortise Deadbolt	No Adaptation Available		
1510-1/4	Mortise Deadbolt	3E74	C3	
1510-1/2	Mortise Deadbolt	No Adaptation Available		
1510-3/4	Mortise Deadbolt	No Adaptation Available		
1722	Utility Cylinder	1E7E4	C229	
<u>TEN STRIKE MORTISE LOCKSETS - HEAVY DUTY</u>				
2007	Storeroom	1E74xA995	C118	34H_P
2007-1/4	Storeroom	1E74xA995	C118	34H_S
2007-1/2	Storeroom	1E74xA995 (2 Req.)	C118	34H_T
2007-3/4	Storeroom	1E74xA995	C118	
A2013	Handle Set	1E74xA995	C118	
A2023	Handle Set	1E74xA995	C118	
A2024	Entrance	1E74xA995	C118	34H_B
A2024-1/4	Storeroom	1E74xA995	C118	
A2024-1/2	Communicating	1E74xA995 (2 Req.)	C118	34H_C
A2024-3/4	Entrance	1E74xA995	C118	
L2024	Mortise W/Roller Latch	1E74xA995	C118	
L2024-1/4	Mortise W/Roller Latch	1E74xA995	C118	
L2024-1/2	Mortise W/Roller Latch	1E74xA995 (2 Req.)	C118	
L2024-3/4	Mortise W/Roller Latch	1E74xA995	C118	
HL2025	Mortise W/Roller Latch	1E74xA995	C118	
A2025	Passage	No Key		34HON
A2027	Mortise Exit	No Key		
A2033HM	Hotel	A5458 (6 Pin Only)		34H_H
A2034HM	Hotel	A5458 (6 Pin Only)		
A2034-3/4HM	Hotel	A5458 (6 Pin Only)		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A2036	Public Toilet	1E74xA995	C118	
A2037	Conference	1E74xA995	C118	
A2038	Office	1E74xA995	C118	
A2039	Bathroom	No Key		34HOL
A2040	Communicating	No Key		
A2040-1/2	Communicating	1E74xA995 (2 Req.)	C118	
A2048	Entrance	1E74xA995	C118	34H_A
A2048-1/2	Special Purpose	1E74xA995 (2 Req.)	C118	
A2049	Special Purpose	1E74xA995	C118	
A2056	Office	1E74xA995	C118	34H_E
A2058-1/2	Entrance	1E74xA14333 Outside 1E74 Inside	C220 C4	34H_G
2058-5/8	Classroom	1E74xA1799	C152	34H_J
A2059	Closet	1E74xA995	C118	34H_EW
A2059-1/2	Lock	1E74xA995 Outside 1E74 Inside	C118 C4	
A2061	Dormitory	1E74xA995	C118	
A2061-1/2	Public Toilet	1E74xA995 Outside 1E74 Inside	C118 C4	
A2068-1/2	Public Toilet	1E74xA995 Outside 1E74 Inside	C118 C4	
A2068-5/8	Classroom	1E74	C4	
A2069	Privacy Lock	No Key		
A2081	Electro Lock	1E74xA2770	C161	
A2082	Electro Lock	1E74xA2770	C161	
A2098	Entrance	1E74	C4	
A2098-1/2	Entrance	1E74xA995 (2 Req.)	C118	
2107	Storeroom	1E74xA995	C118	
2107-1/4	Storeroom	1E74xA995	C118	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2107-1/2	Storeroom	1E74xA995 (2 Req.)	C118	
2107-3/4	Storeroom	1E74xA995	C118	
A2124	Entrance	1E74xA995	C118	
A2124-1/4	Storeroom	1E74xA995	C118	
A2124-1/2	Communicating	1E74xA995 (2 Req.)	C118	
A2124-3/4	Entrance	1E74xA995	C118	
A2133HM	Hotel	A5458 (6 Pin)		
A2137	Conference	1E74xA995	C118	
A2139	Bathroom	No Key		
A2148	Entrance	1E74xA995	C118	
A2148-1/2	Special Purpose	1E74xA995 (2 Req.)	C118	
A2149	Special Purpose	1E74xA995	C118	
A2167	Apartment Entrance	1E74xA995	C118	
A2198	Entrance Handle	1E74	C4	
A2198-1/2	Entrance Handle	1E74xA995 (2 Req.)	C118	
2198	Entrance Handle	1E74xA995	C118	

EXTRA HEAVY DUTY UNIT LOCKS

2117	Storeroom	No Adaptation Available		
2117-1/4	Storeroom	No Adaptation Available		
2125	Entrance	No Adaptation Available		
2125-1/2	Entrance	No Adaptation Available		
2134	Communicating	No Key		
2135	Communicating	No Key		
2145	Passage	No Key		
2157	Office	No Adaptation Available		
2157-1/2	Communicating	No Adaptation Available		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2159	Classroom	No Adaptation Available		
2159-1/2	Entrance	No Adaptation Available		
2185	Fire Tower	No Key		
2186	Fire Tower	No Adaptation Available		
2187-1/2	Fire Tower	No Adaptation Available		
	<u>MISCELLANEOUS</u>			
2203	Lockset	No Adaptation Available		
2266	Jimmy Proof	1E72		
2266-1/2	Jimmy Proof	1E72 Outside Cannot Adapt Inside		
2282	Rim Deadbolt	No Adaptation Available		
2290	Rim Cylinder	No Adaptation Available		
02291	Sliding Door Lock	Cannot Adapt		
2299	Rim Night Latch	No Adaptation Available		
G2310	Gun Spring Lock	No Key		
A2358-1/2	Mortise for Panic	1E74 (2 Req.)	C4	
A2358-5/8	Mortise for Panic	1E74	C4	
A2359	Mortise for Panic	1E74	C4	
A2658	Mortise for Panic	1E74	C4	
A2658-1/2	Mortise for Panic	1E74xA995 Outside 1E74-44 Inside	C118 C4	
A2659	Mortise for Panic	1E74-22	C4	
A2659-1/2	Mortise for Panic	1E74-22xA995 Outside 1E74-44 Inside	C118 C4	
2686	Drawer Lock	Cannot Adapt		5L_MD2
G2910	Gun Spring Lock	No Key		
2952-1/2	Mortise Case	1E74 (2 Req.)	C4	
H2952-1/2	Mortise Case	1E74 (2 Req.)	C4	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
H2952-5/8	Mortise Case	No Adaptation Available		
3000	Mortise W/Lever	No Key		
3001	Mortise W/Lever	3E74	C3	
3002	Mortise W/Lever	3E74 (2 Req.)	C3	
3003	Mortise W/Lever	3E74	C3	
3007	Storeroom	3E74	C3	
3007-1/4	Lock	3E74	C3	
3007-1/2	Lock	3E74 (2 Req.)	C3	
3007-3/4	Lock	3E74	C3	
3021	Lock	1E74	C4	
3022	Lock	1E74 (2 Req.)	C4	
3023	Lock	1E74	C4	
A3024	Entrance	3E74	C3	
A3024-1/4	Storeroom	3E74	C3	
A3024-1/2	Communicating	3E74 (2 Req.)	C3	
A3025	Passage	No Key		
3033EM	Hotel	No Adaptation Available		
3034	Hotel	1E7G4xA2770	C161	
A3036	Office	3E74	C3	
A3038	Office	3E74	C3	
A3039	Bathroom	No Key		
A3040	Communicating	No Key		
A3040-1/2	Communicating	3E74 (2 Req.)	C3	
A3040-7/8	Communicating	3E74	C3	
3048	Entrance	3E74	C3	
A3056	Office	3E74	C3	
3057	Mortise	1E74xB34007	C258	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A3058-1/2	Entrance	3E74 (2 Req.)	C3	
A3058-5/8	Classroom	3E74	C3	
A3059	Closet	3E74	C3	
A3068-1/2	Office	3E74 (2 Req.)	C3	
A3068-5/8	Classroom	3E74	C3	
<u>FORUM CYLINDRICAL LOCKSETS</u>				
3310	Passage	No Key		62KON
3310CS1	Closet	No Key		
3314	Exit	No Key		
3320	Bathroom	No Key		62KOL
3322	Bedroom	No Key		62KOP
3326	Exit	No Key		
3328	Communicating	No Key		
3330	Entrance	Cannot Adapt		
3333EM	Hotel	Cannot Adapt		
3335	Restroom	Cannot Adapt		62K_E
3340	Entrance	Cannot Adapt		62K_AB
3340-5/8	Classroom	Cannot Adapt		62K_R
3340-5/8 CS1	Closet	Cannot Adapt		
3342	Entrance	Cannot Adapt		
3346	Entrance	Cannot Adapt		62K_AB
3352	Storeroom	Cannot Adapt		62K_D
A3658	Mortise for Panic	No Adaptation Available		
A3658-1/2	Mortise for Panic	No Adaptation Available		
A3659	Mortise for Panic	No Adaptation Available		
A3659-1/2	Mortise for Panic	No Adaptation Available		
4000	Three Point Lock	1E74	C4	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
	<u>MORTISE LOCK</u>			
4001	Deadlock	1E74xA02770	C161	N/A
4002	Deadlock	1E74xA02770 (2 Req.)	C161	N/A
4003	Deadlock	1E74xA02770	C161	N/A
4022	Store Door	1E74xA02770 (2 Req.)	C161	N/A
4024	Entrance, Storeroom	1E74xA02770	C161	N/A
4025	Passage	No Key		N/A
4034	Hotel (Use Emergency Key)	1E7G4xA02770	C161	N/A
4039	Bathroom, Privacy	No Key		N/A
4042	Apartment, Entrance	1E74xA02770 1E74xA1249	C161 C129	N/A
4045	Classroom	1E74xA1249	C129	N/A
4048	Entrance, Front Door	1E74xA02770	C161	N/A
4056	Office Lock	1E74xA02770	C161	N/A
4059	Storeroom	1E74xA02770	C161	N/A
4061	Dormitory, Entrance	1E74xA02770	C161	N/A
4067	Apartment, Dormitory	1E74xA02770	C161	N/A
4069	Privacy Lock	No Key		N/A
4255	Mortise Deadlock	A8986 (7 Pin)		
4255-1/2	Mortise Deadlock	A8986 (7 Pin) (2 Req.)		
4515	Rim Lock	No Adaptation Available		
4516	Rim Lock	No Adaptation Available		
4548	Mortise	1E74	C4	
4572-53PK	Exit Device	1ESPL-7-A35297-R811	C101 (2)	
S4800	Adams-Rite	1E74xA5979 (MS Cam)	C181	
5001	Deadlock	1E74xA02770	C161	34H_S
5002	Deadlock	1E74xA02770 (2 Req.)	C161	34H_T

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5003	Deadlock	1E74xA02770	C161	34H_P
5022	Store Door	1E74xA02770 (2 Req.)	C161	
5024	Entrance, Storeroom	1E74xA02770	C161	34H_B
5025	Passage	No Key		34HON
5034	Hotel (Use Emergency Key)	1E7G4xA02770	C161	34H_H
5039	Bathroom, Privacy	No Key		34HOL
5042	Apartment, Entrance	1E74xA02770 1E74xA1249	C161 C129	34H_G
5045	Classroom	1E74xA1249	C129	34H_J
5048	Entrance, Front Door	1E74xA02770	C161	34H_A
5056	Office Lock	1E74xA02770	C161	34H_E
5059	Storeroom	1E74xA02770	C161	34H_EW
5061	Dormitory, Entrance	1E74xA02770	C161	34H_FW
5067	Apartment, Dormitory	1E74xA02770	C161	34H_F
5092ECA-W4	Electric Mortise	1E74xA02770	C161	
5069	Privacy	No Key		
5290	Rim Cylinder	1E_2		
6290	Rim Cylinder	1E_2		
7001	Mortise Lock	1E74xA02770	C161	
T7030	Panic Device	No Key		
T7036	Panic Device	1E74	C4	
T7036NT	Panic Device	1E74	C4	
T7036-1/2	Panic Device	1E74 (2 Req.)	C4	
T7036-1/2NT	Panic Device	1E74 (2 Req.)	C4	
T7037	Panic Device	1E74	C4	
T7037-1/2	Panic Device	1E74	C4	
T7039A	Panic Device	No Key		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7045L	Mortise Lock	1E74	C129	
	<u>RESIDENTIAL CYLINDRICAL LOCKSETS</u>			
7210	Passage	No Key		
7210C	Closet	No Key		
7223	Bathroom	No Key		
7226	Patio	No Key		
7227	Patio	No Key		
7230	Entrance	Cannot Adapt		
7230-5	Entrance	Cannot Adapt		
7240	Entrance	Cannot Adapt		
7240-5	Entrance	Cannot Adapt		
	<u>MISCELLANEOUS</u>			
9395	Mortise Case	1E74 Outside A8727 Inside	C4	
S9438	Lock	3E74	C3	
S9438-1/4	Lock	3E74	C3	
S9438-1/2	Lock	3E74 (2 Req.)	C3	
9453	Lock	No Adaptation Available		
9453-1/2	Lock	No Adaptation Available		
9458	Lock	1E74	C4	
9458-1/2	Lock	1E74 Outside 1E74-30 Inside	C4 C4	
9459	Lock	1E74	C4	
9459-1/2	Lock	1E74 Outside 1E74-30 Inside	C4 C4	
10013	Mortise Lockset	1E74xA995	C118	
10098-1/2	Mortise Lockset	1E74xA995 (2 Req.)	C118	
11100	Mortise Cylinder	No Adaptation Available		

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
11100-1/2	Mortise Cylinder	No Adaptation Available		
11101	Mortise Cylinder	No Adaptation Available		
11102	Mortise Cylinder	No Adaptation Available		
11213	Mortise Case	1E74xA995	C118	
11233HM	Hotel	No Adaptation Available		
11243	Hotel	No Adaptation Available		
11248	Mortise Lockset	1E74xA995	C118	
11248-1/2	Mortise Lockset	1E74xA995	C118	
11748	Mortise Lockset	1E74xA995	C118	
11748-3/4	Mortise Lockset	1E74xA995	C118	
13013	Mortise Lockset	1E74xA995	C118	
13850	Sliding Door	1E74	C4	
13850-1/2	Sliding Door	1E74 (2 Req.)	C4	
13940	Sliding Door	1E74	C4	
13940-1/2	Sliding Door	1E74 (2 Req.)	C4	
A23023	Entrance	1E74xA995	C118	
A23025	Passage	No Key		
A23036	Public Toilet	1E74xA995	C118	
A23038	Inner Office	1E74xA995	C118	
A23048	Entrance	1E74xA995	C118	
23056	Office	1E74xA995	C118	
A23058-1/2	Entrance	1E74xA14333 Outside 1E74 Inside	C220 C4	
A23058-5/8	Classroom	1E74xA1248	C128	
A23059	Closet	1E74xA995	C118	
A23068-1/2	Public Toilet	1E74xA995 Outside 1E74 Inside	C118 C4	
A23068-5/8	Classroom	1E74	C4	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
51141	Mortise Cylinder	1E74	C4	
51142	Mortise Cylinder	1E74xA995	C118	
51181	Mortise Cylinder	1E74	C4	
51182	Mortise Cylinder	1E74xA995	C118	
51381	Mortise Cylinder	1E74	C4	
51382	Mortise Cylinder	1E74xA995	C118	
54013	Mortise Lockset	1E74xA995	C118	
54098-1/2	Mortise Lockset	1E74xA995 (2 Req.)	C118	
54148	Mortise Lockset	1E74xA995	C118	
59148	Lockset	1E74xA995	C118	
61001	Mortise Cylinder	1E74	C4	
61002	Mortise Cylinder	1E74xA995	C118	
MR61003	Mortise Cylinder	No Adaptation Available		
61121	Mortise Cylinder	1E74-24	C4	
61122	Mortise Cylinder	1E74-24xA995	C118	
61141	Mortise Cylinder	1E74	C4	
61142	Mortise Cylinder	1E74xA995	C118	
61181	Mortise Cylinder	1E74	C4	
61182	Mortise Cylinder	1E74xA995	C118	
MR61183	Mortise Cylinder	No Adaptation Available		
61381	Mortise Cylinder	No Adaptation Available		
61382	Mortise Cylinder	1E74xA995	C118	
71141	Mortise Cylinder	1E74	C4	
71142	Mortise Cylinder	1E74xA995	C118	
MR71143	Mortise Cylinder	No Adaptation Available		
71381	Mortise Cylinder	1E74-22	C4	
71382	Mortise Cylinder	1E74-22xA995	C118	

RUSSWIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
MR71383	Mortise Cylinder	No Adaptation Available		
104098-1/2	Lockset	1E74xA995 (2 Req.)	C118	
104298-1/2	Lockset	1E74xA995 (2 Req.)	C118	

Note: The A20339 adaptation is a tulip or Russwin "Cosmic-Flair" design. The same adaptation can be ordered in a round, or Russwin "Haddam-Bristol" design by ordering assembly No. A20340.

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
<u>CYLINDRICAL LOCKSETS - SENTRY LOCK</u>				
6G04	Storeroom Lock	Cannot Adapt		62K_D
6G05	Exterior Lock	Cannot Adapt		62K_AB
6G08	Dual Purpose	Cannot Adapt		
6G13	Exit Latch	No Key		
6G24	Office Lock	Cannot Adapt		62K_AB
6G25	All Purpose	Cannot Adapt		62K_AB
6G30	Communicating	Cannot Adapt		
6G37	Classroom Lock	Cannot Adapt		62K_R
6G38	Classroom-Closet Latch	Cannot Adapt		
6G39	Exit Latch (O+N)	Cannot Adapt		
6G44	Service Station Lock	Cannot Adapt		62K_E
6G63	Exit Latch	No Key		
6G64	Patio Lock	No Key		62KOP
6G75	Communicating	No Key		
6U05	Front Entrance	Cannot Adapt		
6U12	Closet Latch	No Key		
6U15	Passage Latch	No Key		62KON
6U65	Bathroom-Bedroom Lock	No Key		62KOL
6U65-2	Bedroom Lock	No Key		
6U92	Dummy Knob	No Key		
6U94	Dummy Knob	No Key		
<u>CYLINDRICAL LOCKSETS - MAGNA LOCK</u>				
8G04	Storeroom Lock	AK-A7277		83K_D
8G05-AC	Exterior Lock	AK-A7277		83K_A
41-8G05	Exterior Lock	No Adaptation Available		
8G13	Exit Lock	No Key		83KONX

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8G16	Entrance Lock	No Adaptation Available		83K_C
41-8G16	Entrance Lock	No Adaptation Available		
8G17	Fixed Knob Lock	No Adaptation Available		83K_W
8G24	Office Lock	AK-A7277		83K_B
8G25	All Purpose	AK-A7277		83K_AB
8G26	Storeroom Lock	No adaptation Available		83K_G
8G30	Communicating	No Adaptation Available		83K_S
8G37	Classroom Lock	AK-A7277		83K_R
8G38	Closet Lock	No Adaptation Available		
8G38-2	Closet Lock	No Adaptation Available		
8G44	Service Station Lock	AK-A7277		83K_E
8G50	Hotel	Cannot Adapt.		83K_H
8G52	Hotel Lock	Cannot Adapt.		83K_H
8G54	Door Lock	AK-A7277		83K_T
8G63	Exit Lock	No Key		83KOQ
8G64	Patio Lock	No Key		83KOP
8G75	Communicating	No Key		83KOM
8G87	Hospital Lock	No Adaptation Available		
8U12	Closet Lock	No Key		83KOZ
8U15	Passage Latch	No Key		83KON
41-8U15	Passage Latch	No Key		
8U65	Bathroom Lock	No Key		83KOL
8U88	Hospital Lock	No Key		
8U93	Dummy Knob	No Key		
8U94	Dummy Knob	No Key		
10 Line Series	Lever Handle Cylindrical	*Use Equiv.		9K7_15D

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*Examine door preparation for 9K compatibility.

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
<u>MORTISE AND RIM CYLINDERS</u>				
28	ASA Strike	No Adaptation Available		
32	Rim Cylinder	1ESPL-7-B5994		
34	Rim Cylinder	1ESPL-7-B5994		
40	Mortise Cylinder Series	1E74xA14520	C208	
41	Mortise Cylinder Series	1E74xA14520	C208	
42	Mortise Cylinder Series	1E74xA14520	C208	
43	Mortise Cylinder Series	1E74xA14520	C208	
44	Mortise Cylinder Series	1E74-22xA14520	C208	
46	Mortise Cylinder Series	1E74-26xA14520	C208	
<u>MISCELLANEOUS</u>				
106	Auxiliary O/S Control	1E64xR708 or 1E74xR710	C4 C4	
113	Auxiliary O/S Control	1E64xR708 or 1E74xR710	C4 C4	
206	Auxiliary O/S Control	1E64xR708 or 1E74xR710	C4 C4	
213	Auxiliary O/S Control	1E64xR708 or 1E74xR710	C4 C4	
222	Deadlock	1ESPL-7-B5994		
250	Tubular Deadlock	A9151		
251	Tubular Deadlock	A9151		
252	Tubular Deadlock	No Adaptation Available		
306	Exit Device Auxiliary	1E74	C4	
313	Control	1E74	C4	
2828x28-K-GTB	Exit Device	1E72		
4142	Utility Lock	1E7E4	C229	
4143	Utility Lock	1E7E4	C229	
4257	Night Latch	1E72		

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4265	Night Latch	1E72		
4277	Night Latch	1E72		
4285	Night Latch	1E72		
4289	Night Latch	1E72		
4335	Deadlock	1E72		
	<u>MORTISE LOCKS</u>			
4820	Deadlock	1E74xA1247	C127	38H_L
4821	Deadlock	1E74xA1247	C127	38H_K
4823	Deadlock	1E74xA1247	C127	38H_R
4825	Deadlock	1E74xA1247	C127	38H_M
4874	Deadlock	1E74xA14520 (2 Req.)	C208	
4875	Deadlock	1E74xA14520	C208	
4876	Deadlock	1E74xA14520	C208	
4877	Deadlock	1E74xA14520	C208	
4878	Deadlock	1E74xA14520 (2 Req.)	C208	
4879	Deadlock	No Key		
4883	Deadlock	1E74 (2 Req.)	C4	38H_M
4886	Deadlock	1E74	C4	38H_L
4979	Bit Key Asylum	None		38H_M
5100	Alarmed Panic	I/S 1E74xC208 O/S 1ESPL-7-A5994	C208	
5311	Panic Device	1E72		
5413T	Exit Device	1E72		
12-5804	Exit Alarm	1ESPL-7-A5994(O/S) 1E74xA14520 (I/S)	C208	
12-5810	Exit Alarm	1E74xA14520	C208	
6410 x 113	Exit Device	1E74-R710	C4	
6705	Office Lock	1E74	C4	
6705R	Rabbeted Office Lock	1E74	C4	

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6706	Panic Device	1E74xA14520	C208	
6710	Panic Device	No Key		
6713ETL	Panic Device	1E74xA14520	C208	
6713x704-ETL	Panic Device	No Adaptation Available		
12-14-6713 KDA	Panic Device	No Adaptation Available		
6715	Panic Device	No Key		
6716	Public Toilet Lock	1E74xA1172	C121	
6720	Deadlock	1E74	C4	
6721	Deadlock	1E74	C4	
6722	Deadlock	1E74 (2 Req.)	C4	
6723	Entrance Lock	1E74 (2 Req.)	C4	
6725	Storeroom Lock	1E74	C4	
6726	Storeroom Lock	1E74 (2 Req.)	C4	
6728	Passage Lock	No Key		
6737	Classroom Lock	1E74	C4	
6745	Dwelling Entrance	1E74	C4	
6746	Vestibule Lock	1E74	C4	
6750	Hotel Lock	A5915xA1248	C128	
6761	Residential Entrance	1E74	C4	
12-6762PTB	Exit Device	1ESPL-7-A5994		
6763	Exit Device	1ESPL-7-A5994		
6765	Bathroom Lock	No Key		
6775	Communicating Lock	No Key		
6804	Panic Device	1ESPL-7-A5994		
6804ET	Panic Device	1ESPL-7-A5994		
12-6804	Panic Device	1ESPL-7-A5994		

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
16-6804	Panic Device (Cylinder Bar Lock Down)	1ESPL-7-A5994 (O/S) 1E74xA14520 (I/S)	C208	
16-6804xPTB	Exit Device (Cylinder Bar Lock Down)	1ESPL-7-A5994 (O/S) 1E74xA14520 (I/S)	C208	
6810	Panic Device	No Key		
16-6810	Panic W/Cyl Dogging	1E74xA14520	C208	
6813	Panic Device	1ESPL-7-A5994		
6813ET	Panic Device	1E74xA14520	C208	
6813ETL	Panic Device	1E74xA14520	C208	
6813F-ETH	Exit Device	1E74xA14520	C208	
16-6813	Exit Device (Cyl Dog Inside)	1ESPL-7-A5994(O/S) 1E74xA14520 (I/S)	C208	
6815ET	Panic Device	No Key		
6816	Panic Device	1ESPL-7-A5994(O/S) 1E74-22xA14520(I/S)	C208	
6828	Panic Device	No Key		
6863	Panic Device	1ESPL-7-A5994		
6863ETL	Exit Device	1E74xA14520-R813	C208	
6863xPTB	Exit Device	1ESPL-7-A5994		
6866	Exit Device	1ESPL-7-A5994(O/S) 1E74-22xA14520(I/S)	C208	
12-6866	Exit Device	1ESPL-7-A5994(O/S) 1E74-22xA14520(I/S)	C208	
6893	Panic Device	No Key		
6904	Panic Device	1E74xA14520	C208	
16-6904	Panic Device (Cylinder Bar Lock Down)	1E74xA14520(O/S) 1E74xA14520 (I/S)	C208 C208	
6910	Panic Device	No Key		
6913	Panic Device	1E74xA14520	C208	
6913ETL	Panic Device	1E74-26xA14520	C208	

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6916	Panic Device	1E74xA14520(O/S) 1ESPL-7-A5994(I/S)	C208	
6916F	Panic Device	1E74xA14520(O/S) 1ESPL-7-A5994 (I/S)	C208	
6926M	Sliding Door	1E74 (2 Req.)	C4	
6927M	Sliding Door	1E74	C4	
6928	Panic Device	No Key		
6963	Panic Device	1E74xA14520	C208	
6970	Panic Device	1E74xA14520	C208	
6971	Panic Device	1E74xA14520	C208	
	<u>INTEGRALOCK</u>			
7600	Face Plate to Replace Integralock (1-1/4x4-1/4) (Use with	A9322 Best Face Plate Adaptor 83K Series Lock.)		
7604	Emergency Lock	No Adaptation Available		
7605	Office Lock	No Adaptation Available		
7606	Play Court Lock	No Key		
7609	Service Station Toilet	No Adaptation Available		
7614	Emergency Lock	No Adaptation Available		
7615	Passage Lock	No Key		
7616	Public Toilet Lock	No Adaptation Available		
7617	Asylum Lock	No Adaptation Available		
7619	Asylum Lock	No Adaptation Available		
7625	Storeroom Lock	No Adaptation Available		
7626	Storeroom Lock	No Adaptation Available		
7627	Dwelling Entrance Lock (Export)	No Adaptation Available		
7637	Classroom Lock	No Adaptation Available		

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7645	Dwelling Entrance Lock (Export)	No Adaptation Available		
7646	Vestibule Lock	No Adaptation Available		
7647	Play Court Lock	No Adaptation Available		
7650	Hotel Lock	No Adaptation Available		
7664	Privacy Lock	No Key		
7665	Bathroom Lock	No Key		
7675	Communicating Lock	No Key		
7687	Hospital Lock	No Adaptation Available		
7693	Knob Pull	No Key		
7694	Dummy Trim	No Key		
1-7600	Series for 1-3/8" Door	No Adaptation Available		
1-7614	Emergency Lock	No Adaptation Available		
1-7615	Passage Latch	No Key		
1-7625	Storeroom Lock	No Adaptation Available		
1-7664	Privacy Lock	No Key		
1-7665	Bathroom Lock	No Key		
1-7675	Communicating Lock	No Key		
8-7600	Series for Tubular Steel Doors	No Adaptation Available		
8-7605PR	Office Door Lock	No Adaptation Available		
8-7615PR	Passage Latch	No Key		
8-7616PR	Exit and Corridor Lock	No Adaptation Available		
8-7625PR	Utility Lock	No Adaptation Available		
8-7626PR	Utility Lock	No Adaptation Available		
8-7637PR	Classroom Lock	No Adaptation Available		

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8-7645PR	Entrance Lock	No Adaptation Available		
8-7647PR	Office Lock	No Adaptation Available		
8-7665PR	Bathroom Lock	No Key		
8-7675PR	Communicating Lock	No Key		
*7703	Classroom Deadlock	1E74	C4	
7703	Classroom Deadlock	1E74xA14520	C208	
*7704	Emergency Lock	1E74	C4	34H_EW
7704	Storeroom	1E74xA14520	C208	34H_EW
*7705	Office Lock	1E74	C4	34H_E
7705	Office Lock	1E74xA14520	C208	34H_E
*7705 R	Rabbeted Office Lock	1E74	C4	
7706	Storeroom	1E74xA14520	C208	
7713	Exit Latch	No Key		
*7714	Emergency Lock	1E74	C4	
*7715	Passage Latch	No Key		34HON
7715	Passage Latch	No Key		34HON
*7716	Public Toilet Lock	1E74 Outside 1E74xA1172 Inside	C4 C121	34H_G
7716	Public Entrance	1E74xA14520 Outside 1E74xA14521 Inside	C208 C209	
*7716 R	Rabbeted Public Toilet Lock	1E74xA1172 Outside 1E74 Inside	C121 C4	
7717	Asylum	1E74xA14520 (2 Req.)	C208	
*7720	Deadlock	1E74	C4	34H_S
7720	Deadlock	1E74xA14520	C208	34H_S

* Old style cast iron case. New style stamped steel case uses the same catalog number but different cam.

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
* 7721	Deadlock	1E74	C4	34H_P
7721	Deadlock	1E74xA14520	C208	34H_P
* 7722	Deadlock	1E74 (2 Req.)	C4	34H_T
7722	Deadlock	1E74xA14520 (2 Req.)	C208	34H_T
* 7723	Deadlock	1E74	C4	
7723	Classroom Deadlock	1E74xA14520 (2 Req.)	C208	
7724	Dormitory	1E74xA14520	C208	
* 7725	Storeroom Lock	1E74	C4	
7725	Dormitory	1E74xA14520	C208	
* 7725 R	Rabbeted Storeroom Lock	1E74	C4	
* 7726	Storeroom Lock	1E74 (2 Req.)	C4	
7726	Storeroom Lock	1E74xA14520 (2 Req.)	C208	34H_C
* 7726 R	Rabbeted Storeroom Lock	1E74 (2 Req.)	C4	
* 7730	Strike	No Key		
7731	Utility	1E74xA14520	C208	
7735	Storeroom	1E74xA14520	C208	
7736	Closet	1E74xA14520	C208	
* 7737	Classroom Lock	1E74	C4	34H_J
7737	Classroom	1E74xA14520	C208	34H_J
7743	Entrance	1E74xA14520	C208	
* 7745	Dwelling Entrance Lock	1E74	C4	
7745	Entrance	1E74xA14520	C208	34H_F
* 7745 R	Rabbeted Entrance Lock	1E74	C4	
* 7746	Vestibule Lock	1E74	C4	
* 7750	Hotel Lock	A4758RH, A4757LH		

*Old style cast iron case. New style stamped steel case uses the same catalog number but different cam.

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7750	Hotel (Use Emergency Key)	1E7G4xA14520	C208	34H_HF
* 7752	Hotel Lock	No Adaptation Available		
7755	Hotel	No Adaptation Available		
* 7765	Bathroom Lock	No Key		
7765	Bathroom	No Key		
18-7770	Electro-Mech Lock	1E74xA14520	C208	
* 7775	Communicating Lock	No Key		
7775	Communicating	No Key		
7776	Communicating	1E74xA14520 (2 Req.)	C208	
* 7788	Safety Lock	1E74	C4	
7788	All Purpose	No Adaptation Available		
* 7792	Safety Lock	No Adaptation Available		
7792	All Purpose	1E74xA14520 Outside 1E74xA14521 Inside	C208 C209	
7794	Knob Pull	No Key		
* 7804	Emergency Lock	1E74	C4	
* 7805	Office Lock	1E74	C4	
* 7813	Exit Latch	No Key		
* 7815	Passage Latch	No Key		34HON
* 7816	Public Toilet Lock	1E74 (2 Req.)	C4	34H_G
* 7821	Deadlock	1E74	C4	
* 7822	Deadlock	1E74 (2 Req.)	C4	
* 7825	Storeroom Lock	1E74	C4	
* 7826	Storeroom Lock	1E74 (2 Req.)	C4	
* 7837	Classroom Lock	1E74	C4	

* Old style cast iron case. New style stamped steel case uses the same catalog number but different cam.

SARGENT

NUMBER	ARTICLE	ADAPT	CODE ORDER CODE NO.	EQUIV.
* 7865	Bathroom Lock	No Key		
* 7871	Electro Lock	1E74	C4	
* 7890	Safety Lock	1E74	C4	
* 7892	Safety Lock	1E74 (2 Req.)	C4	
* 8104	Lever, Emergency	1E74	C4	
8104	Storeroom	1E74xA14520	C208	35H_EW
* 8105	Lever, Office	1E74	C4	
8105	Office	1E74xA14520	C208	35H_E
* 8110	Lever, Entrance	1E74	C4	
* 8111	Lever, Entrance	1E74 (2 Req.)	C4	
* 8114	Lever, Emergency	1E74	C4	
* 8115	Lever, Passage	No Key		
8115	Passage	No Key		35HON
* 8116	Lever, Toilet	1E74 (2 Req.)	C4	
8116	Public Entrance	1E74xA14520 Outside 1E74xA14521 Inside	C208 C209	35H_G
8117-LNH	Mortise Lockset	1E74xA14520 (2 Req.)	C208	
8124	Dormitory	1E74xA14520	C208	
* 8125	Lever, Entrance	1E74	C4	
8125	Dormitory	1E74xA14520	C208	
8126	Lever, Entrance	1E74 (2 Req.)	C4	
8126	Storeroom	1E74xA14520 (2 Req.)	C208	35H_C
* 8137	Lever, Classroom	1E74xA1172	C121	
8137	Classroom	1E74xA14520	C208	35H_J
8143	Entrance	1E74xA14520	C208	

* Old style cast iron case. New style stamped steel case uses the same catalog number but different cam.

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
* 8145	Lever, Entrance	1E74	C4	
8145	Entrance	1E74xA14520	C208	35H_F
* 8146	Lever, Vestibule	1E74	C4	
* 8150	Lever, Hotel	No Adaptation Available		
8150	Hotel (Use Emergency Key)	1E7G4xA14520	C208	35H_HF
* 8152	Lever, Hotel	No Adaptation Available		
8155	Hotel	No Adaptation Available		
* 8165	Lever, Privacy	No Key		
8165	Bathroom	No Key		
18-12-8170LNH	Mortise	1E74xA14520	C208	
18-12-8171LNB	Electric Mortise	1E74xA14520	C208	
* 8175	Lever, Communicating	No Key		
8175	Communicating	No Key		
8176	Communicating	1E74xA14520 (2 Req.)	C208	
* 8193	Dummy Trim One Side	No Key		
* 8194	Dummy Trim Both Sides	No Key		
8406	Exit Device	1E74xA14520	C208	
16- 8410		I/S O/S 1ESPL-7-A35124 1E74	C208 C208	
8413	Exit Device	1E74xA14520	C208	
8504	Exit Device	1ESPL-7-A5994		
16-8504	Exit Device W/Cyl Dog	1ESPL-7-A5994(O/S) 1E74xA14520 (I/S)	C208	
8606	Exit Device	1E74xA14520	C208	
8610	Exit Device	No Key		
12-8613ET	Exit Device	1ESPL-7-B35124	C208	
8710	Exit Device	No Key		

* Old style cast iron case.New style stamped steel case uses the same catalog number but different cam.

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8713	Exit Device	1ESPL-7-A5994		
8715	Exit Device	No Key		
13-8763F-FLW	Exit Device	1ESPL-7-A5994		
8804 ET Series Trim	Exit Device	1ESPL-7-A5994		
8804	Exit Device	1ESPL-7-A5994		
16-8804	Exit Device W/Cyl Dog	1ESPL-7-A5994 (O/S) 1E74xA14520 (I/S)	C208	
12-8875 ET	Exit Device	1ESPL-7-A35124	C208	
8810	Exit Device	No Key		
8813	Exit Device	1ESPL-7-A5994		
8813 ETL	Exit Device	1EPL-7-A35124	C208	
8815	Exit Device	No Key		
8828	Exit Device	No Key		
8863	Exit Device	1ESPL-7-A5994		
8863F-FLW	Exit Device	1ESPL-7-A5994		
8866	Exit Device	1ESPL-7-A5994 (O/S) 1E74-22xA14520 (I/S)	C208	
12-8888-713ETL	Exit Device	1ESPL-7-A35124	C208	
12-8975 ET	Exit Device	1ESPL-7-A35124	C208	
8904	Exit Device	1E74xA14520	C208	
8904 ET Series Trim	Exit Device	1E74-28	C208	
8910	Exit Device	No Key		
8913	Exit Device	1E74xA14520	C208	
8915	Exit Device	No Key		
8916 ET	Exit Device	1ESPL-7-A35124	C208	
8963	Exit Device	1E74xA14520	C208	
12-8966 PTB	Exit Device	1ESPL-7xA35124(O/S) 1ESPL-7-A5994(I/S)	C208	

Note: All ET trims should be supplied with shallow groove cylinders unless otherwise specified by this list.

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
12-8975 ET	Exit Device	1ESPL-7-A35124	C208	
9133	Entrance Lock	1E74 (2 Req.)	C4	
9166	Entrance Lock	1E74 (2 Req.)	C4	
9186	Entrance Lock	1E74 (2 Req.)	C4	
<u>PANIC EXIT DEVICES</u>				
9304	Device	1E74xA14520	C208	
9310	Device	No Key		
9313	Exit Device	1E74xA14520	C208	
9406	Exit Device	1E74xA14520	C208	
9410	Exit Device	No Key		
9410x113		1ESPL-7-B35124	C208	
9413	Exit Device	1E74xA14520	C208	
9504	Exit Device	1ESPL-7-A5994		
16-9610	Panic Device	1E74-22 Inside Only	C208	
12-9613	Exit Device	1E74-R710	C208	
12-9613-213	Panic Device W/Control	1ESPLxA35124	C208	
16-9613	Panic Device W/Cyl Dog	1E74xR710 Outside 1E74-22 Inside	C208 C208	
9706	Exit Device	1ESPL-7-A5994		
9710	Exit Device	No Key		
9710-706	Exit Device w/Control	1E74xA14520	C208	
16-9710	Exit Device	1E74-22 (Cyl Dog)	C208	
9713	Exit Device	1ESPL-7-A5994		
9713 ETL	Exit Device	1ESPL-7-A35124	C208	
14-9713-713ETW	Panic Device	1ESPL-7-A35124	C208	
9762	Exit Device	1ESPL-7-A5994		
9763	Exit Device	1ESPL-7-A5994		

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
9804	Exit Device	1ESPL-7-A5994		
9804ET	Exit Device	1ESPL-7-A5994		
16-9804	Exit Device W/Cyl Dog	1ESPL-7-A5994 1E74-22 Inside	C208	
9810	Exit Device	No Key		
16-9810	Exit Device	No Key Outside 1E74-22 Inside	C208	
9813	Exit Device	1ESPL-7-A5994		
9813 ETL	Exit Device	1ESPL-7-A35124	C208	
84-9813	Exit Device	1ESPL-7-A5994		
9816	Exit Device	1ESPL-7-A5994(O/S) 1E74-22 (I/S)	C208	
9863	Exit Device	1ESPL-7-A5994		
9866	Exit Device	1ESPL-7-A5994 (O/S) 1E74-22 (I/S)	C208	
9898	Exit Device	1ESPL-7-A5994		
9904	Exit Device	1E74xA14520	C208	
84-9904	Panic Device	1E74xA14520	C208	
9910	Exit Device	No Key		
9913	Exit Device	1E74xA14520	C208	
16-9913	Panic Device W/Cyl Dog	1E74xA14520 (O/S) 1E74-22 (I/S)	C208 C208	
12-9915	Panic Device	No Key		
9916	Exit Device	1E74xA14520 (O/S) 1ESPL-7-A5994 (I/S)	C208	
9928	Exit Device	No Key		
12-9928	Exit Device	No Key		
9963	Exit Device	1E74xA14520	C208	
12-9963	Exit Device	1E74xA14520	C208	

SARGENT

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
12-23-9971	Exit Device	1E74xA14520	C208	
9966	Exit Device	1E74xA14520 (O/S) 1ESPL-7-A5994 (I/S)	C208	

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A10S	Passage Latch	No Key		62KON
C10S	Passage Latch	No Key		83KON
D Series-Athens	Lever Handle Cylindrical	* Use Equiv.		K7_16D
D Series-Rhodes	Lever Handle Cylindrical	* Use Equiv.		9K7_15D
D Series-Sparta	Lever Handle Cylindrical	* Use Equiv.		9K7_14D
D10S	Passage Latch	No Key		83KON
D10-3/4S	Passage Latch	No Key		
A12D	Exit Latch	No Key		
C12D	Exit Latch	No Key		83KONX
D12D	Exit Latch	No Key		83KONX
C20S	Closet Latch	No Key		
D20S	Closet Latch	No Key		83KOZ
C25D	Exit Latch	No Key		
D25D	Exit Latch	No Key		83KOY
A30D	Inner Door Latch	No Key		62KOP
C30D	Button Lock	No Key		
D30D	Button Lock	No Key		83KOP
A31D	Exit Lock	No Key		
C31D	Exit Lock	No Key		
D31D	Exit Lock	No Key		
A40S	Bathroom	No Key		62KOL
C40S	Emergency Key Lock	No Key		
D40S	Emergency Key Lock	No Key		83KOL
C41D	Communicating Lock	No Key		
D41D	Communicating Lock	No Key		83KOM

*Examine door preparation for 9K compatibility.

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A42D	Communicating Lock	No Key		
A50PD	Office Lock	Cannot Adapt		62K_AB
C50PD	Office Lock	AK-A26127 (round) or A26125 (tulip)		
D50PD	Office Lock	AK-A26127 (round) or A26125 (tulip)		83K_B
A51PD	Exterior Lock	Cannot Adapt		62K_AB
C51PD	Exterior Lock	AK-A26127 (round) or A26125 (tulip)		
D51PD	Exterior Lock	AK-A26127 (round) or A26125 (tulip)		83K_A
D51-3/4 PD	Exterior Lock	AK-A26127 (round) or A26125 (tulip)		
E51PD	Entrance Lock	1ESPL-7-B1437		
A52PD	Office Lock	Cannot Adapt		62K_AB
C52PD	All Purpose Lock	AK-A26127 (round) or A26125 (tulip)		
D52PD	All Purpose Lock	AK-A26127 (round) or A26125 (tulip)		
D53PD 83K_AB	Entrance Lock	AK-A26127 (round) or A26125 (tulip)		
A55PD	Service Station Lock	Cannot Adapt		62K_E
C55PD	Service Station Lock	AK-A26127 (round) or A26125 (tulip)		
D55PD	Service Station Lock	AK-A26127 (round) or A26125 (tulip)		83K_E
C57PD	Stateroom Lock	AK-A26127 (round) or A26125 (tulip)		
D57PD	Stateroom Lock	AK-A26127 (round) or A26125 (tulip)		
C60PD	Vestibule Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
D60PD	Vestibule Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		83K_C
D60-3/4PD	Entrance Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
C62PD	Communicating Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
D62PD	Communicating Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
C66PD	Store Door Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
D66PD	Store Door Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		83K_G

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
A70PD	Classroom Lock	Cannot Adapt		62K_R
C70PD	Classroom Lock	AK-A26127 (round) or A26125 (tulip)		
D70PD	Classroom Lock	AK-A26127 (round) or A26125 (tulip)		83K_R
C71PD	Closet Lock	AK-A26127 (round) or A26125 (tulip)		
D71PD	Closet Lock	AK-A26127 (round) or A26125 (tulip)		
C72PD	Communicating Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
D72PD	Communicating Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		82K_S
C73PD	Dormitory Lock	AK-A26127 (round) or A26125 (tulip)		
D73PD	Dormitory Lock	AK-A26127 (round) or A26125 (tulip)		83K_T
C74PD	Communicating Suite Lock	AK-A26127 (round) or A26125 (tulip)		
D74PD	Communicating Suite Lock	AK-A26127 (round) or A26125 (tulip)		
D75PD	Hotel Lock	Cannot Adapt		83K_H
A80PD	Exit Lock	Cannot Adapt		62K_D
C80PD	Storeroom Lock	AK-A26127 (round) or A26125 (tulip)		
D80PD	Storeroom Lock	AK-A26127 (round) or A26125 (tulip)		83K_D
E80PD	Vestibule Lock	1ESPL-7-B1437		
C81PD	Utility Lock	AK-A26127 (round) or A26125 (tulip)		
D81PD	Utility Lock	AK-A26127 (round) or A26125 (tulip)		
C82PD	Fixed Knob Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
D82PD	Fixed Knob Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		83K_W
C84PD	Apartment House Lock	Cannot Adapt		
D84PD	Apartment House Lock	Cannot Adapt		
C85PD	Hotel Room Lock	Cannot Adapt		
D85PD	Hotel Room Lock	Cannot Adapt		83K_H
C86PD	Club House Lock	AK-A26127 (2 Req.)		

*See page 204

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
D86PD	Club House Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
C87PD	Entrance Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
D87PD	Entrance Lock	AK-A26127 (2 Req.) (round) or A26125 (tulip)		
B250PD	Night Latch	1ESPL-7-B1437		
B251PD	One-Way Latch	1ESPL-7-B1437		
B251PDX	One-Way Latch Socket Head Screws	1ESPL-7-B1437		
B252PD	Double Cylinder Dead- locking Latch	1ESPL-7-B1586		
B252PDX	Double Cylinder Dead- locking Latch Socket Head Screws	1ESPL-7-B1586		
B260P	Deadlock	1ESPL-7-B1437		
K260P	Deadlock	1E74xB1487	C143	38H_K
B261P	One-Way Deadlock	1ESPL-7-B1437		
B261PX	One-Way Deadlock Socket Head Screws	1ESPL-7-B1437		
K261P	One-Way Deadlock	1E74xA1487	C143	38H_L
B262P	Double Cylinder Deadlock	1ESPL-7-B1586		
B262PX	Double Cylinder Deadlock Socket Head Screws	1ESPL-7-B1586		
K262P	Double Cylinder Deadlock	1E74xA1487 (2 Req.)	C143	38H_M
B263P	School Safety Deadlock	1ESPL-7-B1437		
K263P	School Safety Deadlock	1E74xA5989	C182	38H_R
B270D	Exit Latch	No Key		
B280	Door Bolt	No Key		
B460P	Tubular	1ESPL-7-B1437		

Note: Round Plymouth and Saturn Knobs may be adapted with AK-A26127 Knob Adaptation. Tulip Coronet Knobs may be adapted with AK-A26125 Knob Adaptation wherever AK-A26127 is listed.

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
B460P x 12-076	Deadlock	1ESPL-7-B1437		
B461	Tubular	1ESPL-7-B1437		
K280	Thumbturn Deadlock	No Key		
K290	"K" Lock Unit	Case Only		
K460	Deadlock	1E74xA1487	C143	38H_K
K462	Deadlock	1E74xA1487 (2 Req.)	C143	38H_M
K463	Deadlock	1E74xA1487	C143	38H_R
K464	Deadlock	1E74xA1487	C143	38H_L
900	Mortise Cylinder	1E74	C4	
901	Rim Cylinder	1E72		
905	"K" Mortise Cylinder	1E74xA1487	C143	
906	1-1/2" dia. Cylinder	3E74	C3	
<u>MORTISE LOCKSETS</u>				
K3010	Passage	No Key		
K3040	Privacy	No Key		
K3050P	Office	1E74	C4	
K3060P	Apartment Entrance	1E74 (2 Req.)	C4	
K3070P	Classroom	1E74	C4	
K3080P	Storeroom	1E74	C4	
K3082P	Institution	1E74 (2 Req.)	C4	
K3440	Privacy	No Key		
K3451P	Entrance	1E74	C4	
K3452P	Entrance	1E74	C4	
K3454P	Store Door	1E74 (2 Req.)	C4	
K3456P	Convalescent	1E74	C4	
K3465P	Closet	1E74	C4	
K3466P	Store Door	1E74	C4	

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
K3473P	Dormitory	1E74	C4	
K3484P	Hotel	No Adaptation Available		
K3485P	Hotel	No Adaptation Available		
K4010	Passage	No Key		34HON
K4040	Privacy	No Key		
K4050P	Office	1E74	C4	34H_E
K4060P	Apartment Entrance	1E74 (2 Req.)	C4	34H_G
K4070P	Classroom	1E74	C4	34H_J
K4080P	Storeroom	1E74	C4	34H_EW
K4082P	Institution	1E74 (2 Req.)	C4	
K4440	Privacy	No Key		34HOL
K4451P	Entrance	1E74	C4	
K4452P	Entrance	1E74	C4	34H_A
K4454P	Store Door	1E74 (2 Req.)	C4	34H_W
K4456P	Convalescent	1E74	C4	34H_FW
K4465P	Closet	1E74	C4	
K4466P	Store Door	1E74 (2 Req.)	C4	34H_C
K4473P	Dormitory	1E74	C4	34H_B
K4484P	Hotel	No Adaptation Available		
K4485P	Hotel (Use Emergency Key)	1E7G4xA1247	C127	34H_H
K5010	Passage	No Key		
K5040	Privacy	No Key		
K5050P	Office	1E74	C4	
K5060P	Apartment Entrance	1E74 (2 Req.)	C4	
K5070P	Classroom	1E74	C4	
K5080P	Storeroom	1E74	C4	
K5082P	Institution	1E74 (2 Req.)	C4	

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
K5175	Single Dummy Trim	No Key		
K5176	Pair Dummy Trim	No Key		
K5440	Privacy	No Key		
K5451P	Entrance	1E74	C4	
K5452P	Entrance	1E74	C4	
K5454P	Store Door	1E74 (2 Req.)	C4	
K5456P	Convalescent	1E74	C4	
K5460P	Cylinder x Turn Piece	1E74	C4	
K5462P	Double Cylinder	1E74 (2 Req.)	C4	
K5463P	Classroom	1E74	C4	
K5464P	Cylinder x Blank	1E74	C4	
K5465P	Closet	1E74	C4	
K5466P	Storeroom	1E74 (2 Req.)	C4	
K5473P	Dormitory	1E74	C4	
K5484P	Hotel	No Adaptation Available		
K5485P	Hotel	No Adaptation Available		
K6010	Passage	No Key		35H0N
K6040	Privacy	No Key		
K6050P	Office	1E74	C4	35H_E
K6060P	Apartment Entrance	1E74 (2 Req.)	C4	35H_G
K6070P	Classroom	1E74	C4	35H_J
K6080P	Storeroom	1E74	C4	35H_EW
K6082P	Institution	1E74 (2 Req.)	C4	
K6175	Single Dummy Trim	No Key		
K6176	Pair Dummy Trim	No Key		
K6440	Privacy	No Key		35HOL
K6451P	Entrance	1E74	C4	

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
K6452P	Entrance	1E74	C4	35H_A
K6454P	Store Door	1E74 (2 Req.)	C4	35H_W
K6456P	Convalescent	1E74	C4	35H_FW
K6460P	Cylinder x Turn Piece	1E74	C4	35H_P
K6462P	Double Cylinder	1E74 (2 Req.)	C4	35H_T
K6463P	Classroom	1E74	C4	
K6464P	Cylinder x Blank	1E74	C4	35H_S
K6465P	Closet	1E74	C4	
K6466P	Storeroom	1E74 (2 Req.)	C4	35H_C
K6473P	Dormitory	1E74	C4	35H_B
K6484P	Hotel	No Adaptation Available		35H_H
K6485P	Hotel	No Adaptation Available		
L9010	Passage Lock	No Key		34H_N
L9040	Privacy Lock	No Key		
L9050	Office Lock	1E74xB39256	C265	
L9060	Apartment Entrance	1E74 (Outside) 1E74xB39256 (Inside)	C4 C265	34H_G
L9070	Classroom Lock	1E74xB39256	C265	34H_J
L9080	Storeroom Lock	1E74xB39256	C265	34H_EW
L9080EL	Storeroom Lock	1E74xB39256	C265	
L9080EU	Storeroom Lock	1E74xB39256	C265	
L9082	Institution Lock	1E74xB39256 (2 Req.)	C265	34H_WW
L9170	Single Dummy Trim	No Key		
L9172	Pair Dummy Trim	No Key		
L9175	Single Dummy Trim	No Key		
L9176	Pair Dummy Trim	No Key		
L9177	Single Dummy Trim	No Key		

SCHLAGE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
L9178	Pair Dummy Trim	No Key		
L9453	Entrance Lock	1E74xB39256	C265	
L9456	Dorm/Exit Lock	1E74xB39256	C265	34H_FW
L9460	Cylinder x Thumb Turn	1E74xB39256	C265	34H_P
L9462	Double Cylinder	1E74xB39256 (2 Req.)	C265	34H_T
L9463	Classroom Lock	1E74xB39256	C265	
L9464	Cylinder x Blank	1E74xB39256	C265	34H_S
L9465	Closet Lock	1E74xB39256	C265	
L9466	Utility Room Lock	1E74xB39256 (2 Req.)	C265	34H_C
L9473	Dorm/Bedroom Lock	1E74xB39256	C265	34H_B
L9485	Hotel Lock	1E7G4xB39256	C265	34H_HJ
L9486	Hotel Lock	1E7G4xB39256	C265	34H_HF

SECURITY DOOR CONTROLS

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
701	Key Switch	1E74xA995	C118	
701N	Key Switch	1E74xA995	C118	
702	Key Switch	1E74xA1247	C127	
905	Key Switch	1E74xA1247	C127	
5021	Electric	1E74xA1247	C127	
5031	Electric	1E74xA1247 (2 Req.)	C127	
5051	Electric	1E74xA1247	C127	
5151	Electric D.F.S.	1E74xA1247	C127	
6031	Electric	1E74xA1247 (2 Req.)	C127	
6051	Electric Fail-Secure	1E74xA1247	C127	
7502	Key Switch	1E74xA995	C118	
S7550	Elec Lock (Schlage 9080L Mortise Lock)	1E74xB39256	C265	

SECURITRON

NUMBER	ARTICLE	ADAPT	CAM CODE NO.	EQUIV.
MKA	Switchlock	1E74	C265	

SIDRO SECURITY PRODUCTS CORP.

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
S81	Cylinder	1E74xA14520	C208	
S82	Cylinder	1E72		
430-EO x S35	Alarm Panic	1E74xA14520	C208	
430KL	Alarmed Exit Device	1E72 (Outside) 1E74xA14520 (Inside)	C208	
433	Alarmed Exit Device	1E72 (Outside) 1E74xA14520 (Inside)	C208	
433-EO x S36	Alarm Panic	1E74xA14520	C208	
433KL x S36	Alarm Panic	1E74xA14520	C208	
520EO	Alarmed Exit Device	1E74xA14520	C208	
530EO	Alarmed Exit Device	1E74xA14520	C208	
530KL	Alarmed Exit Device	1E72 (Outside) 1E74xA14520 (Inside)	C208	
530L	Alarmed Exit Device	1E72 (Outside) optional, as specified 1E74xA14520 (Inside)	C208	
530S	Alarmed Exit Device	1E72 (Outside) optional, as specified 1E74xA14520 (Inside)	C208	
533	Alarmed Exit Device	1E72 (Outside) 1E74xA14520 (Inside)	C208	
F-S1702xSL02DT	Exit Device	1ESPL-7-A5994		
S1805	Exit Device	1ESPL-7-A5994		
F-S1808xSL08	Exit Device	1ESPL-7-A5994		
S1808	Exit Device	1ESPL-7-A5994		
S1811	Alarmed Exit Device	1ESPL-7-A5994		
F-S1908xSL08	Exit Device	1E74xA14520	C208	

SIMPLEX SECURITY SYSTEMS (UNICAN)

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
100 Series	Push Button Lock	A10027		
200 Series	Push Button Lock	A10027		
1000-2B	Knob Access Lock w/P.B.	No Adaptation Available		
1000-4B	Access Lock w/T.T.	No Adaptation Available		
3000 Series	Narrow Stile Doors	1E74xA5979	C181	

SKILLMAN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
90	Tubular Night Latch	1E72		
99	Tubular Deadbolt	1E72		
650BB	Rim Lockset	1E72		
750BB	Rim Lockset	1E72		
G1530	Rim Night Latch	1E72		
1946	Rim Cylinder Lock	No Adaptation Available		
6660	Mortise Deadbolt	1E74	C4	
6661	Mortise Deadbolt	1E74	C4	
6663	Mortise Deadbolt	1E74 (2 Req.)	C4	
6665	Mortise Deadbolt	1E74 (2 Req.)	C4	
6668	Mortise Deadbolt	1E74	C4	
6671	Mortise Deadbolt	1E74 (2 Req.)	C4	
6672	Mortise Deadbolt	1E74	C4	
6673	Mortise Deadbolt	1E74	C4	
7700	Mortise Lock - Heavy Duty	1E74	C4	
8800	Mortise Lock - Standard	1E74	C4	

SMITH

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
AH254x47	Rim Lock Device	1E72		

SUPRA

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
S Series 4	Key Vault	1ESPL-7-B14475		
Old Series	Key Vault	No Adaptation Available		
S-5 Series	Key Vault (No Milled Cam Slot)	1ESPL-7-B14857		
M-5 Series	Key Vault	1ESPL-7-B14857		

TEL KEE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
CWC25 & 50	Key Cabinet	1ESPL-7-A2533		
RWC75 & 125	Key Cabinet	1ESPL-7-A2531		
WC150-450	Key Cabinet	1ESPL-7-A2531		
CWC505	Key Cabinet	No Adaptation Available		
500-1200	Key Cabinet	No Adaptation Available		

TODCO

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
Unknown	Old Roll-Up Door (UPS)	1ESPL-6-A7223 (6 Pin) 1ESPL-7-A7224 (7 Pin)		
Unknown	STD Garage Door	1E72		
69011	New Roll-Up Door (UPS)	1ESPL-6-A10561 (6 Pin Only)		
B-70079B	N. L. Panel Lock	1ESPL-6-A10560 (6 Pin Only)		

TRUSCON

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
P3500TK	Mortise Lock	1E74	C4	
P3558TK	Mortise Lock	1E74	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
22ALK	Alarm Signal	1ESPL-7-A35124	C4	
22CL	Exit Device	1E72		
22CL-F	Exit Device	1E72		
22DT	Exit Device	No Key		
22EO	Exit Device	No Key		
22NL	Exit Device	1E72		
22NL-F	Exit Device	1E72		
22NL/OP	Exit Device	1E72		
22TP	Exit Device	1ESPL-7-A35124	C4	
22TP-F	Exit Device	1ESPL-7-A35124	C4	
22X	Exit Device	1ESPL-7-A35124	C4	
22Y	Exit Device	1ESPL-7-A35124	C4	
22 3/4	Exit Device	1ESPL-7-A35124	C4	
22 3/4 B2	Exit Device	1ESPL-7-A35124	C4	
22 3/4 X	Exit Device	1ESPL-7-A35124	C4	
23B2	Exit Device	1E72		
LR23B2	Exit Device	No Key		
NL23B2	Exit Device	1E72		
NL23B2NS	Exit Device	1E72		
23U	Exit Device	1E72		
23VA	Exit Device	1E72		
FNL23VA	Exit Device	* 1ESPL-7-A7537 or A4296		
23X	Exit Device	1E72		
23X x 5600	Exit Device	1E72		
FNL23X	Exit Device	* 1ESPL-7-A7537 or A4296		

*A7537 has .812 center to center mounting by .050 above center line of cylinder.
A4296 has .874 center to center mounting located on center line of cylinder.

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
LR23X	Exit Device	No Key		
NL23X	Exit Device	1E72		
23Y	Exit Device	1E72		
FNL23Y	Exit Device	1ESPL-7-A7537 or A4296		
LR23Y	Exit Device	1E72		
NL23Y	Exit Device	1E72		
24	Exit Device	1ESPL-7-A35124	C4	
24B2	Exit Device	1ESPL-7-A35124	C4	
NL24B2	Exit Device	1ESPL-7-A35124	C4	
24S	Exit Device	1ESPL-7-A35124	C4	
NL24	Exit Device	1ESPL-7-A35124	C4	
NL24S	Exit Device	1ESPL-7-A35124	C4	
24U	Exit Device	1ESPL-7-A35124	C4	
NL24U	Exit Device	1ESPL-7-A35124	C4	
24X	Exit Device	1ESPL-7-A35124	C4	
NL24X	Exit Device	1ESPL-7-A35124	C4	
24Y	Exit Device	1ESPL-7-A35124	C4	
NL24Y	Exit Device	1ESPL-7-A35124	C4	
24 3/4	Exit Device	1ESPL-7-A35124	C4	
24 3/4 B2	Exit Device	1ESPL-7-A35124	C4	
24 3/4 X	Exit Device	1ESPL-7-A35124	C4	
25	Exit Device	1ESPL-7-A35124(2 Req)	C4	
25Y	Exit Device	1ESPL-7-A35124(2 Req)	C4	
27B2	Exit Device	No Key		
27B2NS	Exit Device	No Key		

*A7537 has .812 center to center mounting by .050 above center line of cylinder.
A4296 has .874 center to center mounting located on center line of cylinder.

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
27B2NSDT	Exit Device	No Key		
27B2TL	Exit Device	1ESPL-7-A35124	C4	
27B2WL	Exit Device	1E72		
LR27B2	Exit Device	No Key		
27NC	Exit Device	No Key		
27NCDT	Exit Device	No Key		
27NCTL	Exit Device	1ESPL-7-A35124 x A836 Hex Nut	C4	
27S	Exit Device	No Key		
27STL	Exit Device	1ESPL-7-A35124	C4	
27SWL	Exit Device	1E72		
LR27S	Exit Device	No Key		
27U	Exit Device	No Key		
27UWL	Exit Device	1E72		
27WDC	Exit Device	No Key		
27WDC-DT	Exit Device	No Key		
27WDC-NL	Exit Device	1E72		
27WDC-TL	Exit Device	1ESPL-7-A35124	C4	
27X	Exit Device	No Key		
27XTL	Exit Device	1ESPL-7-A35124	C4	
27XWL	Exit Device	1E72		
LR27X	Exit Device	1E72		
27Y	Exit Device	No Key		
27YWL	Exit Device	1E72		
LR27Y	Exit Device	No Key		
LR27 3/4 B2	Exit Device	1ESPL-7-A35124	C4	
LR27 3/4 X	Exit Device	1ESPL-7-A35124	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
28	Lock	1ESPL-7-A35124(2 Req)	C4	
28Y	Exit Device	1ESPL-7-A35124(2 Req)	C4	
30B2	Exit Device	No Key		
30B2DT	Exit Device	No Key		
30S	Exit Device	No Key		
30SDT	Exit Device	No Key		
30OU	Exit Device	No Key		
30UDT	Exit Device	No Key		
30X	Exit Device	No Key		
30XDT	Exit Device	No Key		
30 3/4 2	Exit Device	No Key		
30 3/4 B2	Exit Device	No Key		
30 3/4 X	Exit Device	No Key		
33DT	Exit Device	No Key		
33EO	Exit Device	No Key		
33L	Exit Device	1ESPL-7-A35124	C4	
33NL	Exit Device	1E72-R708		
33NL-OP	Exit Device	1E72-R708		
33NL-TP	Exit Device	1E72-R708		
33TP	Exit Device	1E72		
CD33	Cylinder Dogging	1ESPL-7-A35124	C4	
34EO	Mortise Lock	No Key		
34K	Mortise Lock	1ESPL-7-A35124	C4	
34NC-EO	Exit Device	No Key		

**Note: All CD33 (Cyl. Dogging Inside) Series devices require a 1ESPL-7-A35124 Mortise Cylinder with the C4 Cam inverted, in addition to any cylinder or "no key" listed above. Inverting the cam is done at installation. The cylinder is assembled normally.

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
34NC-K	Exit Device	1ESPL-7-A35124	C4	
34NC-NL	Exit Device	1ESPL-7-A35124	C4	
34NC-TP	Exit Device	1ESPL-7-A35124	C4	
34NL	Mortise Lock	1ESPL-7-A35124	C4	
34TP	Mortise Lock	1ESPL-7-A35124	C4	
E34	Electric Lock	1ESPL-7-A35124	C4	
35A	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
K35A	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
36A	Exit Device	1E72		
K36A	Exit Device	1E72		
NL36A	Exit Device	1E72		
37NC	Exit Device	No Key		
38A-DT	Exit Device	No Key		
44DT	Exit Device	No Key		
44EO	Exit Device	No Key		
44K	Exit Device	1E72		
44L	Device w/373 Control	1ESPL-7-A35124	C4	
44NL	Exit Device	1E72		
44TP	Exit Device	1E72		
45A2	Exit Device	1E72 (2 Req.)		
K45A2	Exit Device	1E72 (2 Req.)		
46A2	Exit Device	1E72		
K46A2	Exit Device	1ESPL-7-A35124	C4	
48A2	Exit Device	No Key		
FNL50	Control	1ESPL-7-A7537 or A4296		

*A7537 has .812 center to center mounting by .050 above center line of cylinder. A4296 has .874 center to center mounting located on center line of cylinder.

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
55DT	Exit Device	No Key		
55EO	Exit Device	No Key		
55NL	Exit Device	1E72		
NL55	Control	1ESPL-7-A35124	C4	
56	Exit Device	1E72		
58EO	Mortise Lock	No Key		
58K	Mortise Lock	1ESPL-7-A35124	C4	
58K-2	Mortise Lock	1ESPL-7-A35124(O/S) 1E72 (I/S)	C4	
58NL	Mortise Lock	1ESPL-7-A35124	C4	
58TP	Mortise Lock	1ESPL-7-A35124	C4	
66DT	Exit Device	No Key		
66EO	Exit Device	No Key		
66NL	Exit Device	1E72		
66TP	Exit Device	1E72		
66TP-2	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
72U	Exit Device	No Key		
77DT	Exit Device	No Key		
77EO	Exit Device	No Key		
77K	Exit Device	1E72		
77K-2	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
77NL	Exit Device	1E72		
77TP	Exit Device	1E72		
77TP-2	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
88DT	Exit Device	No Key		
88EO	Exit Device	No Key		

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
88EO-EG	Exit Device	1E72		
88EO-F	Exit Device	No Key		
88F-63L	Exit Device	1ESPL-7-A35124	C4	
88K	Exit Device	1E72		
88K-2	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
88K-F	Exit Device	1E72		
88L	Exit Device	1ESPL-7-A35124	C4	
88L-F	Exit Device	1ESPL-7-A35124	C4	
88NL	Exit Device	1E72		
88NL x 2590KR	Exit Device	1E72		
88NL-EG	Exit Device	1E72 (2 Req.)		
88NL-F	Exit Device	1E72		
88NL-HB	Exit Device	1E72		
88TP	Exit Device	1E72		
88TP-2	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
88TP-F	Exit Device	1E72		
88TP-KD	Exit Device	1E72		
DL88DT	Exit Device	No Key		
DL88EO	Exit Device	No Key		
DL88K	Exit Device	1E72		
DL88L	Exit Device	1ESPL-7-A35124	C4	
DL88NL	Exit Device	1E72		
DL88TP	Exit Device	1E72		
E88K	Exit Device	1E72		
E88K-F	Exit Device	1E72		
E88TP	Exit Device	1E72		

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
E88TP-F	Exit Device	1E72		
E-DL88K	Exit Device	1E72		
E-DL88TP	Exit Device	1E72		
96A	Exit Device	1E72		
NL96A	Exit Device	1E72		
98A	Exit Device	No Key		
98ADT	Exit Device	No Key		
99ALK	Alarm Device	1ESPL-7-A35124	C4 Inverted	
CD 99-33 INV	Exit Device	1ESPL-7-A35124	C4 Inverted	
CD99TP 990TP-R	Exit Device	1ESPL-7-A35124	C4	
99K-F	Exit Device	1E72		
99L	Exit Device	1E72		
99L-2	Exit Device	1E72 (2 Req.)		
99L-F	Exit Device	1E72		
99L-F-2	Exit Device	1E72 (2 Req.)		
99NL	Exit Device	1E72		
99NL-F	Exit Device	1E72		
SS99	Signal Switch Exit	1ESPL-7-A35124	C4	
SS99EO	Signal Switch	1ESPL-7-A35124	C4	
SS99NL-F	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
99NL-OP	Exit Device	1E72		
99TP	Exit Device	1E72		
99TP-2	Exit Device	1E72 (2 Req.)		
99TP-F	Exit Device	1E72		
99TP-F-2	Exit Device	1E72 (2 Req.)		
370	Control	1ESPL-7-A35124	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
371	Control	1ESPL-7-A35124	C4	
372	Control	1ESPL-7-A35124	C4	
373	Control	1ESPL-7-A35124	C4	
375	Control	1ESPL-7-A35124	C4	
376	Control	1ESPL-7-A35124	C4	
377	Control	1ESPL-7-A35124	C4	
378	Control	1ESPL-7-A35124	C4	
MS534	Magnetic Switch	No Key		
810	Exit Device	No Key		
810H	Exit Device	1E72		
810K	Exit Device	1E72		
820	Exit Device	No Key		
820H	Exit Device	1ESPL-7-A35124	C4	
820K	Exit Device	1ESPL-7-A35124	C4	
821	Exit Device	No Key		
821K	Exit Device	1E72		
822	Exit Device	No Key		
822A	Exit Device	No Key		
822H	Exit Device	1ESPL-7-A35124	C4	
822K	Exit Device	1ESPL-7-A35124	C4	
822N	Exit Device	1E72		
880DT	Exit Device	No Key		
88OEO	Exit Device	No Key		
88OK	Exit Device	1E72		
880K-2	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
880KR-R	Exit Device	1E72		

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
E880K	Exit Device	1E72		
E880TP	Exit Device	1E72		
880NL	Exit Device	1E72		
880TP	Exit Device	1E72		
880TP-2	Exit Device	1E72 (O/S) 1ESPL-7-A35124 (I/S)	C4	
SS901	Signal Switch	1ESPL-7-A35124	C4	
3215	Mortise Cylinder	1ESPL-7-A35124	C4	
3216	Rim Cylinder	1E72		
3218	Dummy Cylinder	1E04		
3327DT	Exit Device	No Key		
3327EO	Exit Device	No Key		
3327L	Exit Device	1ESPL-7-A35124	C4	
3327NL-OP	Exit Device	1E72		
3327NL-TP	Exit Device	1E72		
3327TL	Mortise	1ESPL-7-A35124	C4	
3337EO	Exit Device	No Key		
3337L	Exit Device	1ESPL-7-A35124	C4	
3337NL-TP	Exit Device	1E72		
3337TL	Exit Device	1ESPL-7-A35124	C4	
3339L	Exit Device	1ESPL-7-A35124	C4	
3339TL	Exit Device	1ESPL-7-A35124	C4	
3347 w/370T	Exit Device	1ESPL-7-A35124	C4	
3347 w/NL55	Exit Device	1ESPL-7-A35124	C4	
3347DT	Exit Device	No Key		
3347EO	Exit Device	No Key		
3347L	Exit Device	1ESPL-7-A35124	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
3347NL-TP	Exit Device	1E72		
3347TL	Exit Device	1ESPL-7-A35124	C4	
CD3347NL-TP	Exit Device W/Cylinder Dogging	1E72 Outside 1ESPL-7-A35124 (I/S)	C4	
3349TL	Exit Device	1ESPL-7-A35124	C4	
4427	Exit Device	No Key		
4427TL	Exit Device	1ESPL-4-A35124	C4	
4427WL	Exit Device	1E72		
4458DT	Exit Device	No Key		
4458EO	Exit Device	No Key		
4458K	Exit Device	1ESPL-7-A35124	C4	
4458K-2	Exit Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
4458NL	Exit Device	1ESPL-7-A35124	C4	
4458TP	Exit Device	1ESPL-7-35124	C4	
4458TP-2	Exit Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
4475K	Mortise	1ESPL-7-A35124	C4	
4475NL	Mortise	1ESPL-7-A35124	C4	
4475TP	Mortise	1ESPL-7-A35124	C4	
5027	Exit Device	No Key		
5027WL	Exit Device	1E72		
5029TL	Exit Device	1ESPL-7-A35124	C4	
5034DT	Exit Device	No Key		
5034EO	Exit Device	No Key		
5034K	Exit Device	1ESPL-7-A35124	C4	
5034NL	Exit Device	1ESPL-7-A35124	C4	
5034TP	Exit Device	1ESPL-7-A35124	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5200	Key Switch	1ESPL-7-A35124	C4 Cam Inverted	
5527	Exit Device	No Key		
5527DT	Exit Device	No Key		
5527NL	Exit Device	1E72		
5527TL	Exit Device	1ESPL-7-A35124	C4	
5527WDC x NL73	Exit Device	1ESPL-7-A35124	C4	
BR5527NL	Exit Device	1E72		
BR5527TL	Exit Device	1ESPL-7-A35124	C4	
BR5527WDC-NL	Exit Device	1E72		
BR5527WDC-TL	Exit Device	1ESPL-7-A35124	C4	
5529TL	Exit Device	1ESPL-7-A35124	C4	
BR5529WDC-TL	Exit Device	1ESPL-7-A35124	C4	
5534EO	Exit Device	No Key		
5534K	Exit Device	1ESPL-7-A35124	C4	
5534NL	Exit Device	1ESPL-7-A35124	C4	
5534TP	Exit Device	1ESPL-7-A35124	C4	
5537	Exit Device	No Key		
5537 x 371L	Exit Device	1ESPL-7-A35124	C4	
5537 x EO	Exit Device	No Key		
5537L	Exit Device	1ESPL-7-A35124	C4	
5537TL	Mortise	1ESPL-7-A35124	C4	
5537TP	Exit Device	No Key		
5539L	Exit Device	1ESPL-7-A35124	C4	
5539L x 63L	Exit Device	1ESPL-7-A35124	C4	
5539TL	Exit Device	1ESPL-7-A35124	C4	
5547L-F	Exit Device	1ESPL-7-A35124	C4	
5547NL	Concealed Vertical Exit	1E72		

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5547TL	Exit Device	1ESPL-7-A35124	C4	
5547WDC-TL	Exit Device	1ESPL-7-A35124	C4	
5575K-F	Exit Device	1ESPL-7-A35124	C4	
5575NL-F	Exit Device	1ESPL-7-A35124	C4	
5575TP-F	Exit Device	1ESPL-7-A35124	C4	
6621	Exit Device	1E72		
6621NL	Exit Device	1E72		
6624	Exit Device	1ESPL-7-A35124	C4	
6624NL	Exit Device	1ESPL-7-A35124	C4	
6627	Exit Device	No Key		
6627TL	Exit Device	1ESPL-7-A35124	C4	
6627WL	Exit Device	1E72		
6630	Exit Device	No Key		
6630DT	Exit Device	No Key		
6634EO	Exit Device	No Key		
6634K	Exit Device	1ESPL-7-A35124	C4	
6634NL	Exit Device	1ESPL-7-A35124	C4	
6634TP	Exit Device	1ESPL-7-A35124	C4	
6637	Exit Device	No Key		
6639L	Exit Device	1ESPL-7-A35124	C4	
6639TL	Exit Device	1ESPL-7-A35124	C4	
6658DT	Exit Device	No Key		
6658EO	Exit Device	No Key		
6658K	Exit Device	1ESPL-7-A35124	C4	
6658NL	Exit Device	1ESPL-7-A35124	C4	
6658TP	Exit Device	1ESPL-7-A35124	C4	
7721	Exit Device	1E72		

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7721NL	Exit Device	1E72		
7723	Exit Device	1E72		
7723NL	Exit Device	1E72		
7727	Exit Device	No Key		
7727TL	Exit Device	1ESPL-7-A35124	C4	
7727WL	Exit Device	1E72		
7734EO	Exit Device	No Key		
7734K	Exit Device	1ESPL-7-A35124	C4	
7734NL	Exit Device	1ESPL-7-A35124	C4	
7734TP	Exit Device	1ESPL-7-A35124	C4	
7737	Exit Device	No Key		
7739L	Exit Device	1ESPL-7-A35124	C4	
7739TL	Exit Device	1ESPL-7-A35124	C4	
7758DT	Exit Device	No Key		
7758EO	Exit Device	No Key		
7758K	Exit Device	1ESPL-7-A35124	C4	
7758NL	Exit Device	1ESPL-7-A35124	C4	
7758TP	Exit Device	1ESPL-7-A35124	C4	
8527	Exit Device	No Key		
8527DT	Exit Device	No Key		
8527NL	Exit Device	1E72		
8527TL	Exit Device	1ESPL-7-A35124	C4	
BR8527NL	Exit Device	1E72		
BR8527TL	Exit Device	1ESPL-7-A35124	C4	
BR8527WDC	Exit Device	No Key		
BR8527WDC-NL	Exit Device	1E72		
BR8527WDC-TL	Exit Device	1ESPL-7-A35124	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
CD8527	Dog Device	1E72		
CD8527DT	Dog Device	1E72		
CD8527TL	Dog Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
8529TL	Exit Device	1ESPL-7-A35124	C4	
BR8529WDC-TL	Exit Device	1ESPL-7-A35124	C4	
8813	Exit Device	1E72		
8813L	Exit Device	1ESPL-7-A35124	C4	
8817	Exit Device	No Key		
8817TL	Exit Device	1ESPL-7-A35124	C4	
8817TP	Exit Device	1E72		
8819TL	Exit Device	1ESPL-7-A35124	C4	
8822	Exit Device	1ESPL-7-A35124	C4	
8822 3/4	Exit Device	1ESPL-7-A35124	C4	
8823	Exit Device	1E72		
8823L	Exit Device	1ESPL-7-A35124	C4	
8823NL	Exit Device	1E72		
8823NS-NL	Exit Device	1E72		
BE8823	Exit Device	No Key		
8824	Exit Device	1ESPL-7-A35124	C4	
8824NL	Exit Device	1ESPL-7-A35124	C4	
8824 3/4	Exit Device	1ESPL-7-A35124	C4	
8827	Exit Device	No Key		
8827K	Exit Device	1E72		
8827-KD	Exit Device	No Key		
8827L	Panic Device	1ESPL-7-A35124	C4	
8827L-F	Exit Device	1ESPL-7-A35124	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8827NS	Exit Device	No Key		
8827NS-DT	Exit Device	No Key		
8827TL	Exit Device	1ESPL-7-A35124	C4	
8827TP	Exit Device	1E72		
8827TP-NL	Exit Device	1E72		
8827WL	Exit Device	1E72		
PL8827	Exit Device	No Key		
8830	Exit Device	No Key		
8830DT	Exit Device	No Key		
8830 3/4	Exit Device	No Key		
8834EO	Exit Device	No Key		
8834K	Exit Device	1ESPL-7-A35124	C4	
8834NL	Exit Device	1ESPL-7-A35124	C4	
8834TP	Exit Device	1ESPL-7-A35124	C4	
8837	Exit Device	No Key		
8837 x 371L	Exit Device	1ESPL-7-A35124	C4	
8837L	Exit Device	1ESPL-7-A35124	C4	
8837TL	Exit Device	1ESPL-7-A35124	C4	
8839L	Exit Device	1ESPL-7-A35124	C4	
8839L x 61	Lever Device	1ESPL-7-A35124	C4	
8839TL	Device Control	1ESPL-7-A35124	C4	
8847EO-F	Panic Device	No Key		
8847L-F	Exit Device	1ESPL-7-A35124	C4	
8847TL-F	Panic Device	1ESPL-7-A35124	C4	
8858EO	Exit Device	No Key		
8858EO-EG	Exit Device	1E72		
8858K	Exit Device	1ESPL-7-A35124	C4	

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8858K-2	Exit Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
8858L	Exit Device	1ESPL-7-A35124	C4	
8858NL	Exit Device	1ESPL-7-A35124	C4	
8858NL-EG	Exit Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
8858TP	Exit Device	1ESPL-7-A35124	C4	
8858TP-2	Exit Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
E8858K	Exit Device	1ESPL-7-A35124	C4	
E8858TP	Exit Device	1ESPL-7-A35124	C4	
8875K-F	Exit Device	1ESPL-7-A35124	C4	
8875L-F	Exit Device	1ESPL-7-A35124	C4	
8875NL-F	Exit Device	1ESPL-7-A35124	C4	
8875TP-F	Exit Device	1ESPL-7-A35124	C4	
98XX Series	Exit Device	Cylinders same as 99XX Series		
CX98XX & 99XX	Delayed Exit Alarm	1ESPL-7-A35124	C4	
9875L	Exit Device	1ESPL-7-A35124	C4	
9917	Exit Device	No Key		
9917K	Exit Device	1E72		
9917L	Exit Device	1E72		
9917TL	Exit Device	1ESPL-7-A35124	C4	
9917TP	Exit Device	1E72		
9927	Exit Device	No Key		
9927K	Exit Device	1E72		
9927L	Exit Device	1E72		
9927NL	Exit Device	1E72		

Note: All CX98-CX99 (Chexit) delayed exit alarms require the 1ESPL-7-A35124 shallow groove cylinder with a C4 cam.

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
F-L9927NL-F	Electric Exit	1ESPL-7-A35124	C4	
9927TL	Exit Device	1ESPL-7-A35124	C4	
9927TP	Exit Device	1E72		
9927TP-F	Exit Device	1E72		
9947K-Fx991K-V	Panic Device	1E72		
9947L-F	Exit Device	1E72		
9947L-Fx20L	Exit Device	1E72		
9947TL	Exit Device	1ESPL-7-A35124	C4	
9947TL-NL	Exit Device	1ESPL-7-A35124	C4	
9947TP-F	Exit Device	1E72		
9958	Exit Device	1ESPL-7-A35124	C4	
9975	Exit Device	1ESPL-7-A35124	C4	
9975K	Exit Device	1ESPL-7-A35124	C4	
9975K-F	Exit Device	1ESPL-7-A35124	C4	
9975L	Exit Device	1ESPL-7-A35124	C4	
9975L-F	Exit Device	1ESPL-7-A35124	C4	
9975NL	Exit Device	1ESPL-7-A35124	C4	
9975NL-F	Exit Device	1ESPL-7-A35124	C4	
9975TP	Exit Device	1ESPL-7-A35124	C4	
9975TP-F	Exit Device	1ESPL-7-A35124	C4	
88023	Exit Device	1E72		
88023 x 880L-U	Exit Device	1E72		
88023NL	Exit Device	1E72		
88027	Exit Device	No Key		
88027TP	Exit Device	1E72		
88027TP-NL	Exit Device	1E72		

VON DUPRIN

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
88058DT	Exit Device	No Key		
88058EO	Exit Device	No Key		
88058K	Exit Device	1ESPL-7-A35124	C4	
88058K-2	Exit Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
88058NL	Exit Device	1ESPL-7-A35124	C4	
88058TP	Exit Device	1ESPL-7-A35124	C4	
88058TP-2	Exit Device	1ESPL-7-A35124 (O/S) 1E72 Inside	C4	
E88058K	Exit Device	1ESPL-7-A35124	C4	
E88058TP	Exit Device	1ESPL-7-A35124	C4	

WELCH

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
29	Mortise Lock	1E74xA4387	C162	
2950	Mortise Lock	1E74xA4387	C162	
2951	Mortise Lock	1E74xA4387	C162	
30	Mortise Lock	1E74xA4387	C162	
3050	Mortise Lock	1E74xA4387	C162	
3051	Mortise Lock	1E74xA4387	C162	
31	Mortise Lock	1E74xA4387	C162	
3150	Mortise Lock	1E74xA4387	C162	
3151	Mortise Lock	1E74xA4387	C162	
35	Mortise Lock	1E74xA40088	C234	
3550	Mortise Lock	1E74xA40088	C234	
3551	Mortise Lock	1E74xA40088	C234	
36	Mortise Lock	1E74xA40088	C234	
3650	Mortise Lock	1E74	C4	
3651	Mortise Lock	1E74	C4	
37	Mortise Lock	1E74xA40088	C234	
3750	Mortise Lock	1E74xA40088	C234	
3751	Mortise Lock	1E74xA40088	C234	
71T	Mortise Deadlock	1E74	C4	
71T0	Mortise Deadlock	1E74	C4	
71T1	Mortise Deadlock	1E74	C4	
72	Mortise Deadlock	1E74xA533	C103	
72 1/2	Mortise Deadlock	1E74xA533	C103	
72ST	Mortise Deadlock	1E74xA533	C103	
72T	Mortise Deadlock	1E74xA533	C103	
73	Mortise Deadlock	1E74	C4	
76	Mortise Deadlock	1E74xA4387	C162	

WELCH

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
76T	Mortise Deadlock	1E74xA4387	C162	
76 1/2	Mortise Deadlock	1E74xA4387	C162	
110	Aluminum Door Lock	1E74xA1414 (2 Req.)	C134	
111	Aluminum Door Lock	1E74xA1414 (2 Req.)	C134	
112	Aluminum Door Lock	1E74xA1414 (2 Req.)	C134	
113	Aluminum Door Lock	1E74xA1414 (2 Req.)	C134	
114	Aluminum Door Lock	1E74xA1414 (2 Req.)	C134	
201	Cabinet Lock	1E74xA40088	C234	
207	Swinging Gate Lock	1E74	C4	
207 1/2	Swinging Gate Lock	1E74 (2 Req.)	C4	
208	Sliding Gate Latch	1E74	C4	
208 1/2	Sliding Gate Latch	1E74 (2 Req.)	C4	
210	Sliding Gate Latch	1E74	C4	
932	Cylinder	1E74xA4387	C162	
2100	Sliding Gate Latch	1E74	C4	
2101	Sliding Gate Latch	1E74	C4	
2700	Swinging Gate Lock	1E74	C4	
2701	Swinging Gate Lock	1E74	C4	
2750	Swinging Gate Lock	1E74 (2 Req.)	C4	
2752	Swinging Gate Lock	1E74 (2 Req.)	C4	
2800	Sliding Gate Latch	1E74	C4	
2801	Sliding Gate Latch	1E74	C4	
2850	Sliding Gate Lock	1E74 (2 Req.)	C4	
2852	Sliding Gate Lock	1E74 (2 Req.)	C4	
7300	Mortise Deadlock	1E74	C4	
7301	Mortise Deadlock	1E74	C4	
7701	Mortise Deadlock	1E74xA1247	C127	38H_K

WELCH

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7801	Mortise Deadlock	1E74xA1247	C127	38H_K
7802	Mortise Deadlock	1E74xA1247 (2 Req.)	C127	
9592	Cylinder	1E74xA4387	C162	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1-C950	Yale Otis Switch Cylinder	1ESPL-7-A2136 W/(2) A836 Hex Nuts		
2	Rim Deadbolt	1E72		
2K	Rim Deadbolt	1E72		
5A	Panic Device	No Key		
5R	Panic Device	No Key		
5AP	Panic Device	No Key		
5RCK	Panic Device	1ESPL-7-A912x913 LH 1ESPL-7-A912x914 RH		
5AC	Panic Device	1E72		
5ACK	Panic Device	1E72		
5ACSH	Panic Device	1E72		
5ACP	Panic Device	1E72		
10A	Panic Device	No Key		
10AC	Panic Device	1E72		
10ACxPM500	Panic Device	1E72		
10ACxPM501	Panic Device	1E72		
10ACxPM510	Panic Device	1E72		
10ACxPM511	Panic Device	1E72		
10ACxPM800	Panic Device	1E72		
10ACxPM801	Panic Device	1E72		
10ACxPM810	Panic Device	1E72		
10ACxPM811	Panic Device	1E72		
10AKxGF5	Panic Device	No Adaptation Available		
10AKxLF5	Panic Device	No Adaptation Availalbe		
10AP	Panic Device	1E72		
10R	Panic Device	No Key		
10RxGF5	Panic Device	No Adaptation Availalbe		

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
10RxLF5R	Panic Device	No Adaptation Available		
10Rx10R	Panic Device	1ESPL-7-A7492		
10RxPM500	Panic Device	1ESPL-7-A7492		
10RxPM500R	Panic Device	1ESPL-7-A7492		
10RxPM510R	Panic Device	1ESPL-7-A7492		
10RxPM800R	Panic Device	1ESPL-7-A7492		
10RxPM810R	Panic Device	1ESPL-7-A7492		
10RK	Panic Device	No Adaptation Available		
20A	Panic Device	No Adaptation Available		
20AC	Panic Device	No Adaptation Available		
21	Rim Night Latch	No Adaptation Available		
30x31	Panic Device	No Key		
30xBR48	Panic Device	1E74xA1247	C127	
30xLF45	Panic Device	1E74xA1247	C127	
30xLF48	Panic Device	1E74xA1247	C127	
30xPM530	Panic Device	1E74xA1247	C127	
30xPM831	Panic Device	1E74xA1247	C127	
36	Rim Night Latch	1E72		
040	Rim Night Latch	1E72		
042	Rim Dead Latch	1E72		
44	Rim Dead Latch	1E72		
44-1/2	Rim Dead Latch	1E72		
44-1/4	Rim Dead Latch	1E72		
047	Rim Dead Latch	1E72		
62	Dead Latch	1E74x1247	C127	
62-1/4	Dead Latch	1E74xA1247 (2 Req.)	C127	
66	Dead Latch	1E74xA1247	C127	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
66-1/4	Dead Latch	1E74xA1247 (2 Req.)	C127	
72	Dead Latch	1E74xA1247	C127	
76	Dead Latch	1E74xA1247	C127	
76-1/4	Dead Latch	1E74xA1247 (2 Req.)	C127	
77-1/4	Dead Latch	1E74xA1247-outside No Adaptation inside	C127	
78	Dead Latch	1E74xA1247	C127	
80	Rim Spring Latch	1E72		
80MK	Rim Spring Latch	1E72		
81	Rim Spring Latch	1E72		
83	Rim Spring Latch	1E72		
83MK	Rim Spring Latch	1E72		
85	Rim Spring Latch	1E72		
91	Rim Night Latch	1ESPL-7-A9307		
112	Rim Deadlock	1E72 Outside Cyl. Only		
112F	Rim Deadlock	1E72 Outside Cyl. Only		
112-1/4	Rim Deadlock	No Adaptation Available		
112-1/4 F	Rim Deadlock	No Adaptation Available		
170	Tubular	1ESPL-7-A912xA913 LH 1ESPL-7-A912xA914 RH		
170-1/4	Tubular	B5927 Must have Old Yale Cylinder		
175	Tubular	1ESPL-7-A912xA913 LH 1ESPL-7-A912xA914 RH		
197	Jimmy Proof	1E72		
197F	Jimmy Proof	1E72		
197-1/4	Jimmy Proof	1E72 Outside No Adapt, Inside		
197-1/4 F	Jimmy Proof	1E72 Outside No Adapt, Inside		

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
CA208	Panic Trim	1E74xA1247	C127 Inverted	
304	Deadlock	1E74xA1247	C127	
304-1/4	Deadlock	1E74xA1247 (2 Req.)	C127	
305	Deadlock	1E74xA1247	C127	
313ST	Deadlock	1E74xB5467	C179	
314	Deadlock	1E74xB5467	C179	
314-1/4	Deadlock	1E74xB5467 (2 Req.)	C179	
314-1/4 ST	Deadlock	1E74xB5467 (2 Req.)	C179	
315	Deadlock	1E74xB5467	C179	
316	Deadlock	No Adaptation Available		
316-1/4	Deadlock	No Adaptation Available		
317	Deadlock	No Adaptation Available		
322	Mortise Deadbolt	1E74xA1247	C127	
322-1/4	Mortise Deadbolt	1E74xA1247 (2 Req.)	C127	
322-1/2	Mortise Deadbolt	1E74xA1247	C127	
322-3/4	Mortise Deadbolt	1E74xA1247 (2 Req.)	C127	
323	Mortise Deadbolt	1E74xA1247	C127	
323-1/2	Mortise Deadbolt	1E74xA1247	C127	
323ST	Classroom Deadbolt	1E74xA1247	C127	38H_R
324	Classroom Deadbolt	1E74xA1247	C127	38H_L
324-1/4	Mortise Deadbolt	1E74xA1247 (2 Req.)	C127	38H_M
324-1/2	Mortise Deadbolt	1E74xA1247	C127	
324-3/4	Mortise Deadbolt	1E74xA1247 (2 Req.)	C127	
325	Mortise Deadbolt	1E74xA1247	C127	
325-1/2	Mortise Deadbolt	1E74xA1247	C127	
C329	Small Cylinder	No Adaptation Available		
336	Deadlock	1E74xA1247	C127	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER EQUIV.
336-1/4	Deadlock	1E74xA1247 (2 Req.)	C127
337	Deadlock	1E74xA1247	C127
338	Deadlock	1E74xA1247	C127
338-1/4	Deadlock	1E74xA1247 (2 Req.)	C127
339	Deadlock	1E74xA1247	C127
361	Garage Lock	1E72	
362	Garage Lock	1E72	
363	Garage Lock	1E72	
364	Garage Lock	1E72	
464-1/2	Deadlock	1E74xA9230	C243
485	Deadlatch	1E74xA1247	C127
733	Horizontal Mortise	1E74xA9230	C243
808	Bit Key	Cannot Adapt	
S1032	Turn Knob Cylinder	1E7A4	C4
S1052	Turn Knob Cylinder	1E7A4	C4
1106	Bicentric Rim	No Adaptation Available	
1107	Dummy Cylinder	None	
1108	Dummy Cylinder	1E02	
1109	Rim Cylinder	1E72	
1117	Lazy Cam Mortise	1E7F4 (Specify Hand)	
1119-1/4	Hard Use Cylinder	1E74xA1247	C127
1120	Small Cylinder	None	
1122	Mortise Cyl. Cam #1161	1E74xA1247	C127
1122E	Mortise Cylinder	1E74xA1414	C134
1122H	Mortise Cyl. for Hotel	No Adaptation Available	
1123	Mortise Cyl. Cam #1161	1E74xA1247	C127
1126	Bicentric Mortise	No Adaptation Available	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
1152	Mortise Cylinder	1E74xA1247	C127	
1152H	Mortise, for Hotel	No Adaptation Available		
1152L	Lazy Mortise Cylinder	1ESPL-7-A7492 x Hand		
1160	Cam	A15981	C211	
1161	Cam	A1247	C127	
1161E	Cam	A7605	C200	
1162	Mortise for Hotel	No Adaptation Available		
1162 1/4	Mortise for Hotel	No Adaptation Available		
1166	Mortise for Hotel	No Adaptation Available		
1170	Cylinder for Monolock	No Adaptation Available		
1179	Rim Cylinder for Hotel	No Adaptation Available		
1192	Mortise Cylinder	No Adaptation Available		
1193	Rim Cylinder-Removable Core	1E72		
1194	Mortise Cylinder	1E74xA1247	C127	
1194A	Mortise Cylinder	1E74xA1247	C127	
1195	Mortise Cylinder	1E74xA1247	C127	
1214	Mortise Cyl. less Core	1E74xA1247	C127	
1214A	Mortise Cyl. less Core	1E74xA1247	C127	
1219	Mortise Cyl. less Core	1E74xA1247	C127	
1500xC0204	Rim Panic w/Knob & Cyl.	1E74xA1247	C127	
1500-F130	Panic Device	1E74xA1247	C127	
1500x141	Exit Device	1E74	C127 Inverted	
1510x141,F141,143 or F143	Exit Device	1E72xB35104		
1510Dx141,F141,143 or F143	Exit Device	1E72xB35104		
1531xF330	Panic Device	1E74xA1247	C127	
1534	Panic Device	1E74xA1247	C127	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2000 Old Design Series	Exit Device (Obsolete, made before 1990.)	1E74xA1247	C127	Inverted
2000 W/"P" Series	Exit Device (Obsolete, made before 1990.)	1ESPL-7-A23467		
2000x203	Panic Device	1E72		
2000xCR206	Panic Device	1E72		
2510Dx141,F141,143 or F143	Panic Device	1E72xB35104		
2000x207	Panic Device	1E72		
2000xCA208	Panic Device	1E72		
2000x243	Panic Device	1E72		
2010 Old Design Series	Exit Device (Obsolete, made before 1990.)	1E74xA1247	C127	Inverted
2010xCA208	Panic Device	1E72		
2010x243	Panic Device	1E72		
2510x120	Panic Device	1E72		
2510x202	Panic Device	1E74xA1247	C127	
2510DxF141	Panic Device	1E72xB35102		
2510DxF142	Panic Device	No Adaptation Available		
2510DxF143	Panic Device	1E72xB35102		
2510DxLFF192	Panic Device	No Key		
2510DxLFF202	Panic Device	1E74xA1247	C127	
2531xF330	Panic Device	1E74xA1247	C127	
2532xF343	Exit Device	1E74xA1247	C127	
2540xCOF204	Panic w/Knob & Cylinder	1E74xA1247	C127	
2540xF130	Panic Device	1E72		
2540xLFF202	Panic Device	1E74xA1247	C127	
2540x120	Panic Device	1E72		
2540x202	Panic Device	1E74xA1247	C127	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
2851	Narrow Stile Deadlock	1E74xA5979	C181	
2852	Narrow Stile Deadlock	1E74xA5979	C181	
2855	Narrow Stile Deadlock	1E74xA5979	C181	
2856	Narrow Stile Deadlock	1E74xA5979	C181	
3176 w/card reader		1E74-22	C208	
3321B	Tubular Deadbolt	No Adaptation - Replace with 82T7M		
3322B	Tubular Deadbolt	No Adaptation - Replace with 83T7M		

YALE 1500 AND 2500 SERIES EXIT DEVICE CYLINDERS

Best currently supplies three different cylinders for the 1500 and 2500 Series Exit Devices. The use of the series number alone does not provide sufficient information for determining which cylinder should be used on these Exit Devices. The number of Trim being used must also be known as it is the only way of determining which cylinder should be used.

Below we have compiled a list of Best Cylinder Adaptations and the Trim they are used with ON THE OUTSIDE of Yale 1500 and 2500 Series Exit Devices, including 1500, 1501, 1502, 1510, 1511, 1520, 1521, 1522, 1531, 1532, 1533, 1534, 1540 and 1542:

1500 and 2500 YALE EXIT DEVICE TRIM	BEST CYLINDERS	
120, 121, 122, 123, 124, 130, 131, 132, 133	1E72	
202, 204, 232, 234, 262, 264, 272, 274, 320, 321, 322, 323, 324, 330, 331, 332, 333, 341, 342, 343, 400, 402, 404, 462	1E74xA1247	C127

1500 and 2500 YALE EXIT DEVICE TRIM

141, 143	Locks made after 1986 may use a 1E74 with inverted C127 Cam. Locks made prior to 1987 require B14243.
161, 162, 163	No Adaptation Available (special Yale 1152P Mortise Cylinder with Stop Pin & Cam Lug Pin)

YALE

INSIDE TRIM

Inside cylinder on 1502, 1512,
1512D, 1522D, 1542

(Special Long Slabbed
Yale 1157 Mortise Cylinder)

Inside cylinder on 1501, 1511,
1511D, 1521D, 1541

Send Sample (Special Long Slabbed
Yale 1157 Mortise Cylinder)

The use of 1ER8 Wrench Resistant Cylinder Rings may be advisable to cover trim plate cylinder cut out and provide the best security.

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4000	Passage	Not Keyed		
4032	Knob Deadlatch	Not Keyed		
4308	Deadlock	* 1E74xA1248	C128	
4308A	Deadlock	1E74xA15981	C211	
4308-1/4	Deadlock	* 1E74xA1248	C128	
4308-1/4A	Deadlock	1E74xA15981 (2 Req.)	C211	
4309	Deadlock	* 1E74xA1248	C128	
4309A	Deadlock	1E74xA15981	C211	
4426-1/4	Handle Lock	* 1E74xA1248 (2 Req.)	C128	
4428	Handle Lock	* 1E74xA1248	C128	
4432-1/4	Handle Lock	* 1E74xA1248 (2 Req.)	C128	
4472-1/4	Handle Lock	* 1E74xA1248 (2 Req.)	C128	
4482	Handle Lock	* 1E74xA1248	C128	
4525	Communicating Lock	Not Keyed		
4526	Communicating Lock	* 1E74xA1248	C128	
4526-1/4	Communicating Lock	* 1E74xA1248 (2 Req.)	C128	
4535	Bathroom Lock	Not Keyed		
4601	Passage (F01)	Not Keyed		
4602	Privacy (F19)	Not Keyed		
4605	Storeroom (F07)	1E74xA14520	C208	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
4607	Entrance (F04)	1E74xA14520	C208	
4608	Classroom (F05)	1E74xA14520	C208	
4622	Dormitory (F13)	1E74xA14520	C208	
*Yale Series Locksets 4000 & 8000 made from 1975 thru 1981 will require a 1E74xA1248 Adaptation. Yale Mortise Locksets prior to 1975 should be adapted with 1E74xA1247.				
4632	Hotel	1E7G4xA14520	C208	
4644	Hotel & Motel Lock	No Adaptation Available		
4646	Classroom	* 1E74xA1248	C128	
4646-1/4	Public Toilet Lock	* 1E74xA1248 (2 Req.)	C128	
4648	Emergency	* 1E74xA1248	C128	
4656	Office Lock	* 1E74xA1248	C128	
4660	Storeroom	* 1E74xA1248	C128	
4660A	Storeroom	1E74xA15981	C211	
4660-1/4	Storeroom	* 1E74xA1248 (2 Req.)	C128	
4660-1/4A	Storeroom	1E74xA15981 (2 Req.)	C211	
4661	Storeroom	* 1E74xA1248	C128	
4661A	Storeroom	1E74xA15981	C211	
4662	Lock	* 1E74xA1248	C128	
4667	Apartment (F12)	1E74xA14520	C208	
4737-1/4	Entrance Door Lock	* 1E74xA1248 (2 Req.)	C128	34H_G
4738	Office Door Lock	* 1E74xA1248	C128	
4750	Entrance Lock	* 1E74xA1248	C128	
4752	Entrance Lock	1E74xA15981	C211	
4790	Vestibule Lock	* 1E74xA1248	C128	
4791	Emergency	* 1E74xA1248	C128	
4792	Classroom	* 1E74xA1248	C128	
4792-1/4	Public Toilet Lock	* 1E74xA1248 (2 Req.)	C128	

Yale Series Locksets 4000 & 8000 made from 1975 thru 1981 will require a 1E74xA1248 Adaptation. Yale Mortise Locksets prior to 1975 should be adapted with 1E74xA1247.

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
	<u>CYLINDRICAL LOCKSETS MEDIUM DUTY</u>			
5301	Passage Latch	No Key		62KON
5301-1/2	Passage Latch	No Key		
5302	Bathroom	No Key		62KOL
5303	Patio Lock	No Key		62KOP
5304	Office Door	No Adaptation Available		62K_AB
5305	Storeroom Lock	No Adaptation Available		62K_D
5306	Service Station Lock	No Adaptation Available		62K_E
5307	Exterior Lock	No Adaptation Available		62K_AB
5308	Classroom Lock	No Adaptation Available		62K_R
5309	Exit Latch	No Key		
5310	Exit Latch	No Key		
5311	Communicating Lock	No Key		
5312	All Purpose Lock	No Adaptation Available		62K_AB
5313	Closet Latch	No Key		
5314	Storeroom-Closet Latch	No Adaptation Available		
5315	Classroom-Closet Latch	No Adaptation Available		
5316	Double Cylinder Latch	No Adaptation Available		
5320	Hotel & Motel Lock	No Adaptation Available		
5322	Dormitory Lock	No Adaptation Available		
5325	Privacy Lock	No Key		
5328	Exit Latch	No Key		62KOY
5331	Twin Communicating Lock	No Key		
5332	Hotel & Motel Lock	No Adaptation Available		
5335	Communicating Lock	No Adaptation Available		

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
<u>CYLINDRICAL LOCKSETS HEAVY DUTY</u>				
5400 Series	Augusta Lever Handle Cylindrical	* Use Equiv.		9K7_15D
5400 Series	Monroe Lever Handle Cylindrical	* Use Equiv.		9K7_14D
5400 Series	Pebble Beach Lever Handle Cylindrical	* Use Equiv.		9K7_16D
5401	Passage Latch	No Key		83KON
5401-478A	Passage Latch	No Key		83KON 3/4
5402	Privacy Lock	No Key		83KOL
5403	Patio Lock	No Key		83KOP
5404	Office Lock	AK-A2661		83K_B
5405	Storeroom Lock	No Adaptation Available		83K_D
5406	Service Station Lock	AK-A2661		83K_E
5407	Exterior Lock	AK-A2661		83K_A
5408	Classroom Lock	AK-A2661		83K_R
5409	Exit Lock	No Key		83KONX
5410	Exit Lock	No Key		83KOQ
5411	Communicating Lock	No Key		83KOM
5412	All Purpose Lock	AK-A2661		83K_EA
5413	Closet Latch	No Key		83KOZ
5415	Closet Latch	AK-A2661		
5417	Entrance Lock	AK-A2661 (2 Req.)		83K_C
5418	Communicating Lock	AK-A2661 (2 Req.)		
5419	Storeroom Lock	AK-A2661 (2 Req.)		83K_G
5420	Hotel Lock	No Adaptation Available		83K_H

*Examine door preparation for 9K compatibility.

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
5421	Communicating Lock	AK-A2661		83K_S
5422	Dormitory Lock	AK-A2661		83K_T
5423	Communicating Lock	AK-A2661		
5424	Classroom Lock with Holdback	AK-A2661		
5425	Privacy Lock	No Key		
5428	Exit Latch	No Key		83KOY
5429	Store Door Lock with Holdback	No Adaptation Available		
5430	Fixed Knob Lock	No Adaptation Available		83K_W
5434	Double Keyed	No Adaptation Available		
5500 Series	Same as 5400 Series			

Note: 5500 Series are Stainless Steel locks which will use the same adaptations as the 5400 Series in 626 Finish.

HEAVY DUTY MONO LOCKS

6100 Series		No Adaptation Available		
6201	Passage Lock	No Key		
6202	Privacy Lock	No Key		
6203	Patio Lock	No Key		
6204	Office Lock	AK-A2661		
6205	Storeroom Lock	No Adaptation Available		
6207	Exterior Lock	AK-A2661		
6208	Classroom Lock	AK-A2661		
6209	Exit Latch	No Key		
6210	Exit Lock	No Key		
6211	Communicating Lock	No Key		

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
6217	Entrance Lock	AK-A2661 (2 Req.)		
6218	Communicating Lock	AK-A2661 (2 Req.)		
6219	Storeroom	AK-A2661 (2 Req.)		
6220	Hotel Lock	No Adaptation Available		
6222	Dormitory	AK-A2661		
6224	Classroom Holdback	No Adaptation Available		
6225	Privacy	No Key		
6229	Store Door with Holdback	No Adaptation Available		
6230	Fixed Knob	No Adaptation Available		
6242	Asylum Lock	AK-A2661		
6243	Patio Lock	AK-A2661		
6244	Institution	AK-A2661		
6245	Institution Lock with Fixed Knob	No Adaptation Available		
6246	Communicating	No Key		
6247	Deadbolt Exit Lock	No Key		
6248	Deadbolt Entrance Lock	AK-A2661		
6249	Deadbolt Communicating Lock	AK-A2661		
6250	Deadbolt Patio Lock	AK-A2661		
6251	Deadbolt Closet Lock	AK-A2661		
6252	Hotel	No Adaptation Available		

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
7000 Series	Exit Device Trims 521, 522, 523, 526, 527, 531, 532, 533, 540, 541, 581, 582, 586, 592, and 593 use 1E72 Cylinder.			
7000 Series	Exit Device Trims 551, 552, 556, 561, 562, 563, 570 and 571 use 1E74 Cylinder with C208 Cam.			
7000-AU526	Exit Device	1E72		
7010-533	Exit Device	1E72		
7015x533	Exit Device W/Cyl Dog	1E72 Outside 1E74xA5979 Inside	C181	
7030T8-563	Exit Device	1E74xA14520	C208	
7100x526CR	Exit Device	1E72		
7100x532	Exit Device	1E72		
7100x533	Exit Device	1E72		
7100x533F	Exit Device	1E72		
7100x535	Exit Device	No Key		
7100x535F	Exit Device	No Key		
7105x533	Exit Device W/Cyl Dog	1E72 Outside 1E74xA5979 Inside	C181	
7110Fx520	Exit Device	No Key		
7110Fx526	Exit Device	1E72		
7120x513	Exit Device	1E72		
7120x520	Exit Device	No Key		
7120x526	Exit Device	1E72		
7130K8Fx522	Exit Device	1E72		
7130F-05x551F	Exit Device	1E74xA14520	C208	
7130x05xAU558	Exit Device	No Key		
7130x05FxAU558F	Exit Device	No Key		
7130x556	Exit Device	1E74xA14520	C208	
7200x571	Exit Device	1E74xA14520	C208	
7205x506	Exit Device	1E72 O/S 1E74 I/S	C181	

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
<u>MORTISE CASE LOCKSETS</u>				
8000	Passage Latch	No Key		34HON
8000-1/2	Passage Latch	No Key		
8032	Knob Latch	No Key		
8032-1/2	Knob Latch	No Key		
8308	Deadlock	* 1E74xA1248	C128	34H_S
8308A	Deadlock	1E74xA15981	C211	34H_S
8308-1/4	Deadlock	* 1E74xA1248 (2 Req.)	C128	34H_T
8308-1/4A	Deadlock	1E74xA15981 (2 Req.)	C211	34H_T
8308-1/2	Deadlock RAB	* 1E74xA1248	C128	
8308-3/4	Deadlock	* 1E74xA1248 (2 Req.)	C128	
8309	Deadlock	* 1E74xA1248	C128	34H_P
8309A	Deadlock	1E74xA15981	C211	34H_P
8309ST	Deadlock	* 1E74xA1248	C128	
8309-1/2	Deadlock RAB	1E74xA1248	C128	
8426-1/4	Entrance Handle	* 1E74xA1248 (2 Req.)	C128	
8426-3/4	Entrance Handle	* 1E74xA1248 (2 Req.)	C128	
8428	Entrance Handle	* 1E74xA1248	C128	
8428-1/2	Entrance Handle RAB	* 1E74xA1248	C128	
8432-1/4	Entrance Handle	* 1E74xA1248 (2 Req.)	C128	
8432-3/4	Entrance Handle RAB	* 1E74xA1248 (2 Req.)	C128	
8472-1/4	Entrance Handle	* 1E74xA1248 (2 Req.)	C128	
8472-3/4	Entrance Handle RAB	* 1E74xA1248 (2 Req.)	C128	
8482	Entrance Handle	*1E74xA1248	C128	
8482-1/2	Entrance Handle RAB	* 1E74xA1248	C128	
8525	Communicating	No Key		

*Yale Series Locksets 4000 & 8000 made from 1975 thru 1981 will require a 1E74xA1248 Adaptation. Yale Mortise Locksets prior to 1975 should be adapted with 1E74xA1247.

YALE

NUMBER	ARTICLE	ADAPT	CAME ORDER CODE NO.	EQUIV.
8525-1/2	Communicating RAB	No Key		
8526	Communicating	* 1E74xA1248	C128	
8526-1/4	Communicating	* 1E74xA1248 (2 Req.)	C128	
8526-1/2	Communicating RAB	* 1E74xA1248	C128	
8526-3/4	Communicating RAB	* 1E74xA1248 (2 Req.)	C128	
8535	Bathroom	No Key		
8535-1/2	Bathroom RAB	No Key		
8601	Passage (F01)	No Key		34HON
8602	Privacy (F19)	No Cylinder		34HOL
8605	Storeroom (F07)	1E74xA14520	C208	34H_EW
8607	Entrance (F04)	1E74xA14520	C208	34H_E
8608	Classroom (F05)	1E74xA14520	C208	34H_J
8620	Hotel (F15)	1E7G4xA14520	C208	34H_H
8622	Dormitory (F13)	1E74xA14520	C208	34H_FW
8632	Hotel/Motel	1E7G4xA14520	C208	34H_H
8633	Exit Deadlatch	1E74xA14520	C208	
8633-2	All Purpose	1E74xA14520 (2 Req.)	C208	
8634	All Purpose	1E74xA14520	C208	
8634-2	All Purpose	1E74xA14520 Outside 1E74xA14521 Inside	C208 C209	
8642	Hotel Lock	No Adaptation Available		
8643	Hotel Lock	No Adaptation Available		
8644	Hotel & Motel Lock	No Adaptation Available		
8646	Classroom Lock	* 1E74xA1248	C128	34H_J
8646-1/4	Public Toilet	* 1E74xA1248 (2 Req.)	C128	34H_G

*Yale Series Locksets 4000 & 8000 made from 1975 thru 1981 will require a 1E74xA1248 Adaptation. Yale Mortise Locksets prior to 1975 should be adapted with 1E74xA1247.

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8646-1/2	Classroom RAB	1E74xA1248	C128	
8646-3/4	Entrance RAB	* 1E74xA1248 (2 Req.)	C128	
8648	Emergency	* 1E74xA1248	C128	34H_EW
8648-1/2	Emergency RAB	* 1E74xA1248	C128	
8656	Office Lock	* 1E74xA1248	C128	34H_E
8656-1/2	Office RAB	* 1E74xA1248	C128	
8660	Storeroom	* 1E74xA14520	C208	34H_B
8660A	Entrance or Storeroom	1E74xA15981	C211	
8660ARL	Hospital Patient Room	1E74xA15981	C211	
8660 RL	Hospital	* 1E74xA1248	C128	
8660-1/4 RL	Hospital	* 1E74xA1248 (2 Req.)	C128	
8660-1/4	Storeroom Lock	* 1E74xA1248 (2 Req.)	C128	34H_C
8660-1/4 A	Entrance or Storeroom	1E74xA15981 (2 Req.)	C211	34H_C
8660-1/4 ARL	Hospital Patient Room	1E74xA15981 (2 Req.)	C211	
8660-1/2	Storeroom RAB	* 1E74xA1248	C128	
8660-3/4	Storeroom RAB	* 1E74xA1248 (2 Req.)	C128	
8661	Storeroom	* 1E74xA1248	C128	
8661A	Storeroom	1E74xA15981	C211	
8661RL	Hospital	* 1E74xA1248	C128	
8661-1/4 ARL	Hospital Patient Room	1E74xA15981	C211	
8661-1/2	Storeroom RAB	* 1E74xA1248	C128	
8662	Dormitory	* 1E74xA1248	C128	
8667	Apartment (F12)	1E74xA14520	C208	
8701	Passage (F01)	No Key		34HON

*Yale Series Locksets 4000 & 8000 made from 1975 thru 1981 will require a 1E74xA1248 Adaptation. Yale Mortise Locksets prior to 1975 should be adapted with 1E74xA1247.

YALE

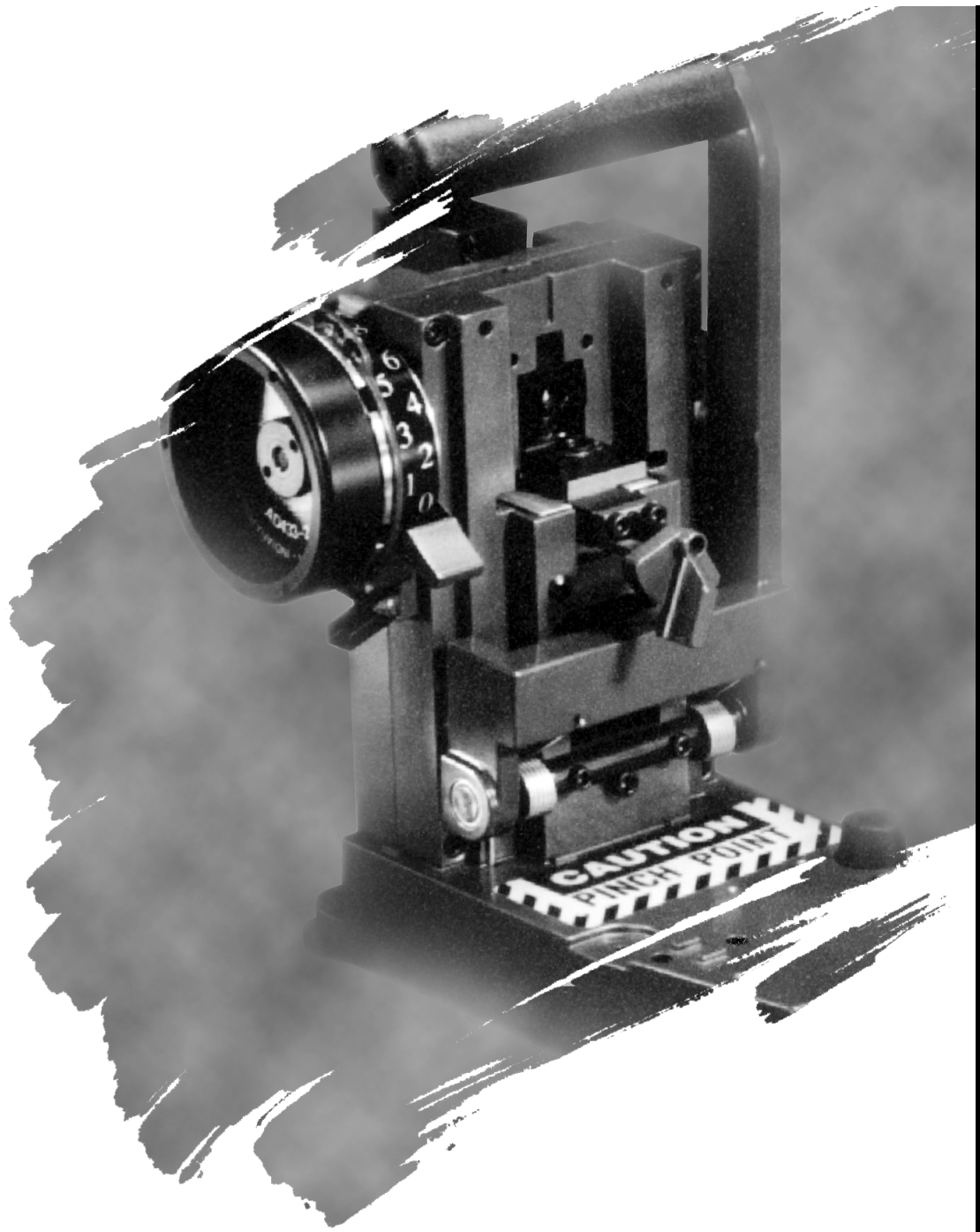
NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8702	Privacy (F19)	No Cylinder		
8705	Storeroom (F07)	1E74xA14520	C208	34H_EW
8707	Entrance (F04)	1E74xA14520	C208	34H_E
8708	Classroom (F05)	1E74xA14520	C208	34H_J
8713ST	Classroom DL	1E74xA14520	C208	
8713ST-2	Classroom DL	1E74xA14520 (2 Req.)	C208	
8714	Deadlock (F18)	1E74xA14520	C208	34H_S
8714-2	Deadlock (F16)	1E74xA14520 (2 Req.)	C208	34H_T
8715	Deadlock (F17)	1E74xA14520	C208	34H_P
8717-2	Apartment (F09)	1E74xA14520 Outside 1E74xA14521 Inside	C208 C209	34H_G
8720	Hotel (Use Emergency Key)	1E7G4xA14520	C208	
8722	Dormitory (F13)	1E74xA14520	C208	
8727	Hotel/Motel	1E7G4xA14520	C208	
8728	Exit Latch	No Key		
8730-2	Asylum	1E74xA14520 (2 Req.)	C208	
8732	Hotel/Motel	1E7G4xA14520	C208	
8737	Office	* 1E74xA1248	C128	
8737-1/4	Entrance	* 1E74xA1248 (2 Req.)	C128	34H_G
8737-3/4	Entrance RAB	* 1E74xA1248 (2 Req.)	C128	
8738	Office Door	* 1E74xA1248	C128	
8738-1/2	Office RAB	* 1E74xA1248	C128	
8747	Entrance	1E74xA14520	C208	
8748	Mortise Lock	* 1E74xA1248	C128	
8750	Front Door	* 1E74xA1248	C128	34H_A

*Yale Series Locksets 4000 & 8000 made from 1975 thru 1981 will require a 1E74xA1248 Adaptation. Yale Mortise Locksets prior to 1975 should be adapted with 1E74xA1247.

YALE

NUMBER	ARTICLE	ADAPT	CAM ORDER CODE NO.	EQUIV.
8750-1/2	Front Door RAB	* 1E74xA1248	C128	
8751	Entrance Lock	* 1E74xA1248	C128	
8752	Entrance Lock	1E74xA15981	C211	
8753	Entrance Lock	1E74xA15981	C211	
8754	Mortise Lock	1E74xA15981	C211	
8760	Storeroom (F21)	1E74xA14520	C208	
8760-2	Storeroom (F14)	1E74xA14520 (2 Req.)	C208	
8764	Dorm or Exit (F12)	1E74xA14520	C208	
8767	Dorm or Exit (F12)	1E74xA14520	C208	
8790	Vestibule or Office	* 1E74xA1248	C128	
8790-1/2	Vestibule RAB	* 1E74xA1248	C128	
8791	Emergency Lock	1E74xA1248	C208	
8791-1/2	Emergency RAB	1E74xA1248	C128	
8791 FL	Electric Mortise	1E74xA14520	C208	
8792	Classroom Lock	* 1E74xA1248	C128	34H_J
8792-1/4	Public Toilet Lock	* 1E74xA1248 (2 Req.)	C128	34H_G
8792-1/2	Classroom RAB	* 1E74xA1248	C128	
8792-3/4	Entrance	1E74xA1248 (2 Req.)	C128	
8794-2	Electric Lock	1E74xA14520 (2 Req.)	C208	

*Yale Series Locksets 4000 & 8000 made from 1975 thru 1981 will require a 1E74xA1248 Adaptation. Yale Mortise Locksets prior to 1975 should be adapted with 1E74xA1247.



KEY COMBINATOR

SERVICE MANUAL



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1

GETTING STARTED

INTRODUCTION

The *Key Combinator Service Manual* contains essential information to help you maintain your BEST key combinator.

PRODUCT FAMILY DIAGRAM

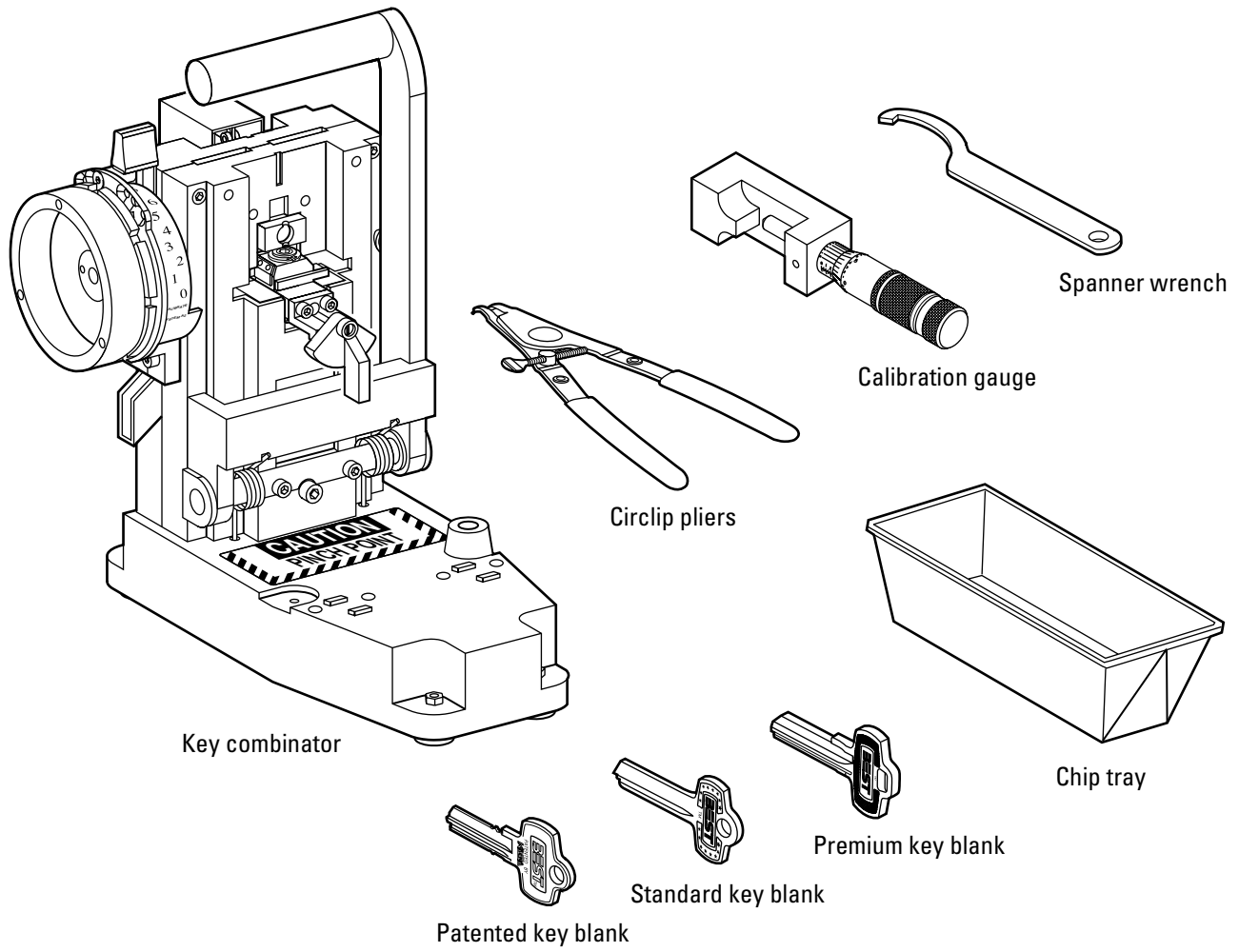


Figure 1.1 Key combinator product family

DOCUMENTATION PACKAGE

The following documentation is available to help you with the installation, operation, and maintenance of your BEST key combinator along with associated service equipment. These documents also can be ordered separately from the product.

Document Title	Doc. No.
<i>Core and Key Service Manual</i>	T35527
<i>Operating Instructions for AD432 Key Combinator</i>	T35531
<i>Operating Instructions for AD433 Key Combinator</i>	T35529
<i>Operating Instructions for AD502 Micrometer Key Gauge</i>	T35530

TECHNICAL SUPPORT

Support services When you have a problem with a BEST key combinator, your first resource for help is the *Key Combinator Service Manual*. If you cannot find a satisfactory answer, contact your local BEST Representative.

Telephone and web technical support A factory-trained Certified Product Specialist (CPS) is available in your area whenever you need help. Before you call, however, please make sure that the product is in your immediate vicinity, and that you are prepared to give the following information:

- what happened and what you were doing when the problem arose
- what you have done so far to correct the problem.

Best Access Systems Representatives provide telephone technical support for key combinators and related products. You may locate the representative nearest you by calling (317) 849-2250 Monday through Friday, between 7:00 a.m. and 4:00 p.m. eastern standard time; or visit the web page, www.BestAccess.com.

Training seminars Best Access Systems regularly holds factory training seminars for owners of BEST masterkey systems. Your BEST Representative may hold regular seminars as well. Contact your representative for information on these seminar opportunities.

2

PARTS

The following pages contain descriptions and figures for the key combinator.

EXPLODED DIAGRAM OF A KEY COMBINATOR—LEFT HAND

Item†	Part No.	Qty.	Description
1	A70595	1	Operating lever assembly
2	C70580	1	Premium key carriage
not shown	C70610	1	Key carriage for BEST/Peaks—7-pin
not shown	C70601	1	Key carriage for BEST/Peaks—6-pin
3	B70341	1	Punch and die assembly
not shown	B70625	1	Punch and die assembly for BEST/Peaks
4	A70325	1	Depth selector assembly—A2
not shown	A70326	1	Depth selector assembly—A3
not shown	A70327	1	Depth selector assembly—A4

† See page 3-7 for instructions on converting between the A2, A3, and A4 Systems.

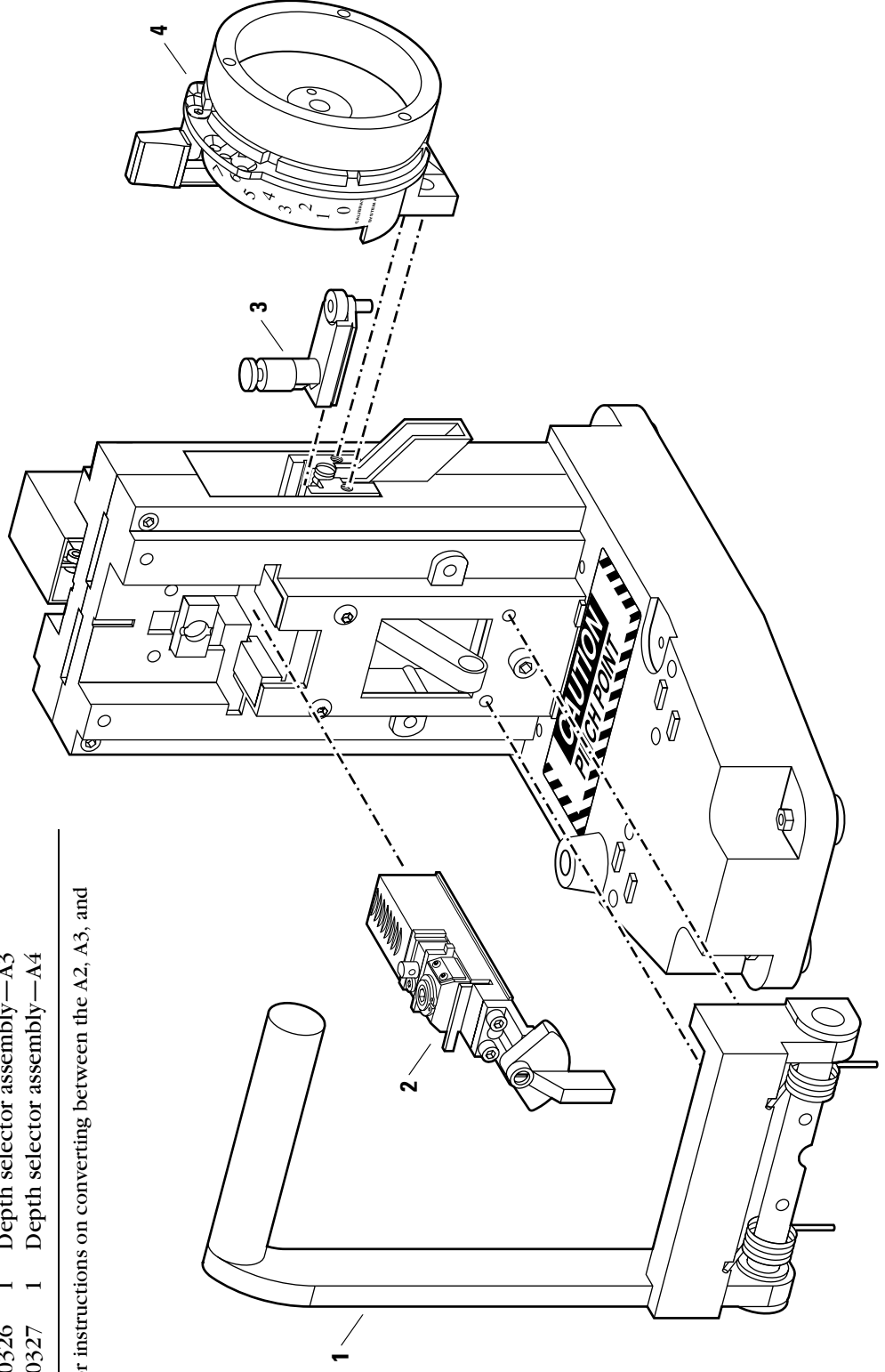


Figure 2.1 LH key combinator

EXPLODED DIAGRAM OF A KEY COMBINATOR—RIGHT HAND

Item†	Part No.	Qty.	Description
1	C70322	1	Depth selector assembly—A2
not shown	C70323	1	Depth selector assembly—A3
not shown	C70324	1	Depth selector assembly—A4
2	B70341	1	Punch and die assembly
3	C70578	1	Standard key carriage
not shown	C70579	1	Premium key carriage
4	A70591	1	Operating lever assembly

† See page 3-7 for instructions on converting between the A2, A3, and A4 Systems.

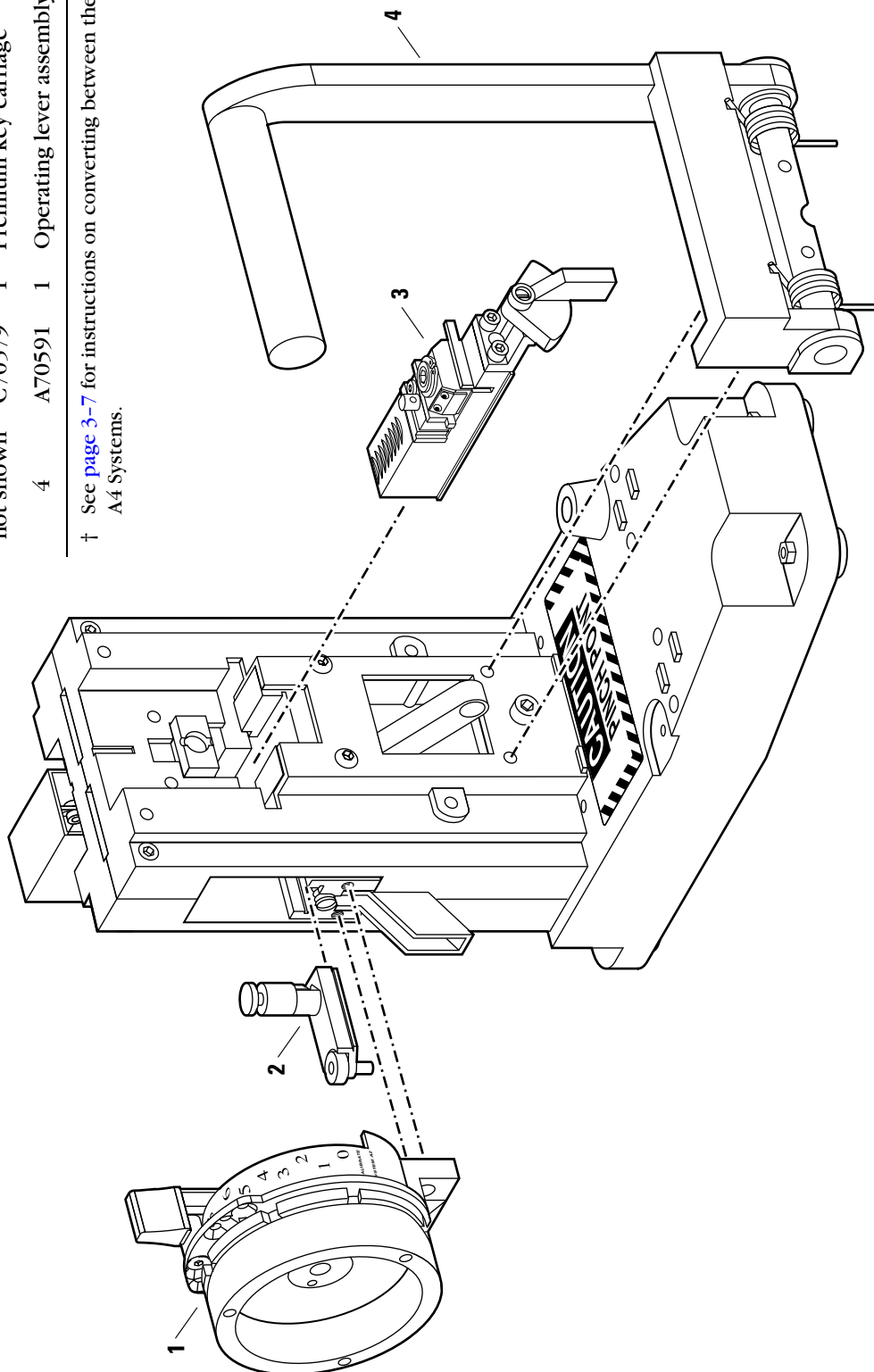


Figure 2.2 RH key combinator

KEY OPTIONS

The following key options are offered by BEST. Refer to the *Core and Key Service Manual (T35527)* for ordering information.

Standard key Standard keys are cut by the AD433 key combinator.

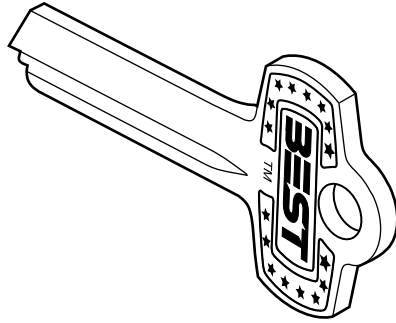


Figure 2.3 Standard key blank

Premium key Premium keys are cut by the AD433P key combinator.

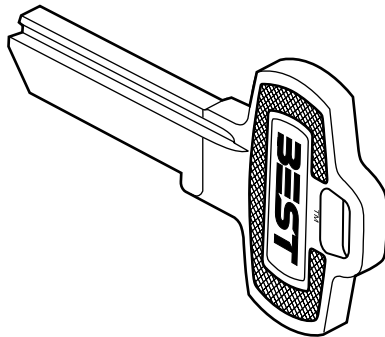


Figure 2.4 Premium key blank

Patented key PEAKS patented keys are cut by the AD437 and AD436 key combinator.

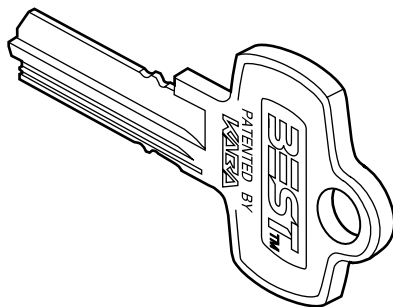


Figure 2.5 Patented key blank

KEYWAY OPTIONS

The following section lists BEST keyways and the combinators that must be used to cut the keys.

Note: BEST key combinators are available only to registered BEST customers who currently have the A2, A3, or A4 masterkey system. For more information, contact your local BEST Representative.

Standard keyways

All standard keyways require a RH configuration for the key combinator.

Premium keyways

Some premium keyways require a LH configuration for the key combinator and some require a RH configuration. See the table below.

Configuration	Keyway
RH	WA
	WB
	WC
	WG
	WH
	WK
	WY
LH	WD
	WE

Patented keyways

All patented keyways require a LH configuration. The B1 and B2 keyways are the only Peaks keyways available to use with the AD437 and AD436 key combinators.

3

SERVICE AND MAINTENANCE

This chapter contains instructions for servicing and maintaining key combinator components, and a section for troubleshooting common problems.

To	See page
Understand combinator handing	3-2
Look at maintenance tools	3-2
Cut keys	3-4
Convert your combinator between A2, A3, and A4 systems	3-7
Replace the punch and die	3-9
Replace the key carriage	3-11
Replace the operating lever	3-13
Calibrate the key combinator	3-16
Adjust the key clamp spring	3-25
Create a preventative maintenance plan	3-27
Clean the punch and die	3-27
Clean the key carriage	3-27
Lubricate parts	3-28
Troubleshoot common problems	3-31

COMBINATOR HANDING

Left-handed vs. right-handed combinators

The terms “left-handed” and “right-handed” describe the handing of a combinator, but this is not a convenience feature for left-handed or right-handed individuals. The handing on a combinator is distinguished by the position of its operating lever. The operating lever position determines which types of keys the combinator can cut.

Left-handed key combinator

When facing the combinator, the operating handle is attached to the left side of the left-handed or LH key combinator. A LH key combinator cuts patented or left-handed premium keys. It does not cut standard keys.

Right-handed key combinator

When facing the combinator, the operating handle is attached to the right side of the right-handed or RH key combinator. A RH key combinator cuts premium or right-handed standard keys. It does not cut patented keys.

To determine which keys are appropriate for your security needs, contact your BEST Representative. See [page 2-5](#) for more information on key combinators and their keyway types.

MAINTENANCE TOOLS

BEST tools

The following tools are provided by BEST for servicing your key combinator.

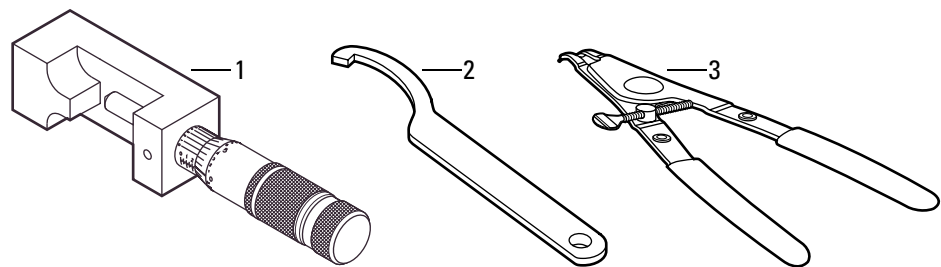


Figure 3.1 BEST maintenance tools

Maintenance tools parts list

Item	Nomenclature	Part No.	Qty.	Description
1	AD502	B70564	1	Key calibration gauge—standard
not shown	AD502D	B70574	1	Key calibration gauge—digital
2		A70558	1	Spanner wrench
3		HT03009	1	Circlip pliers

Additional tools The following Allen wrenches are used for servicing your key combinator:

- 3/32"
- 7/64"
- 1/8"
- 9/64"
- 5/32"
- 3/16".

CUTTING KEYS

BEST recommends that you secure your key combinator to a flat surface before you begin cutting keys. You can install bolts either through each of the rubber feet or through two holes on the base of the combinator. Contact BEST for further instructions.

Loading the key **To load a BEST standard key blank:**

1. Gripping the key clamp knob, pull the key carriage completely forward.
2. Turn the key clamp knob counterclockwise to open the key clamp spring (for left-handed combiners, turn the key clamp knob clockwise). See [Figure 3.2](#).

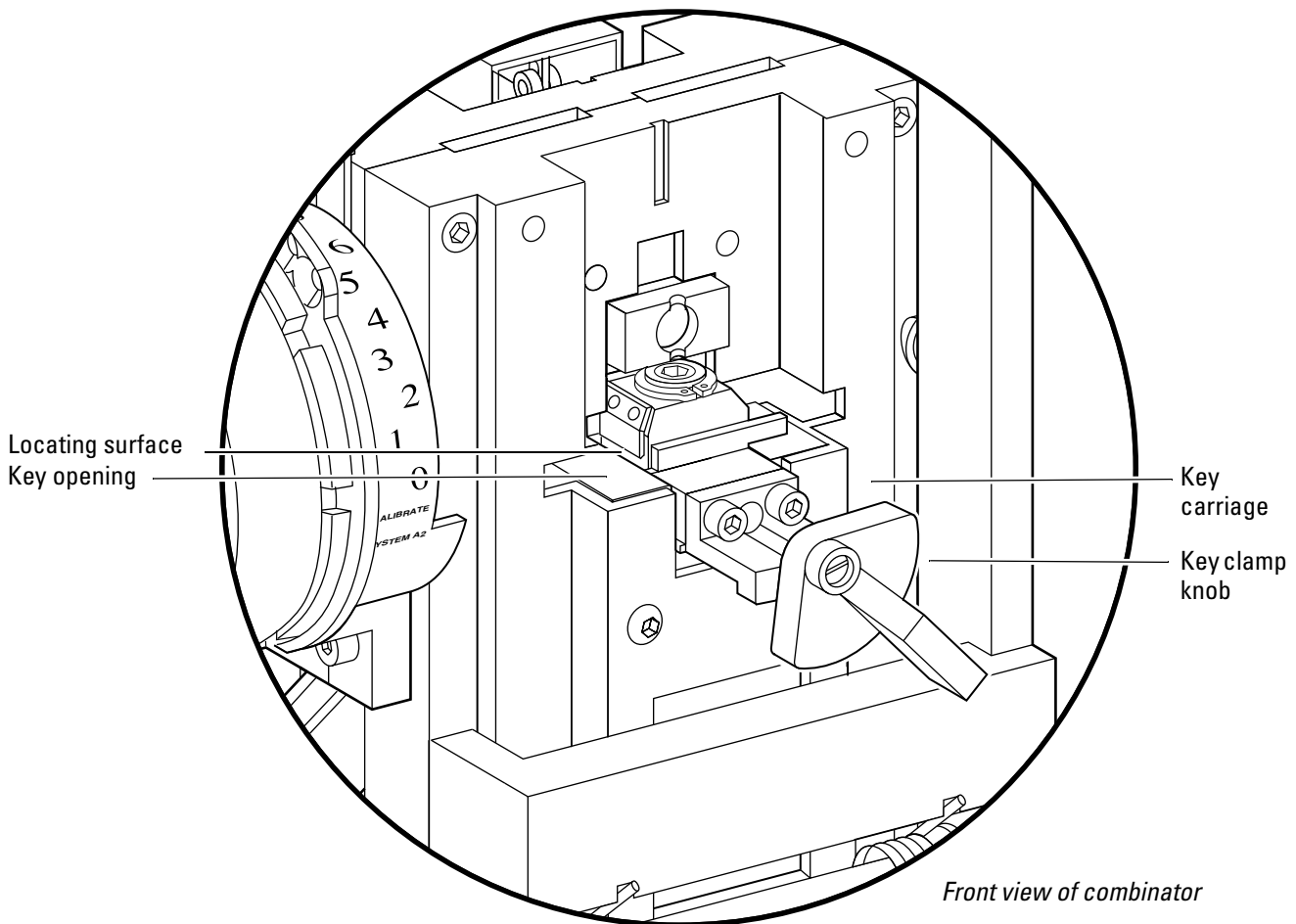


Figure 3.2 Loading a key

3. With the curved edge of the key blank against the locating surface, slide the key blank into the key opening. Make sure that the knife edge of the key clamp spring fits into the groove of the key. See [Figure 3.3](#).

4. Turn the key clamp knob clockwise, locking the key blank into the key carriage (for left-handed combiners, turn the key clamp knob counterclockwise).

The key clamp knob hangs loosely in the six o'clock position, as shown in [Figure 3.3](#)

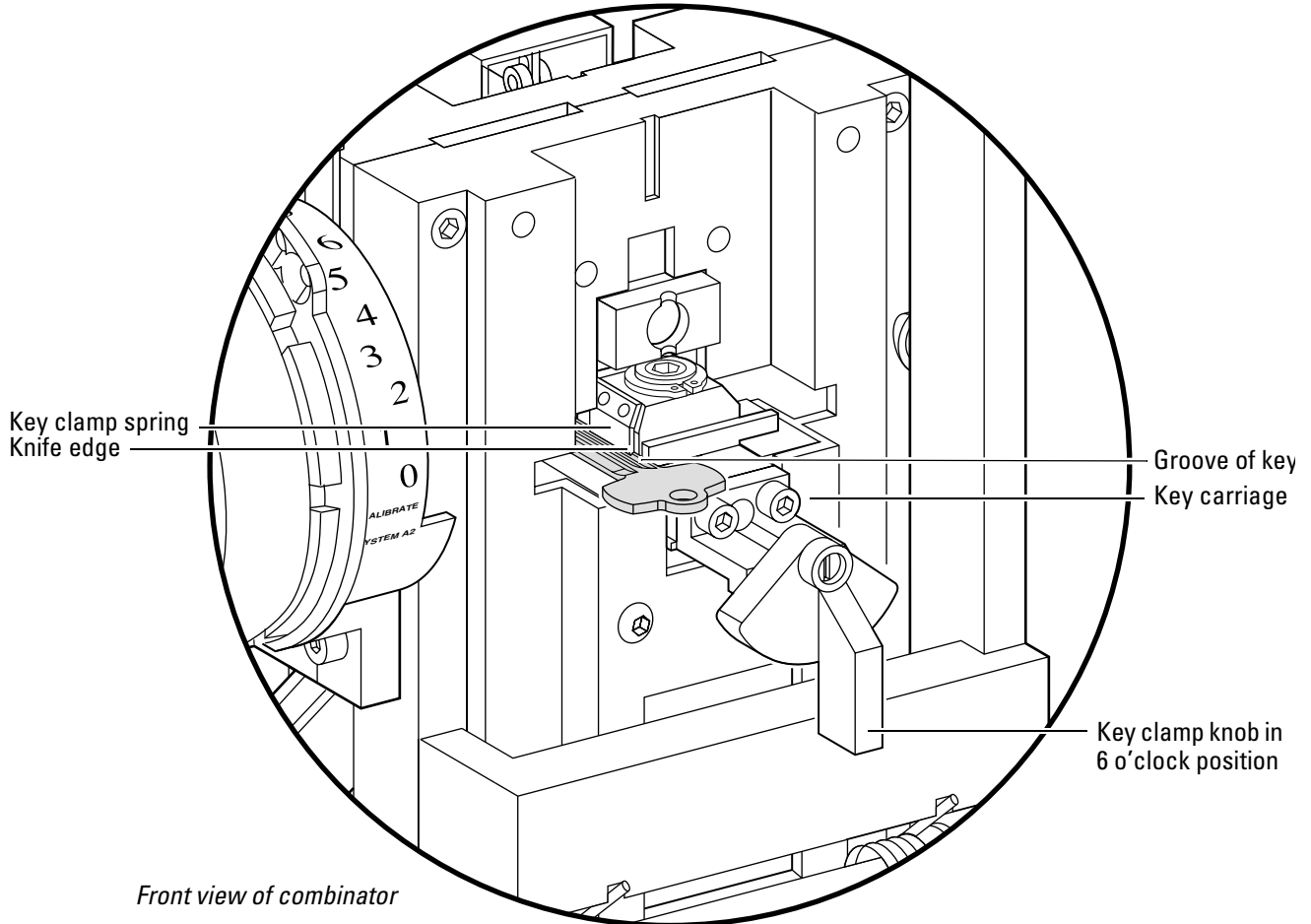


Figure 3.3 Key in the key clamp spring

Cutting the key To cut a BEST standard key blank:

1. Before you begin to cut keys, make sure that the key carriage is still completely forward.
2. Move the depth selector lever to the “0” mark for the setup stroke.
3. Pull the operating lever down firmly until it strikes the rubber bumper; then, let the operating lever move back up.

Failure to strike the rubber bumper may cause the key carriage to move to the next space too soon.



The combinator automatically moves the key carriage and key blank into place for the first keycut.



Do not touch the key carriage during key cutting. The combinator precisely advances the key carriage with each stroke of the operating lever.

4. Move the depth selector dial to the keycut depth number that you need for your key. See [Figure 3.4](#).



Be sure to let go of the depth selector before making a cut. Any pressure placed on the depth selector dial can cause the key to be cut incorrectly.

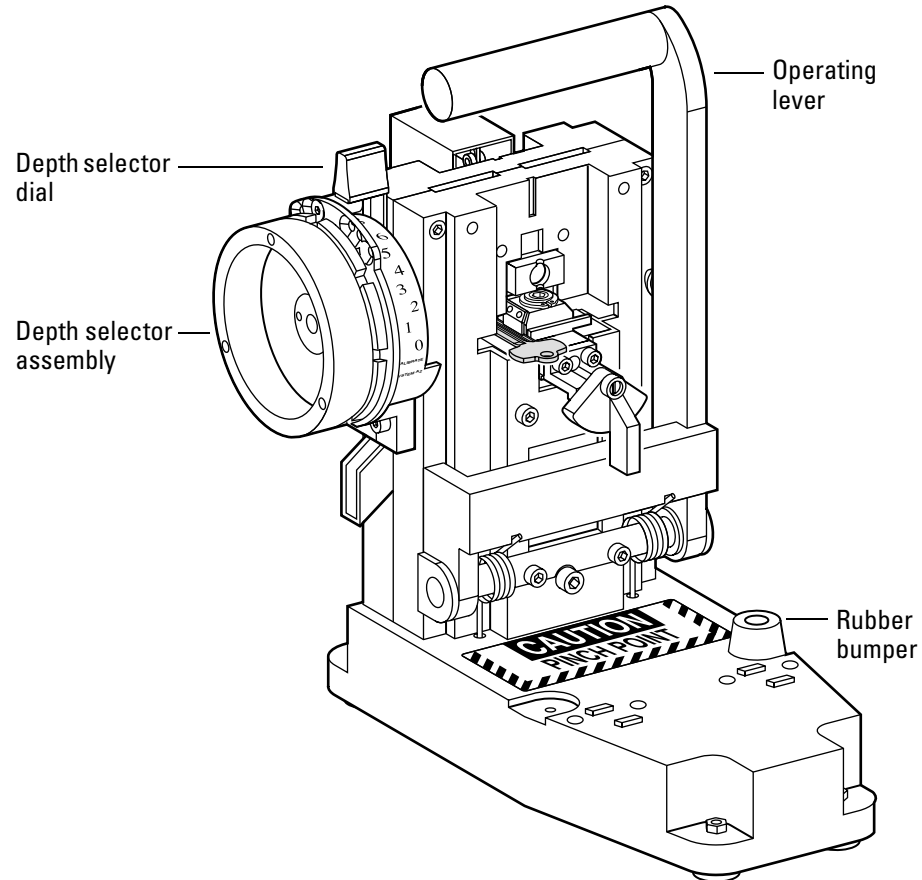


Figure 3.4 Cutting a key

5. Pull the operating lever down firmly until it strikes the rubber bumper; then, let the operating lever move back up.
The combinator makes the first cut and automatically moves the key carriage and key blank into place for the next cut.
6. Repeat Steps 3 and 4 until you have made all of the cuts on the key.

Unloading the key

To unload a BEST standard key:

1. Gripping the key clamp knob, pull the key carriage completely forward.
2. Turn the key clamp knob counterclockwise to open the key clamp spring (for left-handed combiners, turn the key clamp knob clockwise).
3. Slide the key out.

CONVERTING THE COMBINATOR BETWEEN THE A2, A3, AND A4 SYSTEMS

The BEST AD433 key combinator gives you the ability to change from one masterkey system to another by replacing the depth selector. For example, you may want to change from an A2 System to an A4 System.

Replacing the depth selector

To remove the depth selector:

1. Using a 5/32" Allen wrench, unscrew the two socket head machine screws that secure the depth selector to the side of the combinator. See [Figure 3.5](#).
2. Remove the depth selector. Save the screws.

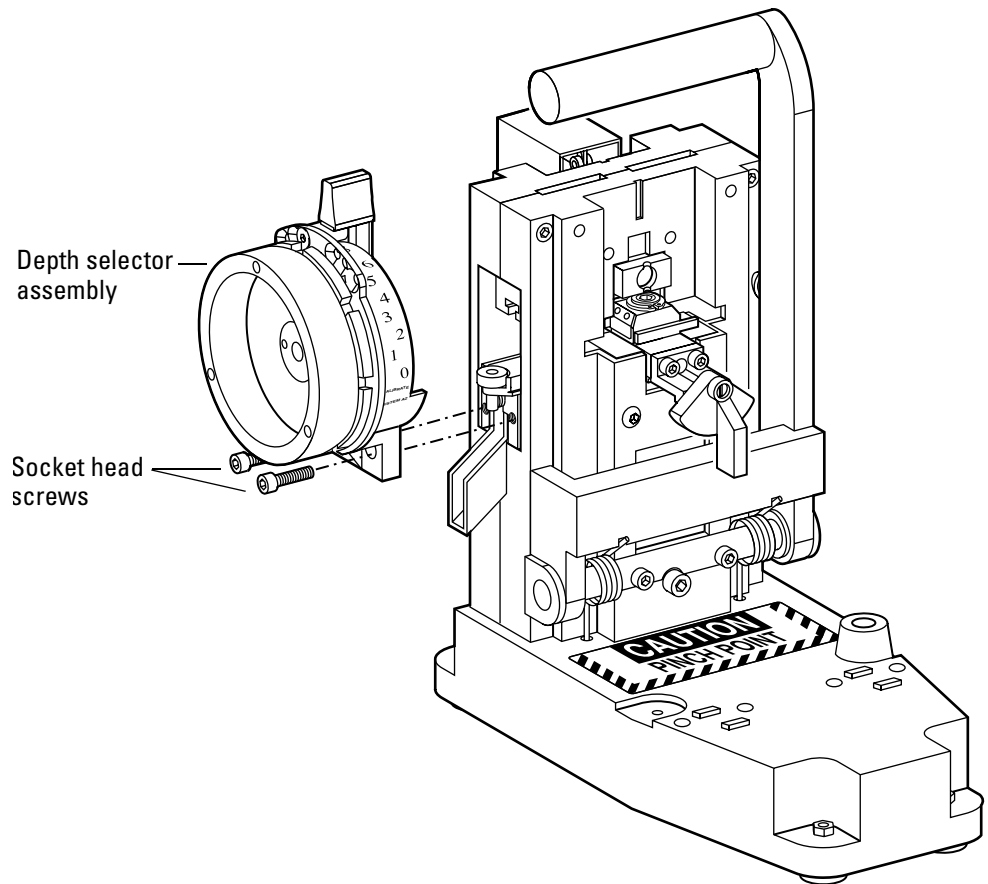


Figure 3.5 Removing the depth selector

To reinstall the depth selector:

1. Turn the dial on the depth selector assembly to the “0” mark.
2. Align the two holes on the bottom of the depth selector assembly with the threaded holes on the combinator. See [Figure 3.6](#).

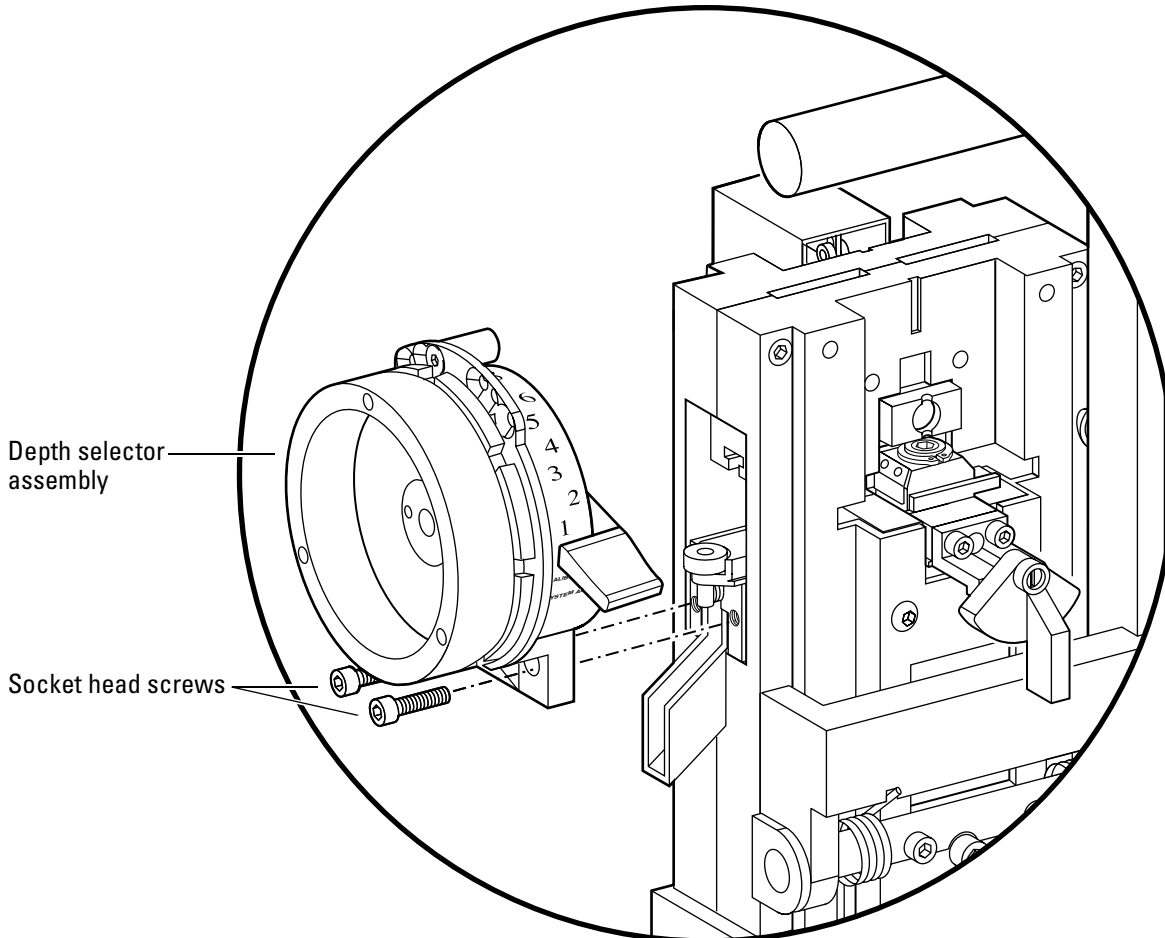


Figure 3.6 Reinstalling the depth selector

3. Insert two 5/32" socket head machine screws through the holes and tighten them with a 5/32" Allen wrench.
4. Calibrate a key to make sure the new depth selector assembly is properly installed ([page 3-16](#)).

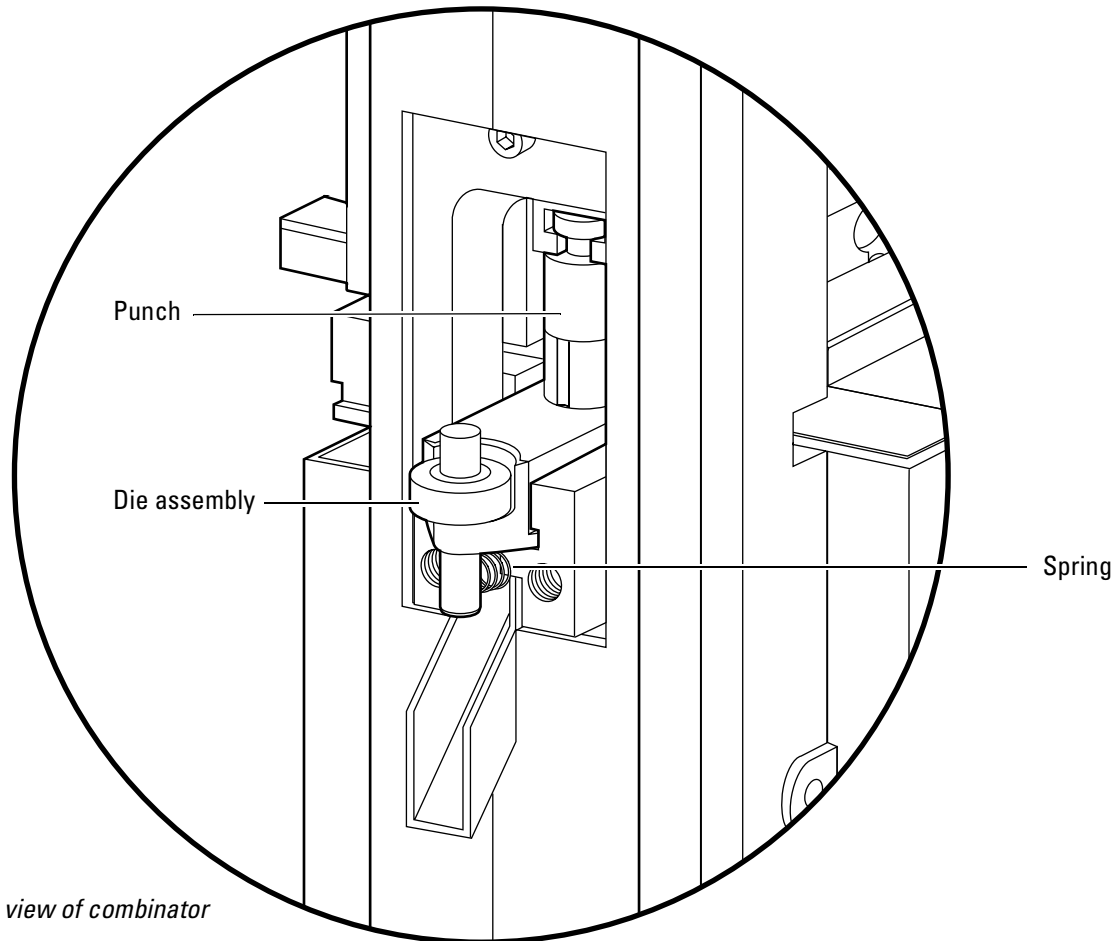
REPLACING PARTS

Replacing the punch and die

To remove the punch and die:

1. Make sure that the operating lever is in the upright position.
2. Remove the depth selector ([page 3-7](#)). Save all of the parts.
3. Remove the punch and die assembly. See [Figure 3.7](#).

Note: The spring that sits below the punch and die assembly can pop out during removal.



Side view of combinator

Figure 3.7 Punch and die assembly

To reinstall the punch and die:

1. Make sure that the spring is resting in the space between the guide rails.
2. Assemble the punch so that it sits in the die as shown in [Figure 3.8](#).
3. Lightly lubricate both sides of the die ([page 3-30](#)).
4. While making sure that the punch does not extend below the bottom of the die, insert the die into the slots of the guide rail.
5. Place the top of the punch into the T-slot of the punch guide rail. See [Figure 3.8](#).
6. Reinstall the depth selector ([page 3-8](#)).
7. Calibrate a key to make sure that the new punch and die assembly is installed properly ([page 3-16](#)).

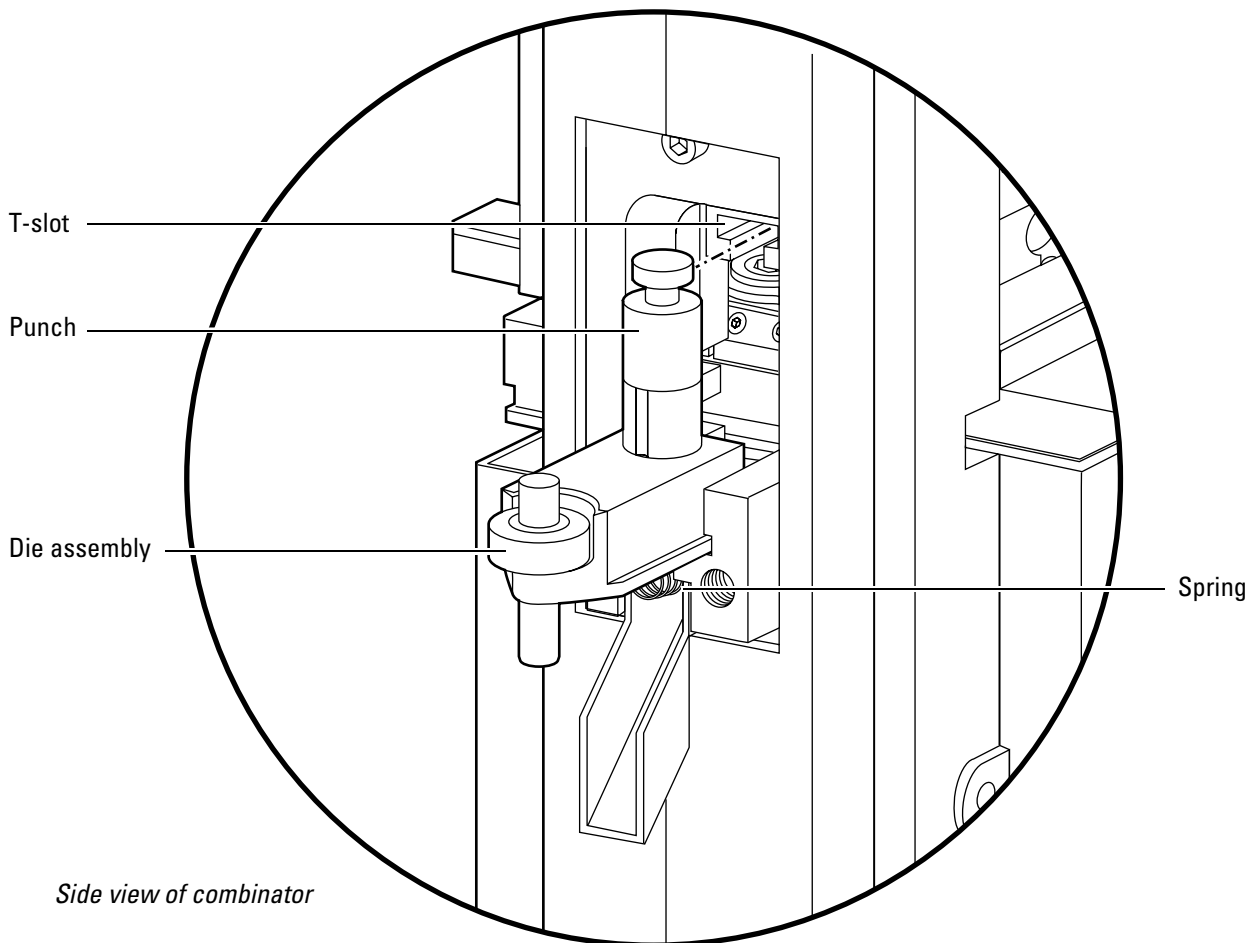


Figure 3.8 Inserting the punch into the T-slot

Replacing the key carriage

To perform any service to the key carriage, the operating lever must be in the upright position.

To remove the key carriage:

1. Using a 1/8" Allen wrench, unscrew the two fastener screws at the rear of the key carriage. Remove the rear stop plate from the back of the key carriage, as shown in [Figure 3.9](#).
2. From the front of the combinator, grip the key clamp knob and pull the key carriage out of the combinator. See [Figure 3.10](#).

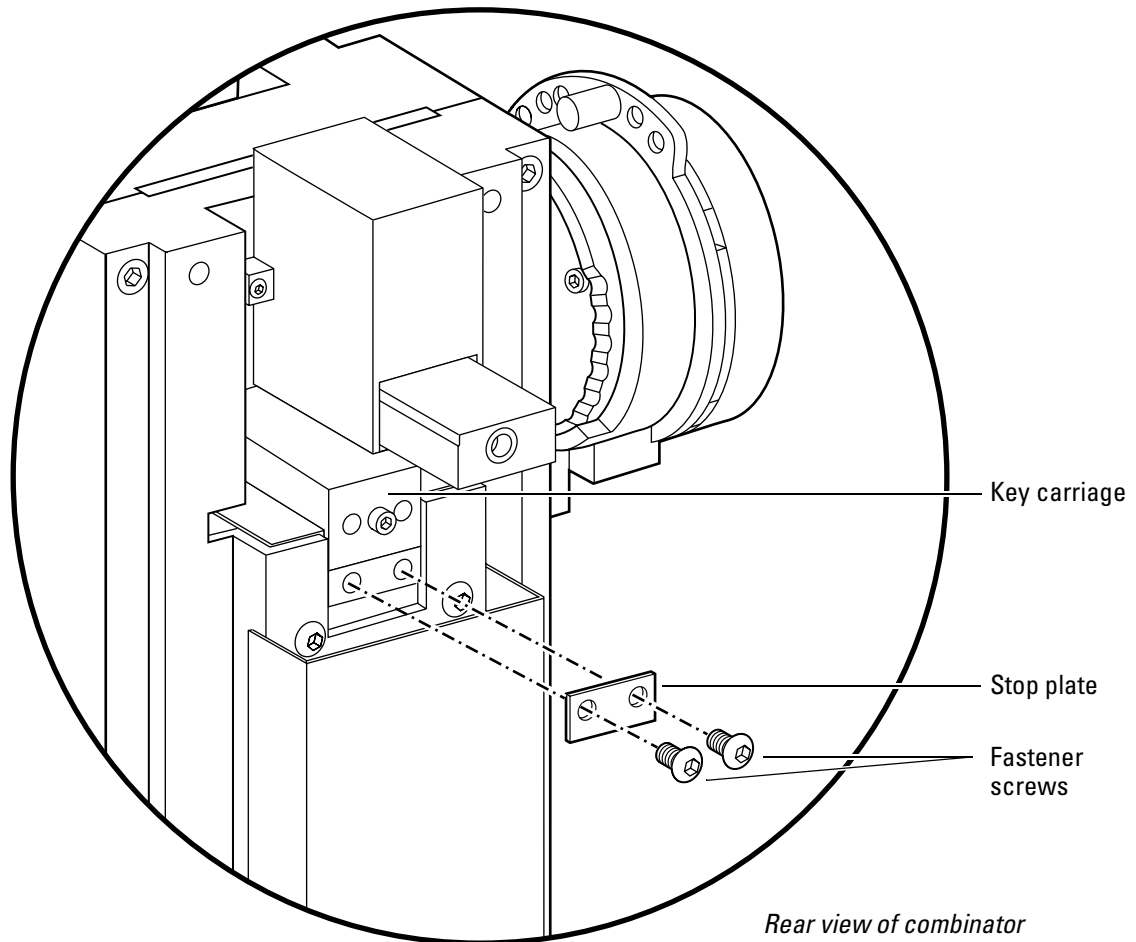


Figure 3.9 Removing the key carriage

To reinstall the key carriage:

1. Wipe off any excess grease and oil from the key carriage. Wipe off any chips that have built up inside the combinator or on the key stop area.
2. Lightly lubricate both the right and left sides of the key carriage (page 3-28).

Note: Use only a #10 non-detergent motor oil.

3. Carefully slide the key carriage into the slots on each side of the top plate assembly. See Figure 3.10.

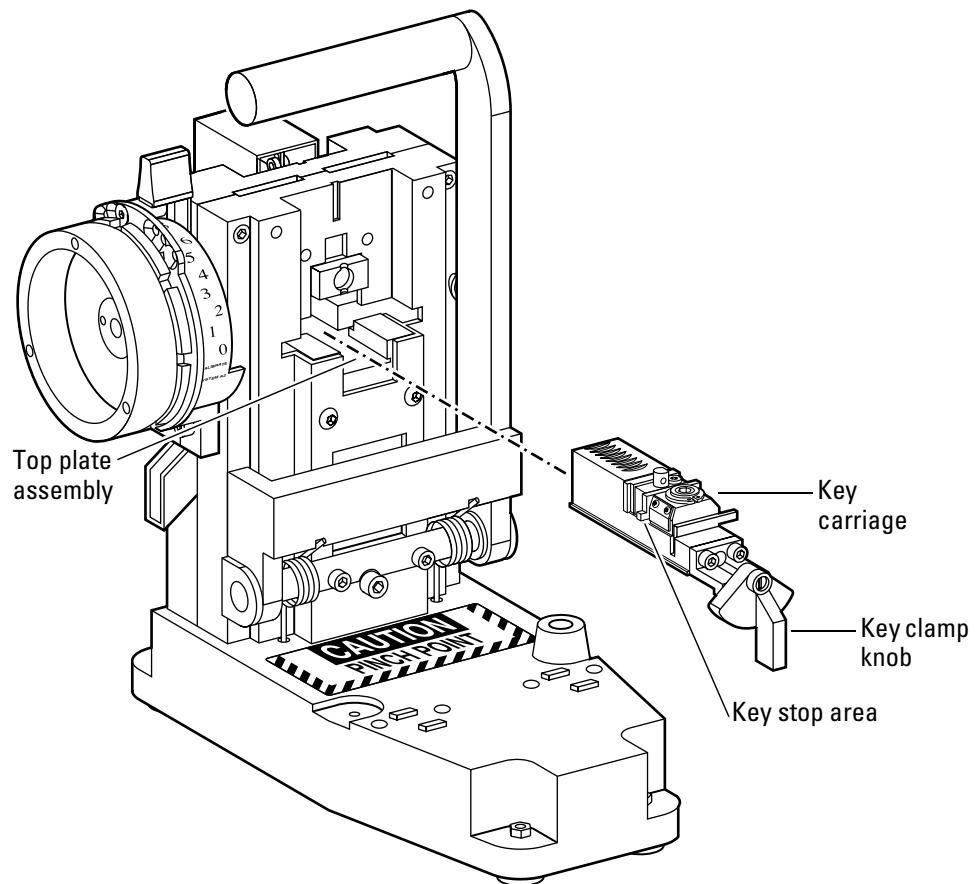


Figure 3.10 Reinstalling the key carriage

4. Locate the spring-loaded plungers along the side rail of the top plate. See Figure 3.11.
5. From the rear of the combinator, press in each spring-loaded plunger with a screwdriver so that the key carriage can slide past. See Figure 3.11.



Caution

Be careful not to damage the spring-loaded plungers when pressing against them with a screwdriver.

6. With the key carriage in place, install the rear stop plate with the two fastener screws onto the back of the key carriage. Secure the screws using a 1/8" Allen wrench.
7. Calibrate a key to make sure the new key carriage is properly installed ([page 3-16](#)).

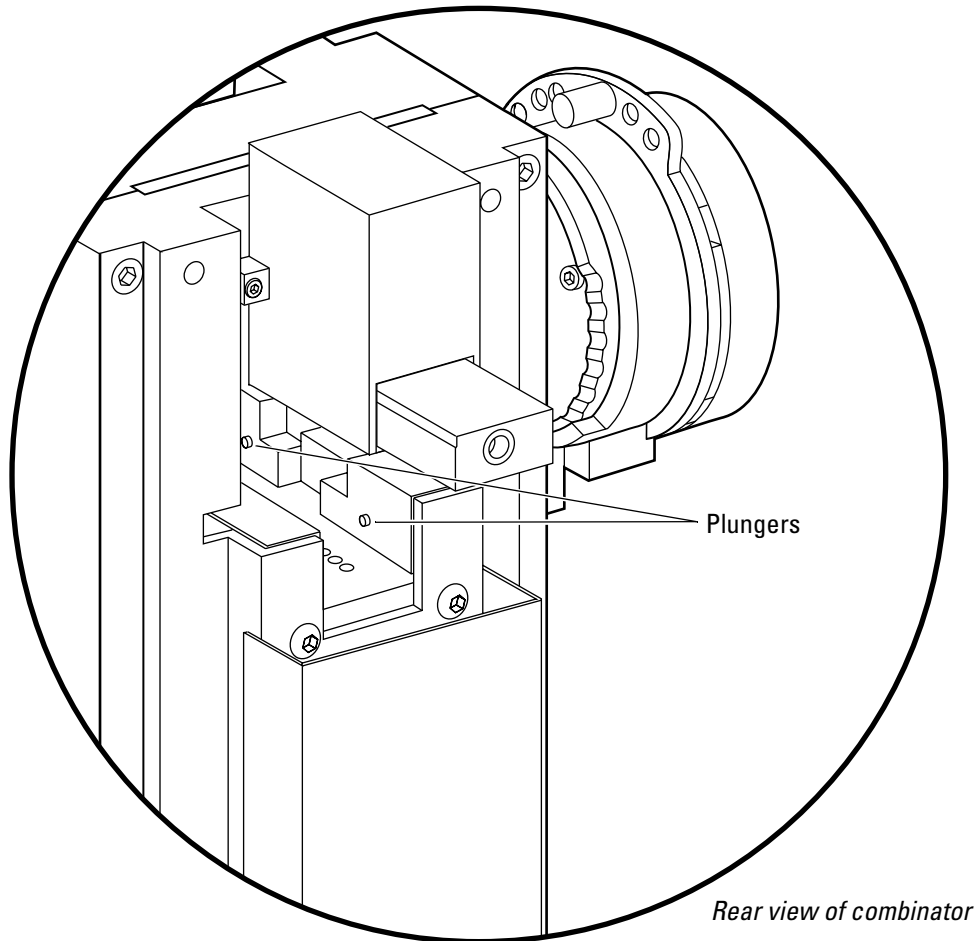


Figure 3.11 Depressing the key carriage plungers

Replacing the operating lever

To remove the operating lever:

1. Make sure that the key carriage is pushed completely into the key combinator housing.
2. Using a 5/32" Allen wrench, remove the two front screws on the operating lever frame. Save the screws.
3. Pull down the operating lever so that it rests against the rubber bumper on its own. See [Figure 3.12](#).

4. Pull the base of the operating lever assembly up and out of the key combinator housing.



Keep your fingers away from the springs when removing this assembly. The operating handle is spring-loaded, and springs will disengage and could scratch your fingers.

5. Using circlip pliers, insert the plier prongs into the holes of the retainer ring that is wrapped around the lever pin. You can remove the retainer ring on either side of the lever pin. See [Figure 3.12](#).



Be careful not to distort the shape of the retainer ring when removing it. Doing so can permanently damage the retainer ring, causing the operating lever to malfunction.

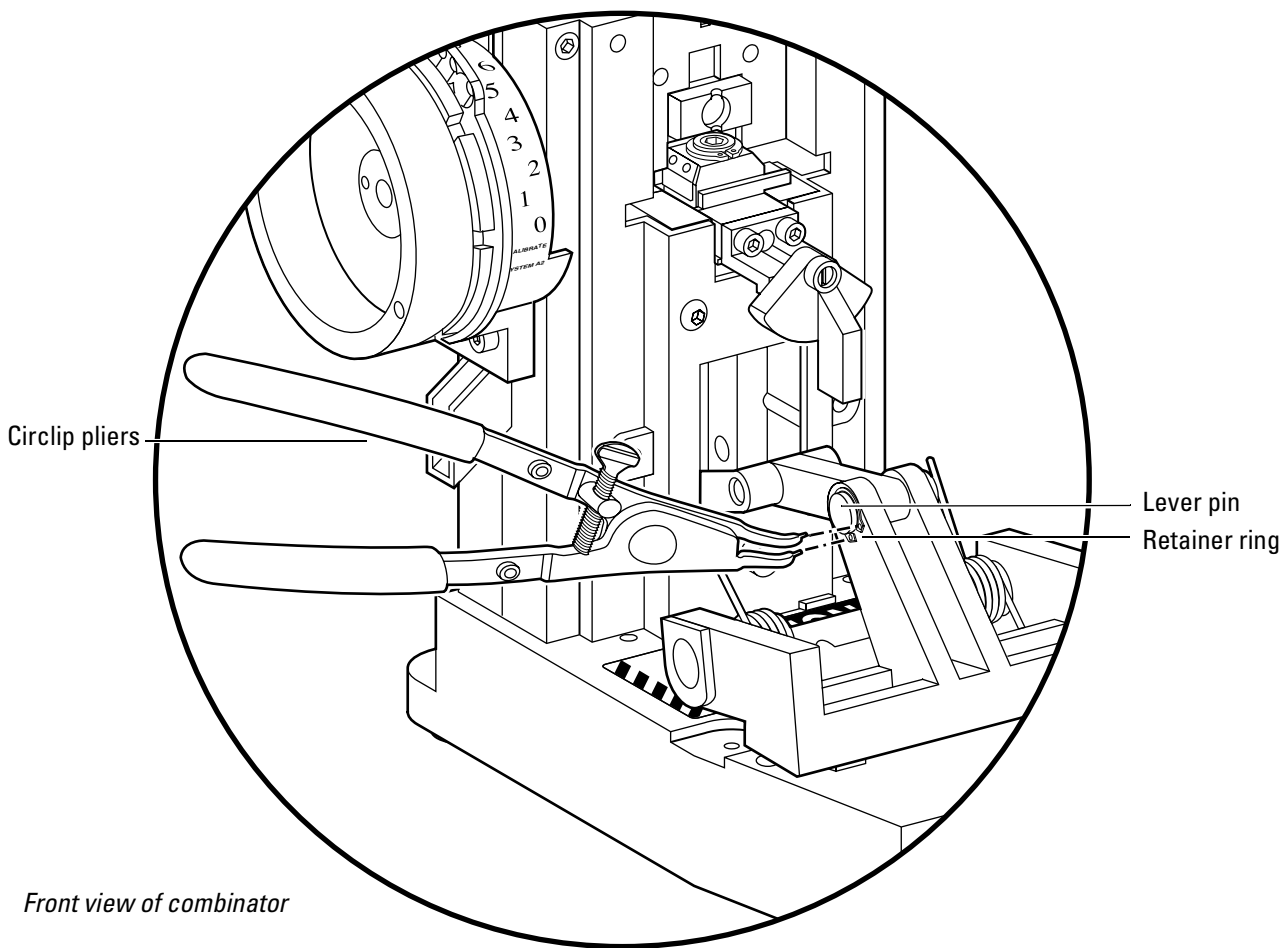
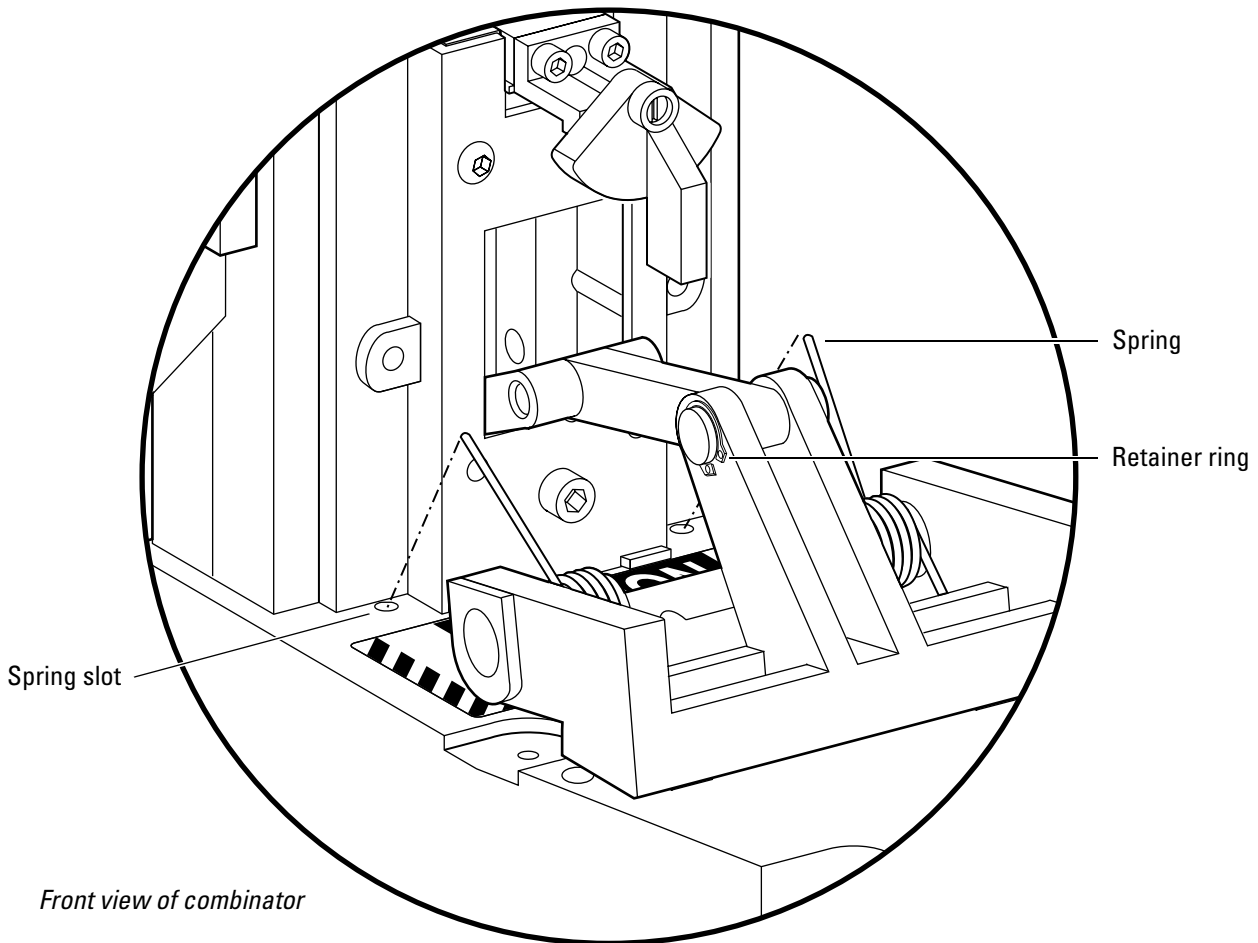


Figure 3.12 Removing the operating lever

6. Remove the retainer ring. Save the retainer ring.
7. Slide the lever pin out of the operating lever assembly. Save the lever pin.
8. Remove the operating lever.

To reinstall the operating lever:

1. With the operating handle resting on the key combinator base, align the holes in the operating lever with the holes on the lever branch and slide the lever pin into position. The lever pin may be difficult to insert in the holes. See [Figure 3.12](#).
2. Using the circlip pliers, place the retainer ring around the lever pin and secure the retainer ring in place. See [Figure 3.12](#).
3. Adjust the springs so the ends fit into the spring holes on the base of the combinator housing. See [Figure 3.13](#). Place the other ends of the springs into the spring slots on the operating lever frame.

**Figure 3.13** Reinstalling the operating lever

4. With the springs in place, push the operating lever assembly back into the key combinator housing so that the operating handle is upright and resting against the combinator frame.



When pushing the assembly back into the combinator housing, keep your fingers away from the springs so your fingers do not get pinched.

5. Using a 5/32" Allen wrench, install the two front screws and tighten until the operating handle is properly aligned.

CALIBRATING THE KEY COMBINATOR

Occasionally you will need to calibrate your combinator's cutting depth to make sure that keys are being cut properly.

Cutting a calibration key

To cut a calibration key:

1. Gripping the key clamp knob, pull the key carriage completely forward.
2. Turn the key clamp knob counterclockwise to open the key clamp spring (for left-handed combinator, turn the key clamp knob clockwise). See [Figure 3.2 \(page 3-4\)](#).
3. With the curved edge of the key blank against the locating surface, slide the key blank into the key opening. Make sure that the knife edge of the key clamp spring fits into the groove of the key. See [Figure 3.3 \(page 3-5\)](#).
4. Turn the key clamp knob clockwise, locking the key blank into the key carriage (for left-handed combinator, turn the key clamp knob counterclockwise).

The key clamp knob hangs loosely in the six o'clock position, as shown in [Figure 3.3 \(page 3-5\)](#).

5. Move the dial on the depth selector assembly to the “CALIBRATE” line, which is located below “0”, as shown in [Figure 3.14](#).

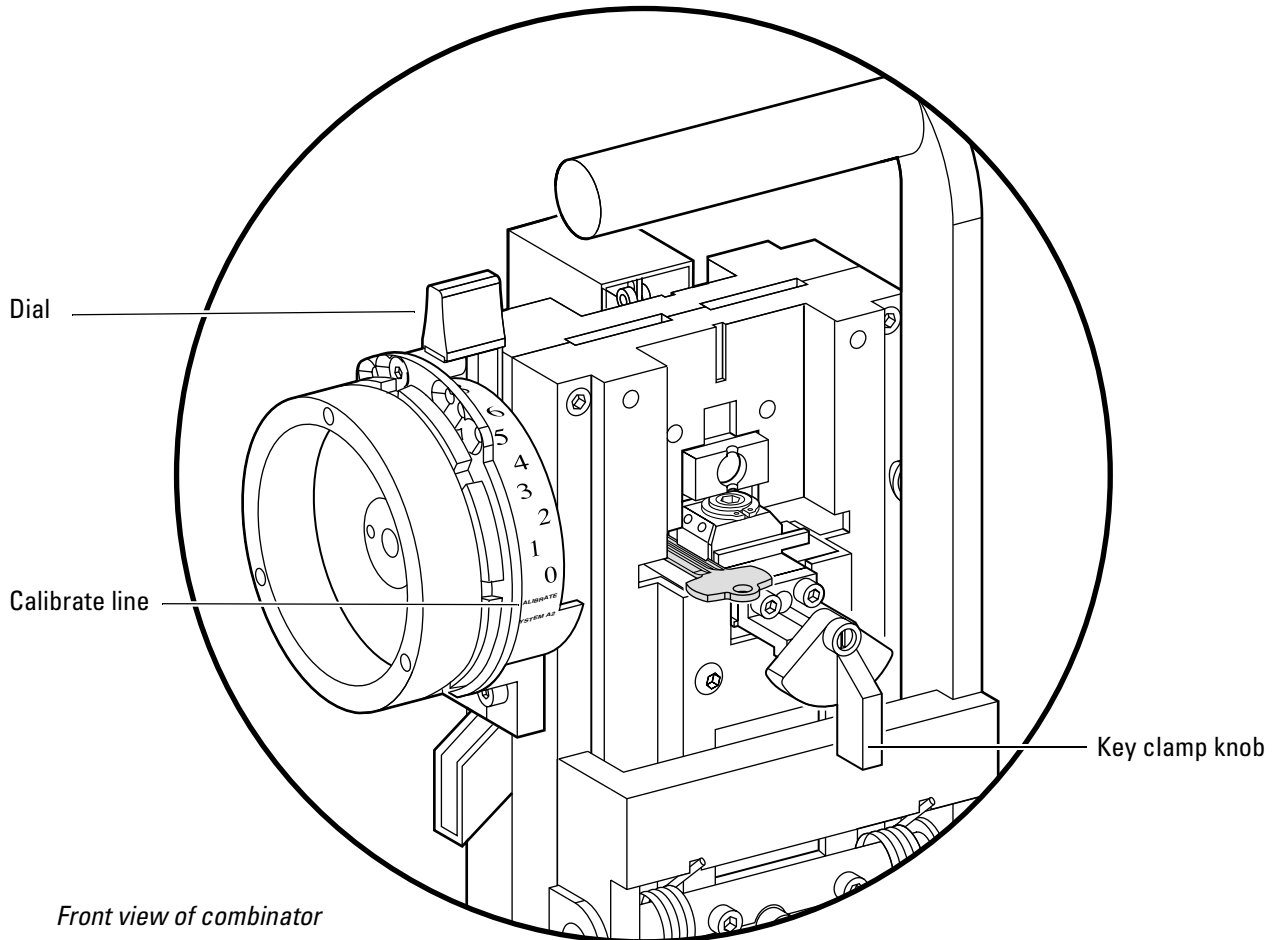


Figure 3.14 Cutting a calibration key

6. Pull the operating lever down firmly until it strikes the rubber bumper; then, let the operating lever move back to its original position.

Note: The first stroke of the operating lever does not make a keycut; it only moves the key into proper position for the first cut.

The key carriage and key blank are now in place for the first cut.

7. With the depth selector still set to “CALIBRATE,” pull the operating lever down firmly until it strikes the rubber bumper; then, let the operating lever move back to its original position.

The combinator makes the first cut and automatically moves the key carriage and key blank into place for the next cut.

8. Repeat Step 7 until you have made all seven cuts on the key at calibration depth.
9. Gripping the key clamp knob, pull the key carriage completely forward.

10. Turn the key clamp knob counterclockwise (for left-handed combinators, turn the key clamp knob clockwise).
11. Slide the key out.

Placing the key in the gauge

To place the key in the gauge:

1. Insert the blade of the key into the key gauge frame. Secure the key so that the key blade is flat against the back of the frame, and the bottom of the key is against the base of the frame.
2. Adjust the key so that the spindle is centered in between the third and fourth keycut, as shown in [Figure 3.15](#).

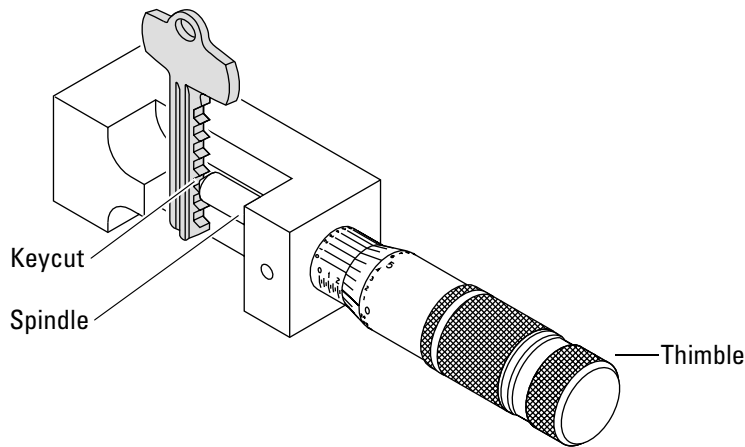


Figure 3.15 Inserting a key into the key gauge

3. Grip the thimble and slowly turn it clockwise to move the spindle towards the key. When the spindle is touching the key and will not go any closer, the key gauge produces a “clicking” sound; you can stop turning the thimble.

Reading the gauge

If you have an AD502D digital key gauge, read the measurement displayed on the screen and skip to the section “Checking the measurement.” For a manual key gauge, refer to [Figure 3.16](#) and perform the steps below.

To read the key gauge:

1. On Scale 1, read the largest visible number. Each number on Scale 1 stands for 0.100” (one hundred thousandths of an inch). Each line on Scale 1 stands for 0.025” (twenty-five thousandths of an inch).
2. On Scale 1, count the number of lines between the largest number and the end of the thimble.
3. On Scale 2, read the largest number that is even with or just below the centerline of Scale 1. Each line on Scale 2 stands for 0.001” (one thousandth of an inch).

- On Scale 3, read the line that best aligns with a line on Scale 2. Each line on Scale 3 stands for 0.0001" (one ten-thousandth of an inch).

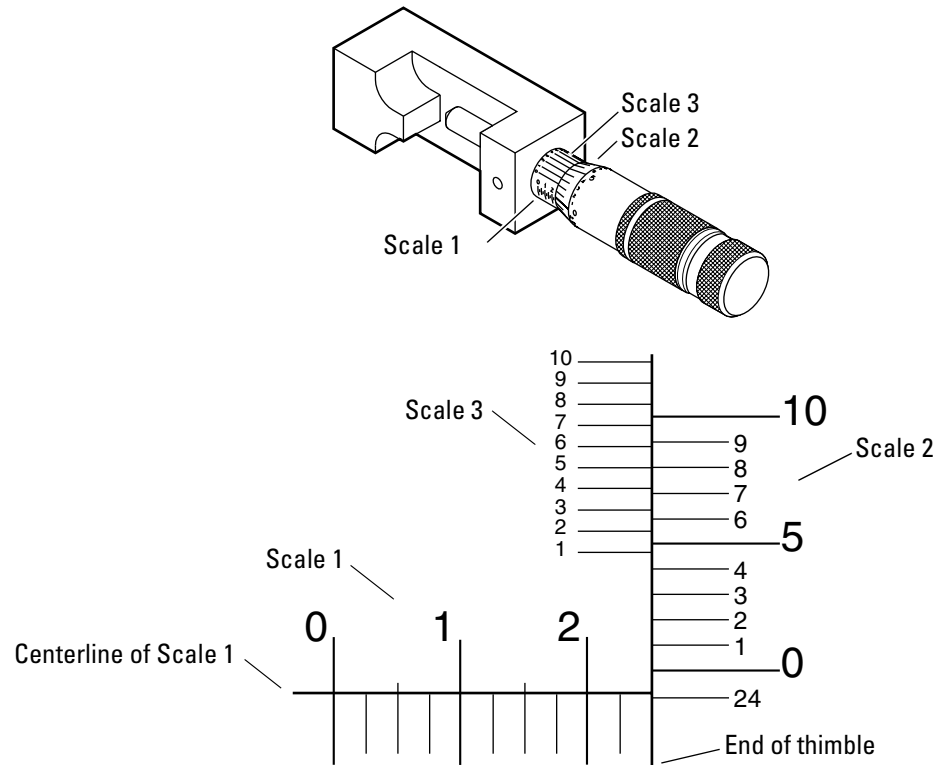


Figure 3.16 Calibration measurement scale

Totaling the measurement

To find the depth of the keycut, add the values from the three scales. The table below shows an example.

Step	Scale	Reading	Number	Value
1	1	Largest number visible	2	0.2000"
2	1	Number of visible lines between the largest number and the thimble	1	0.0250"
3	1 and 2	Largest number on scale 2 that is even with or below the centerline of scale 1	24	0.0240"
4	2 and 3	Line on scale 3 that best aligns with a line on scale 2	5	0.0005"
Total:				0.2495"

Checking the measurement

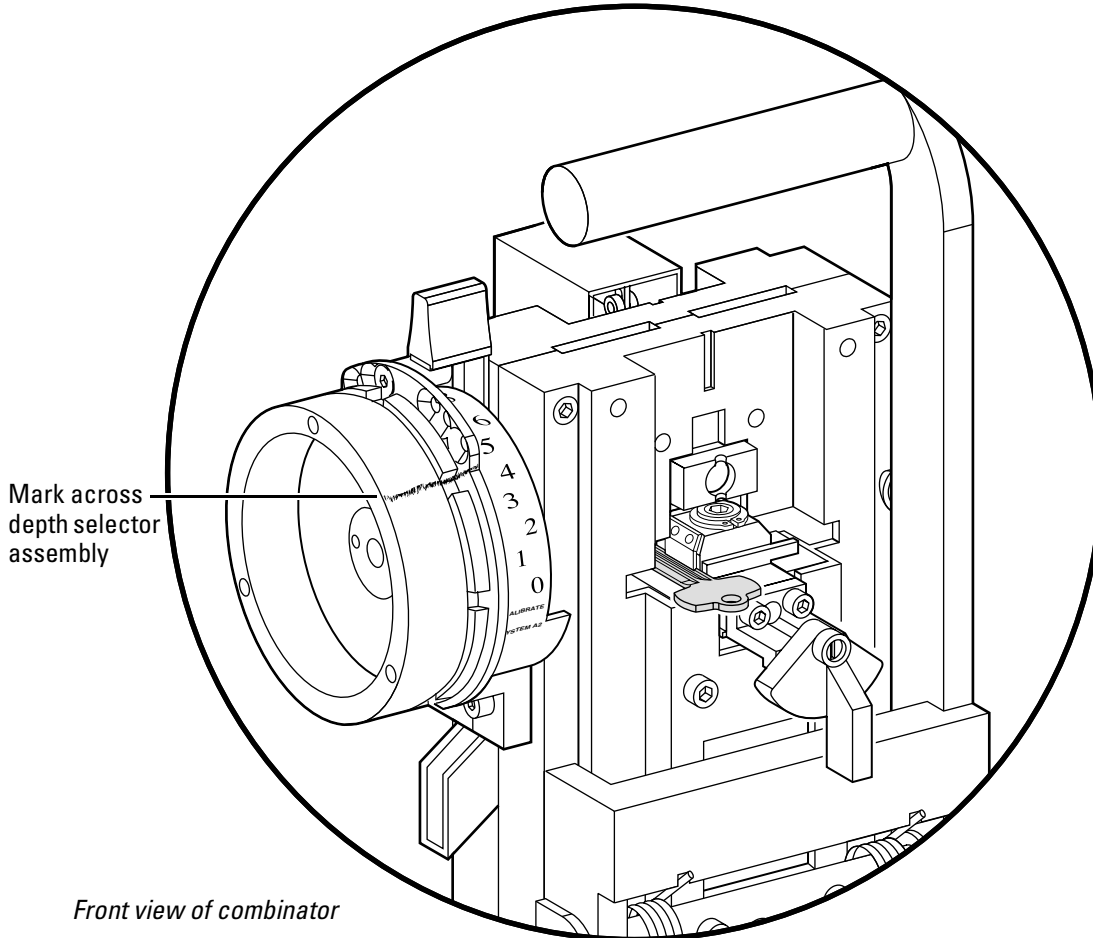
For each of the masterkey systems, the target calibration measurement is 0.2500". However, the key combinator is still considered to be within the calibration range if your measurement is between 0.2490" and 0.2510".

If your keycut measurement falls within this range, the key combinator does not need adjustment. If your measurement is outside this range, you need to adjust the depth selector or contact your BEST Representative.

Adjusting the depth selector

To adjust the depth selector for a micrometer reading measuring *less* than 0.2490”:

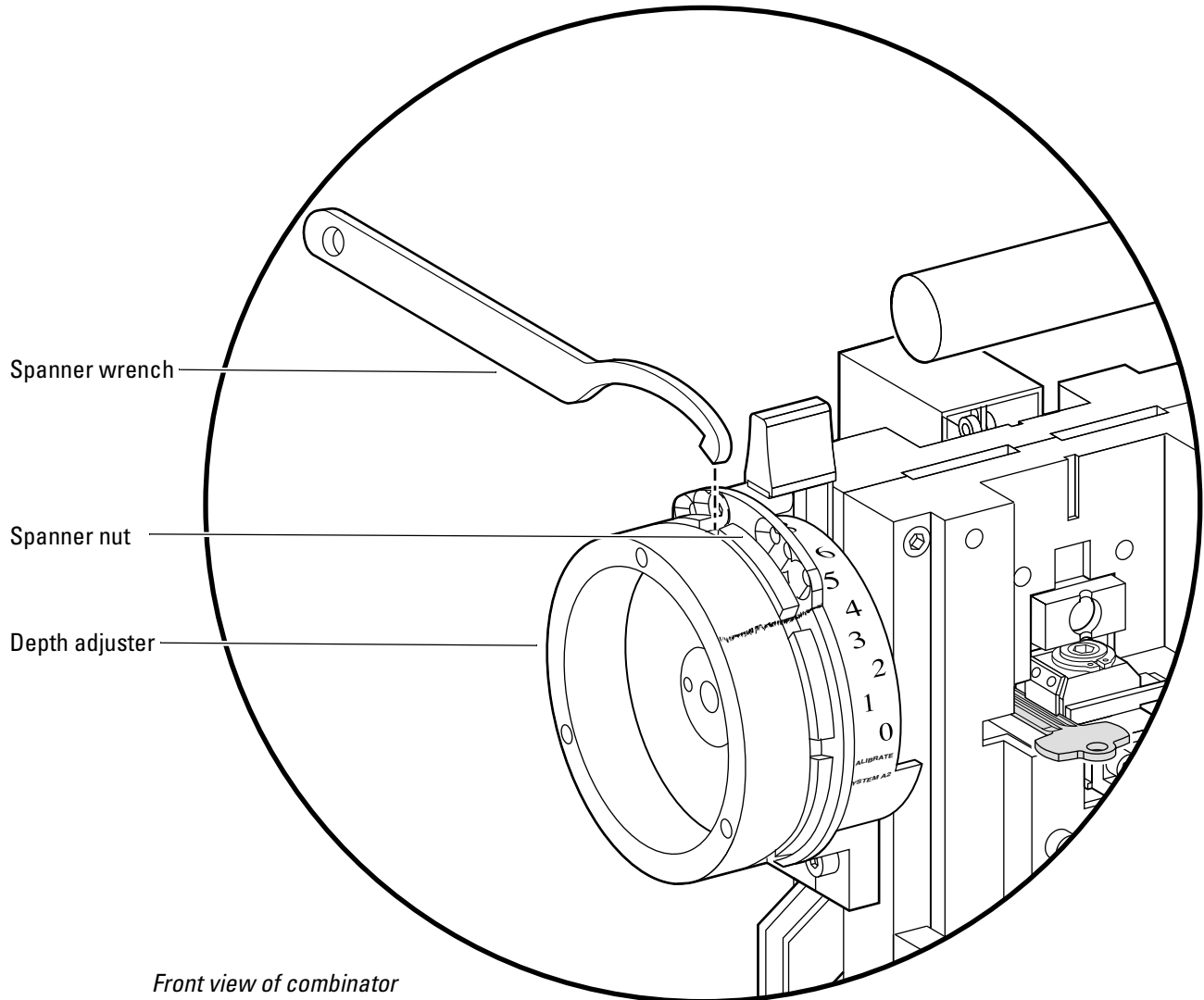
1. With a lead or grease pencil, mark a straight line across the depth selector assembly. See [Figure 3.17](#).



Front view of combinator

Figure 3.17 Marking the depth selector assembly

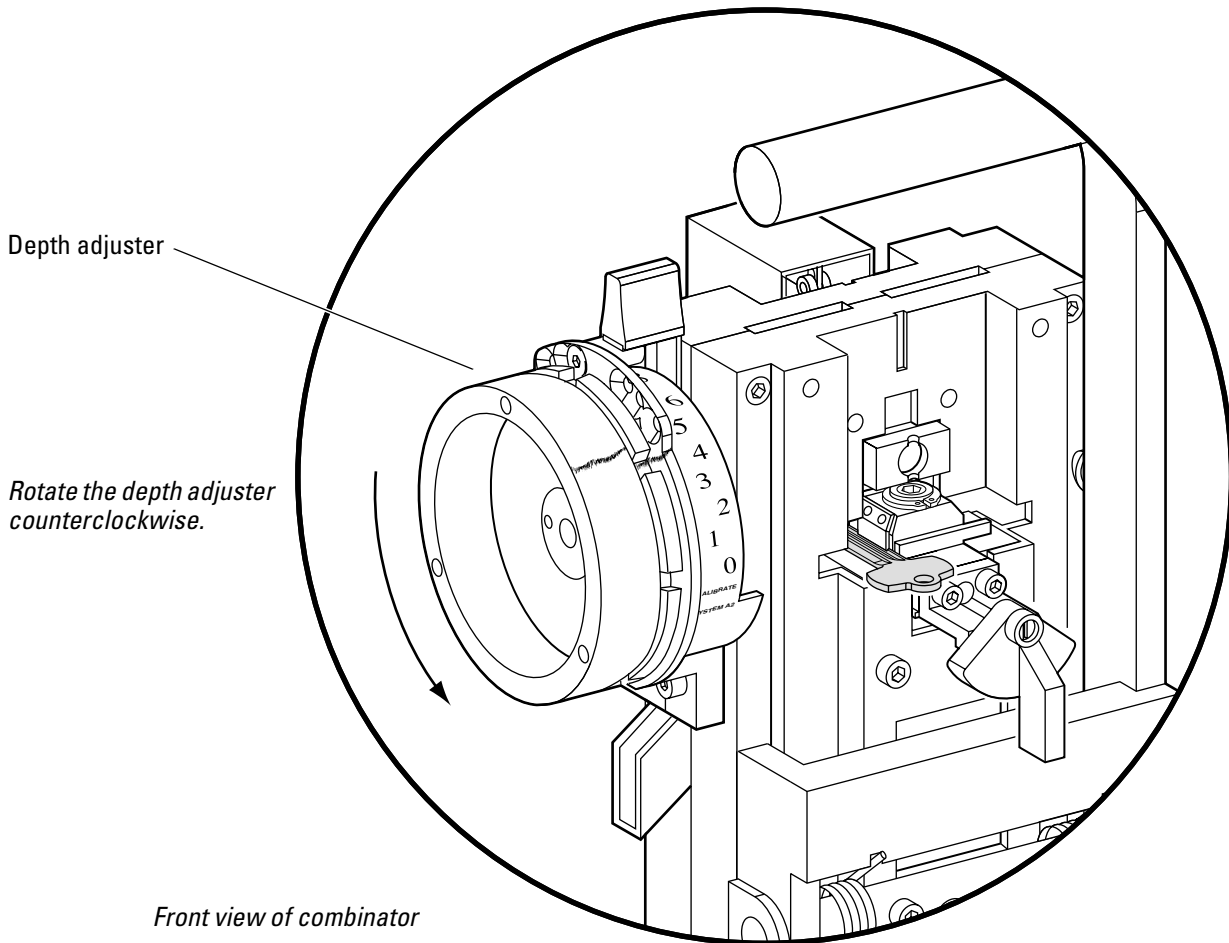
2. While holding the depth adjuster in place, use a spanner wrench to loosen the spanner nut. See [Figure 3.18](#).



Front view of combinator

Figure 3.18 Loosening the spanner nut

3. Turn the depth adjuster counterclockwise (turning the depth adjuster $1/4$ " changes the cut depth by 0.001"—one thousandth of an inch). Use the lead or grease mark as your reference. See [Figure 3.19](#).



Front view of combinator

Figure 3.19 Turning the depth adjuster counterclockwise

4. While holding the depth adjuster in place, tighten the spanner nut.
If the depth adjuster moves while you are tightening the spanner nut, go to Step 5. Otherwise, go to Step 6.
5. If the depth adjuster moves while you are tightening the spanner nut:
 - Loosen the spanner nut again.
 - Return the depth adjuster to its original position, using the lead or grease mark as your reference.
 - Repeat Step 2 through Step 4.
6. Perform the following steps:
 - Cut the calibration key ([page 3-16](#)).
 - Place the key in the gauge ([page 3-18](#)).
 - Read the gauge ([page 3-18](#)).
 - Total and check the measurement ([page 3-19](#)).

Note: The new keycut depth should be within calibration range. If not, send the key combinator to the BEST factory for repair.

To adjust the depth selector for a micrometer reading measuring *more than 0.2510"*:

1. With a lead or grease pencil, make a mark across the depth selector assembly. See [Figure 3.17](#).
2. While holding the depth adjuster in place, use the spanner wrench to loosen the spanner nut. See [Figure 3.18](#).
3. Rotate the depth adjuster clockwise (turning the depth adjuster 1/4" changes the cut depth by 0.0010"—one thousandth of an inch). Use the lead or grease mark as a reference. See [Figure 3.20](#).

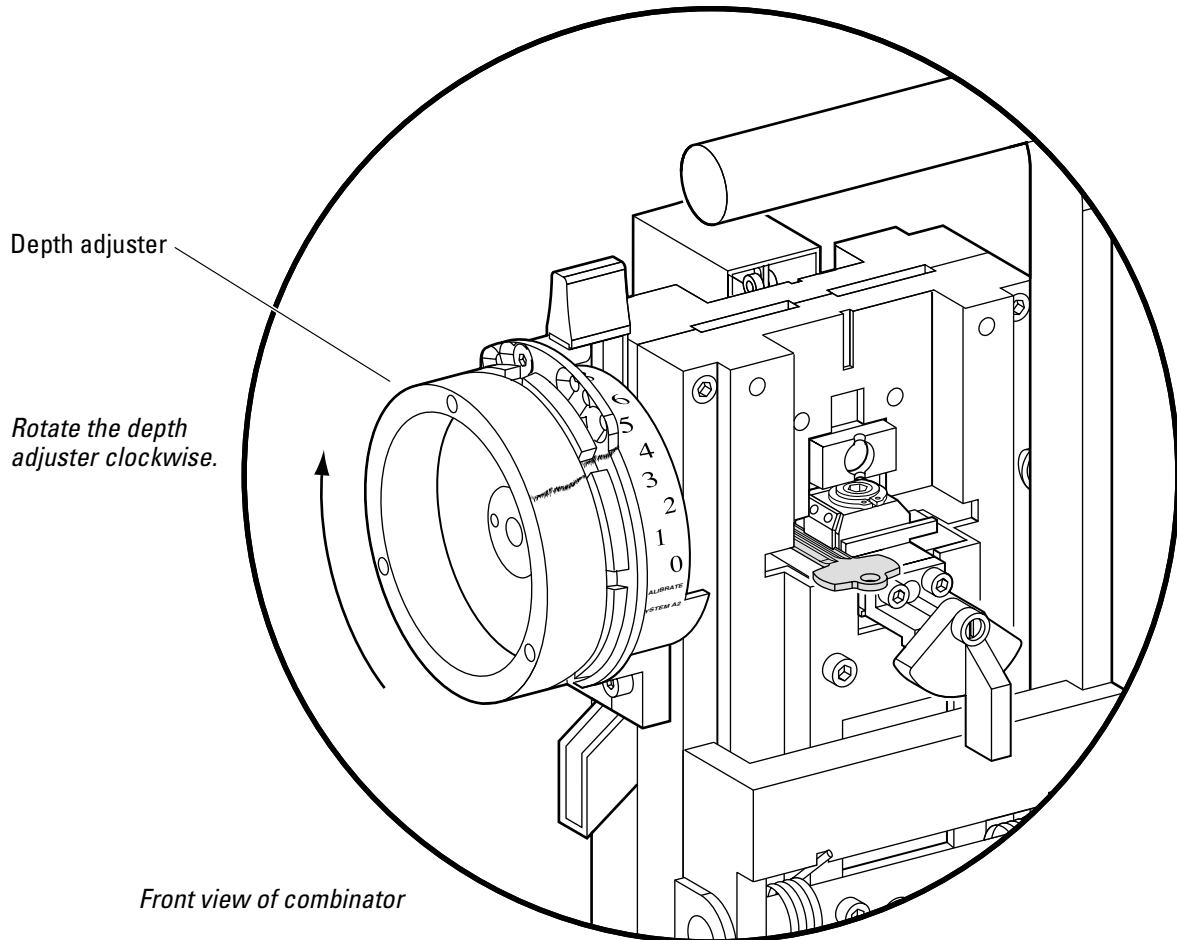


Figure 3.20 Turning the depth adjuster clockwise

4. While holding the depth adjuster in place, tighten the spanner nut. *If the depth adjuster moves while you are tightening the spanner nut, go to Step 5. Otherwise, go to Step 6.*

5. If the depth adjuster moves while you are tightening the spanner nut:
 - Loosen the spanner nut again.
 - Return the depth adjuster to its original position, using the lead or grease mark as your reference.
 - Repeat Step 2 through Step 4.
6. Perform the following steps:
 - Cut the calibration key ([page 3-16](#)).
 - Place the key in the gauge ([page 3-18](#)).
 - Read the gauge ([page 3-18](#)).
 - Total and check the measurement ([page 3-19](#)).

ADJUSTING THE KEY CLAMP SPRING

Because keys may vary slightly in thickness, you may need to occasionally adjust the key clamp spring to make sure that keys are properly clamped in the key carriage.

If your key is either difficult to insert or too loose to clamp into place, perform the following steps.

To adjust the key clamp spring:

1. Gripping the key clamp knob, pull the key carriage completely forward.
2. Raise the key clamp spring by turning the key clamp knob counterclockwise, as shown in [Figure 3.21](#) (for left-handed combinators, turn the key clamp knob clockwise).
3. Slide a key blank into the key carriage.

If the key is difficult to insert, go to Step 4a.

If the key is too loose to clamp in place, go to Step 4b.

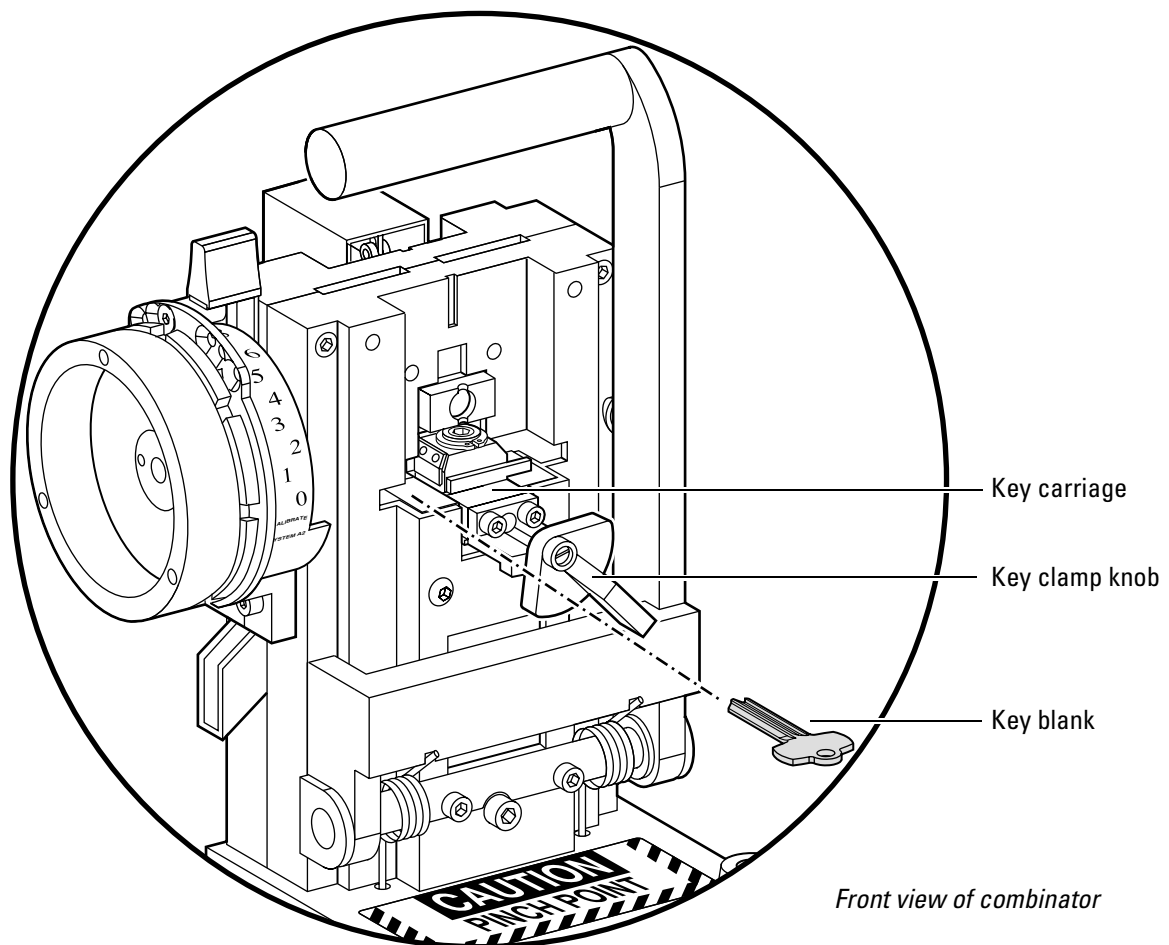


Figure 3.21 Loading a key

4a. If the key is difficult to insert, use a 5/32" Allen wrench to turn the adjustment screw clockwise, in 30° increments, until you achieve the appropriate insertion force. You may need to pull the operating lever down slightly to properly position your Allen wrench. See [Figure 3.22](#). A small amount of drag on the key is needed.

Go to Step 5.

4b. If the key is too loose to clamp in place, use a 5/32" Allen wrench to turn the adjustment screw counterclockwise, in 30° increments, until you achieve the appropriate insertion force. You may need to pull the operating lever down slightly to properly position your Allen wrench. See [Figure 3.22](#). A small amount of drag on the key is needed.

Go to Step 5.

5. Turn the key clamp knob completely clockwise to clamp the key blank into the key carriage (for left-handed combinators, turn the clamp knob counterclockwise).

6. Calibrate a key to make sure the key clamp spring is properly adjusted ([page 3-16](#)).

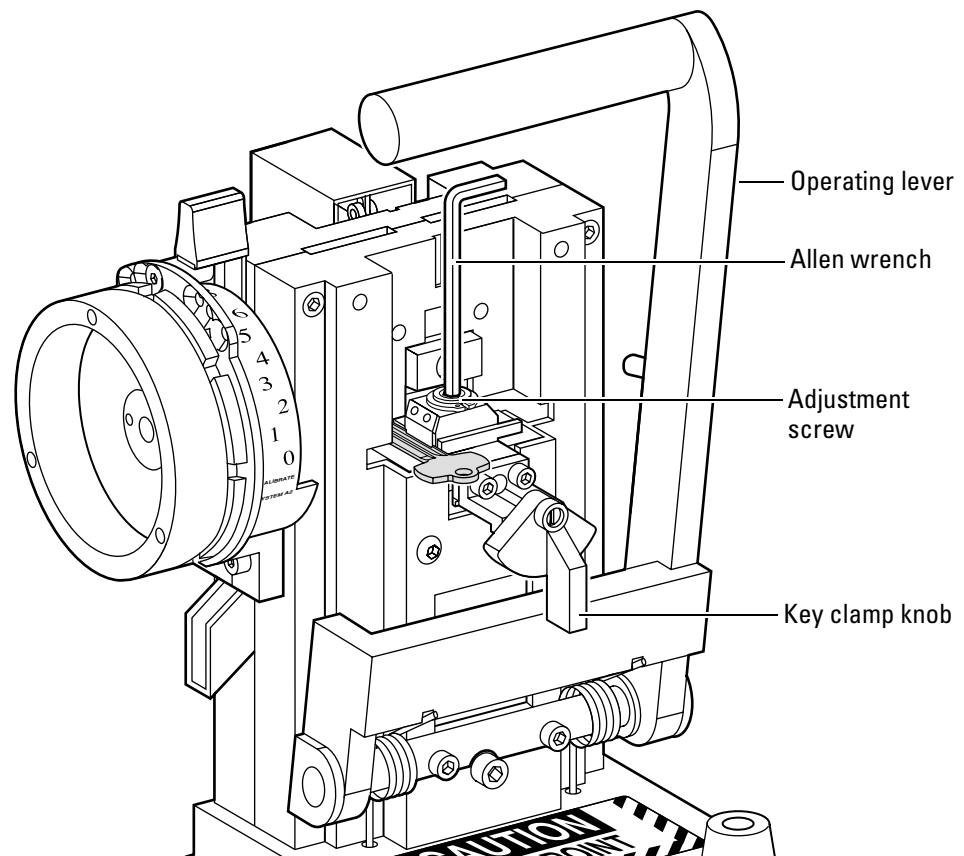


Figure 3.22 Adjusting the key clamp spring

PREVENTATIVE MAINTENANCE

Preventative maintenance is vital for keeping your key combinator functioning properly. To ensure accurate keycuts and avoid possible malfunctions, periodically perform the tasks below. It is also a good idea to keep your key combinator covered whenever it is not in use. Doing so will help keep dust and other foreign particles out of the crevices of the combinator.

To help maintain your key combinator, perform the following tasks:

- Clean (wipe down) the following items:
 - ▲ chip chute to remove metal chips
 - ▲ outside of key combinator to remove dust and other particles
 - ▲ key carriage compartment to remove dust and metal chips ([page 3-27](#))
 - ▲ punch and die compartment to remove dust and metal chips ([page 3-27](#)).
- Check for and tighten any loose screws.
- Adjust the key clamp spring as needed ([page 3-25](#)).
- Calibrate for consistency ([page 3-16](#)).
- Lubricate necessary parts ([page 3-28](#)).

See the *BEST Key Combinator Preventative Maintenance Record Sheet* in Appendix B of this manual to help you keep records of your maintenance tasks.

CLEANING PARTS

Cleaning the punch and die

To clean the punch and die:

1. Remove the depth selector ([page 3-7](#)).
2. Remove the punch and die assembly ([page 3-9](#)).
3. Wipe out any key chips and dust from the compartment. Do not lubricate this area.
4. Lubricate both sides of the die ([page 3-28](#)).
5. Reinstall the punch and die assembly ([page 3-10](#)).
6. Reinstall the depth selector ([page 3-8](#)).

Cleaning the key carriage

To clean the key carriage:

1. Remove the key carriage ([page 3-11](#)).
2. Wipe out any chips and dust from the compartment.
3. Lubricate both sides of the carriage ([page 3-28](#)).
4. Reinstall the key carriage ([page 3-11](#)).

LUBRICATING PARTS

It is important to lubricate your key combinator regularly with a quality #10 non-detergent motor oil. Signs that your combinator is overdue for lubrication include:

- squeaking sounds
- corrosion
- difficulty making keycuts
- tightness in moving the operating lever.

Guidelines for lubrication

To avoid damaging your combinator and causing inaccurate keycuts, please adhere to the following:

- Apply only enough oil to barely wet the appropriate points to avoid overlubricating your combinator.
- Do not lubricate the chip chute, the depth selector, or the roller on the punch and die. Chips could stick to these parts, causing malfunctions.
- Do not apply any type of silicone-based lubricant to your combinator. Doing so may void your warranty or service agreement.
- Do not use an air hose to remove chips or dust from the key combinator. Doing so may void your warranty or service agreement.

Lubricating the key combinator housing

To lubricate the outer frame/housing of the key combinator:

1. Apply one drop of oil into each of the upper front holes and rear holes. See [Figure 3.23](#).
2. Apply one drop of oil into the 3/8" diameter pin located above the adjustment screw.

To lubricate the key carriage:

1. Apply one drop of oil into the 1/4" diameter pin located on top of the key carriage.
2. Apply one drop of oil on both sides of the key carriage's sliding surfaces. See [Figure 3.23](#).

Slide the key carriage in and out as you lubricate.

To lubricate the operating lever:

1. Apply one drop of oil onto each side of the operating lever frame. See [Figure 3.23](#).
2. Apply one drop of oil onto the springs connected to the operating lever.
3. Apply one drop of oil to each of the other linkages that you can conveniently reach.

You need to pull down and hold the operating lever to reach some of these areas.

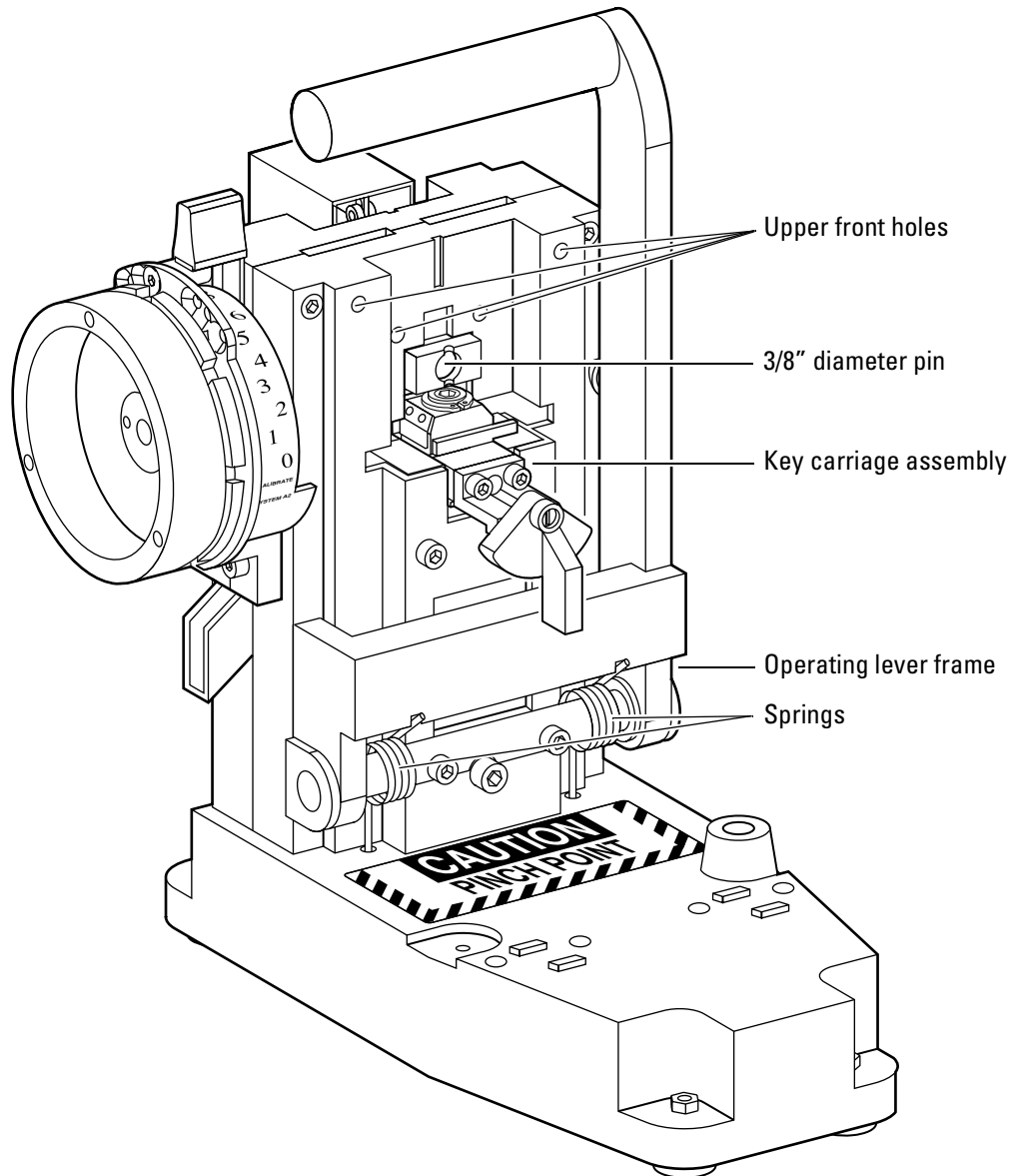


Figure 3.23 Lubricating parts

To lubricate the punch and die:

1. Remove the following items:
 - depth selector assembly (page 3-7)
 - punch and die assembly (page 3-9).
2. Apply one drop of oil each of the sides of the die block. See Figure 3.24. Do not lubricate the roller or the punch and die compartment.
3. Reinstall the following items:
 - punch and die assembly (page 3-10)
 - depth selector assembly (page 3-8).

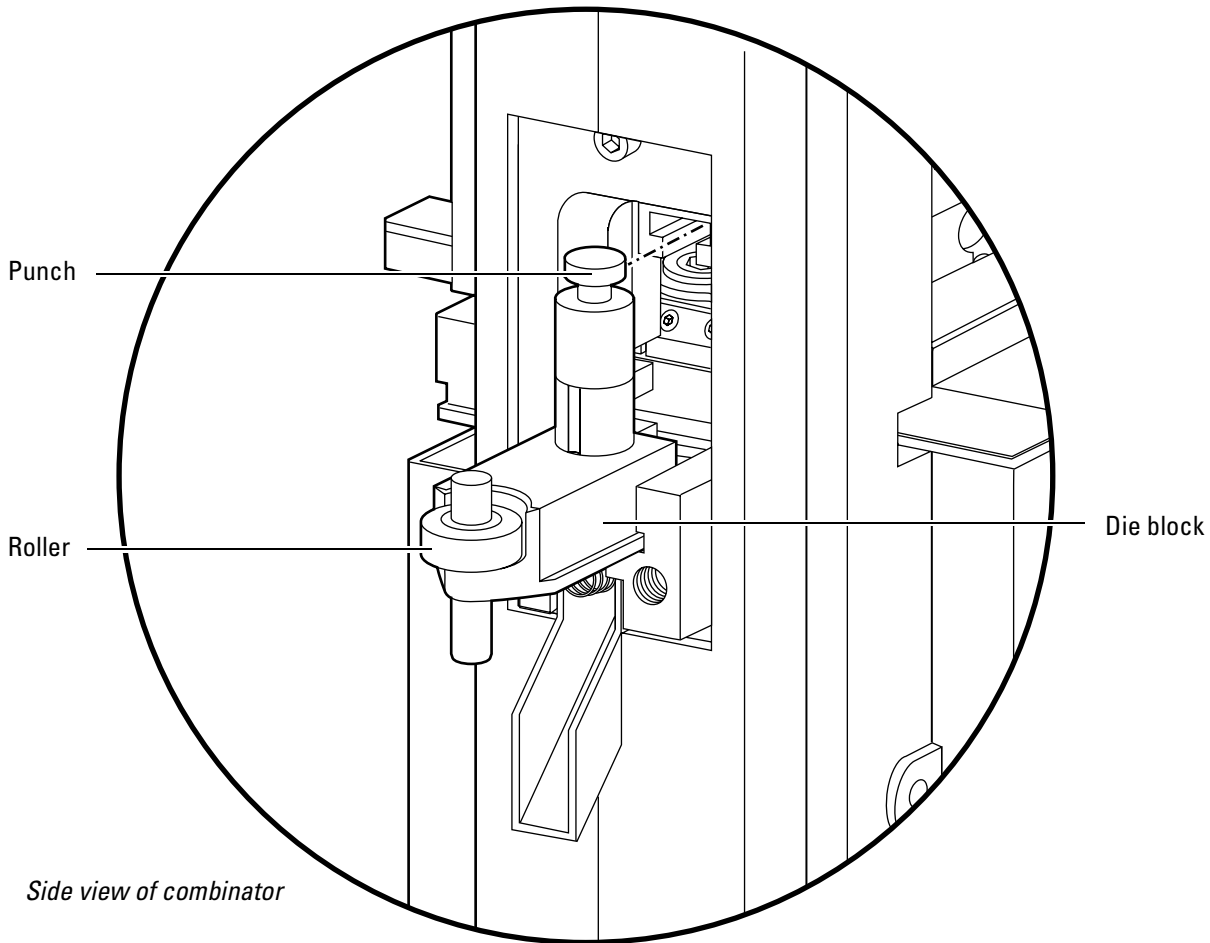


Figure 3.24 Lubricating the punch and die

TROUBLESHOOTING

This table summarizes the possible causes for the most common key combinator problems. The causes are listed in the order of likelihood. (The most likely cause is first, and so forth.)

You notice...	Possible causes include...	You should...
Key is difficult to insert in the key combinator.	<ul style="list-style-type: none"> a. Key clamp spring is closed. b. Key clamp spring needs to be adjusted. 	<ul style="list-style-type: none"> a. Turn the key clamp knob to open the key clamp spring. b. Adjust the key clamp spring until the key feels tightly secured in the key carriage (page 3-25).
Key is loose in the key carriage.	<ul style="list-style-type: none"> a. Key clamp spring is open. b. Key clamp spring needs to be adjusted. 	<ul style="list-style-type: none"> a. Turn the key clamp knob to close the key clamp spring. b. Adjust the key clamp spring until the key feels tightly secured in the key carriage (page 3-25).
Depth selector is jammed or will not allow selection of deeper cuts.	Chips are lodged in the guide rails.	Remove the punch and die and clear away the chips from the guide rails (page 3-27).
There is a burr in the keycut.	<ul style="list-style-type: none"> a. Handle was not depressed completely. b. Punch and die are worn. 	<ul style="list-style-type: none"> a. Recut the key (page 3-4). b. Replace the punch and die (page 3-9).
Keycut depth is incorrect.	<ul style="list-style-type: none"> a. Depth selector was not released when the cut was made. b. Cutting depth needs to be calibrated. c. There are chips on the depth selector. d. There are chips on the die assembly roller. 	<ul style="list-style-type: none"> a. Follow the steps for cutting keys (page 3-4). b. Calibrate the depth of the cut (page 3-16). c. Remove the depth selector (page 3-7) and clear away the chips. d. Remove the depth selector (page 3-7) as well as the punch and die (page 3-9). Clear away the chips.
Operating handle is difficult to pull down.	<ul style="list-style-type: none"> a. Retainer ring is hyper extended. b. Operating lever needs to be lubricated. 	<ul style="list-style-type: none"> a. Replace the retainer ring. b. Lubricate the lever handle (page 3-29).
Keycut spacing is incorrect.	Key carriage does not move or moves inconsistently.	Remove the key carriage and clear away any chips. If the problem persists, return the combinator to BEST for repair.

A

GLOSSARY

Calibrate	To check against a known standard and adjust to that standard.
Calibration depth	Standard keycut measurement (.2500") that the key combinator should cut when the calibration position is selected.
Calibration position	Position on the depth selector that, when selected, sets up the key combinator to cut the calibration depth keycut.
Core	See interchangeable core.
Depth selector	Dial on the key combinator, marked with numbers, that is used for selecting keycut depths.
Figure-8	Shape of the interchangeable core and its housing (housings include door knob, cylinder, padlock, and so forth).
Interchangeable core	Figure-8 shaped device that contains all the mechanical parts for a masterkey system. The interchangeable core can be removed with a special control key and recombined without disassembling the lock.
Key blank	Key with a keyway shape, but without keycuts.
Key carriage	Housing that moves the key to each keycut position.
Key clamp knob	Knob that operates the key clamp spring and that is used to pull out or push in the key carriage.
Key clamp spring	Part of the key combinator that holds the key in place.

Key combinator	Machine that notches cuts into BEST key blanks for BEST masterkey systems.
Keycut	Notch in a key that fits a corresponding pin segment of a core.
Keycut depth	Distance from the bottom of the keycut to the underside of the key blade.
Key gauge	AD502 gauge that measures keycut depths. This gauge is used to calibrate the key combinator.
Keying system	Method of keying locks.
Keyway	Cross-section shape milled into the key blank and broached into core plugs.
Left-handed key combinator	Key combinator that cuts only patented or left-handed premium keys.
Masterkeying	Process of combining locks to allow a single key to operate many locks and to allow each lock to be operated by a unique key at the same time.
Punch and die	Part of the key combinator that notches keys to a precise shape.
Right-handed key combinator	Key combinator that cuts only standard or right-handed premium keys.
Setup stroke	First stroke of the operating lever that positions the key for cutting.

B

PREVENTATIVE MAINTENANCE

Use the following page to record periodic cleaning and maintenance tasks that are performed on your key combinator. The frequency with which you perform these tasks may vary based on your specific needs.

BEST Key Combinator Preventative Maintenance Record Sheet

Record date and initial when task is completed

Task	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:									
	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:								
Clean and dust the outside of the combinator	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:									
	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:								
	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:							
Clean the key carriage	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:							
	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:						
	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:					
Clean the punch and die	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:					
	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:				
	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:			
Lubricate the necessary parts	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:			
	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:		
	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	
Calibrate for consistency†	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	
	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:
	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:	By:	Date:

† Calibrate whenever you service your key combinator as well.

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