



## **Besam SW200i-Fold Folding Door Series**

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### **Owner's Manual**



Complies with NFPA 101 Life Safety Code for Manually Operated Pedestrian Doors

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1010889 Rev -

Issued 5-17-13

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## Revisions

The following pages have been revised:

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## Important Information

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### Important Safety Instructions for Use

In this manual, the words:

**Warning** - means injury or death can result from failure to follow instructions.

**Caution** - means property damage can result from failure to follow instructions.

**Note!** - means that important step(s) are to follow or important differences in equipment.

#### **WARNING**

It is important for the safety of persons to follow these instructions. (Save these instructions.)

#### **WARNING**

To reduce the risk of severe injury or death, material damage and malfunction of the product, the instructions contained in this manual must be strictly observed during installation, adjustment, repairs, service, etc. Only Besam authorized trained technicians should be allowed to perform these operations.

#### **CAUTION**

Improperly adjusted door can cause injury and equipment damage.

Adjust doors for proper operation in accordance with manufacturer's instruction and adherence to NFPA 101 Life Safety Code and/or AHJ "Authority Having Jurisdiction".

#### **Note!**

Besam follows a policy of advancements in development. Instructions, design, specifications and illustrations, which are contained in this manual, are not binding. Rights are reserved for changes without previous notice.





## Introduction

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This manual contains details and instructions for the maintenance and service of the Besam SW200i-Fold automatic folding door package.

The Besam SW200i-Fold Door is designed for an overhead concealed installation between two vertical jambs.

### **To Our Customers**

The purpose of the Besam SW200i-Fold Owner's manual is to familiarize you with your door system. It is essential that you know your door system and that you recognize the importance of having your door system maintained in compliance with the industry standards for safety.

It is your responsibility, as owner or caretaker of the equipment, to inspect the operation of your door system on a daily basis to ensure that it is safe for use by your guests, customers or employees.

This manual will provide you with a description of the operation and maintenance requirements of your door. It also provides instructions for the Daily Safety Check.

Should the door fail to operate as prescribed in the Daily Safety Check, or at any other time for any other reason, do not attempt to repair or adjust the door. Call a qualified service technician if repairs or adjustments are required. These certified technicians are trained to service your door in accordance with applicable industry safety standards.

### **Service Availability**

Besam products are distributed through a nationwide network of Besam offices and authorized Distributors for sales, installation and service.

Should you need service on your door system, consult the yellow pages of your telephone directory or for your local Besam authorized Distributor, call 1-877-BESAM-US or visit [www.besam-usa.com](http://www.besam-usa.com) and select Contact Us.

## **Compliance with Safety Standards**

Your door system was designed to meet the latest operating and safety standards. In order to ensure the continued safe operation of your door, it is important that:

- Your door system is maintained in compliance with the industry standards.
- Proper decals and labels are applied and maintained on your doors. If decals are removed or cannot be read, request that the labels be replaced when calling for service or as needed.
- Safety devices for all doors should be checked by an AAADM certified inspector annually and each time a door is serviced.

## **AAADM**

The American Association of Automatic Door Manufacturers (AAADM) has established a program to certify automatic door inspectors. Through this program, the inspectors check your door systems for compliance with the appropriate version of the American National Standards Institute Standard ANSI A156.10.

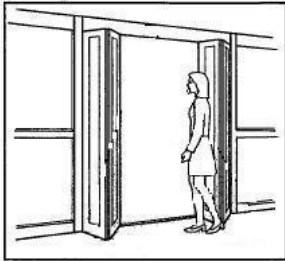
## **General Safety**

1. Decals – The door should have traffic decals properly displayed.
2. Housekeeping – Check the door area for tripping or slipping hazards.
3. Check all door panels for broken or cracked glass. Glass should be made of safety type material.
4. Check the threshold, if one exists, for cleanliness and that it is securely attached.

## Knowing Act Folding Door Version

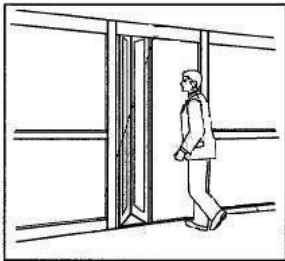
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### Daily Safety and Performance Check



Use this safety check for each folding door unit. All safety checks must be performed while restricting traffic and/or movement within the door(s) activation and hold open detection areas.

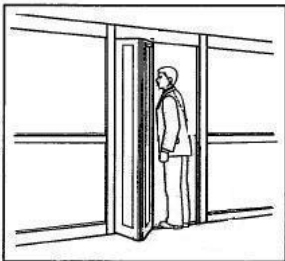
To ensure efficient, safe operation of SW200i-Fold doors, it is recommended that this operational checklist be performed on a daily basis.



#### Note!

Knowing Act doors do not use motion sensors to activate the door, but do use “knowing act” type devices (for example; push plate, key pad or car reader).

To ensure efficient, safe operation of a knowing act, bi-folding door, it is recommended that this operational checklist be performed on a daily basis:



ABFD001a

1. Check that electrical power is present and that the door system has been activated.
2. Check door activating devices (push plate or key pad) for either:
  - one way traffic (in or out)
  - or
  - two way traffic (in and out)

When using a Knowing Act device, a fully closed door should begin to open when Knowing Act device is activated, open smoothly and slow before reaching the full open position. After a minimum 5-second time delay at full open, the door should close smoothly and stop softly in the closed position. A fully closed door should begin to open when the push plate is pressed or the keypad key turned, door should close smoothly after a 5.0 second minimum time delay and stop softly in the closed position.

3. If equipped with safety sensors, stand in the sensor zone with the door closed. Have someone activate the push plate or keypad. The door should stay open.
4. After the door has opened, stand motionless in the sensor for at least 15 seconds. The door should not close.

**Note!**

If door tries to close during sensor check, place the switch in the OFF position and contact your authorized Besam Distributor.

5. Check operating speeds (see safety requirements).
6. Check door and surrounding areas for any broken glass, damaged wiring or loose or broken materials.
7. If thresholds are used, they should be firmly anchored to the floor.

**Note!**

Should you encounter a problem, place the switch in the OFF position and contact your authorized Besam Distributor.

**Safety Requirements**

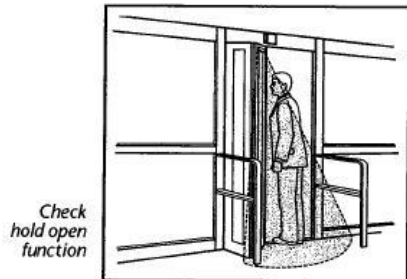
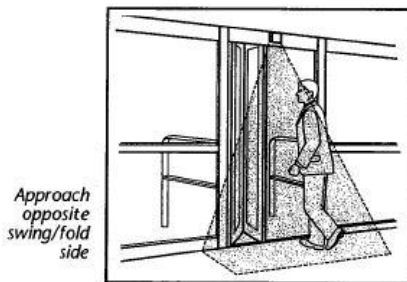
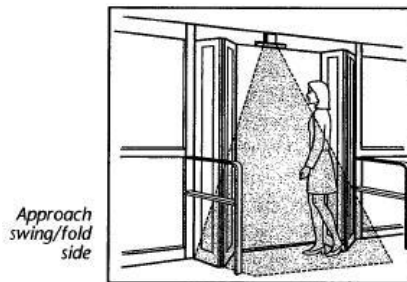
**Opening/closing speeds** – The minimum opening time from fully closed to back check is 3 seconds. The minimum closing time from full open to latch check is 3 seconds.

**Closing low speed distance** – The low speed closing (latch check) distance for each leaf to the other door or jamb must be a minimum of 2" (51mm) in width. Folding door shall not close through the final 2" in less than 1.5 seconds.

**Opening low speed** – Observe that the door slows before reaching the full open position.

## Folding Door Pedestrian Version

### Daily Safety and Performance Check



ABFD002

Applications and adjustments must comply with ANSI A156.10. Use this safety check for each folding door unit with motion detectors, hold open and safety zones. All safety checks must be performed while restricting traffic and/or movement within the door activation and hold open detection areas.

To ensure efficient, safe operation of a pedestrian automatic bi-folding door, it is recommended that this operational checklist be performed on a daily basis.

1. Check that electrical power is present and that the door system supply switch is in the ON position.
2. Check door activating devices (motion sensors) for either:
  - one way traffic (in or out)  
or
  - two way traffic (in and out)

**SWING/FOLD SIDE ACTIVATION:** approach door, door should begin to open when you are about 6 feet (1981 mm) to 7 feet (2134 mm) away. Door should fold open smoothly and stop softly in the full open position

**OPPOSITE SWING/FOLD SIDE ACTIVATION:** approach door, door should begin to open when you are about 4 feet (1219 mm) to 5 feet (1524 mm) away. Door should fold open smoothly and stop softly in the full open position.

3. Leave motion sensor zone, door should close smoothly after a 1.5 second minimum time delay and stop softly in the closed position.
4. Check motion detection across the door opening by activating folding door at opposite various approach angles.
5. Check each sensor on door package.
6. Check Safety Sensor function. Stand motionless in the threshold for a period of 15 seconds. Door should remain open.

#### Note!

If the door tries to close during Safety Sensor check, place the switch in the OFF position and contact your Besam authorized Distributor.

7. Check safety zone. With folding door closed, have someone stand carefully (within 2 feet maximum) on the swing/fold side of the door. Approach activating side of the door, door should NOT open.

**Note!**

If the door tries to open during Safety Sensor check, place the switch in the OFF position and contact your Besam authorized Distributor.

8. Check operating speeds (see safety requirements).
9. Check door panels and surrounding areas for any broken glass, damaged wiring or loose or broken materials.
10. If thresholds are used, they should be firmly anchored to the floor.

**Note!**

Should you, at any time, encounter a problem with the door system, place the switch in the OFF position and contact your Besam authorized Distributor.

## **Safety Requirements**

**Opening speed** – the minimum opening speed from fully closed to back check is 1.5 seconds.

**Opening low speed** – the final slow opening (back check) distance should be observed during the completion of an opening cycle.

**Closing speed** - the minimum closing speed from fully open to the starting point of latch check is 3.0 seconds.

**Closing low speed distance** – the low speed closing (latch check) distance for each leaf to the other door or jamb must be a minimum of 2" (51mm) in width. Folding door shall not close through the final 2" in less than 1.5 seconds.

**Note!**

Besam recommends an annual AAADM inspection on all automated pedestrian doors to verify safe operation and limit liabilities.

## Service

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Regular inspections by a trained and qualified person, and the frequency of service occasions, should at minimum be made according to national regulations or industry standard, in the absence of a national regulation. Environmental aspects shall also be considered. This is especially important when the installation concerns a fire-approved door or a door with an emergency-opening function. To extend the life of your investment and ensure safe and reliable operation of the door, we recommend a minimum of 2 visits per year or more, depending on usage and operating conditions. Talk to your Besam representative for the best solution for your installation and to learn more about Besam Pro-Active Care! For contact information, see last page of this manual.



### Limited Warranty

Besam US, Inc. hereby warrants, subject to the provisions hereof, that the products and parts manufactured by Besam and its affiliates shall be free from defects in material and workmanship for a period of 1 year from the date of shipment from Besam's factory.

## Product Configurations

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Besam's SW200i-Fold packages are offered in either two panel or four-panel configurations. They can also be ordered to accommodate either one-way or two-way traffic.

This product is available with two types of opening and closing speeds:

### **Knowing Act**

Opening and closing speeds on this package are field adjusted by a qualified AAADM certified technician to comply with ANSI A156.10. OPD presence detection system may also be used to provide safety to this system.

### **Pedestrian**

Opening and closing speeds are field adjusted by a qualified AAADM certified technician to comply with ANSI A156.10. Activation device for the Besam SW200i-Fold Door is a unidirectional microwave motion detector. Safety for the SW200i-Fold Door System is provided by the use of an OPD system.



## Operational Features

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### Control Switch Functions

Two-Position Switch	“OFF”	Operator is disconnected (Door(s) can be locked manually).
	“AUTO”	Normal position – the door can be opened with inner and/or outer opening devices (Normal business hour setting).
Three-Position Switch	“OFF”	Operator is disconnected (Door(s) can be locked).
	“AUTO”	Normal position – the door can be opened with inner and/or outer opening devices (Normal business hour setting).
	“HOLD OPEN”	Door(s) permanently open.
Three-Position Switch	“AUTO”	Normal position – the door can be opened with inner and/or outer opening devices (Normal business hour setting).
	“OFF”	Operator is disconnected (Door(s) can be locked).
	“HOLD OPEN”	Door(s) permanently open.

Ensure that your Besam Distributor has given you all the following information for each installation:

1. Location of operator switches and their functions.
2. Circuit breaker or power disconnect location for each door system.
3. Supplied and installed door panel decal for daily safety checks.
4. Instructions on how to conduct the Daily Safety Check.
5. Warning of maintenance problems that could result from door being allowed to operate incorrectly.
6. Discussion of issues that could result from door being allowed to operate after a malfunction is detected.
7. Contact information for concerns regarding the Besam product or to request a service visit by a Besam representative.

**Note!**

If there are any problems with your Besam door system, discontinue door operation immediately and secure in a safe manner. Call your local authorized Besam Distributor for repair.

8. AAADM compliance certificate signed by an AAADM certified automatic door inspector.
9. Warranty information for each door.

## Door Locking Procedures

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On "Knowing Act" packages, the Key Switch is located in the doorjamb. On Pedestrian Packages, the Key Switch is located at the end of the guide rail.

### **TO LOCK**

1. Turn door function switch to "OFF" position (see control switch functions).
2. For interior locking - door can now be secured with lock mechanism.
3. For exterior locking - manually fold open door, then exit and the door closes, then secure with key.

### **TO UNLOCK**

1. Unlock door.
2. For exterior unlocking, manually fold open door, enter and allow door to close. Then turn switch to desired function.
3. For interior unlocking, turn door switch to desired function (see control switch function).

### **EMERGENCY EGRESS**

(Panic Opening)

In the event of an emergency, your SW200i-Fold door is, in most cases, capable of swinging outwards into a "Panic Breakaway" position by exerting force at the lock edge of the door. The operator's function is disabled (shut off) whenever the door is positioned in the "Panic Breakaway" position and will automatically resume operation when the door is return to the normal operating position.

## Troubleshooting for SW200i-Fold

Fault	Possible Reasons Why	Remedies/Explanations
Door won't open.	Switch in off mode. Door locked or jammed closed. Main power off.  Approach detector defective.  Control fuse(s) blown.  Motor fuse(s) blown.  Defective motor.	Turn switch to AUTO switch position. Unlock or remove obstruction. Check main power breaker and turn switch to the ON position. Turn switch to door to the OFF position, secure and consult authorized Besam Distributor.  Turn switch to door to the OFF position, secure and consult authorized Besam Distributor.  Turn switch to door to the OFF position and consult authorized Besam Distributor.  Turn switch to door to the OFF position and consult authorized Besam Distributor.  Turn switch to door to the OFF position and consult authorized Besam Distributor.
Door holds open	Door jammed open.  Approach detector defective.  Mechanical problem with operator.  Broken closing spring.  Defective control.  Switch in hold open.	Remove obstruction.  Turn switch to door to the OFF position, secure and consult authorized Besam Distributor.  Turn switch to door to the OFF position, secure and consult authorized Besam Distributor.  Turn switch to door to the OFF position, secure and consult authorized Besam Distributor.  Turn switch to door to the OFF position, secure and consult authorized Besam Distributor.  Turn switch to AUTO switch position.
Door closes while standing in its path.	Defective presence detector.	Turn switch to door to the OFF position, secure and consult authorized US Besam Inc.

Fault	Possible Reasons Why	Remedies/Explanations
Door recycles open and closed.	Defective approach detector.	Turn switch to door to the OFF position, secure and consult Besam Distributor.
	Defective presence detector.	Turn switch to door to the OFF position, secure and consult Besam Distributor.
	<p><b>NOTE:</b> Door and detection device functions must comply with applicable safety standards. Repairs should be performed by an authorized Besam Distributor. For safety standards information, consult Besam US Inc.</p>	

## Parts List

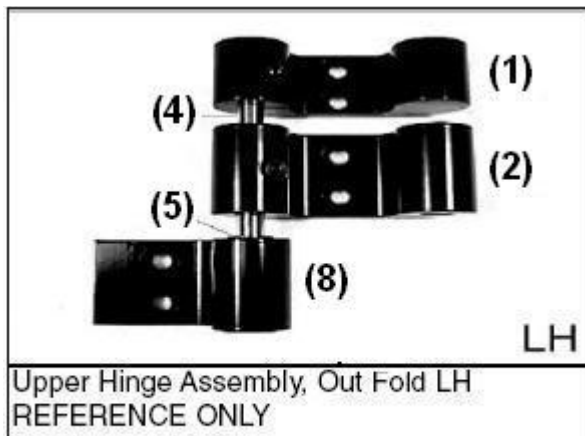
The following parts list contains only major assemblies for this door system. If any assembly requires parts, it is recommended that a Besam authorized service center and that only Besam authorized trained technicians be allowed to perform work on your door system.

### SW200i-Fold Hinge Parts List

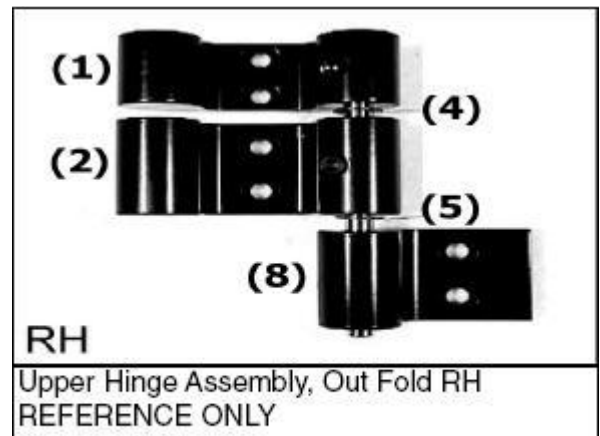
SW200i-Fold Hinge Assembly Part Numbers					
IT	Description	Part #	RH	LH	Notes
1	Bearing Pivot, Carrier	55-15-120	X	X	(Ref Illustration)
2	Bearing Pivot, Double	55-15-121	X	X	(Ref Illustration)
3	Shaft, Pivot, LH	55-15-123		X	(Also, In/Out Fold)
4	Shaft, Long	55-03-040	X	X	
5	Thrust Washer	55-09-045	X	X	(Ref Illustration)
6	Spring, Torsion, RH	55-03-055	X		(Ref Illustration)
6	Spring, Torsion, LH	55-03-056		X	(Shown)
7	Cup, Spring	55-04-096	X	X	
8	Bearing Pivot, Single	55-15-122	X	X	(Ref Illustration)
9	Shaft, Pivot, RH	55-15-124	X		Also, In/Out Fold

### SW200i-Fold Hinge Assemblies

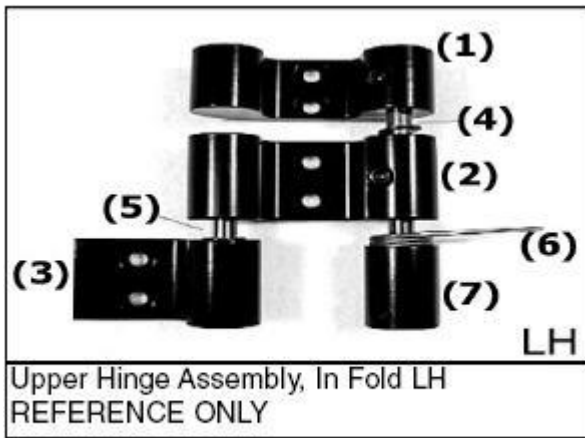
The graphics below each represent a different hinge configuration with identification numbers that relate to the item numbers in the table preceding this page.



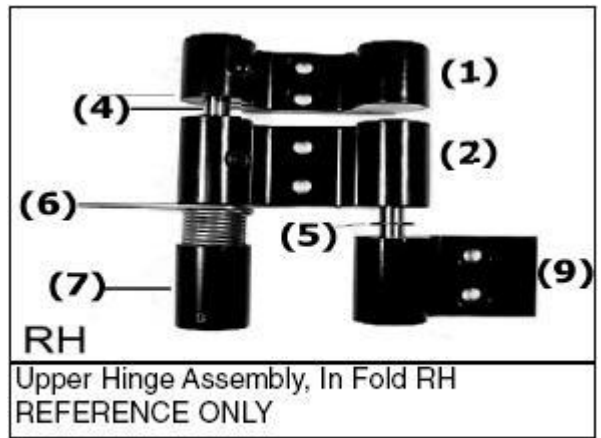
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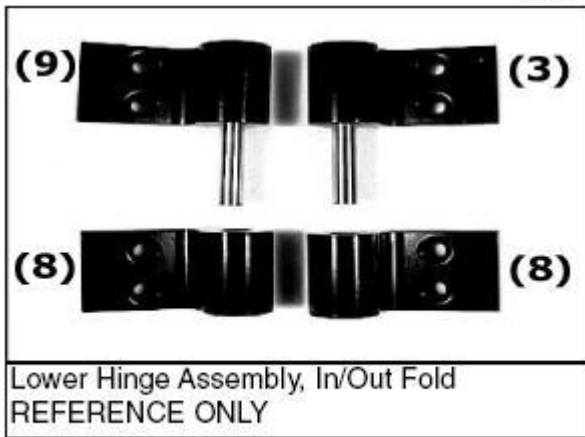
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RF028

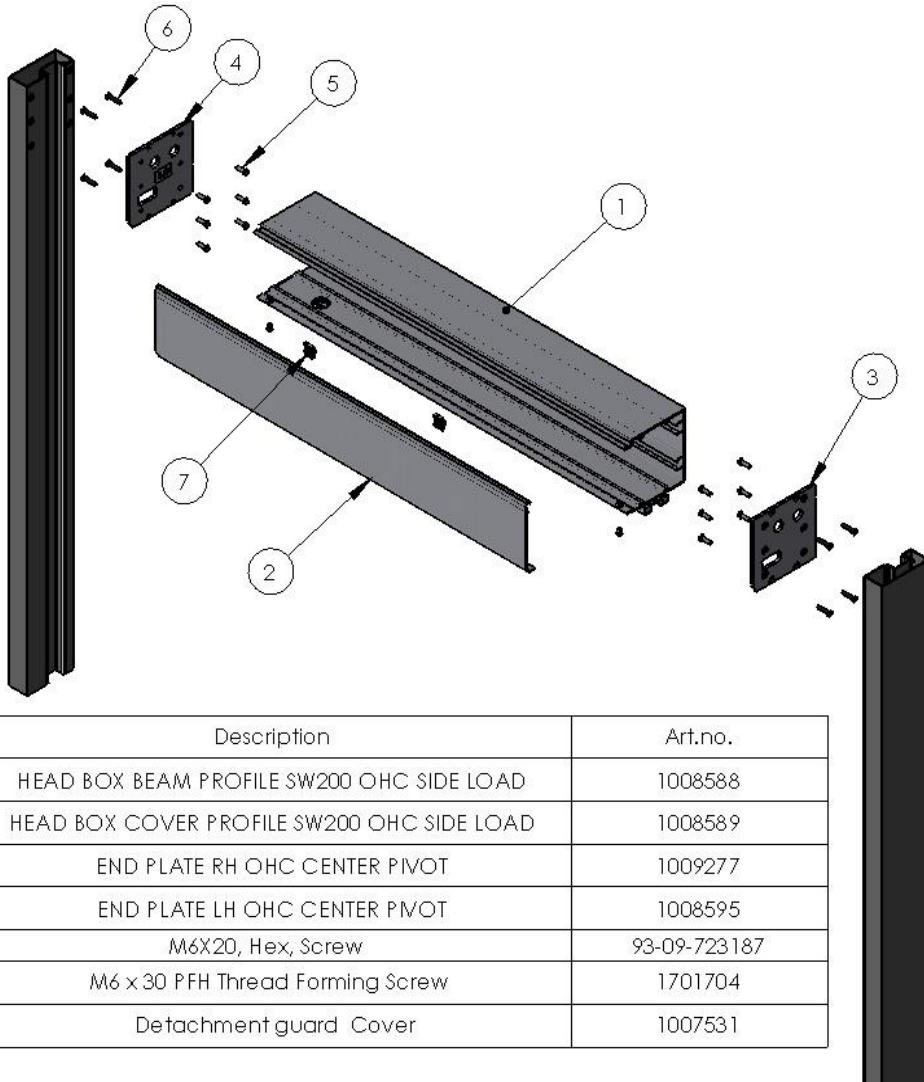


RF029



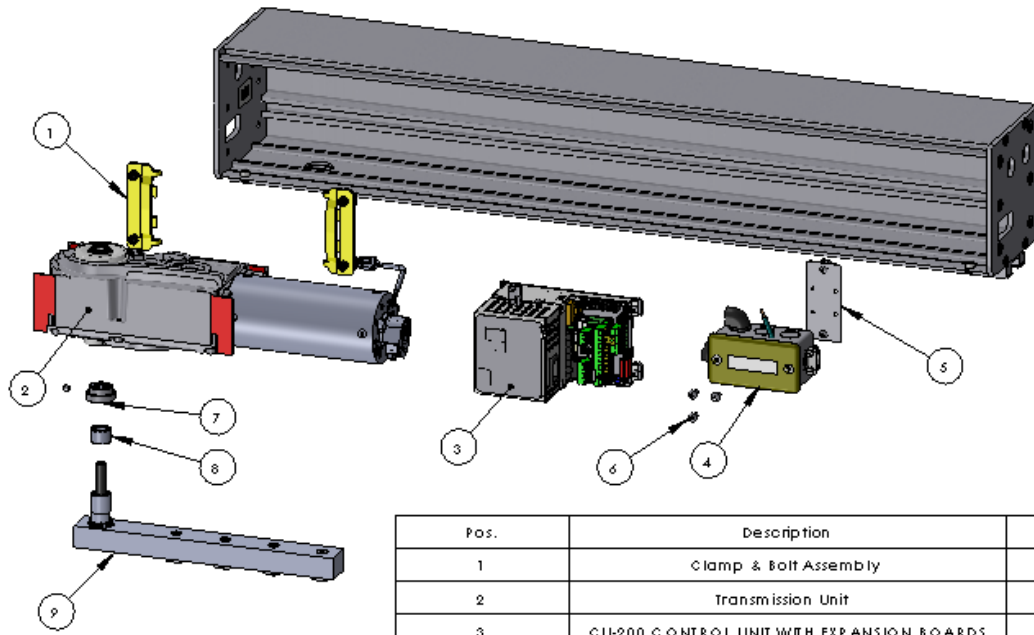
RF030

## SW200i-Fold Parts



Item	Description	Art.no.
1	HEAD BOX BEAM PROFILE SW200 OHC SIDE LOAD	1008588
2	HEAD BOX COVER PROFILE SW200 OHC SIDE LOAD	1008589
3	END PLATE RH OHC CENTER PIVOT	1009277
4	END PLATE LH OHC CENTER PIVOT	1008595
5	M6X20, Hex, Screw	93-09-723187
6	M6 x 30 PFH Thread Forming Screw	1701704
7	Detachment guard Cover	1007531





Pos.	Description	Art.no.
1	Clamp & Bolt Assembly	1009035
2	Transmission Unit	1007291
3	CU-200 CONTROL UNIT WITH EXPANSION BOARDS	1008346
4	CONNECTION BOX ASSY CPD FACTORY WIRING	1007504
5	BRACKET KIT OHC JUNCTION BOX	1008614
6	SCREW B O 7045 (M8X) MR X-TT-Z M5X10 FZB 8.8	723196
7	STOP ARM LOCATOR	1007323
8	5/8 SHAFT EXTENSION OHC	1008596
9	OHC ARM KIT	1009345

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