Hollow Metal Door, Frame & Hardware Installation

Typical Installation Procedures

1. With frame in position (fig. 4), install temporary wood spreaders (fig.5) square and no less than 1" thick.
2. Cut clearance notches for frame stops.
3. Install a spreader at bottom of frame and second spreader at mid or strike point (fig. 6).
4. Square and brace frame.

Caution
Shipping bars must be removed, and not used as installation spreaders

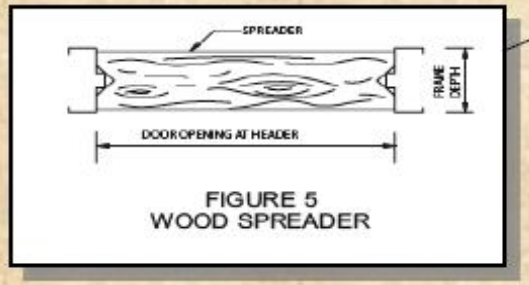


FIGURE 5
WOOD SPREADER

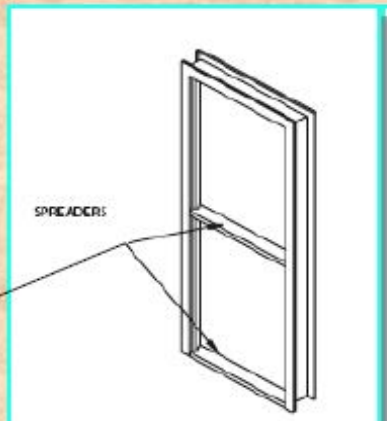


FIGURE 6
SPREADER LOCATION

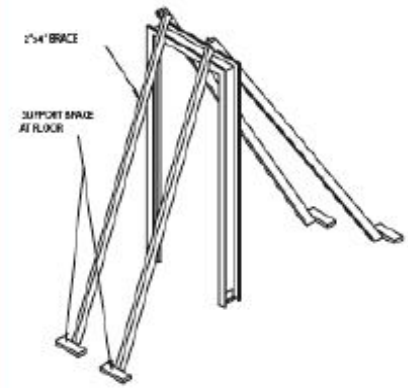


FIGURE 4
FRAME BRACING

Typical Installation Procedures

4. With jamb opening heights greater than 6' or face dimensions less than 1-1/2", install additional wood spreader (fig. 7).
5. At frames with sidelights where sill intersects door jamb near strike, the wood spreader should be located at this location (fig. 8).

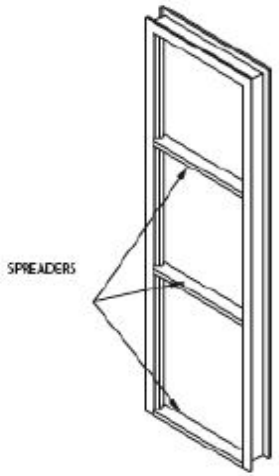


FIGURE 7
SPREADER LOCATION AT
LARGE JAMB OPENING HEIGHTS

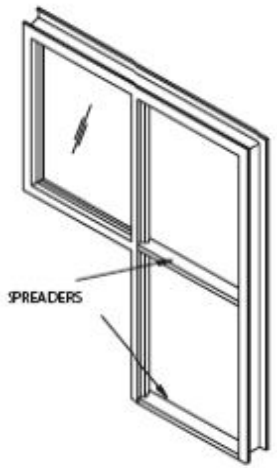


FIGURE 8
SPREADER LOCATION AT SIDELIGHTS

Typical Installation Procedures

6. Level head by positioning level to head door rabbet (fig. 9).
7. Position builder's square against jamb and head at door rabbet (fig. 10).
8. Adjust as required.

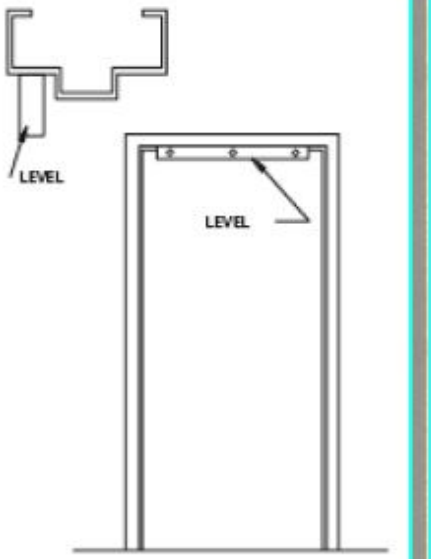


FIGURE 9
LEVELING THE HEAD

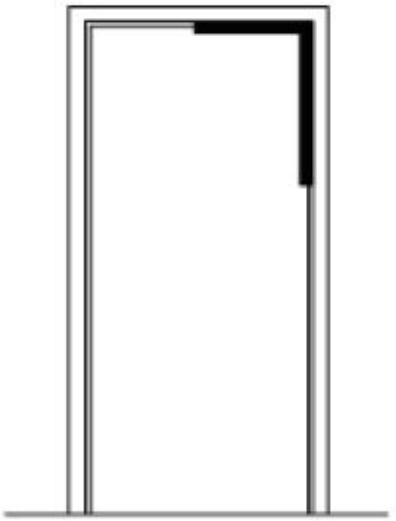


FIGURE 10
SQUARENESS

Typical Installation Procedures

9. Use carpenter level to check frame for plumbness, alignment.
10. Plumbness: position level against both hinge and strike jambs in rabbet.
11. Alignment: position level against both hinge and strike jambs on the stop, adjust as required.

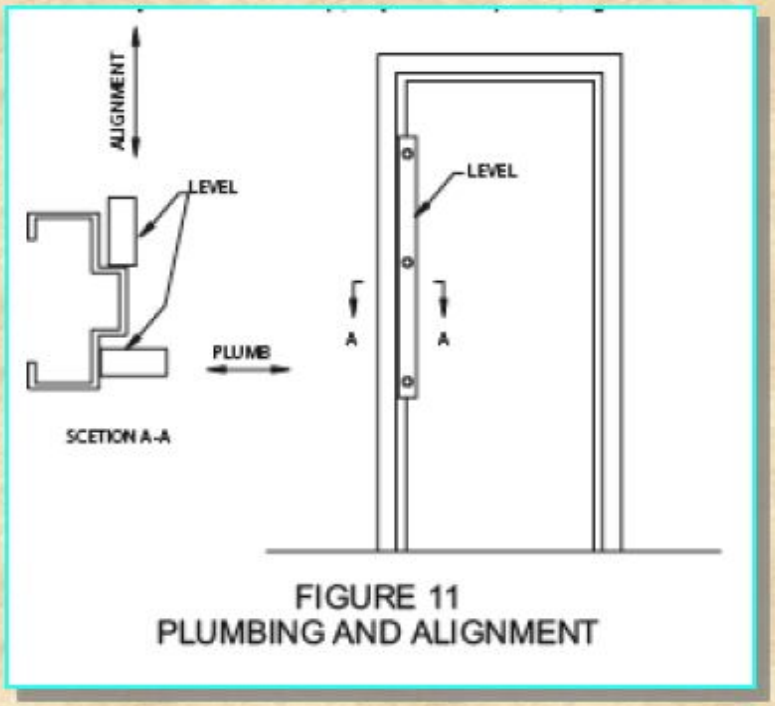


FIGURE 11
PLUMBING AND ALIGNMENT

Typical Installation Procedures

12. Use builder's square to check jambs for twist.
13. Position square against door rabbet and project line perpendicular to plane of door rabbet.
14. Adjust as required.

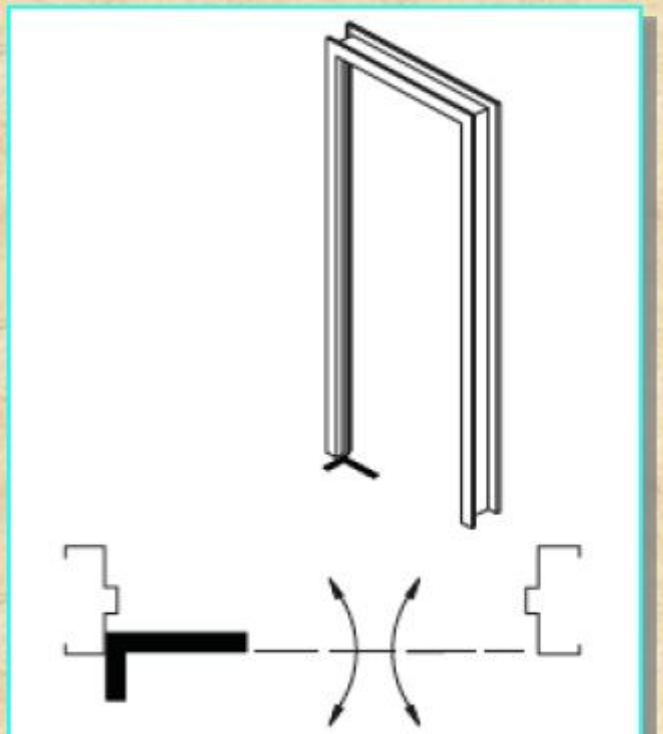


FIGURE 12
FRAME TWIST CHECK

Wood Stud Walls

- Wood stud walls can be constructed after frame is set or prior to setting frame.
- When constructing the wall after the frame is set, follow guidelines for steel stud walls.
- For constructing wall prior to setting frame, follow these guidelines:
  - Rough Stud Opening: width of opening must be overall frame width plus 1/2".
  - Opening height must be overall frame height plus 1/4".

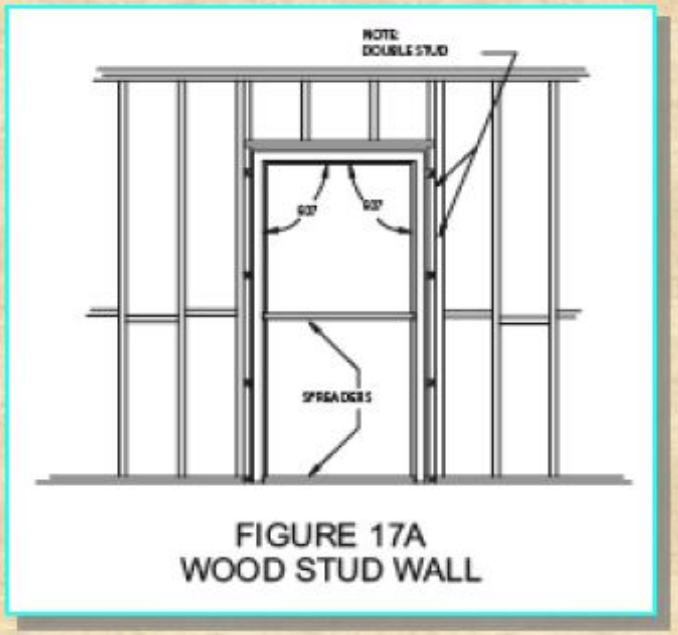
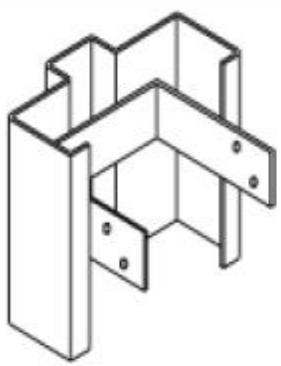


FIGURE 17A
WOOD STUD WALL

Wood Stud Walls

- Place frame in rough stud opening.
- Bend anchor tabs around stud, leaving desired clearance between frame return and stud, for inserting finished wall material.



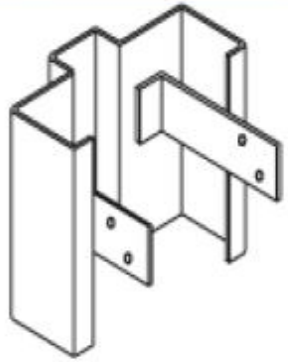


FIGURE 17B FIGURE 17C
WOOD-STUD ANCHORS

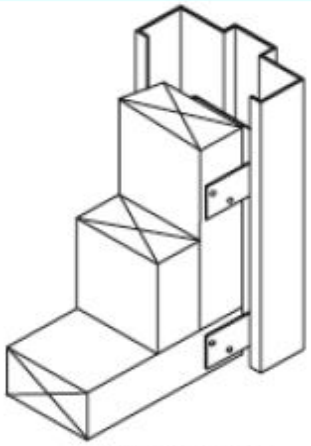


FIGURE 17E
WOOD STUD WALL WITH ANCHORS

Wood Stud Walls

- Square frame at top corner and nail top anchor to stud on *One Jamb Only*.
- Recheck level, plumb and alignment of frame at other corner and continue to nail balance of anchors to studs.
- Repeat same process for opposite jamb.
- It is extremely important that heads of fasteners are considered to ensure that combined thickness of wall stud, fastener head height and finished wall material does not exceed designed wall thickness.

Existing Masonry Walls

- Clearance between existing wall and frame is critical.
- Size frame accordingly to dimensions taken, providing 1/4" clearance around frame.

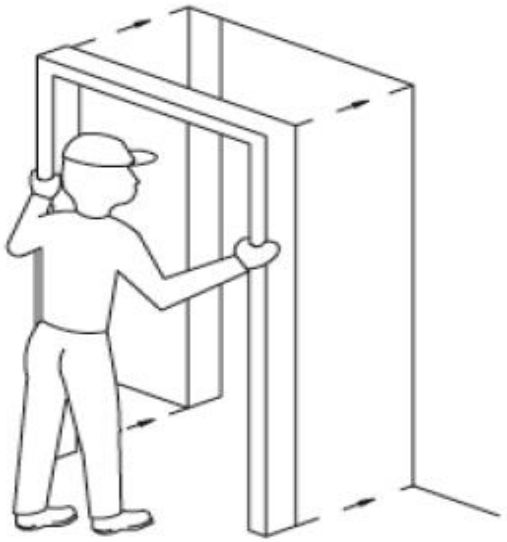


FIGURE 18A
EXISTING MASONRY WALL FRAME INSTALLATION

Existing Masonry Walls

- Insert mechanical fasteners through frame soffit into existing wall.
- Shim, by others, behind anchors, above bolts to ensure a plumb frame.
- Make sure to keep frame square during installation with the use of spreaders.
- Tighten bolts.
- Caulk between frame and wall.

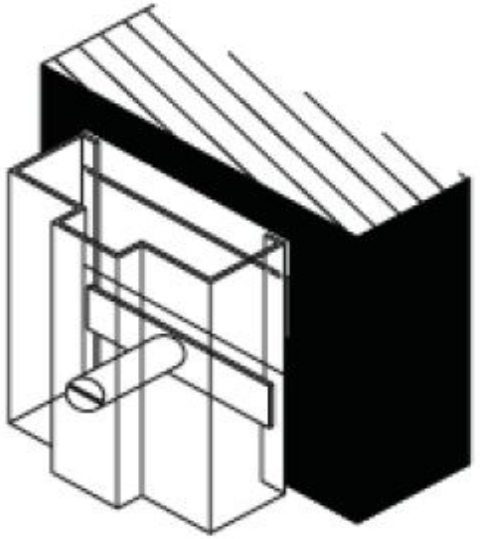


FIGURE 18B
EXPANSION BOLT INSTALLATION

Hanging and Adjusting the Door

Shimming and Adjustment

After the door and hardware is installed, it is the responsibility of the installing contractor to make final adjustments to the opening. Adjustments are usually accomplished through shimming.

USE HINGE SHIMS TO ADJUST DOOR CLEARANCE

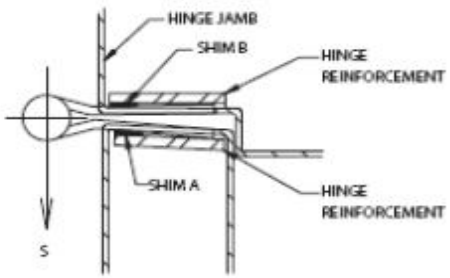


FIGURE 21
SHIMMING TO INCREASE CLEARANCE AT HINGE EDGE

Using shim A only, door will be relocated in direction of arrow S.

Using shim B only, both door and centerline of hinge barrel will move in direction of arrow S.

Using both shims A and B will move the door further in direction of arrow S than by using either A or B alone, and hinge barrel will be relocated just as using B alone.

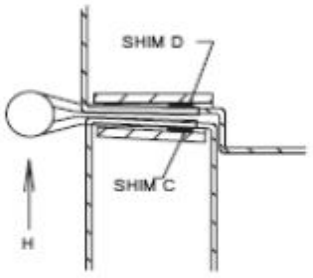


FIGURE 22
SHIMMING TO DECREASE CLEARANCE AT HINGE EDGE

Using shim C only, door will be relocated in direction of arrow H.

Using shim D only, Both door and centerline of hinge barrel will move in direction of arrow H.

Using both shims C and D will move the door further in direction of arrow H than by using either C or D alone, and hinge barrel will be relocated just as by using D alone.

Hardware Installation

- The following pages are for your reference to install hardware that may or may not be supplied with your door. We are presenting the various options for hardware depending on the configuration and options you selected at purchase.
- Thank you for your purchase!

2500 Series ANSI Grade 2 Lever Set
Installation Instructions
Meets ANSI 156.2
I-LS00889

For use on doors 1-3/8" to 2" (35 mm - 51 mm) thick

TOOLS REQUIRED FOR NEW INSTALLATION:
(1) Phillips Head Screwdriver
(1) 2-1/8" (54 mm) Hole Saw
(1) 1" (25.4 mm) Drill Bit
(1) 5/16" (8 mm) Drill Bit
(1) Chisel
(1) Catch-Release Tool (Provided)

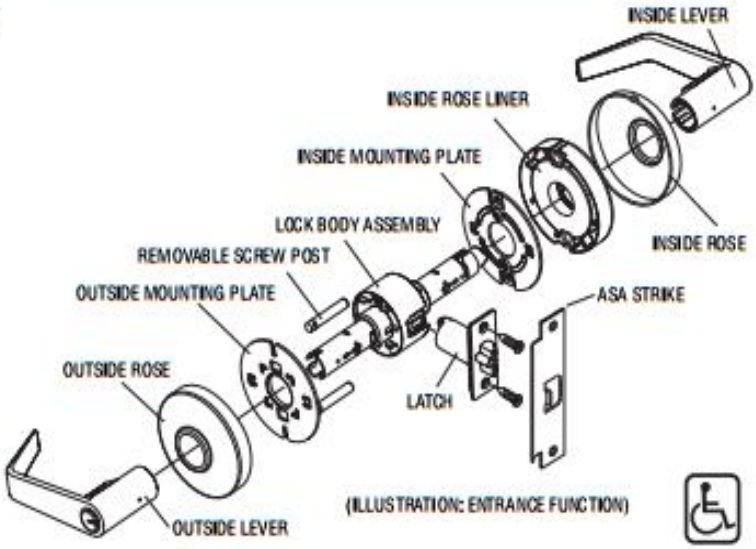
TOOLS REQUIRED FOR REPLACEMENT INSTALLATION:
(1) Phillips Head Screwdriver

FOR REMODELING OR NEW CONSTRUCTION:
-Follow all steps

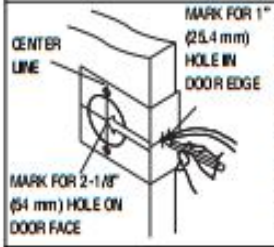
FOR REPLACEMENT OF EXISTING LOCK:
-Follow steps 3C, 4C, 5 through 9 after removal of old lock

FOR CYLINDER REPLACEMENT:
-Follow Step 10

NOTE:
Failure to install thru-bolts and removable screw posts voids BHMA certification, UL rating, and warranty.

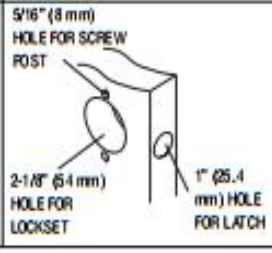


1. MARK DOOR



Measure center line of lock; height as desired from finished floor. Select 2-3/4" or optional 2-3/8" backset, fold and apply template to high side of door bevel and mark center of door edge as indicated on template. Mark center hole and screw-post holes on door face through guide on template.

2. DRILL HOLES

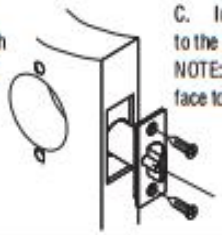


Drill 2-1/8" (54 mm) hole through door face as marked for lockset. (It is recommended that holes be drilled from both sides on wood doors to prevent splitting.) Drill 5/16" (8 mm) holes for screw-posts. Drill 1" (25.4 mm) hole in center of door edge for latch.

3. INSTALL LATCH

A. Insert latch in hole keeping it parallel to face of door. Mark outline of latch face plate and remove latch.

B. Chisel 5/32" (4 mm) deep or until latch face plate is flush with door edge.

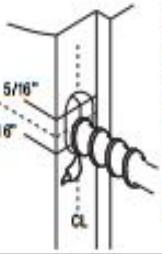


C. Insert latch and tighten to the door using #8 screws. NOTE: Latchbolt bevel must face to closing direction.

4. INSTALL STRIKE

A. Close door until latchbolt touches jamb. Locate strike in jamb and center line of strike. Open door and extend line to door stop. Measure one half of door thickness plus 1/8" from door stop. Vertically mark center line for strike.

B. Drill two (2) 1" (25.4 mm) holes 3/4" (19 mm) deep in door jambs 5/16" (8 mm) above and 5/16" (8 mm) below horizontal center line. CAUTION: To ensure proper lockset function, hole in jamb must be drilled a full 3/4" (19 mm) deep.



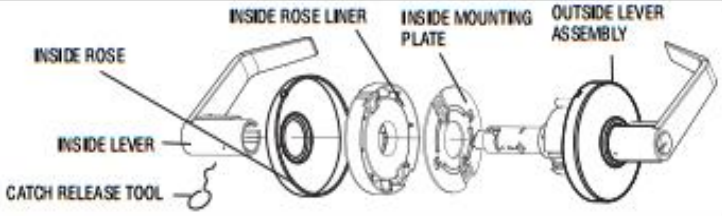
C. Cut out jamb mortise for strike 3/32" (2.4 mm) deep or until strike is flush with jamb. Tighten screws. Latch stops against strike, as illustrated.

HAGER COMPANIES

2500 Series ANSI Grade 2 Lever Set
Installation Instructions
Meets ANSI 156.2
I-LS00889

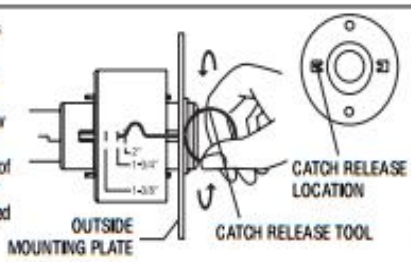
5. REMOVE INSIDE TRIM

Use catch release tool to depress lever catch visible under hole of inside lever shank and slide off inside lever, rose, rose liner, and mounting plate.

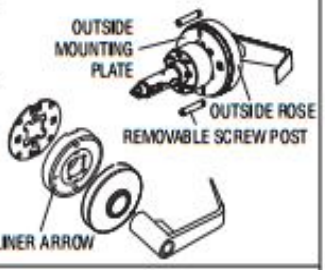


6. ADJUST DOOR THICKNESS

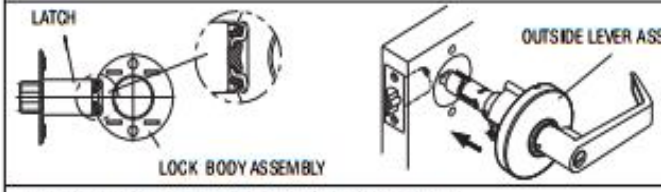
A. Outside mounting plate is pre-set for 1-3/4" door thickness. To fit different door thicknesses, remove outside lever, rose, and rose liner. Now adjust the outside mounting plate by rotating plate until tip of catch release tool lines up with desired door thickness indicated on lock body assembly.



B. Install removable screw post into slots on outside mounting plate. Install rose liner and align rose liner arrow in the direction of the lock stile. Install outside rose and lever onto lock body assembly.



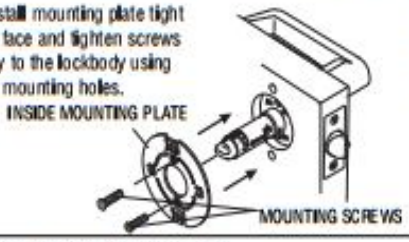
7. INSTALL OUTSIDE LEVER ASSEMBLY



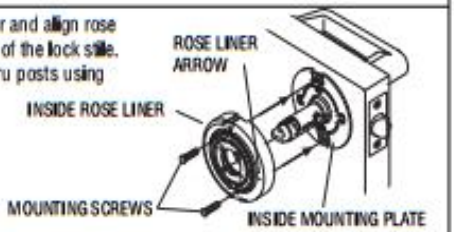
Install outside lever assembly on the door. Make sure tail of latch engages with retractor correctly as illustrated.

8. INSTALL INSIDE MOUNTING PLATE AND ROSE LINER

A. Install mounting plate tight to door face and tighten screws securely to the lockbody using interior mounting holes.

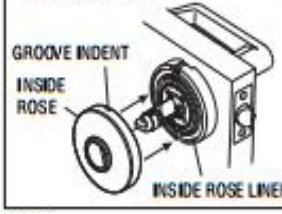


B. Install inside rose liner and align rose liner arrow in the direction of the lock stile. Tighten rose liner to the thru posts using mounting screws.

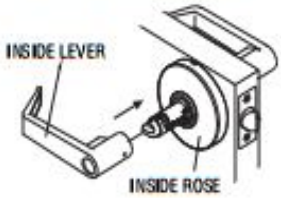


9. INSTALL INSIDE ROSE AND LEVER

A. Align indent on inside rose with groove on inside rose liner. Press inside rose onto inside rose liner and rotate clockwise to fully seat inside rose.

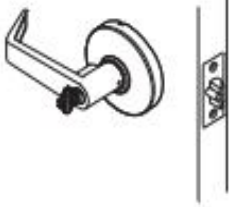


B. Push lever all the way in until it clicks into catch hole.



10. REPLACE CYLINDER (SKIP THIS STEP IF INSTALLING 3510 OR 3540)

A. Turn key clockwise 1/4 turn.



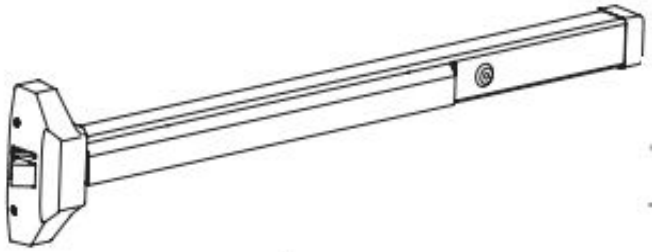
B. Using catch release tool, press the lever catch and pull the lever off.

4700 Series Rim Exit Device
Installation Instructions
I-ED00790

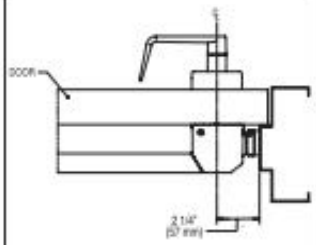
DEVICES COVERED IN THESE INSTRUCTIONS

4700R Rim exit device
4700RF Fire Exit Rim exit device

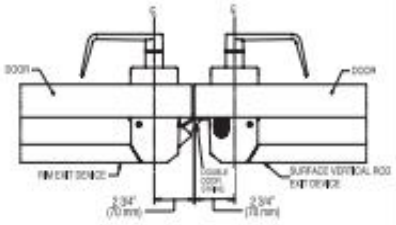
OVERVIEW



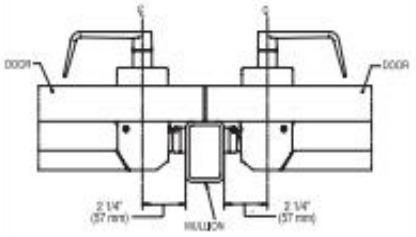
SINGLE DOOR



DOUBLE DOOR

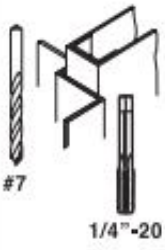


DOUBLE DOOR WITH MULLION

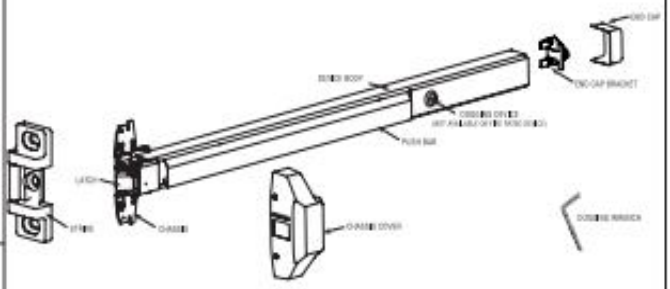


TOOLS REQUIRED

METAL



COMPONENT PARTS



WOOD

SCREWS

For wood, drill 1/8" hole

Machine Screws

#7 Drill, 1/4"-20 Tap

SEX BOLTS

Drill 5/16" thru from device side
Drill 3/8" from other side
(pull side)

Check building and fire codes to see if your application requires the use of sleeve nuts and bolts.

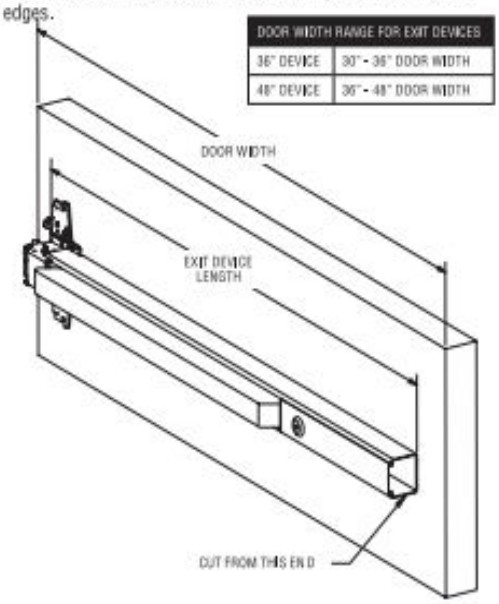
HAGER COMPANIES

4700 Series Rim Exit Device
Installation Instructions
I-ED00790

1. CUT EXIT DEVICE TO LENGTH

The exit device is pre-cut for 36" and 48" wide door use. For other door widths, cut exit device to appropriate length. Recommended overall length of the exit device is equal to door width minus four inches. Cut with hack saw or metal cutting saw blade. Deburr edges.

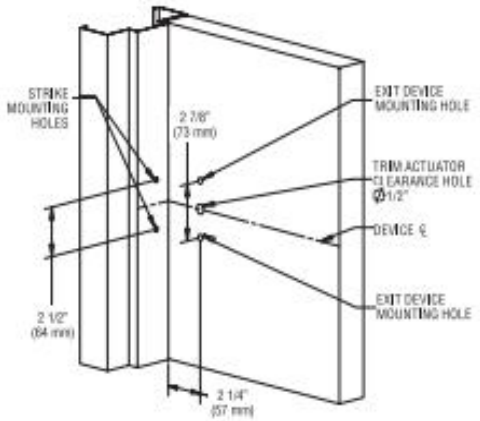
DOOR WIDTH RANGE FOR EXIT DEVICES	
36" DEVICE	30" - 36" DOOR WIDTH
48" DEVICE	36" - 48" DOOR WIDTH



RECOMMENDED OVERALL EXIT DEVICE LENGTH = DOOR WIDTH - 4"

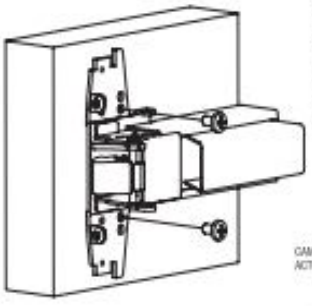
2. MARK DOOR AND DRILL MOUNTING HOLES

Measure center line of exit device, typically 40" from finished floor. Fold and apply template to door and up against stop. Mark and drill holes as shown on template. Be sure the vertical line of the exit device mounting holes is 2-1/4" from the face of the stop. Do not drill center hole on strike until after strike has been mounted and adjusted.

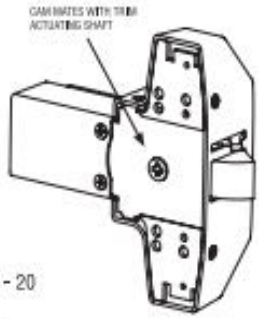


-For metal doors, drill and tap for 1/4" - 20 machine screws for both exit device and strike.
-For wood doors, pre-drill 1/8" holes.
-If mounting trim, drill 5/16" clearance holes on exit device side (push side) of door and 1/2" holes on pull side. Trim requires an additional 1/2" clearance hole for the trim actuating shaft (not required for dummy trim).
-If using sex bolts, drill 5/16" clearance holes on exit device side (push side) of door and 3/8" holes on pull side.

3. INSTALL DEVICE



Remove head cover from exit device chassis. Mount exit device using the 2 mounting holes indicated on template.



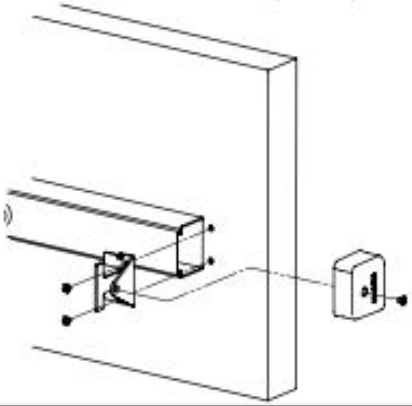
If using trim, be sure to line up trim actuating shaft (tailpiece) with cam located on back of exit device chassis.

Screws
Metal door, sex bolt, or trim: 1/4" - 20 machine screws (2)
Wood door: #12 wood screws (2)

4. INSTALL END CAP

Remove end cap from end cap bracket. Mark hole locations by either using template or holding end cap bracket up against door. Be sure exit device is level before inserting end cap bracket lip into end of device body. Mark and drill/tap holes. Install end cap bracket and end cap.

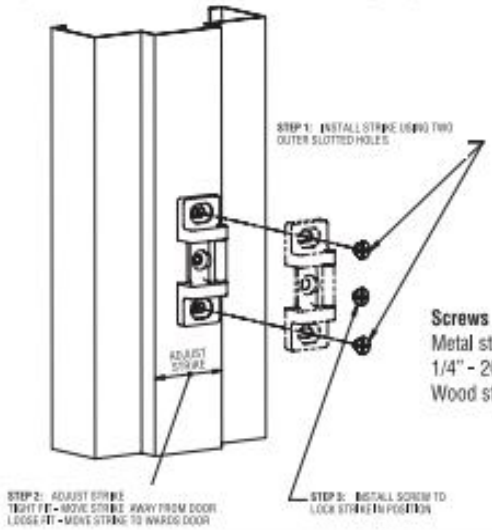
-For metal doors, drill and tap for 1/4" - 20 machine screws.
-For wood doors, pre-drill 1/8" holes.
-For sex bolts, drill 5/16" clearance holes on exit device side (push side) and 3/8" on pull side.



Screws
Metal door/sex bolt: 1/4" - 20 machine screws (2)
Wood door: #12 wood screws (2)

5. INSTALL STRIKE

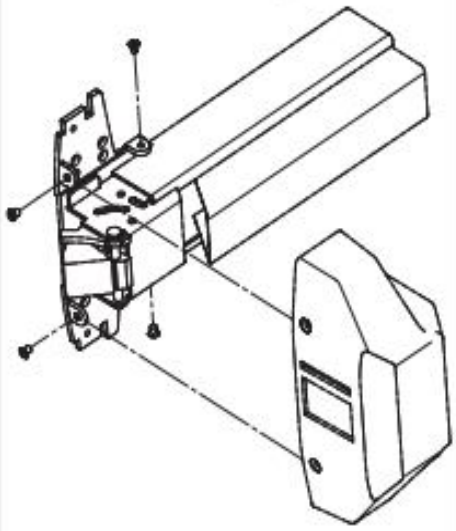
Install strike using only the top and bottom slotted holes and 1/4" - 20 machine screws (metal) or pre-drill 1/8" hole for #12 wood screw. Open and close door to verify latch and deadlatch are aligned properly. For tight fit, move strike away from door. For loose fit, move strike towards door. Once strike is adjusted, install center screw.



Screws
Metal stop:
1/4" - 20 machine screws (3)
Wood stop: #12 wood screws (3)

6. INSTALL COVER

Install head cover on chassis using provided screws.

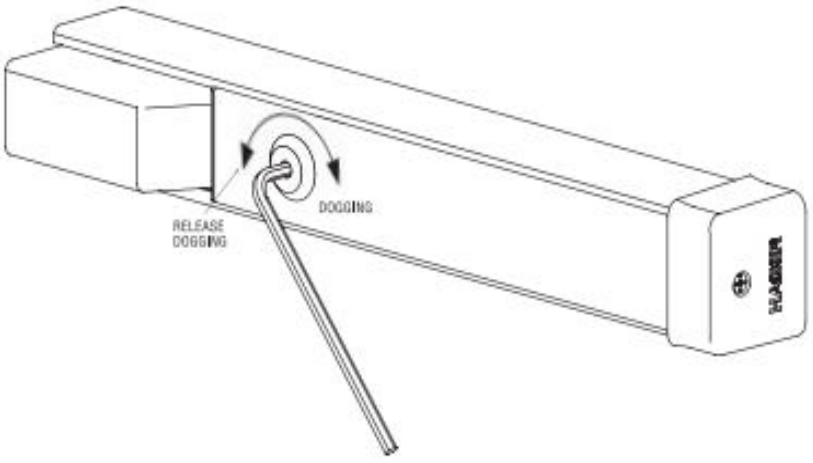


7. DOG DEVICE

For increasing the life of this device, dog device down during high traffic periods of the day. (A dogging device is not available on fire rated models.)

Dogging:
Depress push bar, insert dogging hex wrench, and turn clockwise 90 degrees. The push bar will remain depressed and the latch will stay retracted.

Release Dogging:
Hold push bar, insert dogging hex wrench, and turn counterclockwise 90 degrees. The push bar will return to the up position and latch will extend to lock door.

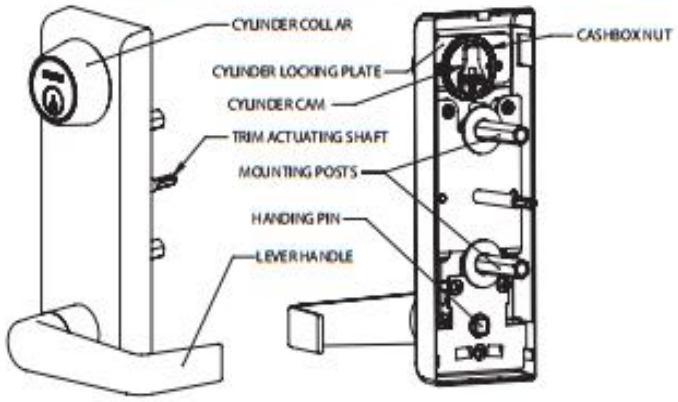


HAGER COMPANIES

4700 Series Trim
Installation Instructions
I-ED00791

DEVICES COVERED IN THESE INSTRUCTIONS:

47DT	Dummy-Pull When Dogged	47CE	Cylinder Escutcheon - Key Locks & Unlocks Lever
47NL	Night Latch - Key Retracts Latchbolt	47BE	Blank Escutcheon - Always Operable



47CE CYLINDER ESCUTCHEON SHOWN

TOOLS

Tools Required

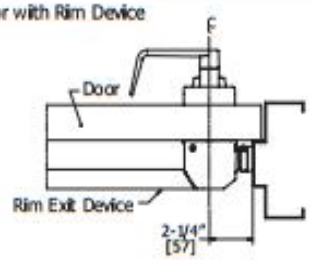
Machine Screws

1/4" - 20

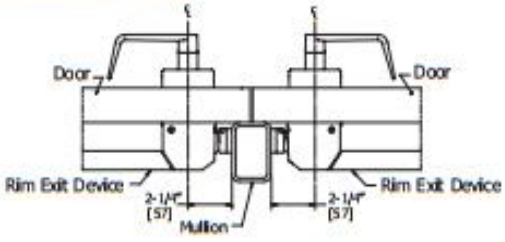
Door Handing

APPLICATIONS

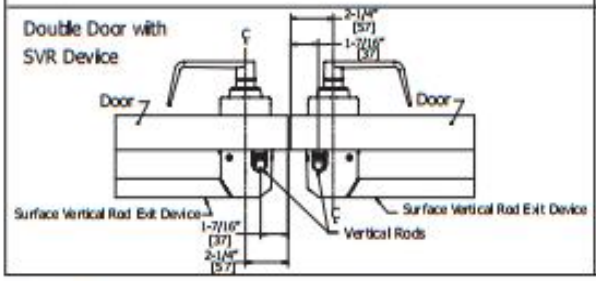
Single Door with Rim Device



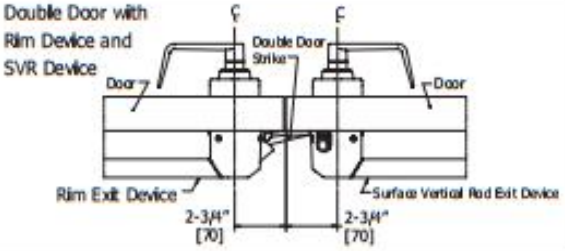
Double Door with Mullion



Double Door with SVR Device



Double Door with Rim Device and SVR Device

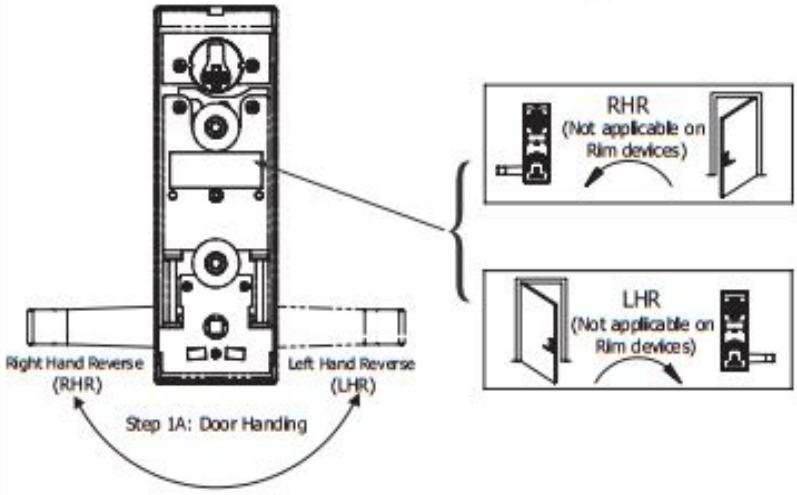


INSTRUCTIONS

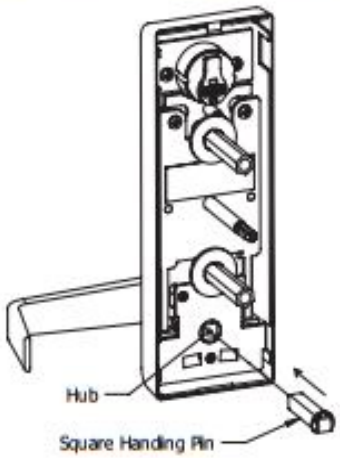
1. Set trim handing.

   A. Rotate lever handle to the right or left direction to match desired door handing.
   B. Insert square handing pin into hub as shown.
   C. For Surface Vertical Rod devices only, be sure the handing matches what is indicated on the product box label. Surface Vertical Rod handing cannot be changed in the field.

   Note: See back of trim for a label that indicates which direction to position handle for RHR or LHR handing. The label also indicates which direction the trim actuating shaft should rotate.



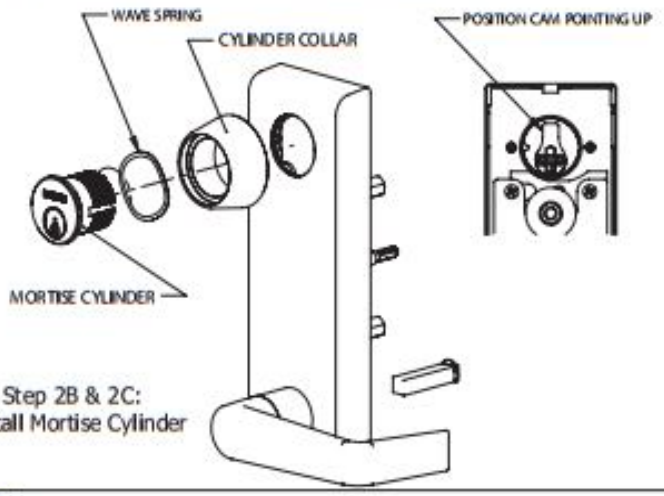
Step 1A: Door Handing



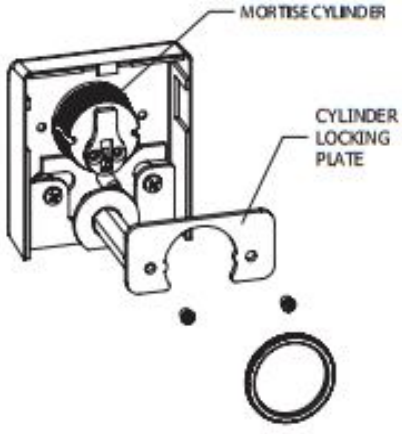
Step 1B: Insert Square Handing Pin

2. Install mortise cylinder.

   A. Remove key from mortise cylinder.
   B. Slide wave washer (if desired) and cylinder collar onto mortise cylinder body.
   C. Install mortise cylinder into escutheon trim with cam position as shown.
   D. Install cylinder locking plate and use stet screws to secure.
   E. Screw cylinder nut onto mortise cylinder until secure.



Step 2B & 2C:
Install Mortise Cylinder

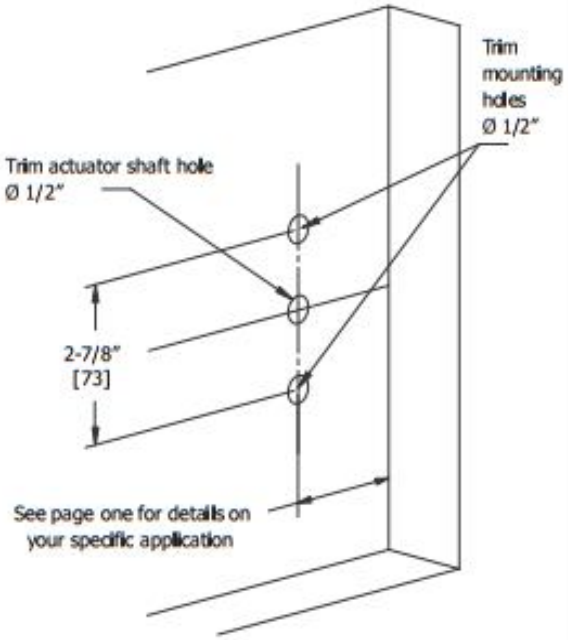


Step 2D + 2E: Install Cylinder Locking Plate

INSTRUCTIONS (CONTINUED)

3. Mark and drill mounting holes for escutcheon trim.

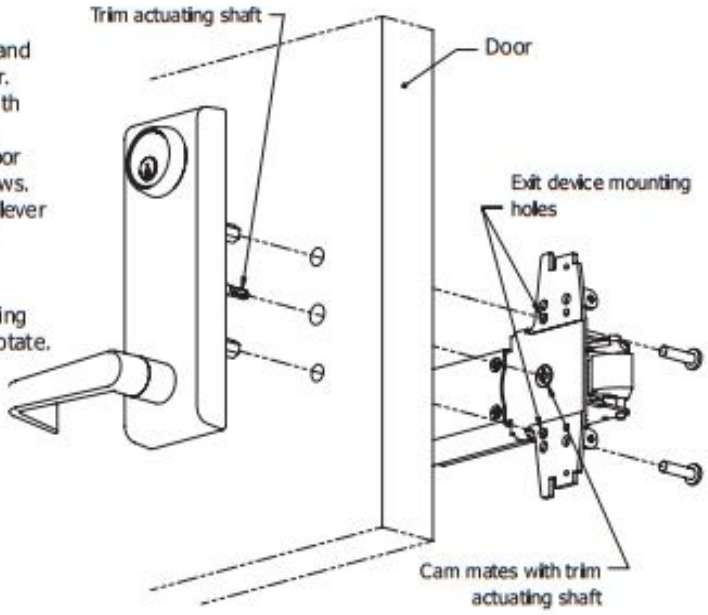
   A. Mark horizontal centerline by matching it to exit device centerline, which can be found on push side of door.
   B. Apply template to door using centerline. Refer to Applications section on page one to determine location of vertical centerline. Vertical centerline should match exit device vertical centerline located on push side of door.
   C. Mark and drill 1/2" holes for mounting posts as shown on template.
   D. Mark and drill 1/2" hole for trim actuator shaft, which mates with exit device (not required for 47DT). See exit device instructions for further details.



4. Install escutcheon trim.

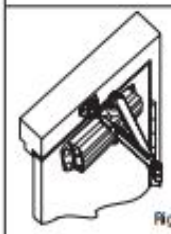
   A. Insert trim mounting posts and actuating shaft through door.
   B. Mate trim actuating shaft with cam on back of exit device.
   C. Secure from push side of door with provided 1/4" - 20 screws.
   D. Test installation by rotating lever handle or key to verify trim activates exit device.

   Note: Dummy trim is only for pulling door. The handle does not rotate.



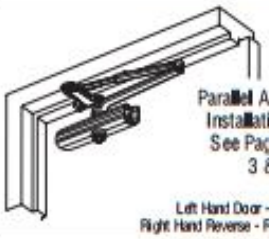
5300 Series Door Closer
Installation Instructions

Grade 1
Meets ANSI A156.4



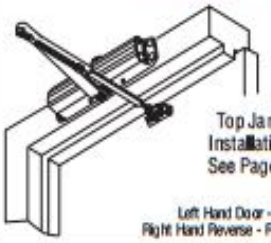
Regular Arm Installation
See Page 2

Left Hand Door - LH
Right Hand Reverse - RHR



Parallel Arm Installation
See Pages 3 & 4

Left Hand Door - LH
Right Hand Reverse - RHR



Top Jamb Installation
See Page 5

Left Hand Door - LH
Right Hand Reverse - RHR

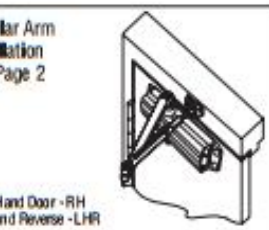
CAUTION An incorrectly installed or improperly adjusted door closer can cause property damage or personal injury. These installation instructions should be followed to avoid the possibility of misapplication or misadjustment. **CAUTION**

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.

- Dimensions are based on standard doors and frames with 1/8" clearance, 5/8" stops, and square edge doors.
- Door and frame must be properly reinforced.
- Non-Handed Door Closers.

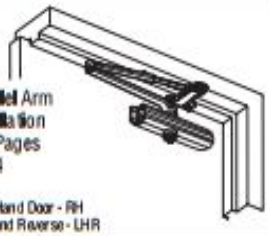
NOTE: For Top Jamb Application

A longer connecting rod is required for reveals greater than 4" (102mm)



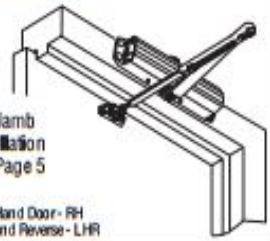
Regular Arm Installation
See Page 2

Right Hand Door - RH
Left Hand Reverse - LHR



Parallel Arm Installation
See Pages 3 & 4

Right Hand Door - RH
Left Hand Reverse - LHR



Top Jamb Installation
See Page 5

Right Hand Door - RH
Left Hand Reverse - LHR

• These door closers should **NOT** be installed on the exposed side (weather side) of exterior doors.

TOOLS REQUIRED

METAL

WOOD

Self Drilling Screws Wood and Metal

For wood, drill 3/16" hole

Machine Screws

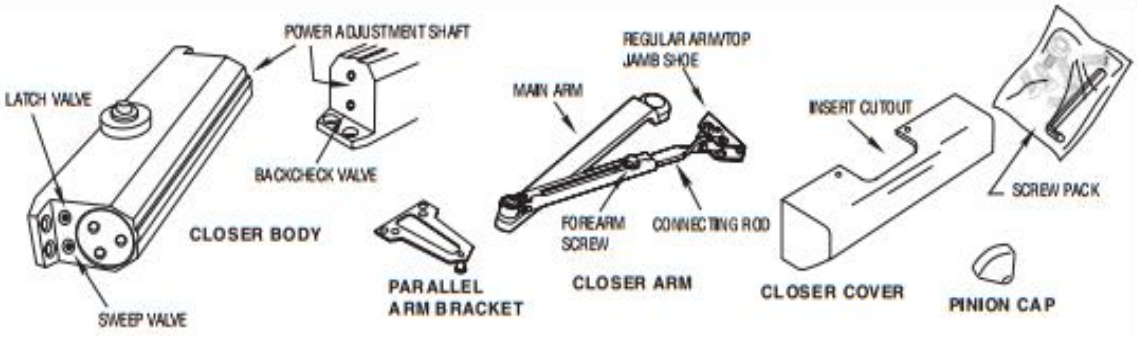
#7 Drill, 1/4"- 20 Tap

Sleeve Nut and Bolt

Drill 9/32" thru from Closer Side 3/8" Drill other Side

Check building and fire codes to see if your application requires the use of sleeve nuts and bolts.

COMPONENT PARTS



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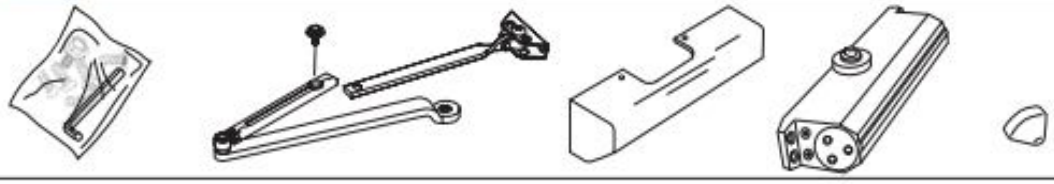
5300 Series Non-Hold Open Door Closer - Regular Arm

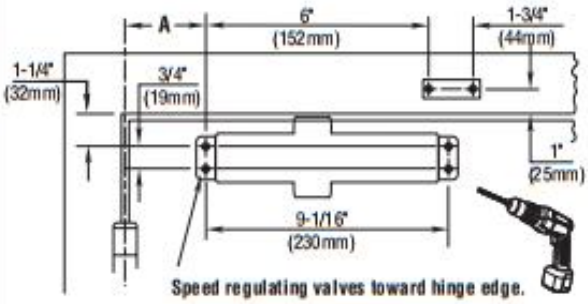
Installation Instructions

Meets ANSI A156.4

1. PARTS



2. MARK AND DRILL HOLES *(Right Hand Shown)*



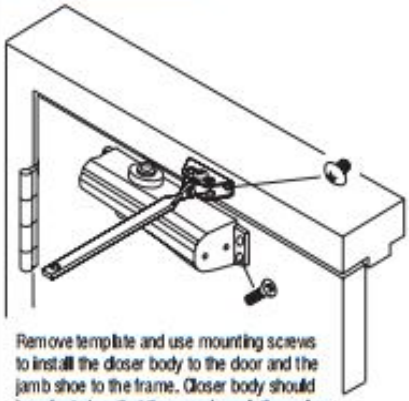
Speed regulating valves toward hinge edge.

Door Opening	Dimension "A"
To 100	7" (178mm)
101 to 120	6" (152mm)
121 to *180	3-1/2" (89mm)

*Door/Wall/Hardware/Jamb conditions permitting

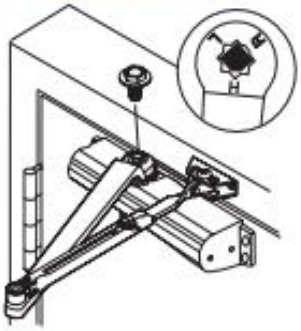
Select hand of door and degree of door opening. Fold template on the corresponding line for desired degree of door opening and hand. Match this line with the hinge edge of door and attach template to door. Be sure frame line on template lines up with the bottom edge of frame face. Mark, prep and drill/tap 1/4" - 20 holes for closer body and jamb shoe mounting screws.

3. INSTALL CLOSER



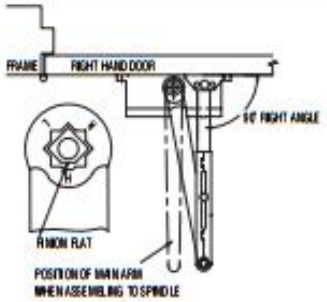
Remove template and use mounting screws to install the closer body to the door and the jamb shoe to the frame. Closer body should be oriented so that the speed regulating valves are toward the hinge stile of door.

4. INSTALL MAIN ARM



Orient main arm so that the "H", located on the main arm, lines up with the flat on the spindle. Press arm down on spindle and secure with spindle bolt.

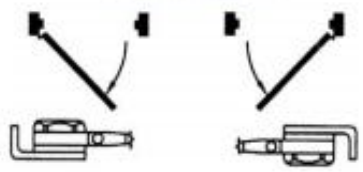
5. INSTALL MAIN ARM AND CONNECTING ROD



Slide connecting rod into forearm of main arm. Rotate main arm until connecting rod is at a 90° angle to frame. While holding arm in this position, tighten down forearm screw.

6. OPTIONAL HOLD-OPEN ARM

Identify direction of hold-open nut according to hand of door and mount arm.



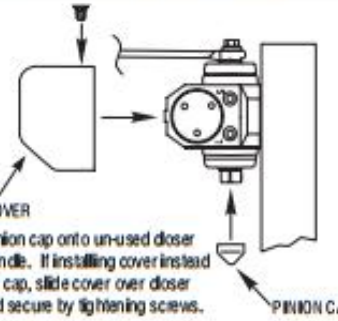
Adjust by loosening hold-open nut, then open door to desired position and tighten hold-open nut securely.

7. ADJUSTMENTS

See Adjustments on Page 6 for setting Spring Power, Sweep Speed, Latch Speed, and Backcheck.

NOTE: Do not fully unscrew valves or hydraulic fluid will leak and closer will no longer be functional.

8. INSTALL COVER / PINION CAP



Press pinion cap onto un-used closer body spindle. If installing cover instead of pinion cap, slide cover over closer body and secure by tightening screws.

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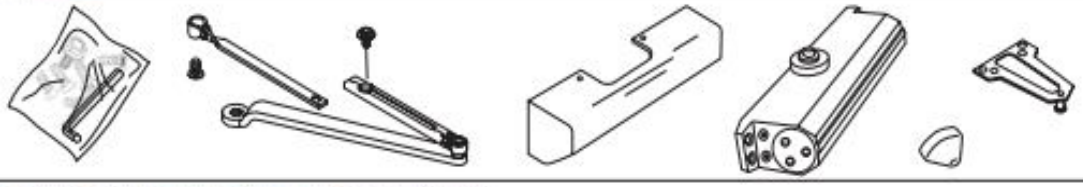
5300 Series Non-Hold Open Door Closer - Parallel Arm

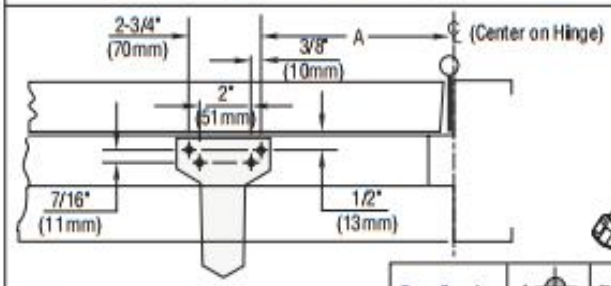
Installation Instructions

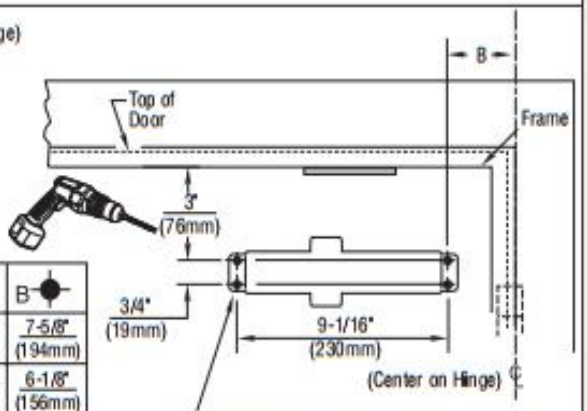
Meets ANSI A156.4

1. PARTS



2. MARK AND DRILL HOLES (*Right Hand Shown*)



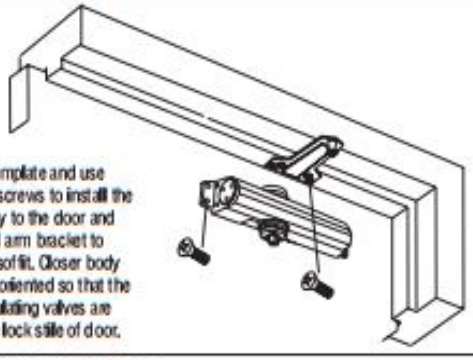


Select hand of door and the degree of door opening. Fold template on the corresponding line for desired degree and hand. Fold or cut upper corner illustrated on template and align template with the hinge edge of door. At the "Frame Stop Line" fold toward you and attach template to door. Mark, prep and drill/tap 1/4"-20 holes for closer body and parallel arm bracket mounting screws.

Door Opening	A ⊕	B ●
To 100	9-1/4" (235mm)	7-5/8" (194mm)
101 to 130	7-3/4" 197mm)	6-1/8" (156mm)
Over 131	5-3/4" (146mm)	4-1/8" (105mm)

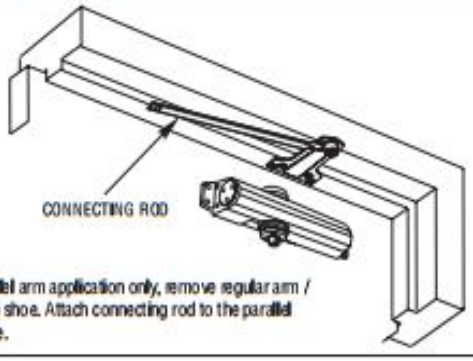
Speed regulating valves toward lock stile.

3. INSTALL CLOSER



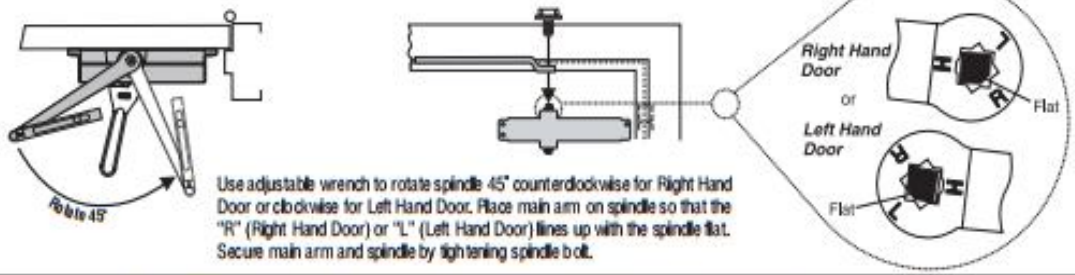
Remove template and use mounting screws to install the closer body to the door and the parallel arm bracket to the frame soffit. Closer body should be oriented so that the speed regulating valves are toward the lock stile of door.

4. INSTALL CONNECTING ROD



For parallel arm application only, remove regular arm / top jamb shoe. Attach connecting rod to the parallel arm plate.

5. INSTALL MAIN ARM



Use adjustable wrench to rotate spindle 45° counterclockwise for Right Hand Door or clockwise for Left Hand Door. Place main arm on spindle so that the "R" (Right Hand Door) or "L" (Left Hand Door) lines up with the spindle flat. Secure main arm and spindle by tightening spindle bolt.

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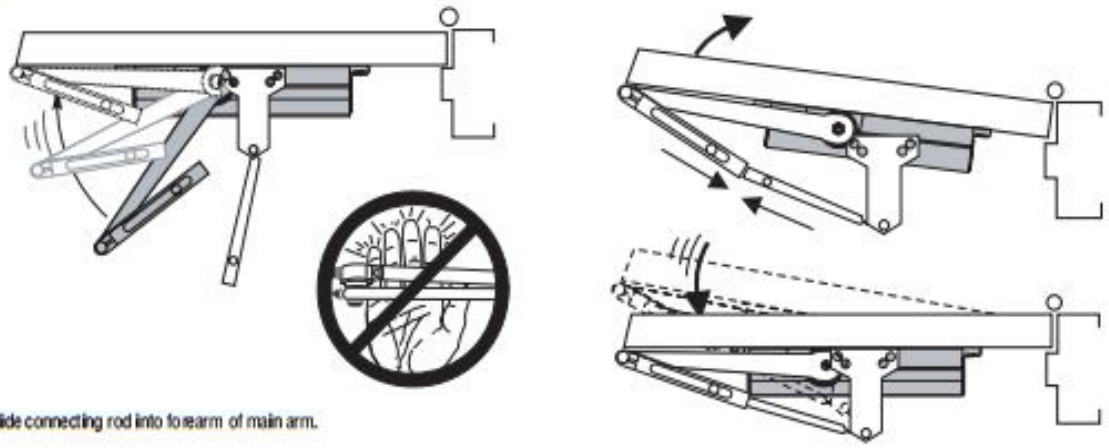
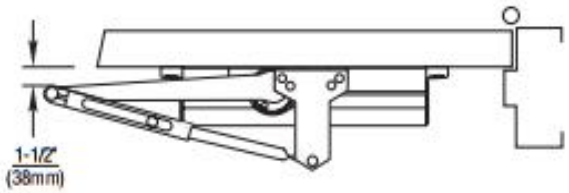
6. INSTALL MAIN ARM AND CONNECTING ROD

a)



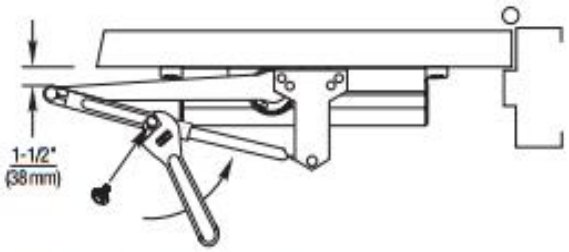
Slide connecting rod into forearm of main arm.

b)



Rotate main arm until the pivot point is 1-1/2" from door surface.

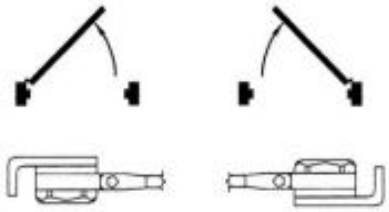
c)



While holding arm in this position, tighten down forearm screw.

7. OPTIONAL HOLD-OPEN ARM

Identify direction of hold-open nut according to hand of door and mount arm.



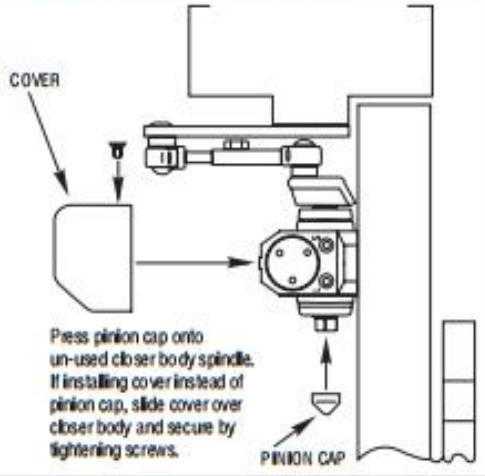
Adjust by loosening hold-open nut, then open door to desired position and tighten hold-open nut securely.

8. ADJUSTMENTS

See Adjustments on Page 6 for setting Spring Power, Sweep Speed, Latch Speed, and Backcheck.

NOTE: Do not fully unscrew valves or hydraulic fluid will leak and closer will no longer be functional.

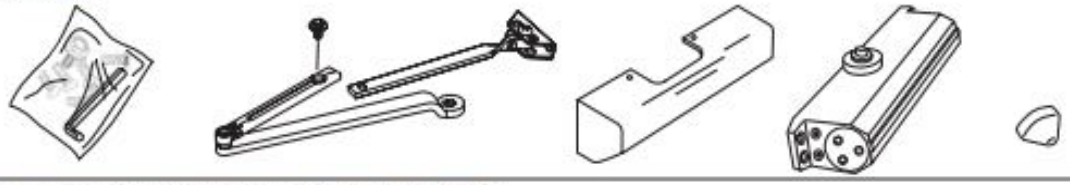
9. INSTALL COVER / PINION CAP



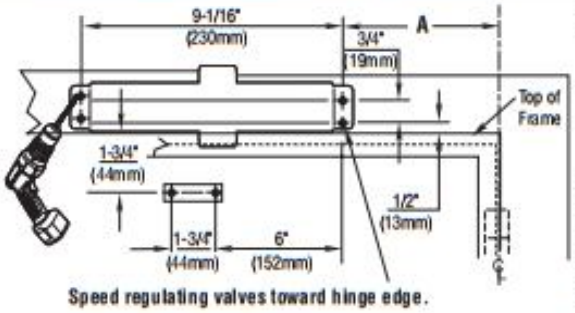
Press pinion cap onto un-used closer body spindle. If installing cover instead of pinion cap, slide cover over closer body and secure by tightening screws.

5300 Series Door Closer - Top Jamb Arm
Installation Instructions
Meets ANSI A156.4

1. PARTS



2. MARK AND DRILL HOLES *(Right Hand Shown)*



Speed regulating valves toward hinge edge.

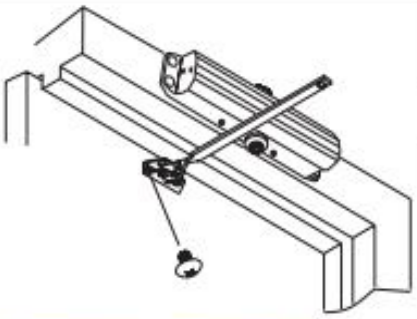
Door Opening	Dimension "A"
To 100°	7-1/2" (191mm)
101 to 120°	6" (152mm)
121 to *180°	3-1/2" (89mm)

*Door/Wall/Hardware/Jamb conditions permitting

A longer connecting rod is required for reveals greater than 4" (102mm)

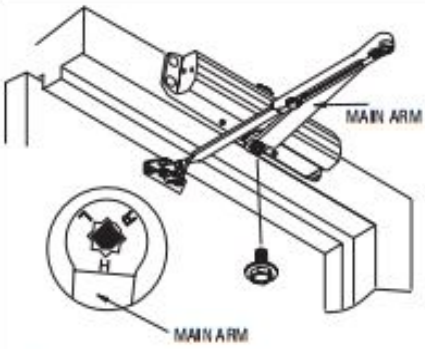
Select hand of door and the degree of door opening. Separate template sections "A" and "B". Fold template on the corresponding line for desired degree and hand. Match this line with the hinge edge of door and attach template to door. Be sure "Frame" line on template lines up with the top edge of door. Using a square, project "Closer Projection Line" on section "A" of template onto frame and use to align and attach section "B". Be sure to align bottom edge of section "B" with edge of frame. Mark, prep and drill/tap 1/4"-20 holes for connecting rod shoe and closer body mounting screws.

3. INSTALL CLOSER



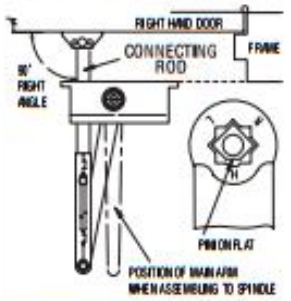
Remove template and use mounting screws to install the closer body to the top jamb and the connecting rod shoe to the door. Closer body should be oriented so that the speed regulating valves are toward the hinge stile of door.

4. INSTALL MAIN ARM



Orient main arm so that the "H", located on the main arm, lines up with the flat on the spindle. Press arm down on spindle and secure with spindle bolt.

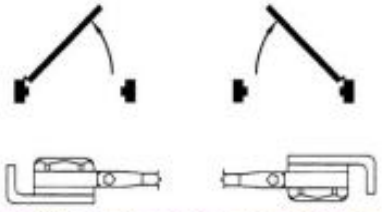
5. INSTALL MAIN ARM AND CONNECTING ROD



Slide connecting rod into forearm of main arm. Rotate main arm until connecting rod is at a 90° angle to frame. While holding arm in this position, tighten down forearm screw.

6. OPTIONAL HOLD-OPEN ARM

Identify direction of hold-open nut according to hand of door and mount arm.



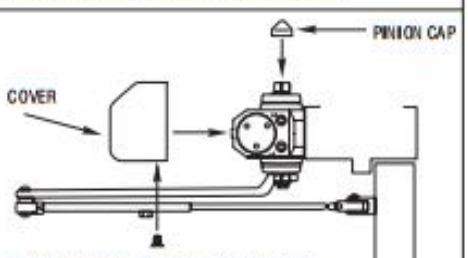
Adjust by loosening hold-open nut, then open door to desired position and tighten hold-open nut securely.

7. ADJUSTMENTS

See Adjustments on Page 6 for setting Spring Power, Sweep Speed, Latch Speed, and Backcheck.

NOTE: Do not fully unscrew valves or hydraulic fluid will leak and closer will no longer be functional.

8. INSTALL COVER / PINION CAP



Press pinion cap onto un-used closer body spindle. If installing cover instead of pinion cap, slide cover over closer body and secure by tightening screws.

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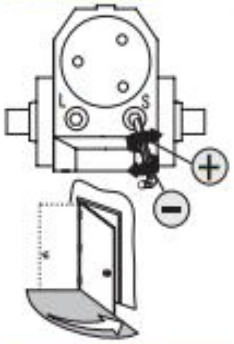
5300 Series Door Closer - Adjustments

Installation Instructions

Meets ANSI A156.4

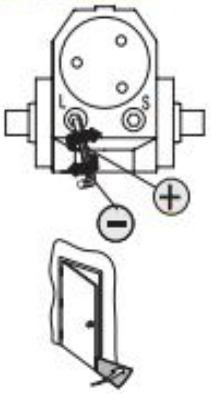
ADJUSTMENTS (USE 5/32" HEX WRENCH FOR THESE ADJUSTMENTS)

SWEEP SPEED



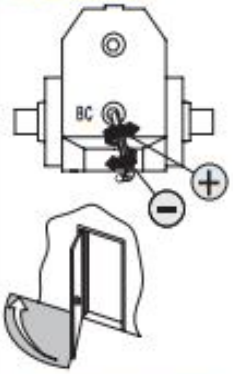
Note: Adjust closing time speed to between 3 and 7 seconds from 90° to 0°. Greater closing times may be required for elderly or handicapped.

LATCH SPEED



Adjust latch speed so door completely closes and latches.

BACKCHECK



Adjust backcheck accordingly to prevent excessive opening speed.

OPTIONAL DELAY ACTION

Adjust delay action accordingly to obtain desired delay time.

SPRING POWER ADJUST (Sizing in accordance to BHMA/ANSI 156.4)

(Use 5/32" Hex Wrench for this adjustment)

TABLE OF SIZES

Closer is shipped set to size 3. To change the closer size, use a hex wrench to rotate the spring power adjust. Follow the chart to make the correct numbers of 360° turns to set the closer size appropriately for the door application.

The number of turns is an approximation and does not account for environmental or door hardware affects.

Approx. 5 turns to increase / decrease one size.

cw = clockwise
ccw = counterclockwise

Exterior (and Vestibule) Door Width

Minimum Door Width (24")

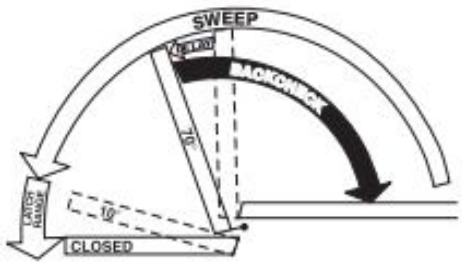
	24" (610mm)	30" (762mm)	36" (914mm)	42" (1067mm)	48" (1219mm)
Regular Arm & Top Jamb	Size 3 (0)	Size 4 (5cw)	Size 5 (10cw)	Size 6 (15cw)	
Parallel Arm	Size 3 (5cw)	Size 4 (10cw)	Size 5 (15cw)		

Interior Door Width

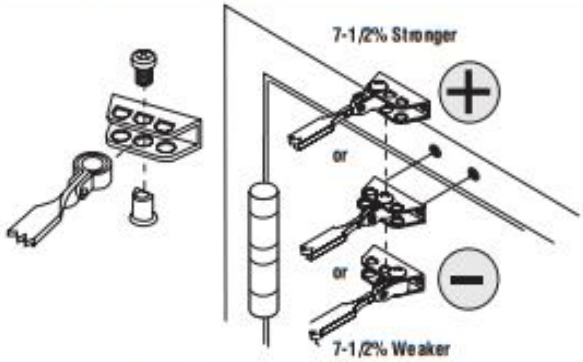
Minimum Door Width (24")

	24" (610mm)	30" (762mm)	34" (865mm)	38" (965mm)	48" (1219mm)	54" (1372mm)	60" (1524mm)
Regular Arm & Top Jamb	Size 1 (10ccw)	Size 2 (5ccw)	Size 3 (0)	Size 4 (5cw)	Size 5 (10cw)	Size 6 (15cw)	
Parallel Arm	Size 1 (5ccw)	Size 2 (0)	Size 3 (5cw)	Size 4 (10cw)	Size 5 (15cw)		

ADJUSTMENT DIAGRAM



ARM PLACEMENT IN SHOE



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