3000 Series
Parallel Rigid (PR), Holder/Stop, Holder/Stop with Thumbturn Arms
Non-Hold Open and Hold Open
Installation Instructions

Additional Closer Options:
- "DL" indicates Delayed Action closing.
- "T" indicates Thumbturn actuated hold open control; units are handed.

Optional Accessories:
- 3148 Drop Plate (use with slim cover or no cover)
- 3158 Drop Plate (use with full cover)
- 293L, 293S, 890, 891 Soffit Plate Accessories.

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.

CAUTION

Model Numbers Included:

PR3301/ PR330X
PR3311/ PR331X*
PR3501/ PR350X
PR3511/ PR351X*
3321(T) / 332X(T)
3521(T) / 352X(T)

Note 'X' Designates Size 2, 3, 4, 5, or 6

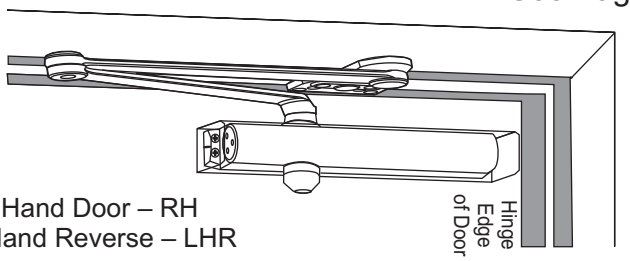
*Hold open units are handed

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

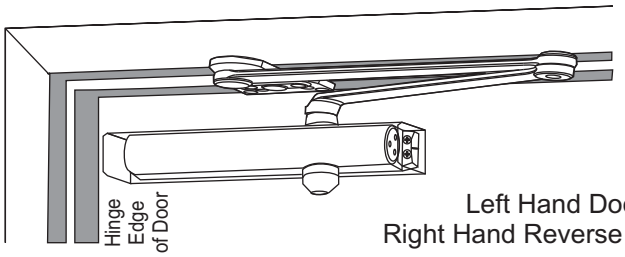
Standard Frame Installation

Closer mounts on opposite to hinge (push) side of door. PR3301 Parallel Rigid Non Hold Open arm illustrated. Slim Line Cover shown.

See Pages 3 and 4



Right Hand Door – RH
Left Hand Reverse – LHR

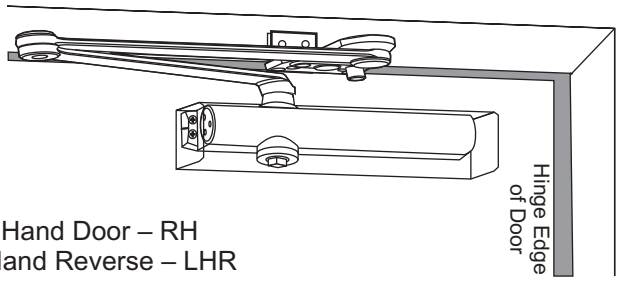


Left Hand Door – LH
Right Hand Reverse – RHR

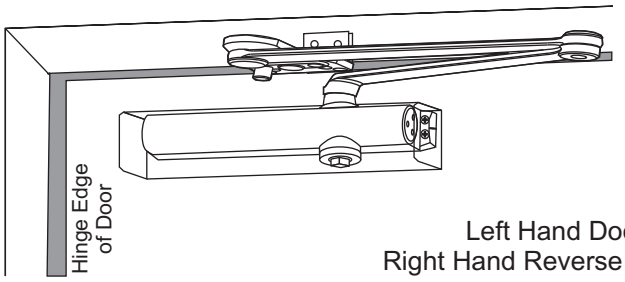
Narrow Frame Installation

Closer mounts on opposite to hinge (push) side of door. 3521 Holder/Stop arm illustrated. Full Cover shown.
890 and 891 accessories required for this application (supplied separately).

See Pages 3 and 4



Right Hand Door – RH
Left Hand Reverse – LHR

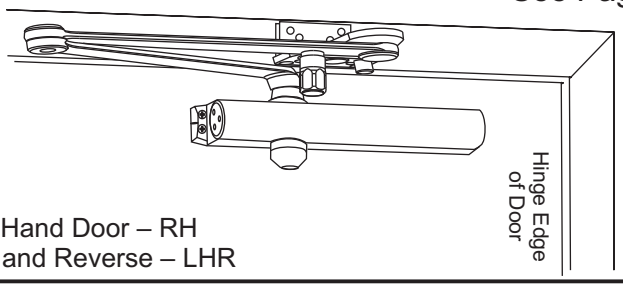


Left Hand Door – LH
Right Hand Reverse – RHR

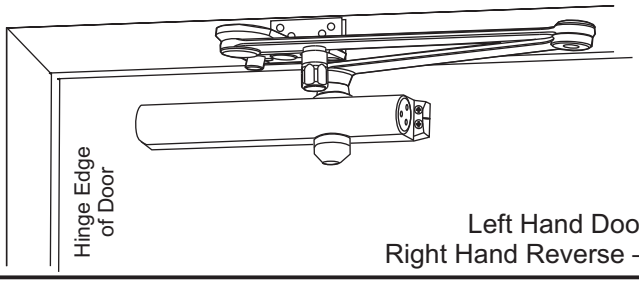
Flush Partition Installation

Closer mounts on opposite to hinge (push) side of door. 3521T Holder/Stop arm with Thumbturn Hold Open illustrated.
Closer Cover not shown. 293L accessory required for this application (supplied separately).

See Pages 3 and 4



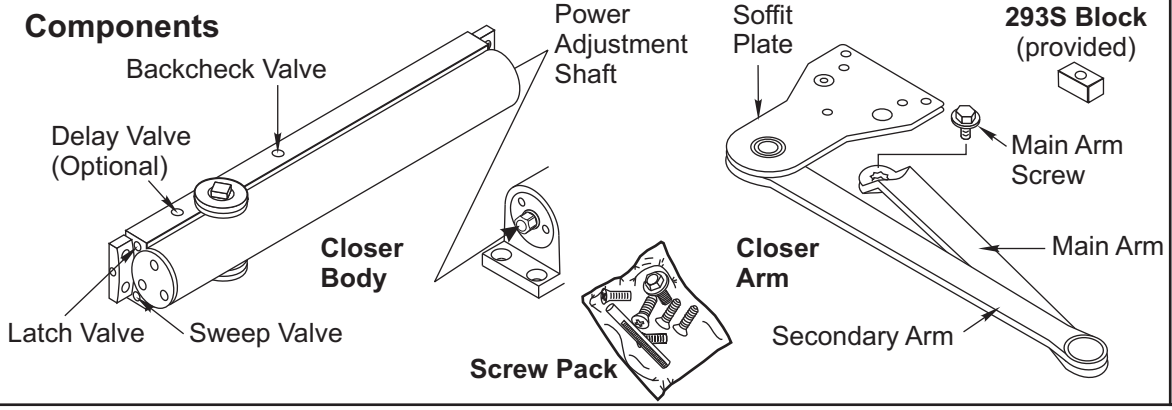
Right Hand Door – RH
Left Hand Reverse – LHR



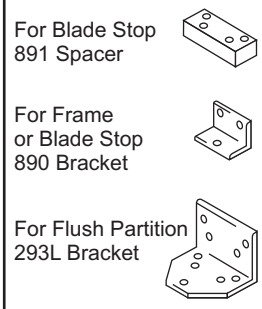
Left Hand Door – LH
Right Hand Reverse – RHR

80-9303-2209-010 (10-10)

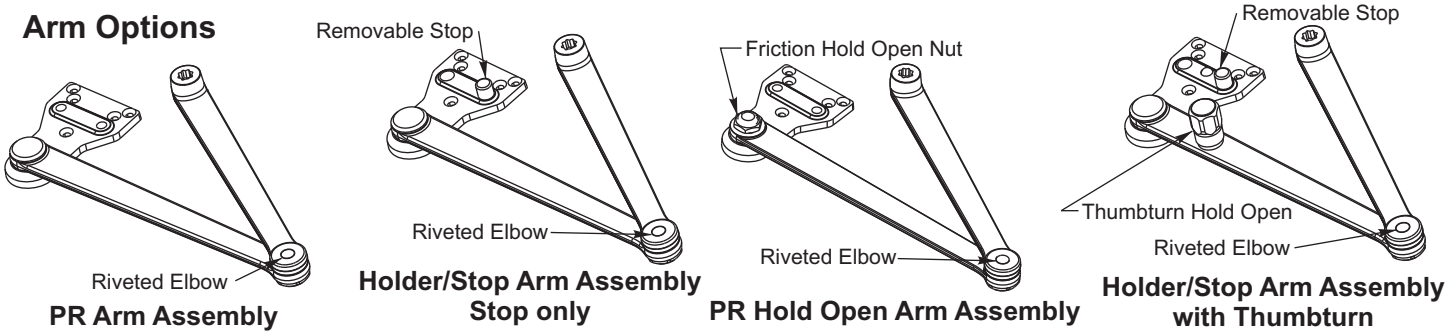
Components



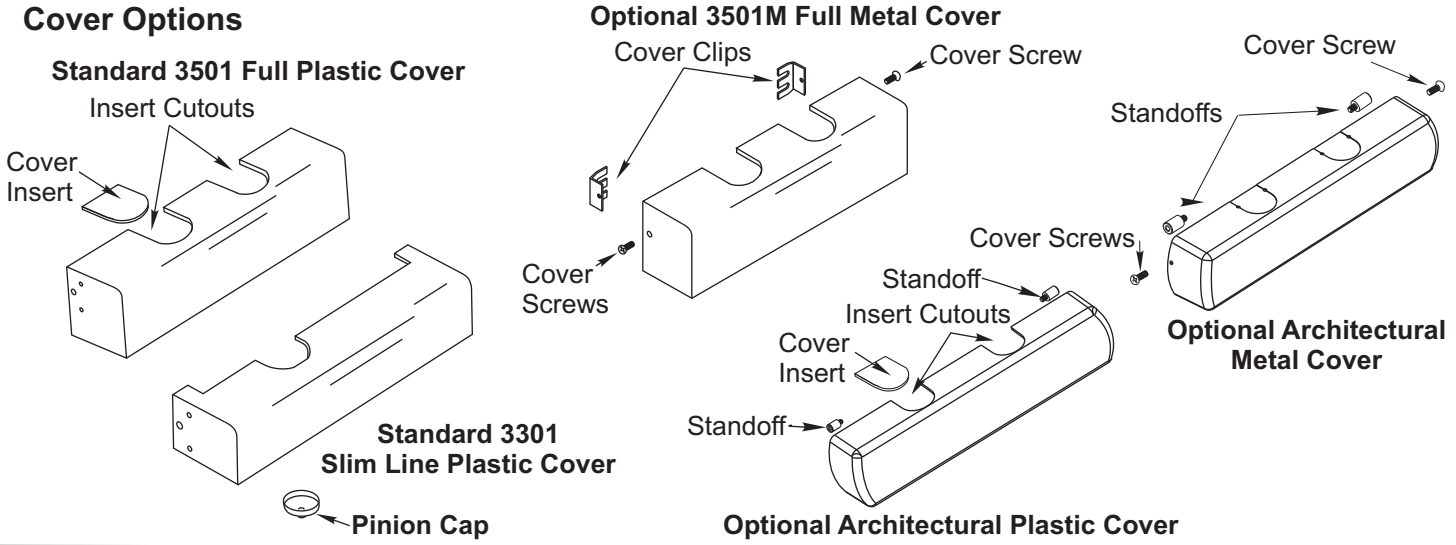
Optional Accessories



Arm Options



Cover Options



Preparation for Fasteners			
	Fasteners	**Door or Frame**	**Drill-Sizes**
Standard	Self-Drilling Screw	Aluminum or Metal	No drill required
		Wood	3/16" (4.80 mm) Pilot hole required
	1/4" - 20 machine screw	Metal	Drill: #7 (0.201" dia.) (5mm) Tap: 1/4" - 20
Optional	Sleeve nuts and bolts	Hollow Metal	9/32" (7 mm) thru; 3/8" (9.5 mm) door face opposite to closer
		Aluminum or Wood	3/8" (9.5 mm) through
	Through-bolts and grommet-nuts	All	9/32" (7 mm) thru; 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

Note: Wood doors **MUST** be pre-drilled when using Self-Drilling Screws.

80-9303-2209-010 (10-10)

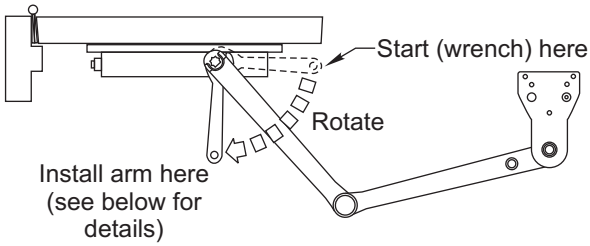
Installation Instructions

- Select angle of opening and use dimensions shown on Page 4 and Dimension Chart below to locate 4 holes on stop side of door for closer body *or 3148 or 3158 Drop Plate, only if required* and 5 holes on stop and/or rabbet for Soffit Plate. For applications not covered in these instructions, a separate template will be required.
- Prepare door and frame for fasteners. See “Preparation for Fasteners”, Page 2.
- Set closer power for door size using Power Adjustment Chart below. Use 5/16" (8mm) wrench to adjust Power Adjustment Shaft ... 20 turns maximum. Turn nut **CLOCKWISE** to **Increase, COUNTER-CLOCKWISE** to **Decrease** power. See Page 6, Figure 3 for the illustration of this step.
- *Mount 3148 or 3158 Drop Plate ... only if required (see Page 5).*
- Install closer with **power adjustment screw toward hinge edge of door.** Note: If using full metal cover, cover mounting clips must be slipped under ends of closer when closer is being mounted. Clips should project 1/4" (6mm) beyond each end of closer.
- With door closed, use wrench to rotate pinion shaft as illustrated below, see Arm Mounting Details. **Caution: Closer pinion is under spring tension and may be difficult to rotate.**
- Install Main Arm: Close valves - **‘S’** and **‘L’**, then turn pinion shaft more than 50° to permit proper alignment of arm mark with pinion flat -
  ‘L’ for **Left** hand door.
  ‘R’ for **Right** hand door.
  See “Main Arm Installation Instructions” below.
- **Make closer adjustments** (see page 6) before installing cover ... **CAUTION: Do not back valves out of closer completely or a leak will result**.
- Reopen valves by turning counter clockwise.
- With door closed, align soffit plate with mounting holes in frame. Fasten soffit plate to frame with flat head screws provided.... *use spacer blocks 293S or 891, if required.*
- Install cover (see page 6).
  NOTE: Architectural Covers CAN NOT be used for doors swinging over 120° using parallel mount.

Installation Dimensions Chart

		Dim		85°-90°	90°-95°	95°-100°	100°-105°	105°-110°	110°-115°	115°-120°	120°-180°
PR3301/PR3501		A	in.	3-3/4							1-1/4
			(mm)	(95)							(32)
		B	in.	9-1/2							7
			(mm)	(241)							(178)
3321/3521	Butt Hinges or Offset Pivots	A	in.	5-5/8	4-7/8	4-1/8	3-1/2	2-7/8	2-1/4		
			(mm)	(143)	(124)	(105)	(89)	(73)	(57)		
		B	in.	11-1/8	10-3/8	9-5/8	9	8-3/8	7-7/8		
			(mm)	(283)	(264)	(244)	(229)	(213)	(200)		
	Center Pivots	A	in.	5-1/2	4-3/4	3-7/8	3-1/4	2-5/8	2		
			(mm)	(140)	(121)	(98)	(83)	(67)	(51)		
		B	in.	11	10-1/4	9-3/8	8-3/4	8-1/8	7-5/8		
			(mm)	(279)	(260)	(238)	(222)	(206)	(194)		

Arm Mounting Detail

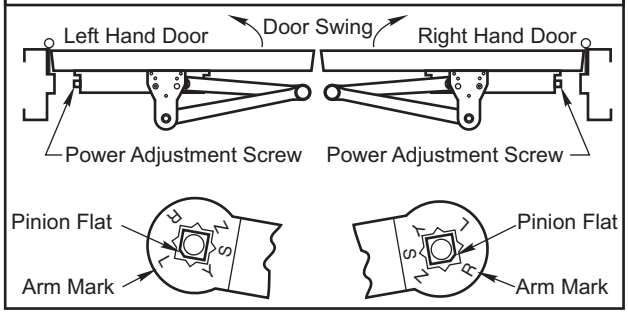


Power Adjustment Chart

	Full Clockwise Turns of Closer Power Adjustment Shaft				
	Door Size	28-32 in 0.7-0.8 m	33-36 in 0.85-0.9 m	37-42 in 0.95-1.05 m	43-48 in 1.1-1.2 m
PR3301/PR3501	Interior	7	10	13	16
	Exterior	9	12	15	18
3321/3521	Interior	9	11	13	15
	Exterior	10	12	14	16

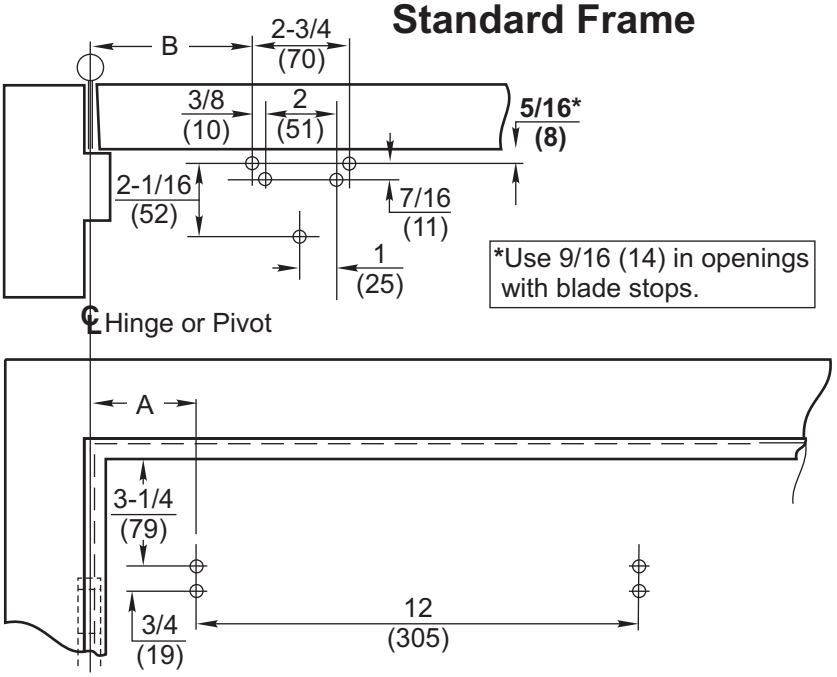
NOTE: Maximum of 20 turns (360°) of Power Adjustment Screw.
Closer is shipped set at mid power setting.

Main Arm Installation Instructions



80-9303-2209-010 (10-10)

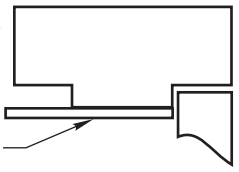
Standard Frame



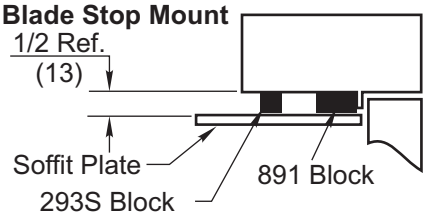
*Use 9/16 (14) in openings with blade stops.

Notes:
Do Not Scale Drawing.
Left Hand Door Shown.
Same dimensions apply for Right Hand Door measured from centerline of pivot point.
Dimensions are in inches (mm).
See Page 3 for A & B dimension values.

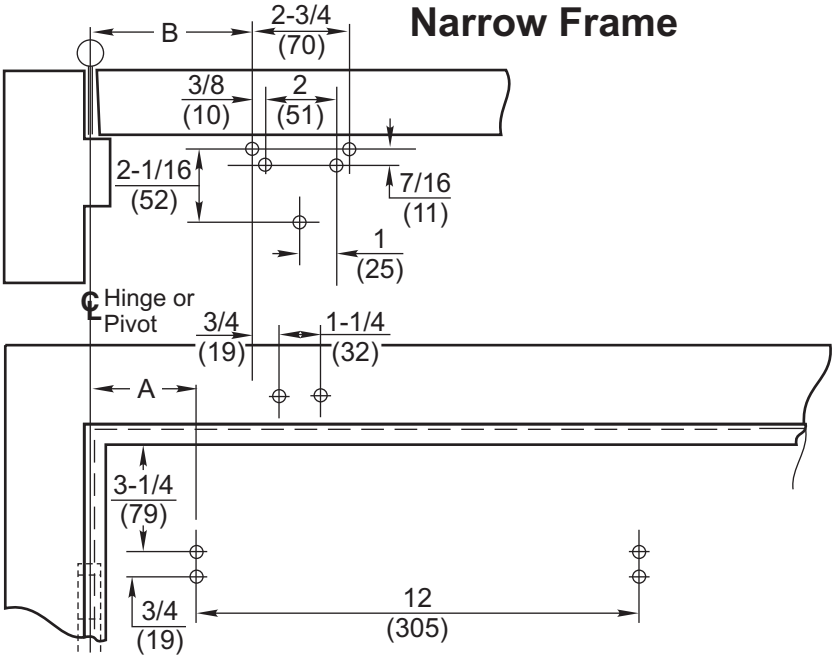
Standard Mount

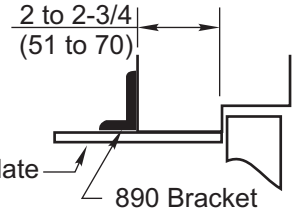


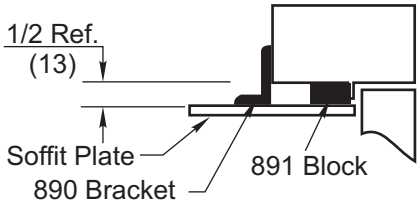
Blade Stop Mount



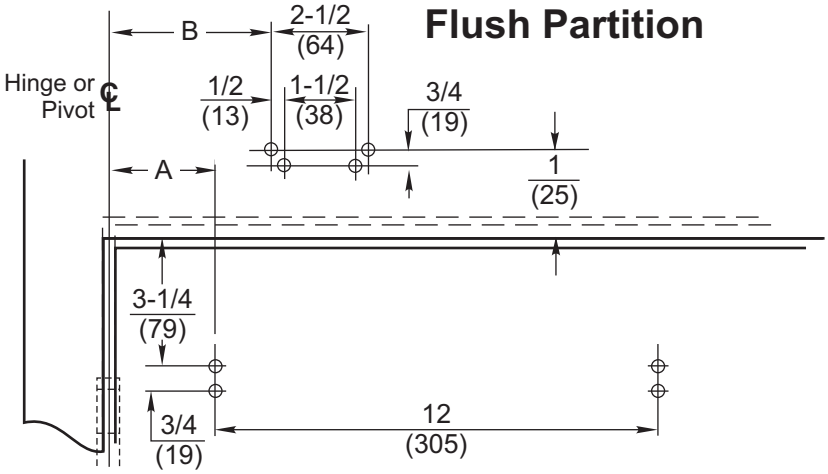
Narrow Frame

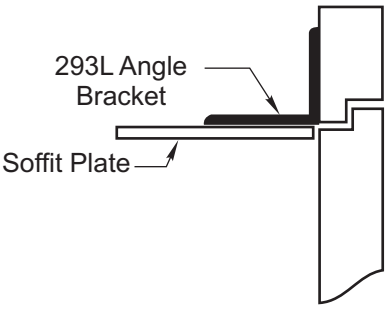






Flush Partition

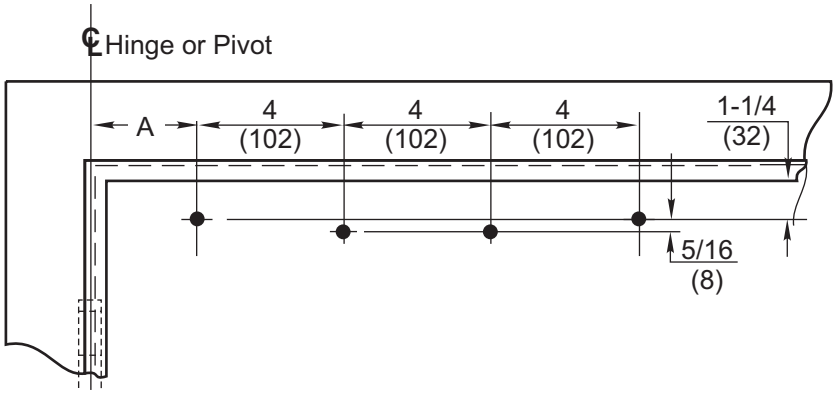


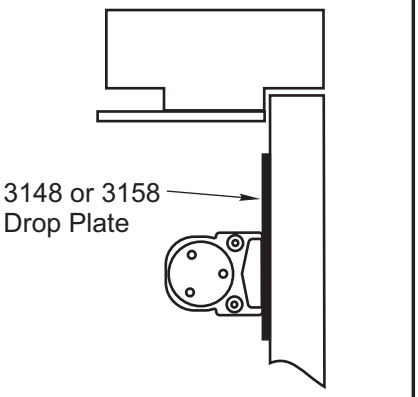


80-9303-2209-010 (10-10)

3148 or 3158 Drop Plate Mounting Holes

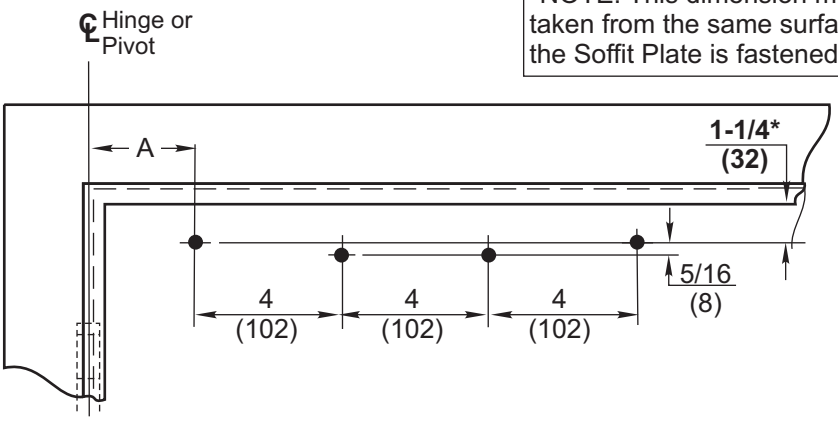
Standard Frame

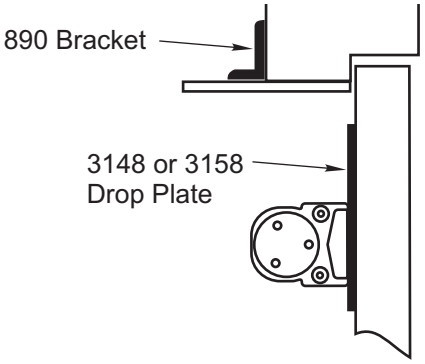




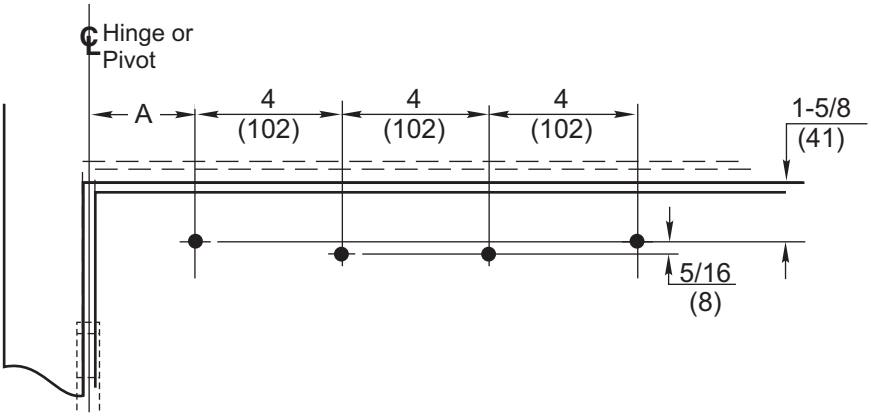
Narrow Frame

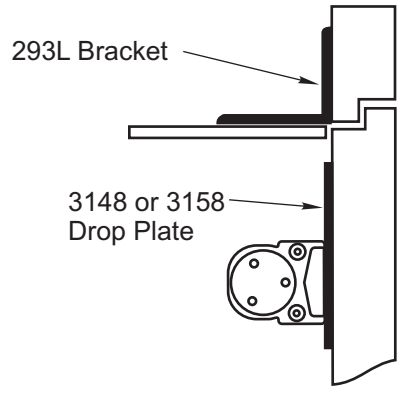
*NOTE: This dimension must be taken from the same surface that the Soffit Plate is fastened to.





Flush Partition



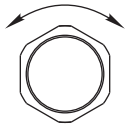


Thumbturn Hold-Open Feature

The Thumbturn Hold-Open feature is controlled by the knob located on the arm of the unit. Turning this knob clockwise will engage the Hold-Open mechanism and increase the Hold-Open force. Turning this knob counterclockwise will reduce the Hold-Open force and disengage the Hold-Open mechanism.

DECREASE - - INCREASE

Thumbturn Action
(Units suffixed “T”)



Friction Hold-Open Feature

Hold door open to opening angle desired and tighten holder-adjustment-nut (wrench supplied) or use 1" Box or Open End wrench.

80-9303-2209-010 (10-10)

Unit Adjustment

Closing Power Adjustment–
Using "Power Adjustment Chart" from Page 3, select the correct number of turns for power adjustment shaft that corresponds with the installation. With 5/16" (8mm) wrench, rotate adjustment shaft full 360° clockwise turns to desired setting. After closer has been installed and proper adjustments made to the sweep and latch, it may be necessary to readjust spring power for good closing action.

Closing Speed Controls (Figure 1A or 1B and 2.)
- Valve "S" Controls Sweep Range.
- Valve "L" Controls Latch Range.
- Valve "D" Controls Delay Range (optional).

Control Valve Adjustments
(See Figure 2.)

Opening Cycle
"Backcheck" valve controls the strength of cushioning in Backcheck Range. NEVER close this valve completely – it is not to provide a positive stop. (see Figure 4 and Figure 5).

Cover (Figure 6)–Full cover: Slide cover insert into the un-used cutout in cover. Install cover using screws provided.

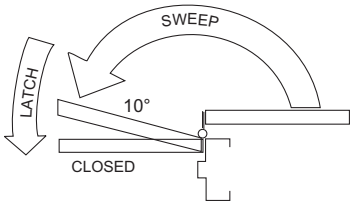
Narrow cover: Install cover using screws provided. Install pinion cap onto pinion shaft by hand or with a Phillips screw driver - DO NOT OVER TIGHTEN.

Metal cover: Fasten cover to mounting clips with screws provided.

Architectural Metal Cover: Remove cover insert where pinion is located. Install standoffs in ends of closer. Install cover using screws provided.

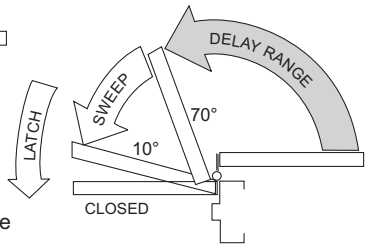
Architectural Plastic Cover: Slide cover insert into the un-used cutout in cover. Install standoffs in ends of closer. Snap cover over standoffs.

Closing Speed Controls **Figure 1.**



Standard Closing Cycle 1A

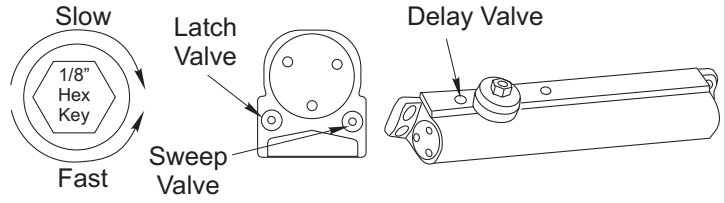
CAUTION: DO NOT BACK VALVES OUT OF CLOSER OR A LEAK WILL RESULT.



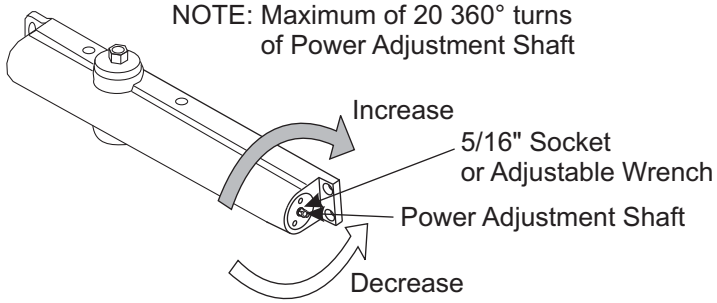
Delayed Action Closing Cycle 1B

Attention: Adjust Closing Speed Time to between 4 to 7 seconds from 90°. Use of the door by handicapped, elderly or small children may require greater closing time.

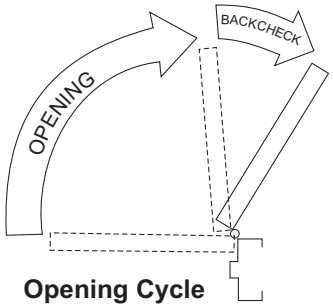
Closing Speed Controls **Figure 2.**



Closing Power Control **Figure 3.**



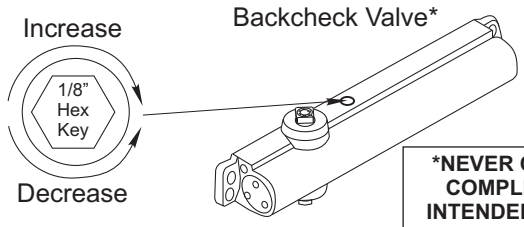
Opening Door Control **Figure 4.**



Opening Cycle

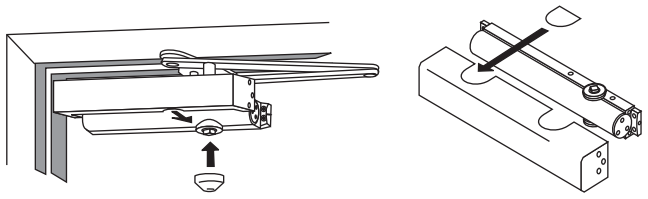
CAUTION: DO NOT BACK VALVES OUT OF CLOSER OR A LEAK WILL RESULT.

Backcheck Control **Figure 5.**



***NEVER CLOSE VALVE COMPLETELY - NOT INTENDED TO PROVIDE A POSITIVE STOP.**

Cover Mounting **Figure 6.**



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