TS93 GSR/EMF T 1A, 1I, 2

Surface Applied Closer
Pull side track mount and coordinator system

Installation instructions

08280031 – 08-2019

| EN |

dormakaba

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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 175°.
- Minimum door width is 15".
- Hold open range is from 80° to 130° with optional hold open kit.
- Arrows on closer mounting plate point upward.
- A carry bar should be installed to insure that the active door is opened enough for the inactive door to close. Recommended carry bars:
  DORMA carry bar MK-397 (up to 3'-6" wide door)DORMA carry bar MK-398 (3'-6" and wider door)
  Installation instructions are included with carry bar.
- Follow included template to properly prepare door and frame for all accessories of the closer installation.
- Know the swing of the door which is being installed prior to installation.
- Make sure door efficiently operates prior to installing closer.
- Verify closer spring size prior to installation.

GSR/EMF T 1I
(Active door & inactive door holds open together)
The GSR/EMF T 1I incorporates an electric hold open mechanism in the inactive leaf. The coordinator mechanism tied to the inactive leaf in turn holds the active leaf at whatever degree of opening it is placed. Both doors will close in sequence (inactive first) from any point upon signal from the fire alarm system or when electrical current is interrupted.

GSR/EMF T 1A (Active door hold open)
The GSR/EMF T 1A incorporates an electrical hold open mechanism in the active leaf. This eliminates the need to hold the inactive leaf in the open position to initiate hold open of the active leaf. This version permits the active leaf to be held open at a preselected point when the inactive leaf is in the closed position. The door will close from any point upon signal from the fire alarm system or when electrical current is interrupted.

GSR/EMF T 2 (Active door hold open only or inactive & active hold open together)
The GSR/EMF T 2 incorporates an electric hold open mechanism in both door leaves. This enables both leaves to be held open when the inactive door is placed in the preselected hold open position and also enables the active door to be held open independently when the inactive door is in the closed position. Both doors will close in sequence (inactive first) from any point upon signal from the fire alarm system or when electrical current is interrupted.

1.2 Size selection chart

Table 1

		Door Width						
Closer	Interior/ Exterior	1'-3" min.	2'-6" max.	3'-0" max.	3'-6" max.	4'-0" max.	4'-6" max.	5'-0" max.
TS9315	Interior	•	•	♿	♿	♿	NA	NA
TS9356	Interior	NA	NA	NA	NA	•	•	•

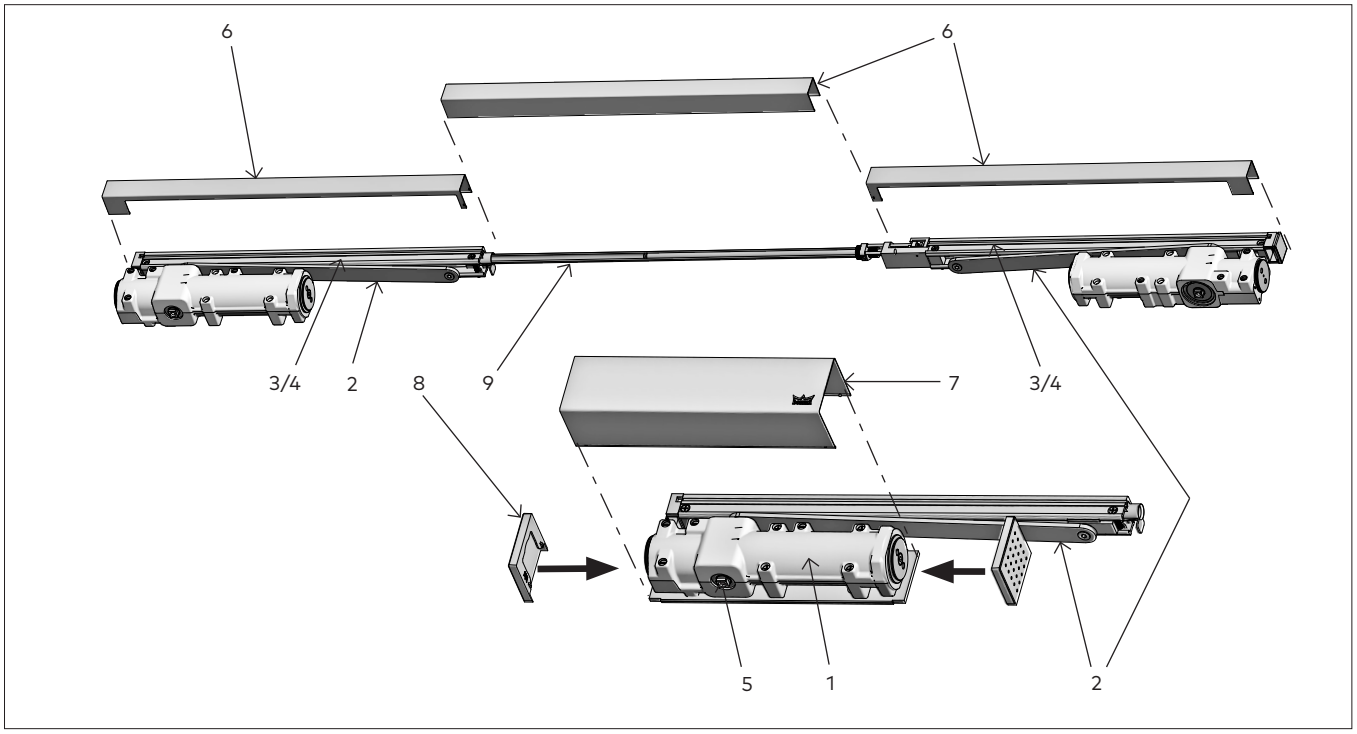
1.3 Tools recommended

Table 2

Drill bits:	Pozidriv PZ-2	M5 hex key
Metal: No. 21 & 10-32 tap	#2 Phillips screwdriver	M2 hex key
Wood: 1/8"	3/16" flat head screwdriver	

1.4 Surface closer system

Fig.1

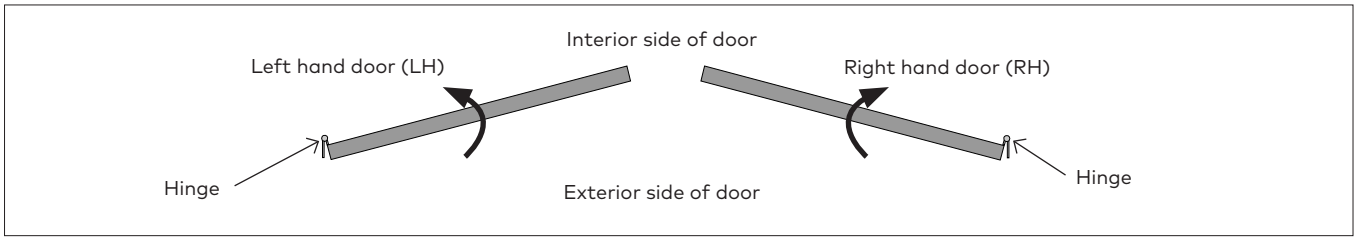


The surface closer is comprised of the following components.

1. Closer body: "B" body
2. Main arm
3. Active track assembly
4. Inactive track assembly
5. Pinion
6. Track covers and center cover
7. Closer cover
8. Closer end caps
9. Connecting channel

1.5 Handing the door

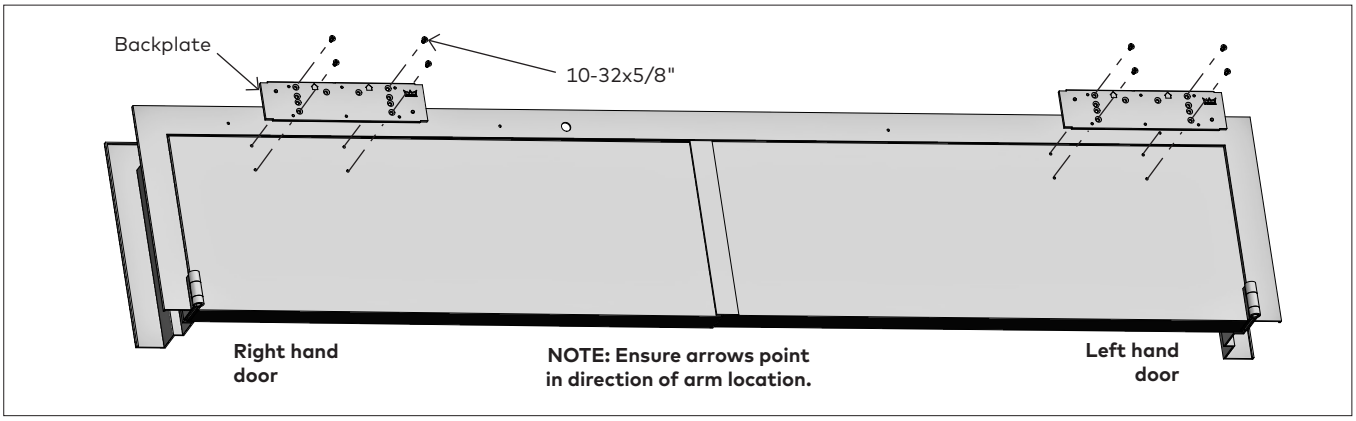
Fig.2



2 Installation instructions

2.1 Installing the back plate

Fig.3

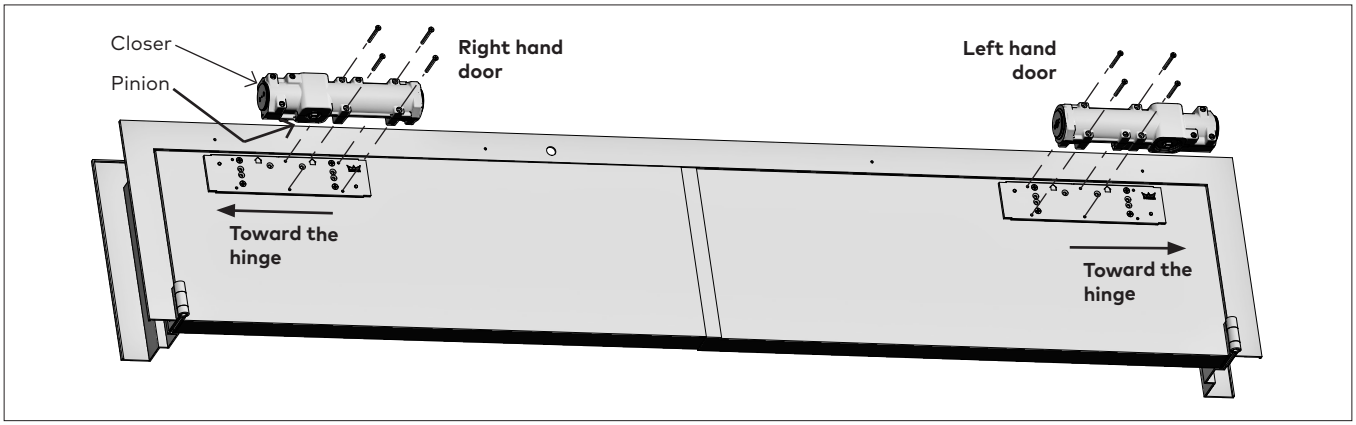


2.1.1 Secure plate to door.

- Use four 10-32 x 5/8" PH screws [#10 x 1-1/2" wood screws] provided for each plate.

2.2 Installing the surface closer

Fig.4



NOTE: Orient pinion closest to hinge.

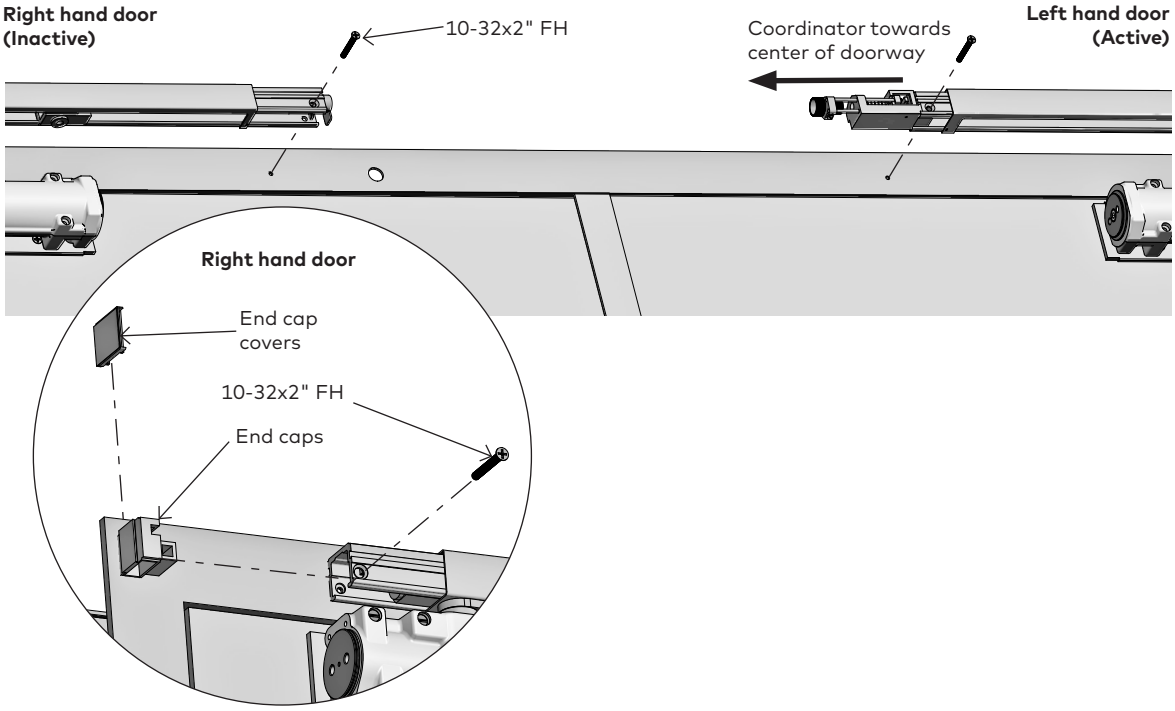
2.2.1 Secure closer body to plate.

- Use four M5 x 47mm screws for each closer.

NOTE: Use ONLY hand Phillips bit driver #2 or Pozidriv PZ-2.

2.3 Installing the slide channel

Fig.5



NOTE: EXAMPLE: Left hand active door shown. For right hand active installations, install active track assembly on right hand door and inactive track assembly on left hand door.

2.3.1 Orient track with coordinator toward center of doorway.

2.3.2 Secure track to door frame via holes closest to center of door first.

- Use two 10-32x2" FH screws with a Phillips flat head driver.

2.3.3 Insert end caps into track.

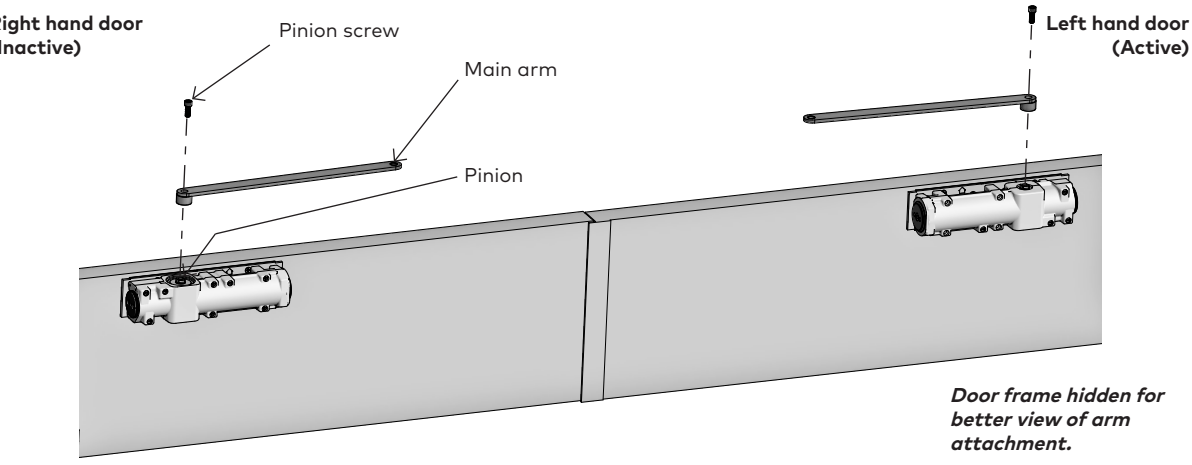
2.3.4 Secure end of track through end caps.

- Use two 10-32x2" FH screws.

2.3.5 Slide end cap covers onto end caps.

2.4 Installing the main arm

Fig.6



2.4.1 Attach 1/2" wrench to bottom pinion.

2.4.2 While looking up, rotate pinion (square) until it aligns to square hole on arm.
LH = turn 5° counter-clockwise
RH = turn 5° clockwise

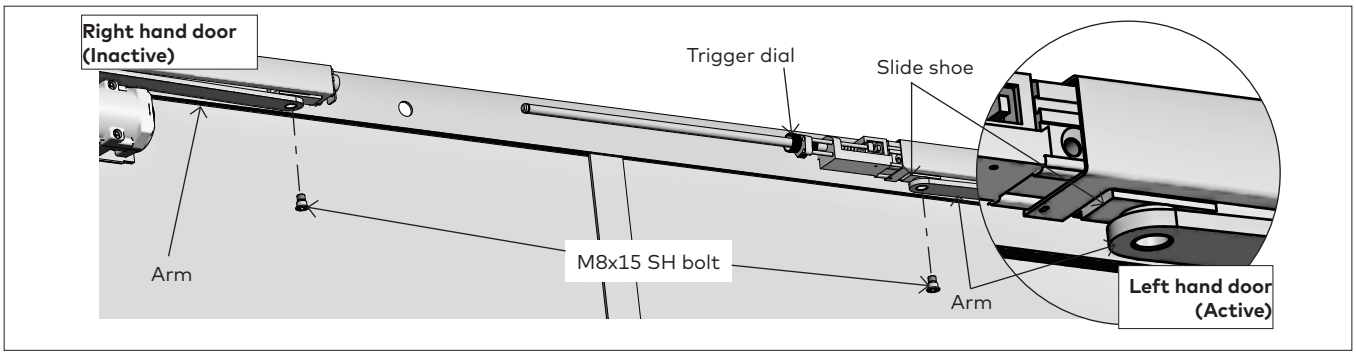
2.4.3 Arm is parallel to door.

2.4.4 Secure with M6x20 socket head fastener.

- Use an M5 hex key.

2.5 Secure main arm

Fig.7



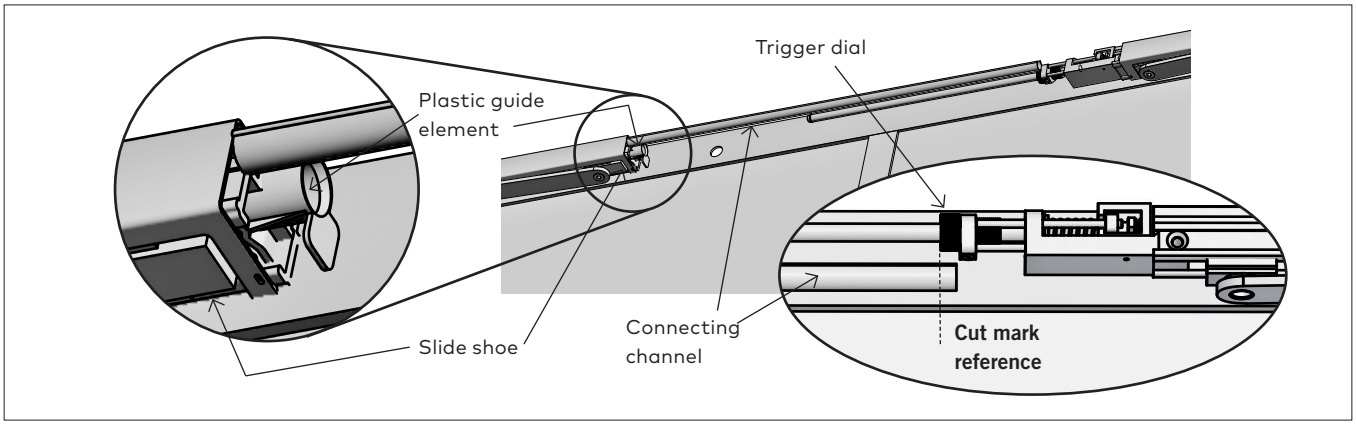
2.5.1 Secure arm to slide shoe.

- Use one M8x15 shoulder bolt and an 5mm hex key.

NOTE: Depress trigger dial to allow active slide shoe to move freely. If locking pin falls out, discard after completing installation.

2.6 Installing the coordinator system

Fig.8



2.6.1 Close both door leafs.

2.6.2 Push plastic guide element up against slide shoe.

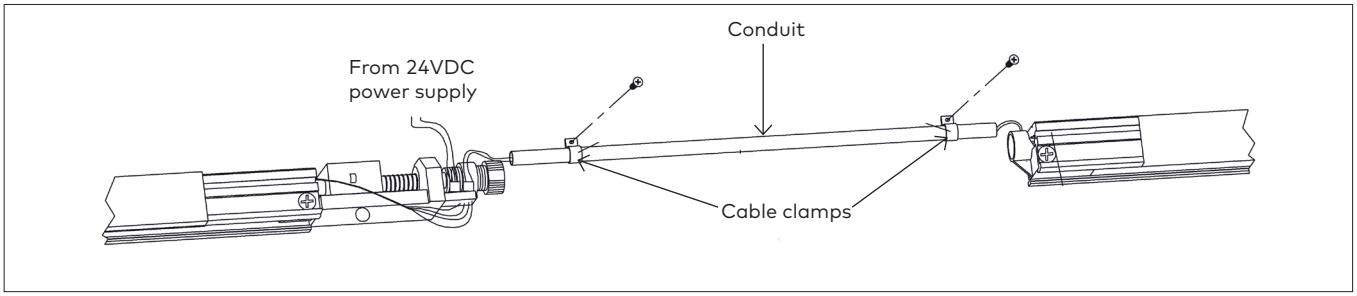
2.6.3 Fully wind trigger dial (towards door frame).

2.6.4 Align connecting channel with trigger dial per image above.

2.6.5 Mark and cut connecting channel.

2.7 Installing conduit for EMF

Fig.9



2.7.1 Secure conduit to mounting surface with cable clamps included.

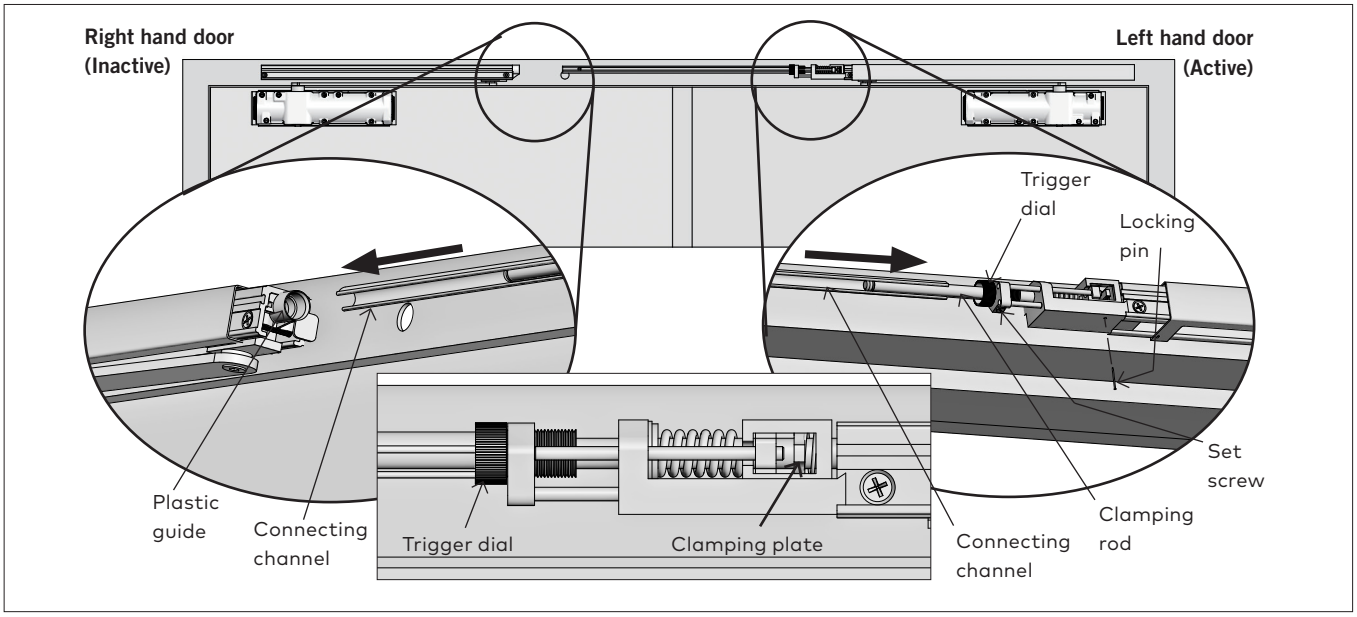
- Use two 8-32 x 5/8" screws.

2.7.2 Feed wires through conduit.

NOTE: Must run inactive solenoid wire through conduit on wall side of track.

2.8 Installing coordinator system (continued)

Fig.10



2.8.1 Open active leaf to retract clamping rod.

2.8.2 Active door: Insert connecting channel into trigger dial.

2.8.3 Inactive door: Insert connecting channel into plastic guide.

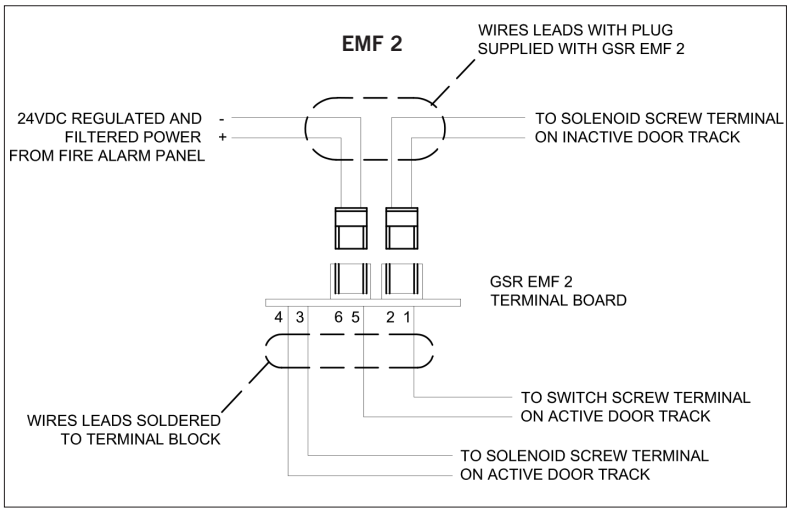
2.8.4 Unwind trigger dial (away from door frame) until active door starts to close. Clamping plate should be perpendicular to clamping rod.

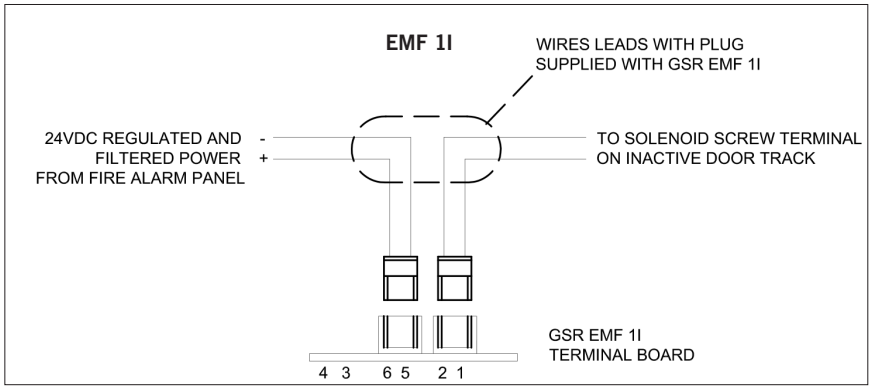
2.8.5 Tighten set screw to secure trigger dial.

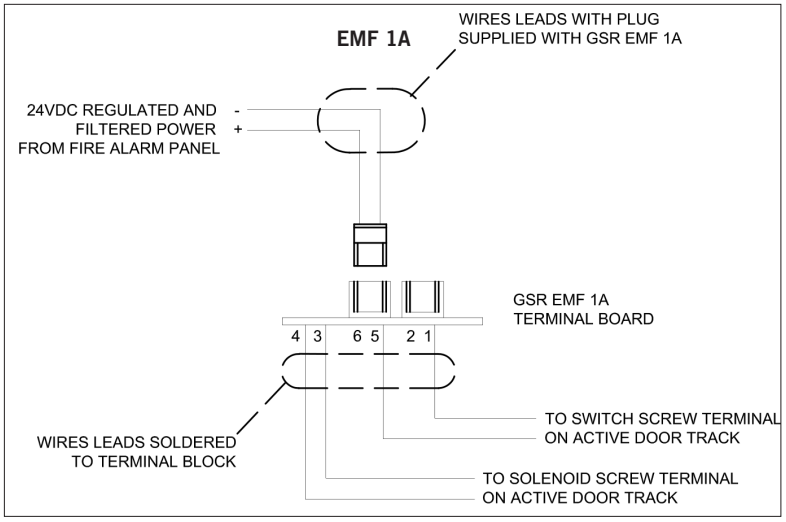
NOTE: The locking pin can be discarded once system has been installed.

2.9 Wiring the EMF

Fig.11







2.9.1 Determine appropriate EMF unit and follow steps below:

EMF 2: Plug in wire harness into terminals 1 and 2 (active door track) of the 6-pin terminal block.
EMF 1I: Plug in wire hardness to terminals 1 and 2 (active door track) of the 6-pin terminal block.
EMF 1A: No plug in wire harness to 6-pin terminal block of active door.

NOTE: Be sure power is off prior to making following connections:

2.9.2 Connect power wire harness to 24 VDC power supply.
2.9.3 Plug in power wire harness to terminals 5 and 6 (active door track) of 6-pin terminal block.

3 Adjustments

⚠ Confirm closer spring size prior to making any closing speed adjustments.

⚠ Do not back valve heads out beyond closer casting.

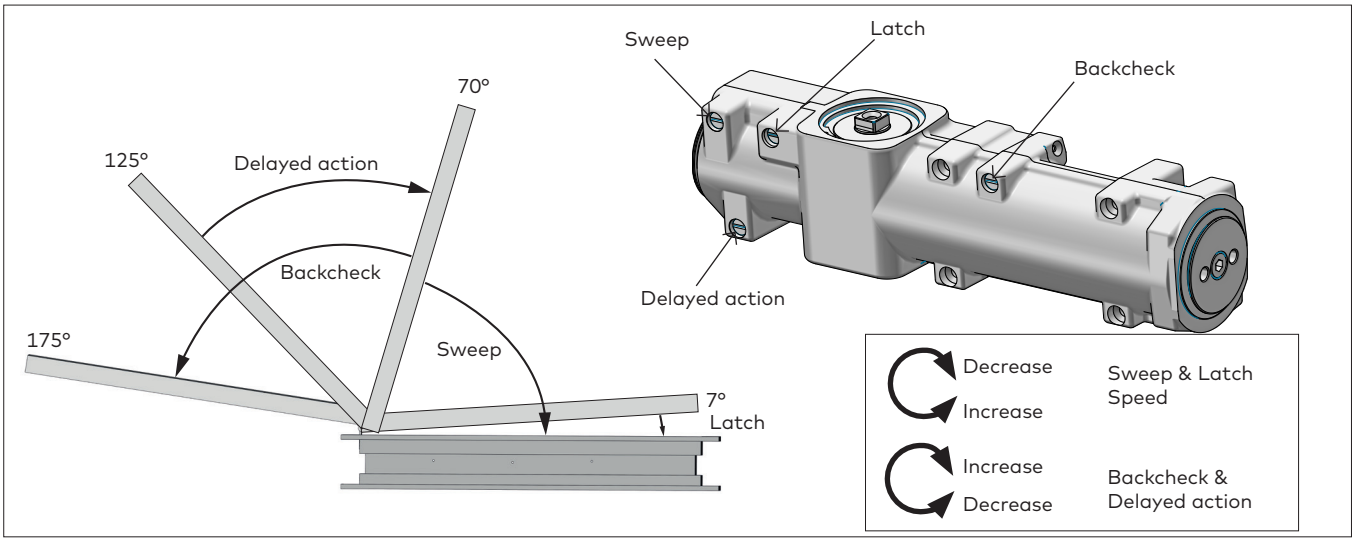
⚠ Maximum opening angle is 175°.

⚠ Door should close in 3 to 6 seconds from 90°.

⚠ Do not close valves completely.

3.1 Adjust closing speeds: sweep, latch, backcheck, delayed action

Fig.12



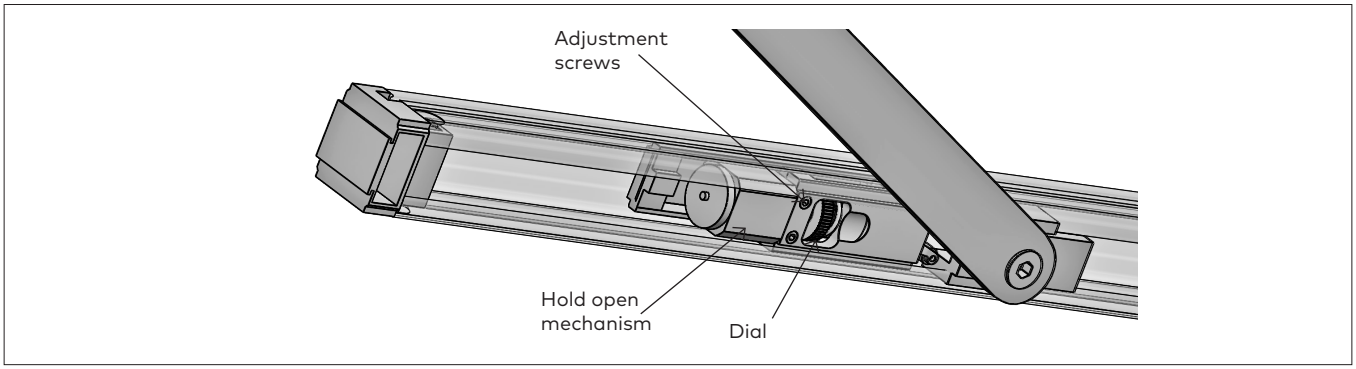
3.1.1 Adjust the **closing sweep speed** for the area from 70° to start of latch.
- Increase sweep speed: Turn valve counter-clockwise
- Decrease sweep speed: Turn valve clockwise.

3.1.2 Adjust the **closing latch speed** for the area from 7° - 0°.
- Increase latch speed: Turn valve counter-clockwise

3.1.3 Adjust the **opening backcheck** for the area from 70° - 175°.
- Increase resistance: Turn valve clockwise
- Decrease resistance: Turn valve counter-clockwise.

3.1.4 Adjust the **closing delayed action** for the area from 125° - 70°.
- Increase delayed action: Turn valve counter-clockwise
- Decrease delayed action: Turn valve clockwise

3.2 Adjust optional hold open



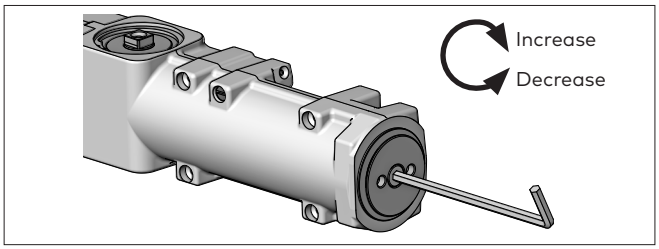
3.2.1 **Adjust door position:**
- *Adjust hold open angle:* loosen adjustment screws using an M2 hex key.
- Slide hold open mechanism to desired location and re-tighten adjustment screws.

3.2.2 **Hold open activation:**
- Place door in hold open.
- *Deactivate:* When clips are released from slide shoe.
- *Activate*: When clips are pressed against inside of slide shoe.

3.2.3 **Adjust hold open force:**
- Decrease force: spin dial away from door frame
- Increase force: spin dial towards door frame

NOTE: Do not set release force too high. Damage may occur to door, hinges or GSR system.

3.3 Adjust spring force



TS9356

NOTE: Supplied with a size 6 spring setting.

- Increase force: turn clockwise 6 times (max)

TS9315

NOTE: Supplied with a size 2 spring setting.

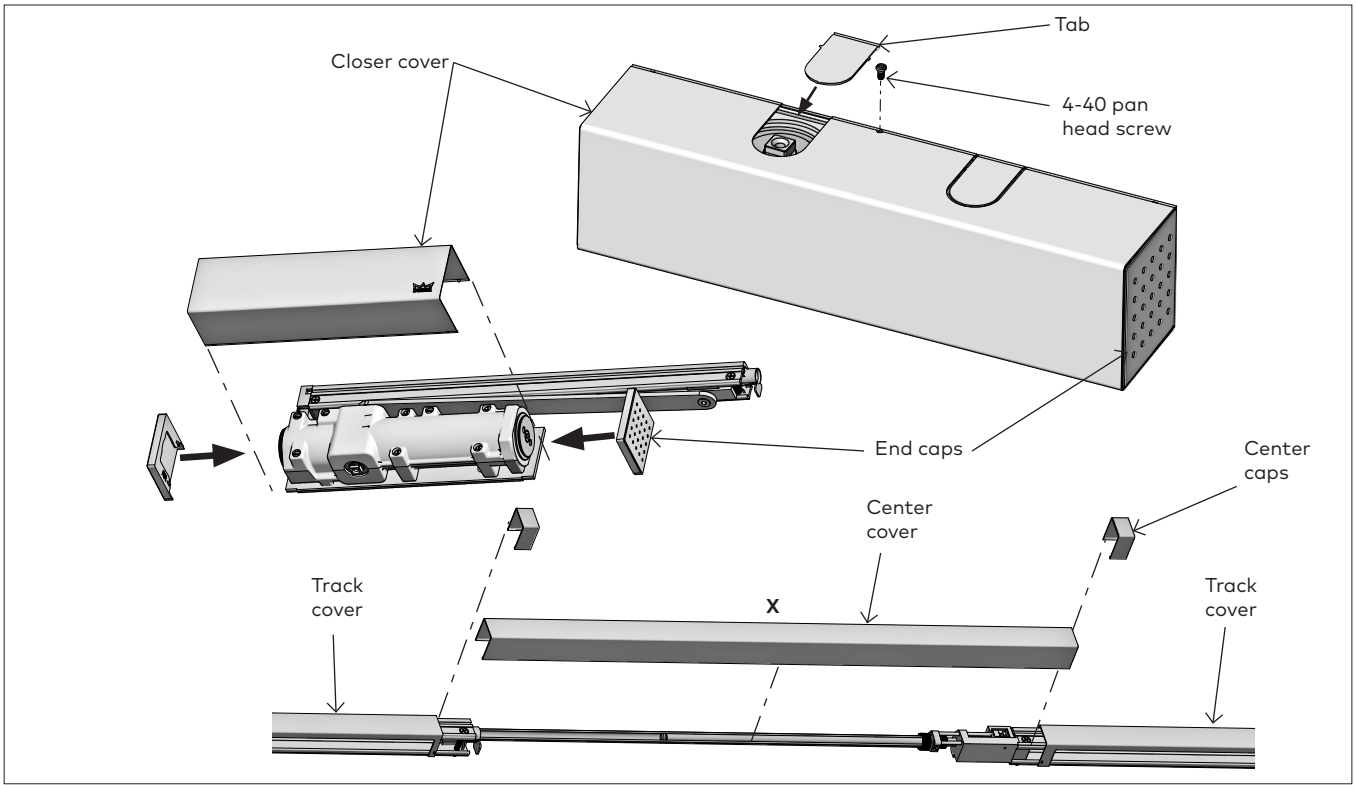
Barrier free openings: Take an opening force reading from the pull on the door. If required, adjust the spring force to meet the barrier-free requirement.

- **Decrease force:** turn counter-clockwise
- **Increase force:** turn clockwise

Depending on opening conditions, a door adjusted to meet barrier-free forces may not have sufficient power to reliably close and latch the door.

Regular Mount, Pull side closers					
	Closer size	Max door weight (lbs)	Door width		Full turns
			Interior	Exterior	
TS9315	2	100	2'6"	---	+5
	3	125	3'	2'6"	+9
	4	150	3'6"	3'	+14
	5	200	4'	3'6"	+18
TS9356	5	200	4'	3'6"	-4
	6	250	4'6"	4'	0

4 Install covers



4.1.1 Snap both end covers onto closer body end caps.
4.1.2 Remove un-needed tab, and snap cover over closer body.
4.1.3 Secure with one 4-40 Phillips pan head screw.
4.1.4 **Center cover:** Measure distance between track covers, and subtract 1/2". **[X - 1/2" = center cover length]**
4.1.5 Cut center cover to length measured, and slide over coordinator system.
4.1.6 Snap center caps on to track.

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