

# 8900 PH/PHP

Plunger hold open for regular, top jamb  
and parallel mounts

## Installation instructions

08280471 – 09-2019

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# 1 Technical specifications


## 1.1 Overview


-  Caution: sex nuts are required for attachment of components to unreinforced doors and to wood or plastic faced composite type fire doors, unless an alternative method is identified in the individual door manufacturer’s listings.

 Maximum door opening degree is 180°.

 Maximum 4-1/2" reveal on top jamb mounts for 180° degree openings.
-  Hold open range is from 30° to 140° with optional hold open kit.

 Know the swing of the door which is being installed prior to installation.

 Verify closer spring size prior to installation.

 Make sure door efficiently operates prior to installing closer.

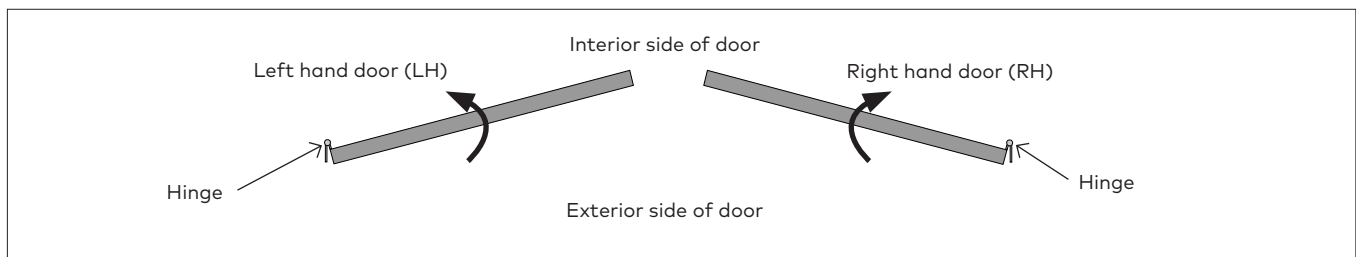
## 1.2 Tools recommended

Table 1

Drill bits:	#3 Phillips screwdriver
Metal: 7/32" drill bit; 1/4-20 tap	3/16" flat head screwdriver
Wood: 3/8" and 5/32" bit	5mm hex key
1/2" & 7/16" box wrench	

## 1.3 Handing the door

Fig.1



## 1.4 Surface closer components

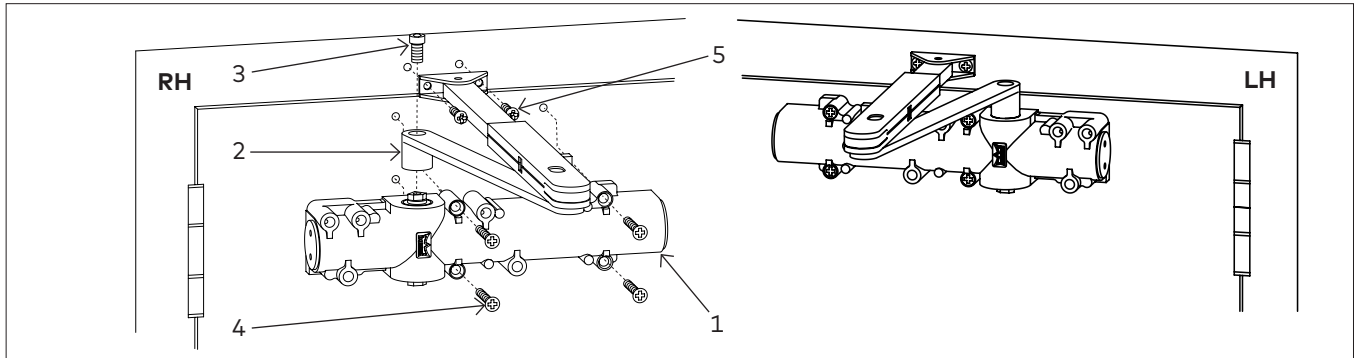
The surface closer is comprised of the following components.

1. Closer body
2. Plunger hold open arm
3. Pinion screw
4. flat head screws (metal and wood) 1/4-20
5. Pan head screws (metal and wood) #14
6. PA bracket
7. PA shoe screws
8. Cover
9. Plates
10. Full metal cover

# 2 Installation - regular mount

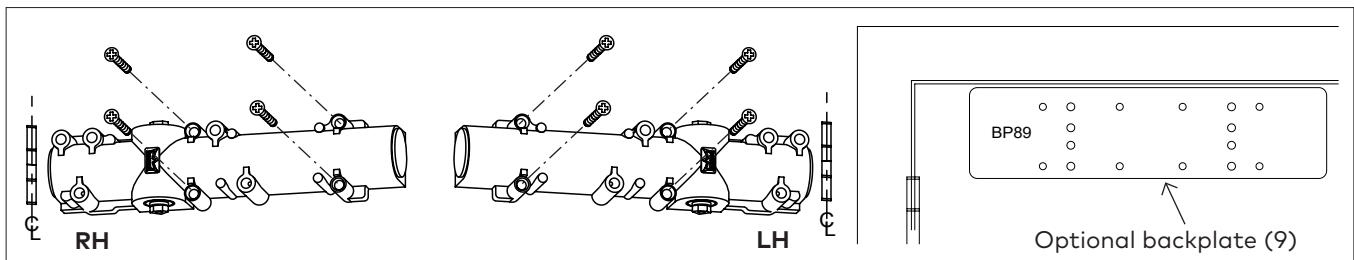
## 2.1 Surface closer system

Fig.2



## 2.2 Installing surface closer and (optional) back plate

Fig.3



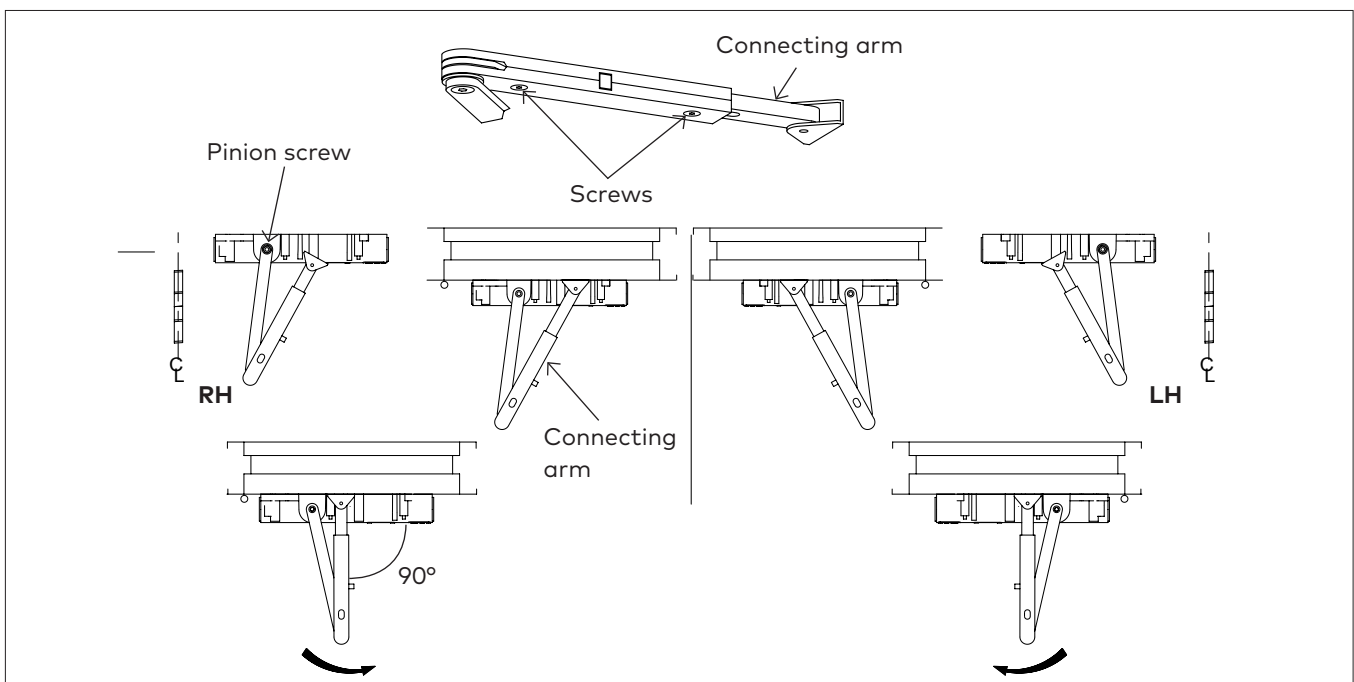
**NOTE:** Orient pinion closest to hinge.

2.2.1 Reference templates 08280472, 08280473, 08280474.

2.2.2 Secure closer body and/or backplate.

## 2.3 Installing arm

Fig.4



2.3.1 Loosen the two screws on the connecting arm.

2.3.2 Secure arm to closer via pinion screw.

2.3.3 Secure connecting arm to frame.

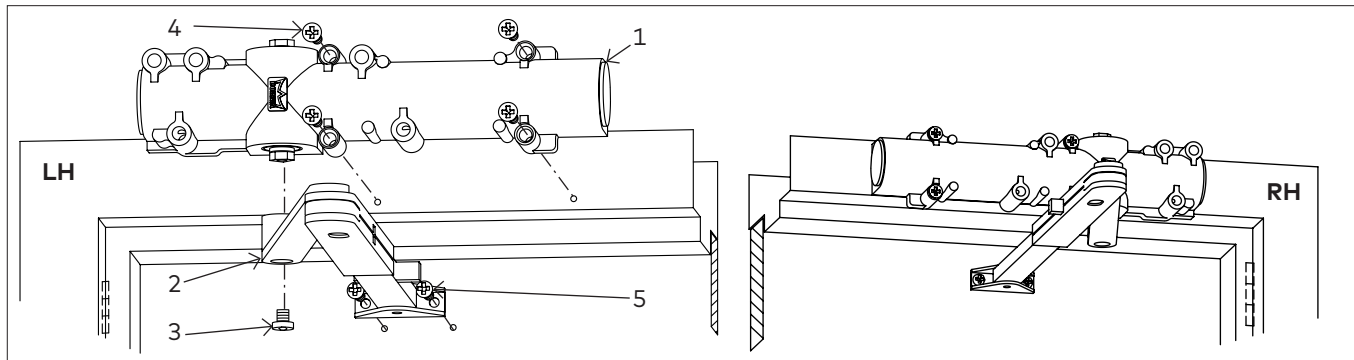
**NOTE:** Ensure arm is mounted 90° to the frame.

2.3.4 Tighten screws.

# 3 Instructions - top jamb mount

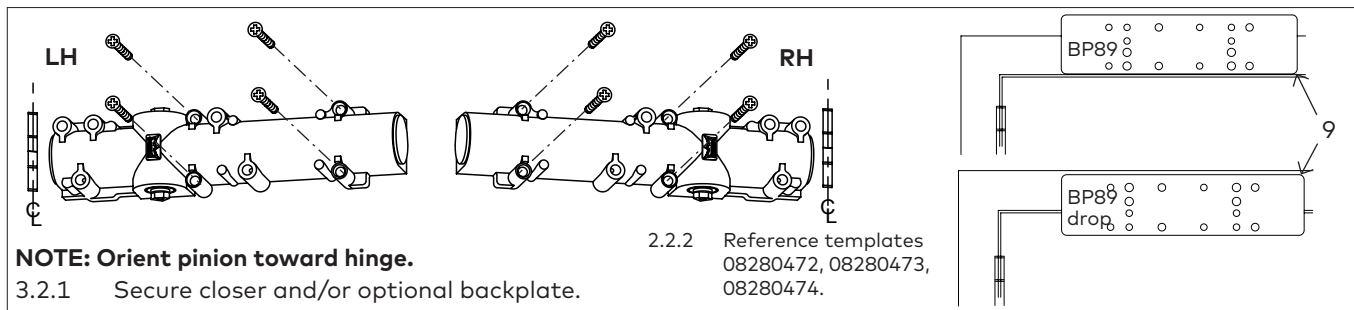
## 3.1 Surface closer system

Fig.5



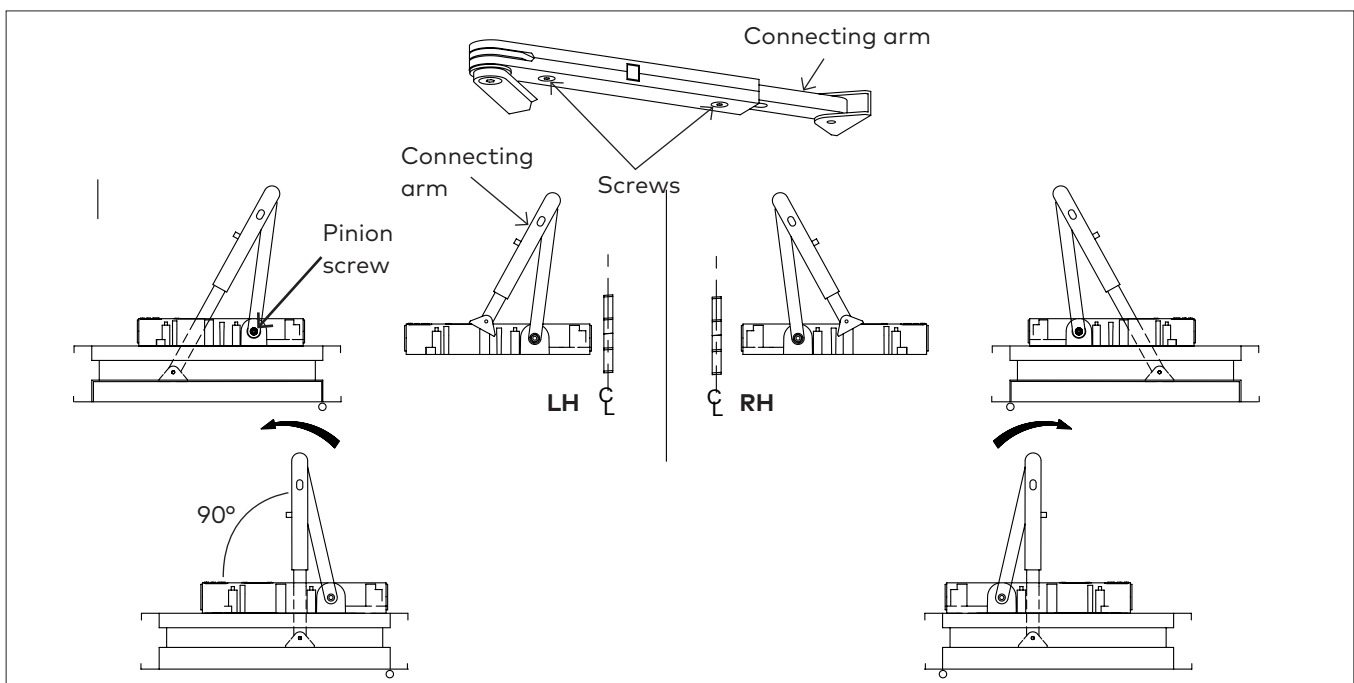
## 3.2 Installing surface closer and (optional) backplate

Fig.6



## 3.3 Installing main arm

Fig.7



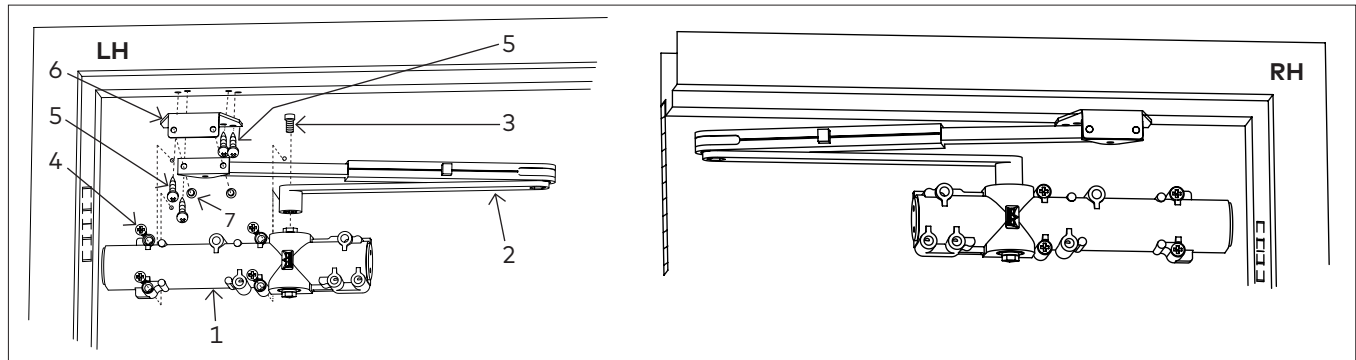
- 3.3.1 Loosen the two screws on the connecting arm.
- 3.3.2 Secure arm to closer via pinion screw.
- 3.3.3 Secure connecting arm to frame.

**NOTE:** Ensure arm is mounted 90° to the frame.  
3.3.4 Tighten screws.

# 4 Instructions - parallel mount

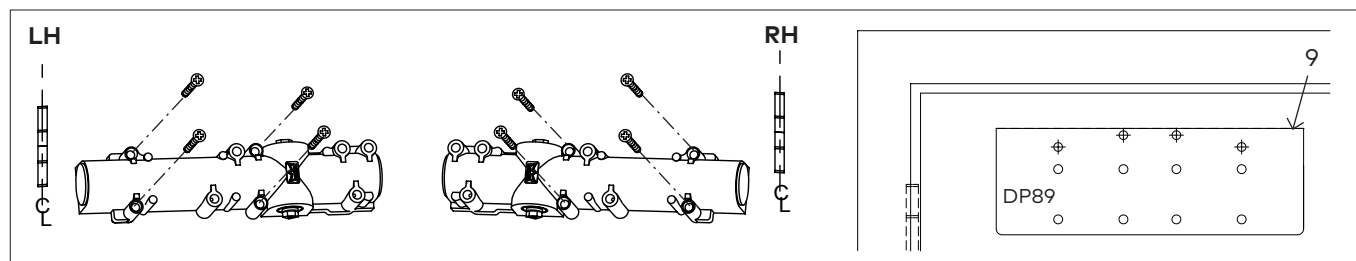
## 4.1 Surface closer system

Fig.8



## 4.2 Installing the surface closer and (optional) drop plate

Fig.9

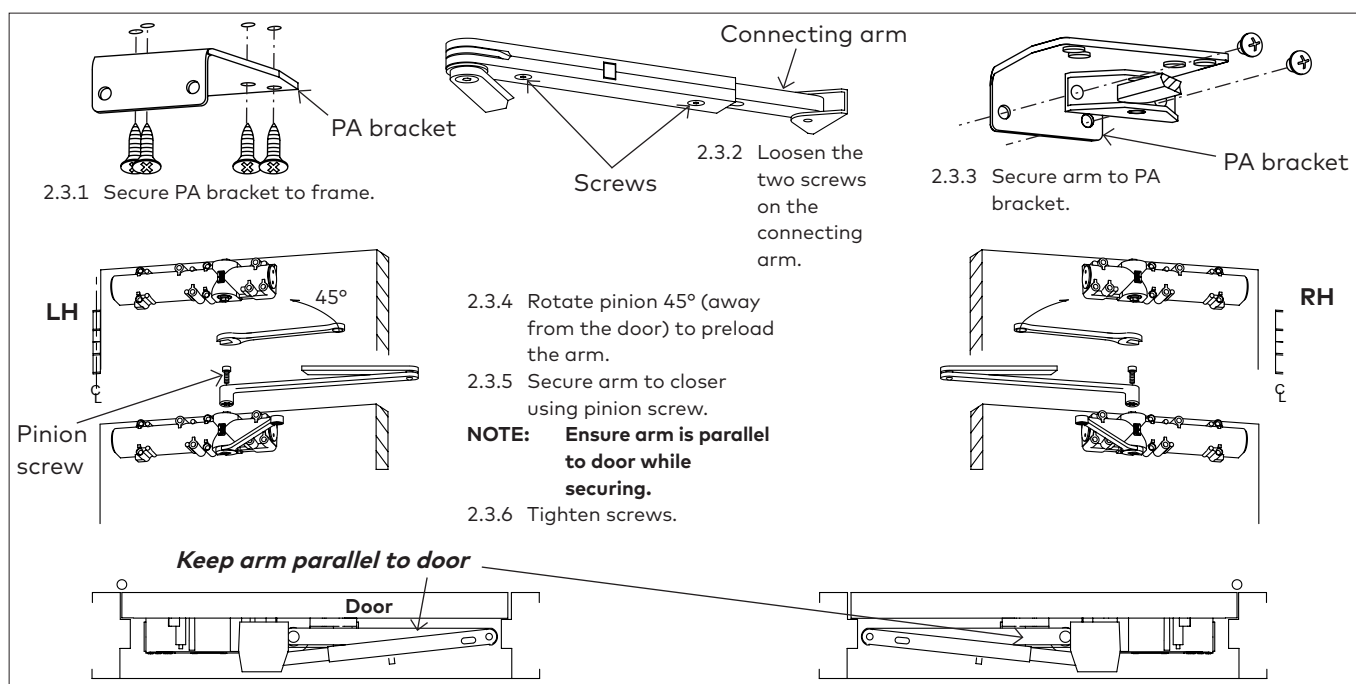


**NOTE:** Orient pinion away from hinge.






4.2.1 Secure closer body and/or drop plate.






## 4.3 Installing arm

Fig.10



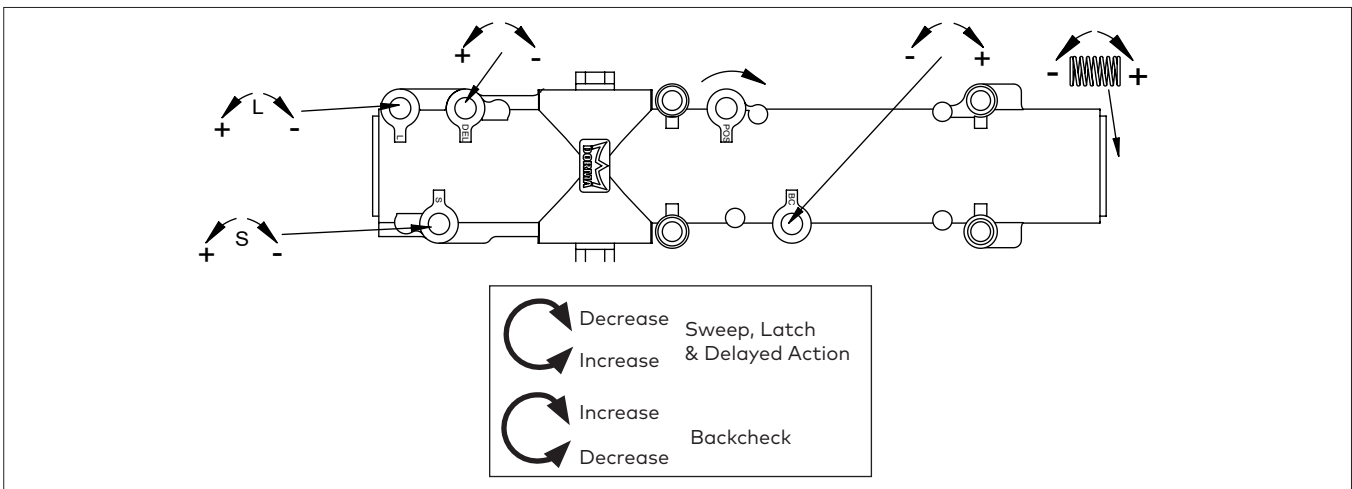
# 5 Adjustments

-  Confirm closer spring size prior to making any closing speed adjustments.
-  Do not back valve heads out beyond closer casting.
-  Backcheck positioning is shipped in the "ON" fully CW position.
-  Backcheck positioning must remain "ON" for parallel arm mounts.
-  8907 has no spring power adjustment. 8907 uses a size 7 spring designed for unusually large or heavy doors.

-  Maximum opening angle is 180°.
-  Door should close in 3 to 6 seconds from 90°.
-  Do not close valves completely.
-  Backcheck position will advance approximately 15° in the "ON" position.
-  Turn of backcheck positioning by rotating valve CCW.

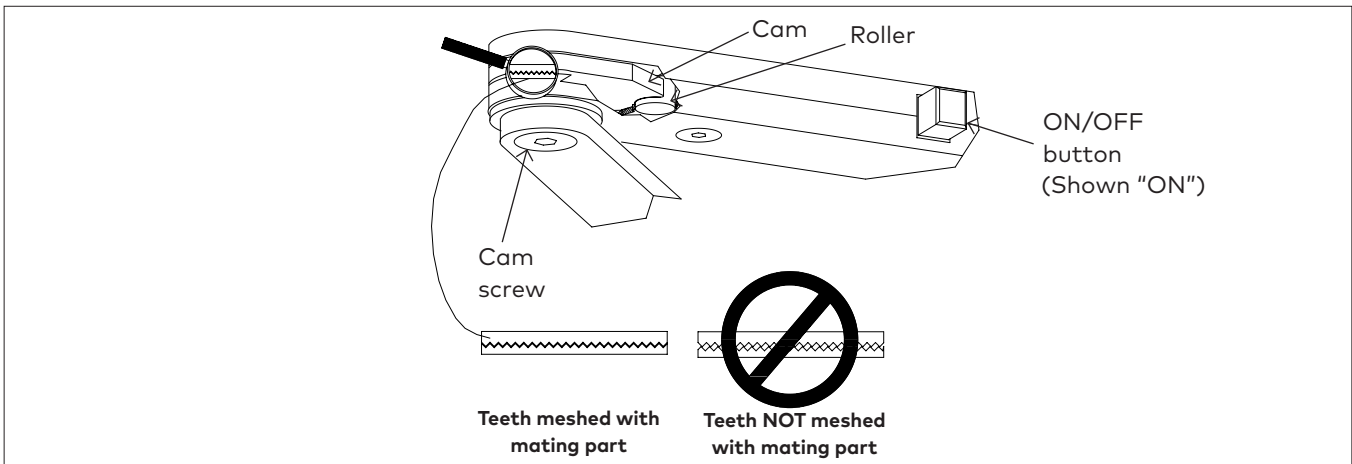
## 5.1 Adjust closing speeds: sweep, latch, backcheck, delayed action

Fig.11



## 5.2 Adjust hold open

Fig.12



### 5.2.1 Adjust hold open force:

- Loosen cam screw with 6mm hex key.
- Orient cam so detent aligns with roller.
- Push button to "ON" position to engage roller in detent.
- Open door to desired hold open position.

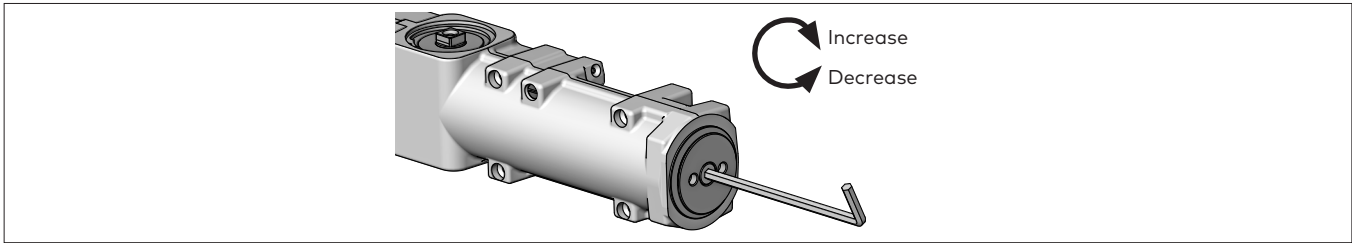
- Ensure that teeth on cam mesh with mating part. If not, move the door back and forth slightly until meshing occurs.
- Tighten cam screw securely.
- To disengage hold open, pull door until hold open releases allowing the door to close.

**NOTE: Failure to ensure teeth are meshing will damage the hold open function.**



### 5.3 Adjust spring force

Fig.13



Regular and top jamb mounts					
	Closer size	Max door weight (lbs)	Door width		Full turns
			Interior	Exterior	
8916	2	100	2'6"	---	-20
	3	125	3'	2'6"	-12
	4	150	3'6"	3'	0
	5	200	4'	3'6"	+4
	6	250	---	4'	+12
8956	5	200	4'	3'6"	-6
	6	250	---	4'	0
Parallel mount					
8916	3	100	2'6"	----	-12
	4	125	3'	2'6"	0
	5	150	3'6"	3'	+4
	6	200	4'	3'6"	+12
8956	5	150	3'6"	3'	-6
	6	200	4'	3'6"	6
	6+	250	---	4'	6+

## 6 Install covers

Fig.14

