



Installation Instructions

80-9344-2205-010 (09-11)

Model Numbers Included:

Series	Function	Sizing
Parallel Rigid Arm Units		
PR40X	NHO	2 THRU 6
PR140X	HO	"
PR4400	NHO	1-6
PR4410	HO	"
Holder-Stop Units		
402X	NHO	2 THRU 6
402XT	HO	"
4420	NHO	1-6
4420T	HO	"

"X" Designates closer size 2, 3, 4, 5, or 6

Parallel Rigid Arm Door Closers (PR) Holder-Stop Arm Door Closers

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**

Additional Closer Options:

- "DL" indicates Delayed Action closing.
- Hold-Open function components are handed
- "T" indicates Thumbturn actuated Hold-Open control.

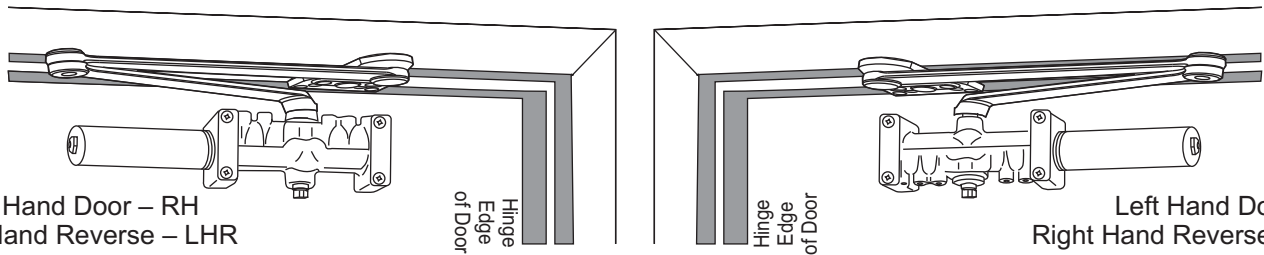
Optional Accessories:

- 488 Drop Plate
- 293L, 890, 891 Soffit Plate Accessories.

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.

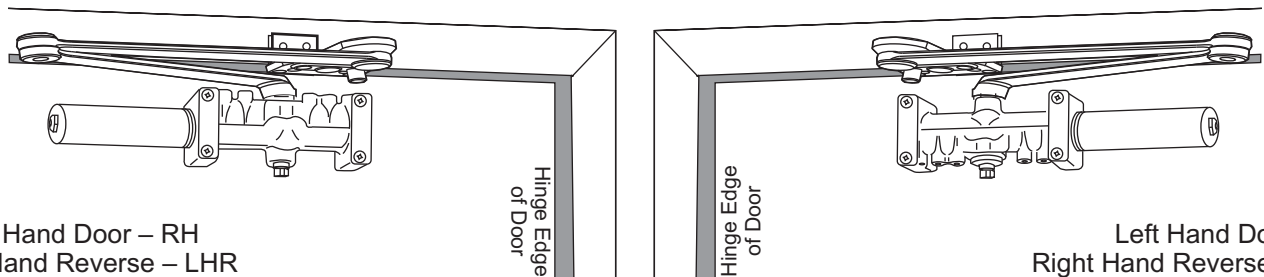
Standard Frame Installation

Closer mounts on opposite to hinge (push) side of door. PR4400 Parallel Rigid Non Hold Open arm illustrated.
See Pages 3 and 4



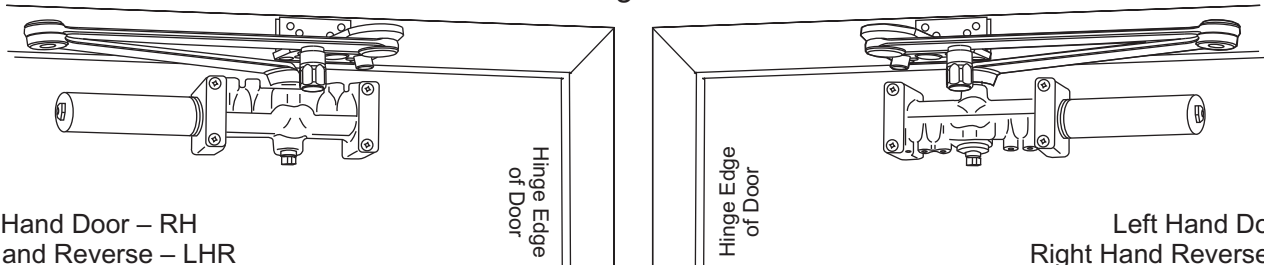
Narrow Frame Installation

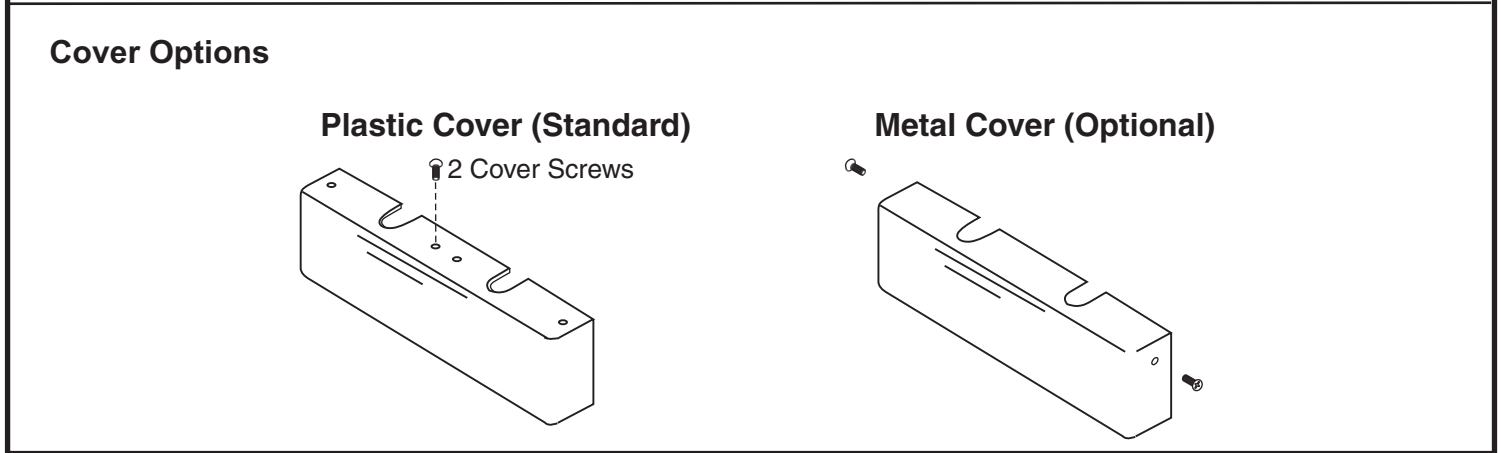
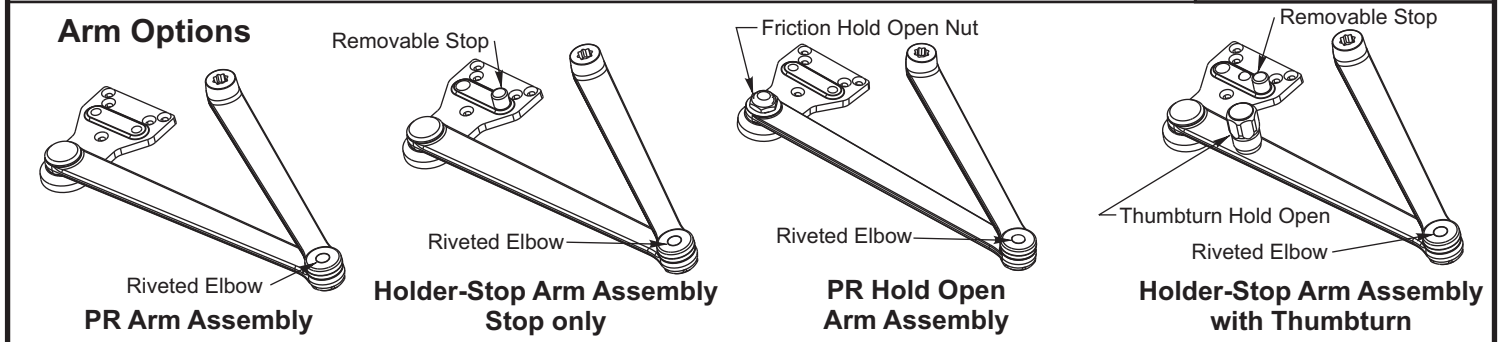
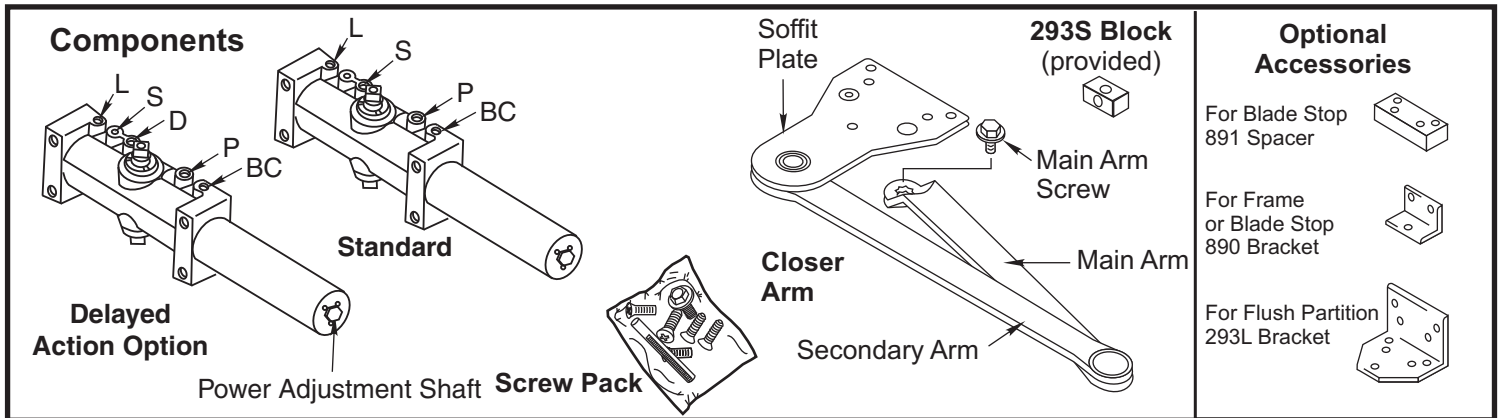
Closer mounts on opposite to hinge (push) side of door. 4420 Holder-Stop arm illustrated.
6890 and 6891 accessories required for this application (supplied separately).
See Pages 3 and 4



Flush Partition Installation

Closer mounts on opposite to hinge (push) side of door. 44420T Holder-Stop arm with Thumbturn Hold Open illustrated.
2019L accessory required for this application (supplied separately).
See Pages 3 and 4





Preparation for Fasteners			
	Fasteners	Door or Frame	Drill-Sizes
Standard	Self-Drilling Screw	Aluminum or Metal	No drill required
		Wood	3/16" (4.30 mm) Pilot hole required
	1/4" - 20 machine screw	Metal	Drill: #7 (0.201" dia.) Tap: 1/4" - 20
	Sleeve nuts and bolts	Hollow Metal	9/32" (7 mm) through; 3/8" (9.5 mm) door face opposite to closer
Aluminum or Wood		3/8" (9.5 mm) through	
Optional	Through-bolts and grommet-nuts	All	9/32" (7 mm); 3/8" (9.5 mm) dia. x 3/8" (9.5 mm) deep on door opposite to closer

Installation Instructions

- Select angle of opening and use dimensions shown on Page 4 and Dimension Chart below to locate 4 holes on door for closer body (or 4 holes for 488 Drop Plate, Page 5, only if required) and 5 holes on stop/rabbit for Soffit Plate (or 4 holes on frame transom for 293L bracket, only if required). For applications not covered in these instructions, a separate template will be required.
- Prepare door and frame for fasteners using "Preparation for Fasteners" chart on Page 2.
- *Mount 488 Drop Plate to door ... only if used (see Page 5).*
- Install closer body to door, or 488 Drop Plate, with **power adjustment shaft** away from **hinge edge of door and adjustment valves:**
Down for Left Hand
Up for Right Hand
- Check arm handing for all CLP and PR arms with Hold open Feature.
- CLP Arms are shipped as left hand for right hand doors, switch positions of soffit plate stop and Hole Plug.
- PR Hold Open Arms are handed and not reversible. See handing marks on soffit plate.
- CPS arms only: With door partially open to allow clearance, install CPS arm kit to arm's soffit plate.

- Install Main Arm: Close valves ('S/D' or 'S') and 'L', then using a wrench, rotate the pinion shaft at least 50° to permit alignment of the **Pinion Flat** with the proper arm mark:
'Z' for Left Hand
'Y' for Right Hand
 See below for illustrations of this procedure.
- Reopen valves ('S/D' or 'S') and 'L', that were closed in previous step.
- With door closed, align soffit plate with holes in frame and fasten to frame with screws. Use 293S and/or 891spacer blocks or 890 reinforcing bracket as required.
- Make adjustments to closer before installing cover. See Page 6 for closer adjustment instructions.
CAUTION: Do Not back valves out of closer body or a fluid leak will result.
- Install cover.

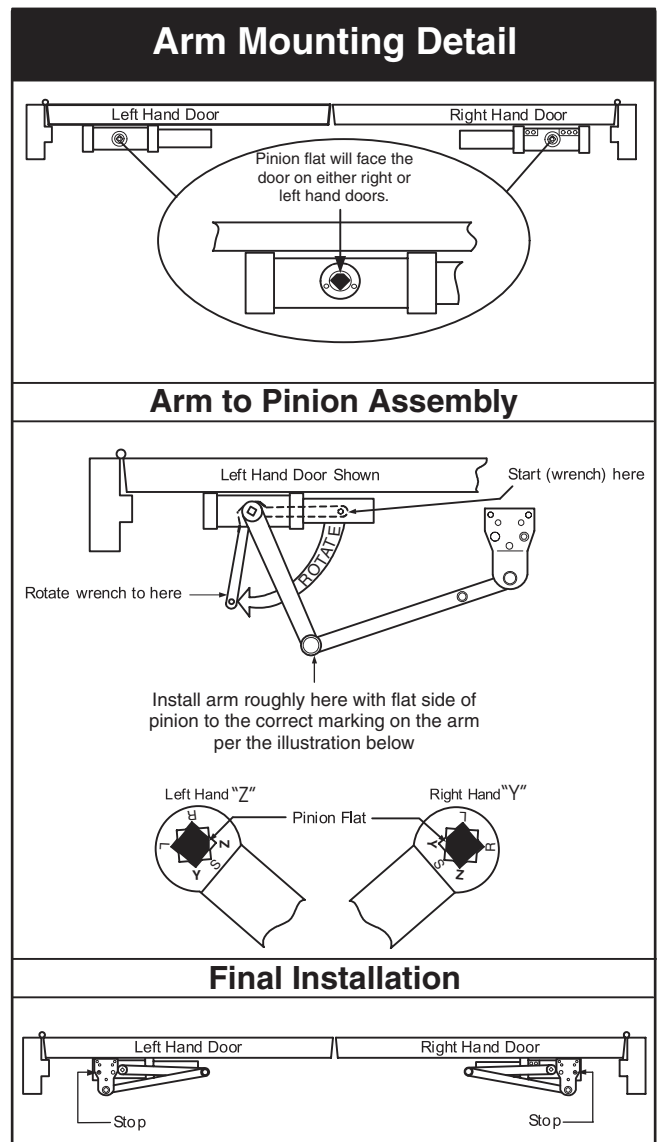
Power Adjustment Chart		
Maximum Interior Door Size <small>inches (mm)</small>	Maximum Exterior Door Size <small>inches (mm)</small>	4400 Series Only
		Full Clockwise Turns of Closer Power Adjustment Nut (from "0" turns)
32 (0.81)	28 (0.70)	5
36 (0.91)	34 (0.86)	8-1/2
42 (1.07)	38 (.96)	11
52 (1.32)	42 (1.07)	13-1/2
60 (1.52)	48 (1.22)	16-1/2

NOTE: Maximum of 16-1/2 turns (360°) of Power Adjustment Nut. Closer is shipped set at 8 turns from the factory.

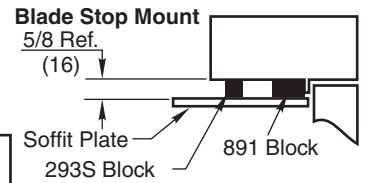
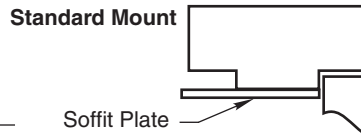
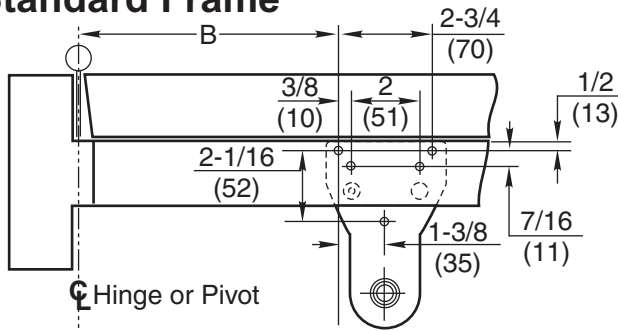
Install closer per instructions with the proper pre-load applied to the arm then adjust spring power. The power adjustment will not work properly if the closer spring is not pre-loaded.



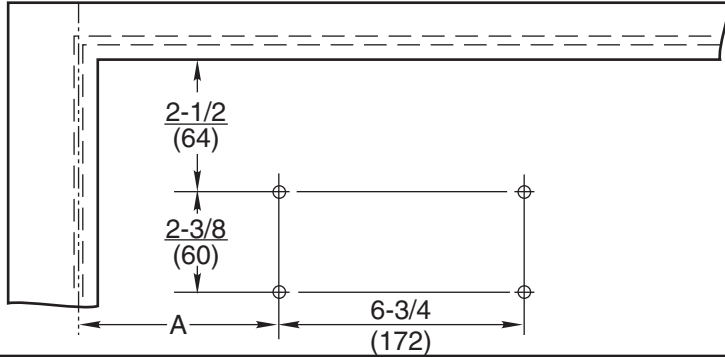
DO NOT use a power drill or driver to turn adjustment nut. This will damage closer and void warranty.



Standard Frame

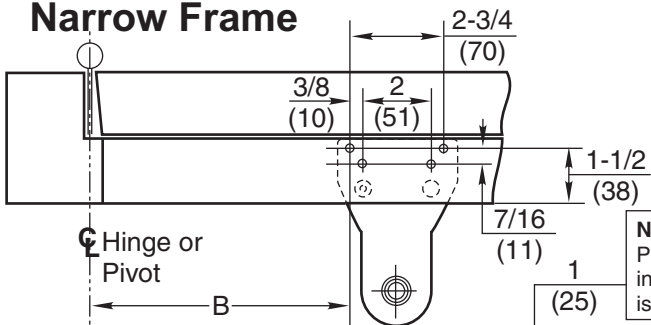


Notes:
 Do Not Scale Drawing.
 Left Hand Door Shown.
 Same dimensions apply for Right Hand Door measured from centerline of pivot point.
 Dimensions are in inches (mm).
 See Page 3 for A, B, or C dimension values.

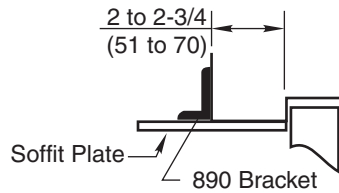


	Dim	Up to 90°	90°-95°	95°-100°	100°-105°	105°-110°	110°-115°	115°-130°	130°-150°	150°-180°
PR PREFIX	A in. (mm)		8-3/4 (222)		7-1/4 (184)			6-1/4 (159)	5-1/4 (133)	
	B in. (mm)		9-1/4 (235)		7-3/4 (197)			6-3/4 (171)	5-3/4 (146)	
	C in. (mm)		9-3/8 (238)		7-7/8 (200)			6-7/8 (175)	5-7/8 (149)	
CLP & CPS PREFIX	A in. (mm)	10-1/8 (257)	9-1/4 (235)	8-5/8 (219)	7-7/8 (200)	7-3/8 (187)	6-3/4 (171)			
	B in. (mm)	10-5/8 (270)	9-3/4 (248)	9-1/8 (232)	8-3/8 (213)	7-7/8 (200)	7-1/4 (184)			
	C in. (mm)	10-3/4 (273)	9-7/8 (251)	9-1/4 (235)	8-1/2 (216)	8 (203)	7-3/8 (187)			

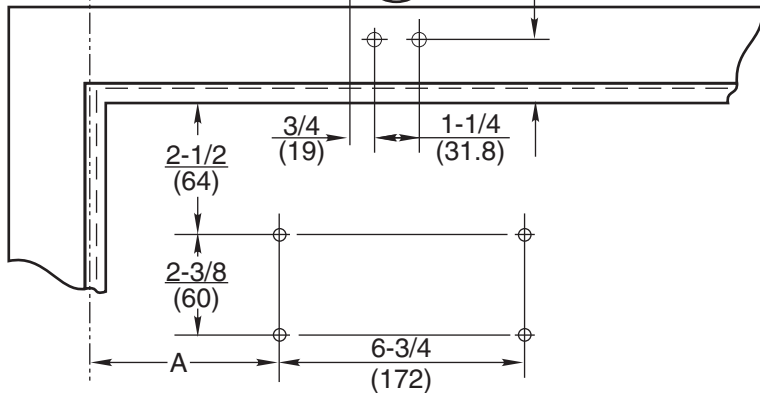
Narrow Frame



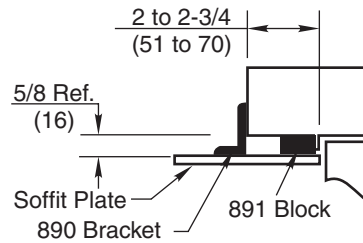
Narrow Frame Mount



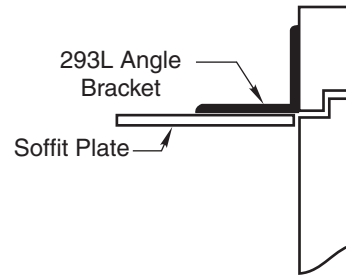
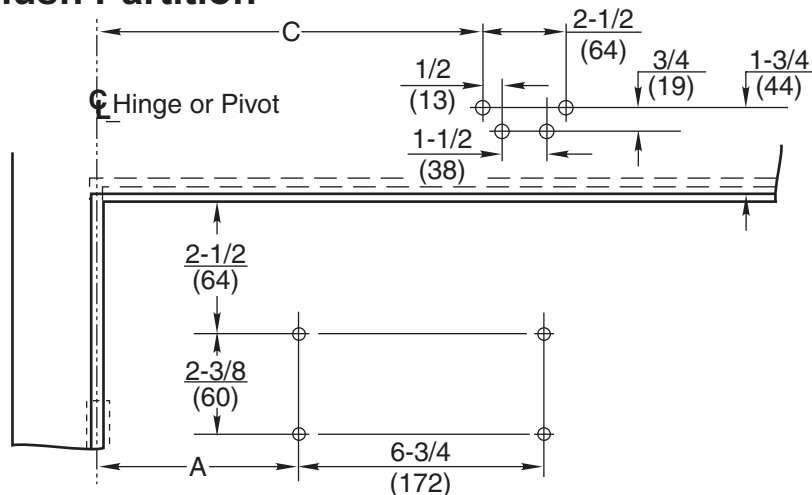
NOTE: For Blade Stop Mounting only.
 Prepare 2 holes for 6890 bracket after installing 6891 block. The 1" dimension is from the bottom of the 6891 block.



Blade Stop Mount

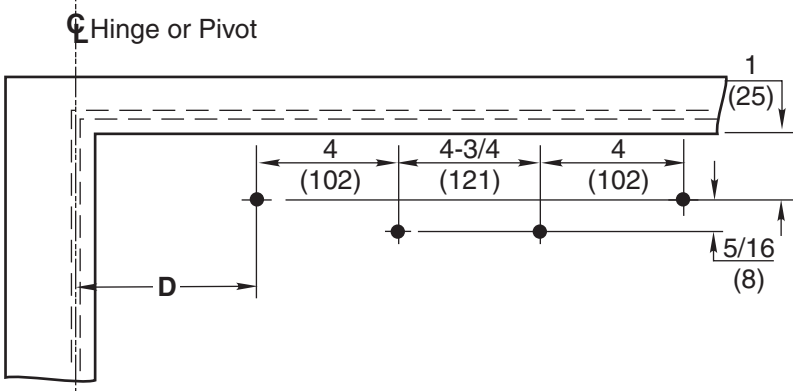


Flush Partition

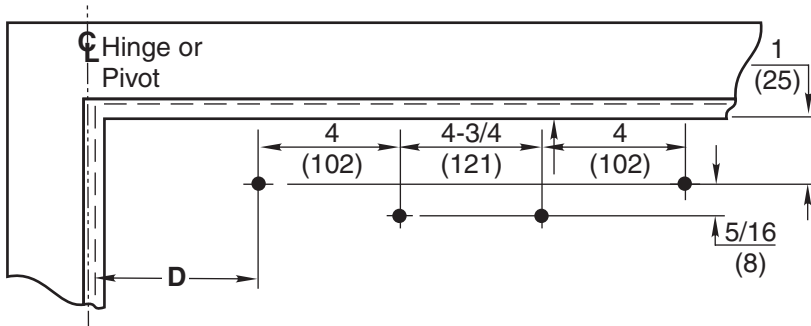


488 Drop Plate Mounting Holes

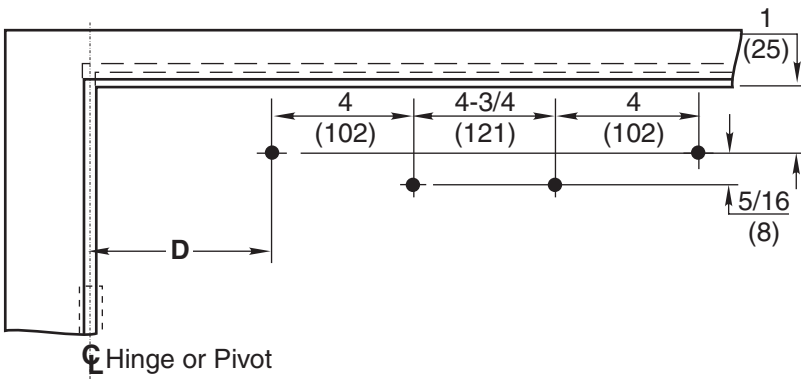
Standard Frame



Narrow Frame



Flush Partition



Notes:

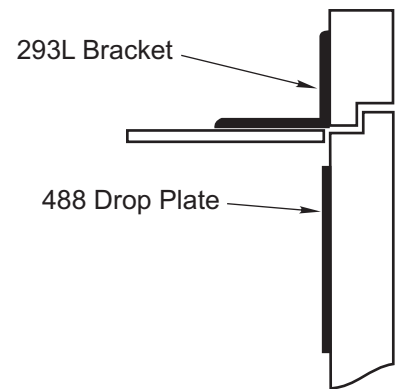
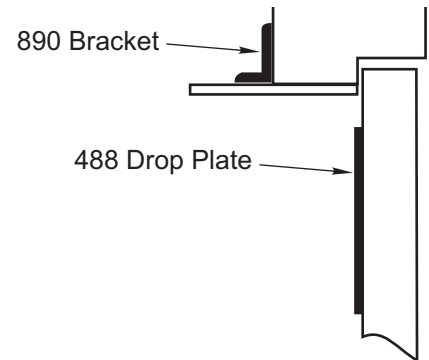
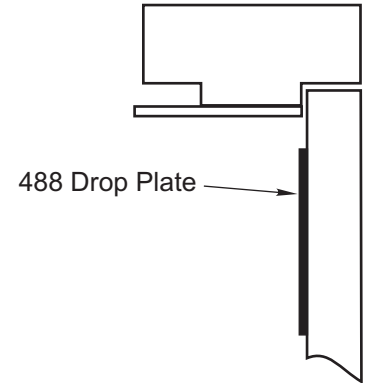
Left Hand Door Shown.

Same dimensions apply for Right Hand

Door measured from centerline of pivot point.

Dimensions are in inches (mm).

See Chart below for A dimension values.



Installation Dimensions Chart										
	Dim	Up to 90°	90°-95°	95°-100°	100° to 105°	105°-110°	110°-115°	115°-130°	130°-150°	150°-180°
PR4400/ PR4410/ PR40X/ PR140X	D inch (mm)	8-1/2 (216)			7 (178)				6 (152)	5 (127)
4020/ 4420/ 402X/ 442X		9-7/8 (251)	9 (229)	8-3/8 (213)	7-5/8 (194)	7-1/8 (181)	6-1/2 (165)			

Unit Adjustment

Closing Speed Controls (Figure 2A or 2B and 3.)

- Valve "S/D" Controls Sweep Range on Standard closer (or Delayed Range on Delayed Action closer).
- Valve "L" Controls Latch Range.
- Valve "S" Controls Sweep only on Delayed Action closer.

Closing Power Control **Figure 1.**

Adjust as required (see Power Adjustment Chart on page 3).

Install closer per instructions with the proper pre-load applied to the arm then adjust spring power. The power adjustment will not work properly if the closer spring is not pre-loaded.

+

 Increase Power

wrench

-

 Decrease Power

11/16" Power Adjustment-Nut

DO NOT use a power drill or driver to turn adjustment nut. This will damage closer and void warranty.

Closing Speed Controls **Figure 2.**

Standard Closing Cycle 2A

Delayed Action Closing Cycle 2B

Adjust Closing Speed Time to between 3 to 7 second from 90°. Use of the door by handicapped, elderly or small children may require greater closing time.

Closing Speed Controls **Figure 3.**

"L" (Latch)

"S/D" (Sweep)

"L" (Latch)

"S"

"S/D" (Delayed Action)

Standard Closer

Delayed Action Closer

Slow

1/8" Hex Key

Fast

All Valves

Do not force valves counter-clockwise out of closer body or a fluid leak will occur.

Opening Door Control (Figure 4.)

- Backcheck ("B") valve controls the hydraulic resistance to door opening. NEVER close this valve completely – it is not to provide a positive stop.
- Backcheck position ("P") valve controls the door angle where backcheck cushioning starts. Valve normally closed.

Opening Door Control **Figure 4.**

Opening Cycle

Backcheck Control **Figure 5.**

Backcheck Position "P" Normally Closed

Open for backcheck later in door-opening cycle.

Backcheck Cushion "B" (NEVER Close Completely)

Increase

Decrease

Do not force valves counter-clockwise out of closer body or a fluid leak will occur.

Identify Door Closer

Standard 7570/7770 = 4 valves (S/D, L, P&B)

Delayed Action 7570DA/7770DA = 5 valves (S/D,S,L, P&B)

7700 Series Body = size "2, 3, 4, 5 or 6" (Stamped Single digit)

7500 Series Body = size "1-6" (No Stamp)

Hold Open Option

The 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")

Yale

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