



ASSA ABLOY

Installation Instructions

Narrow Profile Series 1680 Series Sized Closers 1681 Series Multi-Sized Closers Non Hold Open Models

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**

Sized
(Sizes 3 & 4)

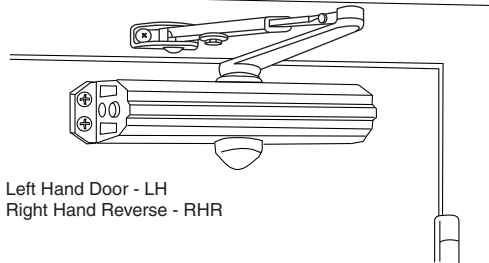
1683BC
1684BC

Multi-Sized
(Sizes 1 thru 6)
1681

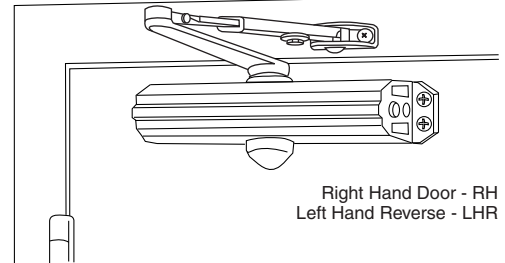
Regular Arm Installation

Closer on door on hinge (pull) side of door

See Page 2



Left Hand Door - LH
Right Hand Reverse - RHR

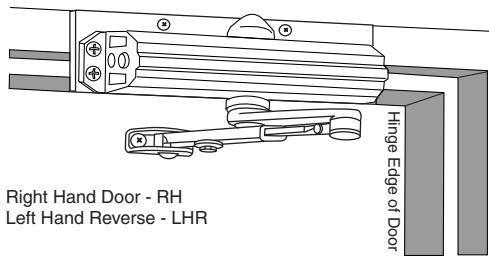


Right Hand Door - RH
Left Hand Reverse - LHR

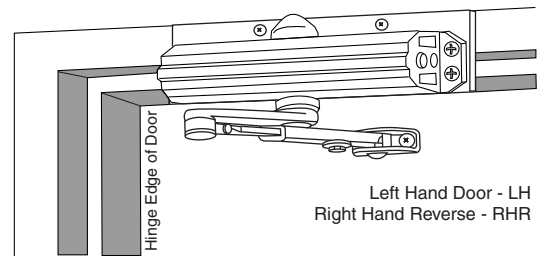
Top Jamb Installation

Closer on frame on opposite to hinge (push) side of door

See Page 3



Right Hand Door - RH
Left Hand Reverse - LHR

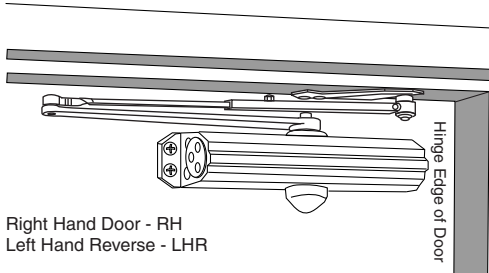


Left Hand Door - LH
Right Hand Reverse - RHR

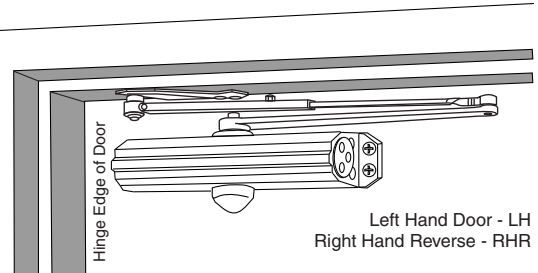
Parallel Arm Installation

Closer on door on opposite to hinge (push) side of door

See Page 4



Right Hand Door - RH
Left Hand Reverse - LHR



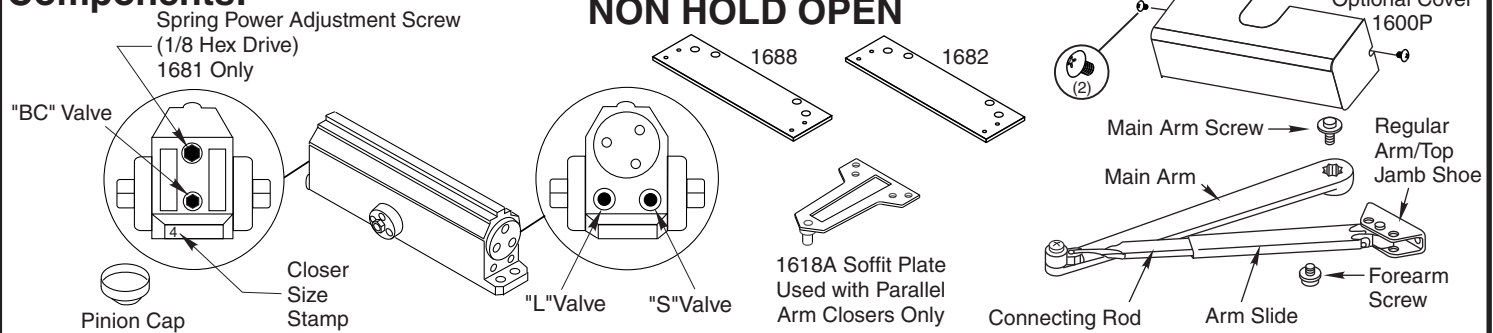
Left Hand Door - LH
Right Hand Reverse - RHR

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

- It is recommended that the door on which the door closer will be installed be hung on ball bearing hinges. Door must swing freely
- A separate door stop, supplied by others, is recommended to prevent damage to the door closer, closer arm, or to the door, frame or adjacent walls.
- Door and Frame must be properly reinforced, or use of special fasteners employed, to prevent the mounting screws from pulling out.
- All dimensions are given in inches with corresponding metric dimensions (mm) in parenthesis.

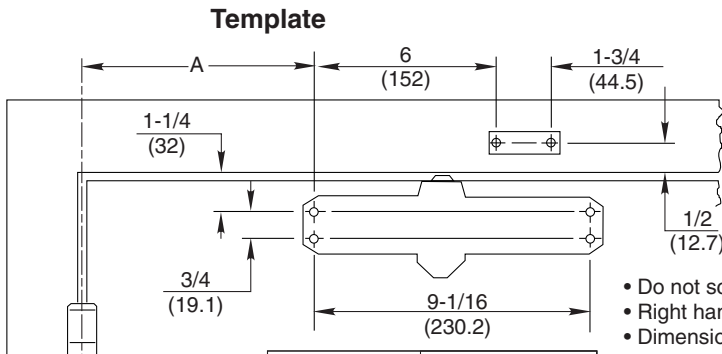
Components:



Regular Arm Installation



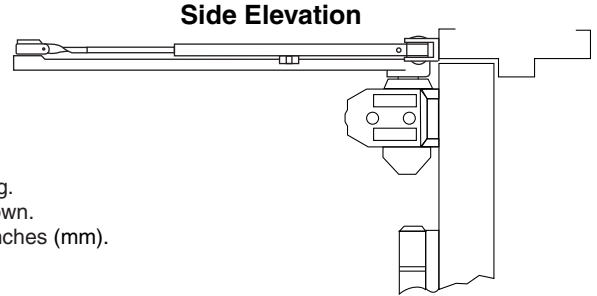
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Opening	Dimension A	
	inches	mm
To 100°	7	178
101° to 120°	6	152
121° to 180°	3-1/2	89

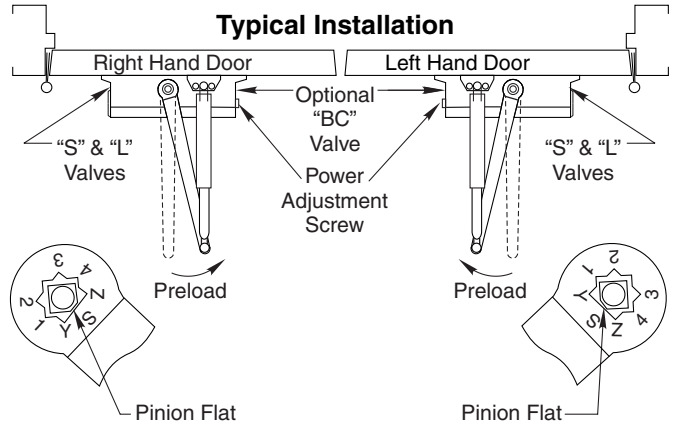
* Door/Wall/Hardware/Jamb conditions permitting

- Do not scale drawing.
- Right hand door shown.
- Dimensions are in inches (mm).



Installation Sequence

- Select door opening angle using template above. Mark 4 holes on door for closer and 2 holes on frame for arm shoe.
- Prepare door and frame for fasteners See "Preparation for Fasteners" below.
- **1681 Models Only. Set approximate closing power using "Power Adjustment Chart" below right. Closer power is set at mid range from factory.**
- Install closer with "S" and "L" adjustment valves toward hinge edge of door. If using optional cover see "Cover" instructions.
- Mount arm shoe to frame face.
- Install main arm onto closer pinion shaft, indexing main arm mark "S" with pinion flat as shown at right. Fasten with arm screw.



- Open door to allow connecting rod to be inserted into arm slide. Insert rod and close door. Preload main arm by rotating away from hinge until forearm is perpendicular (at 90° angle) to door. Secure with forearm screw.
- Screw pinion cap onto pinion shaft by hand or with a Phillips screw driver - DO NOT OVERTIGHTEN. Skip this step if optional cover is used.
- Adjust closer.

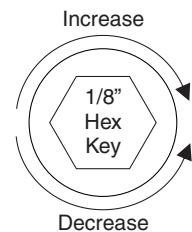
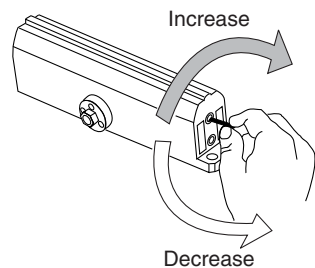
Preparation for Fasteners

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
Optional	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
	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

Door Closer Adjustment

Adjustment Chart				Number of Turns Required				
DOOR	TYPE OF INST.	*	MAXIMUM DOOR SIZE					
			34" (0.85M)	36" (0.90M)	40" (1.00M)	44" (1.10M)	48" (1.20M)	
1681	INTERIOR	Regular Arm Top Jamb	2	4	6	10	12	
		Parallel Arm	3	5	8	11	14	
	EXTERIOR	Regular Arm Top Jamb	3	5	8	11	14	
		Parallel Arm	5	8	11	16	19	

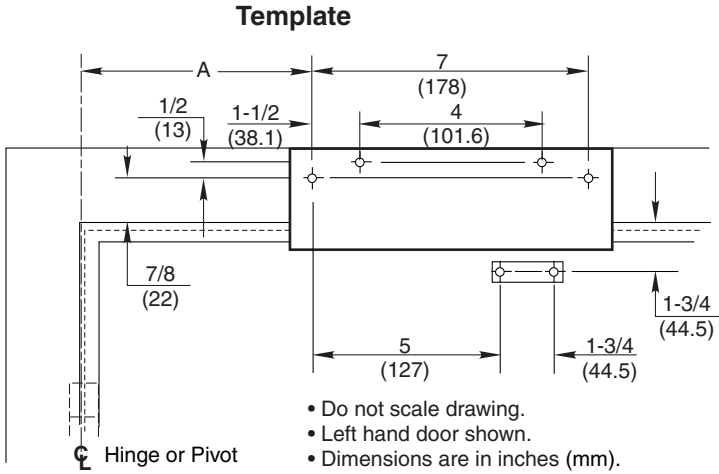
*30 FULL (360°) TURNS MAXIMUM AVAILABLE
 = 8 Turns As Shipped



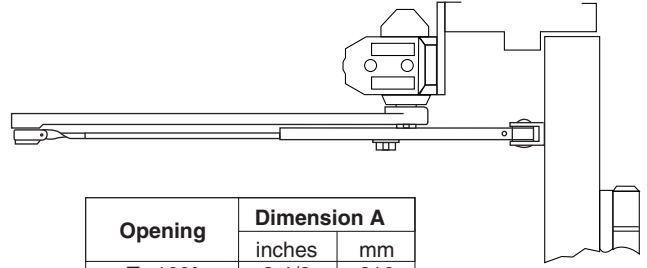
Top Jamb Installation Using 1687 Droplate



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Side Elevation



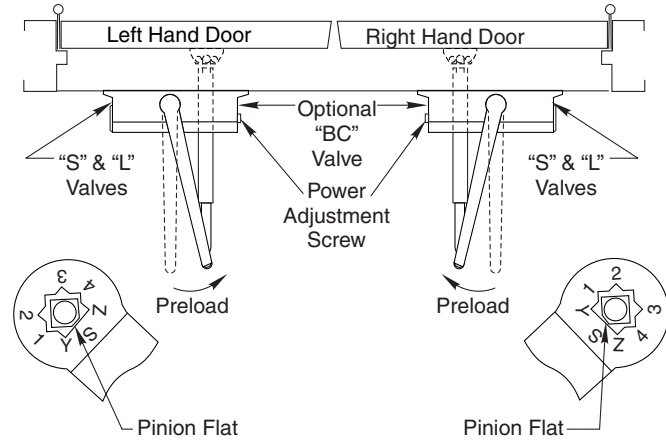
Opening	Dimension A	
	inches	mm
To 100°	8-1/2	216
101° to 120°	7	177.8
121° to 180°	4-1/2	114

* Door/Wall/Hardware/Jamb conditions permitting

Installation Sequence

- Select door opening angle using template above. Mark 4 holes on frame face for Drop Plate and 2 holes on door for arm shoe.
- Prepare door and frame for fasteners. See "Preparation for Fasteners" at bottom of Page 2.
- **1681 Models Only. Set approximate closing power using "Power Adjustment Chart" at bottom of Page 2.**
- Mount Drop Plate to frame.
- Install closer to Drop Plate with "S" and "L" adjustment valves toward hinge edge of door. If optional cover is used see "Cover" instructions.
- Mount arm shoe to door.
- Install main arm onto closer pinion shaft, indexing main arm mark "S" with pinion flat as shown at right. Fasten with arm screw.
- Open door to allow connecting rod to be inserted into arm slide. Insert rod and close door. Preload main arm by rotating away from hinge until forearm is perpendicular (at 90° angle) to door. Secure with forearm screw.

Typical Installation



- Screw pinion cap onto pinion shaft by hand or with a Phillips screw driver - DO NOT OVER TIGHTEN. Skip this step if optional cover is used.
- Adjust closer.

Door Closer Adjustment (Continued)

"DA" suffix (Delayed Action) is an optional feature.

A separate instruction will be packed with these instructions showing valve locations and adjustment procedures.

Closing Speed Control Figure 1

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

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.

"L" "S"

Slow
Fast

Unit Adjustment

- Valve "S" controls sweep range.
- Valve "L" controls latch range.

Opening Door Control Figure 2

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

"BC" Valve

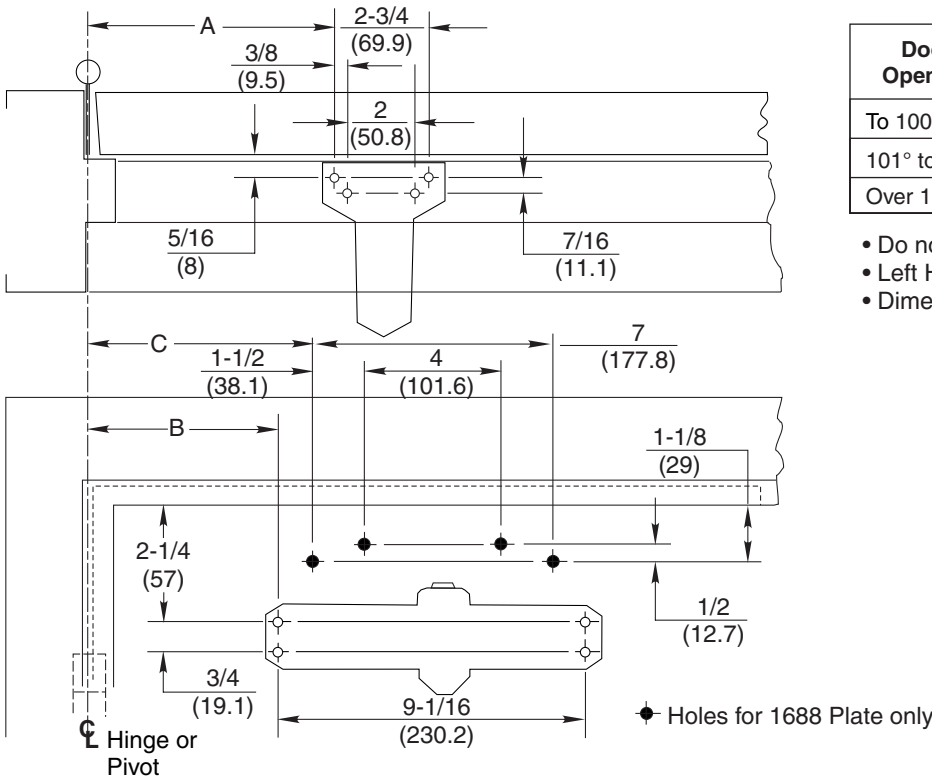
Increase
Decrease

Opening Cycle

- Backcheck ("BC") valve controls the hydraulic resistance to door opening in backcheck range. NEVER close this valve completely – it is not to provide a positive stop.

Parallel Arm Installation

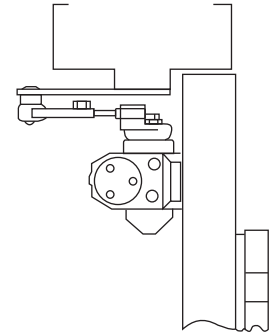
Template



Door Opening	Dimension A		Dimension B		Dimension C	
	Inches	mm	Inches	mm	Inches	mm
To 100°	9-1/4	235	7-5/8	194	8-5/8	219
101° to 130°	7-3/4	197	6-1/8	156	7-1/8	181
Over 131°	5-3/4	146	4-1/8	105	5-1/8	130

- Do not scale drawing
- Left Hand shown
- Dimensions are in inches (mm)

Side Elevation



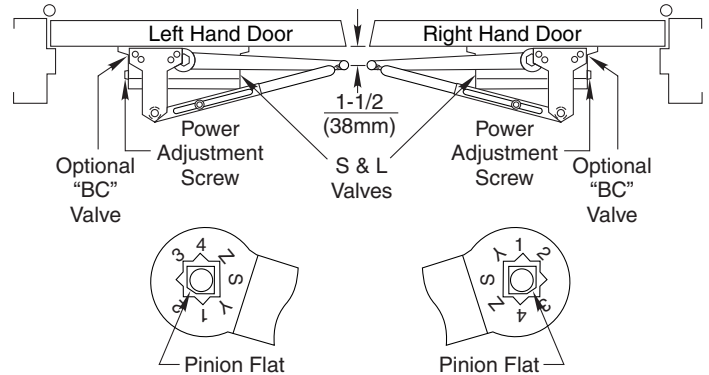
Installation Sequence

- Select door opening angle using template above. Mark 4 holes on door for closer or 1688 Drop Plate and 4 holes on frame for soffit plate.
- Prepare door and frame for fasteners. See "Preparation for Fasteners" bottom of Page 2.
- **1681 Models Only. Set closing power using "Power Adjustment Chart" at bottom of Page 2.**
- *Mount 1688 Drop Plate ... only if required.*
- Install closer with "S" and "L" adjustment valves toward lock edge of door. If optional cover is used see "Cover" instructions.
- Mount soffit plate to frame.
- Install main arm onto closer pinion shaft. Rotate pinion 45° toward hinge edge of door to align main arm letter "3" (right hand) or "2" (left hand) with pinion flat. Fasten with arm screw.
- Fasten forearm to soffit plate. Adjust forearm length to set arm elbow about 1-1/2" (38mm) from door when connected to main arm. Tighten forearm screw.
- Screw pinion cap onto pinion shaft by hand or with a Phillips screw driver - **DO NOT OVER TIGHTEN**. Skip this step if optional cover is used.
- Adjust closer. See Closer Adjustments on Pages 2 and 3.

Cover

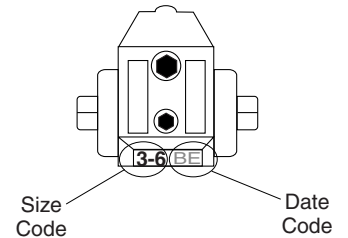
Thread in screws before mounting closer. Leave enough gap between the head of the screw and the closer to slide the cover on. Slide the cover over the closer and secure the mounting screws after the closer has been mounted and adjusted.

Typical Installation



To identify your model:

3=1603BC 1-6=1601
4=1604BC



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