

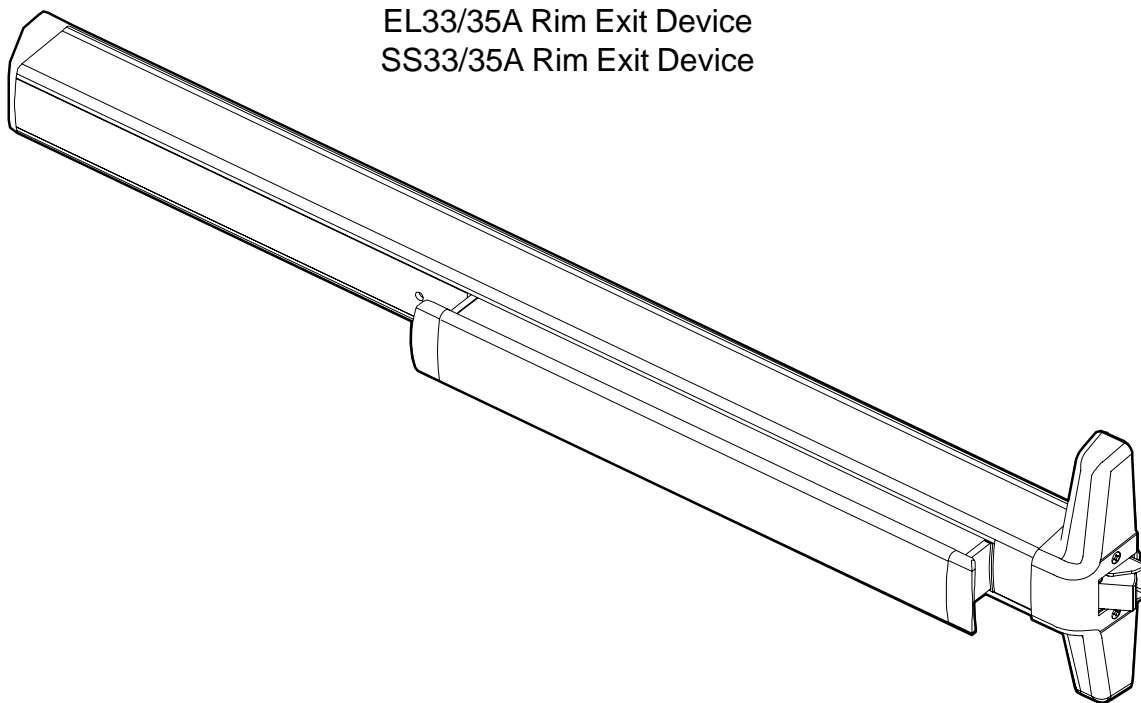
# VON DUPRIN®

## Installation Instructions

### 33/35A Series Rim Exit Device

**Devices covered by these instructions:**

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



**Please give these instructions to building owner after device is installed**

**Special tools needed:**

- 5/64" hex wrench
- #10-24 tap
- Drill bits: #25, 1/8", 1/4",  
5/16", 13/32"

**Index:**

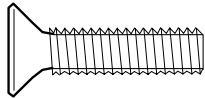
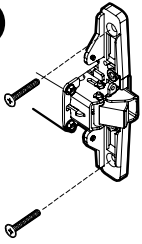
- Screw chart ..... 2
- Device installation ..... 3-5
- Optional equipment ..... 6-7
- Strike preparation ..... 9-10
- Template ..... 11-12

This product is covered by the following patent numbers:

3,767,238      4,167,280  
3,854,763      4,466,643

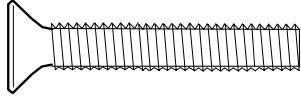
# SCREW CHART

**A**



1/4-20 x 1" \_\_\_\_\_

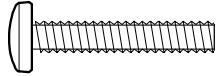
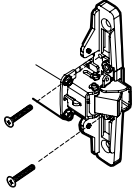
Trim mount or sex bolts:  
(1-3/4" door)



1/4-20 x 1-1/2" \_\_\_\_\_

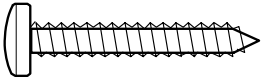
(2-1/4" door)

**B**



#10-24 X 1" \_\_\_\_\_

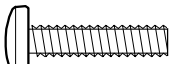
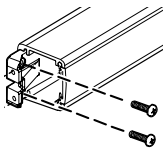
Metal door surface mount  
(Yellow)



#10 X 1-1/4" \_\_\_\_\_

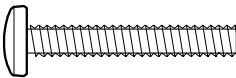
Wood door surface mount

**C**



#10-24 X 3/4" \_\_\_\_\_

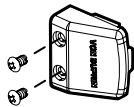
Surface mount or  
Sex bolts 1-3/4" door (silver)



#10-24 X 1-1/8" \_\_\_\_\_

Sex bolts 2-1/4" door (silver)

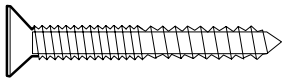
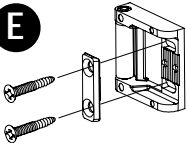
**D**



#10-16 X 3/8" Thread cutting \_\_\_\_\_

End cap

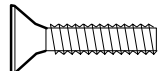
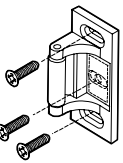
**E**



#10-12 x 10-24 x 1-1/4" combination \_\_\_\_\_

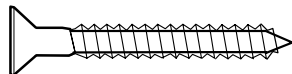
Metal or wood frame

**F**



#10-24 X 3/4" \_\_\_\_\_

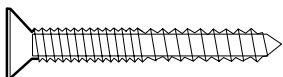
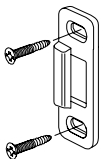
Metal frame



#10 X 1-1/2" Wood screw \_\_\_\_\_

Wood frame

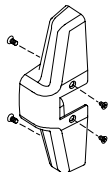
**G**



#10-12 x 10-24 x 1-1/4" combination \_\_\_\_\_

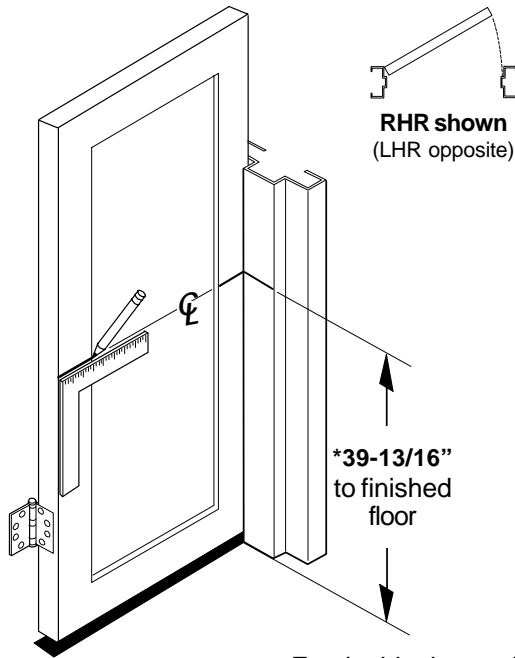
Metal or wood frame

**H**



#8-18 x 3/8" thread cutting \_\_\_\_\_

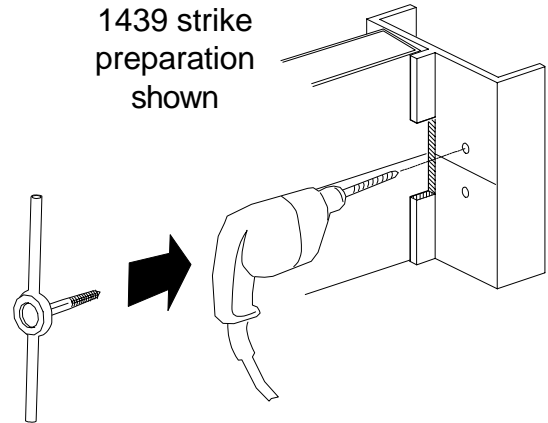
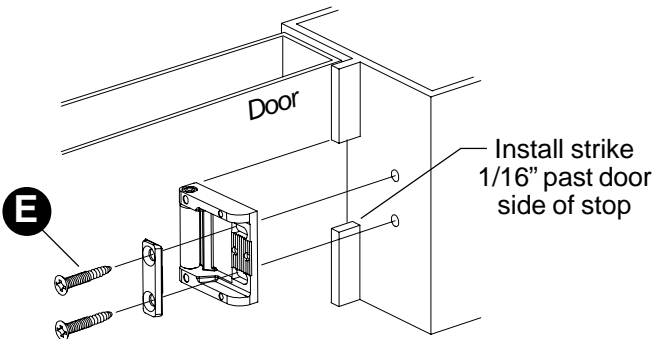
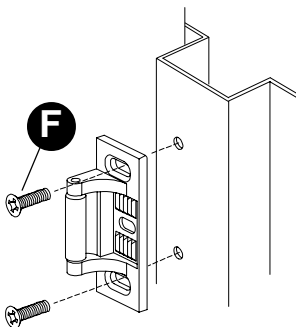
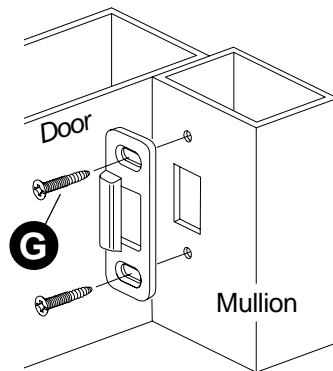
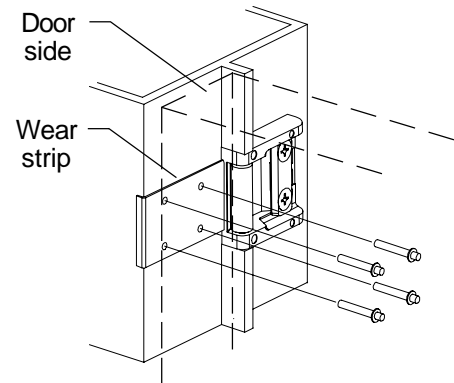
Center case cover

**1****Draw device center line (☉) on door and frame as shown.**

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

**2****Prepare frame for strike using paper templates.**

See pages 8 and 9 for strike templates and frame preparation dimensions.

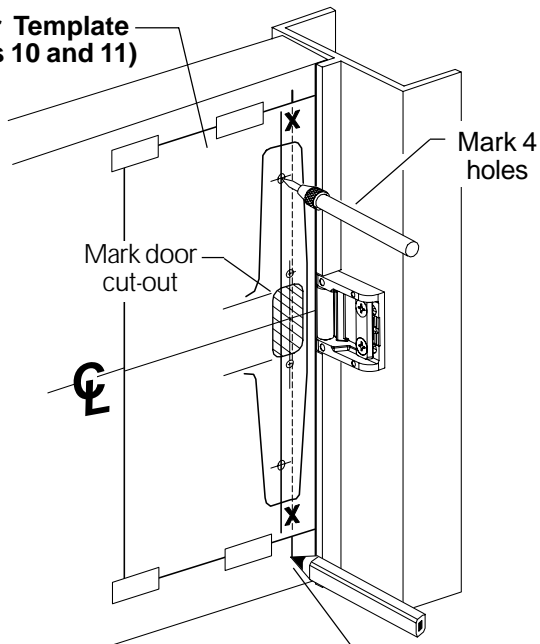
**3****Install strike using two screws only at this time.****1439 Strike (standard)****299 Strike****1606 Strike****4****If using a 1439 strike, install wear strip. If not, go to step 5.**

- 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 10 and 11)



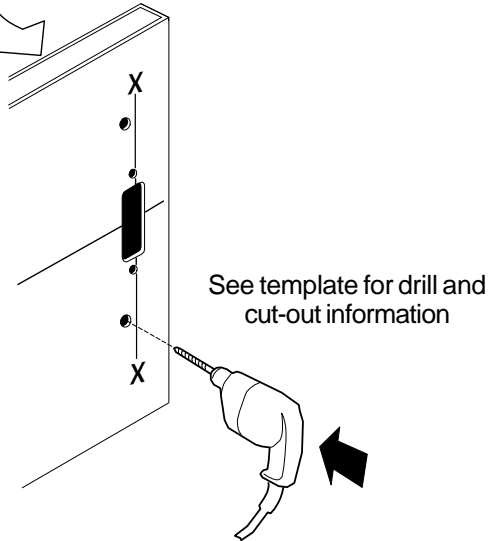
Mark vertical line X-X for trim alignment

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.

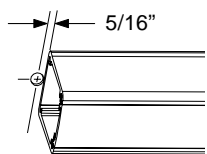
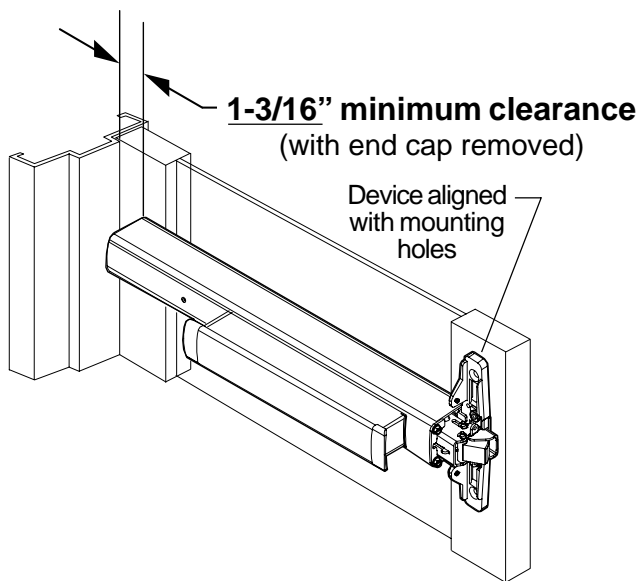
See trim instructions for pull side door preparation.



See template for drill and cut-out information

# 7

## Measure to determine length to cut device.



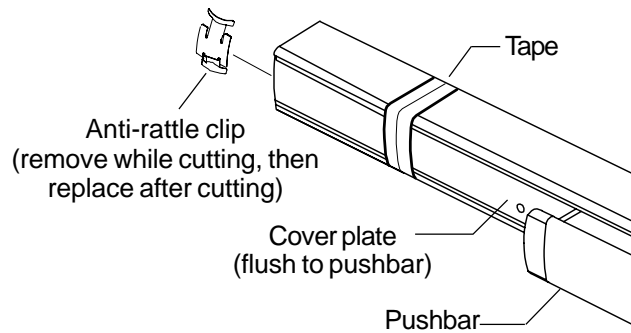
### Note

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

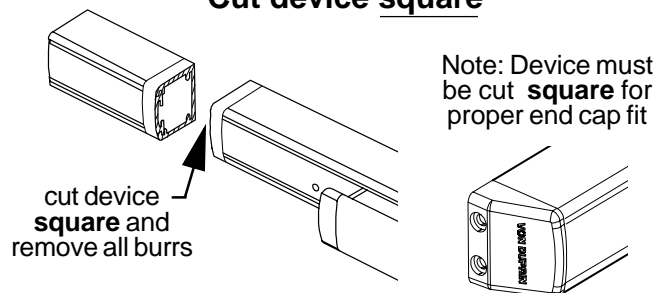
# 8

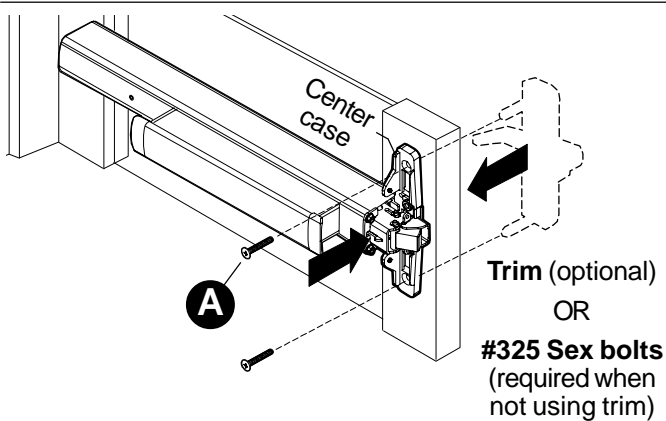
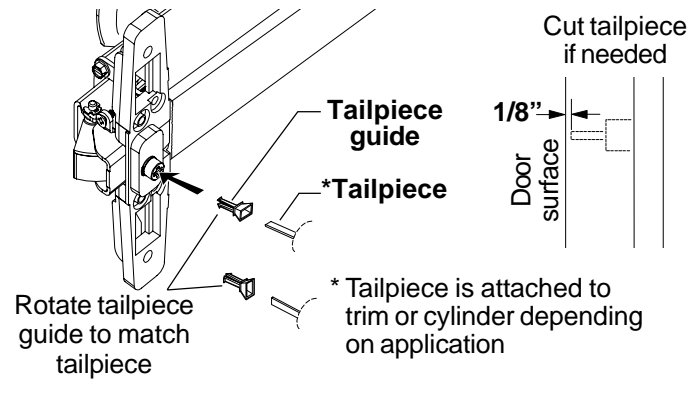
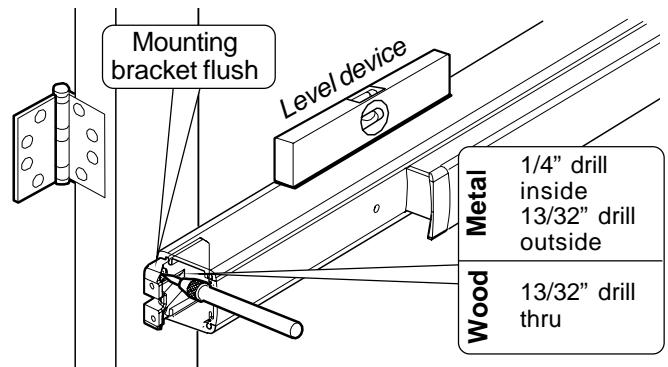
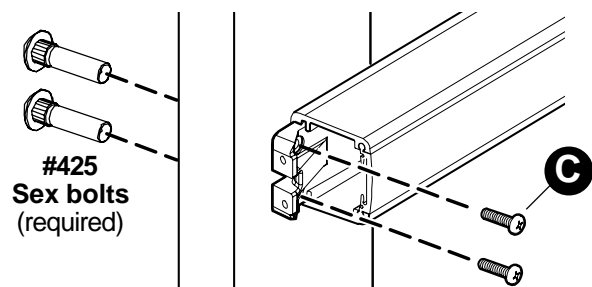
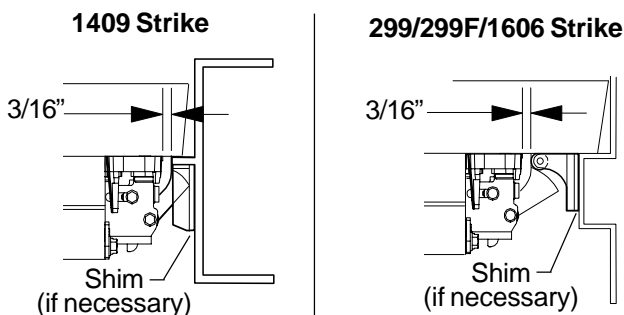
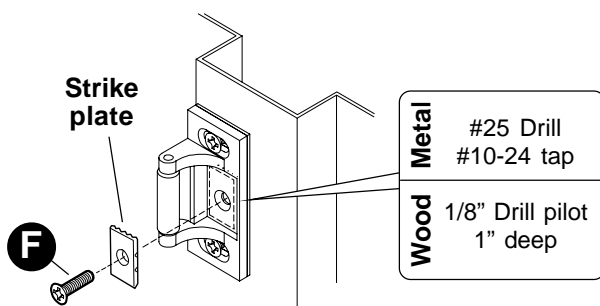
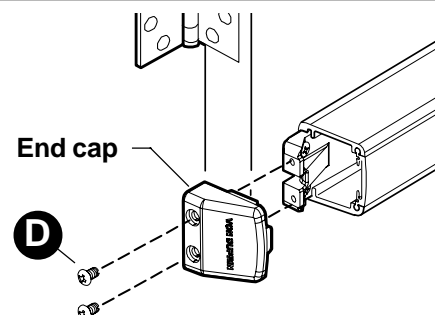
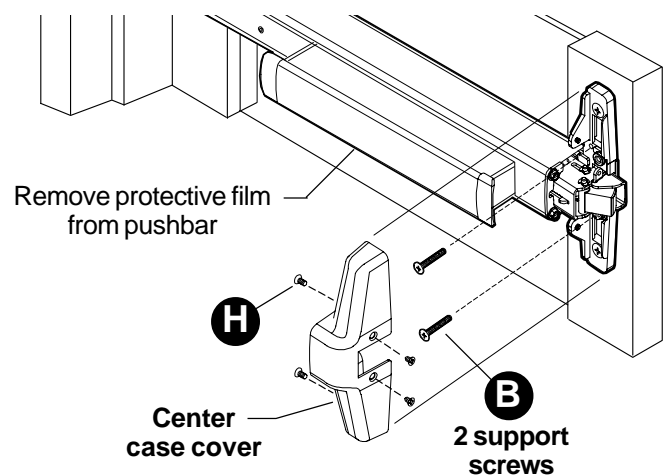
## Cut device to length.

### Prepare device for cutting



### Cut device square

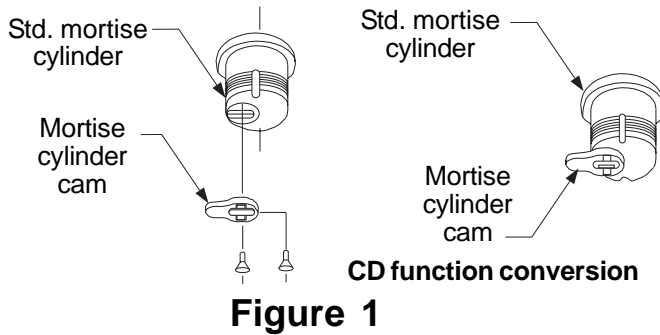


**9****Install trim (if using) and secure device center case to door.****10****Install hinge stile mounting bracket.****Mark and prepare 2 mounting holes****Secure mounting bracket****11****Adjust strike with shim (if necessary) and secure strike.****Shim strike for 3/16" clearance to chassis****299 - Add plate and middle screw****12****Install 2 support screws, center case cover, and end cap.**

# OPTIONAL EQUIPMENT

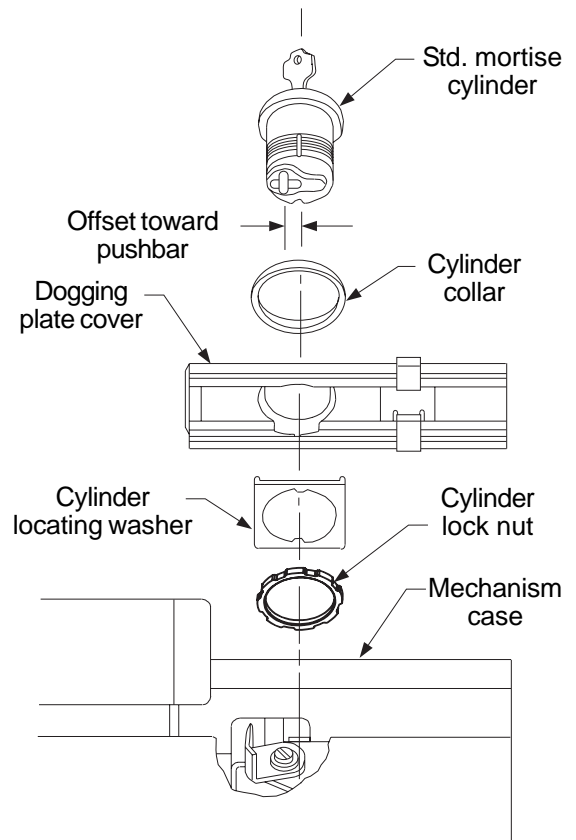
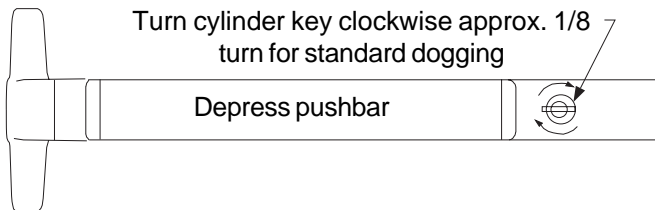
## CD (CYLINDER DOGGING)

1. Remove mortise cylinder cam and reinstall in reverse (Figure 1).
2. Insert key and rotate cam to install the cylinder to the cover plate (Figure 2).
3. Remove key to slide cover plate in position in the mechanism case.



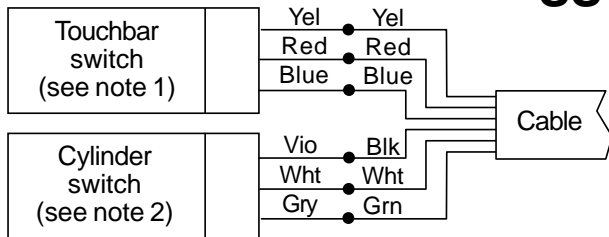
**Figure 1**

### Dogging procedure

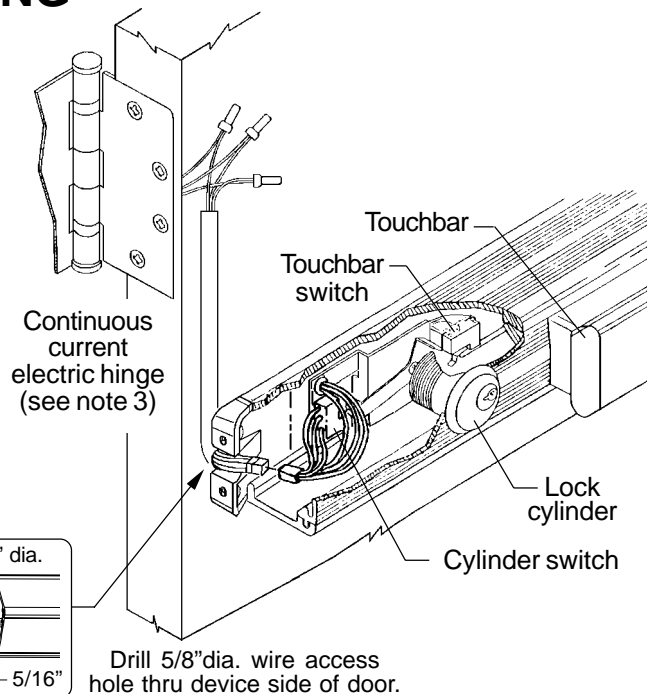


**Figure 2**

## SS WIRING

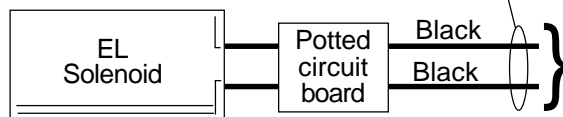


- NOTES:**
1. The touchbar switch is actuated whenever the touchbar is depressed or the device latch bolt is retracted. This switch may be used for initiating an alarm.
  2. The cylinder switch is actuated when the key is inserted into the lock cylinder and turned clockwise. This switch may be used for shunting or resetting an alarm.
  3. A continuous current electric hinge or equivalent is required to transfer the wiring from the door to the frame.
  4. Splice electric hinge wires and cable wires together with wire nuts. Unused wires should be cut off or insulated.
  5. Cut device to proper length before connecting cable and switch wires.



# OPTIONAL EQUIPMENT - CONTINUED

12 AWG required for distances up to 200'  
14 AWG permitted for distances 0-100'



## ELECTRICAL SPECIFICATIONS

Voltage:	24 VDC
Current:	16 A inrush (0.3 sec.) 0.25 A holding

## NOTE

When power is applied to the **potted circuit board**, the solenoid receives a momentary signal to retract and a separate signal to hold as long as power is applied. When attempting to retract solenoid again, power must be removed from the circuit and reapplied.

## Troubleshooting solenoid operation

If the solenoid fails to retract the latch bolt when power is applied, recheck wiring for proper connections.

If solenoid retracts latch bolt momentarily but will not remain in energized position:

1. Check wiring for proper connections, gauge, and distances.
2. Check for latch bolt binding caused by improper strike installation, warped door, etc.

## EL WIRING

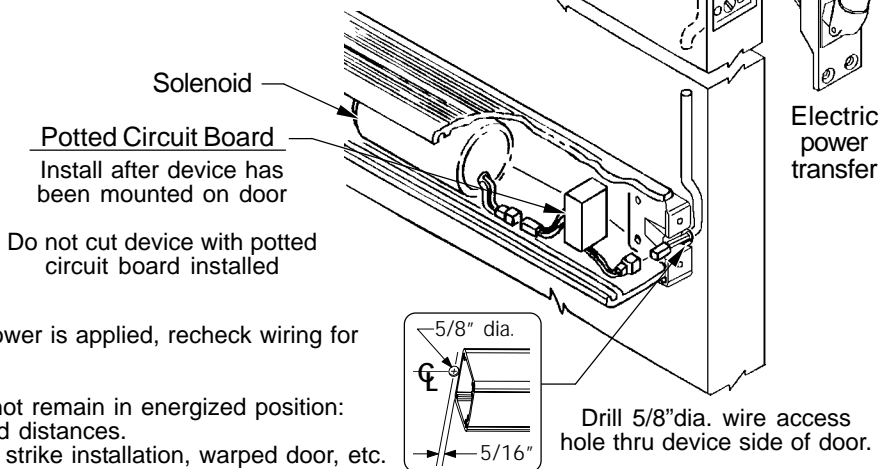
**Solenoid draws 16 A inrush current from PS873. Solenoid must be wired to a PS873 logic board:**



If 871-2 logic board, refer to Von Duprin instructions 941352.



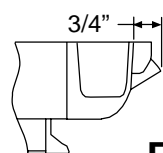
If other 873 logic board, refer to Von Duprin instructions 941356.



## EL ADJUSTMENT PROCEDURE

- A. Check for proper function:**
1. Make sure device is not dogged.
  2. Depress pushbar and make sure latch bolts retracts and extends fully (see Figure 3).
  3. Electrically energize solenoid and hold.
  4. Check latch bolt(s) for full retraction (must clear strike (see Figure 3)).
  5. Release solenoid and check latch bolt extension (see Figure 3).
  6. Continue to Section B if device does not function electrically.
- B. Determine if dogging rod adjustment is too long or short:**
1. The dogging rod adjustment is too **long** if latch bolt does not retract and clear strike (see Section C for adjustment).
  2. The dogging rod adjustment is too **short** if latch bolt does not fully extend **or** latch bolt fully retracts but solenoid releases while energized (see Section D for adjustment).
- C. Adjust solenoid if dogging rod is too long (see Figure 4):**
1. Remove end cap ① and dogging cover ②.
  2. Loosen cap screw ③.
  3. Hold plunger ⑤ depressed in solenoid housing ⑥.  
**Note:** Push hard against plunger ⑤ to overcome an internal spring in solenoid housing ⑥.
  4. Turned threaded bushing ④ in to shorten dogging rod ⑦ so latch bolt fully retracts.
  5. Tighten cap screw ③.  
**Note:** Cap screw ③ must be tightened against flat on threaded bushing ④. Apply a few drops of Loc-Tite 222 to threads of cap screw ③.
  6. Replace dogging cover ② and end cap ①.
  7. Return to Section A to check for proper function.

Latch bolt extended



Latch bolt retracted

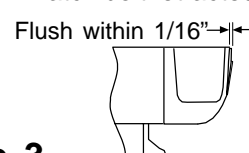


Figure 3

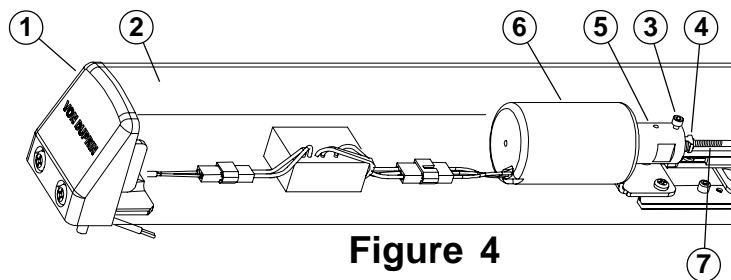
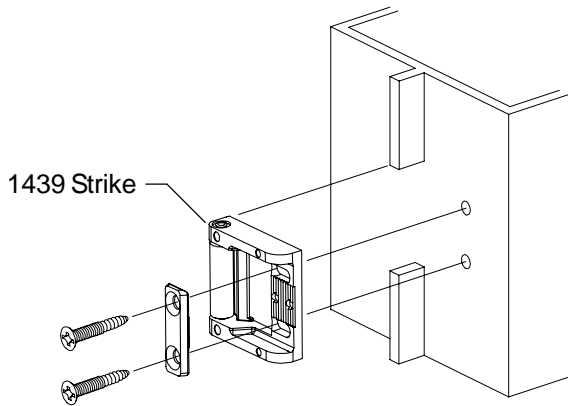
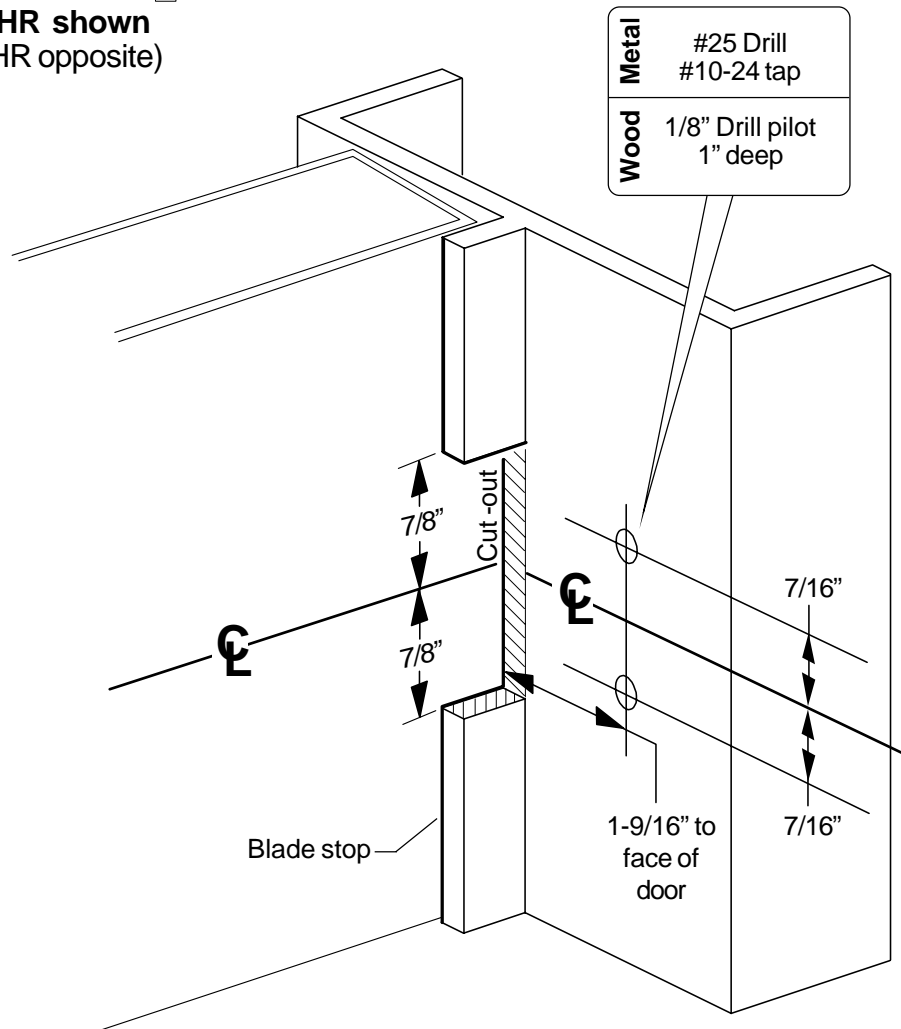
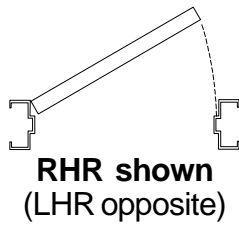


Figure 4

- D. Solenoid adjustment if dogging rod adjustment is too short (see Figure 4):**
1. Remove end cap ① and dogging cover ②.
  2. Loosen cap screw ③.
  3. Hold plunger ⑤ depressed in solenoid housing ⑥.
  4. Turn threaded bushing ④ out to lengthen dogging rod ⑦ so plunger ⑤ just bottoms in solenoid housing ⑥ and latch bolt is fully retracted.  
**Note:** Push hard against plunger ⑤ to overcome an internal spring in solenoid housing ⑥.
  5. Tighten cap screw ③.  
**Note:** Cap screw ③ must be tightened against flat on threaded bushing ④. Apply a few drops of Loc-Tite 222 to threads of cap screw ③.
  6. Replace dogging cover ② and end cap ①.
  7. Return to Section A to check for proper function.

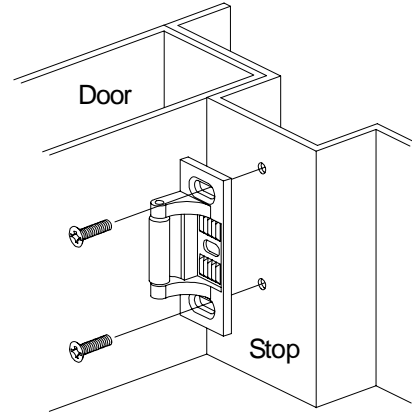


# 1439 Strike Frame Preparation

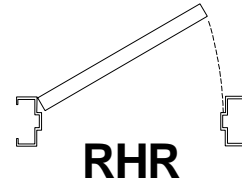




# 299 Strike Template

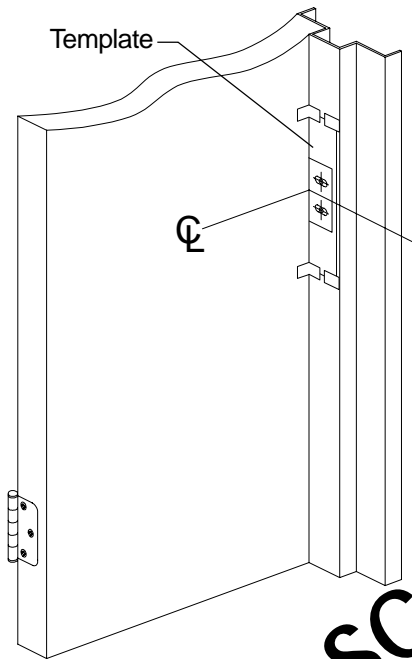


Cut paper along this line and place on door stop against edge of door (see picture below)



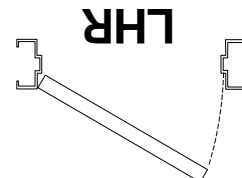
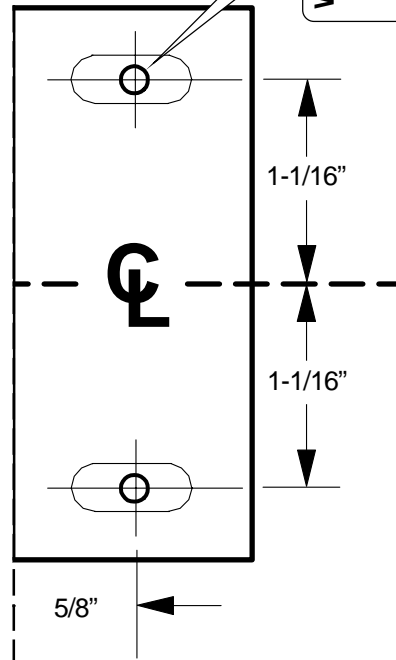
**RHR**

<b>Metal</b>	#25 Drill #10-24 tap
<b>Wood</b>	1/8" Drill pilot 1" deep



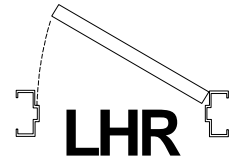
**DO NOT SCALE**

**Door edge**



**LHR**

# 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

☉ of device

1/4"

Holes - 2 places	
<b>Metal</b>	#25 drill inside #10-24 tap
<b>Wood</b>	1/8" diameter drill 1" deep pilot hole

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

Align this line with edge of strike or roller

3/16"

3-1/8"

7/8"

1-3/16"

☉ of device

7/8"

1-3/16"

1/4" Radius

7/32"

3-1/8"

7/8"

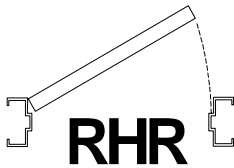
19/32"

**DO NOT SCALE**

Holes - 2 places	
<b>Metal</b>	5/16" drill inside 13/32" drill outside (sex bolts) 1/2" drill outside (trim)
<b>Wood</b>	13/32" drill thru (sex bolts) 1/2" drill thru (trim)

X

# 33/35A Rim device Template



Device  $\text{C}$

1/4"

X

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

**Holes - 2 places**

<b>Metal</b>	#25 drill inside #10-24 tap
<b>Wood</b>	1/8" diameter drill 1" deep pilot hole

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

3-1/8"

1-3/16"

7/8"

Device  $\text{C}$

3/16"

Align this line with edge of strike or roller

7/8"

1-3/16"

1/4" Radius

3-1/8"

7/32"

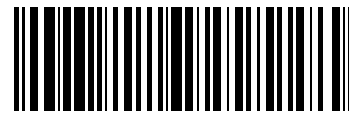
7/8"

19/32"

**DO NOT SCALE**

**Holes - 2 places**

<b>Metal</b>	5/16" drill inside 13/32" drill outside (sex bolts) 1/2" drill outside (trim)
<b>Wood</b>	13/32" drill thru (sex bolts) 1/2" drill thru (trim)



**911402-00**

X