



# TS93 ST



Surface applied door closer

Installation instructions:

Pull side jamb mount spring track (ST)

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## Technical specifications

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**NOTE:** Refer to the included drawing for pull side closer, back plate and track mounting templating.

### Size selection chart

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

### Note

1. Drawing is not to scale.
2. Dimensions are in inches/[mm].
3. Right hand door is shown.
4. 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.
5. Template is for 4-1/2 x 4-1/2 butt hinges & 3/4" offset pivots
6. Maximum door opening degree is 110°.
7. Minimum door width is 36".
8. Hold open range is from 85° to 110°.
9. Use closer body style "B" for this installation.
10. Arrows on mounting plate point upward.

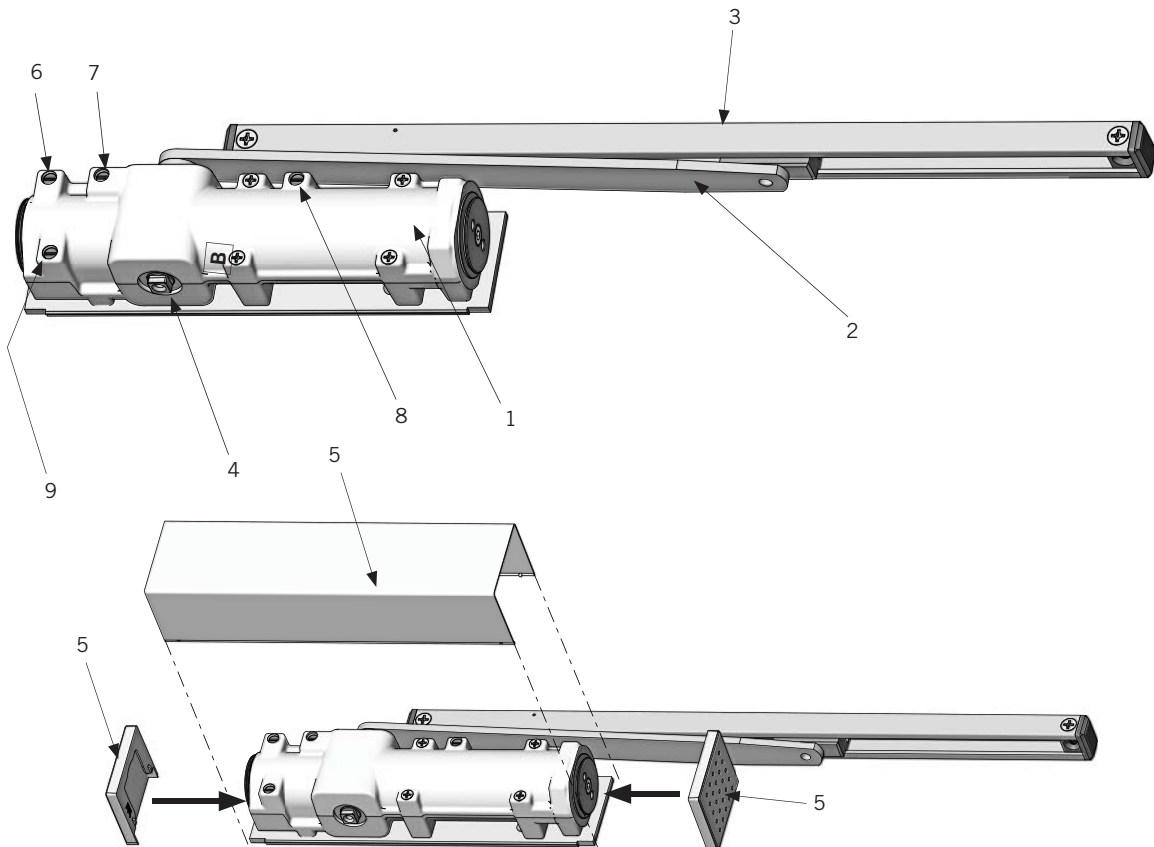
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## Closer setup

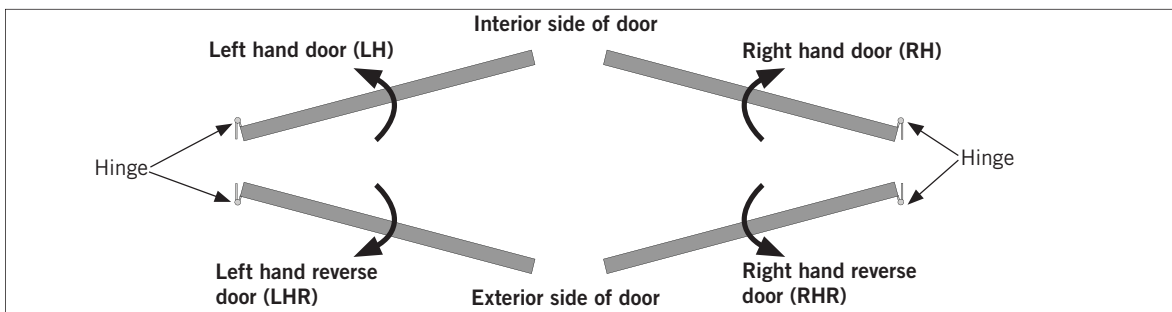
- ⚠ Follow included template to properly prepare door and frame for all accessories of the closer installation.
- ⚠ Make sure door efficiently operates prior to installing closer.
- ⚠ Know the swing of the door which is being installed prior to installation.
- ⚠ Verify closer spring size prior to installation. See "Size selection chart" on page 2.

The surface closer is comprised of the following components.

1. Closer body: "B" body
2. Main arm
3. Track assembly
4. Pinion
5. Cover and end caps
6. Closing/sweep speed adjustment
7. Latch speed adjustment
8. Backcheck adjustment
9. Delayed action adjustment



## Handing of the door

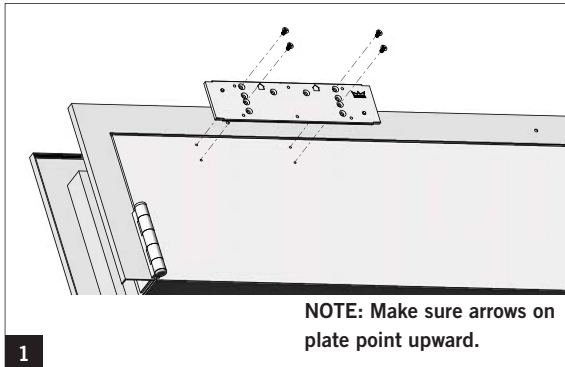


## A. Installing the surface closer

### Tools recommended

- Drill Bits
  - Metal: No. 7 & No. 21 drill, and 1/4-20 & 10-32 taps
  - Wood: 9/64" & 11/64"
- #0 Phillips screwdriver
- #2 Phillips screwdriver
- #3 Phillips screwdriver
- M5 hex key
- 3/16" flathead screwdriver

### Installing the mounting plate

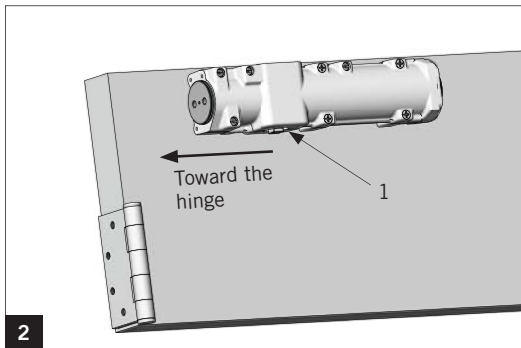


### Reference template 08280182

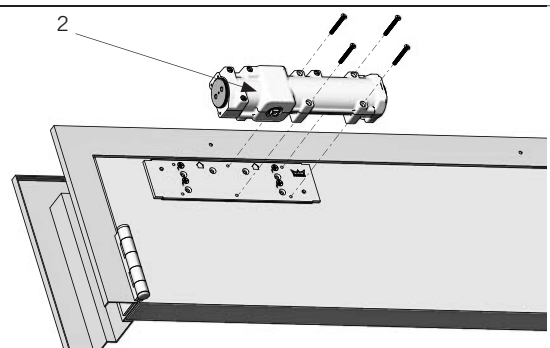
**NOTE:** For use on regular mount applications on the pull side of the door.

- 1.1 Attach the plate to the mounting surface using the four screws [10-32 machine screws or #10 wood screws] provided with the surface closer.

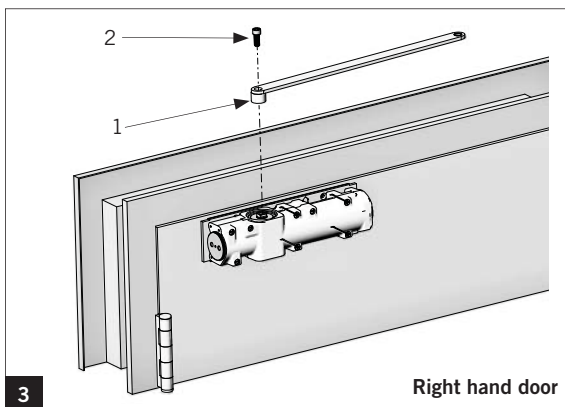
### Installing the surface closer



**NOTE: Orient pinion (1) closest to hinge.**



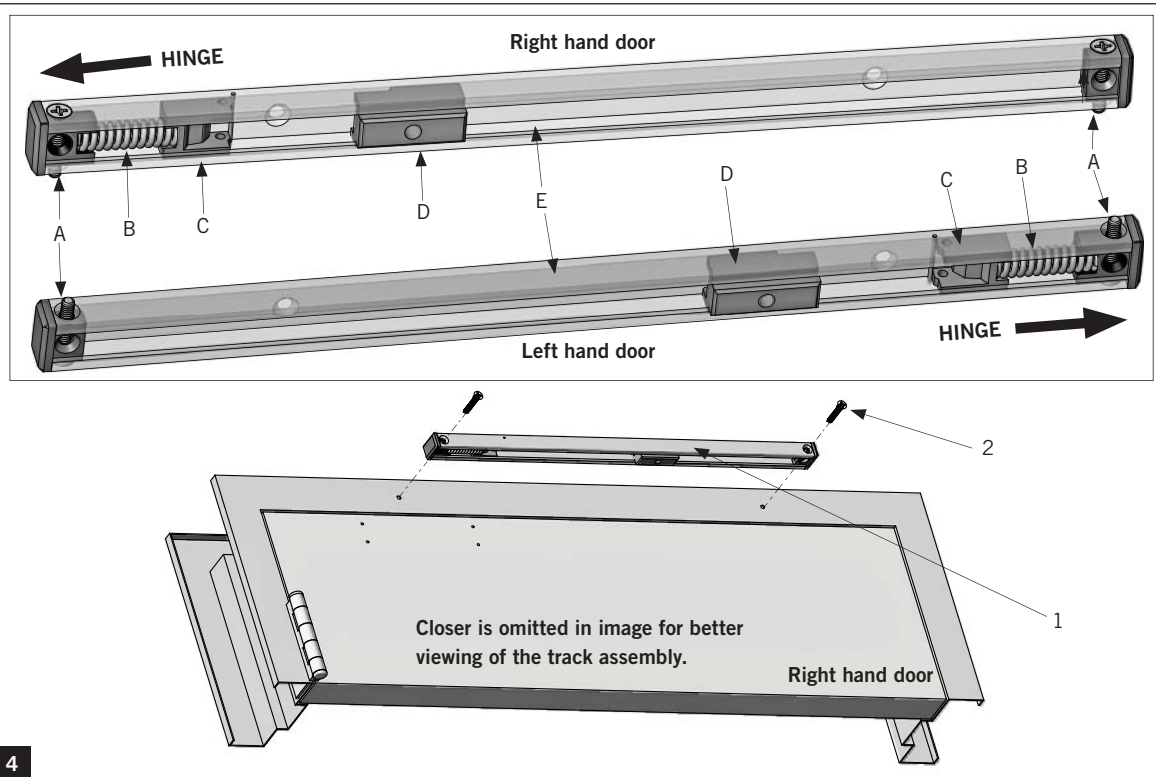
- 2.1 Attach the closer body (2) to the plate using the four screws provided with the plate itself.



- 3.1 Attach the main arm (1) to the top pinion with an M6x20 socket head cap screw (2) using an M5 hex key.

**⚠** Be sure the main arm is parallel to the door during application.

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**NOTE: Spring track is preassembled.**

**4.1** Attach the track channel (1) to the door frame through the end blocks with two flat head Phillips screw (2).

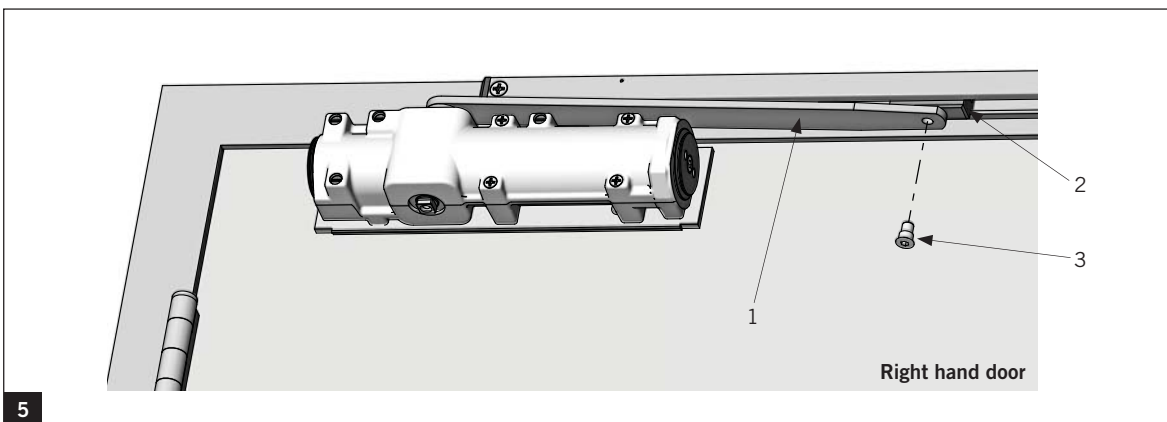
**A.** End block

**D.** Slide shoe

**B.** Spring

**E.** Track channel

**C.** Shock block



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**5.1** Align the arm (1) with the slide shoe (2) of the track channel.

**5.2** Attach with one 3/8-24 x 1/2" shoulder bolt (3) using an M5 hex key.

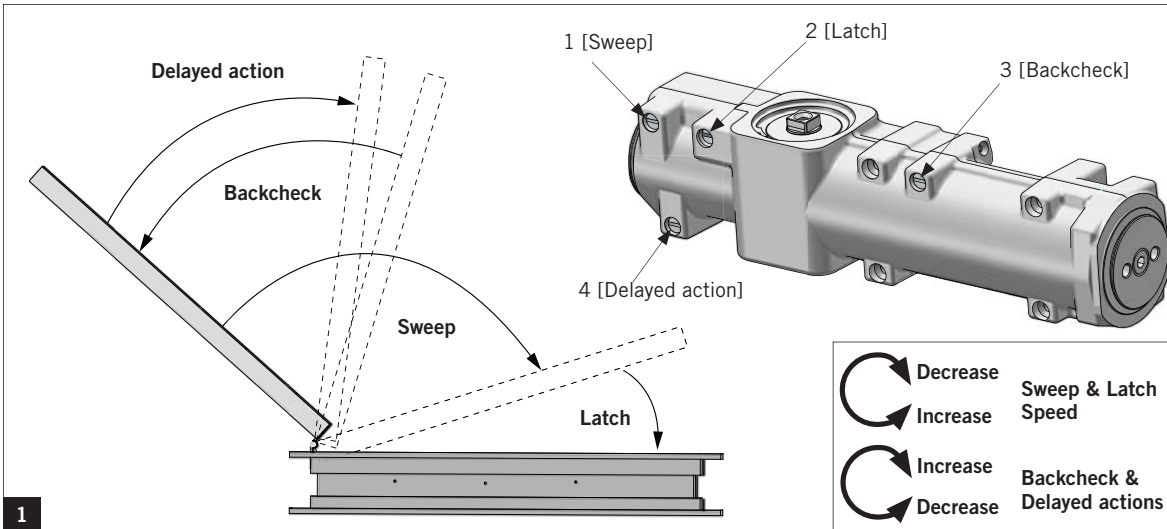
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## B. Adjustments

- ⚠ Confirm closer spring size prior to making any closing speed adjustments.
- ⚠ Do not back valves out beyond closer casting.

- ⚠ Maximum opening angle is 110°.
- ⚠ Door should close in 3 to 6 seconds from 90°.
- ⚠ Do not close valves completely.

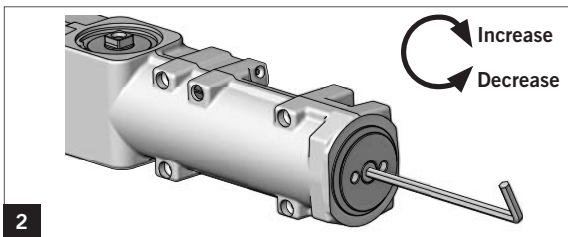
### Adjusting the closing speeds: sweep, latch or backcheck and delayed actions



- 1.1** Adjust the **sweep speed** (1) for the area from 70° - 0°
- Increase sweep speed: Turn valve counter-clockwise
  - Decrease sweep speed: Turn valve clockwise.
- 1.2** Adjust the **latch speed** (2) for the area from 7° - 0°.
- Increase latch speed: Turn valve counter-clockwise

- 1.3** Adjust the **backcheck** (3) for the area from 65° - 110°.
- Increase resistance: Turn valve clockwise
  - Decrease resistance: Turn valve counter-clockwise.
- 1.4** Adjust the **delayed action** (4) for the area from 180° - 70°.
- Increase delayed action: Turn valve clockwise
  - Decrease delayed action: Turn valve counter-clockwise

### Adjusting the spring force



#### 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 5 times (max)
- Increase force: turn clockwise 12 times (max)

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

#### TS9356

**NOTE:** Supplied with a size 6 spring setting.

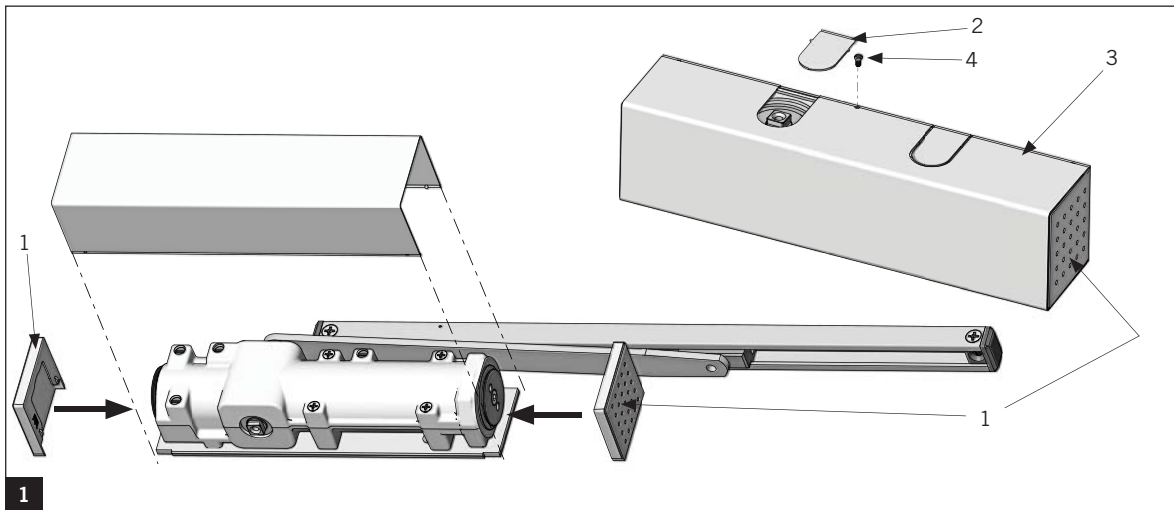
- Increase force: turn clockwise 6 times (max)

CLOSER TYPE	MAX DOOR WEIGHT (LBS)	SPRING SIZE	FULL TURNS OF SPRING ADJUSTER
TS9315	100	2	0
	125	3	+3
	150	4	+9
	200	5	+12
TS9356	200	5	-4
	250	6	0

	DOOR WIDTH		FULL TURNS OF SPRING ADJUSTER	CLOSER SIZE
	INT.	EXT.		
TS9315	2'6"	----	0	2
	3'	2'6"	+3	3
	3'6"	3'	+9	4
	4'	3'6"	+12	5
TS9356	4'	3'6"	-4	5
	4'6"	4'	0	6

## C. Installing the closer cover

### Installing the cover



**1.1** Snap both end covers (1) into place.

**1.3** Attach with a 4-40 Phillips pan head screw (4) .

**1.2** Remove the un-needed tab (2), and snap the closer body cover (3) into place.



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