

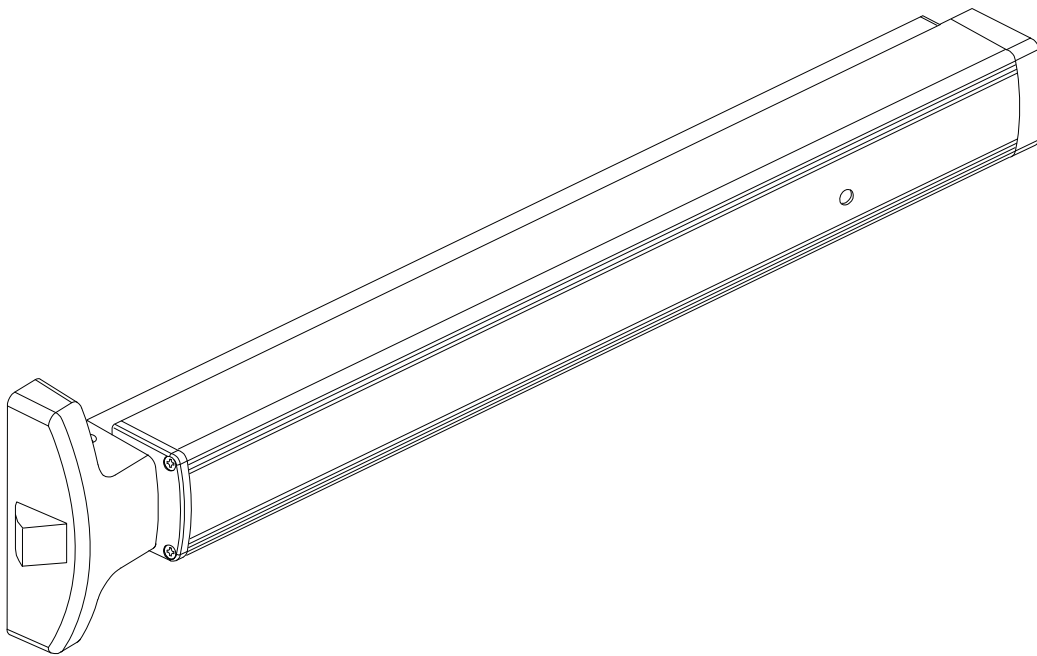
# FALCON®

## Installation Instructions



ININST.1001

# 1790 Touchbar Rim Panic Device



### Index:

• Before Installation .....	2
• Installation .....	2
• Touchbar Dogging .....	7
• RM170 Mullion Installation .....	8
• Field Sizing Device .....	10
• 2090 Retrofit Instructions .....	12
• Device Template .....	14
• Strike Template .....	15
• Touchbar Part Numbers .....	15
• Parts List .....	16

# BEFORE INSTALLATION

1. Check "Parts List" (see page 16).
2. Prepare door using template on page 14.
3. Prepare frame using template on page 15.
4. If door width is non-standard, cut device (see page 10).

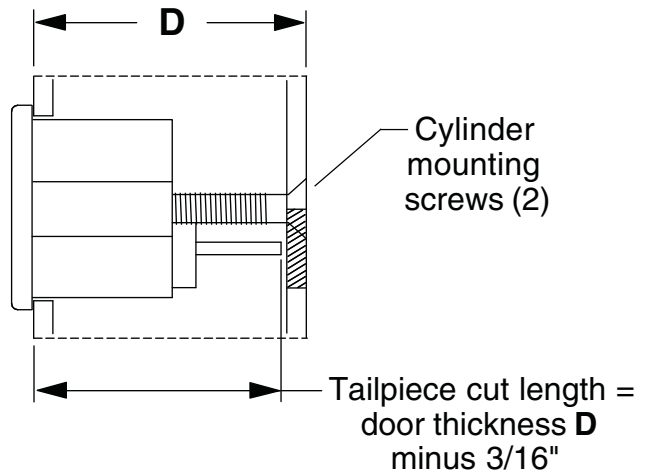
# INSTALLATION

## 1 Install outside cylinder. (If no outside cylinder, go to Step 3.)

- 1.1. Cut cylinder tailpiece to correct length.

**NOTE**  
If 5/32" spacer is used, as in Kawneer applications, cut length is 1-23/32" for a 1-3/4" thick door.

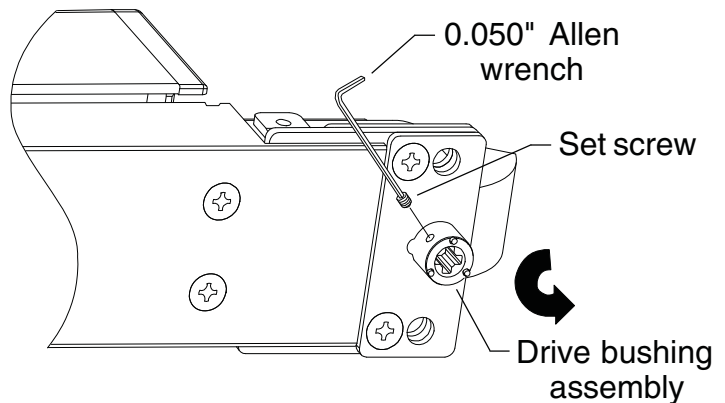
- 1.2. Install cylinder into door and secure with two mounting screws. Screws must be flush with surface of door.



## 2 If necessary, change key function to hold back (HB).

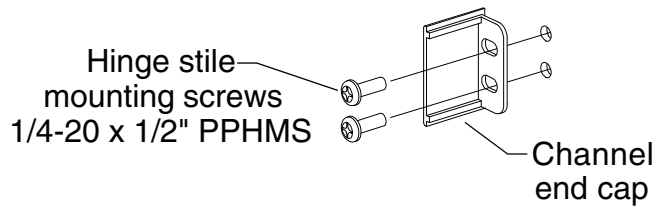
**NOTE**  
Device is set at factory for night latch (NL) function. To convert to HB, perform Steps 2.1-2.3. For NL function, skip Steps 2.1-2.3 and go to Step 3.

- 2.1. Remove the set screw from the drive bushing assembly using 0.050" Allen wrench supplied in PKG.133.
- 2.2. Rotate internal drive bushing counterclockwise until it stops against the internal stop.
- 2.3. Maintain position of drive bushing and continue.

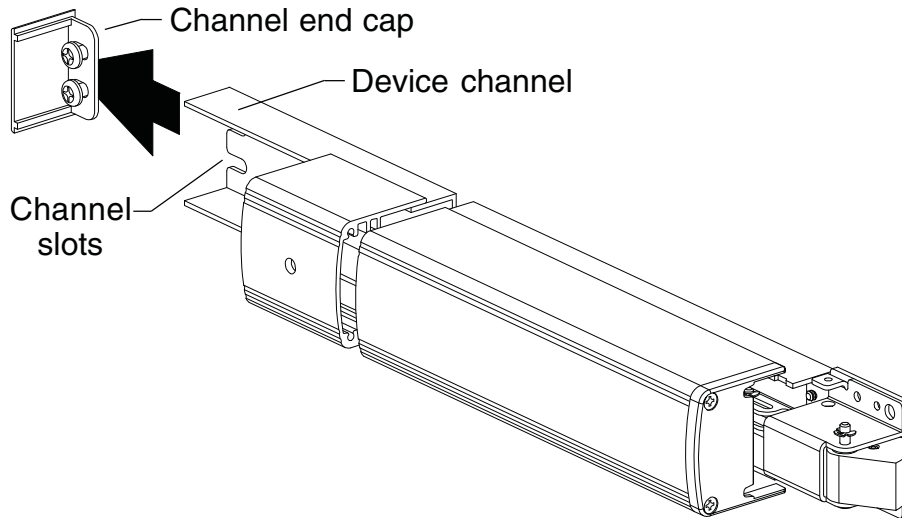


### 3 Mount device.

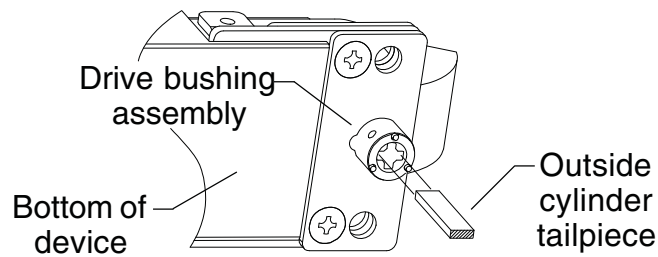
- 3.1. Start two hinge stile mounting screws (1/4-20 x 1/2" pan head) in channel end cap. Leave screws loose.



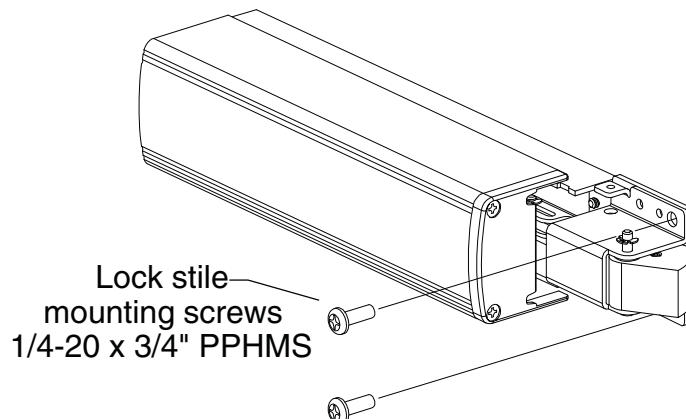
- 3.2. Slide device channel under channel end cap aligning channel slots.



- 3.3. If using outside cylinder, align drive bushing assembly over tailpiece maintaining drive bushing position.

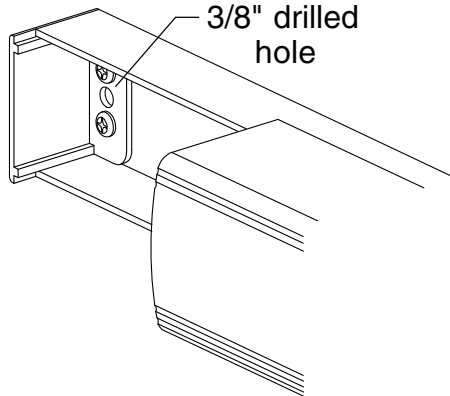


- 3.4. Attach device to door at lock stile using two lock stile mounting screws (1/4-20 x 3/4" pan head) and tighten securely all four mounting screws.



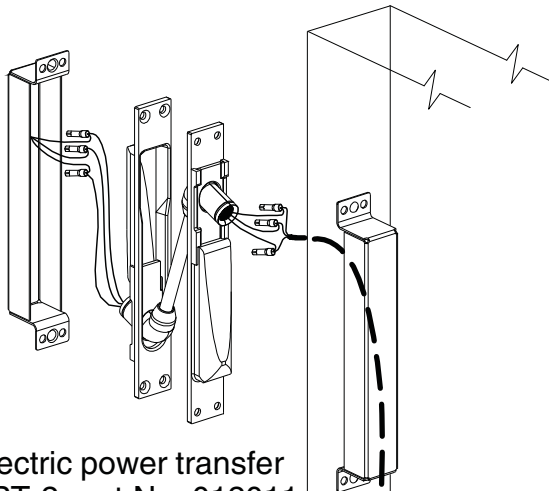
## 4 Prepare hole and wire EL/RX device. (If device is not EL/RX, go to Step 5.)

4.1. Drill 3/8" diameter hole for EL/RX wiring through channel end cap, channel, and inside face of door.



**NOTE**  
Hole must be free of burrs.

4.2. Wire RX switch as shown below. For EL wiring, go to Step 4.3.



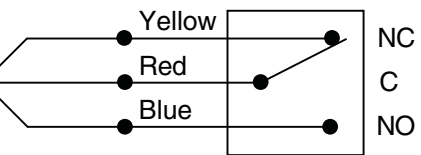
Electric power transfer  
(EPT-2 part No. 012011  
EPT-10 part No. 012012)

- The RX switch is activated when the touchbar is depressed.
- Use the Von Duprin EPT-10 power transfer (for three wires), EPT-2 power transfer (for two wires), electric hinge, electric pivot, or door loop to transfer the wiring from the door to the frame.
- Connect the power transfer wires and switch assembly wires with crimp connectors. Unused wires should be insulated separately.

**NOTE**  
The RX switch is available only as a factory installed item. Part No. WIRE.1001 can be used only to replace the factory installed RX switch.

**CAUTION**  
Wiring must be pulled tight so cable will not interfere with touchbar and channel movement.

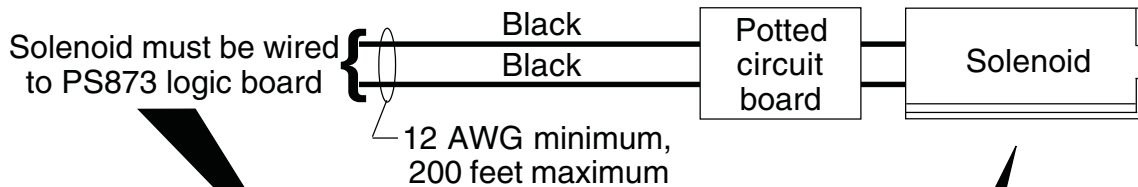
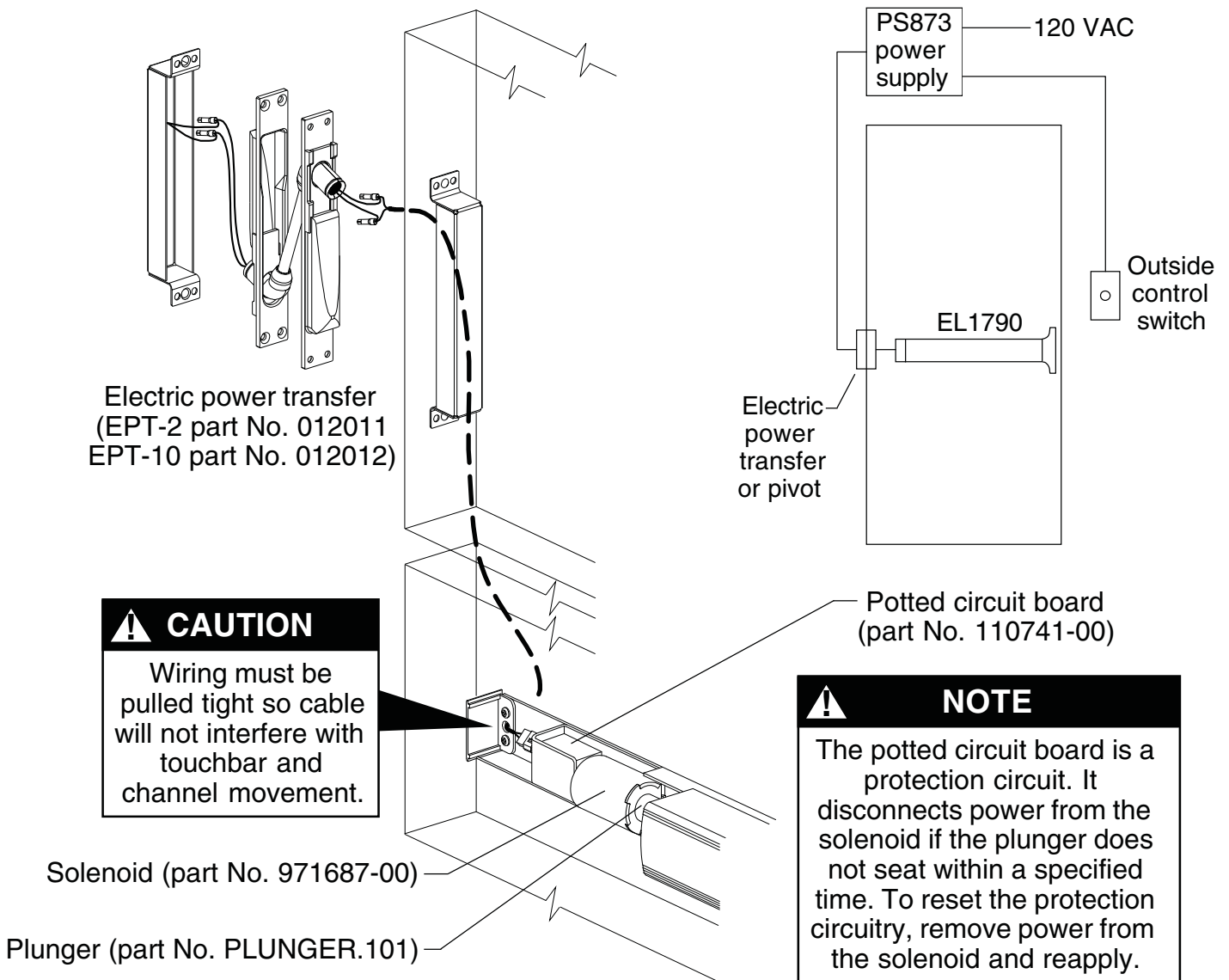
RX switch  
(part No. WIRE.1001)



Switch shown not activated  
(touchbar not depressed)

Touchbar

**4.3. Wire EL solenoid as shown below. All EL1790 devices are fail secure.**



**If 871-2 logic board, refer to Von Duprin instructions 941352.**  
Any reference to Von Duprin EL devices also applies to EL1790.



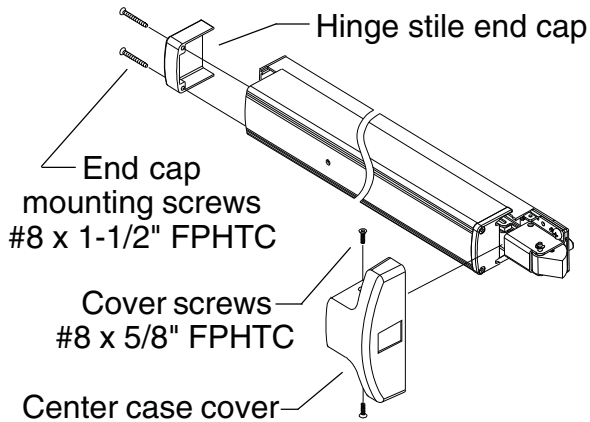
**If other 873 logic board, refer to Von Duprin instructions 941353.**  
Any reference to Von Duprin EL devices also applies to EL1790.

**Electrical Specifications**

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

## 5 Install covers.

- 5.1. Install center case cover with two cover screws (#8 x 5/8" FPHTC).
- 5.2. Install hinge stile end cap with two end cap mounting screws (#8 x 1-1/2" FPHTC).

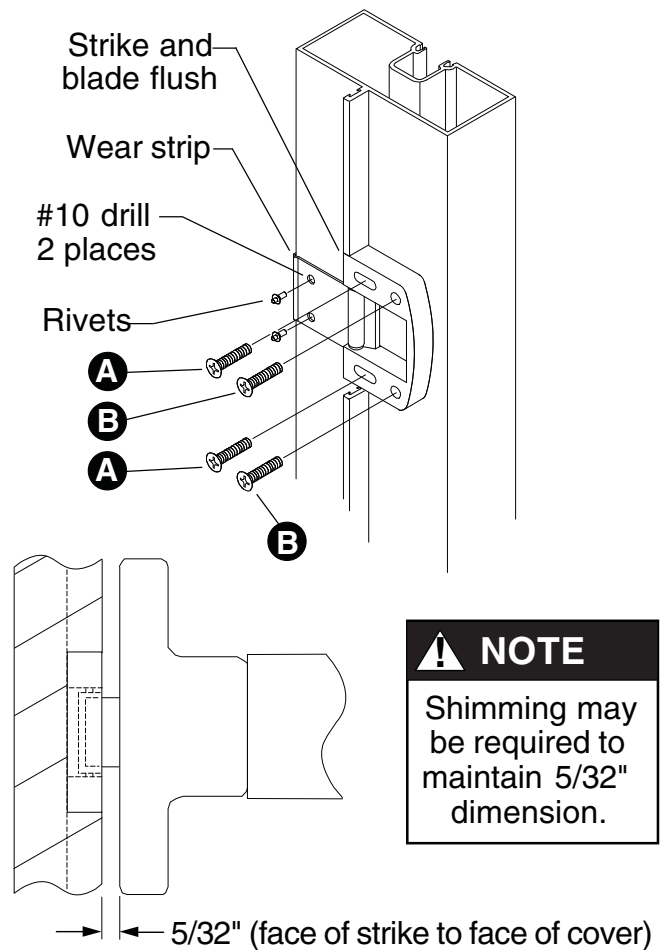


**NOTE**  
Device must be undogged to install center case cover.

## 6 Install TD35 strike for non-mullion applications. (See pg. 13 for frame preparation)

**NOTE**  
See page 8 for mullion installation.

- 6.1. Apply strike to frame as shown. Tighten screws marked **A** so strike is flush with front of blade as shown.
- 6.2. Drill and tap for screws marked **B** while maintaining alignment of strike and blade stop.
- 6.3. Secure strike.
- 6.4. Place wear strip under front of strike and mark two holes as shown.
- 6.5. Drill through two places with #10 drill for wear strip mounting holes.
- 6.6. Install rivets to wear strip and frame and secure with hammer.
- 6.7. Verify clearance between cover and strike as shown.



**NOTE**  
Shimming may be required to maintain 5/32" dimension.

## 7 Perform functional check.

- 7.1. Dog device. Latch bolt should clear strike roller when door is opened.

# TOUCHBAR DOGGING



## NOTE

These instructions are for touchbar dogging of **new style** DOM 1790 devices. **New style** devices have two cover screws installed vertically into the center case cover. (Old style devices have four cover screws installed horizontally into the center case cover.)

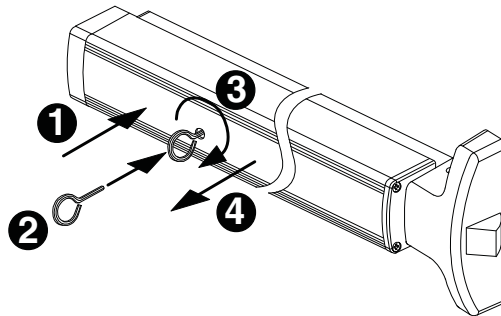


## NOTE

EL (electric latch retraction) devices cannot be mechanically dogged using the touchbar. If mechanical hold back is required in addition to electric latch hold back, use the pull side HB key cylinder option.

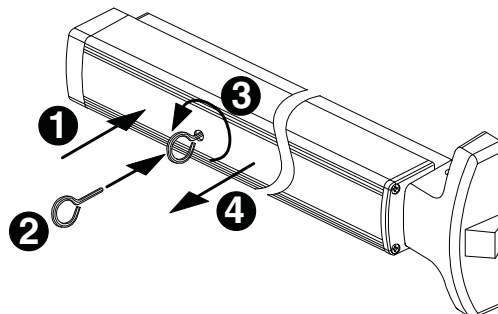
### To Dog Device (hold latch retracted)

1. Depress touchbar with hand and maintain pressure on touchbar.
2. Insert dogging key into hole on touchbar.
3. Rotate key approximately 1/8 turn clockwise.
4. Release pressure on touchbar (touchbar will remain depressed to door).



### To Undog Device (panic latch locks upon closing)

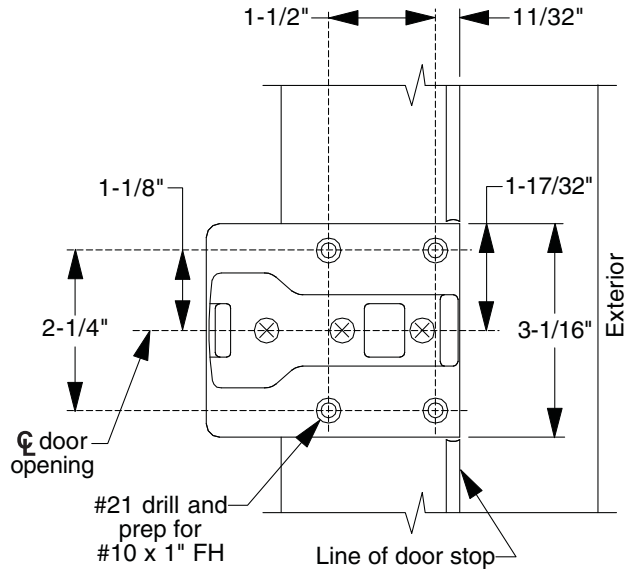
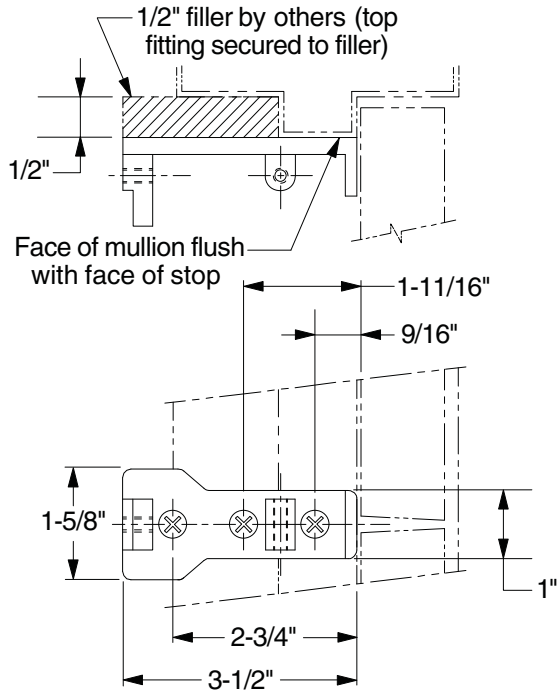
1. Depress touchbar with hand and maintain pressure on touchbar.
2. Insert dogging key into hole on touchbar.
3. Rotate key approximately 1/8 turn counterclockwise.
4. Release pressure on touchbar (touchbar will extend from door).



# RM170 MULLION INSTALLATION

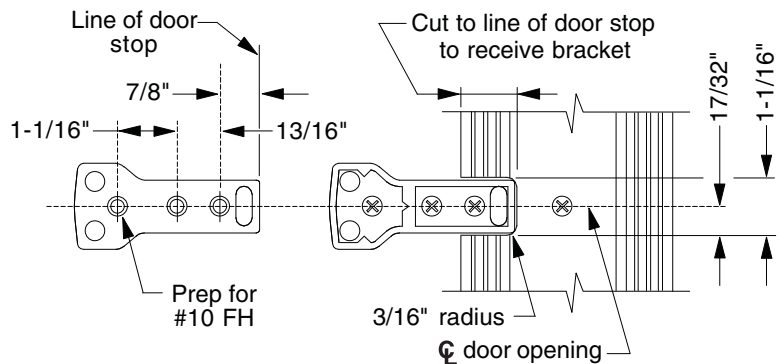
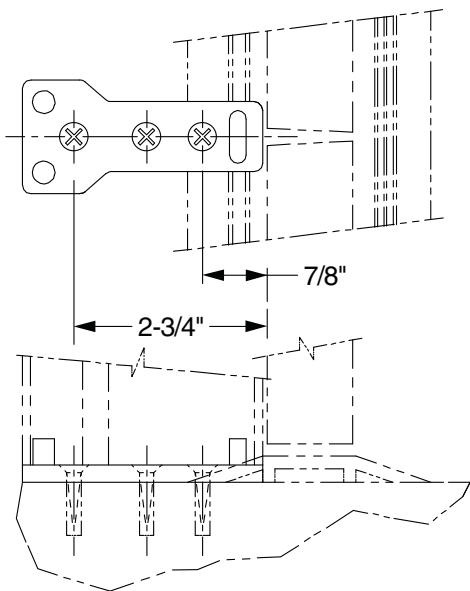
1. Mount top and bottom fittings (see below). To install fittings, line up fittings with center of doorway and flush with doors. Cut out threshold to receive bottom fitting.

## Top Fitting



**View Showing Optional  
DOM Filler Plate**

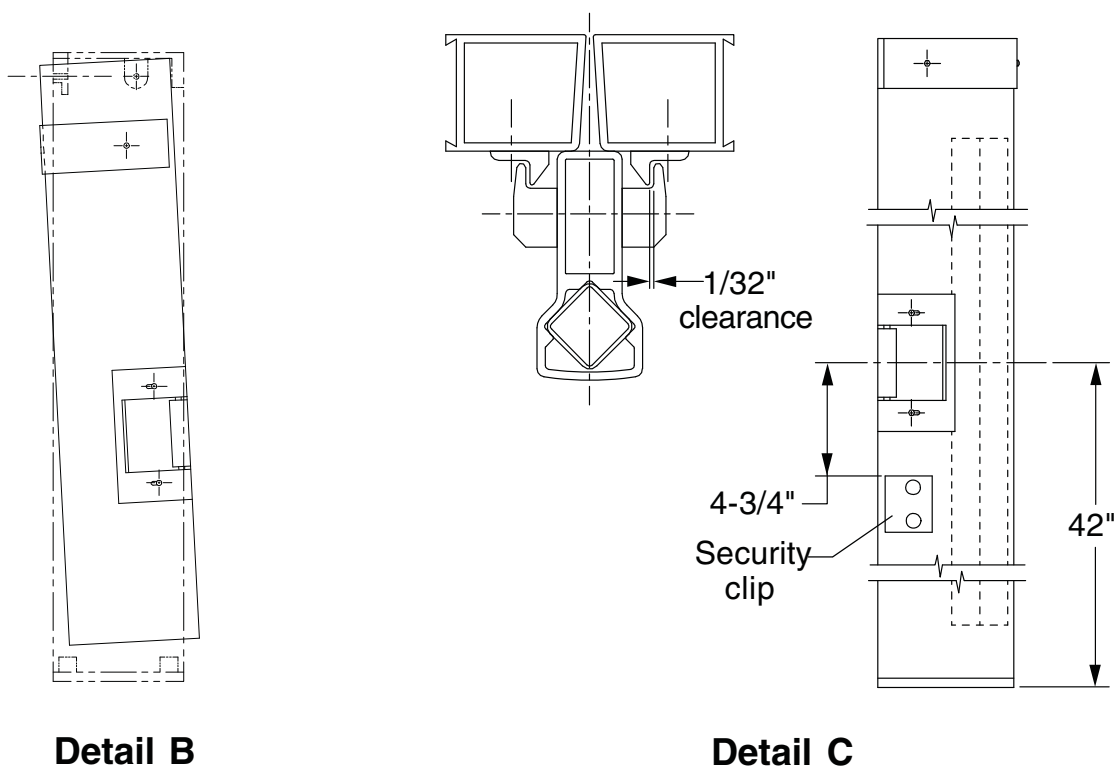
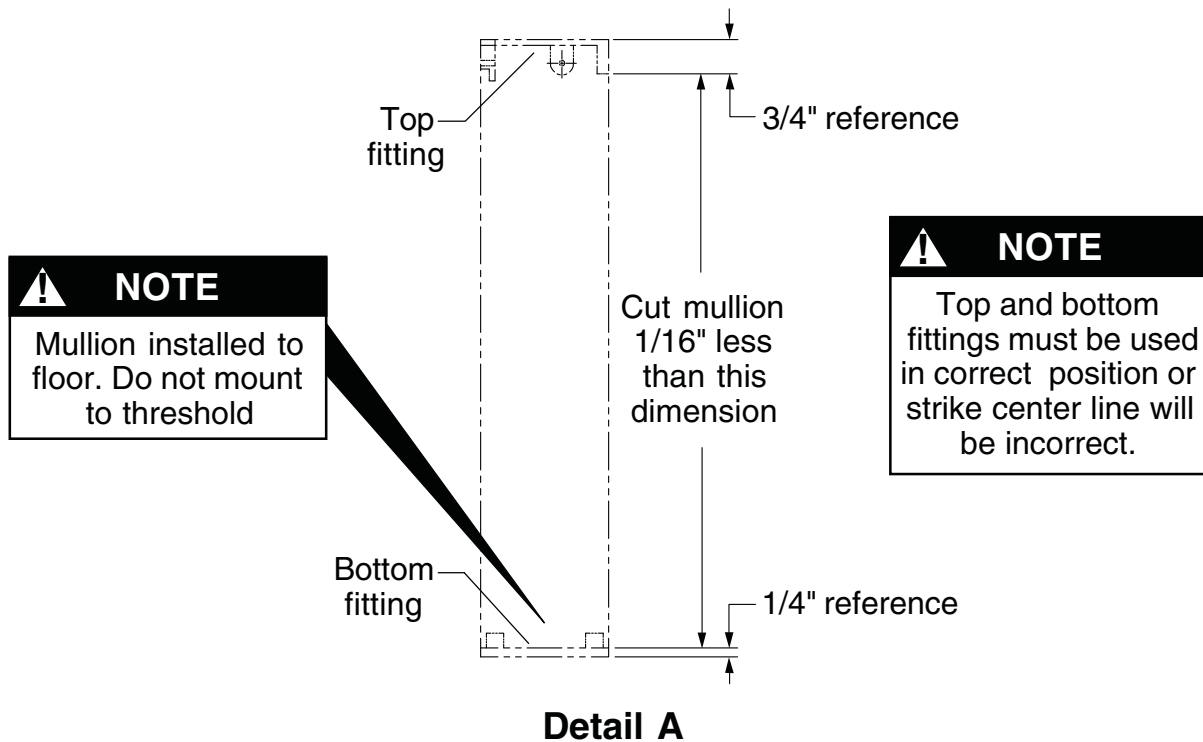
## Bottom Fitting



**View Showing  
Threshold Cutout**



2. Measure mullion and cut as required (Detail A).  $\text{C}\checkmark$  of strike is set at factory to match device template  $\text{C}\checkmark$  dimension of 42" to finished floor.
3. Slide mullion over top fitting and swing into position on bottom fitting (Detail B).
4. Slide mullion clamp over top fitting and secure with three screws.
5. Locate security clips on door (Detail C). Prepare holes with #21 drill and 10-32 tap and assemble.



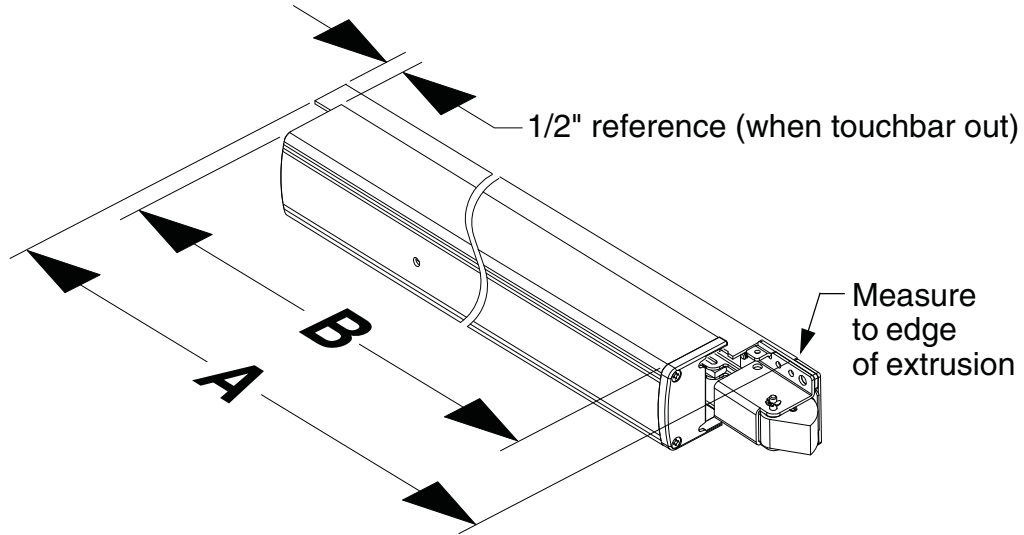
# FIELD SIZING DEVICE

**Note:** These instructions assume a 1/2" blade stop on the door frame.

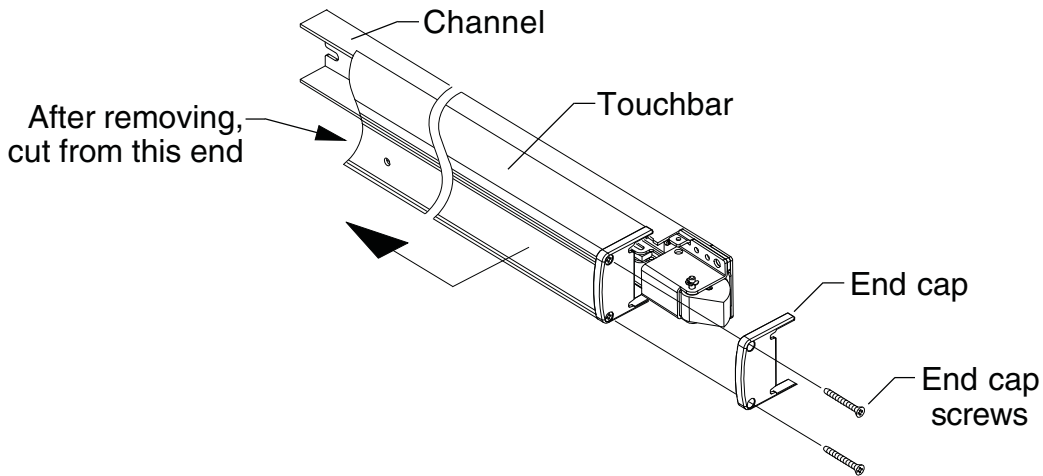
1. Determine door clear opening. This is the distance inside the frame.
2. Determine channel cut length **A**: **A = door clear opening – 2-27/32"**
3. Verify that **A** determined in Step 2 is not less than minimum **A** dimension listed in table. (Standard 1790 device sizes can be shortened by up to 6" and EL devices can be shortened by up to 1.5"). Cut channel.

Standard Device Size	Factory Dimension A	Standard Device Minimum Dimension A	EL Device Minimum Dimension A
2' 6"	27.138"	21.138"	25.638"
3' 0"	33.138"	27.138"	31.638"
3' 6"	39.138"	33.138"	37.638"
4' 0"	45.138"	39.138"	43.638"

4. Determine touchbar cut length **B**: **B = door clear opening – 5-7/32"**



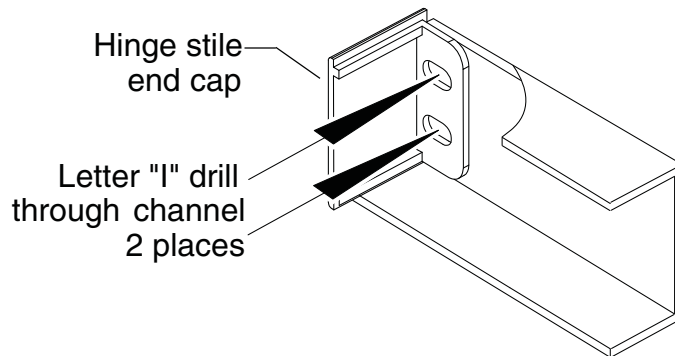
5. Remove two end cap screws, end cap, and touchbar.



6. Cut **hinge side** of touchbar to dimension **B** from Step 4.
7. **Cover device mechanism to keep chips out** and cut channel to dimension **A** from Step 2.

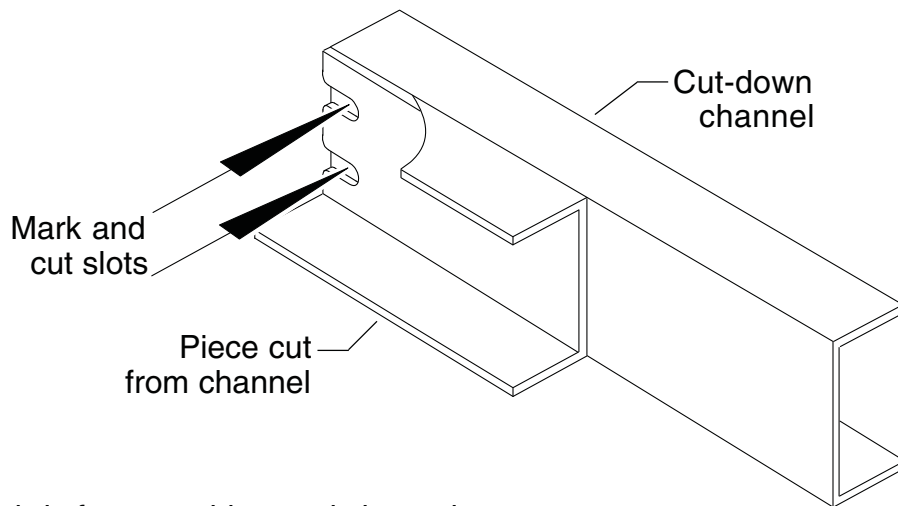
8. If hinge stile has not been prepared for channel hinge stile 1/4-20 mounting screws:

Place hinge stile end cap into hinge end of channel. Drill through the center of end cap slots using a letter "I" drill. These two holes will be used to transfer location of mounting screw holes to hinge stile when device is applied to door.

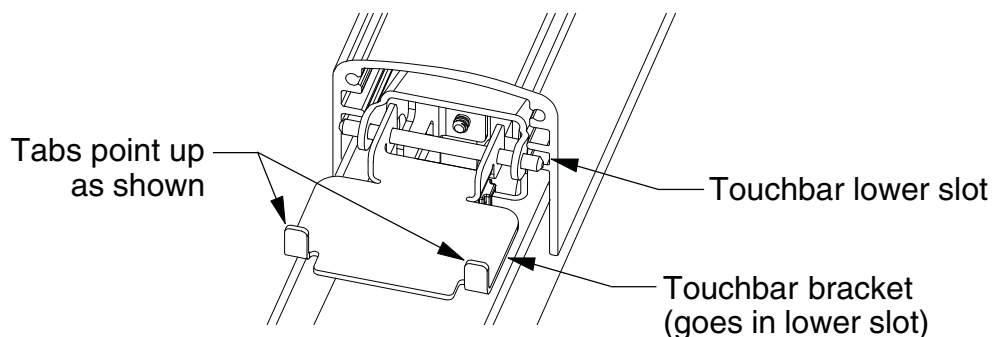


- If hinge stile has been prepared for channel hinge stile 1/4-20 mounting screws:

Using end cut from channel in Step 3 as a template, place backs of channel sections against each other and align ends. Mark slot pattern on the cut-down channel. Following all safety precautions, use a drill and aluminum saw to cut slots in cut-down channel section.



9. Clean debris from touchbar and channel.
10. Slide touchbar over touchbar pins. Make sure to install both pins in lower slot in touchbar. If touchbar bracket is removed, it should be reinstalled with stop tabs turned up away from channel.

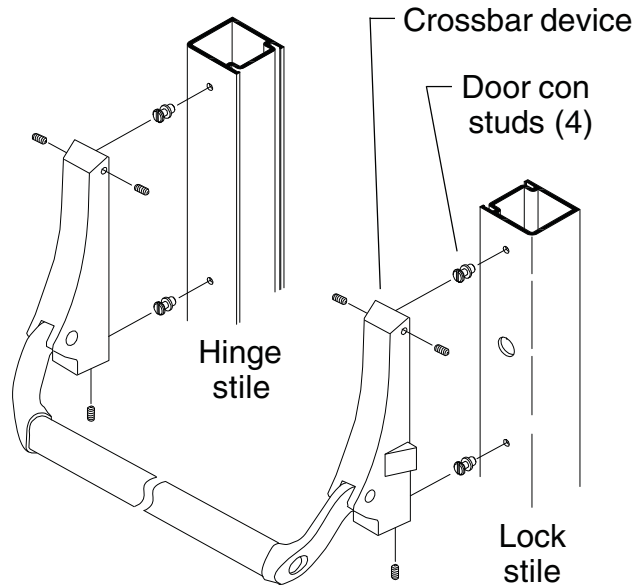


11. Reinstall end cap and screws.

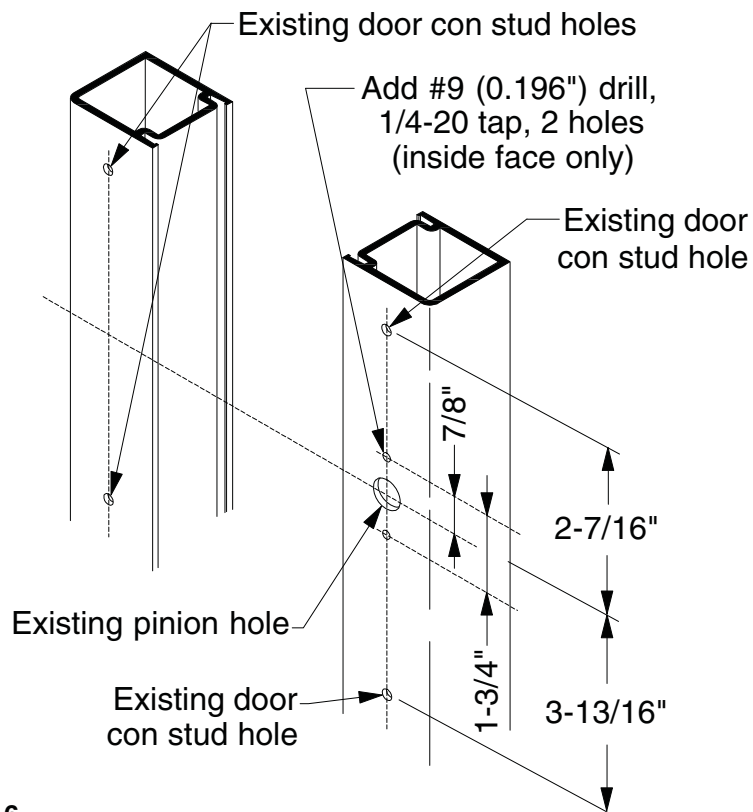
# 2090 RETROFIT INSTRUCTIONS

**Note:** Retrofitting double doors requires replacement of the RM70 mullion with a RM170 mullion. This is because they have different device center lines.

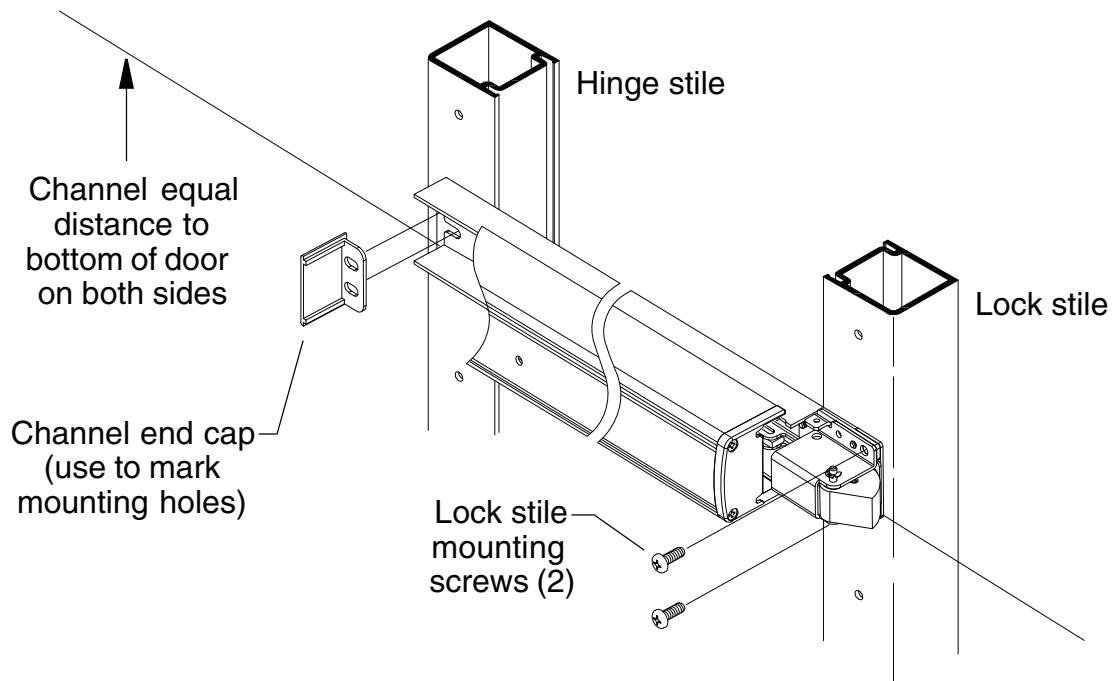
1. Remove crossbar device and door con studs from door as shown.



2. If door width is non-standard, size device using field sizing directions on page 10.
3. Using existing pinion or door con stud hole as a reference, locate the two 1/4-20 mounting holes on the lock stile. Drill and tap 1/4-20, inside face only.

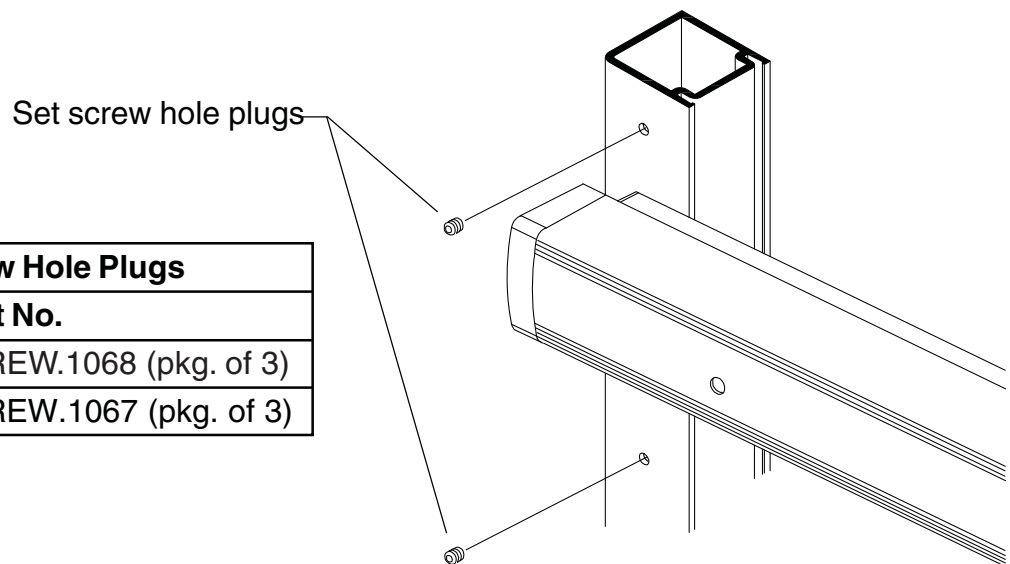


4. Mount the device to the lock stile using the supplied 1/4-20 x 3/4" pan head screws.
5. Position the device horizontally on the door (same distance from bottom of door to bottom of channel on both stiles).
6. Position channel end cap in end of channel and use to mark locations for hinge mounting holes.

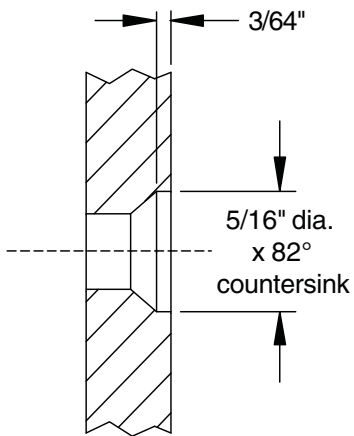
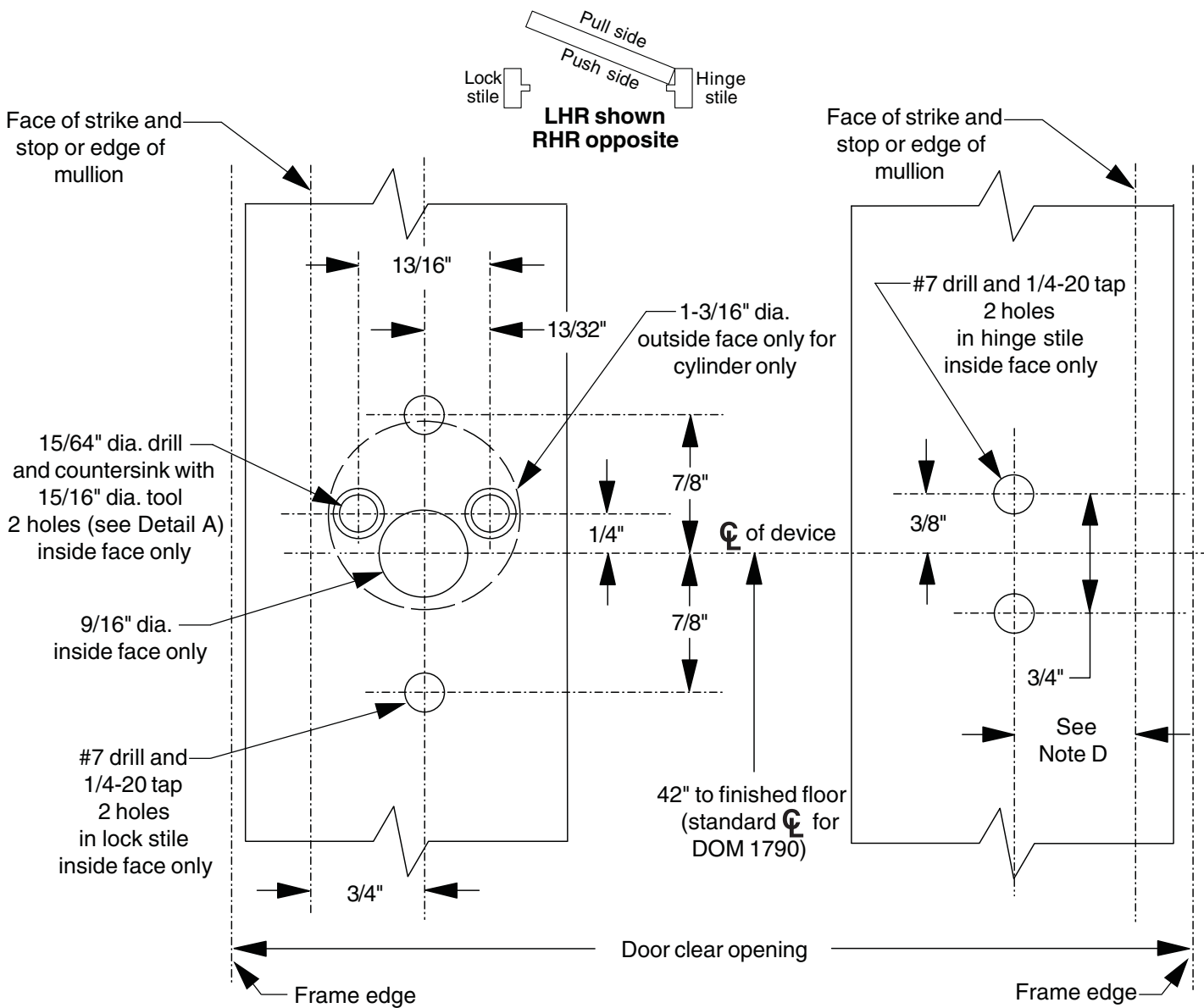


7. Remove the device from the door.
8. Drill and tap through two 1/4-20 mounting holes on hinge stile, inside face only.
9. Remove the old 2090 strike and replace with TD35 strike (see Step 6 on page 6).
10. Continue on with 1790 installation instructions.
11. When installation is complete, install supplied set screw hole plugs in exposed 2090 door con stud holes (two on hinge stile and one on lock stile).

Set Screw Hole Plugs	
Finish	Part No.
US28	SCREW.1068 (pkg. of 3)
DC13/DC35	SCREW.1067 (pkg. of 3)



# DEVICE TEMPLATE



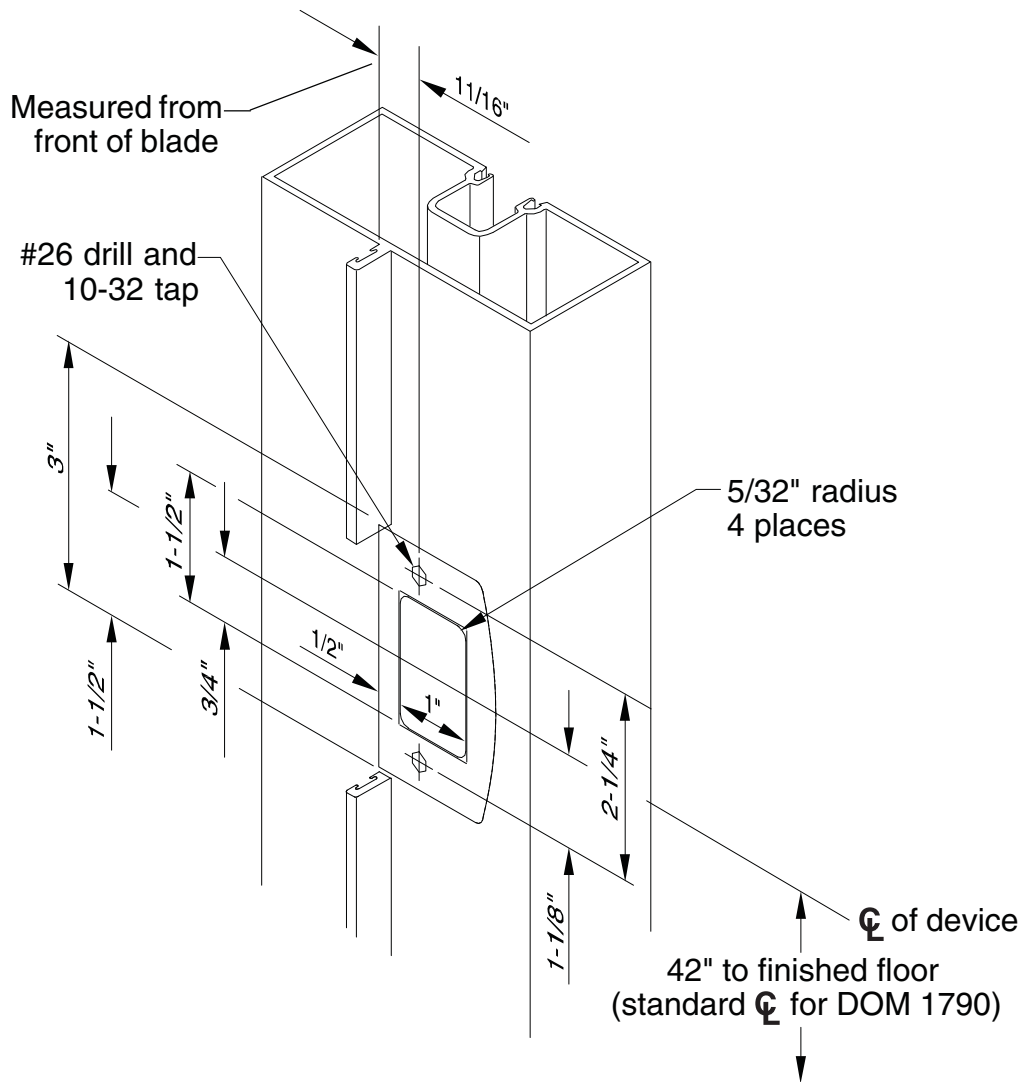
**⚠ NOTES**

1. All holes inside face only except as noted.
2. All dimensions for 1-3/4" thick, 1/8" wall doors. Consult factory for others.

**⚠ NOTE D**

Dimensions from face of door blade stop to mounting hole center lines 3/4" minimum.

# STRIKE TEMPLATE



# TOUCHBAR PART NUMBERS

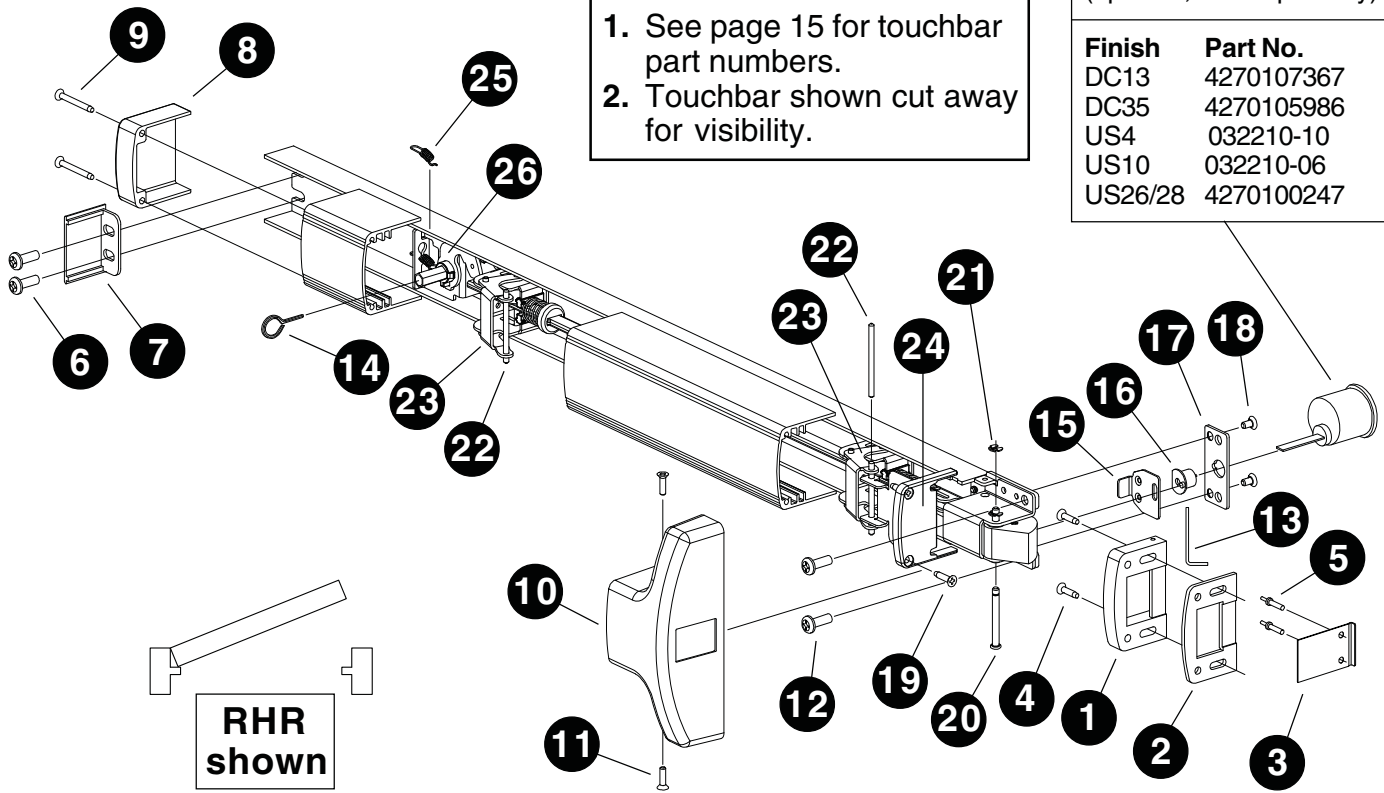
Finish	30" Nominal Device Length (24.785" Extrusion Length)		36" Nominal Device Length (30.785" Extrusion Length)		42" Nominal Device Length (36.785" Extrusion Length)		48" Nominal Device Length (42.785" Extrusion Length)	
	Without Dogging Hole	With Dogging Hole	Without Dogging Hole	With Dogging Hole	Without Dogging Hole	With Dogging Hole	Without Dogging Hole	With Dogging Hole
DC13	EXT.825	EXT.828	EXT.399	EXT.609	EXT.439	EXT.736	EXT.443	EXT.739
DC35	EXT.826	EXT.829	EXT.400	EXT.631	EXT.441	EXT.737	EXT.444	EXT.740
US3	EXT.2323	EXT.2351	EXT.2324	EXT.2355	EXT.2341	EXT.2359	EXT.2298	EXT.2363
US10	EXT.2333	EXT.2352	EXT.2334	EXT.2356	EXT.2345	EXT.2360	EXT.2303	EXT.2364
US26	EXT.2338	EXT.2353	EXT.2339	EXT.2357	EXT.2349	EXT.2361	EXT.2304	EXT.2365
US26D	EXT.2340	EXT.2354	EXT.2289	EXT.2358	EXT.2350	EXT.2362	EXT.2294	EXT.2366
US28	EXT.830	EXT.827	EXT.398	EXT.608	EXT.438	EXT.646	EXT.442	EXT.738

# PARTS LIST

**NOTES**

1. See page 15 for touchbar part numbers.
2. Touchbar shown cut away for visibility.

RIM CYLINDER (optional; sold separately)	
Finish	Part No.
DC13	4270107367
DC35	4270105986
US4	032210-10
US10	032210-06
US26/28	4270100247



Package No. 4270107393			
Item	Quantity	Description	Part No.
1	1	Strike	4270107227
2	1	Shim	SHIM.150
3	1	Wear strip	4270109590
4	2	#10 x 1" FPHSMS	4270104524
5	2	Drive rivet	4299101022

Package No. ECAP.130			
Item	Quantity	Description	Part No.
6	2	1/4-20 x 1/2" PPHMS	4299100074
7	1	Channel end cap	ECAP.127
8	1	Hinge stile touchbar end cap	ECAP.128
9	2	#8 x 1-1/2" FPHTC	4270104557

Package No. COVER.120			
Item	Quantity	Description	Part No.
10	1	Center case cover	COVER.106
11	2	#8 x 5/8" FPHTC	SCREW.1056

Package No. PKG.133			
Item	Quantity	Description	Part No.
12	2	1/4-20 x 3/4" PPHMS	964221-89
13	1	0.050" Allen wrench	4270109548
14	1	5/32" hex dogging key	4270106944

Package No. CYLASY.1151			
Item	Quantity	Description	Part No.
15	1	Slider	SLIDER.101
16	1	Drive bushing	CAMASY.101

**Note:** These parts are optional and are required with a rim cylinder. When installed at the factory, these parts are oriented for NL/HB operation. To convert from EO to NL or HB operation, use this kit and a rim cylinder.

Item	Quantity	Description	Part No.
17	1	Channel spacer	SPACER.107
18	2	#10-16 x 3/8" UFPHMS (DC13 or DC35)	SCREW.1036
		or	
	2	#10-16 x 3/8" UFPHMS (US28)	SCREW.1026
19	2	#8 x 3/4" FPHTF	4270109556
20	1	Latch bolt pin	969467-89
21	1	Retaining ring	964066-89
22	2	Touchbar pin	PIN.125
23	2	Touchbar anchor	BRKT.128
24	1	Lock stile touchbar end cap	ECAP.129
25	1	Dogging spring	971493-89
26	1	Dogging assembly (DC13 or DC35)	KIT.1022
		or	
		Dogging assembly (US28)	KIT.1021