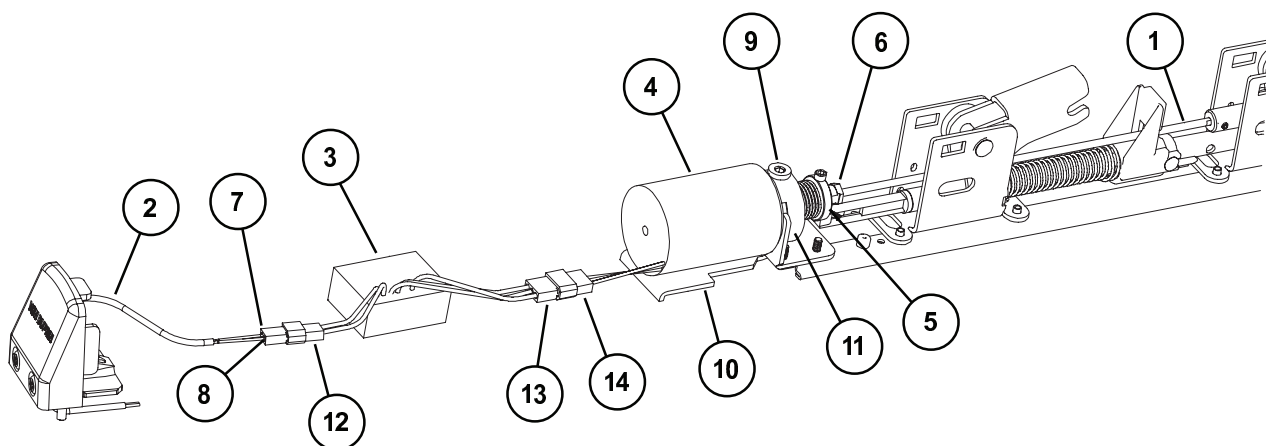


HD-EL98/HD-EL99 HEX DOGGING/ELECTRIC LATCH RETRACTION OPTION - PANIC DEVICE ONLY

Item No.	Quantity	Part No.	Description	Finish
1	1	050531	EL Dogging Rod Kit - 3' Device	
1	1	050532	EL Dogging Rod Kit - 4' Device	
2	1	110388	EL 6' Cable and Connector	
3	1	050534	EL Potted Circuit Breaker	
4	1	050536	HD-EL Solenoid	
5	1	050537	HD-EL Solenoid Plunger	
6	1	050538	EL Dogging Rod Retainer	
7	1	050539	EL Receptacle Connector - 2 Position	
8	2	050540	EL Female Terminal	
9	1	050541	HD-EL Dog Screw	
10	1	050542	HD-EL Solenoid Bracket	
11	1	050543	HD-EL Dogging Spring	
12	1	990599	EL Plug Connector - 2 Position	
13	1	990857	EL Receptacle Connector - 3 Position	
14	1	990858	EL Plug Connector - 3 Position	
*	1	050384	HD-EL Conversion Kit - 3'	
*	1	050385	HD-EL Conversion Kit - 4'	

*Kit includes items 1-11 plus new control link, retaining ring, and baseplate screws.



VON DUPRIN®

Installation Instructions



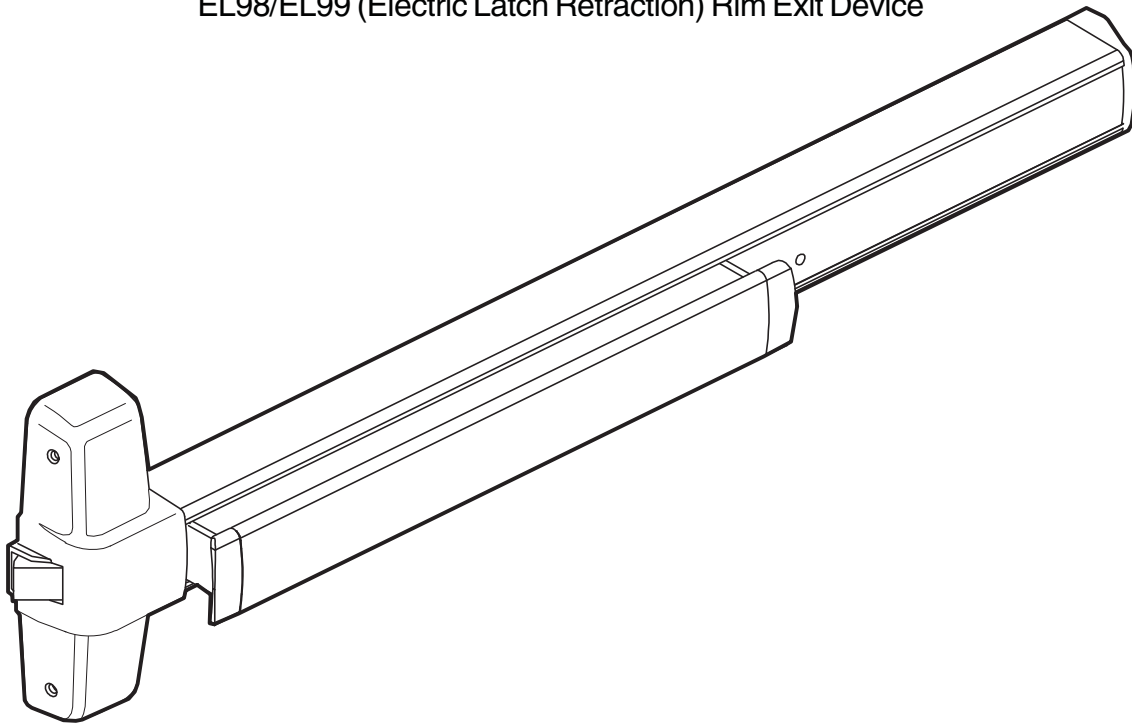
911373-00



98/99 Series Rim Exit Device

Devices covered by these instructions:

98/99 Rim Exit Device
98/99-F (Fire) Rim Exit Device
CD98/CD99 (Cylinder Dogging) Rim Exit Device
98-2/99-2 (Double Cylinder) Rim Exit Device
EL98/EL99 (Electric Latch Retraction) Rim Exit Device



Please give these instructions to building owner after device is installed

Special tools needed:

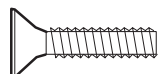
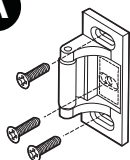
5/64" hex wrench
#10-24 tap
5/8" spade drill (99-F wood door)
Drill bits: #25, 1/8", 1/4",
5/16", 3/8", 13/32"

Index:

- Screw chart 2
- Preparation chart 3
- Device installation 4-5
- Optional equipment 6-7
- Cut device 8
- 499F strike installation 8

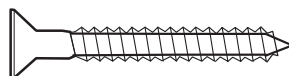
SCREW CHART

A



#10-24 X 3/4"

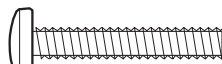
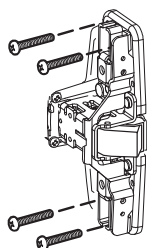
Metal frame



#10 X 1-1/2" Wood screw

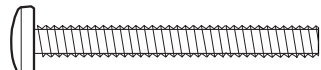
Wood frame

B



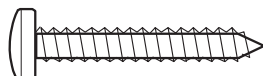
#10-24 X 1"

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



#10-24 X 1-1/2"

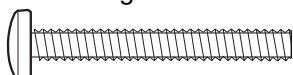
Sex bolts (2-1/4" door)



#10 X 1-1/4" Wood screw

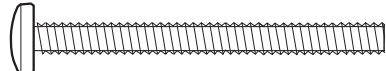
Surface mount (wood)

- Packaged with trim -



#10-24 X 1-3/8"

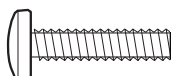
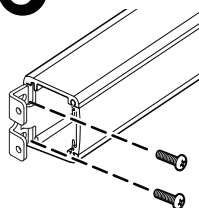
990 Trims (1-3/4" door)



#10-24 X 1-7/8"

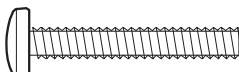
990 Trims (2-1/4" door)

C



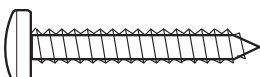
#10-24 X 3/4"

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



#10-24 X 1-1/8"

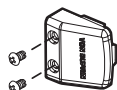
Sex bolts (2-1/4" door)



#10 X 1-1/4" Wood screw

Surface mount (wood)

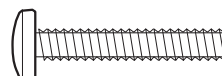
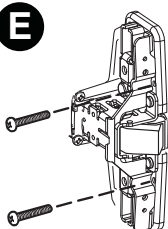
D



#10-16 X 3/8" Thread cutting

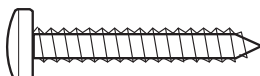
End cap screw

E



#10-24 X 1"

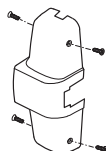
Surface mount (metal)



#10 X 1-1/4" Wood screw

Surface mount (wood)

F



#8-18 X 3/8" Thread cutting

Cover screw

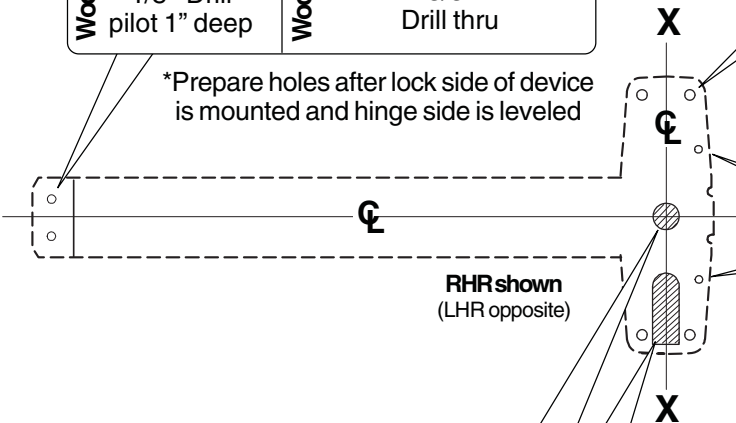
PREPARATION CHART

Go to instructions on next page before using preparation chart

*End cap bracket - 2 holes

Surface mount		Sex bolts	
Metal	#25 Drill	Metal	1/4" Drill (device side)
	#10-24 tap		13/32" Drill (trim side)
Wood	1/8" Drill	Wood	13/32" Drill thru
	pilot 1" deep		

*Prepare holes after lock side of device is mounted and hinge side is leveled



Door cut-outs

Outside cylinder applications:
Mark with template and cut-out:
Metal door (cut device side)
Wood door (cut thru)

For trim applications with working lever, thumbpiece, or knob:
Mark with template and cut out:
(cut device side only)

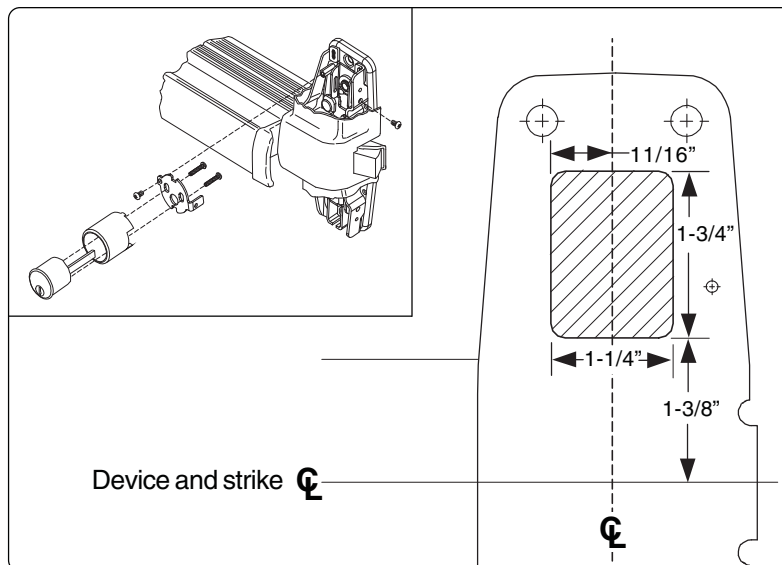
Center case - 4 holes

Surface mount		Sex bolts or 990 trims	
Metal	#25 Drill	Metal	1/4" Drill (device side)
	#10-24 tap		13/32" Drill (trim side)
Wood	1/8" Drill	Wood	13/32" Drill thru
	pilot 1" deep		

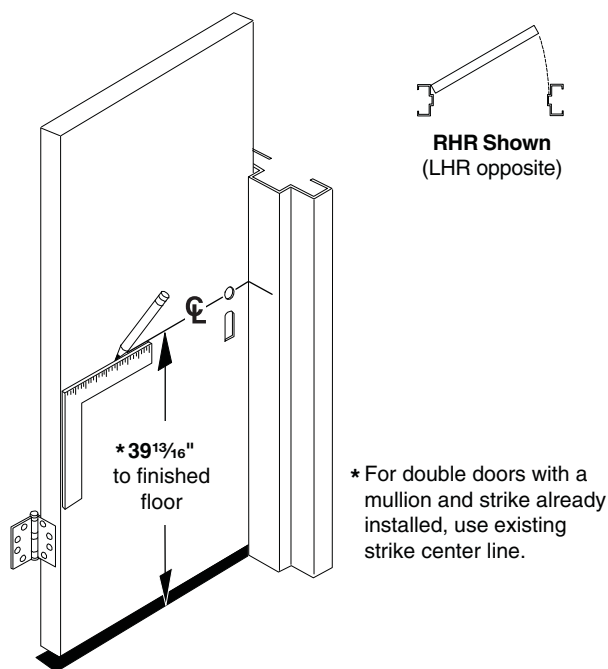
Center case - 2 support holes

Metal	#25 Drill #10-24 tap
Wood	1/8" Drill pilot 1" deep
For 98-F/99-F (fire) wood door	
#825 Sex bolts (2) required	
Wood or composite	3/8" Drill thru
	5/8" Spade drill 1/16" Deep outside

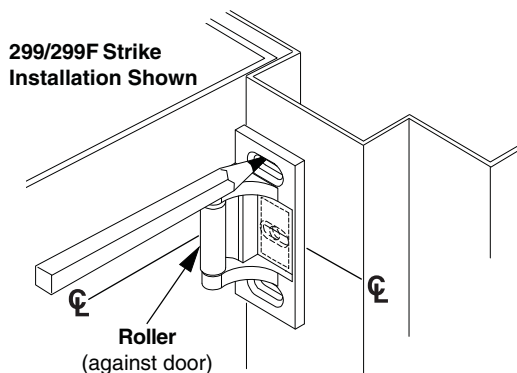
CUT-OUT FOR 99-2 "DOUBLE CYLINDER" OPTION



1 Draw Horizontal Device and Strike Center Line (☿)

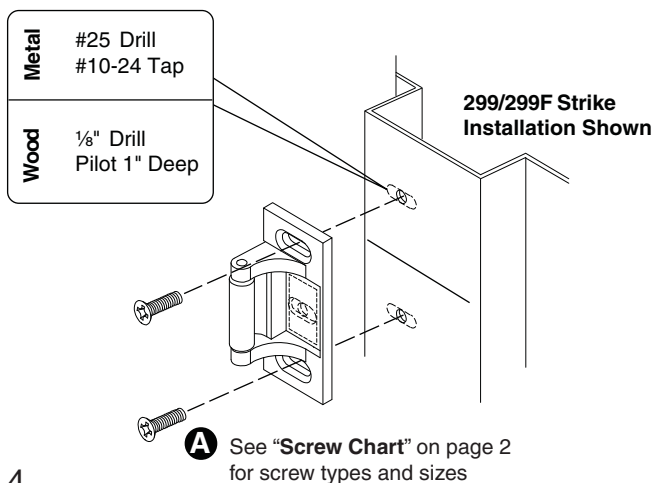


2 Align Strike on ☿ and Mark the Two Slotted Holes

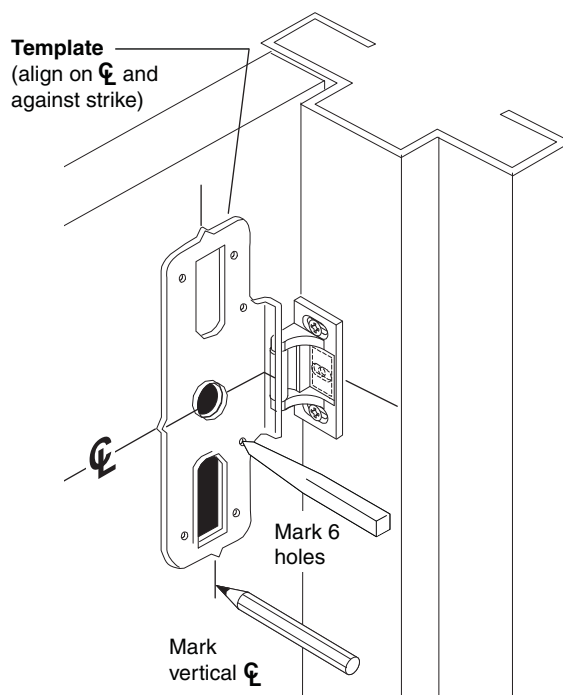


Note:
For 499F strike installation, see page 8.

3 Prepare 2 Holes and Install 2 Screws

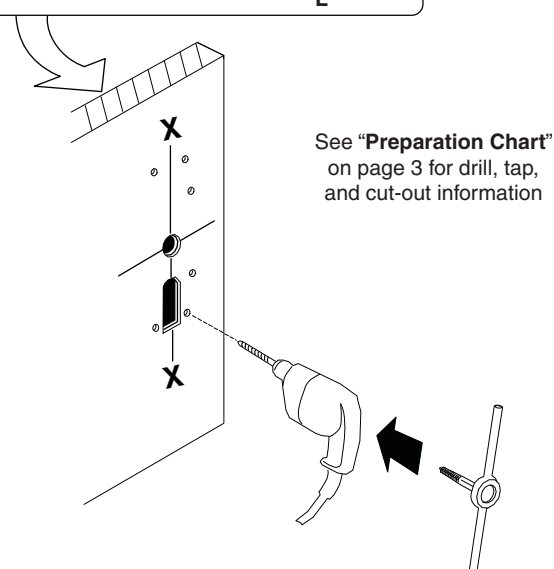


4 Position Template against Strike and on ☿ and Mark Door



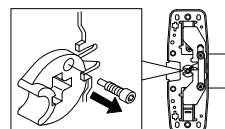
5 Prepare Door for Device and Trim

See trim instructions for pull side door preparation. Line X-X in trim instructions is same as vertical device ☿.



6 If Using an Outside Cylinder, Check NL Drive Screw

NL drive screw



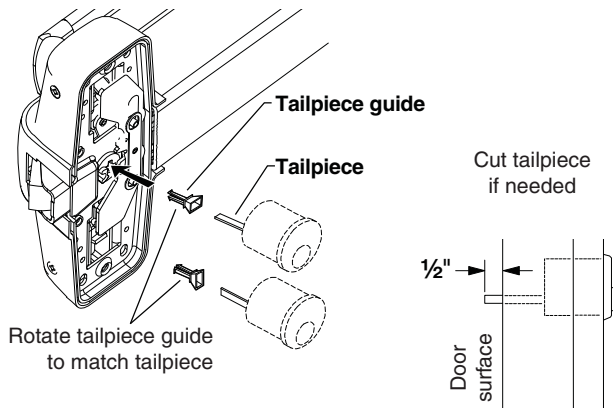
Note: When the NL drive screw is left in back of device, the outside cylinder will function only as a Night Latch.

When installing trim that has a functional lever, knob, or thumb piece AND an outside cylinder to lock and unlock the trim, remove NL drive screw from back of device.

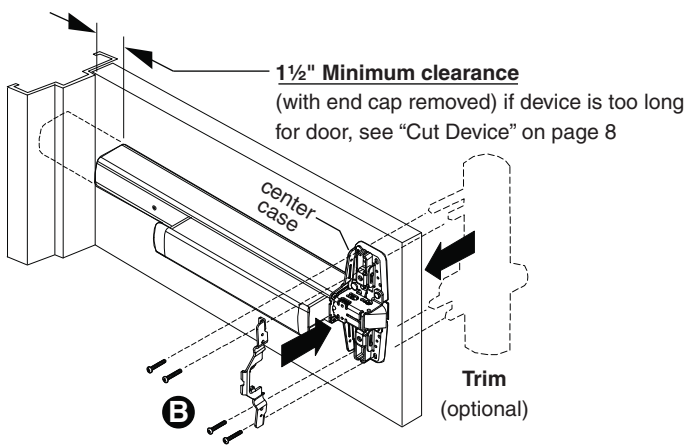
DO NOT remove NL drive screw for the following application: **NL, EO, DT, TP-2, L-2, and K-2 trims or with 98/99-2 (double cylinder).**

With "BE" trim, device may need to be rehanded. See instructions on back of trim.

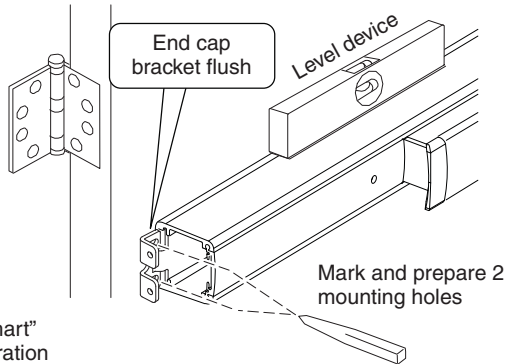
7 Install Tailpiece Guide



8 Install Trim (if using) and Secure Device Center Case to Door

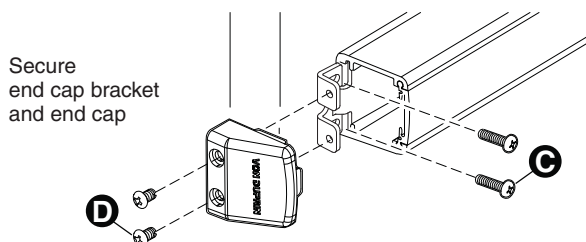


9 Mark and Prepare 2 Holes for End Cap Bracket

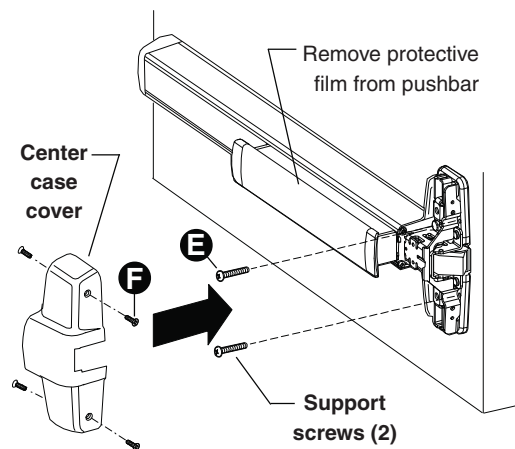


See "Preparation Chart" on page 3 for preparation information

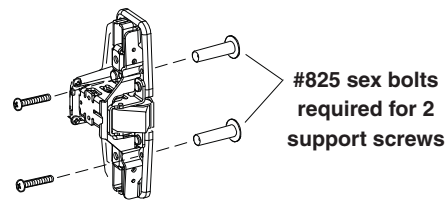
10 Install End Cap Bracket and End Cap



11 Install 2 Support Screws and Center Case Cover

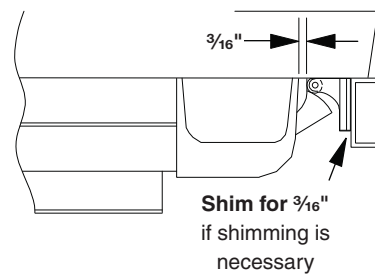


For 98F/99F (fire rated) devices on wood or composite door:

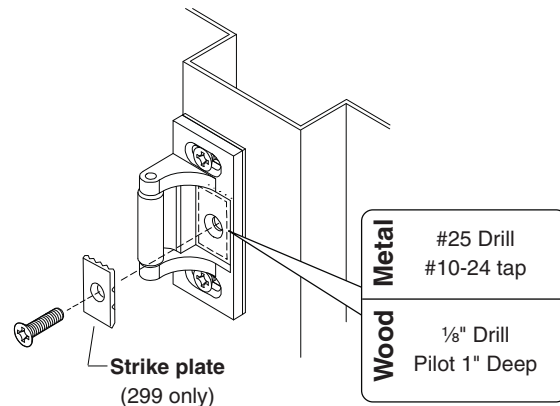


12 Adjust Strike as Needed

299/299F Strike



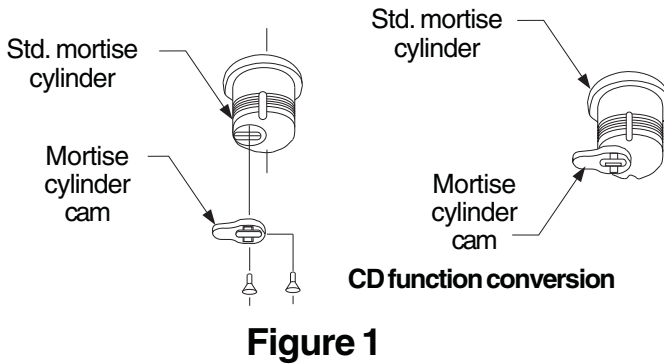
13 Secure Strike with Additional Screw



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.



Dogging procedure

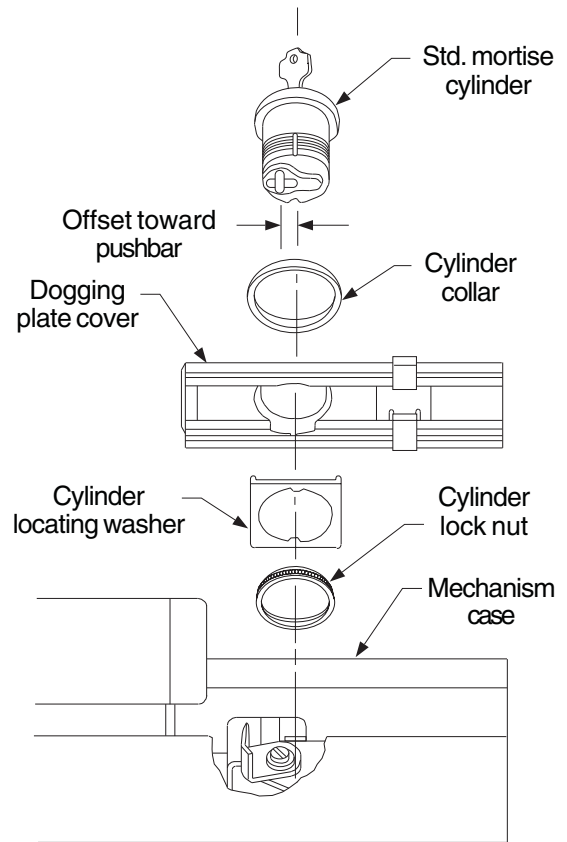
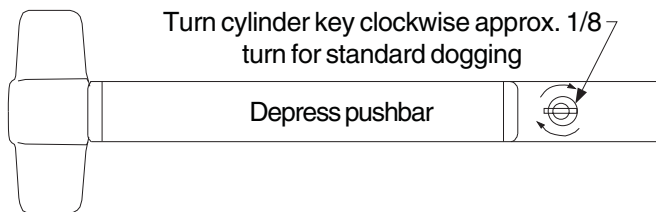
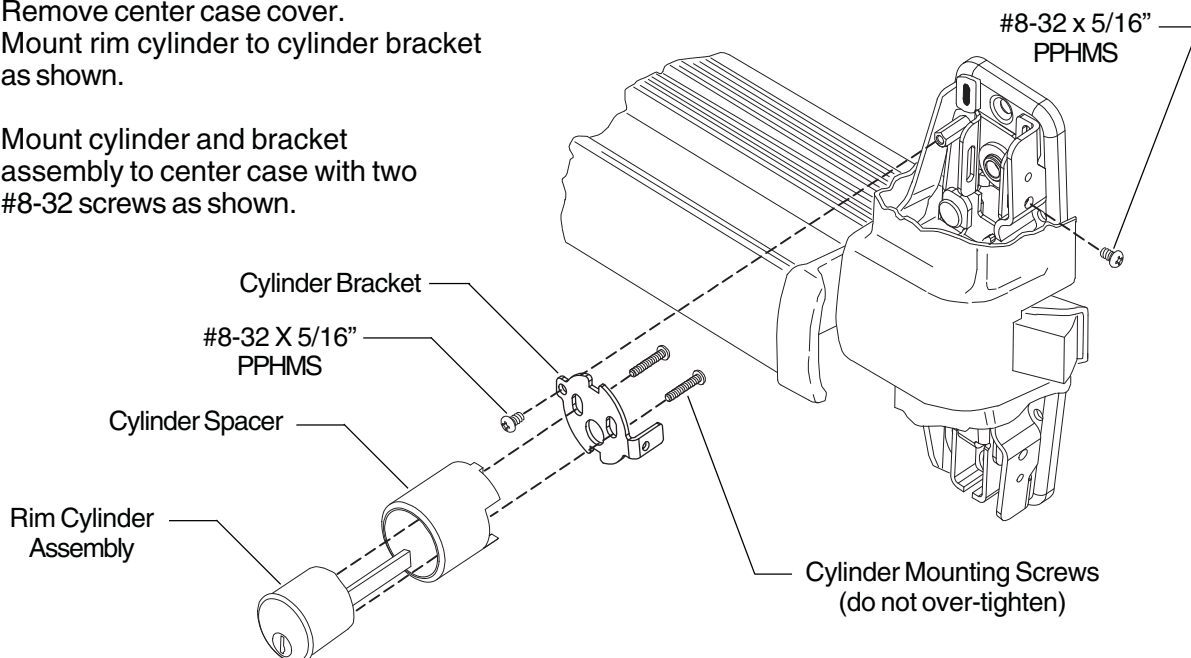


Figure 2

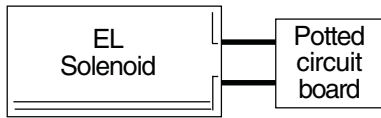
99-2 (DOUBLE CYLINDER)

1. Remove center case cover.
2. Mount rim cylinder to cylinder bracket as shown.
3. Mount cylinder and bracket assembly to center case with two #8-32 screws as shown.



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

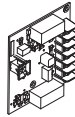
If the solenoid fails to retract the latch bolt when power is applied, recheck wiring for proper connections.

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

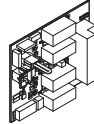
1. Check wiring for proper connections, gauge, and distances.
2. Check for latch bolt binding caused by improper strike installation, warped door, etc.

EL WIRING

Solenoid draws 16 A inrush current from PS914. Solenoid must be wired to a 900-2RS logic board:



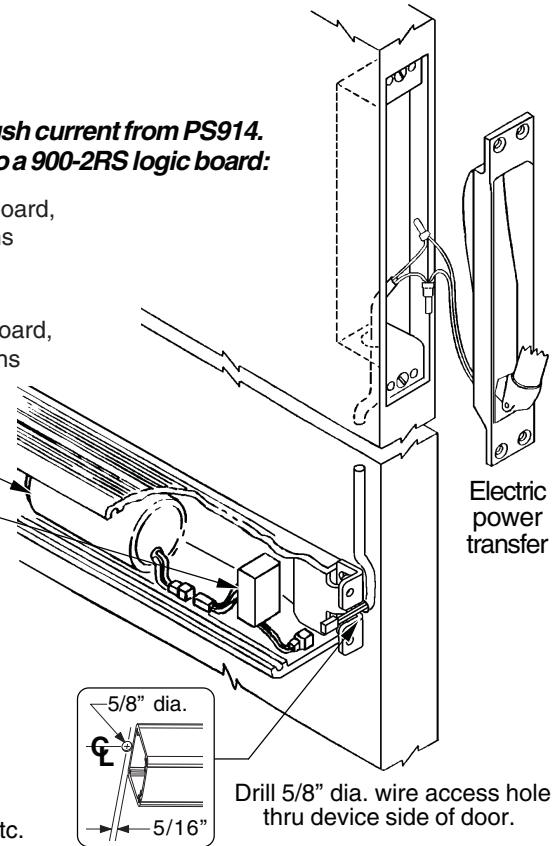
If 900-2RS logic board, refer to instructions 44487056.



If 900-4RL logic board, refer to instructions 44487080.

Solenoid
Potted Circuit Board
Install after device has been mounted on door

Do not cut device with potted circuit board installed



EL ADJUSTMENT PROCEDURE

- Check for proper function:
 1. Make sure device is not dogged.
 2. Depress pushbar and make sure latch bolt 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.
- 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).
- 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. Turn 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.

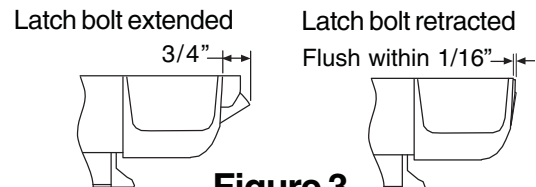


Figure 3

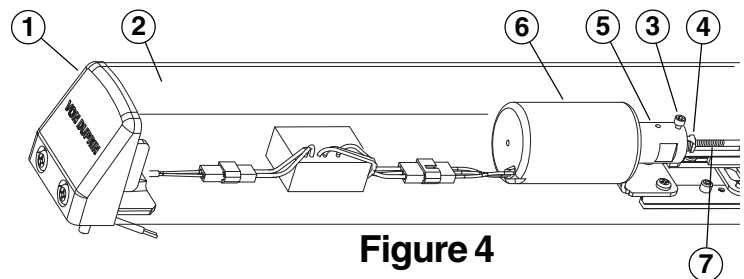
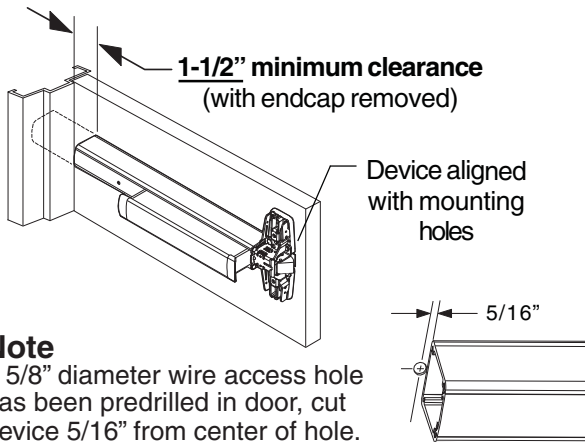


Figure 4

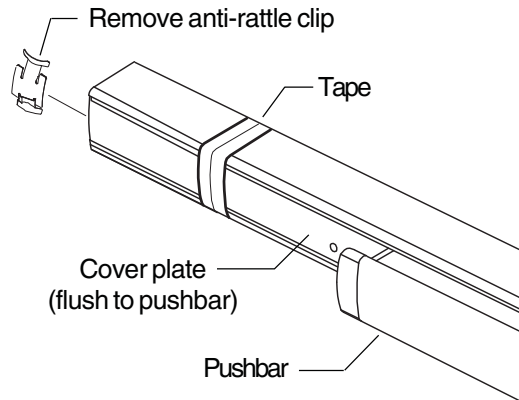
- Solenoid adjustment if dogging rod adjustment is too **short** (see Figure 4):
 1. Remove end cap ① and dogging cover ②.
 2. Loosen cap screw ③.
 3. Hold plunger ⑤ depressed in solenoid housing ⑥.
 4. Turn threaded bushing ④ out to lengthen dogging rod ⑦ so plunger ⑤ just bottoms in solenoid housing 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.

CUT DEVICE

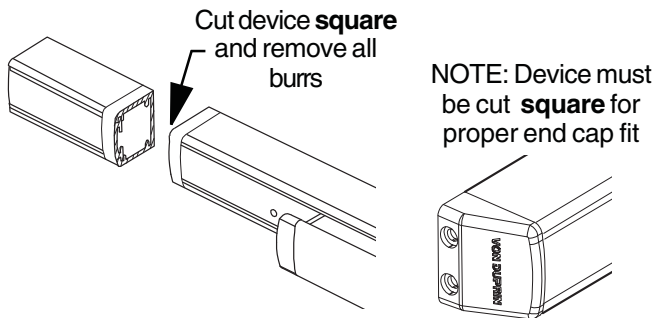
1 Measure amount to cut off device.



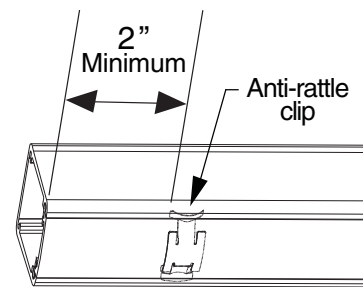
2 Tape and mark area being cut.



3 Cut device square.

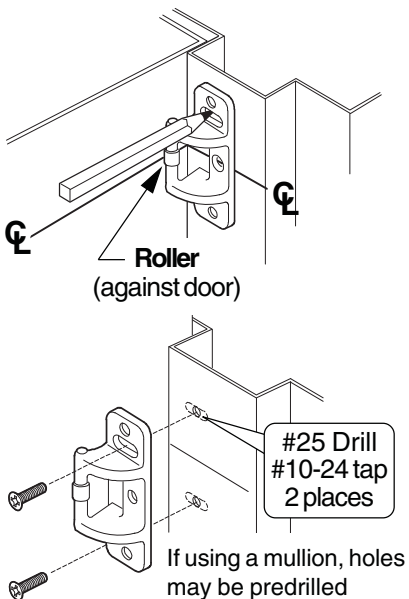


4 Slide anti-rattle clip into device.

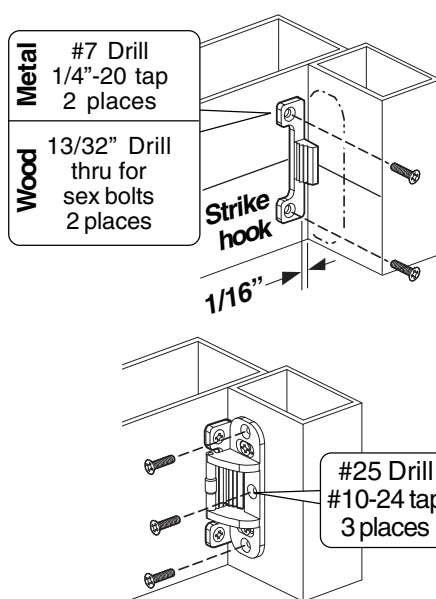


499F STRIKE INSTALLATION

1 Prepare and install screws through 2 strike slots.



2 Install strike hook and additional strike screws.



3 Template aligns as shown.

