



# TS93 STH



Surface applied door closer

Installation instructions:

Pull side door mounted spring track

Inverted closer with hold open (STH)

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## Technical specifications

### Templates

### Contents

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

### Size selection chart

Closer	Interior/ Exterior	Door Width		
		3'-0" max.	3'-6" max.	4'-0" max.
TS9315	Interior	♿	♿	♿

### 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 80° to 105°.
9. Use closer body style "G" for this installation.
10. Arrows on closer mounting plate point downward.

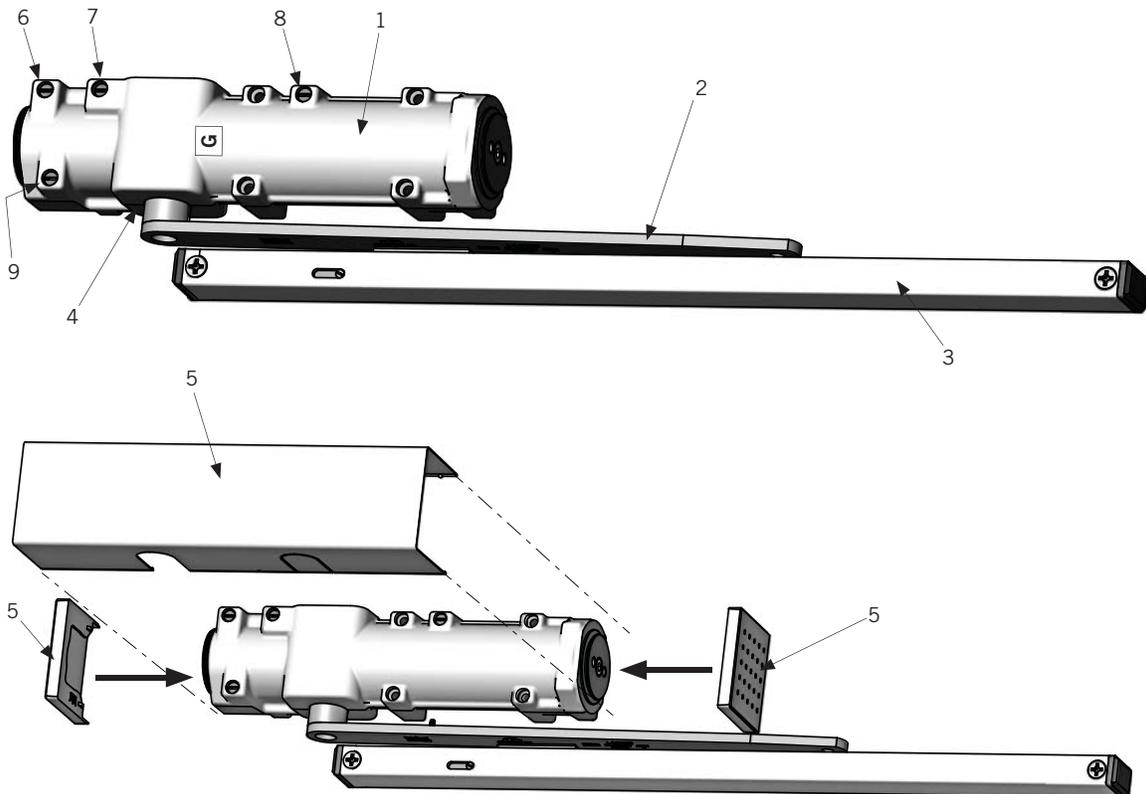
# TS93 STH

## Closer setup

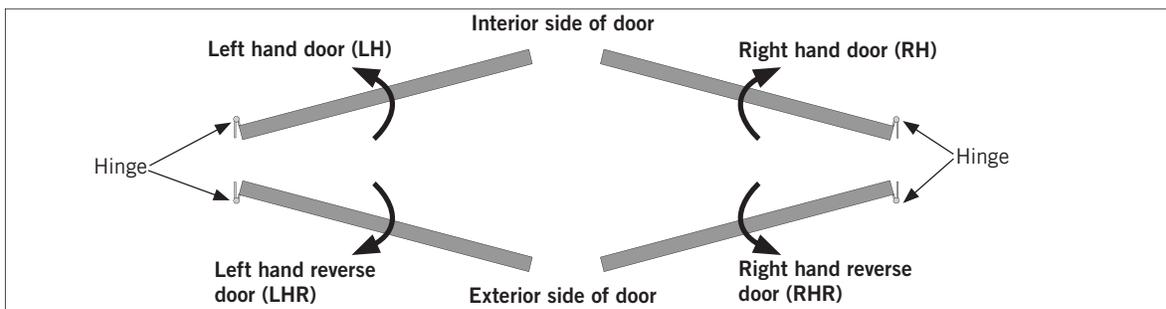
- ⚠ Follow included template to properly prepare door and frame for all accessories of the closer installation.
- ⚠ Know the swing of the door which is being installed prior to installation.
- ⚠ Make sure door efficiently operates prior to installing closer.
- ⚠ Verify closer spring size prior to installation.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

The surface closer is comprised of the following components.

1. Closer body: "G" 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

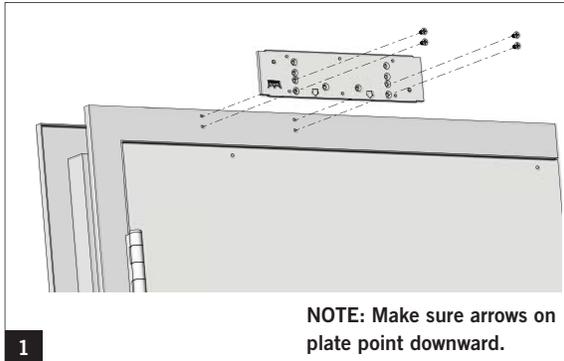


## A. Mounting the surface closer

### Tools recommended

- Drill Bits
  - Metal: No. 7, No. 21" & 1/4-20 Tap
  - Wood: 9/64" & 11/64"
- #0 Phillips screwdriver
- #2 Phillips screwdriver
- 3/16" flat head screwdriver
- 5/64", 3/16" and M5 hex key

### Installing the mounting plate

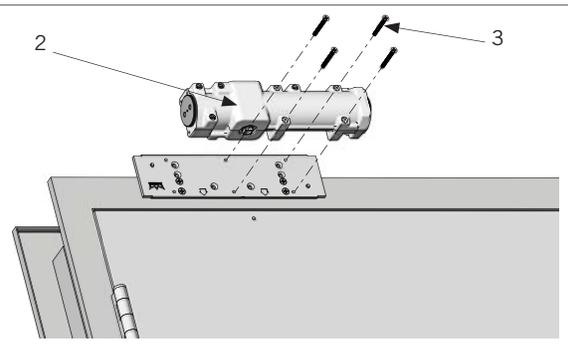
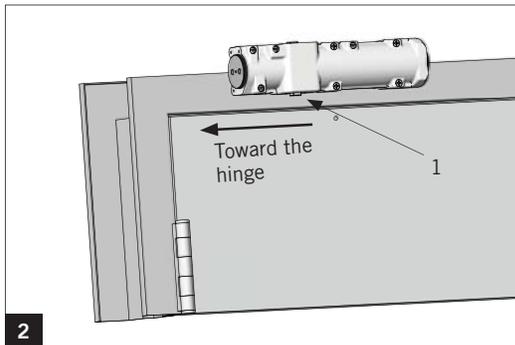


### Reference template 08280612

**NOTE:** For use on an inverted T-mount application (closer on frame, track on door) on the pull side of the door.

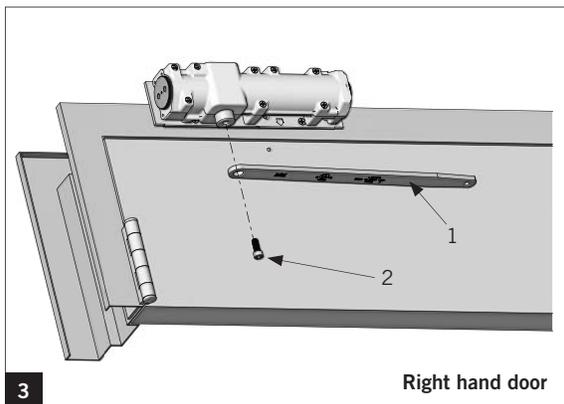
- 1.1 Attach the plate to the mounting surface using the four screws [10-32 machine screws or #10 wood screws] provided with the surface closer.

### Installing the surface closer



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

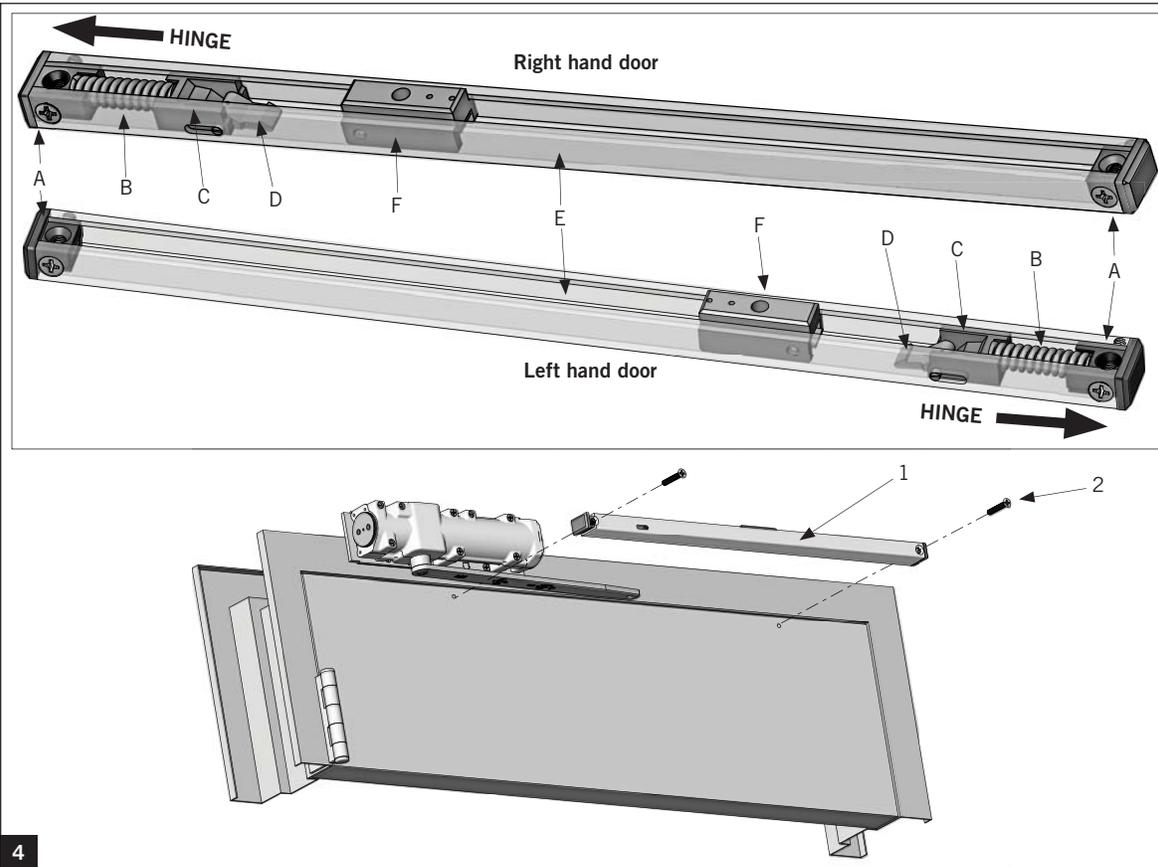
- 2.1 Attach the closer body (2) to the plate using the four screws (3) provided with the plate itself [M5x45mm flat head screw].



- 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 tracks are preassembled.**

**4.1** Attach the track channel (1) to the door frame through the end blocks with two flat head Phillips screws (2) [1/4-20 x 1-3/4" flat head screws or #14 - 2-3/4" wood screws].

**A.** End block

**B.** Spring

**C.** Shock block

**D.** Hold open mechanism

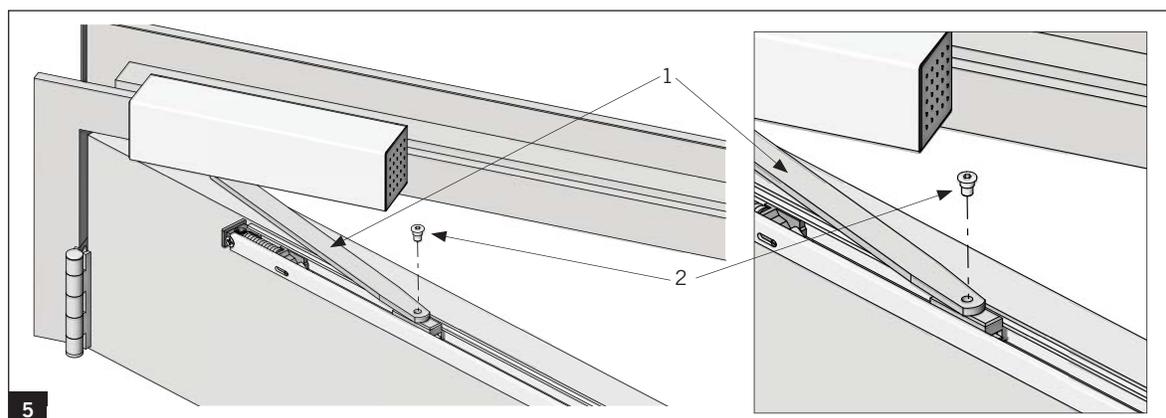
**E.** Track channel

**F.** Hold open slide shoe

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**5.1** Align the arm (1) with the hold open slide shoe in the track channel.

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

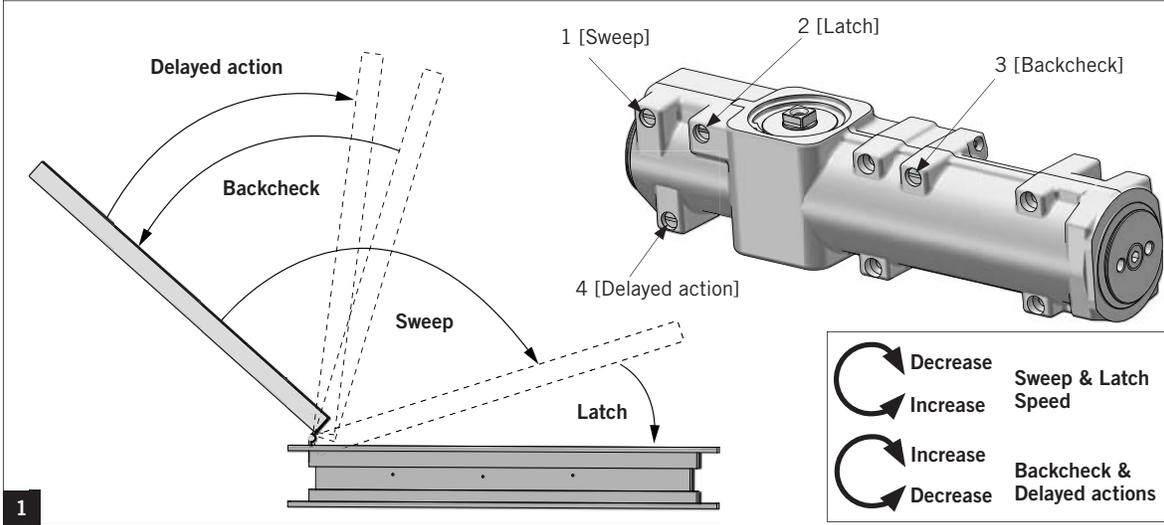


## B. Adjustments

- ⚠ Set 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.

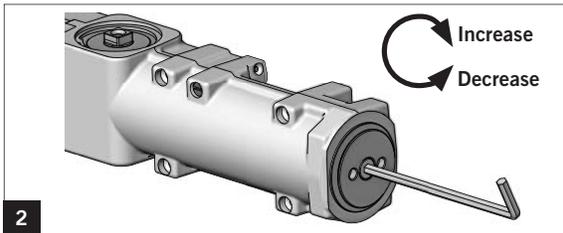
### Adjusting the closing speeds: sweep, latch or backcheck and delayed actions



- 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
  - Decrease latch speed: Turn valve 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 110° - 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.

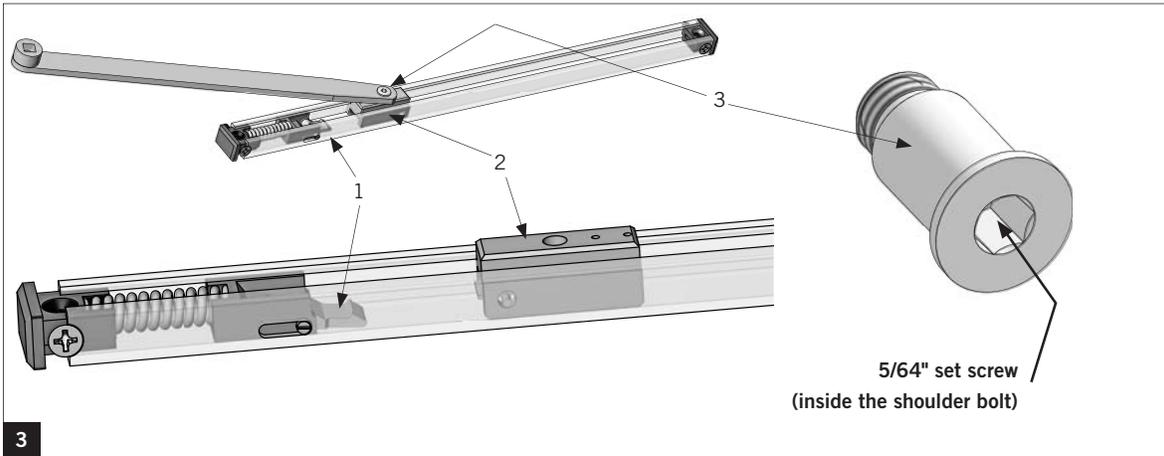
- Increase force: turn clockwise 6 times (max)

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

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## Adjusting the optional hold open



**NOTE:** Refer to section A, step #4 for hold open mechanism location dependent upon hand of door.

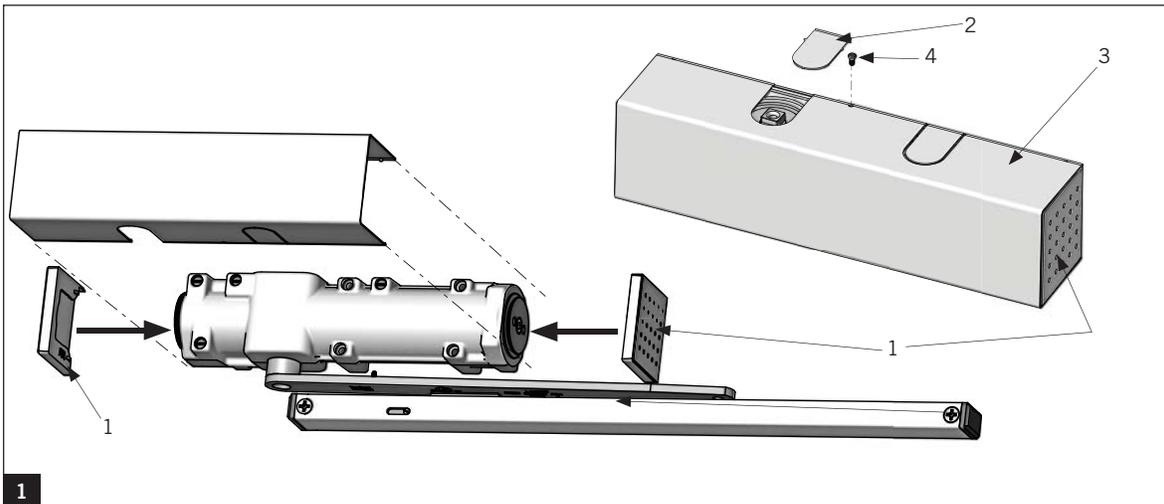
**3.1** To engage the hold open mechanism (1), open the door until the hold open slide shoe (2) connects with the hold open mechanism.

**3.2** Inside the shoulder bolt (3) is a 5/64" set screw. To adjust the hold open force, use an 5/64" hex key and turn the set screw:

- Clockwise = increase force
- Counter clockwise = decrease force

## C. Mounting the closer cover

### Installing the cover



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

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

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



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