

# INSTALLATION INSTRUCTIONS

## CRL JACKSON 2086E ELECTRIC LATCH RETRACTION CONCEALED VERTICAL ROD PANIC EXIT DEVICE



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# ORDER OF ASSEMBLY AND INSTALLATION

Parts Identification .....	03 - 04
Door Preparation .....	.05
Layout Selection .....	06 - 09
Door Hardware Installation .....	10 - 14
Insert Rod And Case .....	.10
Install Optional Mortise Cylinder Lock and Mounting Pad .....	.11
Install Optional Exterior Locking Lever Trim .....	.12
Install 2086E Exit Device .....	.13
Operations Check .....	.14
Frame Preparation and Strike Installation .....	15 - 16
Re-Attach Door .....	.15
Strike Installation .....	.16
Door Hardware Adjustments .....	17 - 18
Upper Bolt and Bottom Bolt Adjustments .....	.17
Manual Check and Operations Check .....	.18
Connecting The Electrical/Electrical Schematics .....	19 - 21
Connecting Electrical Components .....	22 - 23
Connecting The Wires .....	.22
Armored Door Loop Installation .....	.23
Package Parts Available .....	.24

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## TOOLS REQUIRED

Drill Bits: 1/8", 9/32", 5/16", 7/32",  
5/8", 11/16", 1-3/8"  
Taps: 1/4-20, 10-32, 8-32  
Tape Measure  
Saw Horses  
Cordless Drill  
Phillips Head Screw Driver

Framing Square  
Masking Tape  
Center Punch  
Round Metal File  
Flat Metal File  
Jigsaw With Metal Cutting Blade  
Straight Edge

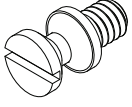
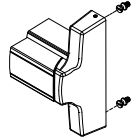
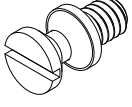
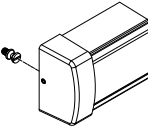

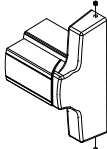

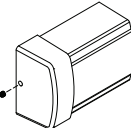
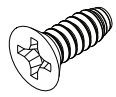
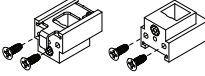
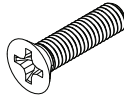
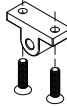
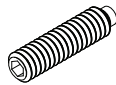
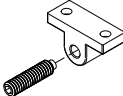
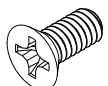
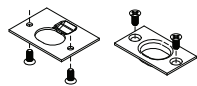

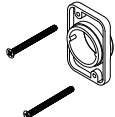
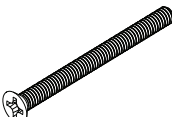
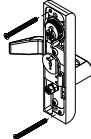
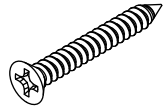
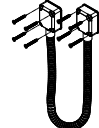
**NOTE:** Any modifications, other than those specified in this document, could result in this product's failure to meet UL safety ratings and void the manufacturer's warranties.

The rapidly changing technology within the architectural aluminum products industry demands that C.R. Laurence/U.S. Aluminum reserve the right to revise, discontinue, or change any product line, specification, or electronic media without prior written notice.

**NOTE:** Dimensions in parentheses ( ) are millimeters unless otherwise noted.



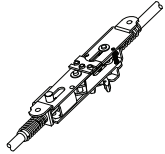
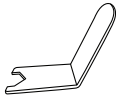



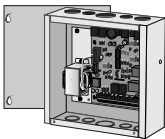
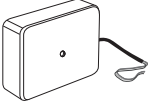
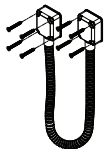
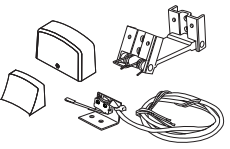
**CRL JACKSON PANIC EXIT DEVICES - 2086E CONCEALED VERTICAL ROD**

**PARTS IDENTIFICATION**

			FASTENERS PROVIDED		USED WITH
CALL OUT	QTY.	FASTENER	FASTENER DESCRIPTION	PART	PART NUMBER AND DESCRIPTION
(A)	2		1/4"-20 x 1/4" Shoulder Stud Screw		302617 and 302619 Active Head Assembly
(A)	1		1/4"-20 x 1/4" Shoulder Stud Screw		301266 Base End Cap Package
(B)	2		1/4"-20 x 5/16" Set Screw		302617 and 302619 Active Head Assembly
(B)	1		1/4"-20 x 5/16" Set Screw		301266 Base End Cap Package
(C)	4		#10 x 1/2" FH Self Tapping Screw		30934 Top Bolt Guide 30320 Bottom Bolt Guide Assembly
(D)	2		#10-32 x 3/4" FH Machine Screw		30824 Trip Bracket Package
(E)	1		1/4"-20 x 1" Adjustment screw		30824 Trip Bracket Package
(F)	4		#10-32 x 3/8" FH Machine Screw		301084 Top and Bottom Strike Package
(G)	2		#8-32 x 2" FH Machine Screw		30821J Optional Mortise Cylinder Mount- ing Pad
(H)	2		#10-32 x 2-1/8" FH Machine Screw		8500LV01 and 8500LV02 Optional Exterior Trim with Lever Assembly
(I)	8		#8 x 1-1/4" Flat Head Sheet Metal Screw		Optional MLDL101 Armored Door Loop Kit

**CRL JACKSON PANIC EXIT DEVICES - 2086E CONCEALED VERTICAL ROD**

**PARTS IDENTIFICATION**

PARTS LIST			
CALL OUT	PART	PART NO.	DESCRIPTION
(J)		DL2170	Optional 1" Single Mortise Cylinder
(K)		30799	Actuator Link included in 2086E Active Head Assembly Hardware Pkg. 302607
(L)		30915J	Rod and Case Assembly - 7/0
(M)		N/A	Adjustment Wrench included in 30320 Bottom Bolt Guide Pkg.
(N)		301347 301348	Optional 12" and 24" Top Rod Extender
(O)		301552PKG	Rod Silencers (12 PKG.)
(P)		MLDK83N	Programmable Digital Keypad
(Q)		302616 301420	Power Supply for Electrified Panic Exit Devices See Pages 19-21 for correct Power Supply
(R)		301406PSC	24VDC Power Supply Converter Module
(S)		MLDL101	Optional MLDL101 Armored Door Loop Kit
(T)		302989	Signal Switch Kit

## DOOR PREPARATION

### REMOVE DOOR AND PREPARE PER SUPPLIED TEMPLATE

1. Place the door horizontally on the stands interior side up.
2. Mark the stile centerlines 1-1/8" (28.6) from the inside edge or outside edge. (Fig. 1)
3. Mark the corresponding layouts on to the stile using the vertical centerlines at the specified height. (Fig. 2)

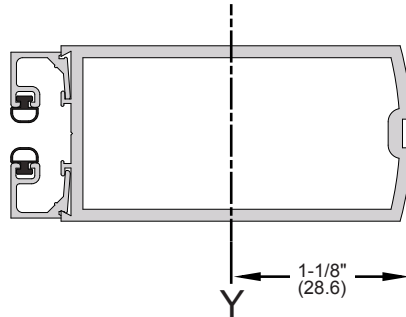


FIG. 1

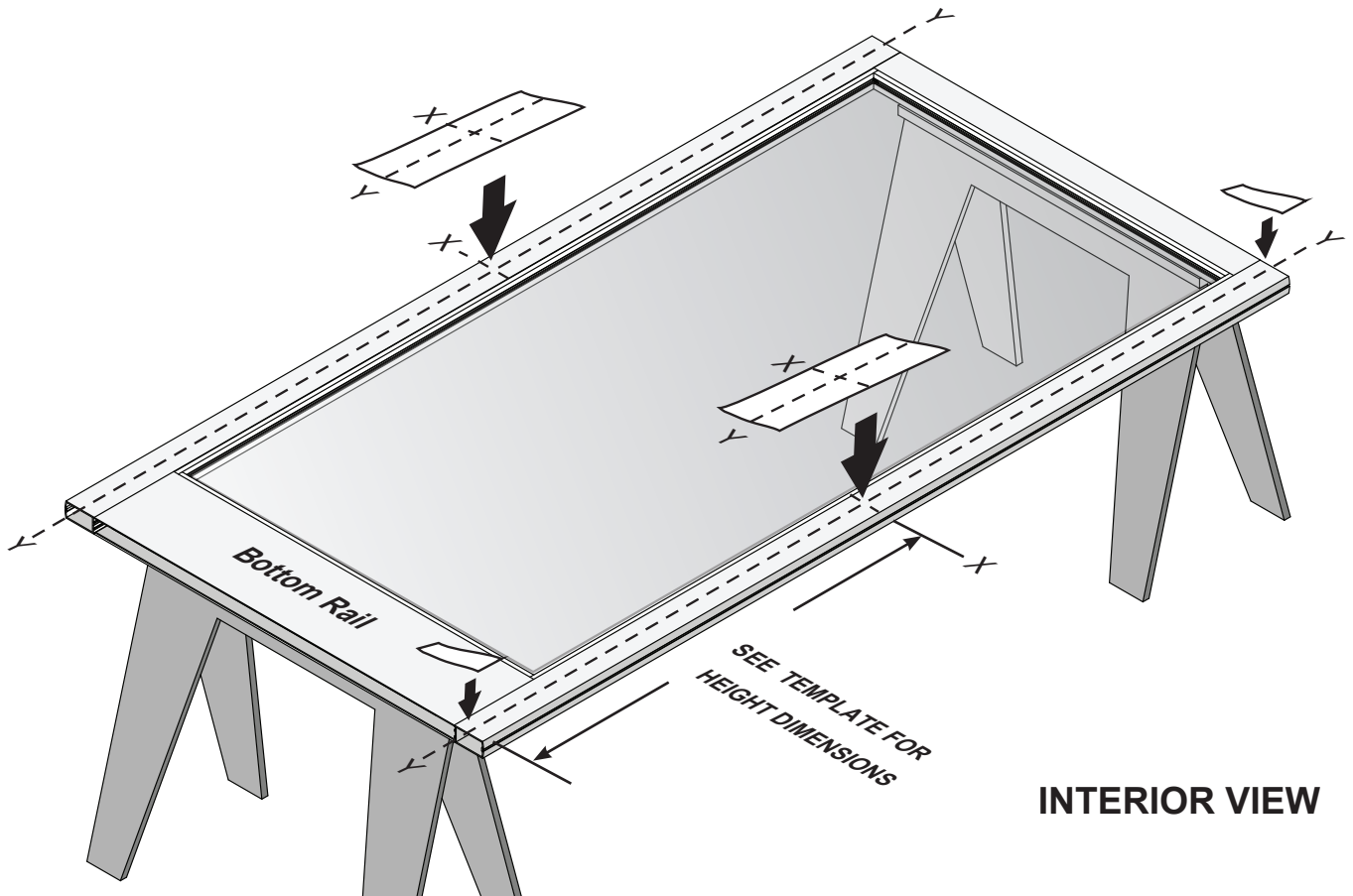


FIG. 2

NOT TO SCALE

# DOOR PREPARATION – LAYOUT SELECTION

## 2086E EXIT DEVICE INSTALLATION - ACTIVE STILE

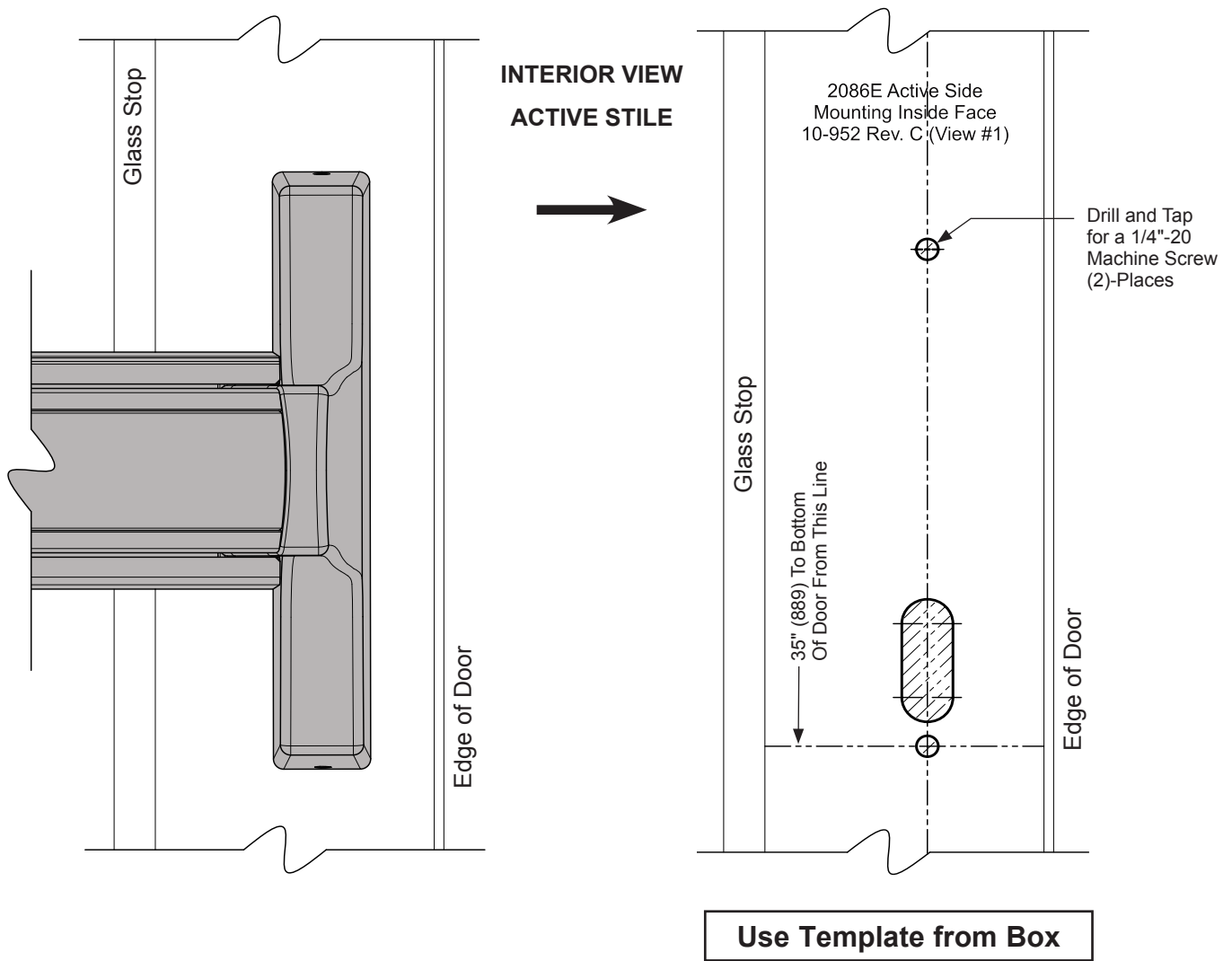


FIG. 3

NOT TO SCALE

# DOOR PREPARATION – LAYOUT SELECTION

## 2086E EXIT DEVICE INSTALLATION - INACTIVE STILE

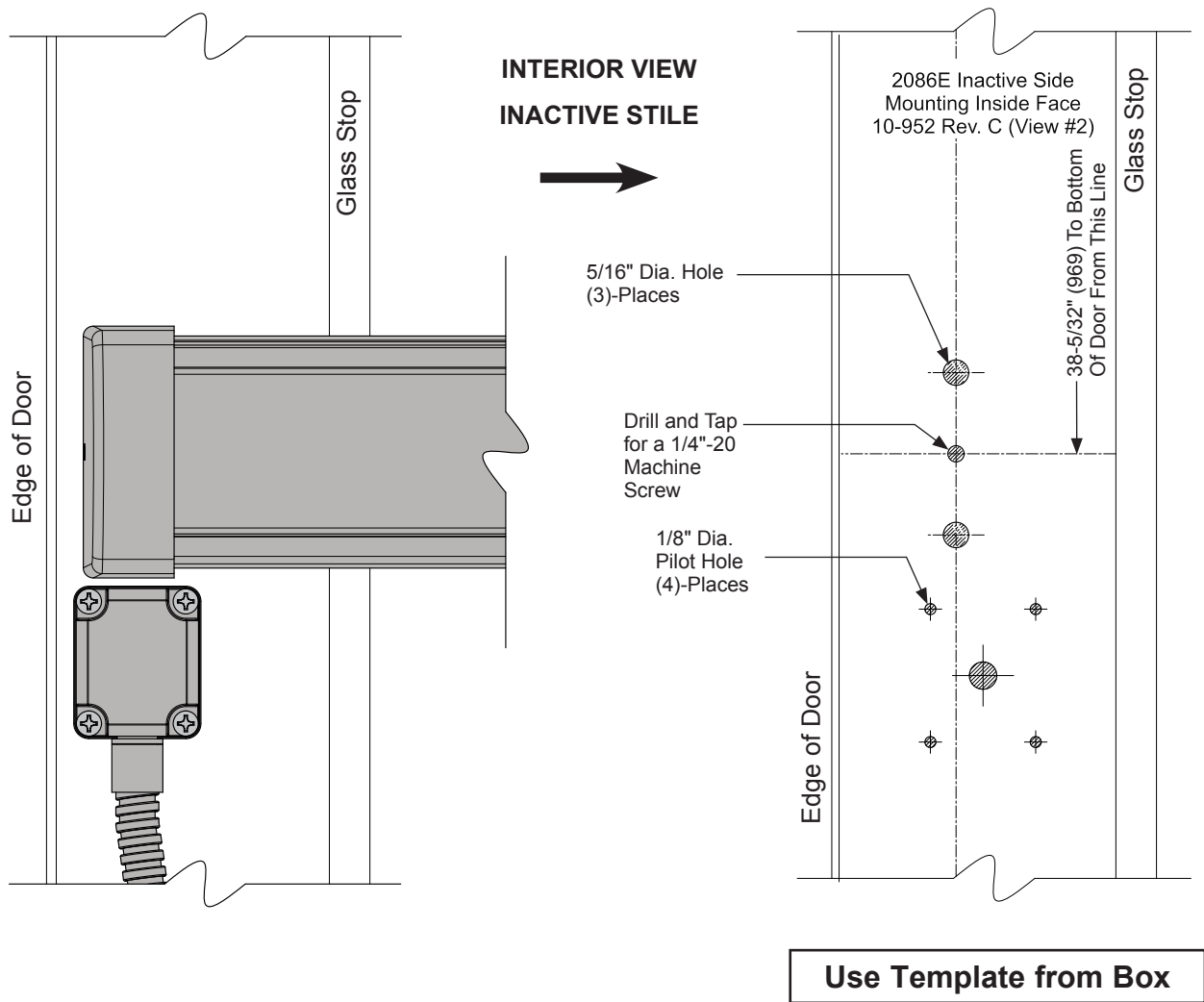


FIG. 4

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# DOOR PREPARATION – LAYOUT SELECTION

## 2086E EXIT DEVICE INSTALLATION WITH LOCK CYLINDER AND MOUNTING PAD

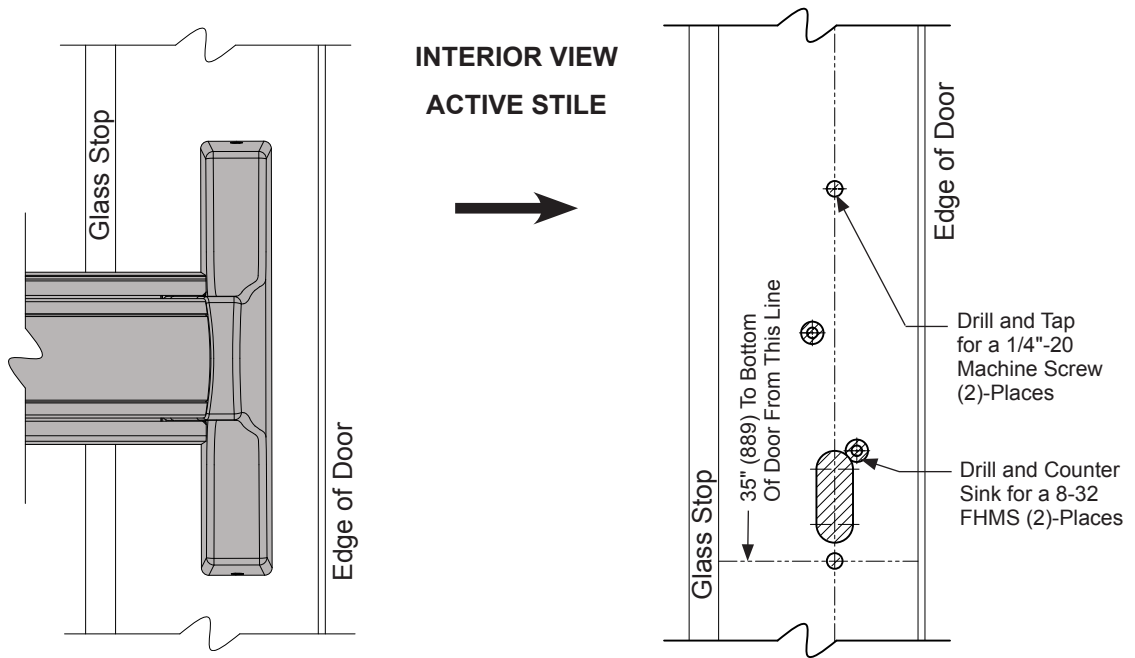


FIG. 5

Use Template from Box

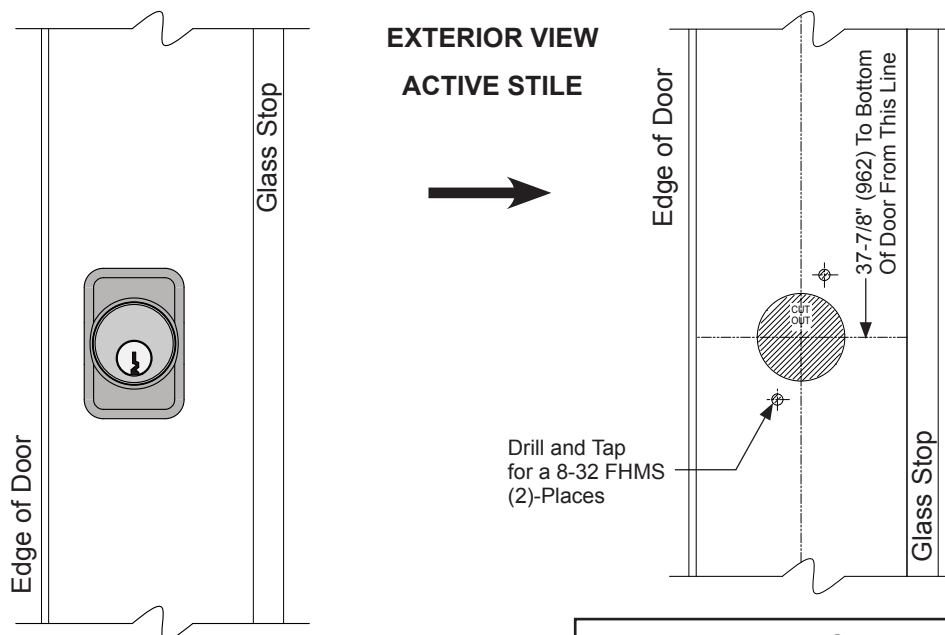


FIG. 6

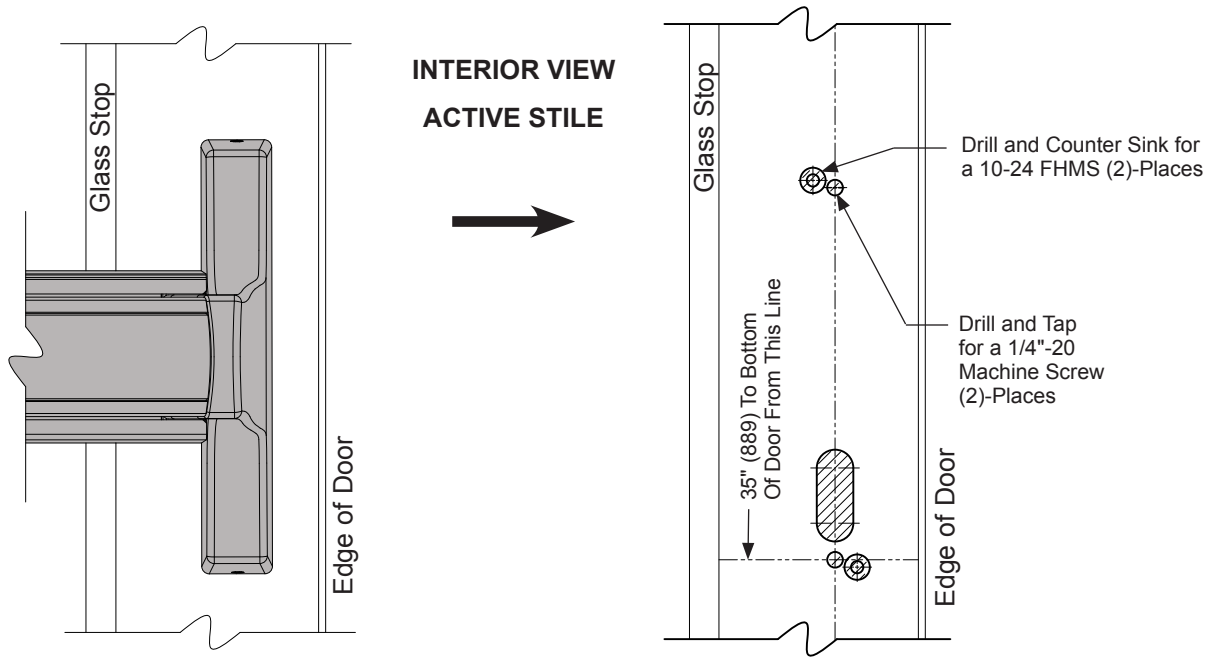
Use Template from Box

NOT TO SCALE



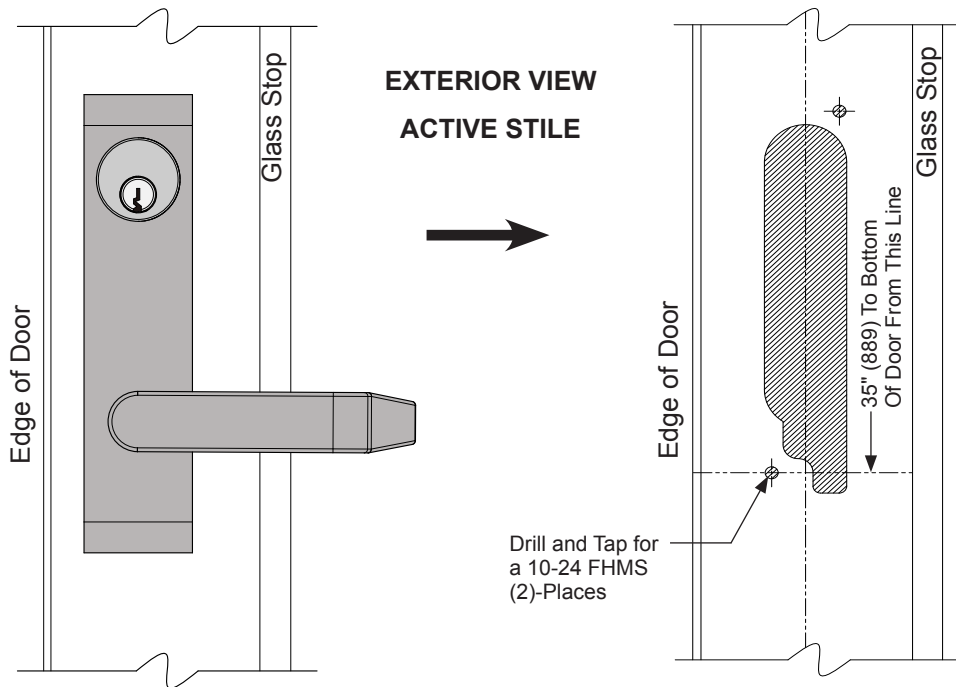
# DOOR PREPARATION – LAYOUT SELECTION

## 2086E EXIT DEVICE INSTALLATION WITH EXTERIOR LOCKING LEVER TRIM



**Use Template from Box**

FIG. 7



**Use Template from Box**

FIG. 8

NOT TO SCALE

# DOOR HARDWARE INSTALLATION (CONTINUED)

## INSERT ROD AND CASE

1. Insert the panic device rod and case assembly into active stile. (Fig. 9)
2. Align actuator pin through the slotted cut-out on interior face of stile, fastening with (A) (2) 1/4"-20 x 1/4" shoulder stud screws. (Fig. 10)
3. Adjust the bottom and top bolts, to extend 1/2" past the top and bottom stiles.
4. Install the top bolt guide assembly using (C) (2) #10 x 1/2" FH self threading screws at the top of the active door stile. The (2) holes face the interior side.
5. Install the bottom bolt guide assembly using (C) (2) #10 x 1/2" FH self threading screws at the bottom of the active door stile. The (2) holes face the interior side of stile.
6. Attach (A) (1) 1/4"-20 x 1/4" shoulder stud screw on the Inactive Stile. (Fig. 10)

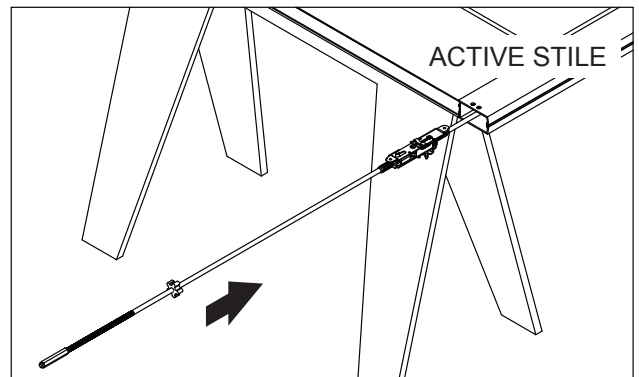


FIG. 9

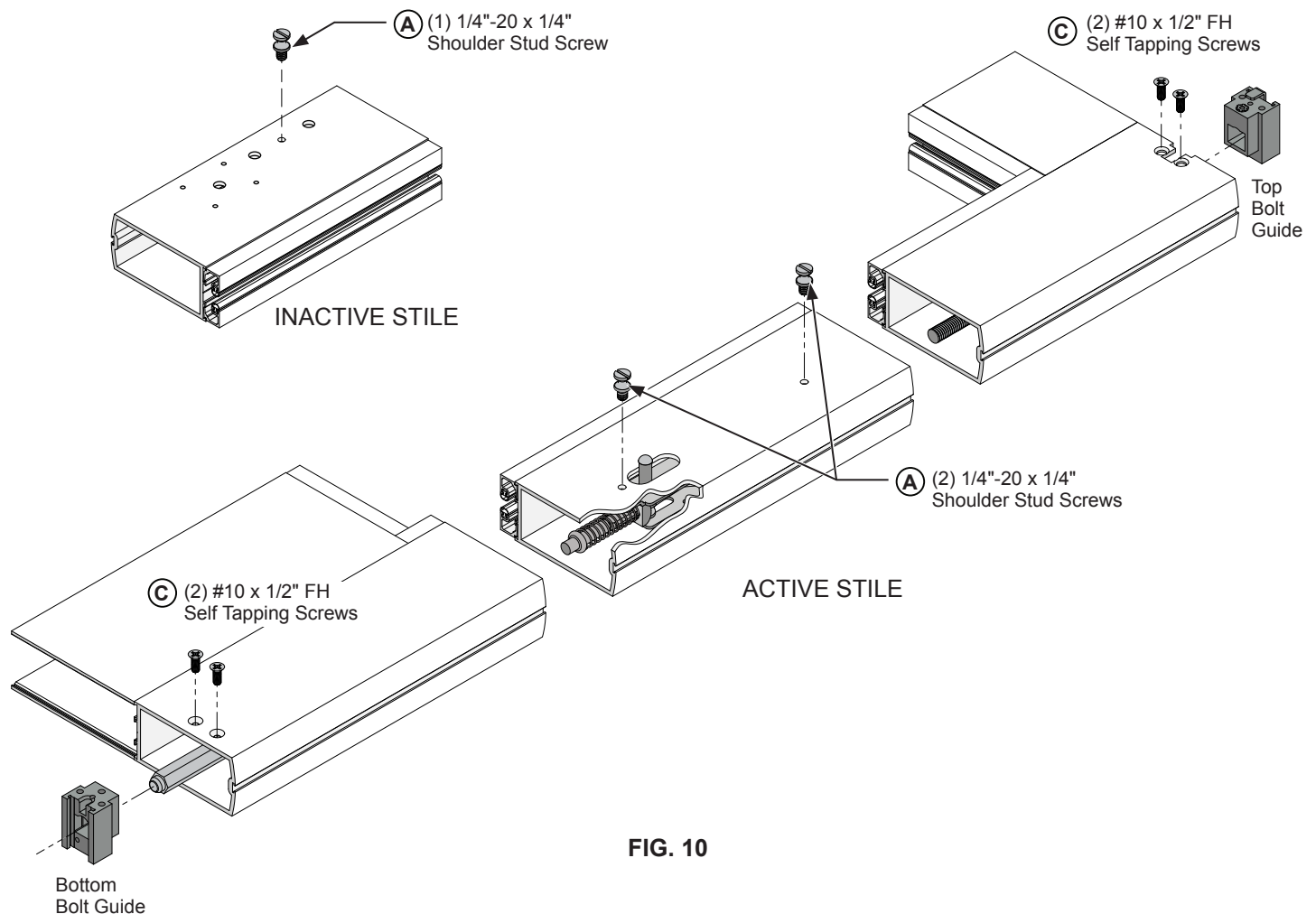


FIG. 10

NOT TO SCALE

# DOOR HARDWARE INSTALLATION

## INSTALL OPTIONAL MORTISE CYLINDER LOCK AND MOUNTING PAD

**NOTE:** Lock and Mounting Pad must be installed before attaching exit device.

1. Attach the Mortise Cylinder Lock to the Mounting Pad and secure it with the Lock Ring, using **G** (2) #8 x 2" Flat head screws provided.

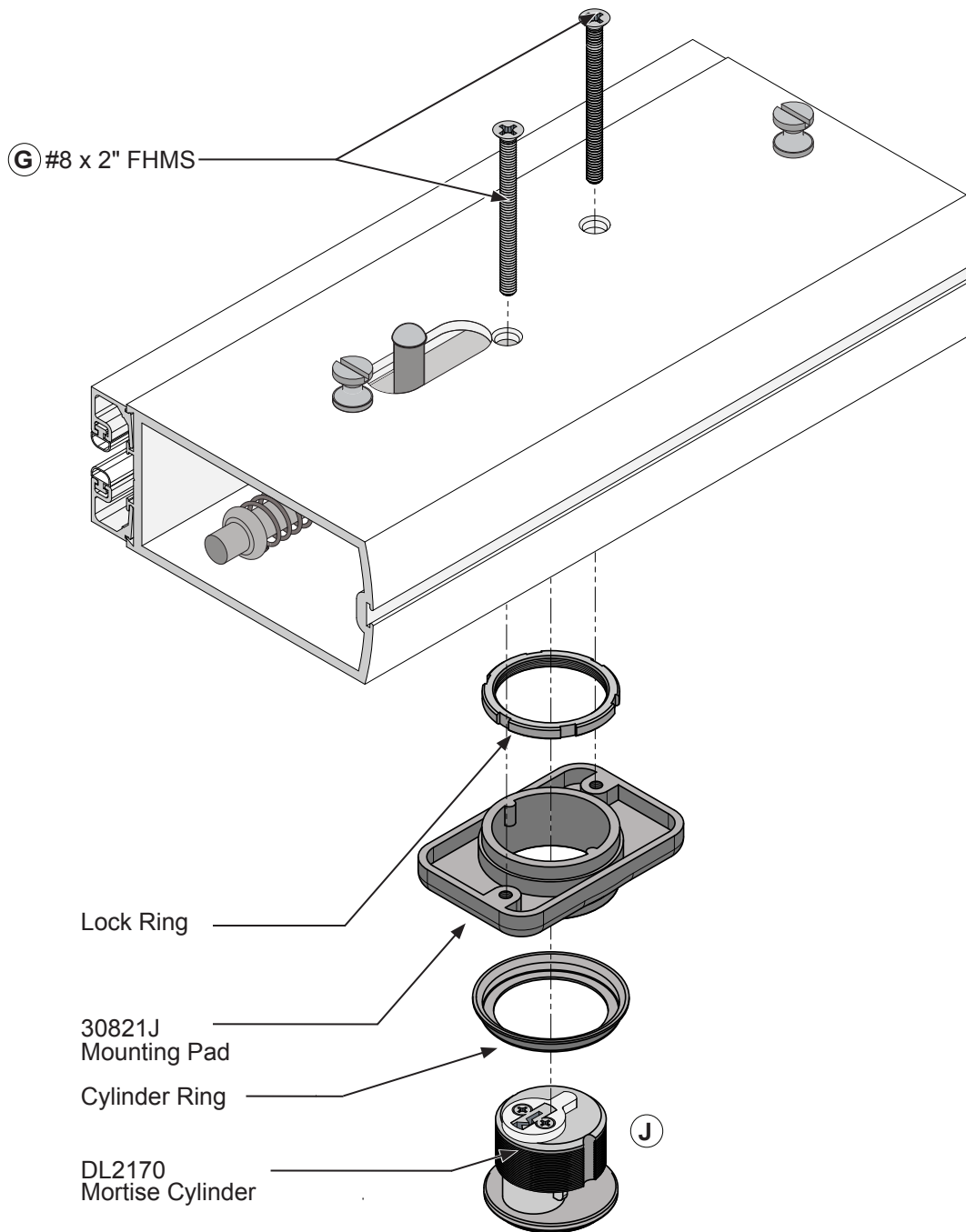


FIG. 11

NOT TO SCALE

# DOOR HARDWARE INSTALLATION (CONTINUED)

## INSTALL OPTIONAL EXTERIOR LOCKING LEVER TRIM

**NOTE:** Exterior trim must be installed before attaching exit device.

Attach the exterior trim to the active stile with (H) (2) #10 x 2-1/8" FHMS

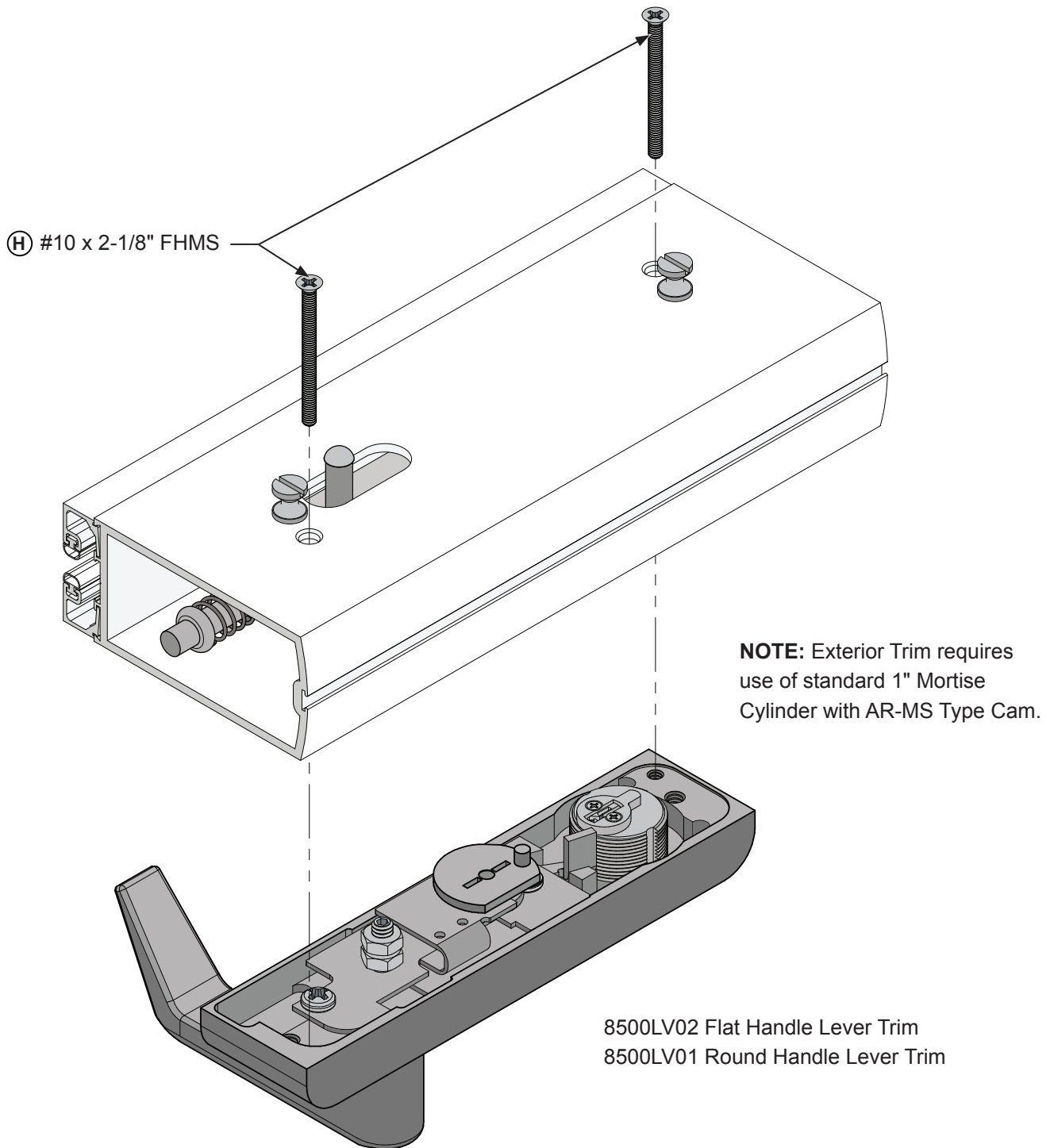


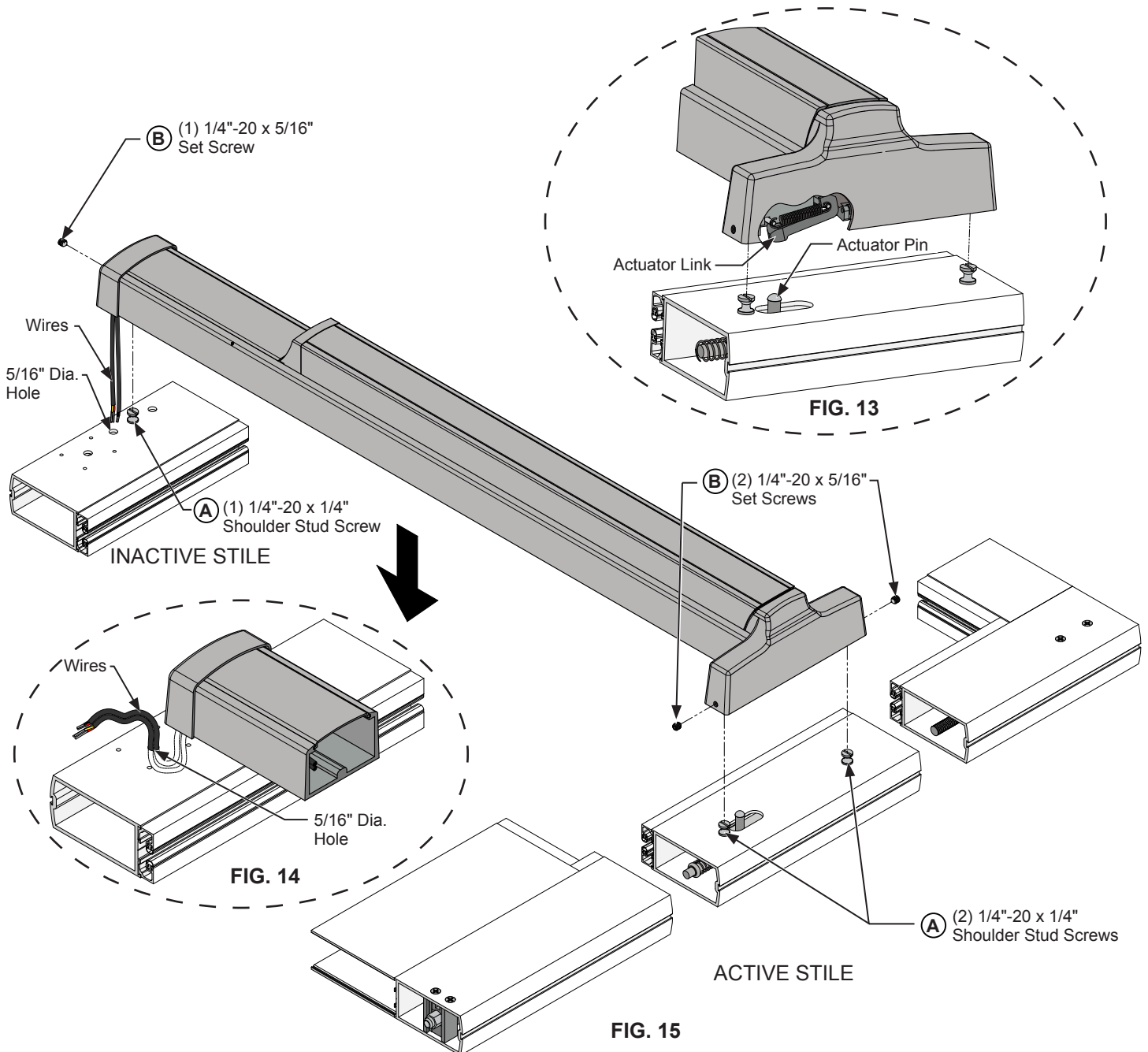
FIG. 12

NOT TO SCALE

# DOOR HARDWARE INSTALLATION (CONTINUED)

## INSTALL 2086E EXIT DEVICE

1. Insert the wires through the 5/16" Dia. hole on the inactive stile.
2. Install the exit device on the door stiles as you feed the wires through the upper 5/16" Dia. hole. Tighten the (B) (3) 1/4"-20 x 5/16" set screws and on each side of the door stiles. (Fig. 14)
3. Pull the wires back through the lower 5/16" Dia. hole located below the exit device.



NOT TO SCALE

## DOOR HARDWARE INSTALLATION (CONTINUED)

### OPERATIONS CHECK INSTRUCTIONS

#### OPERATIONS CHECK:

1. Depress the push bar to assure free movement of the rod and case assembly. Both upper and bottom bolts should activate to the open position. The upper bolt should drop into the open position. **(Fig. 22)**
2. The bottom bolt should fully retract. If the bolts fail to operate as described, review the actuator link and actuator pin and make sure the actuator link engages the actuator pin. **(Fig. 13)**

## FRAME PREPARATION

### RE-ATTACH DOOR TO FRAME

1. Make sure that the panic exit device is in the dogged position. Both the upper and bottom latches must clear the frame. Re-attach the door to the frame.
2. With the door in place and in the closed position, mark the center line locations on the header and threshold of both the upper and bottom latches. **(Fig. 17)**
3. Finish the header and threshold preparation using the layout drawings on page 16.

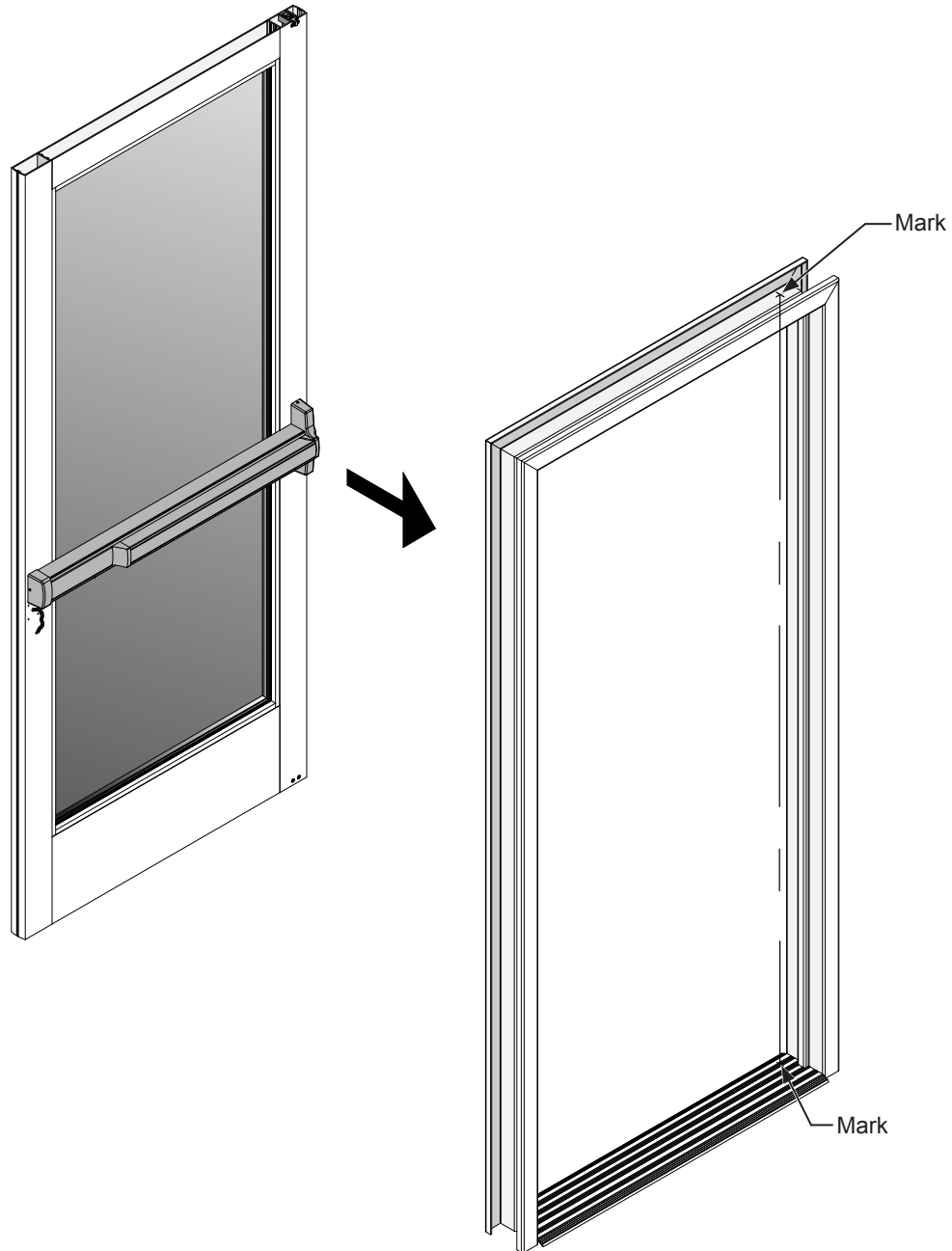


FIG. 16

NOT TO SCALE

## FRAME PREPARATION (CONTINUED)

### ATTACH UPPER STRIKE

Drill and tap for (F) (2) 10-32 x 3/8" FHMS on the mark made in step 2 of the frame preparation on page 15. Attach the upper strike to the header using (F) (2) 10-32 x 3/8" FHMS. (Fig. 17) If the header does not have a door stop attach the trip bracket provided to the header using (D) (2) 10-32 x 3/4" FHMS. (Fig. 19)

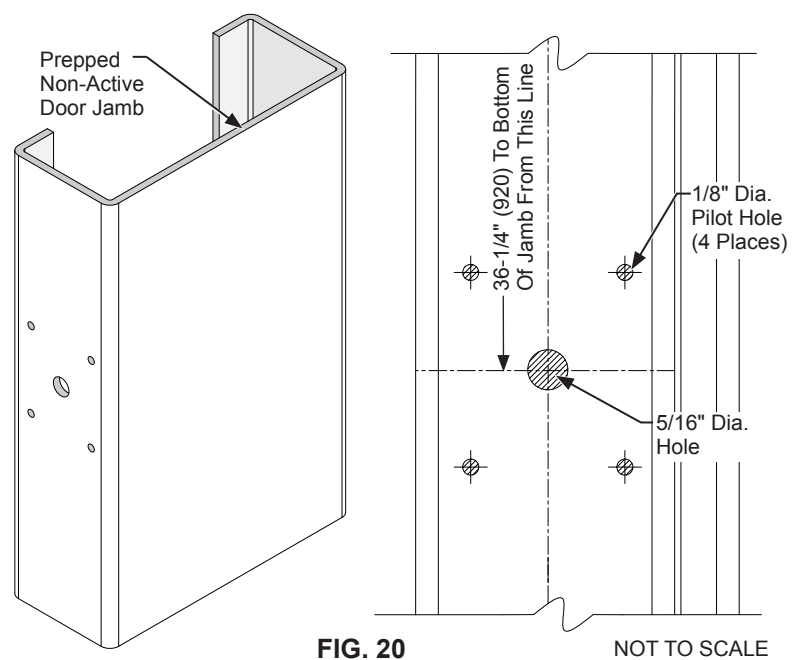
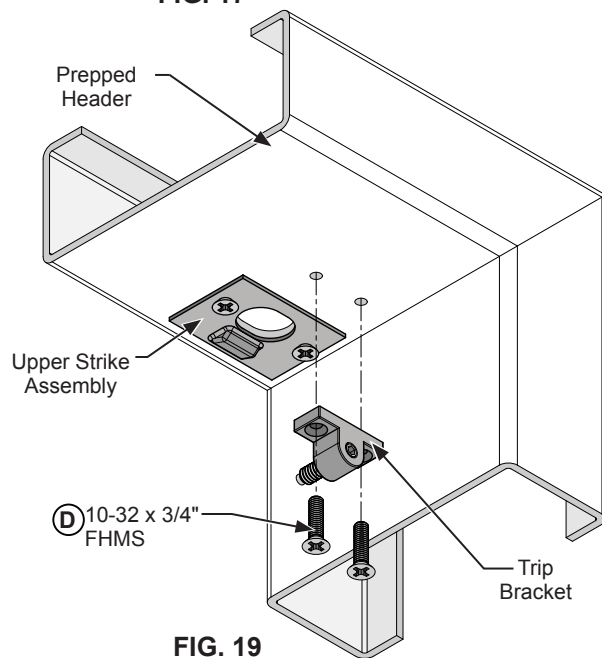
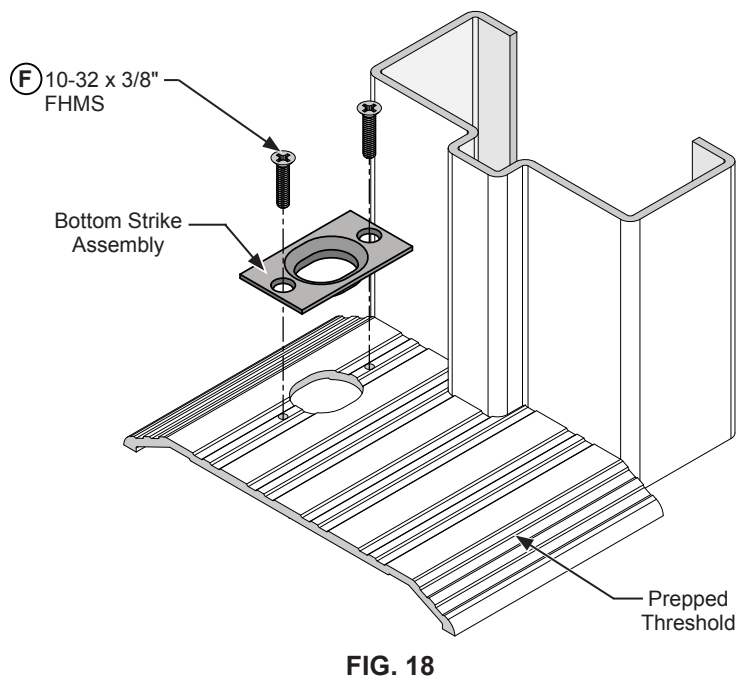
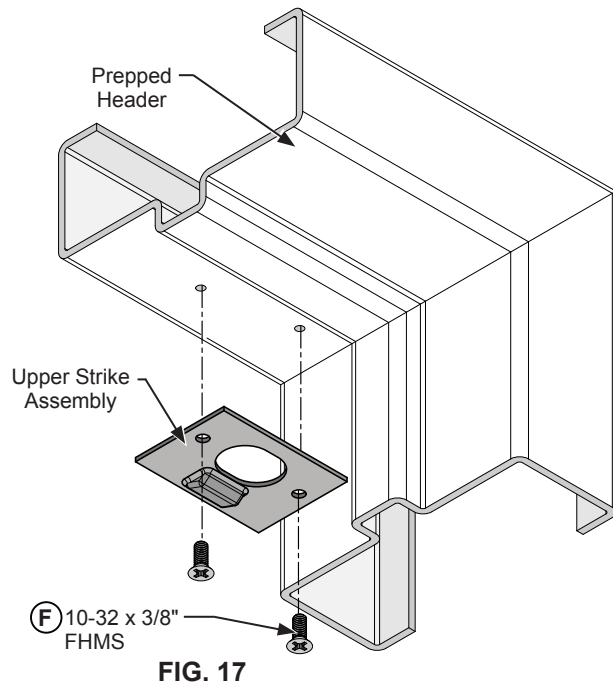
### ATTACH BOTTOM STRIKE

Cut out a 1" long x 13/16" wide hole and Drill and tap for (F) (2) 10-32 x 3/8" FHMS on the mark made. Attach the bottom strike centering on the mark. (Fig. 18)

### PREPARE THE NON-ACTIVE DOOR JAMB SIDE

Drill a 5/16" Dia. hole and Drill (4) 1/8" Dia. pilot holes. (Fig. 20)

**NOTE:** Upper stick assembly must be used for proper operations of panic device





## DOOR HARDWARE ADJUSTMENTS

### ADJUSTMENT TOP AND BOTTOM ROD BOLTS

#### UPPER BOLT:

1. The door must be in the closed position and the push bar must be in the up position to complete the following adjustments.
2. Depress the push bar, The bottom and upper rods will retract. With the rods in this position adjust the bottom bolt using the adjustment wrench (L) included. Adjust the upper bolt 1/16" to 1/8" gap from the header. When the panic is in the released position the upper rod will extend 1/2" into the header. (Fig. 21)

#### BOTTOM BOLT:

1. The door must be in the closed position and the push bar must be in the up position to complete the following adjustments.
2. Depress the push bar, The bottom and upper rods will retract. With the rods in this position adjust the bottom bolt using the adjustment wrench (L) included. (Fig. 22)

**NOTE:** Turn Top and Bottom Guide Rod Bolts using the wrench included so that a flat surface aligns with door face.

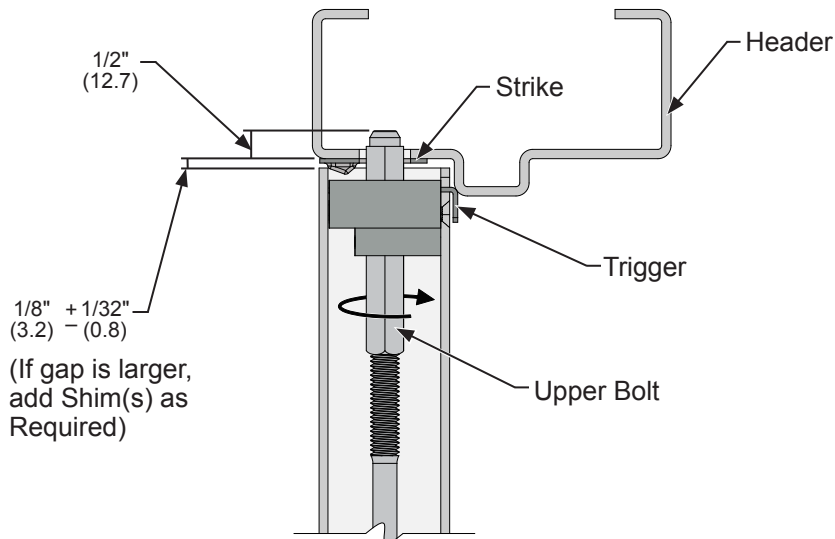


FIG. 21

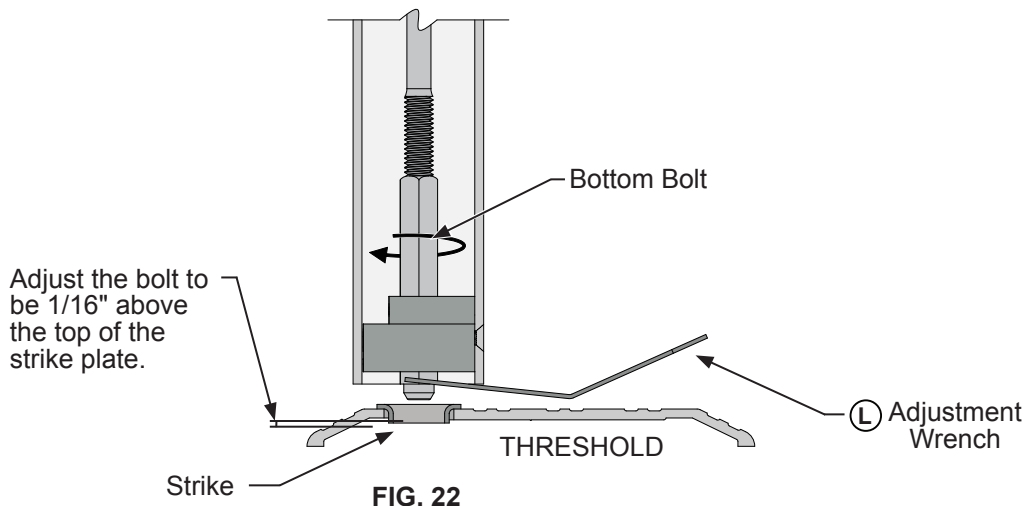


FIG. 22

NOT TO SCALE

## DOOR HARDWARE ADJUSTMENTS (CONTINUED)

### MANUAL CHECK:

Release the Push Pad and manually position the upper latch to the locked position.  
The bottom bolt will extend.

### OPERATIONS CHECK:

Depress the push bar. The bottom bolt should retract to the bottom edge of the door stile. The upper latch will return to the open position.

**\*\*Important:** If the upper latch returns to the open position with the push bar being partially depressed, or if the upper latch does not go to the open position when the push bar is fully depressed, repeat the adjustment steps on page 17. The upper and lower latch might need to be adjusted again. **(Fig. 25)**

[Once the wires are properly attached to the power supply you need to feed the wires through the 5/16" Dia. hole on the non-active door jamb. **(Fig. 27)**]

# CONNECTING THE ELECTRICAL

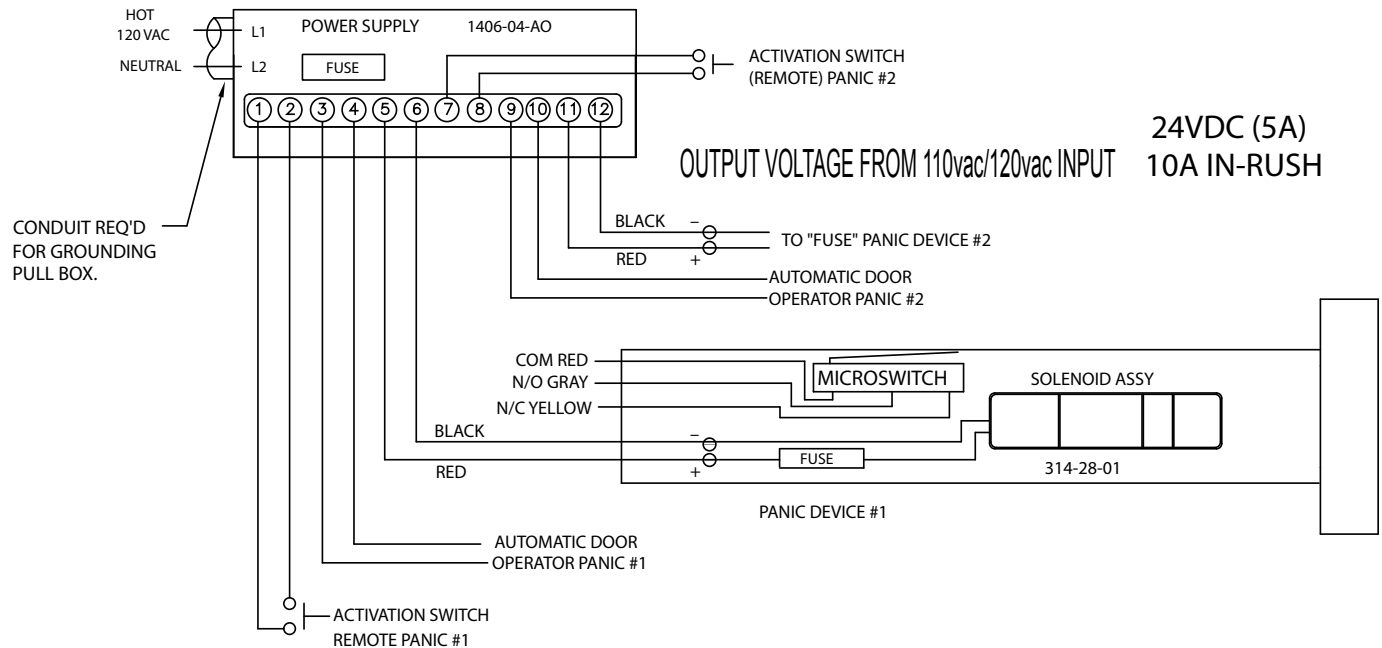
## POWER SUPPLY NO. 302616/1406

### ELECTRICAL SCHEMATIC

**NOTE:** Used with all Jackson 20E Series Electrified Solenoid Latch Retraction Panic Devices Manufactured prior to August 15, 2016.

For use with Motorized Latch Retraction manufactured after August 15, 2016, see page 20.

For Power Supply No. 301420 used with Motorized Latch Retraction, See page 21.



**NOTES**

- 1.) WHEN CONTACTS OF TIME CLOCK OR OVERRIDE SWITCH CLOSE. EXIT DEVICE LATCH BOLTS WILL CLOSE.
- 2.) —○— DENOTES A FIELD WIRE CONNECTION.
- 3.) RECOMMENDED WIRE Ga FROM POWER SUPPLY TO PANIC:
  - 16 Ga UP TO 40'
  - 14 Ga UP TO 60'
  - 12 Ga UP TO 100'

**FIG. 23**

NOT TO SCALE

## CONNECTING THE ELECTRICAL (CONTINUED)

### 1406/1426 24VDC POWER SUPPLY MODULE MODEL 1406/1426-PSM-24VDC

The 1406/1426-PSM-24VDC Power Supply Module converts device output voltage from Jackson 302616, ACSI Series 1406 supplies to a filtered, regulated 24VDC output for use with Jackson Series 20E Motor Drive Electric Latch Retraction Exit Devices. Up to two devices can be connected to the module's regulated output.

### INSTALLING THE MODULE

The power supply module can simply be placed inside the enclosure on the bottom side at the locations shown in Figure 24. Vent holes must face upward, as indicated in Figure 24, to allow for maximum heat dissipation.

**NOTE:** Used with Jackson 20E Series Electrified Motorized Latch Retraction Panic Devices Manufactured after August 15, 2016, only when powered by Power Supply model No. 302616/1406

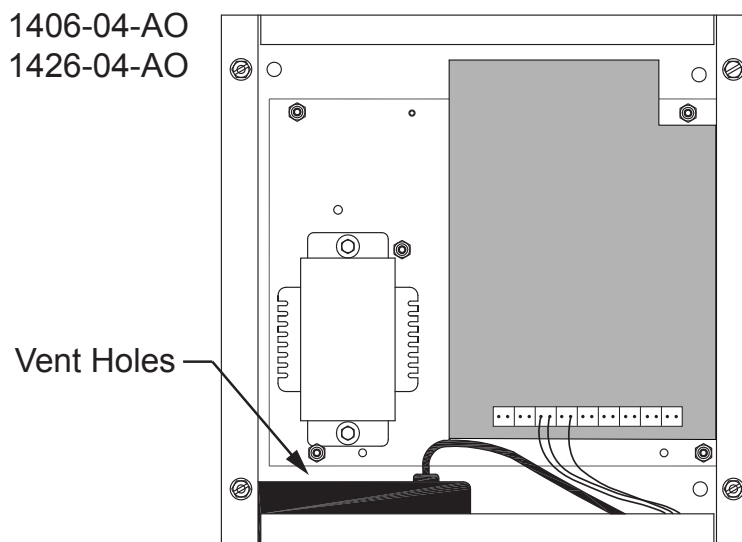


FIG. 24

### WIRE DIAGRAM

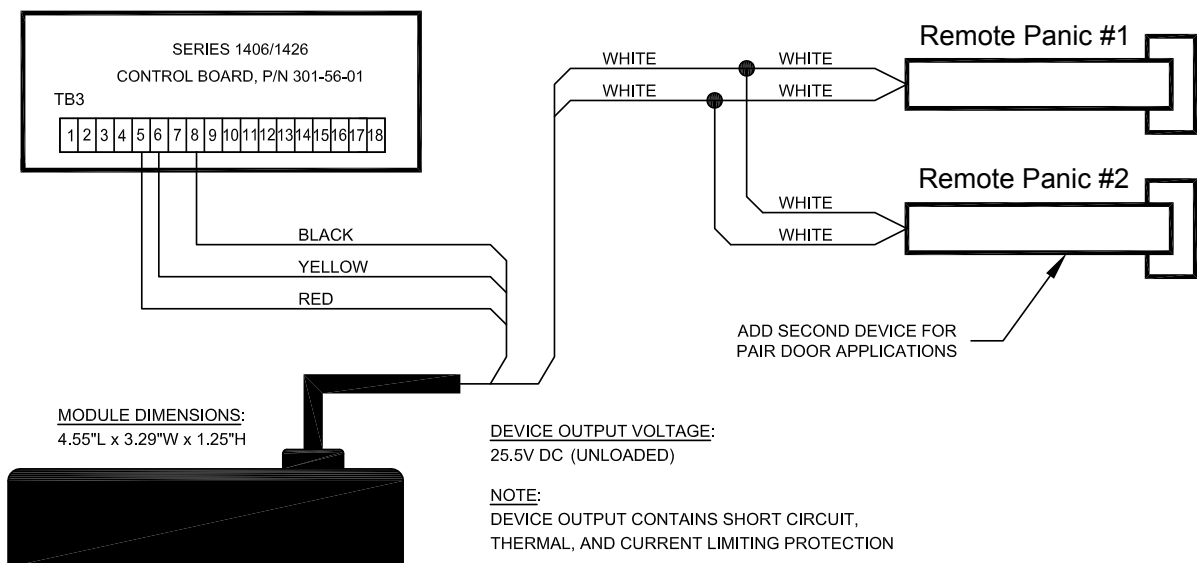


FIG. 25

NOT TO SCALE

# CONNECTING THE ELECTRICAL (CONTINUED)

## POWER SUPPLY NO. 301420 ELECTRICAL SCHEMATIC

**NOTE:** Used with Jackson 20E Series Electrified Motorized Latch Retraction Panic Devices Manufactured after August 15, 2016.

For Solenoid Latch Retraction Manufactured before August 15, 2016, See Page 19.

**SPECIFICATIONS:**

- INPUT VOLTAGE: 120VAC/240VAC, 50/60Hz
- AC CURRENT: 900mA/120VAC, 600mA/240VAC
- OUTPUT VOLTAGE: 24VDC FILTERED, REGULATED
- OUTPUT CURRENT: 2.0A
- OUTPUT POWER: 48W
- PROTECTION: OVERLOAD, OVER VOLTAGE, SHORT CIRCUIT

USE INSTALLATION INSTRUCTIONS II - 1400-5

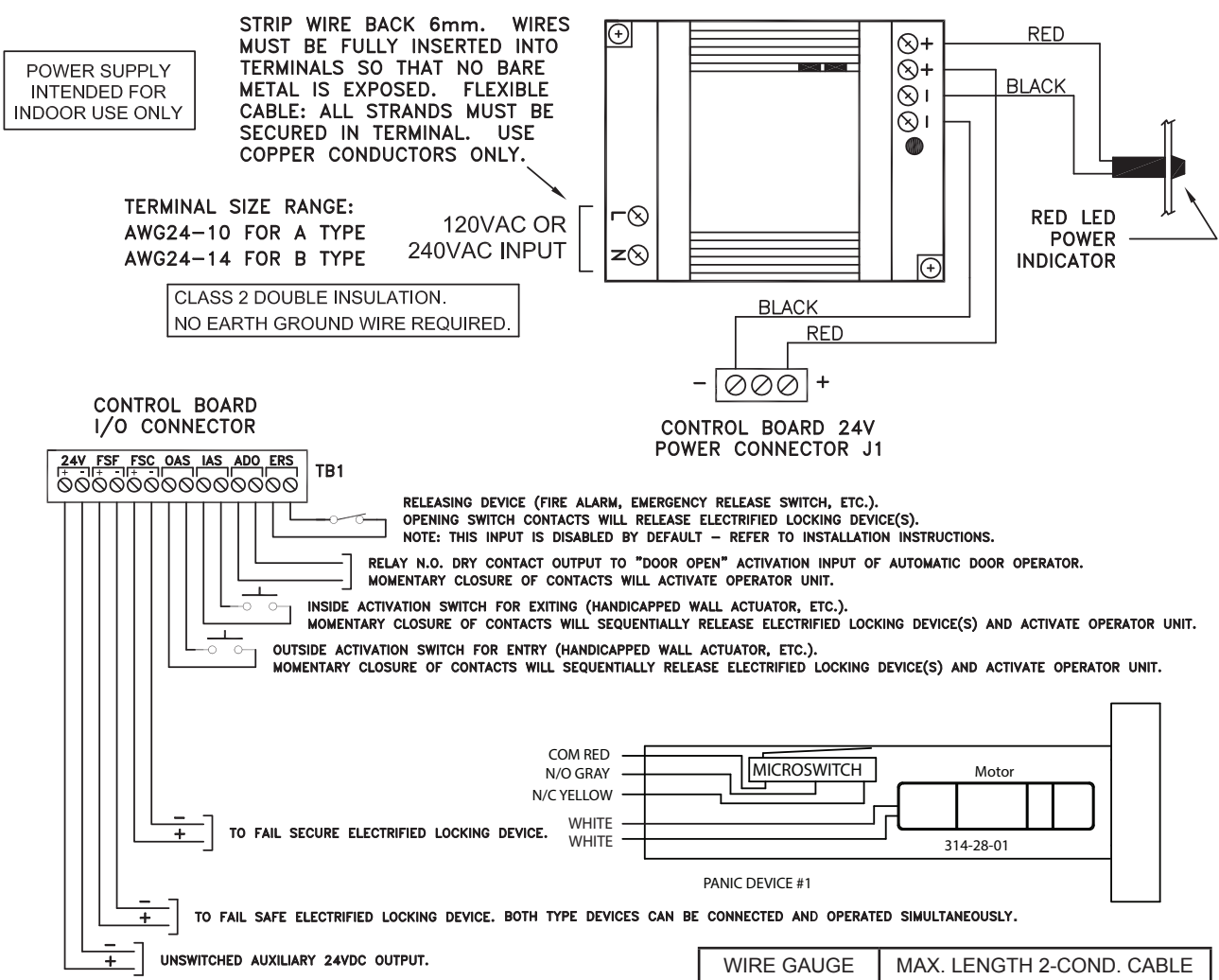
ACCESS CONTROL POWER SUPPLY CLASS 2 OUTPUTS

SECURITY



LISTED EQUIPMENT 4M73

MFG. DATE:



**NOTES:**

- 1.) The sum of all outputs cannot exceed 2 AMPS.
- 2.) When contacts of time clock or override switch close.
- 3.) Denotes a Field Wire Connection.
- 4.) Recommended Wire Ga. from Power Supply to Panic:

WIRE GAUGE	MAX. LENGTH 2-COND. CABLE
22	70 FEET
20	110 FEET
18	150 FEET
15	250 FEET
14	450 FEET
12	720 FEET

FIG. 26

NOT TO SCALE

# CONNECTING ELECTRICAL COMPONENTS

## CONNECTING THE WIRES

After preparing non-active door jamb shown. (Fig. 20, Page 16) Route the wires through the the hole on the door jamb. (Fig. 27) Next feed the wires through the Armored Door Loop, and secure the Armored Door Loop to the door jamb using ① (4) #8 X 1-1/4" FHSMS. (Fig. 28)

Once you have secured the Armored Door Loop connect the wires from the Armored Door Loop to the exit device wires using Twist-On Wire connectors. (Fig.28)

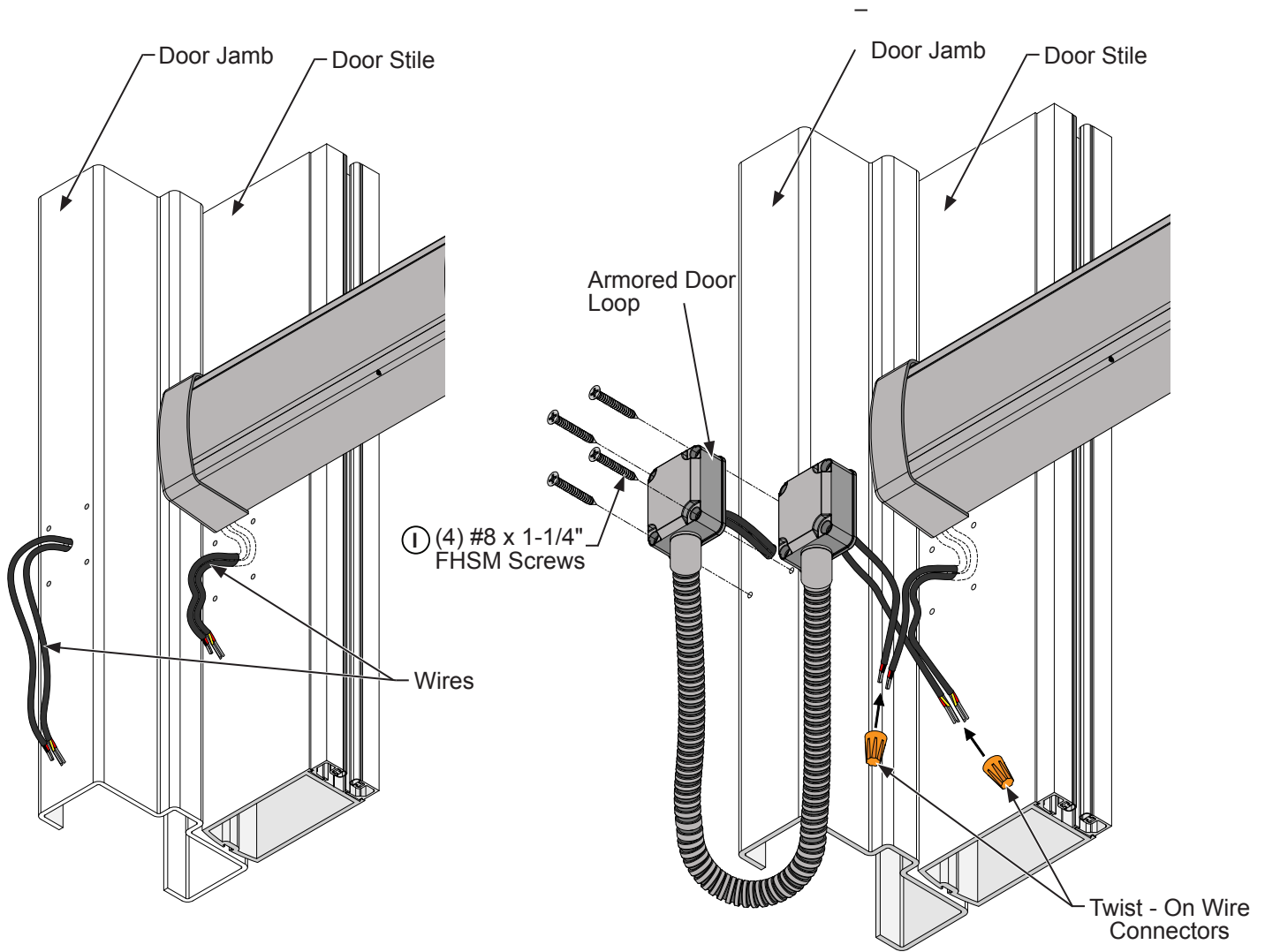


FIG. 27

FIG. 28

NOT TO SCALE

## CONNECTING ELECTRICAL COMPONENTS (CONTINUED)

### ARMORED DOOR LOOP INSTALLATION

After the wires are connected, fold the extra wires into the door stile and into the Pocket of the Armored Door Loop junction box. **(Fig. 29)**

Secure the Door Loop to the door stile using ① (4) #8 x 1-1/4" FHSM Screw. **(Fig. 30)**

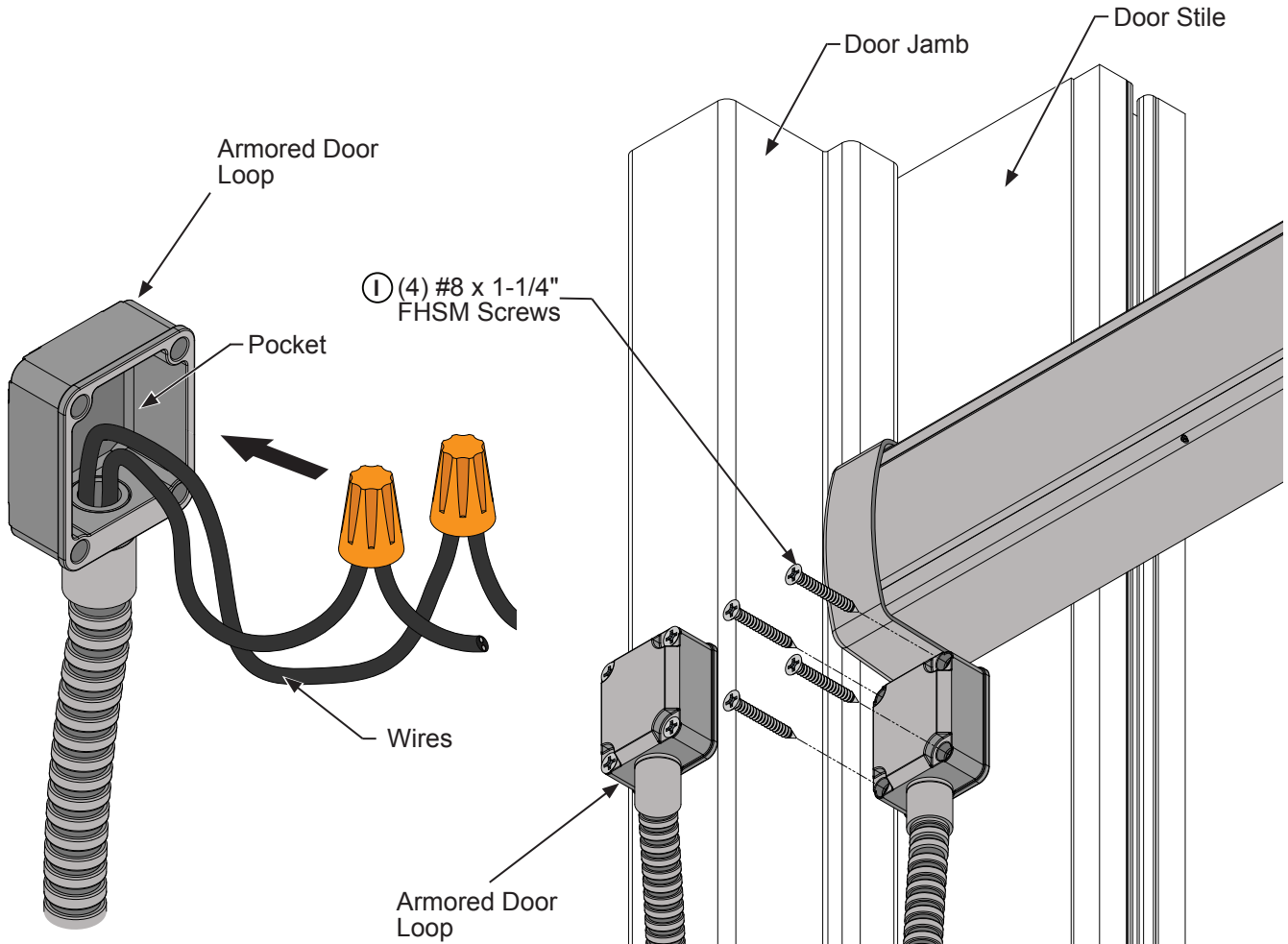
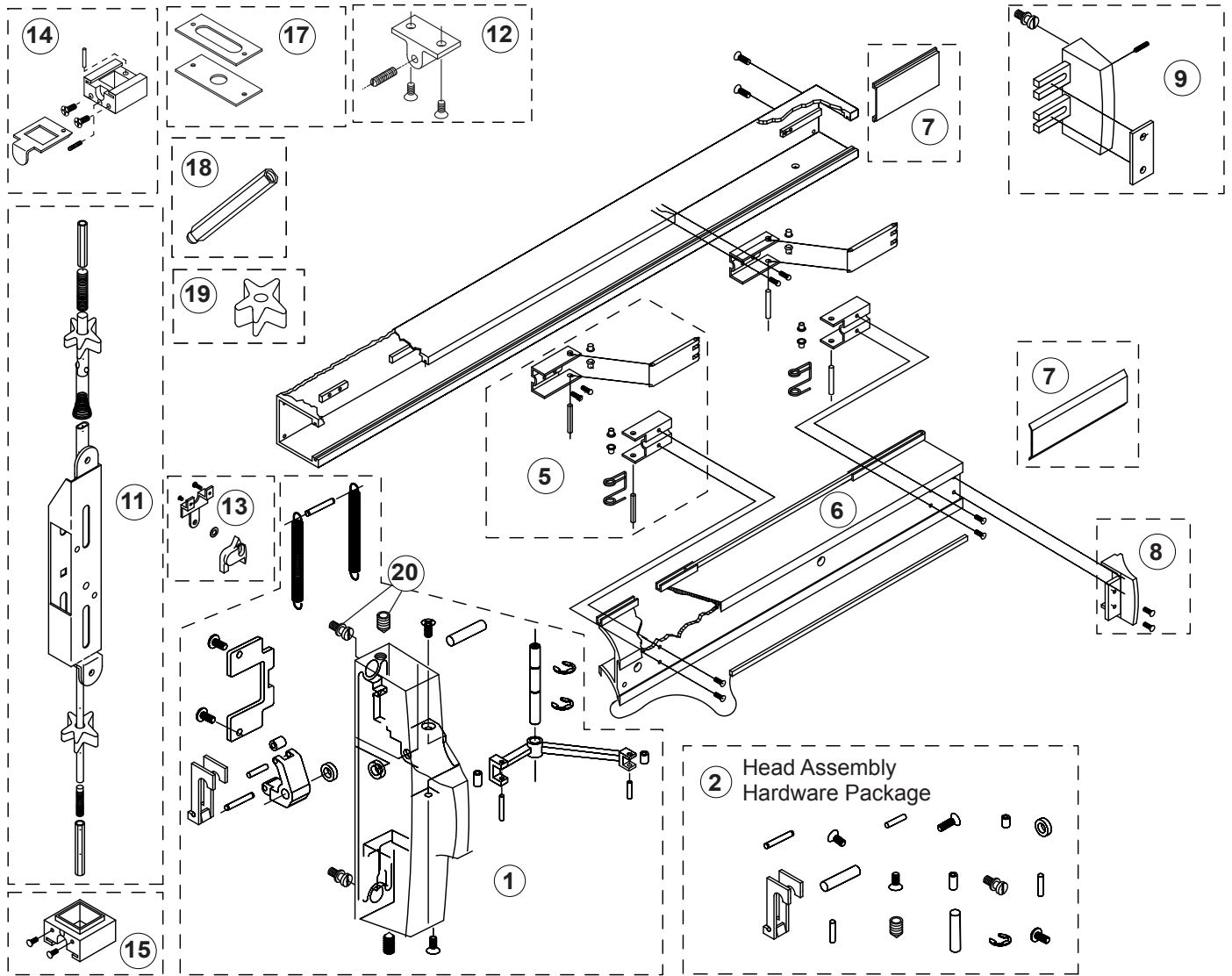


FIG. 29

FIG. 30

NOT TO SCALE

**PACKAGED PARTS AVAILABLE - MECHANICAL ONLY**



Assem. No.	Part No.	Description	Assem. No.	Part No.	Description
1	302617	LHRB - Active Head Assembly	13	30916	Rod and Case Hardware Package
Not Shown	302619	RHRB - Active Head Assembly	14	30934	Top Bolt Guide Assembly
2	302607	Head Assembly Hardware Pkg.	15	30320	Bottom Bolt Guide Assembly
5	301064	Control Arm Hardware Package	17	301084	Strike Package - Top and Bottom
6	302480PKG	Push-Pad Package	18	30763P	Top or Bottom Bolt
7	301063	Base Cover Plate Package	19	301552PKG	Rod Silencers (12 Pkg.)
8	301265	Push-Pad End Cap Package	20	30SBKG	Mounting Shoulder Bolt and Set Screw Pkg. (12 Ea.)
9	301266	Base End Cap Package	Not Shown	30PBAW	Bolt Adjustment Wrench
11	30915J	Standard Rod and Case Assembly	Not Shown	301347	Top Rod Extender - 12"
12	30824	Trip Bracket Package	Not Shown	301348	Top Rod Extender - 24"