



911402-00

# 33/35A Series

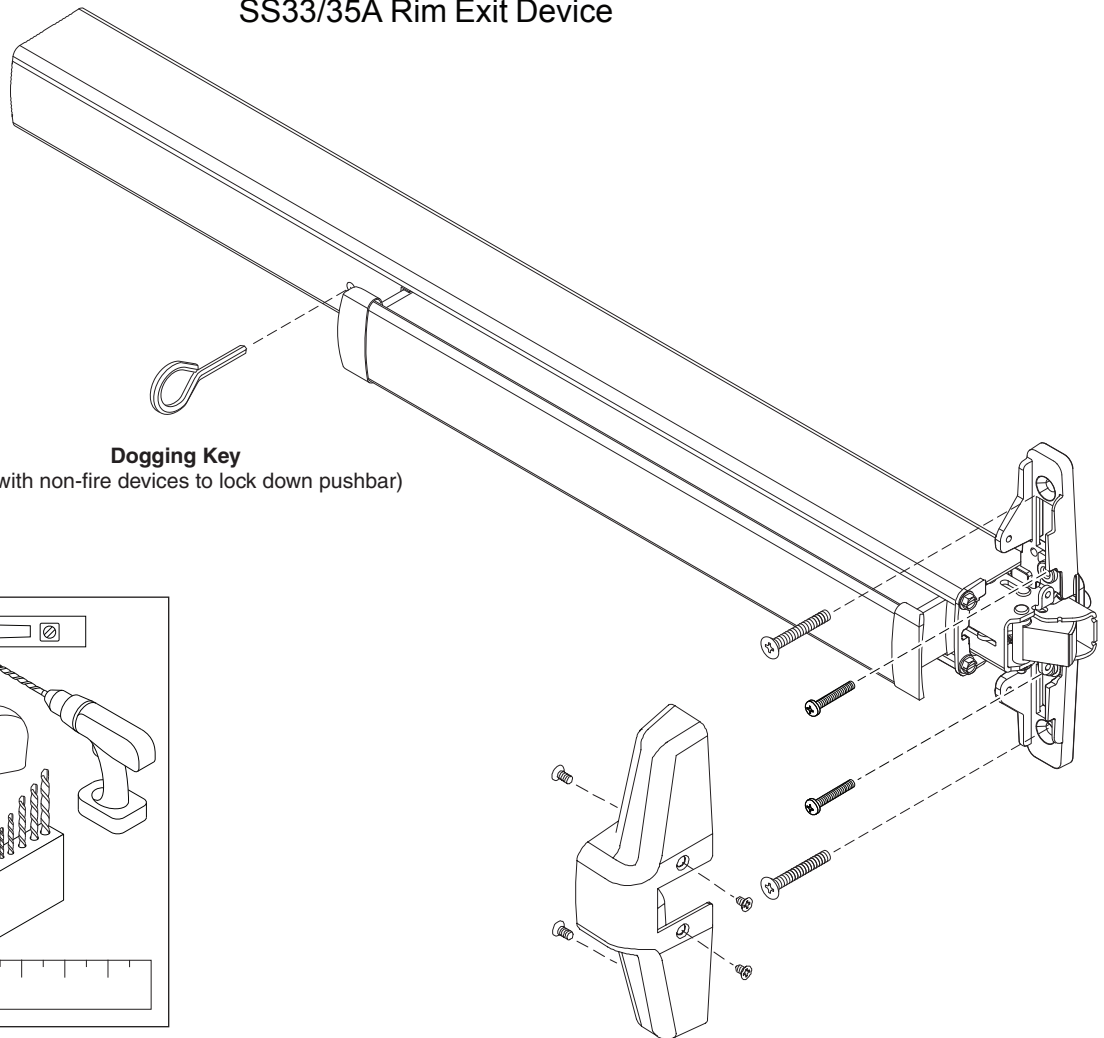
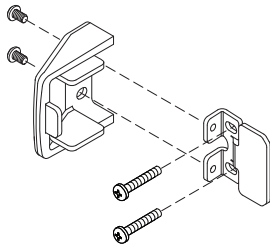
**VON DUPRIN®**

Rim Exit Device

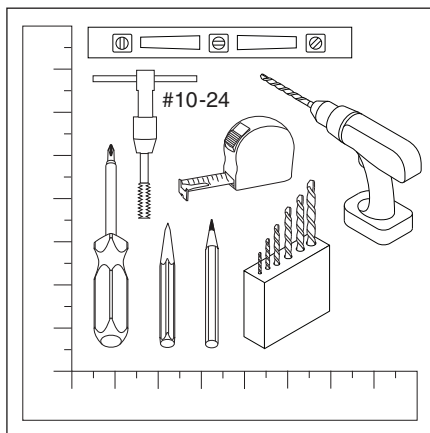
Installation Instructions

## Devices covered by these instructions:

33/35A Rim Exit Device  
33/35A-F Rim Exit Device  
CD33/35A Rim Exit Device  
EL33/35A Rim Exit Device  
SS33/35A Rim Exit Device



**Dogging Key**  
(use with non-fire devices to lock down pushbar)



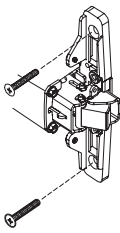
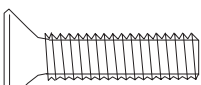
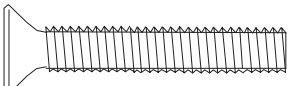
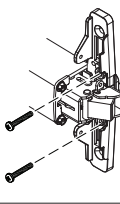
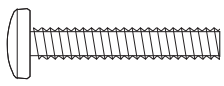
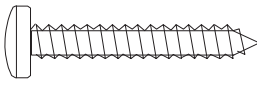
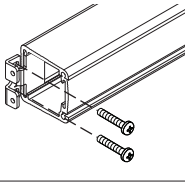
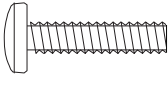
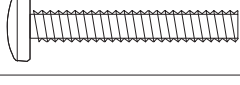
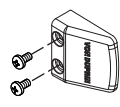
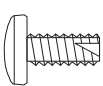
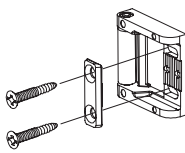
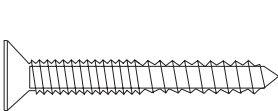
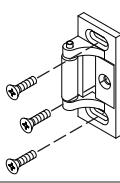
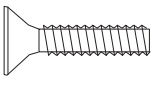
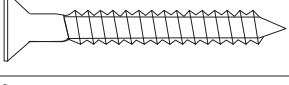
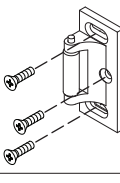
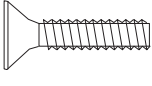
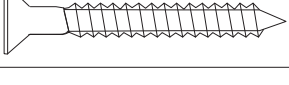
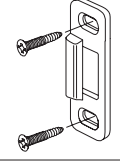
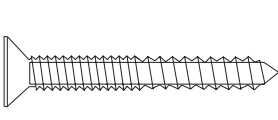
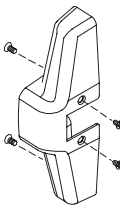

## Customer Service

1-877-671-7011

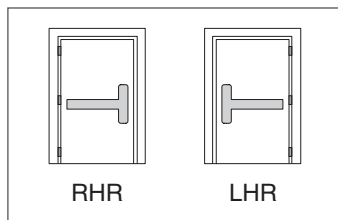
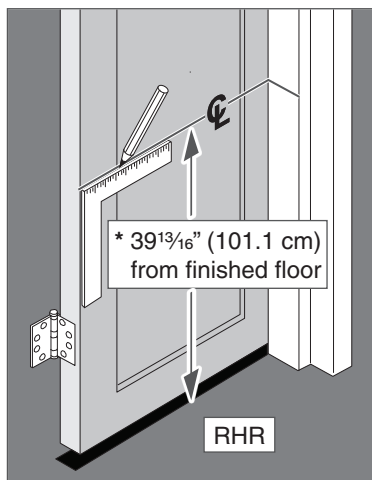
[www.allegion.com/us](http://www.allegion.com/us)

© Allegion 2016  
Printed in U.S.A.  
911402-00 Rev. 05/16-d

## SCREW CHART

Subassembly	Screw	Application
<b>A</b> 	 	Trim mount or sex bolts: 1 3/4" (44 mm) door  2 1/4" (57 mm) door
<b>B</b> 	 	Metal door surface mount (Yellow)  Wood door surface mount
<b>C</b> 	 	Surface mount or Sex bolts 1 3/4" (44 mm) door  Sex bolts, 2 1/4" (57 mm) door
<b>D</b> 		End cap
<b>E</b> 		Metal or wood frame
<b>F</b> 	 	Metal frame  Wood frame
<b>G</b> 	 	Metal frame  Wood frame
<b>H</b> 		Metal or wood frame
<b>I</b> 		Center case cover

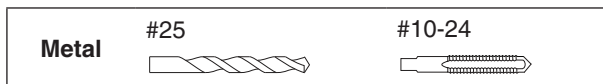
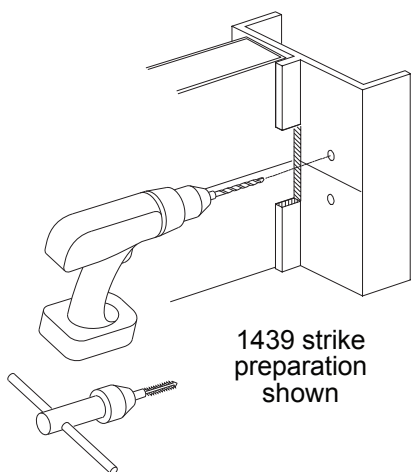
## 1 Draw horizontal device and strike center lines (☿).



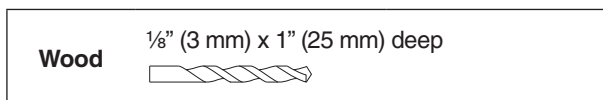
\* For double doors with a mullion and strike already installed, use existing strike center line.

## 2 Prepare frame for strike using paper templates.

① See pages 8 through 12 for strike templates and frame preparation dimensions.



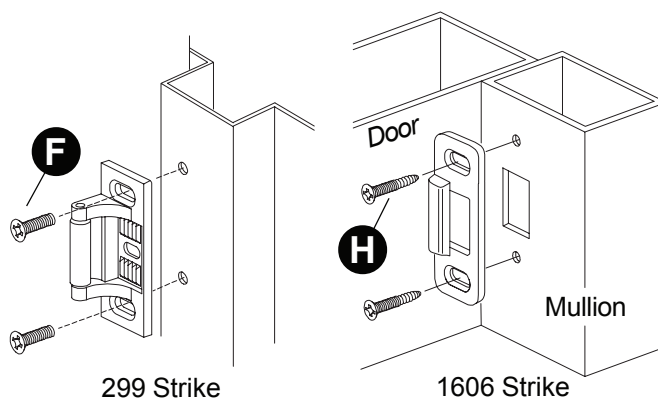
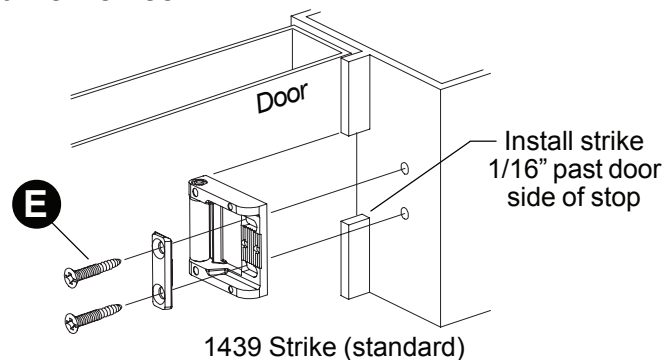
OR



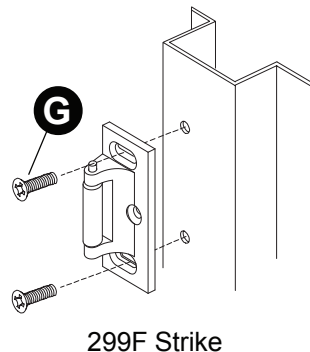
① See “Screw Chart” on previous page for screw types and sizes.

## 3 Install strike using two screws only at this time.

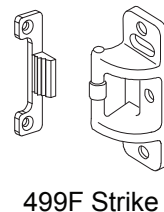
### Panic Device



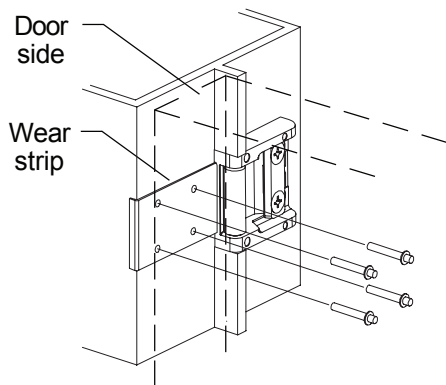
### Fire Rated Device



① For 499F strike installation, see page 6.



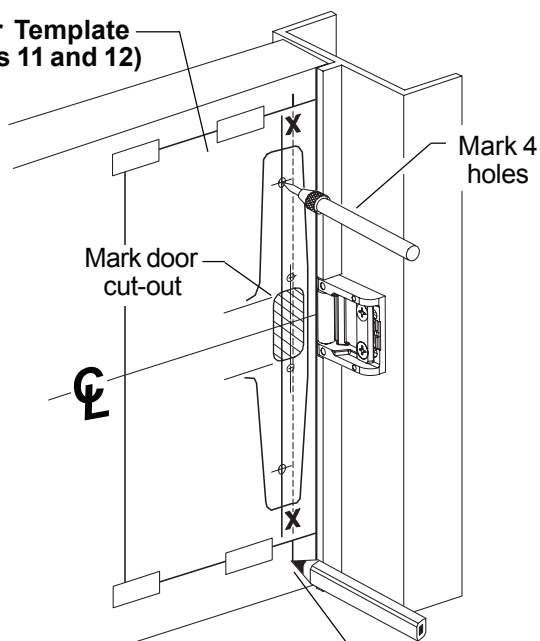
**4** If using a 1439 strike, install wear strip. If not, go to step 5.



- A. Center wear strip on strike as shown.
- B. Mark and drill 1/8" dia. holes (4 places).
- C. Install wear strip with flat head drive rivets (4 places) from 1439 strike package.

**5** Tape template to door and mark door.

**Paper Template**  
(pages 11 and 12)

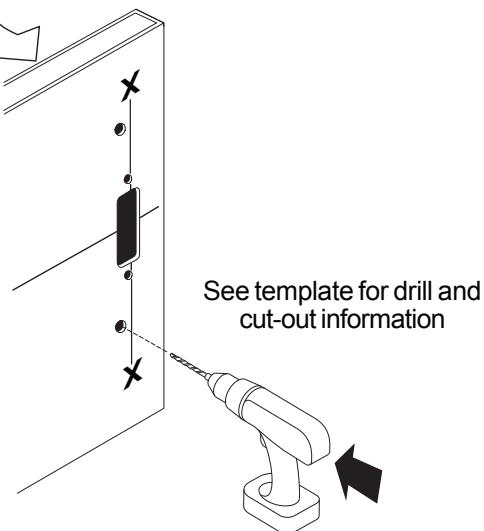


Mark vertical line **X-X** for trim alignment

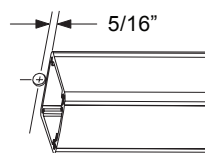
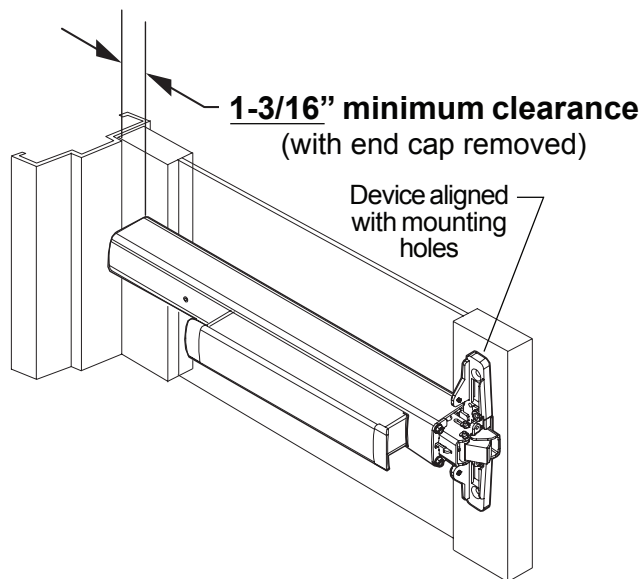
Note: Line X-X is a reference line on the paper template used for trim and exit device alignment. Line X-X shown here should correspond to line X-X in the trim installation instructions

**6** Prepare lock side of door for device and trim.

See trim instructions for pull side door preparation.



**7** Measure to determine length to cut device.

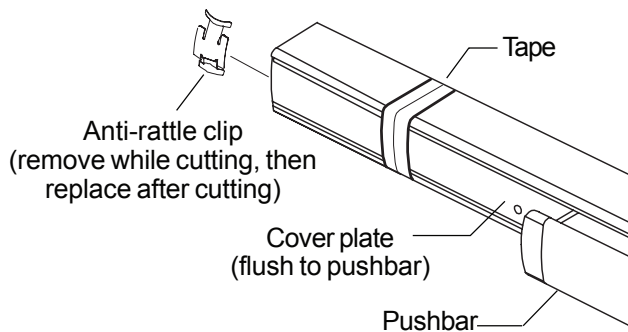


**Note**

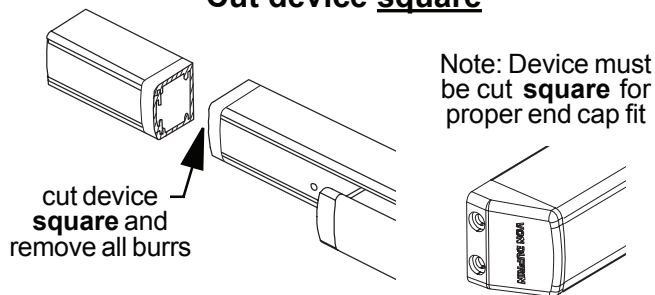
If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.

## 8 If necessary, cut device.

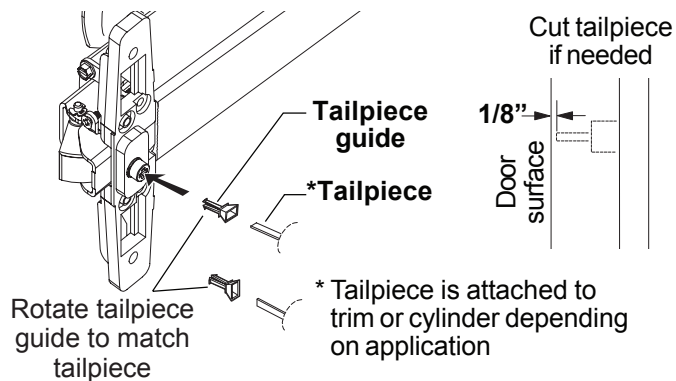
### Prepare device for cutting



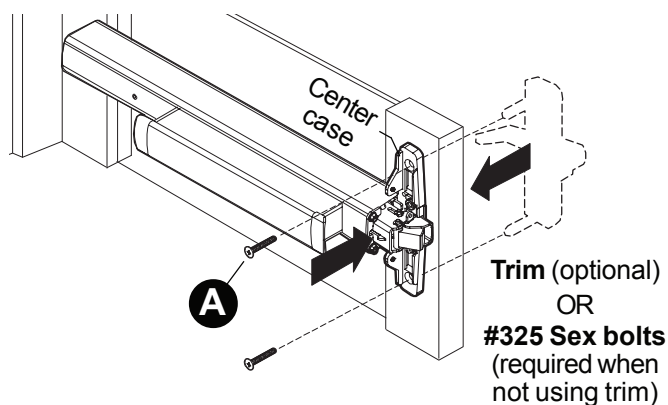
### Cut device square



## 9 If using a cylinder with a tailpiece, prepare device and cylinder.

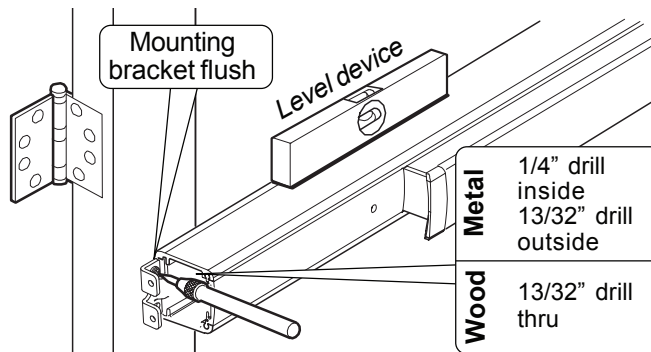


## 10 Attach center case to door.

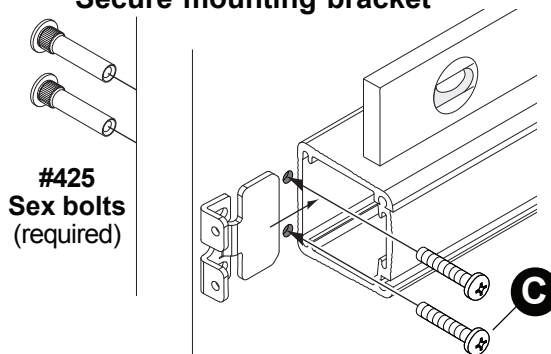


## 11 Install hinge stile mounting bracket.

### Mark and prepare 2 mounting holes

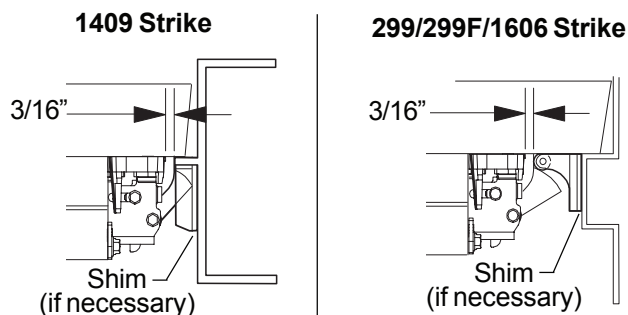


### Secure mounting bracket

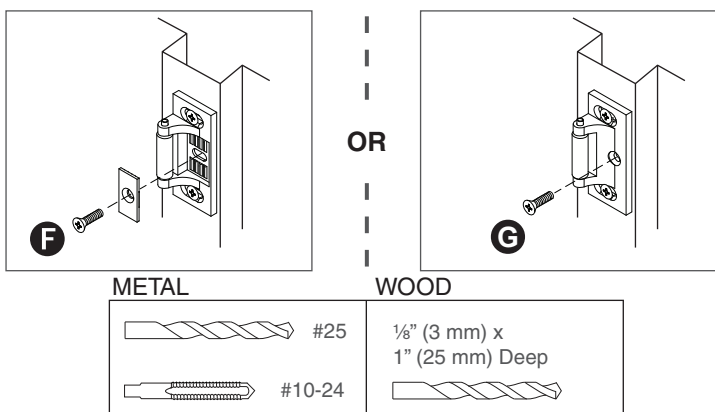


## 12 Adjust strike as needed.

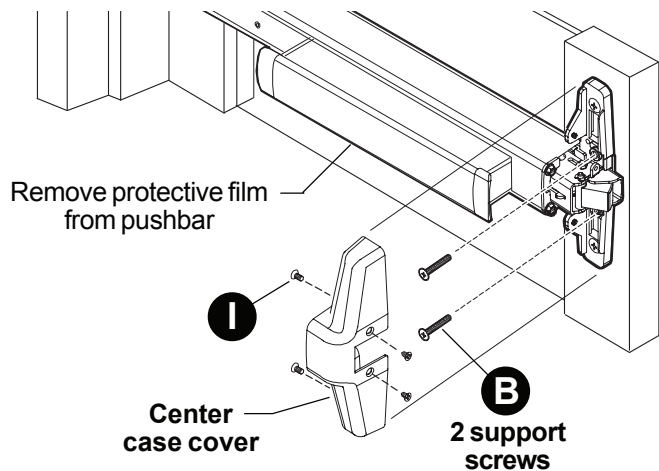
### Shim strike for 3/16" clearance to chassis



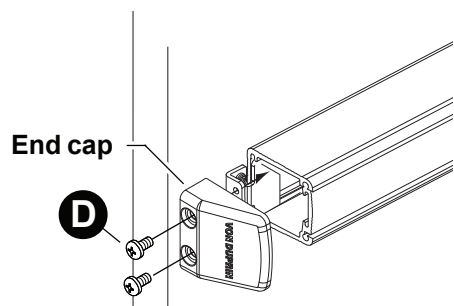
## 13 Install strike support screw.



## 14 Install 2 support screws and center case cover

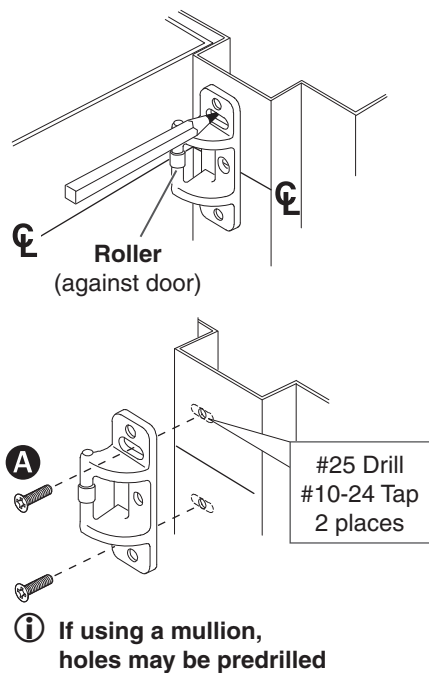


## 15 Install 2 support screws and center case cover

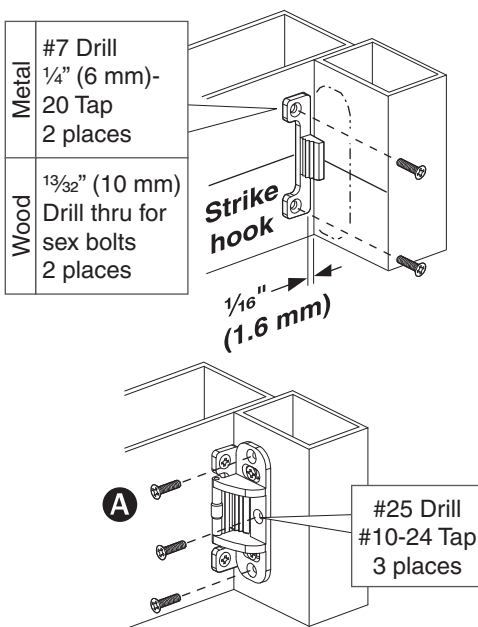


## 499F STRIKE INSTALLATION

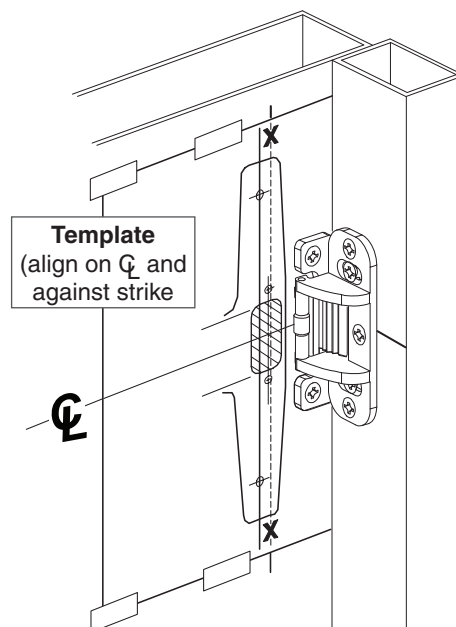
### 1. Prepare and install screws through two strike slots.



### 2. Install strike hook and additional strike screws.

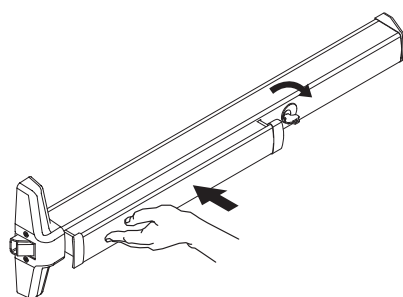
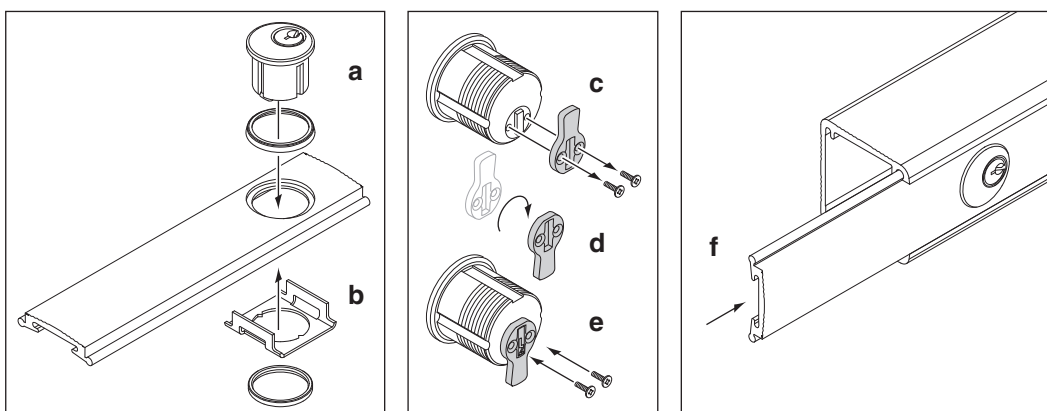


### 3. Template aligns as shown.

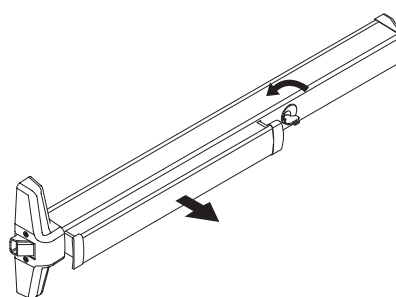


## OPTIONAL EQUIPMENT

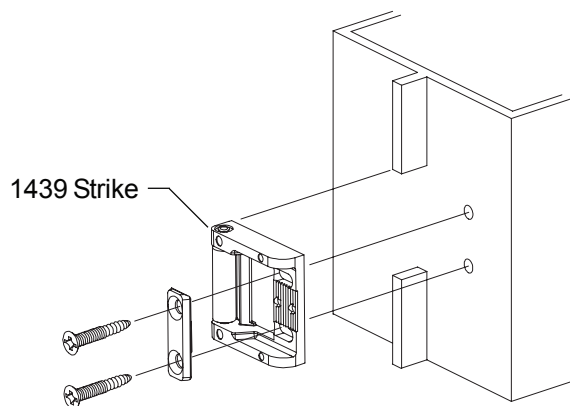
### CD (Cylinder Dogging) Option



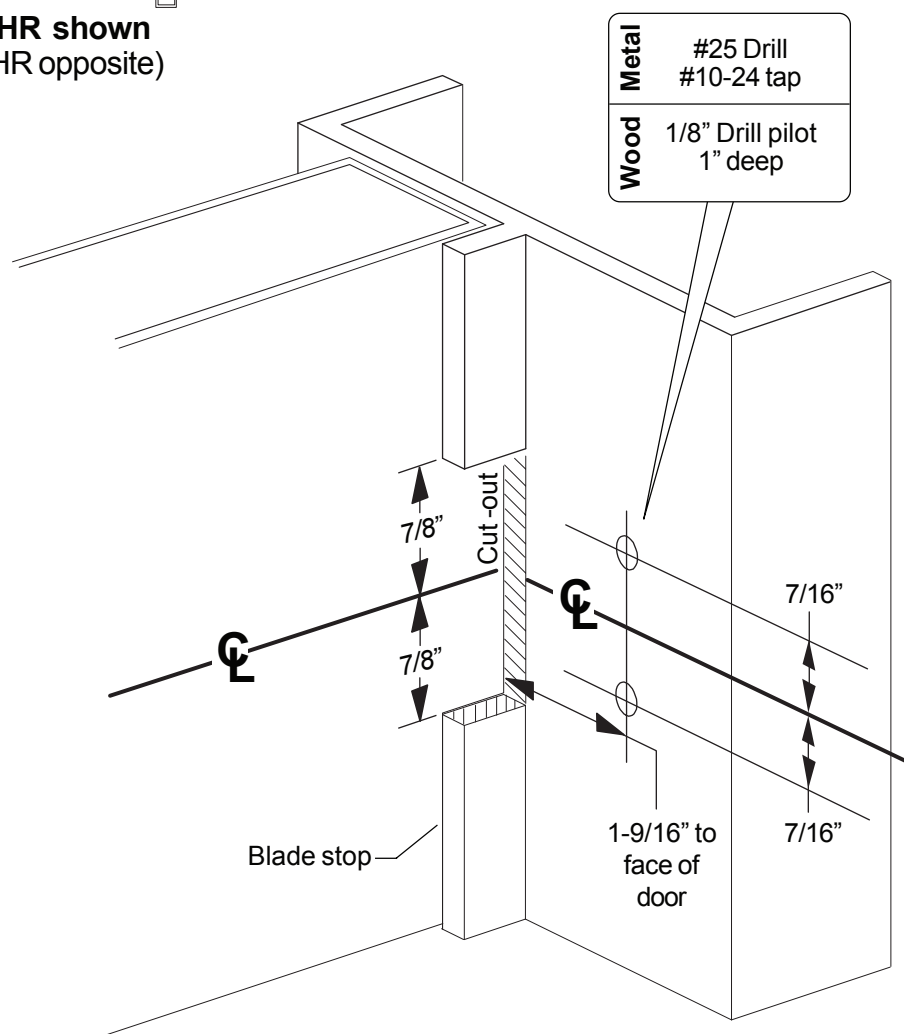
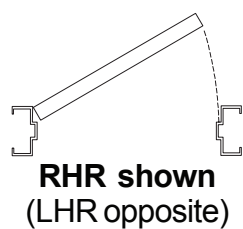
Dog



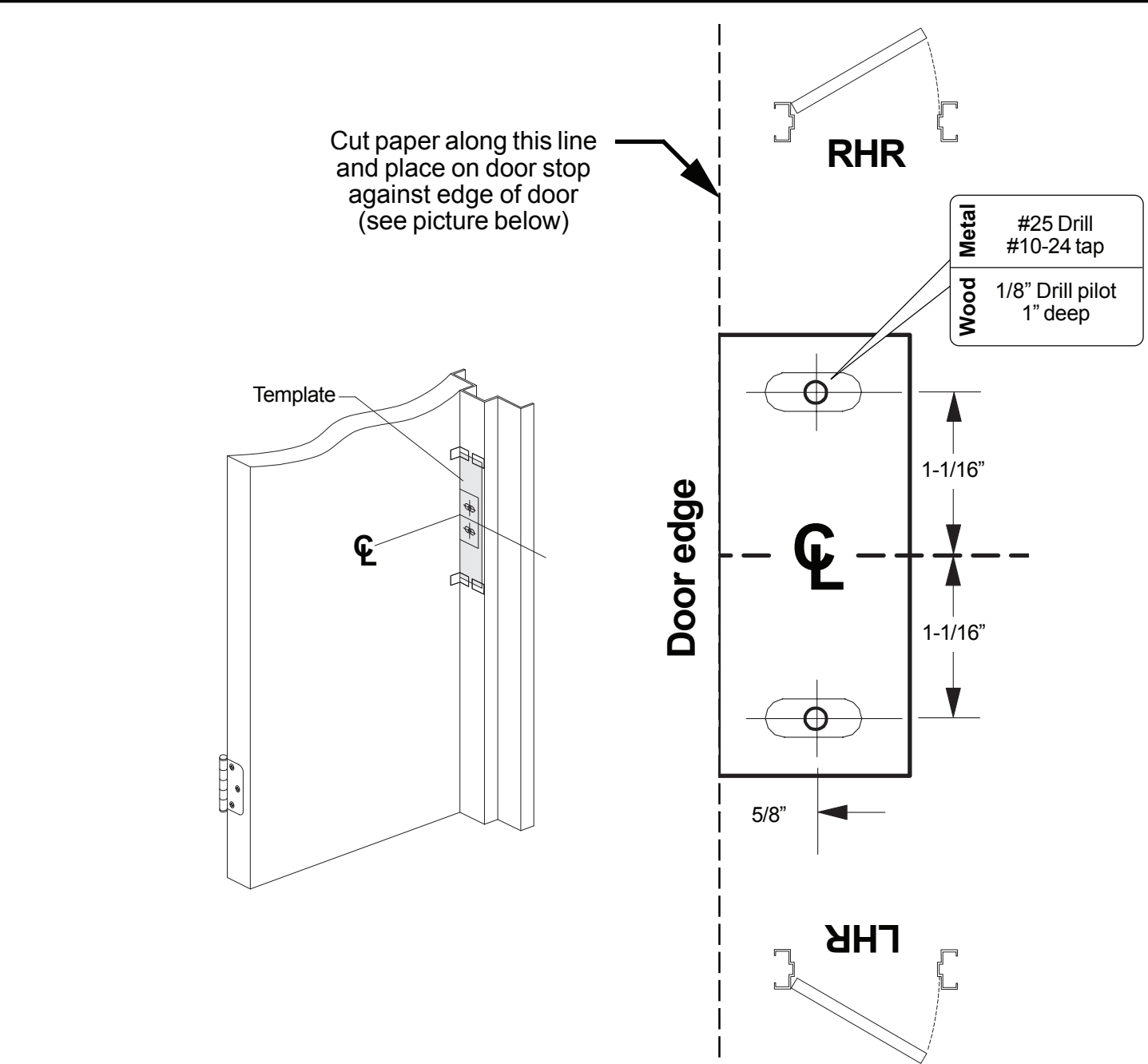
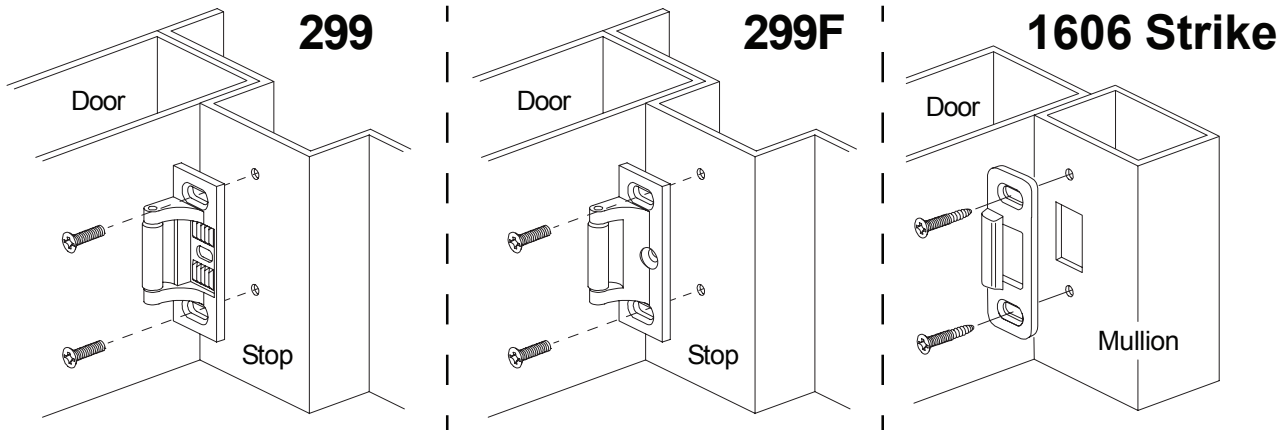
Undog



# 1439 Strike Frame Preparation



# 299/299F/1606 Strike Template



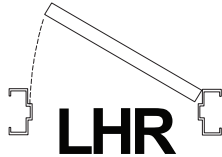
This page  
intentionally  
left blank

# 33/35A Rim device Template

Line X-X is a reference line for trim and exit device alignment.  
Line X-X shown here should correspond to line X-X in the trim installation instructions

**X**  
C of device

1/4"



## Holes - 2 places

**Metal**

#25 drill inside  
#10-24 tap

**Wood**

1/8" diameter drill  
1" deep pilot hole

Cut-out  
device side only  
5/8" deep for  
wood door

3/16"

Align this line  
with edge of  
strike or roller

3-1/8"

1-3/16"

7/8"

C of device

7/8"

1-3/16"

1/4"  
Radius

7/32"

7/8"

19/32"

3-1/8"

## Holes - 2 places

**Metal**

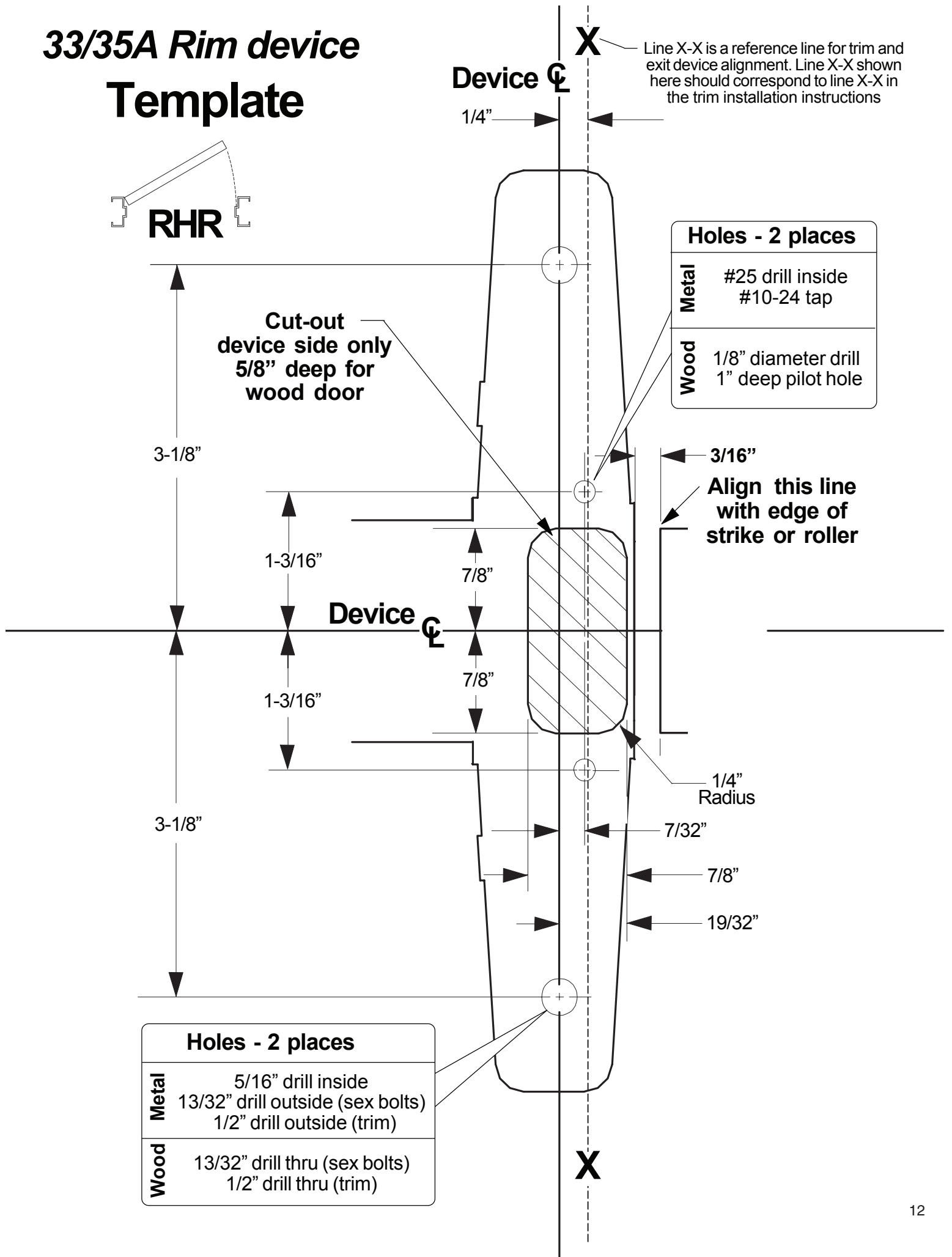
5/16" drill inside  
13/32" drill outside (sex bolts)  
1/2" drill outside (trim)

**Wood**

13/32" drill thru (sex bolts)  
1/2" drill thru (trim)

**X**

# 33/35A Rim device Template





24908386

# QEL 33A/35A, 98/99 Series

**VON DUPRIN®**

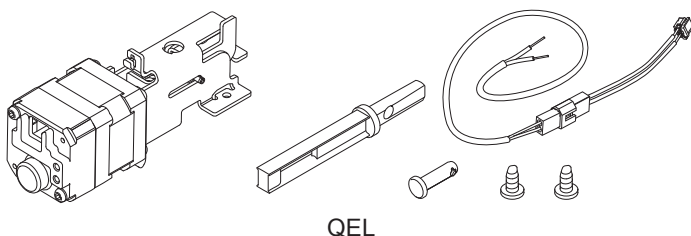
Conversion Kit

Installation Instructions

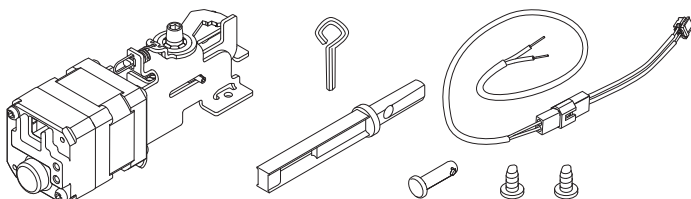


1. This kit converts all 33/35A and 98/99 series mechanical exit devices to quiet electric latch (QEL) retraction devices.
2. This kit can also be used for motor replacement on existing QEL devices.
3. Install according to instructions or device will not function and panic or fire label will be void.
4. The QEL wiring must be attached to the fire alarm system if installed on fire exit hardware.
5. If existing device is fire rated or less dogging a QEL baseplate conversion kit is required.

## Parts



QEL



HD-QEL (Hex Dogging QEL)



## WARNING

If existing exit device is fire rated, do not install HD-QEL (hex dogging) type motor. Doing so will void fire rating.

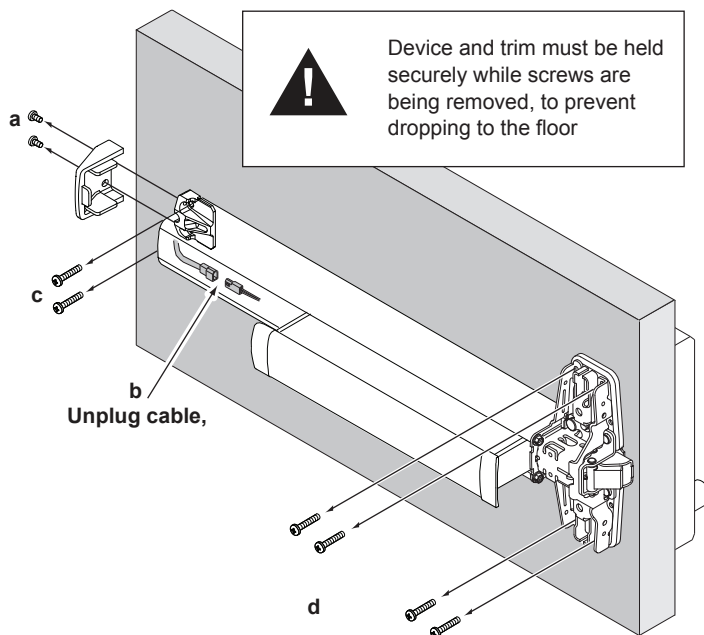
## 1 ⚠ Disconnect Power ⚠

To avoid risk of shock, disconnect AC power from power supply before proceeding with this conversion. If using 900-BB Battery Backup option, unplug all four wires from battery terminals.

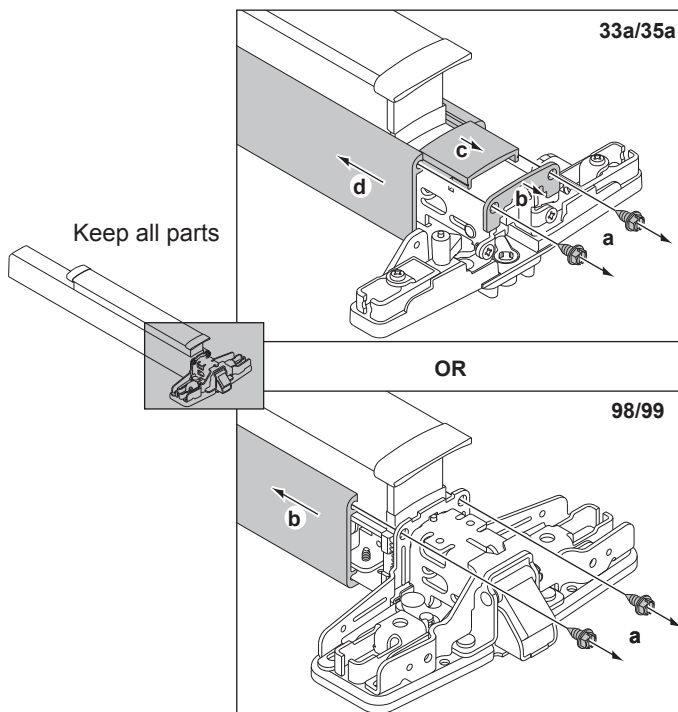
## 2 Detach Vertical Rods if present

Refer to device instructions as needed.

## 3 Remove Exit Device from Door



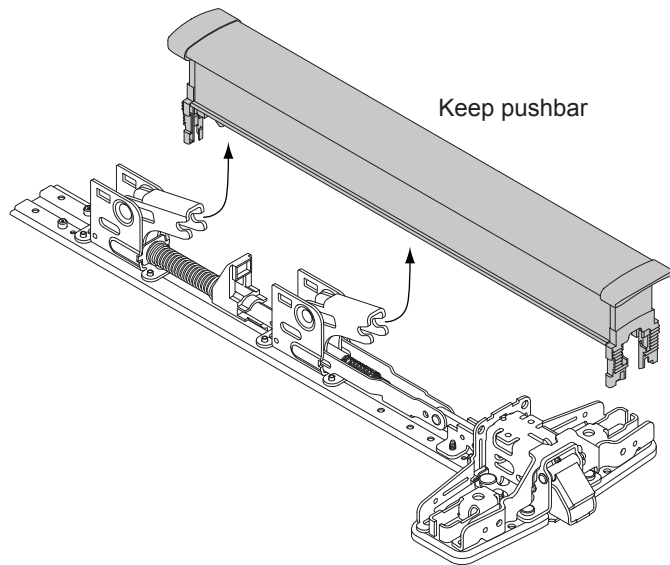
## 4 Remove Mechanism Case



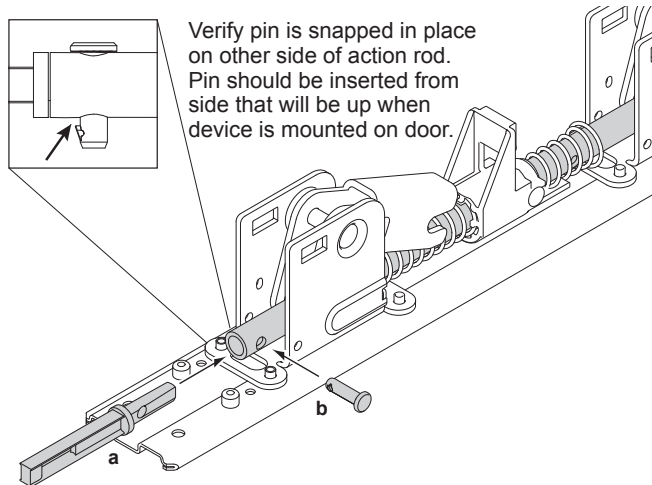
**FIRE OR LESS DOGGING DEVICE**

(Applies to exit devices built after October 2014.  
Baseplate conversion kit required for earlier devices.)

1. Remove pushpad from baseplate.

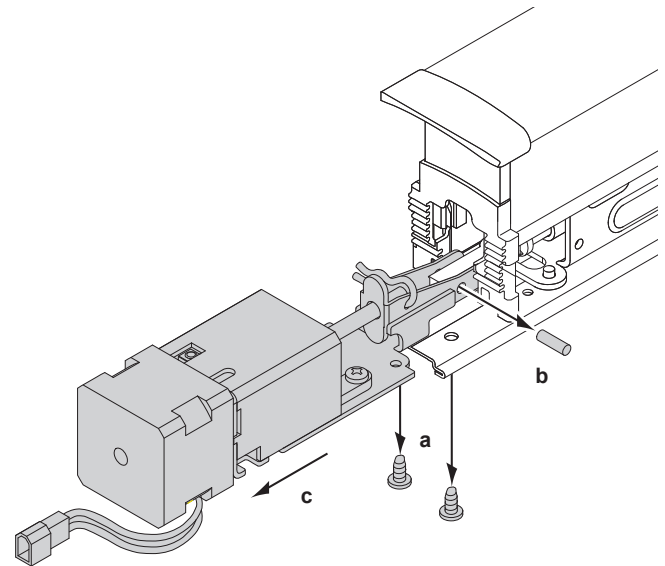


2. Install connector and pin.

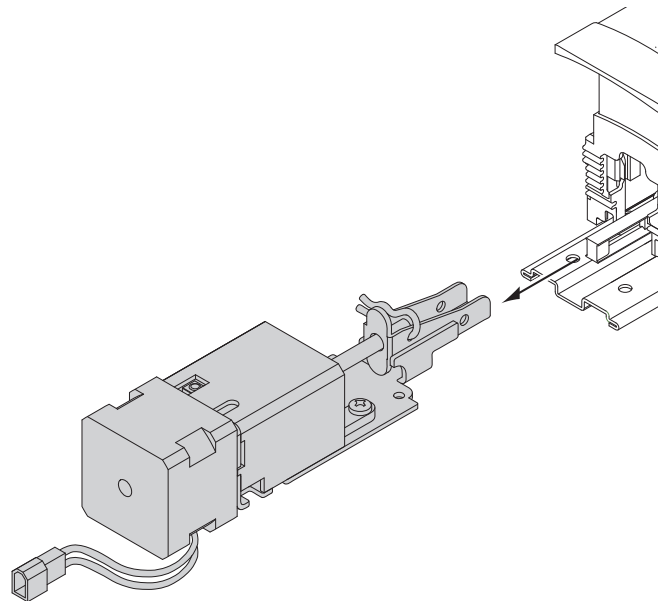


**QEL DEVICE (built prior to December 2014)**

1. Remove existing QEL motor

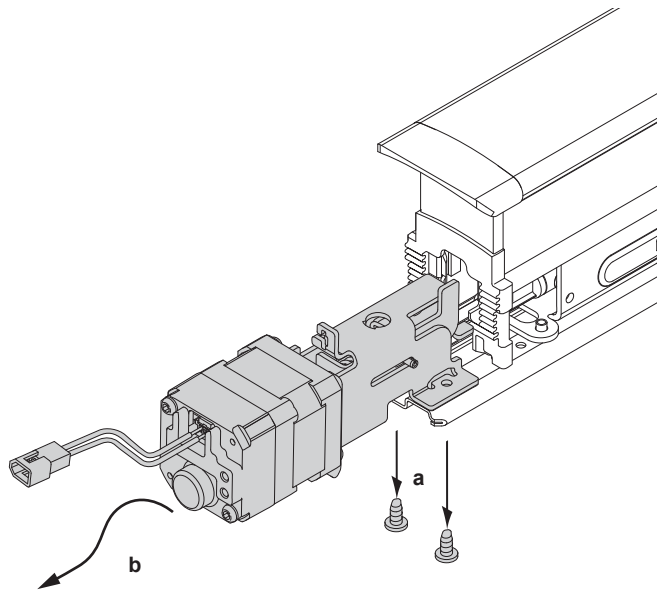


2. Discard old QEL motor assembly.

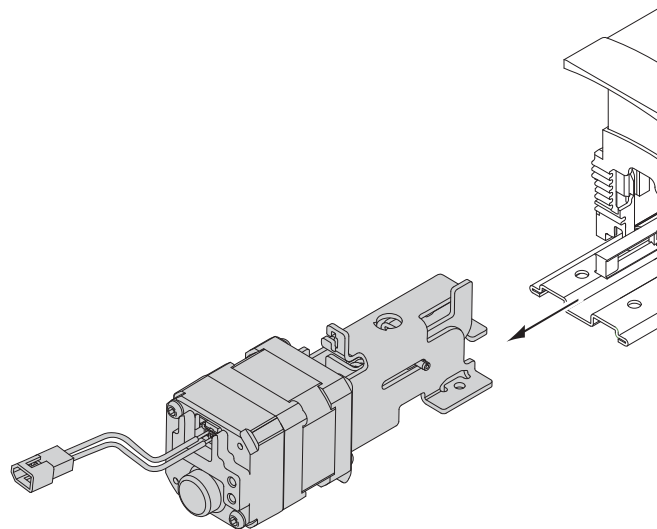


### QEL DEVICE (built after December 2014)

1. Remove existing QEL motor.

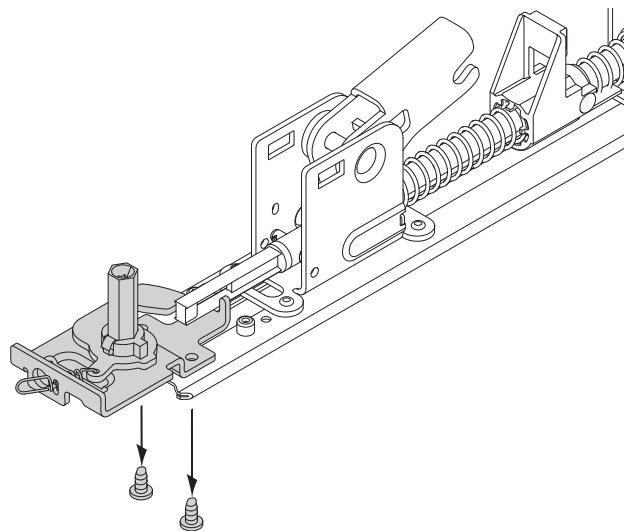


2. Discard old QEL motor assembly.

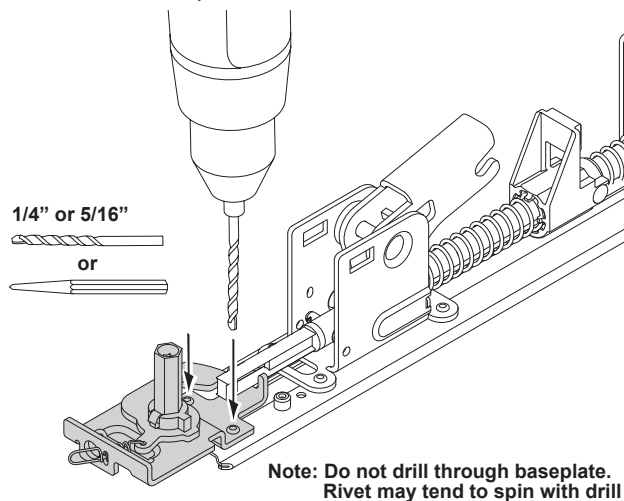


### PANIC DEVICE (with dogging assembly)

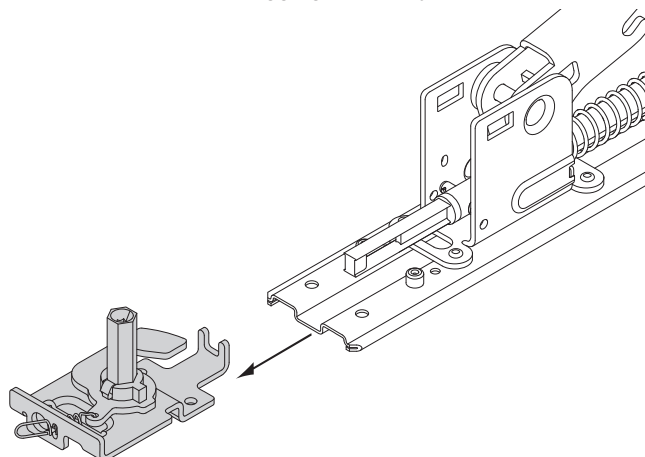
1. Remove two screws from dogging assembly. If riveted see below.



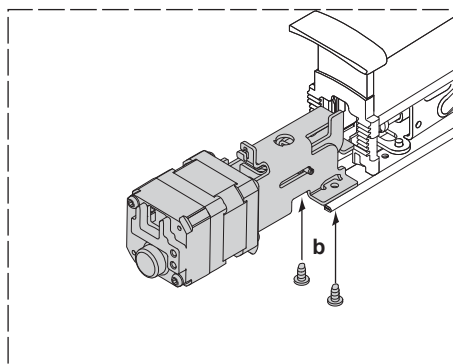
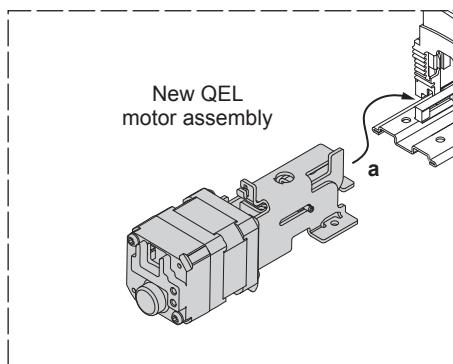
2. Drill or use center punch on two rivet heads until rivets can be removed from baseplate.



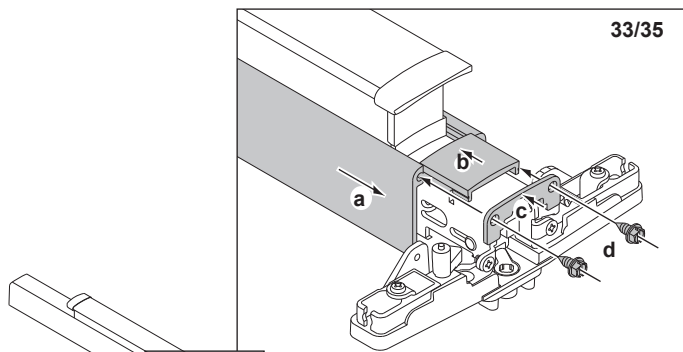
3. Remove and discard dogging assembly.



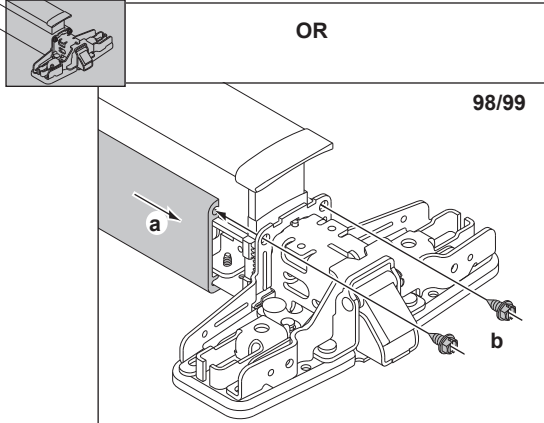
## 6 Install New QEL Motor Assembly



## 7 Install Mechanism Case

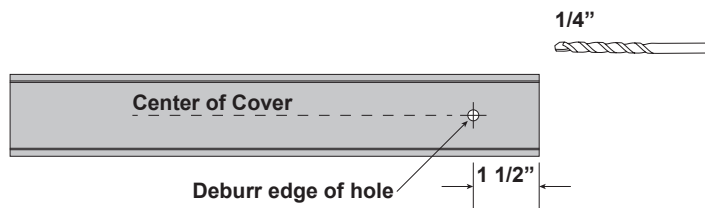


OR

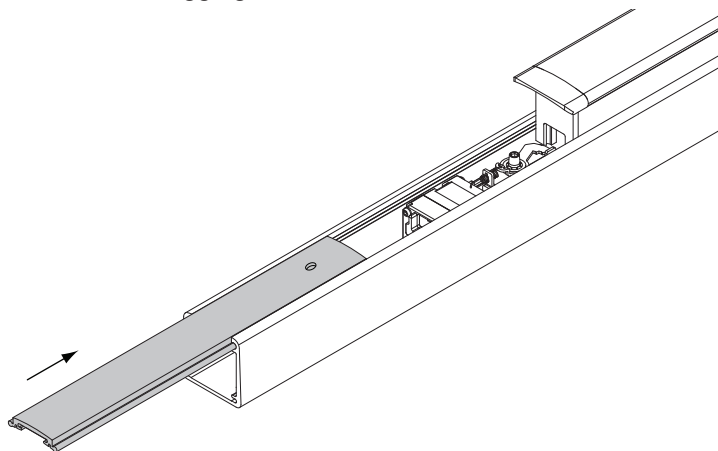


## 8 Prepare dogging cover for HD dogging key (if applicable and only on panic devices).

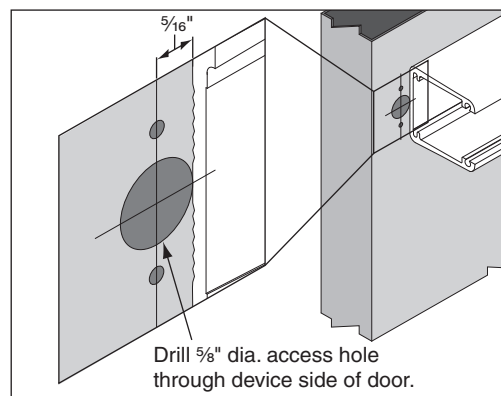
### 8a Locate and drill hole



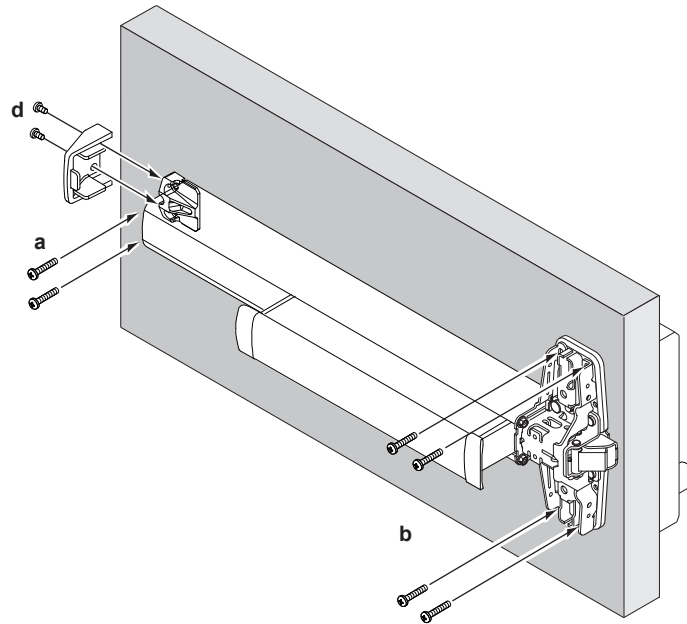
### 8b Install dogging cover



## 9 Drill Wire Access Hole (if required)



## 10 Attach Exit Device to Door



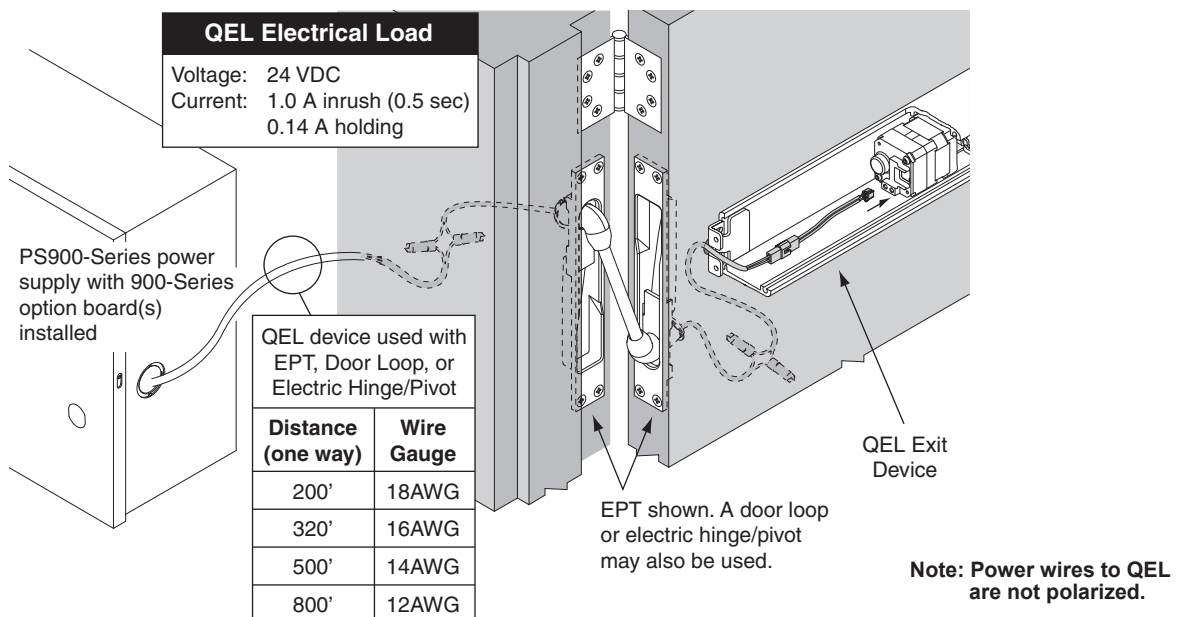
For more detailed installation instructions for specific Exit Devices, visit the Support area of the Allegion website at [www.allegion.com/us](http://www.allegion.com/us)

## 11 Confirm Equipment Compatibility

The QEL is compatible with the following equipment (refer to individual instructions as needed):

- PS900-SERIES Power Supplies - PS902, PS904, PS906, PS914
- 900-SERIES Option Boards - 900-2RS, 900-4R, 900-4RL, 900-2Q
- PS873 Power Supply Plus 871-2, 871-2Q, 873-4TD/AO Option Boards

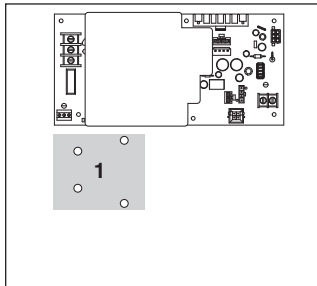
## 12 Route Two Wires from QEL Exit Device to Power Supply



## 13 Install 900-2Rs, 4RI, or 4R Option Board(s) into Power Supply

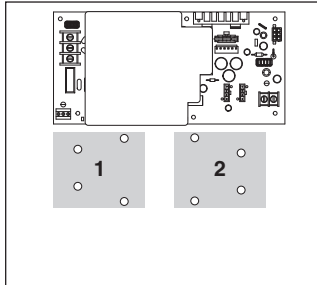
### a Review Available 900 series Option Board Mounting Locations (Gray)

PS902

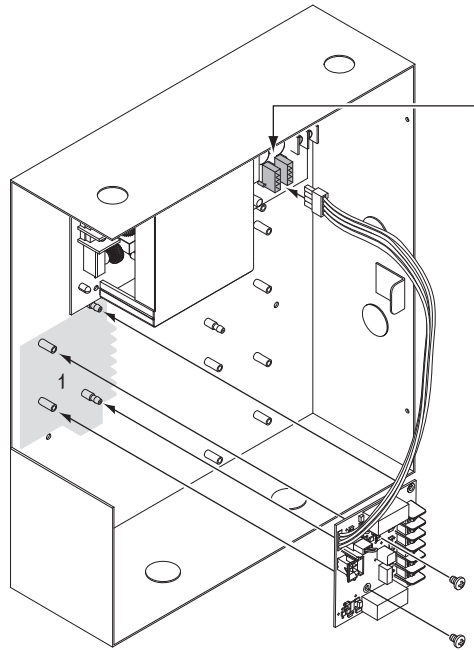
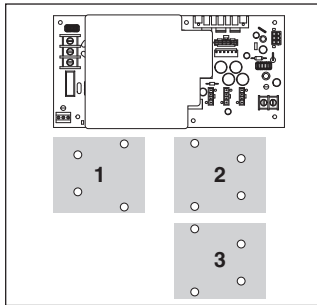


PS904

PS914



PS906



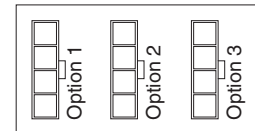
### b Plug Option Board Cable into any Available Option Connector



PS902  
1 Board



PS904, 914  
2 Boards



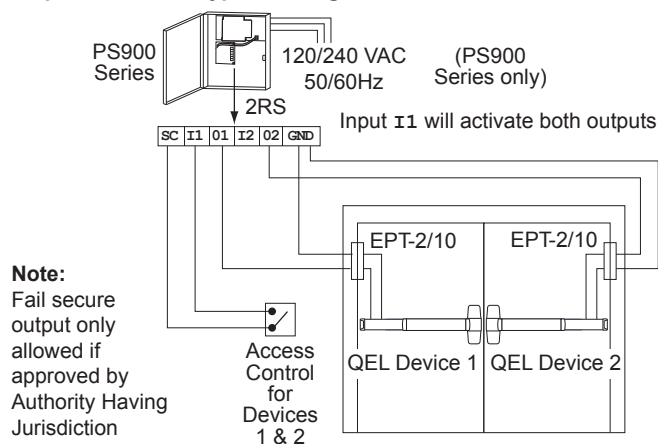
PS906  
3 Boards

### c Secure Board(s) with Screws

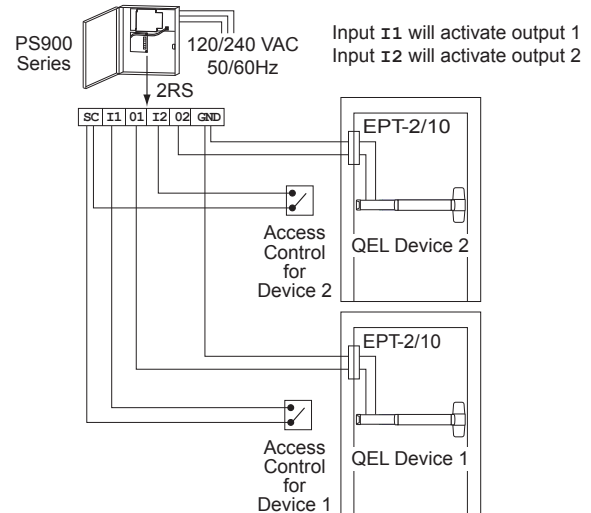
- Notes:**
1. 24VDC output setting required when QEL device connected
  2. If installing board in location 2 or 3, rotate board 180°
  3. The QEL is compatible with an existing 900-2Q board if currently installed.
  4. Latchbolt retraction of (2) sequenced QEL's requires more than 1 second to complete.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

## 14 Connect Input and Output Wires to Option Board (2RS Shown)

### Sequential Mode - Typical Wiring



### Individual Mode - Typical Wiring



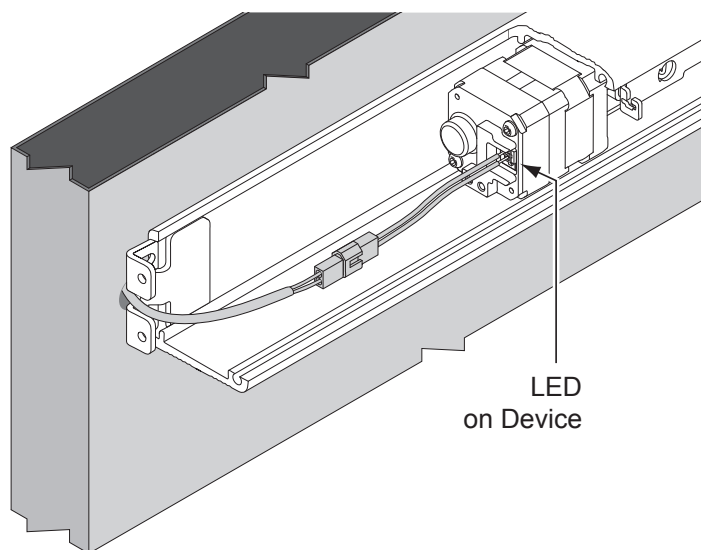
## 15 Check Operation

- A. Activate each input and verify all QEL devices operate properly.
- B. If any device does not operate properly, see step 16 for troubleshooting.

## 16 If Necessary, Troubleshoot Operation (LED is only visible with the mechanism cover removed)

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.* See <i>Check Mechanical Operation</i> on page 8 as needed.**
	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](http://www.allegion.com/us) or call Technical Services at 1-877-671-7011



## 17 Check Mechanical Operation

33A/3527A	98/9927	98/9947WDC
33A/3547A	98/9947	98/9957
		98/9975

33/3549A	98/9949
33/3550A-WDC	98/9949WDC
	98/9950WDC

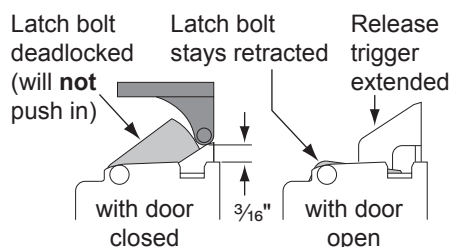
1. Make sure device is not dogged for SD-QEL / HD-QEL.
2. Depress pushbar and make sure latch bolt retracts and extends fully (see Figure 1).
3. If latch bolt does not retract or extend fully, adjustments may be required per the device installation instructions.

1. Make sure device is not dogged for SD-QEL/HD-QEL.
2. Depress pushbar. Door should begin to open with pushbar depressed halfway.
3. Close door. Top latch should be secure. If two point latch, bottom latch should be secure as well.
4. If device does not function as described in steps 2 and 3, adjustments may be required per the device installation instructions.

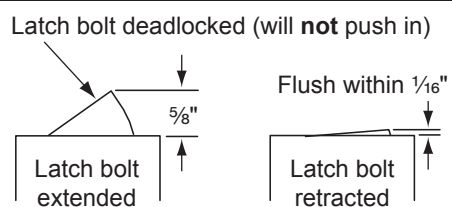
Any HD Device

1. Fully depress pushbar.
2. Insert hex dogging key and turn clockwise.
3. Release pushbar and verify latchbolt remains retracted.
4. Fully depress pushbar.
5. Insert hex dogging key and turn counter clockwise.
6. Release pushbar and verify latchbolt extends fully.

### 33A/3527A, 98/9927, 98/9957



### 33A/3547A, 98/9947, 98/9947WDC



### 98/9975

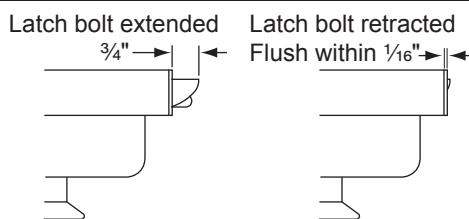


Figure 1

Customer Service

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



© Allegion 2015  
Printed in U.S.A.  
24908386 Rev. 11/15-b