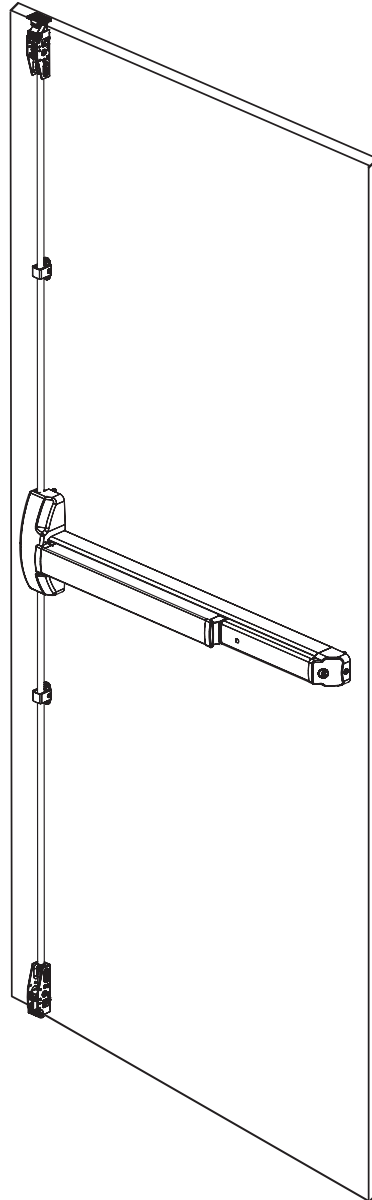


EXIT DEVICES

6170(F) / 6210 Series
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Installation Instructions for the SURFACE VERTICAL ROD EXIT DEVICE



IMPORTANT:

Retrofitting or modifying this device may impact fire rating, safety features and warranty. Consult with code specifications to ensure compliance with all codes and ratings.

NOTE:

These instructions cover standard, reinforced metal doors only. To install options, such as shim kits or interlock brackets, refer to the instructions packed with the optional component. Optional hardware is required for unreinforced metal, composite and wood doors. Device is ready for any applicable Yale trim.



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A Verify Parts & Templates

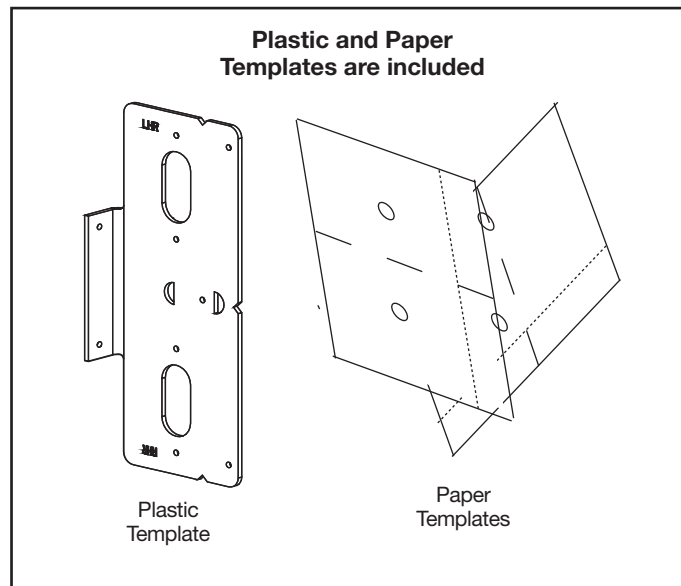
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1. Unpack and verify components received using the parts list and exploded views shown in Figures 1 and 2.
2. Read entire instructions before installing this device.

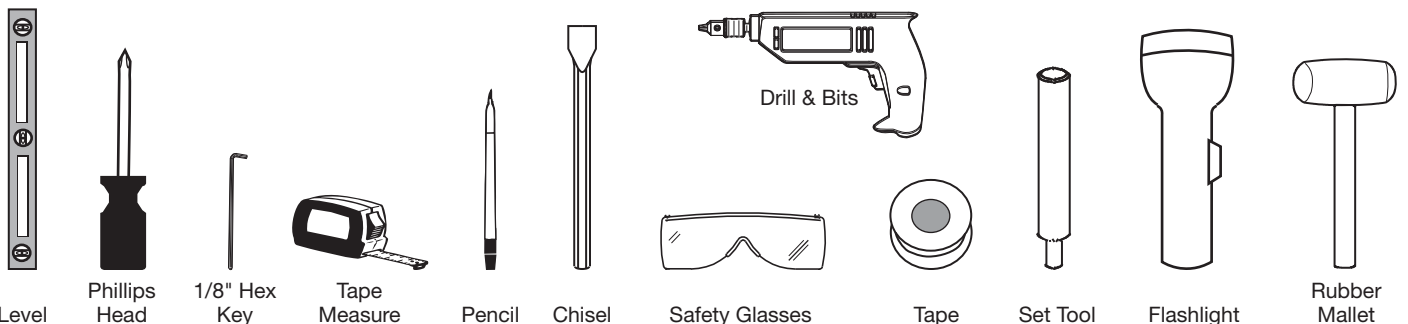


IMPORTANT:

- Verify device is being installed on the correct door, as well as function, finish and size.
 - Use site survey to verify correct product ordered.
 - This device is intended to be installed on new 24" (610mm) to 48" (1220mm) metal or wood, pre-drilled, free swinging doors only.
3. Follow all cautions, notes and warnings presented in these instructions.
 4. All dimensions listed are in inches (") and millimeters (mm).



Tools Required

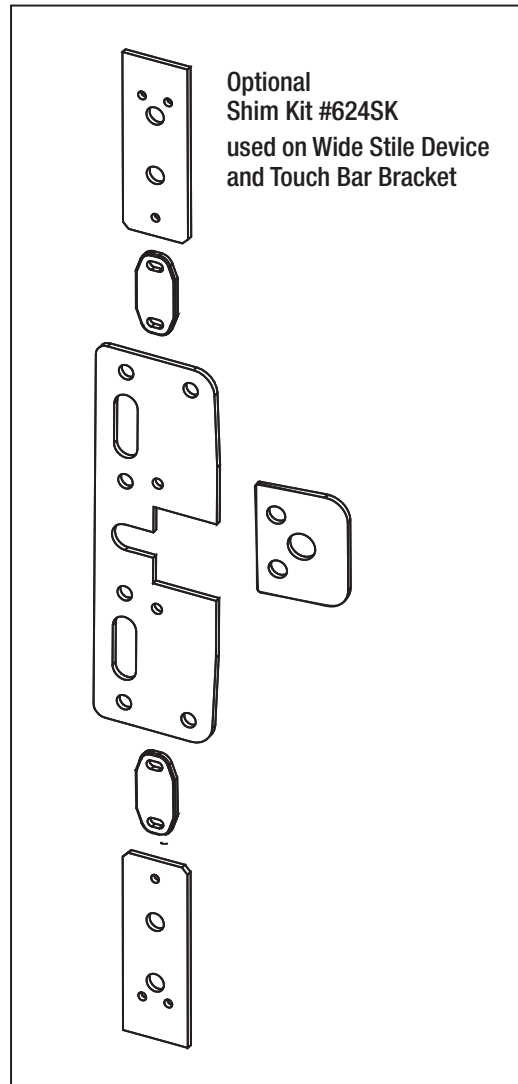
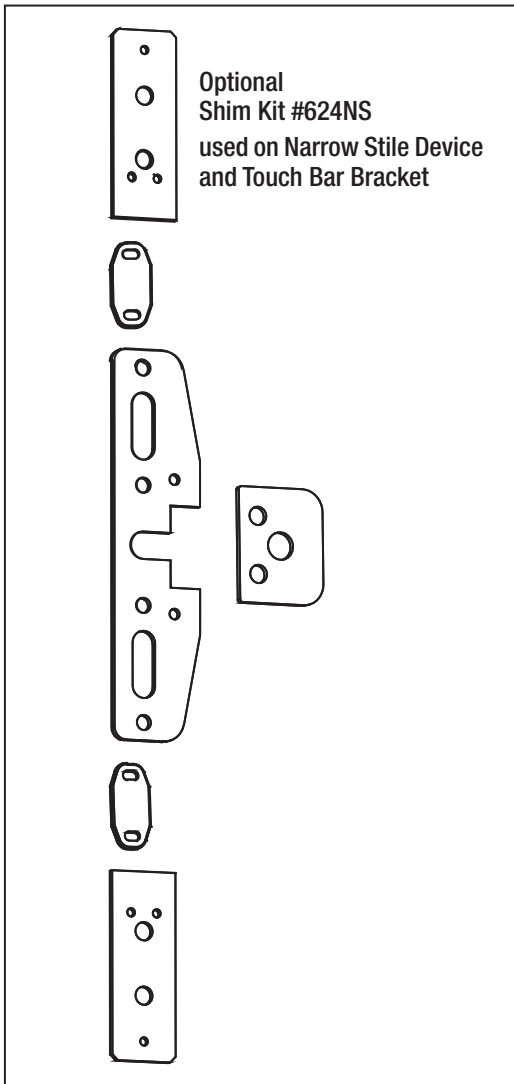
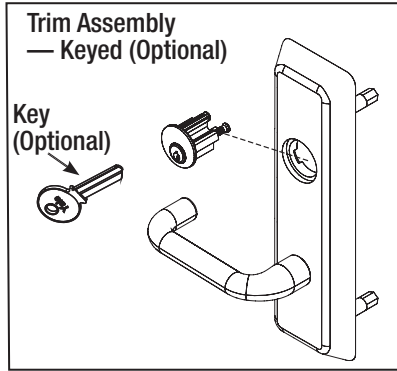
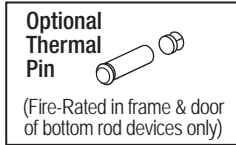




A Verify Parts & Templates

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Optional Parts and Templates





B Exploded View — 6170(F) Wide Stile

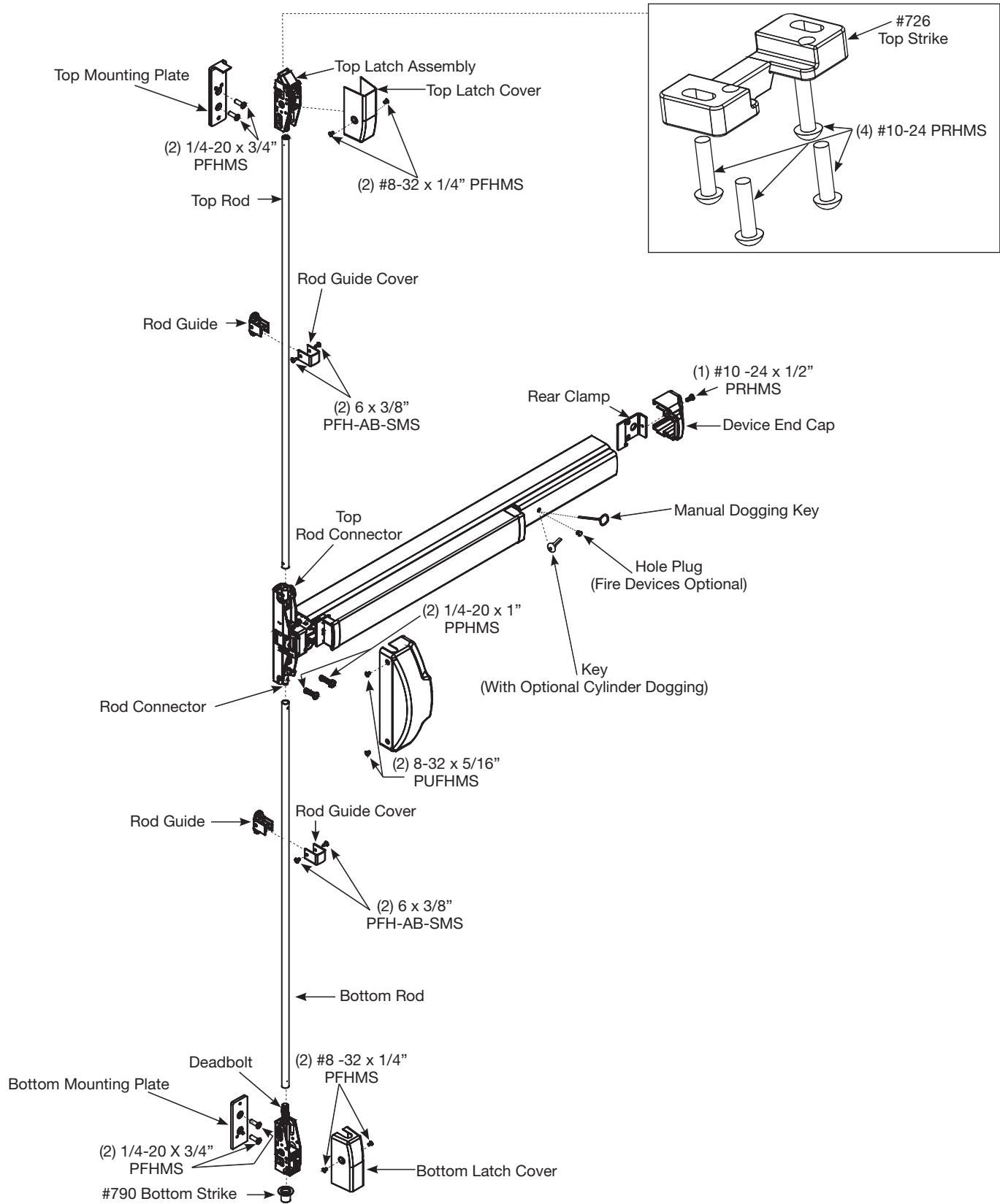


Figure 1: Exploded View of Wide Stile (6170(F) Series)



C Exploded View — 6210 Narrow Stile

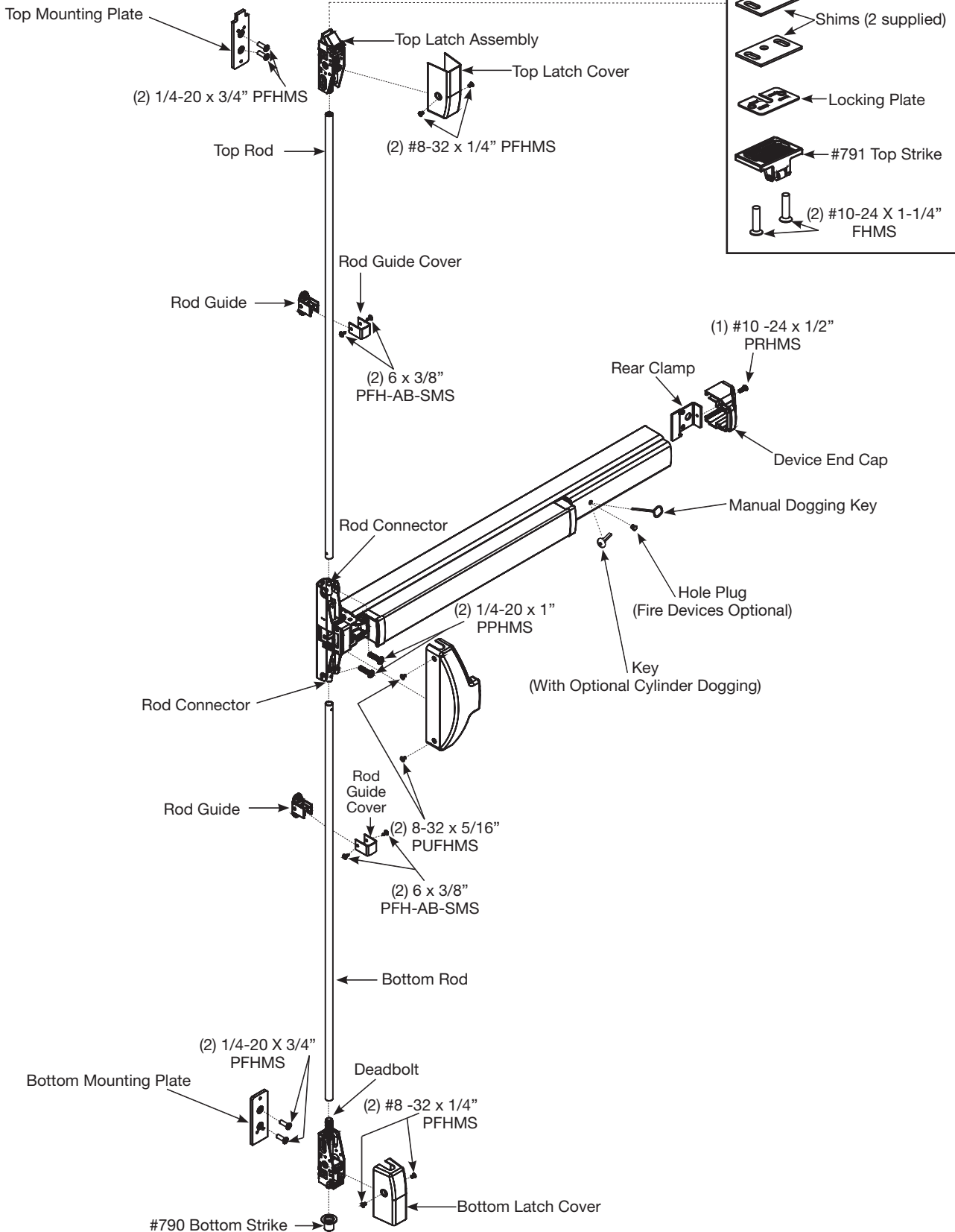


Figure 2: Exploded View of Narrow Stile (6210 Series)

Exit Devices

6170(F) / 6210 Series

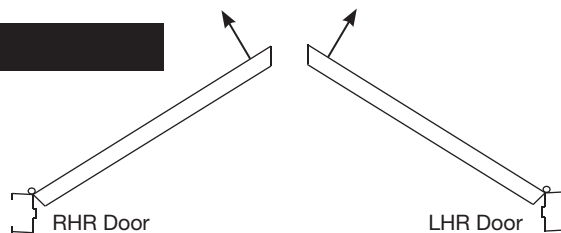
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D Before Installation

1. Make sure the door is plumb and level. Check that the hinges are secure and not missing hardware.
2. If surface of the door is free of raised projections, device may be installed without a shim kit. One (1) shim kit is needed for each 1/4" of projection:
 - 6210 – #624NS
 - 6170(F) – #624SK
3. Fully open the doors to ensure doors do not hit floor as they swing.
4. Determine if door is reinforced. Doors and frame thickness must have three (3) full screw threads to be considered reinforced.



E Check Lock Handing

1. Lock handing is pre-determined by order. Always determine handing from the outside of the door as shown in Figure 3. To change lock handing, remove the four (4) screws from the vertical lifter assembly and remove from the device (Figure 4).
2. Rotate vertical lifter assembly 180 degrees.
3. Place the vertical lifter assembly back into the device. Make sure the vertical lifter sits under the lift block.
4. Re-install screws onto device assembly.

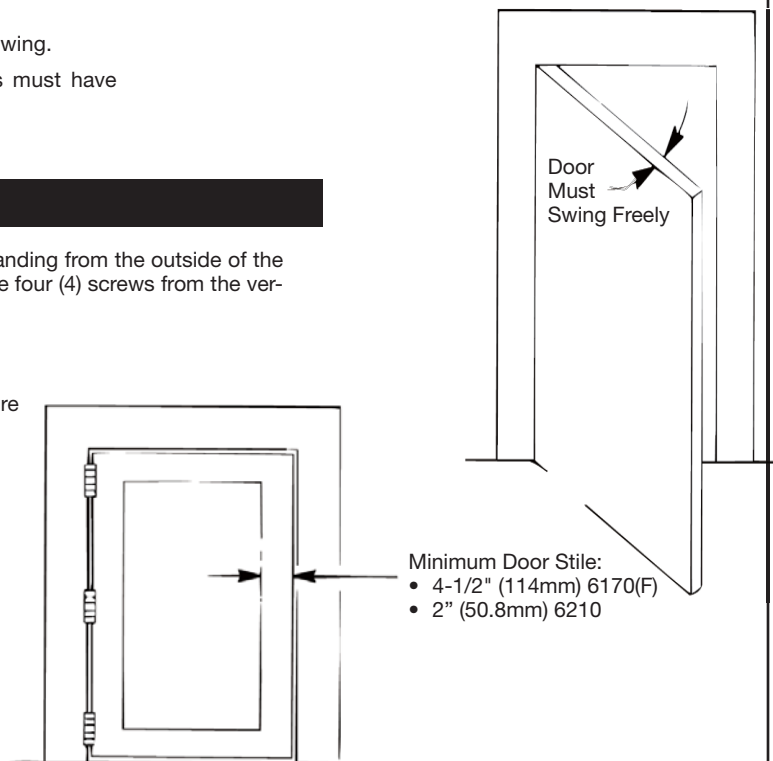


Figure 3: Lock Handing Determination

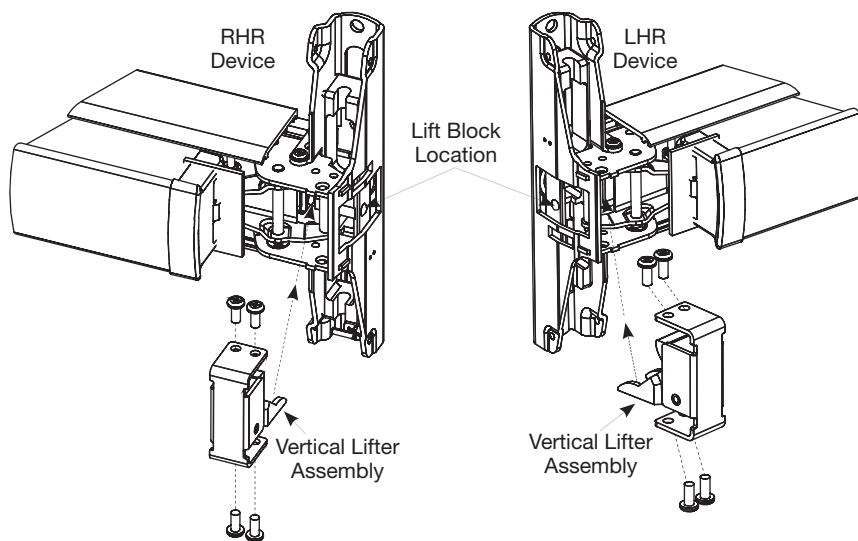


Figure 4: Device Assembly Showing Lift Block Assembly (Cover Removed)



F Door Reference Lines

1. Backset is measured from centerline of bevel which is centerpoint of door thickness.
2. Locate and mark horizontal centerline and vertical centerline as shown in Figure 5.

NOTE:

Standard rail centerline height is 39-15/16" (1015mm) above the finished floor.

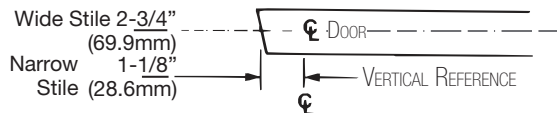


Figure 5: Determining Door Reference Lines

G Prepare Door & Frame with Templates

Continued on the next page...



IMPORTANT:

- For Narrow Stile Devices, the Vertical Reference Centerline and the Rod & Strikes Centerline are the same.

NOTE:

If factory prepared cutouts with field drilled mounting holes are in the door, skip to: Section H Sizing Exit Device.
 If the door and frame need to be prepared in the field, follow the instructions on templates.

Plastic Template (Device Seat & Trim)

Prepare mounting holes as follows (see Figure 6-A):

1. Locate the vertical reference centerline (see Figure 6-B). Measure 11/16" (17.5mm) toward the edge of the door and mark the Rod & Strikes centerline, extending the line to the top and bottom of the door.
2. Use templates provided and position on door and frame as shown on the following pages. Align vertical and horizontal reference center lines on door with notches on template.
3. Tape template to door face. Mark door per template.
4. If trim is used, locate templates packed with trim. Position templates and mark holes per trim instructions.
5. Drill and tap only those holes needed for the device/trim being installed.

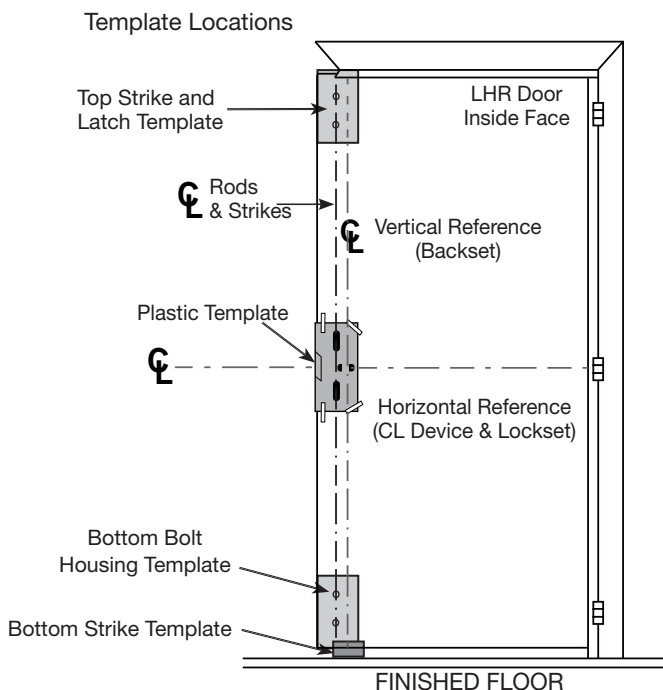
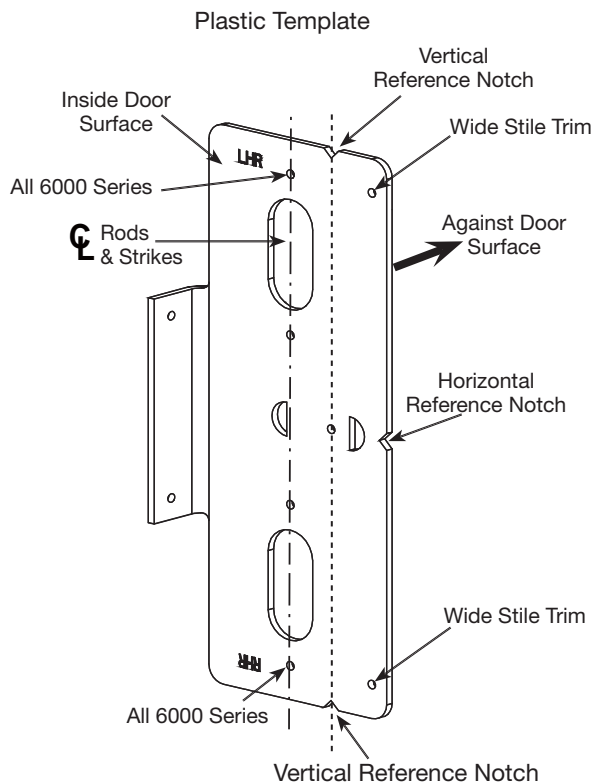
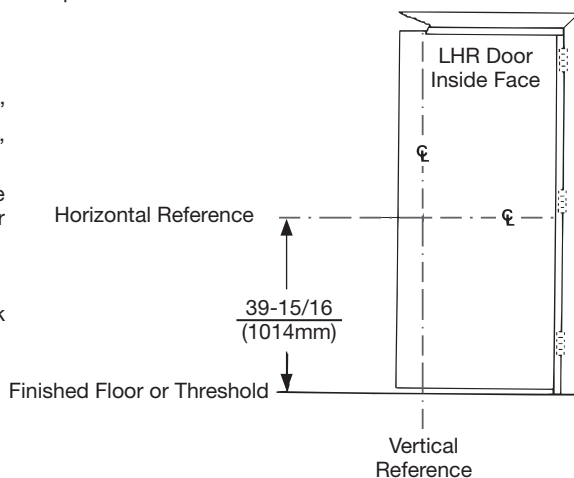


Figure 6-A: Prepare Door & Frame with Templates



G Prepare Door & Frame with Templates

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Plastic Template (Device Seat & Trim)

- Prepare holes as indicated in Figure 6-B and Table 1.
- Dimensions given in inches (") and millimeters (mm).

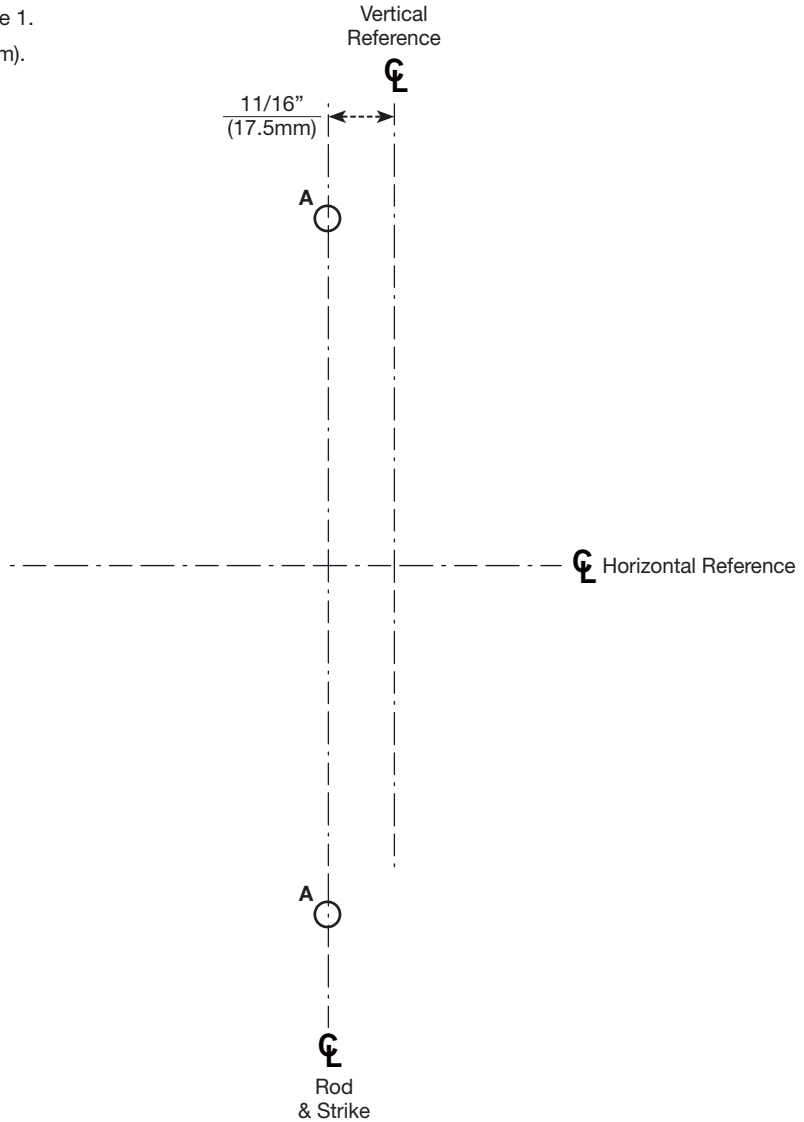


Figure 6-B: Prepare Door & Frame with Templates

TABLE 1: DOOR & FRAME PREPARATION			
HOLE	Door/Frame	Fastener	Preparation
A	Metal Reinforced	1/4-20 PFHMS	Drill: #7 (Ø 0.201") Tap: 1/4-20
	Wood	1/4-20 SNB	Drill: Ø 3/8 thru
	Hollow Metal	1/4-20 SNB	Drill: Ø 5/16 Inside Face Ø 3/8 Outside Face



G Prepare Door & Frame with Templates

Continued from the previous page

Top Latch & Strike Template with Door Closed

1. Locate the top latch and strike template. See Figure 6-C and template for correct positioning.
2. Fold and tape the paper template and mark holes on the frame and door.
3. Drill and tap the latch holes as instructed.
4. Remove the template when complete.
5. Open door, drill and tap top strike holes.

Bottom Latch Template with Door Closed

1. Locate the bottom latch template. See Figure 6-C and template for correct positioning.
2. Fold and tape the paper template on the door and mark holes.
3. Drill and tap the latch holes as instructed.
4. Remove the template when complete.

Bottom Strike #790 Template with Door Closed

1. Locate the bottom strike template. See Figure 6-C and template for correct positioning. Ensure bottom latch final position will engage strike.
2. Fold and tape the paper template on the floor and mark hole.
3. Drill hole to required depth as instructed.
4. Remove the template when complete.

Door with Top Strike Template in Place

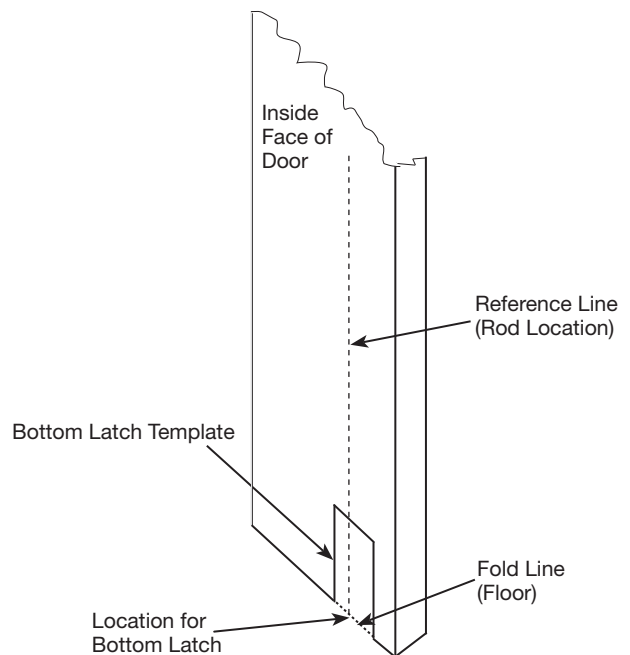
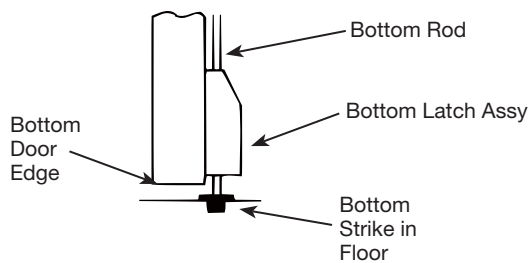
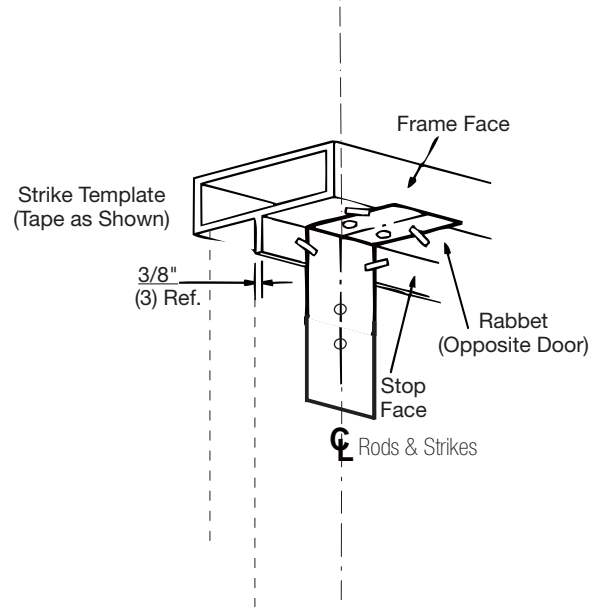


Figure 6-C: Prepare Door & Frame with Templates



H Sizing Exit Device

1. Bar must be cut to size if gap between bar and stop surface is less than 2-7/8" (73mm) (see Figures 7-A, 7-B and Table 2).
2. With door closed, measure 2-7/8" (73mm) from stop surface on hinge side of door. Mark horizontal reference line on door.
3. Open door. Align mounting holes in touch bar with mounting holes in the door. Mark touch bar where it crosses the mark from step 2 above.
4. Before cutting, ensure end cover is in place and there is no gap between it and the touch bar. Cut touch bar on mark from step 3 above.

NOTE:

For devices with dogging, hole must be at least 1-5/8" (41.3mm) from cut end of device.

Catalog Size	Door Width		Precut Lengths	
	Minimum	Maximum	Narrow	Wide
24	24" (610mm)	24" (610mm)	—	18.426" (468mm)
36	30" (762mm)	36" (915mm)	32.196" (818mm)	30.426" (773mm)
42	37" (940mm)	42" (1067mm)	38.196" (970mm)	36.426" (925mm)
48	43" (1092mm)	48" (1920mm)	44.156" (1122mm)	42.036" (1068mm)

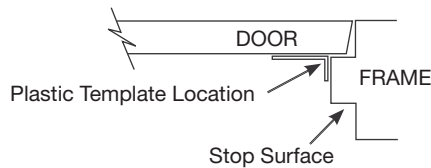


Figure 7-A: Sizing Exit Device

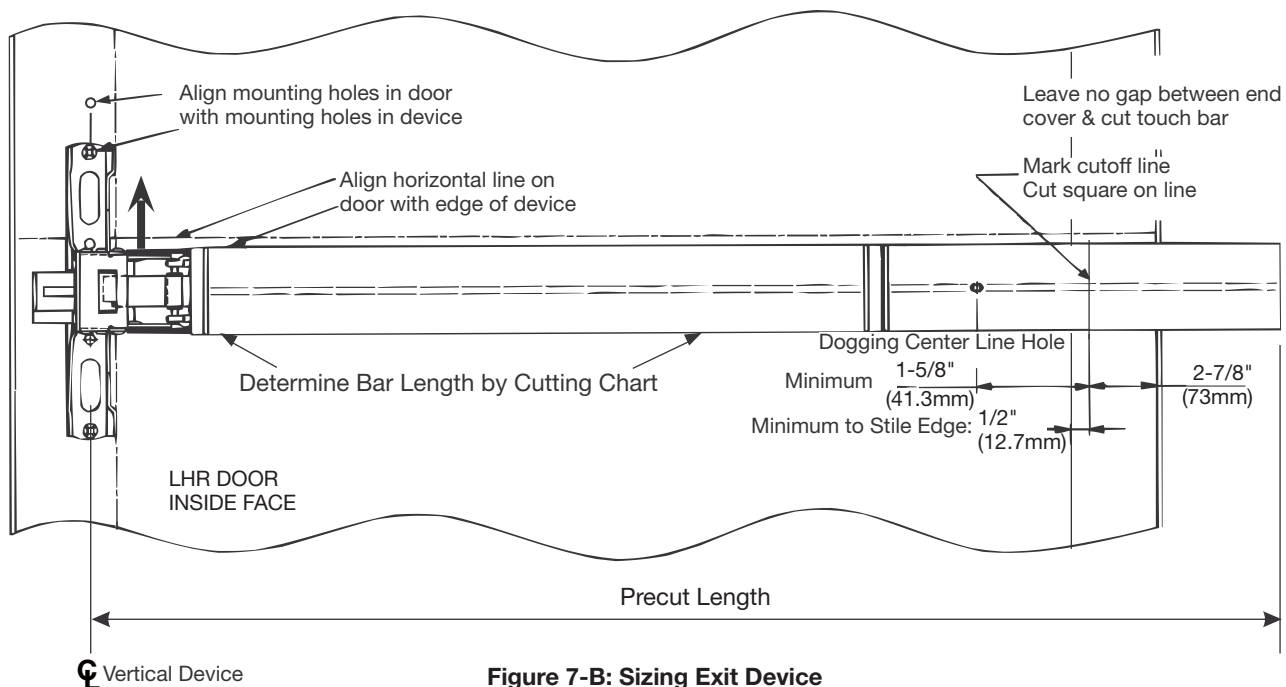


Figure 7-B: Sizing Exit Device

Vertical Device



I Install Device Assembly

1. Mount trim following instructions packed with trim (optional).
2. Mount shims following instructions packed with shim kit (optional).
3. Loosely attach device assembly to door using two (2) 1/4-20 x 1" (25.4mm) PPHMS (see Figure 8, door not shown).
4. Level device and slightly tighten screws (see Figure 8).

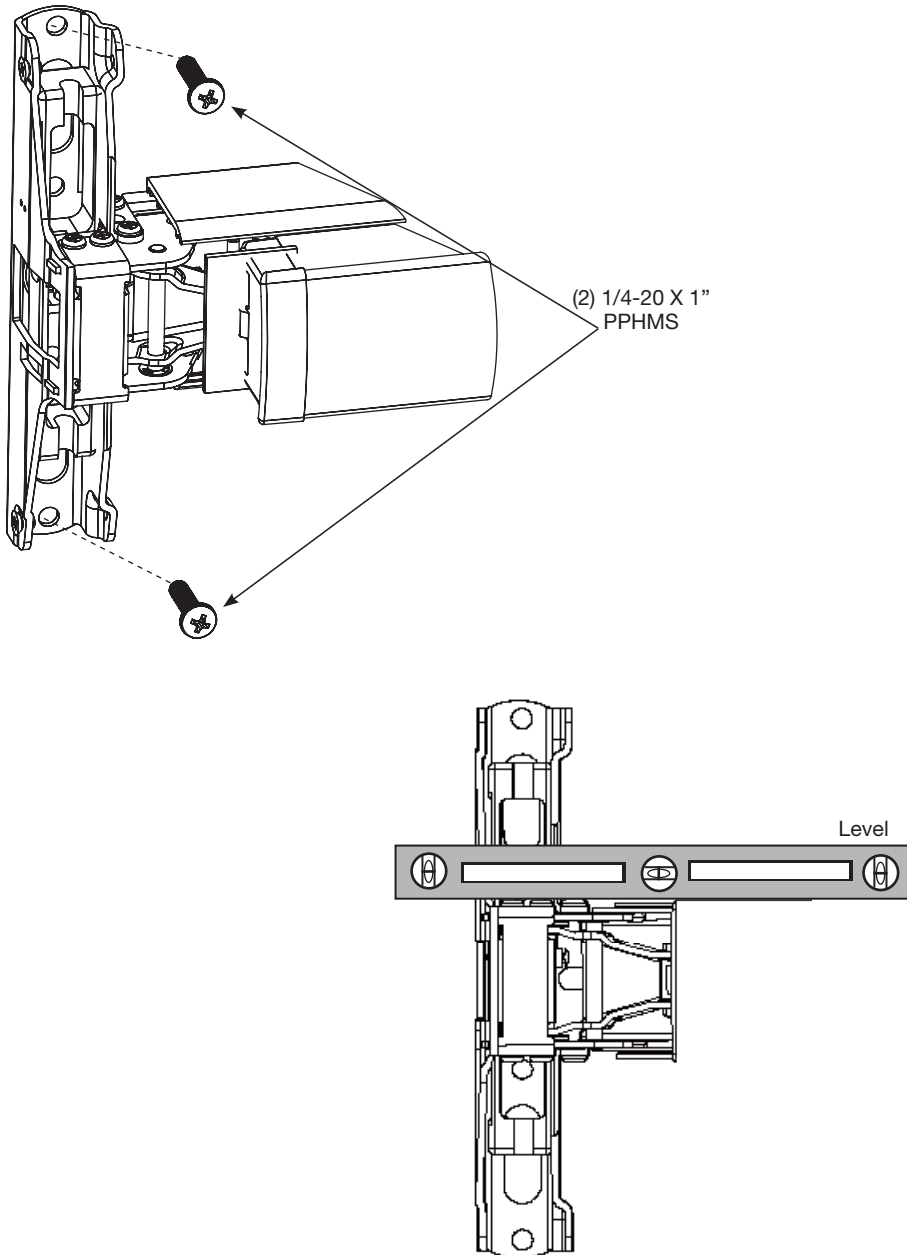


Figure 8: Attaching & Leveling Device Assembly



J Install Rear Clamp & End Cap

1. With the device leveled, insert rear clamp, locate rear clamp holes and mark. Ensure rear clamp is pushed flush against device (Figure 9).
2. Using the rear clamp as a template, mark and drill holes for two (2) 1/4-20" screws.
3. Install rear clamp screws and fully tighten all device screws.
4. Slide end cap in place and secure with one (1) #10-24 x 1/2" (12.7mm) PRHMS.

5. Check slide action — full travel will equal 9/16" (14mm):
6. a. Depress touchbar (slide should move up). Release touchbar (slide should fall back to original rest position).
- b. Actuate trim (slide should move up). Release trim actuator (slide should fall back to original rest position).
- c. While depressing touch bar, turn dogging key CLOCKWISE. Release touch bar (slide must stay up).

- d. While depressing touch bar, turn dogging key COUNTERCLOCKWISE. Release touch bar (slide must return to rest position).

NOTE:

When resulting operation is faulty, check first for visible binding or interference. If there is no apparent reason for the fault, remove the item from the door and recheck its operation before assuming it is defective.

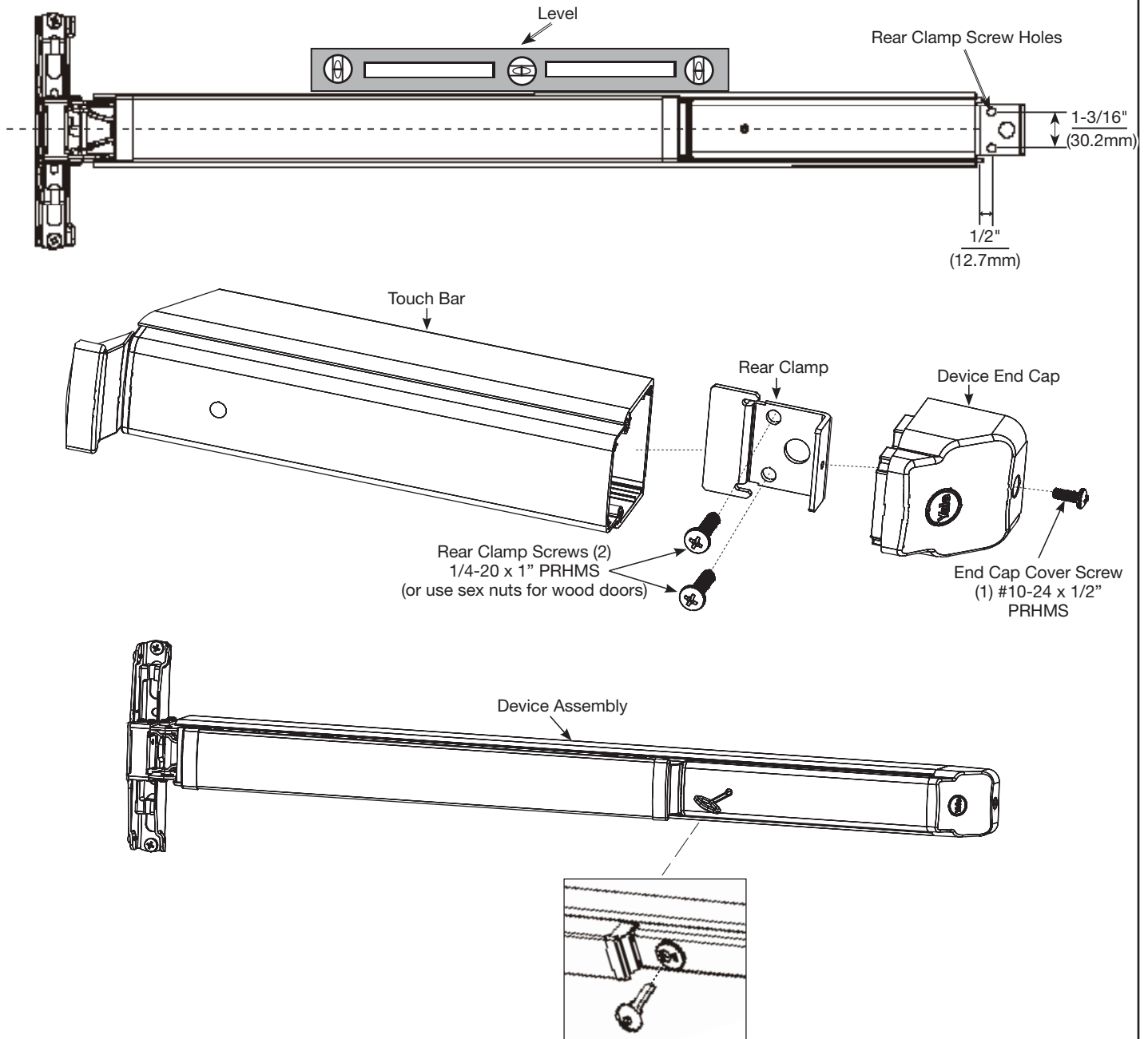


Figure 9: Install Rear Clamp & End Cap

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K Install Top & Bottom Latches

Install Top Latch (Figure 10)

1. Secure top mounting plate for the top latch assembly onto door face with two (2) 1/4-20 x 3/4" (19mm) PFHMS in location previously marked according to the top latch template. Ensure mounting plate is in correct alignment. Refer to Rod & Strike vertical centerline.
2. Attach top latch assembly to mounting plate with three (3) #10-24 x 1/4" (6.35mm) PRHMS.
3. Tighten all screws.

Install Bottom Latch (Figure 10)

1. Secure bottom mounting plate for the bottom latch assembly onto door face with two (2) 1/4-20 x 3/4" (19mm) PFHMS. Ensure mounting plate is in correct alignment with top rod. Refer to Rod & Strike vertical centerline.
2. Attach bottom latch assembly to mounting plate with three (3) #10-24 x 1/4" (6.35mm) PRHMS.
3. Tighten all screws.

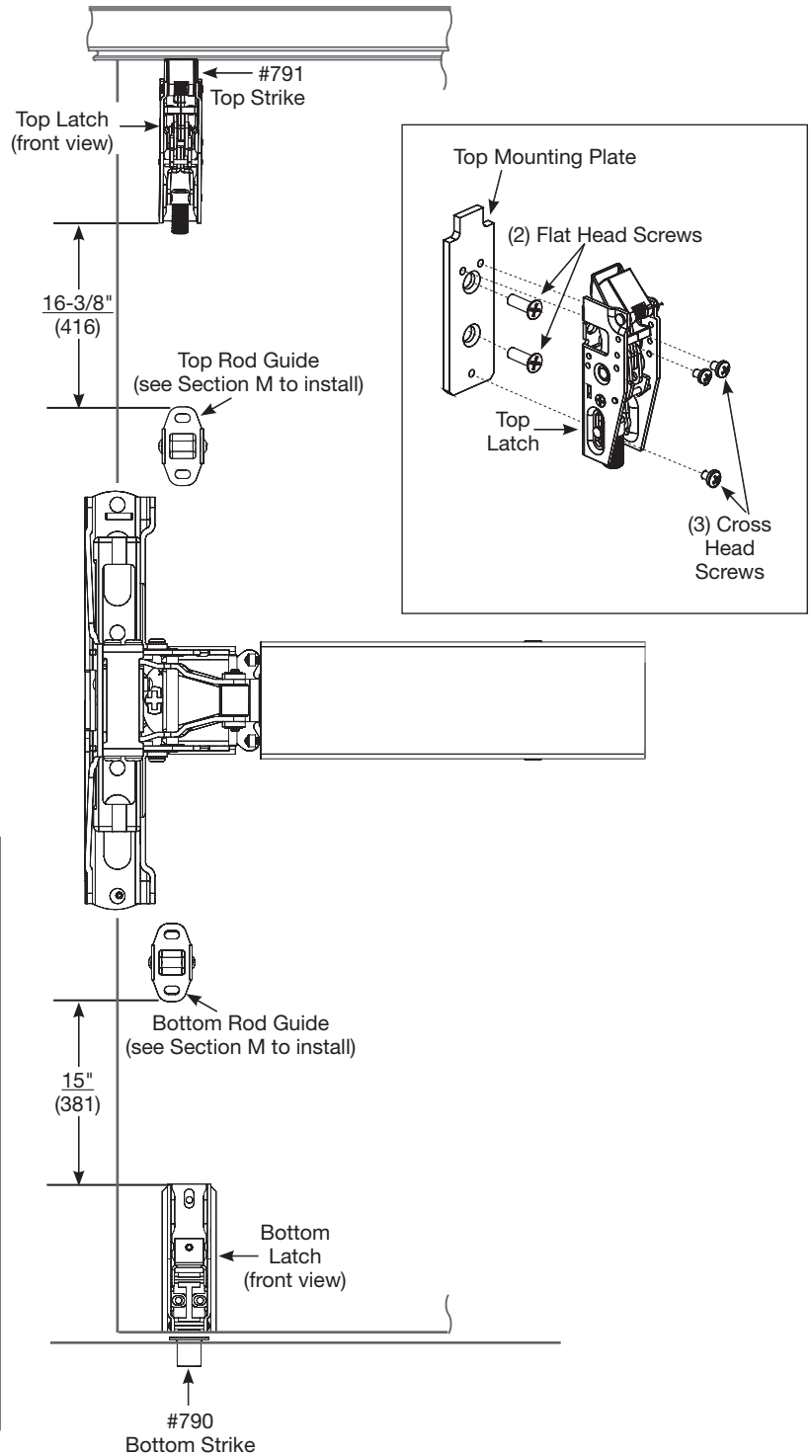


Figure 10: Install Top & Bottom Latches



L Install Top & Bottom Strikes

Setting #791 Top Strike for 6210 (Figure 11-A)

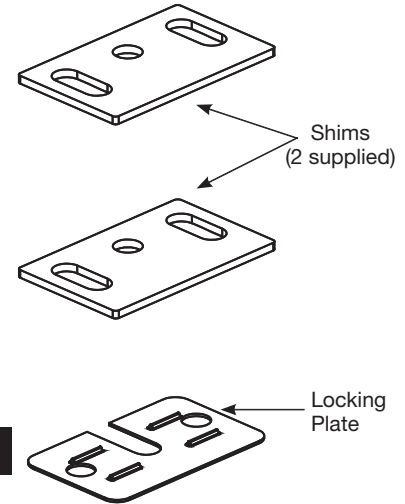
1. Install top strike #791 into door frame with two (2) #10-24 x 3/4" (19mm) PFHMS. Ensure strike is in correct alignment with top latch. (Reserve third screw to install in Section P).
2. Add additional shim if top latch does not seat into top strike (blade stop block must be used where there is no formed stop).
3. Tighten screws.

Setting #726 Top Strike for 6170 (Figure 11-B)

1. Install top strike #726 into door frame with two (2) #10-24 x 3/4" (19mm) PRHMS. Ensure strike is in correct alignment with top latch. (Reserve additional two screws to install in Section P).
2. Tighten screws.

Setting Bottom Strike

1. Locate position of bottom strike if necessary. Remove flooring to accommodate bottom strike. Secure bottom strike #790 into floor (see Figure 11-C). Press into place.
2. Bottom bolt will retract to 1/8" (3.17mm) above floor strike. Floor covering in the door path must be laid accordingly.



M Install Top & Bottom Rod Guides

1. Locate rod guide vertically between top latch and device as dimensioned in Section K. Refer to rod & strike vertical centerline marked from Section G.
2. Attach top and bottom rod guide brackets onto door with (2) 8 x 1/2" PRH"AB"SMS (see Figure 11-D). If necessary, drill holes, 0.140 (3.50) diameter on inside face of door.
3. Additional rod guides (in pairs) are recommended for openings 8'0" (203mm) or higher.
4. **DO NOT** fully tighten screws.

NOTE:

If necessary, add shims behind rod guide for smooth operation.

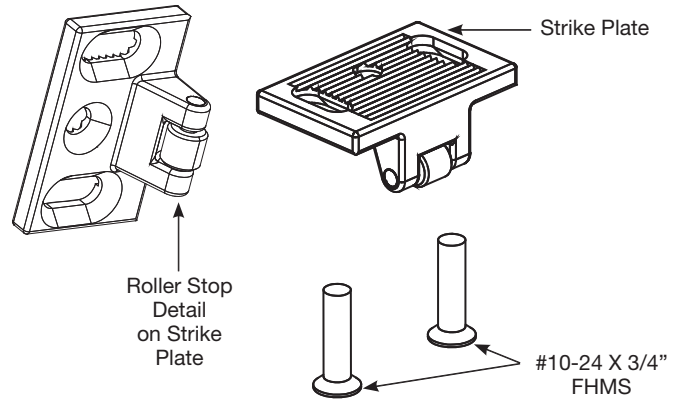


Figure 11-A: Strike Plate Detail

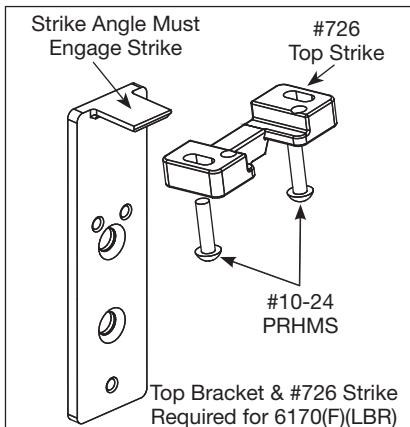


Figure 11-B: Top Strike Detail

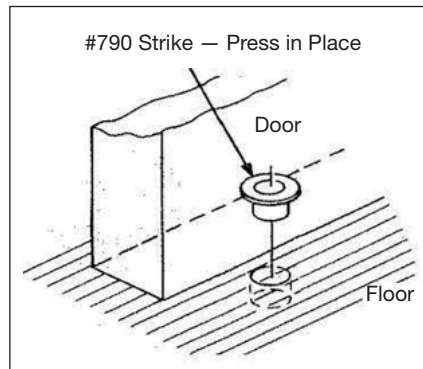


Figure 11-C: Bottom Strike Detail

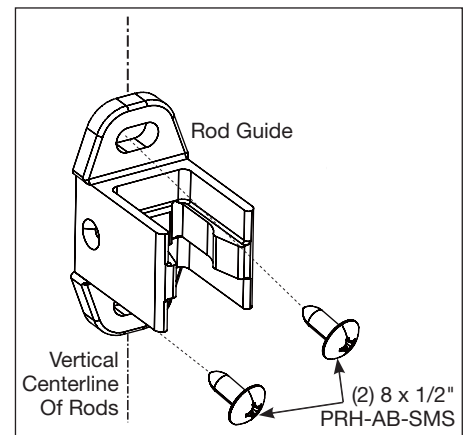


Figure 11-D: Rod Guide Detail (Typical 2 Places)



N Install Top Rod

Prepare Top Rod (Figure 12-A)

- To determine rod length, measure door and opening. Measurement must be between top latch and device assembly. Top rod is precut for an 84" (2134mm) opening.

NOTE:

For openings — UNDER 84" (2134mm) top rod must be cut.
DEDUCT OPENING HEIGHT from 84" (2134mm).

Example: Opening = 80" (2032mm)
84" (2134mm) - 80" (2032mm) = 4" (102mm)
Top Rod must be cut 4" (102mm)

For openings — OVER 84" (2134mm) top rod must be lengthened. For top rod additional length DEDUCT 84" (2134mm) from OPENING HEIGHT.

Example: Opening = 99" (2515mm)
99" (2515mm) - 84" (2134mm) = 15" (381mm)
Top Rod must be lengthened 15" (381mm)

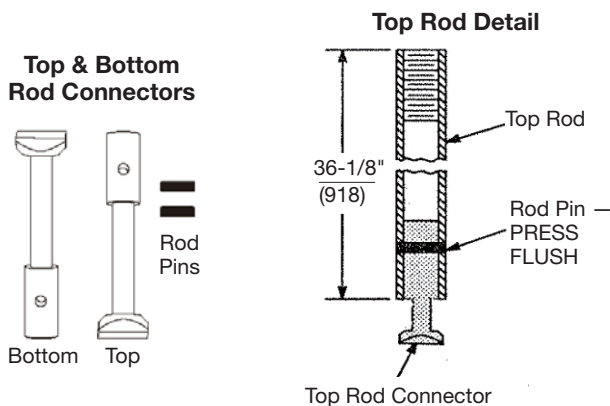


Figure 12-A: Prepare Top Rod

To Lengthen Rods (Figure 12-B)

- Use rod extension(s) to extend rod to length needed (2", 6", or 12" rod extensions available, specify device finish).
- Cut excess length from end of rod with pin hole.
- Apply screw locking compound to rod extension(s) male threads. Thread extension(s) until seated tight over rod.

To Cut Rods

- Cut from end with pin hole. NEVER CUT THREADED END.
- Press jig until it bottoms over rod.
- Drill 1/8" (3.2mm) diameter hole through 3/8" (9.52mm) from end of rod.

- Insert top rod connector into top rod and insert rod pin to secure. Pin should be flush on both sides. Insert rod into device assembly (see Figure 10-B).



IMPORTANT:

Before cutting or lengthening either rod, measure both top and bottom rod attached to device for correct fit.

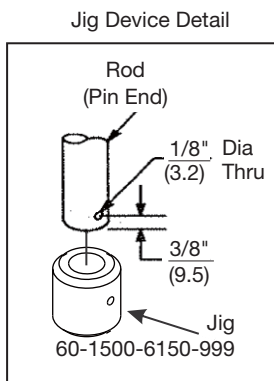


Figure 12-B: Cutting or Lengthening Rods



○ Install Bottom Rod

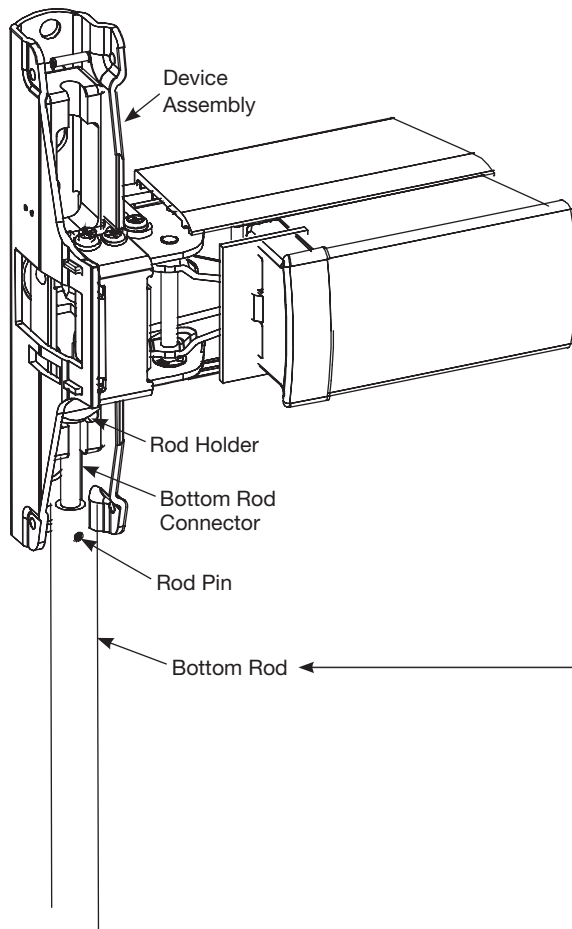
Prepare Bottom Rod

1. To determine rod length, measure door and opening. Measure between device centerline and finish floor. Bottom rod is correctly sized for a device centerline located at 39 - 15/16" (1014mm) above the finish floor.
2. Device assembly may be lowered. If device is lowered ensure bottom rod is cutoff the equal measurement the device was lowered. As well as adding rod length to upper rod from device to top latch.

Example: Device at 36" (914mm) from floor
 $39 - 15/16" (1014mm) - 36" (914mm) = 3 - 15/16" (100mm)$
 Bottom Rod must be cut 3 - 15/16" (100mm)
 Top Rod must be lengthened 3 - 15/16" (100mm)

3. Insert bottom rod connector into bottom rod and insert rod pin to secure. Pin should be flush on both sides. Screw on deadbolt. Insert rod into device assembly (see Figure 12-C).
4. Ensure both top and bottom rods are securely attached to upper and lower latches and device assembly.

Device Assembly with Bottom Rod



Bottom Rod Detail

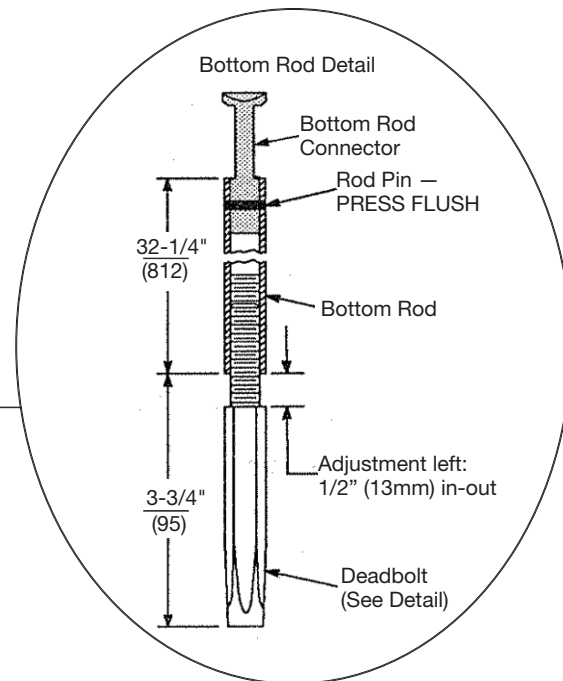


Figure 12-C: Device Assembly & Bottom Rod Detail



P Top & Bottom Rod Adjustment

Install - Adjust Top Rod & Top Strike

1. Install rods as shown in Figure 13. Thread top rod into top latch. Lift rod to fully retract top latch bolt.
2. Depress touch bar and hold. Adjust top rod length until rod connector seats into slide assembly in top latch.
3. If top latch bolt does not remain retracted when door is opened, top rod is too short. Top and bottom rods may be adjusted by tilting rod out and turning, Shorter-CW (clockwise), Longer-CCW (counterclockwise). See adjustment to rod. Top latch bolt should retract flat.
4. If upper latch will not deadlock, top rod is too long. Rotate as above to decrease length.
5. Set top strike roller between tripping lever and bolt on the top latch.
NOTE:
DO NOT PRELOAD BOLT.
6. Adjust and shim top strike for zero door rattle.

Install - Adjust Bottom Rod and Bottom Strike

1. With door open, depress touch bar to retract upper latch.
2. Slide deadbolt through latch and hang lower rod from bottom of latch slide.
3. With door open, push touch bar to retract bottom latch. Adjust bolt height by pulling the rod out and rotating until the bolt clears the strike by 1/8" above floor level.

Test Device

1. Test device action with touch bar, trim and by dogging.
2. Adjust as needed.
3. Upper bolt should retract flat. Bottom bolt should clear strike by 1/8" (12.7mm). Bolts should extend when door shuts and top strike hits tripping lever.
4. Using strike as a guide, drill and tap remaining strike hole(s) into top strike to lock in position from previous step once adjustments are made and correct operation is confirmed.

- #791-Install (1) #10-24x3/4" (19.0mm) PFHMS
- #726-Install (2) #10-24x3/4" (19.0mm) PRHMS

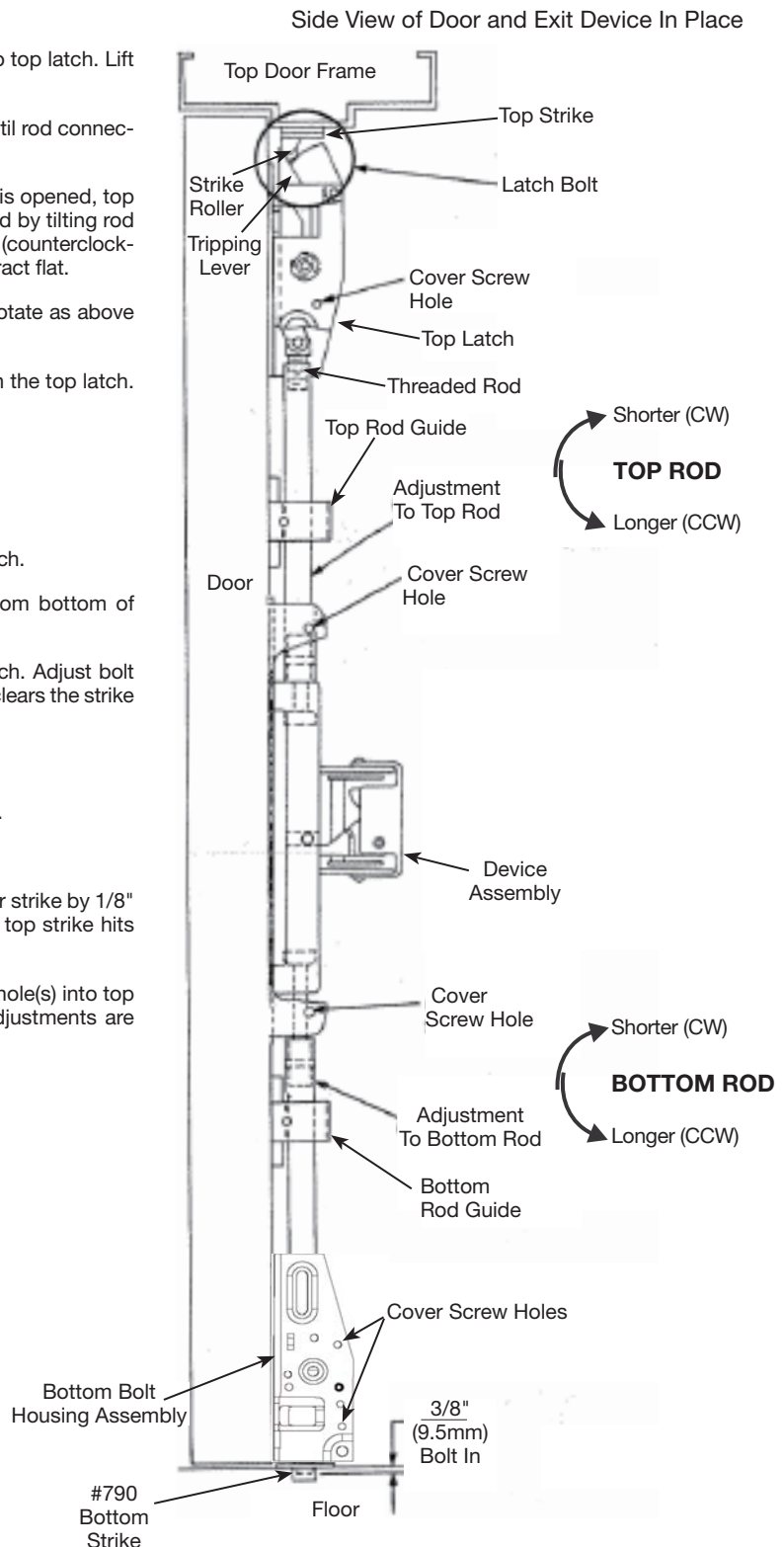


Figure 13: Installing & Adjusting Rods



Q Install Top & Bottom Rod Guide Covers

1. Install top and bottom rod guide covers with two (2) 6 x 3/8" (9.5mm) PFH-AB-SMS. Gently tighten screws. See Figure 14.
2. Test that rods move freely in guides without rubbing by depressing the touch bar.

R Install Latch Covers

1. Install top and bottom latch covers as shown with four (4) #8x32 x 1/4" (6.4mm) PFHMS. See Figure 15.
2. Fully tighten screws.

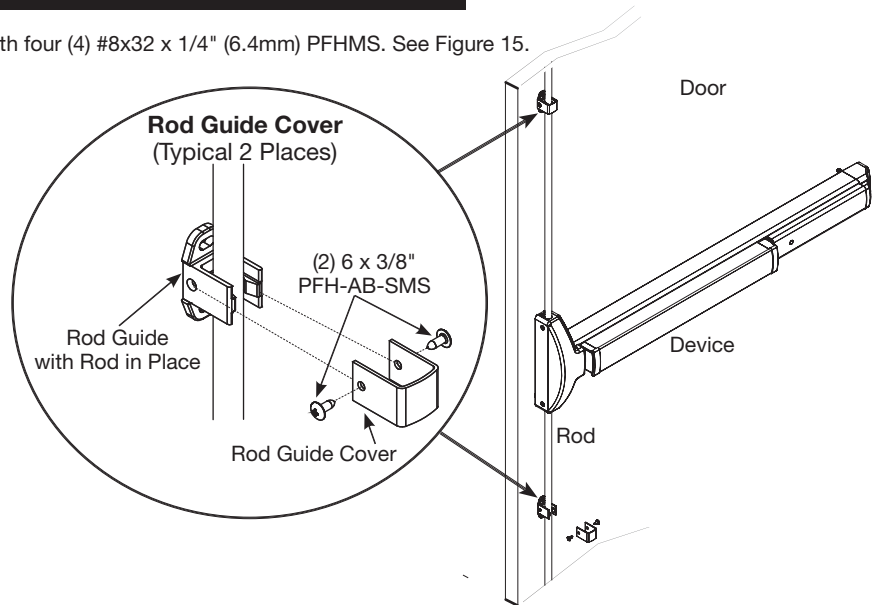


Figure 14: Install Top & Bottom Rod Guide Covers

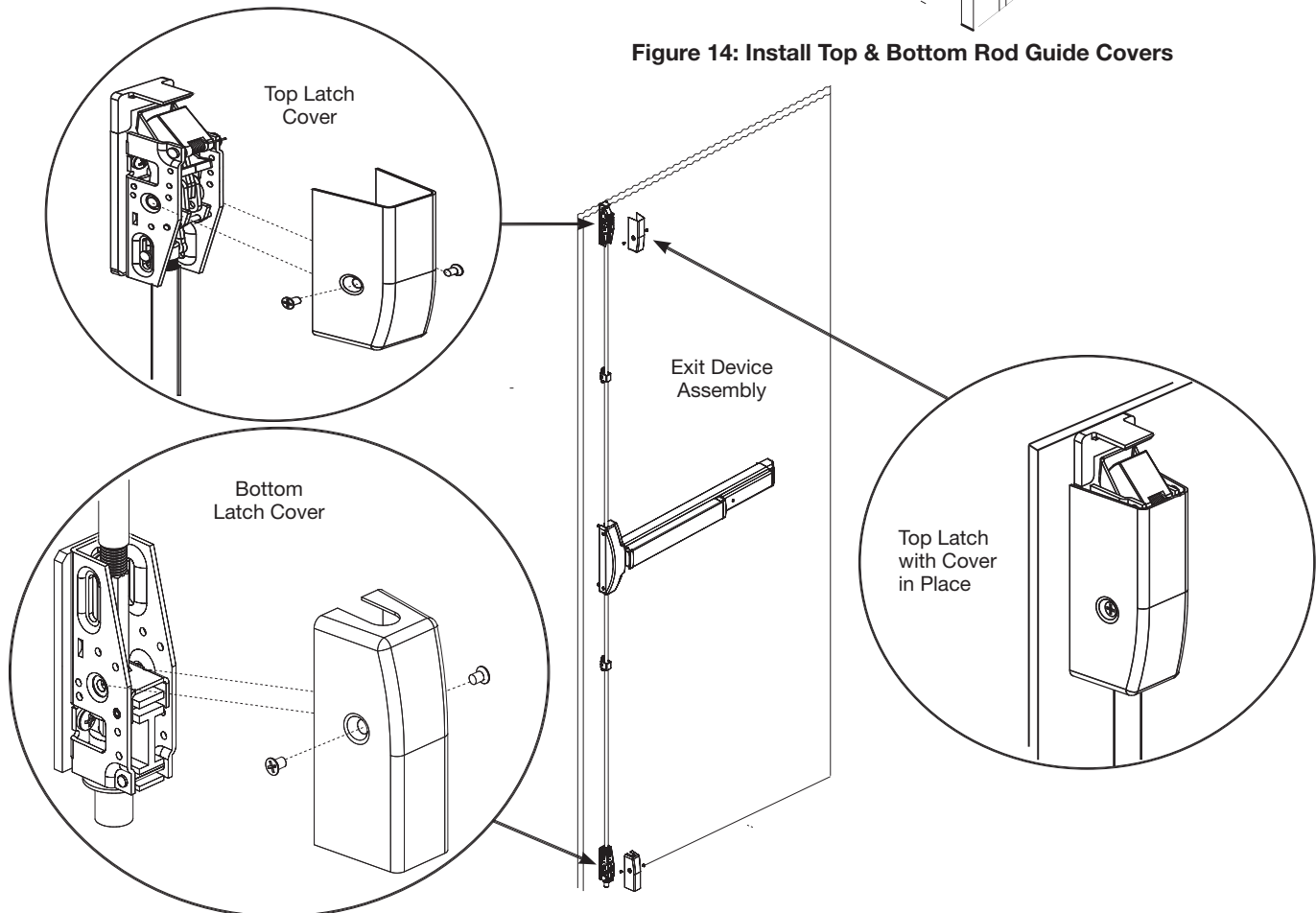


Figure 15: Install Latch Covers



S Install Device Assembly Cover

1. Secure device assembly cover with two (2) #8-32 x 5/16" (7.94mm) PFHUMS. Fully tighten screws (Figure 16).
2. Install plug into circular keyhole or retain and store the key, if keyed option.

T Operation & Maintenance

1. Finally, check and inspect operation of (Figure 17):
 - Trim and touch bar
 - Strike plate and bolt engagement
 - Key (optional)
2. Periodically remove covers, inspect and coat mechanisms with a silicone base lubricant. This is required in corrosive environments for proper functionality.
3. Check mounting fasteners periodically and tighten if loose. Apply screw locking compound or change part fasteners if screws continue to back out.
4. Periodic checks (and adjustments) of strikes are required to compensate for wear and tear (e.g. door sagging).

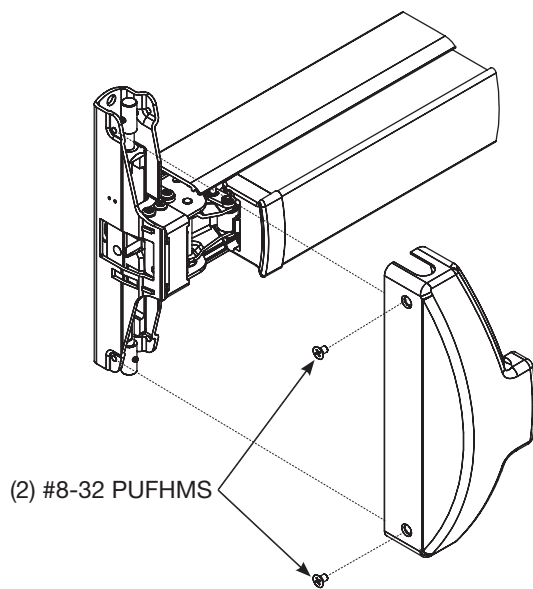


Figure 16: Device Assembly Cover Installation

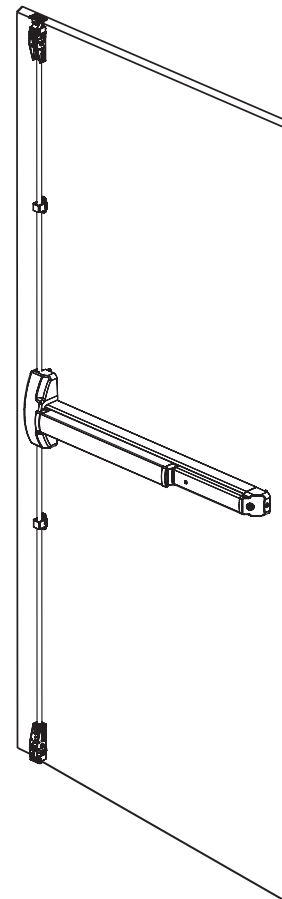


Figure 17: Final Exit Device Assembly

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