



The closing force for Series 422 door closers is adjustable from a size 1 to a size 6, as outlined in ANSI Standard A156.4. When these series of door closers are installed and adjusted to conform to ADA reduced opening force requirements (5 lbs max.) for interior doors, they may not have adequate closing

force to reliably close and latch the door. Power adjustments charted on Pages 2 and 3 are recommended where possible, to ensure proper door control.

### CAUTION

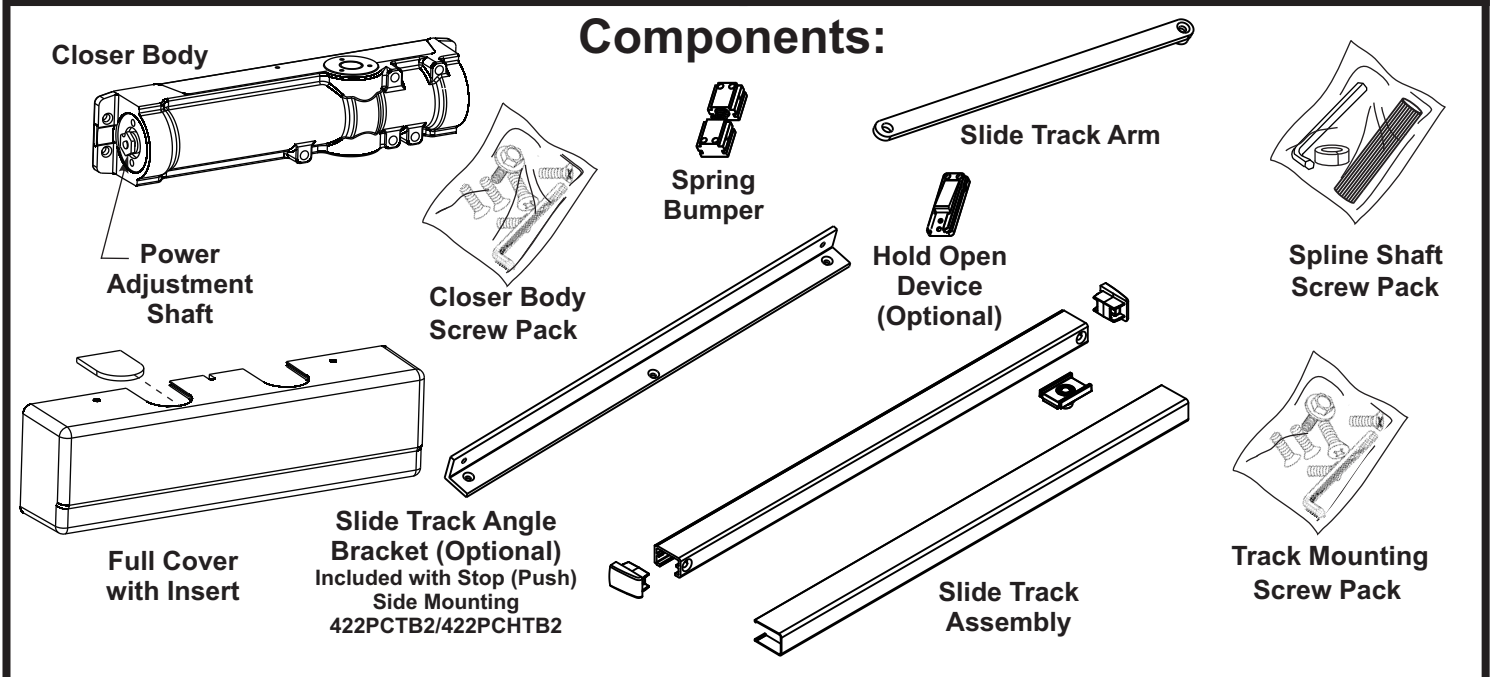
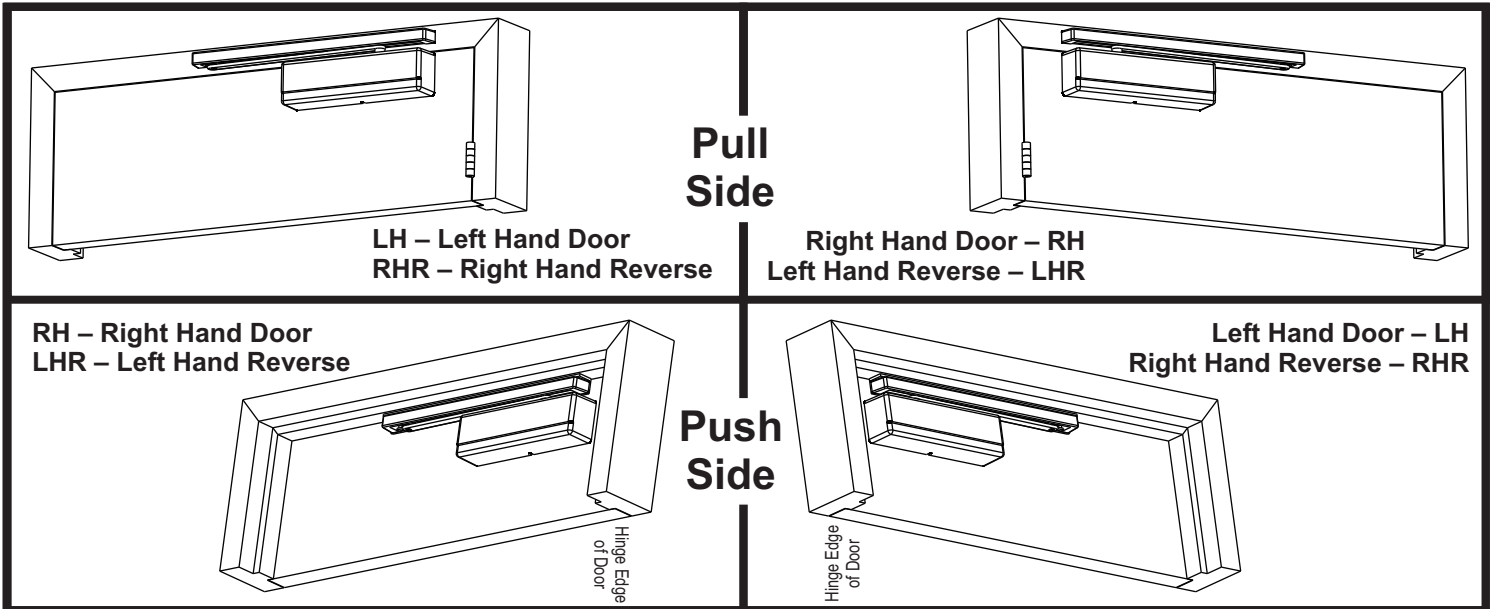
An incorrectly installed or improperly adjusted door closer can cause property damage or personal injury. These instructions should be followed to avoid the possibility of misapplication or misadjustment.

NOTE: For special applications a separate door and frame preparation template is packed with these instructions. Use this instruction sheet for installation sequence and closer adjustments only.

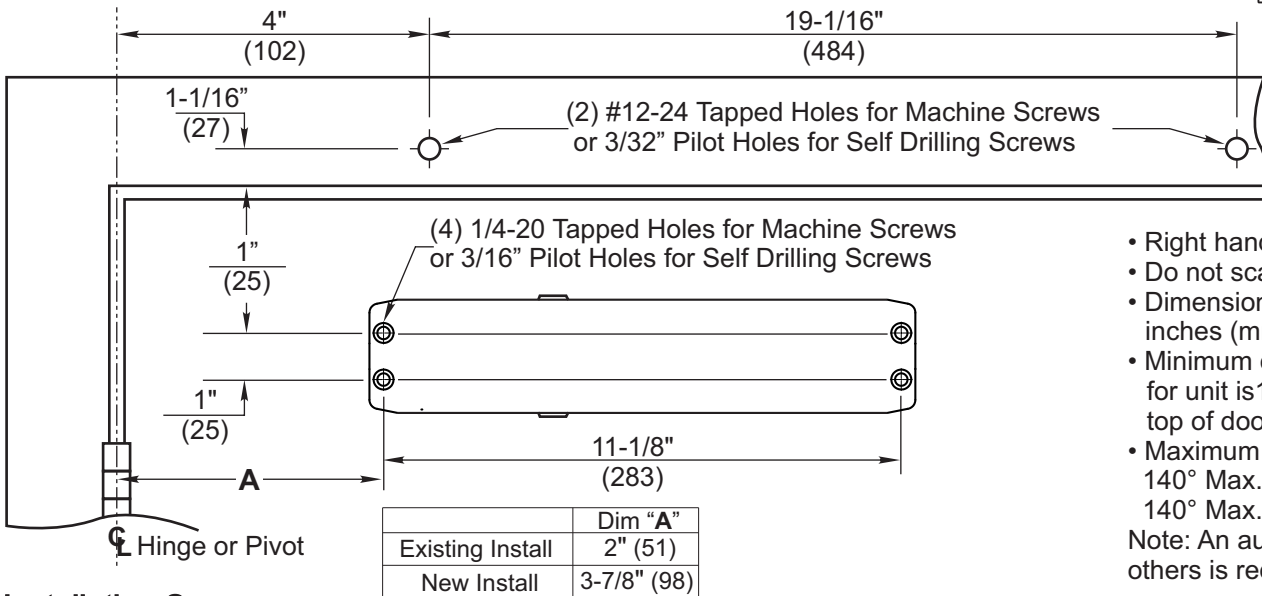
- Use of an auxiliary door stop is always recommended.

Non Hold Open Models		Hold Open Models *	
Hinge (Pull) Side	Stop (Push) Side	Hinge (Pull) Side	Stop (Push) Side
422CTB2	422PCTB2	422CTHB2	422PCHTB2

\* Hold open door closers are not permitted to be installed on fire/smoke barrier doors.



# Pull Side Application



- Right hand door shown
  - Do not scale drawing
  - Dimensions are given in inches (mm)
  - Minimum ceiling clearance for unit is 1-3/4" (45mm) from top of door
  - Maximum door opening: 140° Max. – Non Hold Open  
140° Max. – Hold Open track
- Note: An auxiliary stop by others is required.

## Installation Sequence:

1. Use template above to locate holes on door and frame:  
4 on door for closer.  
2 on frame face for track assembly.
2. Prepare door and frame for fasteners using chart at right.

	Dim "A"
Existing Install	2" (51)
New Install	3-7/8" (98)

Preparation for Fasteners				
Fasteners		Door or Frame		Drill-Sizes
Standard	1/4" Self-Drilling Screw (Closer Body Only)	Closer	Aluminum Metal or Wood	3/16" (4.30 mm) pilot hole required
	# 12-14 Self-Drilling Screw (Track Only)	Track	Aluminum Metal or Wood	3/32" (2.38 mm) pilot hole required
	1/4" - 20 machine screw	Closer	Metal	Drill: #7 (.201" dia.) Tap: 1/4" - 20
	#12-24 machine screw	Track		Drill: 4.4mm or #16 (.172") Tap: #12 - 24
Optional	Sleeve nuts and bolts	Closer Body Only	Hollow Metal	9/32" (7 mm) through; 3/8" (9.5 mm) door face opposite to closer
		Closer Body Only	Aluminum or Wood	3/8" (9.5 mm) through
	Through-bolts and grommet-nuts	Closer Body	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer



## Power Adjust

Use 5/8" Socket or Adjustable Wrench for this Adjustment

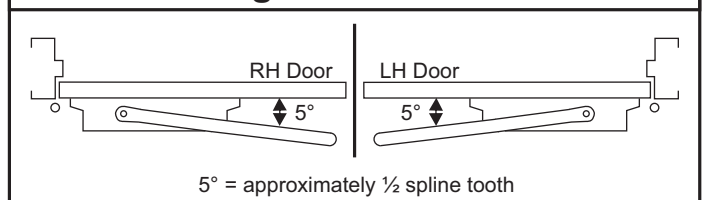
### Power Adjustment Chart for 422CTB2, 422CTHB2 ONLY

Number of Turns From 0	Size	Approximate Closing Force Measured 30" From Hinge.
1-1/2	1	2 lbf.
2	2	3 lbf.
4	3	5 lbf.
6	4	8 lbf.
8	5	11 lbf.
9	6	14 lbf.

NOTE: Maximum of 14 turns (360°) of Power Adjustment Shaft. Closer is shipped set at 4 turns.

3. Fasten closer body to door with power adjustment nut toward lock edge of door.
4. Fasten slide track to frame face with open side facing down and spring bumper and hold open device (if equipped) installed toward hinge edge of door.
5. Secure arm to spline shaft with silver arm screw using 4mm allen wrench provided.
6. With arm parallel to the door, insert spline shaft into top of closer. Spline shaft will contact gear inside closer.

## Arm Indexing

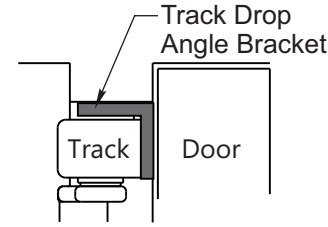
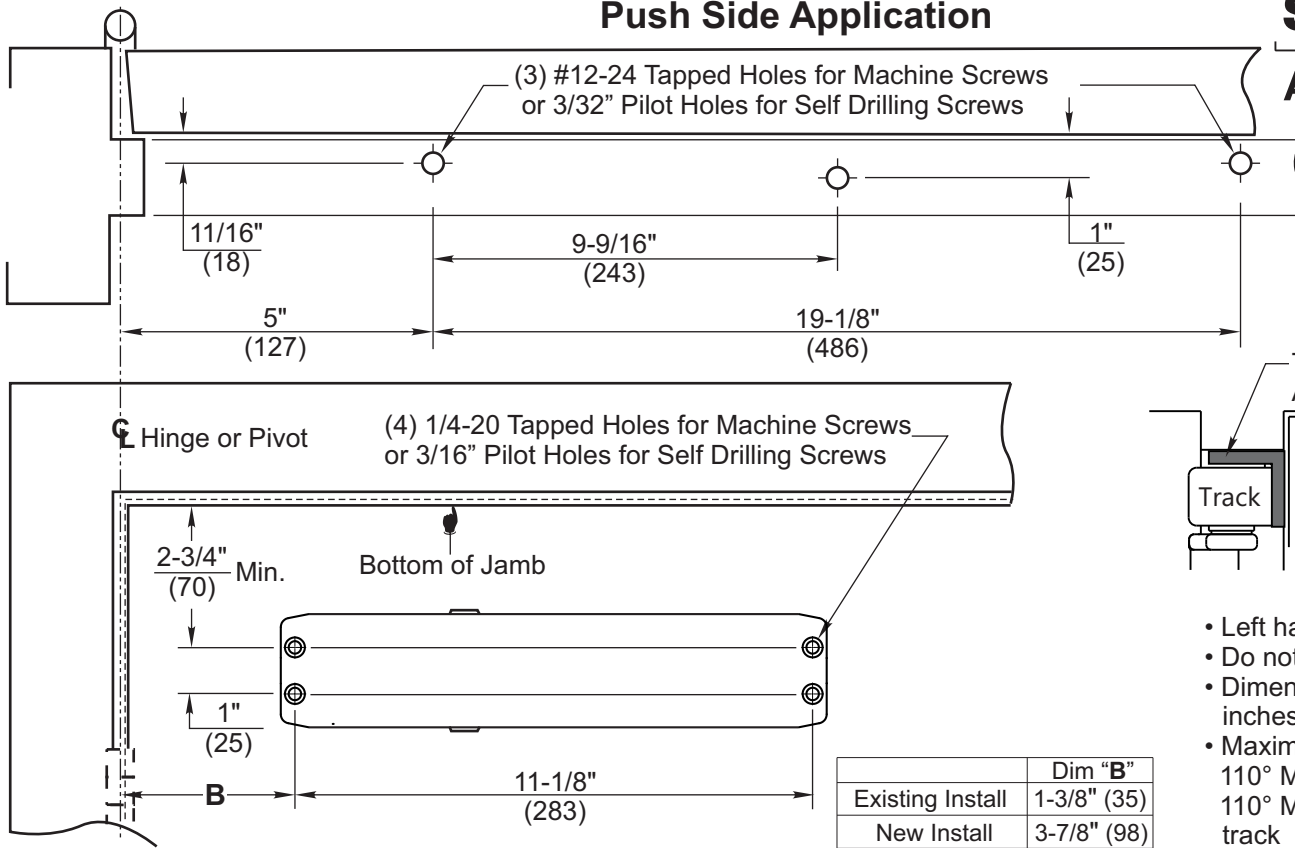


- 6 Cont. Once Spline Shaft and closer gear have made contact, rotate arm approximately 5° (as shown in Arm Indexing chart above) until Spline Shaft slides further thru the closer gear.
7. Move arm in position under slider stud. Insert 5mm hex wrench through threaded hole in the arm and into hex on stud. Rotate counter-clockwise until tightened. (See Figure 1 on Page 4)
8. Slide the spline vertically in or out of the closer up to 1/2 inch until arm is parallel to the track. Install plastic bushing on opposite side of spline shaft with provided black screw.
9. Adjust closer, spring bumper and hold open device (if equipped). (See Page 4)

# Push Side Application

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- Left hand door shown
  - Do not scale drawing
  - Dimensions are given in inches (mm)
  - Maximum door opening: 110° Max. – Non Hold Open  
110° Max. – Hold Open track
- Note: An auxiliary stop by others is required.

	Dim "B"
Existing Install	1-3/8" (35)
New Install	3-7/8" (98)

### Arm Indexing

1. Close valves C & L.
2. Install arm approx. 5° to mounting surface.
3. Proceed to step 5 below.

### Installation Sequence:

1. Use template above to locate holes on door and frame: 4 on door for closer. 3 on frame soffit for track drop angle bracket.
2. Prepare door and frame for fasteners using chart on Page 2.
3. Secure arm to spline shaft with silver arm screw using 4mm allen wrench provided.
4. Close "L" and "C" valves.
5. With arm parallel to the door, insert spline shaft into top of closer. Spline shaft will contact gear inside closer. Once Spline Shaft and closer gear have made contact, rotate arm approximately 5° toward door (as shown in Arm Indexing chart above) until Spline Shaft slides further thru the closer gear.
6. Rotate arm as shown above and fasten closer body to door with power adjustment nut toward lock edge of door.
7. Fasten slide track drop angle bracket to door frame as shown above. Attach track to track drop angle bracket with open side facing down and spring bumper and hold open device (if equipped) installed toward hinge edge of door using black screws provided with drop angle bracket.
8. Move arm in position under slider stud. Insert 5mm hex wrench through threaded hole in the arm and into hex on stud. Rotate counter-clockwise until tightened. (See Figure 1 on Page 4.)
9. Slide the spline vertically in or out of the closer up to 1/2 inch until arm is parallel to the track. Install plastic bushing on opposite side of spline shaft with provided black screw.
10. Adjust closer. (See Page 4)

### Power Adjust

Use 5/8" Socket or Adjustable Wrench for this Adjustment

Power Adjustment Chart for 422PCTB2, 422PCHTB2 ONLY

Number of Turns From 0	Size	Approximate Closing Force Measured 30" From Hinge.
2	1	2 lbf.
3	2	3 lbf.
5	3	5 lbf.
6-1/2	4	8 lbf.
9	5	11 lbf.
10	6	14 lbf.

NOTE: Maximum of 14 turns (360°) of Power Adjustment Shaft. Closer is shipped set at 4 turns.

# Adjustment Instructions

## Arm Attachment to Track Slider

Move arm in position under slider stud. Insert 5mm hex wrench through threaded hole in the arm and into hex on stud. Rotate counter-clockwise until tightened.

See Figure 1.

## 1. Closing Power

All 422 Models are fully adjustable. For proper sizing see chart on Page 2 or 3. To adjust closer power – See Figure 2. Increase or decrease power as necessary.

## 2. Closing Cycle (hydraulic control) See Figure 3A.

Valve "L" controls door speed in Latch range.  
Valve "C" controls door speed in Sweep range.  
Use 4mm hex-key furnished & adjust as shown in Figure 4.

## 3. Opening Cycle (hydraulic control) See Figure 3B.

Valve cushions (slows) door opening in the back-check range.

Note: Never close this valve completely or damage to closer may occur.

Use 4mm hex-key furnished & adjust as shown in Figure 5.

## 4. Installation of Cover:

Architectural plastic cover: Slide cover over the closer and snap on.

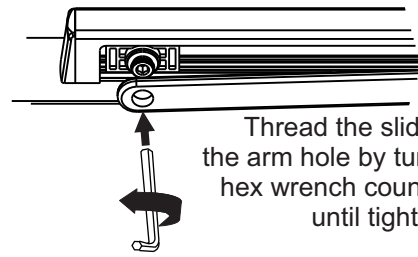
## Spring Bumper Opening Angle Adjustment:

The opening angle may be adjusted from 80 to 110 degrees by positioning the spring bumper assembly in the track. Refer to instructions included in the spring cushion package labeled "DC153". Note: Spring stop must be installed on every installation.

## Hold Open Position/Power Adjustment:

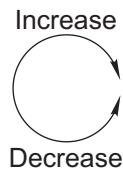
If more or less hold open power is required, the power may be increased by turning the adjustment screws in the hold open device. Additionally, the hold open position may be adjusted from 80 to 110 degrees. Refer to instructions included in the hold open package labeled "DC152". Note: Install spring cushion stop toward hinge then install hold open device. See Fig. 6 on this page.

## Attaching Arm to Slider Fig. 1

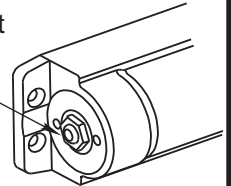


Thread the slider stud into the arm hole by turning the 5 mm hex wrench counter-clockwise until tightened.

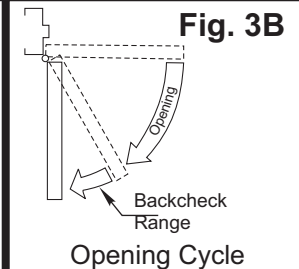
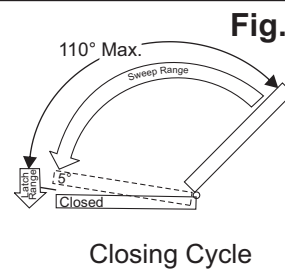
## Closing Power Control Fig. 2



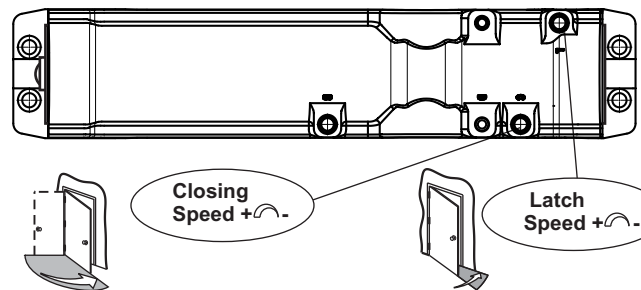
Power Adjustment Shaft  
Use 5/8" Socket or Adjustable Wrench



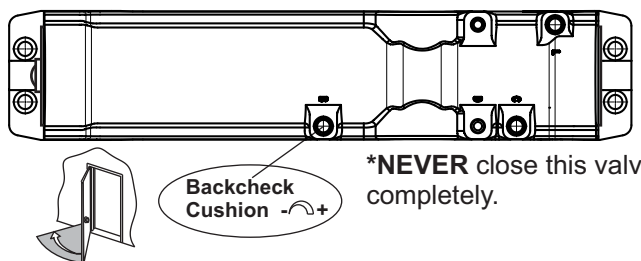
## Hydraulic Control Fig. 3



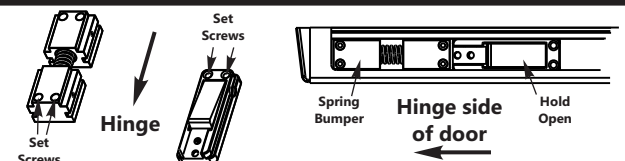
## Closing Speed Fig. 4



## Backcheck Fig. 5



## Hold Open/Spring Bumper Fig. 6



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