



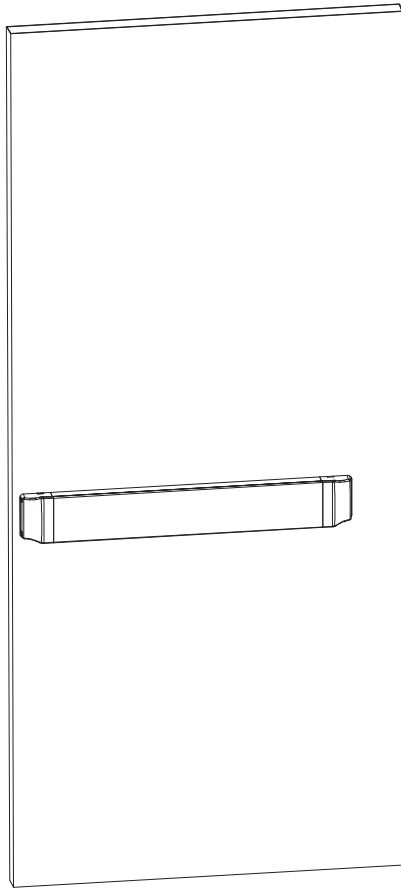
24908402

Recessed Exit Device

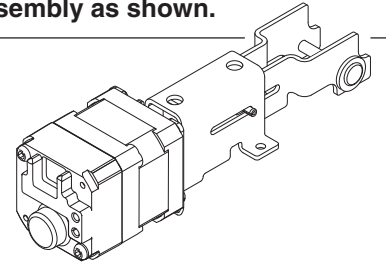
QEL94/9547

VON DUPRIN®

Installation Instructions



Instruction applies to devices built after Dec. 2014. To identify device, see QEL motor assembly as shown.



▲ WARNING
Install in accordance with instructions or device will not function.

▲ CAUTION
For less bottom rod (LBR) devices, do not cover the door gap at the auxiliary fire latch with a door edge guard or similar product. If edge guard is installed, remove it.

Devices covered by these instructions:

- QEL94/9547/48 Concealed Vertical Rod Device (Panic and Fire)
- QEL94/9547-LBR Concealed Vertical Rod Device (Fire)

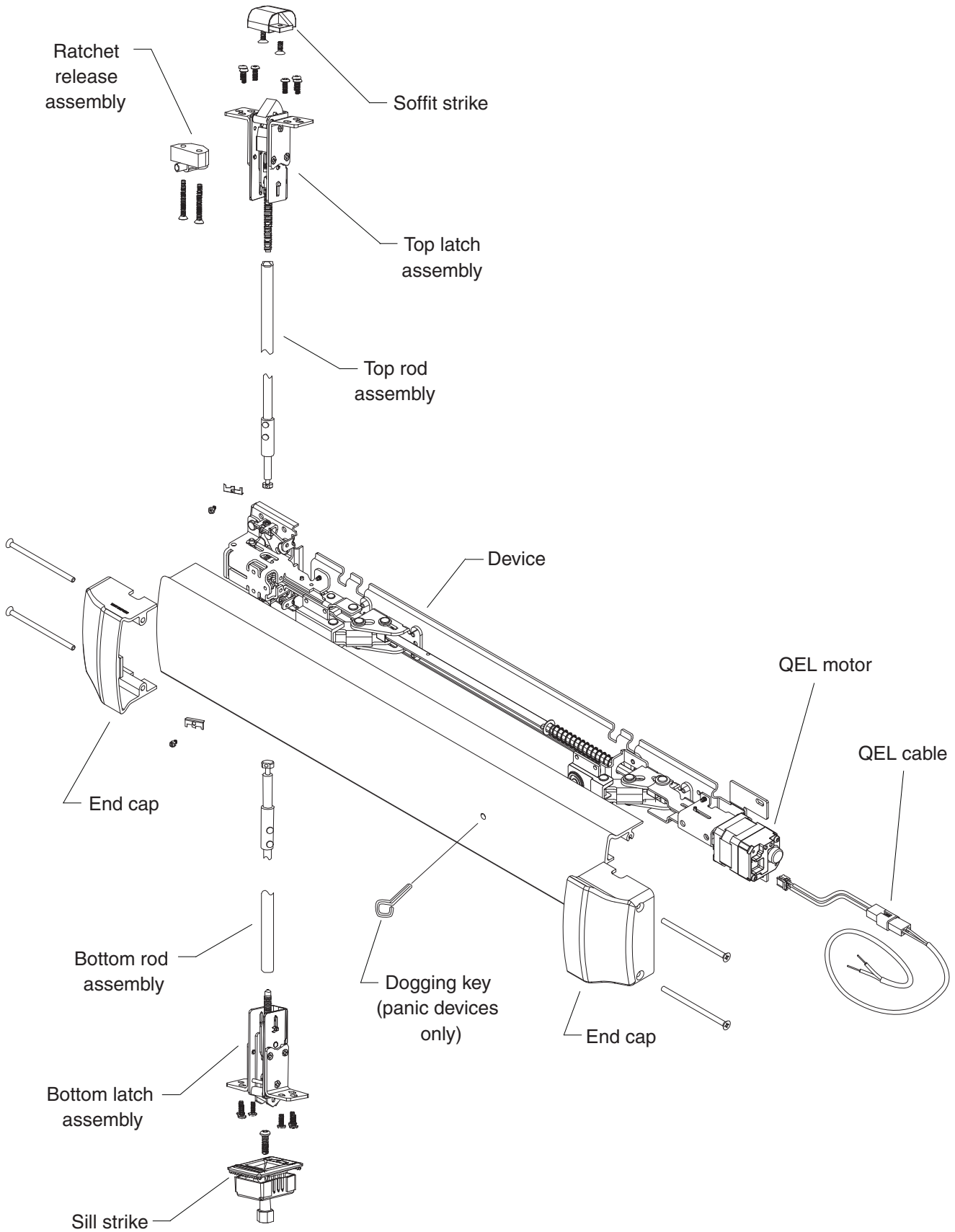
Read All Warnings Before Starting Installation!

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Customer Service
1-877-671-7011 www.allegion.com/us

PARTS



GENERAL INFORMATION

The QEL94/9547 Exit Device is designed to provide reduced pushpad projection and a unique appearance by embedding the device into the face of the door.

These instructions assume that a factory-prepared door and frame are being used.

Before starting installation, review "Warnings," "Parts," "Specifications," and "Tools Needed."

SPECIFICATIONS

Mechanical

- Vertical rods adjustable for doors 6'8" to 8' tall
- Rods for 10' doors are available upon request
- Pushpad projection (depressed) 1 $\frac{1}{8}$ " to 1 $\frac{1}{4}$ "

Electrical Load

- Voltage: 24 VDC
- Current: 1.0 A inrush (0.5 sec)
0.14 A holding

TOOLS NEEDED

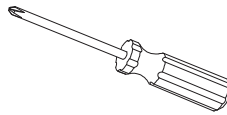
These are the tools needed for installing a QEL94/9547 into a factory-prepared door and frame.



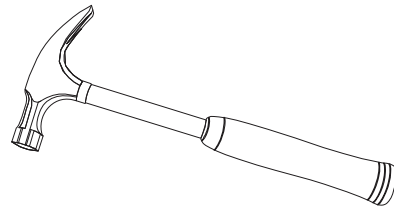
1/2" drill bit



7/64" hex key



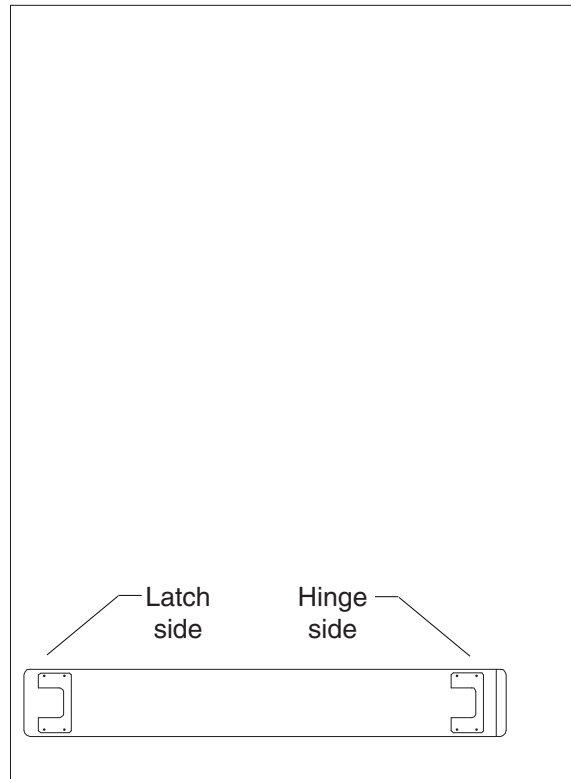
#2 Phillips screwdriver



Hammer

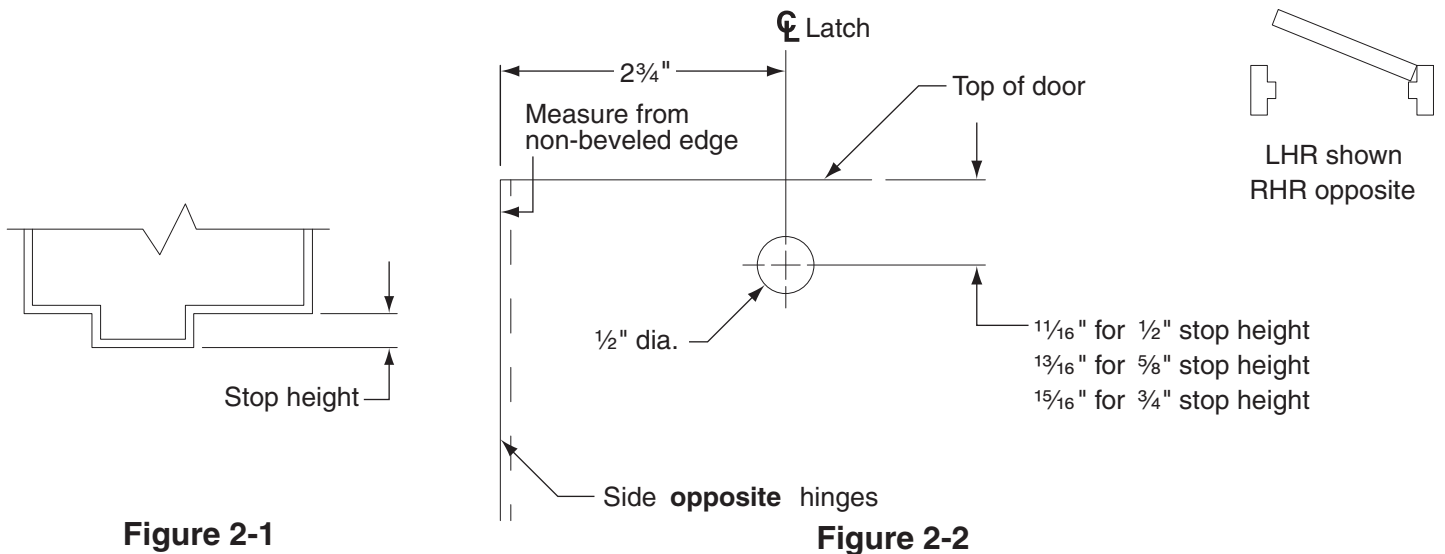
1 PREPARE DOOR FOR TRIM (SKIP THIS STEP IF NOT USING TRIM)

Drill through the four mounting holes and trim access hole at the latch side of the cutout. **See trim installation instructions for hole sizes and locations.**



2 PREPARE HOLE FOR RATCHET RELEASE PLUNGER

- Determine stop height (Figure 2-1), then mark center of hole on device side of door (Figure 2-2).
- Drill a $\frac{1}{2}$ " diameter hole where marked through device side of door **only**.



3 WIRE LX SWITCH (LX DEVICES ONLY)

- a. Connect field wiring to frame side of power transfer (Figure 3-1).
- b. See LX switch wiring information (Figure 3-2) for switch configuration.
- c. Connect LX switch wiring to door side of power transfer using crimp connectors. Unused wires should be insulated separately.

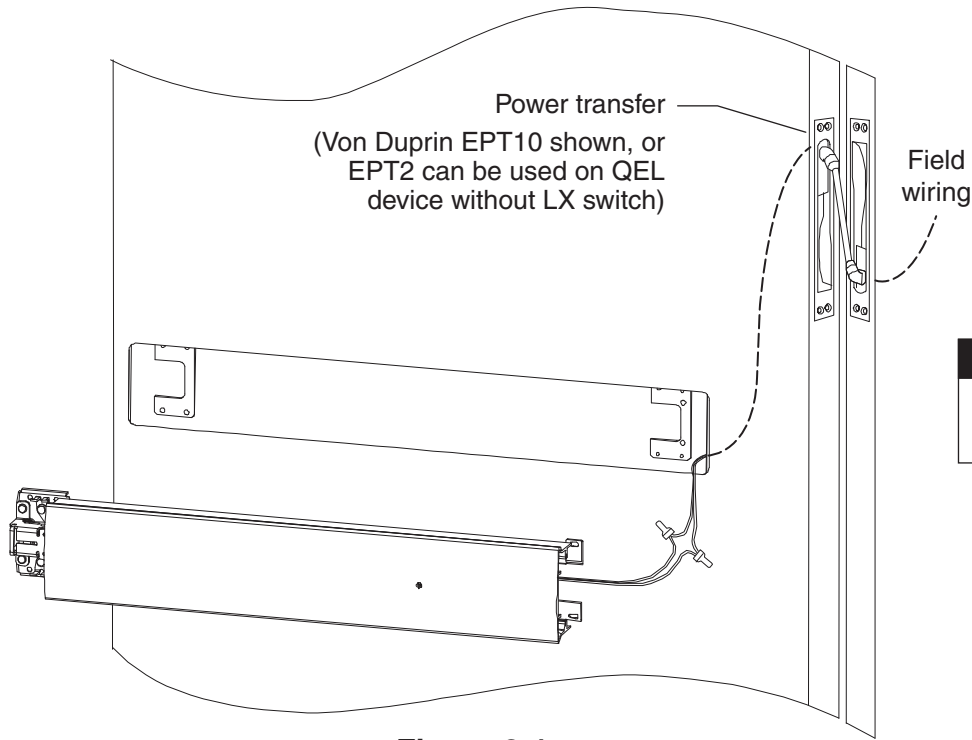


Figure 3-1

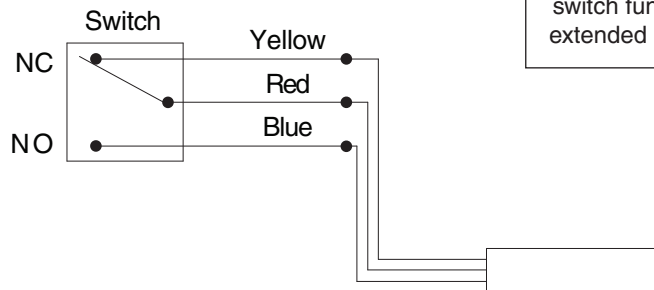


Figure 3-2

⚠ NOTE
The latch bolt monitor switch is activated whenever the latch bolt is retracted. The switch function is shown with the latchbolt extended and the touchbar not depressed.

4 MOUNT DEVICE ON DOOR

- Mount device on door using supplied mounting screws (Figure 4-1).
- Center device in pocket, leaving an even gap all around the device.
- If outside trim is used, bolt through to trim (see Figure 4-2 and trim installation instructions).

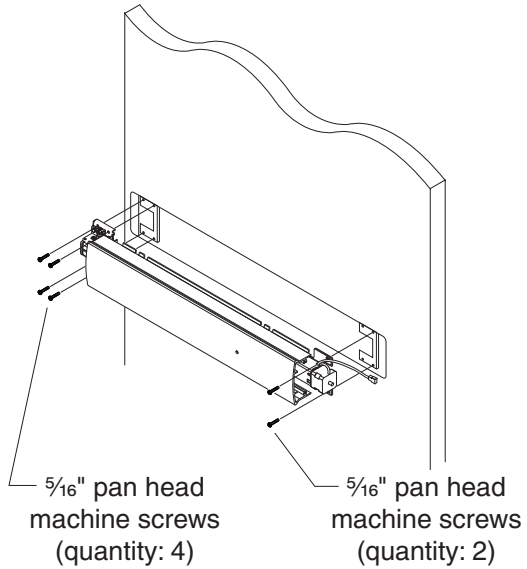


Figure 4-1

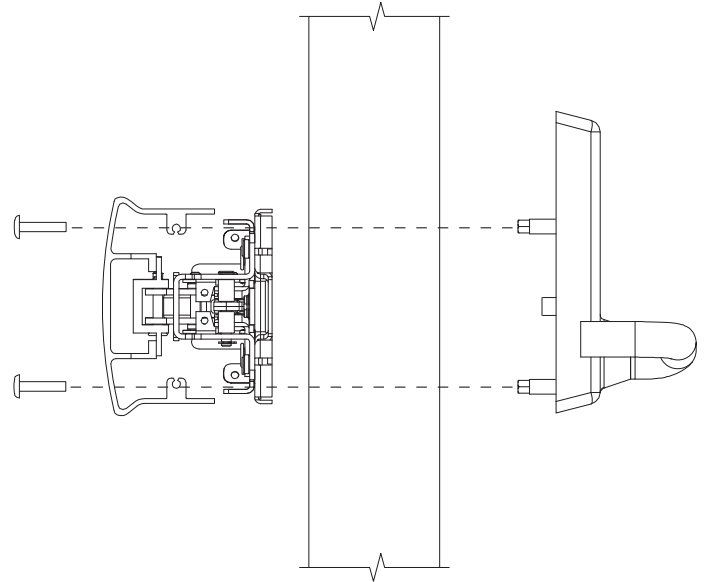


Figure 4-2

5 INSTALL TOP LATCH

- Rivet two-piece top rod together. Align holes according to door height (Figure 5-1). Rod length for a 7-foot door is approximately 38½". Top rod sections are longer than bottom rod sections.
- Attach brackets to top latch, then thread rod assembly onto latch (Figure 5-2).
- Slide rod and latch into prep at door top (Figure 5-3), and attach rod to center case (Figure 5-4).
- Fasten latch to door with supplied screws (Figure 5-5).

Door Height	1st Hole	2nd Hole
6'8"	1	B
6'10"	1	A
7'0"	2	A
7'2"	3	A
7'4"	4	A
7'6"	5	A
7'8"	6	A
7'10"	7	A
8'0"	8	A
8'2"	9	A
8'4"	10	A

For door heights between those shown on the chart, use the next door height up. For example, for a 6'11" door, use 7' on the chart.

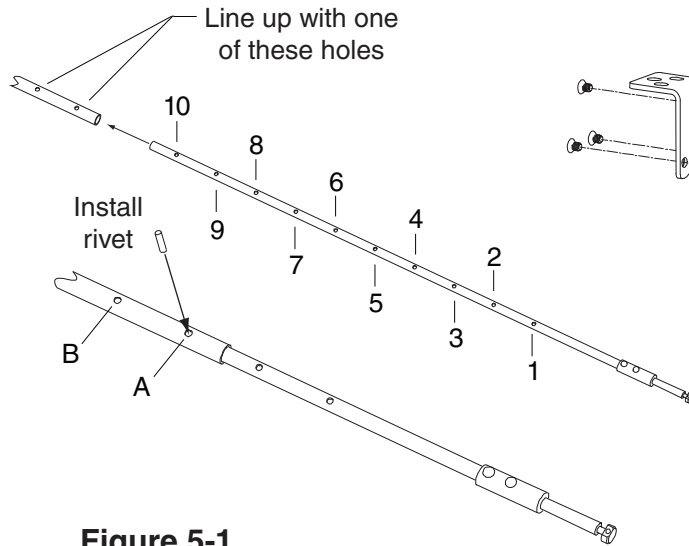


Figure 5-1

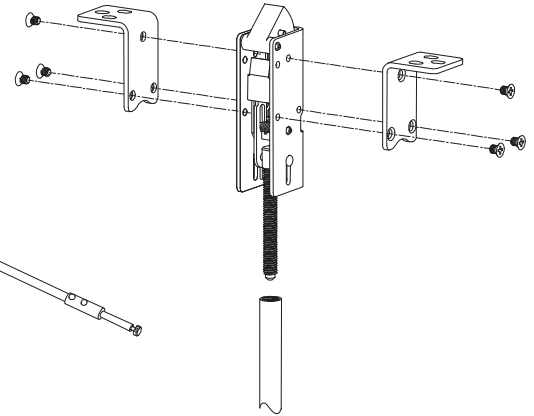


Figure 5-2

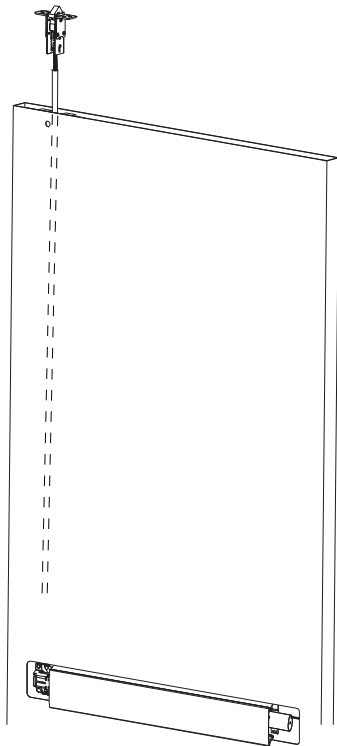


Figure 5-3

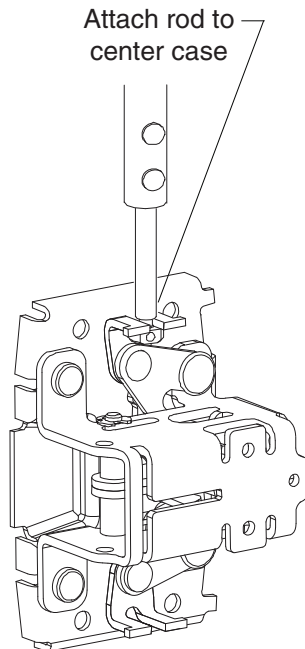


Figure 5-4

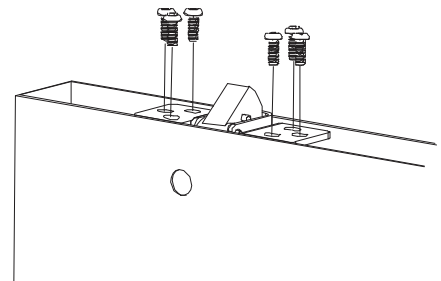
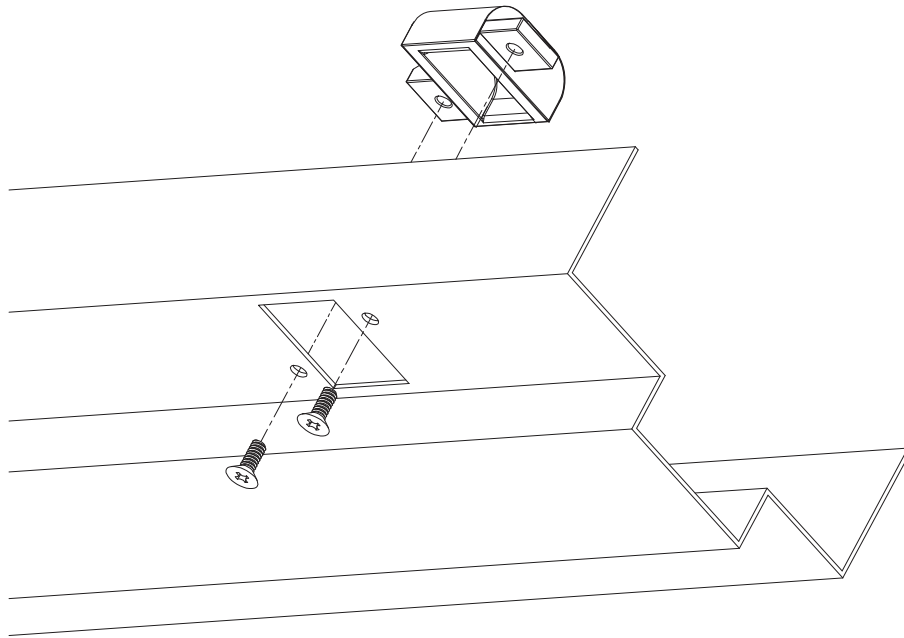


Figure 5-5

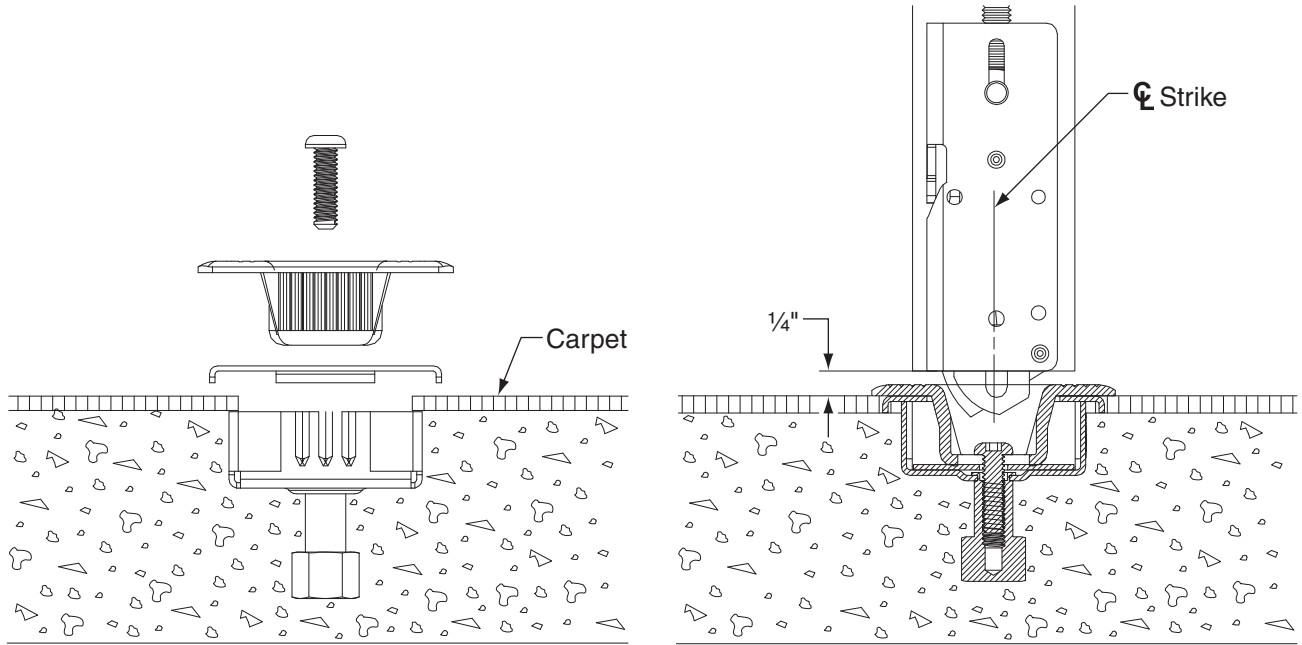
6 INSTALL BOTTOM LATCH (SKIP THIS STEP FOR LBR DEVICES)

- a. Repeat steps 6a through 6d for bottom rod and latch. Use hole 8 for most applications. Approximate rod length is 34½”.
- b. Press pushpad to retract latches.
- c. Hang door.

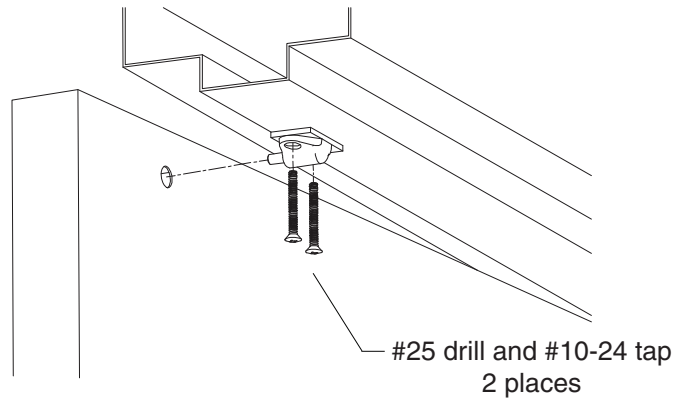
7 INSTALL 338 SOFFIT STRIKE



8 INSTALL SILL STRIKE OR THRESHOLD (SKIP THIS STEP FOR LBR)



9 INSTALL RATCHET RELEASE ASSEMBLY



10 ADJUST TOP ROD

- a. Fully depress and hold pushpad.
- b. Set top latch in fully retracted (hold) position (Figure 10-1).
- c. Push down on center case connector, adjust rod length, and connect top rod (Figure 10-2).
- d. Verify that pushpad projection, when depressed, is between $1\frac{1}{8}$ " and $1\frac{1}{4}$ ". Adjust top rod if necessary: **Lengthening the top rod will reduce pushpad projection when depressed.**
- e. If using trim, verify that the trim fully retracts the top latch. If the trim does not fully retract the top latch, adjust the top rod so it is shorter.
- f. Open door and release latches by inserting a Phillips head screwdriver into the ratchet release plunger hole. Check top latch deadlocking: Top latch should not retract when pressed down.
 - If top latch bolt does not stay fully retracted, shorten top rod (Figure 10-2) and retest.
 - If top latch bolt does not fully extend or deadlock, lengthen top rod (Figure 10-2) and retest.
 - If bottom latch bolt does not stay fully retracted, shorten bottom rod (see Step 11) and retest.
 - If bottom latch bolt does not fully extend, lengthen bottom rod (see Step 11) and retest.

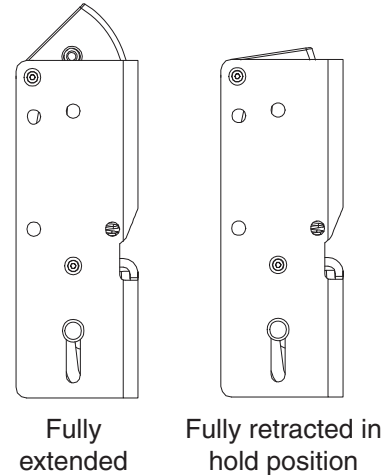


Figure 10-1

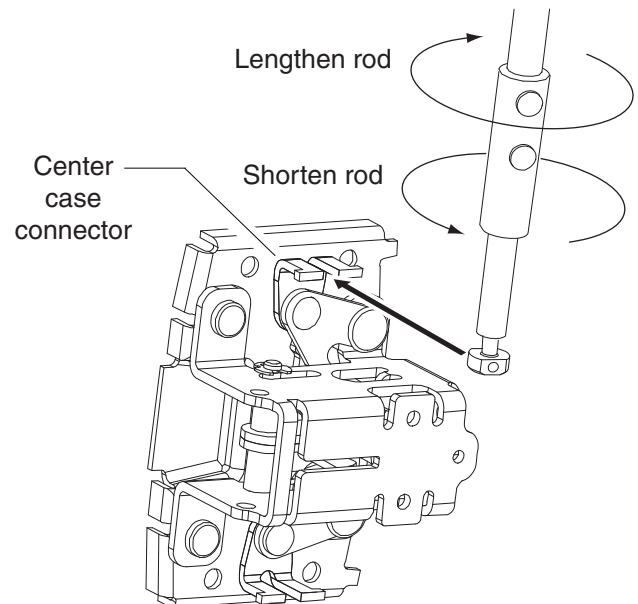
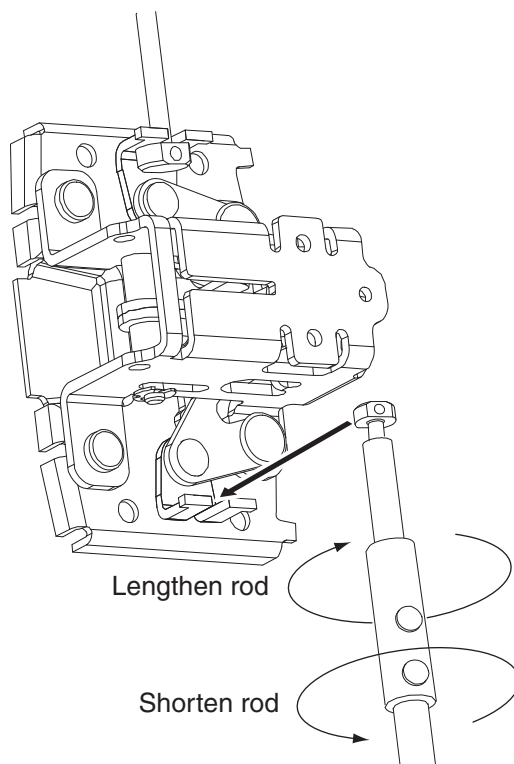


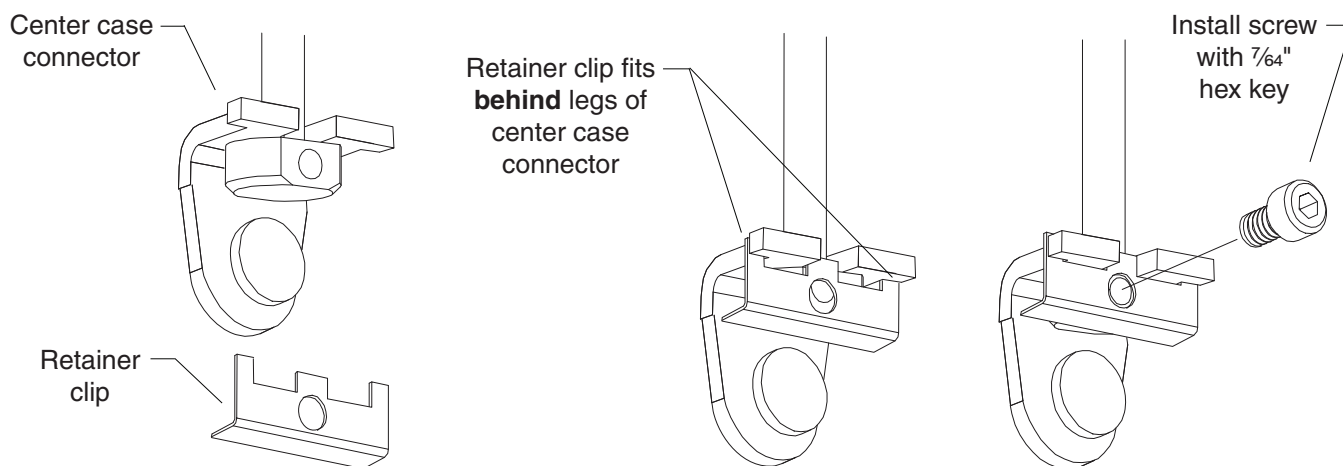
Figure 10-2

11 ADJUST BOTTOM ROD (SKIP THIS STEP FOR LBR DEVICES)

- Fully depress pushpad and release. Top latch should be in retracted position.
- Adjust bottom rod length by rotating rod so latch clears floor when door is open.



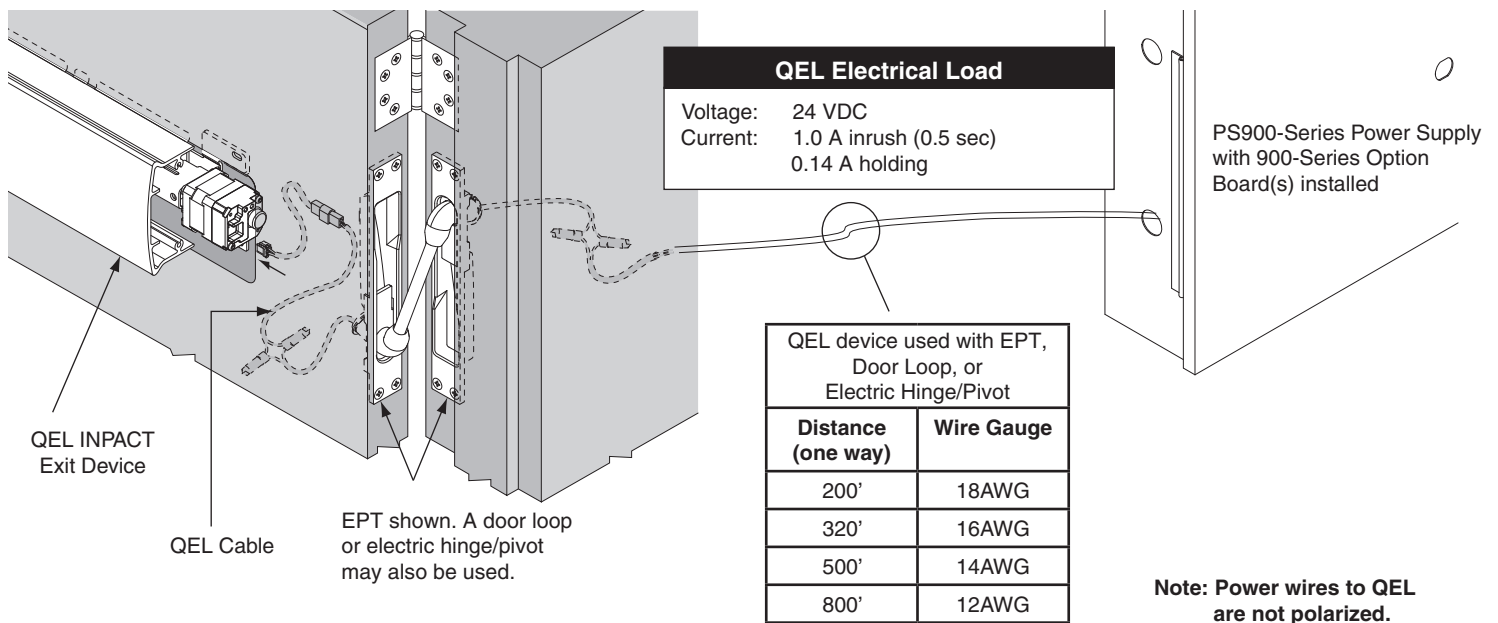
12 INSTALL RETAINER CLIPS ON TOP AND BOTTOM RODS AT CENTER CASE



13 TEST MECHANICAL DEVICE OPERATION

- Fully depress pushpad and push door open.
- Release pushpad. Latch bolts should remain retracted.
- Close door. Latch bolts should fully extend ($\frac{5}{8}'' \pm \frac{1}{16}''$) and engage strikes.

14 ROUTE TWO WIRES FROM QEL EXIT DEVICE TO POWER SUPPLY



15 INSTALL 900-2RS, 4RL, OR 4R OPTION BOARD(S) INTO POWER SUPPLY

a Review Available 900 series Option Board Mounting Locations (Gray)

PS902

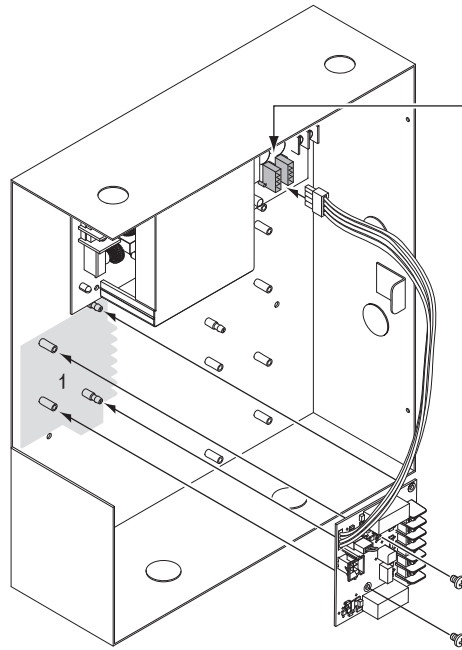
1

PS904
PS914

1 2

PS906

1 2 3



b Plug Option Board Cable into any Available Option Connector

Option 1

PS902
1 Board

Option 1

Option 2

PS904, 914
2 Boards

Option 1

Option 2

Option 3

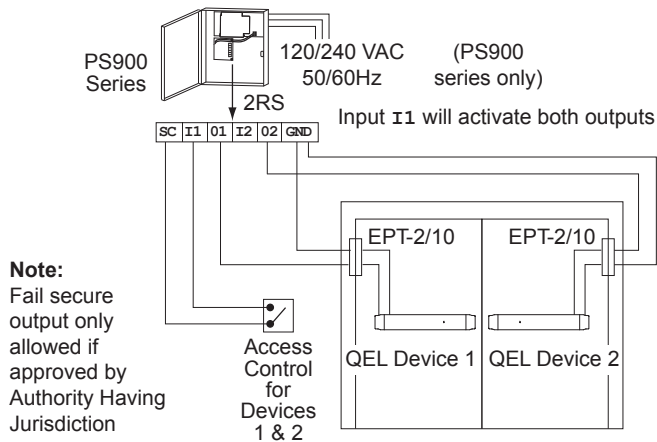
PS906
3 Boards

c Secure Board(s) with Screws

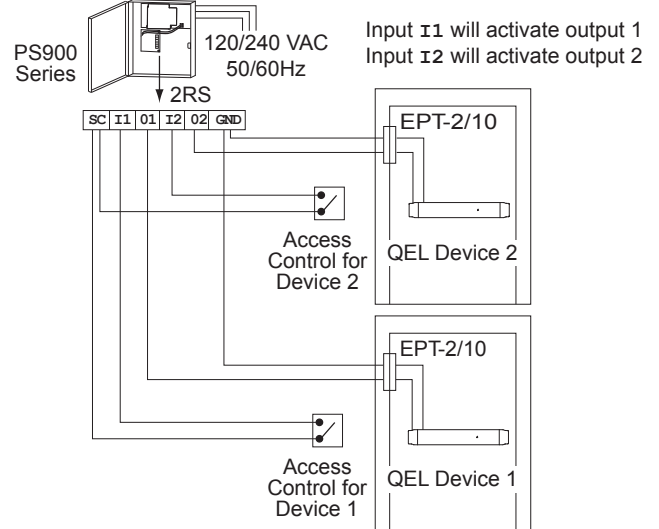
- Notes:**
1. 24VDC output setting required when QEL device connected
 2. If installing board in location 2 or 3, rotate board 180°
 3. The QEL is compatible with an existing 900-2Q board if currently installed.
 4. Latchbolt retraction of (2) sequenced QEL's requires more than 1 second to complete.
 5. When powering multiple components, verify that the amperage requirements of all components combined does not exceed the power supply output rating.

16 CONNECT INPUT AND OUTPUT WIRES TO OPTION BOARD, 2RS SHOWN

Sequential Mode - Typical Wiring



Individual Mode - Typical Wiring



17 APPLY POWER TO POWER SUPPLY. IF 900-BB IS USED, THEN RECONNECT BATTERIES

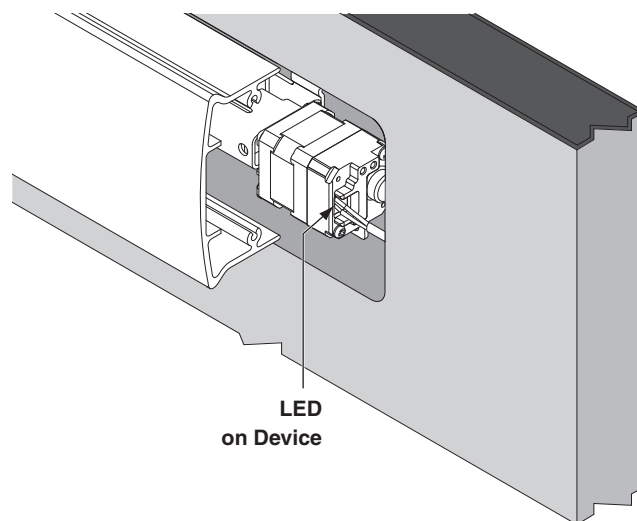
18 CHECK OPERATION

- Activate each input and verify all QEL devices operate properly.
- If any device does not operate properly, see step 19 for troubleshooting.

19 IF NECESSARY, TROUBLESHOOT OPERATION

Power at the QEL	QEL Response	Condition/Solution
24VDC	LED - Solid green Latchbolt - retracted	Operation normal, latch retracted immediately
	LED - Solid red after latchbolt attempts to retract multiple times	Latchbolt cannot fully retract mechanically Verify mechanical adjustment (on vertical rod or mortise lock devices if used). Remove and reapply input voltage to reset this condition.* <i>See Test Mechanical Device Operation on page 12 as needed.**</i>
	LED - Flashing green/red Latchbolt - not retracted	Excessive tamper (while power applied, the pushpad was pulled out at least 3 time) Wait 15 seconds and latchbolt will retract again OR remove and reapply power to clear condition
24VDC low	LED - Flashing green Latchbolt - retracted	Voltage low during latchbolt retraction (latchbolt retracts at reduced force) Wire length is too long, wire gauge is too small or power supply has poor regulation
29VDC or greater	LED- Flashing red Latchbolt - will not retract	Input voltage is too high for proper operation Wrong power supply, power supply defective.
13VDC or lower		Input voltage is too low for proper operation Wrong power supply, power supply defective or not set to the proper output voltage. To set, remove AC power from power supply, change power supply setting from 12 to 24VDC, then reapply AC power and verify proper operation.
0VDC	LED - off Latchbolt - not retracted	No input voltage Problem with the power supply, control switch or wiring
0VDC	LED - off Latchbolt - retracted	No input voltage Mechanical dogging is engaged

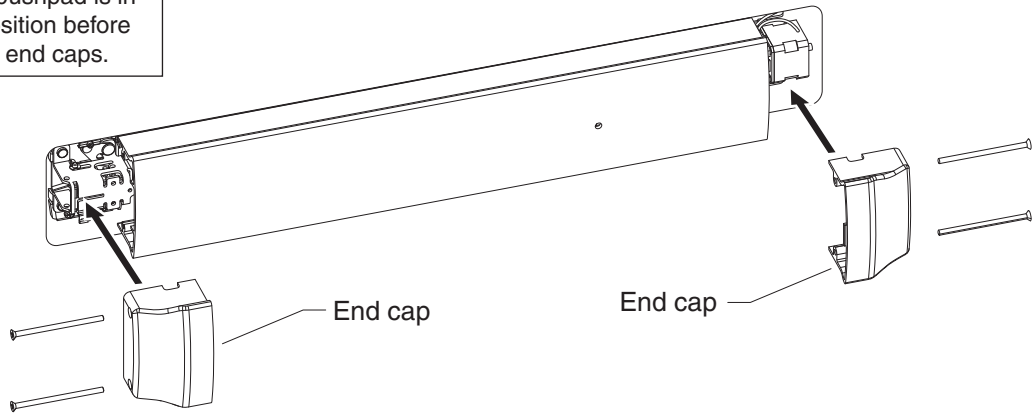
*For information about adjusting exit devices, you can find their installation instructions in the support area at www.allegion.com/us or call Technical Services at 1-877-671-7011



20 INSTALL END CAPS

▲ NOTE

Make sure pushpad is in outward position before installing end caps.



21 INSTALL AUXILIARY FIRE LATCH (LBR DEVICES ONLY)

See installation instructions packaged with auxiliary fire latch kit.