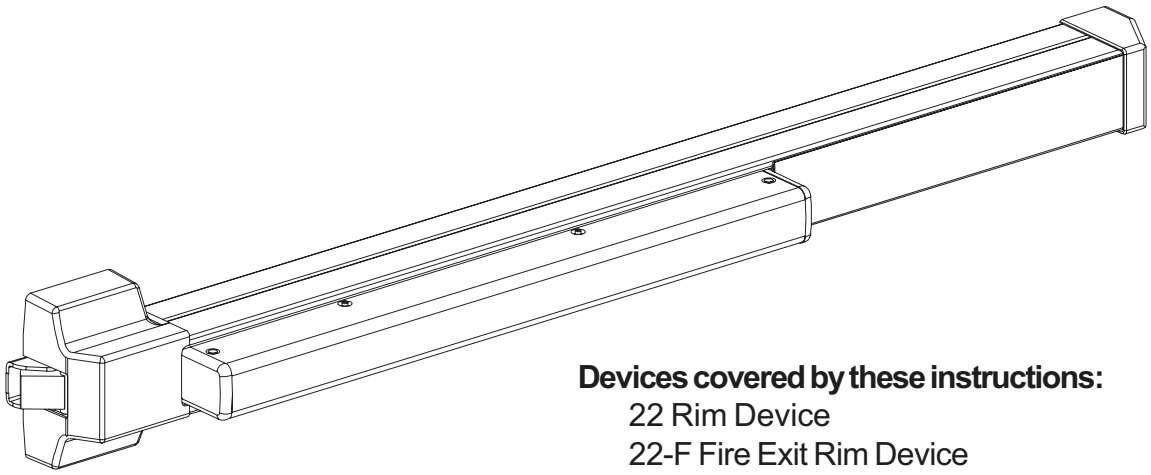
Von Duprin 2016 Installation Instruction Master Index

Exit Devices
- 22 Davices



Devices covered by these instructions:
22 Rim Device
22-F Fire Exit Rim Device

BEFORE STARTING INSTALLATION

1. Check hardware schedule for strikes, fasteners, and other special requirements.
2. Check carton label for trim, strikes, options, and order number.
3. Read all instructions, including instructions provided with any options used: trim, alarm kit, glass bead kit, latch guard kit, and rod guard kit.
4. Gather special tools required:
   - #10-24 tap
   - #25 drill bit
   - 1/8” dia. drill bit
   - 1/4” dia. drill bit
   - 13/32” dia. drill bit
   - Hacksaw
   - 7/8” dia. hole saw

This product is covered by the following patent numbers:
3,767,238 4,167,280 4,427,223 4,437,693 4,466,643

GENERAL INFORMATION

Review pages 2 and 3 so you can identify the hardware and understand the terminology used in the instructions.

See page 10 for the “Metric Conversion Table” if needed.

These exit devices can be installed on the door widths listed below:

Device Size	Code/Standard Requirement	Door Size
Standard 3’ (32”)	NFPA101	24-3/4” to 36”
Standard 4’ (44”)	NFPA101	30-3/4” to 48”

⚠ NOTE

Dogging panic device during high traffic periods will increase life of device. To dog, depress pushbar and turn hex key one-quarter turn clockwise.

MAINTENANCE

Von Duprin 22 exit devices are designed and built to be maintenance free; however, such factors as installation, severity of use, environmental conditions, and changes in the condition of the door opening may require that maintenance and/or device adjustment be performed. The following guidelines are recommended to the building owner to insure proper device operation:

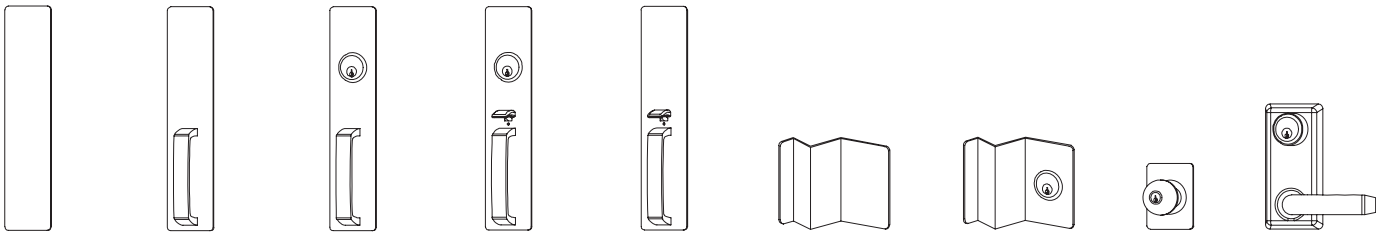
1. Check device operation for smooth operation periodically.

2. Check strikes (keeper) and latches to insure they are secure.

3. Check latches and other moving parts for binding or sluggish operation due to dirt or chemical buildup. Clean parts with soap and water and then lubricate with graphite-based or silicone lubricants. Do not use petroleum-based lubricants.

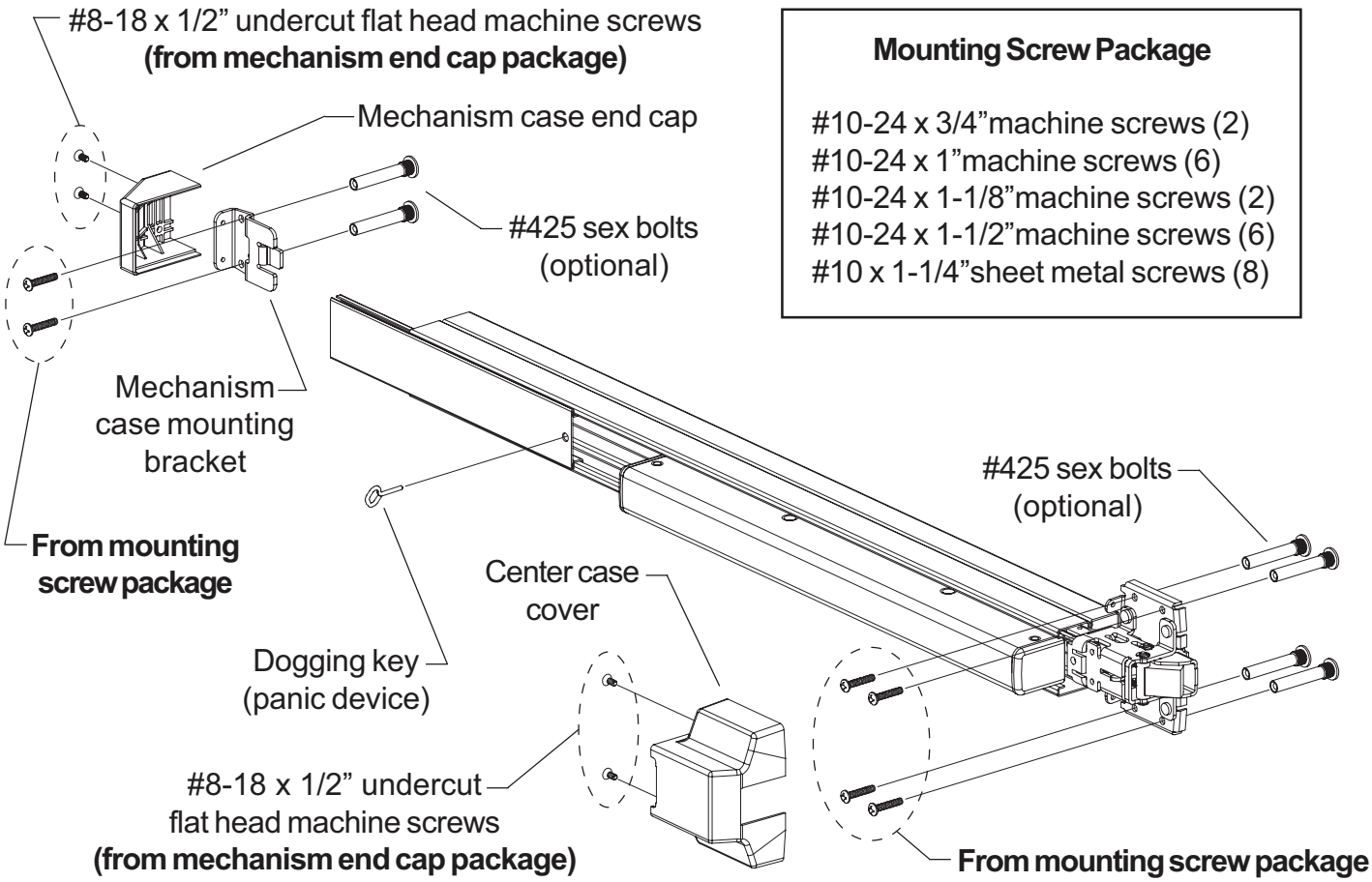
OUTSIDE TRIM

No outside trim supplied for EO (exit only) application



Escutcheon (optional for EO application) | **DT** (pull when dogged) | **NL** (key retracts latch bolt) | **TP** (key locks thumbpiece) | **TP-BE** (thumbpiece; unlocked) | **DT** (pull when dogged) | **NL** (key retracts latch bolt) | **K** (key locks knob) | **L** (key locks lever)

22/22-F PARTS LIST

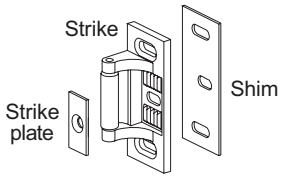


Mounting Screw Package

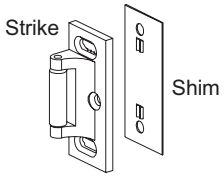
#10-24 x 3/4"machine screws (2)
#10-24 x 1"machine screws (6)
#10-24 x 1-1/8"machine screws (2)
#10-24 x 1-1/2"machine screws (6)
#10 x 1-1/4"sheet metal screws (8)

Strike Packages

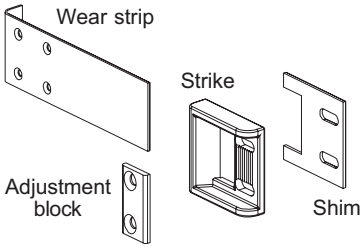
299 Strike Package
(panic device)
#10-24 x 3/4" machine screws (3)
#10 x 1-1/2" wood screws (3)



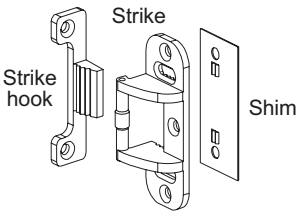
299F Strike Package
(fire exit device, single door)
#10-24 x 3/4" machine screws (3)
#10 x 1-1/2" wood screws (3)



1409/1439 Strike Package (1409 shown)
(panic device, aluminum frame, 1/2" blade stop)
#10-12 x 10-24 x 1-1/4" combinartion screws (2)
Flat head drive rivets (4)



499F Strike Package
(fire exit device, double door)
#10-24 x 3/4" machine screws (7)



INSTALLATION

1 For single door, prepare frame for 299, 299F, 1409/1439 strike.

1.1. Mark centerline ℄ location as shown in Figure 1-1.

1.2. For 299 or 299F strike: Tape strike template to frame aligned with center line ℄ as shown in Figure 1-2. Mark and prepare mounting holes per template.

For 1409/1439 strike: Prepare frame as shown in Figure 1-3.

⚠ NOTE

For double door, mullion is already prepared for 499F strike. Skip this step and go to Step #2.

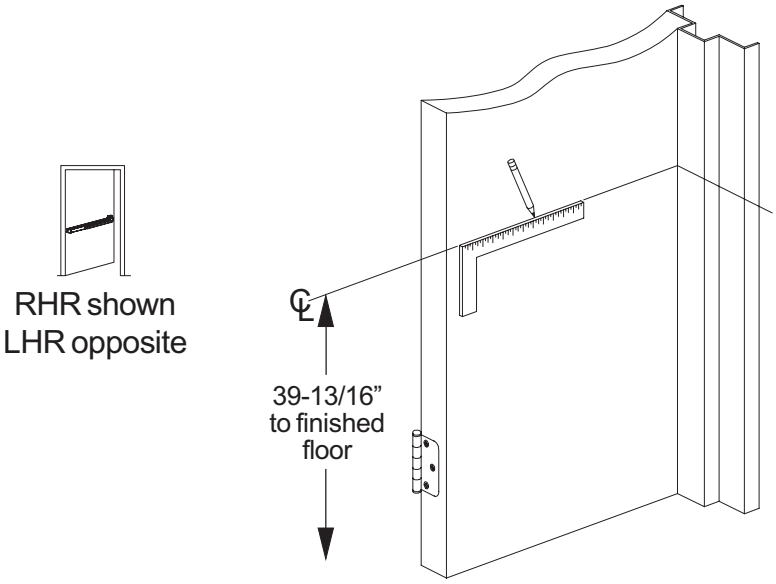


Figure 1-1

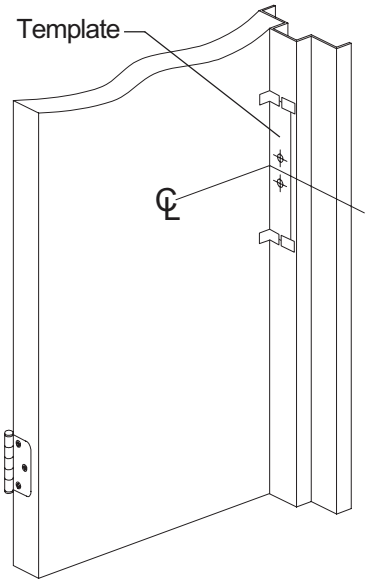


Figure 1-2. 299 or 299F Strike

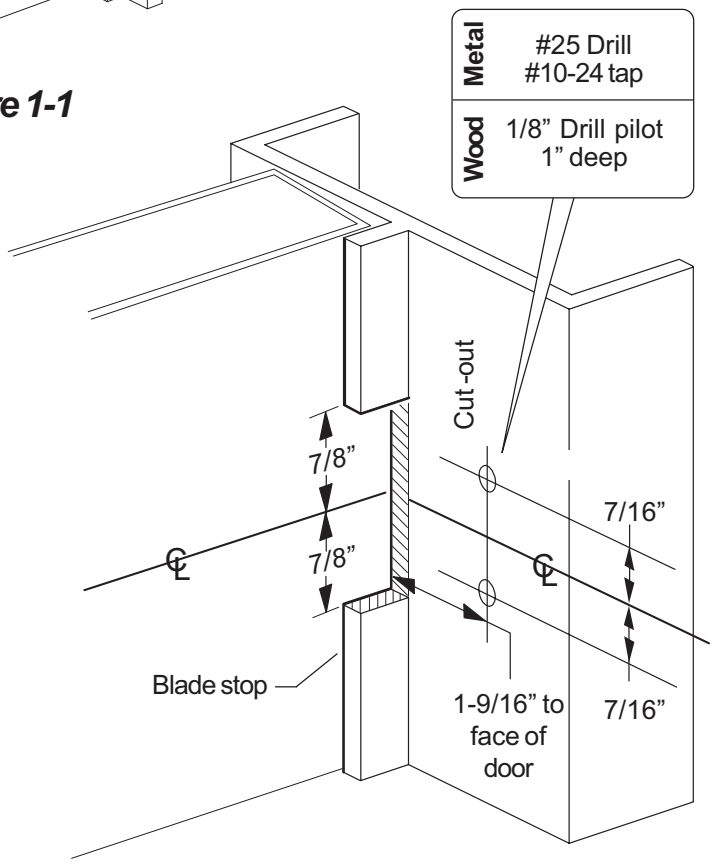
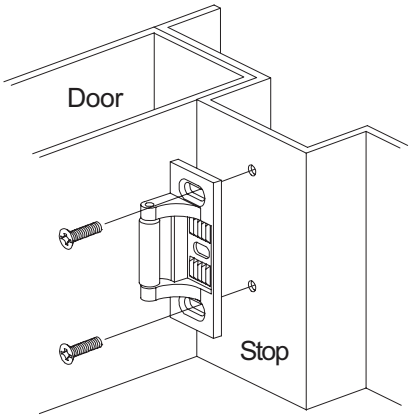


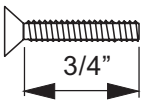
Figure 1-3. 1409/1439 Strike

2 Install strike. Use TWO SCREWS ONLY at this time.

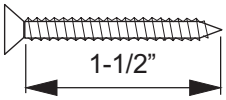
299 (shown) or 299F Strike



Use screws from 299/299F strike package

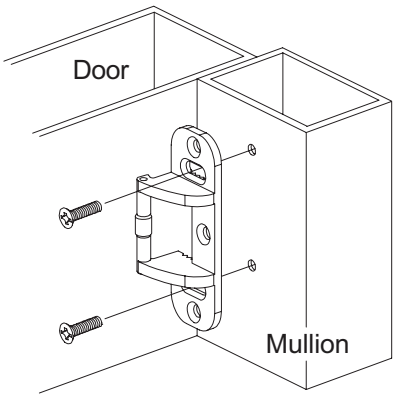


#10-24 flat head machine for metal frame



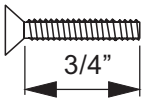
#10 flat head wood for wood frame

499F Strike

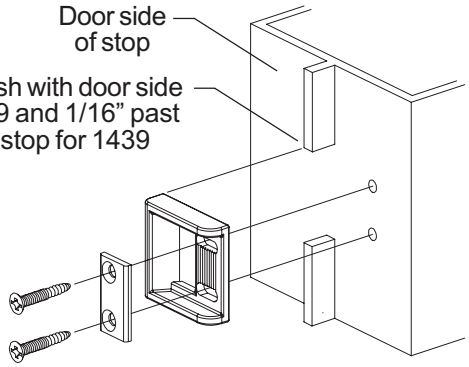


Use screws from 499F strike package

#10-24 flat head machine

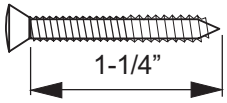


1409/1439 Strike (1409 shown)

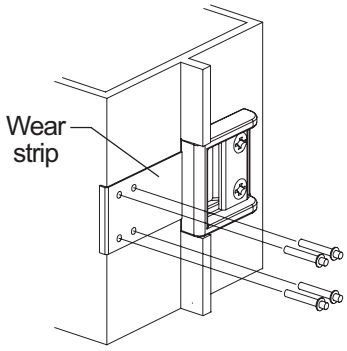


Use screws from 1409/1439 strike package

#10-12 x 10-24 oval head combination



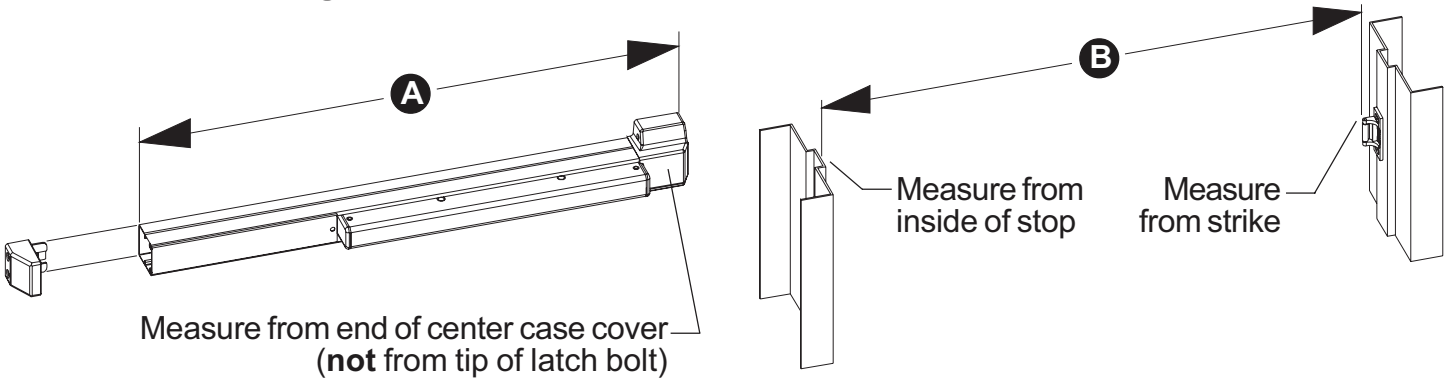
1409/1439 Wear Strip



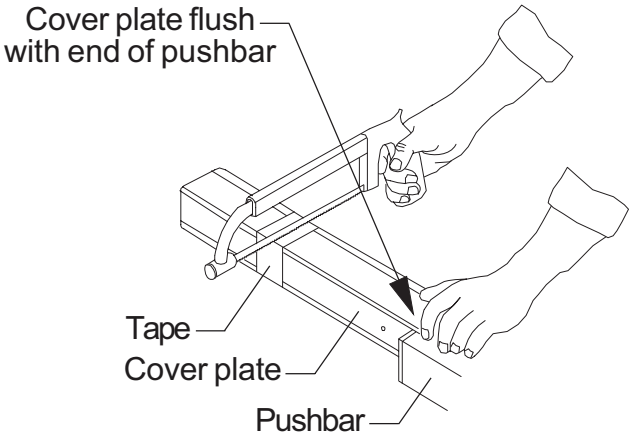
1. Center wear strip on strike as shown.
2. Mark and drill 1/8” dia. holes (4 places).
3. Install wear strip with flat head drive rivets (4 places) from 1409/1439 strike package.

3 Cut device if necessary.

3.1. Device length **A** must be at least 1-1/2" shorter than **B**.



3.2. If necessary, cut device so **A** is at least 1-1/2" shorter than **B**.



NOTE

If using ALK exit alarm option, install ALK cover plate before cutting device.

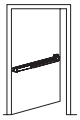
4 Prepare door for device.

4.1. Cut center case template for 1409/1439 strike or for 299/299F/499F strike.

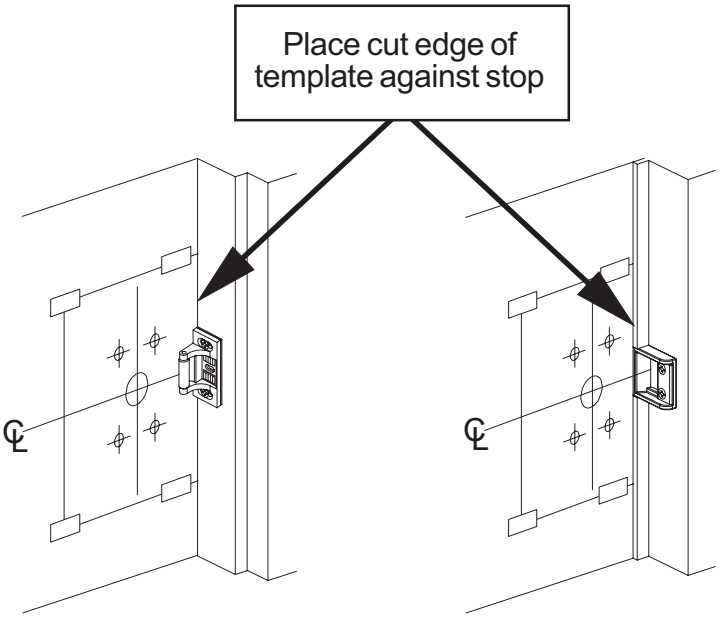
4.2. Tape center case template to inside of door aligned with center line ℄ as shown.

4.3. Mark and prepare holes per template.

4.4. Prepare door for outside trim (see trim instructions).



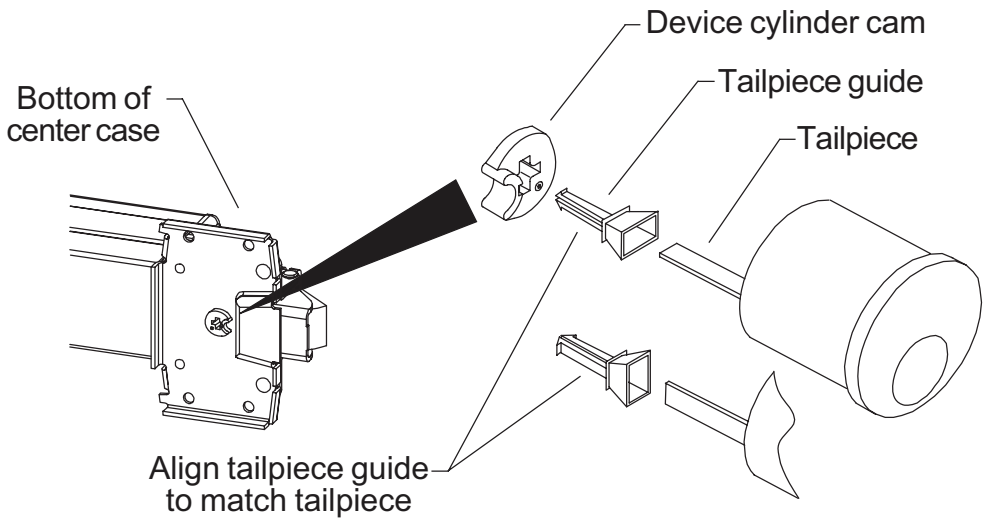
RHR shown
LHR opposite



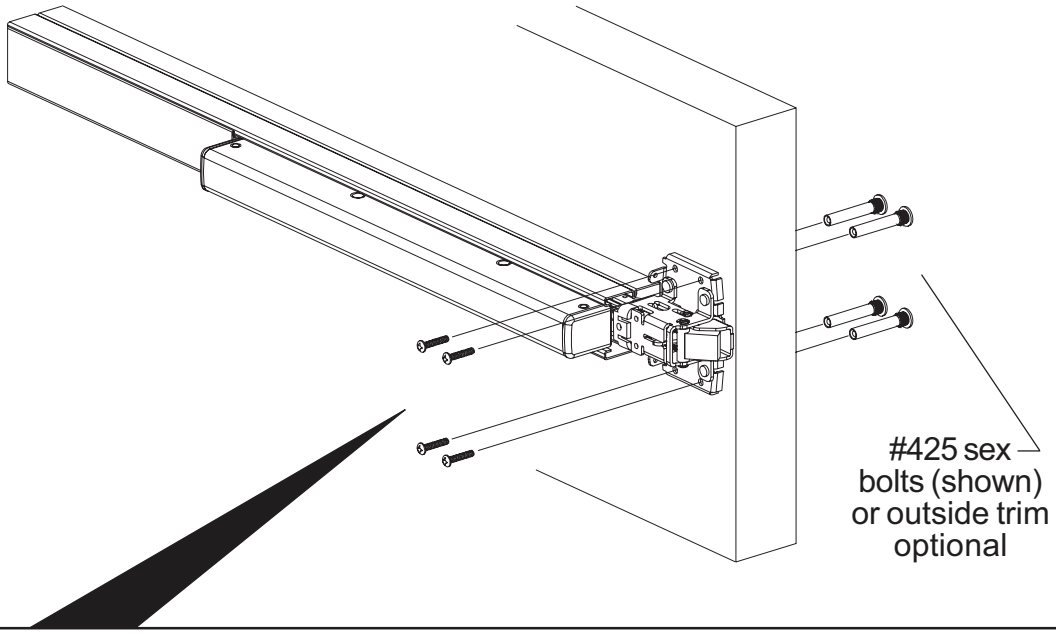
299/299-F/499-F Strike **1409/1439 Strike**

5 Install device to door at center case.

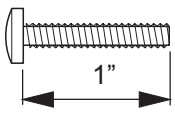
5.1. If using cylinder in trim, install tailpiece guide (packaged with trim) in device.



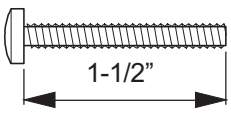
5.2. Install device to door at center case.



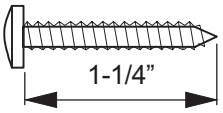
Use screws from device mounting screw package



#10-24 pan head machine for metal door surface mount, sex bolts on 1-3/4” door, or outside trim on 1-3/4” door

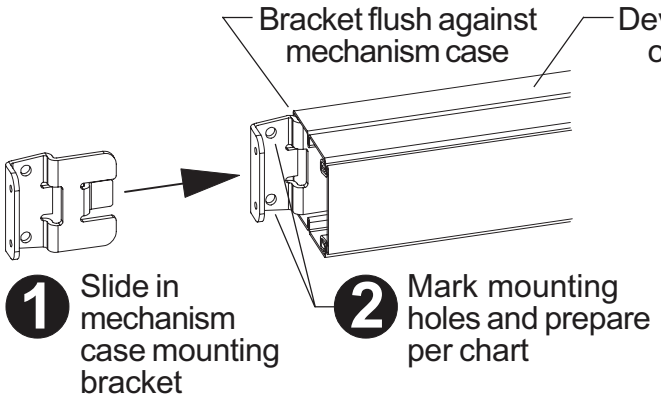


#10-24 pan head machine for sex bolts on 2-1/4” door or outside trim on 2-1/4” door



#10-24 pan head sheet metal for wood door surface mount

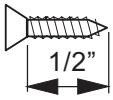
6 Install mechanism case mounting bracket and mechanism case end cap.



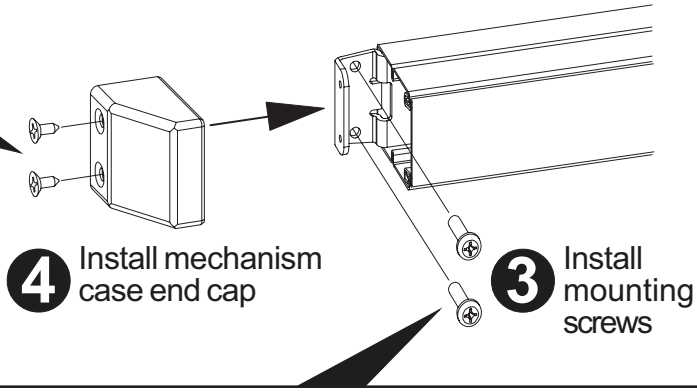
Surface Mount
Metal Door: #25 drill and #10-24 tap inside
Wood Door: 1/8” pilot drill, 1” deep, inside

Sex Bolts
Metal Door: 1/4” drill inside, 13/32” drill outside
Wood Door: 13/32” drill thru

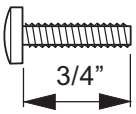
Use screws from end cap package



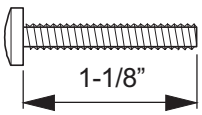
#8-18 undercut flat head machine



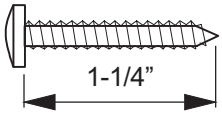
Use screws from device mounting screw package



#10-24 pan head machine for metal door surface mount or sex bolts on 1-3/4” door

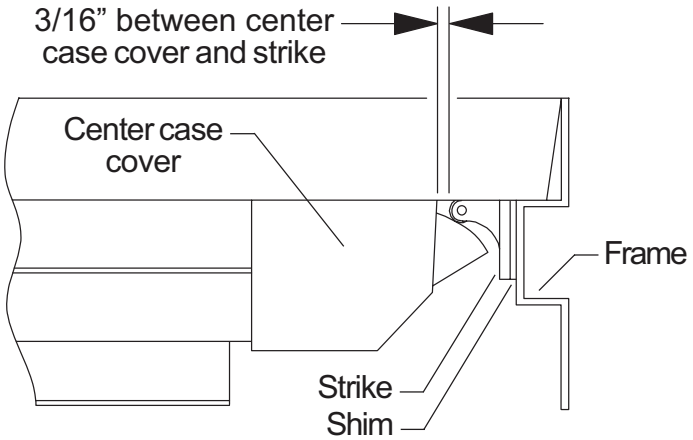


#10-24 pan head machine for sex bolts on 2-1/4” door



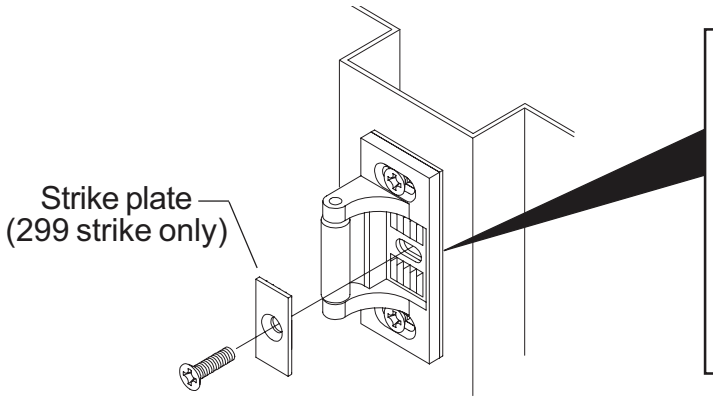
#10-24 pan head sheet metal for wood door surface mount

7 If necessary, add strike adjusting shim under strike for 3/16” dimension shown.

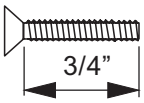


8 Prepare remaining strike mounting holes and install screws.

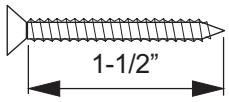
299 or 299F Strike



Metal frame:
#25 drill and #10-24 tap,
#10-24 flat head machine

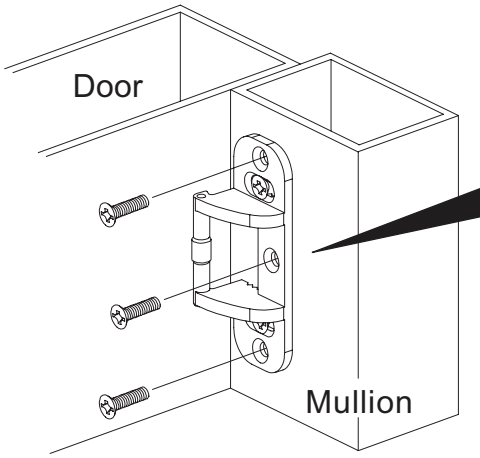


Wood frame:
1/8” drill x 1” deep
#10 flat head wood

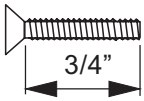


Use screw from 299/299F strike package

499F Strike



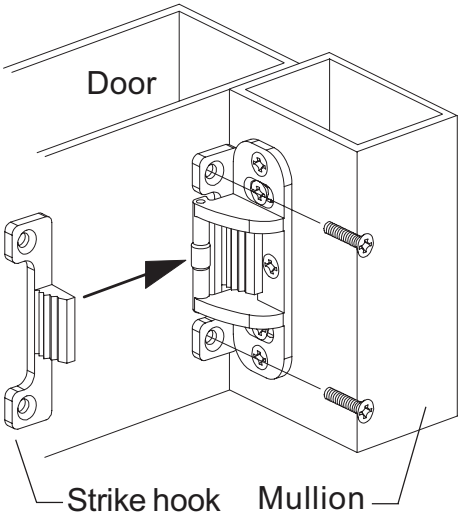
#25 drill and #10-24 tap,
#10-24 flat head machine

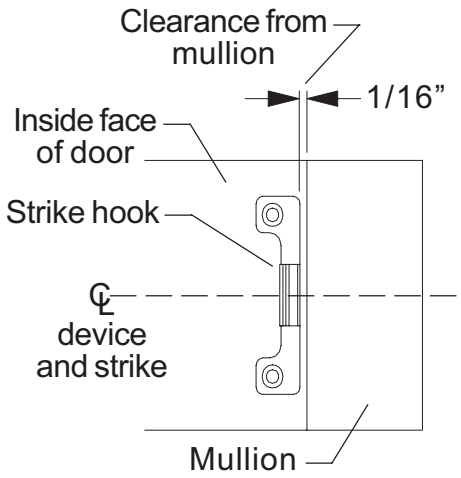


Use screws from 499F strike package

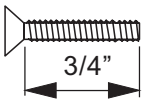
499F Strike Hook

Center strike hook on device 1/16” from mullion.





Metal door:
#25 drill and #10-24 tap,
#10-24 flat head machine



Use screws from 499-F strike package

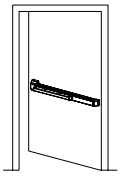
Wood door (#425 sex bolts):
1/4” drill inside,
13/32” drill outside

Metric Conversion Table												
inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
1/16	2	7/16	11	1	25	1-9/16	40	30-3/4	781	44	1118
1/8	3	1/2	13	1-1/16	27	1-11/16	43	32	813	48	1219
3/16	5	5/8	16	1-1/8	29	1-3/4	45	36	914		
1/4	6	3/4	19	1-1/4	32	2-1/4	57	39-11/16	1008		
13/32	10	7/8	22	1-1/2	38	24-3/4	629	39-13/16	1011		

STRIKE TEMPLATE

Refer to Step 1 (p. 4) when using this template

Template to scale (dimensions in inches)



LHR

5/8”

1-1/16”

1-1/16”

℄

Prepare holes 2 places:

Metal frame:
#25 drill and #10-24 tap

Wood frame:
1/8” drill x 1” deep

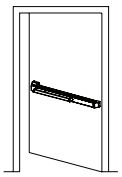
Cut strike template along this line and place on stop with this edge against door

℄ **device**

CENTER CASE TEMPLATE

Refer to Step 4 (p. 6) when using this template

Template to scale (dimensions in inches)



LHR

5/8” 5/8”

1-11/16”

1-11/16”

℄ ℄

7/8” dia. for NL, K, L, and TP trim only

Cut on this line for 1409/1439 strike

Prepare holes 4 places:

Surface Application (no outside trim):
Metal door: #25 drill and #10-24 tap inside
Wood door: 1/8” drill x 1”deep pilot holes

#425 Sex Bolts or Outside Trim:
Metal door: 1/4” drill inside and 13/32” outside
Wood door: 13/32 drill thru

For 1409/1439 strike cut center case template along this line and place on door with this edge against stop

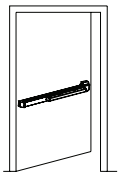
For 299/299F/499F strike place center case template on door with this edge against stop

℄ device

CENTER CASE TEMPLATE

Refer to Step 4 (p. 6) when using this template

Template to scale (dimensions in inches)

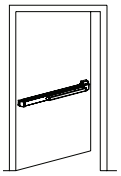


RHR

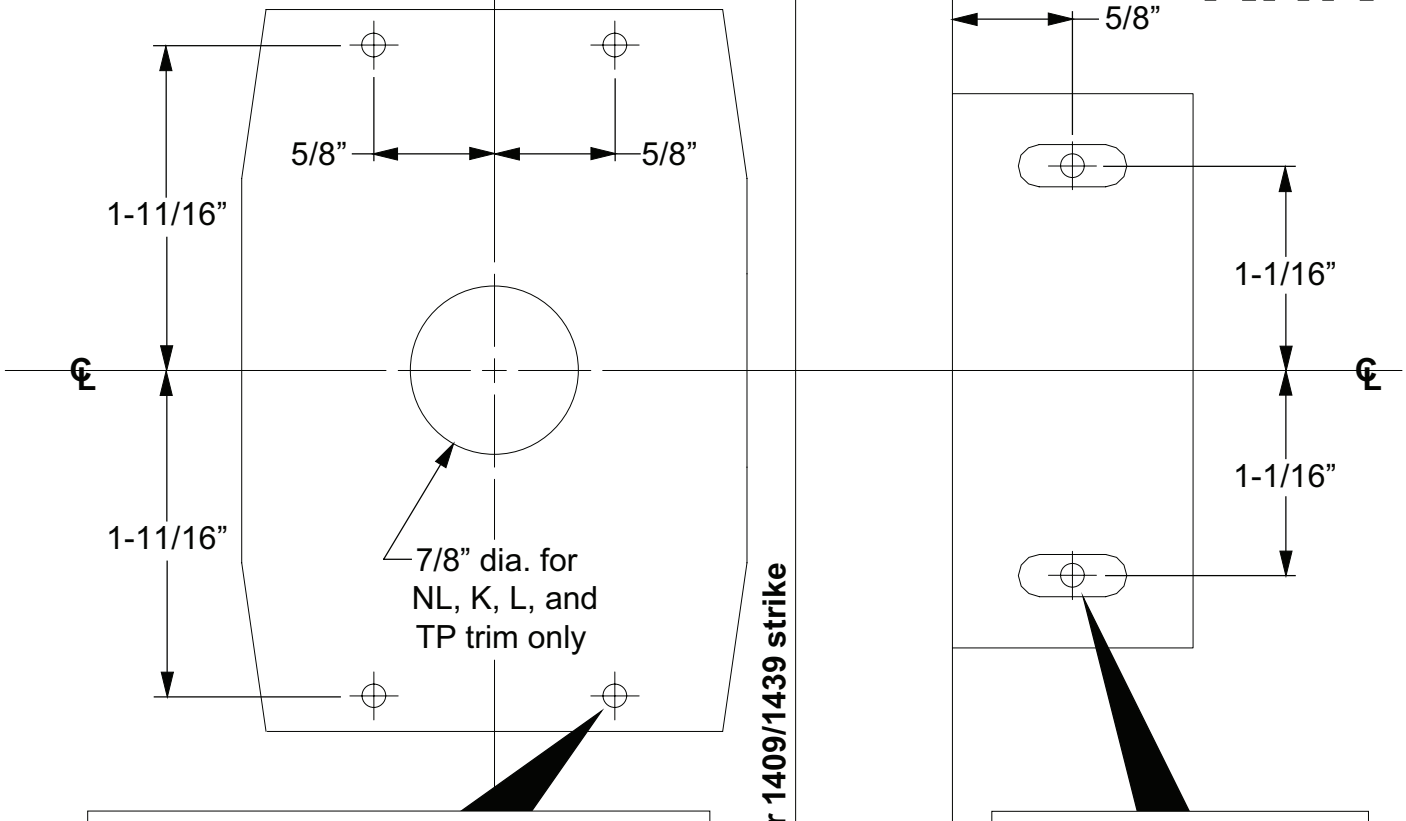
STRIKE TEMPLATE

Refer to Step 1 (p. 4) when using this template

Template to scale (dimensions in inches)



RHR



Cut on this line for 1409/1439 strike

Prepare holes 4 places:

Surface Application (no outside trim):
Metal door: #25 drill and #10-24 tap inside
Wood door: 1/8" drill x 1"deep pilot holes

#425 Sex Bolts or Outside Trim:
Metal door: 1/4" drill inside and 13/32" outside
Wood door: 13/32 drill thru

Prepare holes 2 places:

Metal frame:
#25 drill and #10-24 tap

Wood frame:
1/8" drill x 1" deep

For 1409/1439 strike cut center case template along this line and place on door with this edge against stop

For 299/299F/499F strike place center case template on door with this edge against stop

Cut strike template along this line and place on stop with this edge against door

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911333-00 Rev. 01/14-b

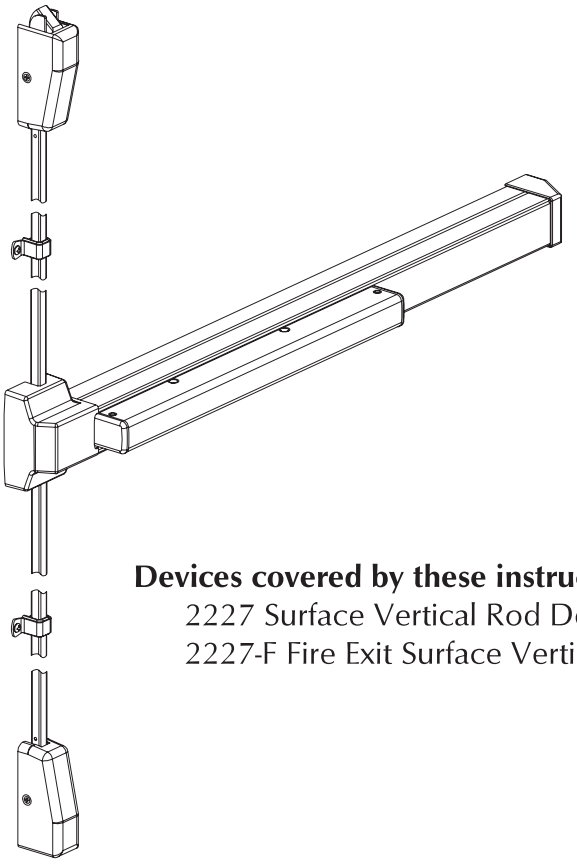
911334-00

2227

VON DUPRIN®

Surface Vertical Rod Device

Installation Instructions



Devices covered by these instructions:

2227 Surface Vertical Rod Device
2227-F Fire Exit Surface Vertical Rod Device

BEFORE STARTING INSTALLATION

1. Check hardware schedule for strikes, fasteners, and other special requirements.
2. Check carton label for trim, strikes, options, and order number.
3. Read all instructions, including instructions provided with any options used: trim, alarm kit, glass bead kit, latch guard kit, and rod guard kit.
4. Gather special tools required:
   - #10-24 tap
   - #25 drill bit
   - 1/8″ dia. drill bit
   - 1/4″ dia. drill bit
   - 5/16″ dia. drill bit
   - 13/32″ dia. drill bit
   - Hacksaw
   - 7/8″ dia. hole saw

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GENERAL INFORMATION

Review pages 2 and 3 so you can identify the hardware and understand the terminology used in the instructions.

See page 16 for the "Metric Conversion Table" if needed.

These exit devices can be installed on the door widths listed below:

Device Size	Code/Standard Requirement	Door Size
Standard 3′ (32″)	NFPA101	24-3/4″ to 36″
Standard 4′ (44″)	NFPA101	30-3/4″ to 48″

⚠ NOTE

Dogging panic device during high traffic periods will increase life of device. To dog, depress pushbar and turn hex key one-quarter turn clockwise.

MAINTENANCE

Von Duprin 2227 exit devices are designed and built to be maintenance free; however, such factors as installation, severity of use, environmental conditions, and changes in the condition of the door opening may require that maintenance and/or device adjustment be performed. The following guidelines are recommended to the building owner to insure proper device operation:

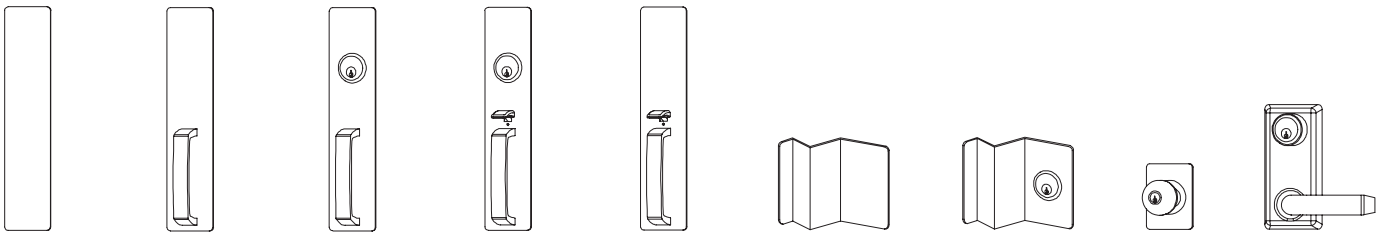
1. Check device operation for smooth operation periodically.

2. Check strikes (keeper) and latches to insure they are secure.

3. Check latches and other moving parts for binding or sluggish operation due to dirt or chemical buildup. Clean parts with soap and water and then lubricate with graphite-based or silicone lubricants. Do not use petroleum-based lubricants.

OUTSIDE TRIM

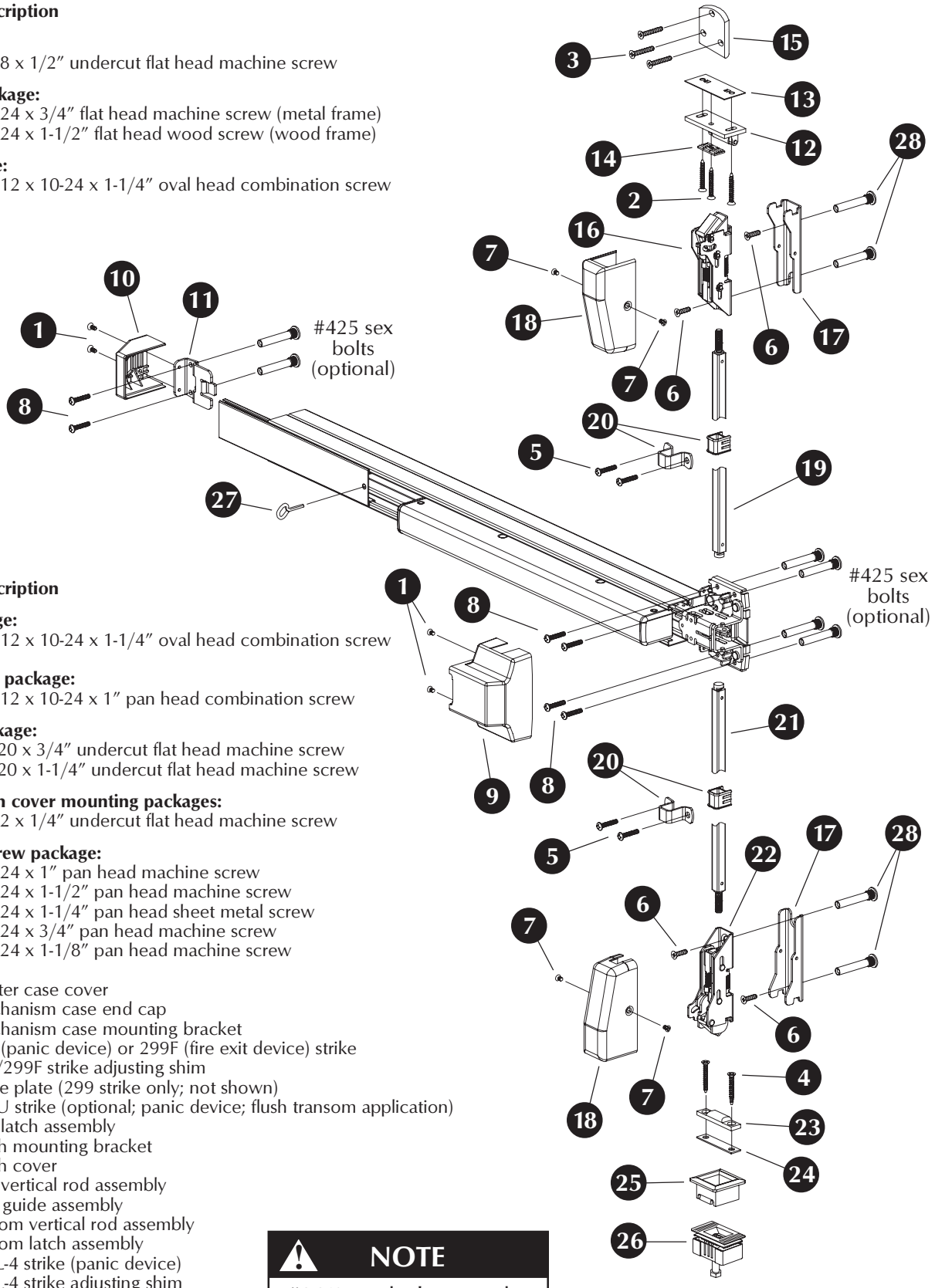
No outside trim supplied for EO (exit only) application



Escutcheon (optional for EO application) | **DT** (pull when dogged) | **NL** (key retracts latch bolt) | **TP** (key locks thumbpiece) | **TP-BE** (thumbpiece; unlocked) | **DT** (pull when dogged) | **NL** (key retracts latch bolt) | **K** (key locks knob) | **L** (key locks lever)

2227/2227-F PARTS LIST

Item	Quantity	Description
In end cap package:		
1	4	#8-18 x 1/2″ undercut flat head machine screw
In 299/299F strike package:		
2	3	#10-24 x 3/4″ flat head machine screw (metal frame)
2	3	#10-24 x 1-1/2″ flat head wood screw (wood frame)
In 260U strike package:		
3	3	#10-12 x 10-24 x 1-1/4″ oval head combination screw



Item	Quantity	Description
In 248L-4 strike package:		
4	2	#10-12 x 10-24 x 1-1/4″ oval head combination screw
In rod guide mounting package:		
5	4	#10-12 x 10-24 x 1″ pan head combination screw
In latch mounting package:		
6	4	1/4-20 x 3/4″ undercut flat head machine screw
6	4	1/4-20 x 1-1/4″ undercut flat head machine screw
In each of two (2) latch cover mounting packages:		
7	2	#8-32 x 1/4″ undercut flat head machine screw
In device mounting screw package:		
8	4	#10-24 x 1″ pan head machine screw
8	4	#10-24 x 1-1/2″ pan head machine screw
8	6	#10-24 x 1-1/4″ pan head sheet metal screw
8	2	#10-24 x 3/4″ pan head machine screw
8	2	#10-24 x 1-1/8″ pan head machine screw
9	1	Center case cover
10	1	Mechanism case end cap
11	1	Mechanism case mounting bracket
12	1	299 (panic device) or 299F (fire exit device) strike
13	1	299/299F strike adjusting shim
14	1	Strike plate (299 strike only; not shown)
15	1	260U strike (optional; panic device; flush transom application)
16	1	Top latch assembly
17	2	Latch mounting bracket
18	2	Latch cover
19	1	Top vertical rod assembly
20	2	Rod guide assembly
21	1	Bottom vertical rod assembly
22	1	Bottom latch assembly
23	1	248L-4 strike (panic device)
24	3	248L-4 strike adjusting shim
25	1	304L strike
26	1	385A strike (optional)
27	1	Dogging key (panic device)
28	4	#325 sex bolts

⚠ NOTE

#325 sex bolts must be used to install latches on all types of doors.

INSTALLATION

1 Cut device if necessary.

1.1. Device length **A** must be at least 3″ shorter than opening **B** (Figure 1-1).

1.2. If necessary, cut device so **A** is at least 3″ shorter than **B** (Figure 1-2).

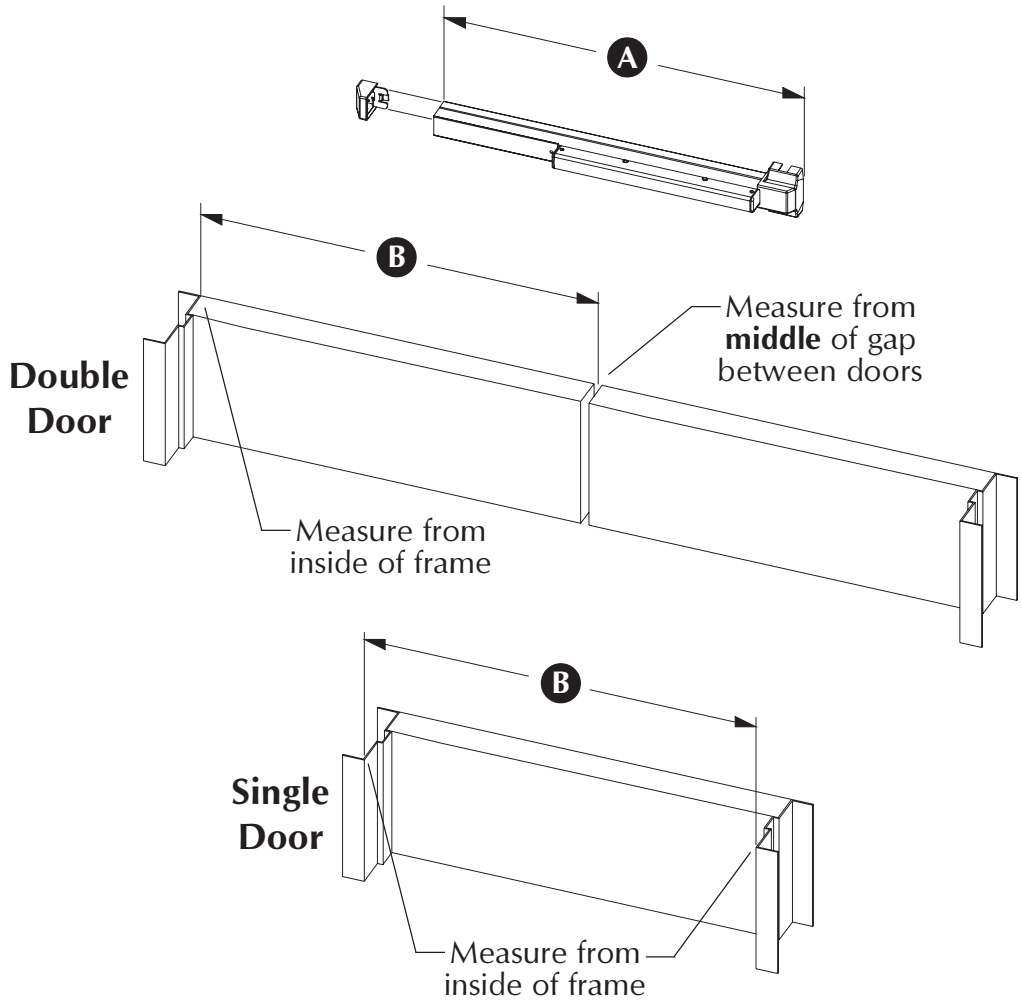
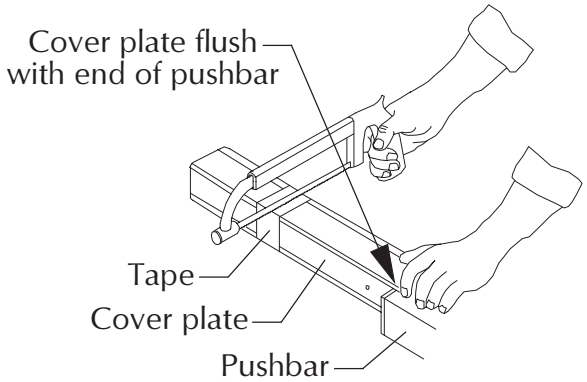


Figure 1-1



NOTE

If using ALK exit alarm option, install ALK cover plate before cutting device.

Figure 1-2

2 Prepare door.

2.1. Mark center line locations ℄ as shown (Figure 2-1).

2.2. Tape templates to door aligned with center lines ℄.

2.3. Mark and prepare mounting holes per templates.

2.4. Prepare door for outside trim (see trim instructions).

⚠ NOTE

For wood fire doors with metal edge, increase backset so device center case clears metal edge.

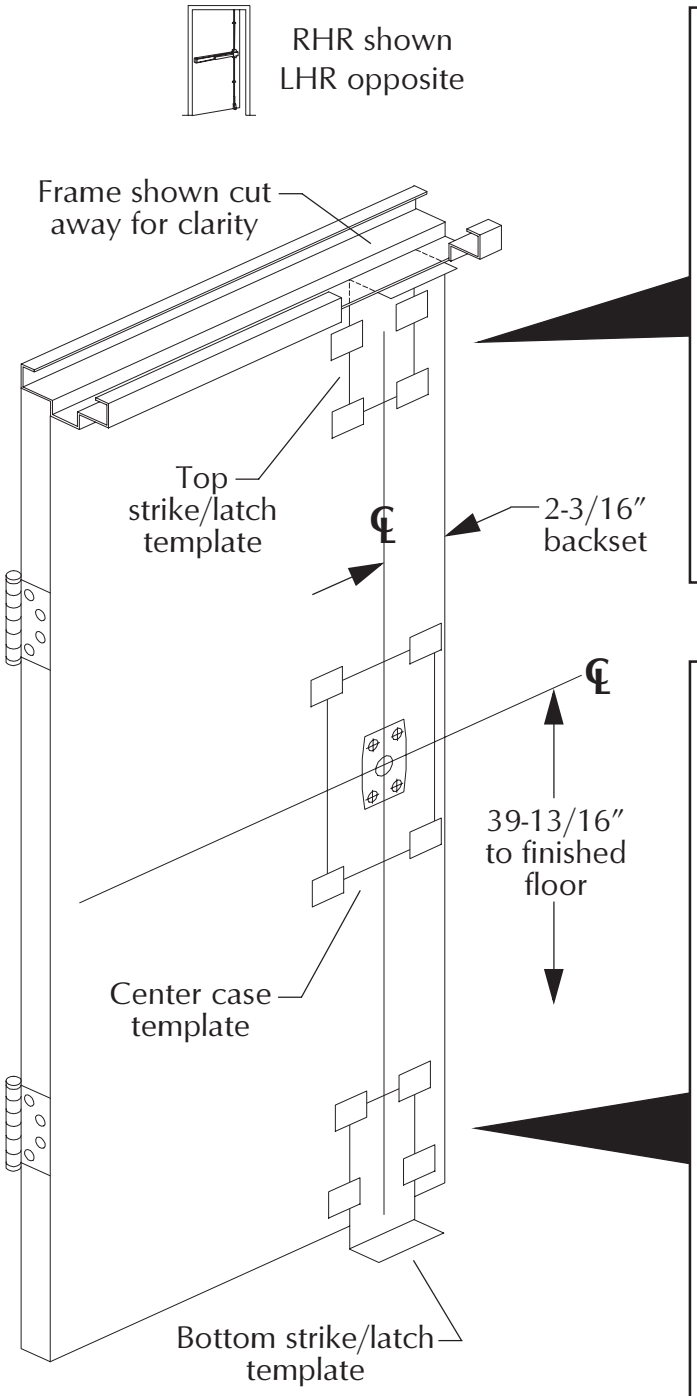
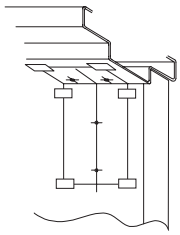
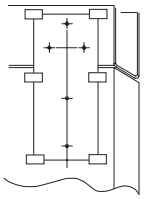


Figure 2-1

Top Strike/Latch Template Positions

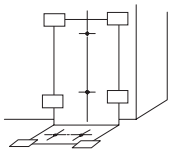


299, 299F, or 499F strike (Template #2)
Place template fold against bottom of stop

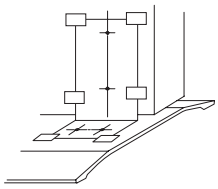


260U strike for flush transom (Template #5)
Place mark on template even with top of door

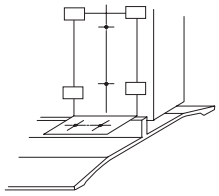
Bottom Strike/Latch Template Positions



304L strike (Template #3) or 248L-4 strike without threshold (Template #6)
Place template fold against finished floor



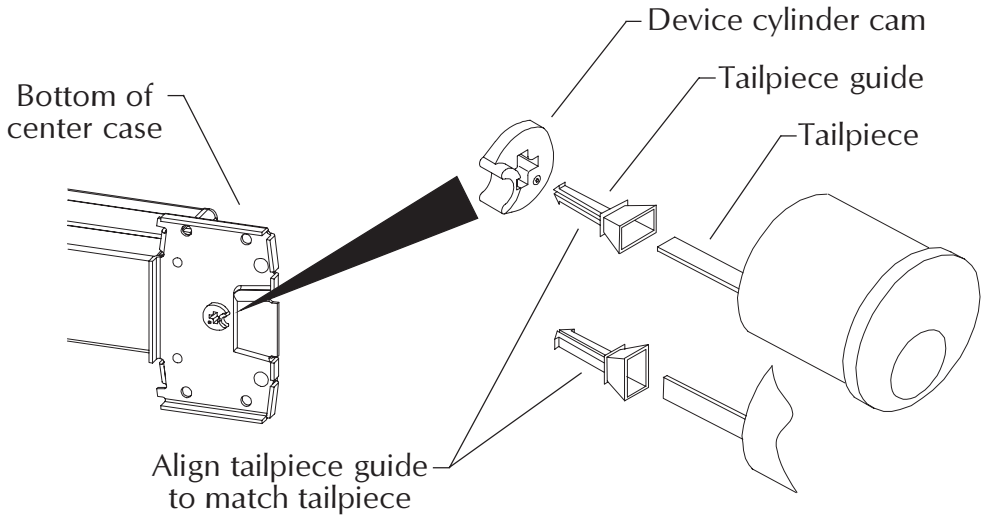
248L-4 strike with threshold (Template #6)
Place template fold against top of threshold



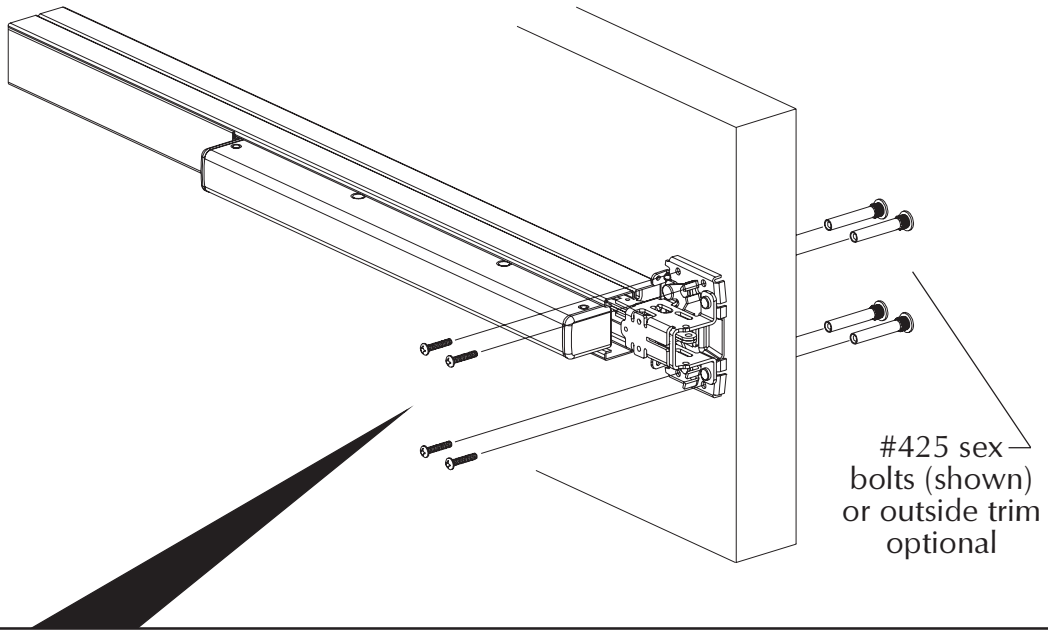
Latch track threshold (Template #4)
Place template fold against top of latch track

3 Install device.

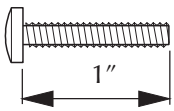
3.1. If using cylinder in trim, install tailpiece guide (packaged with trim) in device.



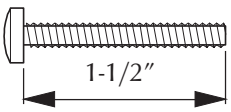
3.2. Install device to door at center case.



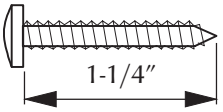
Use screws from device mounting screw package



#10-24 pan head machine for metal door surface mount, sex bolts on 1-3/4″ door, or outside trim on 1-3/4″ door

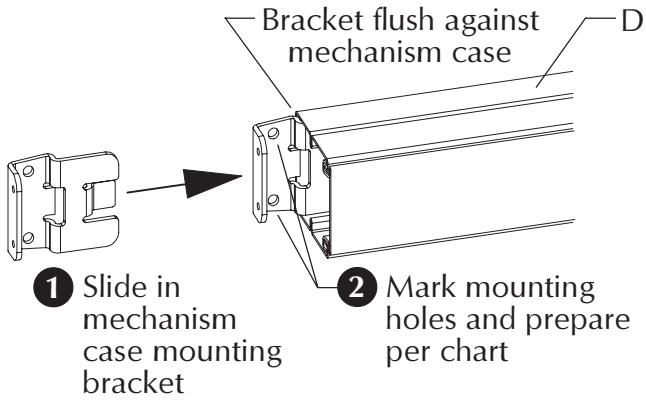


#10-24 pan head machine for sex bolts on 2-1/4″ door or outside trim on 2-1/4″ door



#10-24 pan head sheet metal for wood door surface mount

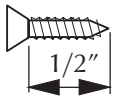
3 Install device (continued).



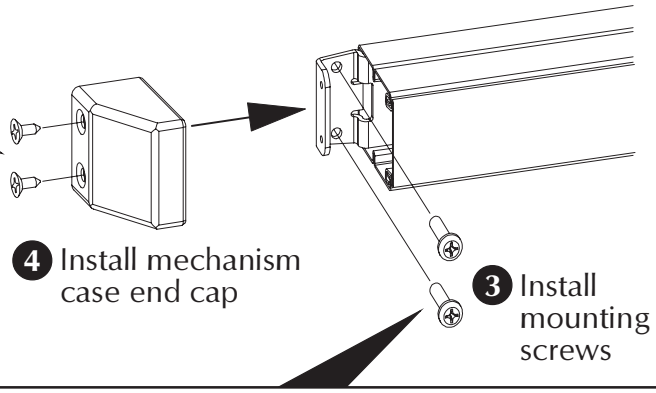
Surface Mount
Metal Door: #25 drill and #10-24 tap inside
Wood Door: 1/8″ pilot drill, 1″ deep, inside

Sex Bolts
Metal Door: 1/4″ drill inside, 13/32″ drill outside
Wood Door: 13/32″ drill thru

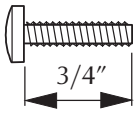
Use screws from end cap package



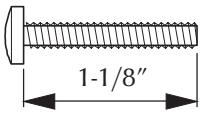
#8-18 undercut flat head machine



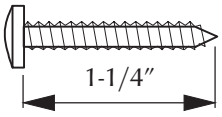
Use screws from device mounting screw package



#10-24 pan head machine for metal door surface mount or sex bolts on 1-3/4″ door

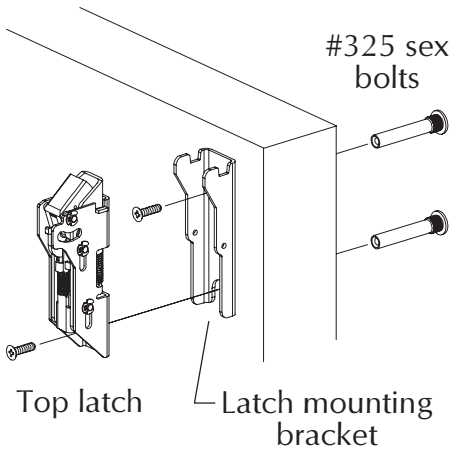


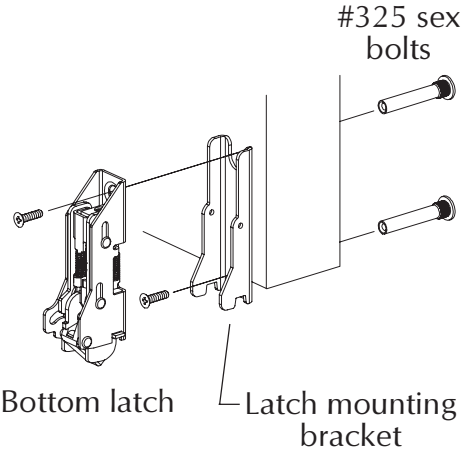
#10-24 pan head machine for sex bolts on 2-1/4″ door



#10-24 pan head sheet metal for wood door surface mount

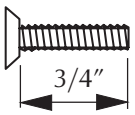
4 Install top and bottom latches.



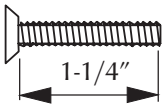


Use screws from latch mounting package

1/4-20 undercut flat head machine



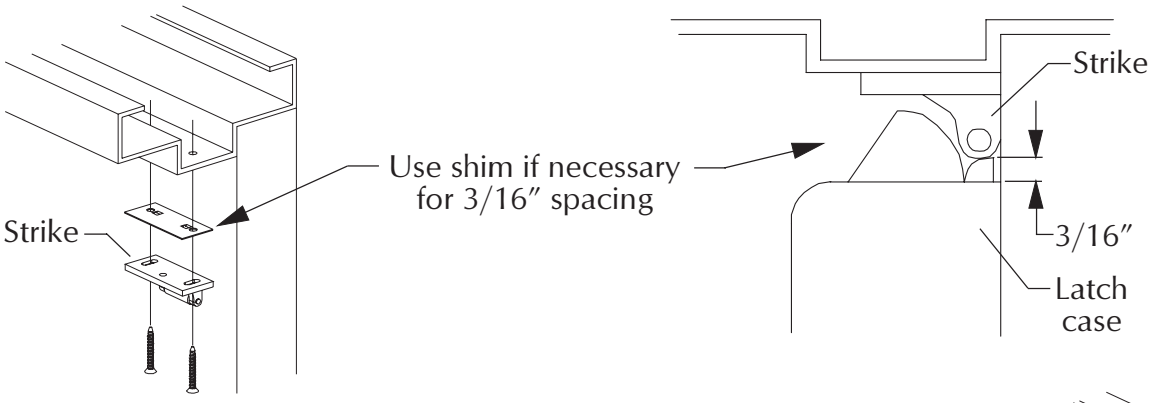
1-3/4″ door



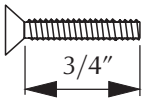
2-1/4″ door

5 Install top strike.

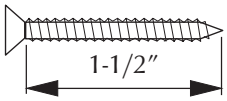
299 and 299F Strikes



Use screws from 299/299F strike package

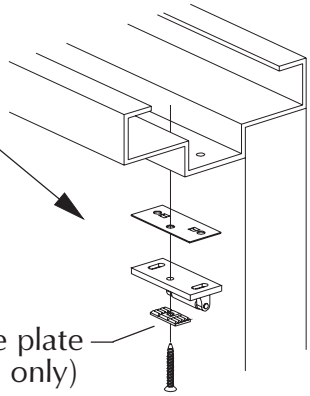


#10-24 flat head machine for metal frame

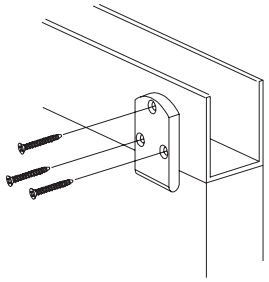


#10 flat head wood for wood frame

After strike is adjusted, prepare center mounting hole same as other strike mounting holes and install center screw (strike plate used for 299 strike only)

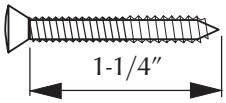


260U Strike



Use screws from 260U strike package

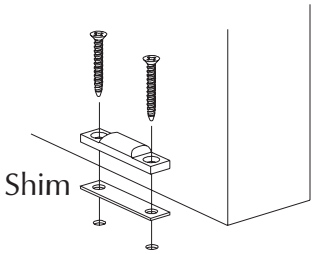
#10-12 x 10-24 oval head combination



6 Install bottom strike.

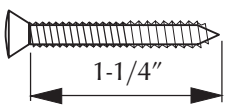
248L-4 Strike

Add shim(s) so strike engages extended latch bolt but clears latch case



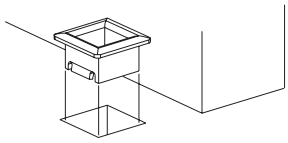
Use screws from 248L-4 strike package

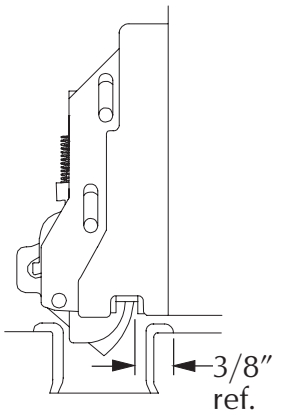
#10-12 x 10-24 oval head combination



304L Strike

Grout strike into floor





7 If door height is less than 84″, cut top rod. (Uncut top rod is about 38-3/4″ overall.)

7.1. Find amount to cut off (Figure 7-1).

7.2. Cut top rod (Figure 7-2).

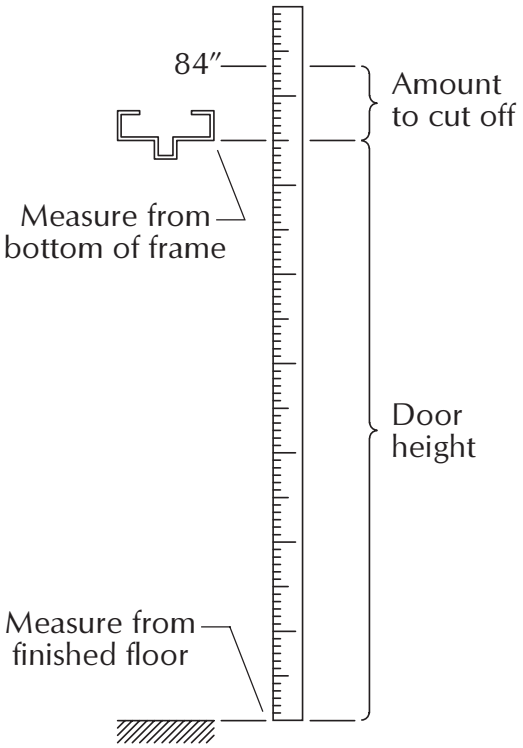


Figure 7-1

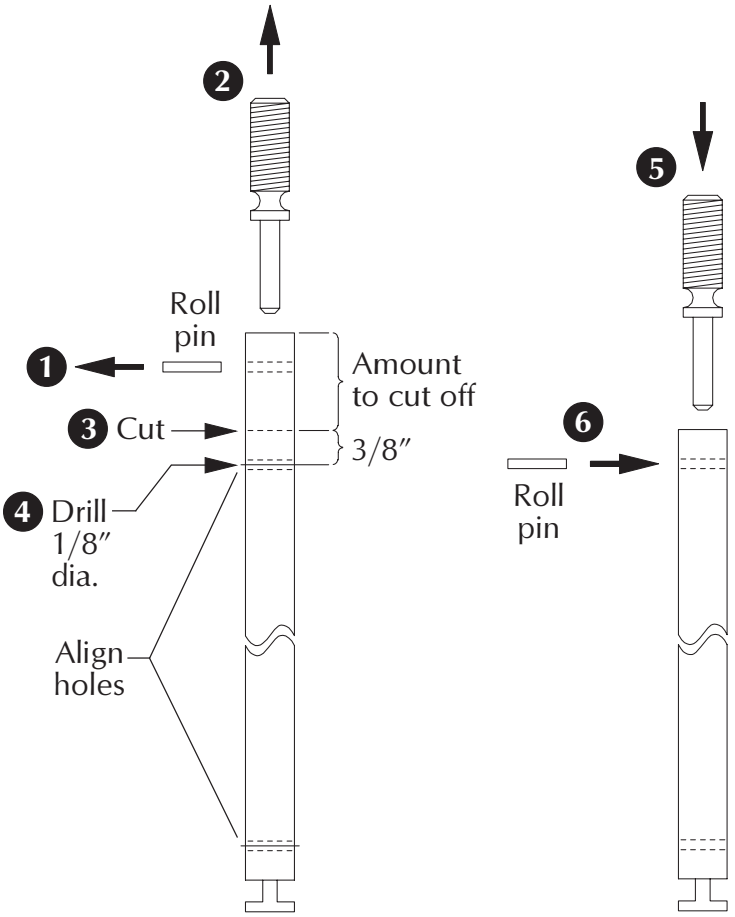
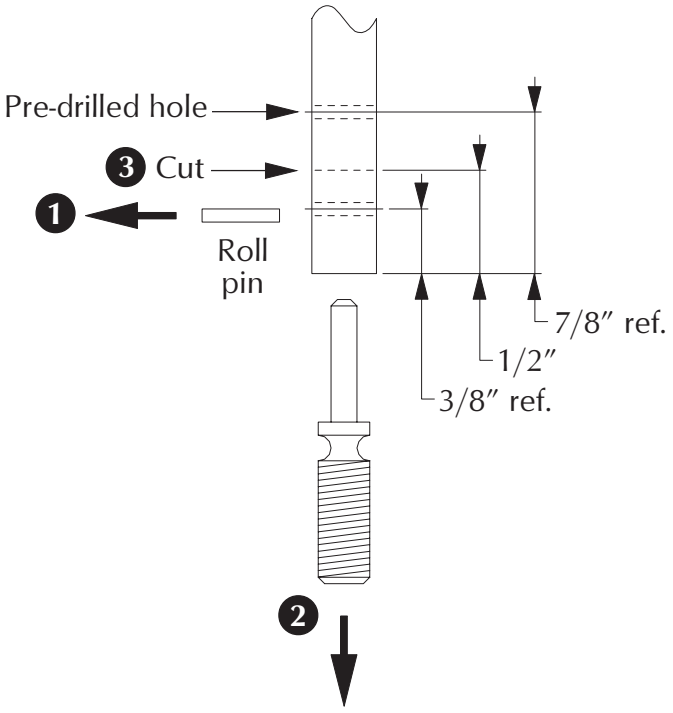
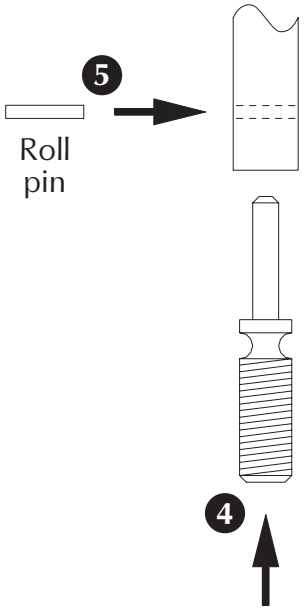


Figure 7-2

8 If using threshold, cut bottom rod. (Uncut bottom rod is about 34-7/8″ overall.)





9 If door height is more than 84″, prepare rod extension.

9.1. Find amount to cut off rod extension (Figure 9-1).

9.2. Cut rod extension (Figure 9-2).

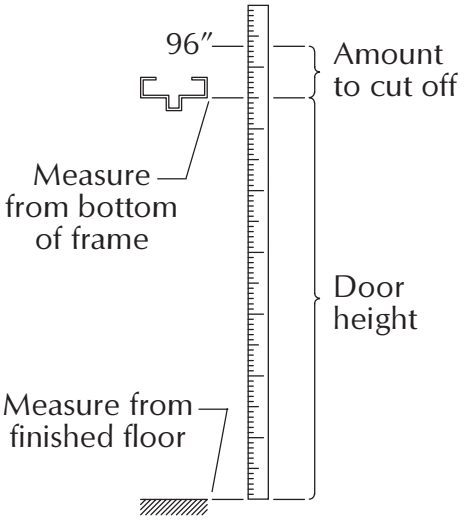
9.3. Drill hole in rod extension (Figure 9-3).

9.4. Assemble rod extension rod (Figure 9-4).

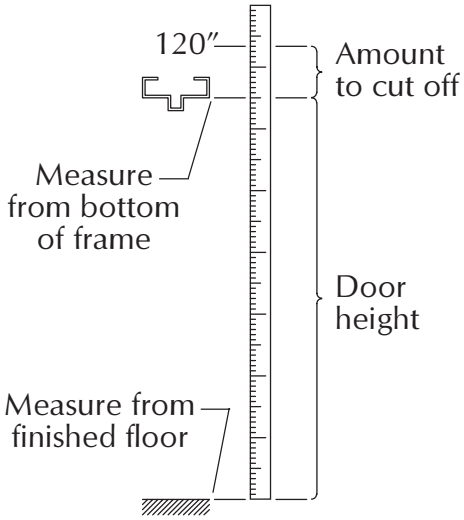
9.5. Connect rod extension to top rod (Figure 9-5).

⚠ IMPORTANT

For door heights less than 88″, cut top rod instead of rod extension.



Door height between 84″ and 96″.



Door height between 96″ and 120″.

Figure 9-1

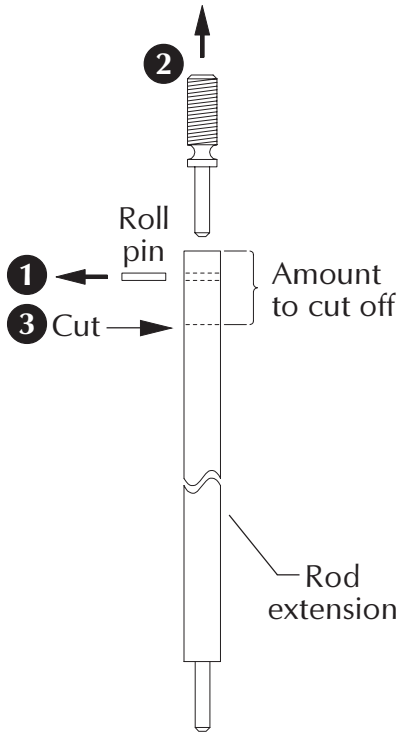


Figure 9-2

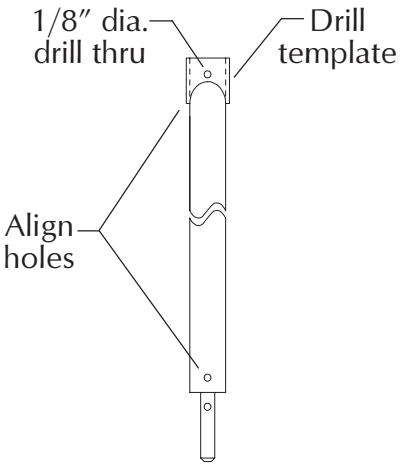


Figure 9-3

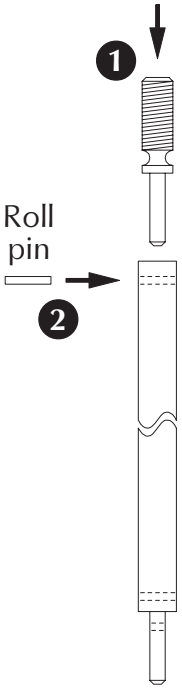


Figure 9-4

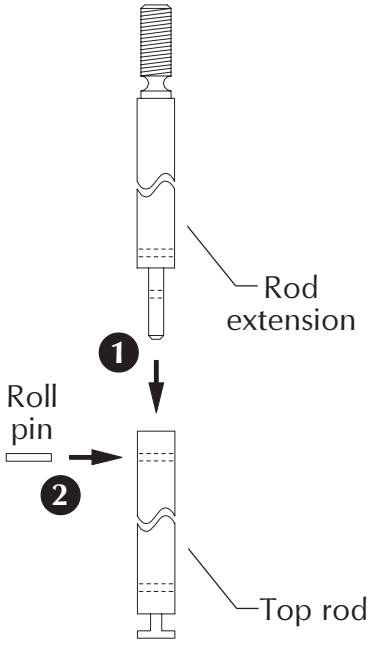
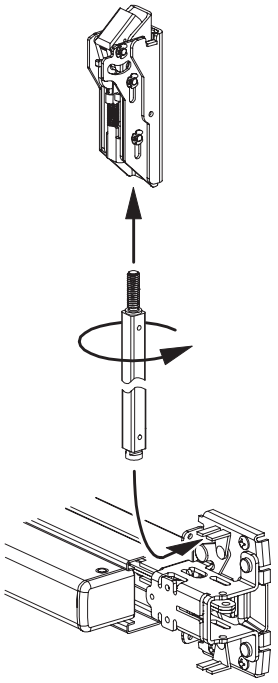


Figure 9-5

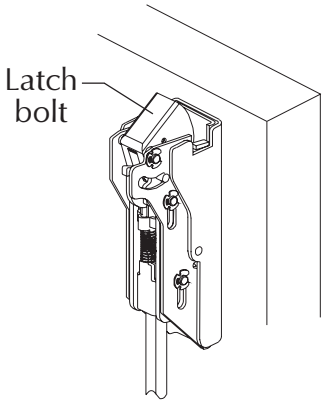
10 Install and adjust top rod.

Install

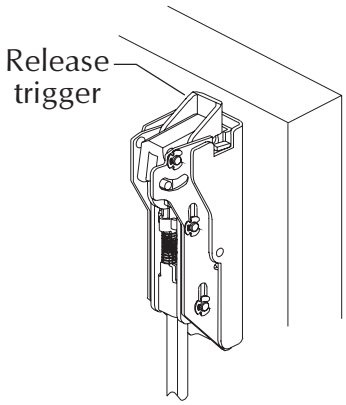


Adjust (screw rod into or out of latch)

With door closed:
Latch bolt fully extended
and deadlatched
(will not push in)

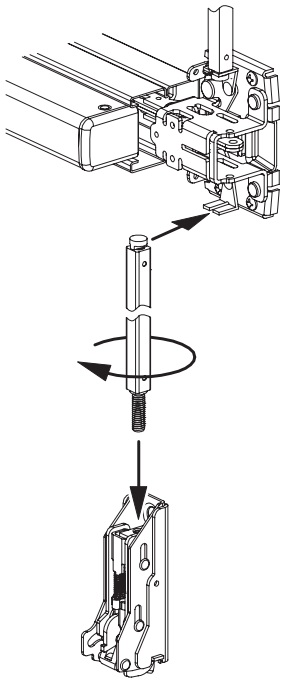


With door open:
Latch bolt flush with
or slighly below latch case
and release trigger extended



11 Install and adjust bottom rod.

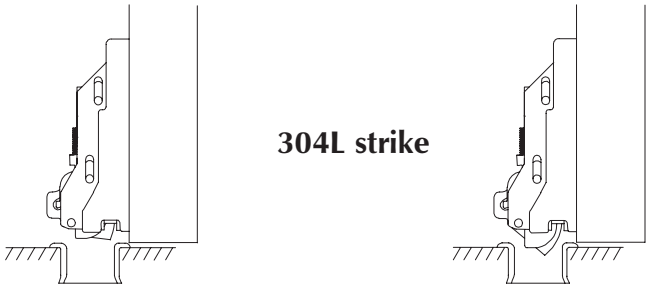
Install (with door open)



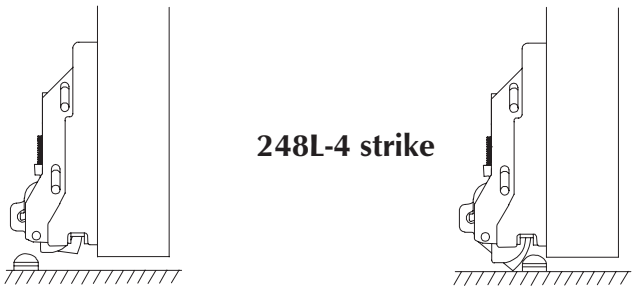
Adjust (screw rod into or out of latch)

With door open:
Latch bolt clears floor
and does not bind on strike

With door closed:
Latch bolt fully extended
and deadlatched
(will not push in)



304L strike



248L-4 strike

12 Install rod guides, center case cover, and latch covers.

NOTE

If using rod or latch guards, skip this step and see rod or latch guard instructions.

12.1. Disconnect top and bottom rods from center case. Slide rod guide bases 1 (with legs of bases against door) onto rods. Connect rods to center case.

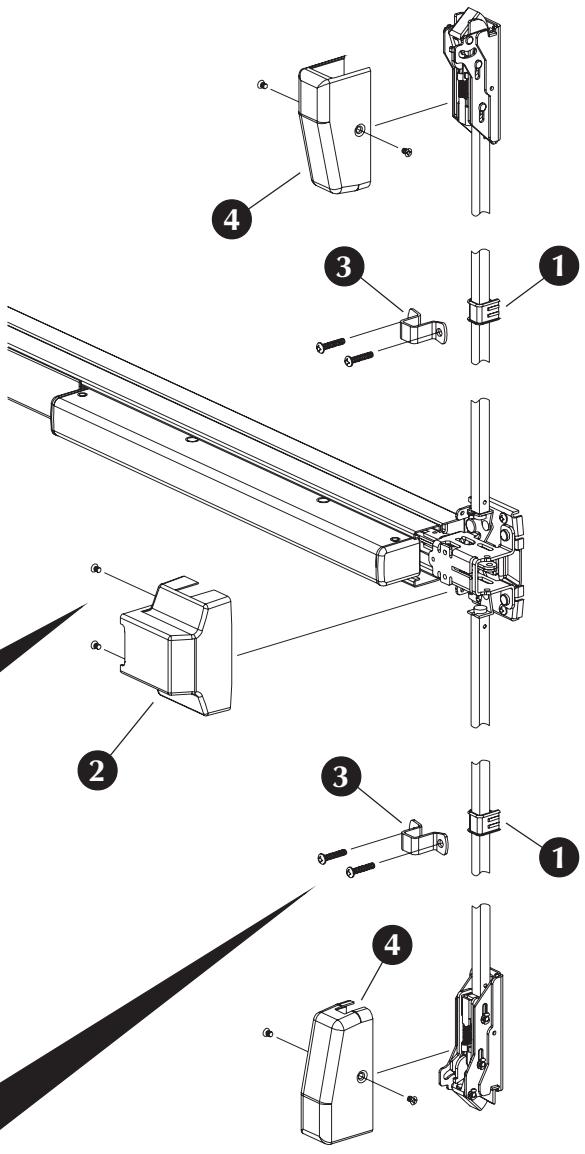
12.2. Install center case cover 2.

12.3. Place rod guides 3 over rod guide bases 1. Position rod guide/base midway between center case and latch and mark and prepare rod guide mounting holes:

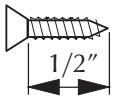
Metal door: #25 drill and #10-24 tap, inside
Wood door: 1/8″ dia. pilot drill x 3/4″ deep, inside

12.4. Install rod guides 3 over rod guide bases 1.

12.5. Install latch covers 4.

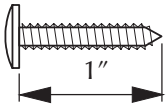


Center case: Use screws from end cap package:



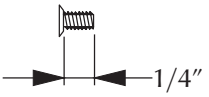
#8-18 undercut
flat head machine

Rod guides: Use screws from rod guide mounting package:



#10-12 x 10-24
combination

Latch covers: Use screws from latch cover mounting package:



#8-32 undercut
flat head machine

TEMPLATE #1 (LHR)

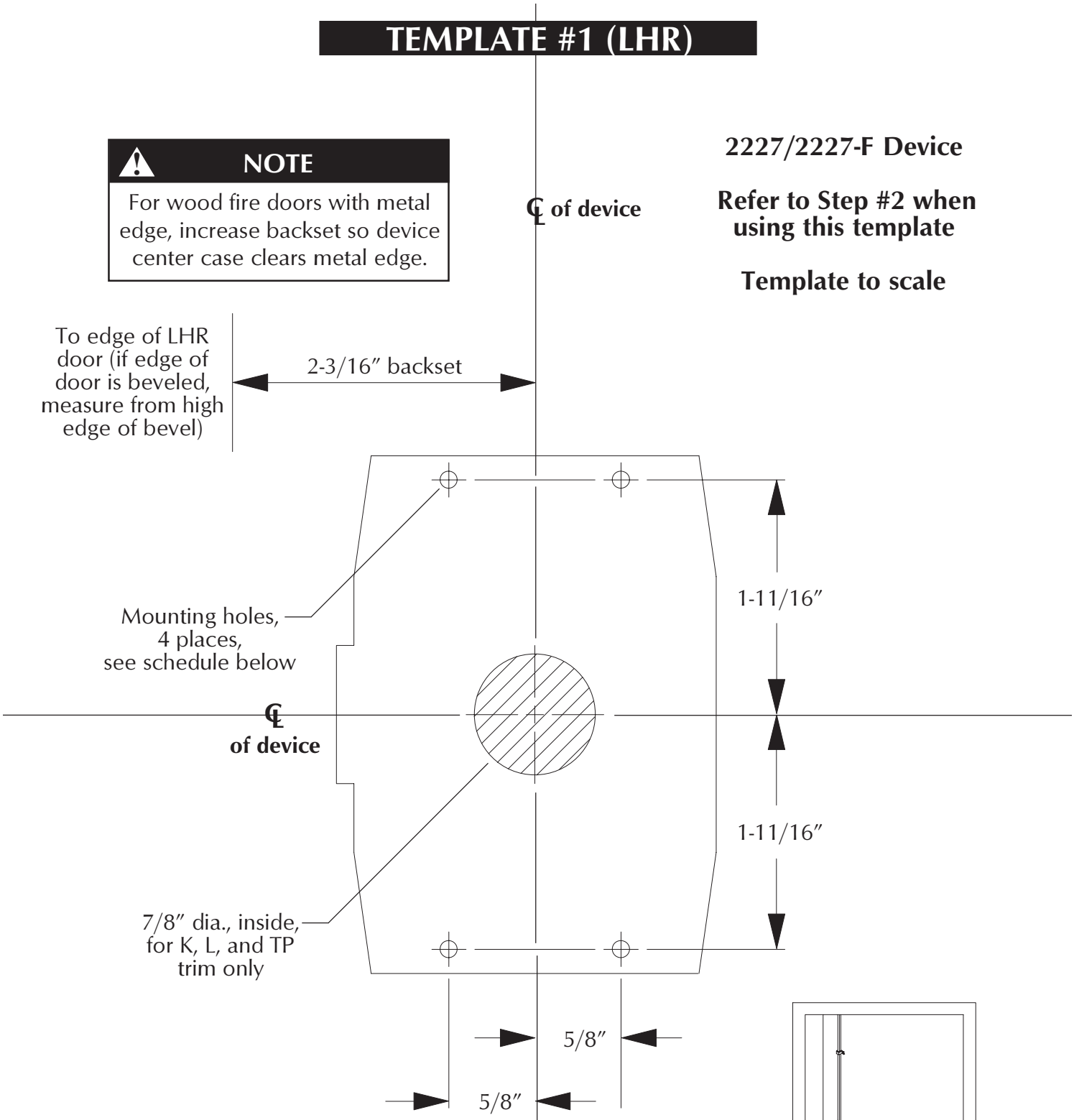
NOTE

For wood fire doors with metal edge, increase backset so device center case clears metal edge.

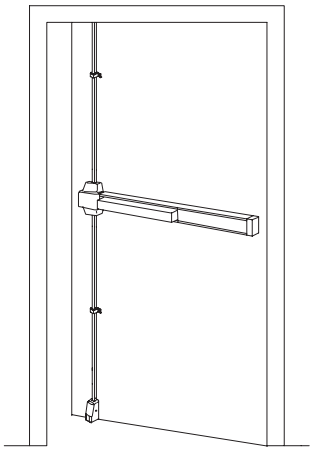
2227/2227-F Device

Refer to Step #2 when using this template

Template to scale



Mounting Hole Schedule	
Surface Mount	
Metal Door:	#25 drill and #10-24 tap, inside
Wood Door:	1/8″ dia. drill x 1″ deep (pilot hole)
Outside Trim	
Metal Door:	1/4″ dia. drill, inside
Wood Door:	13/32″ dia. drill, thru
Sex Bolts	
Metal Door:	1/4″ dia. drill, inside, and 13/32″ dia. drill, outside
Wood Door:	13/32″ dia drill, thru



LHR

TEMPLATE #1 (RHR)

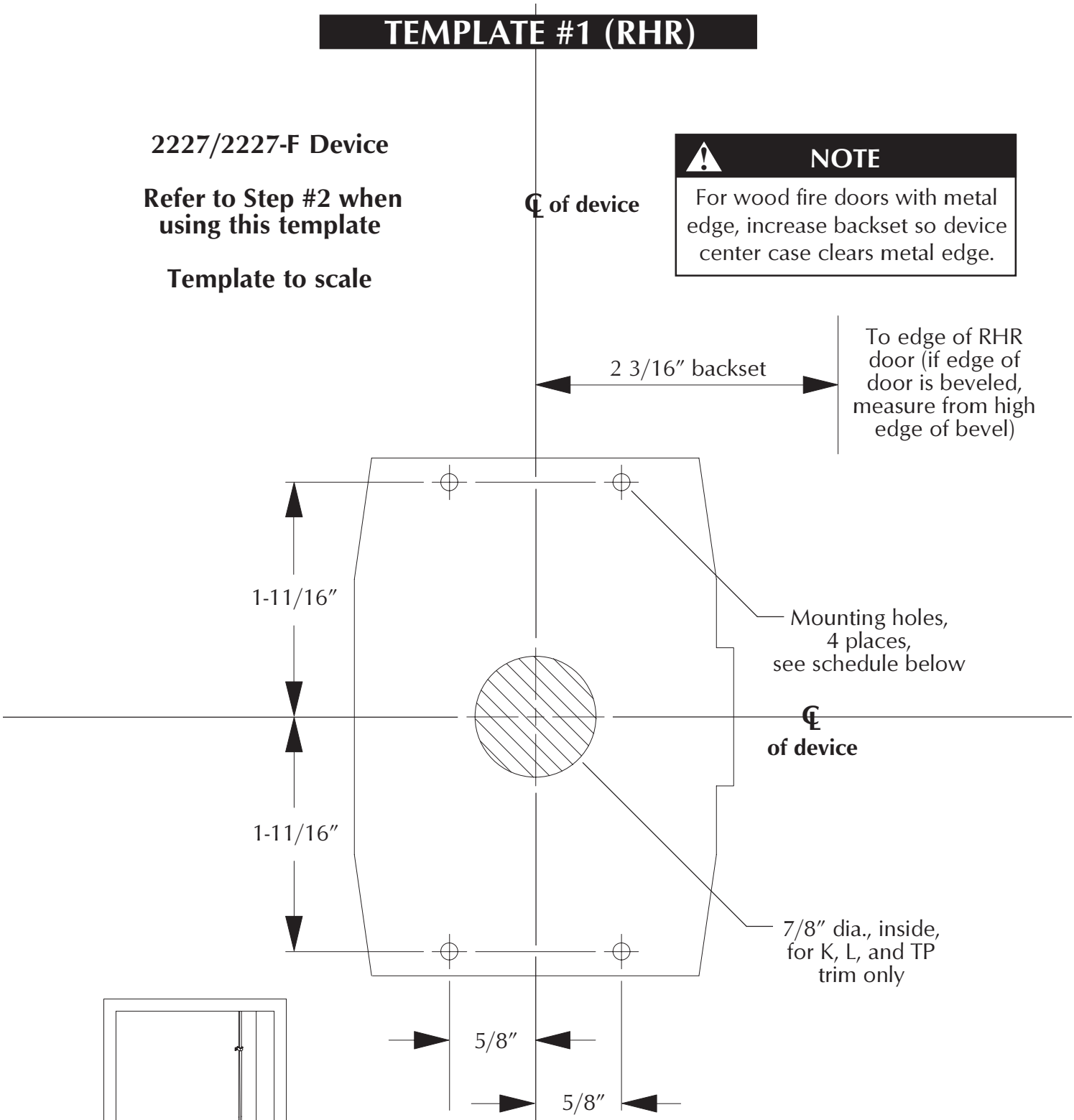
2227/2227-F Device

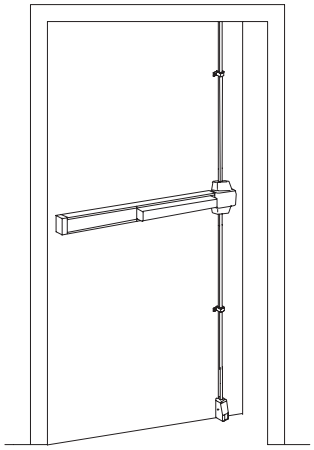
Refer to Step #2 when using this template

Template to scale

NOTE

For wood fire doors with metal edge, increase backset so device center case clears metal edge.



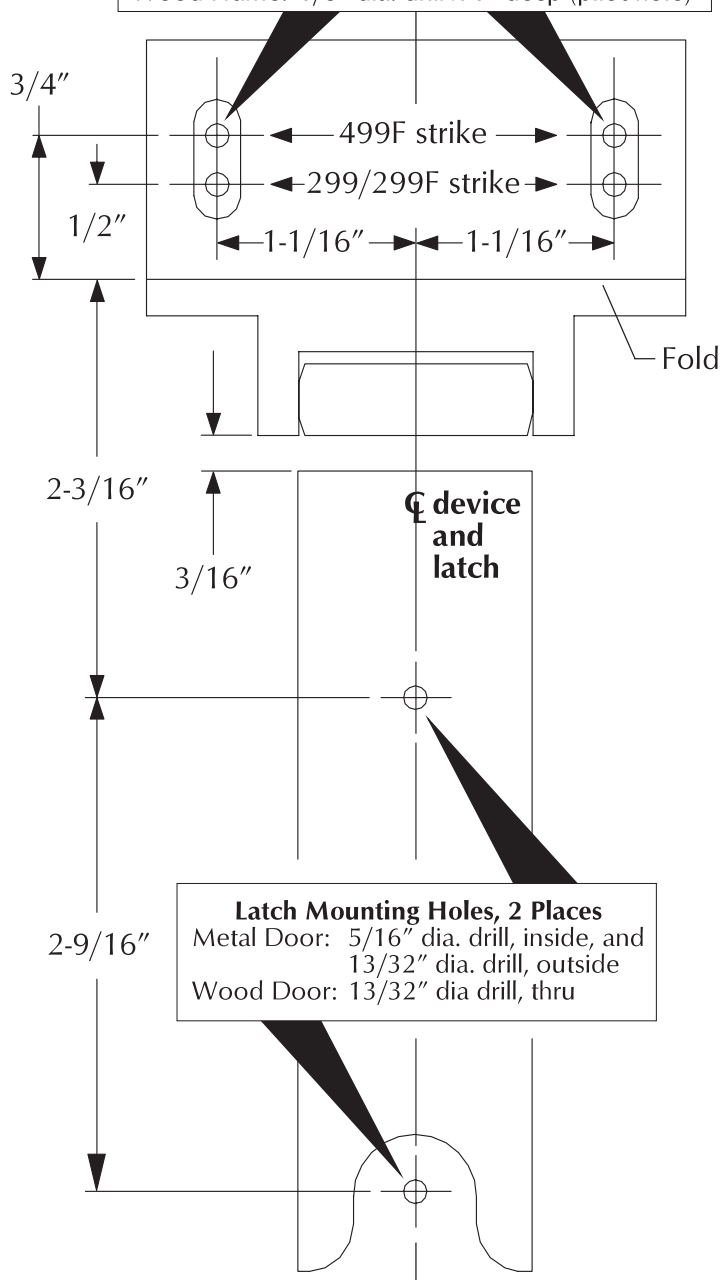


RHR

Mounting Hole Schedule	
Surface Mount	
Metal Door:	#25 drill and #10-24 tap, inside
Wood Door:	1/8″ dia. drill x 1″ deep (pilot hole)
Outside Trim	
Metal Door:	1/4″ dia. drill, inside
Wood Door:	13/32″ dia. drill, thru
Sex Bolts	
Metal Door:	1/4″ dia. drill, inside, and 13/32″ dia. drill, outside
Wood Door:	13/32″ dia drill, thru

TEMPLATE #2
299/299F/499F Strike and Top Latch

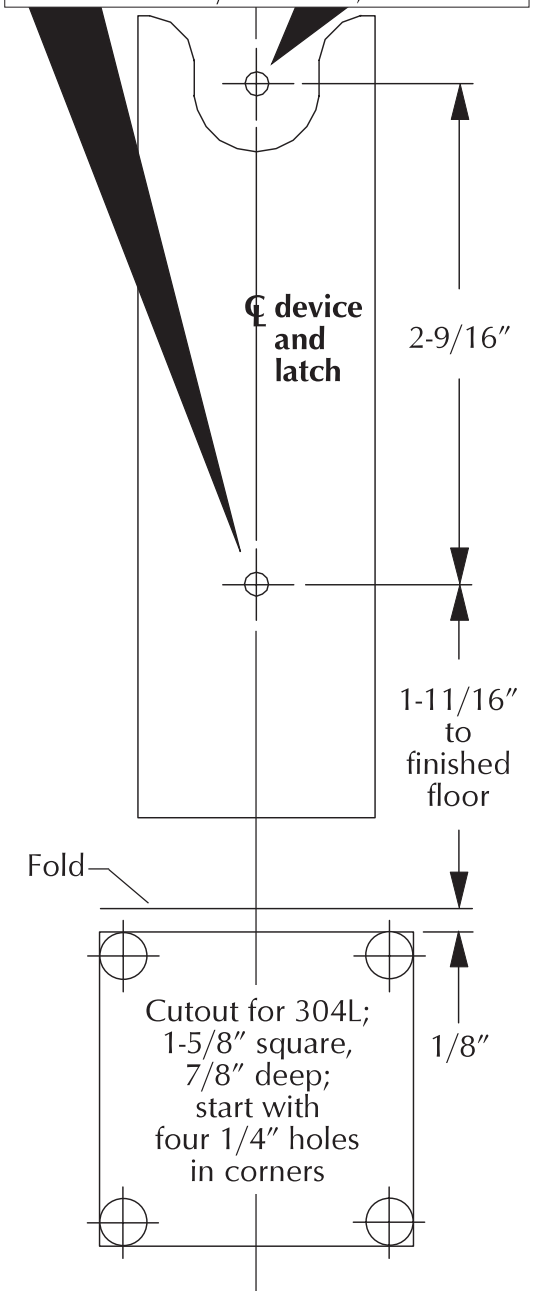
299/299F/499F Strike Mounting Holes, 2 Places
Metal Frame: #25 drill and #10-24 tap, inside
Wood Frame: 1/8″ dia. drill x 1″ deep (pilot hole)



Latch Mounting Holes, 2 Places
Metal Door: 5/16″ dia. drill, inside, and 13/32″ dia. drill, outside
Wood Door: 13/32″ dia drill, thru

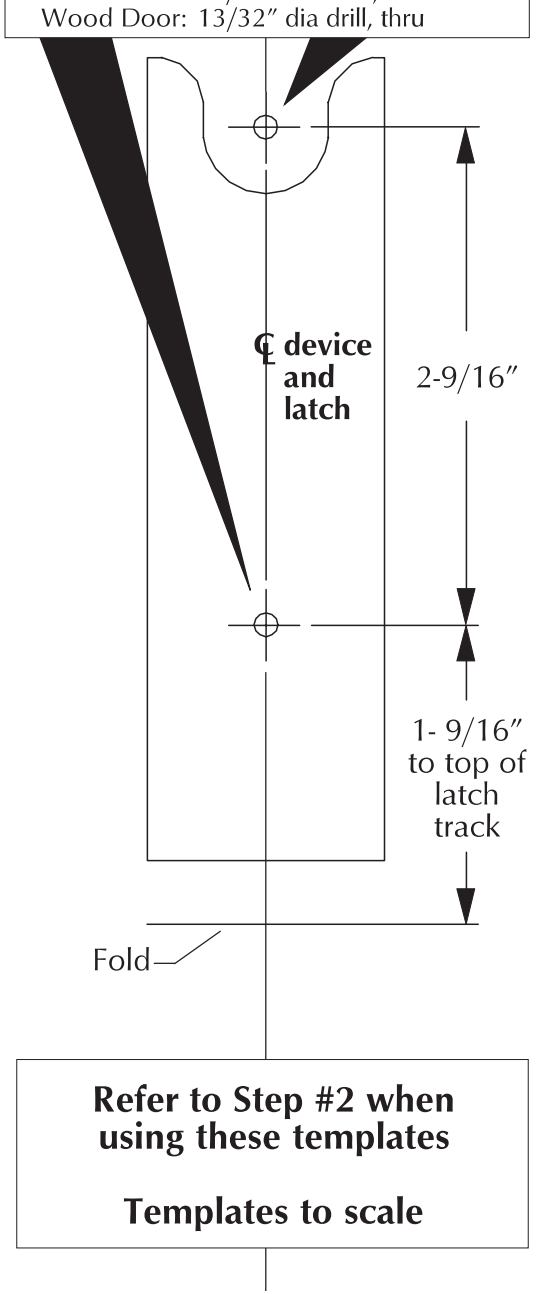
TEMPLATE #3
304L Strike and Bottom Latch

Latch Mounting Holes, 2 Places
Metal Door: 5/16″ dia. drill, inside, and 13/32″ dia. drill, outside
Wood Door: 13/32″ dia drill, thru



TEMPLATE #4
Threshold Latch Track and Bottom Latch

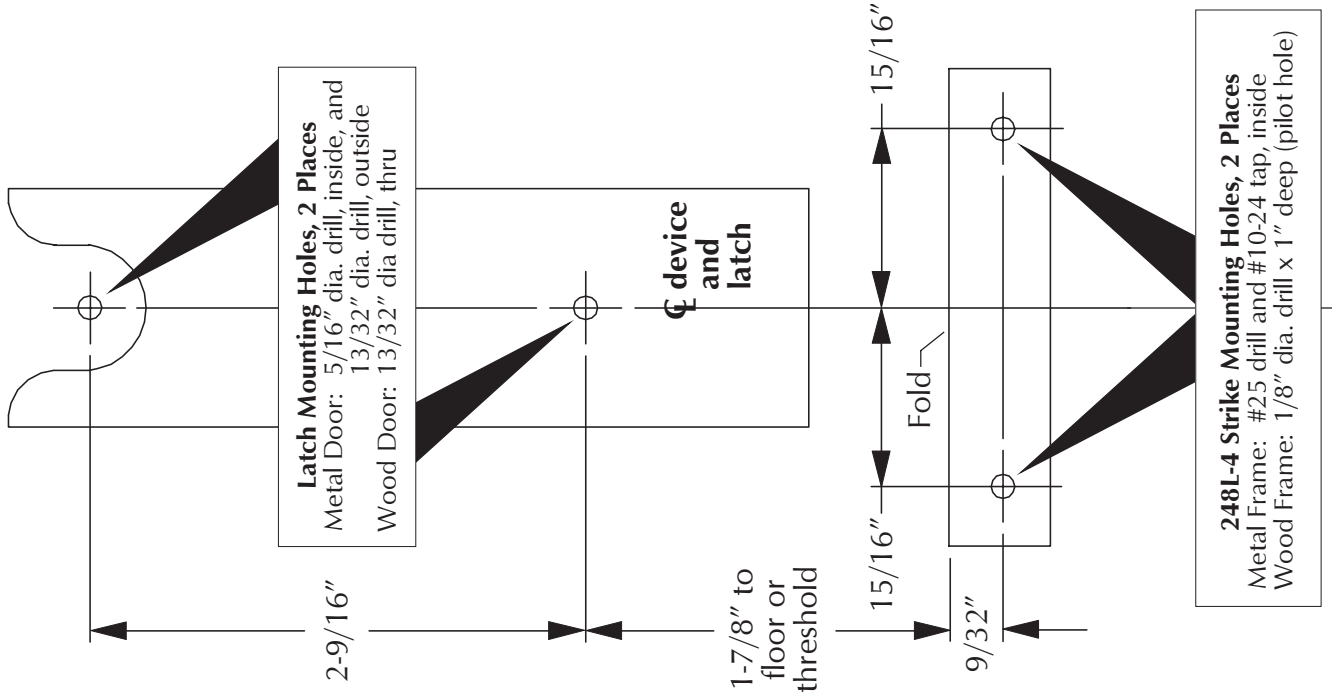
Latch Mounting Holes, 2 Places
Metal Door: 5/16″ dia. drill, inside, and 13/32″ dia. drill, outside
Wood Door: 13/32″ dia drill, thru



Refer to Step #2 when using these templates

Templates to scale

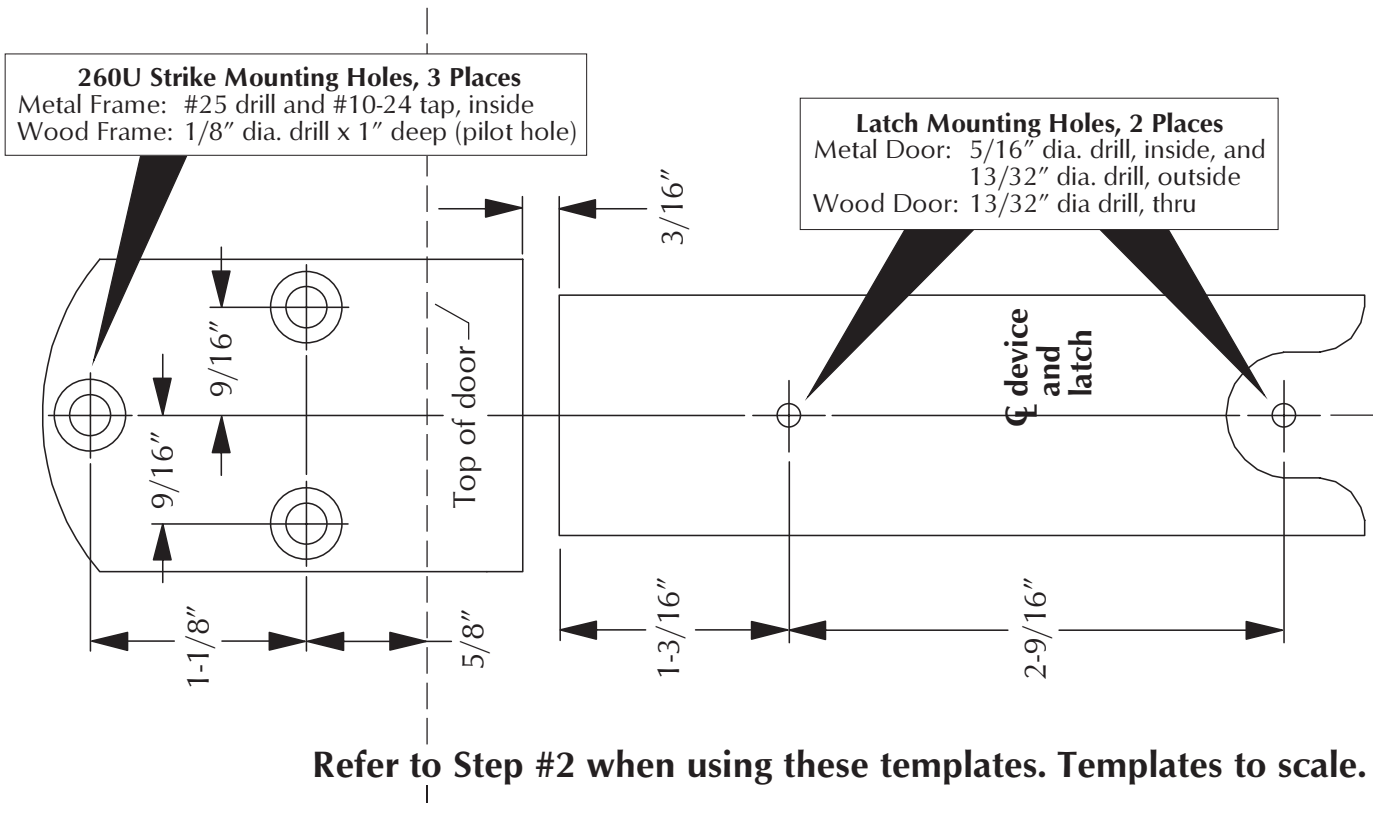
TEMPLATE #6
248L-4 Strike and Bottom Latch



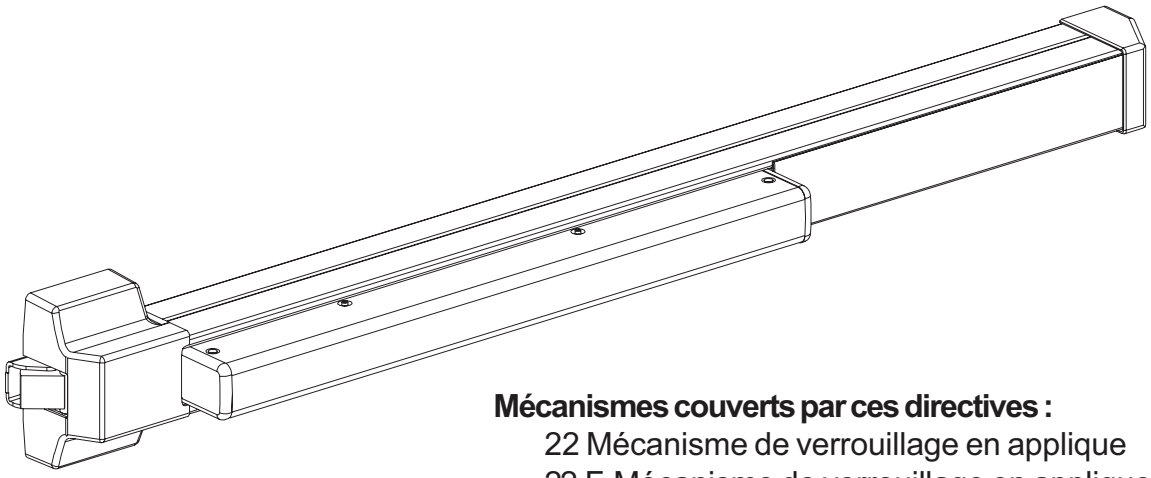
Metric Conversion Table

inches	mm	inches	mm	inches	mm	inches	mm
1/8	3	3/4	19	1-11/16	43	36	914
3/16	5	7/8	22	1-3/4	45	37-1/2	953
1/4	6	15/16	24	2-3/16	56	39-13/16	1011
9/32	7	1	25	2-1/4	57	44	1118
5/16	8	1-1/16	27	2-9/16	65	48	1219
3/8	10	1-1/8	29	3	76	84	2134
13/32	10	1-1/4	32	24-3/4	629	88	2235
1/2	13	1-1/2	38	30-3/4	781	96	2438
9/16	14	1-9/16	40	32	813	120	3048
5/8	16	1-5/8	41	33-1/2	851		

TEMPLATE #5
260U Strike and Top Latch



Refer to Step #2 when using these templates. Templates to scale.



Mécanismes couverts par ces directives :

22 Mécanisme de verrouillage en applique
22-F Mécanisme de verrouillage en applique pour sortie de secours

AVANT L'INSTALLATION

1. Vérifier la liste des pièces et identifier les gâches, les fixations et autres éléments spéciaux.

2. Vérifier l'étiquette de la boîte pour les garnitures, les gâches, les pièces en option et les numéros de commande.

3. Lire toutes les directives, y compris les directives d'installation fournies avec les options utilisées : garnitures et ensembles mécanisme d'alarme, billes de verre, protège-pêne et protège-tringle.

4. Rassembler les outils spéciaux requis :

- taraud nº 10-24
- mèche nº 25
- mèche de diamètre 1/8 po
- mèche de diamètre 1/4 po
- mèche de diamètre 13/32 po
- scie à métaux
- scie à trous de diamètre 7/8 po

Ce produit est protégé par les brevets suivants :
3,767,238 4,167,280 4,427,223 4,437,693 4,466,643

RENSEIGNEMENTS GÉNÉRAUX

Lire les pages 2 et 3 de façon à pouvoir identifier les pièces du mécanisme et à comprendre la terminologie utilisée dans ces directives.

Consulter au besoin la « table de conversion métrique » à la page 10.

Ces mécanismes pour portes de sortie peuvent être installés sur des portes des largeurs suivantes :

Dimension du mécanisme	Code / Norme	Dimensions de la porte
Standard 3 pi (32 po)	NFPA101	24 po 3/4 - 36 po
Standard 4 pi (44 po)	NFPA101	30 po 3/4 - 48 po

⚠ NOTA

La condamnation du verrou d'urgence pendant les périodes de circulation intense en prolonge la durée de vie. Pour le condamner, appuyer sur la barre et tourner la clé hexagonale d'un quart de tour vers la droite.

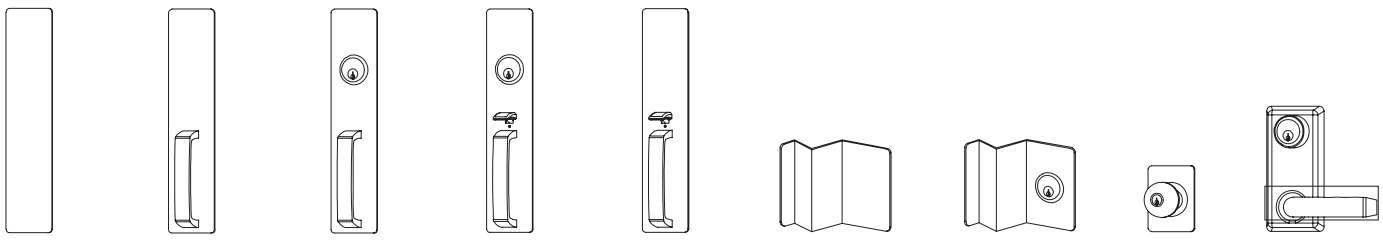
ENTRETIEN

Les mécanismes pour portes de sortie Von Duprin 22 sont conçus et construits pour ne nécessiter aucun entretien ; cependant, des facteurs comme l'installation, l'intensité de l'utilisation, les conditions ambiantes et les changements de l'état de l'ouverture de la porte peuvent entraîner la nécessité d'un entretien et(ou) d'un réglage du mécanisme. Nous recommandons au propriétaire de l'édifice de suivre les directives ci-dessous pour assurer un fonctionnement adéquat du mécanisme :

1. Vérifier périodiquement que le mécanisme fonctionne sans heurt.
2. Vérifier les gâches et les pênes pour s'assurer qu'ils sont bien fixés.
3. Vérifier que les pênes et les autres pièces mobiles ne se coincent pas ou ne sont pas ralentis en raison de l'encrassement ou d'une accumulation de résidus chimiques. Nettoyer les pièces à l'eau et au savon, puis les lubrifier à l'aide de lubrifiants à base de graphite ou de silicone. Ne pas utiliser de produits lubrifiants à base de pétrole.

GARNITURES EXTÉRIEURES

Pas de garniture extérieure fournie pour les applications sortie uniquement (EO)



Écusson (en option pour les applications EO, sortie uniquement)

DT (pour tirer quand le verrou est condamné)

NL (le clé rétracte le pêne demi-tour)

TP (le clé bloque le poucier)

TP-BE (poucier ; débloqué)

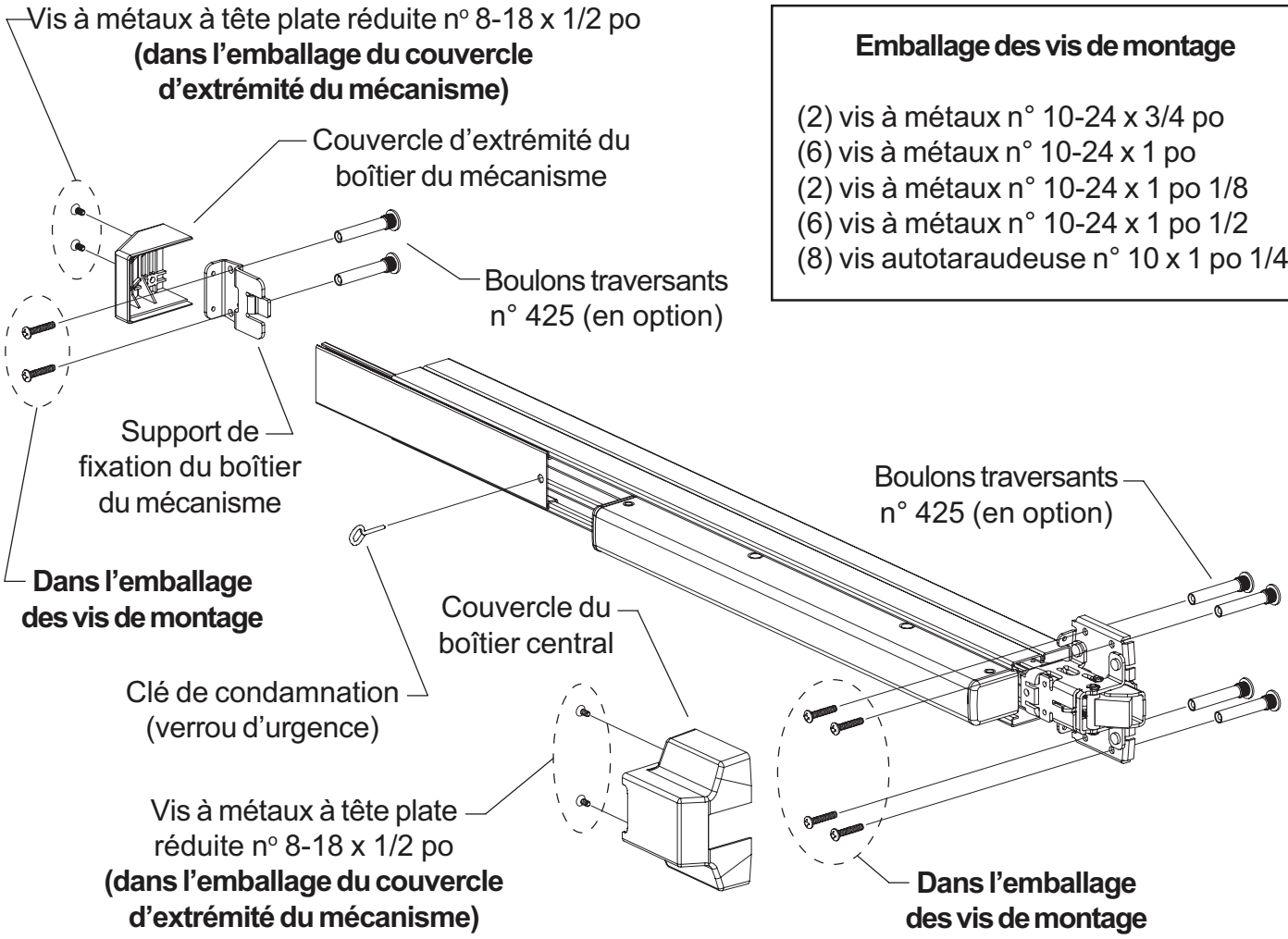
DT (pour tirer quand le verrou est condamné)

NL (le clé rétracte le pêne demi-tour)

K (le clé bloque le bouton)

L (le clé bloque la poignée)

LISTE DES PIÉCES 22 / 22-F

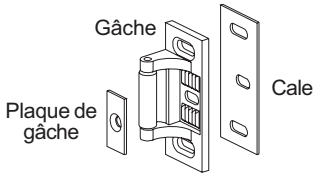


Emballage des vis de montage

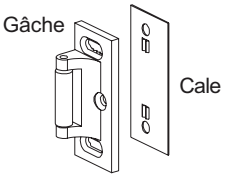
(2) vis à métaux n° 10-24 x 3/4 po
(6) vis à métaux n° 10-24 x 1 po
(2) vis à métaux n° 10-24 x 1 po 1/8
(6) vis à métaux n° 10-24 x 1 po 1/2
(8) vis autotaraudeuse n° 10 x 1 po 1/4

Emballages de gâche

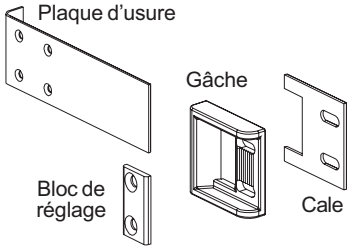
Emballage de la gâche 299
(verrou d'urgence)
(3) vis à métaux n° 10-24 x 3/4 po
(3) vis à bois n° 10 x 1 po 1/2



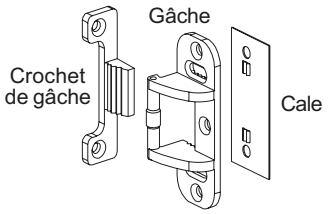
Emballage de la gâche 299F
(sortie de secours, porte à un battant)
(3) vis à métaux n° 10-24 x 3/4 po
(3) vis à bois n° 10 x 1 po 1/2



Emballage de la gâche 1409
(verrou d'urgence, cadre aluminium, lame butoir de 1/2 po)
(2) vis mixtes n° 10-12 x 10-24 x 1 po 1/4
(4) rivets à expansion à tête plate



Emballage de la gâche 499F
(sortie de secours, porte à deux battants)
(7) vis à métaux n° 10-24 x 3/4 po



INSTALLATION

1 Pour porte à un battant, préparation du cadre pour les gâches 299, 299F ou 1409.

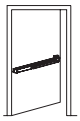
1.1. Marquer l'emplacement de la ligne de centrage ℄, comme indiqué à l'illustration 1-1.

1.2. Pour les gâches 299 ou 299F : Fixer le gabarit de gâche au cadre à l'aide de ruban adhésif, aligné sur la ligne de centrage ℄, comme indiqué à l'illustration 1-2. Marquer et préparer les trous de montage en suivant le gabarit.

Pour une gâche 1409 : Préparer le cadre comme indiqué à l'illustration 1-3.

⚠ NOTA

Pour les portes à deux battants, le montant est déjà préparé pour la pose de la gâche 499F. Sauter cette étape et passer à l'étape 2.



Illustrée : porte ouvrant de droite à gauche
Contraire de porte ouvrant de gauche à droite

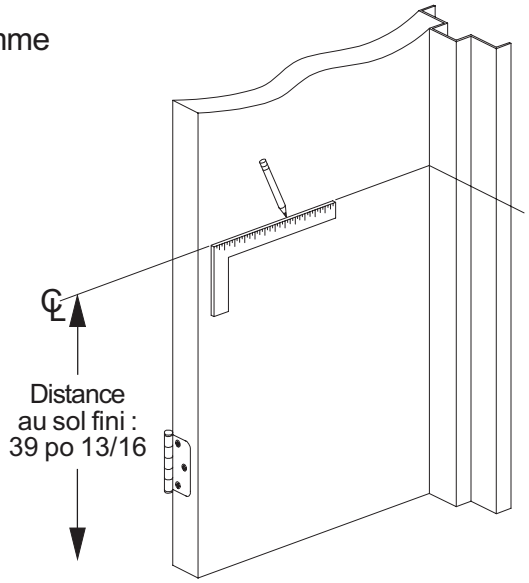


Illustration 1-1

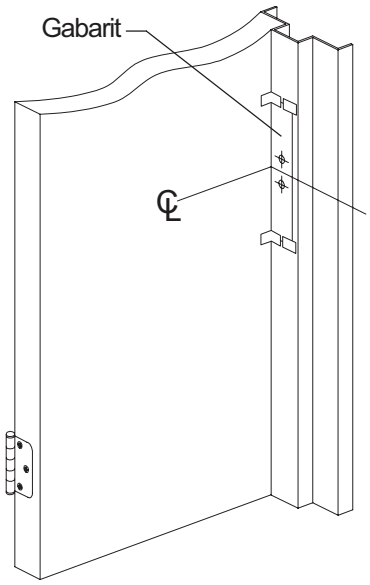


Illustration 1-2. Gâche 299 ou 299F

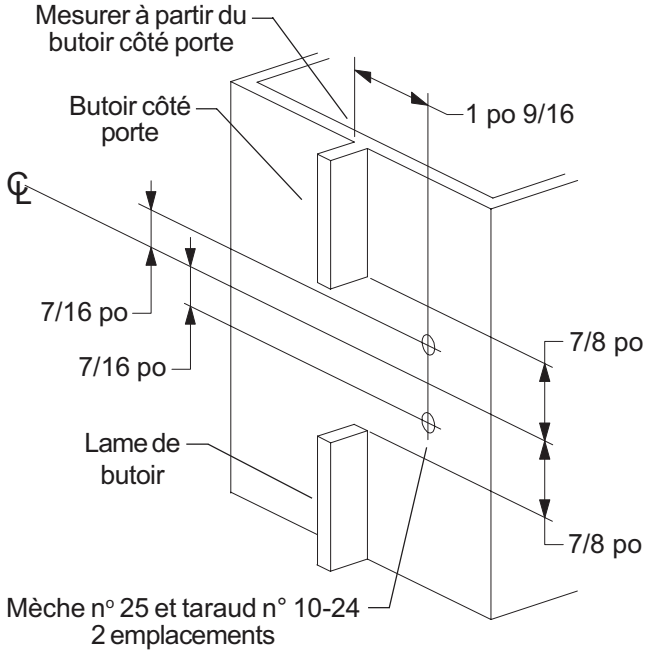
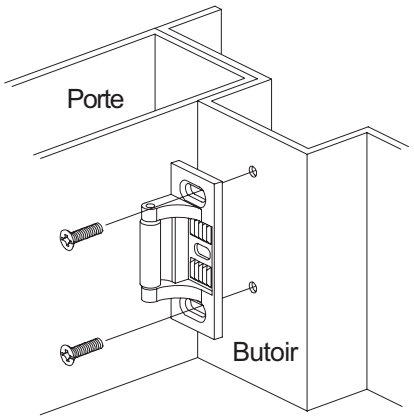


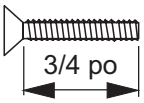
Illustration 1-3. Gâche 1409

2 Installation de la gâche. Utiliser SEULEMENT DEUX VIS à cette étape.

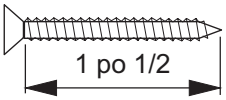
Gâche 299 (illustrée) ou 299F



Utiliser les vis de l'emballage de la gâche 299 / 299F

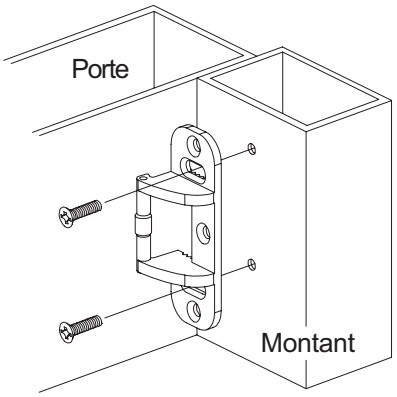


Vis à métaux à tête plate nº 10-24 pour cadre métal



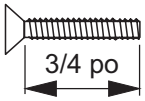
Vis à bois à tête plate nº 10 pour cadre bois

Gâche 499F

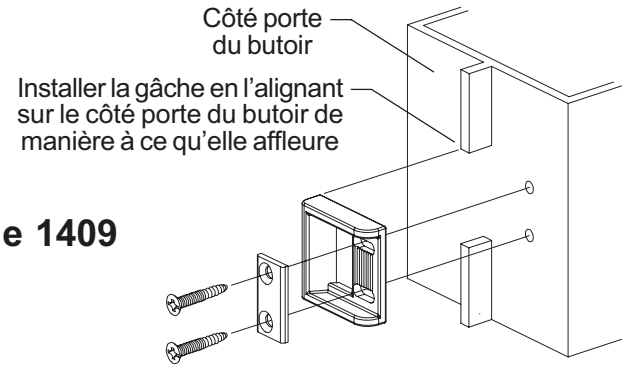


Utiliser les vis de l'emballage de la gâche 499F

Vis à métaux à tête plate nº 10-24

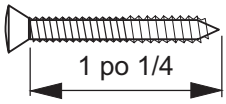


Gâche 1409

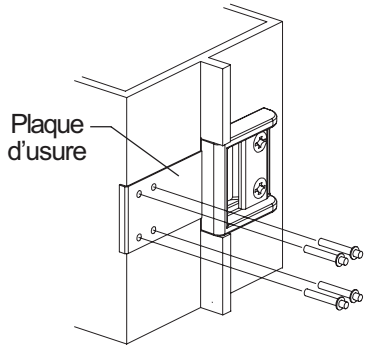


Utiliser les vis de l'emballage de la gâche 1409

Vis mixtes à tête ovale nº 10-12 x 10-24



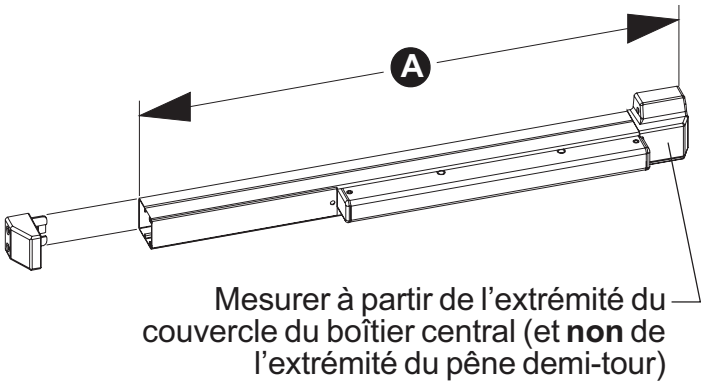
Plaque d'usure 1409

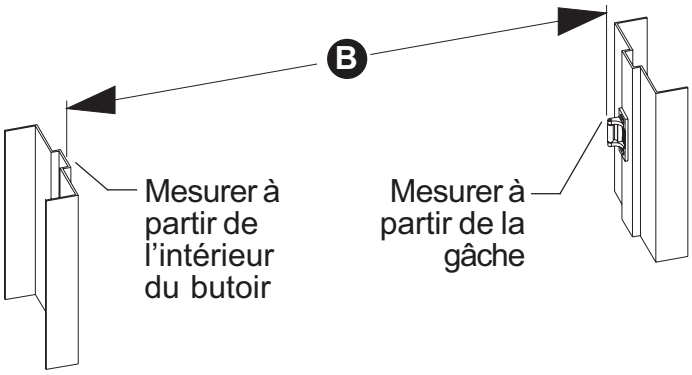


1. Centrer la plaque d'usure sur la gâche comme illustré.
2. Marquer et percer des trous de 1/8 po de diamètre (4 emplacements).
3. Installer la plaque d'usure à l'aide des rivets à expansion à tête plate (4 emplacements) de l'emballage de la gâche 1409.

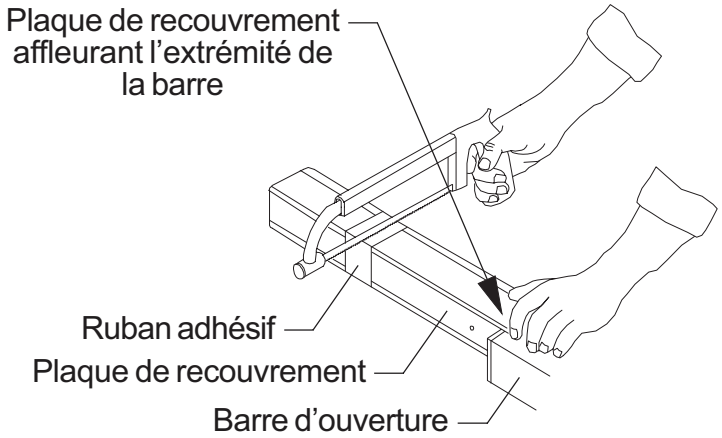
3 Découpage du mécanisme en cas de besoin.

3.1. La longueur **A** du mécanisme doit être inférieure à la longueur **B** d'au moins 1 po 1/2.





3.2. En cas de besoin, couper le mécanisme de façon à ce que **A** soit plus court que **B** d'au moins 1 po 1/2.



⚠ NOTA

En cas d'installation du mécanisme d'alarme en option ALK, installer la plaque de recouvrement de celui-ci avant de couper le mécanisme.

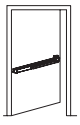
4 Préparation de la porte pour la pose du mécanisme.

4.1. Couper le gabarit de boîtier central pour gâche 1409 ou celui pour gâches 299 / 299F / 499F.

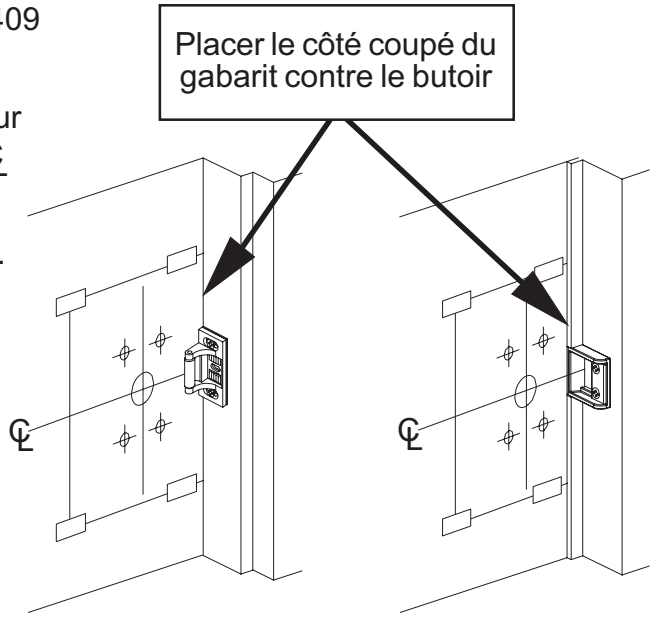
4.2. Fixer le gabarit à l'aide de ruban adhésif à l'intérieur de la porte, en l'alignant sur la ligne de centrage ℄ comme illustré.

4.3. Marquer et préparer les trous en suivant le gabarit.

4.4. Préparer la porte pour la garniture extérieure (voir les directives pour les garnitures).



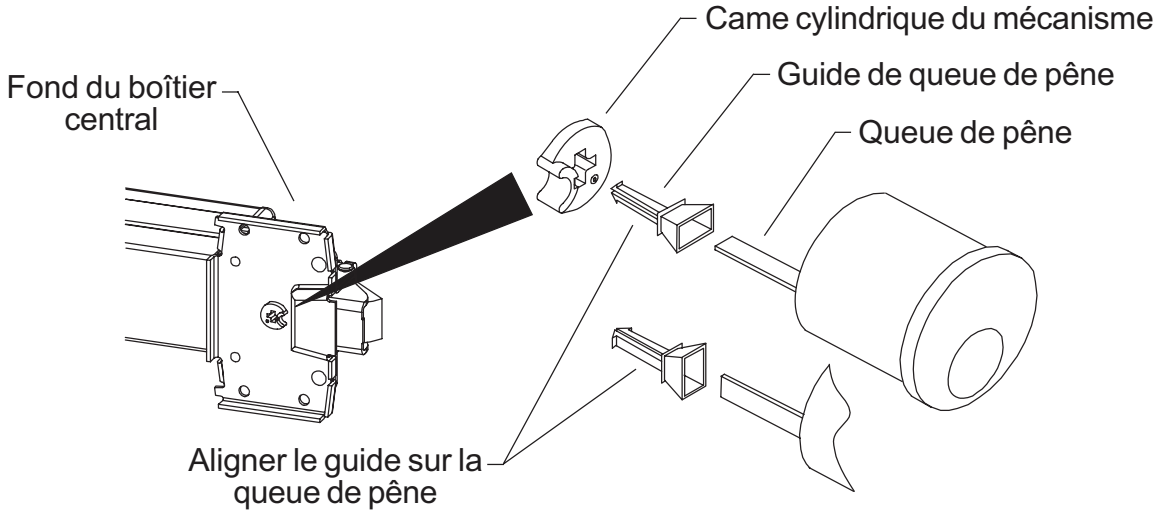
Illustrée : porte ouvrant de droite à gauche
Contraire de porte ouvrant de gauche à droite



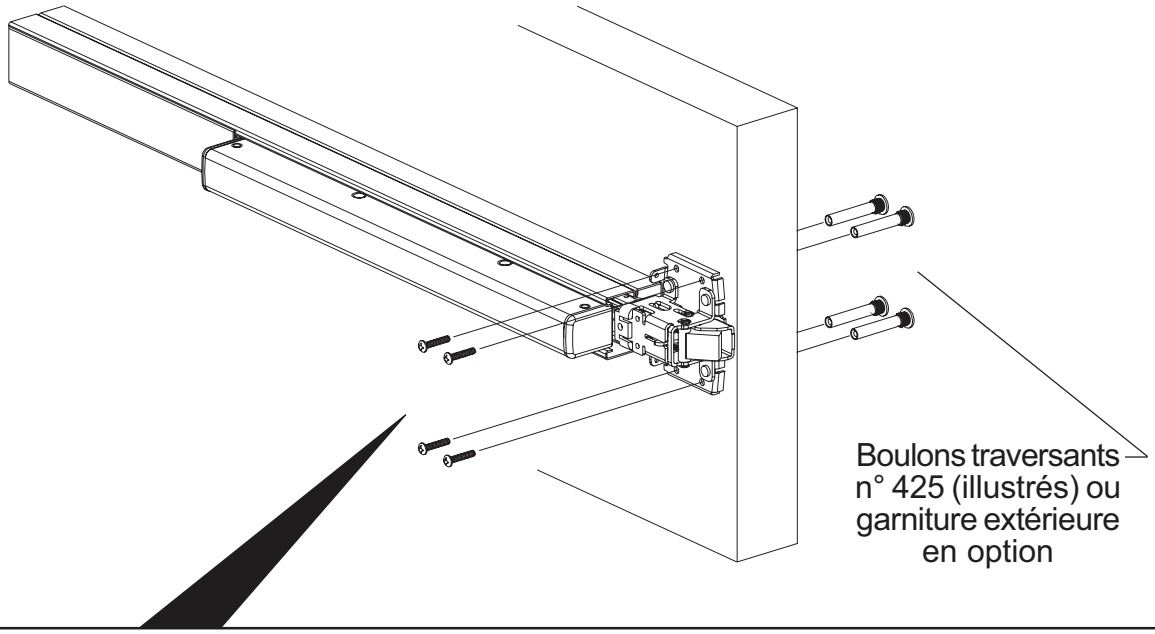
Gâches 299 / 299-F / 499-F **Gâche 1409**

5 Installation du mécanisme sur la porte et contre le boîtier central.

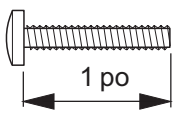
5.1. Si un cylindre est utilisé dans la garniture, installer le guide de queue de pêne (emballé avec la garniture) dans le mécanisme.



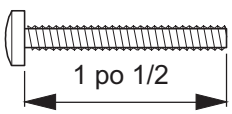
5.2. Installer le mécanisme sur la porte et contre le boîtier central.



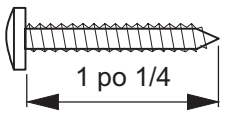
Utiliser les vis de l'emballage des vis de montage



Vis à métaux à tête cylindrique n° 10-24 pour montage en applique sur porte métal, avec boulons traversants sur porte de 1 po 3/4 ou avec garniture extérieure sur porte de 1 po 3/4

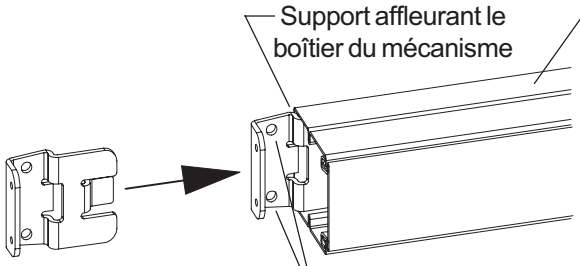


Vis à métaux à tête cylindrique n° 10-24 pour montage avec boulons traversants sur porte de 2 po 1/4 ou avec garniture extérieure sur porte de 2 po 1/4



Vis autotaraudeuse à tête cylindrique n° 10-24 pour montage en applique sur porte bois

6 Installation du support de fixation et du couvercle d'extrémité du boîtier du mécanisme.



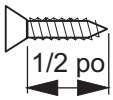
1 Glisser le support de fixation du boîtier du mécanisme à l'intérieur

2 Marquer les trous de montage et les préparer en suivant le tableau ci-contre

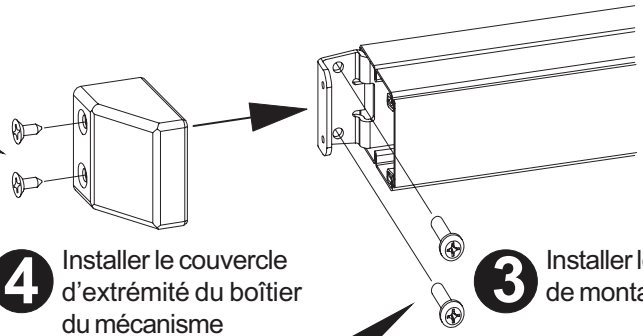
Montage en applique
Porte métal : mèche n° 25 et taraud n° 10-24 à l'intérieur
Porte bois : trou de guidage de 1/8 po, sur 1 po de profondeur, à l'intérieur

Boulons traversants
Porte métal : trou de 1/4 po à l'intérieur, de 13/32 po à l'extérieur
Porte bois : trou de 13/32 po au travers

Utiliser les vis de l'emballage du couvercle d'extrémité



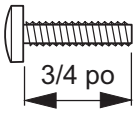
Vis à métaux à tête plate réduite n° 8-18



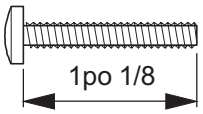
4 Installer le couvercle d'extrémité du boîtier du mécanisme

3 Installer les vis de montage

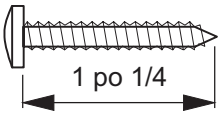
Utiliser les vis de l'emballage des vis de montage



Vis à métaux à tête cylindrique n° 10-24 pour montage en applique sur porte métal, avec boulons traversants sur porte de 1 po 3/4

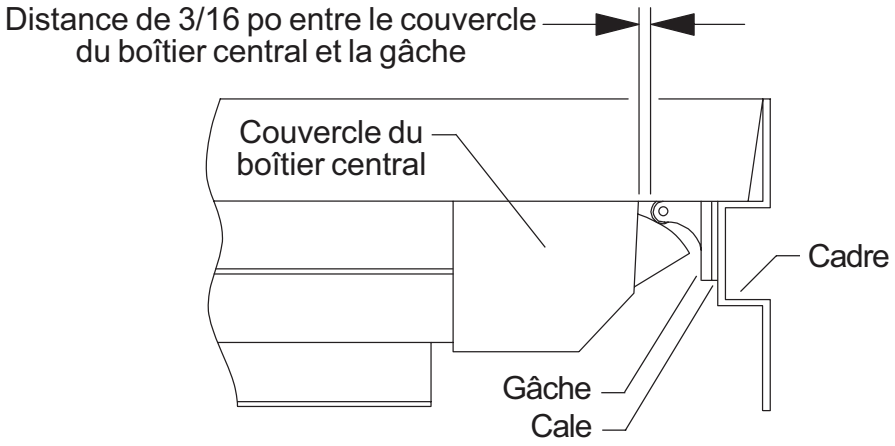


Vis à métaux à tête cylindrique n° 10-24 pour montage avec boulons traversants sur porte de 2 po 1/4



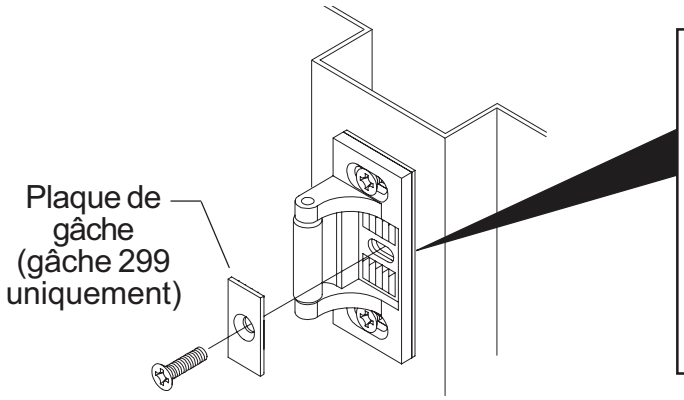
Vis autotaraudeuse à tête cylindrique n° 10-24 pour montage en applique sur porte bois

7 Installation en cas de besoin d'une cale de réglage sous la gâche pour obtenir l'espacement de 3/16 po illustré ci-dessous.

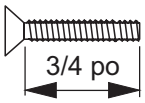


8 Préparation des trous de montage de gâche restants et installation des vis.

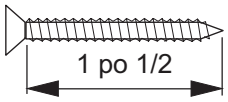
Gâche 299 ou 299F



Cadre métal :
mèche n° 25 et taraud n° 10-24,
vis à métaux à tête plate n° 10-24

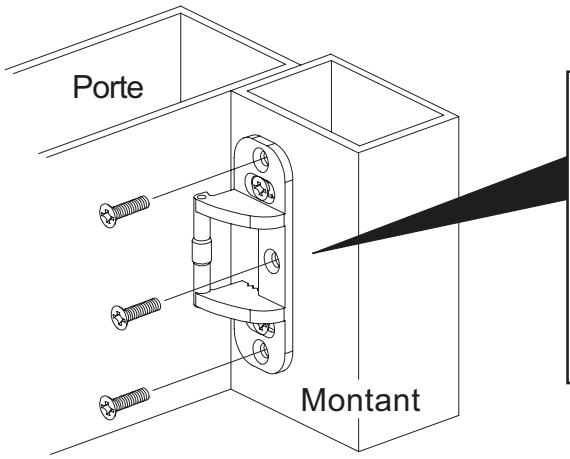


Cadre bois :
trou de guidage de 1/8 po
x 1 po de profondeur
vis à bois à tête plate n° 10

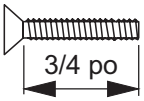


Utiliser les vis de l'emballage de gâche 299 / 299F

Gâche 499



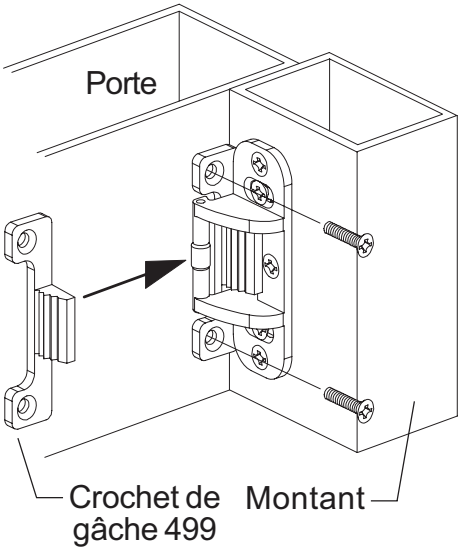
mèche n° 25 et taraud n° 10-24,
vis à métaux à tête plate n° 10-24

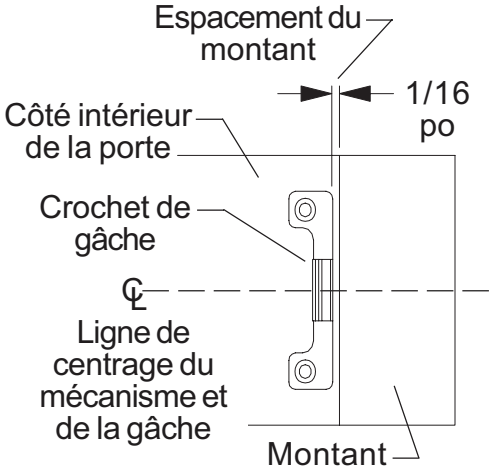


Utiliser les vis de l'emballage de gâche 499F

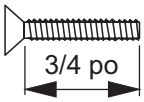
Crochet de gâche 499F

Crochet de gâche central sur mécanisme avec espacement de 1/16 po du montant





Porte métal :
mèche n° 25 et taraud n° 10-24,
vis à métaux à tête plate n° 10-24



Utiliser les vis de l'emballage de gâche 499F

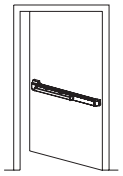
Porte bois :
(boulons traversants n° 425)
trou de 1/4 po à l'intérieur,
trou de 13/32 po à l'extérieur

Table de conversion métrique												
pouces	mm	pouces	mm	pouces	mm	pouces	mm	pouce	mm	pouces	mm
1/16	2	7/16	11	1	25	1 po 9/16	40	30 po 3/4	781	44	1 118
1/8	3	1/2	13	1 po 1/16	27	1 po 11/16	43	32	813	48	1 219
3/16	5	5/8	16	1 po 1/8	29	1 po 3/4	45	36	914		
1/4	6	3/4	19	1 po 1/4	32	2 po 1/4	57	39 po 11/16	1 008		
13/32	10	7/8	22	1 po 1/2	38	24 po 3/4	629	39 po 13/16	1 011		

GABARIT DE GÂCHE

Pour l'utilisation de ce gabarit, se reporter à l'étape 1 (p. 4)

Gabarit à l'échelle (dimensions données en pouces)



Porte ouvrant de gauche à droite

5/8 po

1 po 1/16

℄

1 po 1/16

Préparer des trous aux deux emplacements :

Cadre métal :
mèche n° 25 et taraud n° 10-24

Cadre bois :
trou de guidage de 1/8 po x 1 po de profondeur

Couper le gabarit de gâche le long de cette ligne et le placer sur le butoir, ce côté placé contre la porte

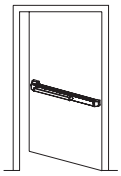
Couper le long de cette ligne pour la gâche 1409

℄ **Ligne de centrage du mécanisme**

GABARIT DE BOÎTIER CENTRAL

Pour l'utilisation de ce gabarit, se reporter à l'étape 4 (p. 6)

Gabarit à l'échelle (dimensions données en pouces)



Porte ouvrant de gauche à droite

5/8 po — 5/8 po

1 po 11/16

℄ ℄

1 po 11/16

Trou de 7/8 po de diamètre pour les garnitures NL, K, L et TP uniquement

Préparer des trous aux quatre emplacements :

Montage en applique (pas de garniture extérieure) :
Porte métal : mèche n° 25 et taraud n° 10-24 à l'intérieur
Porte bois : trous de guidage de 1/8 po x 1 po de profondeur

Montage avec boulons traversants n° 425 ou garniture extérieure :
Porte métal : trou de 1/4 po à l'intérieur, trou de 13/32 po à l'extérieur
Porte bois : trou de 13/32 po au travers

Pour la gâche 1409, couper le gabarit de boîtier central le long de cette ligne et le placer sur la porte, ce côté placé contre le butoir

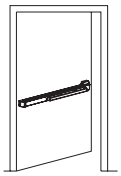
Pour les gâches 299 / 299F / 499F, placer le gabarit de boîtier central sur la porte, ce côté placé contre le butoir

℄ Ligne de centrage du mécanisme

GABARIT DE BOÎTIER CENTRAL

Pour l'utilisation de ce gabarit, se reporter à l'étape 4 (p. 6)

Gabarit à l'échelle (dimensions données en pouces)

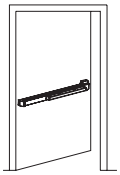


Porte ouvrant de droite à gauche

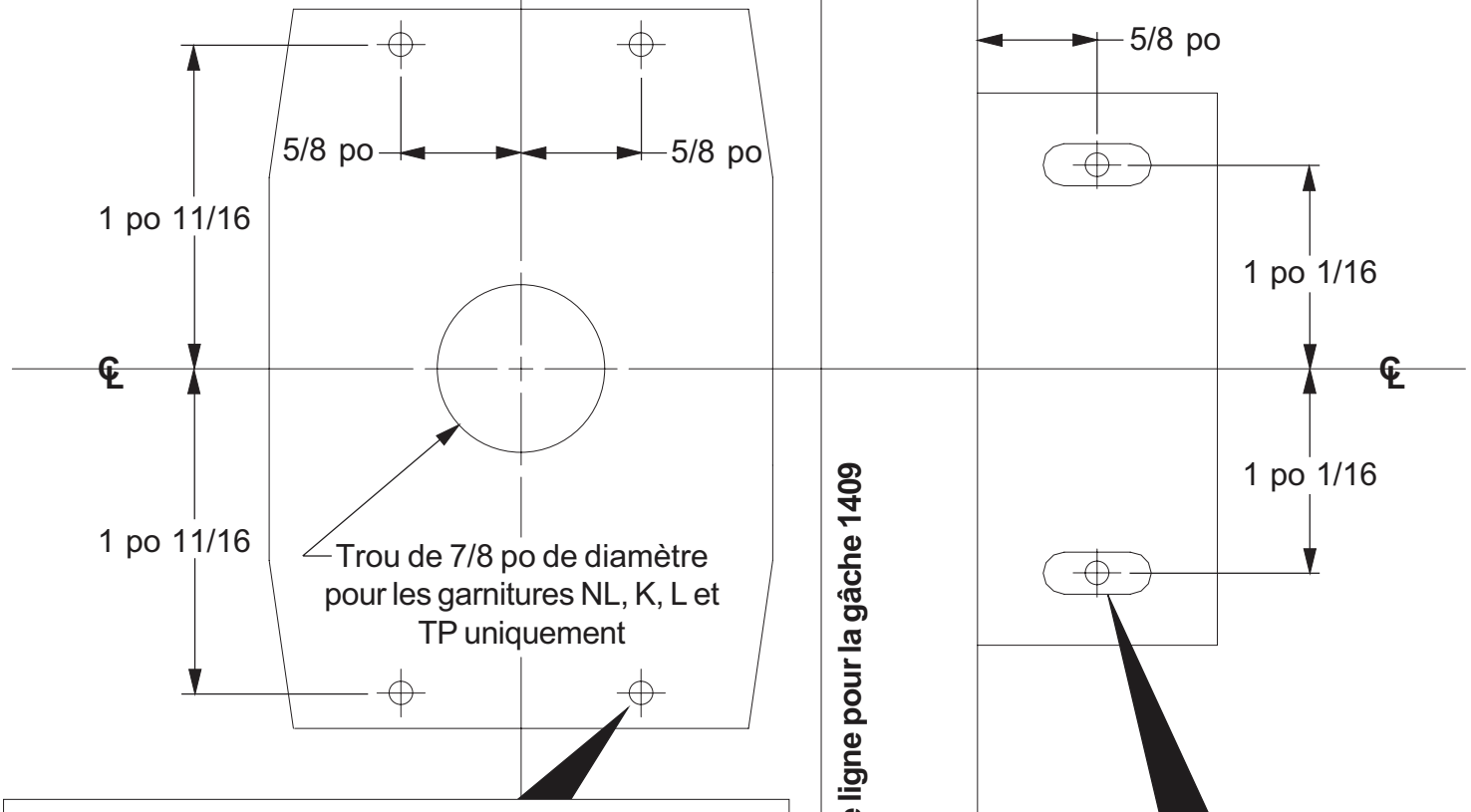
GABARIT DE GÂCHE

Pour l'utilisation de ce gabarit, se reporter à l'étape 1 (p. 4)

Gabarit à l'échelle (dimensions données en pouces)



Porte ouvrant de droite à gauche



Couper le long de cette ligne pour la gâche 1409

Préparer des trous aux quatre emplacements :

Montage en applique (pas de garniture extérieure) :
Porte métal : mèche n° 25 et taraud n° 10-24 à l'intérieur
Porte bois : trous de guidage de 1/8 po x 1 po de profondeur

Montage avec boulons traversants n° 425 ou garniture extérieure :
Porte métal : trou de 1/4 po à l'intérieur, trou de 13/32 po à l'extérieur
Porte bois : trou de 13/32 po au travers

Pour la gâche 1409, couper le gabarit de boîtier central le long de cette ligne et le placer sur la porte, ce côté placé contre le butoir

Pour les gâches 299 / 299F / 499F, placer le gabarit de boîtier central sur la porte, ce côté placé contre le butoir

Préparer des trous aux deux emplacements :

Cadre métal :
mèche n° 25 et taraud n° 10-24

Cadre bois :
trou de guidage de 1/8 po x 1 po de profondeur

Couper le gabarit de gâche le long de cette ligne et le placer sur le butoir, ce côté placé contre la porte

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911359-00 Rev. 01/14-b

Exit Devices - 237 Davices

911167-00

237

VON DUPRIN

With 378L Control Option

Installation Instructions



Index:

- General Information 2
- Revision Notes 2
- Warnings 2
- Parts List 3
- Installation 4
- Templates 11

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GENERAL INFORMATION

These instructions are presented in step-by-step sequence and include templates in the back as an aid to preparing for device mounting.

Please review the first two pages carefully which will help identify the hardware and define the terminology used throughout.

Revision 1: Added note in Step 4 on Page 5.
Revision 2: Added NL cylinder plate installation instruction.

READ ALL WARNINGS BEFORE STARTING INSTALLATION!

⚠ WARNING

Install in accordance with instructions or device will not function.

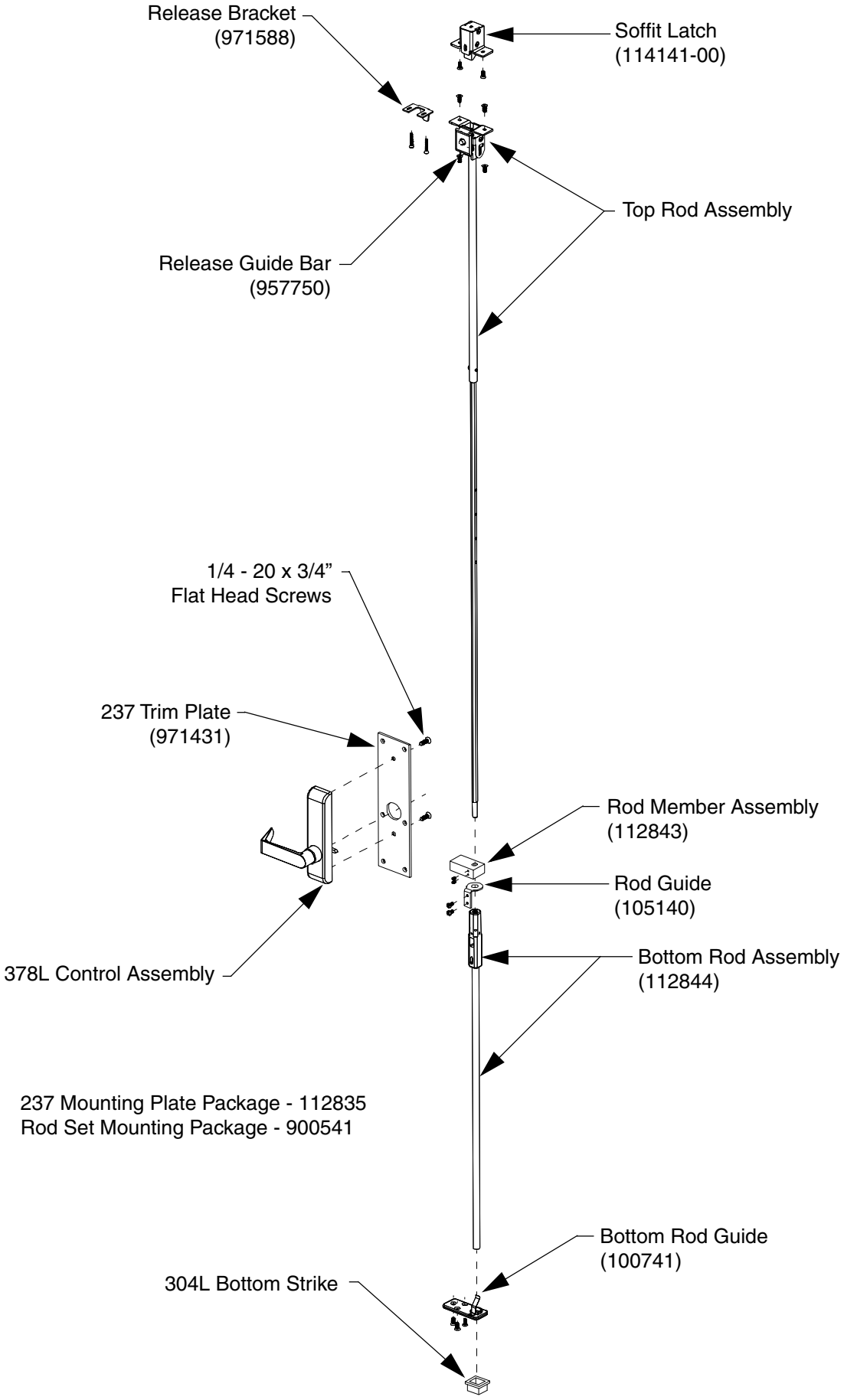


⚠ CAUTION

Any door preparation must be performed by an installer who is certified by the manufacturer.



237 Device Parts List

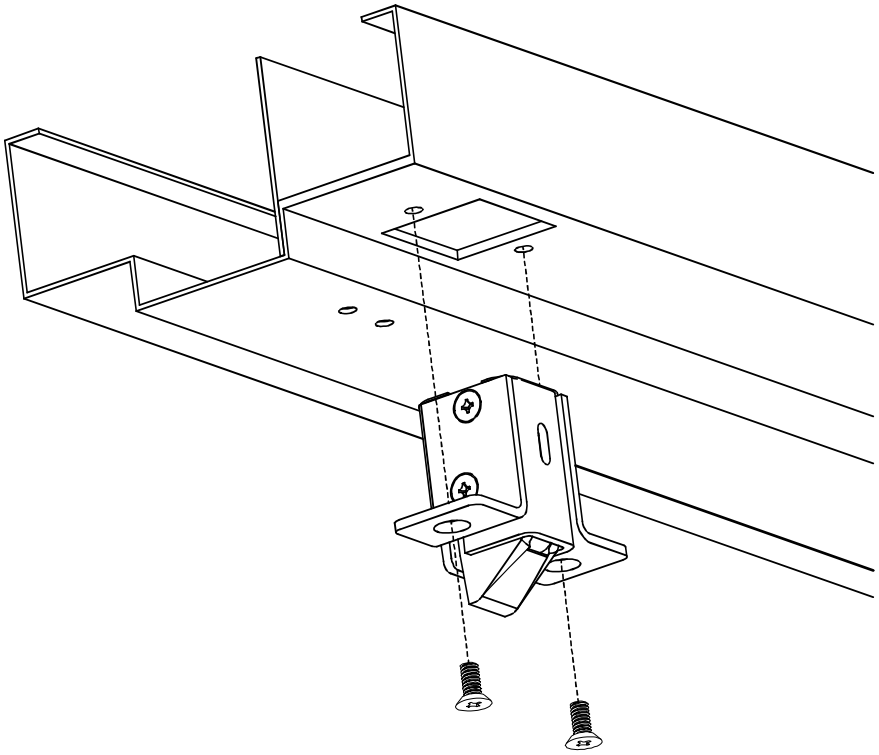


Note: 237 Mounting Plate Package - 112835
Rod Set Mounting Package - 900541

INSTALLATION

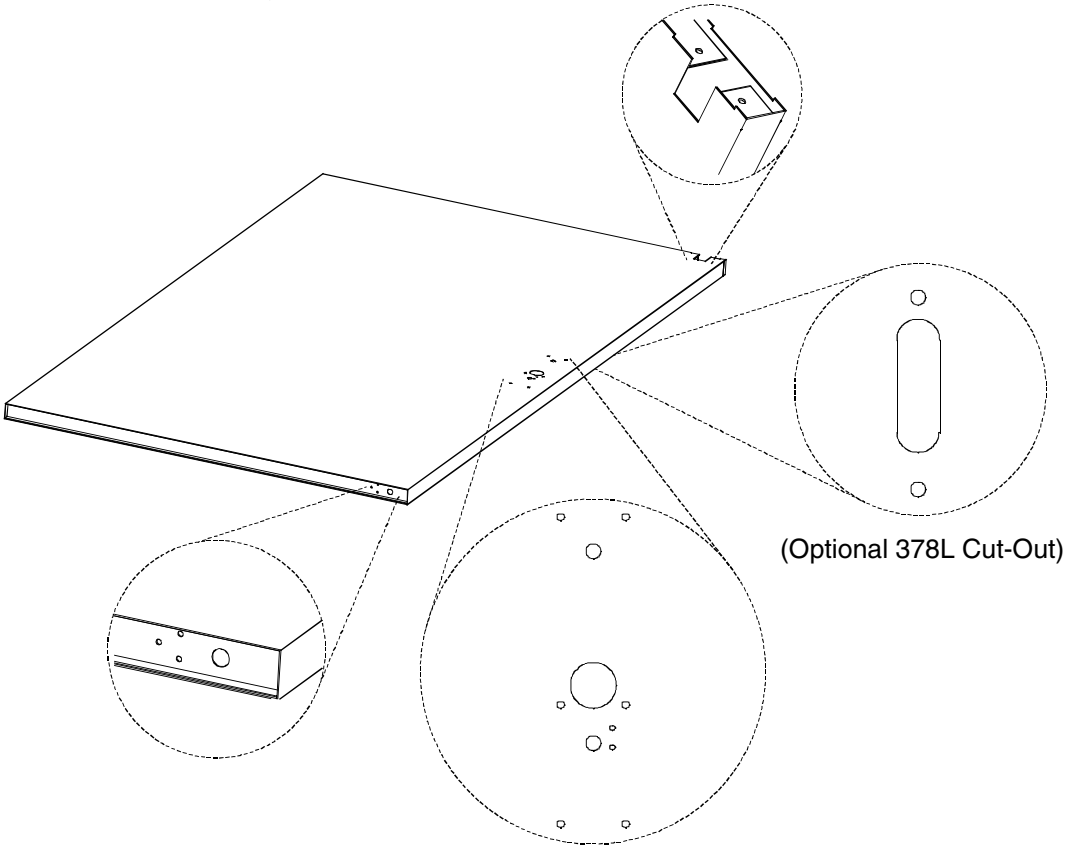
1 Mount soffit latch to frame.

Note: Door must be at least 1 3/4" thick.



2 Prep door (see templates on pages 11-12).

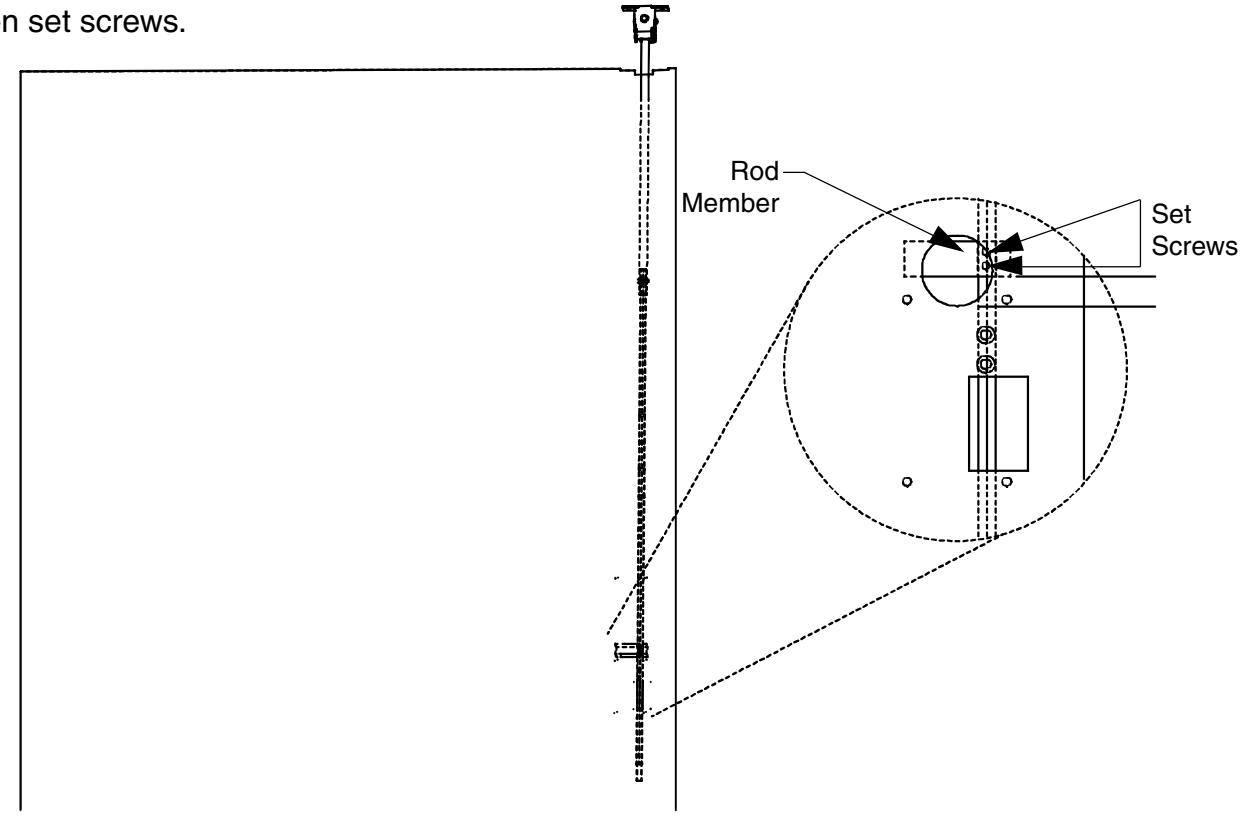
Note: For steps two through seven, door must be in horizontal position.



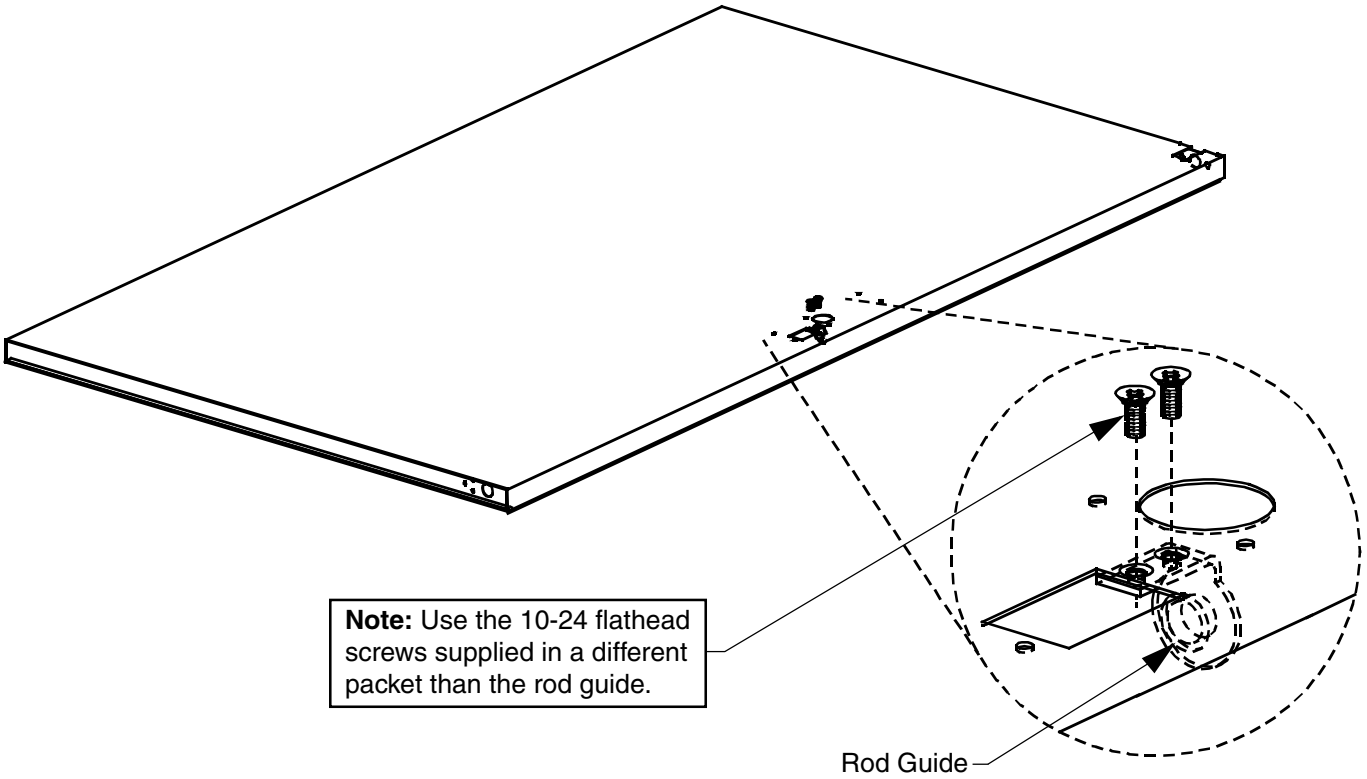
3 Insert top rod and attach rod member.

A. Position rod member so bottom half will be visible through 1 1/2” circular cutout when fully inserted.

B. Tighten set screws.

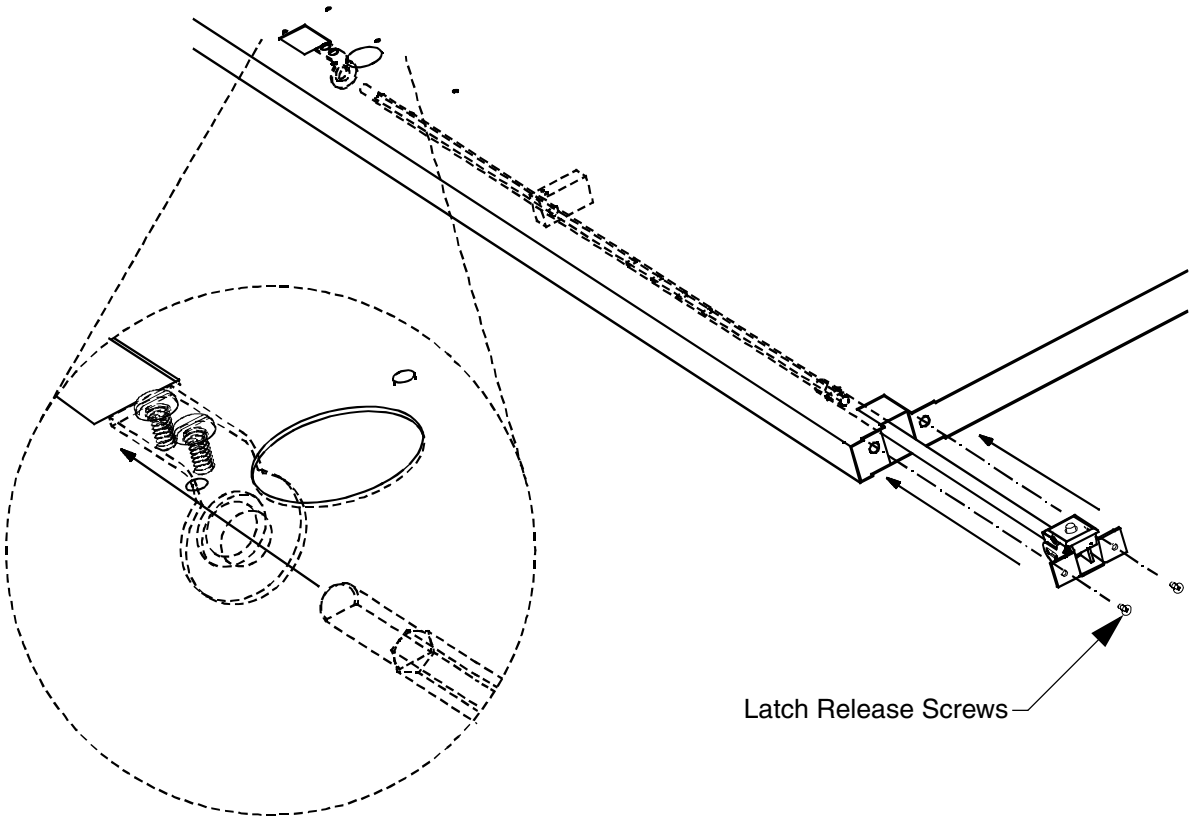


4 Install rod guide.



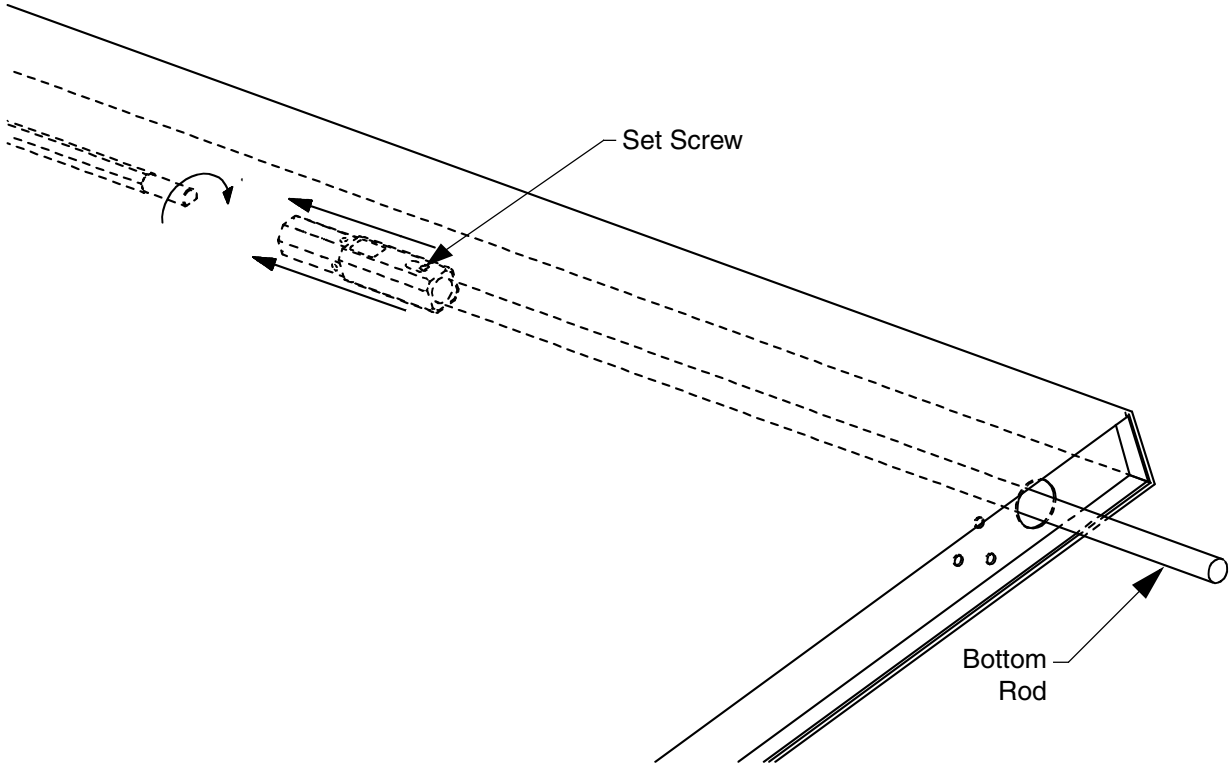
5 Slide top rod through rod guide.

A. Install latch release screws.



6 Install bottom rod.

A. Screw into top rod until 5/8” projection is achieved.
B. Tighten set screw.



7 Assemble 237, 378L control.

TL Function - Control remains unlocked when key is removed

NL Function - Control relocks when key is removed. Requires use of key to operate

For NL function replace TL cylinder plate (std. on all controls) with NL cylinder plate (included in polybag) replacing screw and washer.

Note: Control must be in locked position when installing cylinder plate.

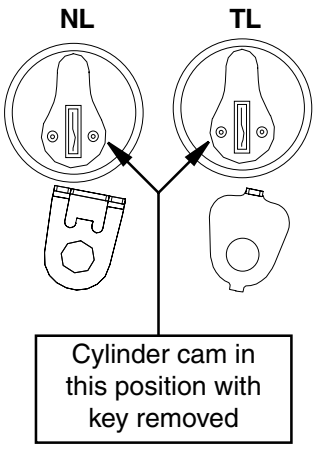
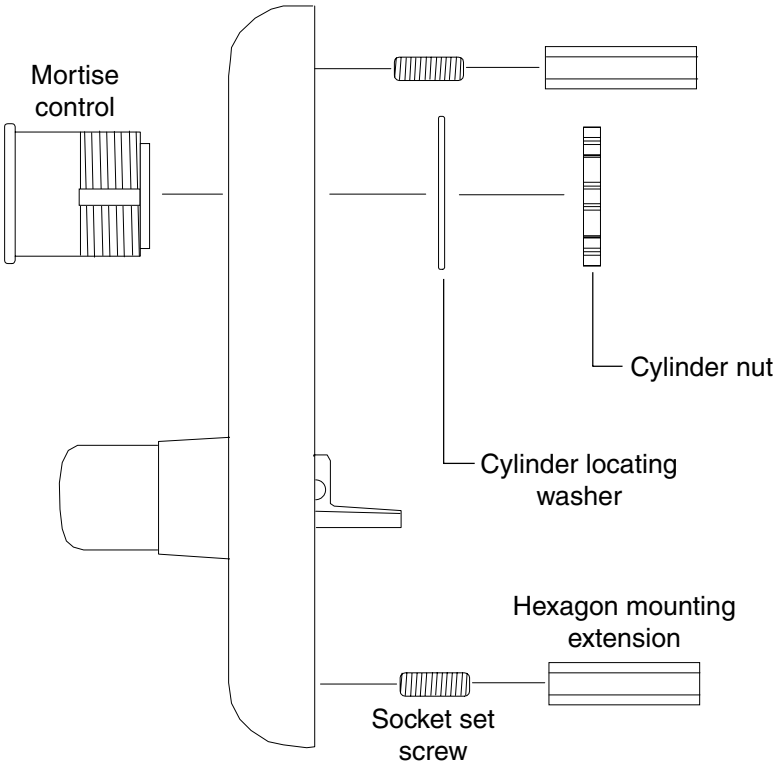


Figure 1



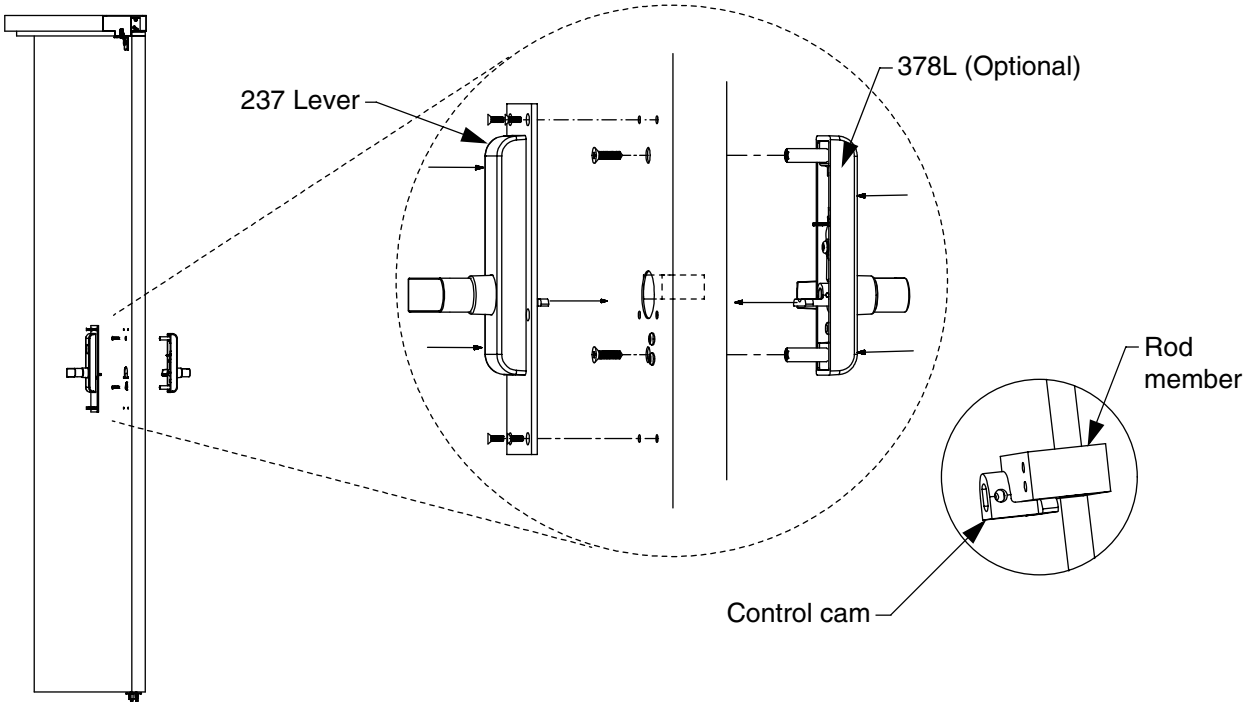
8 Loosen set screws and position rod member against top of control cam(s).

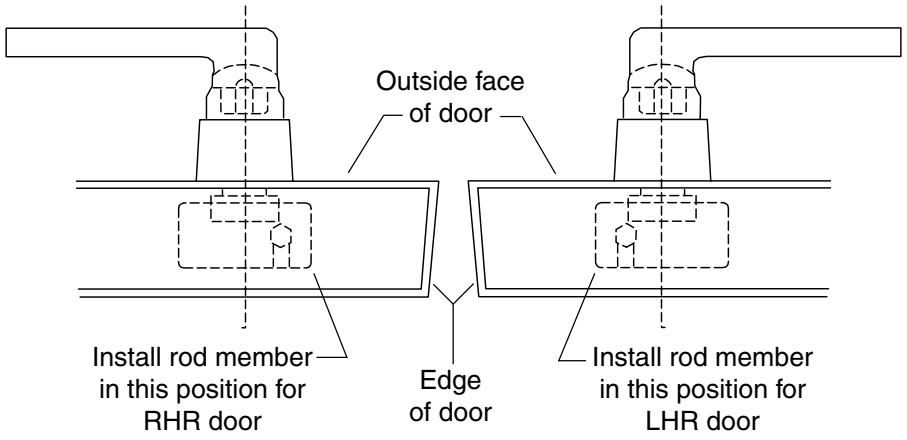
A. Mount 237 lever to trim plate using 1/4” - 20 x 3/4” flat head screws.
Note: The hex studs must be removed from the 237 lever assembly.

B. Establish rod member position, tighten set screws.

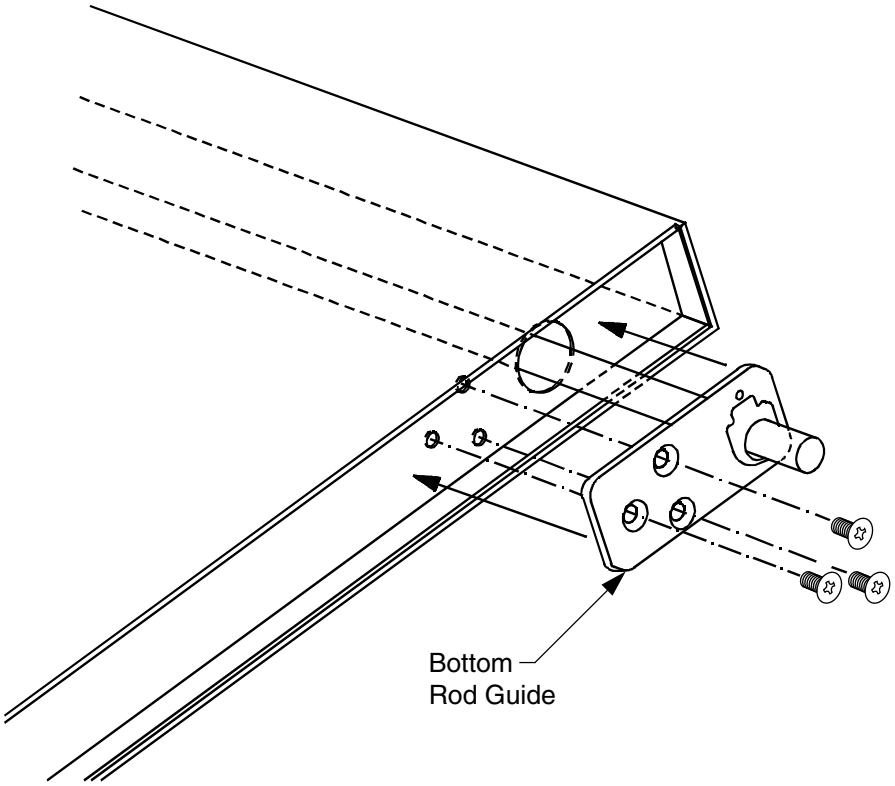
C. If NL function is required, see Figure 1 on page 7.

D. Install lever(s) to door.

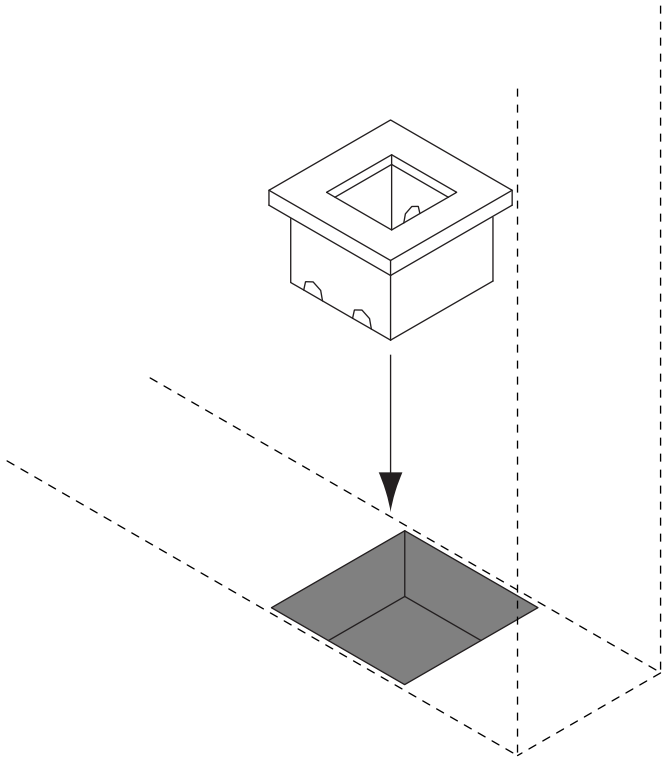




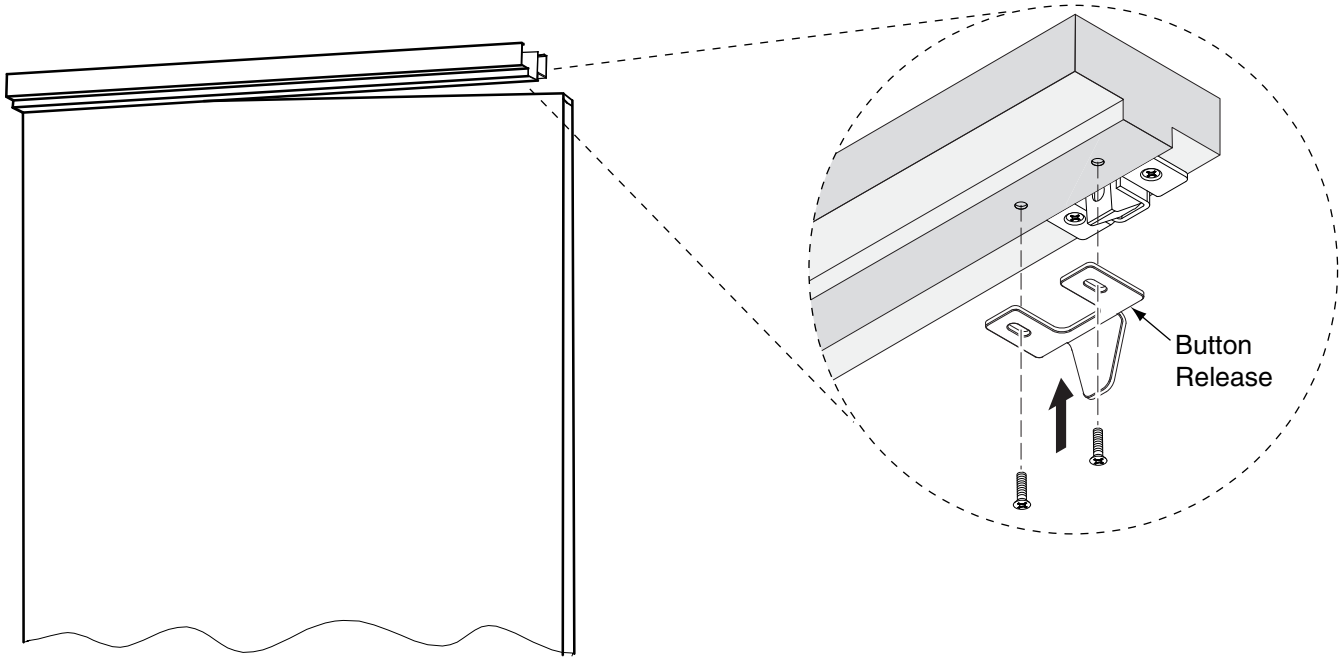
9 Install bottom rod guide.

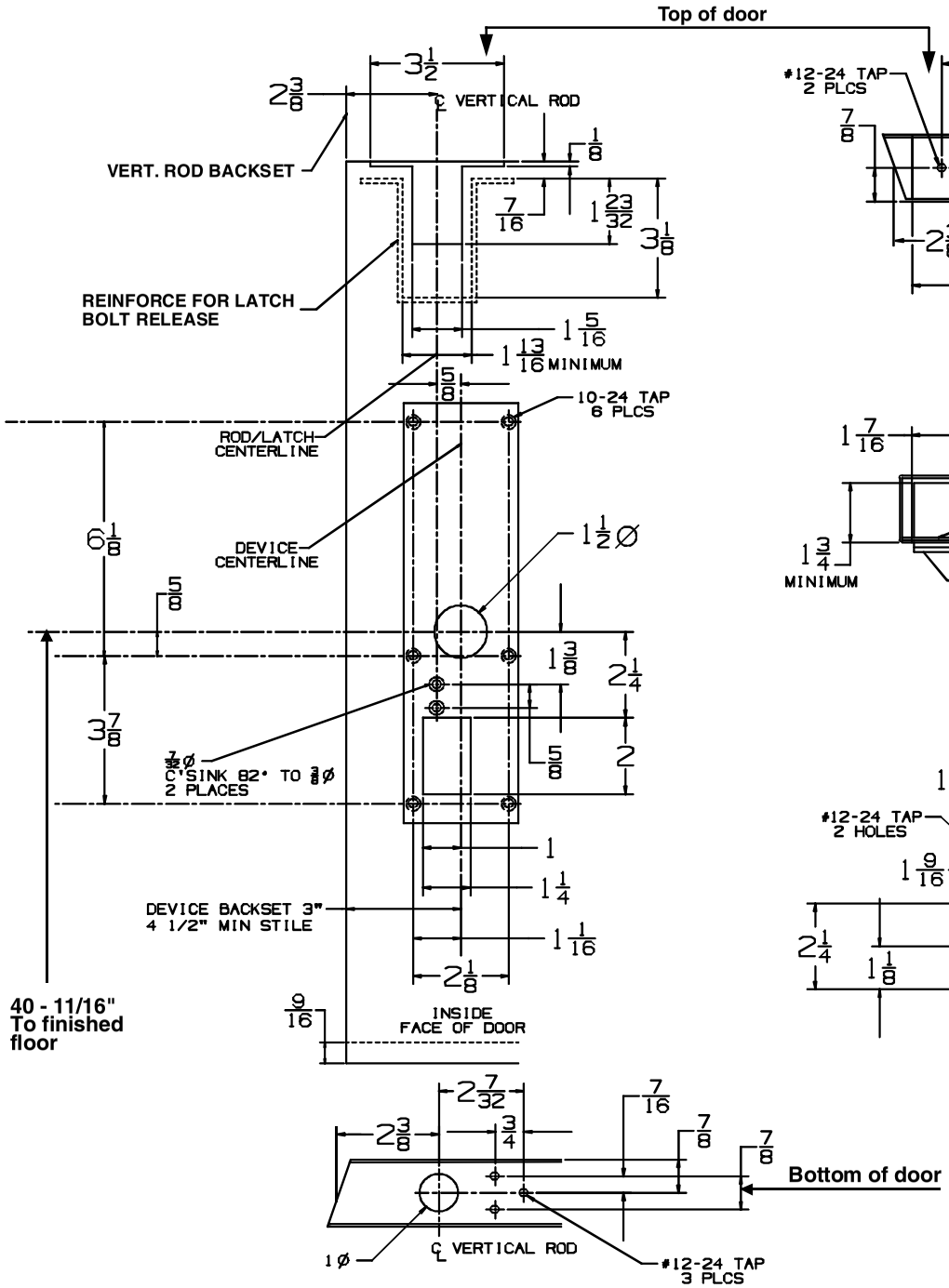


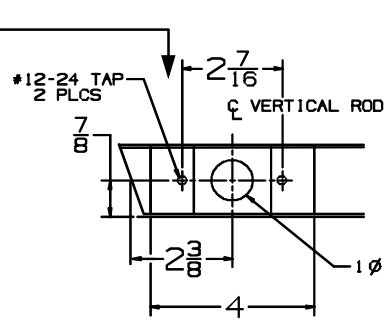
10 Grout bottom strike into floor.

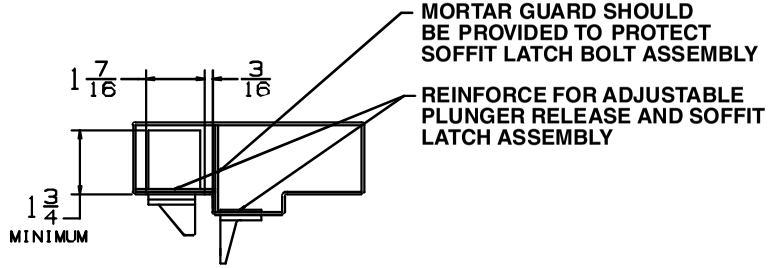


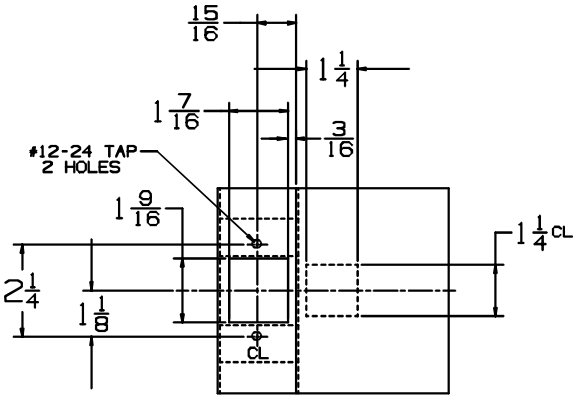
11 Install button release.



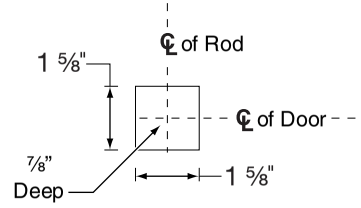






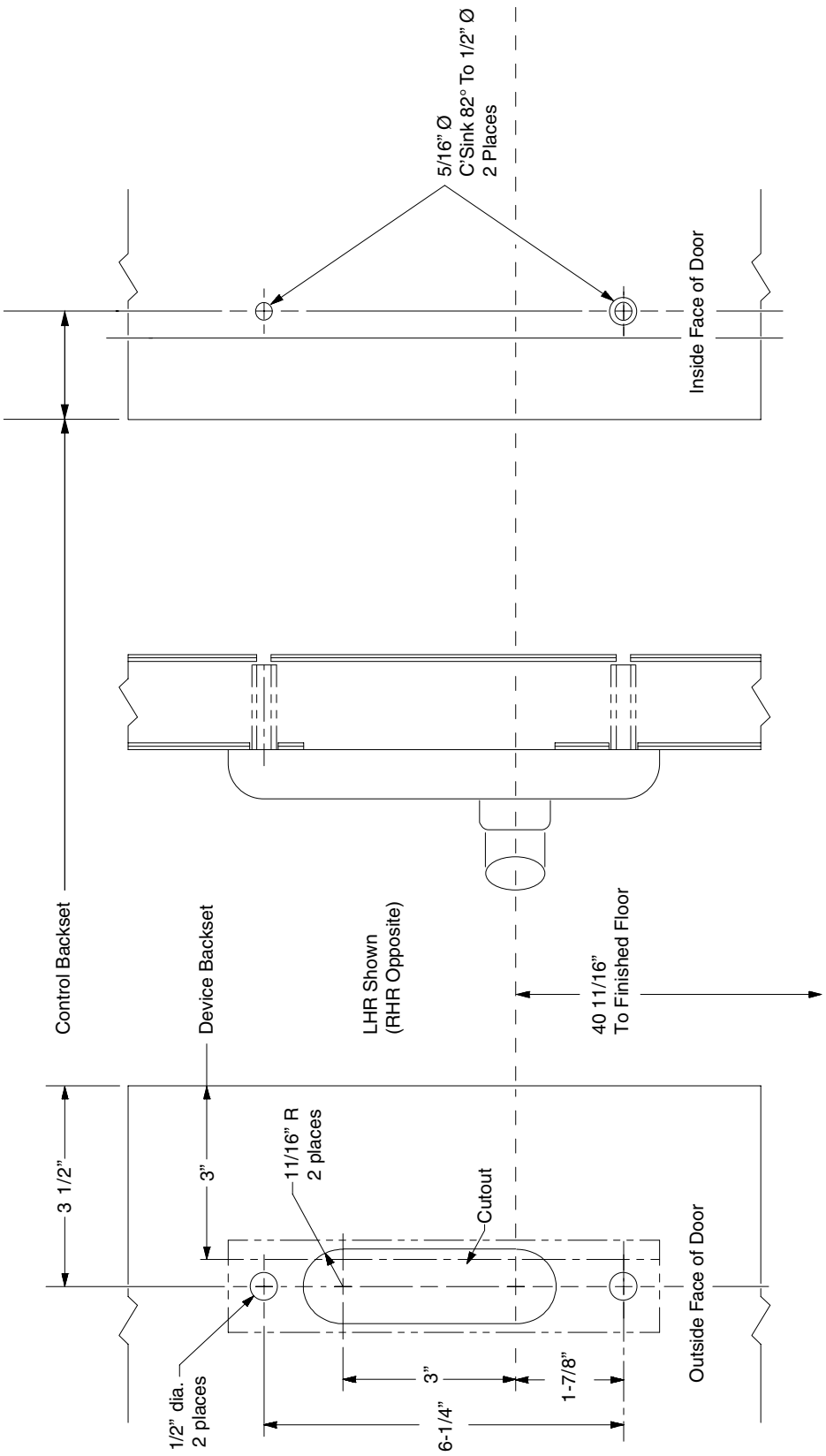


SOFFIT FRAME REINFORCEMENT



Floor Preparation

TEMPLATES - 378L Cutouts



Exit Devices – 33A/35A Devices

23970726

33/3549A
CS 33/3549A

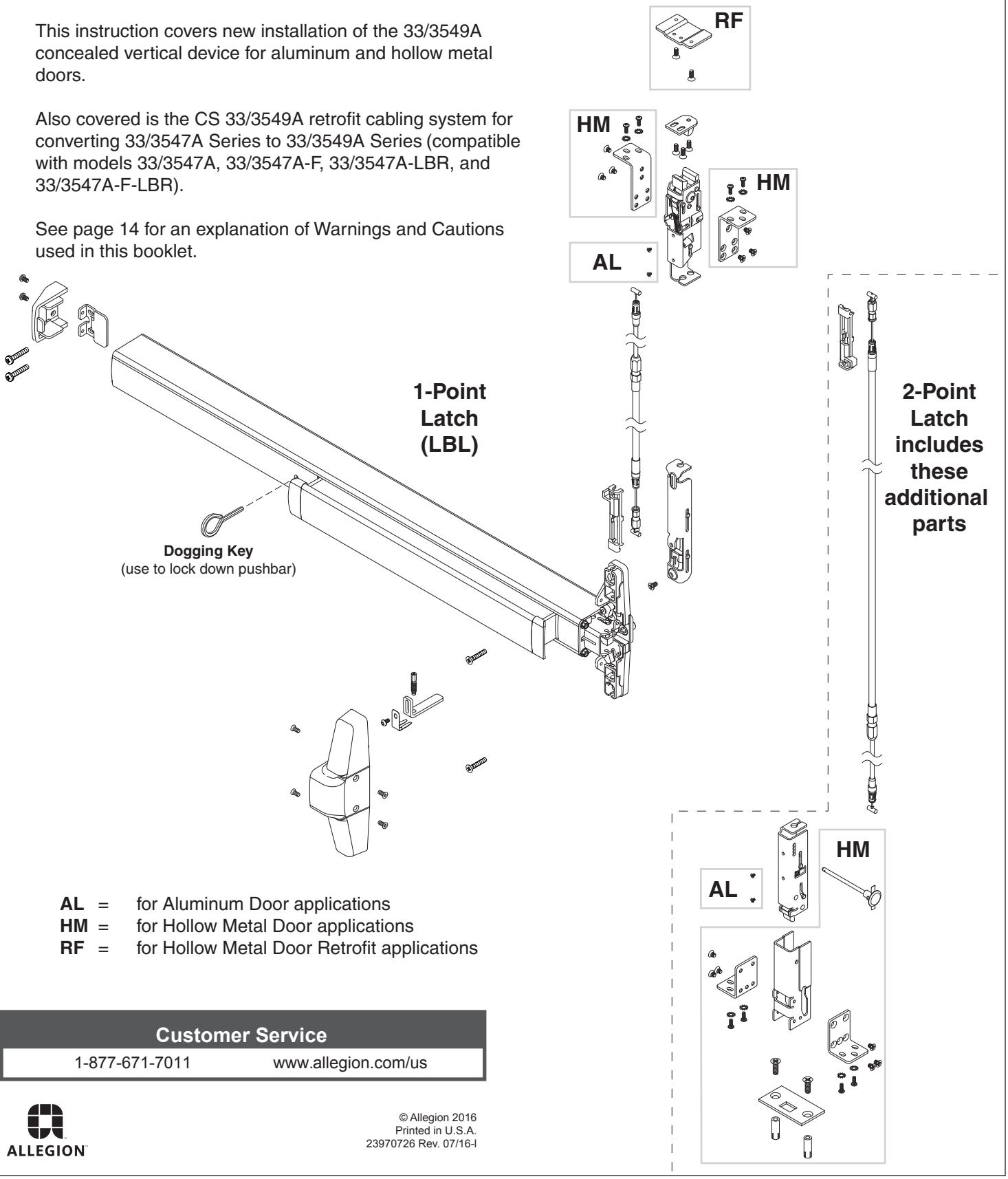
VON DUPRIN

Installation Instructions

This instruction covers new installation of the 33/3549A concealed vertical device for aluminum and hollow metal doors.

Also covered is the CS 33/3549A retrofit cabling system for converting 33/3547A Series to 33/3549A Series (compatible with models 33/3547A, 33/3547A-F, 33/3547A-LBR, and 33/3547A-F-LBR).

See page 14 for an explanation of Warnings and Cautions used in this booklet.



AL = for Aluminum Door applications
HM = for Hollow Metal Door applications
RF = for Hollow Metal Door Retrofit applications

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23970726 Rev. 07/16-I

CABLE IDENTIFICATION

1 **Identify Cables and Locations.**

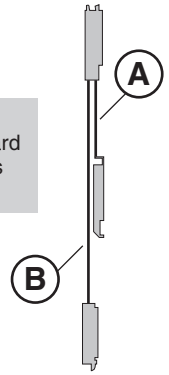
NOTE: For retrofit installations, begin at Step 19.

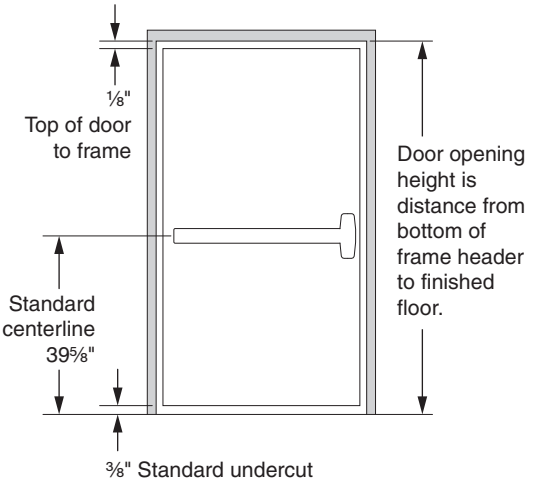
CABLE IDENTIFICATION		
	HOLLOW METAL AND ALUMINUM DOORS	
* Door Opening Height	**A** Top Cable (Red)	**B** Bottom Cable (White)
6' 0" - 6' 10"	47250398	47250403
6' 10" - 8' 0"	47250175	47250178
8' 0" - 9' 2"	47250176	47250179
9' 2" - 10' 4"	47250177	47250180
10' 4" - 11' 6"	47250399	47250404
11' 6" - 12' 8"	47250400	47250405
12' 8" - 13' 10"	47250401	47250406
13' 10" - 15' 0"	47250402	47250407

* Based on standard centerline of 39⅝" from finished floor

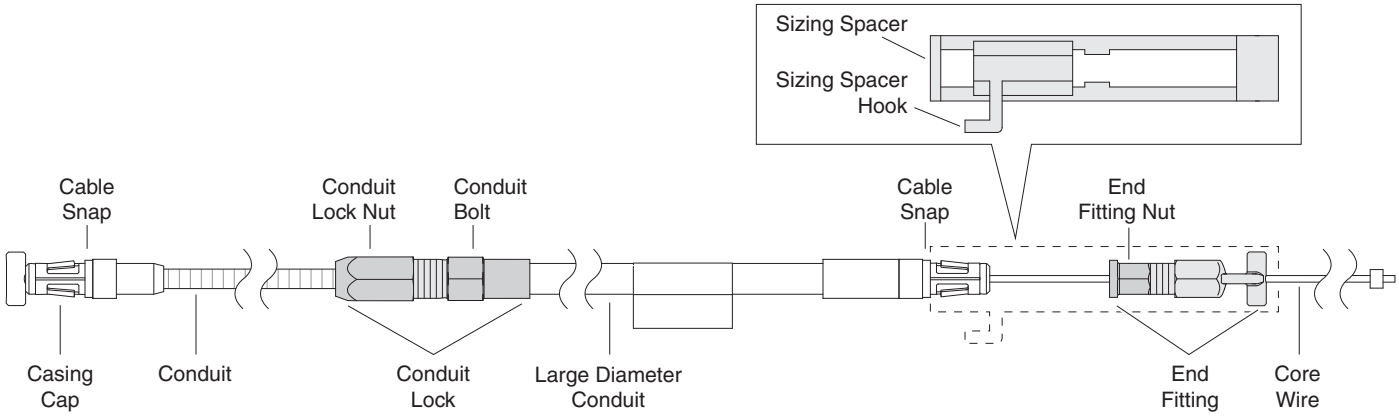
For easy identification, each cable is labeled with part number and location.

Standard Sizes





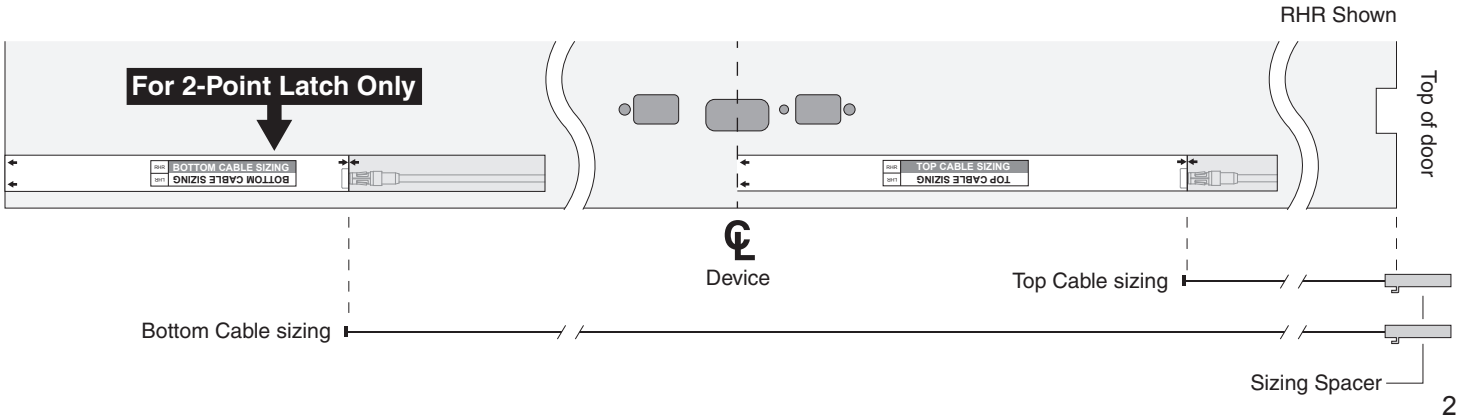
CABLE COMPONENTS



CABLE SIZING PREPARATION

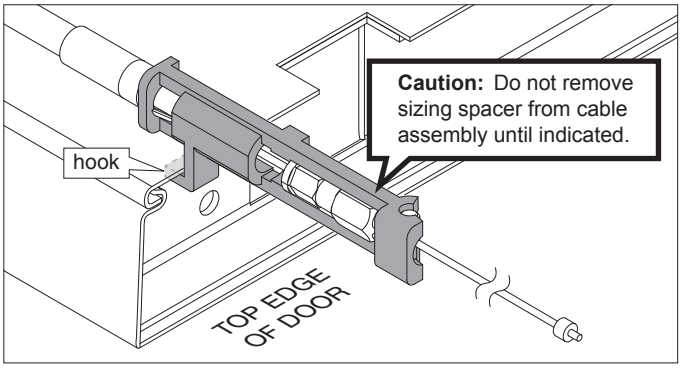
2 **Align Sizing Tape to Horizontal Device Center Line as shown. For Bottom Cable Sizing (if applicable), Align Sizing Tape to Bottom Edge of Door.**

Use cable components diagram above for reference.

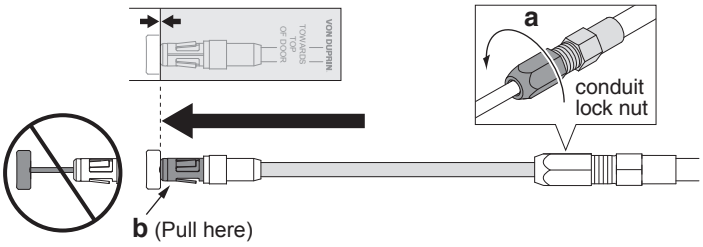


CABLE SIZING

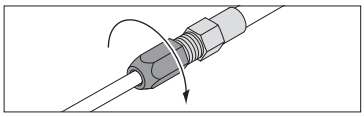
3 **To Size Top Cable, Align Sizing Spacer Hook to Top Edge of Door.**



4 **Loosen Conduit Lock Nut ½ Turn. At Opposite End of Cable, Pull Casing Cap to Line on Tape.**



5 **Hand Tighten Conduit Lock Nut.**

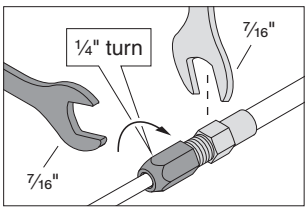


6 **Wrench Tighten Conduit Lock Nut ¼ Turn.**

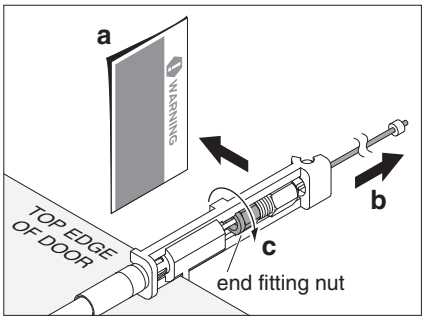
Caution: Do not overtighten.

WARNING

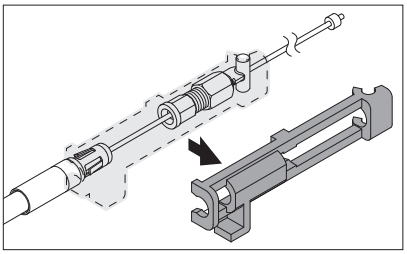
Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.



7 **Remove Warning Label. While Pulling Core Wire Tight, Hand Tighten End Fitting Nut.**



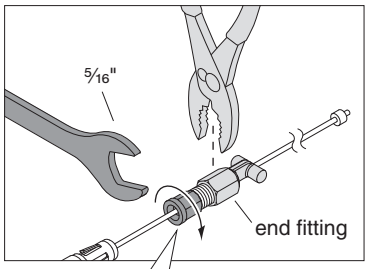
8 **Remove Sizing Spacer. (Do not discard.)**



9 **While Holding End Fitting in Place with Pliers, Fully Tighten End Fitting Nut with Wrench.**

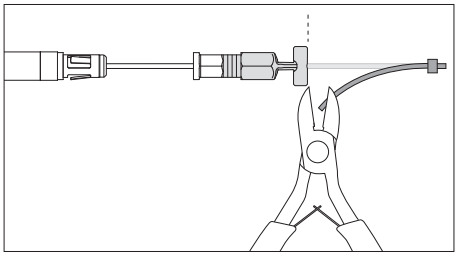
WARNING

Failure to properly tighten end fitting nut will result in device malfunction and possible lock in or lock out situation.

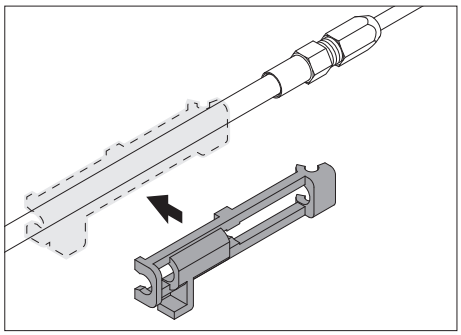


Once tightened down, end fitting nut can't be loosened or readjusted.

10 **Cut Core Wire Flush with End Fitting.**



11 **Snap Sizing Spacer onto Large Diameter Conduit for Storage.**



12 **To Size Bottom Cable, Align Sizing Spacer Hook to Top Edge of Door as before, and Repeat Steps 3 thru 10.**

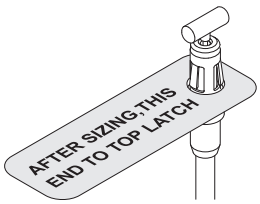
For 2-Point Latch Only

Repeat Steps 3 thru 10

CABLE INSTALLATION

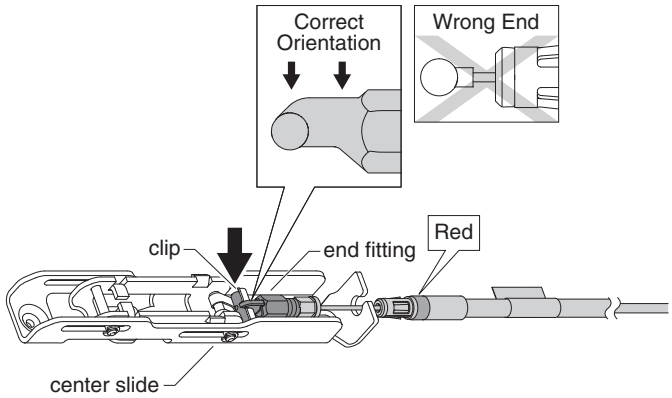
13 Flip Top Cable.

Caution: After sizing, **TOP** cable must be flipped 180° before installing. See tag.

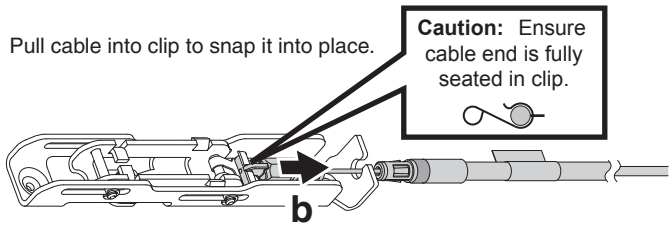


14 Install Top Cable.

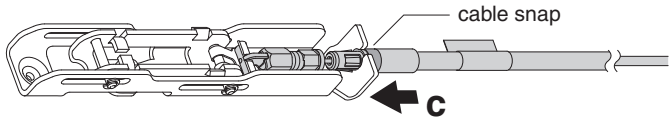
a. There is an end fitting on one end of the red cable. Position this end to clip on center slide.



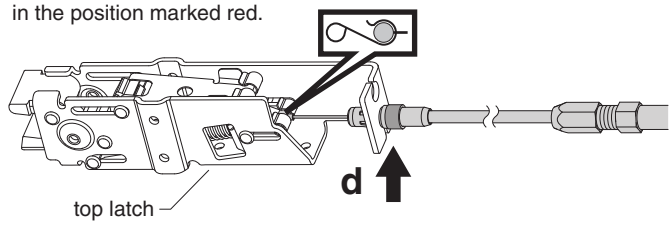
b. Pull cable into clip to snap it into place.



c. Push cable snap against center slide to secure cable.



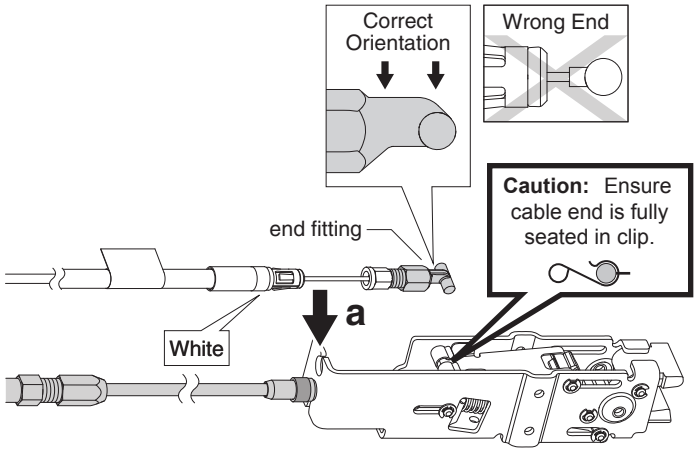
d. Follow steps (a) thru (c) to install opposite end of red cable to top latch in the position marked red.



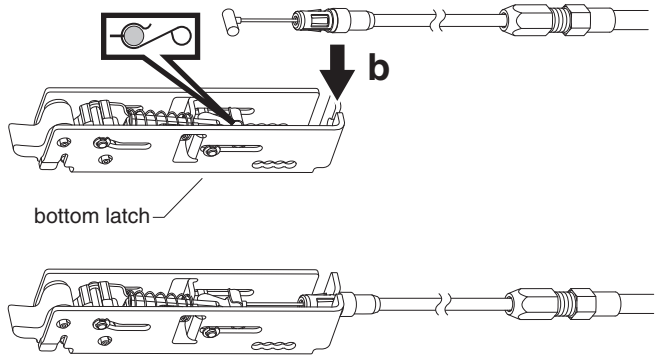
15 Install Bottom Cable.

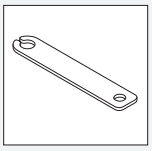
For 2-Point Latch Only

a. There is an end fitting on one end of the white cable. Install this end to the remaining top latch position (marked as white).



b. Install opposite end of white cable to bottom latch.

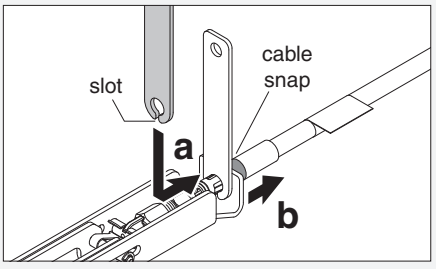




Cable Removal

(If the cable was installed in wrong position)

A cable removal tool was included with device. Slot in tool fits over cable, holding tabs down. Pull on cable snap to loosen cable for removal.



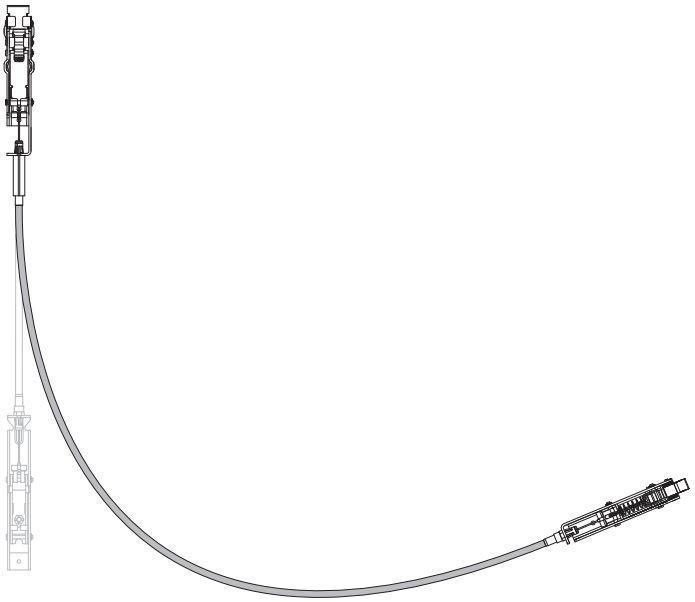
16 Determine if Bottom Latch Retraction Adjustment is Necessary.

For 2-Point Latch Only

CAUTION
Critical step

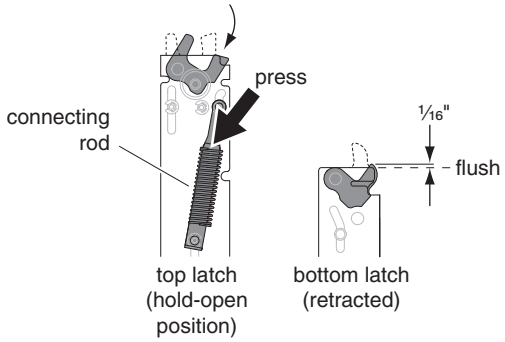
CAUTION
Adjustment must be made while the top latch is in the hold-open position.

a. Flex the cable into an L-shape as shown to simulate the installed condition of the latches.



b. To determine whether an adjustment is required, actuate the top latch to the hold-open position by pressing down on the connecting rod. Bottom latch should retract to within 1⁄16" of flush. If it does not, an adjustment is necessary.

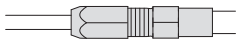
If no adjustment is needed, proceed to Step 18.



17 Adjust Bottom Latch Retraction (if necessary).

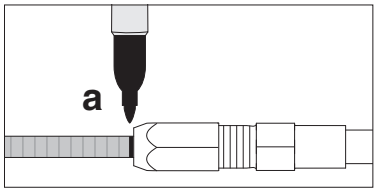
For 2-Point Latch Only

The conduit lock is used to make this adjustment.

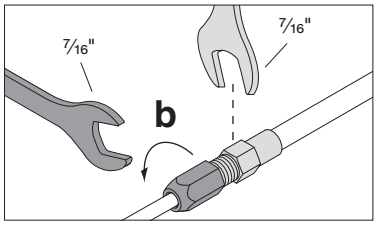


CAUTION
Adjustment must be made while the top latch is in the hold-open position.

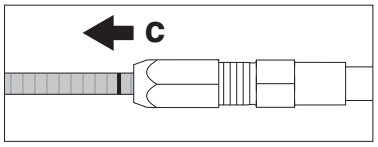
a. Use a permanent marker or tape to mark position of bottom cable conduit.



b. Loosen conduit lock nut so conduit is free to slide.

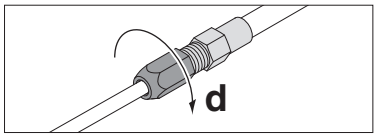


c. Pull until (1) extra wrap of conduit can be seen (1 wrap = 1⁄8").



d. Hand tighten conduit lock nut.

e. Repeat Step 16. Confirm bottom latch now retracts to within 1⁄16" of flush.

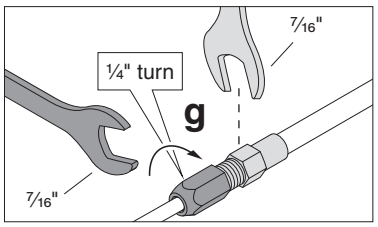


f. If not, loosen conduit lock nut, pull out an additional wrap of conduit, and hand tighten conduit lock nut.

g. Wrench tighten conduit lock nut 1⁄4 turn.

Caution: Do not overtighten.

WARNING
Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.



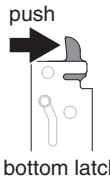
18 Confirm Bottom Deadlatching.

For 2-Point Latch Only

a. Lock top latch. Flex the cable into an L-shape as before.

b. Push against flat side of bottom latchbolt. Latchbolt should NOT release.

If latchbolt releases, return conduit to position marked in Step 17a. Repeat bottom latch retraction adjustment.



CAUTION
If no bottom latch retraction adjustment was necessary, yet the bottom latch won't deadlatch, contact technical support.

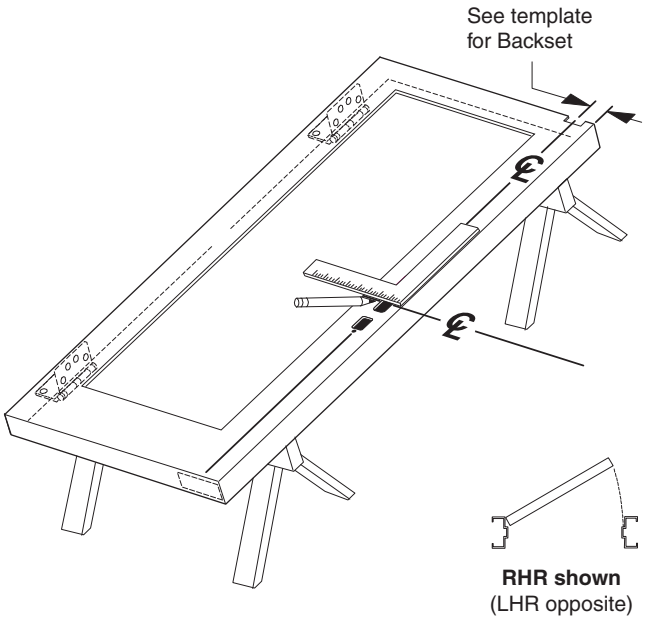
19 If Retrofit Installation

a. Remove device from existing door.

b. Remove and discard existing door.

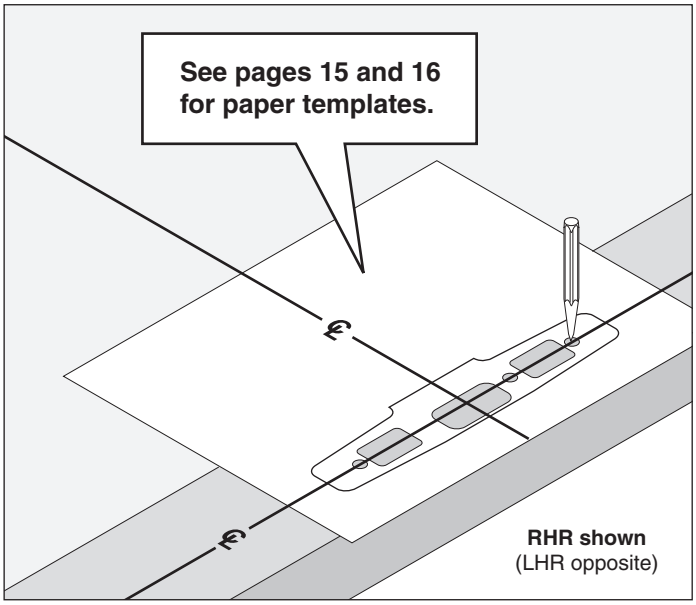
c. Remove and discard existing strikes.

20 With Door Laying Flat, Draw Horizontal and Vertical Device Center Lines (℄).



NOTE: Centerlines are predetermined by cutout. If no cutout exists, refer to templates at the back of this instruction to determine centerlines.

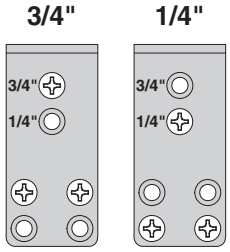
21 Align Paper Template to Mark and Prepare Door, if Required.



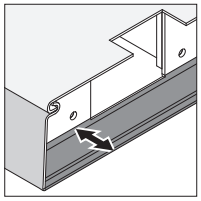
22 Assemble Latch Mounting Brackets.

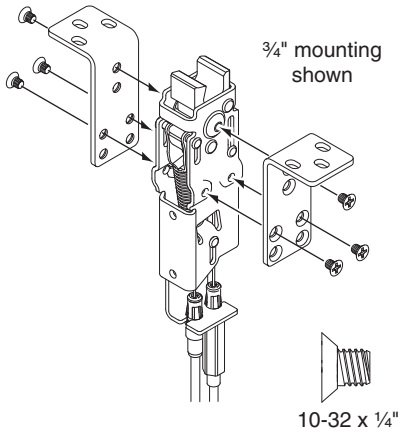
Hollow Metal Only

Top



Depth from top edge of door to the channel

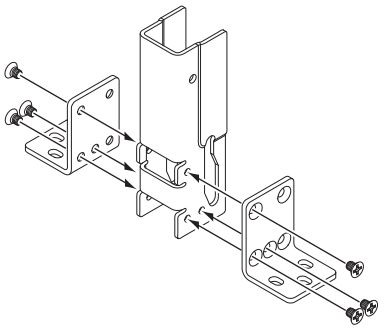




Bottom

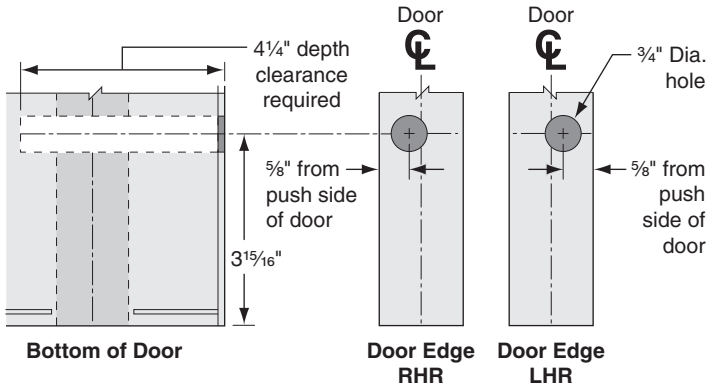
For 2-Point Latch Only



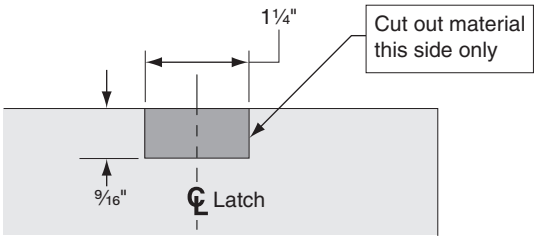


23 Prepare Access Hole for Bottom Latch Adjustment Pin.

Hollow Metal **For 2-Point Latch Only**



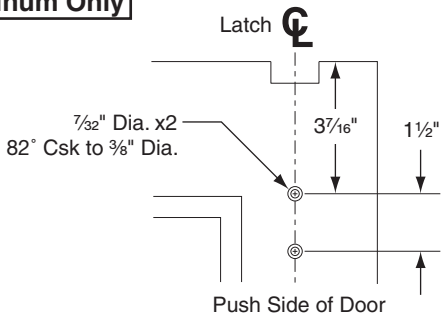
24 If Necessary, Prepare Door for Top Strike Cutout.



Push side of door, RHR shown

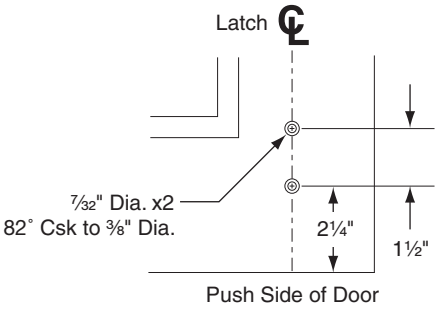
25 Prepare Top of Door for Latch Mounting.

Aluminum Only

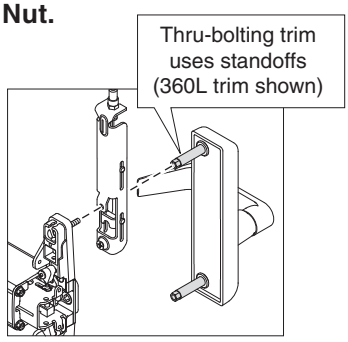


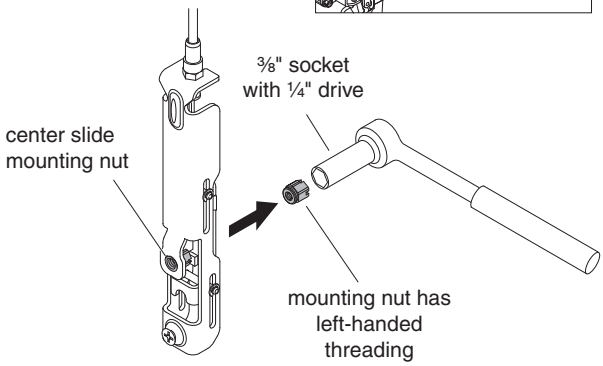
26 Prepare Bottom of Door for Latch Mounting.

Aluminum For 2-Point Latch Only

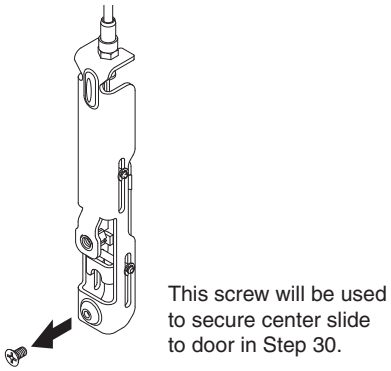


27 If Using 360/386/388 Thru-Bolting Trim, Remove Center Slide Mounting Nut.





28 Remove Screw from Center Slide.



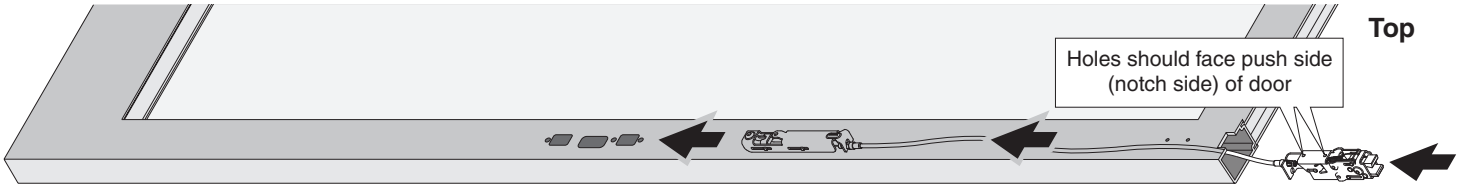
This screw will be used to secure center slide to door in Step 30.

29 Slide Latch and Center Slide Assembly thru Door.

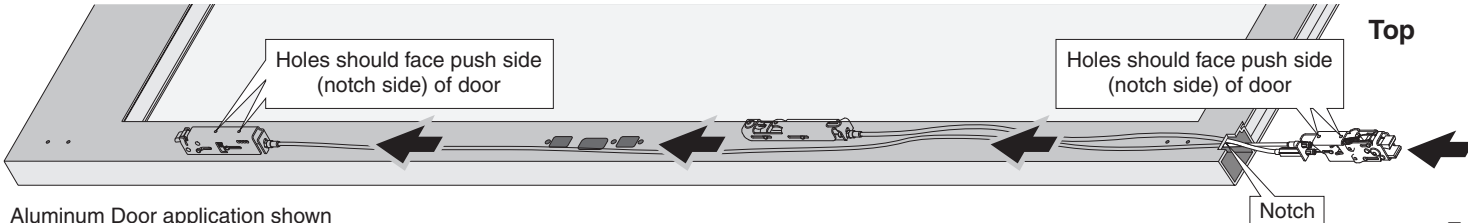
NOTE: Confirm top latch (and bottom latch, if applicable) is in correct orientation before proceeding.

NOTE: It is normal for the cable to bend inside the door, forcing the latch outward.

1-Point Latch (LBL)



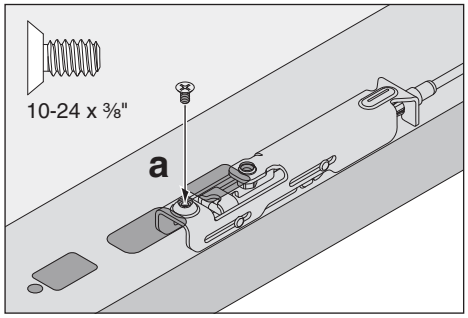
2-Point Latch



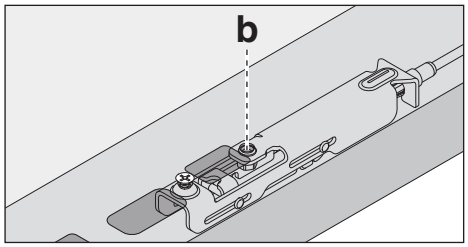
Aluminum Door application shown

30 Secure Center Slide to Door.

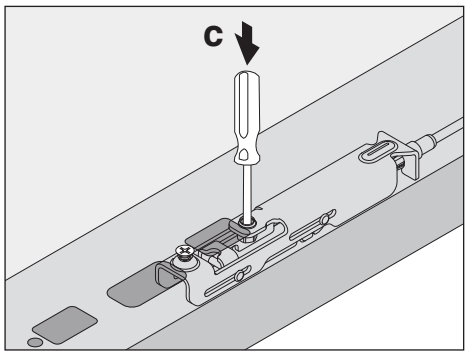
Secure center slide to door by lightly tightening lower screw.



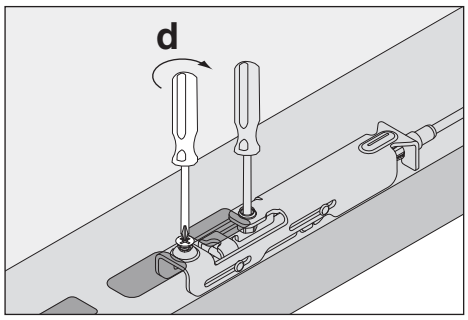
Align upper hole visually.



Insert small screwdriver into upper hole to prevent center slide from rotating.

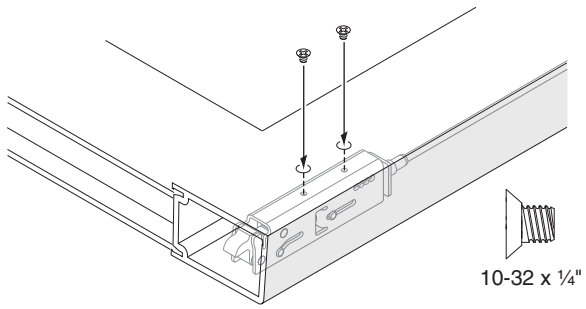


Fully tighten lower screw.



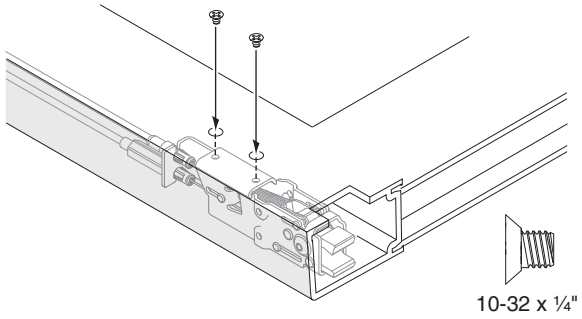
31 Align Bottom Latch and Install Mounting Screws.

Aluminum **For 2-Point Latch Only**



32 Secure Top Latch with 2 Screws.

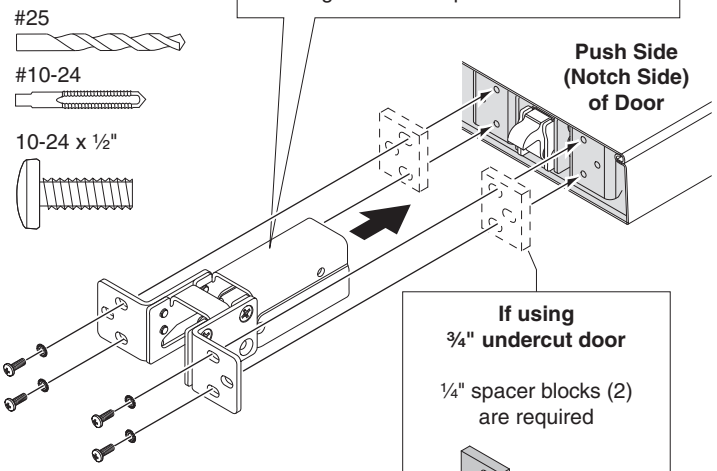
Aluminum Only



33 Install Bottom Latch Mounting Bracket Assembly.

Hollow Metal **For 2-Point Latch Only**

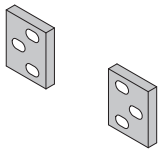
NOTE: Confirm correct orientation of assembly before proceeding. Open side of housing should face pull side of door.



NOTE: Use 2 screws per bracket (center hole not used for this application).

If using ¾" undercut door

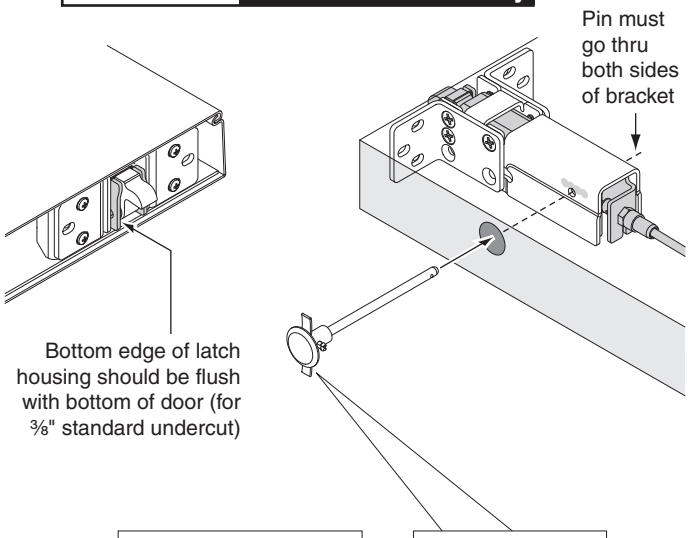
¼" spacer blocks (2) are required

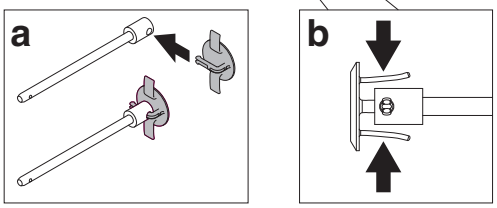


Spacer Block Kit (24231516) purchased separately

34 Insert Latch Adjustment Pin to Hold Bottom Latch in Place.

Hollow Metal **For 2-Point Latch Only**





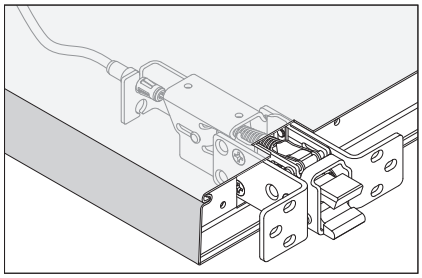
Assemble pin

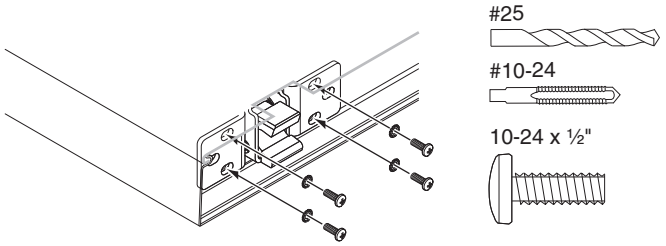
Squeeze tabs on cap, then insert pin

35 Secure Top Latch Mounting Bracket.

Hollow Metal Only

NOTE: It is normal for the cable to bend inside the door, forcing the latch outward as shown here.



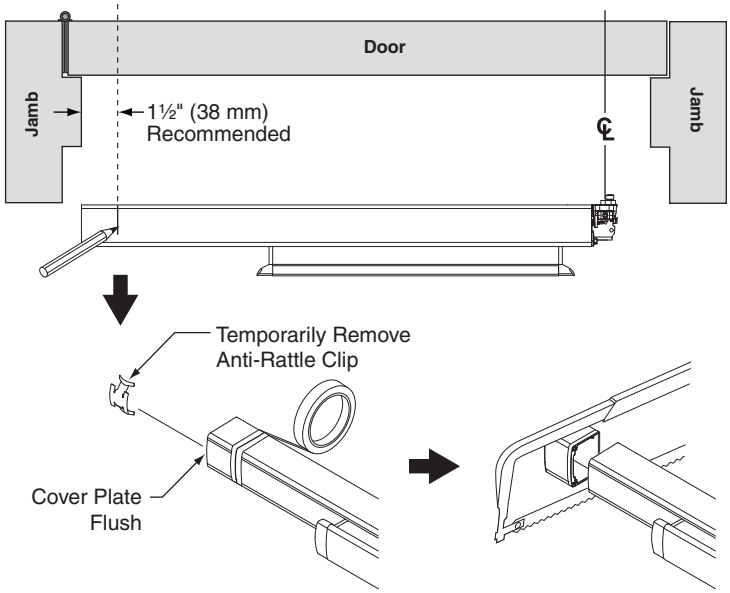


NOTE: Use 2 screws per bracket (center hole not used for this application).

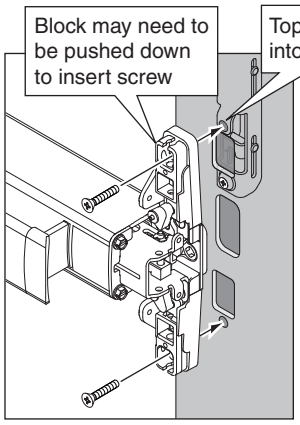
36 Hang Door on Frame.

Caution: For 2-point latches, bottom latch cannot be in locked position while hanging door on frame. Latch must be retracted.

37 If Necessary, Cut Device.

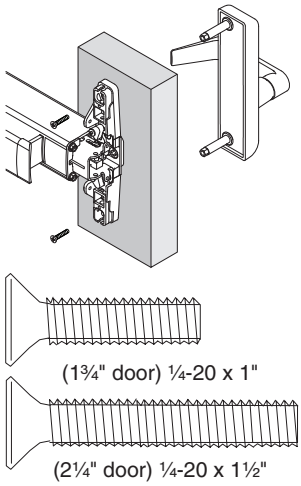


38 Attach Center Case to Door.



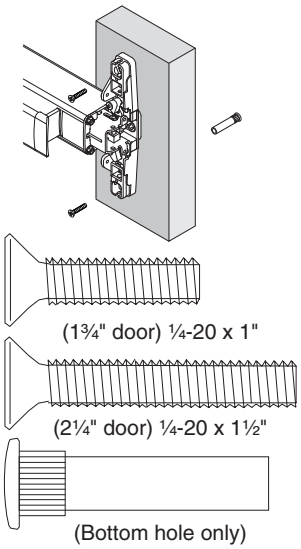
NOTE: If using 360/386/388 trim, this screw will pass thru top center slide hole and secure directly into trim.

Thru-bolting Trim

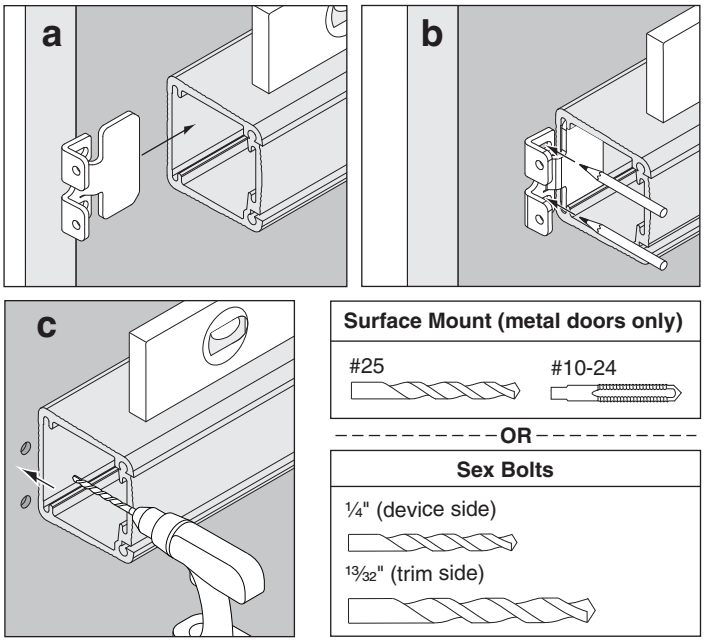


OR

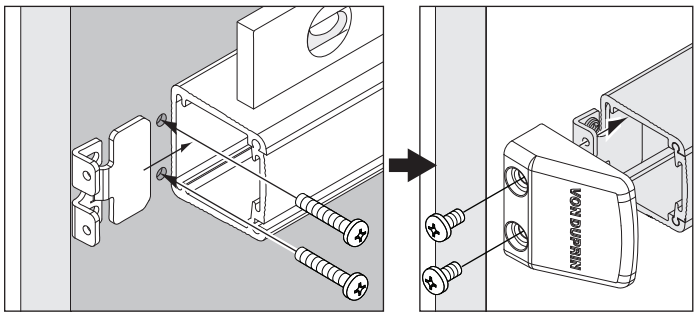
Sex Bolt



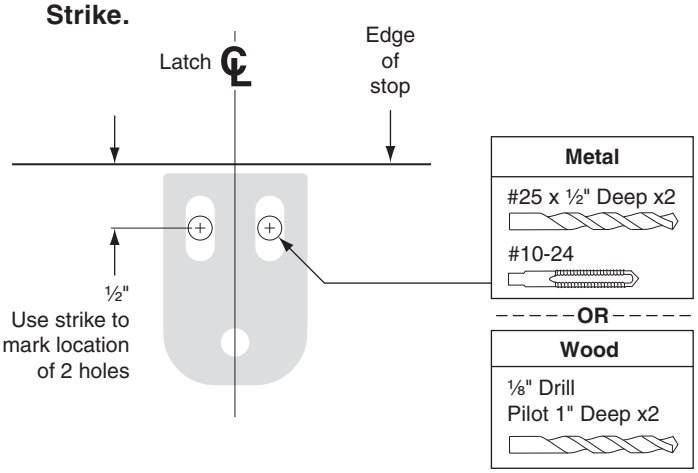
39 Mark and Prepare 2 Holes.



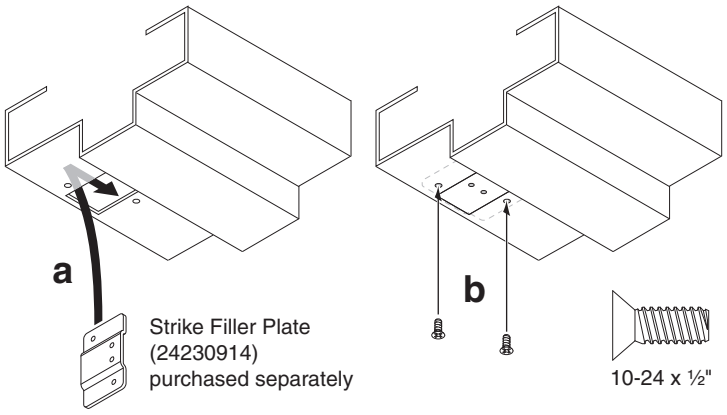
40 Install End Cap Bracket and End Cap.



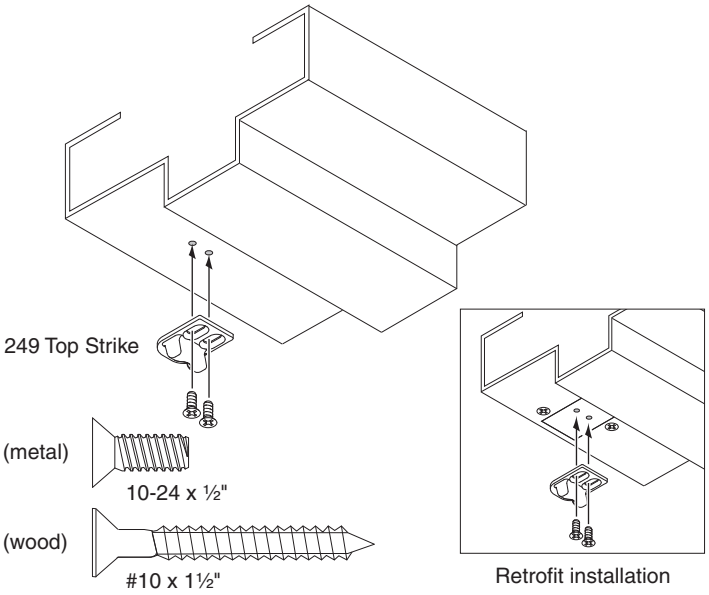
41 If New Installation, Prepare Door Frame for Top Strike.



42 If Retrofit Installation, Install Steel Cover Plate to Cover Existing 338 Strike Opening in Accordance with the Frame Manufacturer's Fire Listing.

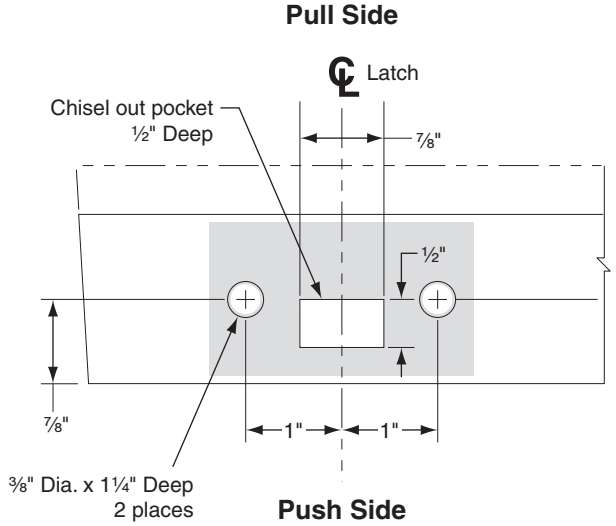


43 Install 2 Top Strike Screws Using the Slot Features on the Strike.



44 Prepare Floor for Bottom Strike.

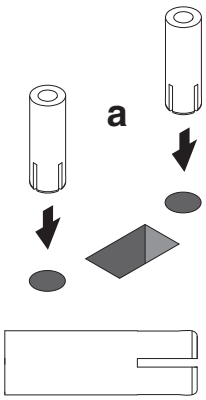
Hollow Metal **For 2-Point Latch Only**



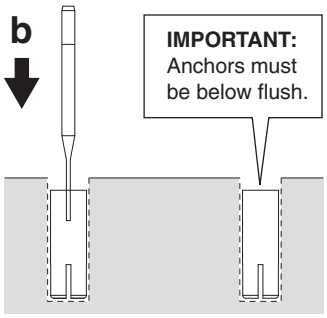
45 Install Bottom Strike.

Hollow Metal **For 2-Point Latch Only**

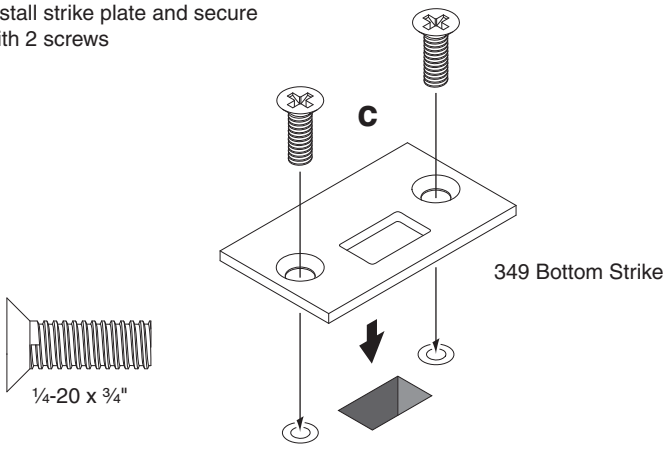
Clear holes of debris, then drop in anchors (slotted end first)



Secure the anchors using a hammer and punch



Install strike plate and secure with 2 screws

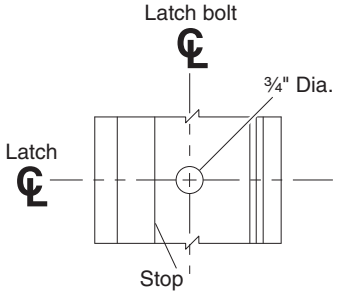


46 Prepare Threshold.

Aluminum **For 2-Point Latch Only**

a. After closing door with bottom latch installed, mark location where bottom latch bolt is contacting the threshold.

b. Drill a ¾" diameter hole in the threshold.



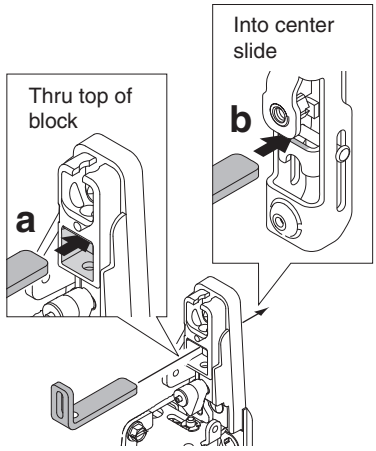
47 Install Lift Finger and Retainer Clip.

NOTE: Lift finger installation must be performed while the latches are in the extended (latched) position.

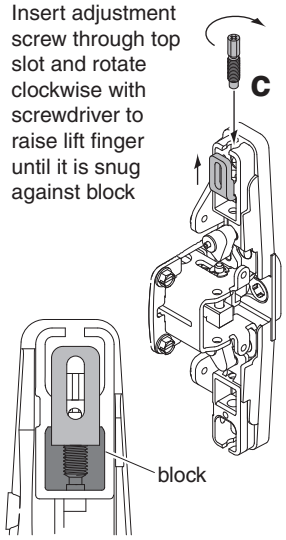
Slide L-shaped lift finger thru block in device center case and then into center slide

For 2-Point Latch Only

Push cable to the side so it does not interfere with lift finger.

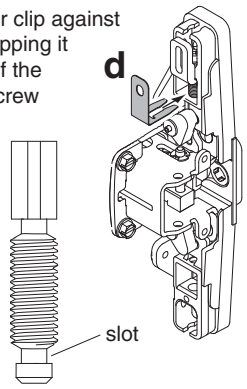


Insert adjustment screw through top slot and rotate clockwise with screwdriver to raise lift finger until it is snug against block

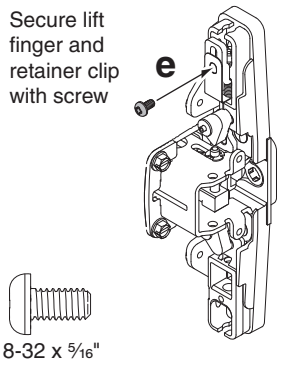


Install retainer clip against lift finger, snapping it into the slot of the adjustment screw

It may be necessary to back out adjustment screw a couple turns to see slot.



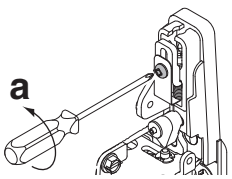
Secure lift finger and retainer clip with screw



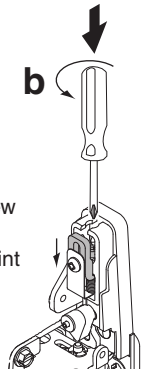
48 Adjust Lift Finger.

NOTE: Lift finger adjustment must be performed while the latches are in the extended (latched) position.

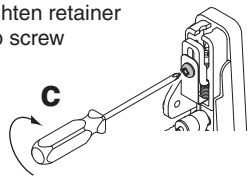
Loosen retainer clip screw



While maintaining downward pressure, turn adjustment screw counterclockwise to lower lift finger to point where top latch unlocks with push pad depressed halfway



Tighten retainer clip screw

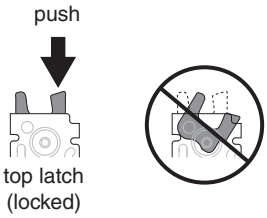


49 Confirm Top Deadlatching.

a. Lock top latch.

b. Push down on top latchbolt. Latchbolt should NOT release.

If latchbolt releases, loosen retainer clip screw, then rotate adjustment screw clockwise a couple turns to raise lift finger. Retighten retainer clip screw.



50 Perform Functional Test of Door.

a. Depress pushbar. Door should begin to open when pushbar is nearly fully depressed. If necessary, refer to Step 48 to readjust lift finger.

b. With door closed, top latch should be secure.

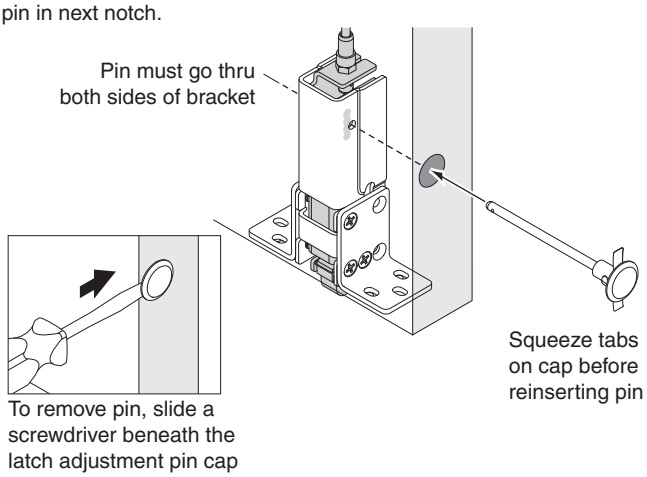
For 2-Point Latch Only

c. With door closed, bottom latch should be secure.

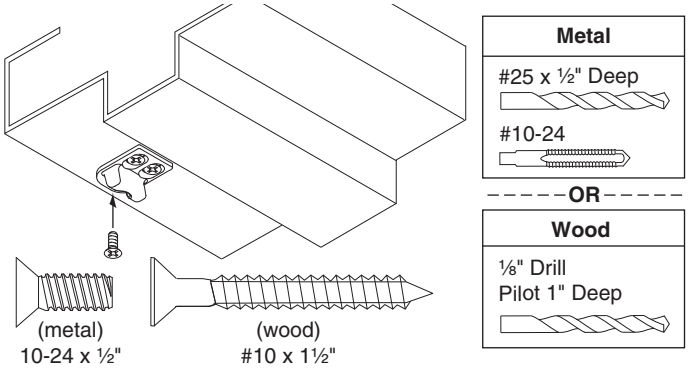
d. Confirm that bottom latch does not drag against floor when door is opened.

Hollow Metal **For 2-Point Latch Only**

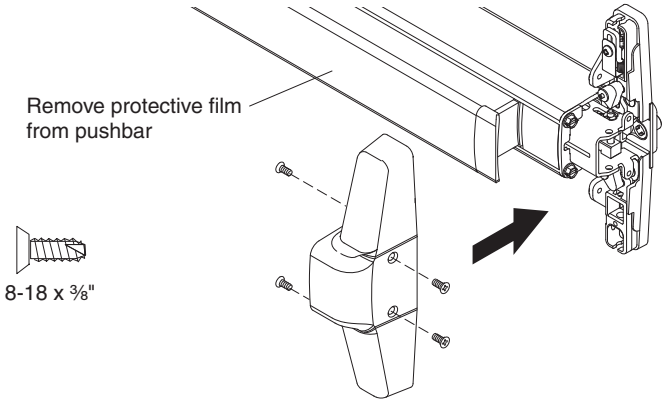
If this occurs, remove latch adjustment pin and raise latch, then reinsert pin in next notch.



51 Adjust Top Strike as Necessary, then Install the Third Strike Screw to Fix the Strike Position.



52 Install Center Case Cover.



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.

CD function conversion

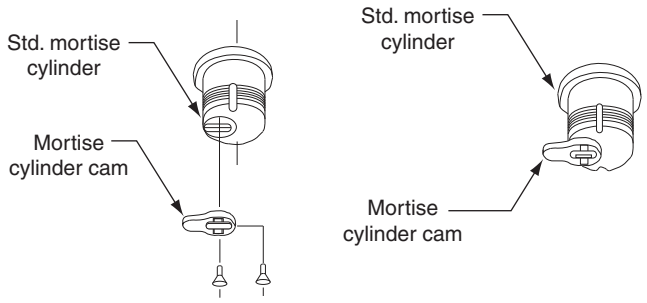
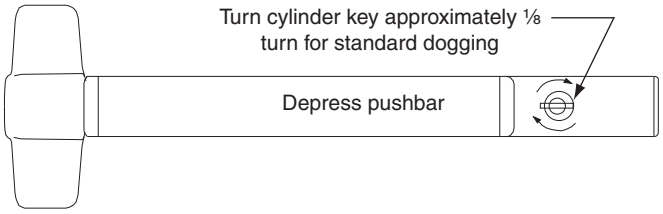


Figure 1

Dogging procedure



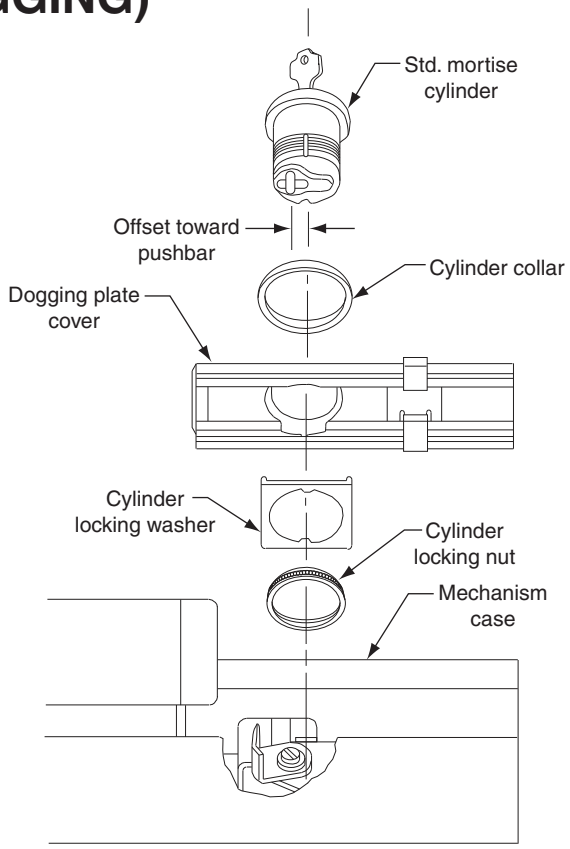


Figure 2

WARNINGS AND CAUTIONS

WARNING

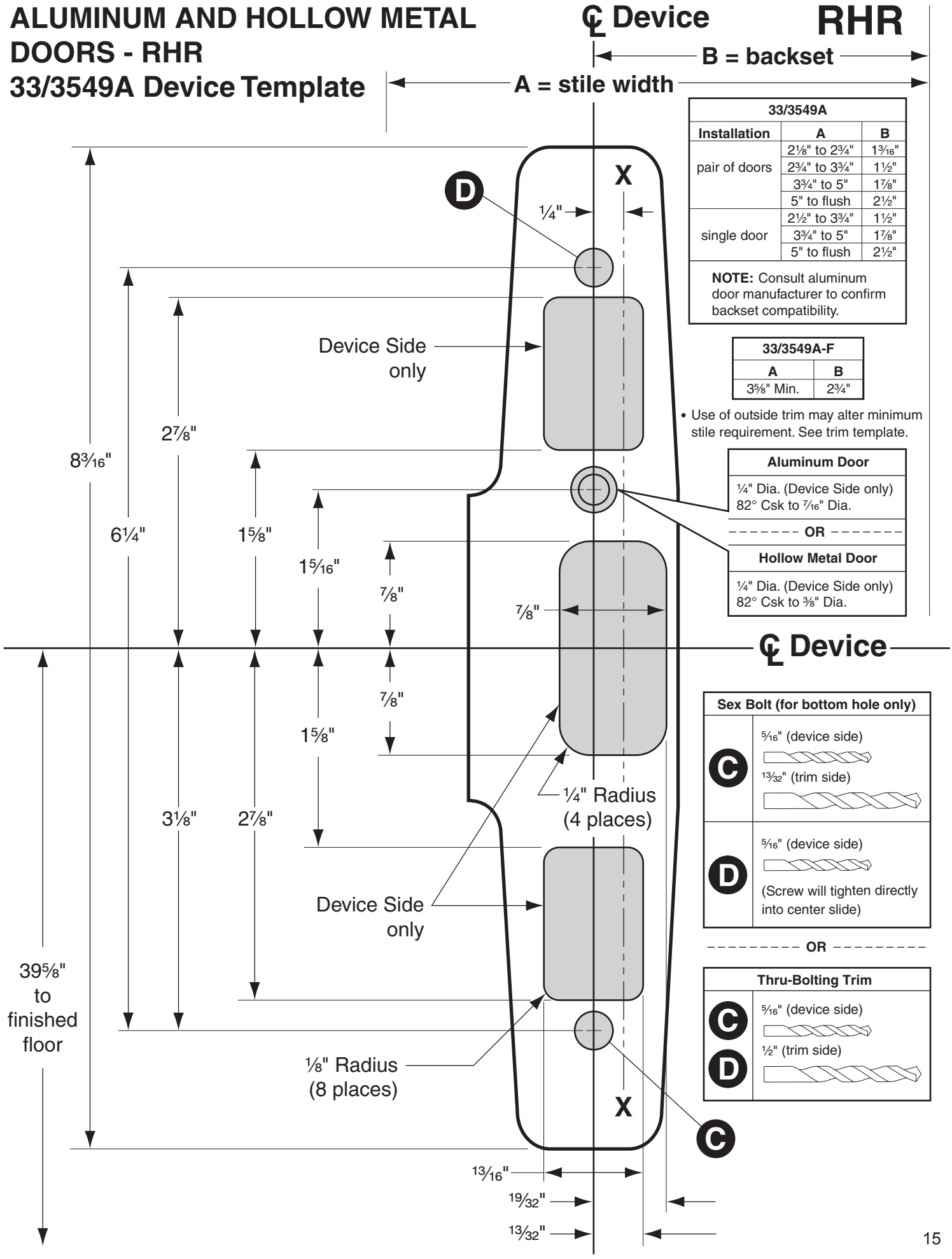
Warnings indicate potentially hazardous conditions, which if not avoided or corrected, may cause death or serious injury.

CAUTION

Cautions indicate potentially hazardous conditions, which if not avoided or corrected, may cause minor or moderate injury. Cautions may also warn against unsafe practices.

Caution: Cautions indicate a condition that may cause equipment or property damage only.

ALUMINUM AND HOLLOW METAL DOORS - RHR
33/3549A Device Template



33/3549A		
Installation	**A**	**B**
pair of doors	2⅛" to 2¾"	1³⁄₁₆"
	2¾" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"
single door	2½" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"

NOTE: Consult aluminum door manufacturer to confirm backset compatibility.

33/3549A-F	
A	**B**
3⅝" Min.	2¾"

- Use of outside trim may alter minimum stile requirement. See trim template.

Aluminum Door

¼" Dia. (Device Side only) 82° Csk to 7⁄16" Dia.

OR

Hollow Metal Door

¼" Dia. (Device Side only) 82° Csk to ⅜" Dia.

Sex Bolt (for bottom hole only)

C 5⁄16" (device side), 13⁄32" (trim side)

D 5⁄16" (device side) (Screw will tighten directly into center slide)

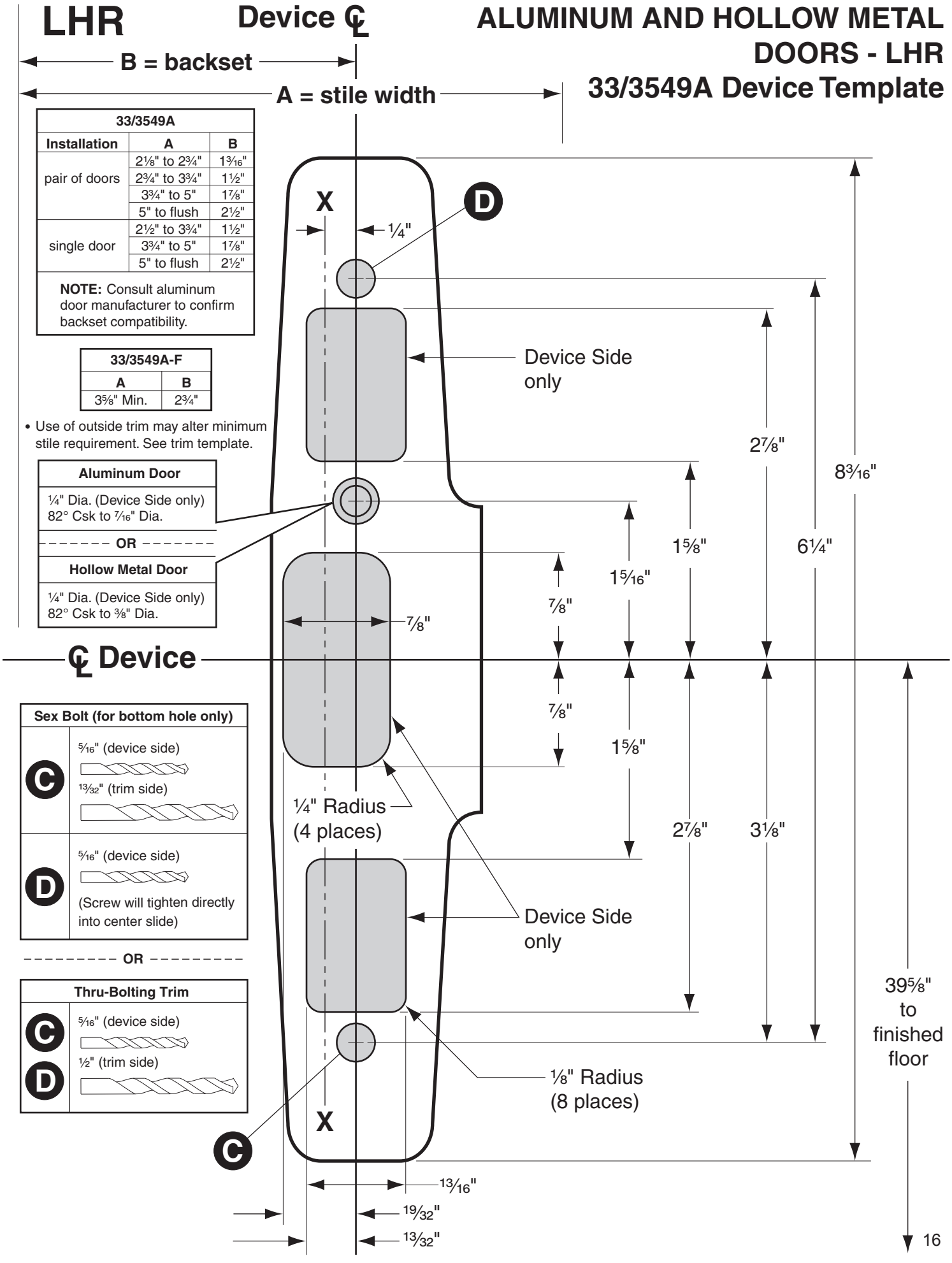
OR

Thru-Bolting Trim

C 5⁄16" (device side)

D ½" (trim side)

ALUMINUM AND HOLLOW METAL DOORS - LHR
33/3549A Device Template



33/3549A		
Installation	**A**	**B**
pair of doors	2⅛" to 2¾"	1³⁄₁₆"
	2¾" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"
single door	2½" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"

NOTE: Consult aluminum door manufacturer to confirm backset compatibility.

33/3549A-F	
A	**B**
3⅝" Min.	2¾"

- Use of outside trim may alter minimum stile requirement. See trim template.

Aluminum Door
¼" Dia. (Device Side only) 82° Csk to 7⁄16" Dia.
OR
Hollow Metal Door
¼" Dia. (Device Side only) 82° Csk to ⅜" Dia.

Sex Bolt (for bottom hole only)	
C	5⁄16" (device side) 13⁄32" (trim side)
D	5⁄16" (device side) (Screw will tighten directly into center slide)

OR

Thru-Bolting Trim	
C	5⁄16" (device side)
D	½" (trim side)

911402-00

33/35A Series

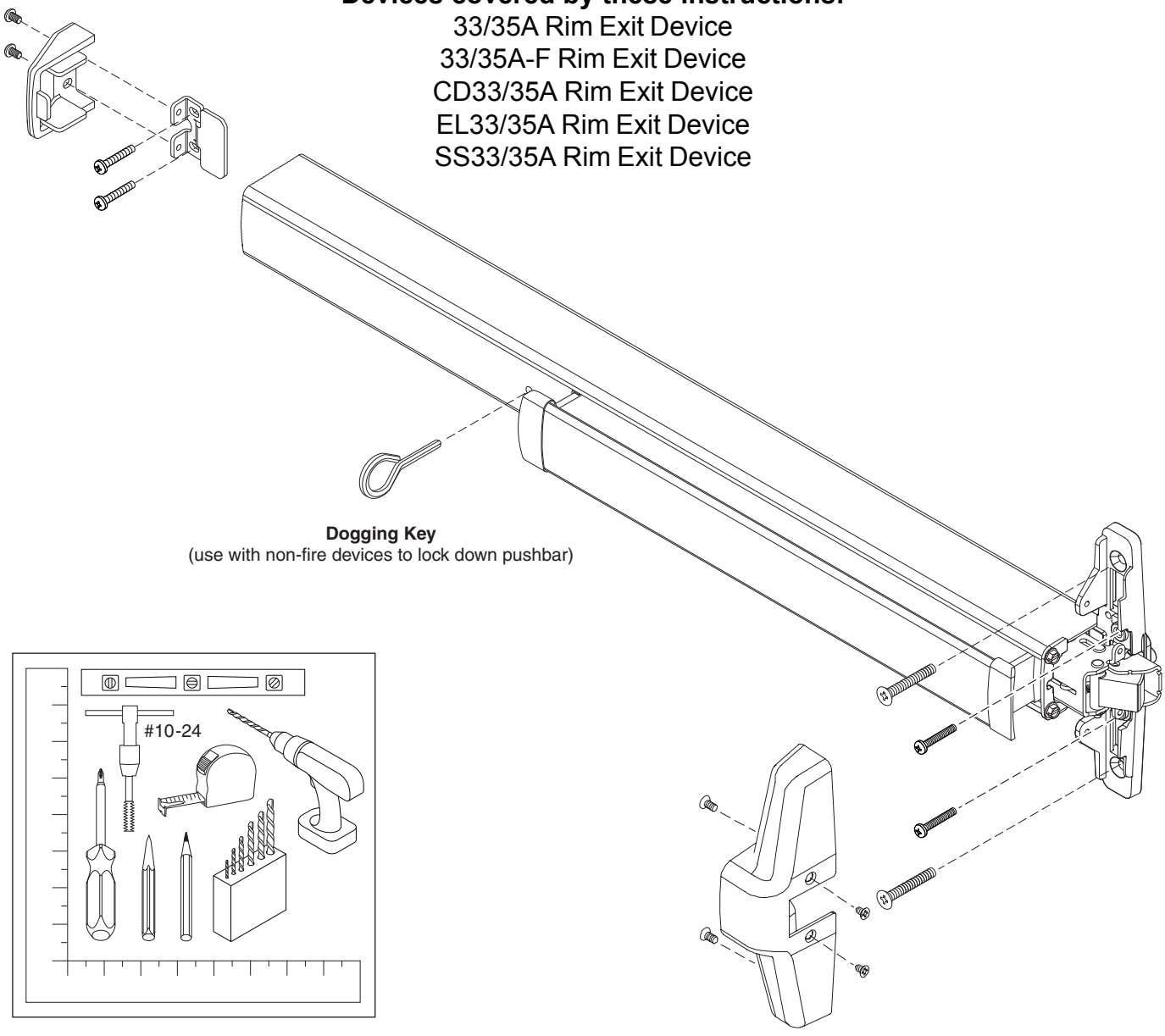
VON DUPRIN

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)

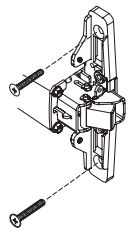
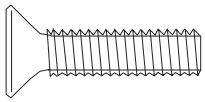
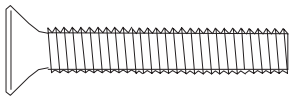
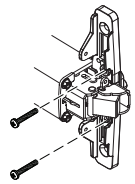
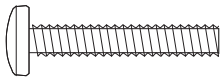
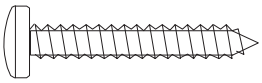
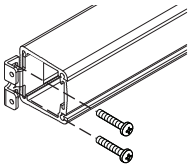
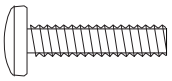
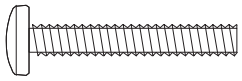
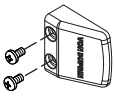
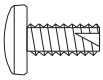
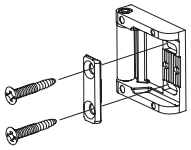
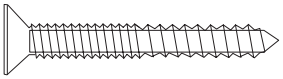
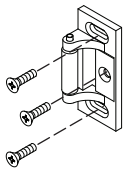
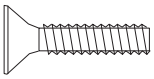
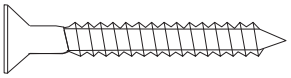
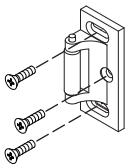
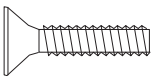
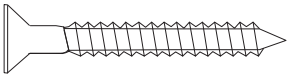
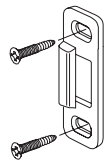
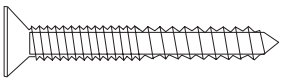
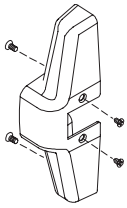
ALLEGION

Customer Service

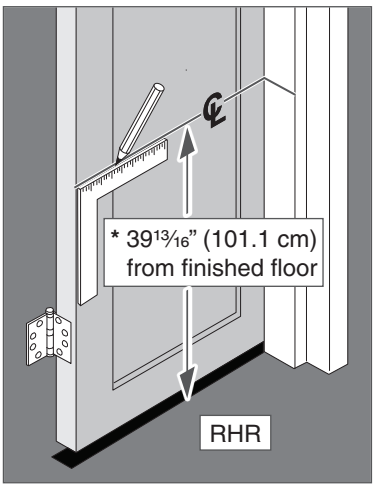
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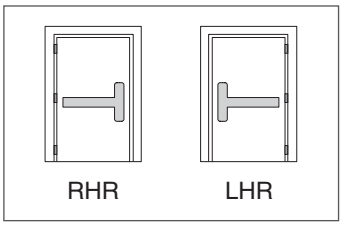
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911402-00 Rev. 05/16-d

SCREW CHART

Subassembly		Screw		Application
A			¼-20 x1” (25 mm)	Trim mount or sex bolts: 1¾” (44 mm) door
			¼-20 x 1-½” (38 mm)	2¼” (57 mm) door
B			#10-24 x 1” (25 mm)	Metal door surface mount (Yellow)
			#10 x 1¼” (32 mm) Wood screw	Wood door surface mount
C			#10-24 x ¾” (19 mm)	Surface mount or Sex bolts 1¾” (44 mm) door
			#10-24 x 1⅛” (29 mm)	Sex bolts, 2¼” (57 mm) door
D			#10-16 x ⅜” (10 mm) Thread cutting	End cap
E			#10-12 x 10-24 x 1¼” (32 mm) combination	Metal or wood frame
F			#10-24 x ¾” (19 mm)	Metal frame
			#10 x 1½” (38 mm) Wood screw	Wood frame
G			#10-24 x ¾” (19 mm)	Metal frame
			#10 x 1½” (38 mm) Wood screw	Wood frame
H			#10-12 x 10-24 x 1¼” (32 mm) combination	Metal or wood frame
I			#8-18 x ⅜” (10 mm) Thread cutting	Center case cover

1 Draw horizontal device and strike center lines (℄).

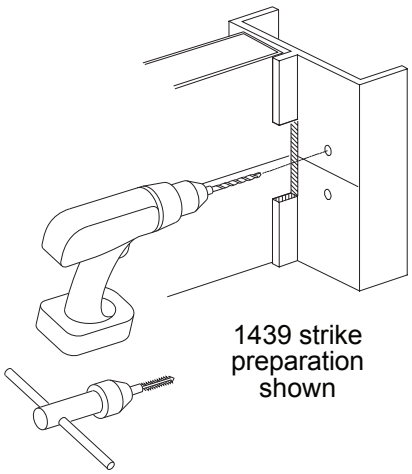




* For double doors with a mullion and strike already installed, use existing strike center line.

2 Prepare frame for strike using paper templates.

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



1439 strike preparation shown

Metal	#25	#10-24

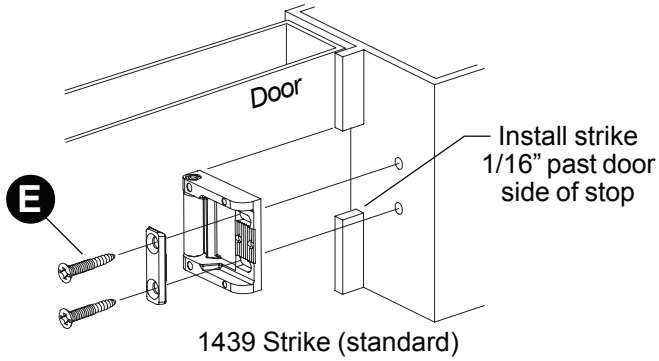
OR

Wood	⅛" (3 mm) x 1" (25 mm) deep

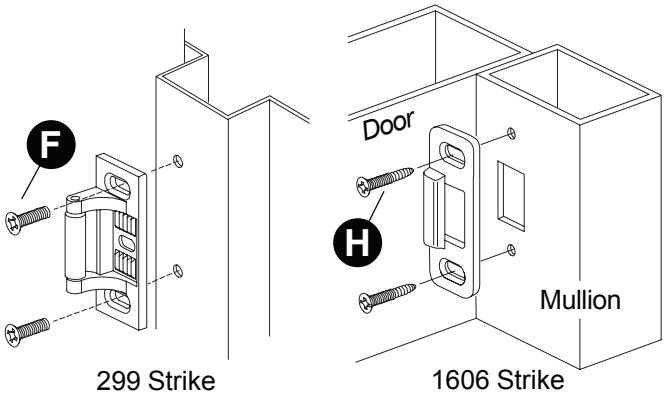
ⓘ **See "Screw Chart" on previous page for screw types and sizes.**

3 Install strike using two screws only at this time.

Panic Device



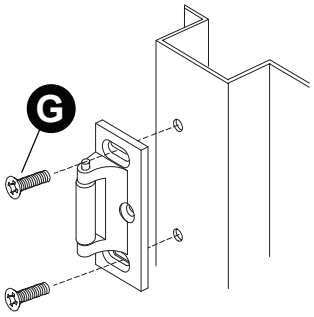
1439 Strike (standard)



299 Strike

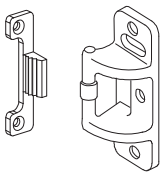
1606 Strike

Fire Rated Device



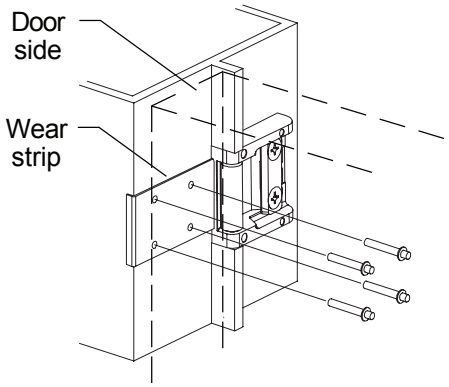
299F Strike

ⓘ **For 499F strike installation, see page 6.**



499F Strike

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

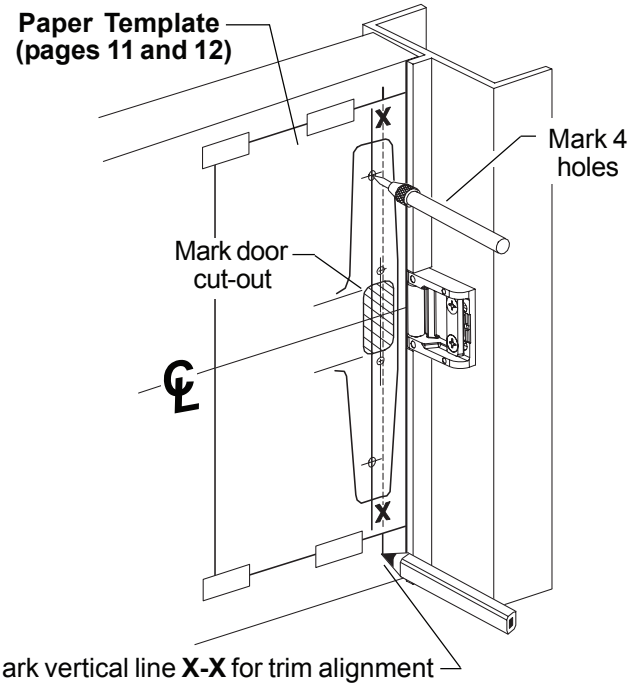


A. Center wear strip on strike as shown.

B. Mark and drill 1/8” dia. holes (4 places).

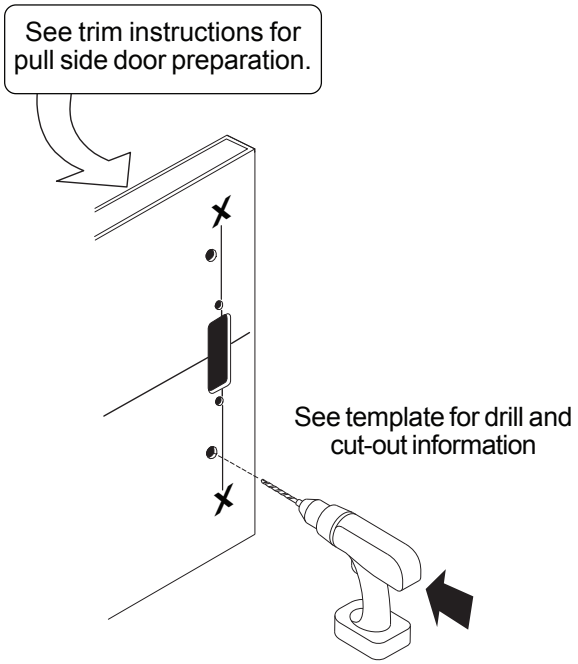
C. Install wear strip with flat head drive rivets (4 places) from 1439 strike package.

5 Tape template to door and mark door.

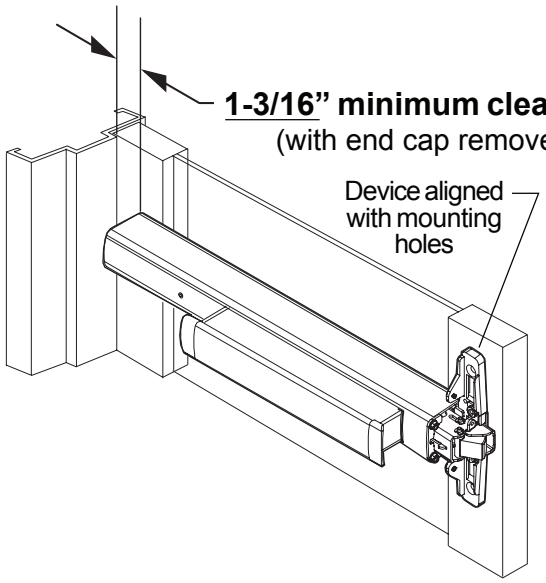


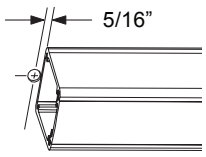
Note: Line X-X is a reference line on the paper template used for trim and exit device alignment. Line X-X shown here should correspond to line X-X in the trim installation instructions

6 Prepare lock side of door for device and trim.



7 Measure to determine length to cut device.



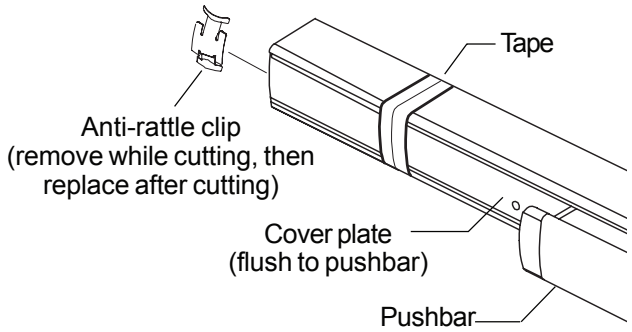


Note

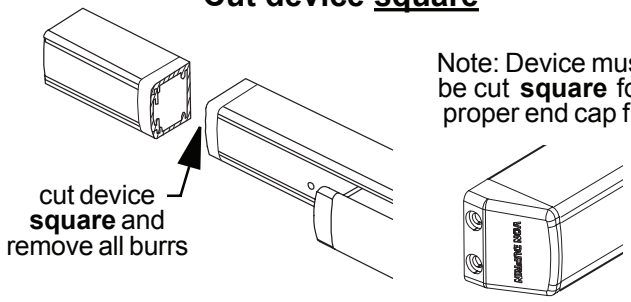
If 5/8” diameter wire access hole has been predrilled in door, cut device 5/16” from center of hole.

8 If necessary, cut device.

Prepare device for cutting

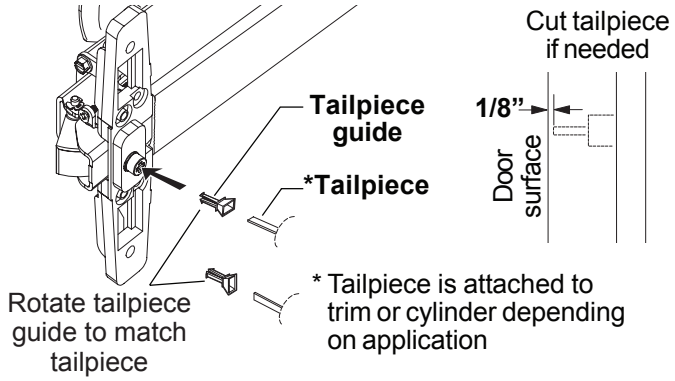


Cut device square

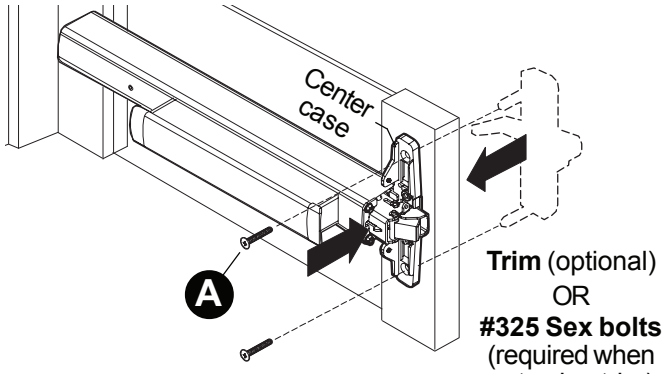


Note: Device must be cut **square** for proper end cap fit

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

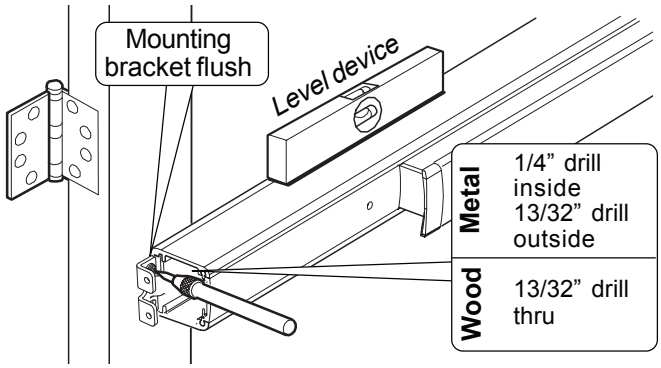


10 Attach center case to door.

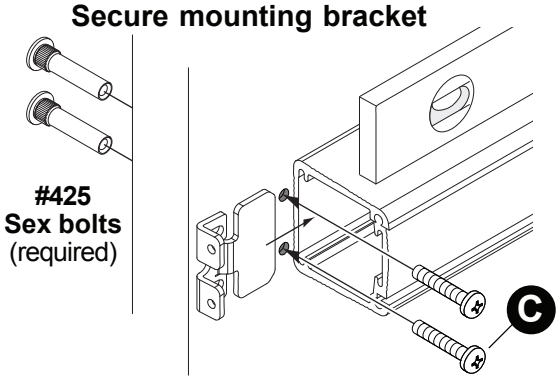


11 Install hinge stile mounting bracket.

Mark and prepare 2 mounting holes



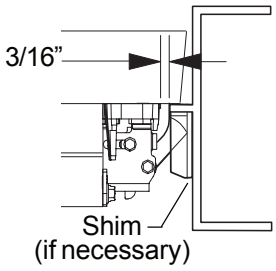
Secure mounting bracket



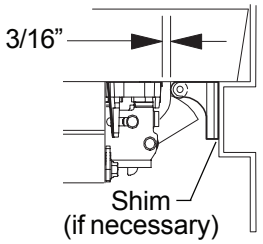
12 Adjust strike as needed.

Shim strike for 3/16" clearance to chassis

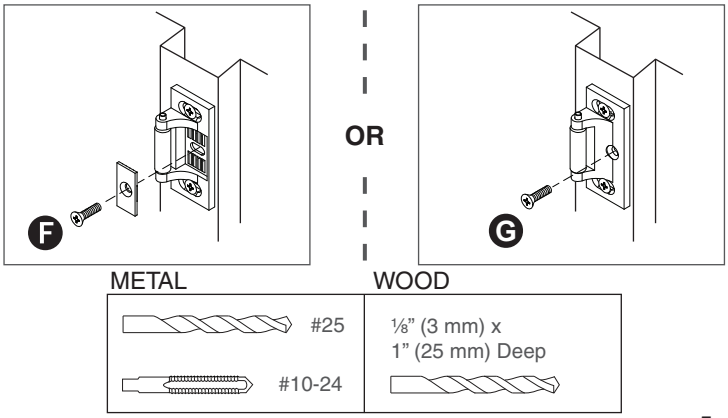
1409 Strike



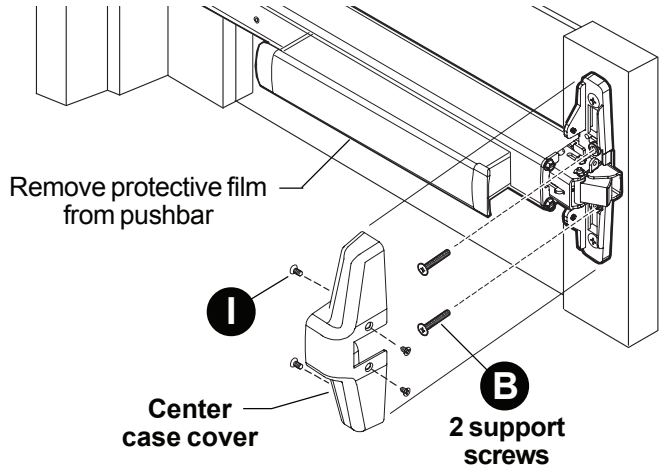
299/299F/1606 Strike



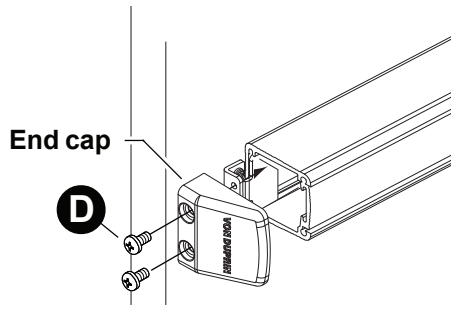
13 Install strike support screw.



14 Install 2 support screws and center case cover

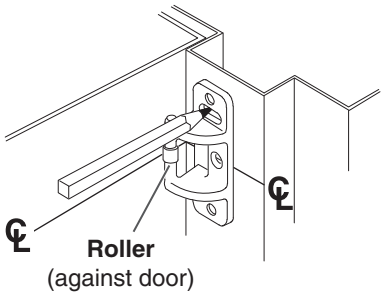


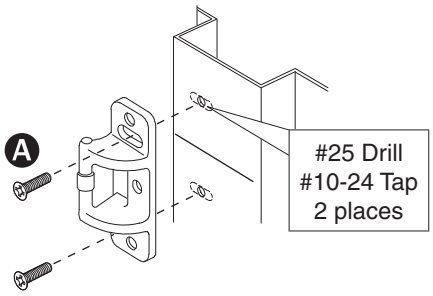
15 Install 2 support screws and center case cover



499F STRIKE INSTALLATION

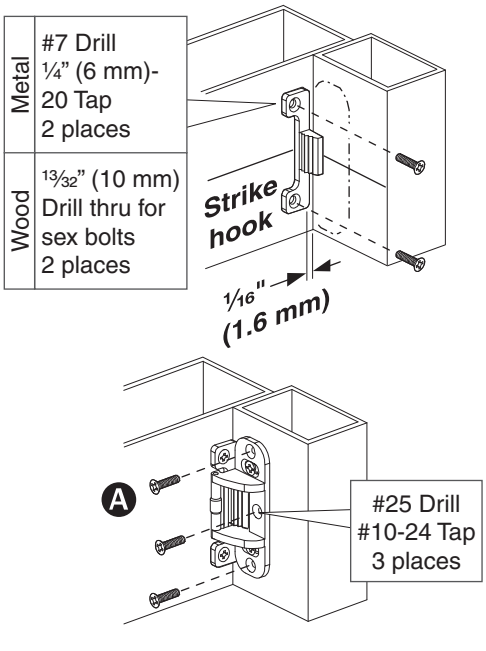
1. Prepare and install screws through two strike slots.



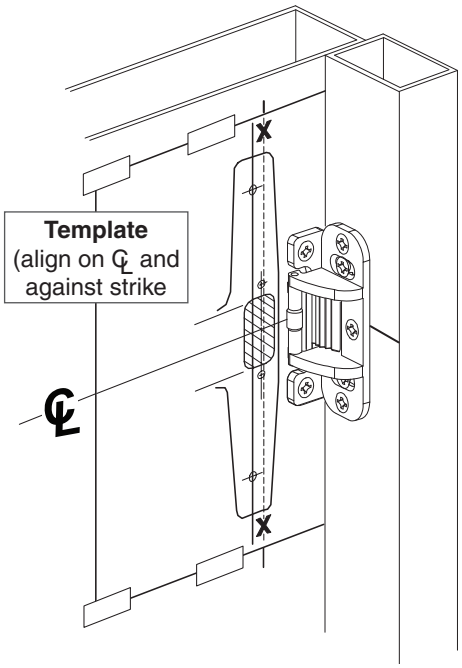


ⓘ **If using a mullion, holes may be predrilled**

2. Install strike hook and additional strike screws.

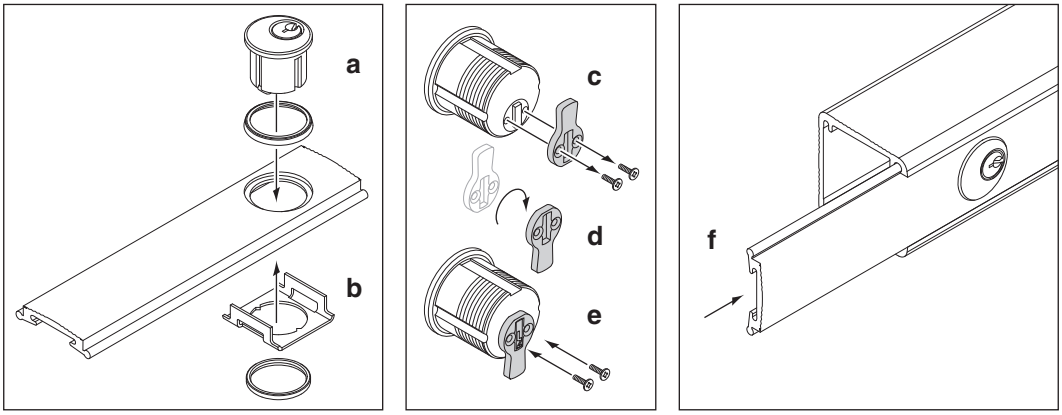


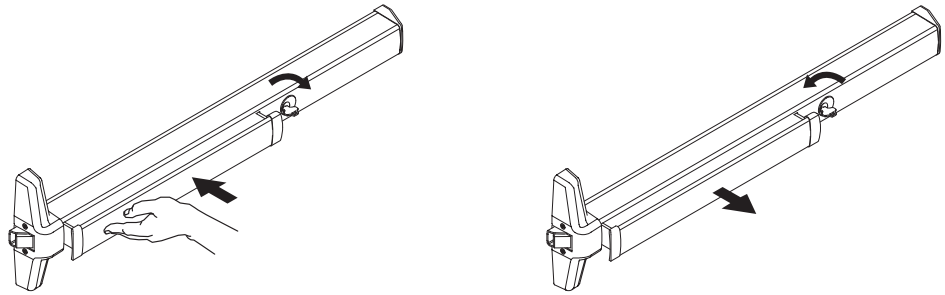
3. Template aligns as shown.



OPTIONAL EQUIPMENT

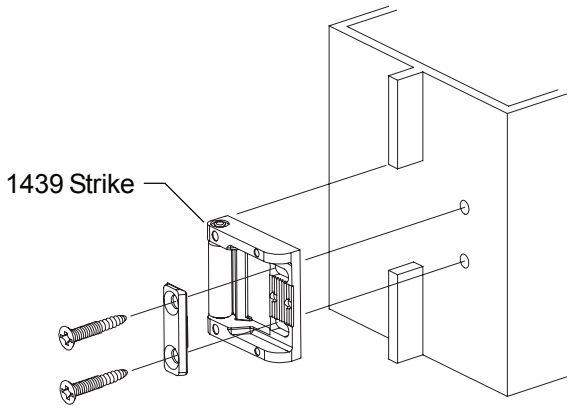
CD (Cylinder Dogging) Option



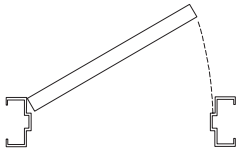


Dog

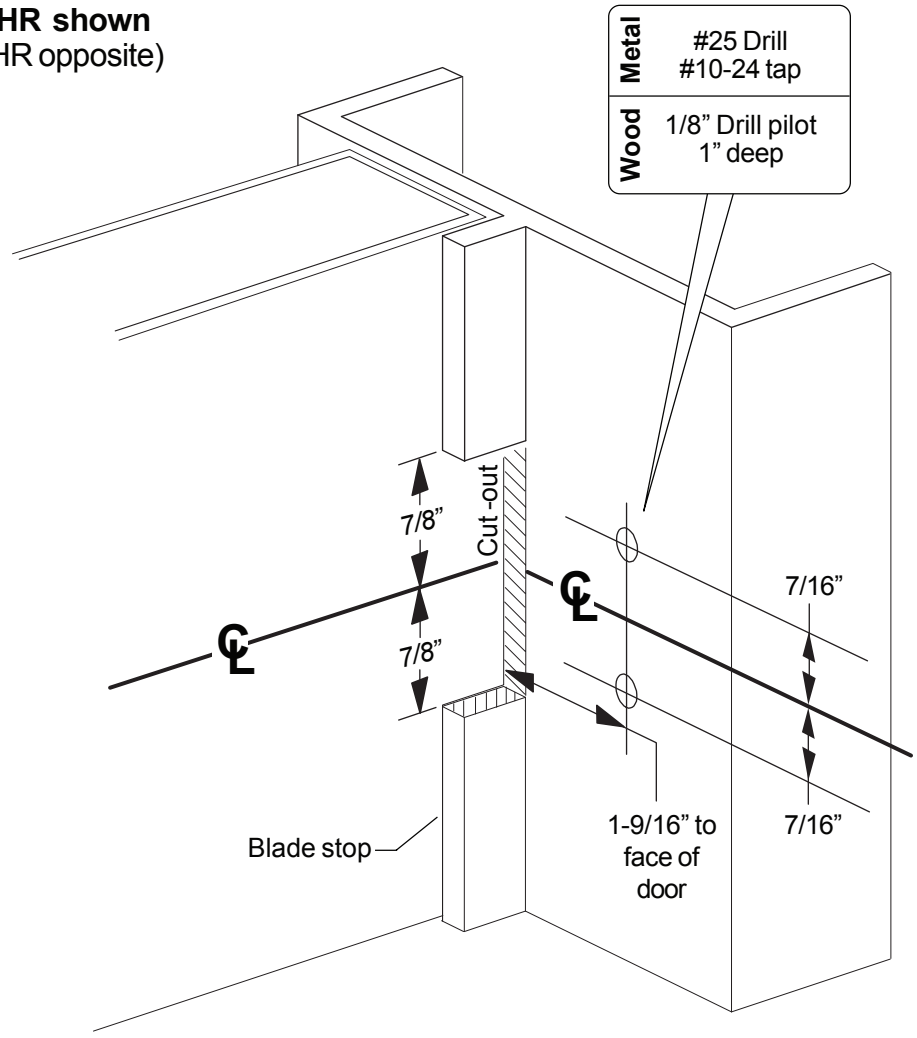
Undog



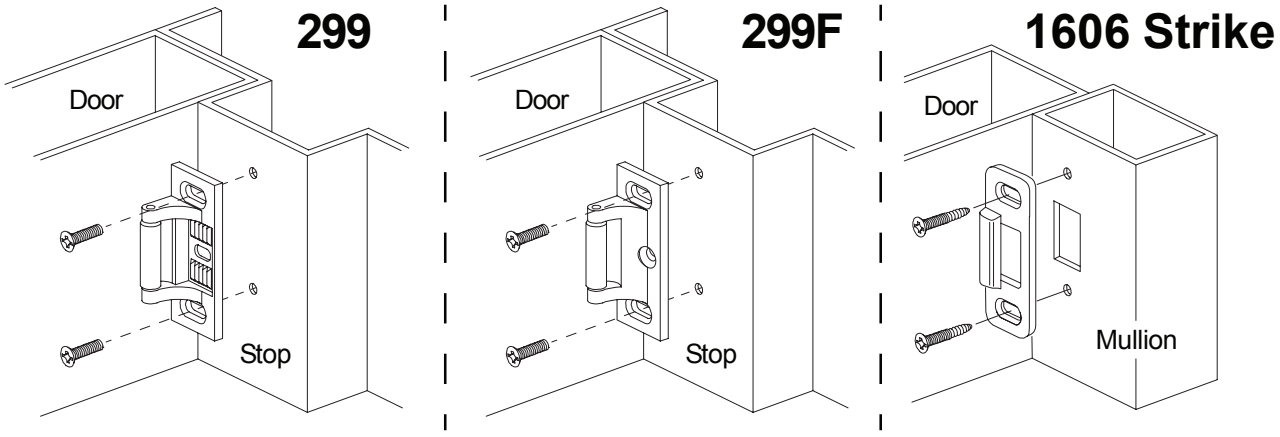
1439 Strike
Frame Preparation

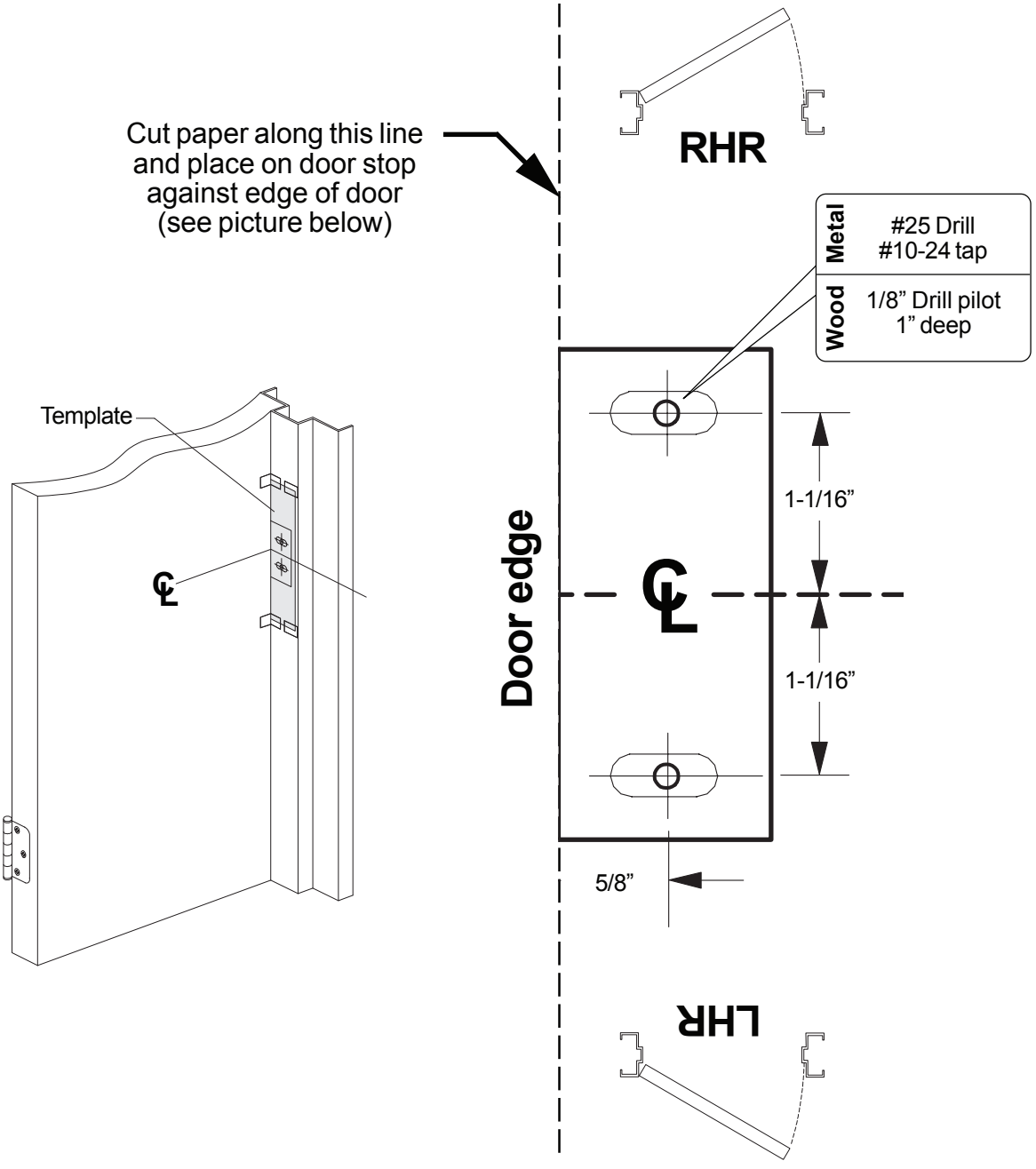


RHR shown
(LHR opposite)



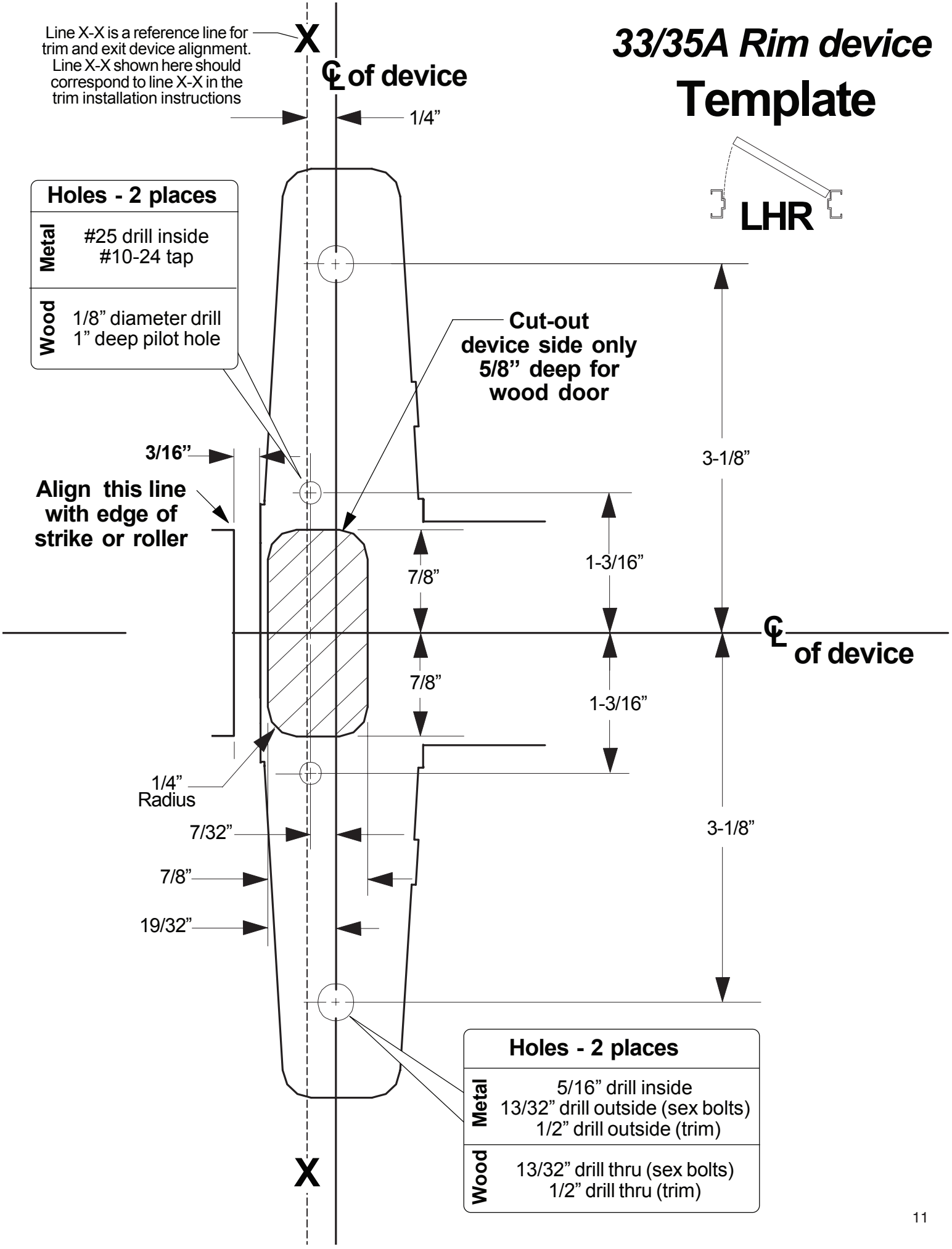
299/299F/1606 Strike
Template



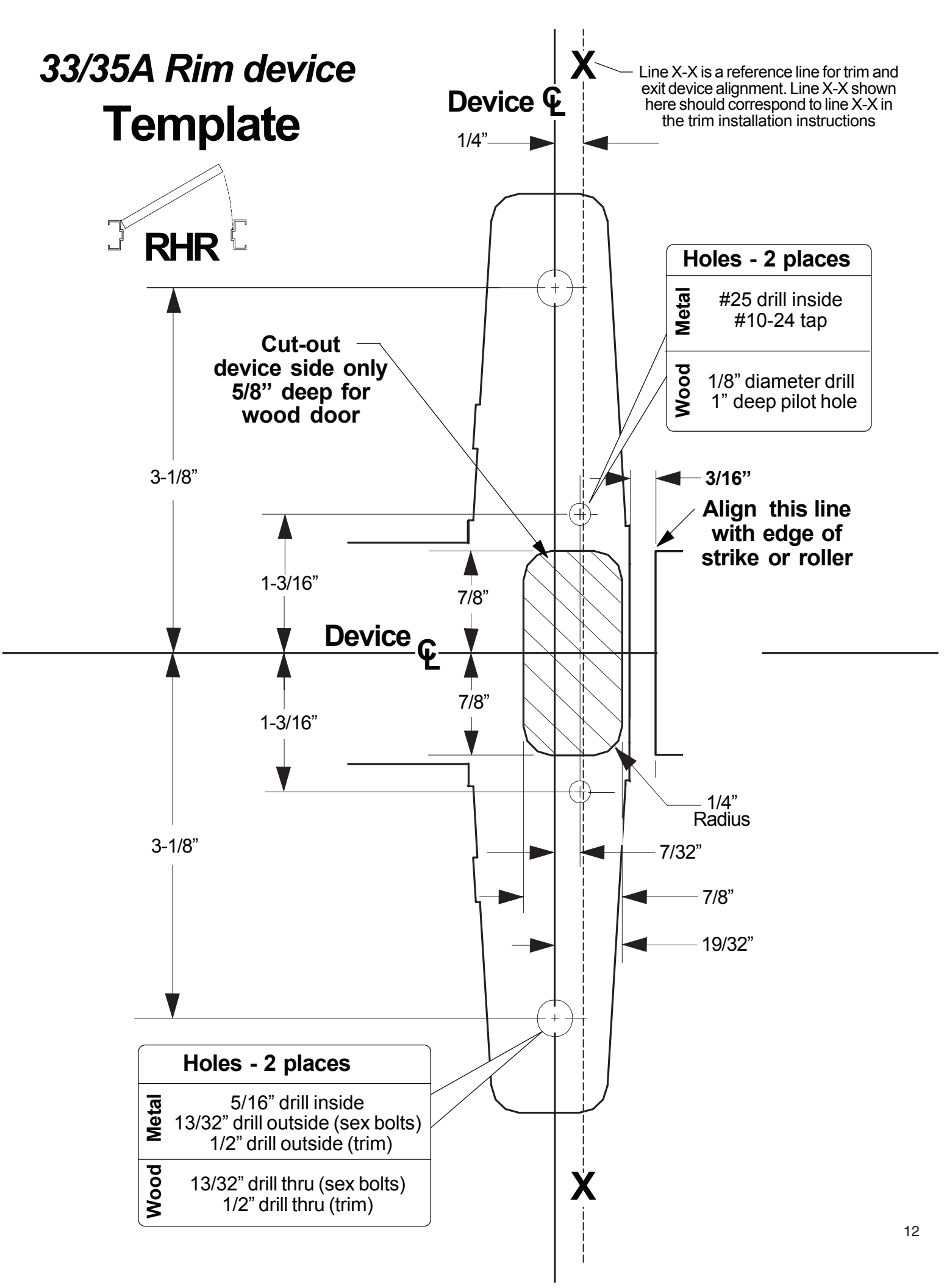


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33/35A Rim device
Template



33/35A Rim device
Template



911403-00

33/3527A

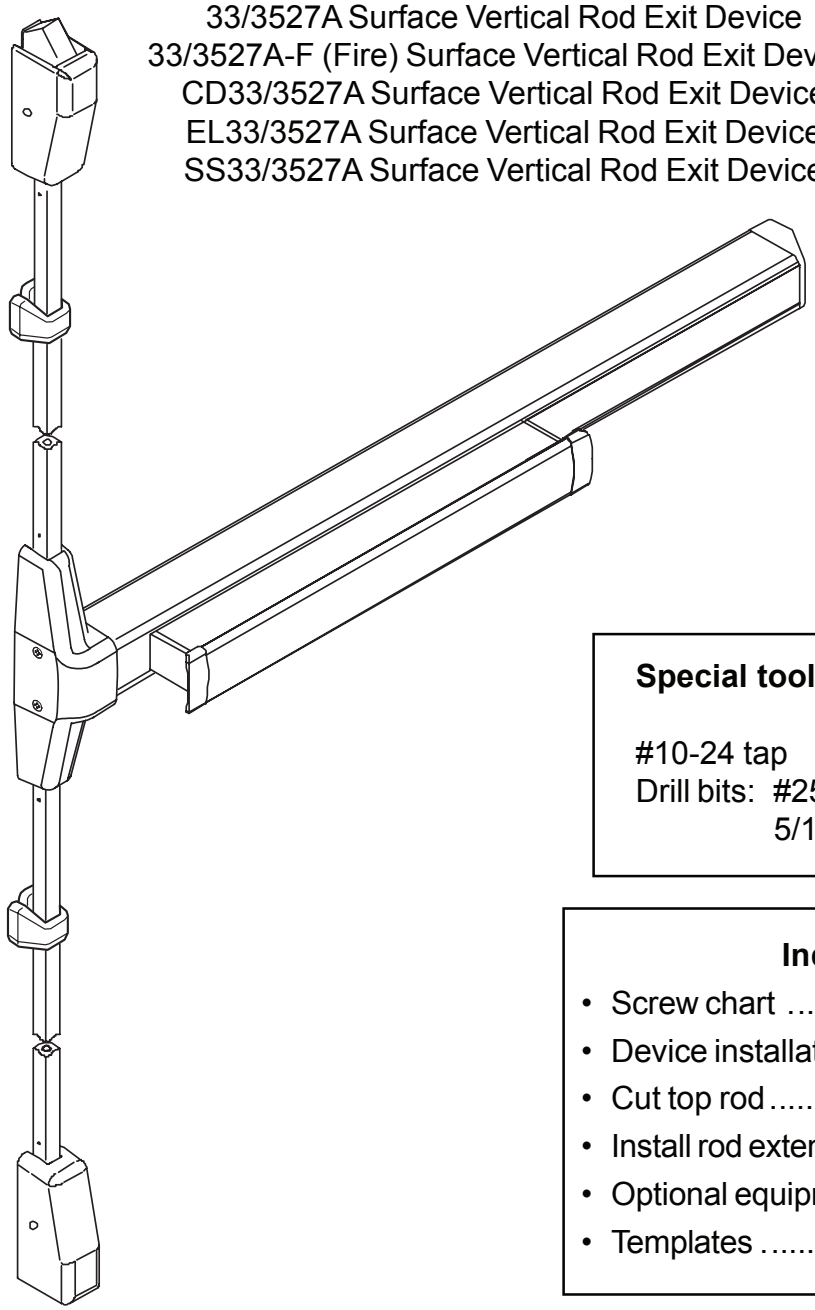
VON DUPRIN

Surface Vertical Rod Exit Device

Installation Instructions

Devices covered by these instructions:

33/3527A Surface Vertical Rod Exit Device
33/3527A-F (Fire) Surface Vertical Rod Exit Device
CD33/3527A Surface Vertical Rod Exit Device
EL33/3527A Surface Vertical Rod Exit Device
SS33/3527A Surface Vertical Rod Exit Device



Special tools needed:

#10-24 tap
Drill bits: #25, 1/8”, 1/4”, 5/16”, 13/32”

Index:

- Screw chart 2
- Device installation 3-6
- Cut top rod 7
- Install rod extension 7
- Optional equipment 8
- Templates 9-14

Please give these instructions to building owner after device is installed

911404-00

33/3547A

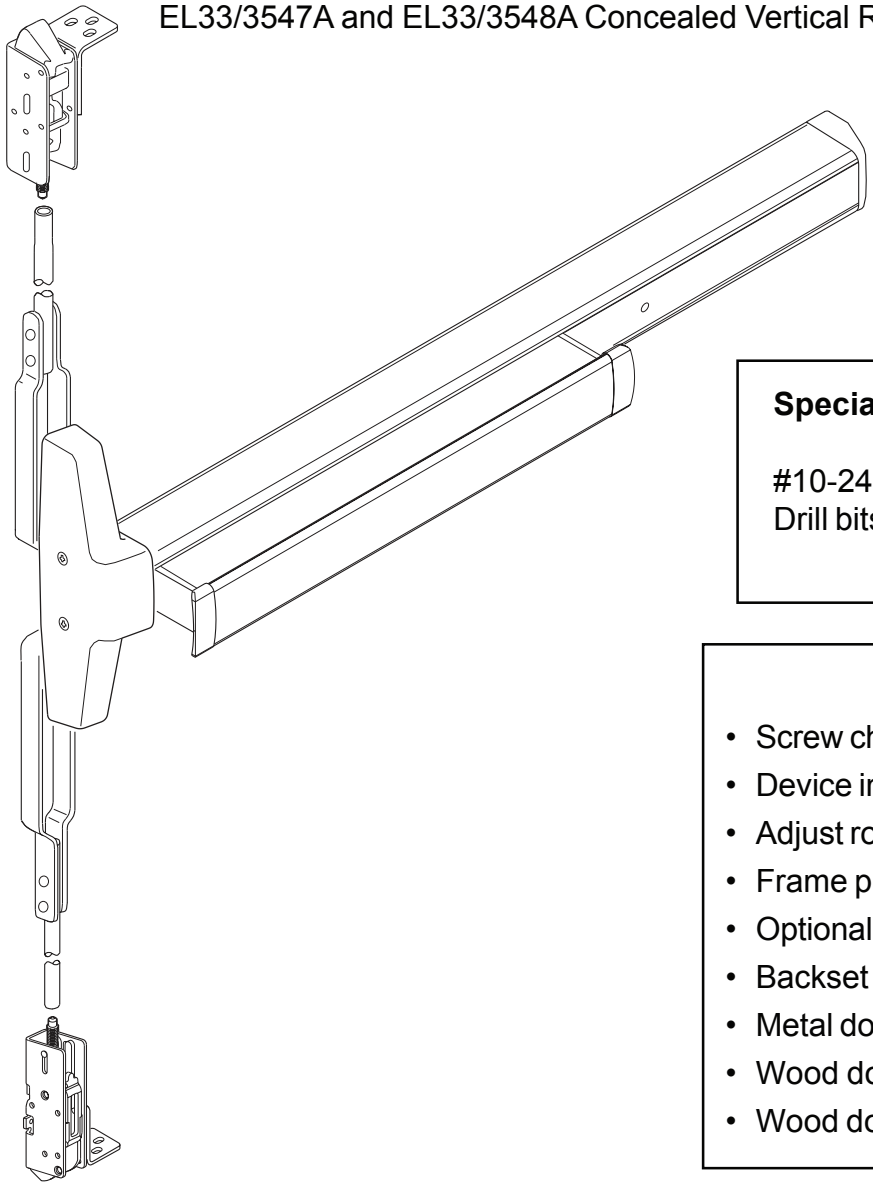
VON DUPRIN

Concealed Vertical Rod Exit Device

Installation Instructions

Devices covered by these instructions:

33/3547A and 33/3548A Concealed Vertical Rod Exit Device
33/3547A-F and 33/3548A-F Fire Concealed Vertical Rod Exit Device
CD33/3547A and CD33/3548A Concealed Vertical Rod Exit Device
EL33/3547A and EL33/3548A Concealed Vertical Rod Exit Device



Special tools needed:

#10-24 tap
Drill bits: #25, 5/16”,
13/32”, 1/2”

Index:

- Screw chart 2
- Device installation 3-5
- Adjust rods 6
- Frame preparation 7
- Optional equipment. 8
- Backset information 9
- Metal door templates 11-12
- Wood door preparation 13-14
- Wood door templates 15-16

ALLEGION

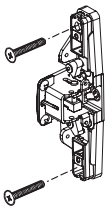
Customer Service

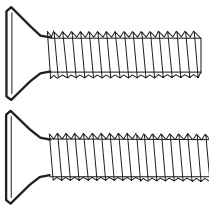
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911404-00 07/16-e

SCREW CHART

A

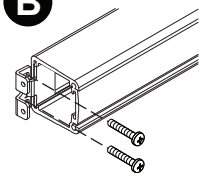


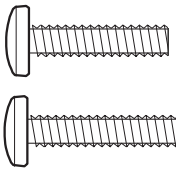


1/4-20 x 1" — Trim mount or sex bolts: (1-3/4" door)

1/4-20 x 1-1/2" — (2-1/4" door)

B





#10-24 X 3/4" — Surface mount or Sex bolts (1-3/4" door)

#10-24 X 1-1/8" — Sex bolts (2-1/4" door)

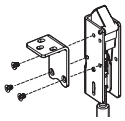
C





#10-16 X 3/8" Thread cutting — End cap

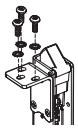
D

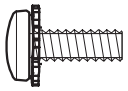




#10-32 X 1/4" — Bracket to latch

E





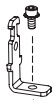
*#10-24 X 1/2" — Bracket to door



*#10 X 1" Wood screw — Bracket to door

*Used with external tooth lock washer

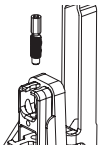
F

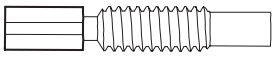




#10-32 X 3/8" Socket head — Rod attachment

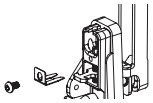
G





Rod adjusting screw — Rod length adjustment

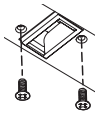
H

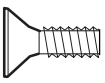




#8-32 X 5/16" — Retaining clip

I

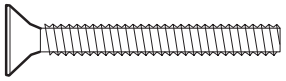




#10-24 X 1/2" — 338 Strike

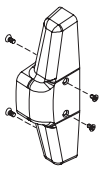
J





#10-24 X 1-1/2" — Ratchet release

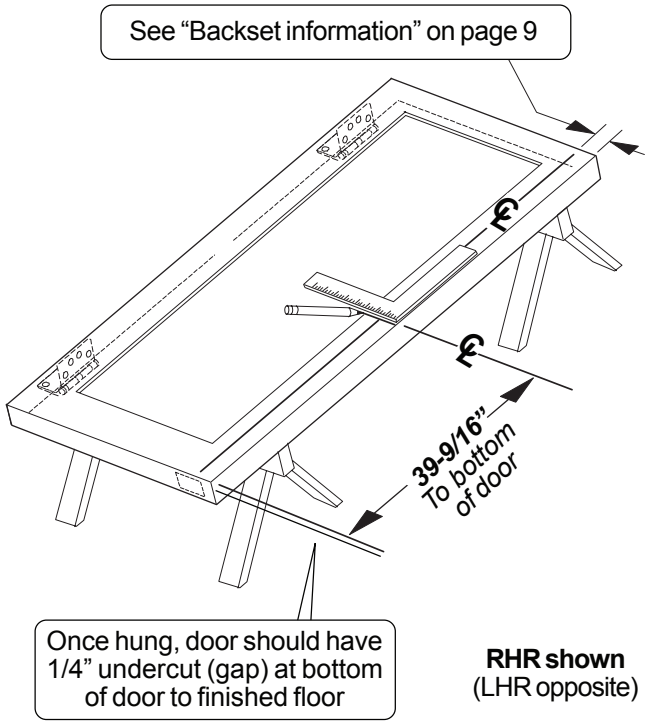
K





#8-18 x 3/8" Thread cutting — Center case cover

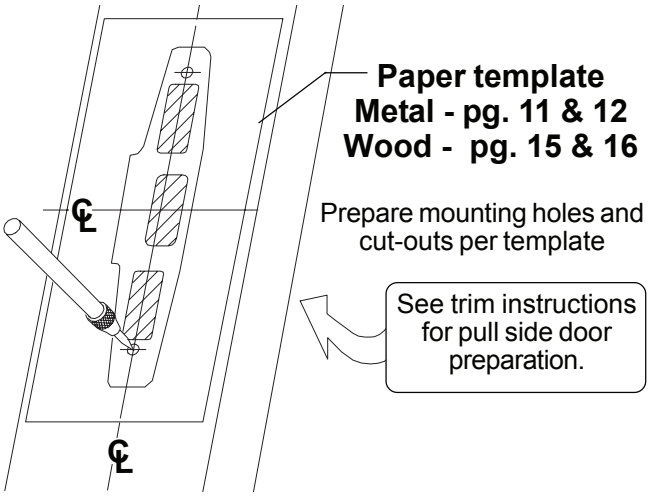
1 Draw horizontal and vertical device center lines (℄).



RHR shown
(LHR opposite)

2 Place paper device template on door and prepare door.

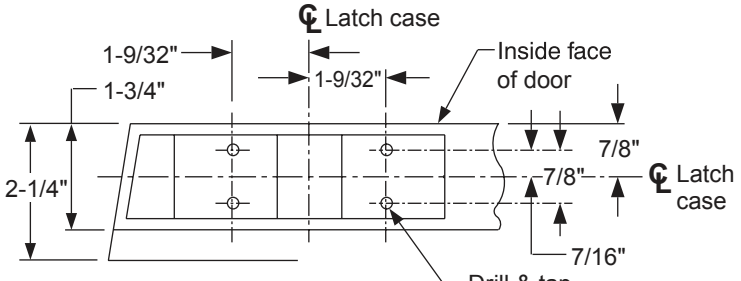
For wood doors - See pages 13 & 14 for special door preparation instructions.



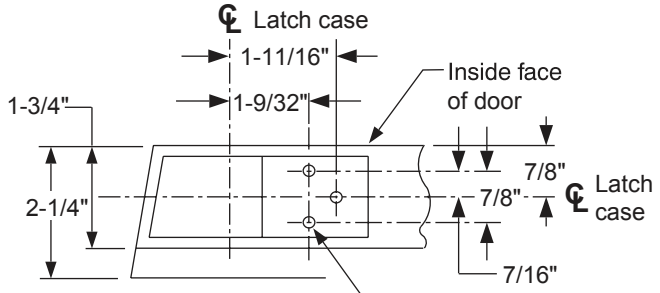
RHR shown
(LHR opposite)

3 Prepare top and bottom of door for latch mounting brackets.

Latch cases
(drill top and bottom of door)



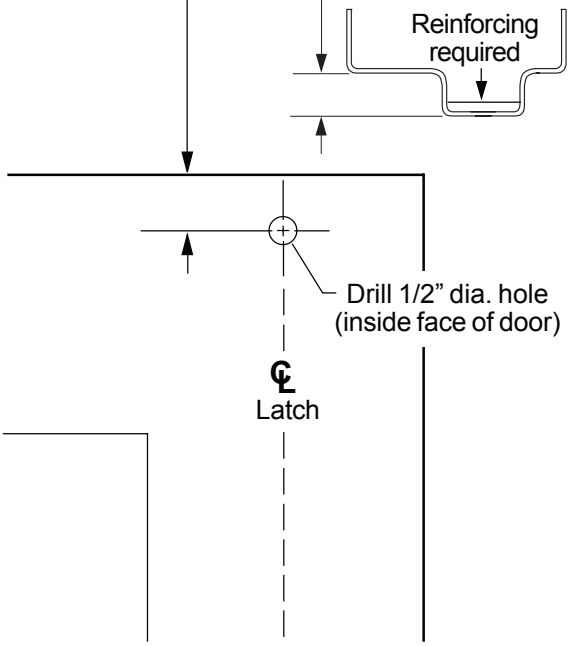
Fire device (metal door)



Panic device (metal door)
Panic and fire (wood door)

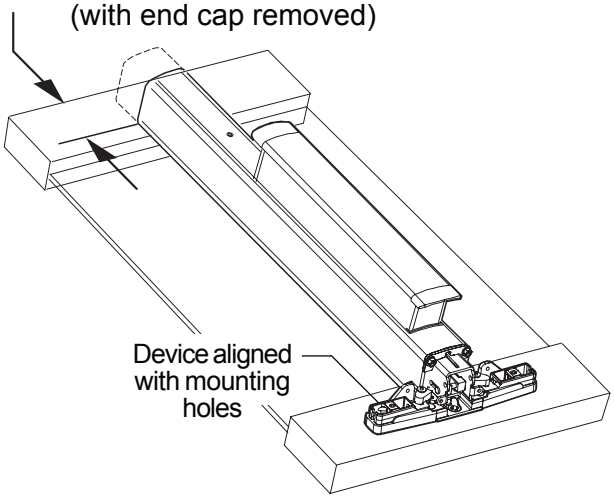
4 Drill ratchet release hole in door.

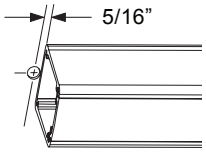
11/16”	1/2” Stop height
13/16”	5/8” Stop height
15/16”	3/4” Stop height



5 Measure to determine length to cut device.

1-3/16" minimum clearance
(with end cap removed)

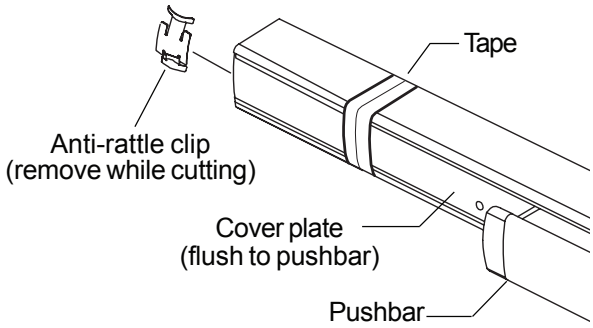




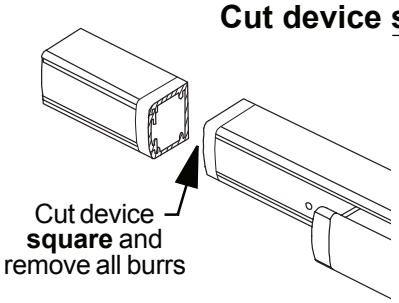
Note
If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.

6 Cut device to length.

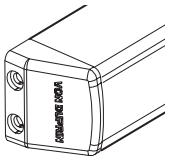
Prepare device for cutting



Cut device square

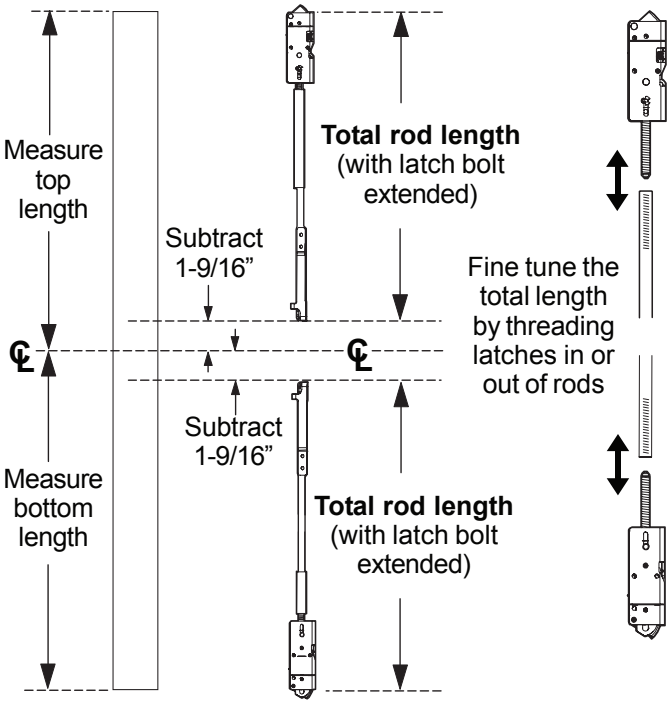


Note: Device must be cut **square** for proper end cap fit



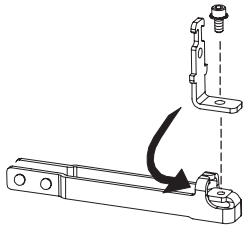
7 Assemble rods and latches and adjust length.

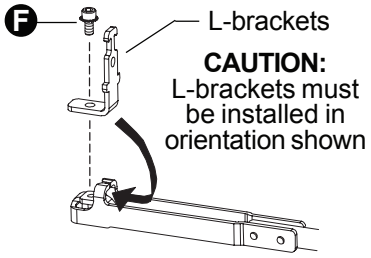
Follow white and brown instruction cards on rods to set initial rod length



8 Install rods as shown.

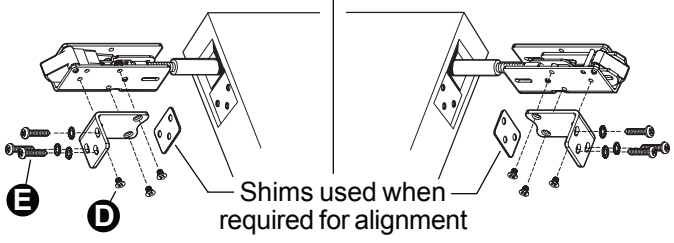
Rods are shipped with L-bracket attached. Insert rods with L-bracket pointing toward lock stile. Rotate rod until L-bracket protrudes through door cutout. If this is not possible, remove L-bracket and re-insert rod, then re-attach L-brackets.



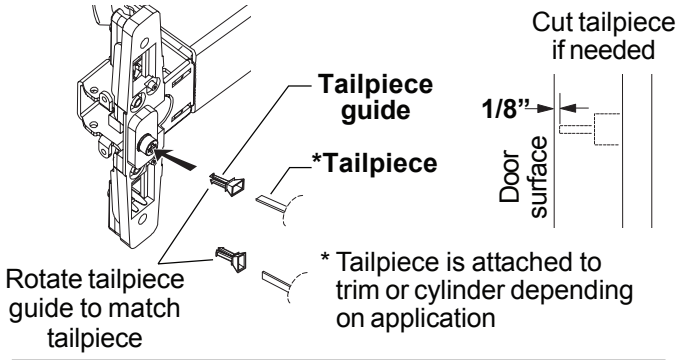


NOTE: Fire devices on metal doors use brackets on both sides of latches

Top latch & rod | **Bottom latch & rod**

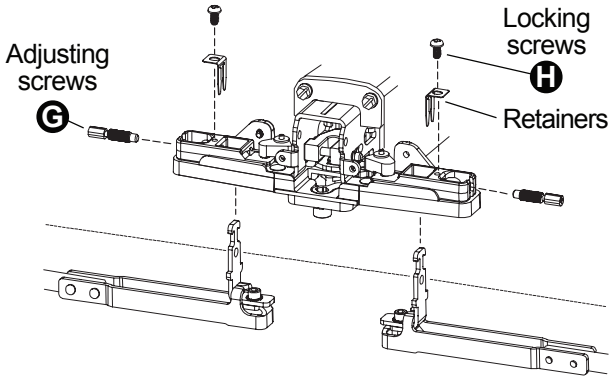


9 Install tailpiece guide and attach rods to center case.

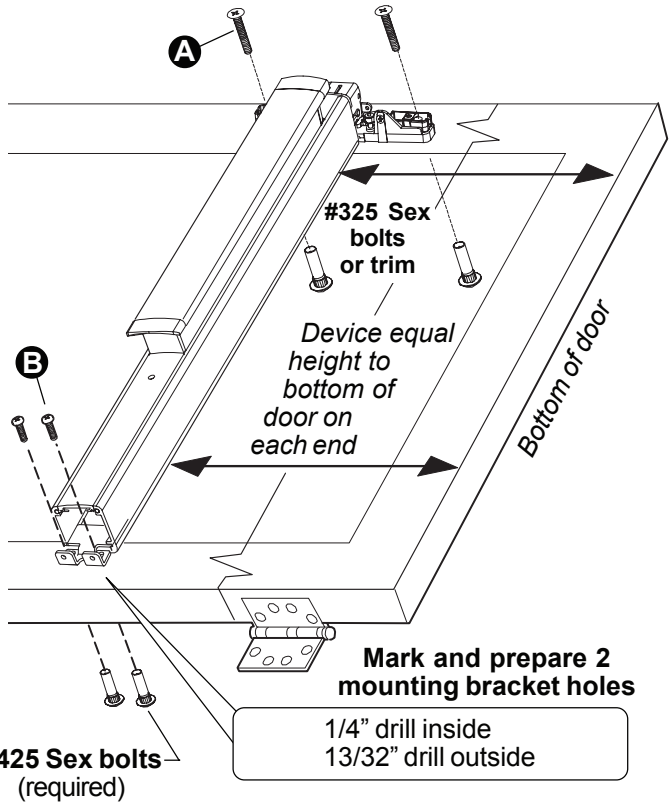


* Tailpiece is attached to trim or cylinder depending on application

Place device over L- brackets and install adjusting screws, then install retainers and locking screws

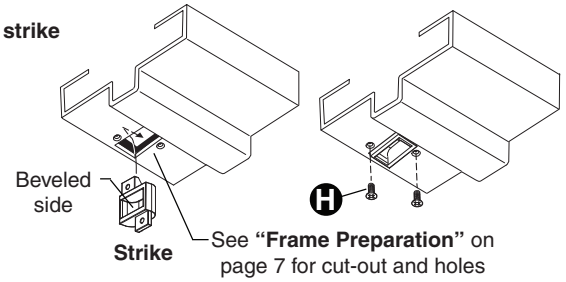


10 Secure device to door and mount door to frame.

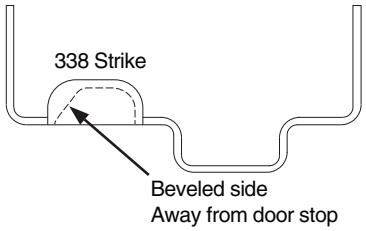


11 Install top strike and ratchet release.

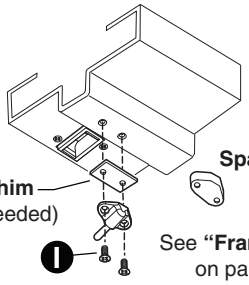
338 Top strike



See **"Frame Preparation"** on page 7 for cut-out and holes



Ratchet release

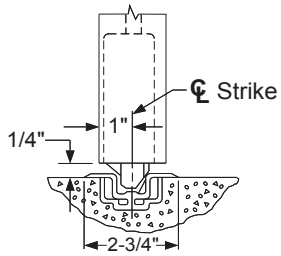


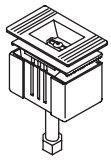
Spacer (use when frame has no door stop)

See **"Frame Preparation"** on page 7 for holes

12 Install bottom strike or prepare threshold.

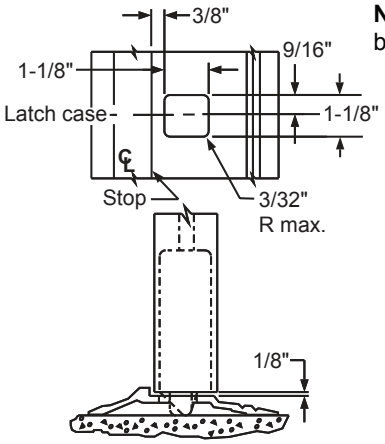
385-A Bottom strike





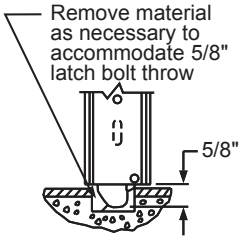
385-A strike has two pieces. Grout bottom piece into floor and attach top piece to bottom with screw through slot.

Threshold application



Note: Thresholds are not to be used with 33/3547A-F

Flat threshold application



ADJUST RODS

1. Open door and release top latch bolt as shown (Figure 1).

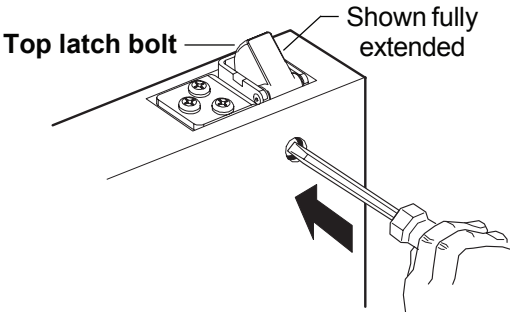


Figure 1

2. Remove bottom locking screw and retaining clip (Figure 2).

3. Disconnect bottom vertical rod by removing bottom adjusting screw.

4. Loosen top locking screw.

5. Rotate top adjusting screw clockwise until top latch bolt is fully extended (Figure 1).

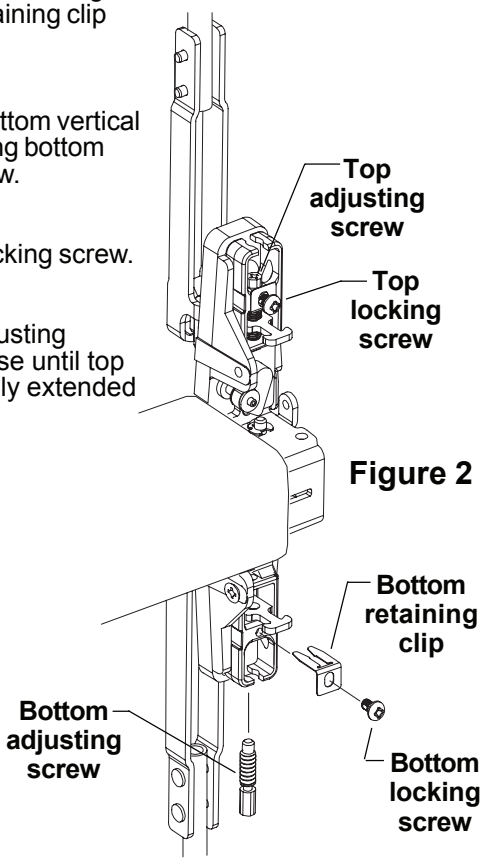
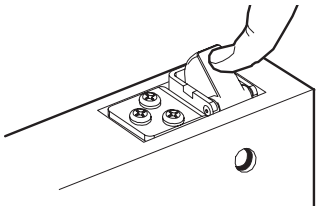


Figure 2

6. Check top latch bolt for deadlocking (latch bolt should not push in).



7. Turn top locking screw in against flat on adjusting screw. Do not over-tighten.

8. Depress pushbar and release.

9. Make sure top latch bolt stays retracted as shown.

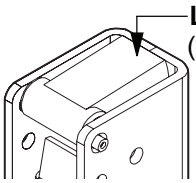


Figure 3

10. Install bottom adjusting screw through bottom rod and install bottom retaining clip and locking screw (Figure 2).

11. With top latch bolt still retracted, adjust bottom rod so latch bolt clears floor and bottom strike.

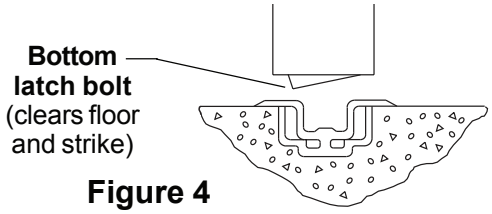


Figure 4

12. Close door and check bottom latch bolt for dead locking.

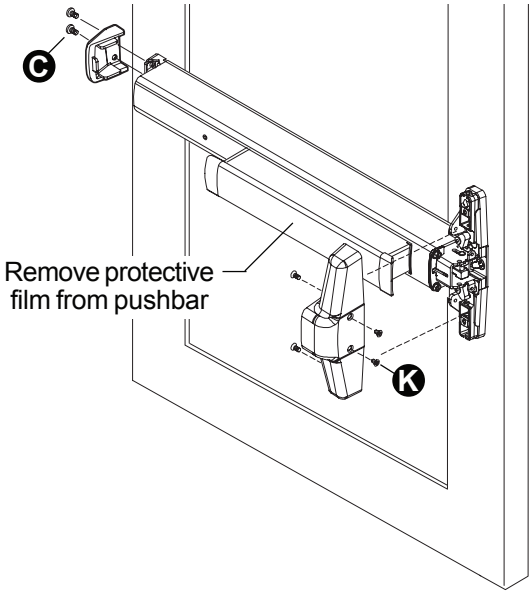
13. After bottom rod is fully adjusted per steps 11 and 12, turn bottom locking screw in against flat on adjusting screw. Do not over-tighten.

14. Check device operation by opening and closing door several times from the outside.

Redo adjustment procedure if :

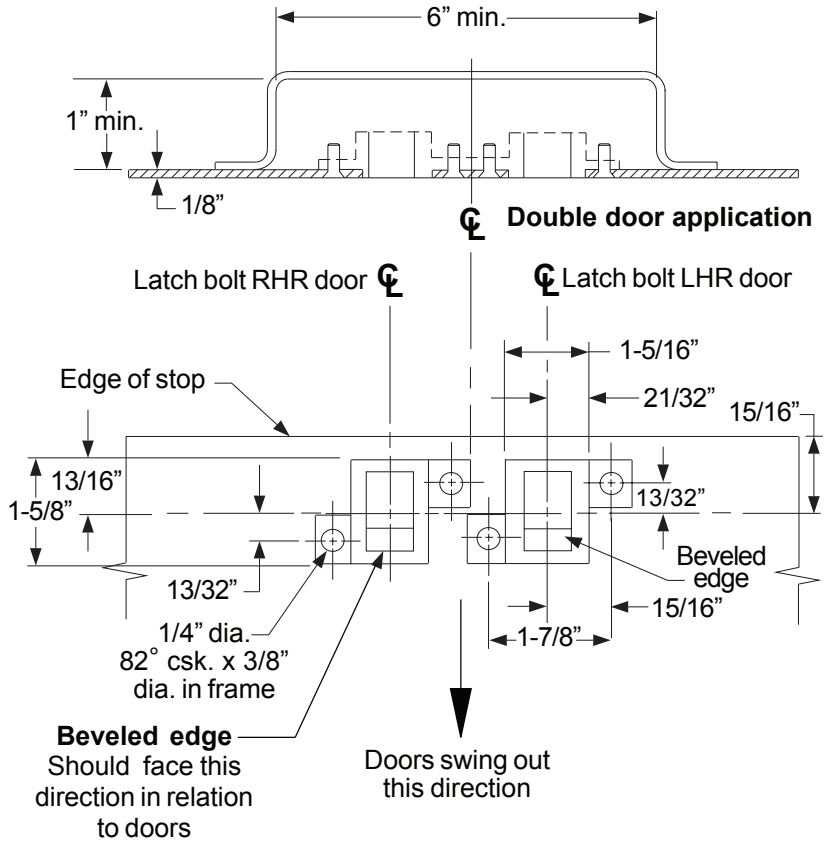
- Top latchbolt is not held retracted
- Bottom latchbolt does not clear floor and bottom strike

15. Install end cap and center case covers.

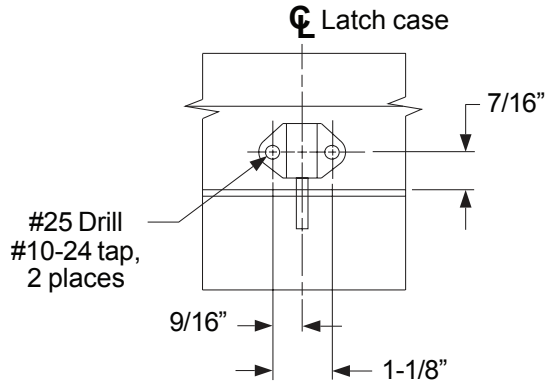


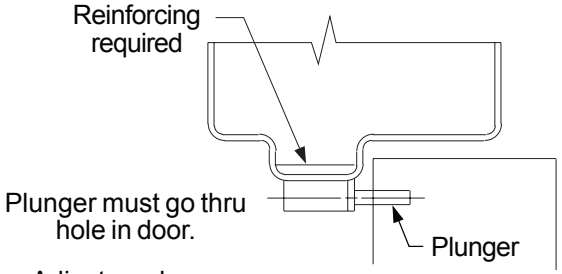
FRAME PREPARATION

338 Top strike



Ratchet release





Adjust so plunger releases latch bolt when door is closed.

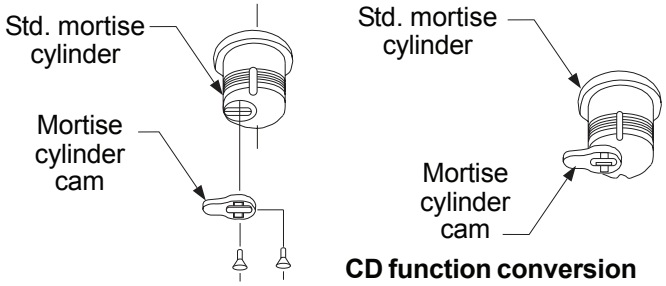
OPTIONAL EQUIPMENT

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).

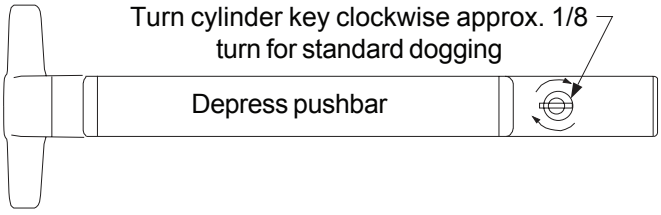
3. Remove key to slide cover plate in position in the mechanism case.



CD function conversion

Figure 1

Dogging procedure



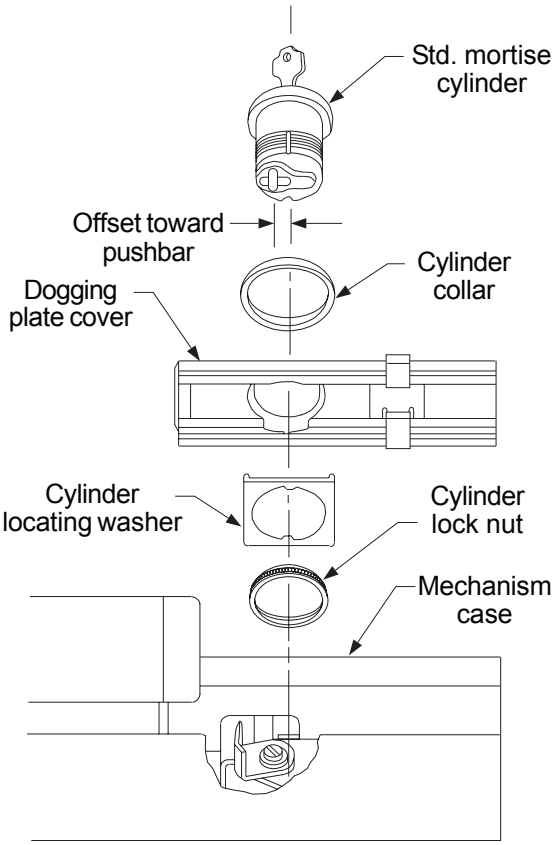
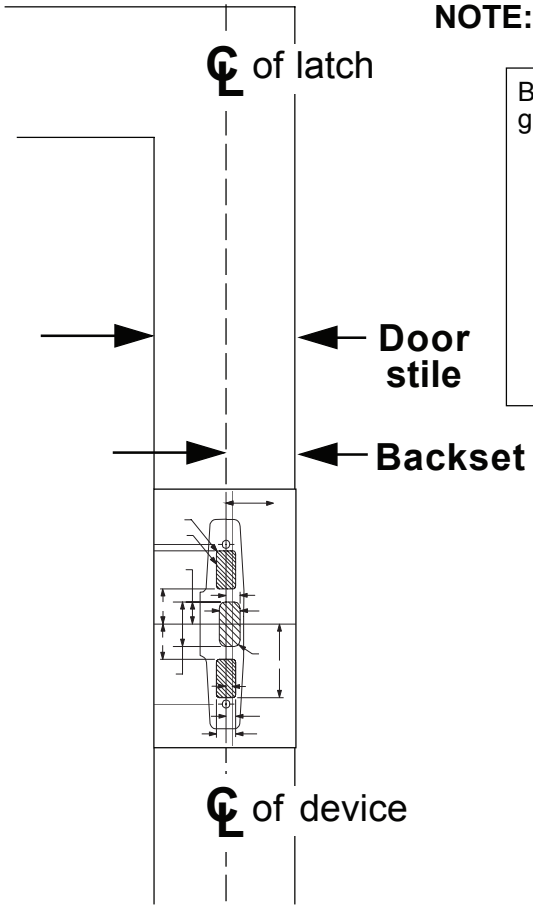


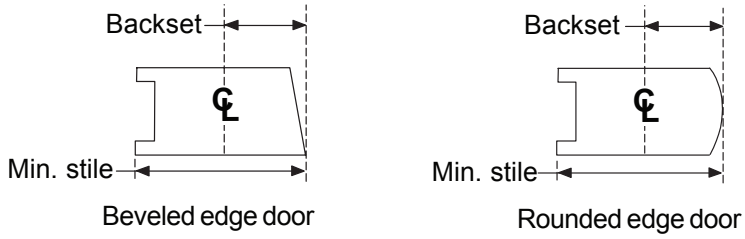
Figure 2

BACKSET INFORMATION



NOTE: For 2” stile doors see bottom half of page

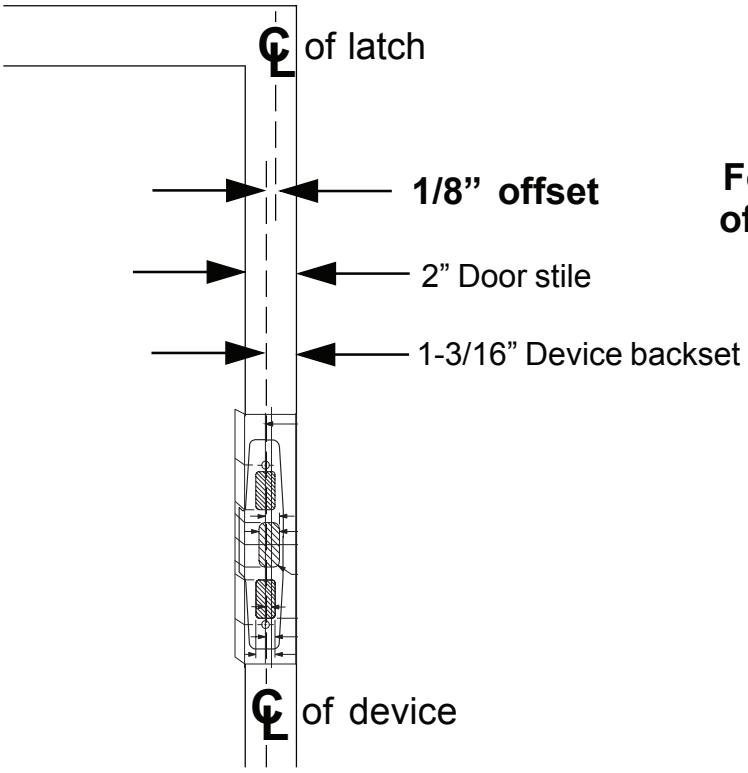
Backset is measured from outer edge of door as shown. Minimum stile is less glass stop (rectangular glass stop is recommended for stiles less than 2-1/8”)



Backset Table

Door type	Backset	Min. stile	Application
Wood	1-5/16”	NA	All
Metal	1-3/16”	2-1/8”- 2-3/4”	Two vertical rod devices (panic)
	1-1/2”	2-3/4”- 3-3/4”	
	1-7/8”	3-3/4”- 5”	
	2-1/2”	5” to flush	
	1-1/2”	2-1/2”- 3-3/4”	Single door (panic)
	1-7/8”	3-3/4”- 5”	
	2-1/2”	5” to flush	
	2-3/4”	3-5/8” to flush	Fire applications

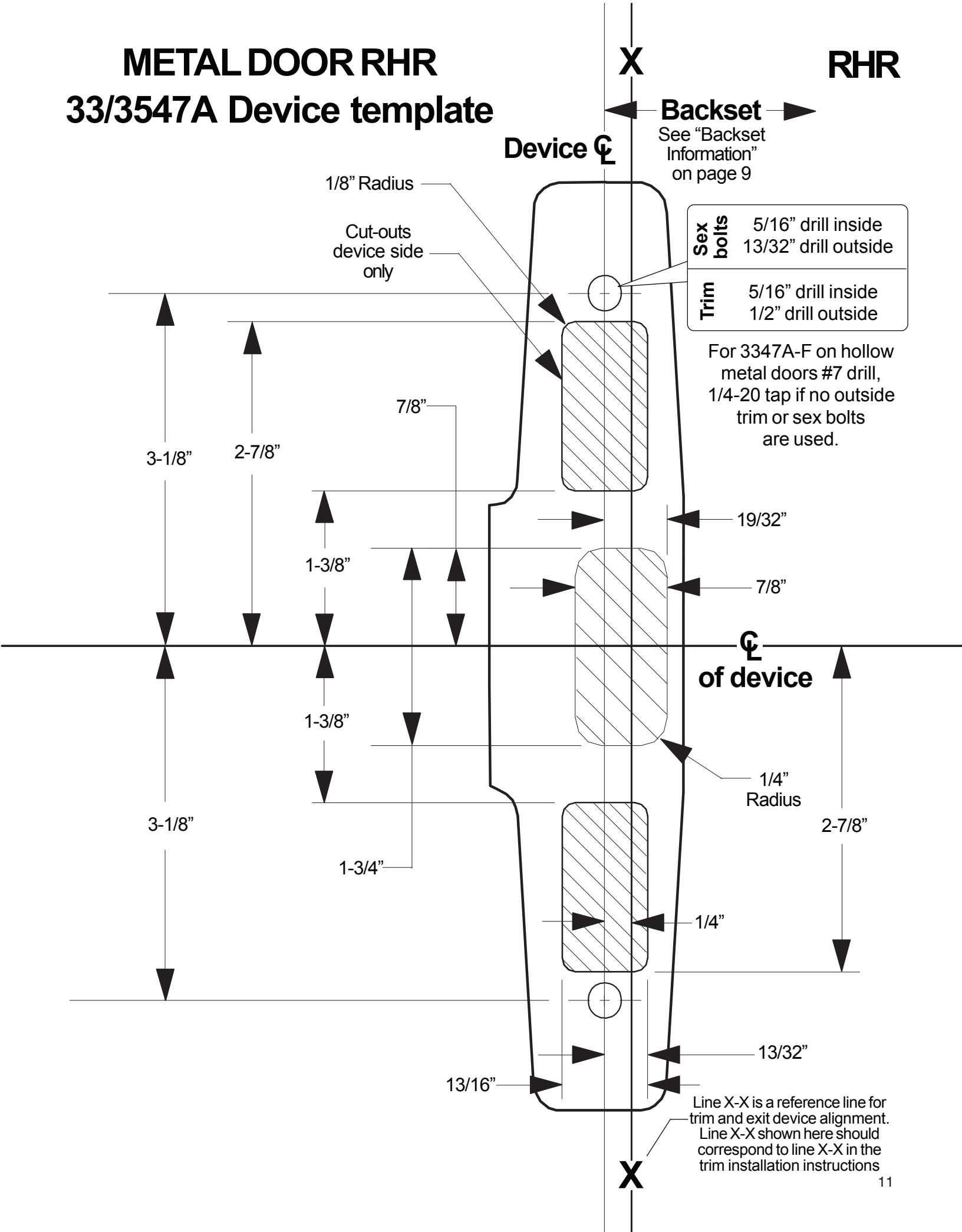
SPECIAL INSTRUCTIONS FOR 2” STILE DOORS



For 2” stile doors ONLY! Latch ℄ is offset 1/8” from Device ℄ as shown

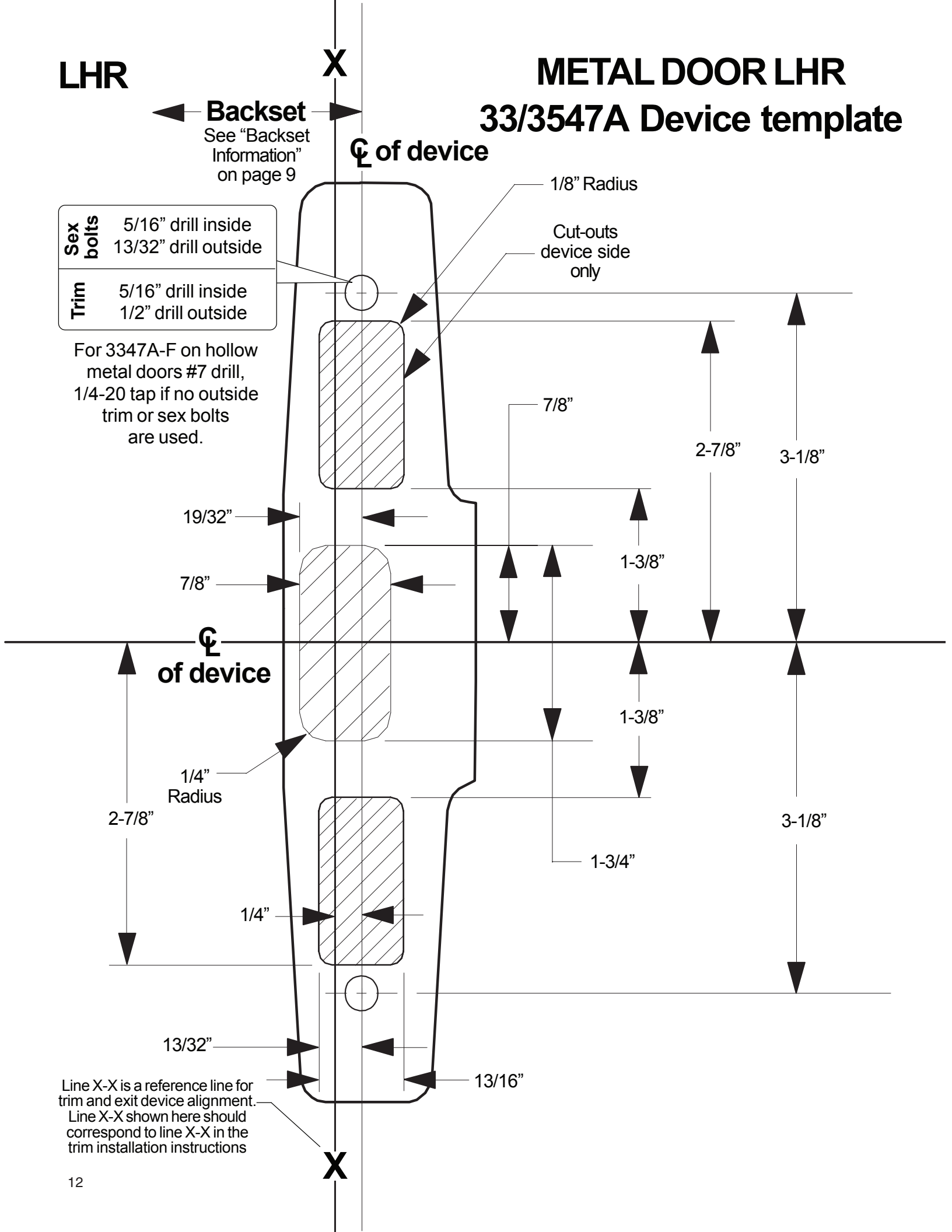
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METAL DOOR RHR
33/3547A Device template

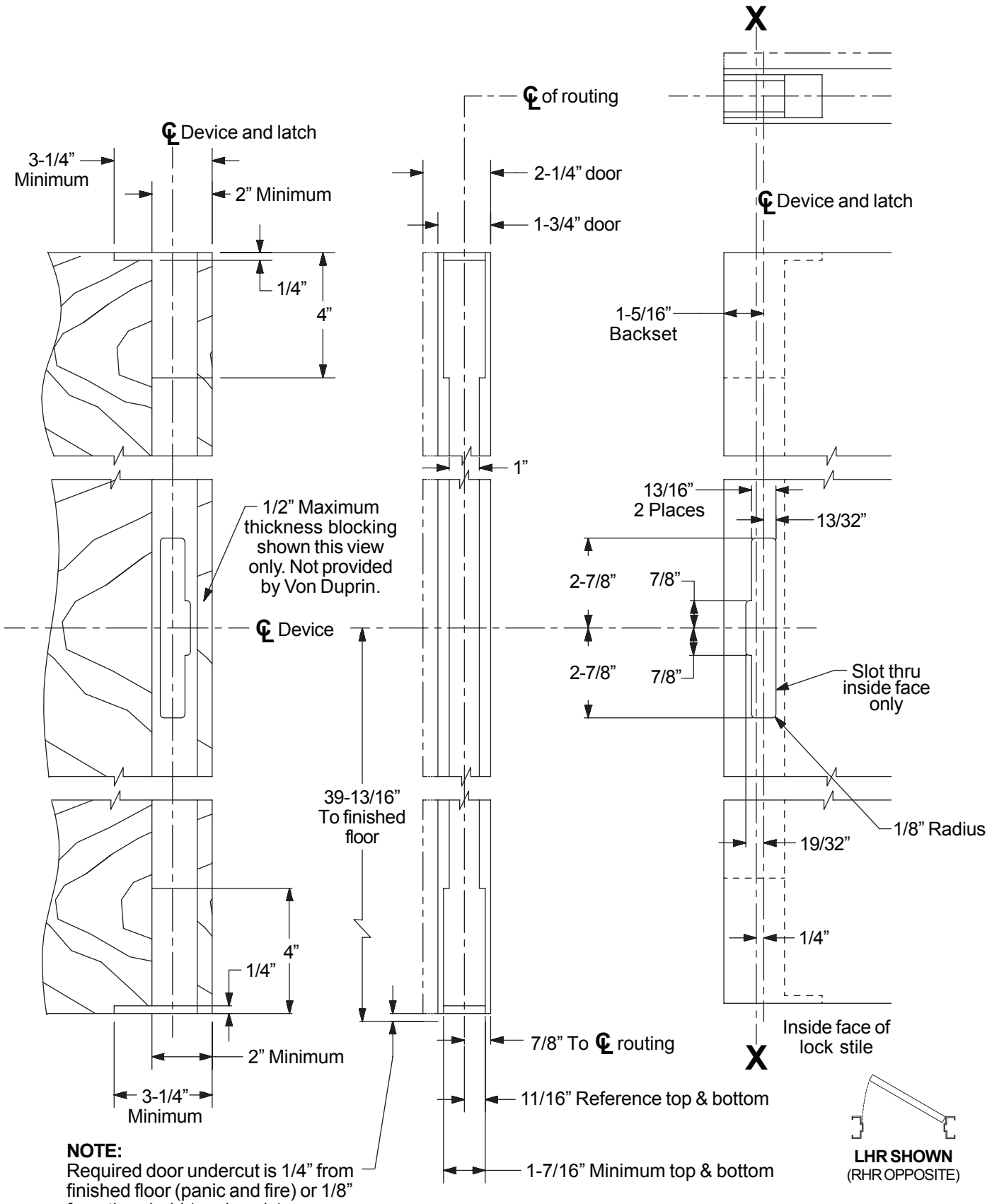


LHR

METAL DOOR LHR
33/3547A Device template



WOOD DOOR PREPARATION - DOOR ROUTING



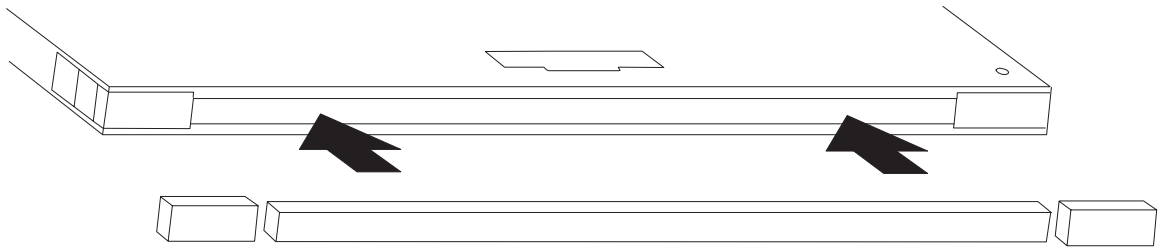
NOTE:
Required door undercut is 1/4" from finished floor (panic and fire) or 1/8" from threshold (panic only)

NOTES:
1. Mounting holes to be prepared at installation on door.
2. Trim or control application may require additional preparation, see trim or control instruction sheet.
3. Door edging should be installed after device installation.

WOOD DOOR PREPARATION - DOOR BLOCKING AND WRAP

A. Install door blocking. See page 13 for door blocking dimensions.

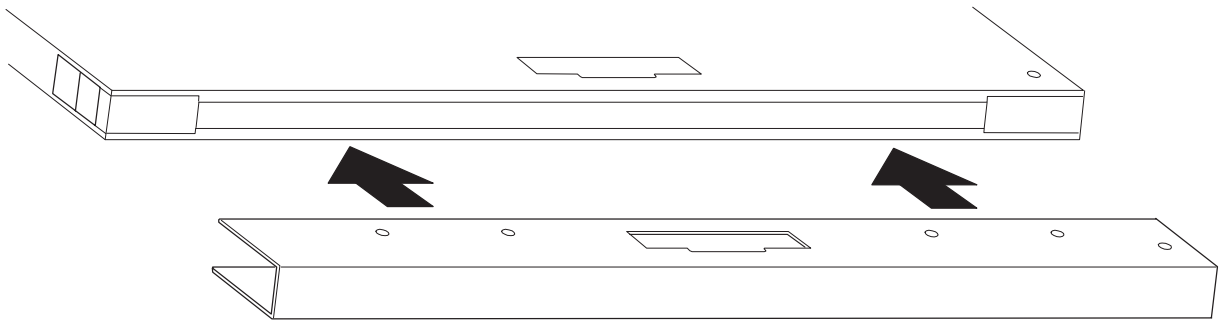
Note: If not using door wrap, the blocking can be installed after device is installed.



Blocking ***Blocking***

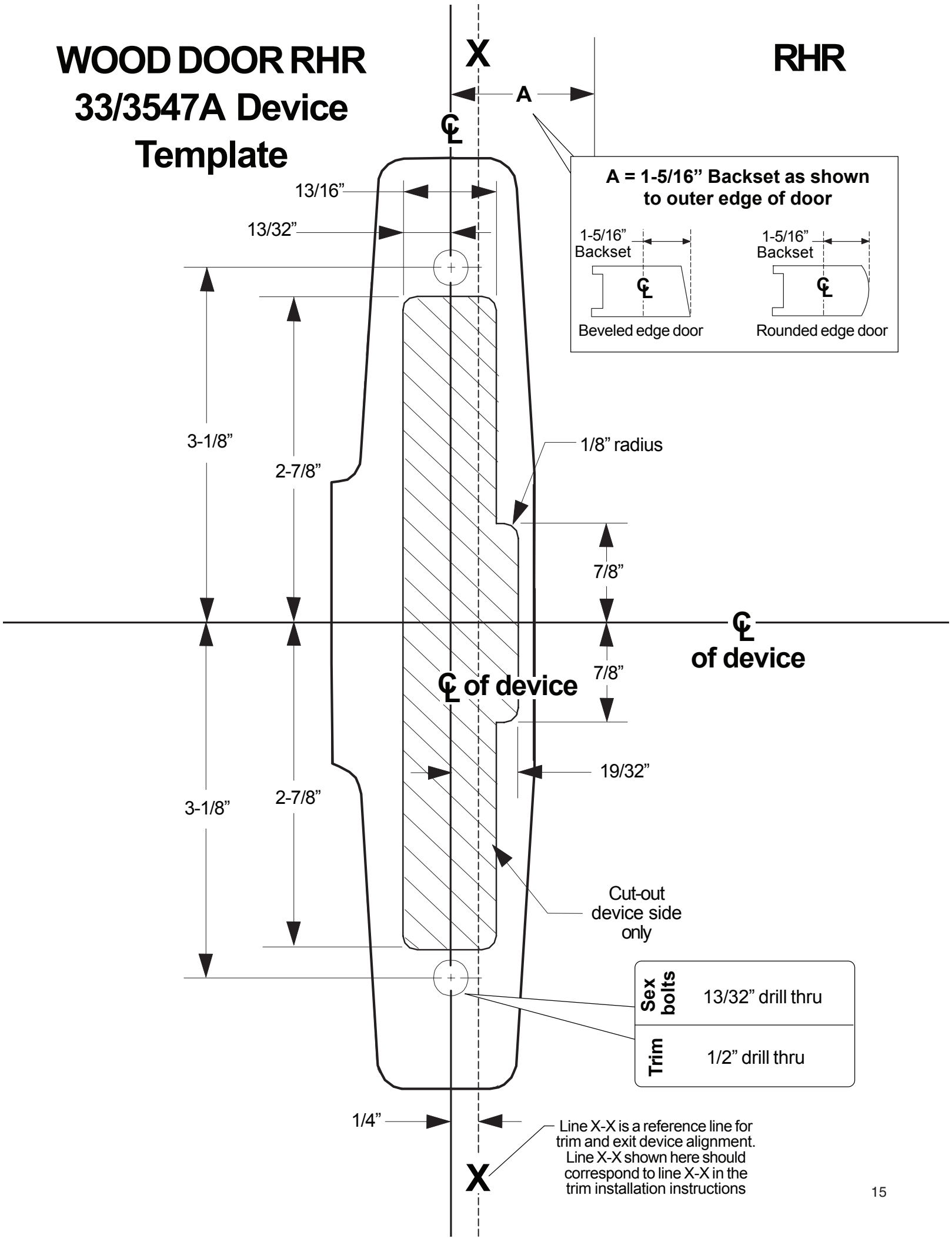
B. Install door wrap if needed. Door wrap is required for Fire rated (F) devices.

Note: Required on fire doors only, not supplied by Von Duprin
(See door manufacturer's requirements)



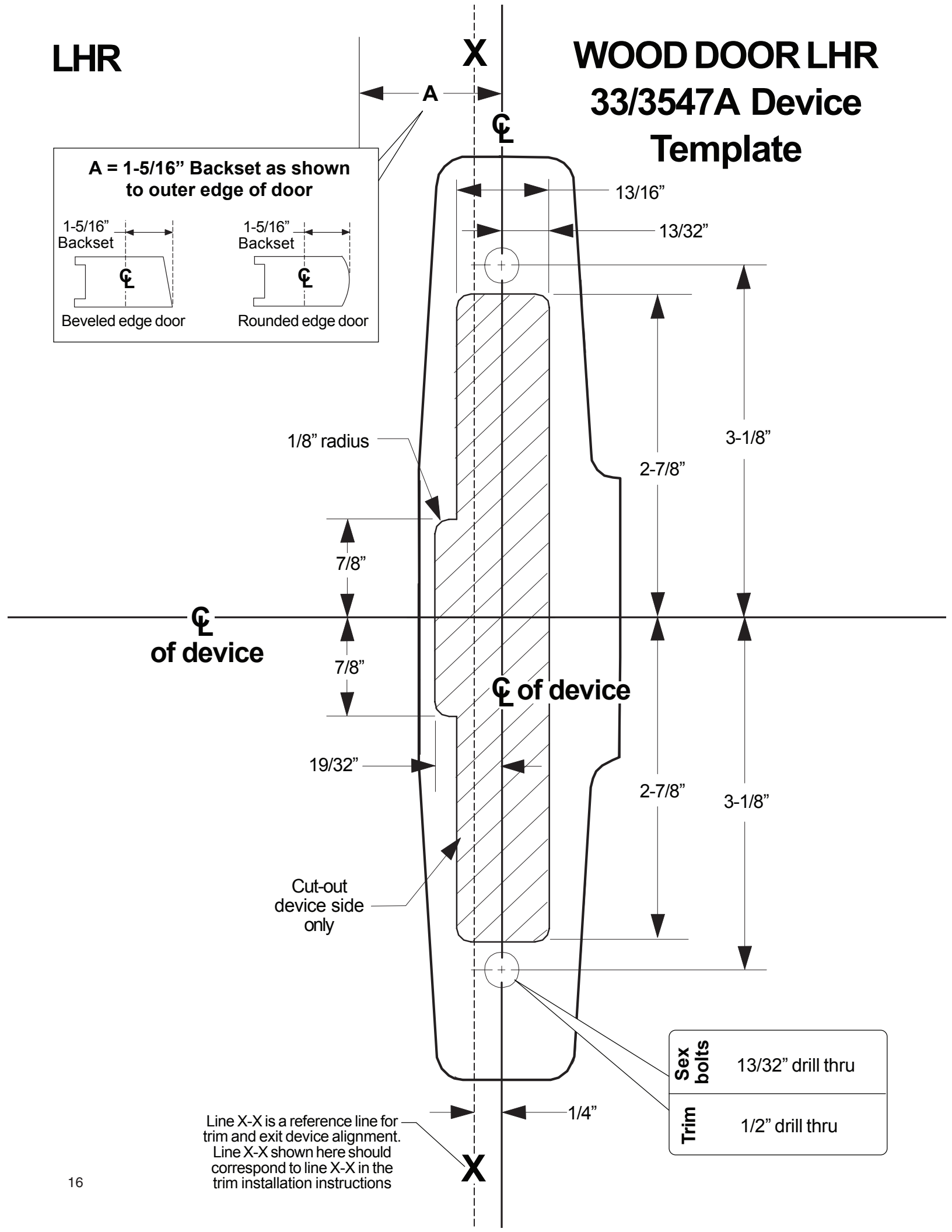
Door wrap

WOOD DOOR RHR
33/3547A Device Template



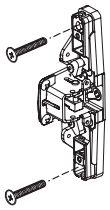
LHR

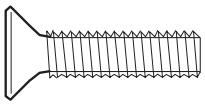
WOOD DOOR LHR 33/3547A Device Template



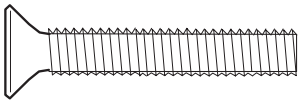
SCREW CHART

A



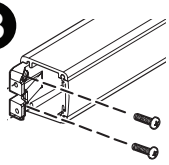


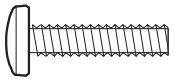
1/4-20 x 1" — Trim mount or sex bolts: (1-3/4" door)



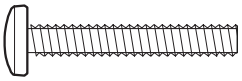
1/4-20 x 1-1/2" — (2-1/4" door)

B





#10-24 X 3/4" — Surface mount or Sex bolts (1-3/4" door)



#10-24 X 1-1/8" — Sex bolts (2-1/4" door)

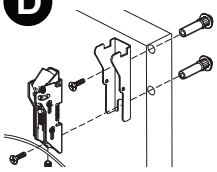
C

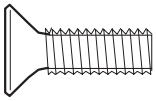




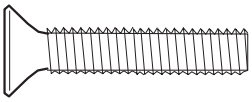
#10-16 X 3/8" Thread cutting — End cap

D



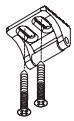


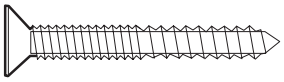
1/4-20 X 3/4" — 1-3/4" door



1/4-20 X 1-1/4" — 2-1/4" door

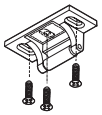
E





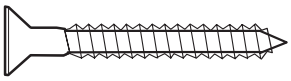
#10-12 x 10-24 x 1-1/4" combination — Metal or wood frame

F



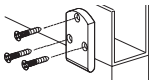


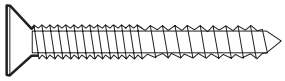
#10-24 X 3/4" — Metal frame



#10-24 X 1-1/4" wood screw — Wood frame

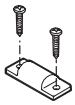
G

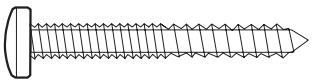




#10-12 x 10-24 x 1-1/4" combination — Metal or wood frame

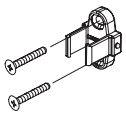
H

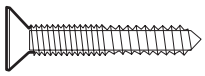




#10-12 x 10-24 x 1-1/4" combination — Variable floor surfaces

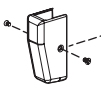
I





#8-16 x 8-32 x 1" combination — Metal or wood door

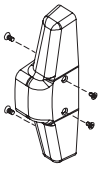
J





#8-32 X 1/4" — Latch covers

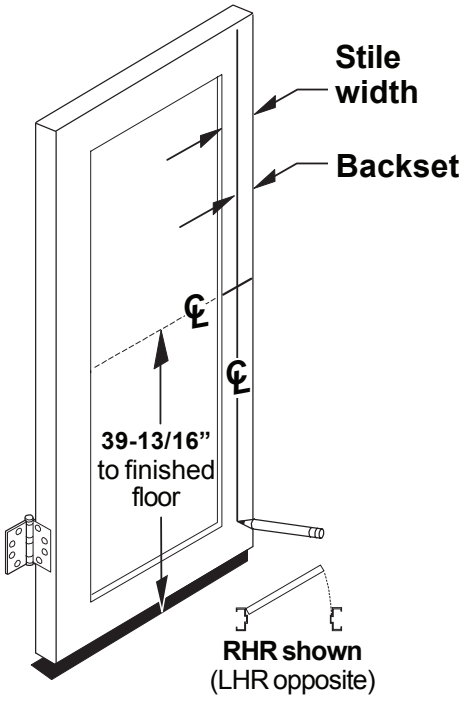
K



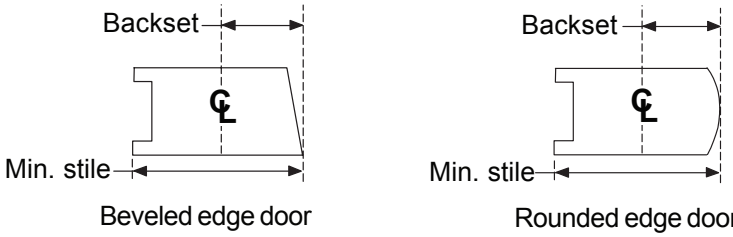


#8-18 x 3/8" thread cutting — Center case cover

1 Figure backset and draw device center lines (℄) on door as shown.



Backset is measured from outer edge of door as shown. Minimum stile is less glass stop (rectangular glass stop is recommended for stiles less than 2-1/8")



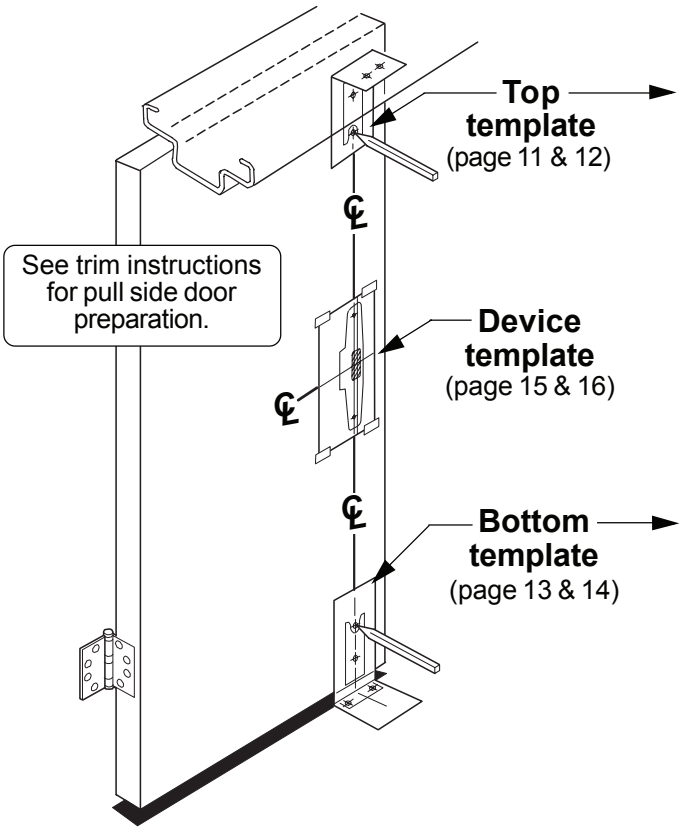
Backset	Min. stile	Application
1-3/16"	2"- 2-3/4"	Two vertical rod devices
1-1/2"	2-3/4"- 3-3/4"	
1-7/8"	3-3/4"- 5"	
2-1/2"	5" to flush	
1-11/32"	2"- 2-3/4"	Single door
1-1/2"	2-3/4"- 3-3/4"	
1-7/8"	3-3/4"- 5"	
2-1/2"	5" to flush	
2-7/32"	3" min.	Vertical rod and rim device

Note: For 299/299F top strike use minimum backsets shown below.

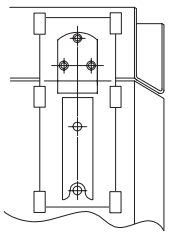
Double doors: 1-3/8" min. backset
2-3/16" min. stile

Single door: 1-7/8" min. backset
2-11/16" min. stile

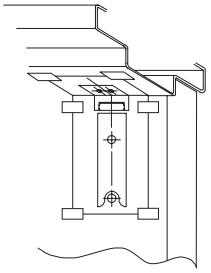
2 Tape templates to door and prepare door and frame per templates.



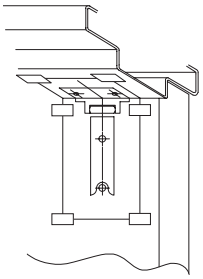
260U strike



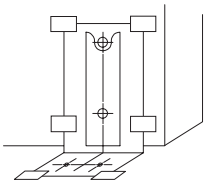
265 strike



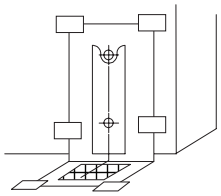
***299/299F strike**



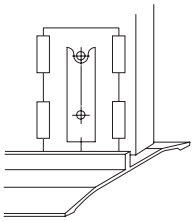
248L-4 strike



304L strike

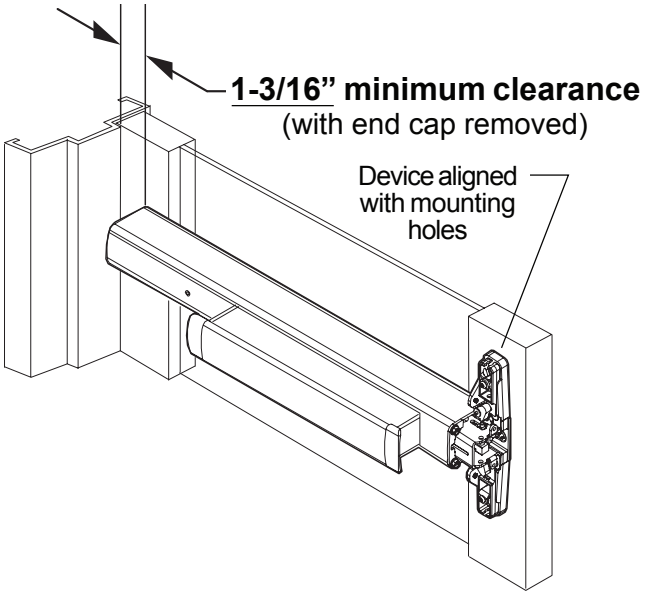


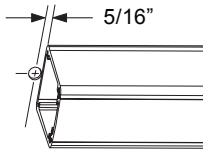
Latch track



***For 299/299F top strike use minimum backsets shown below.**
Double doors: 1-3/8" min. backset, 2-3/16" min. stile
Single door: 1-7/8" min. backset, 2-11/16" min. stile

3 Measure to determine length to cut device.



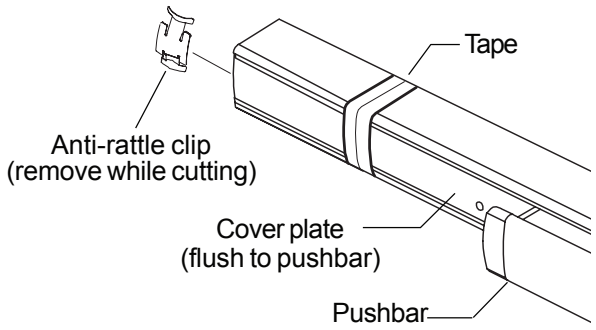


Note

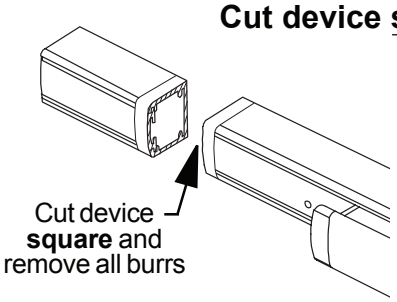
If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.

4 Cut device to length.

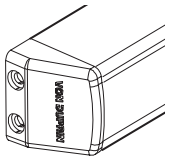
Prepare device for cutting



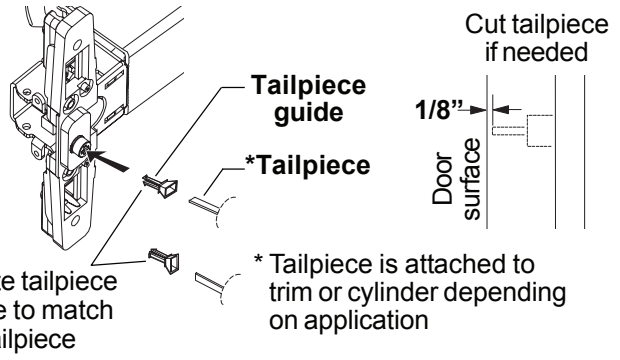
Cut device square



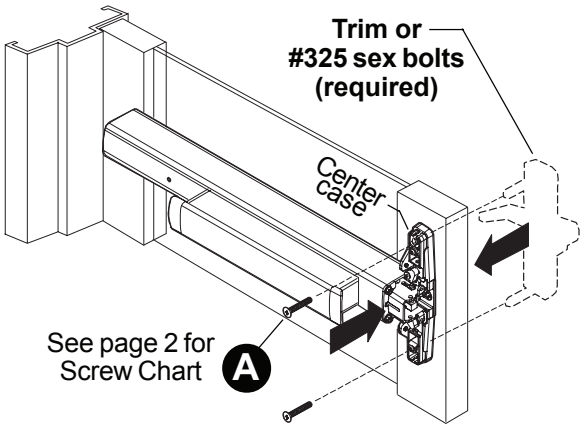
Note: Device must be cut **square** for proper end cap fit



5 Install tailpiece guide and trim (or sex bolts) and secure device center case to door.

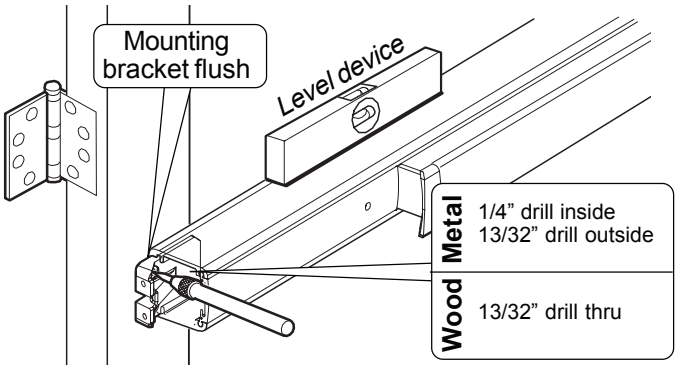


* Tailpiece is attached to trim or cylinder depending on application

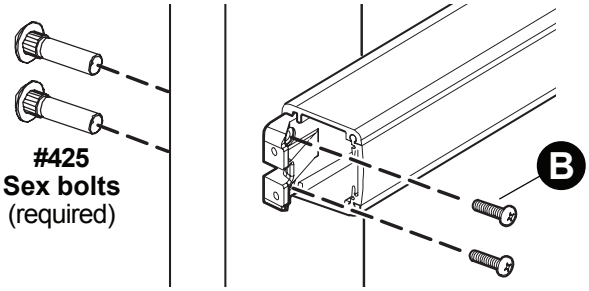


6 Install hinge stile mounting bracket.

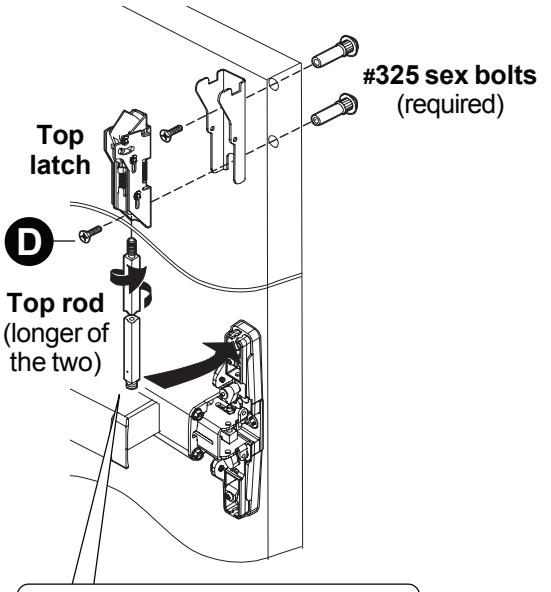
Mark and prepare 2 mounting holes



Secure mounting bracket



7 Install top latch and rod.

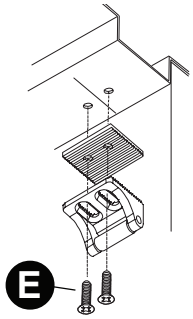


If top rod is too long, see "**Cut top rod**" on page 7

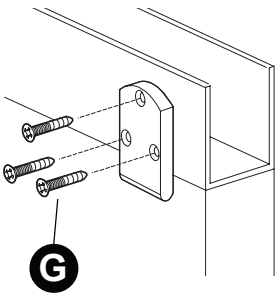
If top rod is too short, see "**Install rod extension**" on page 7

8 Install top strike.

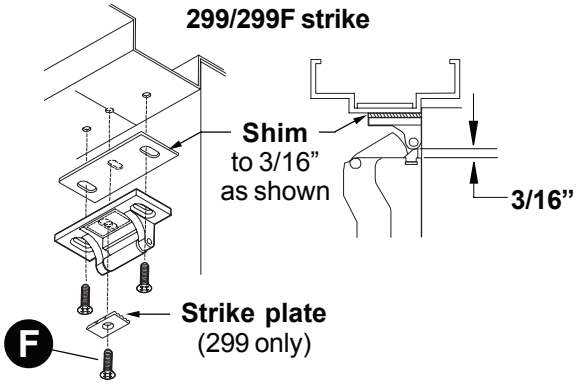
265 strike
For panic device application only



260U strike
For panic device application only



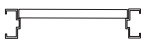
299/299F strike



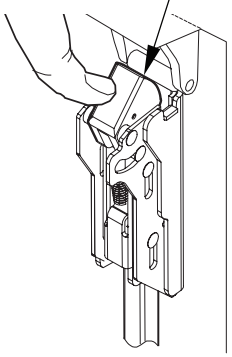
9 Adjust top rod until latch bolt acts as shown.

Adjust rod by threading rod into latch clockwise to shorten, or counterclockwise to lengthen.

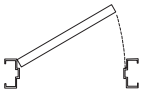
With door closed:



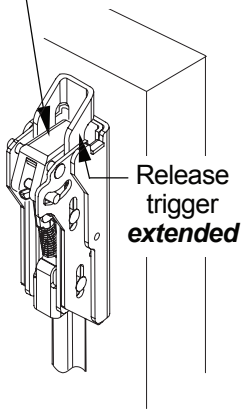
Latch bolt ***deadlocked*** (will not push in)



With door open:

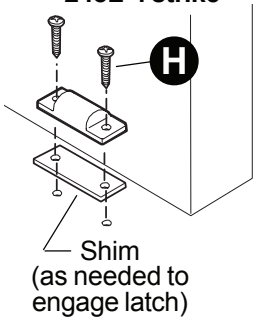


Latch bolt stays ***retracted***



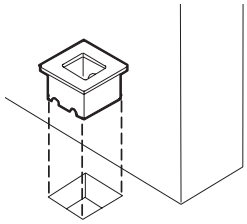
10 Install bottom strike, latch, and rod.

248L-4 strike



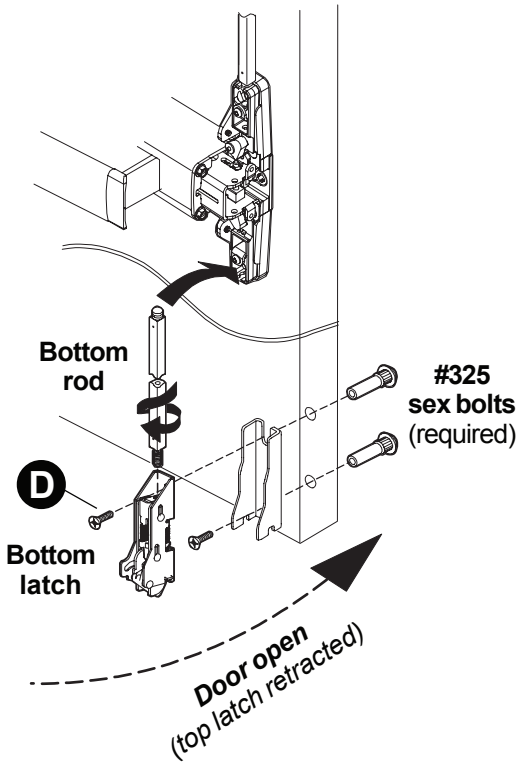
Use 248L-4 strike for panic device application only. Use 304L for fire doors

304L strike

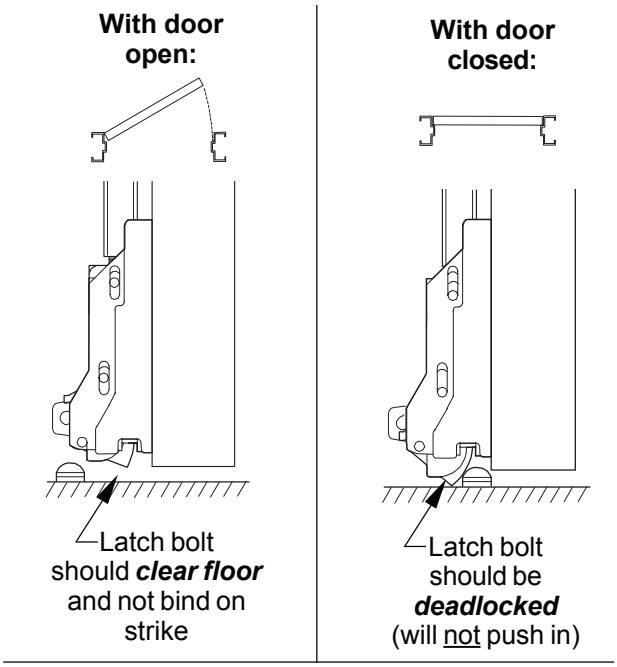


Grout strike into floor

11 Install bottom rod.



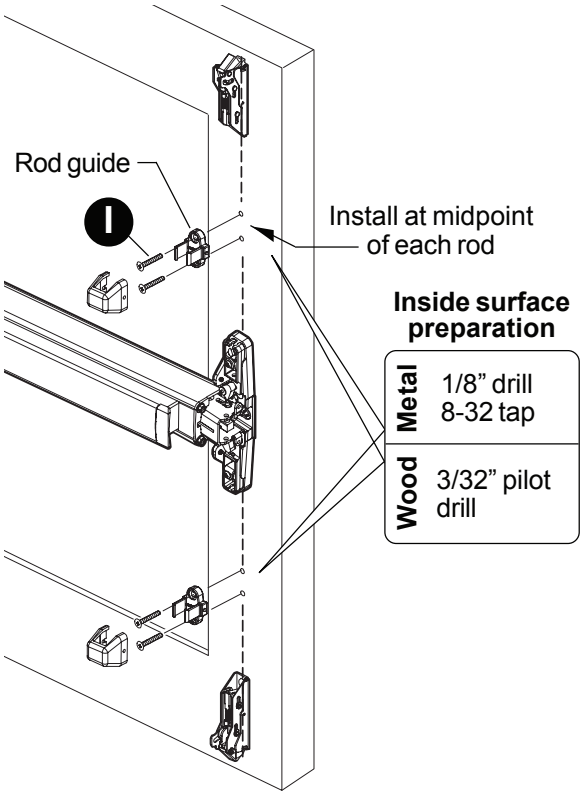
12 Adjust bottom rod with door open (top latch retracted).



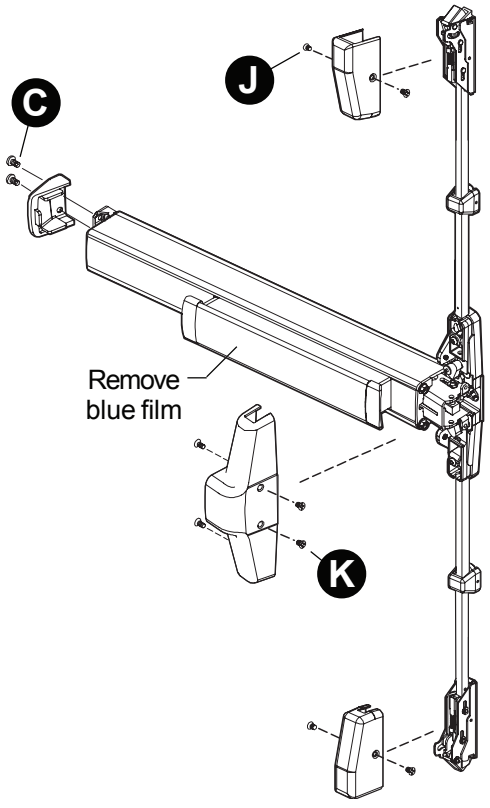
Open and close door a few times and check for deadlocking when door is closed

Readjust rods if needed

13 Install rod guides.



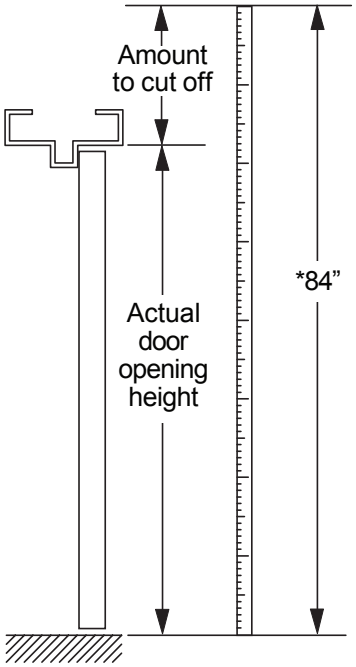
14 Install covers and end cap.



CUT TOP ROD

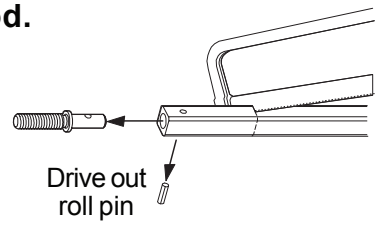
1. Measure amount to cut off rod as shown below.

Note: Rod cutting is required for doors shorter than 7'.

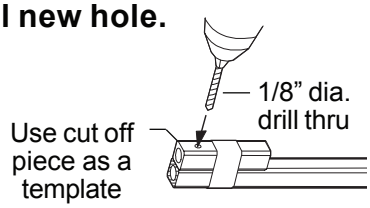


*Rods are factory sized for 7' (84") door. Measure actual door height and subtract that number from 84" to get amount to cut off top rod.

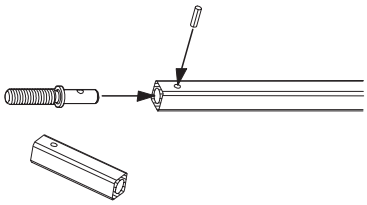
2. Cut rod.



3. Drill new hole.

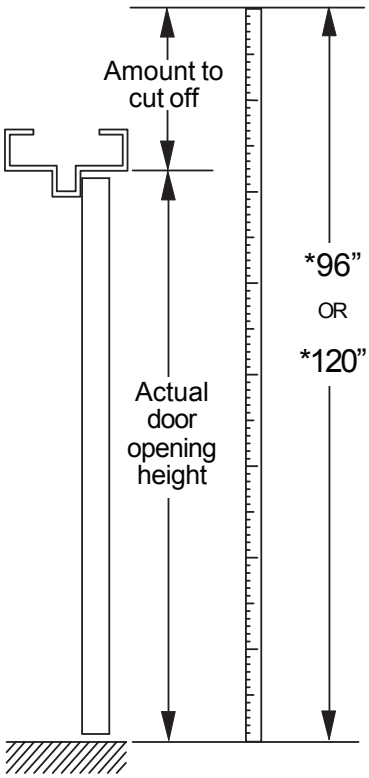


4. Reinstall rod end and roll pin.



INSTALL ROD EXTENSION

1. Measure door opening to determine amount to cut off rod extension.

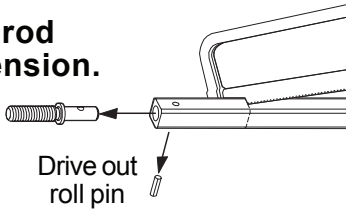


***Standard door heights:**

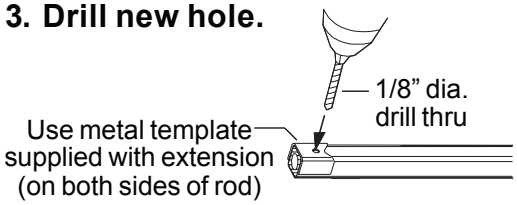
With no extension	7' (84")
With 1' extension	8' (96")
With 3' extension	10' (120")

*Rods are factory sized for door heights shown above. Measure actual door height and subtract that number from 96" (for 1' extension) or 120" (for 3' extension) to get amount to cut off extension.

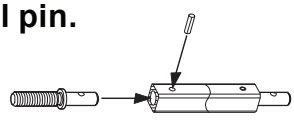
2. Cut rod extension.



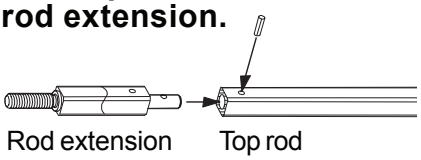
3. Drill new hole.



4. Reinstall rod end and roll pin.



5. Connect top rod and rod extension.



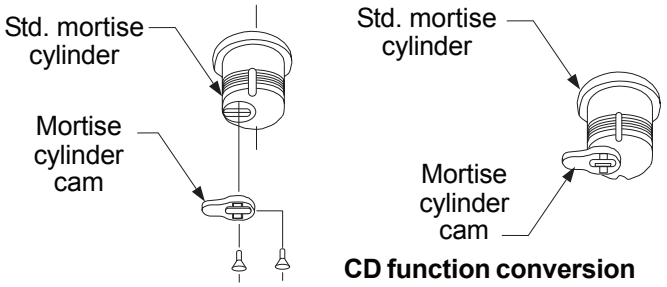
OPTIONAL EQUIPMENT

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).

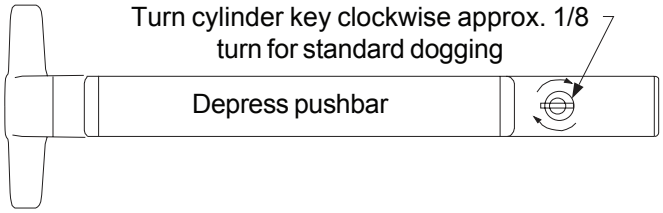
3. Remove key to slide cover plate in position in the mechanism case.



CD function conversion

Figure 1

Dogging procedure



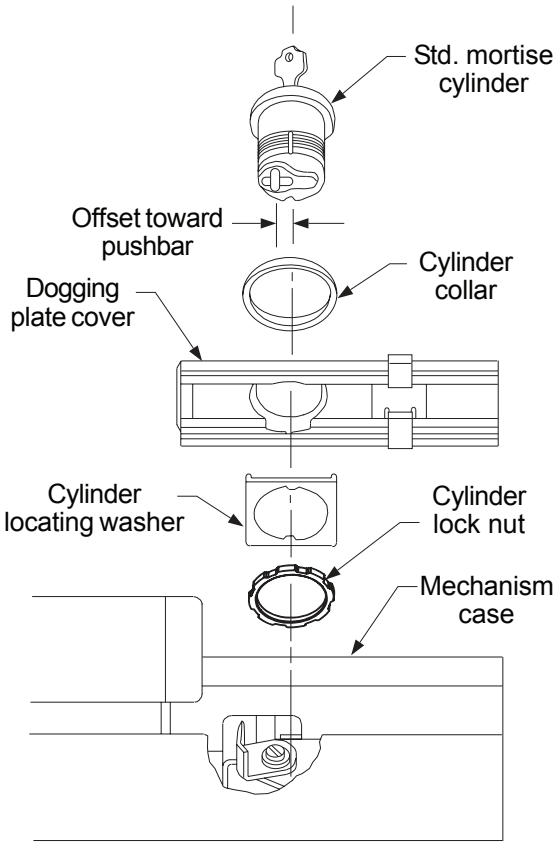
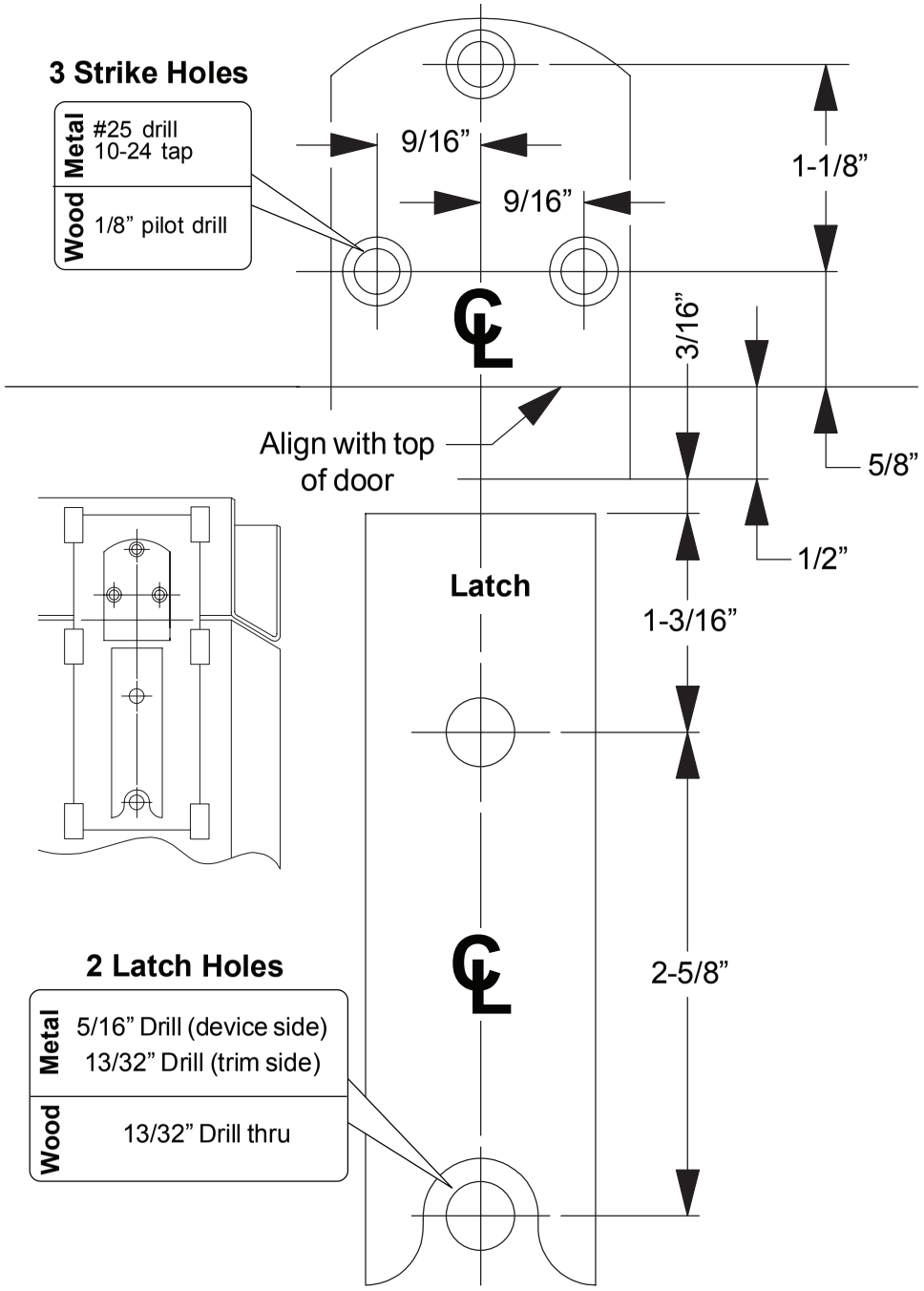


Figure 2

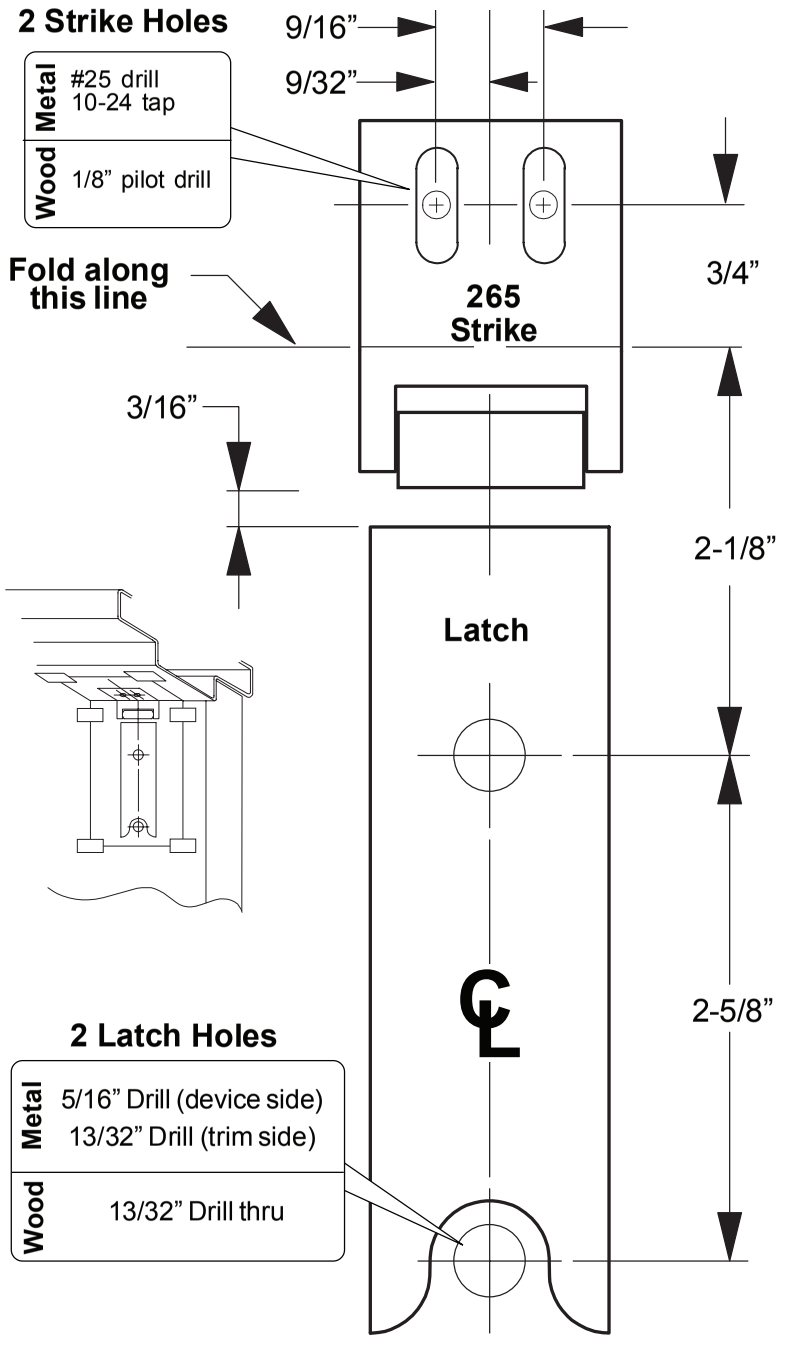
TOP LATCH AND 260U STRIKE

For panic device application only



TOP LATCH & 265 STRIKE

For panic device application only

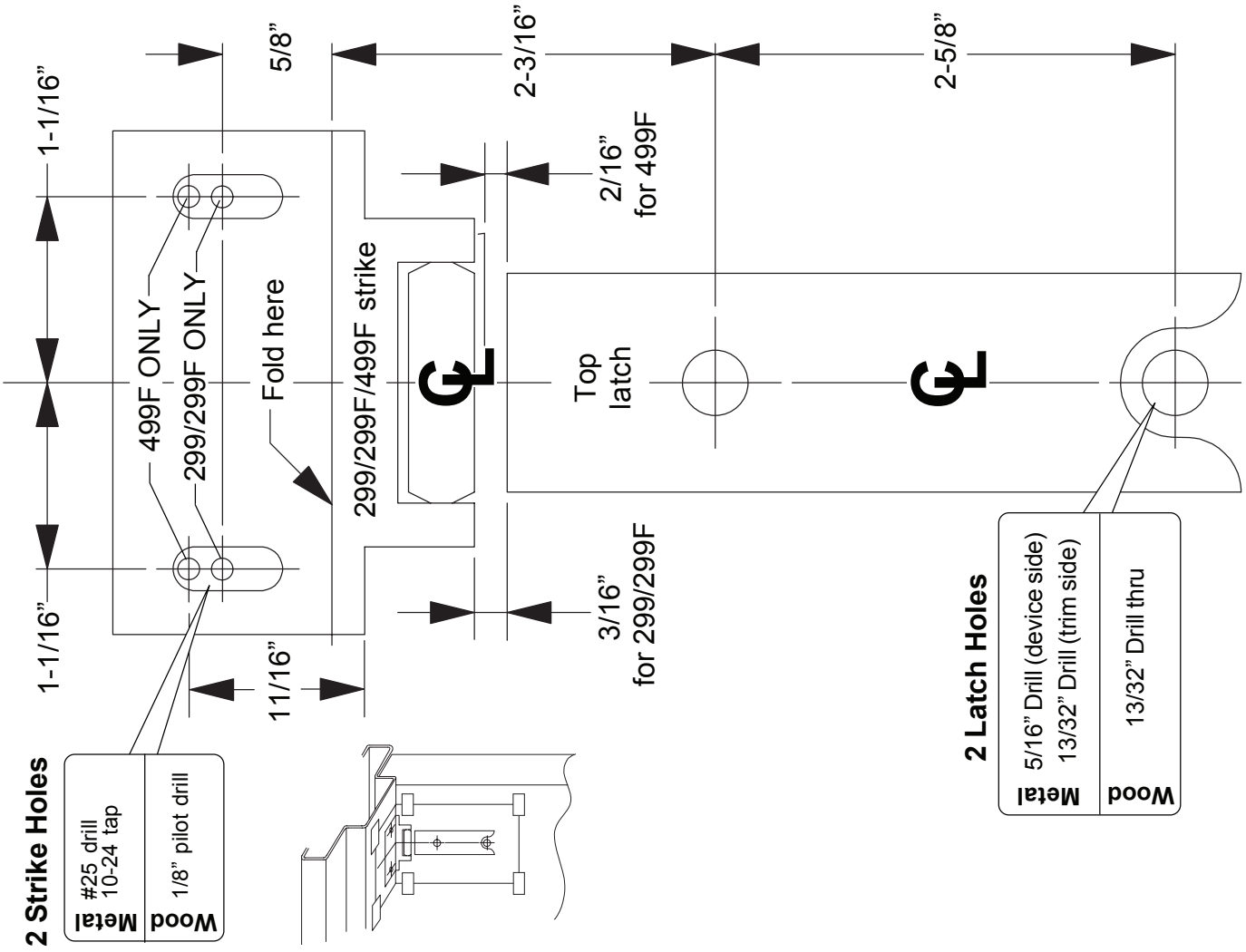


TOP TEMPLATE

TOP TEMPLATE - CONTINUED

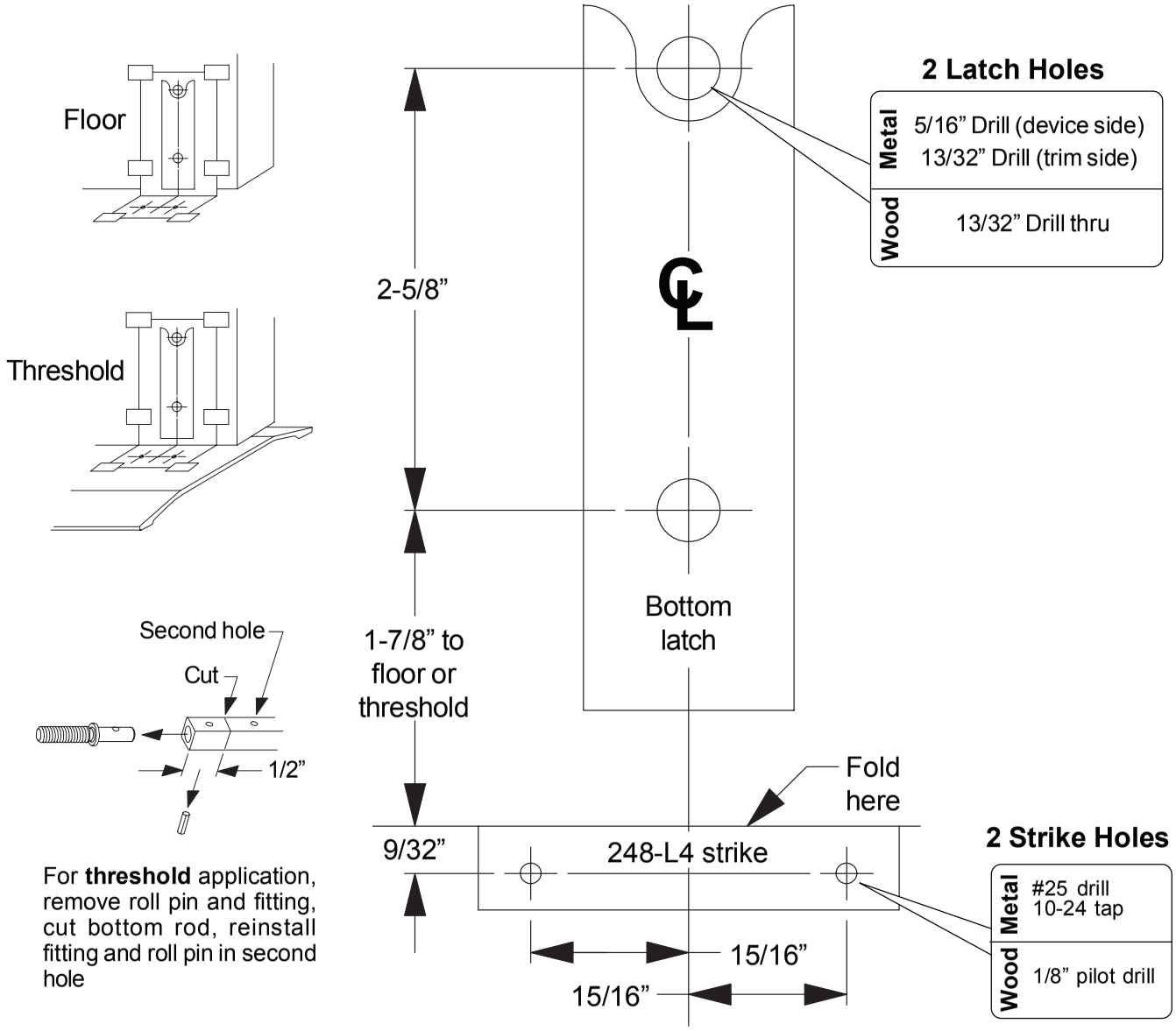
Note: For 299/299F top strike use minimum backsets shown below.
Double doors: 1-3/8” min. backset, 2-3/16” min. stile
Single door: 1-7/8” min. backset, 2-11/16” min. stile

TOP LATCH & 299/299F/499F STRIKE

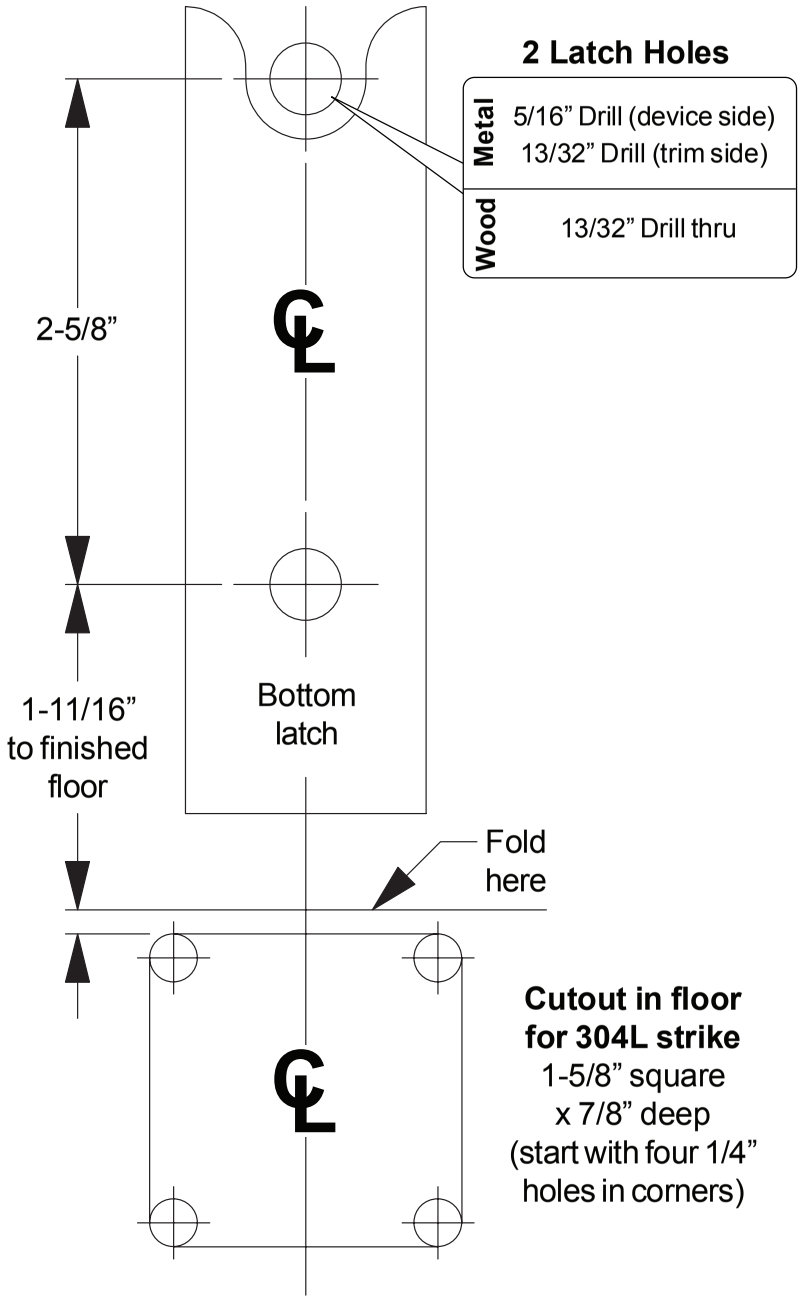


BOTTOM LATCH AND 248-L4 STRIKE

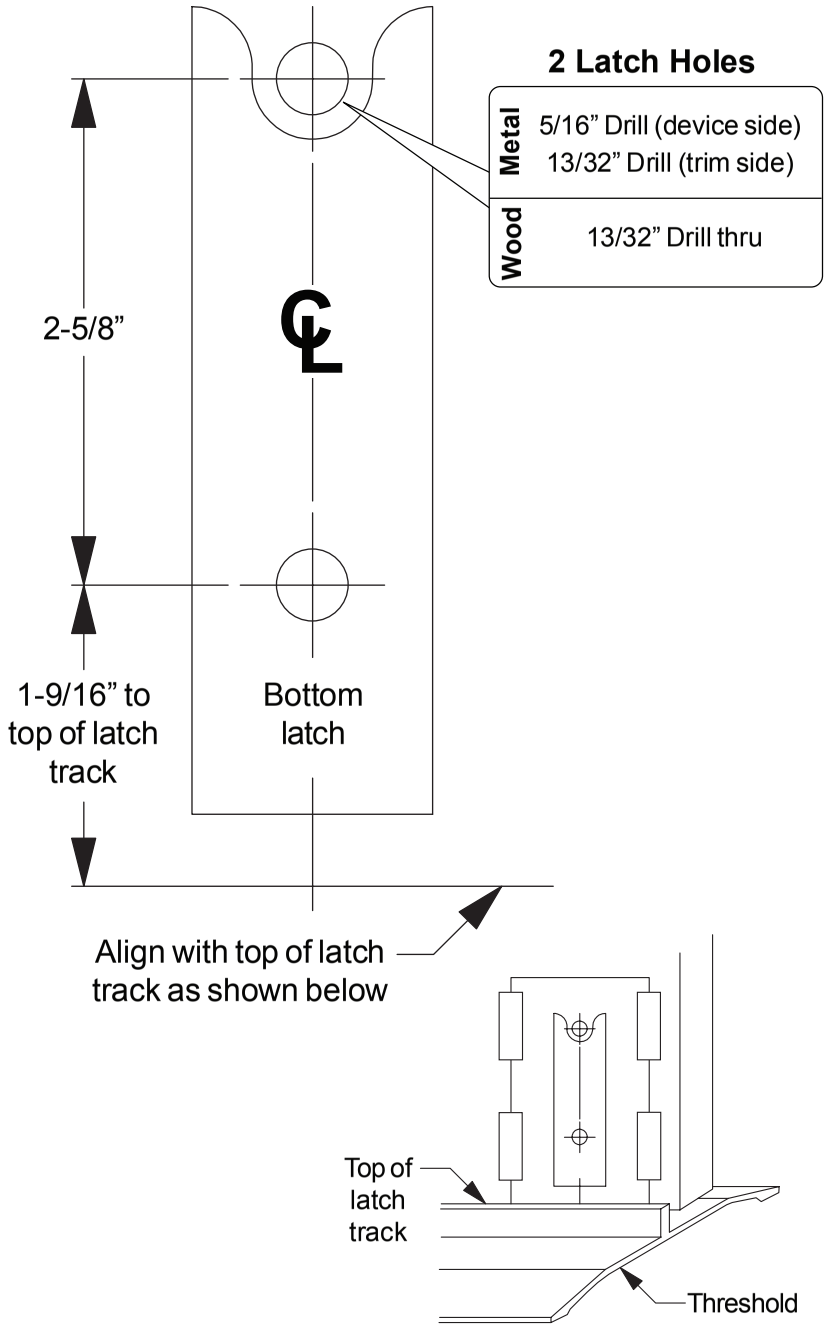
For panic device application only



BOTTOM LATCH AND 304L STRIKE



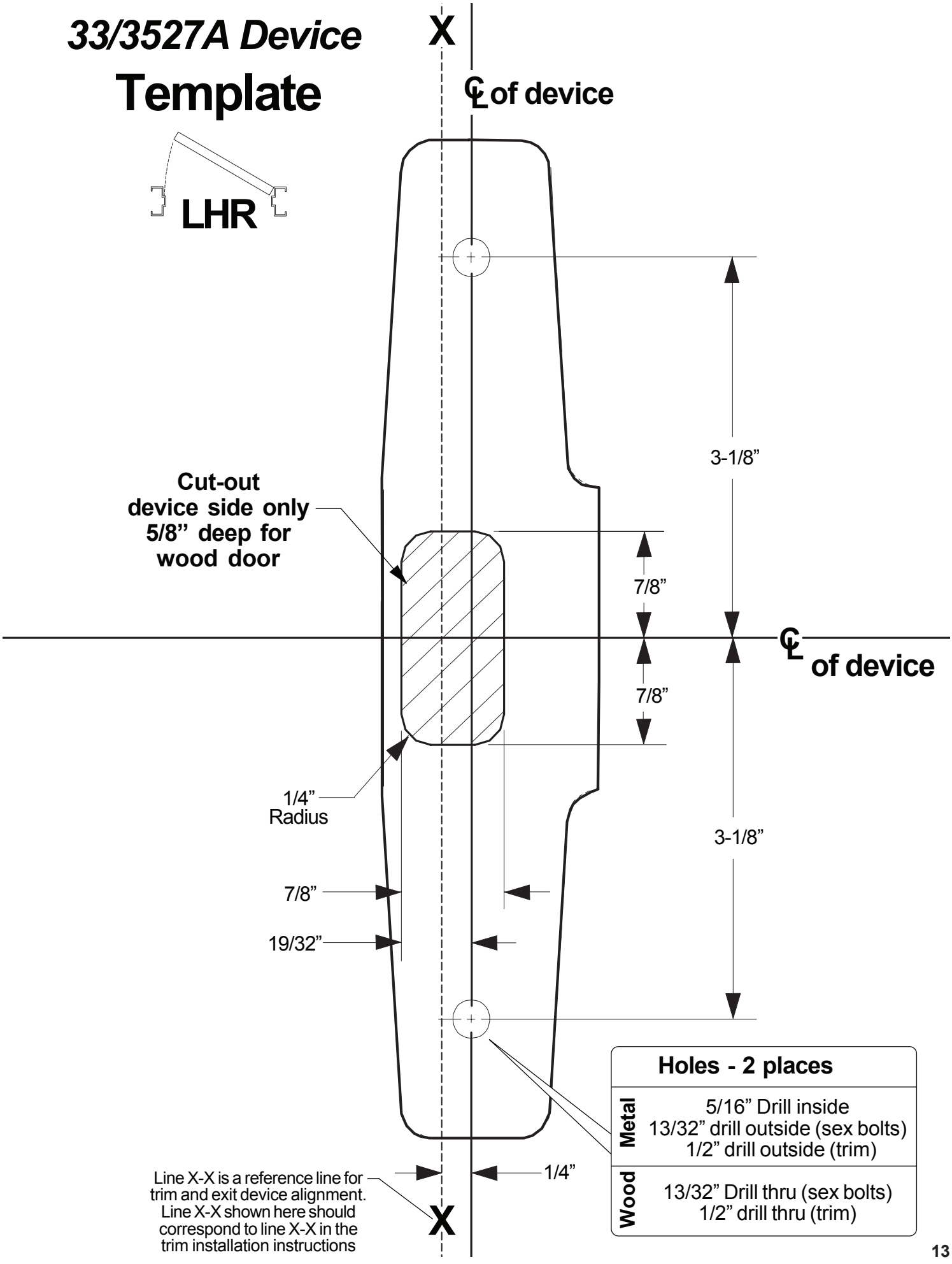
BOTTOM LATCH AND LATCH TRACK



33/3527A Device

Template

LHR

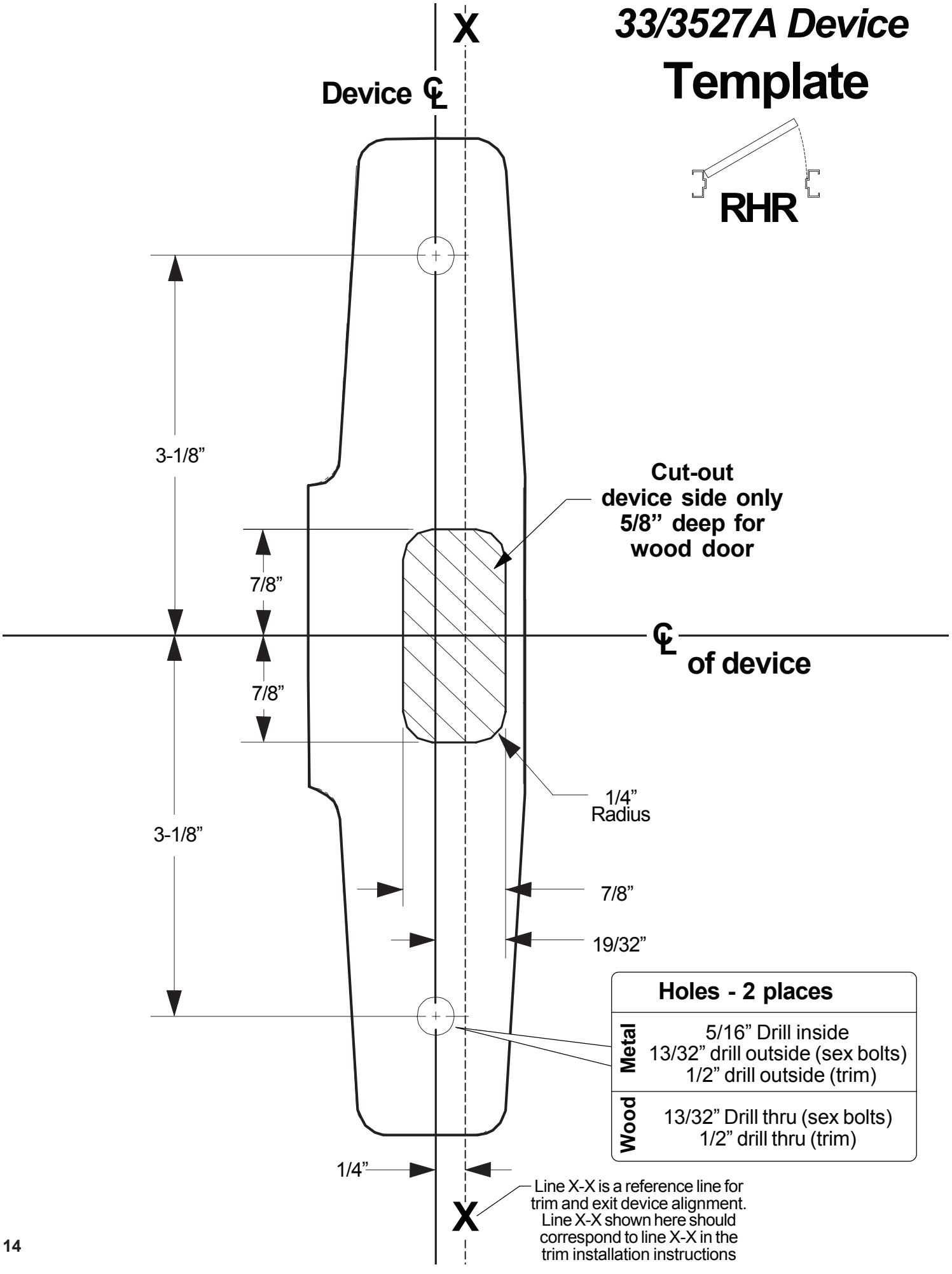


Holes - 2 places	
Metal	5/16" Drill inside 13/32" drill outside (sex bolts) 1/2" drill outside (trim)
Wood	13/32" Drill thru (sex bolts) 1/2" drill thru (trim)

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

33/3527A Device
Template

RHR



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)

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

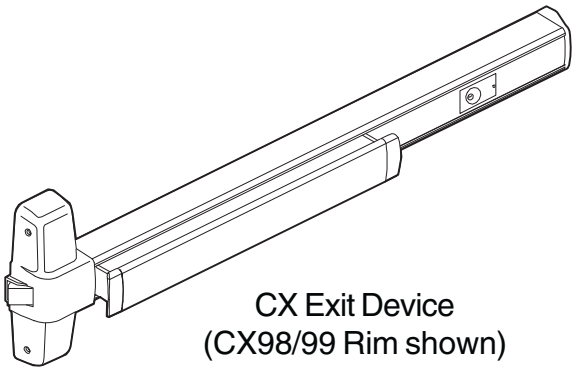
911352-00

Chexit Device

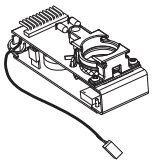
CX33A/35A
CX98/99

VON DUPRIN®

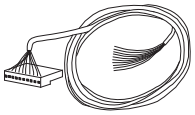
Installation Instructions - Electrical



CX Exit Device
(CX98/99 Rim shown)



Chexit Module



Cable



Door Sign

GENERAL INFORMATION

The Von Duprin Chexit device is designed for accident hazard or fire exit applications. It meets both life safety and security needs as well as all requirements of NFPA101® for "Special Locking Arrangement" and UBC "Special Egress-Control Devices."

The Von Duprin Chexit device sounds an alarm and keeps an exit door secured for 15 seconds following an attempt to exit. The Chexit releases immediately upon a fire alarm condition.

ELECTRICAL SPECIFICATIONS

Voltage	24 VDC
Current (Chexit)	0.4 A
Current (Electric mortise)	0.3 A
Current on arming	300-mS 16-A in-rush
External alarm dry contacts (NO and C)	24 VDC, 1 A rating
Normally closed inputs	Fire alarm (FA; **required**)
	External inhibit (EI)
	Door position switch (DPS)

⚠ WARNING

Do not exceed rated specifications.

⚠ WARNING

The Chexit device must be installed in accordance with these instructions by a qualified electrician.

⚠ WARNING

Wiring must be in accordance with all local codes and regulations.

ALLEGION™

Customer Service

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

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911352-00 Rev. 01/14-d

PRE-INSTALLATION CHECKLIST

Complete the items on the checklist below before installing the Chexit module. Each component listed should be prepared and installed according to the installation instructions supplied with it.

Mechanical Preparation

- ☐ **1.** Door and frame have been prepared for power transfer.
- ☐ **2.** Chexit device has been installed. (See instructions packaged with Chexit device.)
- ☐ **3.** Trim such as a lever handle, if used, has been installed.
- ☐ **4.** Suggested: Obtain a 1 1/4" mortise cylinder. (It is easier to install the mortise cylinder during electrical installation than after electrical installation.)

Electrical Preparation

- ☐ **1.** Read all of these instructions before installing the Chexit module.
- ☐ **2.** If available, get a wiring diagram for your installation. Otherwise, refer to Figures 2, 3, 5, 7 and Table 1 in "Typical Wiring" and mark the components you use in Table 1.
- ☐ **3.** Determine the physical location of each component used (see Figure 1, 4, and 6).
- ☐ **4.** Pull field wiring between component locations and frame side of power transfer (see Figure 1, 4, and 6).

> ⚠ **IMPORTANT**
>
> The wiring requirements in Table 2 in "Typical Wiring" **must** be followed.

- ☐ **5.** Mount components and connect them to field wiring (see Figure 2, 3, 5, or 7).
- ☐ **6.** Connect field wiring to frame side of power transfer. (Route wires through frame back box.)

> ⚠ **IMPORTANT**
>
> Components **must** be connected to wire colors as shown in Figures 2, 3, 5, and 7 in "Typical Wiring."

- ☐ **7.** Install frame back box and frame side of power transfer.
- ☐ **8.** Get requirements for Chexit option switches, record in Table 3 in "Options," and set switches.
- ☐ **9.** Complete steps 1 through 9 of "Installation."

To install mortise cylinder after electrical installation:

1. Remove end cap and end cap bracket (see "Installation" step No. 1).
2. Slide cover plate out until knurled ring is visible; install cylinder (see "Installation" step No. 4).
3. Complete steps No. 4, 6, 7, and 9 of "Installation."

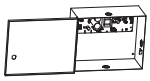
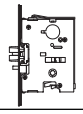
Table 1. Installation Components					
Picture	**Component**	**Function**	**Optional/Required**	**Used?**	**If Not Used...**
	PS914 24 VDC power supply	Supplies power to Chexit	**Required** (Von Duprin PS914)	Yes	**Required**
	E7500 Electric Mortise Lock	Serves as locking device on CXE9975 mortise applications	Optional (for CXE9975)	Yes	Optional (for CXE9975)
	Building fire alarm **(normally closed contacts)**	Unlocks Chexit in case of fire alarm	**Required**	Yes	**Required**
	Power transfer (EPT-10 shown)	Transfers electrical power through frame to door (wires concealed)	Highly recommended		Use door loop or electric hinge
	External inhibit device (card reader, key switch, etc.) Rim and vertical - **(normally closed contacts)**	Allows authorized egress or ingress without alarm	Optional (wire multiple external inhibit devices in series)		Connect green wire to white wire
	Electric Mortise Fail safe - **(normally closed contacts)**	Allows authorized egress or ingress without alarm	Optional (wire multiple external inhibit devices in series)		
	Electric Mortise Fail secure - **(normally open contacts)**	Allows authorized egress or ingress without alarm	Optional (wire multiple external inhibit devices in parallel)		
	Door position switch (normally closed contacts)	Arms Chexit 2.5 seconds after door closes; sounds alarm if door forced open	Optional		Connect orange wire to white wire
	External horn	Provides louder alarm than Chexit internal horn	Optional		Insulate blue and brown wires separately

Table 2. Wiring Requirements			
Wiring	**Type of Power Transfer (door to frame)**	**Maximum Wire Length from Power Supply to Power Transfer**	**Minimum Wire Gauge**
Power Supply Input	N/A	Per code	Per code
Power Supply Output (+24 and GND)	EPT-10	100 feet	14 GA
	EPT-10	200 feet	12 GA
	Electric Hinge	75 feet	14 GA
	Electric Hinge	150 feet	12 GA
External Alarm, Fire Alarm, Door Position Switch, External Inhibit Device	EPT-10, Electric Hinge	Not critical	18-22 GA

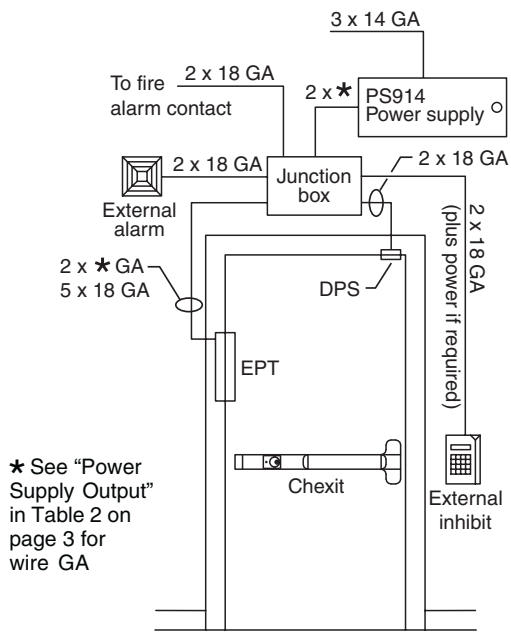
⚠ IMPORTANT

The wiring requirements in Table 2 above **must** be followed.

Table 3. Wire Functions		
Red	+24	Power supply +24 VDC
Blue	C	Common for NO output; 24 VDC, 1 A maximum
Brown	NO	Normally open output; closes during alarm
Violet	CM-	Communication line; used to connect Chexits
Gray	CM+	Communication line; used to connect Chexits
Yellow	FA	Fire alarm input; 0 VDC = fire, 24 VDC = no fire
Orange	DPS	Door position switch input; 0 VDC = door open, 24 VDC = door closed
Green	EI	External inhibit input; 0 VDC = Chexit inhibited, 24 VDC = Chexit active
White	SC	Signal common +24 VDC; can be used to power FA, DPS, and EI inputs
Black	GND	Power supply ground

TYPICAL WIRING

Rim/Vertical - Single Door Application



See tables 1, 2, and 3 on page 3 for details regarding components and wire requirements

Figure 1. Component Placement and Wiring Requirements, Single Door

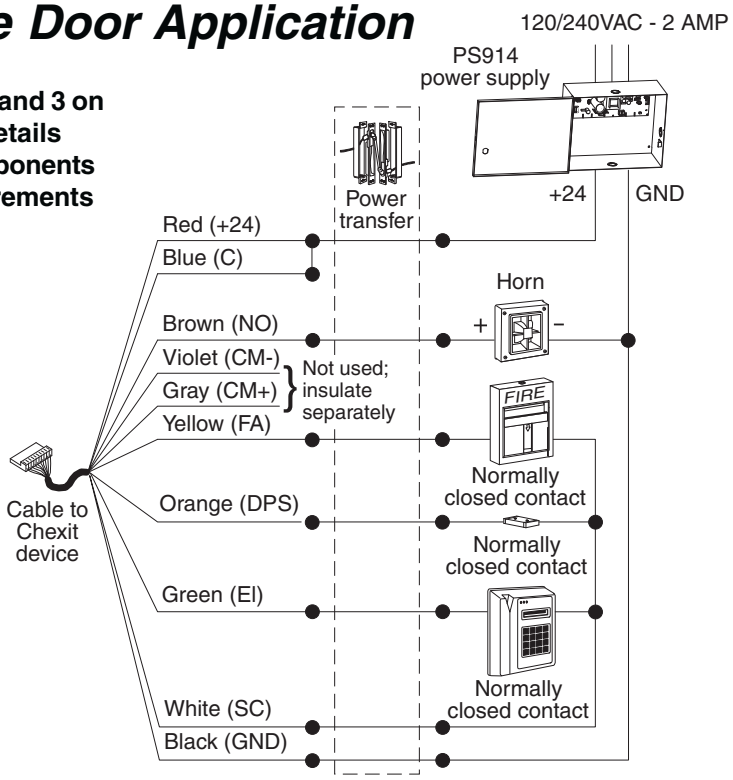


Figure 2. Wiring Connections, Single Door

Rim/Vertical - Double Door Application

In this double door application, both doors open in the same direction and each is equipped with a Chexit. The two Chexits are connected (ganged) by the gray (CM+) and violet (CM-) wires. **(If not used, insulate these wires separately.)** When one Chexit is set into alarm, the other also goes into alarm, and both unlock after 15 seconds. A fire alarm unlocks both doors at the same time. An external inhibit device also unlocks both doors at the same time. After an external inhibit, the door that was used rearms 2 seconds after closing, and the unused door rearms after the full rearm time. **For proper operation, the rearm times of ganged Chexits must differ by at least 2 seconds.**

See tables 1, 2, and 3 on page 3 for details regarding components and wire requirements

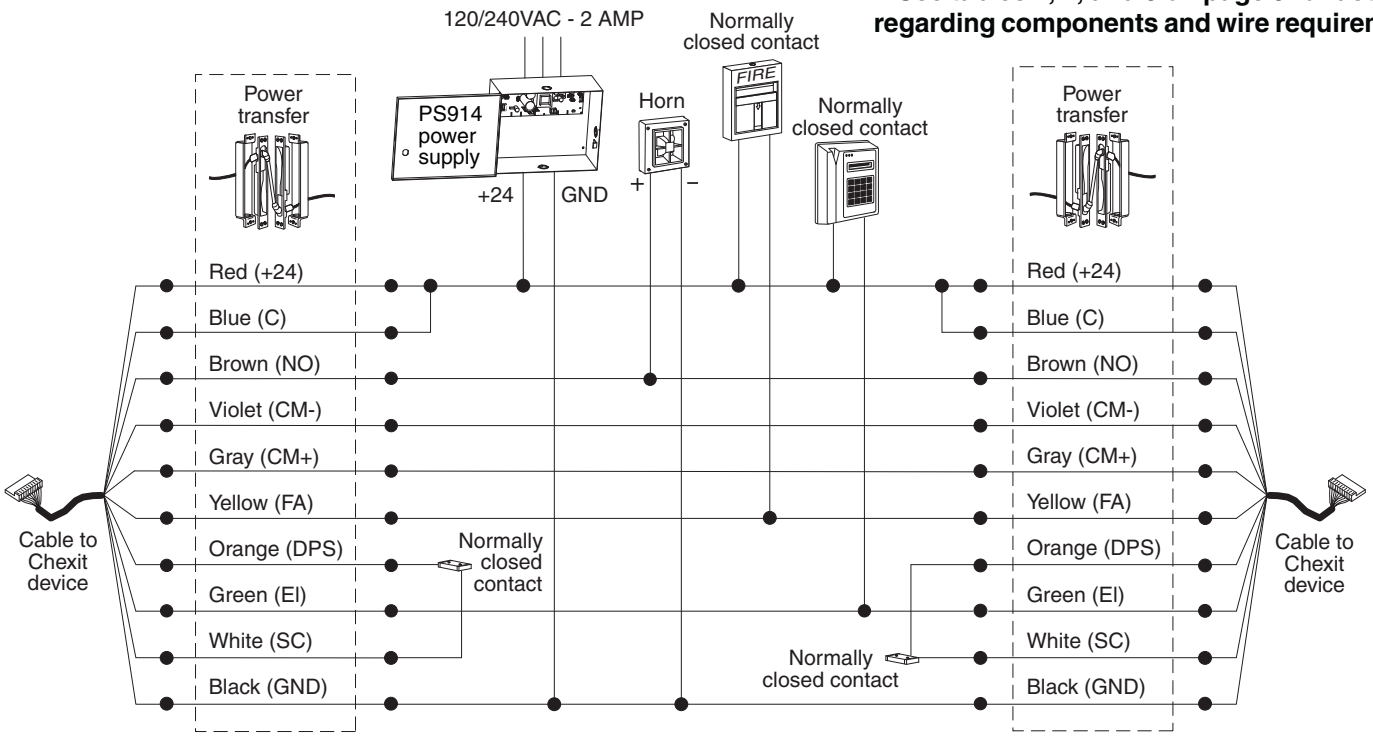


Figure 3. Wiring Connections, Double Doors

TYPICAL WIRING (continued)

Electric Mortise - Fail Secure Application

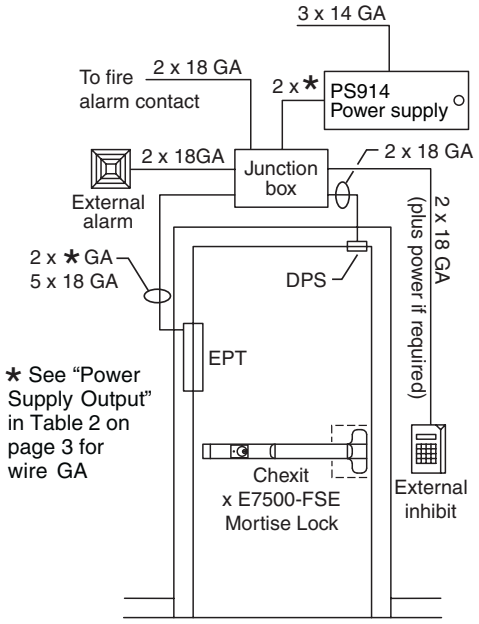


Figure 4. Component Placement and Wiring Requirements for FSE Mortise Applications

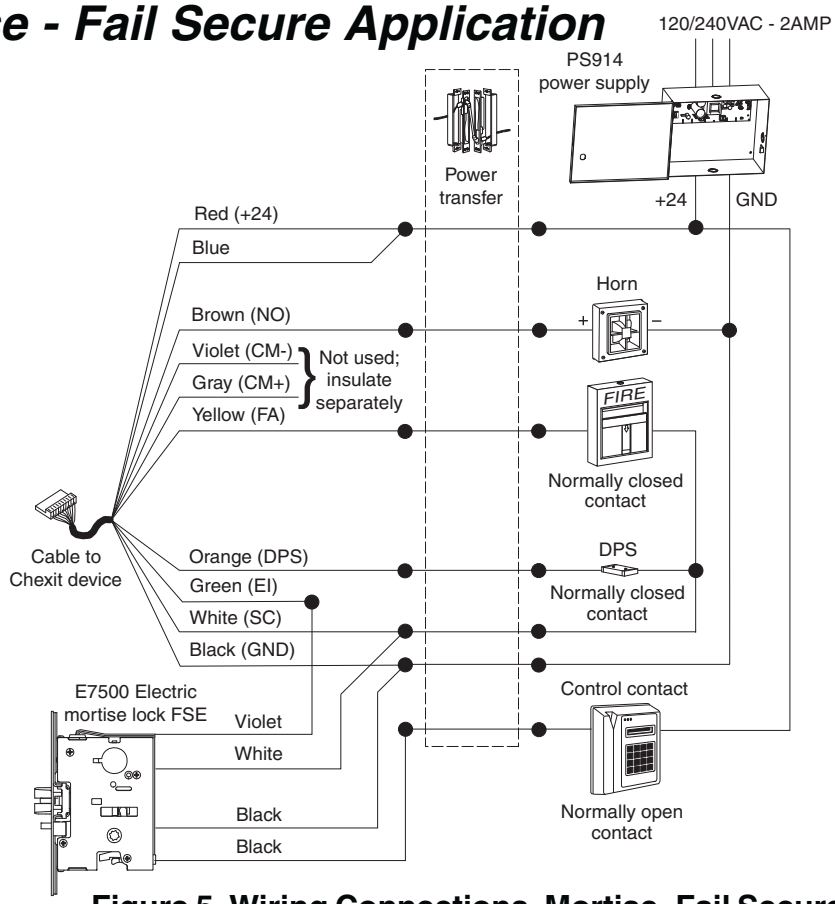


Figure 5. Wiring Connections, Mortise -Fail Secure

Electric Mortise - Fail Safe Application

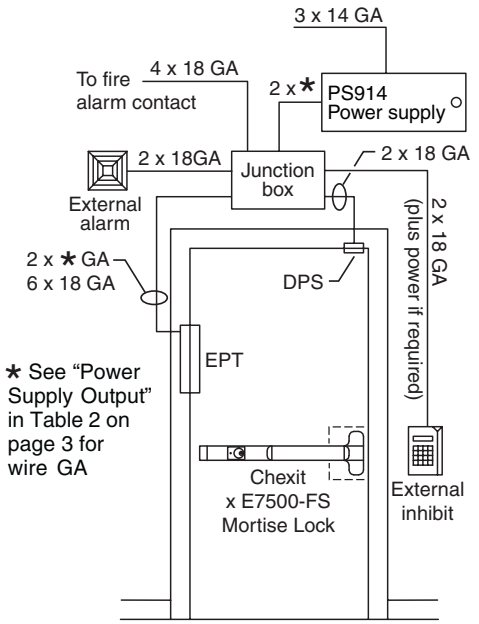


Figure 6. Component Placement and Wiring Requirements for FS Mortise Applications

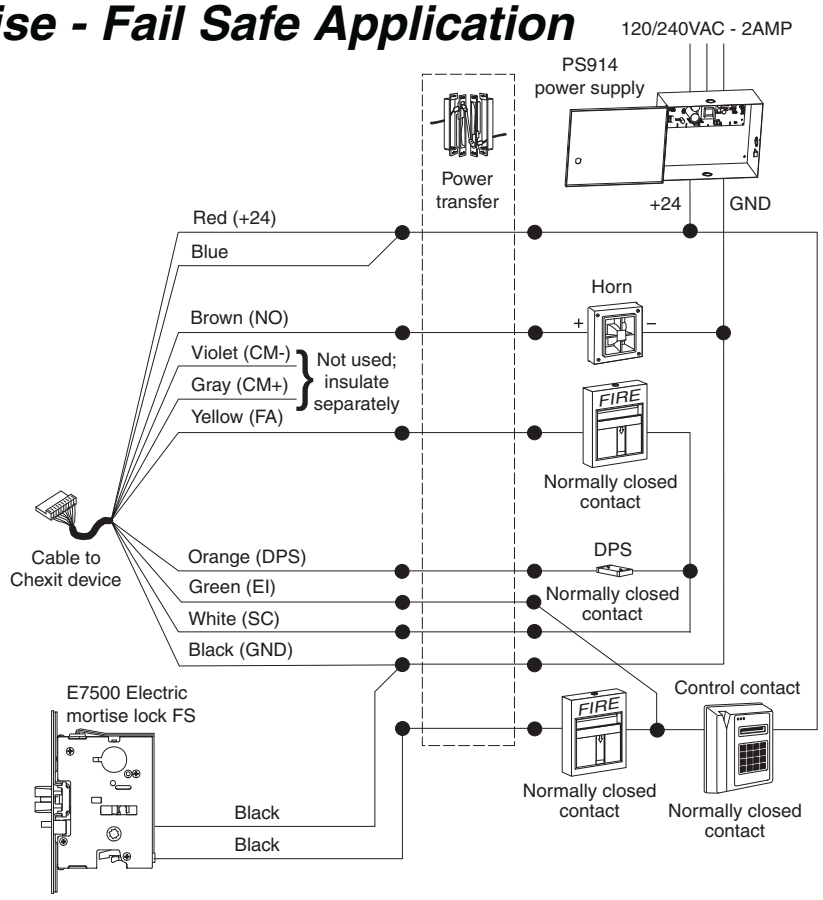
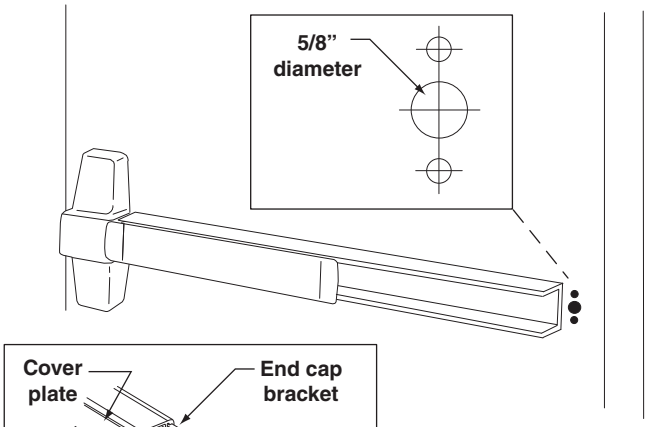


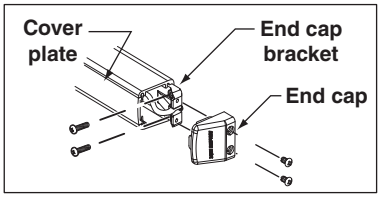
Figure 7. Wiring Connections, Mortise - Fail Safe

INSTALLATION

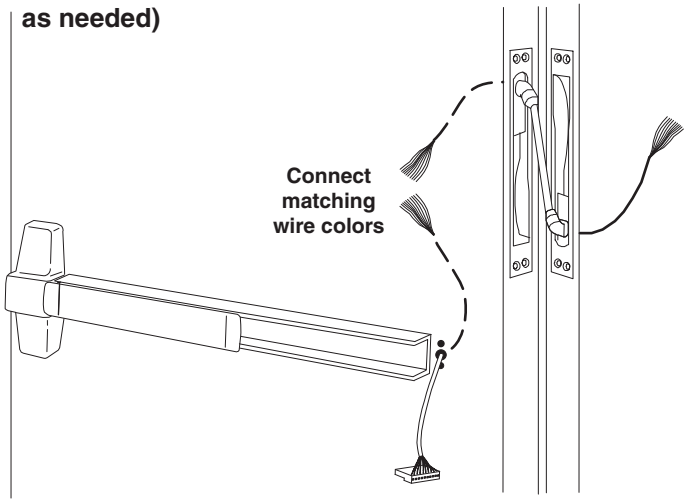
NOTE: Turn off power supply before installing cables

1 **With end cap and cover plate removed, drill 5/8" diameter wire access hole in surface of door**

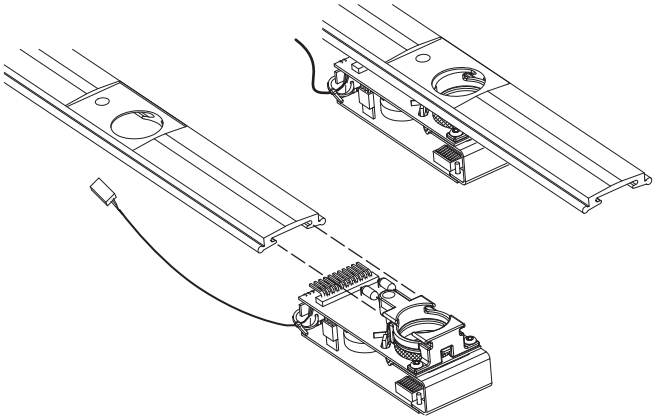




2 **Route Chexit cable through hole and connect wires to EPT-10 power transfer (see EPT-10 instructions as needed)**

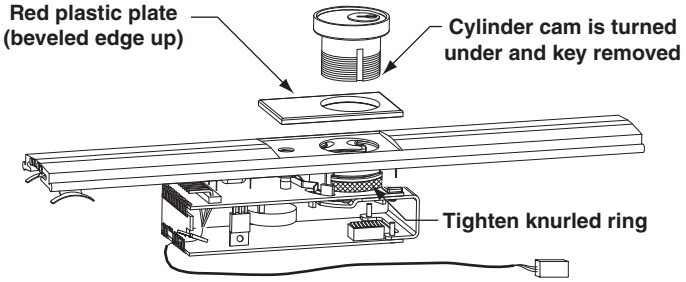


3 **Slide module into cover plate as shown**

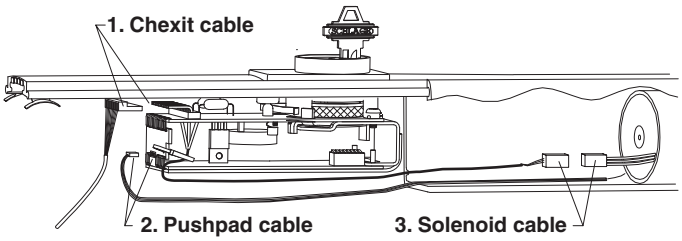


4 **Install key cylinder, if available**

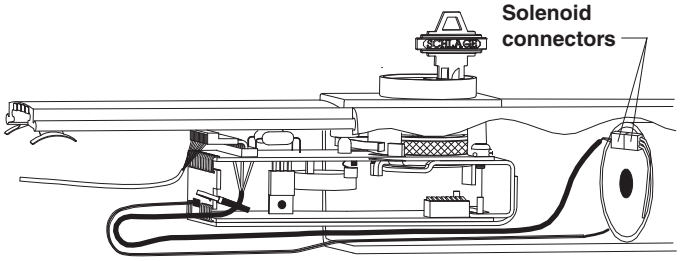
CAUTION
Orient cylinder as shown or unit will not operate



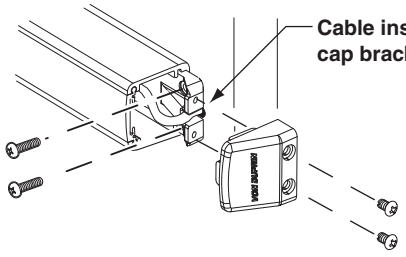
5 **Slide cover plate half way into place while routing and connecting three cables as shown**



6 **Route three cables as shown while slowly sliding cover plate into place**



7 **Install end cap bracket and end cap**



8 **Remove backing from sign and put sign on door above Chexit device (sign is in cardboard tube)**

9 **Go to "Operation" for testing and troubleshooting**

OPERATION

The basic function of a Chexit is to sound an alarm and keep an exit door secured for 15 seconds following an attempt to exit. Test the operation of your Chexit by performing actions No. 1 through 6 in the summary below. Make sure your Chexit matches the descriptions in the summary. If it does not, see "Troubleshooting."

Summary of Chexit Modes					
Action	**Mode**	**Pushpad**	**Red LED**	**Alarm**	**Duration**
1. Turn on Chexit with key switch (turn key clockwise)	Rearm	Unlocked	On solid	Off	Rearm time (0-28 seconds)
2. Rearm time expires	Armed	Locked	Slow flash	Off	Continuous
3. Press pushpad	Release delay	Locked	Fast flash	On	15 seconds
4. 15 second release delay expires	Alarm	Unlocked	Fast flash	On	Continuous
5. Turn off keyswitch or activate EI (external inhibit)	Inhibit	Unlocked	Off	Off	Returns to rearm mode when key switch turned on or EI reset
6. Fire alarm contacts open	Alarm	Unlocked	Fast flash	On if option switch No. 8 is off	Continuous (turn off key switch to clear)

The operation of a Chexit with a **door position switch** is the same as described in the summary table, but:

- The Chexit enters **Armed** mode 2.5 seconds after the door position switch contacts close.
- If the door is held open and rearm time expires, the Chexit goes into **Alarm** mode.
- When in **Armed** mode, the Chexit goes into **Alarm** mode if the door position switch contacts open.

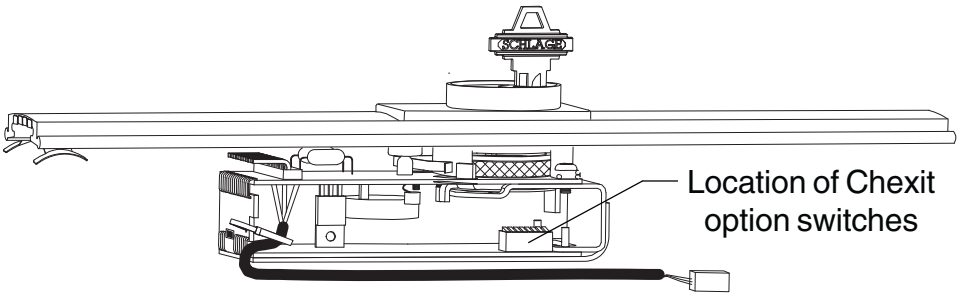
TROUBLESHOOTING

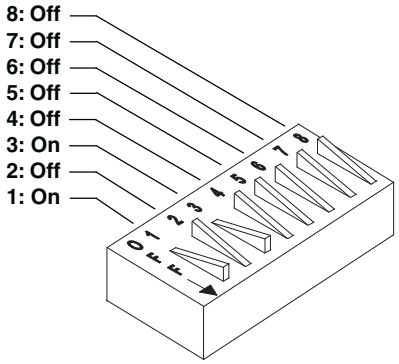
Turn Chexit off, then back on, using key switch. Compare Chexit operation with the following table to identify problems and solutions. After troubleshooting, re-test Chexit using steps under "Operation."

Symptom	Problem	Solution
Red LED does not light	Power not reaching Chexit	Replace/reset AC fuse/circuit breaker; check power supply input/output voltages; check input voltage at Chexit cable connector
Red LED flashes fast and horn sounds	Fire alarm contacts open	Connect normally closed fire alarm contacts between yellow and white wires
Red LED flashes once	**1.** External inhibit contacts open **2.** External inhibit function not used and wires not terminated properly	**1.** Connect normally closed external inhibit contacts between green and white wires **2.** If external inhibit not used, connect green and white wires together
Red LED on solid then flashes fast and horn sounds	**1.** Pushpad pressed **2.** Pushpad switch disconnected	**1.** Release the pushpad **2.** Connect pushpad switch connectors (see step No. 6 of "Installation")
Red LED on solid then flashes fast, horn sounds, and solenoid pulls in for one second (two sharp sounds)	**1.** Door open **2.** Door position switch contacts open **3.** Door position function not used and wires not terminated properly	**1.** Close door **2.** Connect normally closed door position switch contacts between orange and white wires **3.** If door position switch not used, connect orange and white wires together

OPTIONS

Options are set by switches on the Chexit module. Before changing option settings, turn the Chexit off. Changes in option settings take effect when the Chexit is turned on.





Factory settings shown

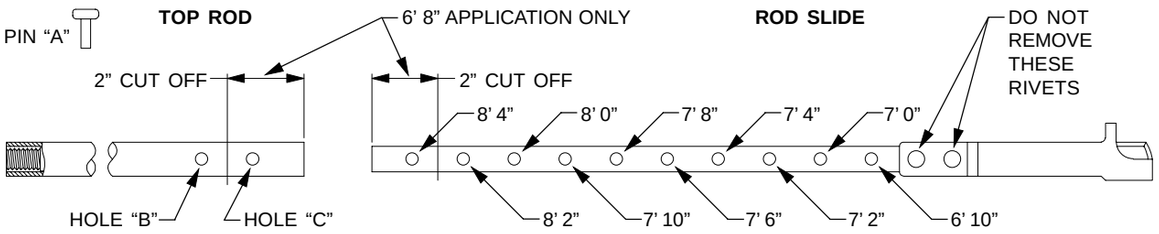
Table 3. Chexit Options			
Option	**Function**	**Settings for Door No: ___**	
Rearm time	**Switches No. 1 through 4** set amount of time you have to pass through door after turning on key switch or using an external inhibit device (see table below)	_____ seconds	
Nuisance delay	If **switch No. 5** is on, the pushpad must be pressed 1 second to set off alarm	on	off
Nuisance alarm	If **switch No. 6** is on, the Chexit horn sounds while pushpad is pressed during nuisance delay; use in accordance with local code	on	off
Self-test	If **switch No. 7** is on, the Chexit performs a self-test when turned on; this switch must be off for normal operation	on	(off)
Local fire alarm	If **switch No. 8** is off, the Chexit internal horn sounds during a fire alarm	on	off

Rearm Time Switch Settings				
Seconds	**Switch No. 1**	**Switch No. 2**	**Switch No. 3**	**Switch No. 4**
0	off	off	off	off
2	on	off	off	off
4	off	on	off	off
6	on	on	off	off
8	off	off	on	off
10	on	off	on	off
12	off	on	on	off
14	on	on	on	off
16	off	off	off	on
18	on	off	off	on
20	off	on	off	on
22	on	on	off	on
24	off	off	on	on
26	on	off	on	on
28	off	on	on	on
infinite	on	on	on	on

Rearm Time Notes

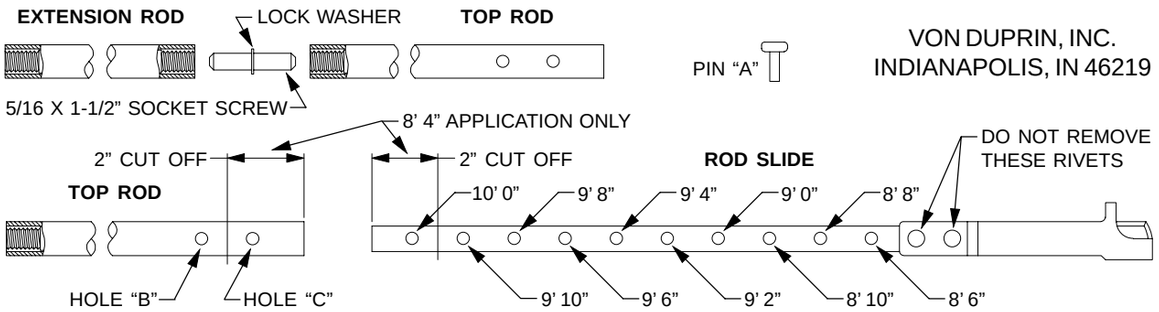
1. Set the rearm time a few seconds longer than the door will be open so the door closes before the Chexit arms.
2. The Chexit is shipped from the factory with the rearm time set to 10 seconds.
3. When the rearm time is infinite, the Chexit arms when the door position switch detects that the door is closed.
4. When the rearm time is infinite, you must open and close the door after the Chexit is turned on.
5. If a door position switch is used, the Chexit arms 2.5 seconds after the door closes.
6. If you are using a door position switch but you want the full rearm time to expire before the Chexit arms, call Technical Support at 1-877-671-7011.
7. For proper operation, the rearm time of each ganged Chexit must differ by at least 2 seconds.

33/3547A/48A TOP ROD ASSEMBLY INSTRUCTIONS FOR 6’ 8” THRU 8’ 4” DOOR HEIGHT



DOOR SIZE	ASSEMBLY INSTRUCTIONS
6’ 8” TO LESS THAN 6’ 10”	**1.** CUT 2” OFF END OF BOTH TOP ROD AND ROD SLIDE AS SHOWN. **2.** ASSEMBLE WITH PIN “A” THRU HOLE “B” IN TOP ROD AND 6’ 10” HOLE IN ROD SLIDE.
6’ 10” THRU 8’ 4”	**1.** NO CUTTING REQUIRED. **2.** SELECT HOLE CORRESPONDING TO HEIGHT OF DOOR BEING INSTALLED. **3.** ASSEMBLE WITH PIN “A” THRU HOLE “C” IN TOP ROD AND CORRESPONDING HOLE IN ROD SLIDE. **NOTE:** HOLE “B” IN TOP ROD IS NOT USED HERE.

TOP ROD ASSEMBLY INSTRUCTIONS FOR 8’ 4” THRU 10’ 0” DOOR HEIGHT



DOOR SIZE	ASSEMBLY INSTRUCTIONS
8’ 4” TO LESS THAN 8’ 6”	**1.** CUT 2” OFF END OF BOTH TOP ROD AND ROD SLIDE AS SHOWN. **2.** ASSEMBLE WITH PIN “A” THRU HOLE “B” IN TOP ROD AND 8’ 6” HOLE IN ROD SLIDE, THEN ASSEMBLE EXTENSION ROD AS SHOWN.
8’ 6” THRU 10’ 0”	**1.** NO CUTTING REQUIRED. **2.** SELECT HOLE CORRESPONDING TO HEIGHT OF DOOR BEING INSTALLED. **3.** ASSEMBLE WITH PIN “A” THRU HOLE “C” IN TOP ROD AND CORRESPONDING HOLE IN ROD SLIDE, THEN ASSEMBLE EXTENSION ROD AS SHOWN.

PART NO. 972443_A

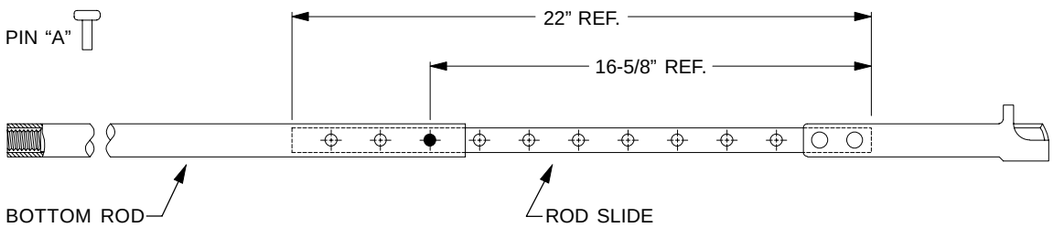
INSTRUCTIONS FOR PRINTER:

1. Black print on white tag stock 0.010” +/- 0.005” thick.
2. Print both sides.
3. 4” high x 7” wide trim size.

PART NO. 972443_A

33/3547A/48A BOTTOM ROD ASSEMBLY INSTRUCTIONS

1. LOCATE FIRST HOLE OF BOTTOM ROD WITH THIRD HOLE OF ROD SLIDE.
2. INSERT PIN “A” AT THIS LOCATION. MAKE SURE THAT THIS LOCATION EQUALS DIMENSION SHOWN IN PICTURE BELOW.
3. ROD SLIDE MUST BE CUT SHORTER FOR DEVICE MOUNTING HEIGHTS BELOW 35-5/8”.

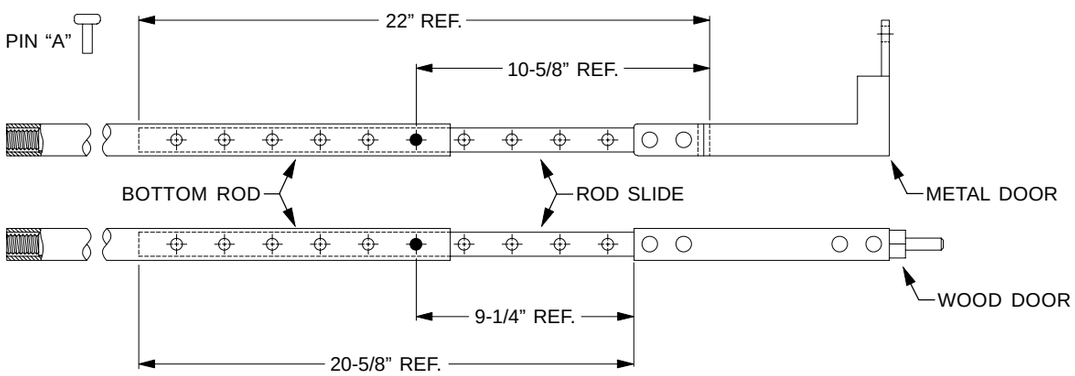


PART NO.
972444_A

VON DUPRIN, INC.
INDIANAPOLIS, IN 46219

98/9947/48 BOTTOM ROD ASSEMBLY INSTRUCTIONS

1. LOCATE FIRST HOLE OF BOTTOM ROD WITH SIXTH HOLE OF ROD SLIDE.
2. INSERT PIN “A” AT THIS LOCATION. MAKE SURE THAT THIS LOCATION EQUALS DIMENSION SHOWN IN PICTURE BELOW.
3. ROD SLIDE MUST BE CUT SHORTER FOR DEVICE MOUNTING HEIGHTS BELOW 38-5/8”.



INSTRUCTIONS FOR PRINTER:

1. Black print on brown tag stock 0.010” +/- 0.005” thick.
2. Print both sides.
3. 4” high x 7” wide trim size.

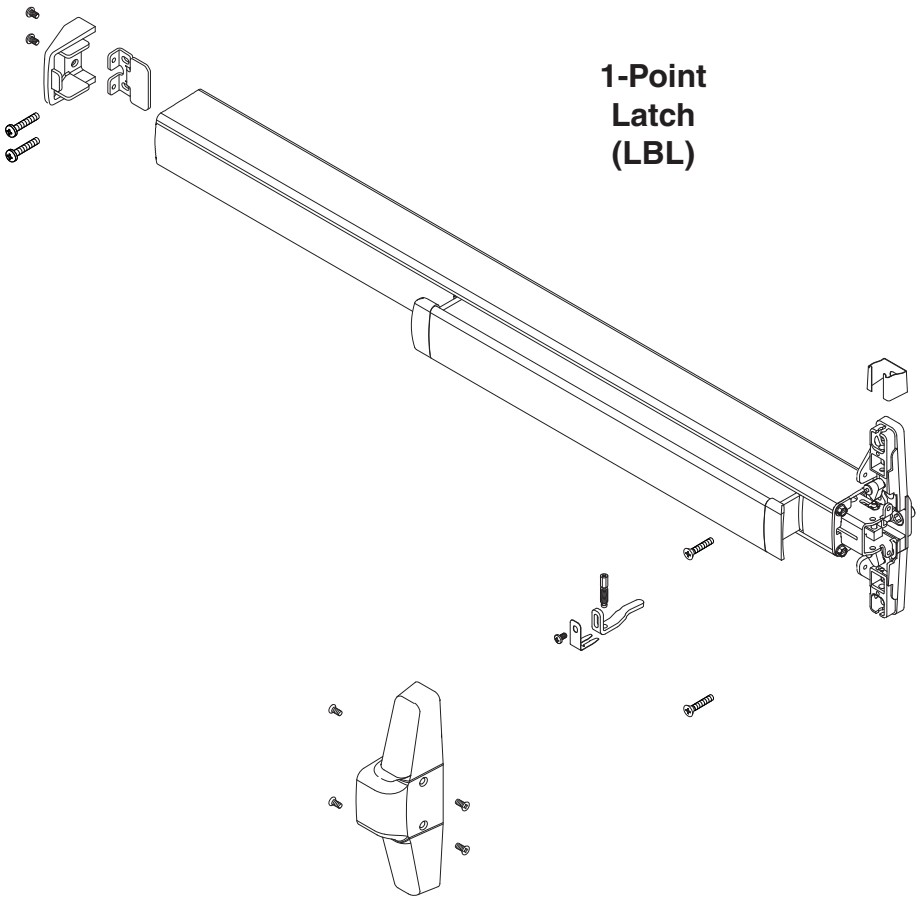
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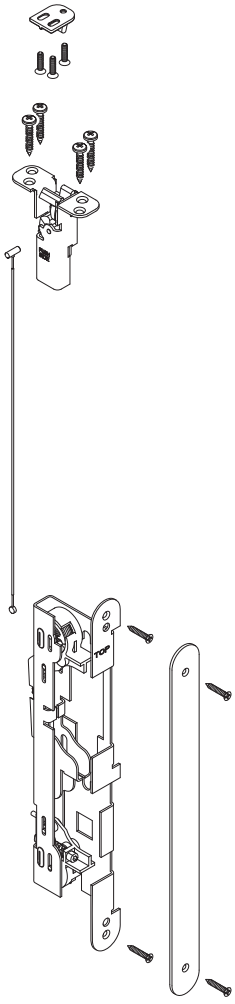
33/3550AWDC

VON DUPRIN

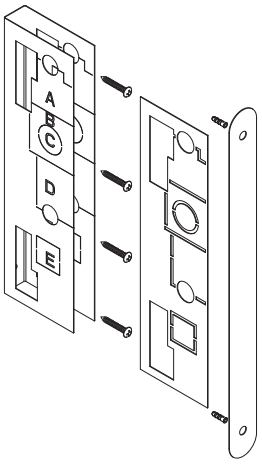
Installation Instructions



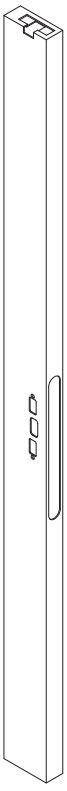
1-Point Latch (LBL)

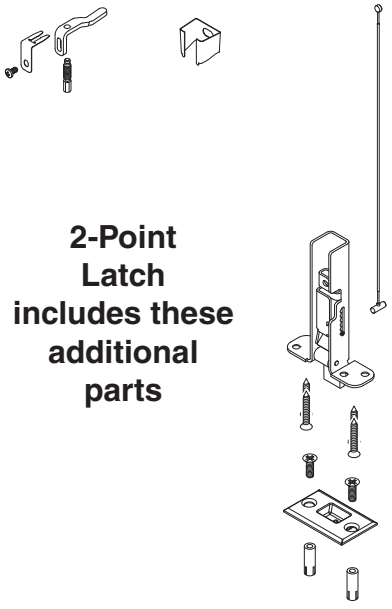


Fire-Rated Devices include these additional components



Metal Edge Wrap required for 60 and 90-minute applications





2-Point Latch includes these additional parts

⚠ **NOTE:** If door does not have a cutout for cabling inside lock stile, door must be routed. Refer to 33/3550AWDC wood door template #24731408.

1 OVERVIEW AND DOOR PREPARATION

33/3550AWDC

Instead of traditional rods, concealed vertical cables are utilized, making use of a proven technology that enables quick installation and allows for easy maintenance. Simplified sizing, ease of adjustment and greater door integrity make the Wood Door Concealed exit device a more secure solution, without the complexity associated with traditional concealed systems. Another key benefit of the system is the ability to make adjustments to the system by simply removing the scalp plate from the edge of the door.

If you have any questions or comments please visit the resources below or give us a call so we can help get you on your way. Thank you for your continued support of Von Duprin.

Technical Support hot line: 877-671-7011

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TABLE OF CONTENTS

INSTALLATION

1. Overview and Door Preparation pg 2-3
2. Fire Barrier pg 4-5
3. Latch Installation pg 6
4. Cable Installation pg 7
5. Device Installation pg 8-9

ADJUSTMENT

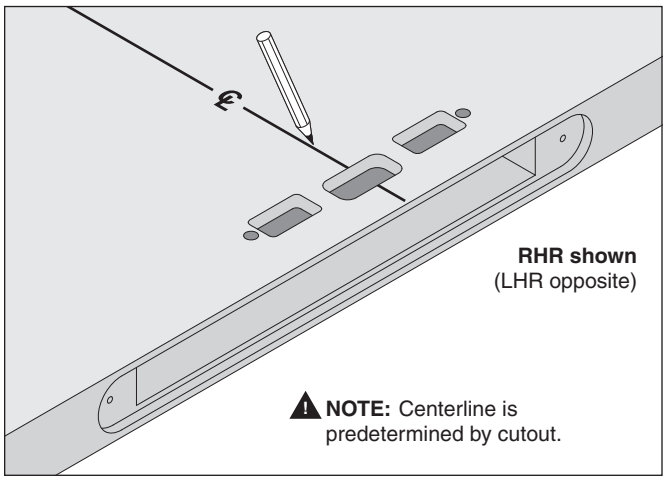
6. Device Adjustment pg 10-11
7. Strikes and Fire Pin pg 12-13
8. Bottom Latchbolt Clearance pg 14
9. Top Strike and Covers pg 15
10. Troubleshooting pg 16

1 (continued)

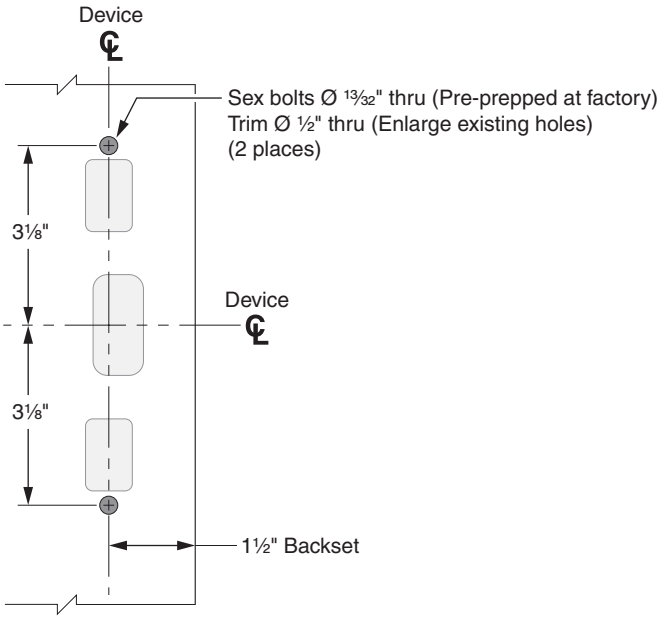
1a For 60 and 90-minute applications, install metal edge wrap.



1b With door laying flat, draw horizontal device center line (℄).

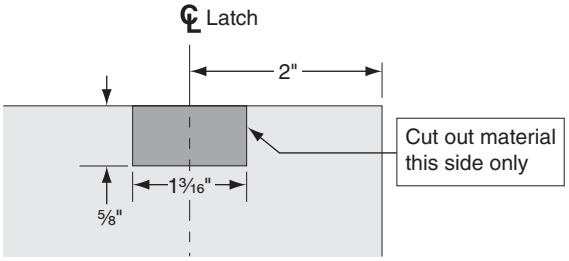


1c If necessary, prepare center case mounting holes.



RHR shown
(LHR opposite)

1d If necessary, prepare door for top strike cutout.



Push side of door, RHR shown

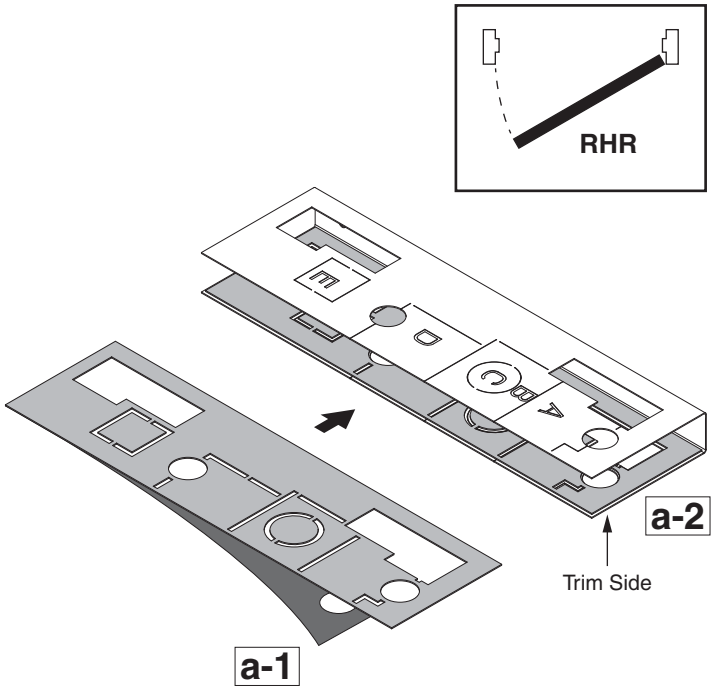
2 FIRE BARRIER

⚠ **Fire application only**

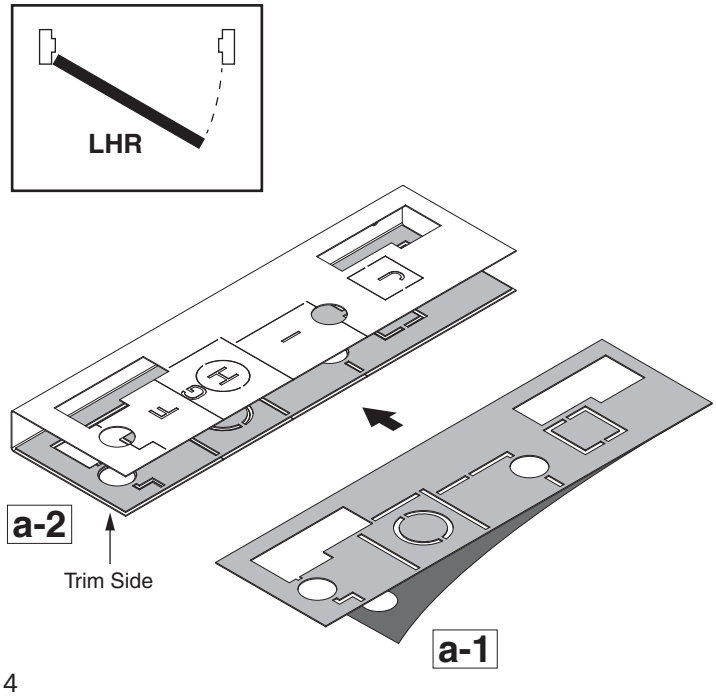
⚠ **Fire components must be installed to maintain fire rating of opening.**

2a Peel adhesive backing from intumescent and apply to trim side of fire barrier.

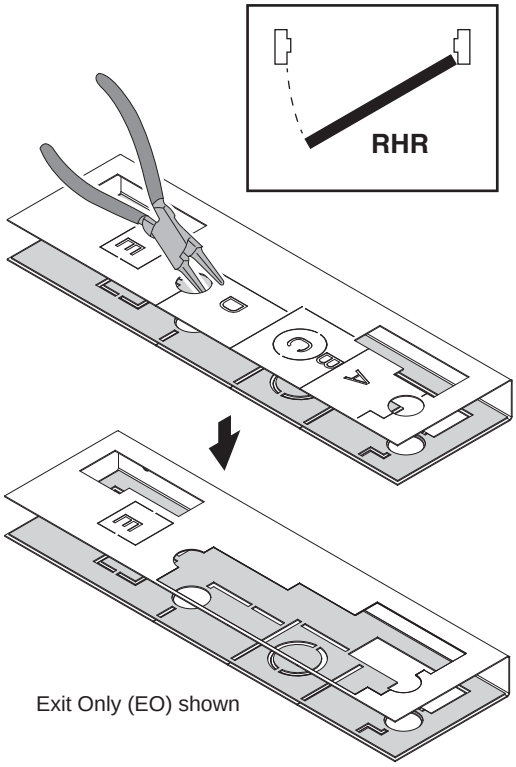
⚠ **Intumescent must be properly aligned before exposed adhesive contacts fire barrier. Adhesive is permanent and not repositionable.**

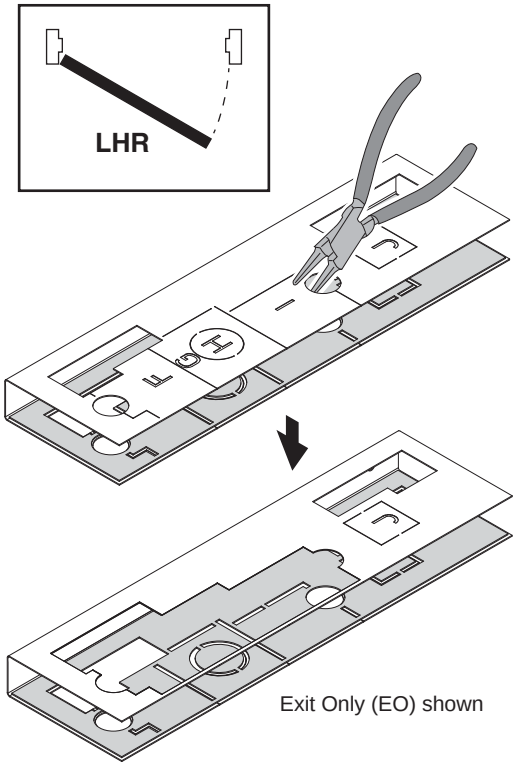


OR



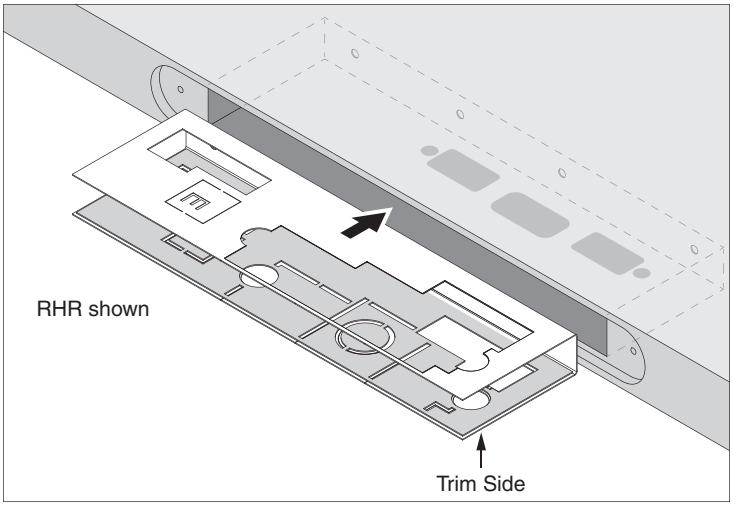
2b Remove appropriate knockouts for device and trim.



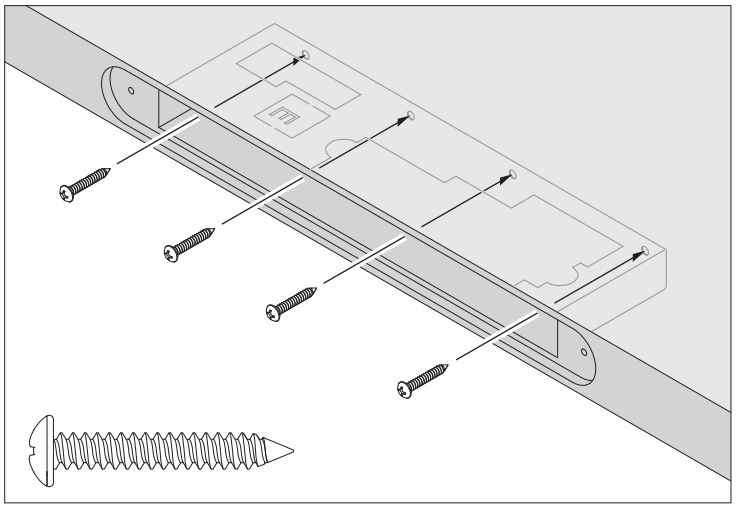


2 (continued)

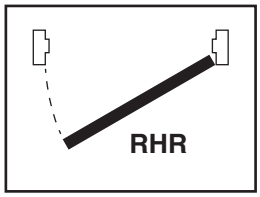
2c With fire barrier in correct orientation, slide barrier into door pocket.

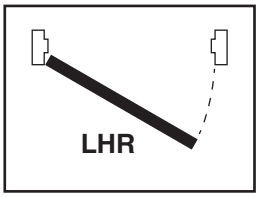


2d Secure fire barrier to inside of pocket with 4 screws.



FIRE BARRIER KNOCKOUT TABLE





Trim Model	Trim Function	Right Hand Reverse (RHR) Remove the knockouts listed below	Left Hand Reverse (LHR) Remove the knockouts listed below
Exit Only	EO	A B C D	F G H I
386	DT	A B C D H	C F G H I
386	NL		
388	NL	A B C D G H	B C F G H I
550	DT	A B C D E J	E F G H I J
392-6	-	A B C D (If mounted below, remove E, J)	F G H I (If mounted below, remove E, J)
360	L	A B C D F G H	A B C F G H I
360	L-BE		
360	L-DT		
360	T		
360	T-BE		

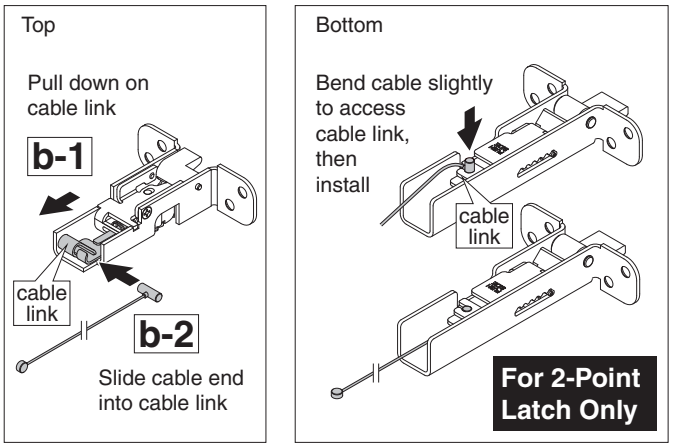
3 LATCH INSTALLATION

3a Confirm top latch is marked for EXIT DEVICES ONLY, then remove label.



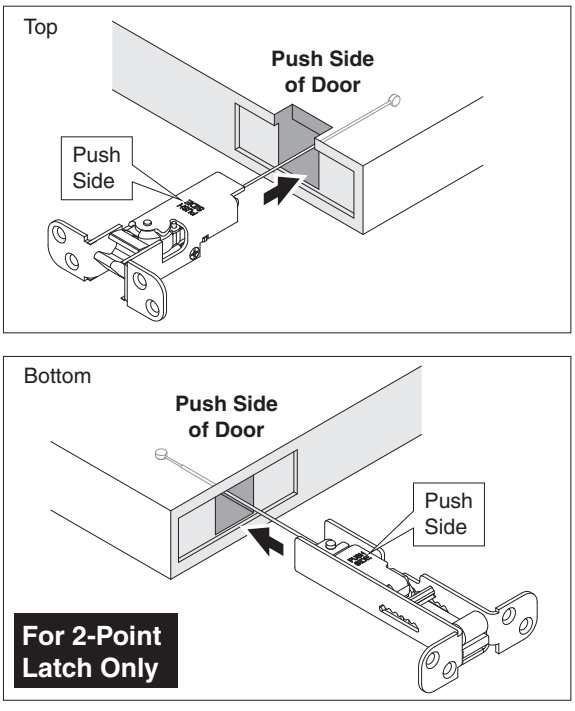
3b Connect cable end fitting(s) to latch(es).

⚠ **For 2-point latches, the top cable is the longer of the two cables. Top cable is silver, bottom cable is black.**

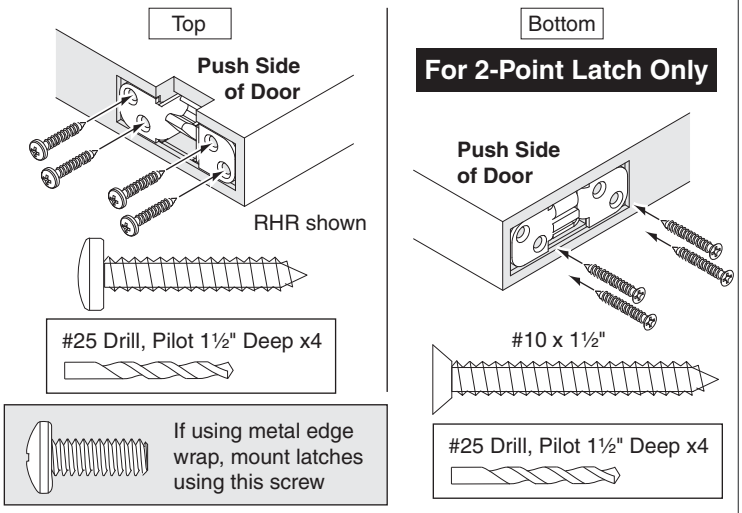


3c Slide latch(es) into door pocket.

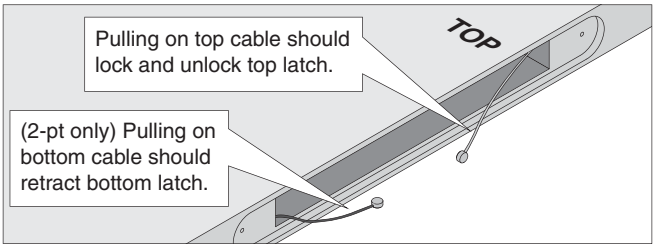
⚠ **Clear cable channel of debris first if necessary.**



3d Secure latch(es).

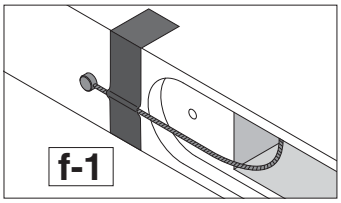


3e Perform cable binding check at mortise pocket.



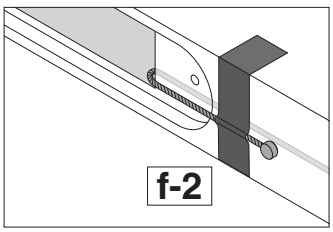
3f Prepare door for hanging.

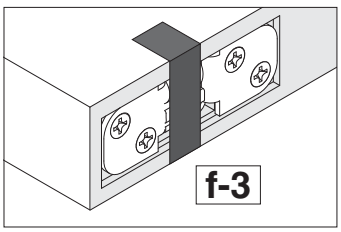
Pull top cable taut and tape cable end to door edge (f-1).



For 2-Point Latch Only

Pull bottom cable taut enough so bottom bolt will not drag against floor, and tape cable end to door edge (f-2). This holds cable in place, preventing it from dropping into door channel. Tape bottom bolt in place (f-3).





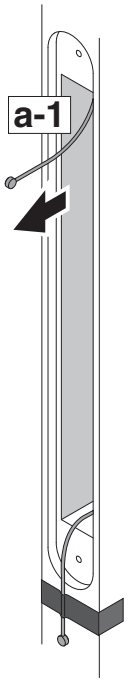
3g Hang door on frame.

⚠ **For 2-point latches, bottom latch cannot be in locked position while hanging door on frame. Latch must be retracted.**

4 CABLE INSTALLATION

4a Insert cable end fitting(s) into center slide.

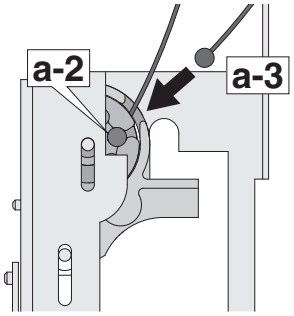
⚠ **Be sure to attach top cable to top end of center slide (marked "Top")**



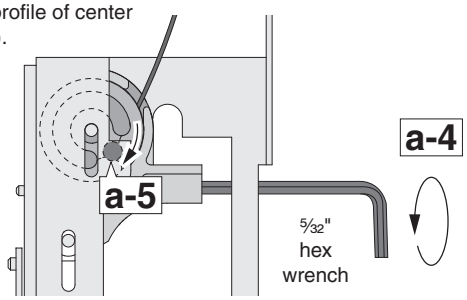
Pull top cable thru mortise opening (a-1).

Rotate spool using hex wrench to reveal cable hole in spool (a-2), if it is not visible or only partially visible.

Insert cable end into spool (a-3).

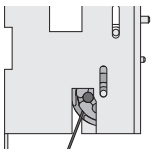


Turn **spool screw counterclockwise** (a-4) to rotate spool until cable end is beneath profile of center slide (a-5).



a-6 **For 2-Point Latch Only**

Remove tape from door edge, then repeat process to install bottom cable into bottom spool.

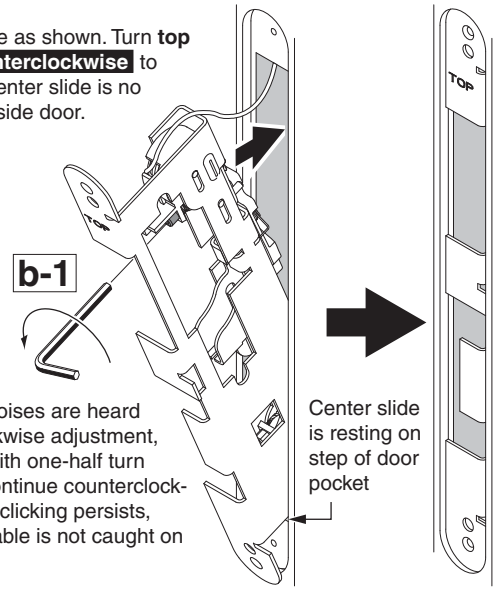


4b Take up top cable slack only.

⚠ **A flashlight would be useful during adjustment.**

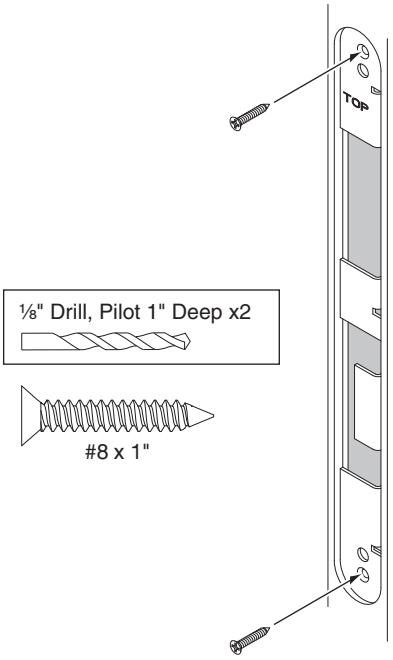
Position center slide as shown. Turn **top spool screw counterclockwise** to tighten (b-1) until center slide is no longer hanging outside door.

⚠ Do not adjust bottom cable at this time.



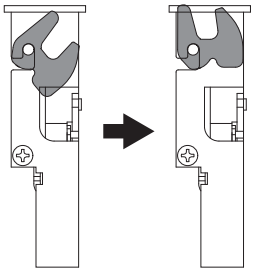
⚠ **NOTE:** If clicking noises are heard during counterclockwise adjustment, unwind the cable with one-half turn clockwise. Then, continue counterclockwise adjustment. If clicking persists, check to be sure cable is not caught on an edge.

4c Secure center slide.

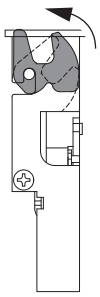


4d Adjust top spool.

⚠ **NOTE:** Top latch must be placed in locked position prior to making top adjustment.

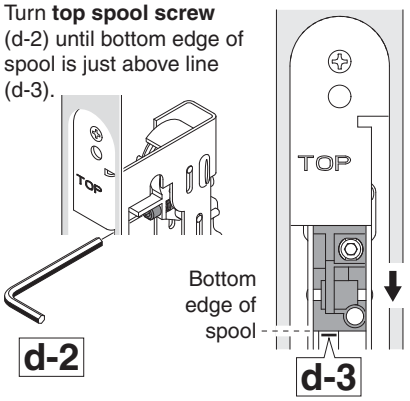


Put top latch in locked position (d-1).

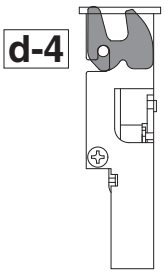


⚠ If latch won't lock, **top spool screw** was overtightened in Step 4b and needs to be backed out clockwise.

Turn **top spool screw** (d-2) until bottom edge of spool is just above line (d-3).



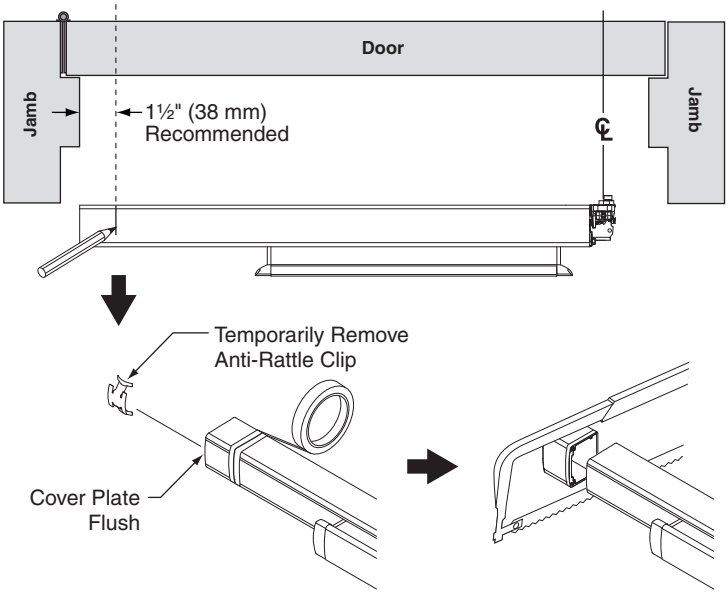
Confirm top latch is still locked (d-4).



⚠ **NOTE:** No further top spool adjustment needed. Put hex wrench away until Step 8b.

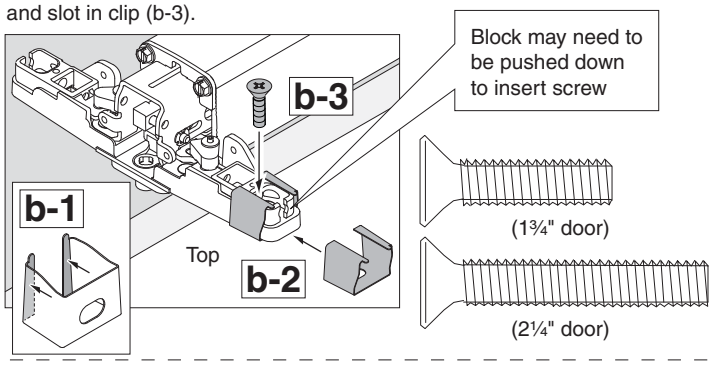
5 DEVICE INSTALLATION

5a If necessary, cut device.

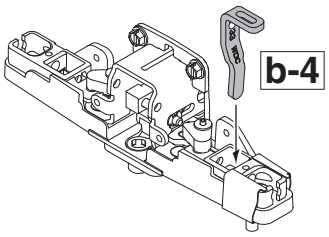


5b Install lift finger(s) and retainer clip(s).

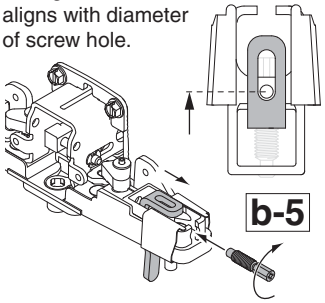
Using tube of grease provided, apply grease to interior of rod connector sleeve in locations shown (b-1). With device center case hanging over edge of table, slide rod connector sleeve over top end of center case in orientation shown (b-2), then insert mounting screw thru hole in center case and slot in clip (b-3).



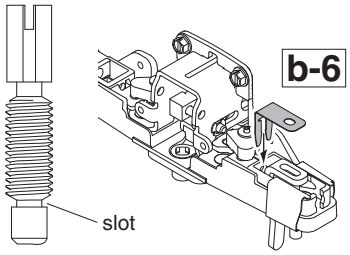
Slide L-shaped lift finger thru upper block on front of center case.



Insert **lift finger screw** and turn clockwise with screwdriver to raise lift finger until the slot aligns with diameter of screw hole.

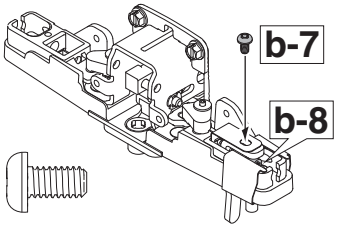


Install retainer clip against lift finger, snapping it into the slot of the **lift finger screw**.



Lightly tighten **locking screw** (b-7).

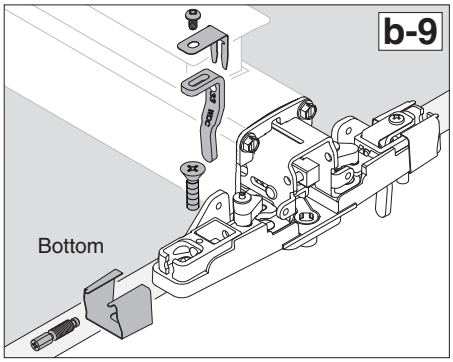
⚠ It may be necessary to rotate the **lift finger screw** to realign retainer clip and lift finger holes.



⚠ Confirm **lift finger screw** is free to rotate (b-8).

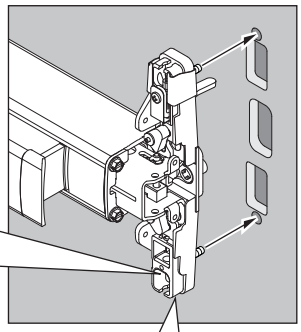
For 2-Point Latch Only

Repeat steps b-1 thru b-8 for lower block of center case.



5 (continued)

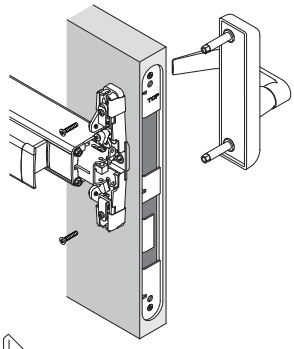
5c Attach center case to door.



⚠ Do not overtighten center case to door (door edge cover plate won't fit).

Block may need to be pushed up to access screw.

Thru-bolting Trim

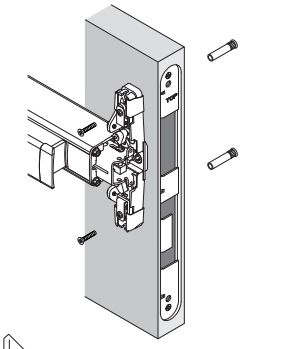


(1¾" door)

(2¼" door)

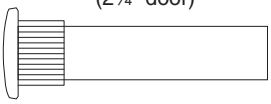
OR

Sex Bolts

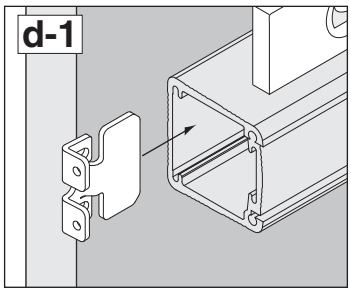


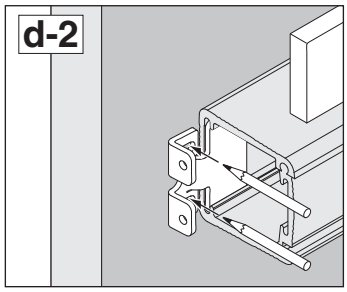
(1¾" door)

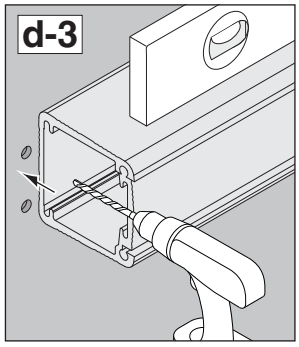
(2¼" door)



5d Mark and prepare 2 holes.

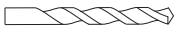






Surface Mount

⅛" Drill, Pilot 1" Deep



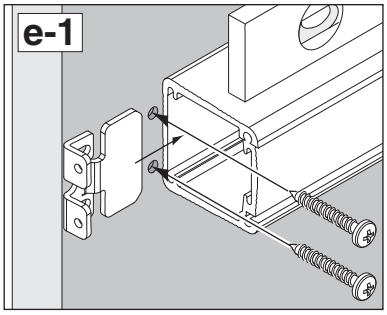
OR

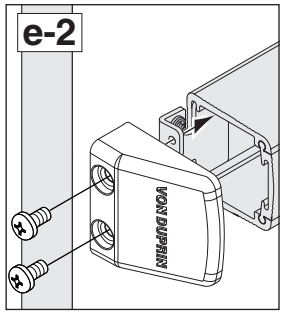
Sex Bolts

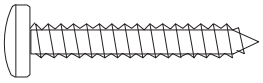
13⁄32" Drill thru



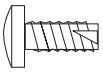
5e Install end cap bracket and end cap.

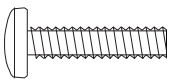




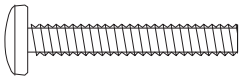


#10 x 1¼" Wood screw
(Surface mount WDC)





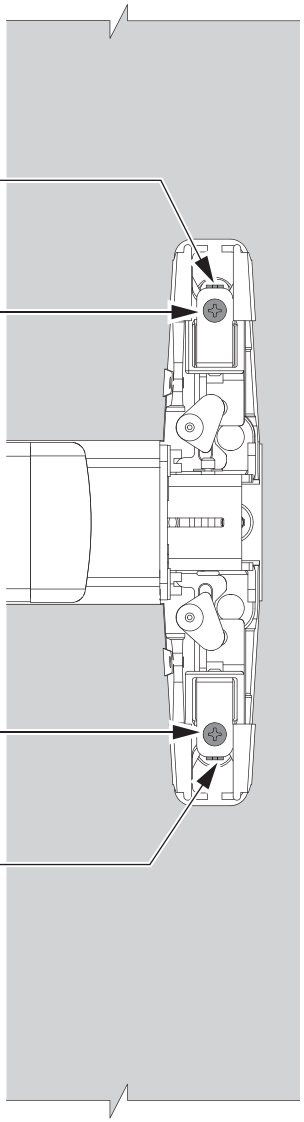
#10-24 x ¾"
(Sex bolts, 1¾" door)



#10-24 x 1⅛"
(Sex bolts, 2¼" door)

ADJUSTMENT COMPONENTS

Center Case



Top lift finger screw:
Adjusts release point of latches

Top locking screw:
Locks lift finger screw adjustment

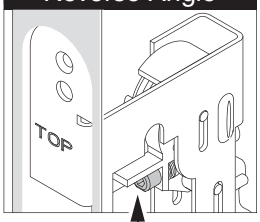
Bottom locking screw*:
Locks lift finger screw adjustment

Bottom lift finger screw*:
Adjusts release point of latches

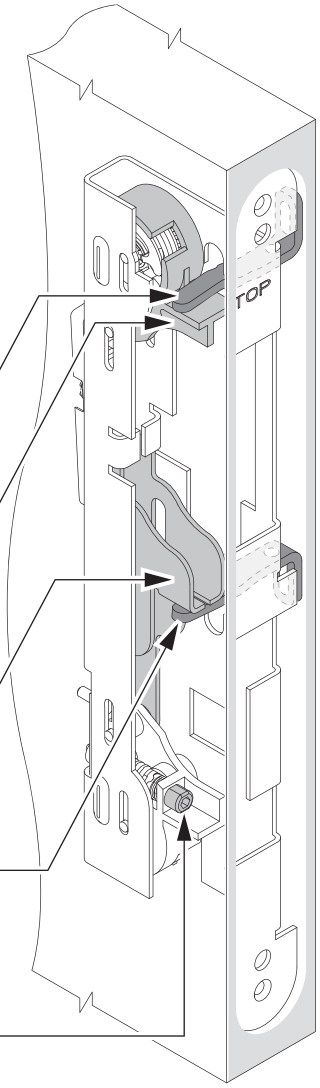
* For 2-point latch only

Push Side of Door

Reverse Angle



Center Slide



Top spool screw:
Sizes cable to door height

Top lift finger:
Transfers motion from exit device spool inputs

Top spool input:
Transfers motion from lift finger to latch

Bottom spool input*:
Transfers motion from lift finger to latch

Bottom lift finger*:
Transfers motion from exit device spool inputs

Bottom spool screw*:
Sizes cable to door height and undercut

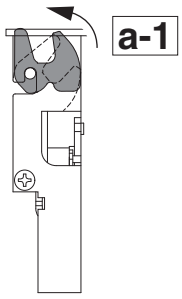
Pull Side / Edge of Door

6 (continued)

6a Adjust device for top latch retraction position.

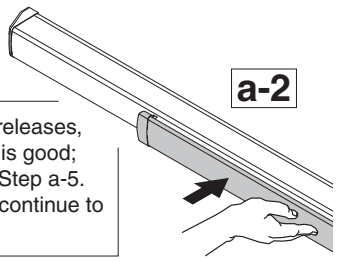
Steps marked with a ✱ symbol are different if using 360L / 360T trim.

Put top latch in locked position.



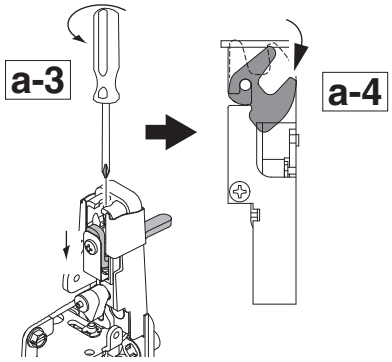
Depress and **HOLD** push pad (or dog device) until Step a-6.

✱ If using 360L / 360T trim, turn and hold lever / thumb turn instead.

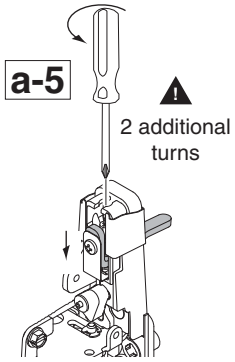


If top latch releases, adjustment is good; proceed to Step a-5. Otherwise, continue to Step a-3.

Maintain downward pressure on screwdriver and turn **top lift finger screw** counterclockwise to lower lift finger. With other hand, press on top latchbolt. STOP as soon as top latch releases.

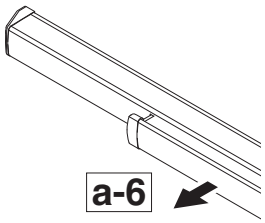


Turn **top lift finger screw** counterclockwise an additional 2 full turns.

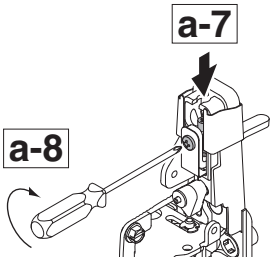


Release push pad.

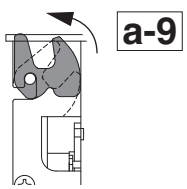
✱ If using 360L / 360T trim, release lever / thumb turn instead.



While pressing down on **top lift finger screw** (a-7) so it is seated, tighten **top locking screw** (a-8).

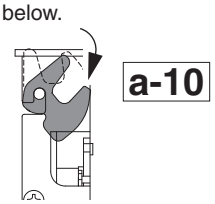


Using your finger, put top latch in locked position.



Locked

With pushpad depressed, you should be able to release top latch with your finger, as shown below.



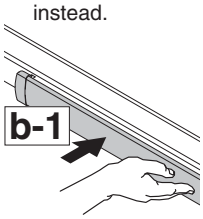
Released

6b Adjust device for bottom latch retraction positon.

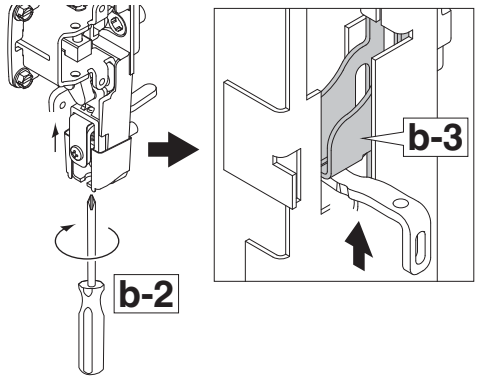
For 2-Point Latch Only

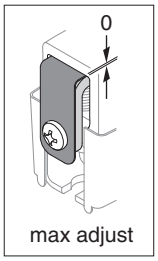
Depress and **HOLD** push pad (or dog device) until Step b-4.

✱ If using 360L / 360T trim, turn and hold lever / thumb turn instead.



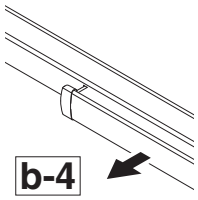
Maintain upward pressure on screwdriver and turn **bottom lift finger screw** (b-2) counter-clockwise to adjust past point where **bottom lift finger** contacts **bottom spool input** (b-3). Continue adjusting until **bottom spool input** reaches end of travel or until **bottom lift finger** reaches max adjust.



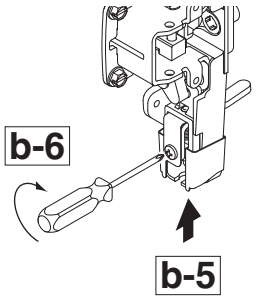


Release push pad.

✱ If using 360L / 360T trim, release lever / thumb turn instead.



Push up on **bottom lift finger screw** so it is seated, and tighten the **bottom locking screw.**

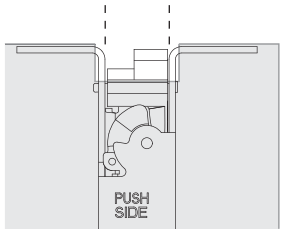


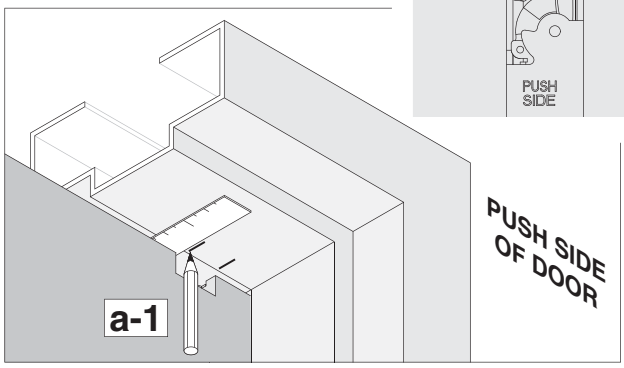
7 STRIKES AND FIRE PIN

7a Prepare door frame for top strike.

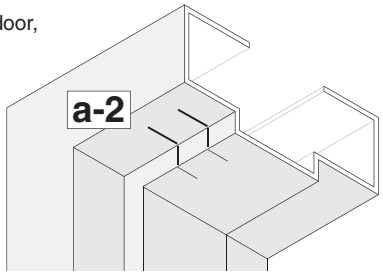
⚠ If using a door seal or gasket, install first.

From push side of door, with door nearly closed, use straight edge to transfer location of inside edges of top latch housing to underside of stop (a-1).

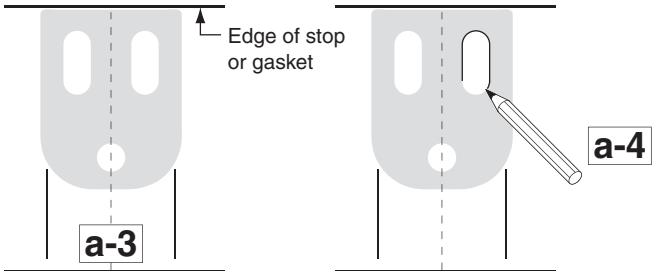




From pull side of door, transfer marks to underside of frame (a-2).

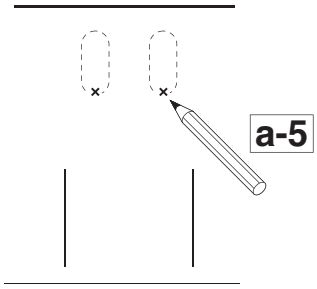


With flat end of strike against stop, center strike to marks on frame (a-3). Use a pencil to trace contour of the two slotted holes (a-4).



Mark the bottom center point of each slot (a-5) and prepare door frame as shown.

⚠ Do not drill 3rd hole at this time.

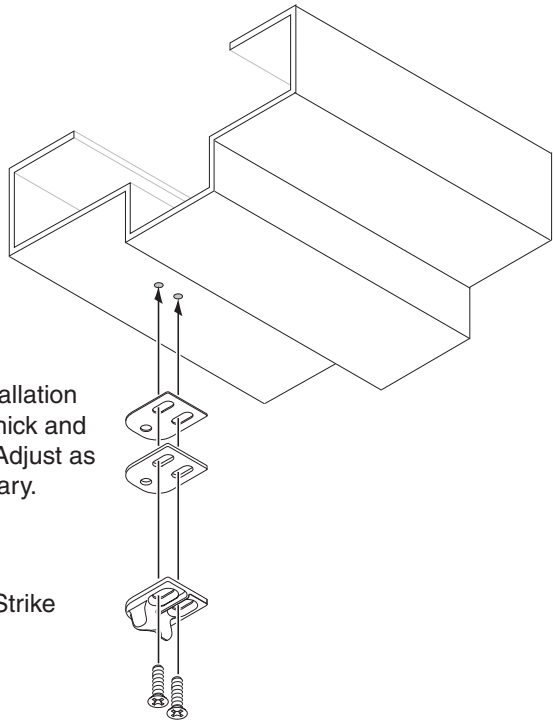


Metal
Center punch + 1/16" Pilot #25 x 3/4" Deep x2 #10-24

OR

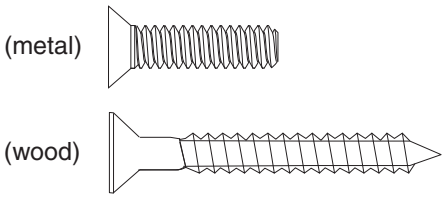
Wood
1/8" Drill Pilot 1" Deep x2

7b Install 2 top strike screws using the slot features on the strike.



Typical installation requires 1-thick and 1-thin shim. Adjust as necessary.

150 Top Strike



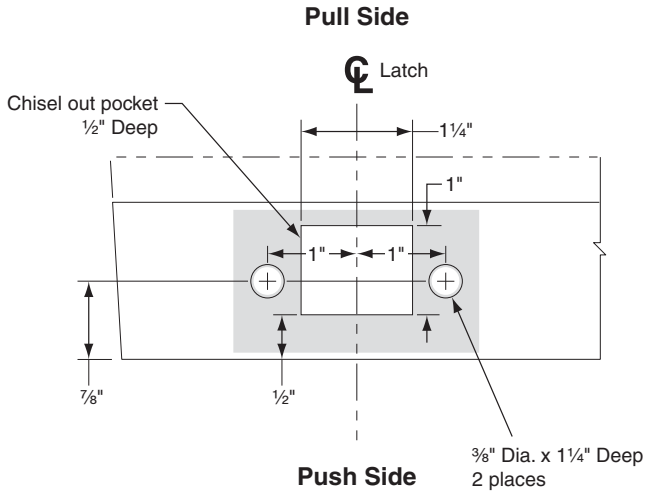
7c Perform top latch functional test.

c-1. Close door.
c-2. With door closed, top latch should be secure.
c-3. If door fails to relatch, adjust top strike location.
c-4. Depress pushbar. Door should begin to open when pushbar is nearly fully depressed. If necessary, refer to Step 6A to readjust top latch retraction position.

7 (continued)

7d Prepare floor for bottom strike.

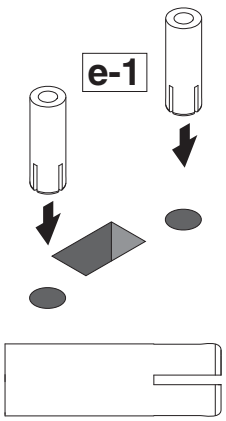
For 2-Point Latch Only



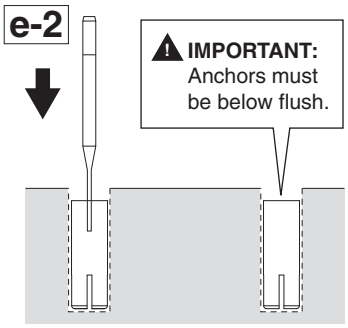
7e Install bottom strike.

For 2-Point Latch Only

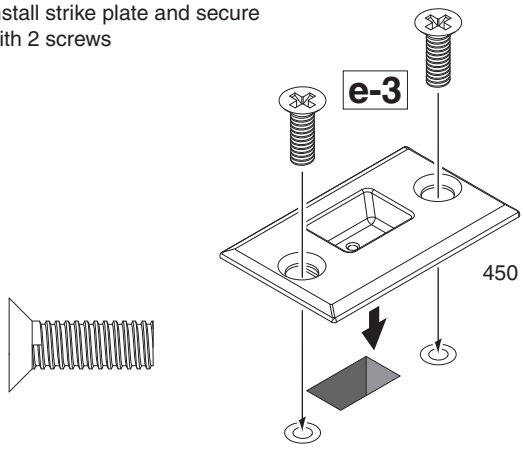
Clear holes of debris, then drop in anchors (slotted end first)



Secure the anchors using a hammer and punch



Install strike plate and secure with 2 screws



7f For Fire LBL applications only, install fire pin.

⚠ **See instructions packaged with fire pin.**

8 BOTTOM LATCHBOLT CLEARANCE

8a Remove tape holding bottom bolt in place from bottom of door.

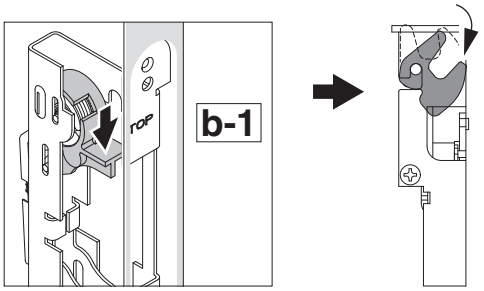
For 2-Point Latch Only

8b Adjust bottom latchbolt clearance.

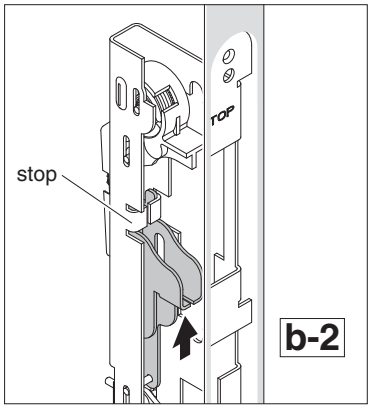
⚠ **A flashlight would be useful during adjustment.**

For 2-Point Latch Only

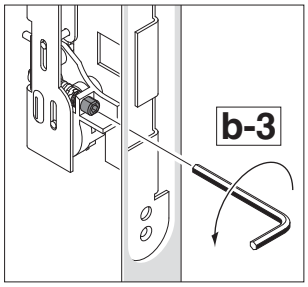
Reach inside center slide and push downward on shelf of **top spool input** to release top latch, if not already retracted. Line shown in Step 4d-3 should no longer be visible.

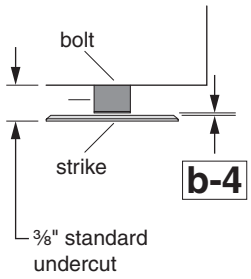


Push **bottom spool input** upward until flat of input hits stop. Input should lock in place.



Turn **bottom spool screw** counterclockwise approximately 20 turns to remove slack. Continue turning until bolt just clears top of strike (b-4).





⚠ **NOTE:** If clicking noises are heard during counterclockwise adjustment, unwind the cable with one-half turn clockwise. Then, continue counterclockwise adjustment. If clicking persists, check to be sure cable is not caught on an edge.

8c Perform bottom latch functional test.

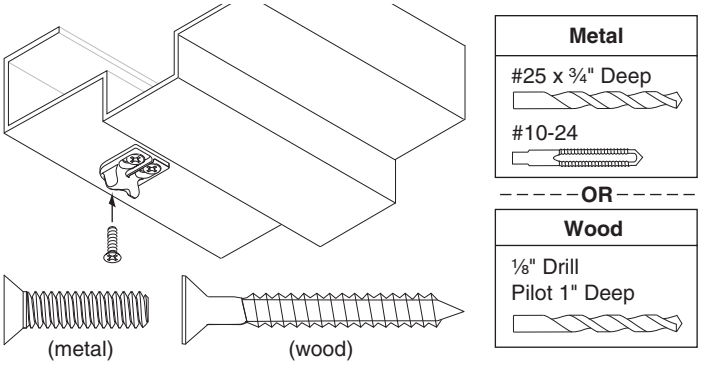
For 2-Point Latch Only

c-1. Confirm bottom latchbolt does not drag against floor when door is opened.

c-2. With door closed, bottom latch should be secure.

9 TOP STRIKE AND COVERS

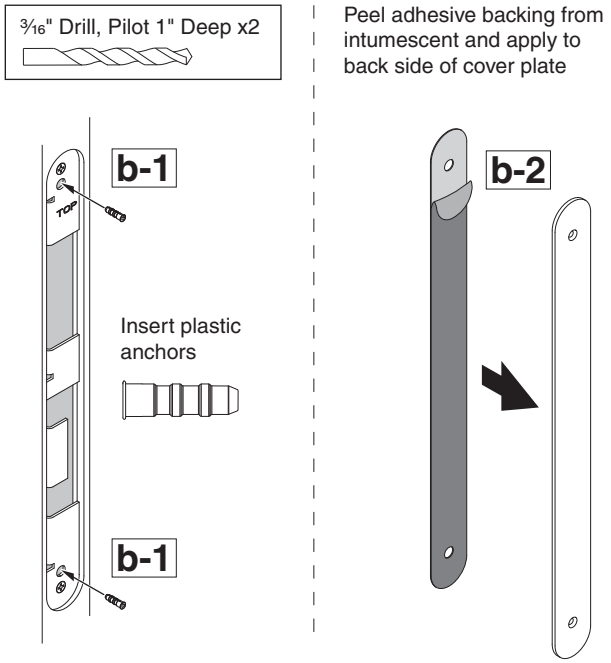
9a Adjust top strike as necessary, then install the third strike screw to fix the strike position.



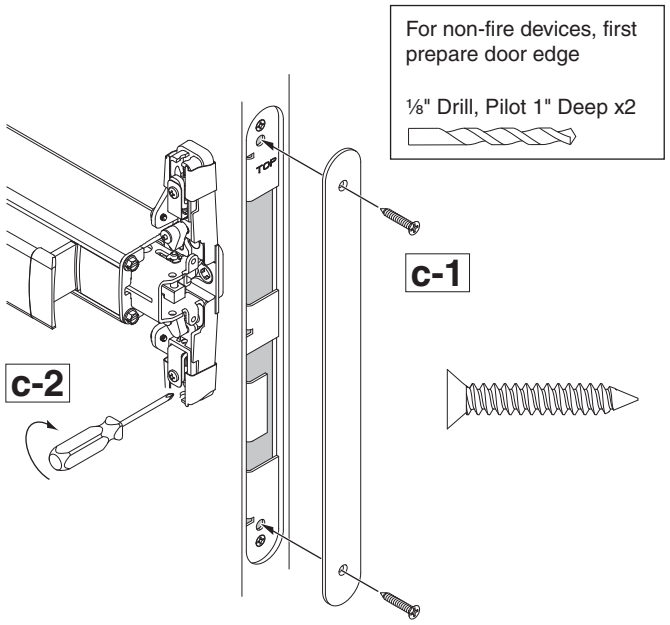
9b For fire devices, prepare door edge and cover plate.

⚠ **Fire application only**

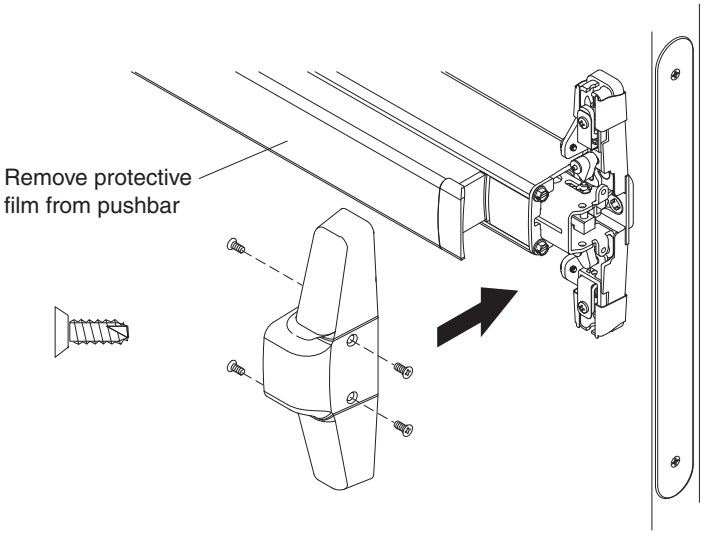
⚠ **Intumescent must be properly aligned before exposed adhesive contacts cover plate. Adhesive is permanent and not repositionable.**



9c Install cover plate to door edge, then completely tighten down center case screws.



9d Install center case cover.



10 TROUBLESHOOTING

If latches do not retract when pushpad is depressed:

Remove cover plate from edge of door

Pull down on **top spool input**. If the top latch fails to actuate, readjust top spool (Steps 4d-1 thru 4d-4).

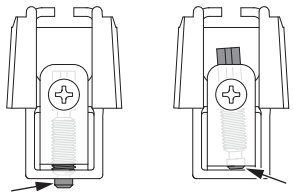
Pull up on **bottom spool input**. If the bottom latch fails to actuate, readjust bottom latch clearance (Steps 8b-1 thru 8b-4).

If both actuate and the door is not functioning, proceed to next check.

Remove center case cover

Check **lift finger screws** to ensure they are still fully seated. If unseated, loosen **locking screw**, and while applying pressure to the head of the **lift finger screw** to seat it, tighten locking screw. If door is not functioning, proceed to next step.

With both **lift finger screws** fully seated, loosen **top and bottom locking screws**, turn **lift finger screws** clockwise to end of travel, and repeat device adjustment, Step 6.



Seated **Unseated**

If bottom spool input does not move during Steps 6b-2 / b-3:

Loosen **bottom spool screw** 10 turns.

If the 33/3550AWDC center case cover is difficult to install:

Loosen bottom screw installed in Step 5c and lift rod connector sleeve until it will go no higher, then retighten screw.

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941359-00

CVC Cable Sizing and Attachment

VON DUPRIN

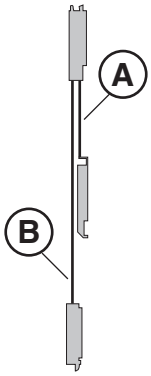
98/9949 and 33/3549A Devices

Installation Instructions

CABLE IDENTIFICATION

1 **Identify Cables and Locations.**

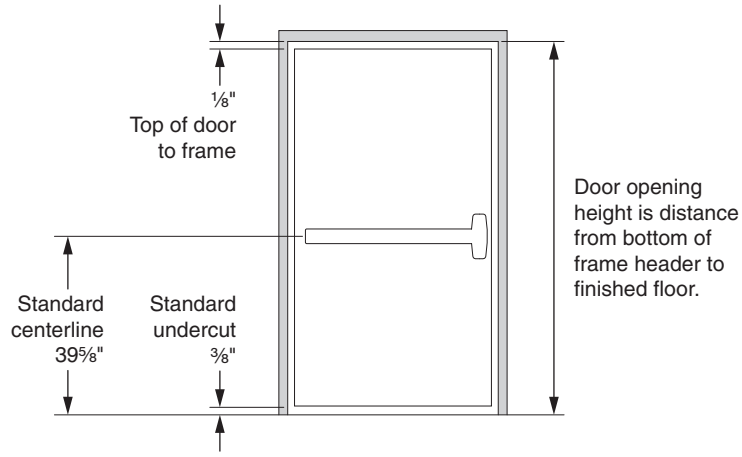
For easy identification, each cable is labeled with part number and location.



CABLE IDENTIFICATION		
	HOLLOW METAL AND ALUMINUM DOORS	
* Door Opening Height	**A** Top Cable (Red)	**B** Bottom Cable (White)
6' 0" - 6' 10"	47250398	47250403
6' 10" - 8' 0"	47250175	47250178
8' 0" - 9' 2"	47250176	47250179
9' 2" - 10' 4"	47250177	47250180
10' 4" - 11' 6"	47250399	47250404
11' 6" - 12' 8"	47250400	47250405
12' 8" - 13' 10"	47250401	47250406
13' 10" - 15' 0"	47250402	47250407

Standard Sizes

* Based on standard centerline of 39⅝" from finished floor



WARNINGS AND CAUTIONS

WARNING

Warnings indicate potentially hazardous conditions, which if not avoided or corrected, may cause death or serious injury.

CAUTION

Cautions indicate potentially hazardous conditions, which if not avoided or corrected, may cause minor or moderate injury. Cautions may also warn against unsafe practices.

Caution: Cautions indicate a condition that may cause equipment or property damage only.

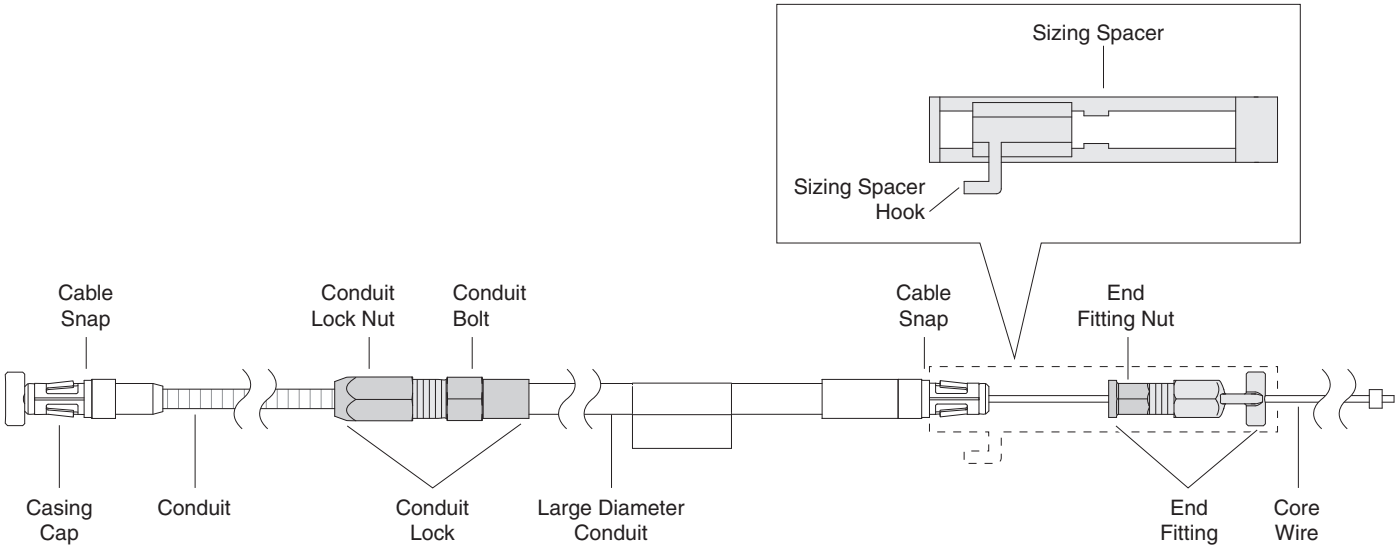
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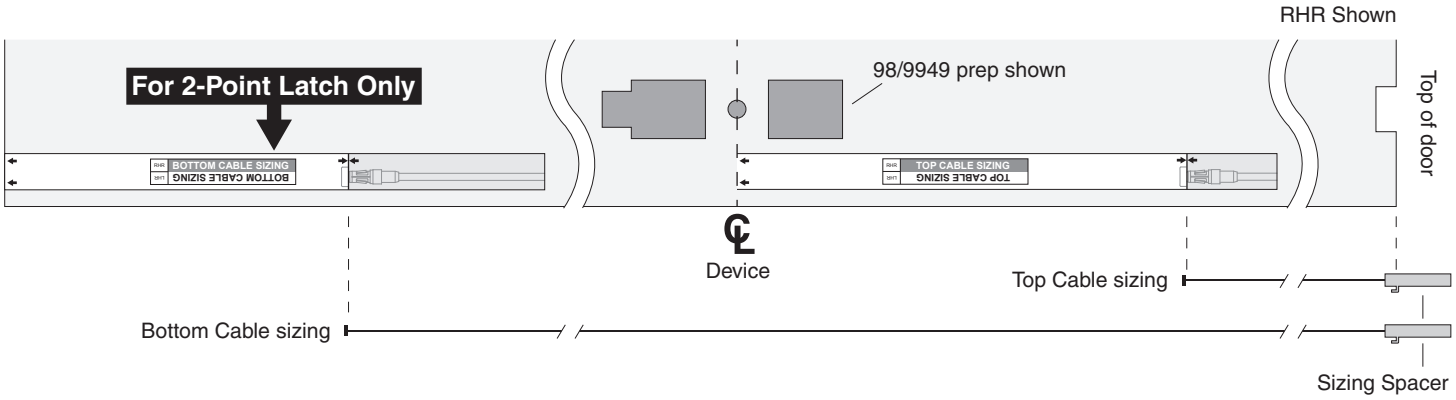
CABLE COMPONENTS



CABLE SIZING PREPARATION

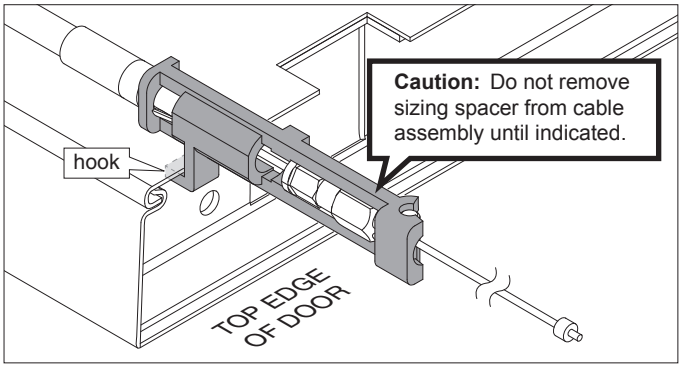
2 **Align Sizing Tape to Horizontal Device Center Line as shown. For Bottom Cable Sizing (if applicable), Align Sizing Tape to Bottom Edge of Door.**

Use cable components diagram above for reference.

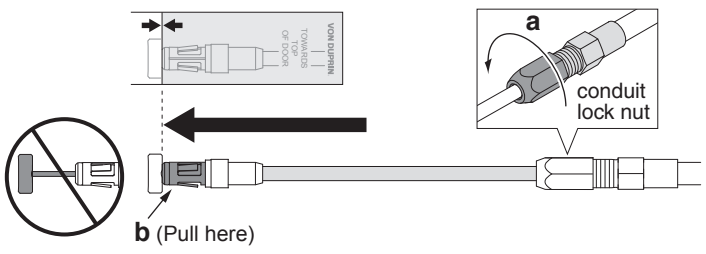


CABLE SIZING

3 **To Size Top Cable, Align Sizing Spacer Hook to Top Edge of Door.**

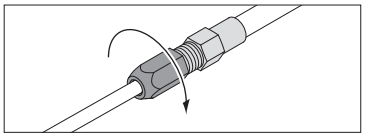


4 **Loosen Conduit Lock Nut ½ Turn. At Opposite End of Cable, Pull Casing Cap to Line on Tape.**

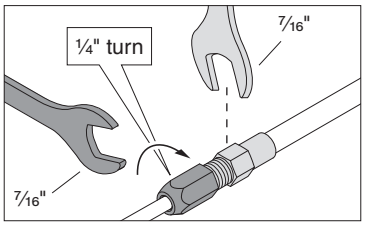


CABLE SIZING (continued)

5 **Hand Tighten Conduit Lock Nut.**



6 **Wrench Tighten Conduit Lock Nut ¼ Turn.**

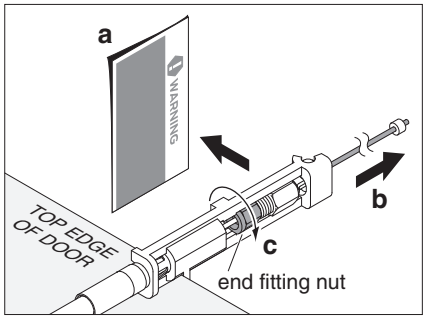


Caution: Do not overtighten.

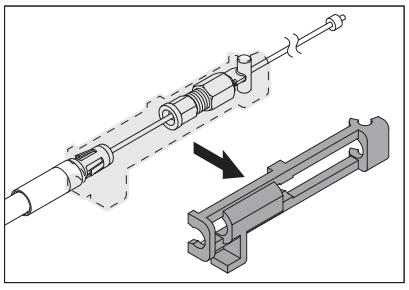
WARNING

Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.

7 **Remove Warning Label. While Pulling Core Wire Tight, Hand Tighten End Fitting Nut.**



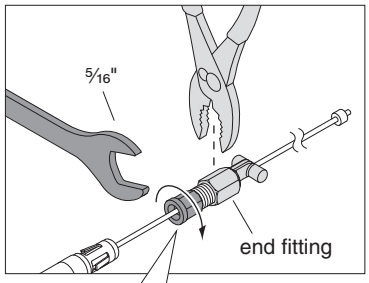
8 **Remove Sizing Spacer. (Do not discard.)**



9 **While Holding End Fitting in Place with Pliers, Fully Tighten End Fitting Nut with Wrench.**

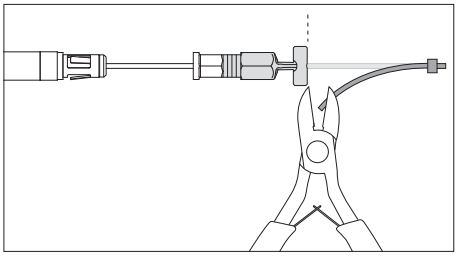
WARNING

Failure to properly tighten end fitting nut will result in device malfunction and possible lock in or lock out situation.

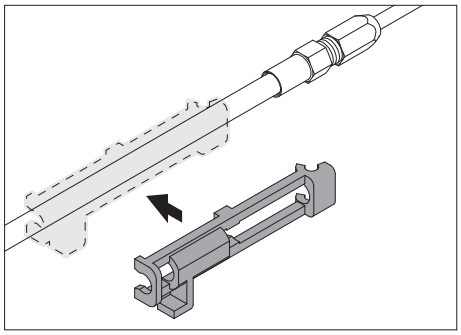


Once tightened down, end fitting nut can't be loosened or readjusted.

10 **Cut Core Wire Flush with End Fitting.**



11 **Snap Sizing Spacer onto Large Diameter Conduit for Storage.**



12 **To Size Bottom Cable, Align Sizing Spacer Hook to Top Edge of Door as before, and Repeat Steps 3 thru 10.**

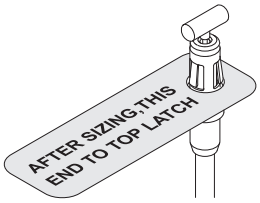
For 2-Point Latch Only

Repeat Steps 3 thru 10

CABLE ATTACHMENT

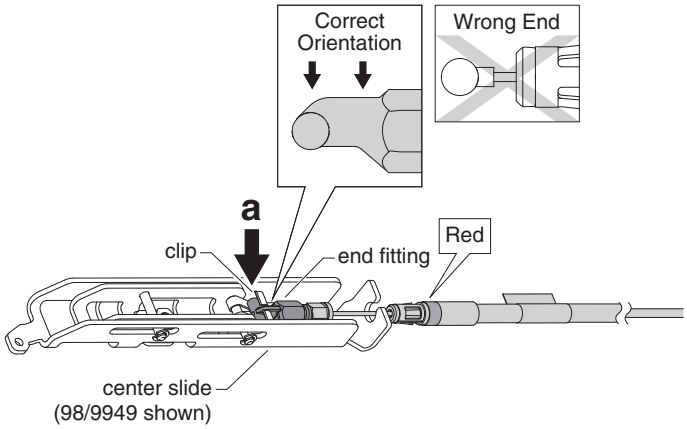
13 Flip Top Cable.

Caution: After sizing, **TOP** cable must be flipped 180° before installing. See tag.

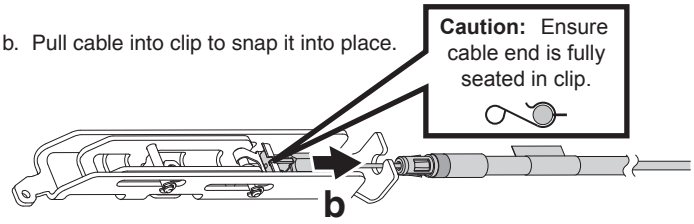


14 Install Top Cable.

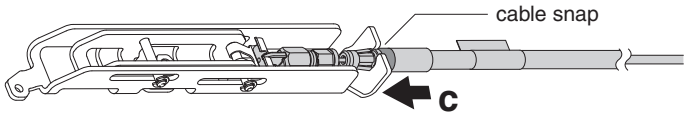
a. There is an end fitting on one end of the red cable. Position this end to clip on center slide.



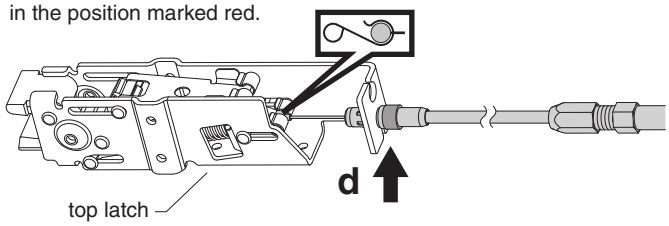
b. Pull cable into clip to snap it into place.



c. Push cable snap against center slide to secure cable.



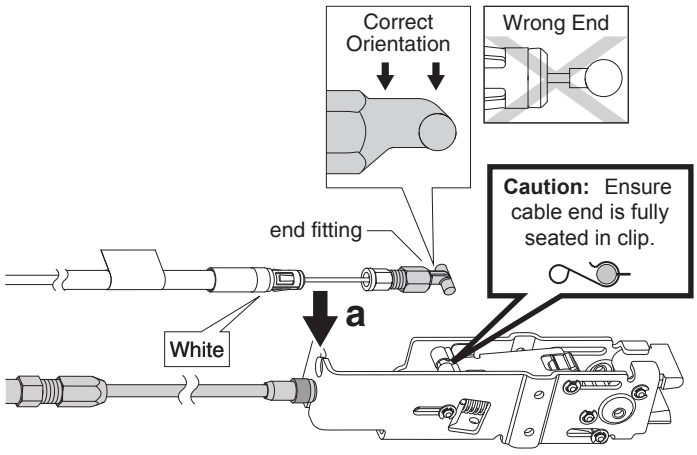
d. Follow steps (a) thru (c) to install opposite end of red cable to top latch in the position marked red.



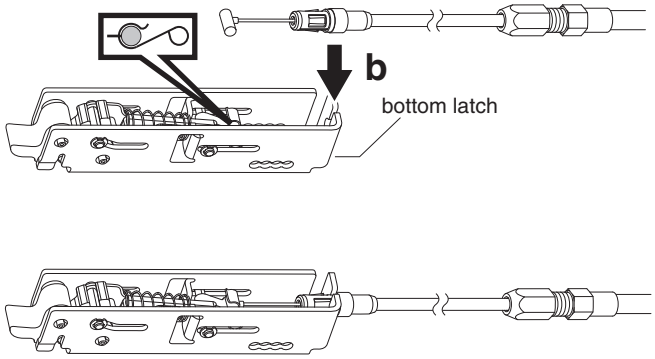
15 Install Bottom Cable.

For 2-Point Latch Only

a. There is an end fitting on one end of the white cable. Install this end to the remaining top latch position (marked as white).



b. Install opposite end of white cable to bottom latch.



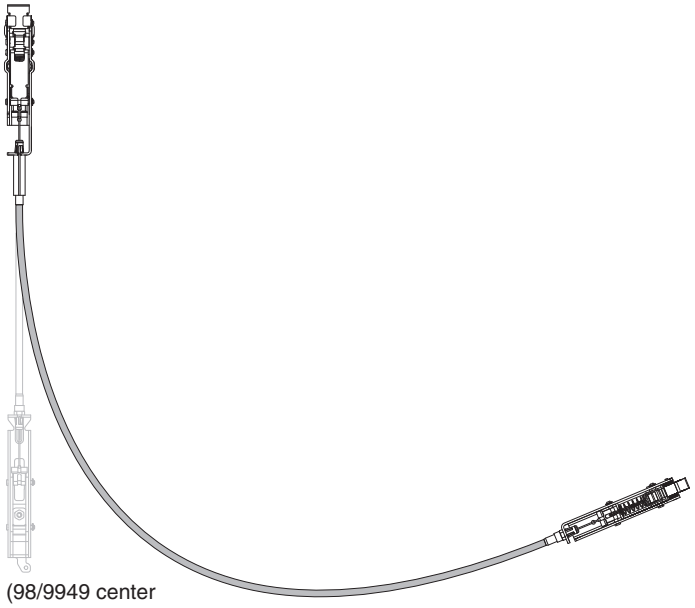
16 Determine if Bottom Latch Retraction Adjustment is Necessary.

For 2-Point Latch Only

CAUTION
Critical step.

CAUTION
Adjustment must be made while the top latch is in the hold-open position.

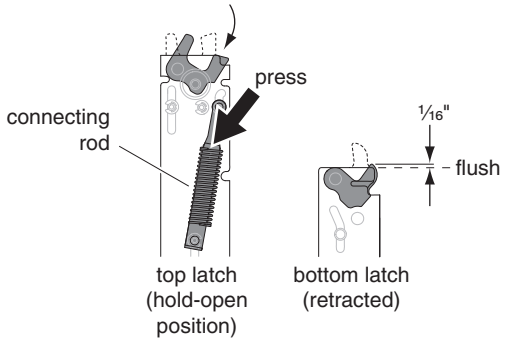
a. Flex the cable into an L-shape as shown to simulate the installed condition of the latches.



(98/9949 center slide shown)

b. To determine whether an adjustment is required, actuate the top latch to the hold-open position by pressing down on the connecting rod. Bottom latch should retract to within 1⁄16" of flush. If it does not, an adjustment is necessary.

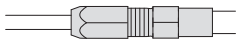
If no adjustment is needed, proceed to Step 18.



17 Adjust Bottom Latch Retraction (if necessary).

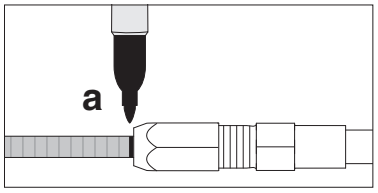
For 2-Point Latch Only

The conduit lock is used to make this adjustment.

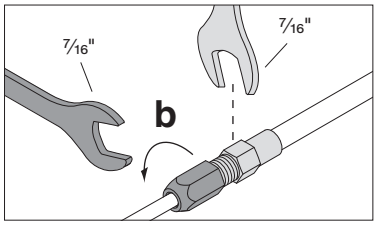


CAUTION
Adjustment must be made while the top latch is in the hold-open position.

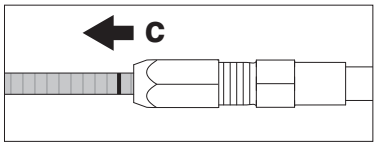
a. Use a permanent marker or tape to mark position of bottom cable conduit.



b. Loosen conduit lock nut so conduit is free to slide.

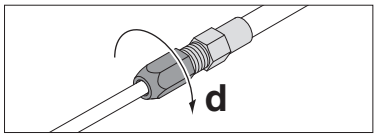


c. Pull until (1) extra wrap of conduit can be seen (1 wrap = 1⁄8").



d. Hand tighten conduit lock nut.

e. Repeat Step 16. Confirm bottom latch now retracts to within 1⁄16" of flush.

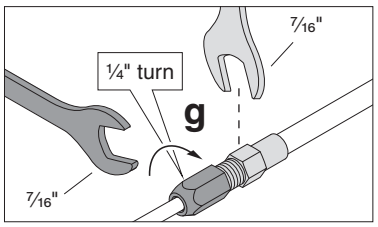


f. If not, loosen conduit lock nut, pull out an additional wrap of conduit, and hand tighten conduit lock nut.

g. Wrench tighten conduit lock nut 1⁄4 turn.

Caution: Do not overtighten.

WARNING
Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.



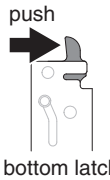
18 Confirm Bottom Deadlatching.

For 2-Point Latch Only

a. Lock top latch. Flex the cable into an L-shape as before.

b. Push against flat side of bottom latchbolt. Latchbolt should NOT release.

If latchbolt releases, return conduit to position marked in Step 17a. Repeat bottom latch retraction adjustment.

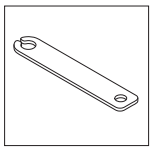


CAUTION
If no bottom latch retraction adjustment was necessary, yet the bottom latch won't deadlatch, contact technical support.

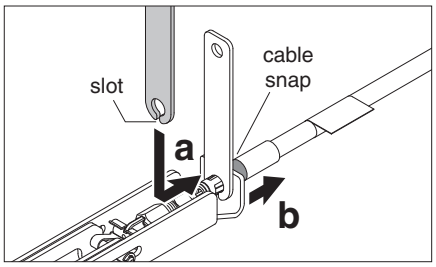
19 **Refer to Device Instructions to Complete Installation.**

CABLE REMOVAL

(If cable was installed in wrong position)



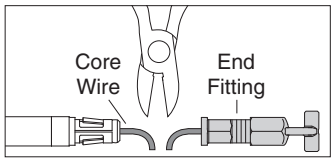
A cable removal tool was included with device.
Slot in tool fits over cable, holding tabs down.
Pull on cable snap to loosen cable for removal.



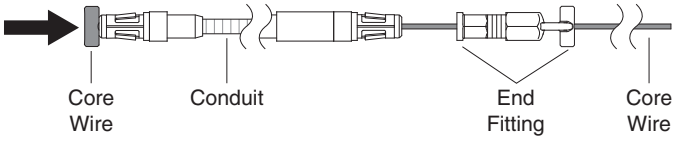
CORE WIRE REPLACEMENT

(If core wire was cut too short)

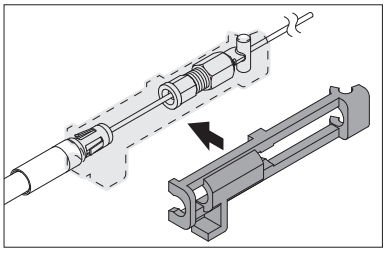
a. Cut core wire. Discard old core wire and end fitting.



b. Slide new core wire thru conduit and end fitting.



c. Reattach spacer as shown.



23970726

33/3549A
CS 33/3549A

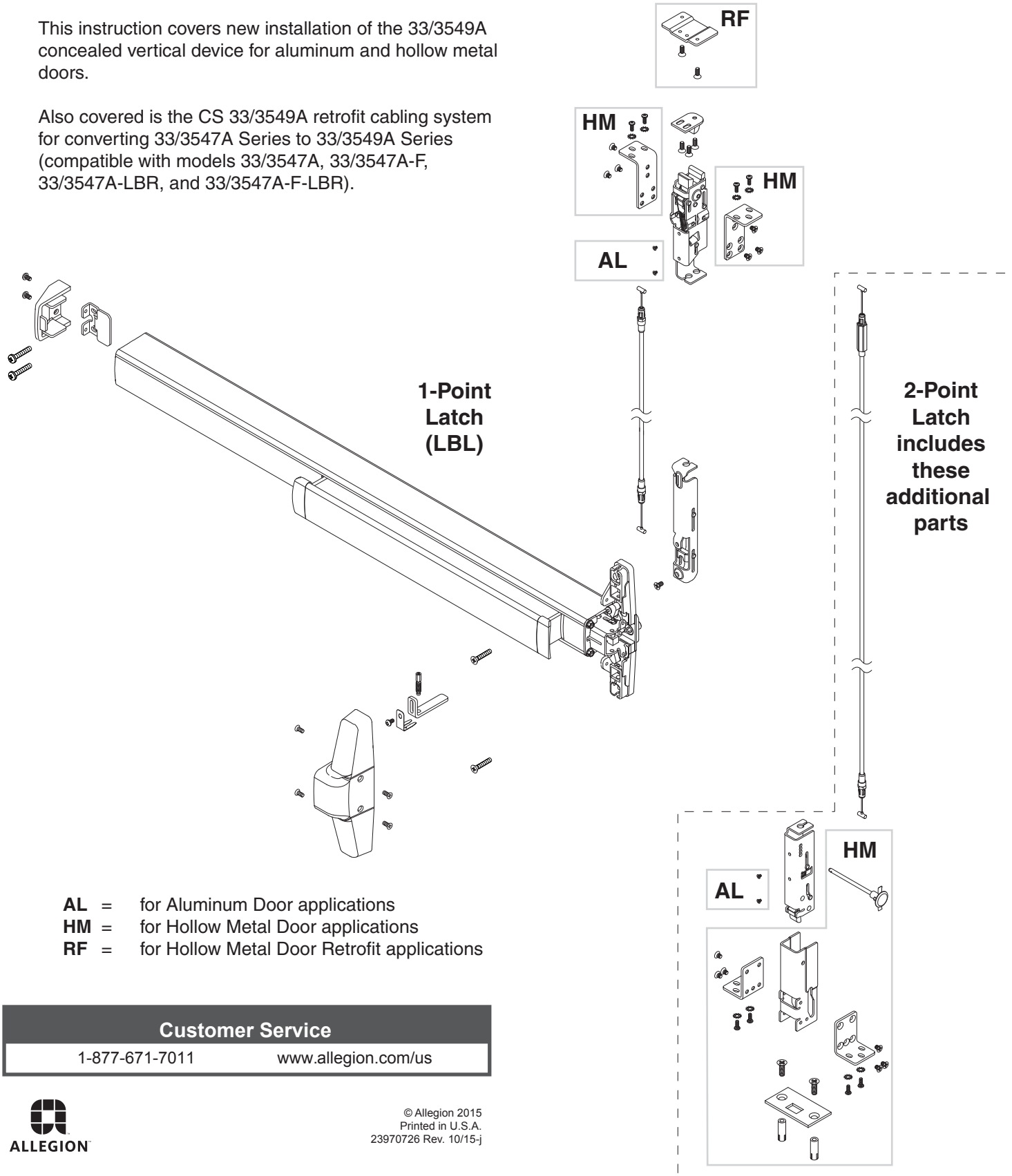
VON DUPRIN

Installation Instructions

FOR DEVICES SOLD PRIOR TO 8-10-16

This instruction covers new installation of the 33/3549A concealed vertical device for aluminum and hollow metal doors.

Also covered is the CS 33/3549A retrofit cabling system for converting 33/3547A Series to 33/3549A Series (compatible with models 33/3547A, 33/3547A-F, 33/3547A-LBR, and 33/3547A-F-LBR).



AL = for Aluminum Door applications
HM = for Hollow Metal Door applications
RF = for Hollow Metal Door Retrofit applications

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

ALLEGION

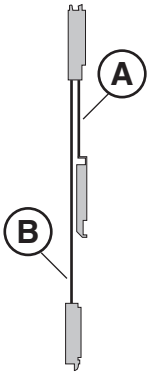
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Printed in U.S.A.
23970726 Rev. 10/15-j

1 Identify Cables and Locations.

(if not preinstalled in door)

NOTE: For retrofit installations, begin at Step 5.

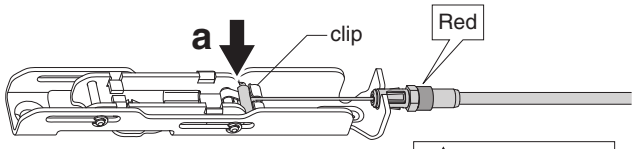
For easy identification, each cable is labeled with part number and location.



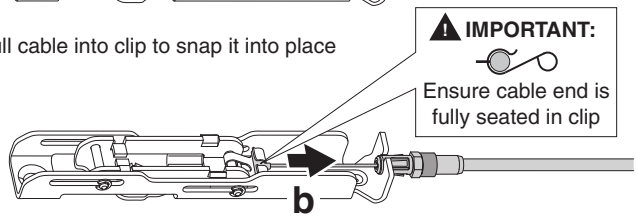
CABLE IDENTIFICATION (STANDARD SIZES)				
	HOLLOW METAL AND WIDE STILE ALUMINUM DOORS		NARROW STILE ALUMINUM DOORS	
Door Opening Height	A Top Cable (Red)	B Bottom Cable (White)	A Top Cable (Red)	B Bottom Cable (White)
6' 8"	23925795	23926207	23925803	23926215
7' 0"	23925761	23926173	23925761	23926173
8' 0"	23925647	23926058	23925647	23926058
9' 0"	23925522	23925936	23925522	23925936
10' 0"	23925407	23925811	23925407	23925811

2 Install Cable(s).

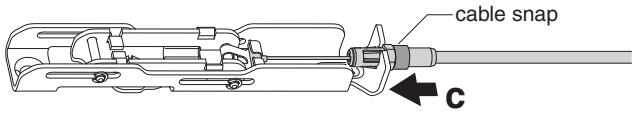
a. Position red cable end to clip on center slide



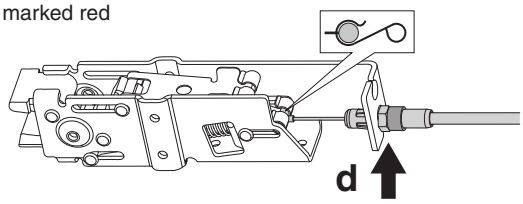
b. Pull cable into clip to snap it into place



c. Push cable snap against center slide to secure cable

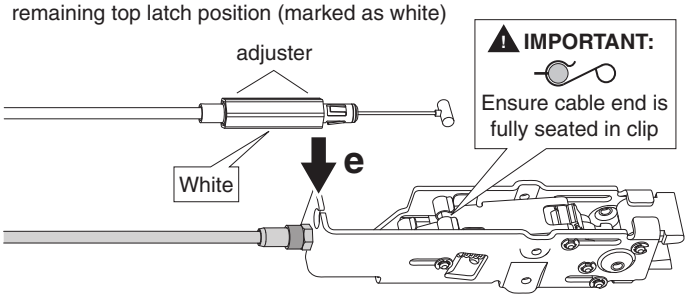


d. In the same way, install opposite end of red cable to top latch in the position marked red

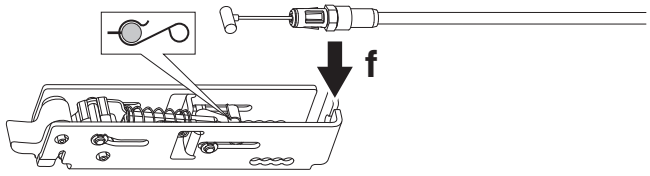


For 2-Point Latch Only

e. There is an adjuster on one end of the white cable. Install this end to the remaining top latch position (marked as white)

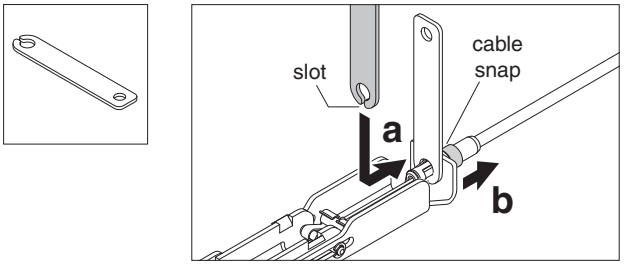


f. Install opposite end of white cable to bottom latch



CABLE REMOVAL

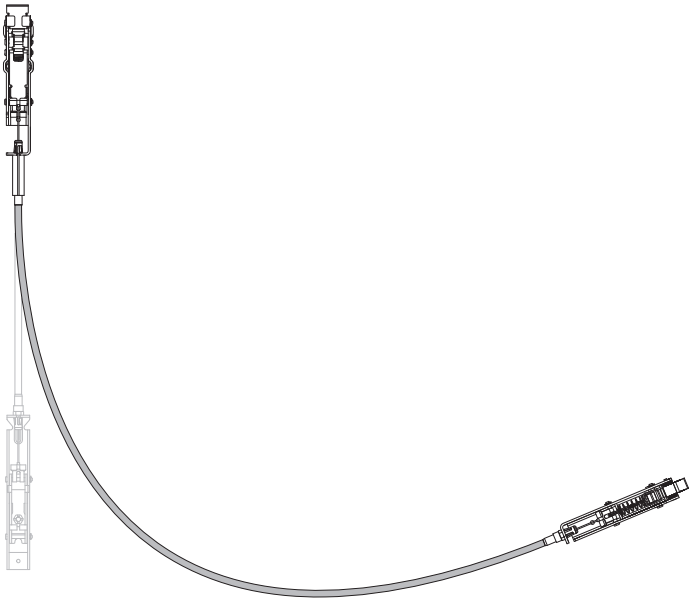
A cable removal tool has been provided. Slot in tool fits over cable, holding tabs down. Pull on cable snap to loosen cable for removal.



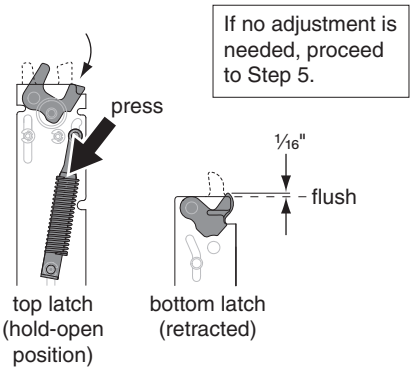
3 Determine if Bottom Latch Retraction Adjustment is Necessary.

For 2-Point Latch Only

a. Flex the cable into an L-shape as shown to simulate the installed condition of the latches.



b. To determine whether an adjustment is required, actuate the top latch to the hold-open position by pressing down on the connecting rod. Bottom latch should retract to within 1/16" of flush. If it does not, an adjustment is necessary.



If no adjustment is needed, proceed to Step 5.

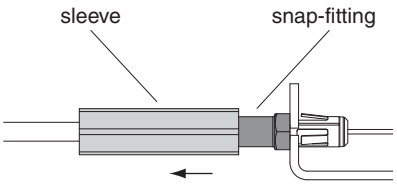
4 Adjust Bottom Latch Retraction (if necessary).

For 2-Point Latch Only

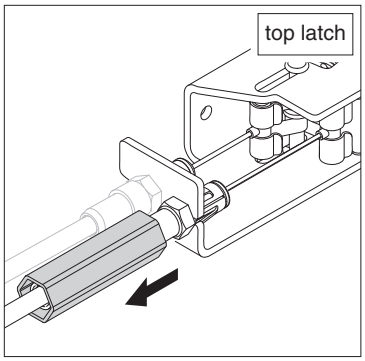
⚠ **NOTE**: Adjustment must be made while the top latch is in the hold-open position, with cable flexed into an L-shape to simulate the installed condition of the latches.



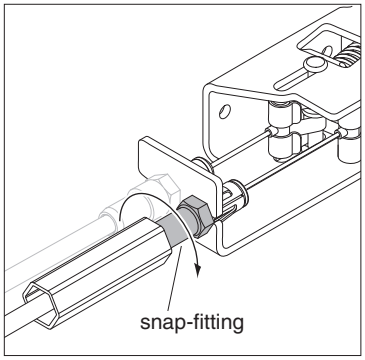
These (2) hex components are used to make the adjustment.



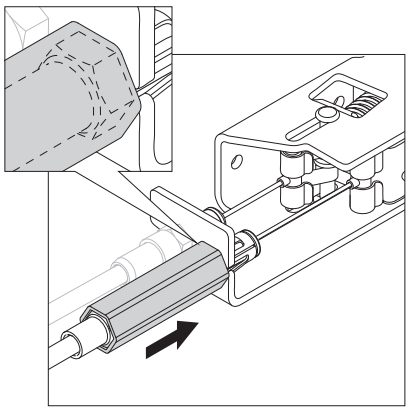
a. Pull back and hold the spring-loaded sleeve.



b. While holding the sleeve in place, rotate the barrel of the snap-fitting clockwise by hand until the bottom latch is retracted to within 1/16" of flush.



c. Slowly release the sleeve, confirming it has seated over the hex end of the snap-fitting.



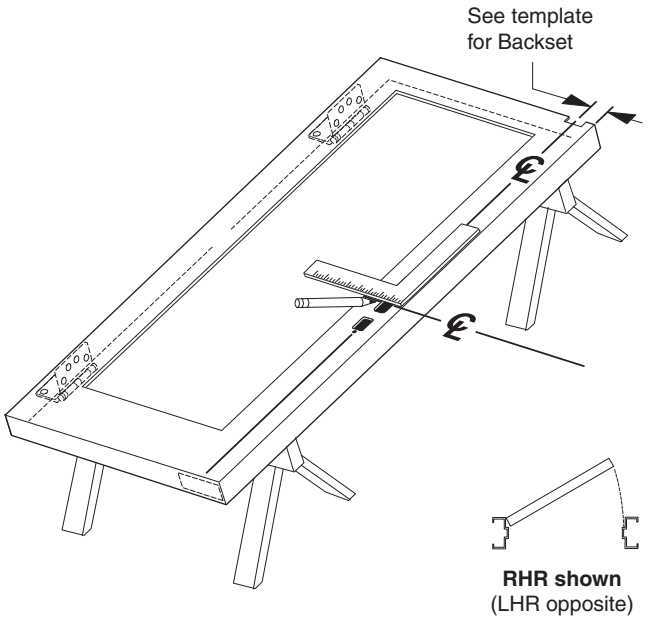
5 If Retrofit Installation

a. Remove device from existing door.

b. Remove and discard existing door.

c. Remove and discard existing strikes.

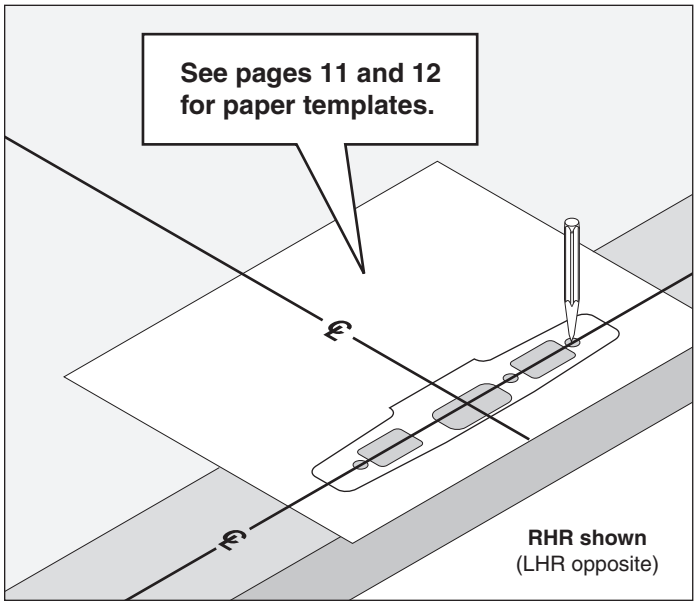
6 With Door Laying Flat, Draw Horizontal and Vertical Device Center Lines (℄).



RHR shown
(LHR opposite)

> ⚠ **NOTE:** Centerlines are predetermined by cutout. If no cutout exists, refer to templates at the back of this instruction to determine centerlines.

7 Align Paper Template to Mark and Prepare Door, if Required.

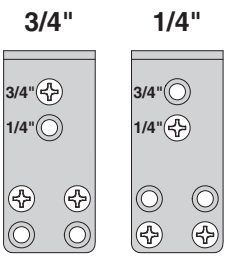


RHR shown
(LHR opposite)

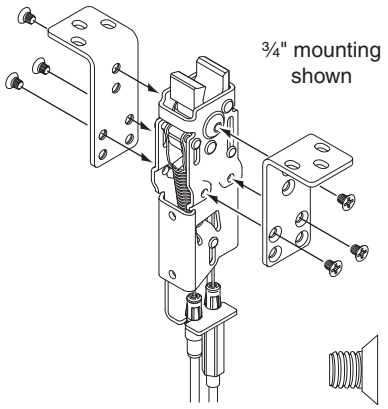
8 Assemble Latch Mounting Brackets.

Hollow Metal

Top

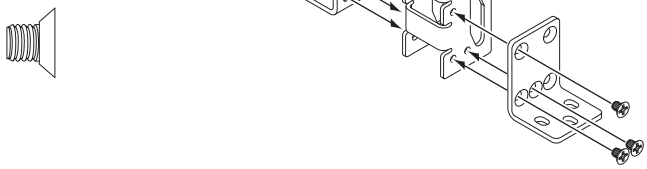


Top Door Channel



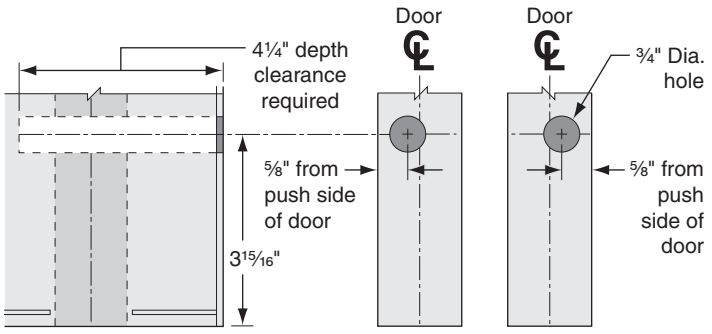
Bottom

For 2-Point Latch Only

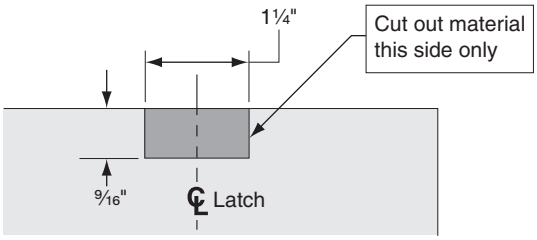


9 Prepare Access Hole for Bottom Latch Adjustment Pin.

Hollow Metal **For 2-Point Latch Only**



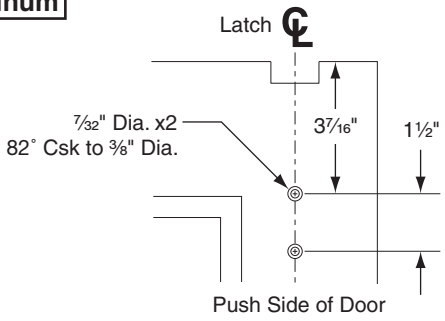
10 If Necessary, Prepare Door for Top Strike Cutout.



Push side of door, RHR shown

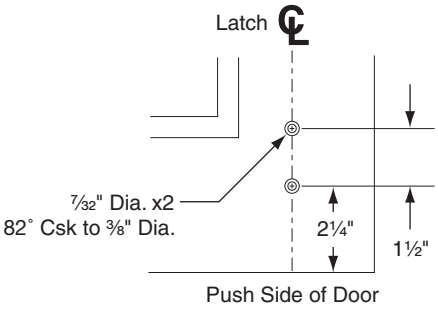
11 Prepare Top of Door for Latch Mounting.

Aluminum

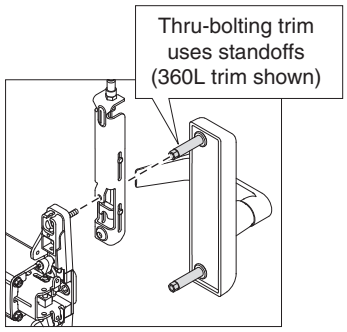


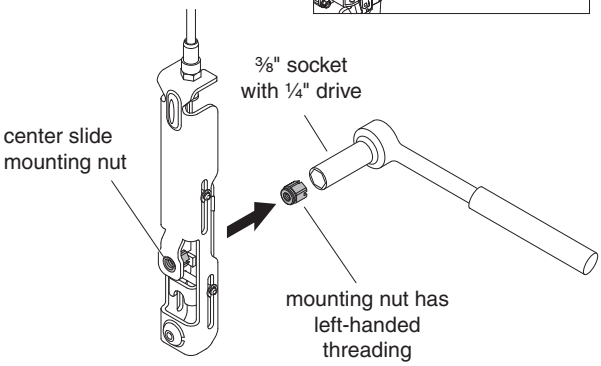
12 Prepare Bottom of Door for Latch Mounting.

Aluminum **For 2-Point Latch Only**



13 If Using 360/386/388 Thru-Bolting Trim, Remove Center Slide Mounting Nut.



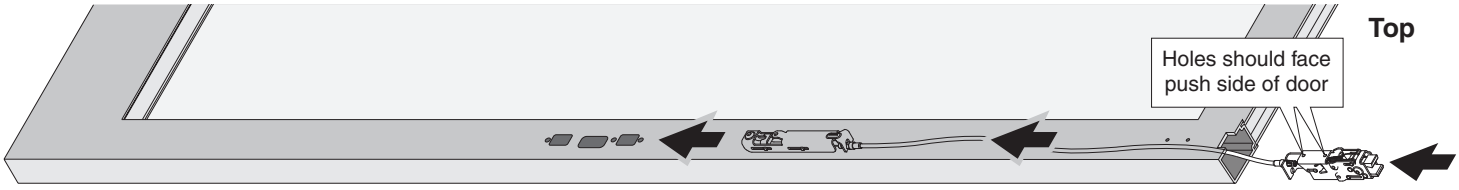


14 Slide Latch and Center Slide Assembly thru Door.

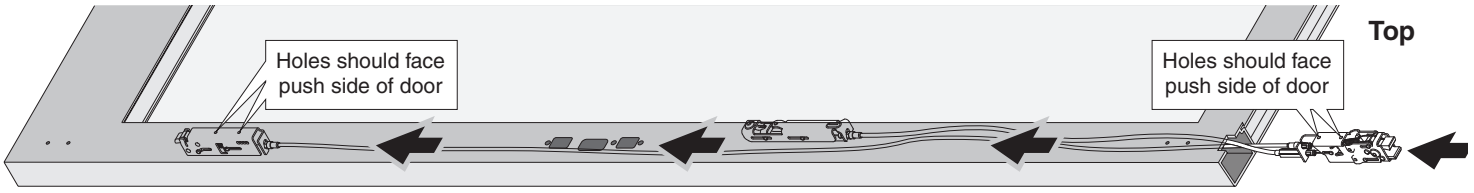
⚠ **NOTE:** Confirm top latch (and bottom latch, if applicable) is in correct orientation before proceeding.

⚠ **NOTE:** It is normal for the cable to bend inside the door, forcing the latch outward.

1-Point Latch (LBL)



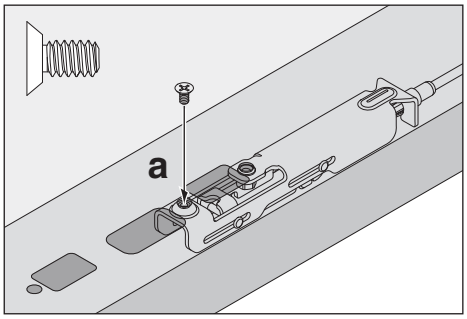
2-Point Latch



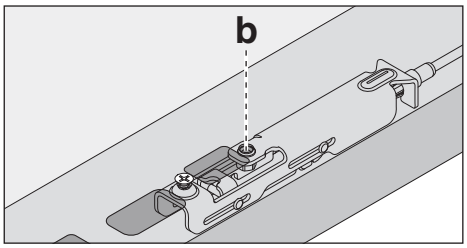
Aluminum Door application shown

15 Secure Center Slide to Door.

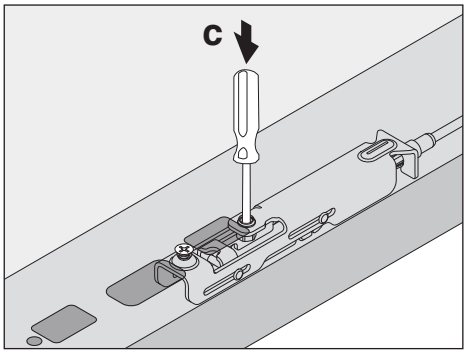
Secure center slide to door by lightly tightening lower screw



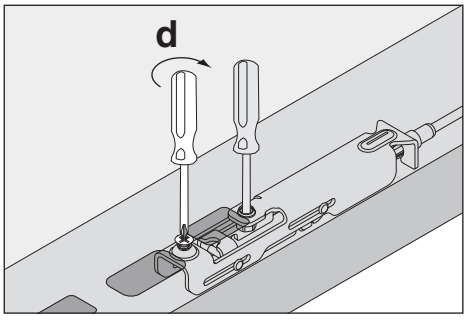
Align upper hole visually



Insert small screwdriver into upper hole to prevent center slide from rotating

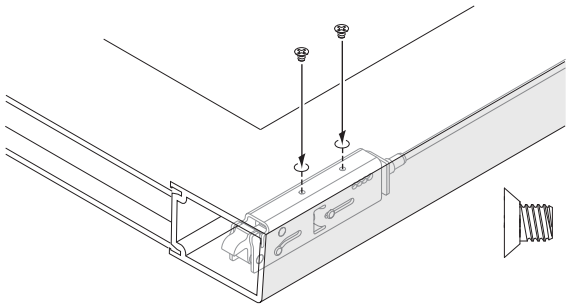


Fully tighten lower screw



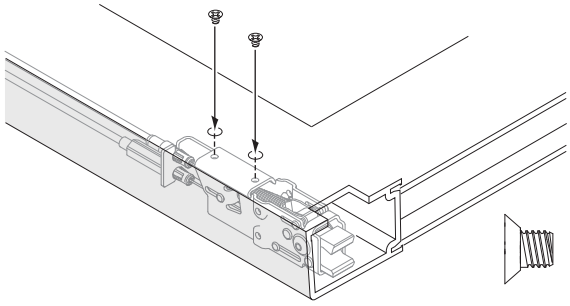
16 Align Bottom Latch and Install Mounting Screws.

Aluminum **For 2-Point Latch Only**



17 Secure Top Latch with 2 Screws.

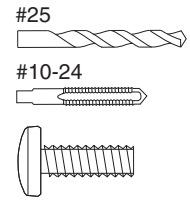
Aluminum

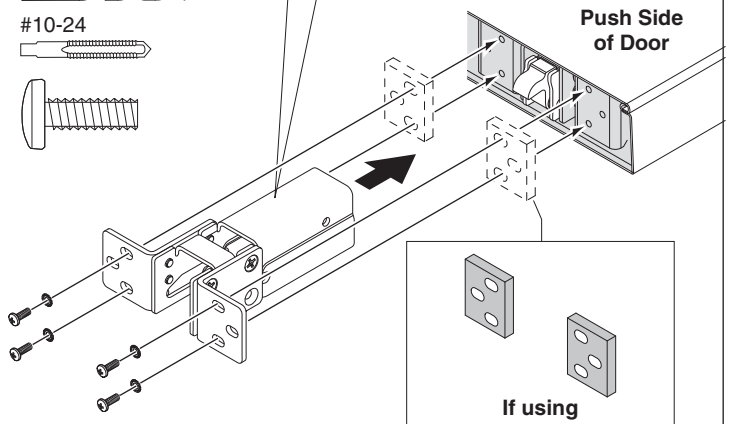


18 Install Bottom Latch Mounting Bracket Assembly.

Hollow Metal **For 2-Point Latch Only**

NOTE: Confirm correct orientation of assembly before proceeding. Open side of housing should face pull side of door.





NOTE: Use 2 screws per bracket (center hole not used for this application).

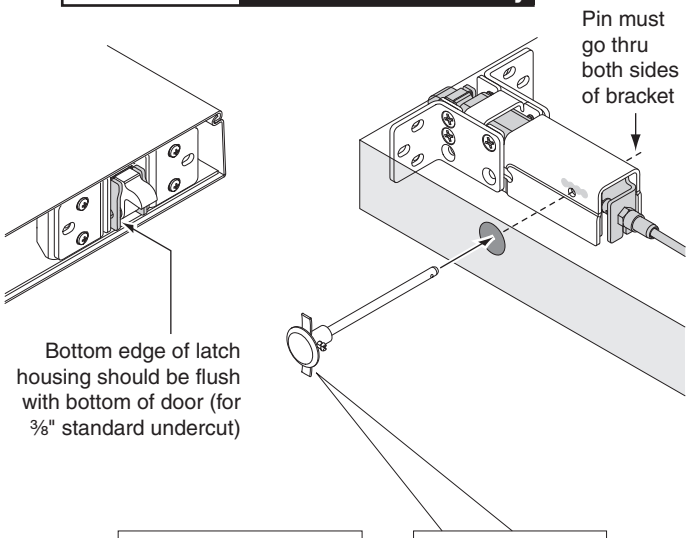
If using ¾" undercut door

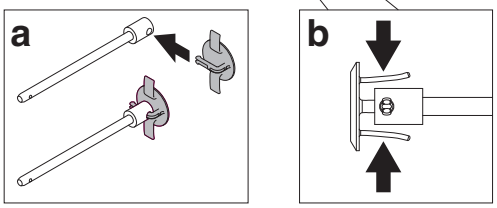
spacer blocks (2) are required

Spacer Block Kit (24231516) purchased separately

19 Insert Latch Adjustment Pin to Hold Bottom Latch in Place.

Hollow Metal **For 2-Point Latch Only**





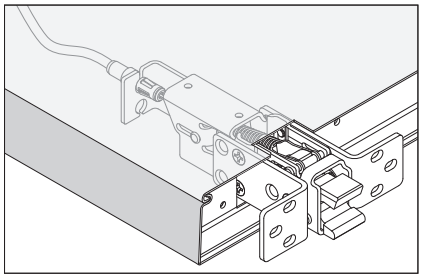
Assemble pin

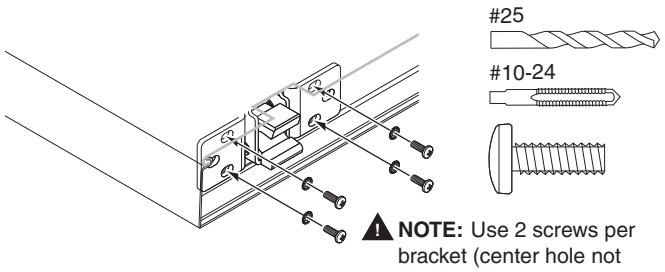
Squeeze tabs on cap, then insert pin

20 Secure Top Latch Mounting Bracket.

Hollow Metal

⚠ **NOTE:** It is normal for the cable to bend inside the door, forcing the latch outward as shown here.



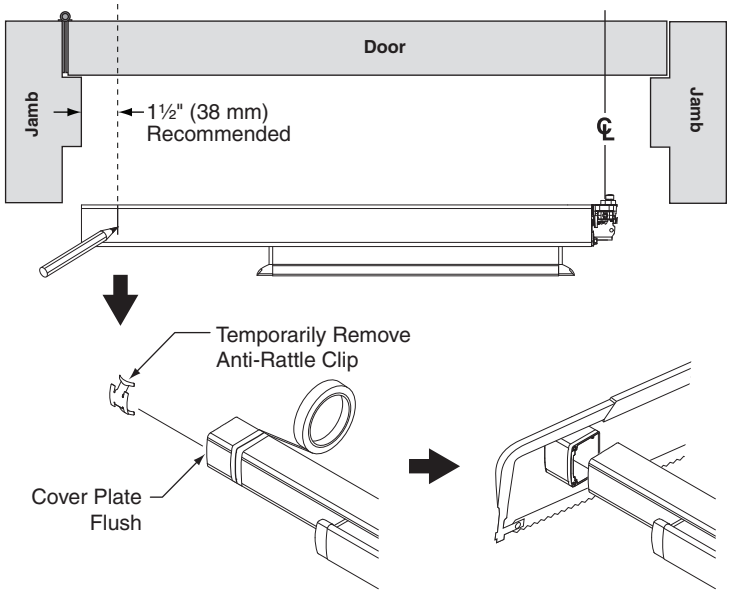


⚠ **NOTE:** Use 2 screws per bracket (center hole not used for this application).

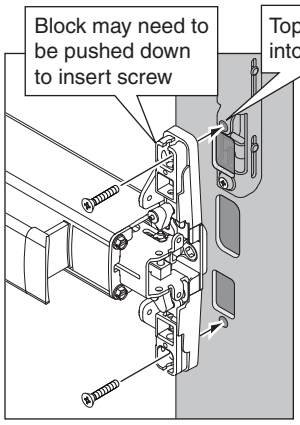
21 Hang Door on Frame.

⚠ **CAUTION:** For 2-point latches, bottom latch cannot be in locked position while hanging door on frame. Latch must be retracted.

22 If Necessary, Cut Device.

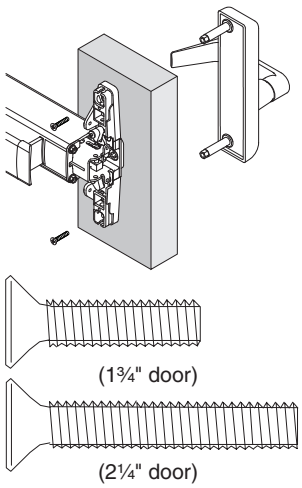


23 Attach Center Case to Door.



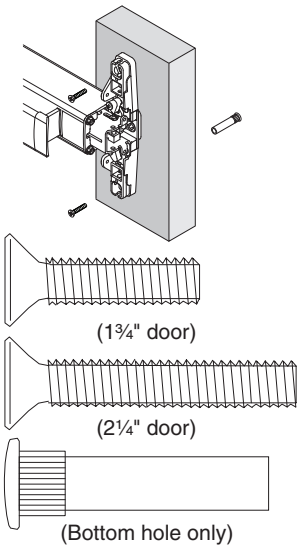
⚠ **NOTE:** If using 360/386/388 trim, this screw will pass thru top center slide hole and secure directly into trim.

Thru-bolting Trim

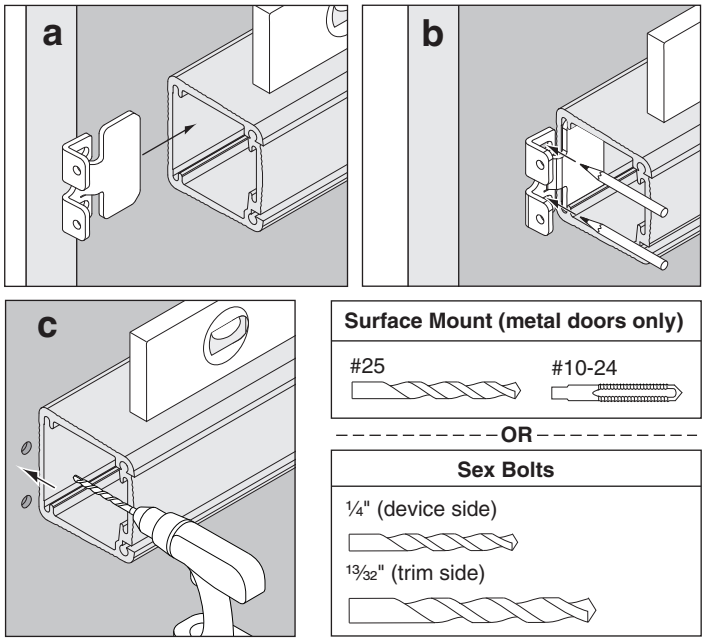


OR

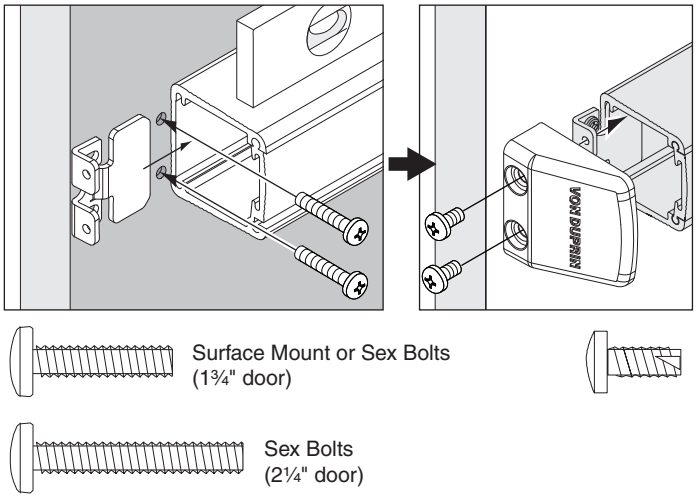
Sex Bolt



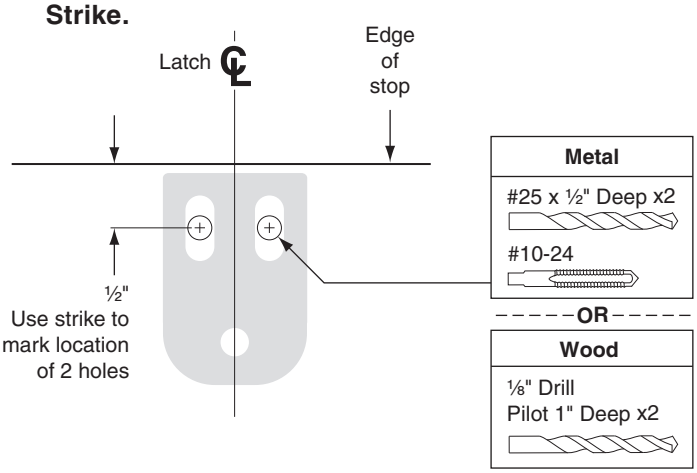
24 Mark and Prepare 2 Holes.



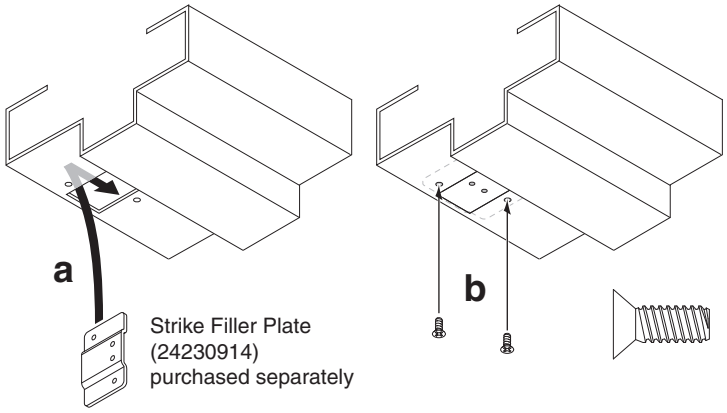
25 Install End Cap Bracket and End Cap.



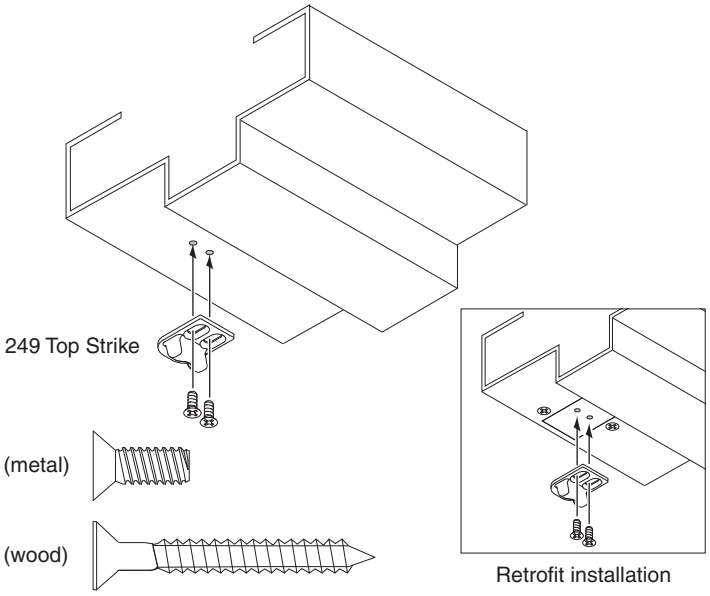
26 If New Installation, Prepare Door Frame for Top Strike.



27 If Retrofit Installation, Install Steel Cover Plate to Cover Existing 338 Strike Opening in Accordance with the Frame Manufacturer's Fire Listing.

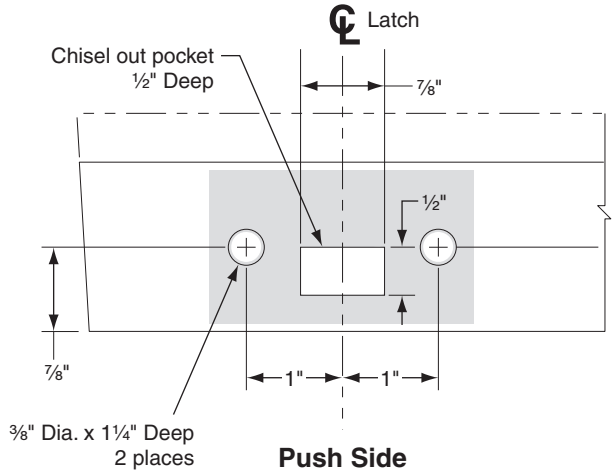


28 Install 2 Top Strike Screws Using the Slot Features on the Strike.



29 Prepare Floor for Bottom Strike.

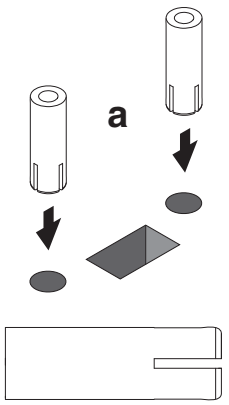
Hollow Metal **For 2-Point Latch Only**



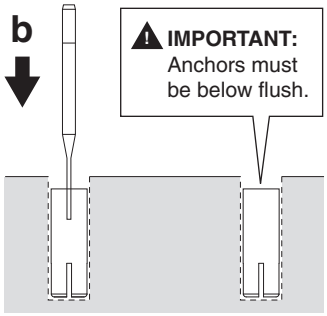
30 Install Bottom Strike.

Hollow Metal **For 2-Point Latch Only**

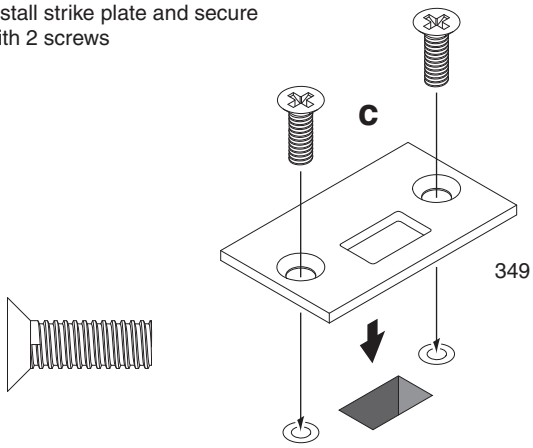
Clear holes of debris, then drop in anchors (slotted end first)



Secure the anchors using a hammer and punch



Install strike plate and secure with 2 screws

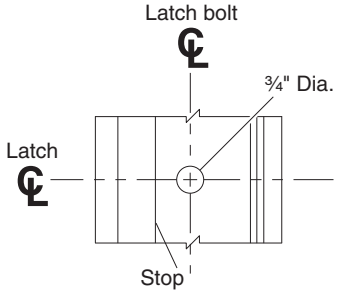


31 Prepare Threshold.

Aluminum **For 2-Point Latch Only**

a. After closing door with bottom latch installed, mark the location the bottom latch bolt is contacting the threshold.

b. Drill a ¾" diameter hole in the threshold.



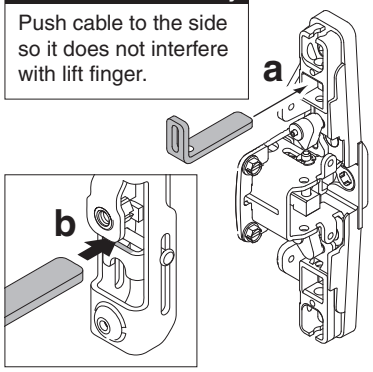
32 Install Lift Finger and Retainer Clip.

NOTE: The lift finger installation and adjustment must be performed while the latches are in the extended (latched) position.

Slide L-shaped lift finger thru block in device center case and then into center slide

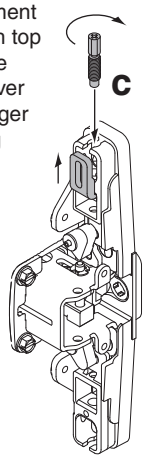
For 2-Point Latch Only

Push cable to the side so it does not interfere with lift finger.

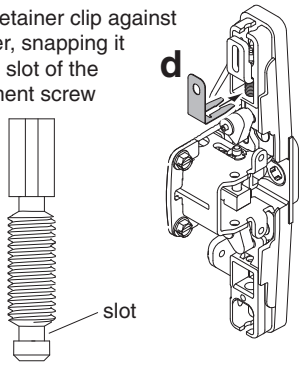


Lift finger must insert into center slide here

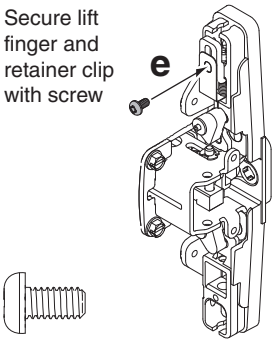
Insert adjustment screw through top slot and rotate with screwdriver to raise lift finger until it is snug against block



Install retainer clip against lift finger, snapping it into the slot of the adjustment screw



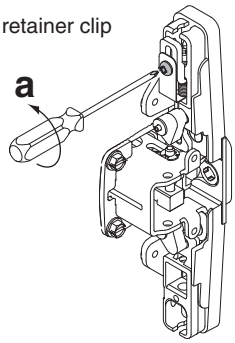
Secure lift finger and retainer clip with screw



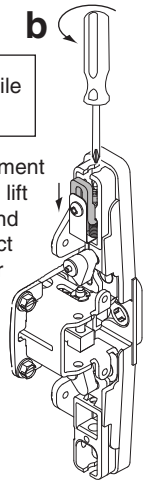
33 Adjust Lift Finger.

NOTE: Lift finger adjustment must be performed while the latches are in the extended (latched) position.

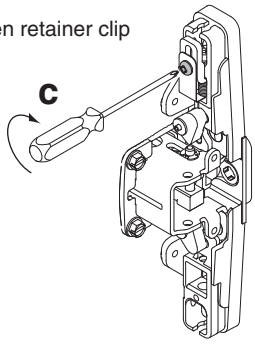
Loosen retainer clip screw



Loosen adjustment screw until the lift finger drops and you feel contact with the center slide



Tighten retainer clip screw



34 Perform Functional Test of Door.

a. Depress pushbar. Door should begin to open when pushbar is nearly fully depressed. If necessary, refer to Step 33 to readjust lift finger.

b. With door closed, top latch should be secure.

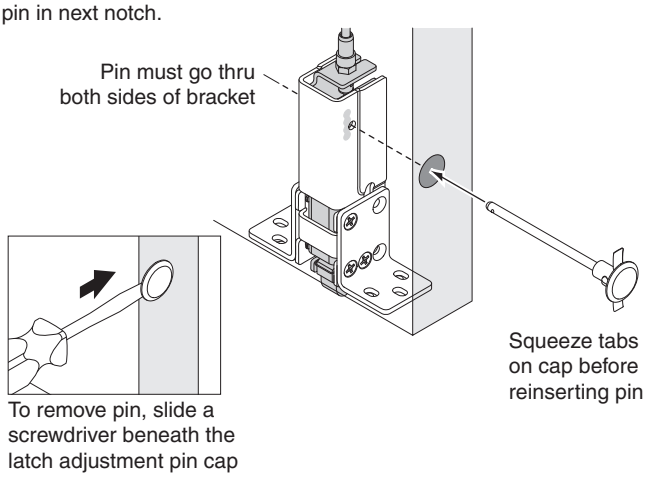
For 2-Point Latch Only

c. With door closed, bottom latch should be secure.

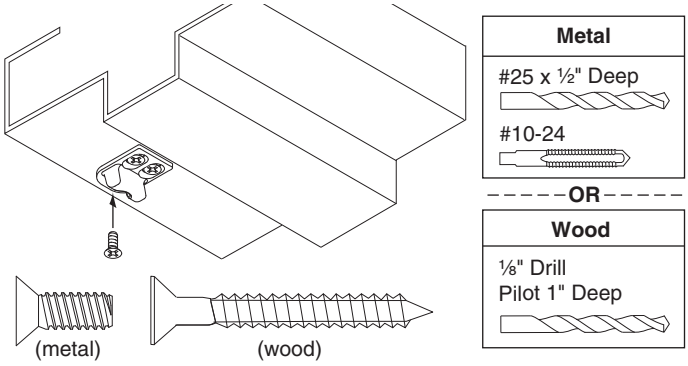
d. Confirm that bottom latch does not drag against floor when door is opened.

Hollow Metal **For 2-Point Latch Only**

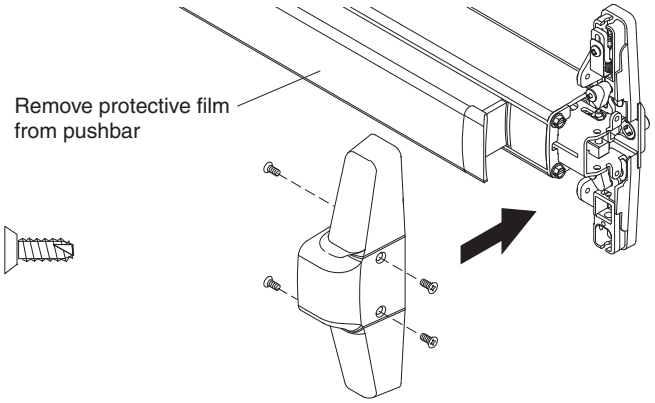
If this occurs, remove latch adjustment pin and raise latch, then reinsert pin in next notch.



35 Adjust Top Strike as Necessary, then Install the Third Strike Screw to Fix the Strike Position.



36 Install Center Case Cover.



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.

CD function conversion

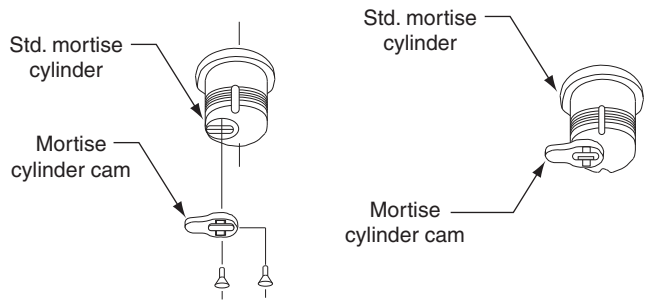
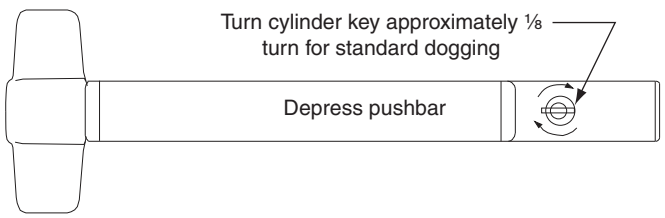


Figure 1

Dogging procedure



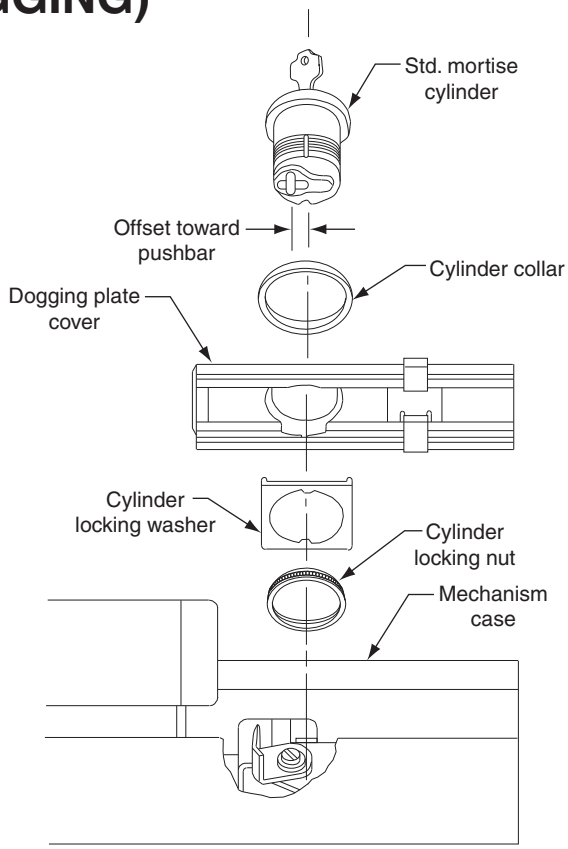
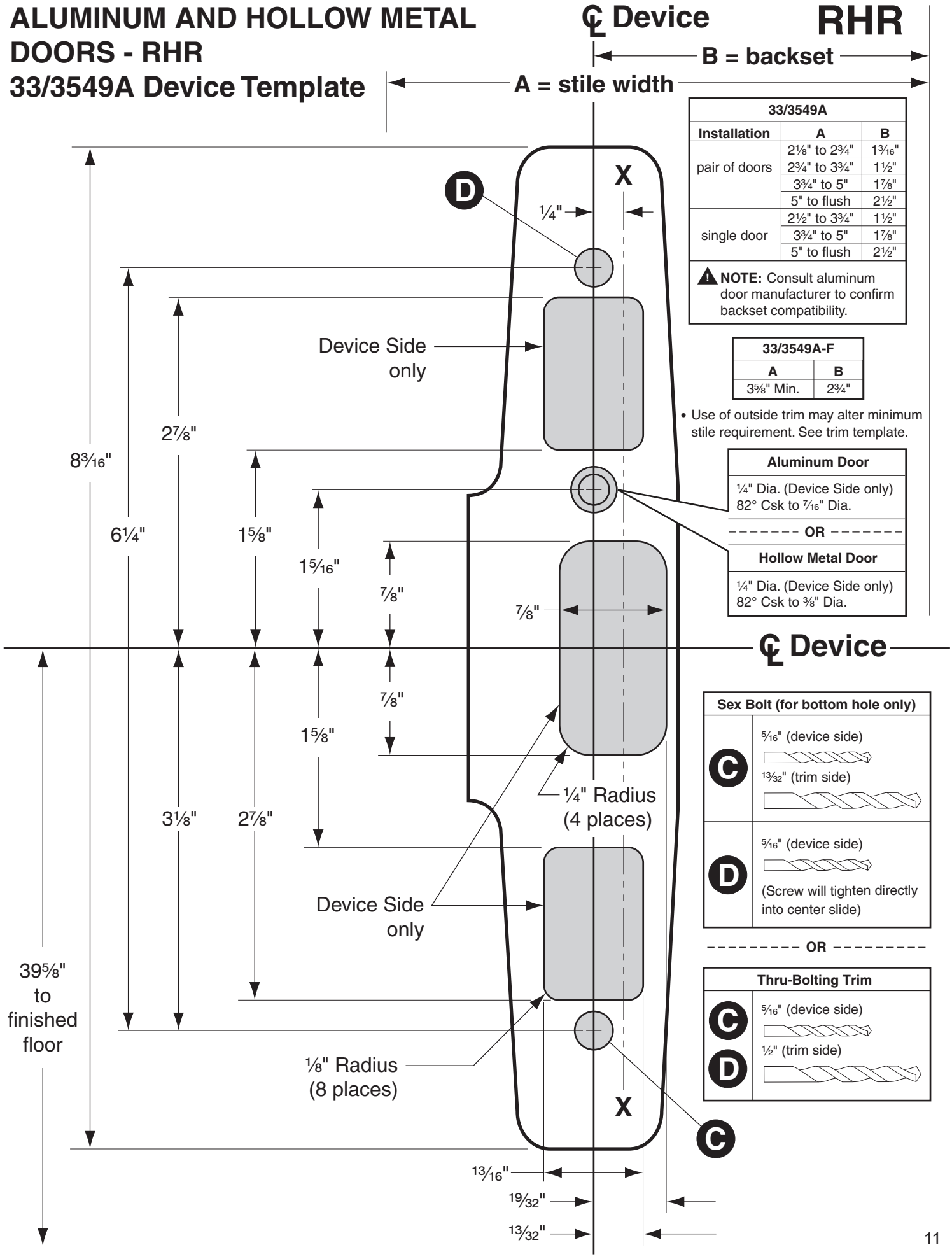


Figure 2

ALUMINUM AND HOLLOW METAL DOORS - RHR
33/3549A Device Template



33/3549A		
Installation	**A**	**B**
pair of doors	2⅛" to 2¾"	1³⁄₁₆"
	2¾" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"
single door	2½" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"

⚠ **NOTE:** Consult aluminum door manufacturer to confirm backset compatibility.

33/3549A-F	
A	**B**
3⅝" Min.	2¾"

- Use of outside trim may alter minimum stile requirement. See trim template.

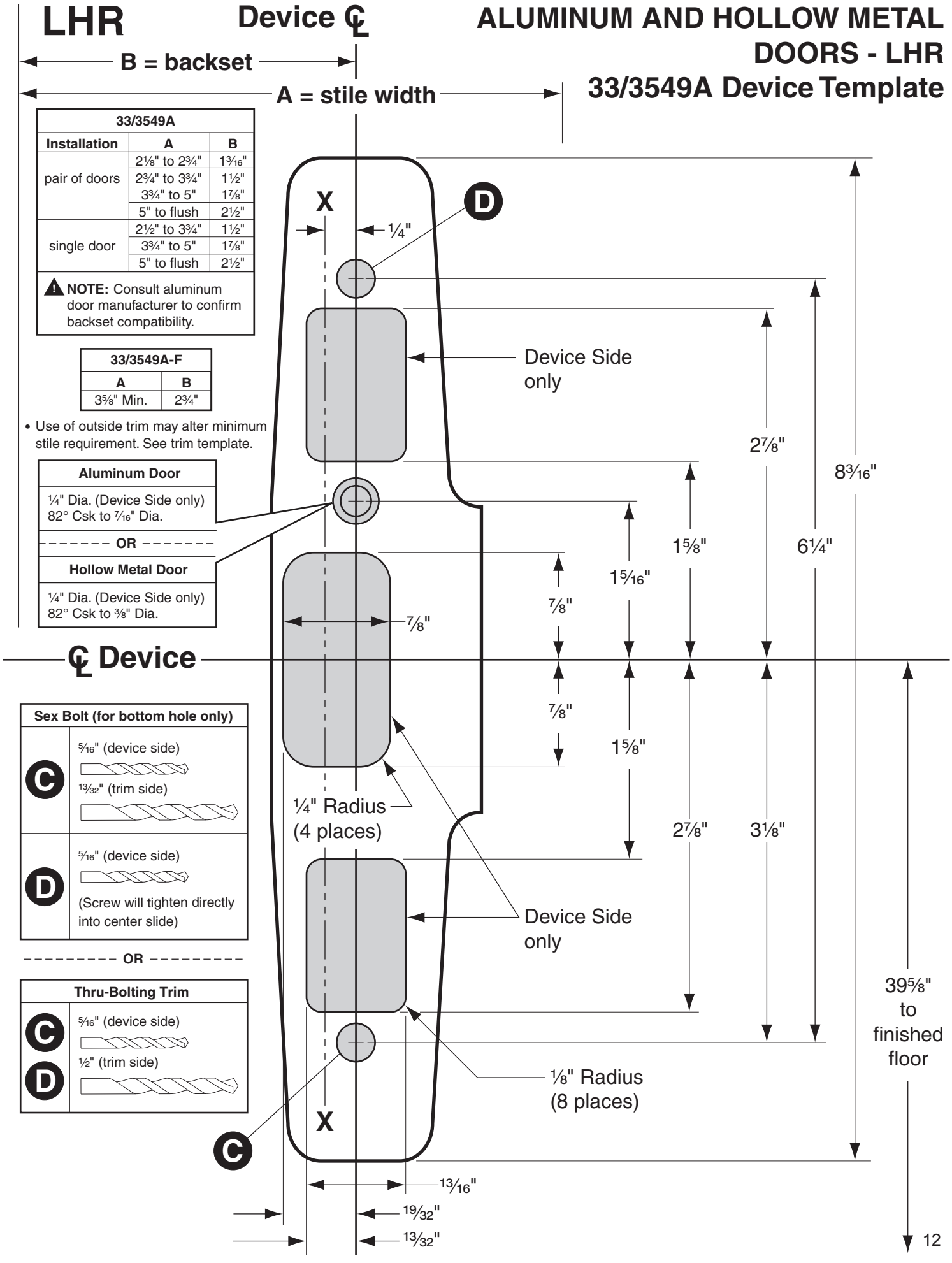
Aluminum Door
¼" Dia. (Device Side only) 82° Csk to 7⁄16" Dia.
OR
Hollow Metal Door
¼" Dia. (Device Side only) 82° Csk to ⅜" Dia.

Sex Bolt (for bottom hole only)	
C	5⁄16" (device side) 13⁄32" (trim side)
D	5⁄16" (device side) (Screw will tighten directly into center slide)

OR

Thru-Bolting Trim	
C	5⁄16" (device side)
D	½" (trim side)

ALUMINUM AND HOLLOW METAL DOORS - LHR
33/3549A Device Template



33/3549A		
Installation	**A**	**B**
pair of doors	2⅛" to 2¾"	1³⁄₁₆"
	2¾" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"
single door	2½" to 3¾"	1½"
	3¾" to 5"	1⅞"
	5" to flush	2½"

⚠ **NOTE:** Consult aluminum door manufacturer to confirm backset compatibility.

33/3549A-F	
A	**B**
3⅝" Min.	2¾"

- Use of outside trim may alter minimum stile requirement. See trim template.

Aluminum Door
¼" Dia. (Device Side only) 82° Csk to 7⁄16" Dia.
OR
Hollow Metal Door
¼" Dia. (Device Side only) 82° Csk to ⅜" Dia.

Sex Bolt (for bottom hole only)	
C	5⁄16" (device side) 13⁄32" (trim side)
D	5⁄16" (device side) (Screw will tighten directly into center slide)

OR

Thru-Bolting Trim	
C	5⁄16" (device side)
D	½" (trim side)

Exit Devices – 55 Devices

24509507

55DU/RX55DU

VON DUPRIN

Dummy Crossbars

Installation Instructions

1 Prepare Door.

a. Draw horizontal center line 39 13/16" from finished floor.
b. Tape full size Template 1 or 2, depending on handing of door, to inside face of lock stile and hinge stile. In addition to the templates, refer to Figure 1 (for single door) and Figure 2 (for a pair of doors) for placement of vertical center lines.

NOTE: Be sure center lines for lock/hinge stile cases are parallel to stop or edge of door.

c. Prepare door as shown. See Figure 3 for metal door application, and Figure 4 for wood door application.

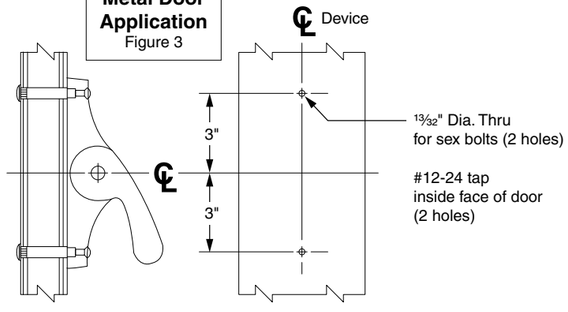
2 Apply Lock Stile Case.

a. Attach lock stile case to door (See Figure 3 or Figure 4).

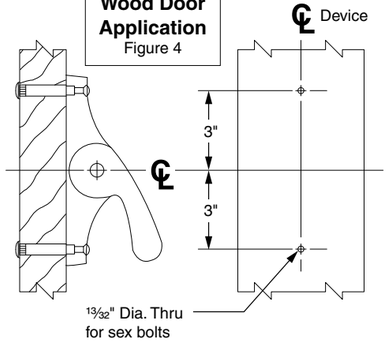
3 Apply Hinge Stile Case and Crossbar Tube (Figure 5).

a. Slip crossbar tube on lock stile and hinge stile lever arms. (See instruction 941009 for cutting crossbar, if necessary.)
b. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on center line of exposed stile.
c. Using holes in hinge stile case, mark location and prepare door for sex bolts.
d. Apply hinge stile case with crossbar in place.
e. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage and test crossbar for free action. (See instruction 941009.)

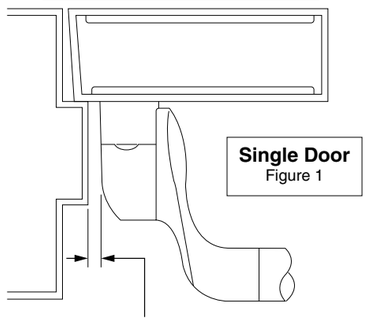
Metal Door Application
Figure 3



Wood Door Application
Figure 4

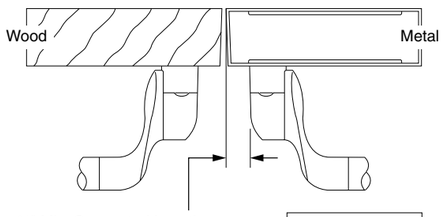


CAUTION: This product does not function as a panic device.



Single Door
Figure 1

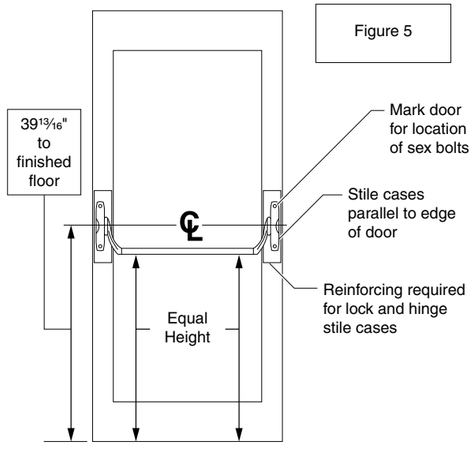
¼" Min. Suggested Location
(same for hinge stile and lock stile)



¾" Min. Suggested Location
from edge of door to edge of panic
(same for hinge stile and lock stile)

Pair of Doors
Figure 2

Figure 5

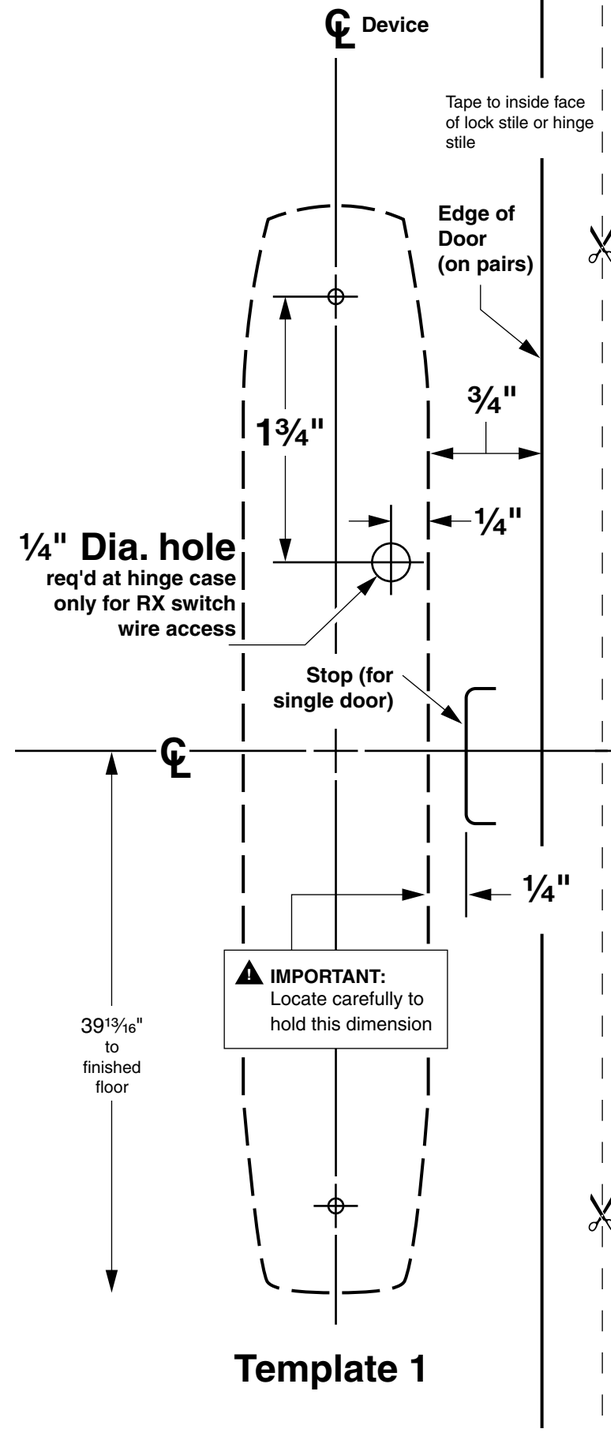


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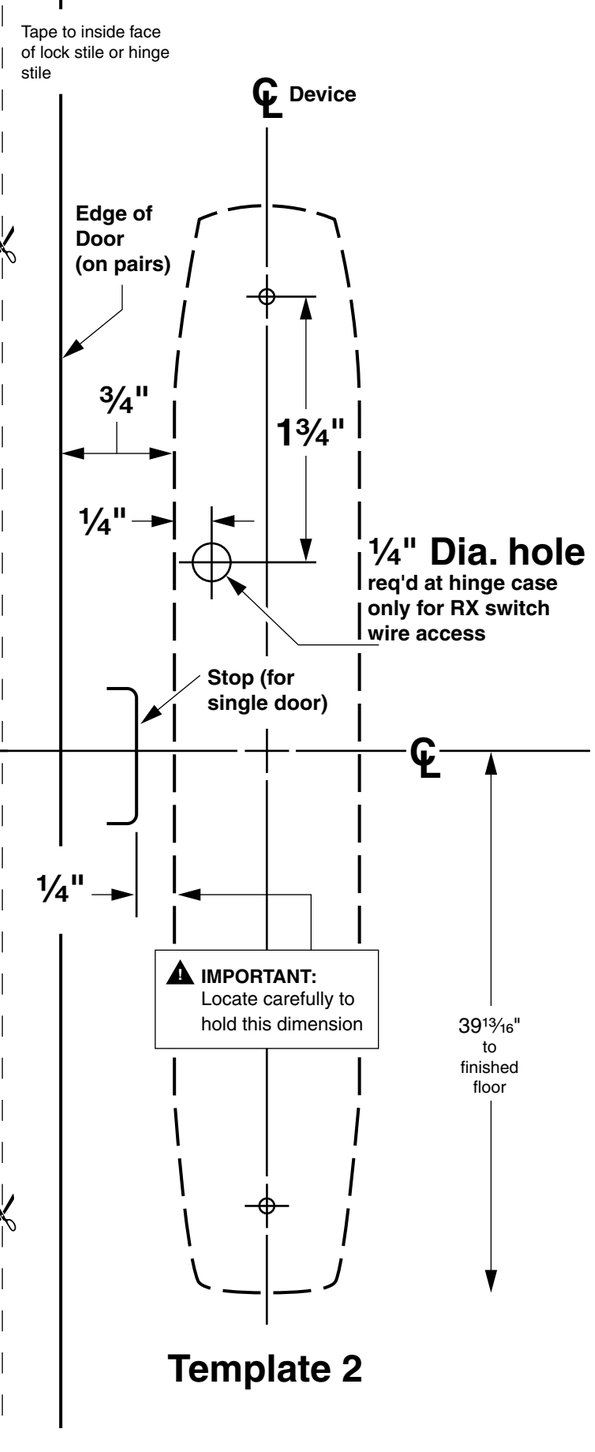
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Lock Case Template for RHR Door
Hinge Case Template for LHR Door



Template 1

Lock Case Template for LHR Door
Hinge Case Template for RHR Door



Template 2

911069-00

5575

VON DUPRIN

Wood Door Exit Device

Installation Instructions

1. Install threshold(s), if used, and fit and hang door(s).
2. Check that device handing matches door handing. If not, change device handing (see instructions in reversing package).
3. Tape full size RHR or LHR lock stile case and hinge stile case templates to inside face of door (Figure 1). Be sure center line of device is 39-13/16" from finished floor. Prepare inside face of door for device per templates.
4. Prepare lock stile of door for mortise lock (see mortise lock instructions 941019).
5. Prepare outside face of lock stile for control (see control instructions). Line X-X on control instructions corresponds to line X-X on device template.
6. Prepare control for installation (see control instructions).
7. Install mortise lock (see mortise lock instructions 941019).
8. For 1-3/4" thick doors, cut 1/4" off device lift finger.
9. Install 1/4-28 hex studs supplied in device mounting package in WDC adapter plates (Figure 2).
10. Attach device cases to adapter plates using #12-24 machine screws supplied in device mounting package (Figure 2).
11. Install lock stile WDC adapter plate on door (Figure 2):
    - If using 375L control, install WDC adapter plate with two #12 sheet metal screws into door and two #12-24 machine screws into 375L control hex studs.
    - If using EO, DT, or NL function trim, install WDC adapter plate with four #12 sheet metal screws into door.
12. Install hinge stile WDC adapter plate on door with four #12 sheet metal screws into door (Figure 2).
13. Push down lock stile lever arm and check for full retraction of latch bolt. Release and check for full extension (3/4").
14. Measure dimension "X" (Figure 2) and cut crossbar tube to dimension "X." Cut end without hole.
15. Install crossbar tube and wedge assembly (see instructions 941009) and test crossbar for free action.
16. Prepare frame for strike (Figure 3).
17. Install strike to frame with two #12-12 x 12-24 x 1" combination screws.

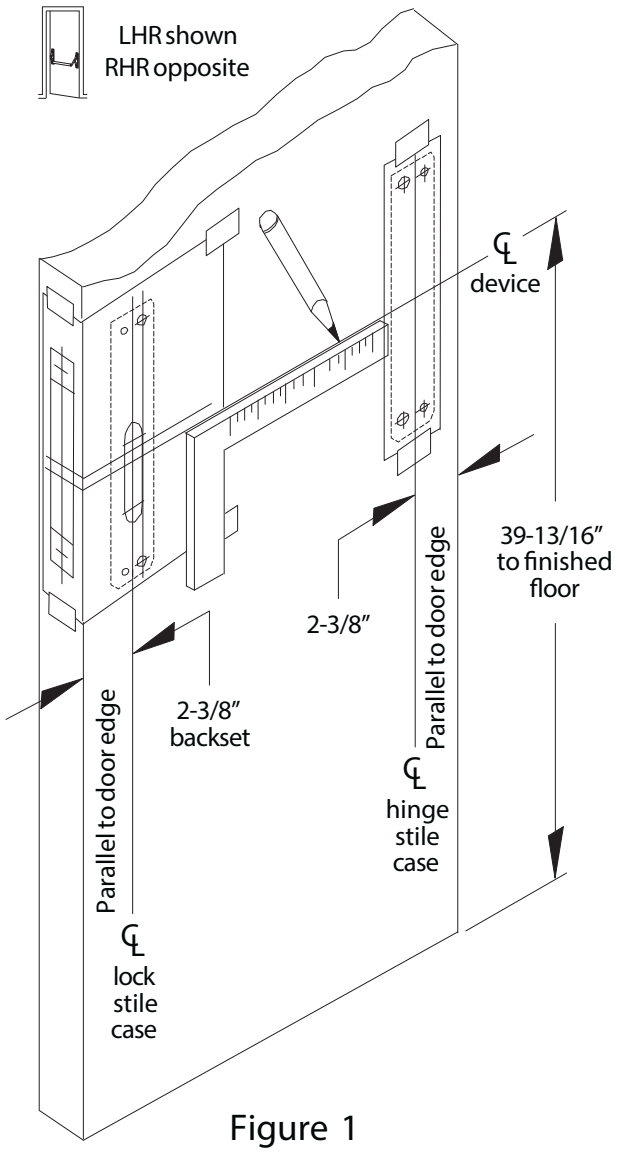


Figure 1

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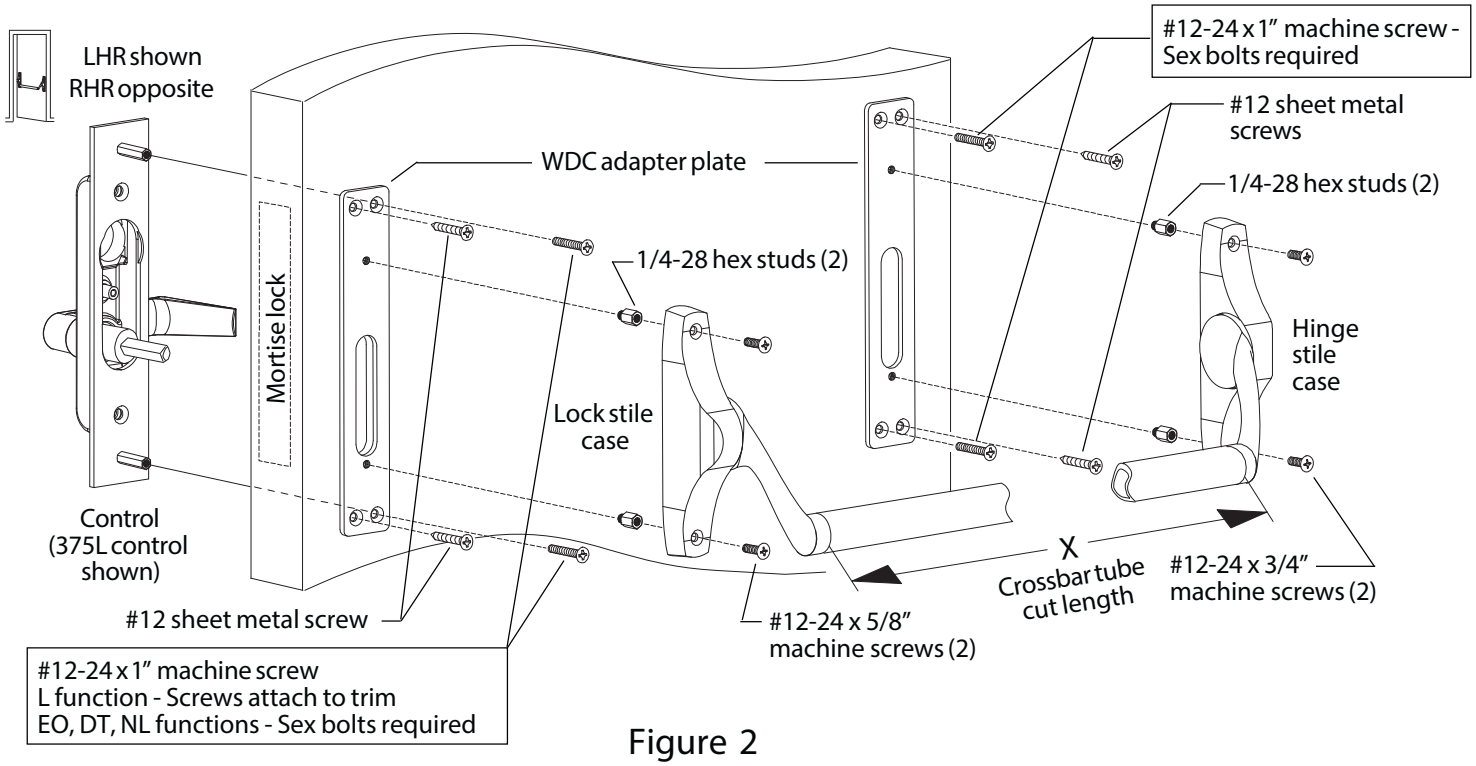
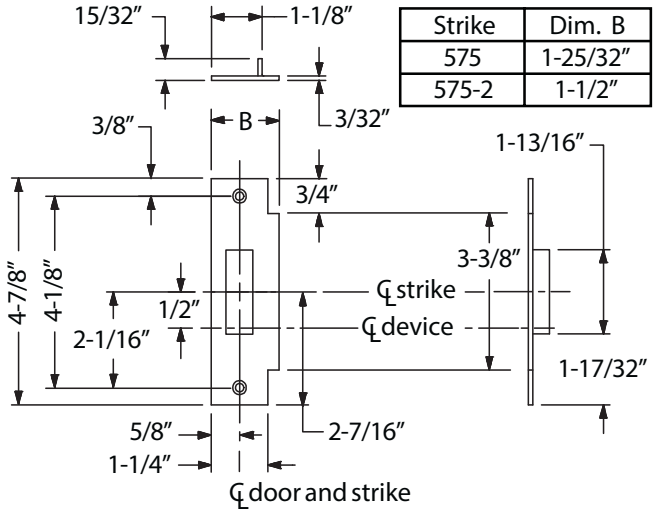


Figure 2

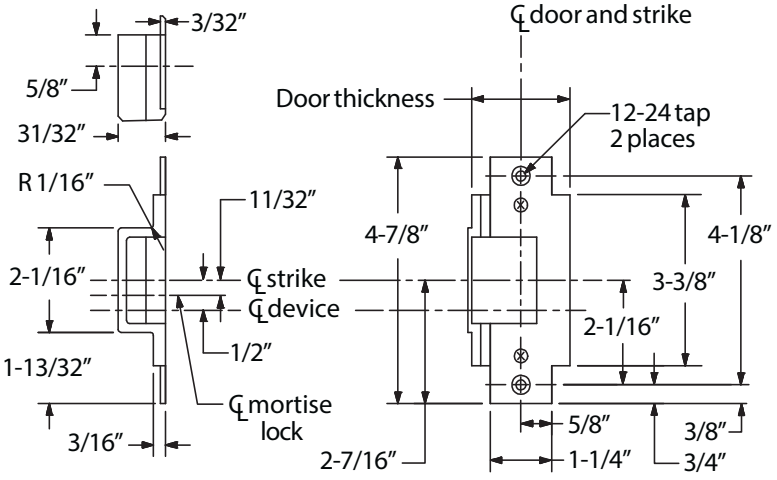


Strike	Dim. B
575	1-25/32"
575-2	1-1/2"



LHR shown
RHR opposite

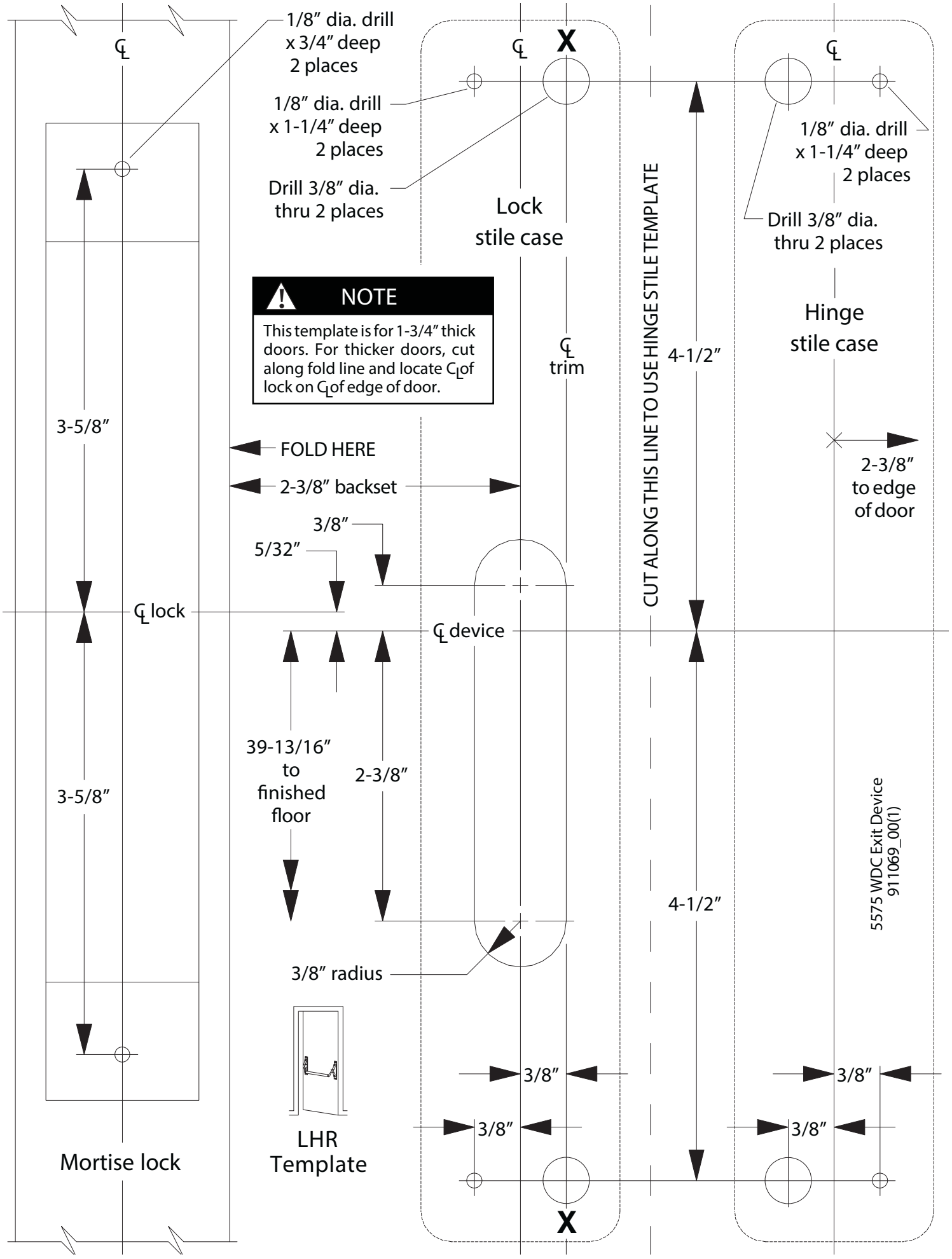
Figure 3A. 575 and 575-2 Strikes

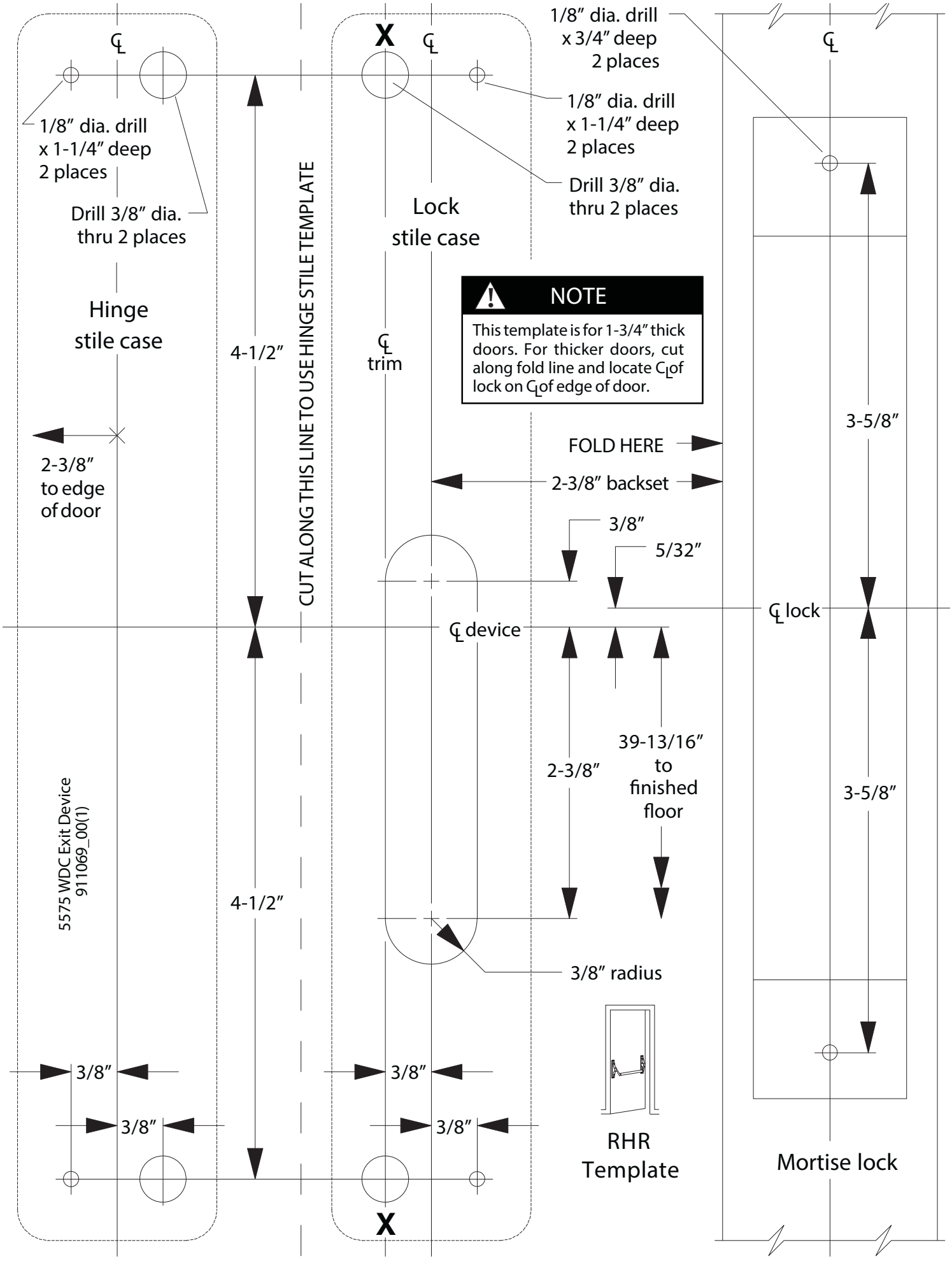




LHR shown
RHR opposite

Figure 3B. 576A and 576B Strikes


1/8″ dia. drill
x 3/4″ deep
2 places
1/8″ dia. drill
x 1-1/4″ deep
2 places
Drill 3/8″ dia.
thru 2 places
Lock
stile case
1/8″ dia. drill
x 1-1/4″ deep
2 places
Drill 3/8″ dia.
thru 2 places
Hinge
stile case
NOTE
This template is for 1-3/4″ thick doors. For thicker doors, cut along fold line and locate ℄ of lock on ℄ of edge of door.
℄ trim
CUT ALONG THIS LINE TO USE HINGE STILE TEMPLATE
4-1/2″
3-5/8″
FOLD HERE
2-3/8″ backset
2-3/8″
to edge
of door
3/8″
5/32″
℄ lock
℄ device
39-13/16″
to
finished
floor
2-3/8″
3-5/8″
4-1/2″
3/8″ radius
5575 WDC Exit Device
911069_00(1)
3/8″
3/8″
3/8″
3/8″
Mortise lock
LHR
Template


1/8″ dia. drill
x 1-1/4″ deep
2 places
Drill 3/8″ dia.
thru 2 places
Hinge
stile case
2-3/8″
to edge
of door
4-1/2″
CUT ALONG THIS LINE TO USE HINGE STILE TEMPLATE
℄
trim
Lock
stile case
1/8″ dia. drill
x 3/4″ deep
2 places
1/8″ dia. drill
x 1-1/4″ deep
2 places
Drill 3/8″ dia.
thru 2 places
NOTE
This template is for 1-3/4″ thick doors. For thicker doors, cut along fold line and locate ℄ of lock on ℄ of edge of door.
FOLD HERE
2-3/8″ backset
3/8″
5/32″
℄ device
2-3/8″
39-13/16″
to
finished
floor
4-1/2″
3/8″ radius
3/8″
3/8″
3/8″
3/8″
5575 WDC Exit Device
911069_00(1)
RHR
Template
℄
3-5/8″
℄ lock
3-5/8″
Mortise lock

941019-00

7500

VON DUPRIN

Mortise Lock

Installation Instructions

1. Prepare door for device and trim (see their instructions).
2. Prepare door for mortise lock and cylinder (see preparation on other side of these instructions).
3. Adjust faceplate for door bevel (Figure 2):
   - **(a)** Loosen top and bottom faceplate screws.
   - **(b)** Pivot faceplate to match door bevel.
   - **(c)** Tighten top and bottom faceplate screws.
4. Install mortise lock into door with two #12-12 x 12-24 x 1" combination screws.
5. Install trim, if required (see trim instructions).
6. If using outside cylinder (Figure 3):
   - **(a)** Back out cylinder set screws enough to clear cylinder mounting hole.
   - **(b)** Thread cylinder into mortise lock through hole in outside face of door.
   - **(c)** Tighten the cylinder set screw that is closest to outside face of door. Remove the other cylinder set screw.
7. Rotate latch bolt so flat side faces exit direction. (Figure 4).
8. Install collar, scalp plate, and scalp plate retaining screws (Figure 1).

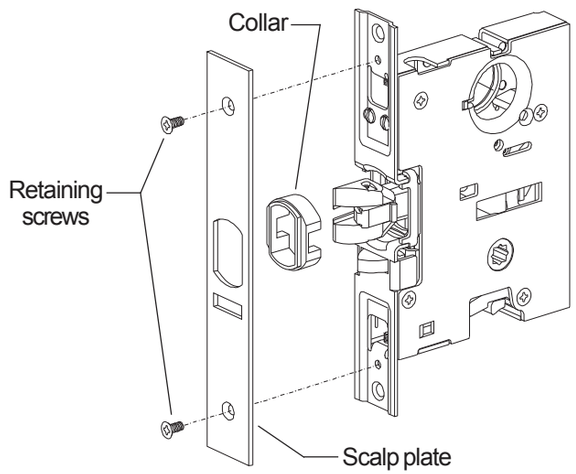


Figure 1

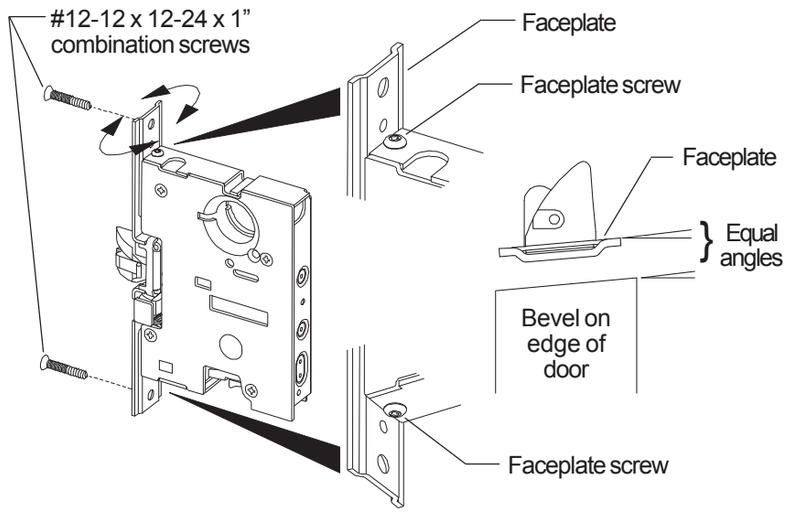


Figure 2

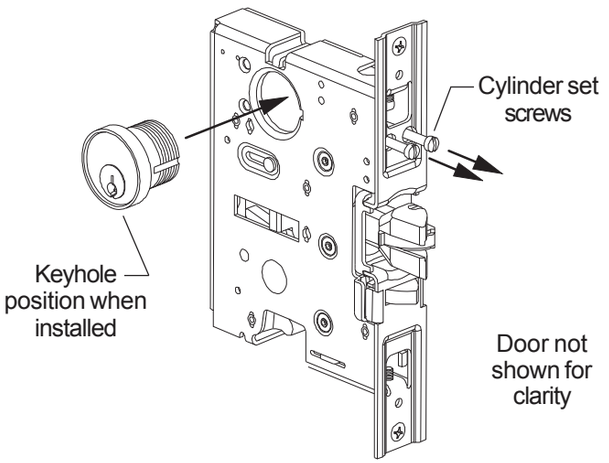


Figure 3

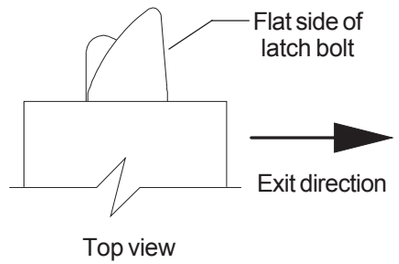
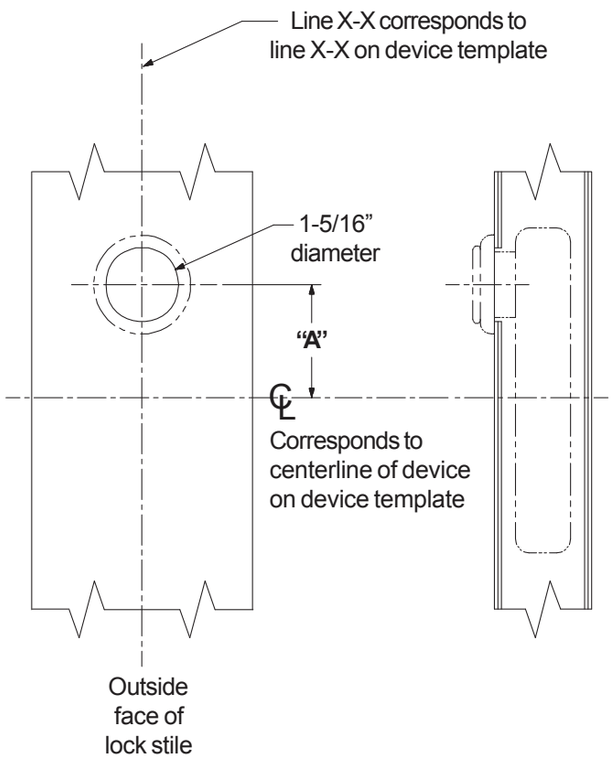


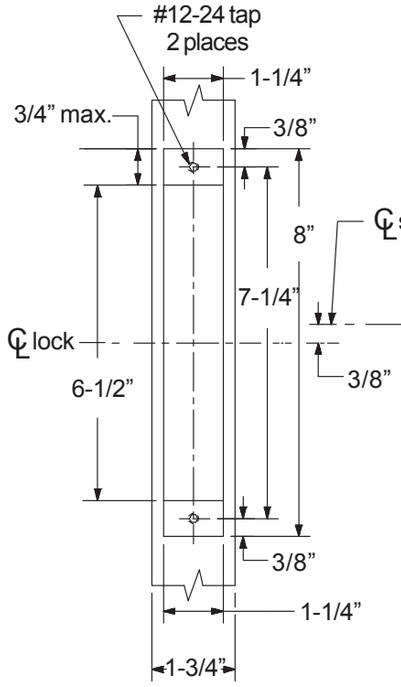
Figure 4

DOOR PREPARATION FOR MORTISE CYLINDER

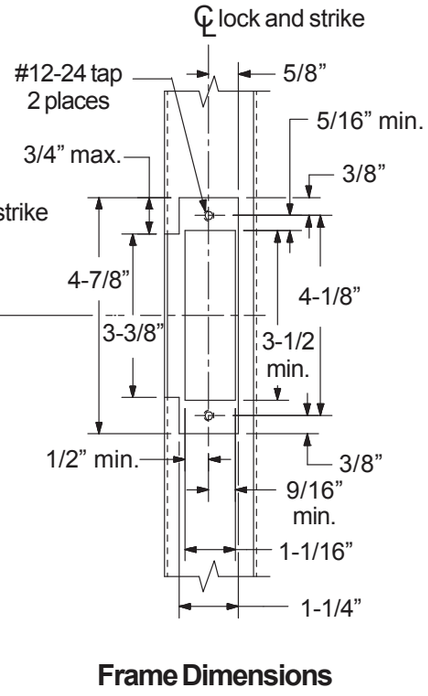


Device Application Schedule	
Device	**Dim. "A"**
55 mortise	2"
88 mortise	2"
98/99 mortise	2-7/32"
94/95 mortise	10-3/8"

METAL DOOR PREPARATION FOR MORTISE LOCK

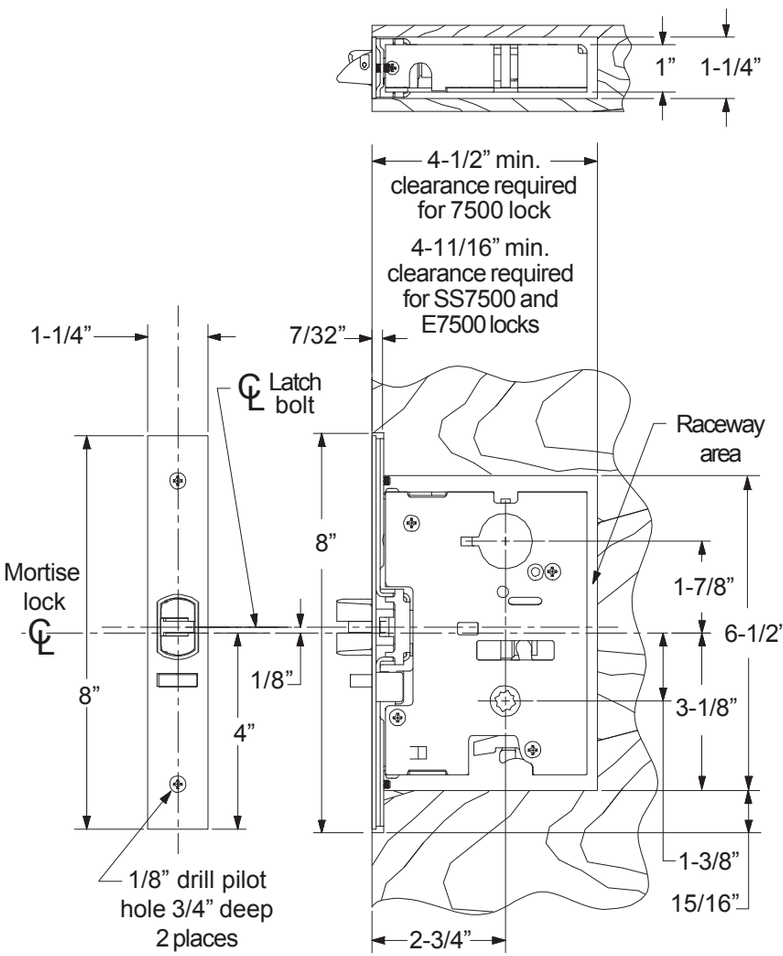


Door Dimensions



Frame Dimensions

WOOD DOOR PREPARATION FOR MORTISE LOCK



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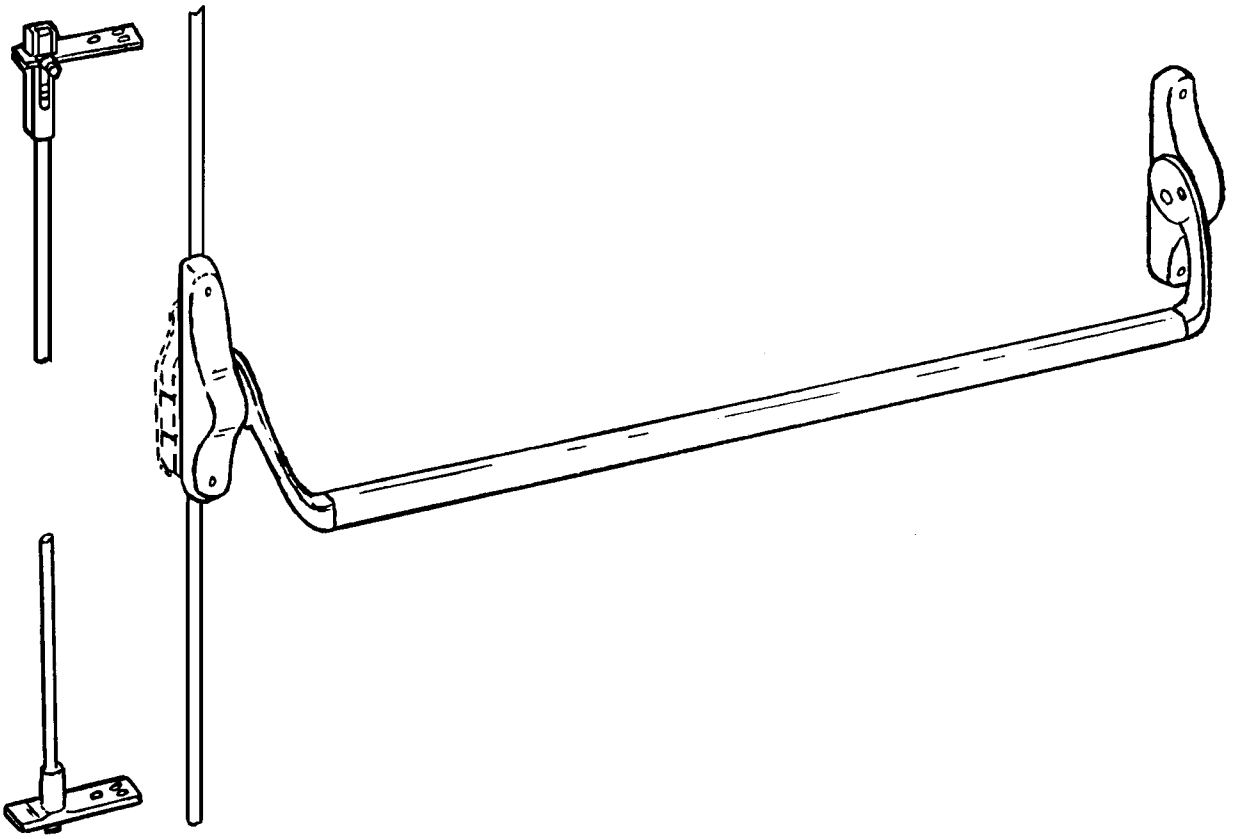
911355-00

5547 WDC & WDC-F

VON DUPRIN®

Concealed Vertical Rod Devices

Installation Instructions



Special Tools Required:

½″ *(12 mm)* Diameter Drill Bit

$^{13}/_{32}$″ *(10 mm)* Diameter Drill Bit *(for Sex Bolt prep.)*

#25 *(4 mm)* Drill Bit

#10-24 *(M5)* Tap

Hack Saw

Sabre Saw

These instructions are presented in step-by-step sequence and include templates in the back to tape to your door and frame as an aid to preparing for device mounting.

Please review the first two pages carefully which will help identify the hardware you have and define the terminology used throughout.

Note: Dimensions are in inches. See page 3 for the Metric Conversion Table.

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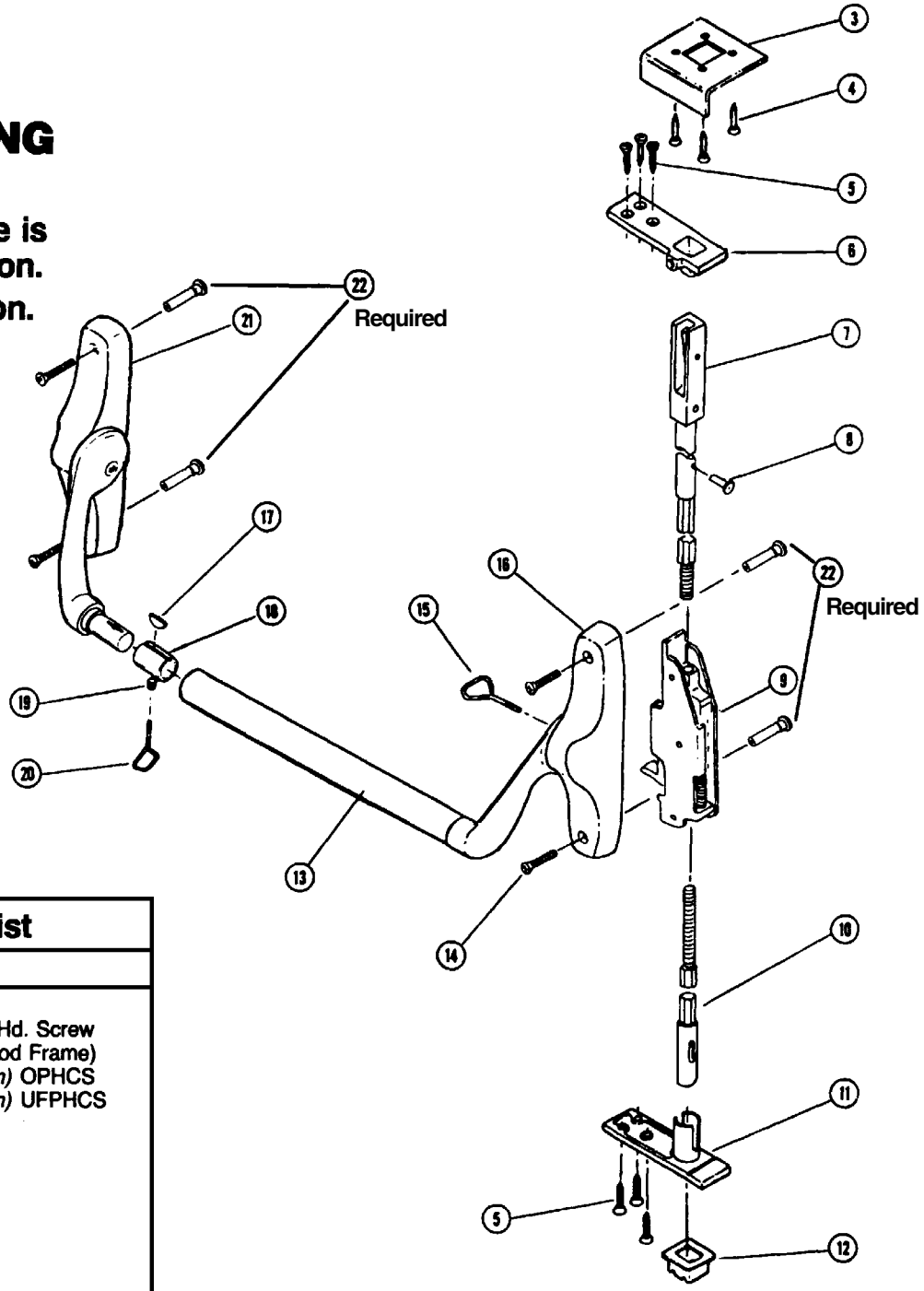
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911355-00 Rev. 01/14-c

BEFORE INSTALLING THIS DEVICE:

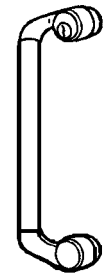
A. Check to be sure device is correct for the application.

B. Check contents of carton.



5547 WDC Parts List		
Item	**Qty.**	**Description**
1	1	338 Strike
2	2	#10-24 × ½" *(12 mm)* Flat Hd. Screw
3	1	472-U or 473-U Strike (Wood Frame)
4	4	#10-12 × 10-24 × 1" *(25 mm)* OPHCS
5	6	#12-12 × 12-24 × 1" *(25 mm)* UFPHCS
6	1	Top Plate Assy.
7	1	Top Rod
8	1	Rod Connector Rivet
9	1	Latch Control Assy.
10	1	Bottom Rod
11	1	Bottom Bolt Guide
12	1	304L Strike
13	1	Cross Bar Tube
14	4	#12-24 × ¾" *(19 mm)* OPHMS
15	1	Special Hex Wrench
16	1	Lock Stile Case
17	2	Attaching Ring Wedge
18	2	Tube Attaching Ring
19	2	5/16" *(Ø8 mm)*-18 × ⅝" *(16 mm)* Soc. Hd. Set Screw
20	2	Dog Key
21	1	Hinge Stile Case
22	4	625A Sex Bolts (1¾" *(45 mm)* Dr.)
	4	625B Sex Bolts (2¼" *(57 mm)* Dr.)

Outside Trim Functions



NL

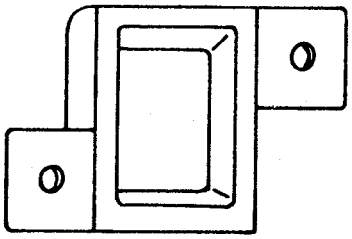


DT

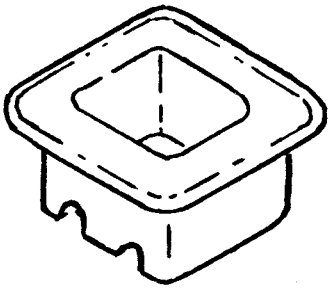


TL

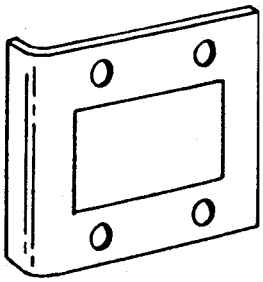
Standard Strikes



338 Strike
(Top)
(Metal Frame)



304L Strike
(Bottom)



472U/473U Strike
(Wood Frame)
Only

STEP 1—PREPARE DOOR

1-1. Route door if required. (See page 11.)

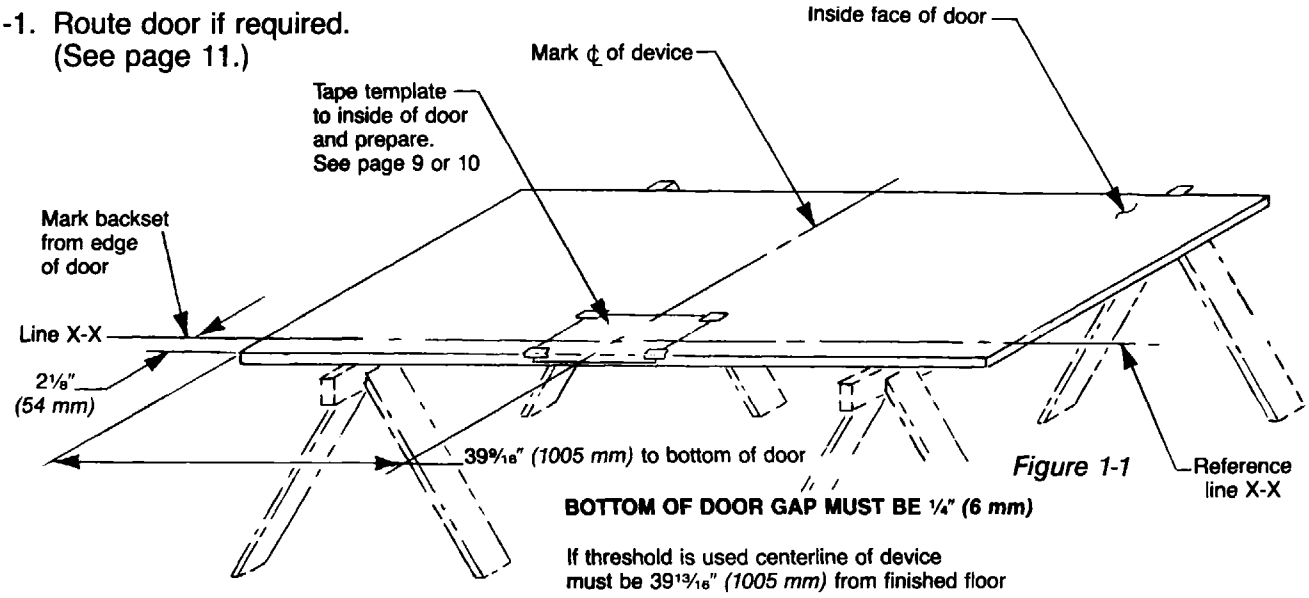


Figure 1-1

BOTTOM OF DOOR GAP MUST BE ¼" (6 mm)

If threshold is used centerline of device must be 39¹³⁄₁₆" (1005 mm) from finished floor

1-2. Drill top and bottom of door for latch cases. (See figure 1-2.)

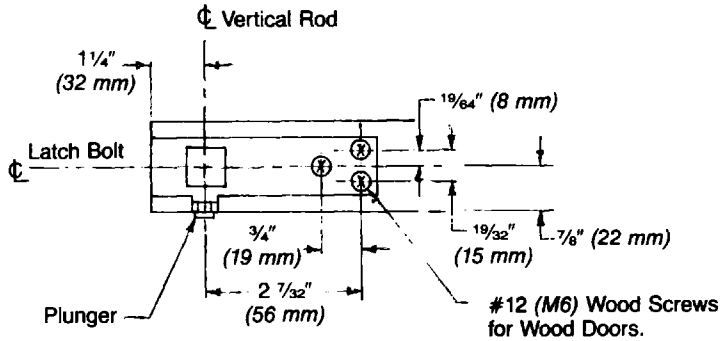


Figure 1-2

TOP OF DOOR

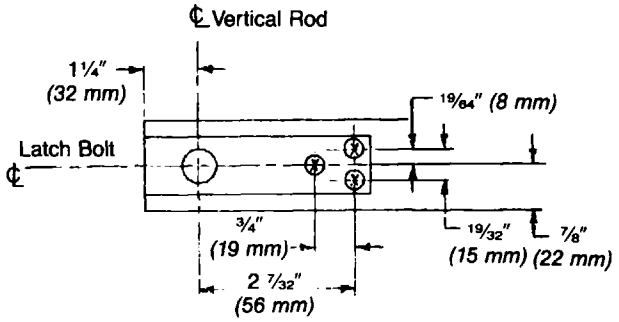


Figure 1-3

BOTTOM OF DOOR

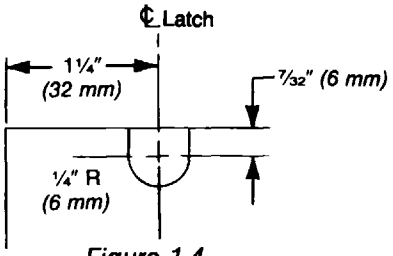


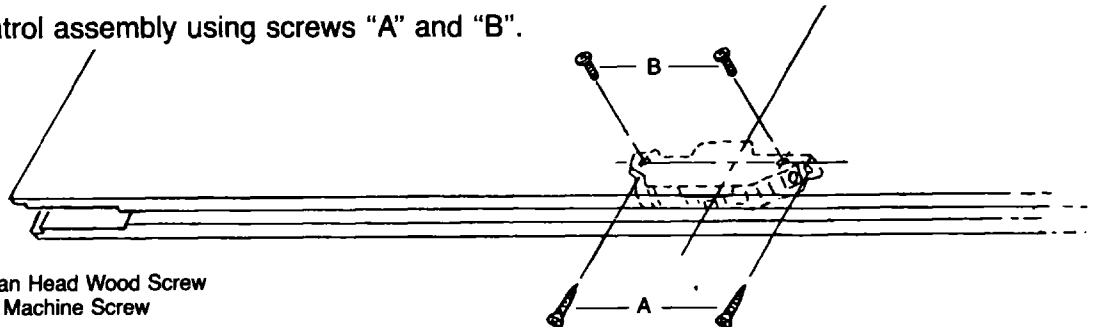
Figure 1-4

TOP OF DOOR

1-3. Drill top of door for ratchet release plunger. (See figure 1-4.)

STEP 2—INSTALL ROD CONTROL ASSEMBLY

2-1. Install rod control assembly using screws "A" and "B".



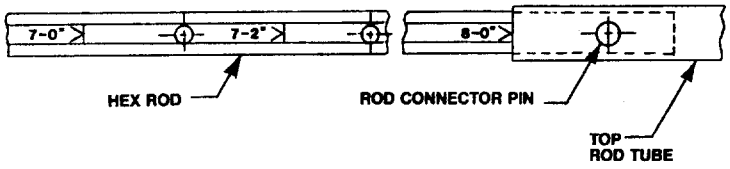
"A" #10 × 1¼" (32 mm) Pan Head Wood Screw
"B" #10-24 × ⅝" (16 mm) Machine Screw

STEP 3—CUTTING & ADJUSTING RODS

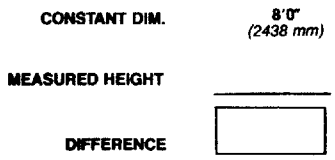
Top Rod Assembly Instruction

NOTE: Maximum approved door height for 5547 WDC-F devices is 9'3" *(2819 mm)*

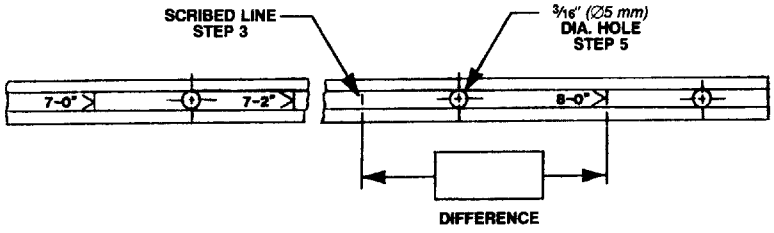
1. Assemble top rod tube over hex rod and align end of tube with mark that corresponds with pre-drilled height [6'8" *(2032 mm)*, 6'10" *(2083 mm)*, 7'0" *(2134 mm)*, 7'2" *(2184 mm)*, 8'0" *(2438 mm)*]. See figure 1.
2. Align hole and install rod connector pin.



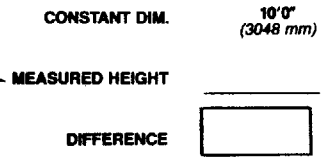
For Miscellaneous Door Heights Up To 8'0" *(2438 mm)*



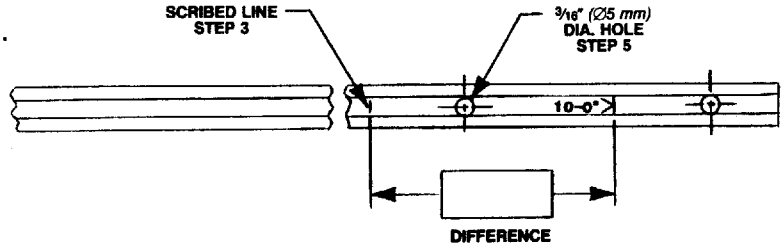
1. Measure door opening (sill to rabbet).
2. Subtract measured height from 8'0" *(2438 mm)* use space provided
3. Measure difference ☐ from 8'0" *(2438 mm)* mark on rod and scribe a line on hex rod. See figure 2.
4. Assemble top rod tube over hex rod and align end of tube with scribed line.
5. Mark location of the hole in tube on the hex rod. Drill 3/16" *(Ø5 mm)* dia. hole thru hex rod.
6. Align holes and install rod connector pin.



For Miscellaneous Door Heights Up To 10'0" *(3048 mm)*



1. Measure door opening (sill to rabbet).
2. Subtract measured height from 10'0" *(3048 mm)* use space provided
3. Measure difference ☐ from 10'0" *(3048 mm)* mark on rod and scribe a line on hex rod. See figure 2.
4. Assemble top rod tube over hex rod and align end of tube with scribed line. (Cut hex rod if required).
5. Mark location of the hole in tube on the hex rod. Drill 3/16" *(Ø5 mm)* dia. hole thru hex rod.
6. Align holes and install rod connector pin.

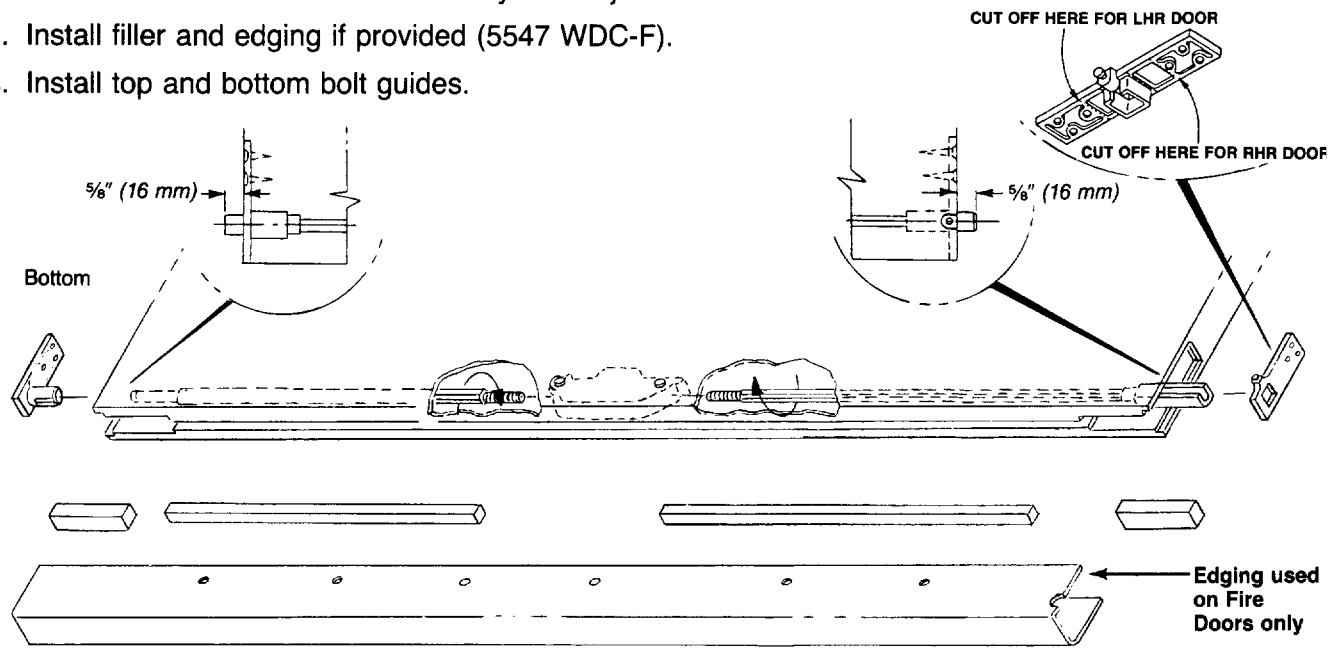


STEP 4—INSTALL & ADJUST RODS

4-1. Screw rods into rod control assembly and adjust.

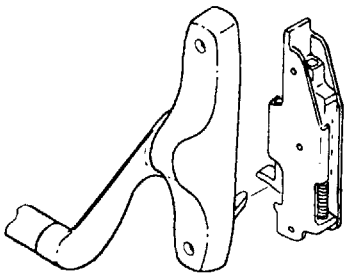
4-2. Install filler and edging if provided (5547 WDC-F).

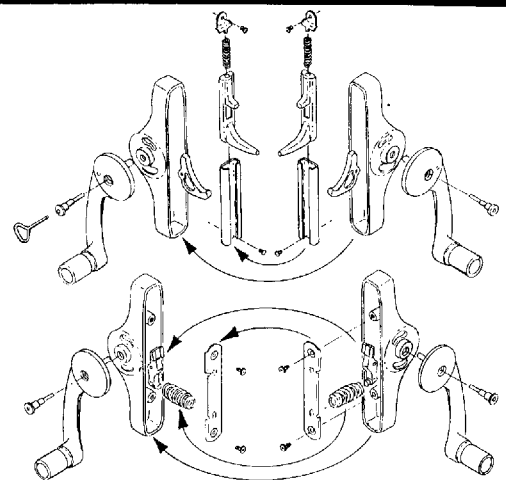
4-3. Install top and bottom bolt guides.



STEP 5—REVERSE HANDING

5-1. Reverse handing of the device if required.

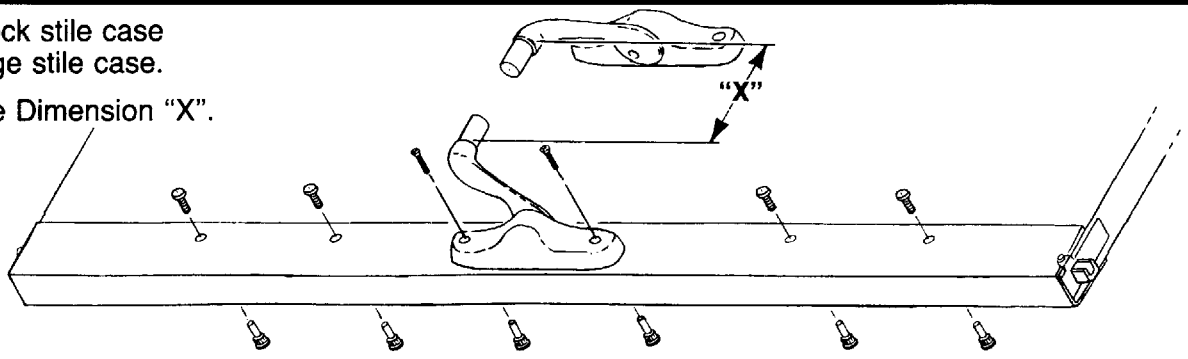




STEP 6—INSTALL DEVICE

6-1. Install lock stile case and hinge stile case.

6-2. Measure Dimension "X".



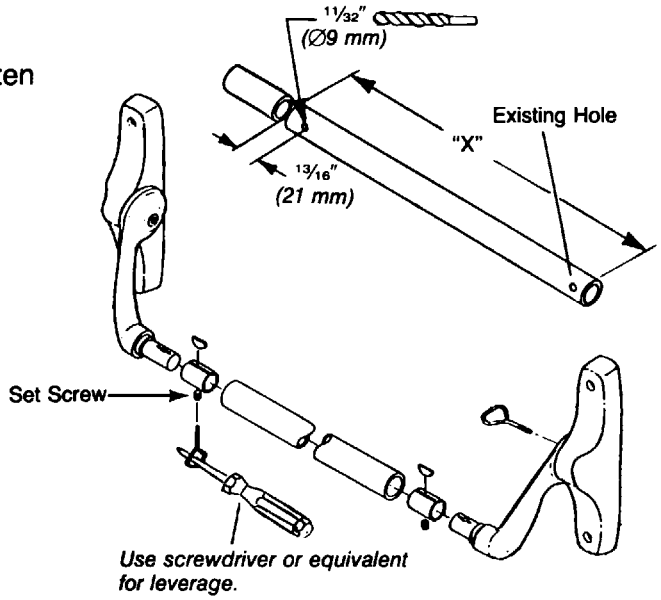
STEP 7—CUT CROSSBAR & INSTALL

7-1. Cut crossbar to dimension "X" (Step 6-2).

7-2. Drill hole through one wall of crossbar.

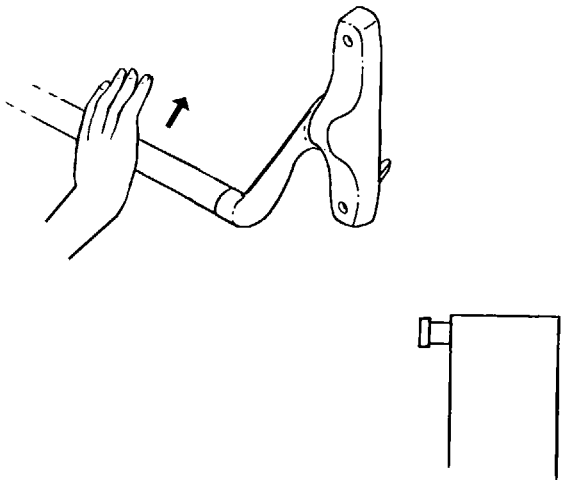
7-3. Remove hinge stile case to install crossbar.

7-4. Install hinge stile case and set screws to tighten crossbar.

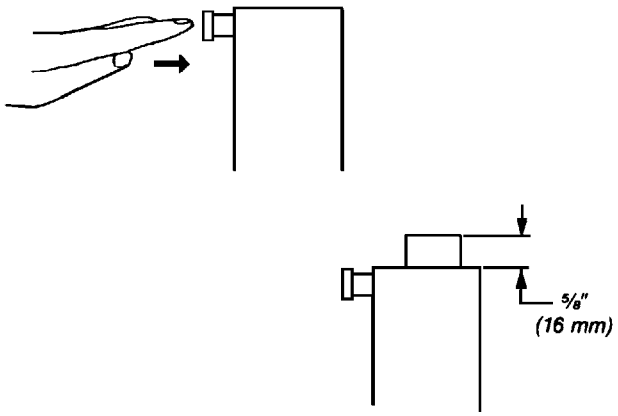


STEP 8—OPERATIONAL CHECK

8-1. Push crossbar and release. Top bolt should stay retracted.



8-2. Push button with finger. Top bolt should release.



STEP 9—HANG DOOR AND GO TO STEP 10

STEP 10—INSTALL SILL STRIKE OR THRESHOLD

10-1. Mark floor for strike location with door closed.

10-2. Grout 304L strike in floor as shown in figure 1.

10-3. Prepare threshold if used per figure 2.

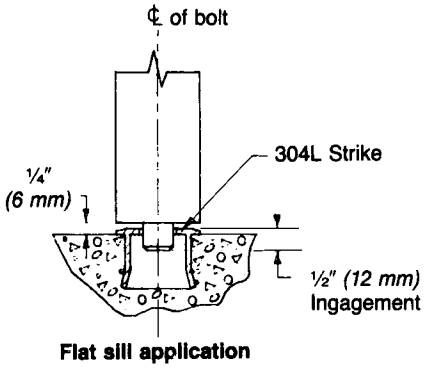
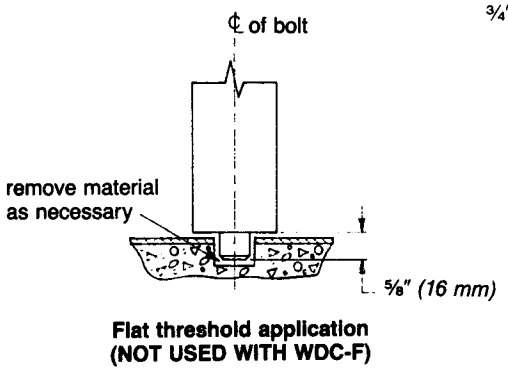


Figure 10-1



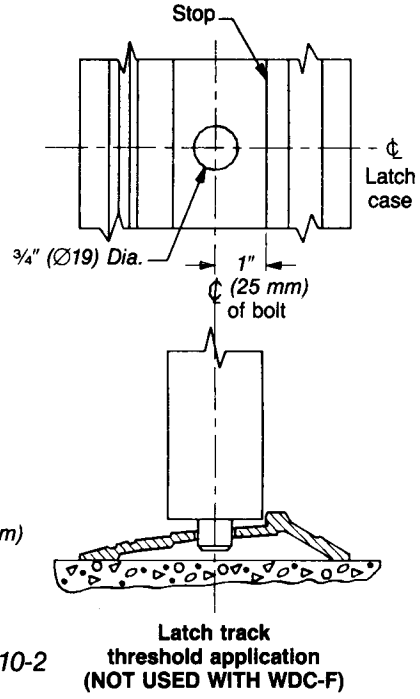
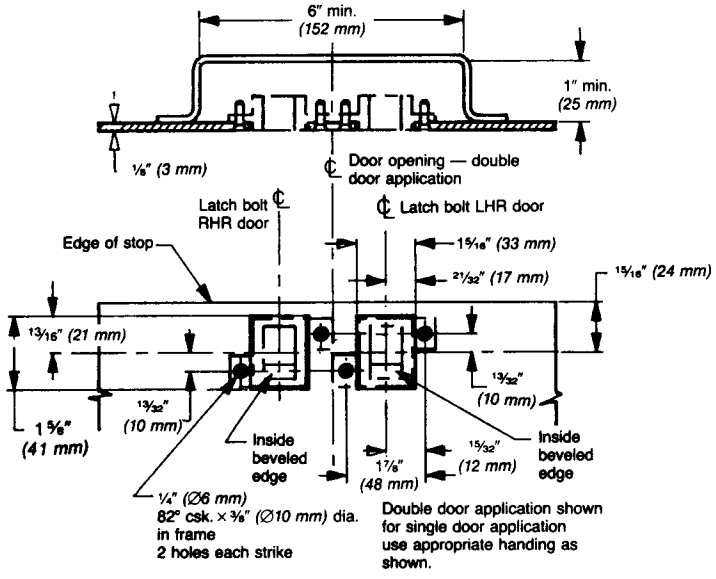


Figure 10-2

STEP 11—INSTALL SOFFIT STRIKE

11-1. Install 338 strike to frame as shown in figure 11-1.

11-2. For wood frames, install 472-U or 473-U strikes as shown in figure 11-2.



338 STRIKE APPLICATION
DOUBLE DOOR APPLICATION SHOWN

Figure 11-1

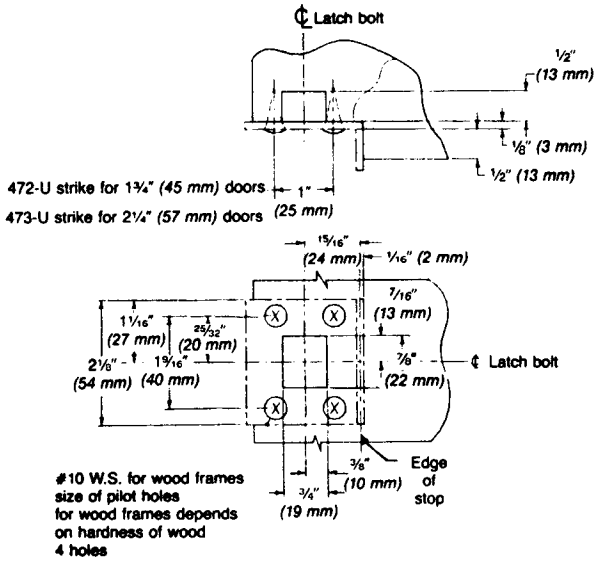
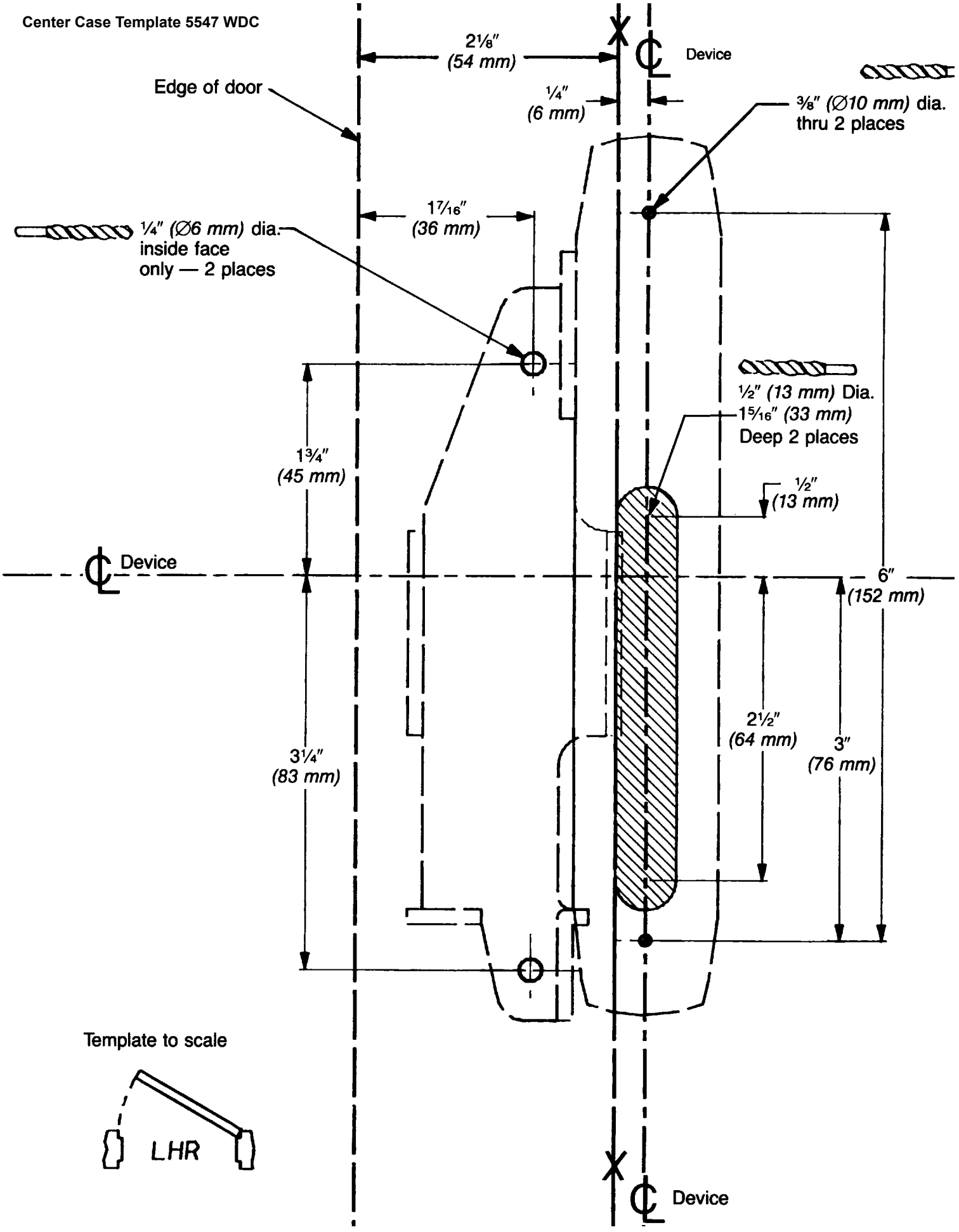


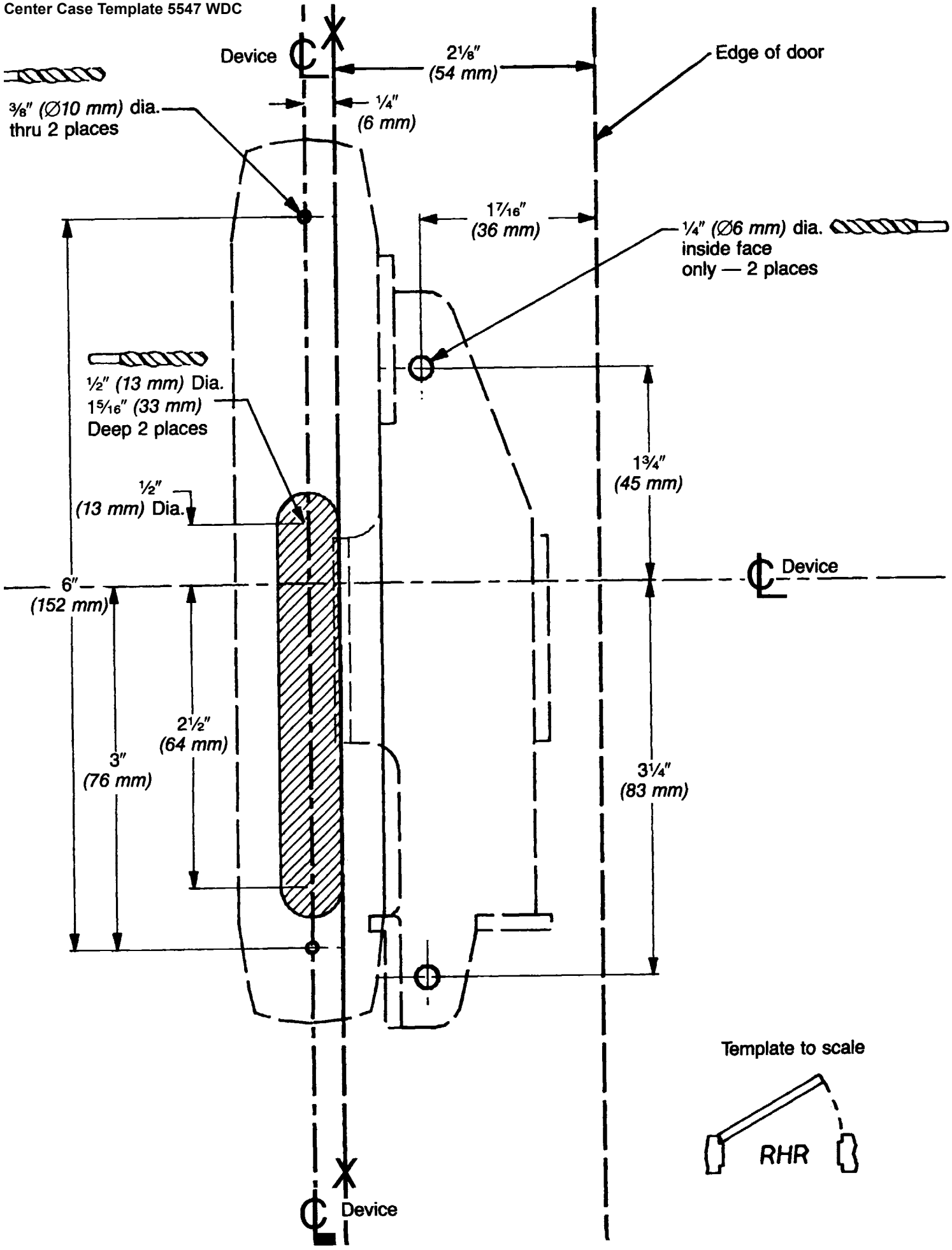
Figure 11-2

STEP 12—INSTALL DOOR EDGING IF PROVIDED

Center Case Template 5547 WDC

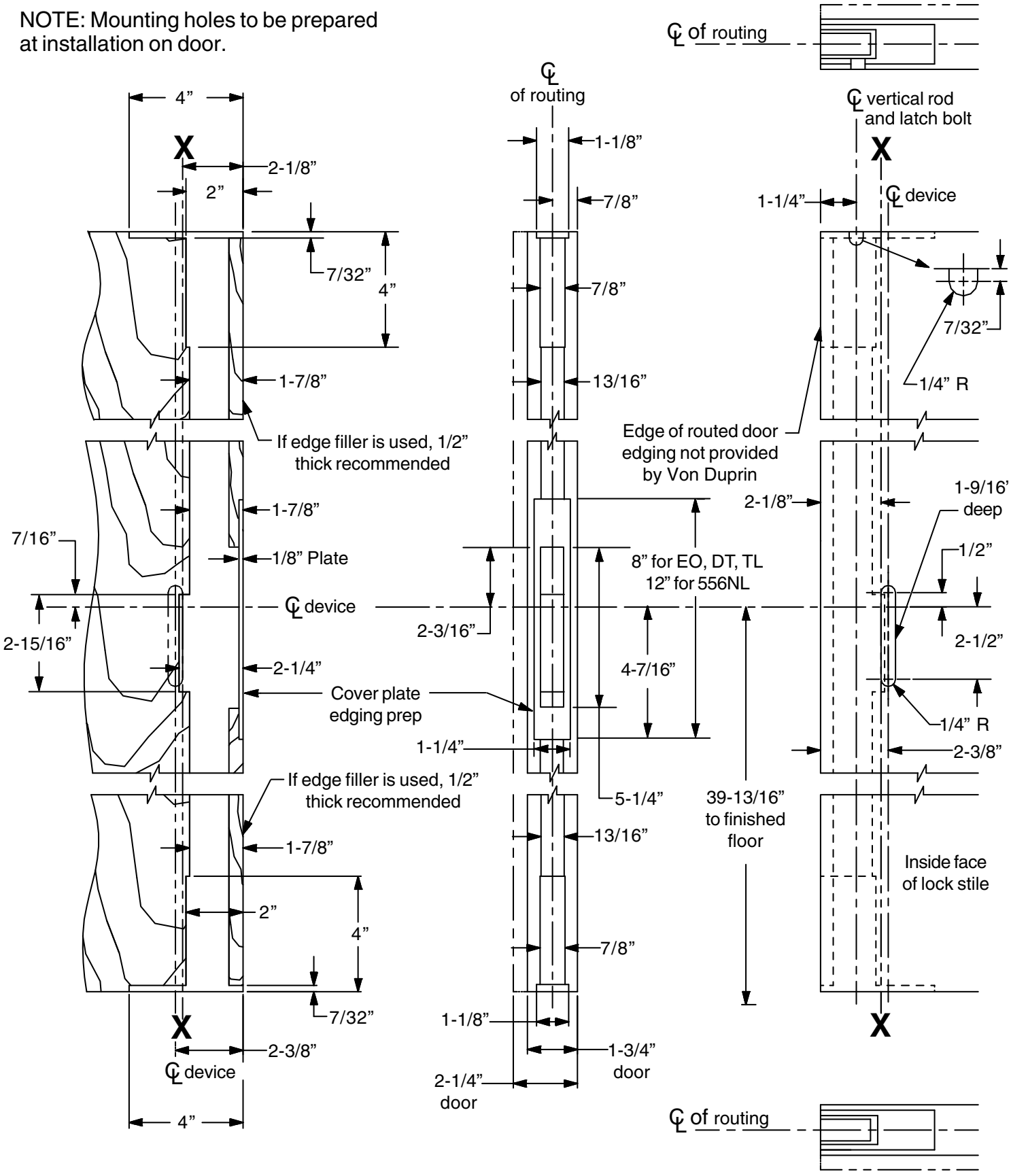


Center Case Template 5547 WDC



For outside trim preparation, when required, see additional trim template.

NOTE: Mounting holes to be prepared at installation on door.



Wood door preparation

941023-00

55 & 5547

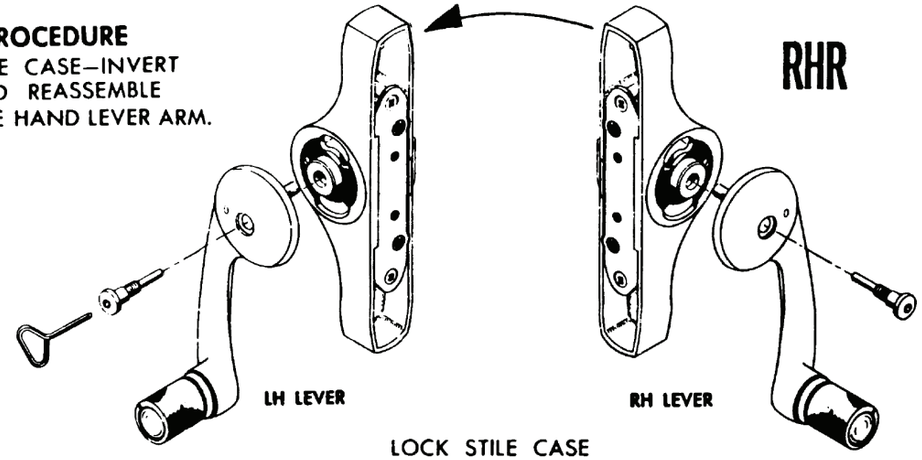
VON DUPRIN

Reversing Instructions for Rim & Vertical Rod Devices

Installation Instructions

REVERSING PROCEDURE
FOR LOCK STILE CASE—INVERT THE CASE AND REASSEMBLE WITH OPPOSITE HAND LEVER ARM.

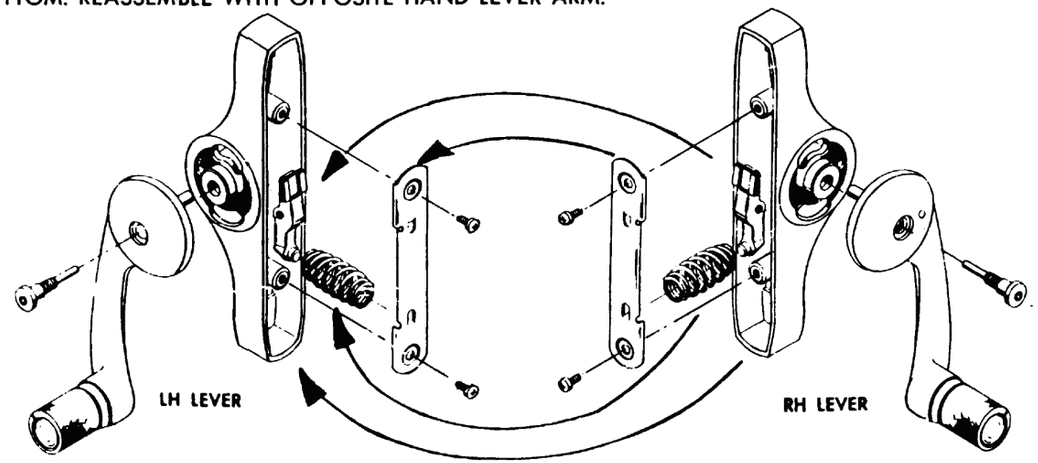
LHR



LOCK STILE CASE

REVERSING PROCEDURE
FOR HINGE STYLE CASE—DISASSEMBLE HINGE STILE CASE, ROTATE PARTS AS SHOWN WITH SPRING ALWAYS AT THE BOTTOM. REASSEMBLE WITH OPPOSITE HAND LEVER ARM.

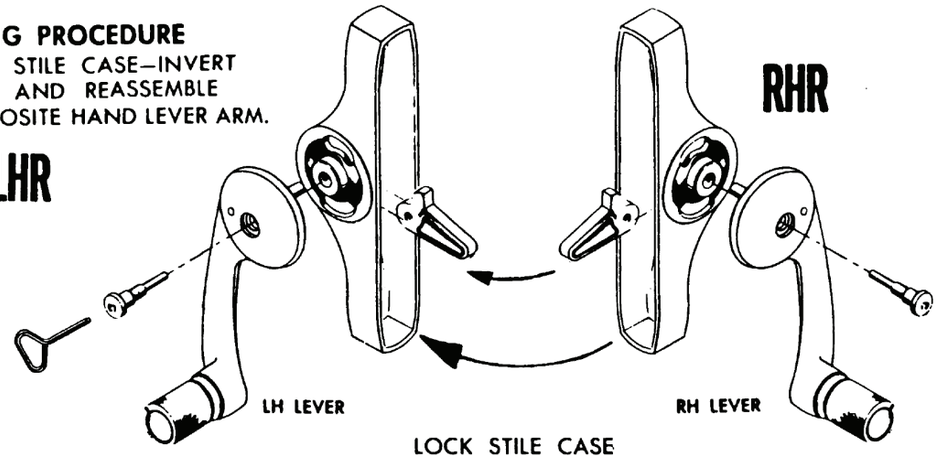
55 RIM DEVICE



HINGE STYLE CASE

REVERSING PROCEDURE
FOR LOCK STILE CASE—INVERT THE CASE AND REASSEMBLE WITH OPPOSITE HAND LEVER ARM.

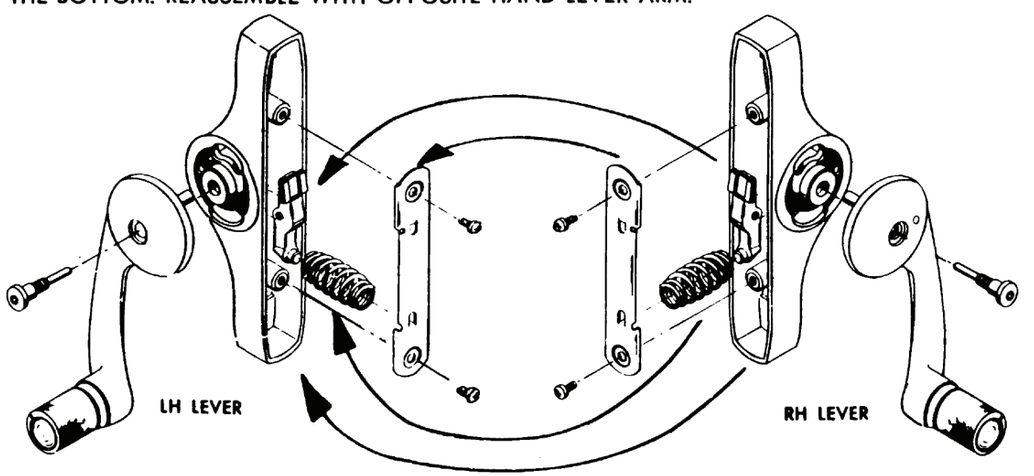
LHR



LOCK STILE CASE

REVERSING PROCEDURE
FOR HINGE STYLE CASE—DISASSEMBLE HINGE STILE CASE, ROTATE PARTS AS SHOWN WITH SPRING ALWAYS AT THE BOTTOM. REASSEMBLE WITH OPPOSITE HAND LEVER ARM.

5547 VERTICAL ROD DEVICE



HINGE STYLE CASE

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

ALLEGION

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941023-00 Rev. 01/14-b

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Check that handing of hardware corresponds to handing of door.

1. PREPARE DOOR

A. Tape template No. 1 or 2, depending on handing of door to inside face of lock stile. Be sure centerline of device on template is parallel to edge of door and backset is 2-3/8. Be sure centerline of device is 39-13/16" to finished floor.

B. Prepare door as shown. See Fig. 1 for metal door application.

2. INSTALL TOP ROD AND LATCH RELEASE (FIG. 2)

A. Slip top rod and latch release into top door channel cutout. Reference 2-3/8 to centerline of vertical rods.

B. Be sure latch release is flat on top door channel.

C. Apply rod guide and tighten mounting screws. (Fig. 2C)

3. INSTALL BOTTOM ROD AND GUIDE (FIG. 3)

NOTE: DO NOT CUT BOTTOM ROD

A. Slip bottom rod through hole in bottom door channel.

B. Screw coupling on bottom rod onto top rod.

C. Install bottom rod guide with spring toward top of door.

4. ADJUST BOTTOM ROD

A. Depress plunger and push top rod toward bottom of door.

B. Bottom rod must extend 5/8" from bottom of door.

C. If necessary adjust coupling to raise or lower bottom rod.

D. Be sure rectangular hole in coupling is visible through rectangular cutout in door.

5. APPLY LOCK STILE CASE (FIG. 4)

A. Attach lock stile case to door. See Fig. 1.

B. Check top rod travel. Top rod should be flush to 1/16 above latch release surface.

C. Remove lock stile case and adjust coupling if necessary.

6. HANG DOOR AND INSTALL SILL STRIKE AND THRESHOLD (IF ANY) FIG. 5

7. INSTALL SOFFIT LATCH BOLT (FIG. 6)

A. Block door in open position.

B. Install latch bolt as shown.

8. APPLY PLUNGER RELEASE BRACKET (FIG. 7)

A. Close door against stop.

B. Tape template No. 3 to stop and prepare frame for attaching screws.

C. Position bracket to depress plunger, and allow rods to fall into engaged position.

D. Tighten bracket mounting screws.

9. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 9)

A. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction No. 941009 for cutting crossbar, if necessary.)

B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.

C. Using holes in hinge stile case, mark location and prepare door for sex bolts. Drill 13/32 dia. outside and 3/8 dia. inside.

D. Apply hinge stile case with crossbar in place.

E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Direction No. 941009 for these instructions.)

10. APPLY OUTSIDE TRIM (IF REQUIRED)

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.

B. Prepare outside face of lock stile and apply trim.

11. APPLY COORDINATOR

See directions in coordinator package.

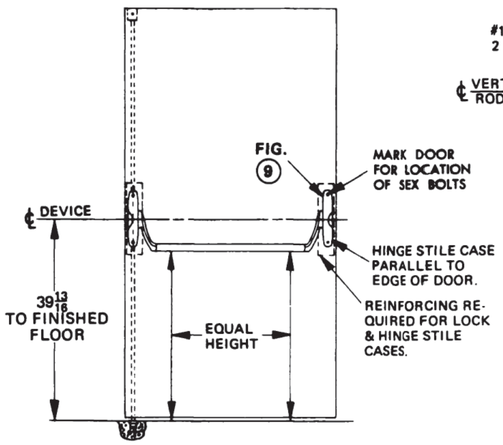
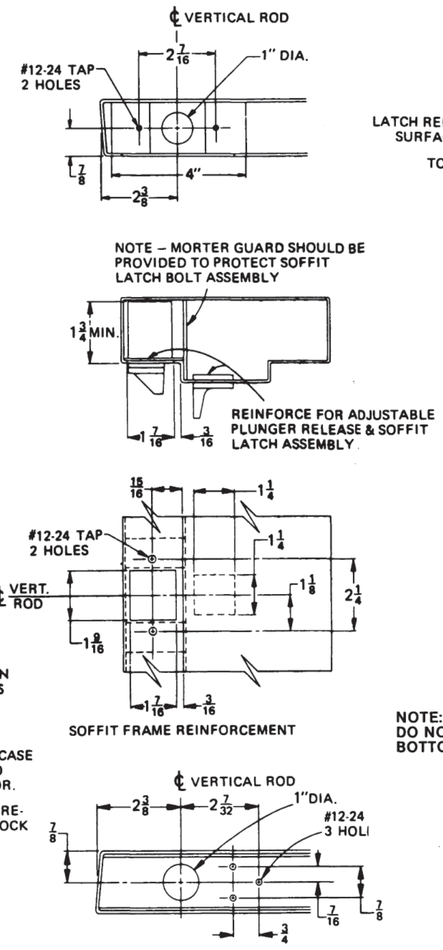
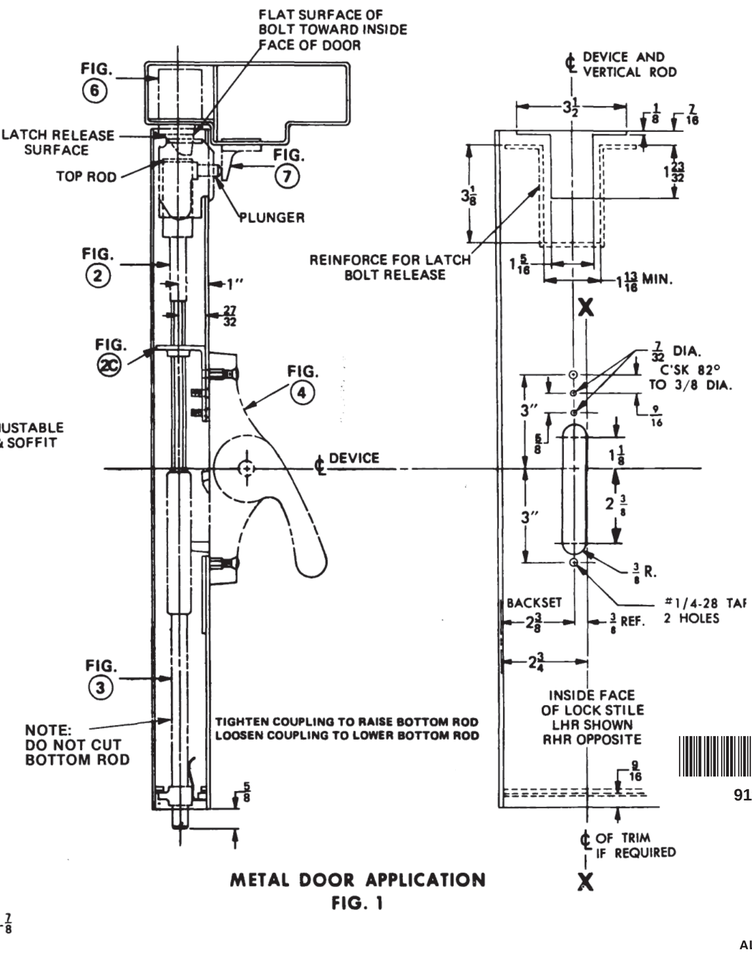


FIG. 5





METAL DOOR APPLICATION
FIG. 1

911065-00

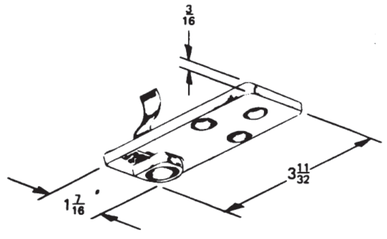
ALLEGION

UL LISTED FIRE EXIT HARDWARE

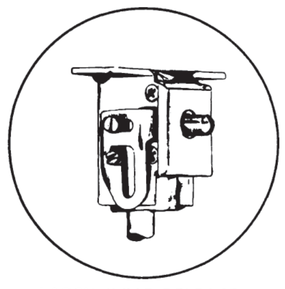
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5547-F CONCEALED VERTICAL ROD DEVICE	DIRECTION NUMBER: 911065-00 (c)	DATE: 10/14

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON IF REQUIRED

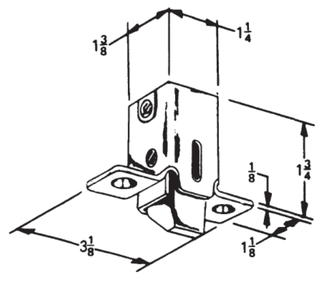
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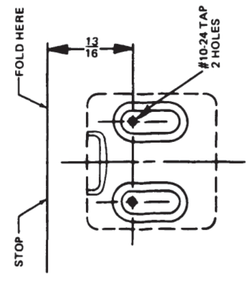
BOTTOM ROD GUIDE



LATCH BOLT RELEASE

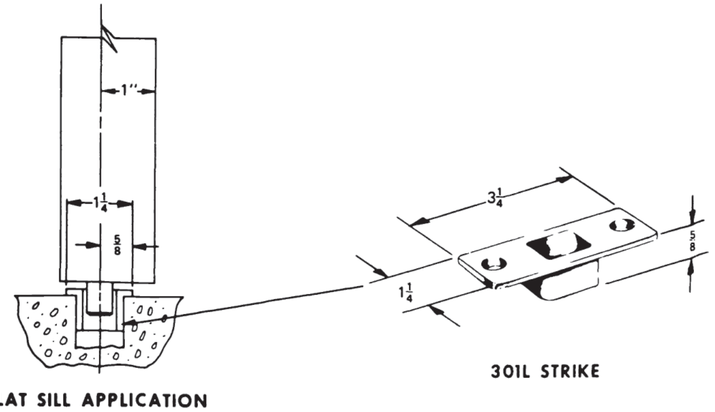


SOFFIT LATCH BOLT ASSEMBLY



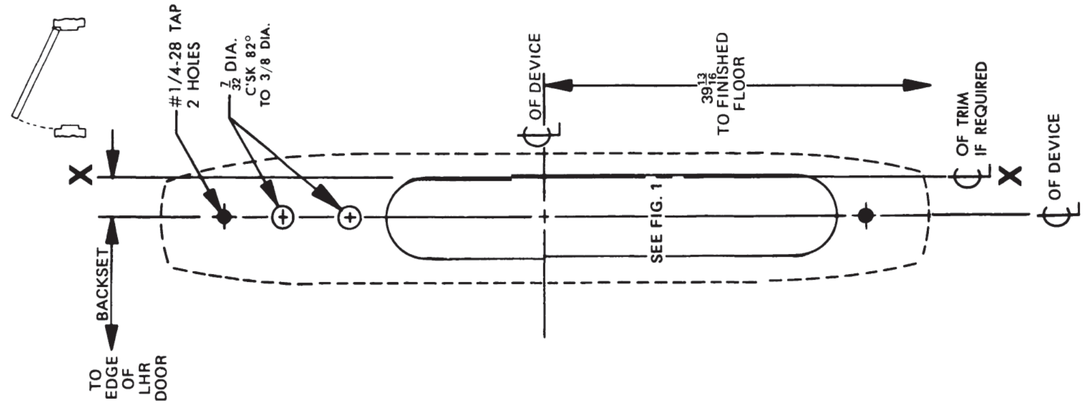
TEMPLATE NO. 3

PLUNGER RELEASE BRACKET

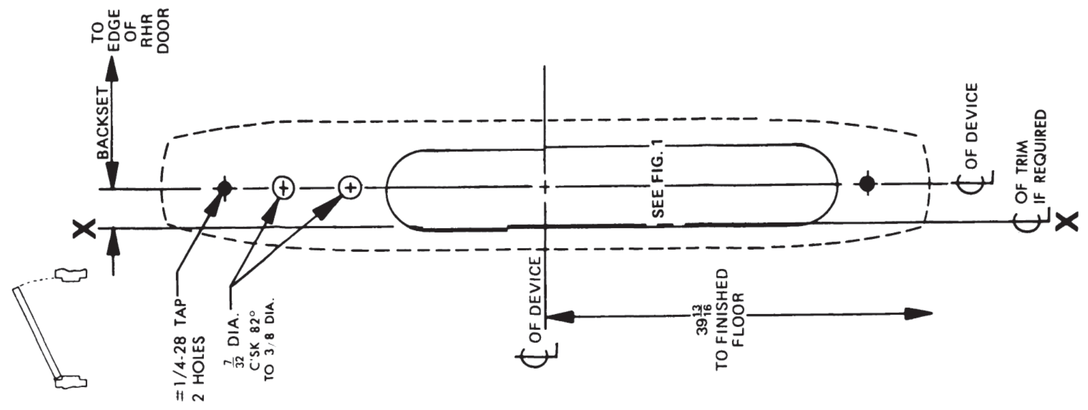


FLAT SILL APPLICATION

301L STRIKE



TEMPLATE NO. 1



TEMPLATE NO. 2

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE:

A. Check that handing of hardware corresponds to handing of door. **See instruction sheet #41023 for changing the device handing, if necessary.**

1. PREPARE DOOR

A. Tape template No. 1 to inside face of lock stile. Be sure centerline of device on template is parallel to edge of door and backset is as shown in schedule. Be sure centerline of device is 39 - 13/16" to finished floor.
B. Prepare door as shown. See Fig. 1 for metal door application.
C. Prepare for top and bottom bolt guides. See Figs. 2 and 3.

2a. INSTALL ROD CONTROL ASSEMBLY (ALUM DOOR) (FIG. 4A) (See 2b for Hollow Metal Application

A. Check metal thickness of door, if 1/8 inch or less, place a washer under the sex bolt, see Fig. 4A. If metal thickness is greater than 1/8 inch, omit the washer.
B. Remove burrs and insert sex bolt head into 7/32 dia. hole from interior of door thru rod control cutout. (Fig. 4A)
C. Thread sex bolt anchor on sex bolt head and tighten. (Fig. 4B)
D. Remove sex bolt anchor and install rod control assembly with spring toward bottom of door.
E. Replace sex bolt anchors. (Fig. 4C)

2b. INSTALL ROD CONTROL ASSEMBLY (REINFORCED HOLLOW METAL DOOR) (FIG. 4D)

A. Check for reinforcing; if not reinforced, follow procedure in 2a for alum doors. If reinforced, continue with steps B, C & D below.
B. TAP 1/4 - 28 thread for hex stud.
C. Install rod control assembly with spring toward bottom of door.
D. Install hex studs.

3. INSTALL TOP ROD AND BOLT GUIDE ASSEMBLIES (FIG. 2A)

NOTE: **ASSEMBLE ROD MEMBER ON TL DEVICES IF REQUIRED. SEE DIRECTIONS IN CONTROL BOX.**

A. All stock size devices are furnished with top rods as standard for 7'0" high doors.
B. Assemble top rod connector and rod connector pin. Rivet pin securely. NOTE: Select correct hole for desired rod length. (See Fig. 2D)
C. Install cylinder release bracket on **5547NL** device only. Note that handing stamped on bracket corresponds with handing of door. (See Fig. 2C) (Supplied with trim)
D. Cut top bolt guide as hand of door requires. See Fig. 2B
E. Slip top rod assembly thru opening in top of door.
F. Insert top rod connector into rod control assembly. Start socket retaining screw in rod control.
G. Install top bolt guide assembly.

4. INSTALL BOTTOM ROD AND BOLT GUIDE ASSEMBLIES (FIG. 3A)

A. Assemble bottom rod connector and rod connector pin. Rivet pin securely. NOTE: Select correct hole for desired rod length. (See Fig. 3C)
B. Slip bottom rod assembly through opening in bottom of door.
C. Insert rod connector into rod control assembly. Start socket retaining screw in rod control.
D. Install bottom bolt guide assembly. Cut per Fig. 3B.
E. Adjust bottom rod connector until bolt has 1/2" extension, tighten socket set screw.

5. APPLY OUTSIDE TRIM (IF REQUIRED)

A. See directions in trim carton, if required. Line "X-X" is centerline of trim and is parallel to edge of door and centerline device. Locate line "X-X" on outside face of door.
B. Prepare outside face of lock stile.
C. Apply trim.

6. ADJUST TOP ROD (FIG. 6)

A. Adjust top rod length so plunger engages when top bolt is depressed.
B. Adjust cylinder release bracket to contact trim cylinder cam, if required. Secure with top socket retaining screw.
C. Test top and bottom bolt extension and retraction by lifting rod control with screwdriver or equivalent tool. Full latch bolt extension is 1/2 inch.

7. APPLY LOCK STILE CASE (FIG. 7)

A. Attach lock stile to door. See Fig. 1

8. HANG DOOR AND INSTALL SILL STRIKE OR THRESHOLD

9. INSTALL SOFFIT STRIKE

NOTE:
A. **FOR WOOD FRAME, LOCATE SOFFIT STRIKE POSITION AND MORTISE FRAME FOR STRIKE. 472-U STRIKE FOR 1-3/4" THICK DOOR 473-U STRIKE FOR 2-1/4" THICK DOOR SEE FIG. 9A.**
B. **FOR SINGLE OR DOUBLE DOOR INSTALLATIONS WITH NON-REINFORCED METAL FRAME, LOCATE SOFFIT STRIKE POSITION AND PREPARE FOR 471-U STRIKE. DOUBLE DOOR APPLICATION SHOWN FOR SINGLE DOOR APPLICATION USE APPROPRIATE HANDING AS SHOWN. SEE FIG. 9B.**
C. **FOR ALUMINUM AND REINFORCED HOLLOW METAL FRAME PREPARATION, SEE FIG. 9C.**

10. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 5)

A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock and hinge stile lever arm. **(See Direction No. 941009 for these instructions.)**
C. Be sure crossbar tube is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
D. Using holes in hinge stile case, mark location and prepare door for sex bolts. Drill 13/32 dia. outside and 3/8 dia. inside.
E. Seat sex bolts in hinge stile of door with a soft hammer to prevent marking of door and screws.
F. Apply hinge case with crossbar in place.
G. Tighten wedge-tite set screws securely with dog key and screw-driver or equivalent for leverage, and test crossbar for free action. **(See Direction No. 941009 for these instructions.)**

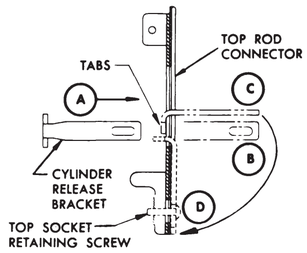
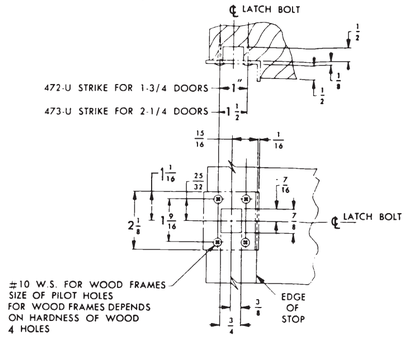


FIG. 2C



WOOD FRAME PREPARATION
FIG. 9A

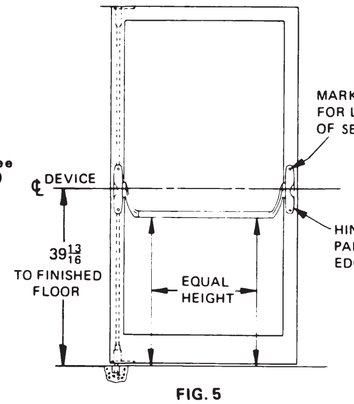
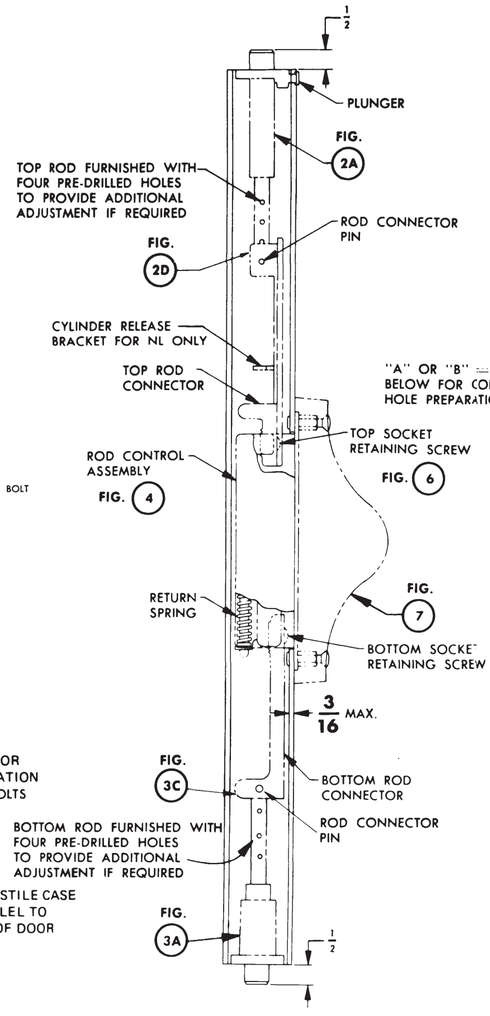
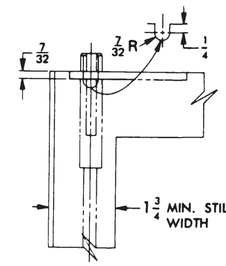


FIG. 5



FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON IF REQUIRED



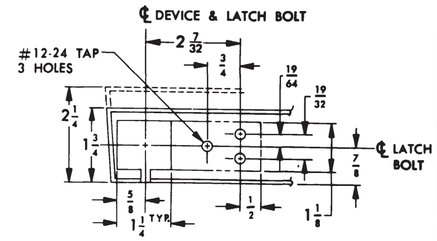
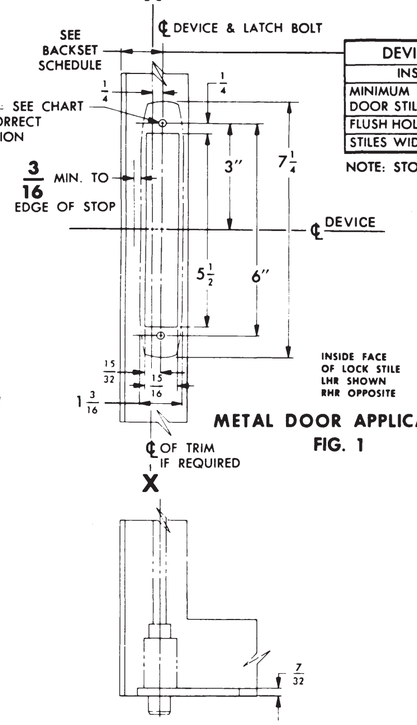


FIG. 2



DEVICE BACKSET SCHEDULE	
INSTALLATION	BACKSET
MINIMUM 1-3/4 TO 2-5/16 DOOR STILE	1-5/32
FLUSH HOLLOW METAL DOOR	2-1/2
STILES WIDER THAN 2-5/16	1/2 OF STILE

NOTE: STOP THICKNESS OF 1/2 MAX. REQ'D.

METAL DOOR APPLICATION
FIG. 1

911066-00

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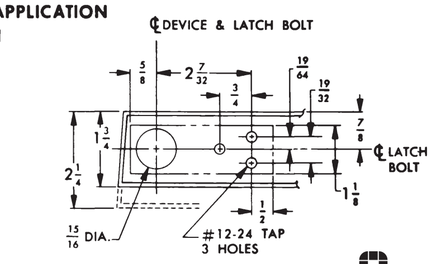


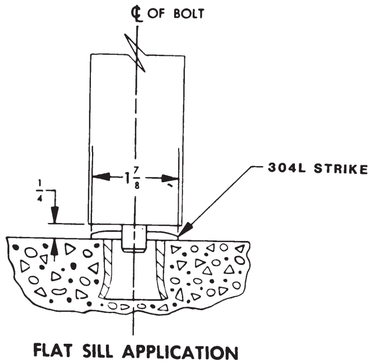
FIG. 3

ALLEGION

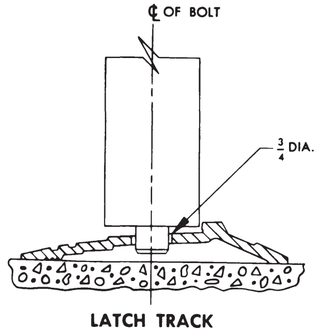
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VON DUPRIN

DIRECTION NUMBER 911066-00 (b) DATE 06/14

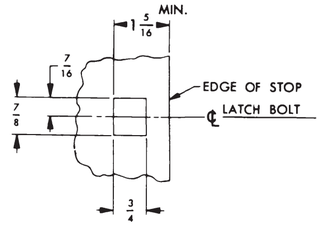


FLAT SILL APPLICATION

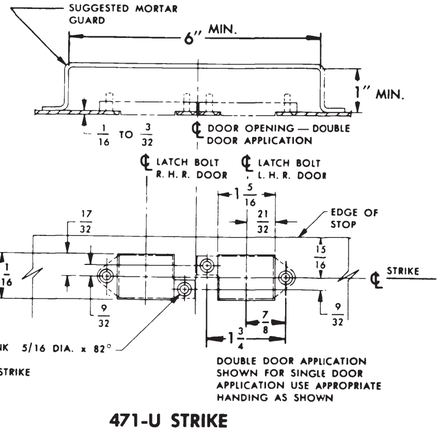


LATCH TRACK THRESHOLD APPLICATION

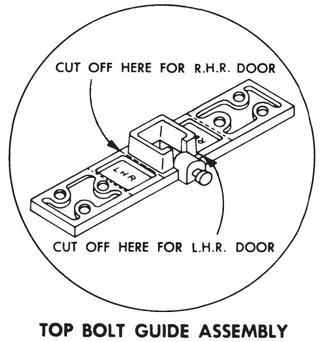
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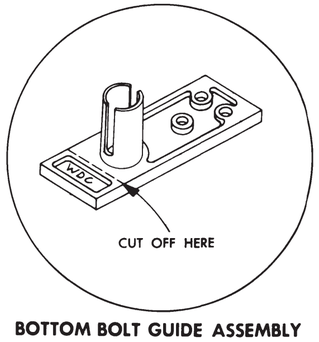
REINFORCED HOLLOW METAL AND ALUMINUM FRAME PREPARATION
FIG. 9C



471-U STRIKE
HOLLOW METAL FRAME PREPARATION
FIG. 9B



TOP BOLT GUIDE ASSEMBLY
FIG. 2B



BOTTOM BOLT GUIDE ASSEMBLY
FIG. 3B

CUT HERE

IMPORTANT

CHECK DOOR MATERIAL AND METAL THICKNESS FOR CORRECT DEVICE MOUNTING	
"A" — ALUM DOORS	"B" — REINFORCED HOLLOW METAL DOORS
7/32 Dia. — 2 Holes for sex bolt head. (See Fig. 4A and Direction Note 2a.)	1/4 - 28 TAP — 2 Holes for hex stud. (See Fig. 4D and Direction Note 2b.)

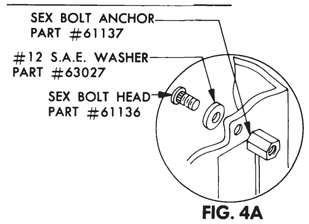


FIG. 4A

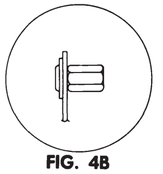


FIG. 4B

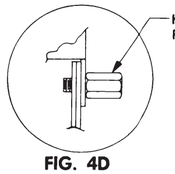


FIG. 4D

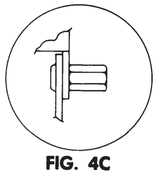
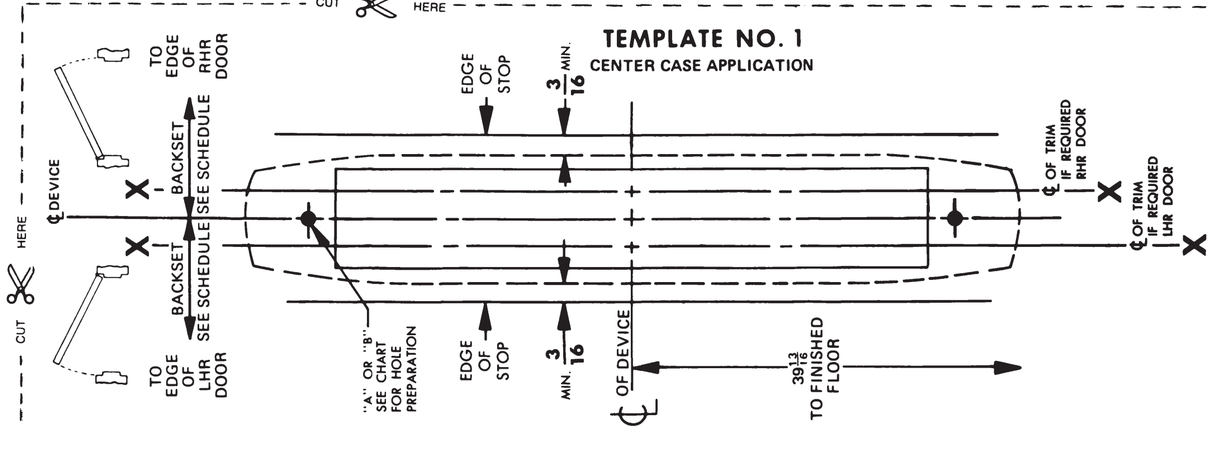


FIG. 4C

CUT HERE



INSTALLATION INSTRUCTIONS:

1. Install threshold(s), if used, and fit and hang door(s).
2. Check that device handing matches door handing. If not, change device handing (see instructions in reversing package).
3. Tape full size RHR or LHR lock stile case and hinge stile case templates to inside face of door (Figure 1). Be sure center line of device is 39-13/16″ from finished floor. Prepare inside face of door for device per templates.
4. Prepare lock stile of door for mortise lock (see mortise lock instructions 941019).
5. Prepare outside face of lock stile for trim (see trim instructions 941127). Line X-X on trim instructions corresponds to line X-X on device template.
6. Prepare trim for installation (see trim instructions).
7. Install mortise lock (see Figure 2).
8. For 1-3/4″ thick doors, cut 1/4″ off device lift finger.
9. Install 1/4-28 hex studs in door (Figure 3).
10. Attach device cases to 1/4-28 hex studs using #12-24 machine screws (Figure 3).
11. Push down lock stile lever arm and check for full retraction of latch bolt. Release and check for full extension (3/4″).
12. Measure dimension “X” (Figure 3) and cut crossbar tube to dimension “X.” Cut end without hole.
13. Install crossbar tube and wedge assembly (see instructions 941009) and test crossbar for free action.
14. Prepare frame for strike (Figure 4).
15. Install strike to frame with two #12-12 x 12-24 x 1″ combination screws.

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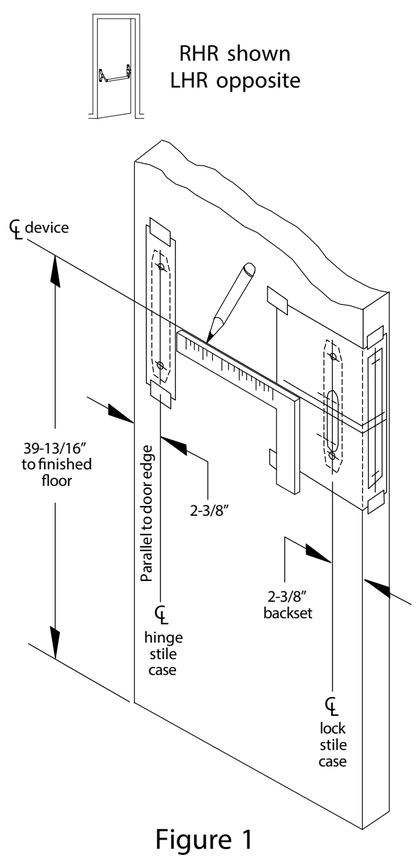


Figure 1

Figure 2. Install Mortise Lock

1. Remove retaining screws, scalp plate, and insert.
2. Adjust faceplate for door bevel:
   (a) Loosen top and bottom faceplate screws.
   (b) Pivot faceplate to match door bevel.
   (c) Tighten top and bottom faceplate screws.
3. Install mortise lock into door with two #12-12 x 12-24 combination screws.

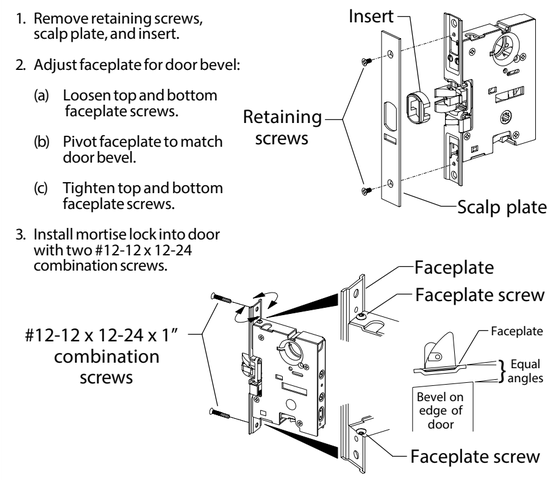
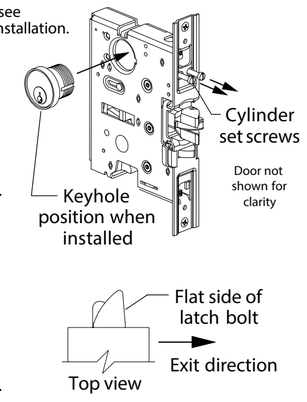


Figure 3. Install Mortise Cylinder

Note: When using 375L trim, see trim instructions for cylinder installation.

1. If using outside cylinder.
   (a) Back out cylinder set screws enough to clear cylinder mounting hole.
   (b) Thread cylinder into mortise lock through hole in outside face of door.
   (c) Tighten the cylinder set screw that is closest to outside face of door. Remove the other cylinder set screw.
2. Rotate latch bolt so flat side faces exit direction.
3. Replace insert, scalp plate, and scalp plate retaining screws.



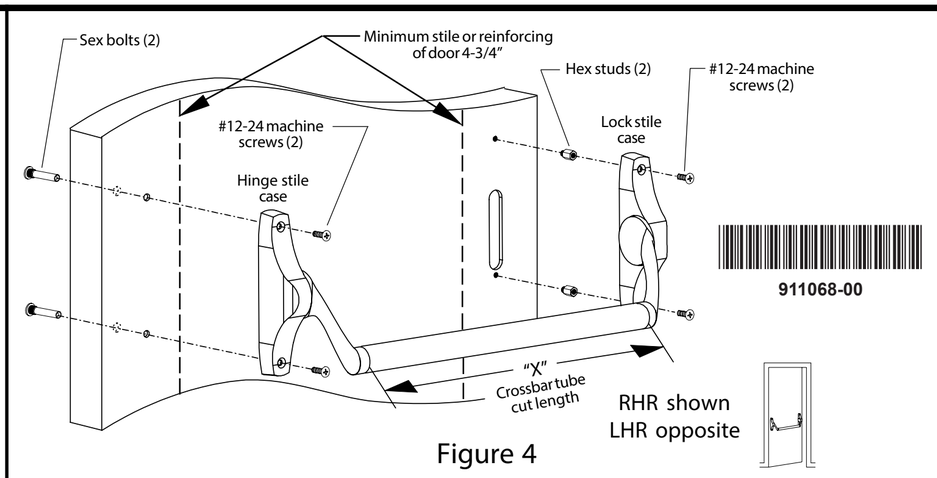
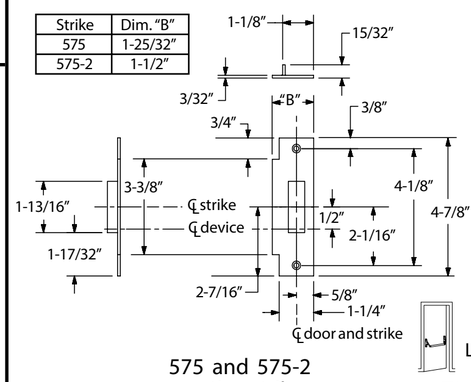
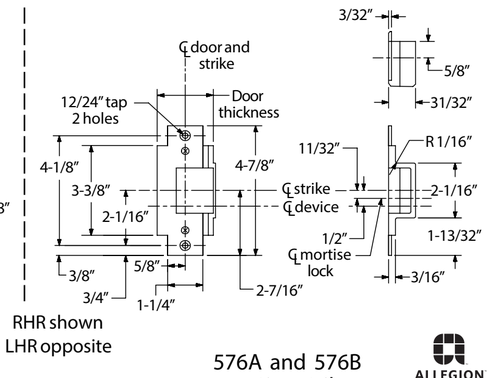


Figure 4



575 and 575-2 mortise strikes



576A and 576B mortise strikes

Figure 5

ALLEGION

DESCRIPTION:

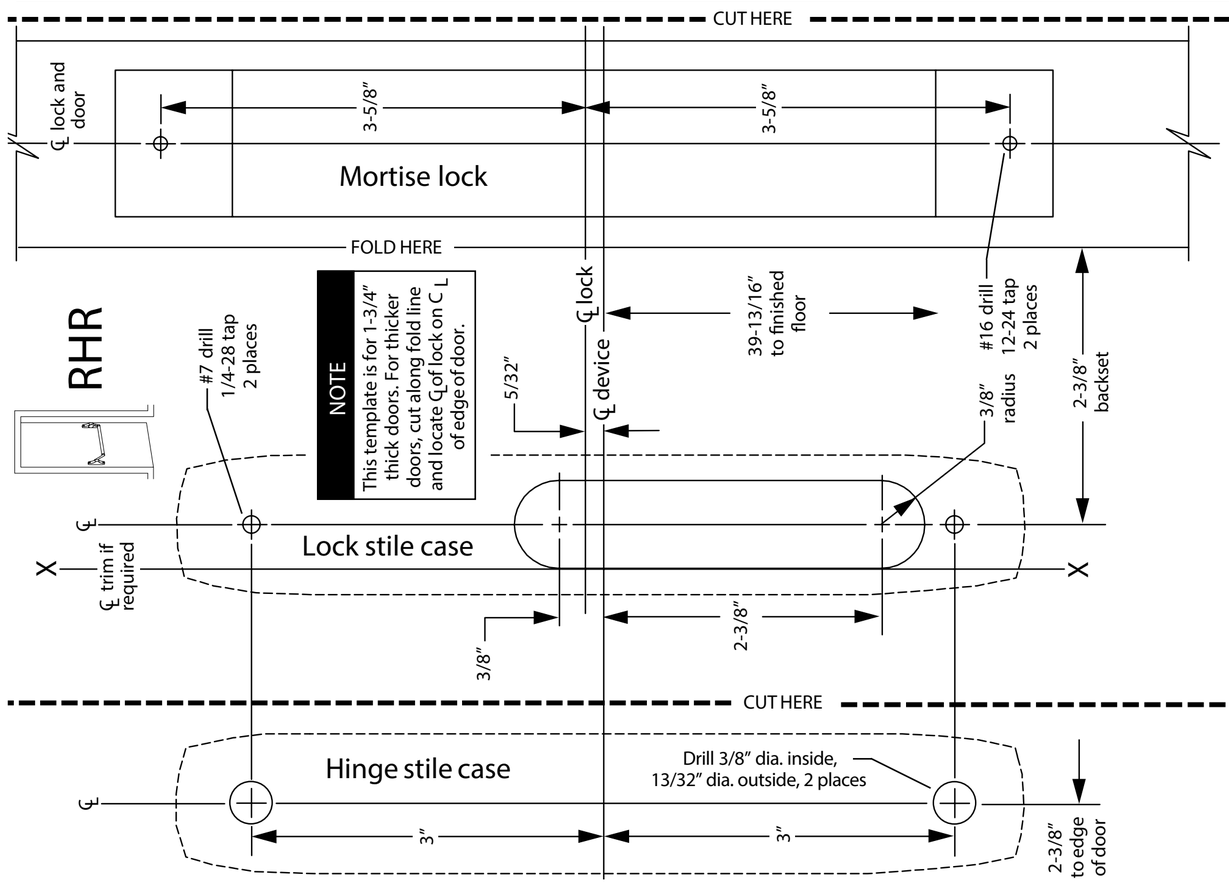
5575/5575F METAL DOOR

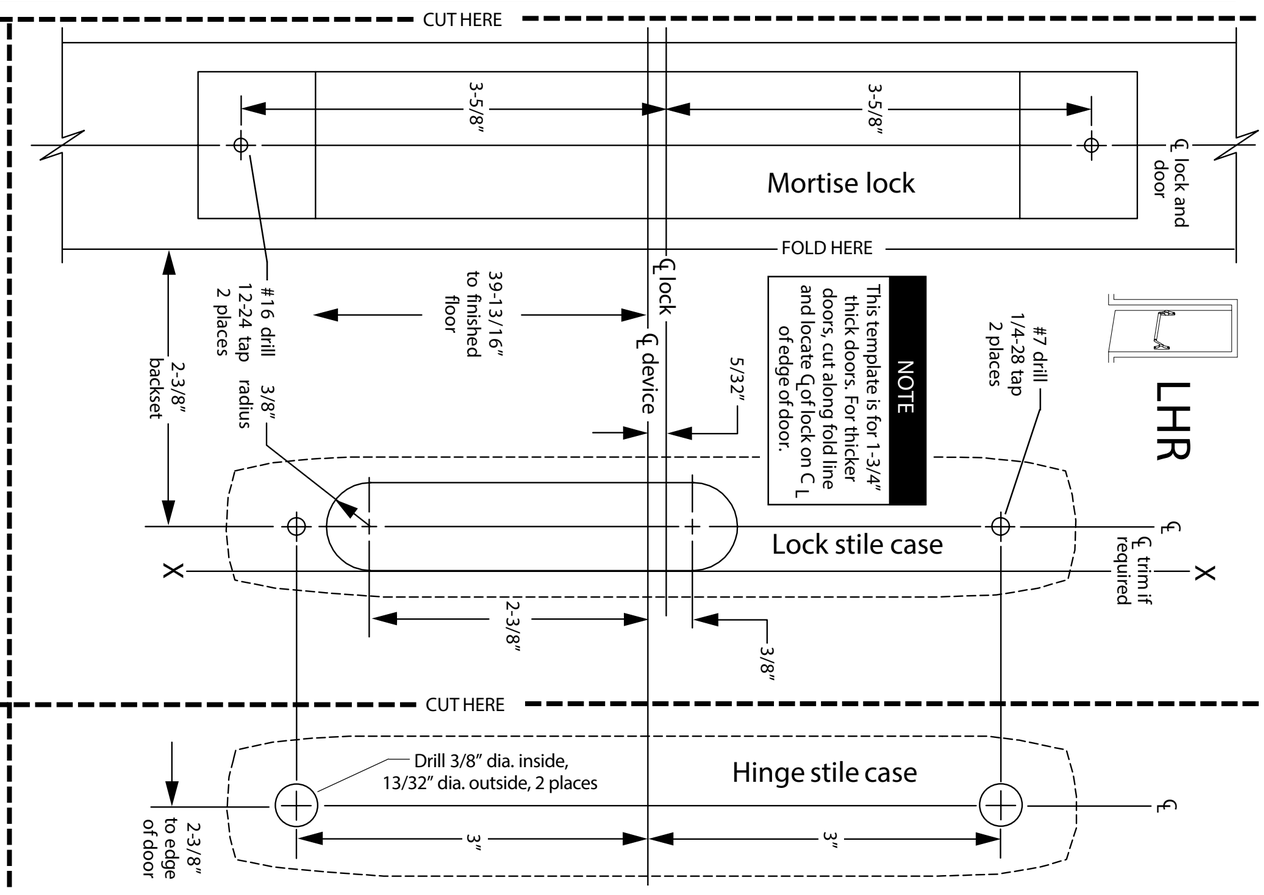
INSTALLATION INSTRUCTIONS

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VON DUPRIN

DIRECTION NUMBER:	SHEET#:	DATE:
911068-00 (b)	1 of 1	06/14





INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door. **(See instruction sheet #41023 for changing the device handing, if necessary.)**

1. APPLY STRIKE

A. Tape appropriate strike template to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1, 2, or 3.)
C. For single door application. (See illustration 4, 5 or 6)

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. See device height schedule.

NOTE BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM FOR DT APPLICATION ONLY

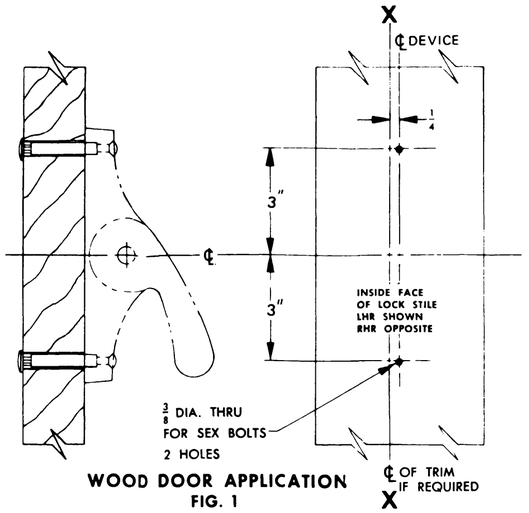
A. See directions in trim carton, if required. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Apply outside trim.

4. APPLY LOCK STILE CASE

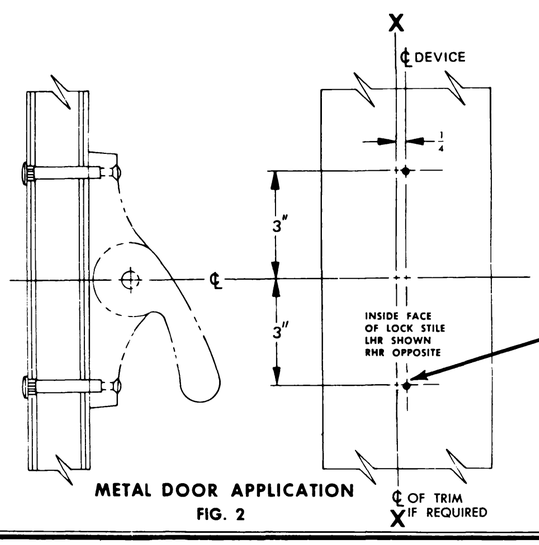
A. Attach lock stile case to door. (See Fig. 1 or Fig. 2)

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

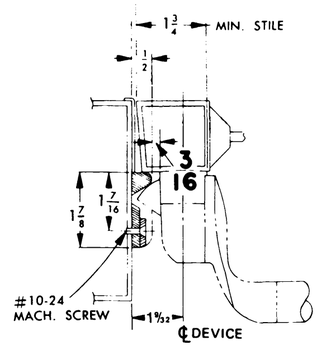
A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock stile and hinge stile lever arms. **(See Direction No. 941009 for cutting crossbar, if necessary.)**
C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
D. Using holes in hinge stile case, mark location and prepare door for sex bolts.
E. Apply hinge stile case with crossbar in place.
F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage and test crossbar for free action. **(See Direction No. 941009 for these instructions.)**



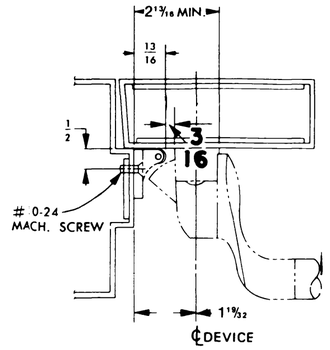
WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2

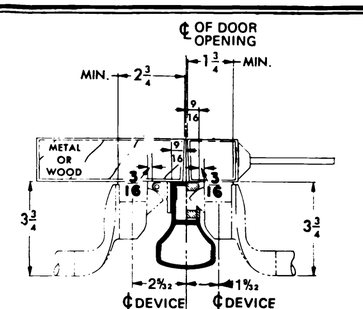


ILLUST. 4 **1409 & 1439 STRIKE**
SINGLE DOOR
NARROW STILE

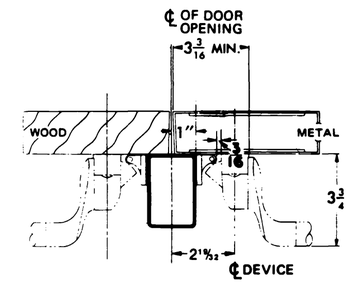


299/270 STRIKE
SINGLE DOOR
WIDE STILE
ILLUST. 5

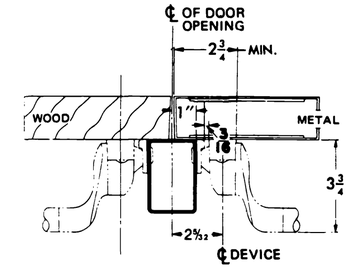
911061-00



5254 or 5654 MULLION WITH 299/270 STRIKE
5554 or 5754 MULLION WITH 1408 STRIKE
ILLUST. 1



ILLUST. 2
4954 MULLION WITH 299/270 STRIKE

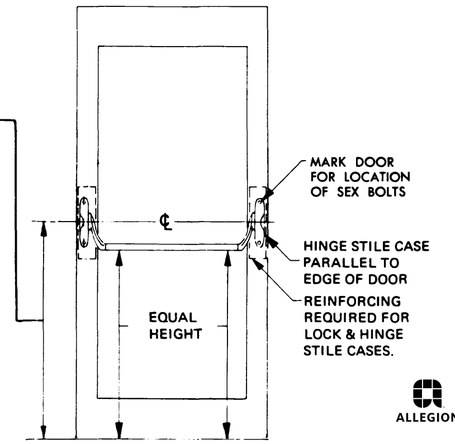


ILLUST. 3
1654 MULLION WITH 1606 STRIKE

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
350 or 360	39-11/16
355 or 365	39-13/16
390	39-15/16
ALL OTHER THRESHOLDS	39-11/16
NO THRESHOLD (FLAT SILL)	39-11/16

STD APPLICATION
3/8 DIA. THRU ENLARGE TO 13/32 DIA OUTSIDE FACE OF DOOR FOR SEX BOLTS 2 HOLES
243 & E243 TRIM
#12-24 TAP INSIDE FACE OF DOOR 2 HOLES

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON IF REQUIRED

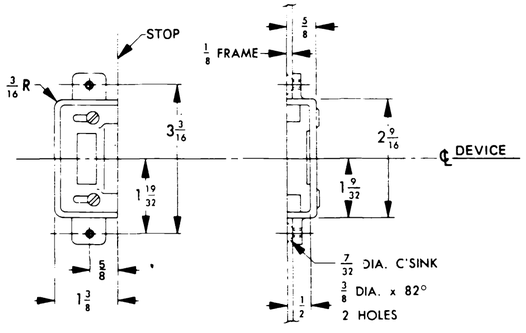


ILLUST. 4

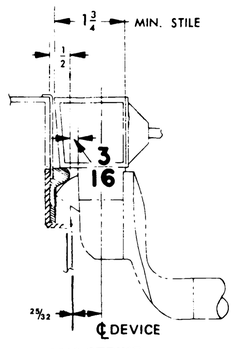
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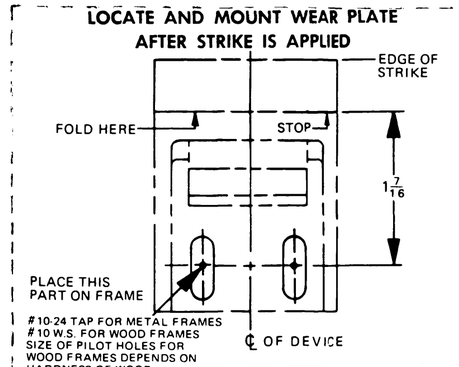
DESCRIPTION	VON DUPRIN
55EO & 55DT SERIES RIM DEVICES	DIRECTION NUMBER 911061-00 (b) DATE 04/14



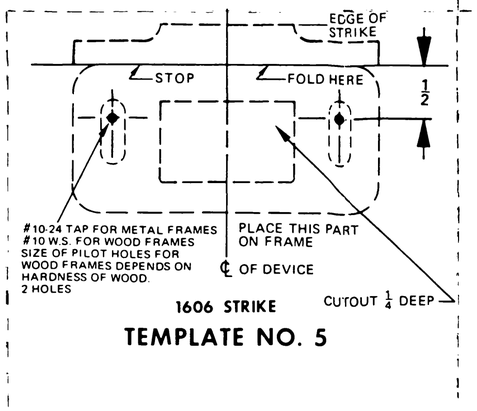
1410 STRIKE



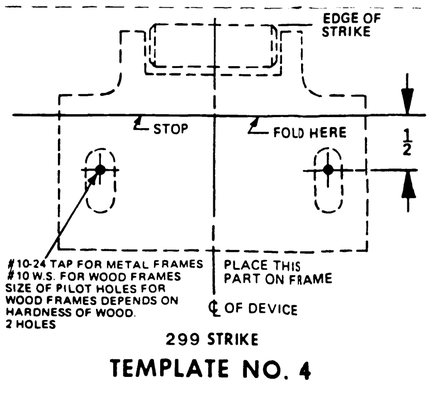
ILLUS. 6 **1410 STRIKE**
SINGLE DOOR
NARROW STILE



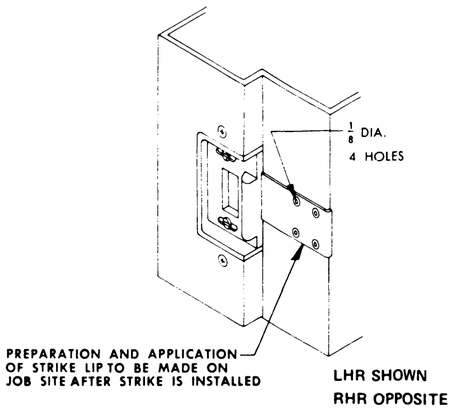
1409 & 1439 STRIKE
TEMPLATE NO. 3

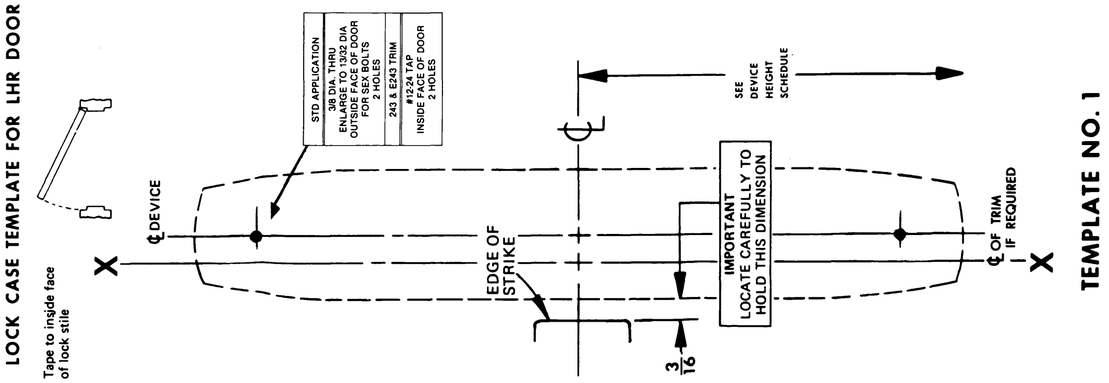


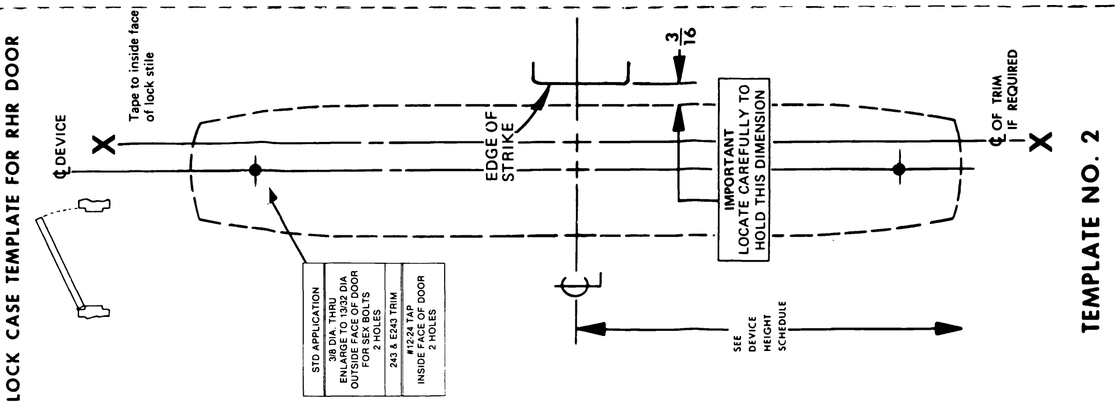
1606 STRIKE
TEMPLATE NO. 5



299 STRIKE
TEMPLATE NO. 4







INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door. (See form 74 for changing the device handing if required.)

1. APPLY STRIKE

A. Tape appropriate strike template to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1, 2, or 3.)
C. For single door application. (See illustration 4, 5 or 6)

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. See device height schedule.

NOTE **BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.**

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

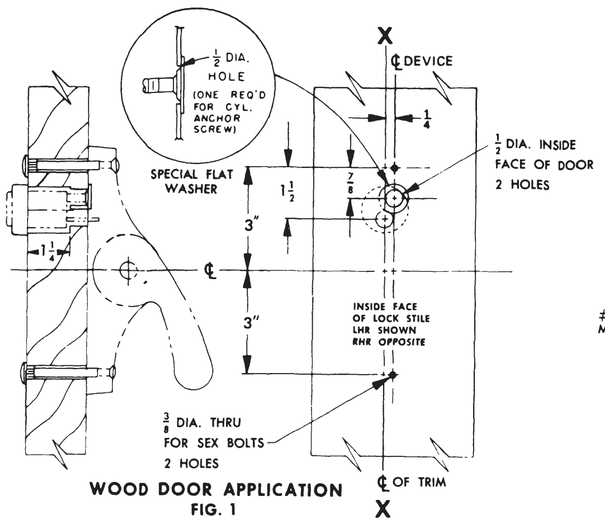
A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off cylinder tailpiece, if necessary, to extend 5/16 to 7/16 thru door and into device case.
D. Install cylinder assembly.
E. Apply outside trim.

4. APPLY LOCK STILE CASE

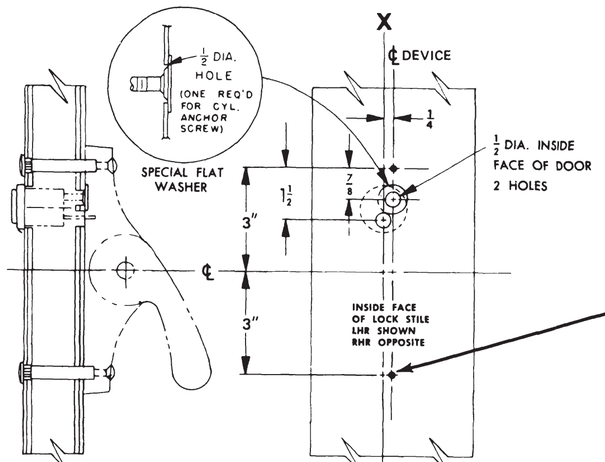
A. Remove key from cylinder.
B. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
C. Test key action.

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

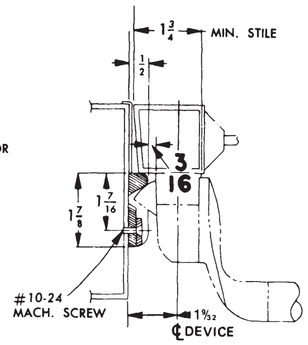
A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction No. 941009 for cutting crossbar, if necessary.)
C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile
D. Using holes in hinge stile case, mark location and prepare door for sex bolts.
E. Apply hinge stile case with crossbar in place.
F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage and test crossbar for free action. (See Direction No. 941009 for these instructions.)



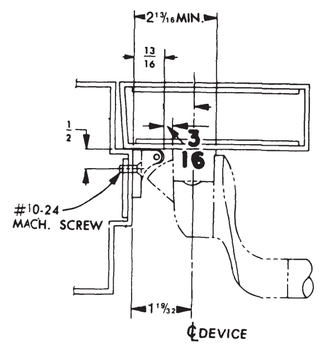
WOOD DOOR APPLICATION
FIG. 1



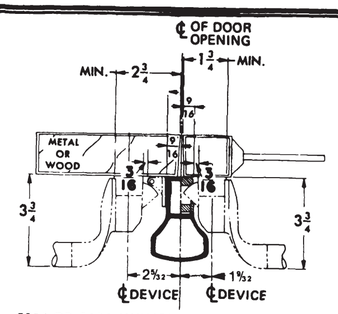
METAL DOOR APPLICATION
FIG. 2



ILLUST. 4 **1409 STRIKE**
SINGLE DOOR
NARROW STILE

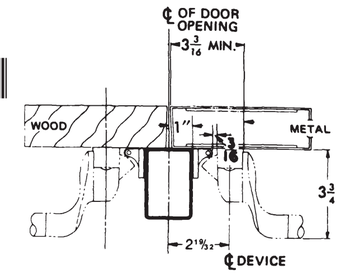


299 STRIKE
SINGLE DOOR
WIDE STILE
ILLUST. 5

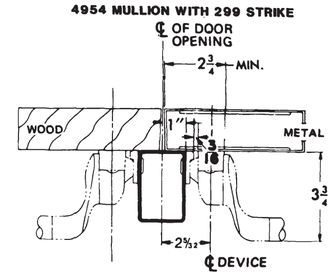


5254 OR 5654 MULLION WITH 299 STRIKE
5554 OR 5754 MULLION WITH 1408 STRIKE
ILLUST. 1

911062-00

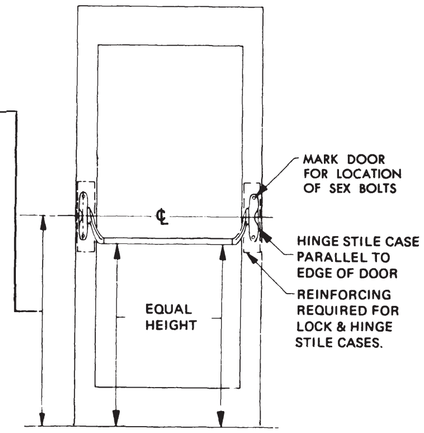


ILLUST. 2
4954 MULLION WITH 299 STRIKE



ILLUST. 3
1654 MULLION WITH 1606 STRIKE

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD	39-11/16
NO THRESHOLD (FLAT SILL)	39-11/16



ILLUST. 4

STD APPLICATION
3/8 DIA. THRU ENLARGE TO 13/32 DIA OUTSIDE FACE OF DOOR FOR SEX BOLTS 2 HOLES

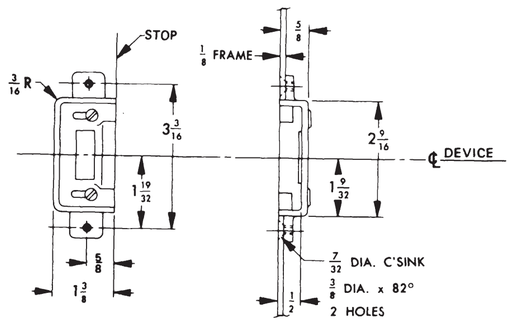
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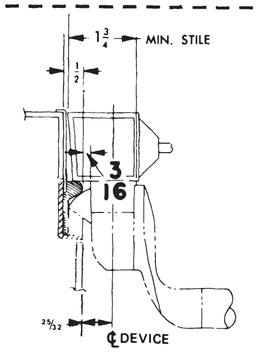
FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

DESCRIPTION	VON DUPRIN
55NL SERIES RIM DEVICE	DIRECTION NUMBER 911062-00 (b) DATE 06/14

CUT HERE

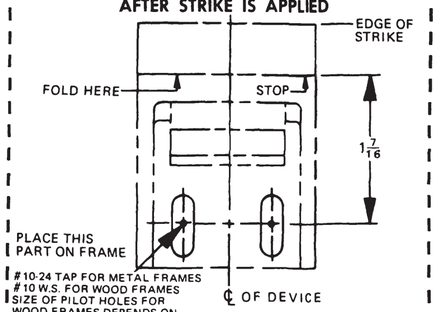


1410 STRIKE



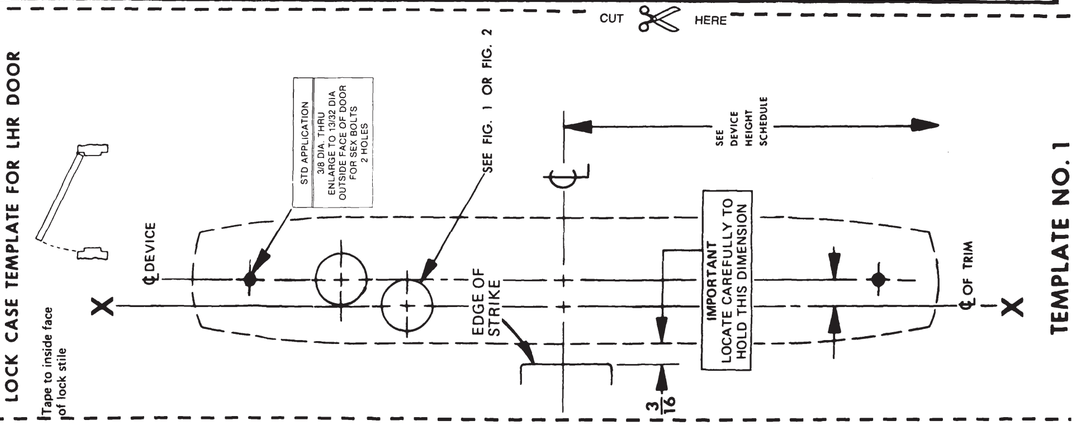
ILLUS. 6 **1410 STRIKE**
SINGLE DOOR
NARROW STILE

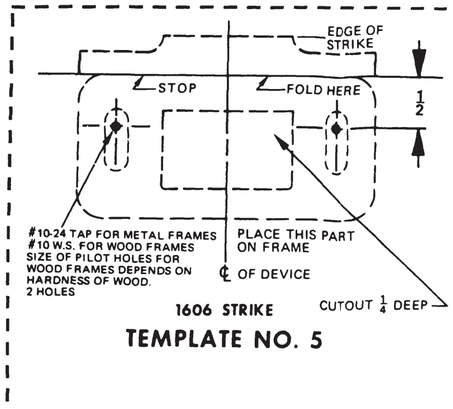
LOCATE AND MOUNT WEAR PLATE AFTER STRIKE IS APPLIED



1409 STRIKE

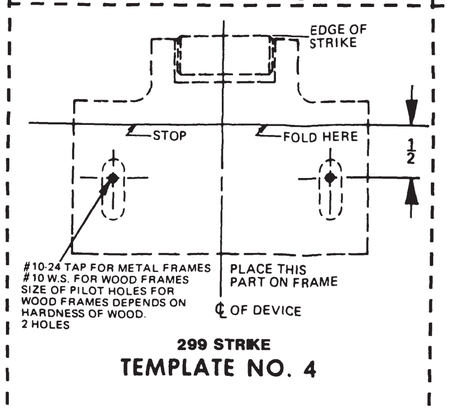
TEMPLATE NO. 3





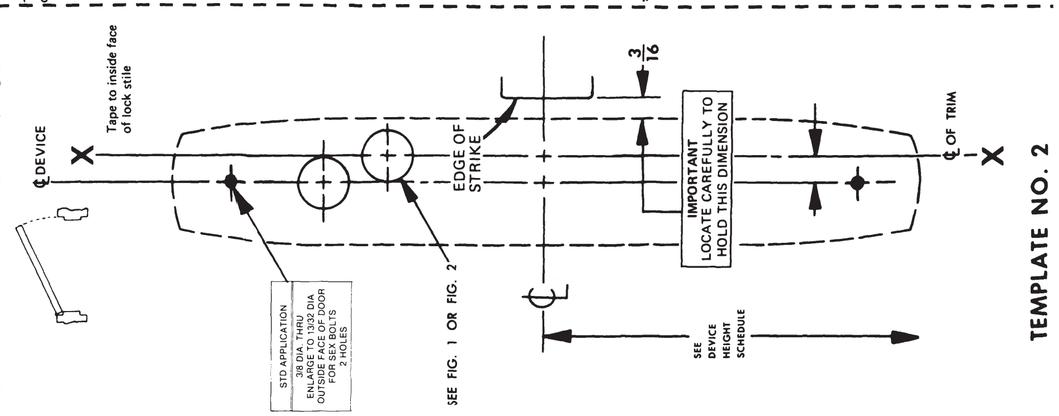
1606 STRIKE

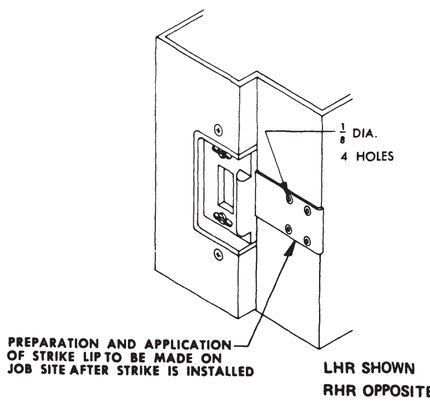
TEMPLATE NO. 5



299 STRIKE

TEMPLATE NO. 4





Exit Devices – 88 Devices

Exit Devices – 88 Devices Installation Instructions

941015-00

Cylinder Preparation

VON DUPRIN

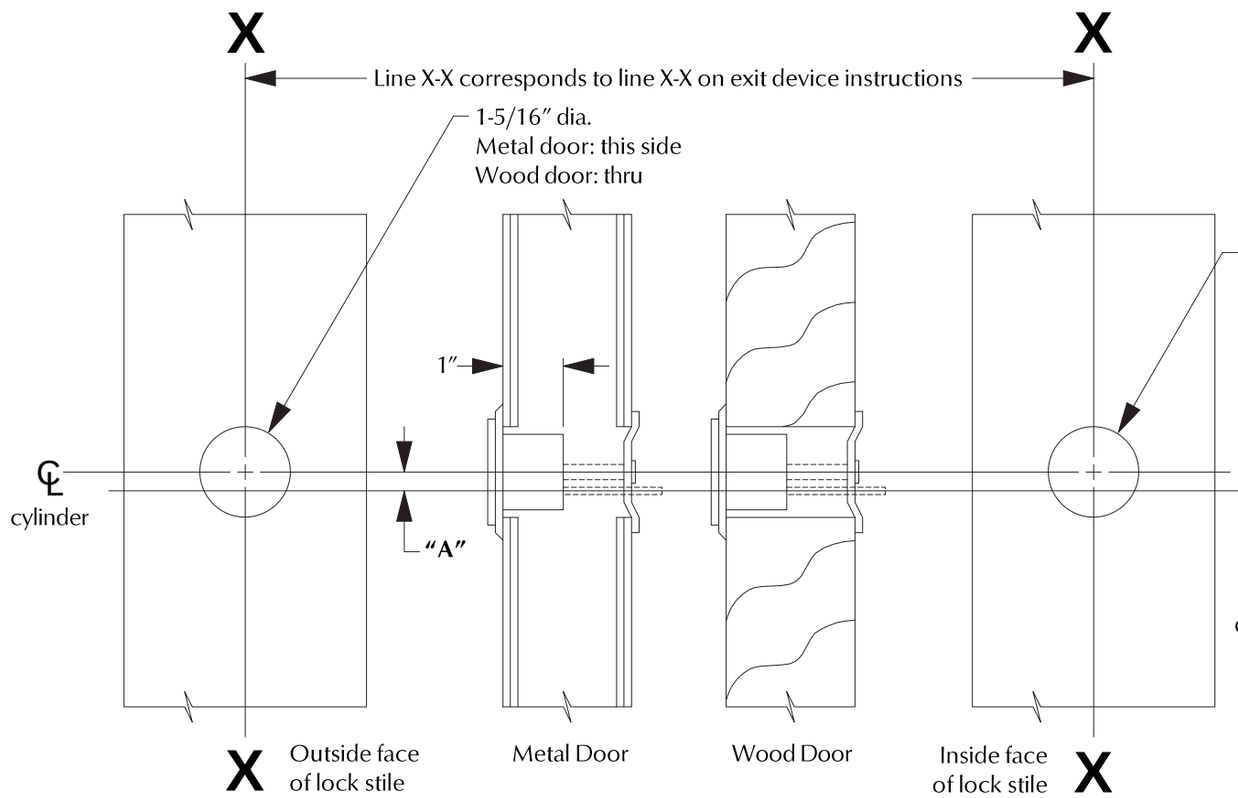
For 44 and 88 Rim Devices

Installation Instructions

1. Prepare door for exit device. See exit device instructions for holes, line X-X, and center lines.
2. Prepare door for cylinder:
   - **A.** Transfer line X-X from inside (exit device side) of door to outside (cylinder side) of door. Use extra care if edge of door is beveled. Make sure line X-X is parallel to edge of door.
   - **B.** Locate and prepare all holes as shown.
3. Apply cylinder.
4. Cut cylinder tailpiece to extend beyond inside face of door by amount listed:

   44 Rim ..... 5/8″ to 3/4″
   88 Rim ..... 5/8″ to 3/4″

5. Apply exit device:
   - **A.** Remove key from cylinder.
   - **B.** Attach lock stile case to door.
   - **C.** Test key action.



Cylinder Schedule

Brand	Hole size
Von Duprin	1-5/16″
Schlage	
Corbin	
Russwin	
Lockwood	
Yale	
Sargent	1-3/8″

Device Application Schedule

Device	Dimension “A”
44 Rim	1/4″
88 Rim	1/4″

LHR shown, RHR opposite

For cutouts on inside face of door, see exit device instructions

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941015-00 Rev. 07/15-c

DIRECTIONS FOR CUTTING VERTICAL RODS ON 88 DEVICES

1. **CHECK RODS FOR CORRECT LENGTH.** (Figure 1A)
   a. If too long, cut off at unthreaded end.
   b. When rod extension is required, cut off main rod so extension is at least 3" long. (Figure 1B)
2. **DRIVE IN ROD CONNECTORS.**
   a. Lubricate for easier driving. (Figures 1B & 2)

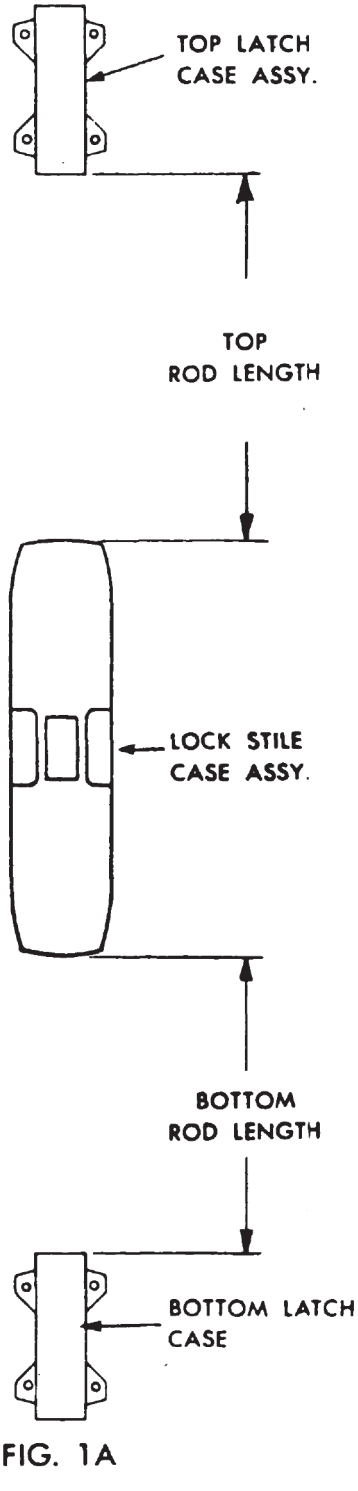


FIG. 1A

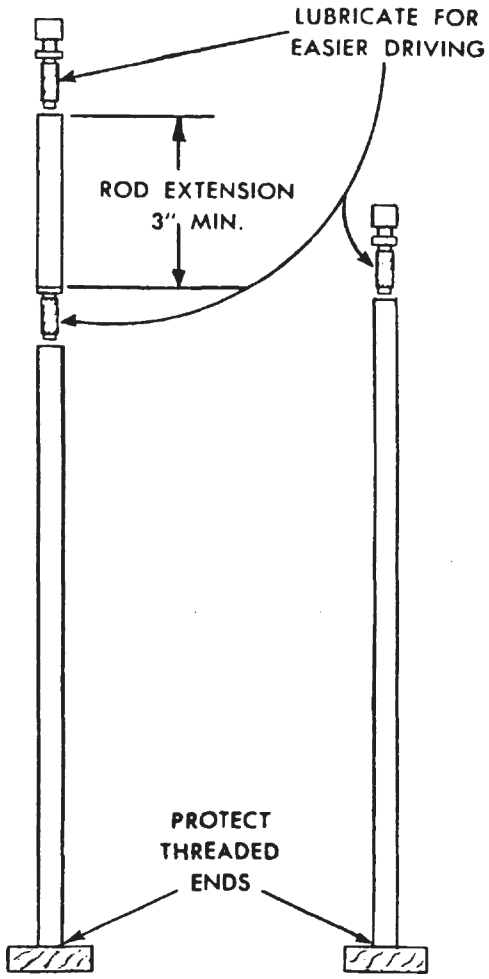


FIG. 1B

FIG. 2

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941028-00 Rev. 01/14-b

VON DUPRIN®

Installation Instructions

BEFORE APPLYING THIS DEVICE:

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door. See Figure 3.

1. Apply Strike

A. Tape appropriate strike template to stop.
B. When Von Duprin mullion is used, apply strike at tapped holes in mullion. See illustration 1 or 2.
C. Vertical rod and rim devices on pairs of doors require 1609J strike. See template No. 30021 for this application.

2. Prepare Door

A. Tape full size template No. 1 or 2 depending on handing of door, to inside face of lock stile. See Device Height Schedule.
NOTE: Be sure centerline of lock stile case is parallel to stop and that edge of case is 3/16 from edge of strike. Strike must be shimmed out if lock case is mounted more than 3/16 from strike.
B. Prepare door as shown. See Figure 1 for wood door application and Figure 2 for metal door application.

3. Apply Outside Trim

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. If necessary, cut off knob spindle to extend 1/4" to 1/2" and cylinder tailpiece to extend 5/8" to 3/4" thru door and into device case.
D. Apply outside trim.

4. Install Lever Arms

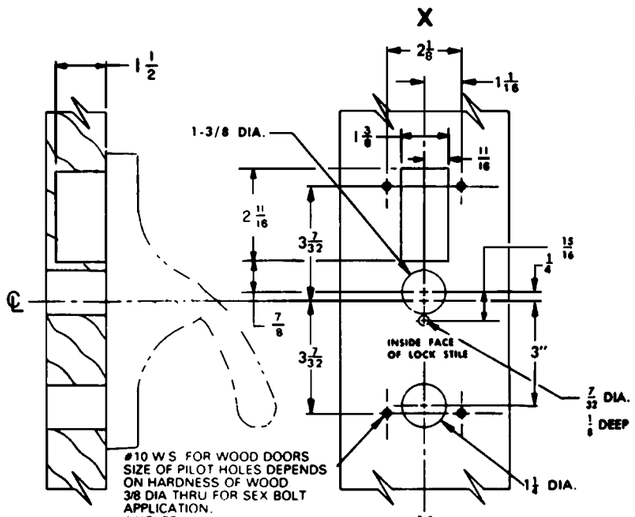
A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. Apply Lock Stile Case

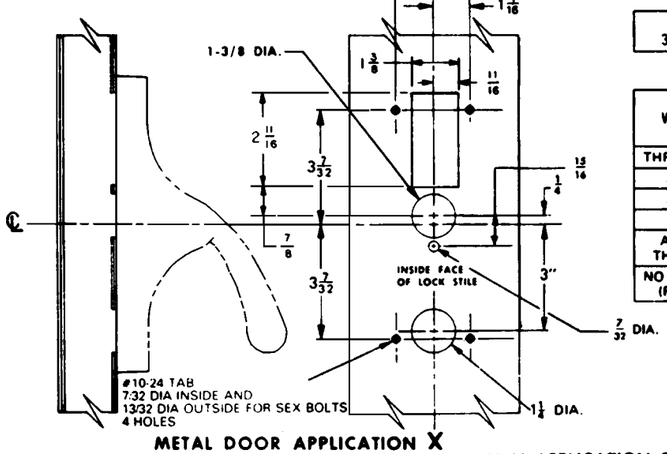
A. Remove key from cylinder.
B. Position cylinder cam as shown in Figure 3.
C. Attach lock stile case to door. (See Figure 1 or 2)
D. Test key and knob action.

6. Apply Hinge Stile Case and Crossbar Tube (Figure 4)

A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock stile and hinge stile lever arms. **(See Direction Sheet 41009 for cutting crossbar, if necessary)**
C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
D. Using holes in hinge stile case, mark location and prepare door for attaching screws.
E. Apply hinge tile case with crossbar in place.
F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. **(See Direction Sheet 41009 for these instructions).**



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2

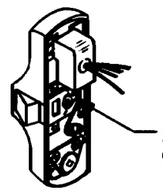
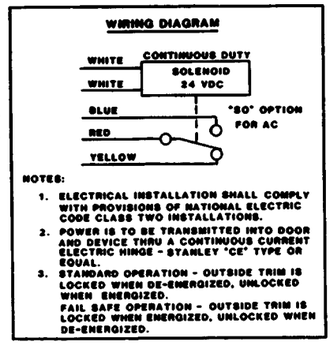


FIG. 3

RHR SHOWN
LHR OPPOSITE



SINGLE DOOR OPENING
39 13/16 TO FINISHED FLOOR

DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD

THRESHOLD NO.	TO FIN. FLOOR
350 or 360	39-11/16
355 or 365	39-13/16
390	39-15/16
ALL OTHER THRESHOLDS	39-11/16
NO THRESHOLD (FLAT SILL)	39-11/16

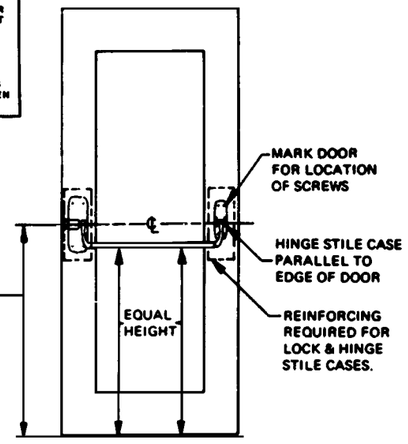
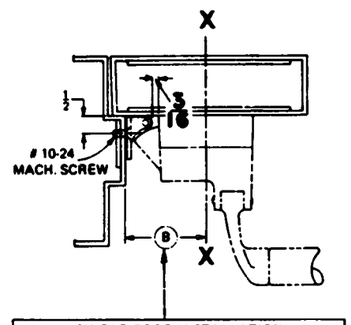
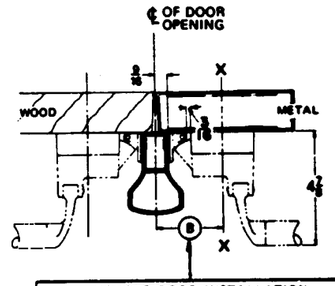


FIG. 4



SINGLE DOOR INSTALLATION

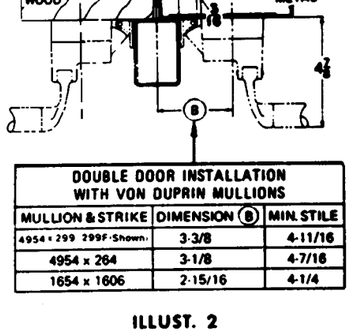
STRIKE	DIMENSION (B)	MIN. STILE
299/2991 Shown	2-3/8	4-3/8
264	2-1/8	4-1/8
1606	1-15/16	3-15/16



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS

MULLION & STRIKE	DIMENSION (B)	MIN. STILE
5254-5654 x 299/2991 Shown	2-15/16	4-1/4
5654 or 5254 x 264	2-11/16	4"

ILLUST. 1



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS

MULLION & STRIKE	DIMENSION (B)	MIN. STILE
4954 x 299 299F-Shown	3-3/8	4-11/16
4954 x 264	3-1/8	4-7/16
1654 x 1606	2-15/16	4-1/4

ILLUST. 2

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

911184-00

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911184-00 Rev. 06/15-b

DESCRIPTION
E-88K-NL, E-88K-NL(FS) SERIES ELECTRIC LOCKING RIM DEVICES

VON DUPRIN®

INSTRUCTION NUMBER	911184-00	DATE 6/25/15

911179-00

8875 & 8875-F

VON DUPRIN

Mortise Lock Devices

Installation Instructions

1. Install threshold(s), if used, and fit and hang door(s).
2. Check that device handing matches door handing.
3. Tape full size RHR or LHR lock stile case and hinge stile case templates to inside face of door (Figure 1). Be sure center line of device is 39-13/16″ from finished floor. Prepare inside face of door for device per templates.
4. Prepare lock stile of door for mortise lock (see mortise lock instructions 941019).
5. Prepare outside face of lock stile for trim (see trim instructions). Line X-X on trim instructions corresponds to line X-X on device template.
6. Prepare trim for installation (see trim instructions).
7. Install mortise lock (Figure 2).
8. For 1-3/4″ thick doors, cut 3/8″ off device lift finger.
9. Attach device cases to door (Figure 3).
10. Push down lock stile lever and check for full retraction of latch bolt. Release and check for full extension (3/4″). Adjust lift finger if necessary (Figure 4).
11. Measure dimension "X" (Figure 3) and cut crossbar tube to dimension "X." Cut end without hole.
12. Install crossbar tube and wedge assembly (see instructions 941009) and test crossbar for free action.
13. Prepare frame for strike (Figure 5).
14. Install strike to frame with two #12-12 x 12-24 x 1″ combination screws.

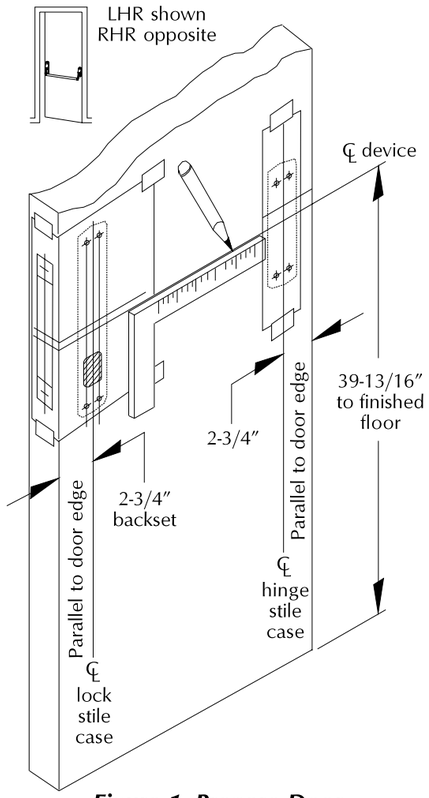
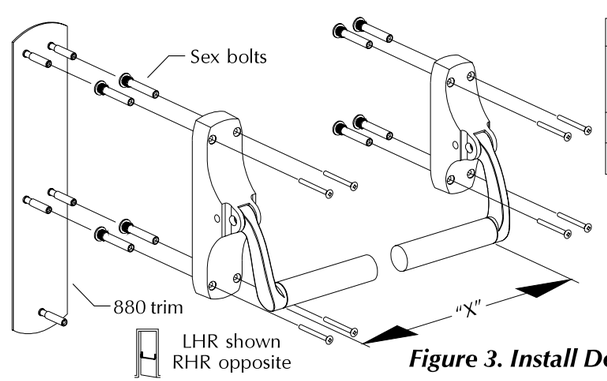


Figure 1. Prepare Door



Mounting	Fasteners
Surface	#10-12 x 10-24 x 2″ combination screws (supplied with device)
880 trim	#10-24 machine screws
Sex bolts	#10-24 machine screws

Figure 3. Install Device

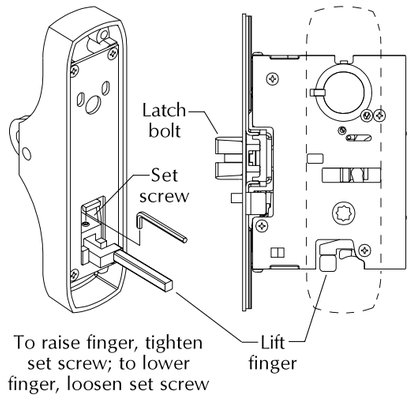
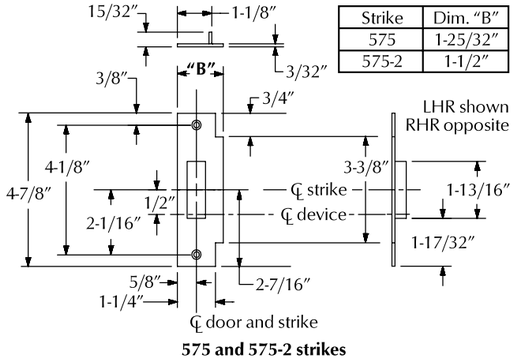
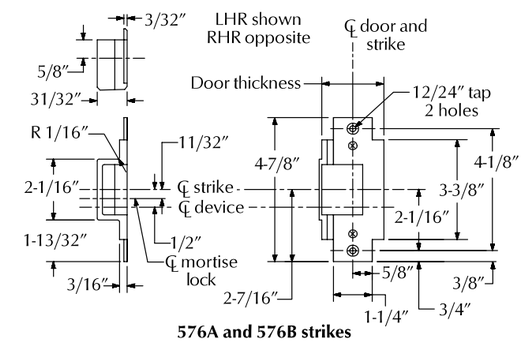


Figure 4. Adjust Lift Finger



Strike	Dim. "B"
575	1-25/32″
575-2	1-1/2″

575 and 575-2 strikes

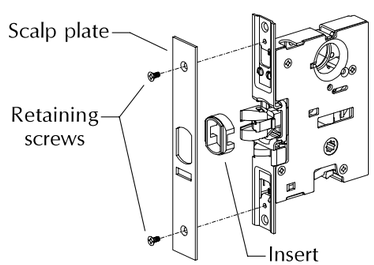


576A and 576B strikes

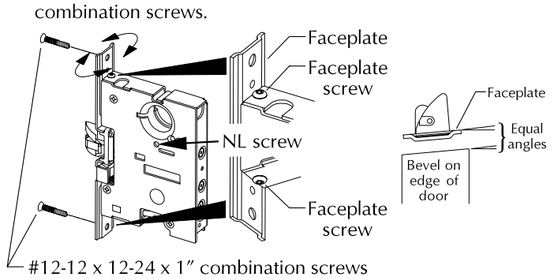
Figure 5. Prepare Frame for Strike

Figure 2. Install Mortise Lock

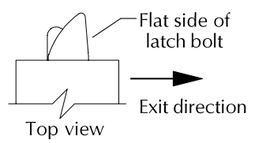
1. Remove retaining screws, scalp plate, and insert.



2. For TP and K trims turn NL screw clockwise all the way in.
3. Loosen top and bottom faceplate screws, pivot faceplate to match door bevel, tighten top and bottom faceplate screws.
4. Install mortise lock into door with two #12-12 x 12-24 combination screws.



5. Rotate latch bolt so flat side faces exit direction.
6. Replace insert, scalp plate, and scalp plate retaining screws.



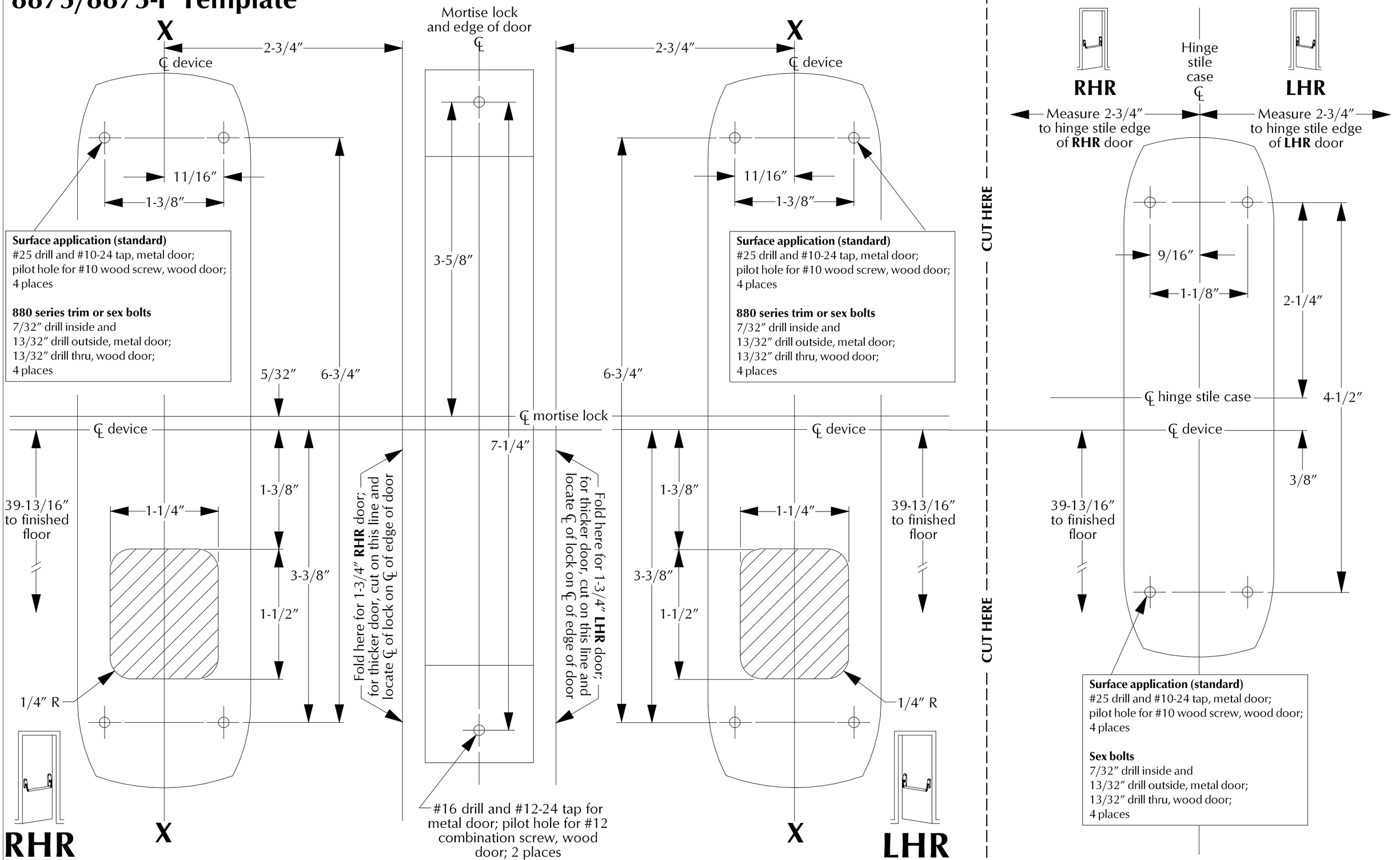
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911179-00 Rev. 01/14-b

8875/8875-F Template



Exit Devices – 88 Devices Installation Directions

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door.

1. APPLY STRIKE

A. Tape appropriate strike template to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1 or 2)
C. Vertical rod and rim devices on pairs of doors require 1609J strike. See template No. 30021 for this application.

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. See Device Height Schedule.

NOTE: BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM IF REQUIRED

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off cylinder tailpiece, if necessary, to extend 5/8 to 3/4 thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

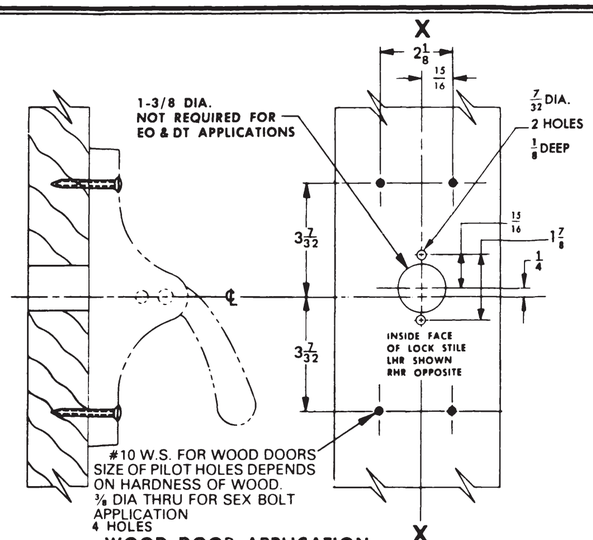
A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

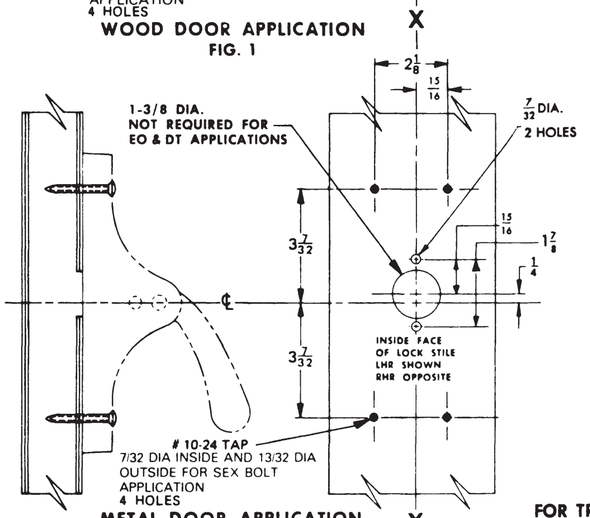
A. Remove key from cylinder.
B. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
C. Test key action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction Sheet 41009 for cutting crossbar, if necessary)
C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
D. Using holes in hinge stile case, mark location and prepare door for attaching screws.
E. Apply hinge stile case with crossbar in place.
F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Direction Sheet 41009 for these instructions.)

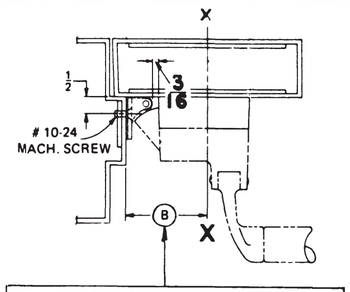


WOOD DOOR APPLICATION
FIG. 1

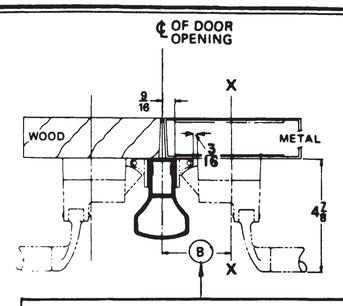


METAL DOOR APPLICATION
FIG. 2

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON IF REQUIRED

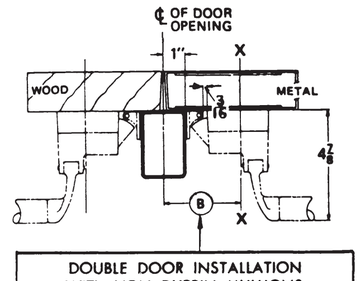


SINGLE DOOR INSTALLATION		
STRIKE	DIMENSION (B)	MIN. STILE
299(Shown)	2-1/2	4-3/8
264	2-1/4	4-1/8
1606	2-1/16	3-15/16



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
5254/5654x299(Shown)	3-1/16	4-1/4
5254/5654 x 264	2-13/16	4"

ILLUST. 1



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
4954x299(Shown)	3-1/2	4-11/16
4654 x 264	3-1/4	4-7/16
1654 x 1606	3-1/16	4-1/4

ILLUST. 2

SINGLE DOOR OPENING
39-13/16 TO FINISHED FLOOR

DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
ALL THRESHOLDS	39-11/16
NO THRESHOLD (FLAT SILL)	39-11/16

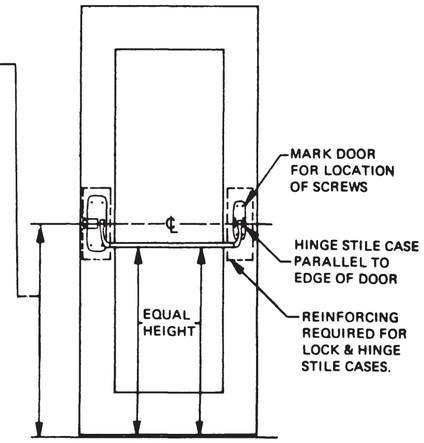


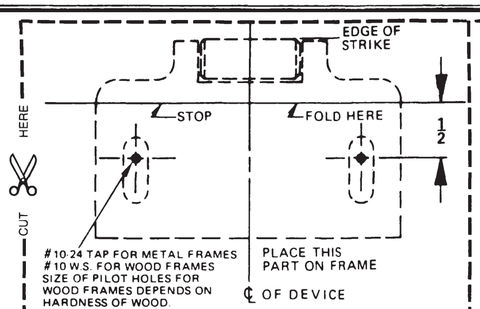
FIG. 4

911156-00

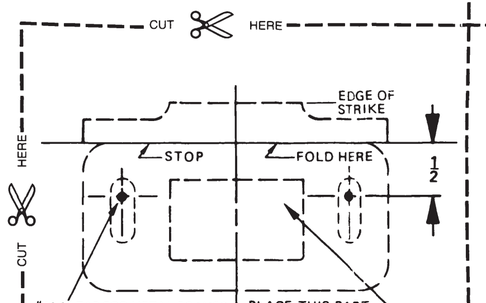
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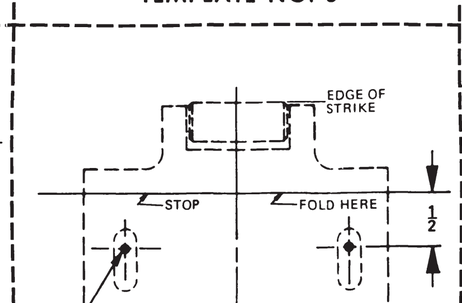
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880EO, 88DT & 88NL SERIES RIM DEVICE	DIRECTION NUMBER: 911156-00(b) — DATE: Rev. 01/14



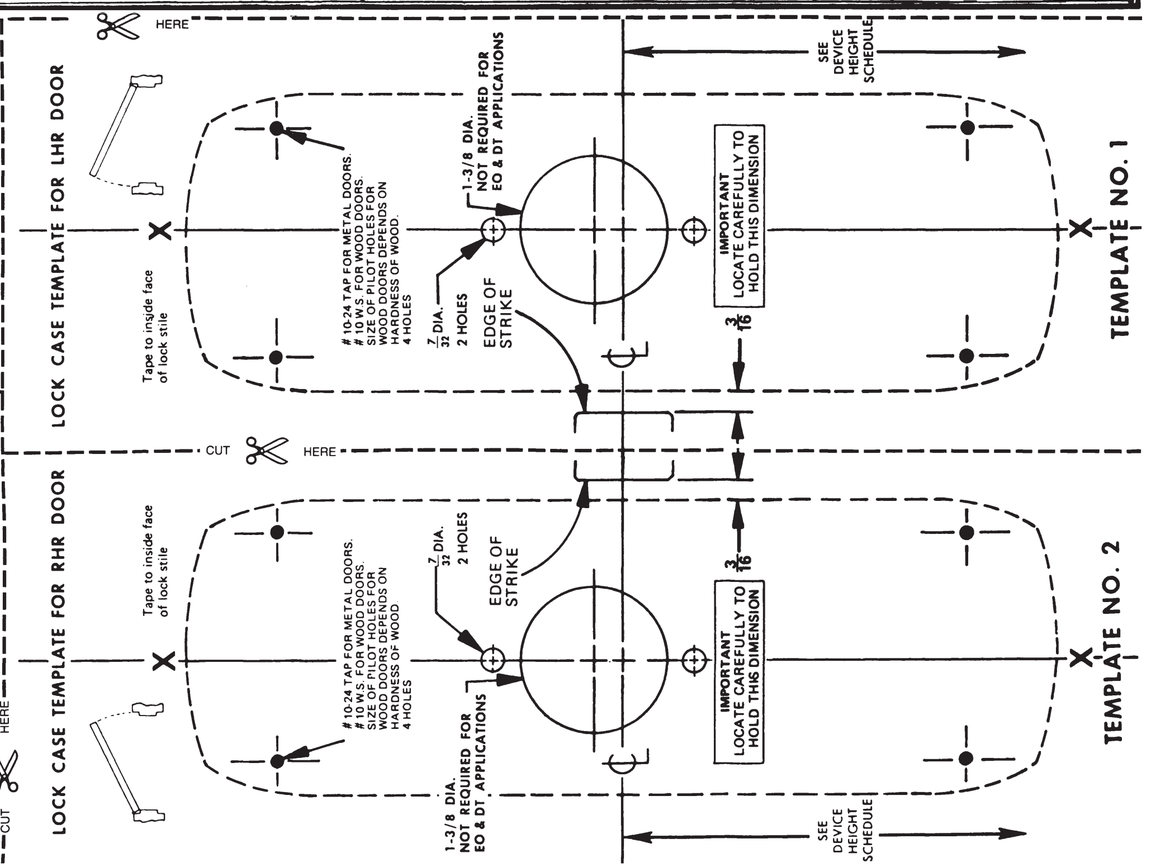
264 STRIKE
TEMPLATE NO. 3



1606 STRIKE
TEMPLATE NO. 5



299 STRIKE
TEMPLATE NO. 4



VON DUPRIN® INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.

B. Doors must be fitted and hung.

C. Check that handing of hardware corresponds to handing of door.

D. Apply Astragal (if any). See template No. 40106 for applying Astragal.

1. PREPARE DOOR

A. Tape template No. 1 to inside face of lock stile. Be sure centerline "X-X" of template is parallel to edge of door and backset is as shown in schedule. Be sure centerline of device is 39-13/16" to finished floor.

B. Prepare door as shown. See Fig. 1 for wood door application and Fig. 2 for metal door application.

2. APPLY OUTSIDE TRIM FOR DT APPLICATION ONLY

A. See directions in trim carton if required. Line "X-X" on trim template corresponds to Line "X-X" on device template and is parallel to edge of door. Transfer Line "X-X" from inside face to outside face of door.

B. Prepare outside face of lock stile.

3. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.

B. Assemble axles and tighten securely. (See instructions in axle envelope.)

4. APPLY LOCK STILE CASE

A. Attach lock stile to door. See Fig. 1 or 2.

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 7)

A. Dog lever arms in depressed position.

B. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction Sheet 41009 for cutting crossbar.)

C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.

D. Using holes in hinge stile case, mark location and prepare door for attaching screws.

E. Apply hinge stile case with crossbar in place.

F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Direction Sheet 41009 for these instructions.)

6. APPLY TOP LATCH CASE AND STRIKE

A. Close door against stop.

B. Tape template No. 2, 3, or 4 to door and surface indicated on template.

C. Prepare door and soffit for latch case and strike and apply.

7. APPLY TOP ROD

A. Block door in open position.

B. Check rod for correct length. See Direction Sheet 41028 for cutting 88 vertical rods.

C. Drive in top rod connector.

D. Attach top rod with rod guide, see Fig. 3. Adjust rod length so connector fits as shown. (Fig. 4 and 5.)

NOTE — BE SURE LATCH BOLT IS RETRACTED AND CROSSBAR IS DOGGED

E. Test for latch bolt engagement in strike. For less bottom rod applications, omit steps 8 and 9.

8. APPLY BOTTOM LATCH CASE & STRIKE

A. Close door so top bolt engages.

B. Tape template No. 5, 6, or 7 to door and surface indicated on template.

C. Prepare door and floor or threshold for latch case and strike and apply.

9. APPLY BOTTOM ROD

A. Block door in open position.

B. Retract bottom latch bolt.

C. Adjust rod so rod connector fits as shown. (Fig. 6.)

NOTES — (1) DO NOT CUT BOTTOM ROD. (2) BE SURE LATCH BOLT IS RETRACTED AND CROSSBAR IS DOGGED.

D. Test door for top and bottom latch engagement.

10. TEST DEVICE FOR FREE ACTION AND COMPLETE LATCH BOLT RETRACTION WHEN CROSSBAR IS DEPRESSED. IF LATCH BOLTS DO NOT RETRACT COMPLETELY, READJUST.

11. APPLY TOP AND BOTTOM LATCH CASE COVERS.

DEVICE BACKSET SCHEDULE		
INSTALLATION	PANELED DOOR	FLUSH DOOR
TWO VERT. ROD DEVICES	1/2 OF STILE	2-1/2"
VERT. ROD & MORT. DEVICE	2-3/4"	2-3/4"
SINGLE DOOR	1/2 OF STILE	2-3/4"
VERT. ROD & RIM DEVICE REQUIRES 1609J STRIKE	3"	3"
WHEN COORDINATOR IS USED BACKSET OF VERTICAL ROD DEVICE MUST BE	3"	3"

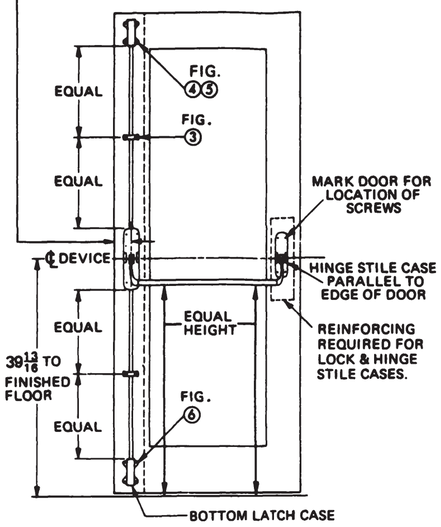


FIG. 7

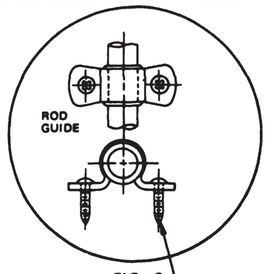


FIG. 3

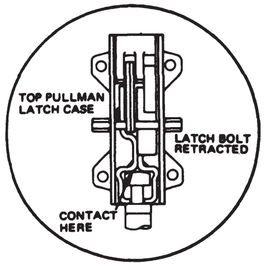


FIG. 4

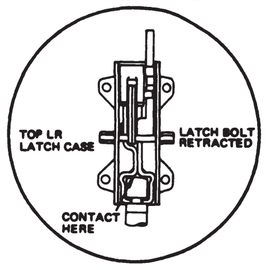


FIG. 5

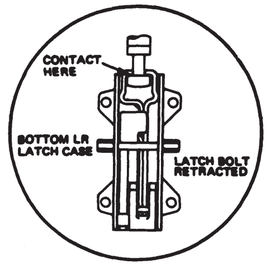
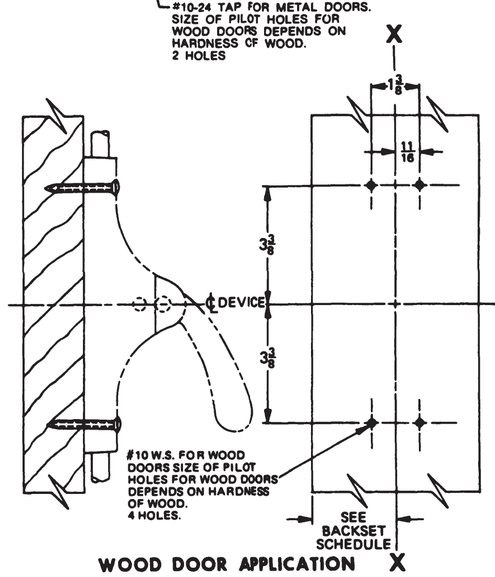
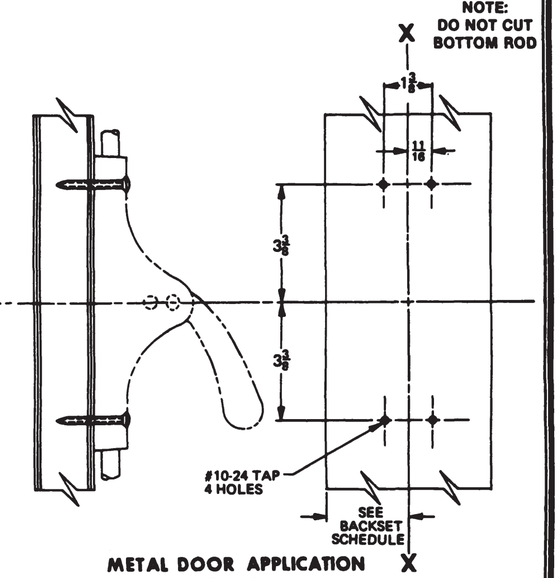


FIG. 6



WOOD DOOR APPLICATION

FIG. 1



METAL DOOR APPLICATION

FIG. 2

911160-00

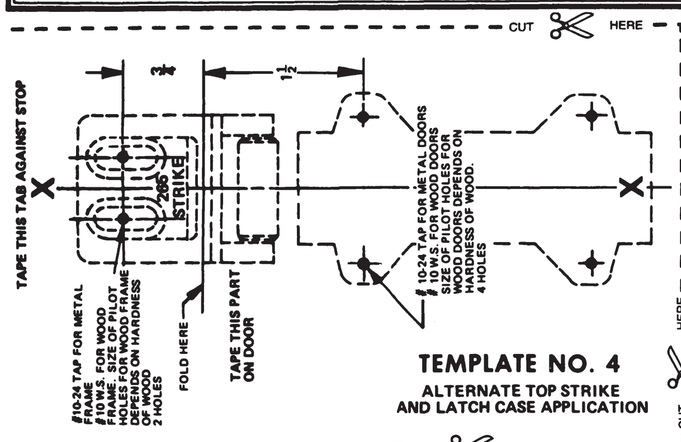
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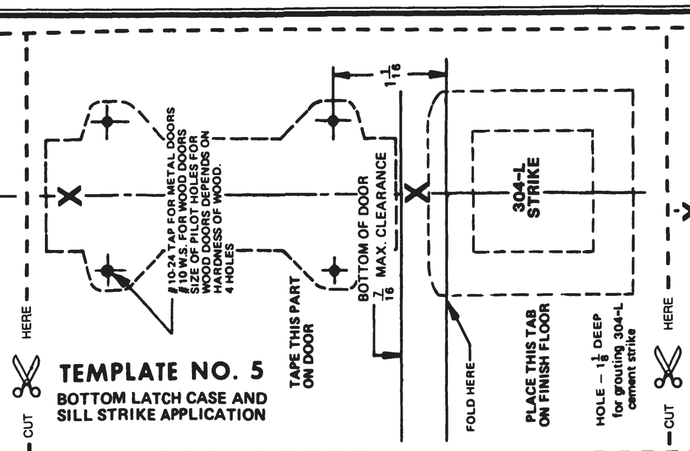
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8827EO, 8827DT & 8827T
SERIES VERTICAL ROD DEVICES

DIRECTION NUMBER 911160-00(b) DATE Rev. 01/14

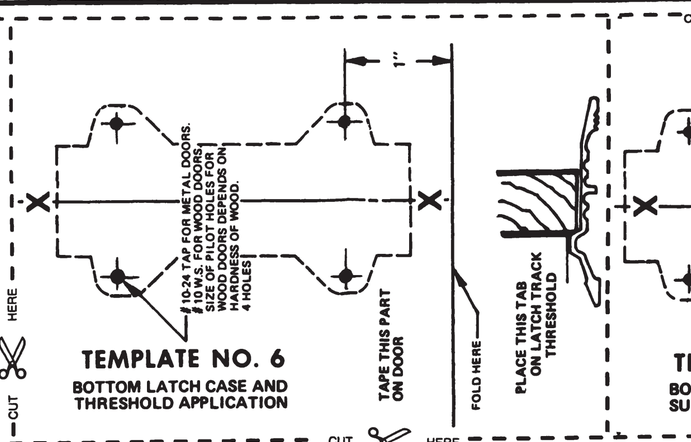
FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON IF REQUIRED



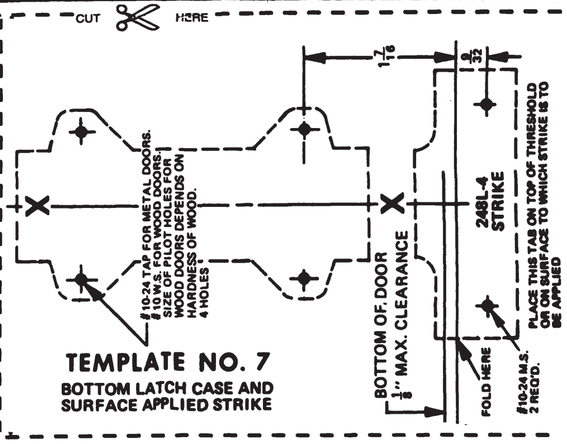
TEMPLATE NO. 4
ALTERNATE TOP STRIKE AND LATCH CASE APPLICATION



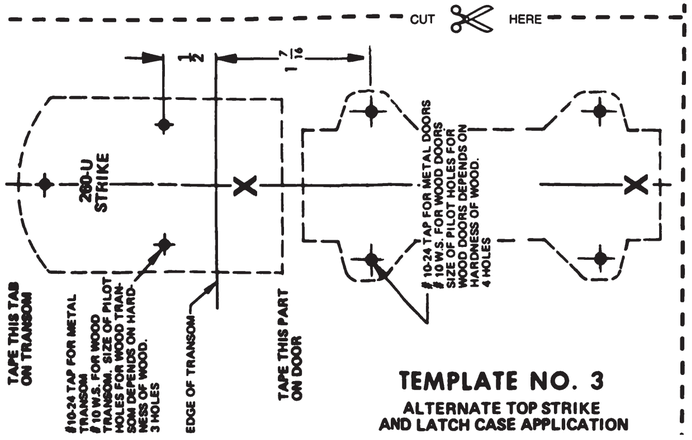
TEMPLATE NO. 5
BOTTOM LATCH CASE AND SILL STRIKE APPLICATION



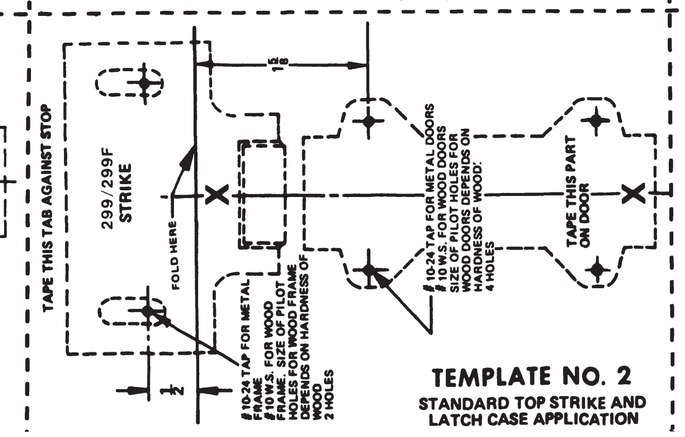
TEMPLATE NO. 6
BOTTOM LATCH CASE AND THRESHOLD APPLICATION



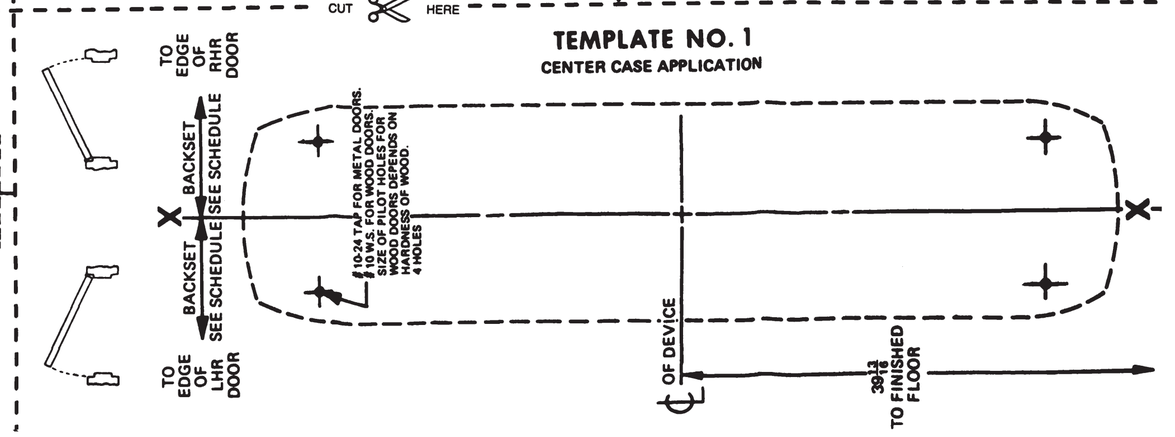
TEMPLATE NO. 7
BOTTOM LATCH CASE AND SURFACE APPLIED STRIKE



TEMPLATE NO. 3
ALTERNATE TOP STRIKE AND LATCH CASE APPLICATION



TEMPLATE NO. 2
STANDARD TOP STRIKE AND LATCH CASE APPLICATION



TEMPLATE NO. 1
CENTER CASE APPLICATION

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.

B. Doors must be fitted and hung.

C. Check that handing of hardware corresponds to handing of door.

D. Apply Astragal (if any). See template No. 40106 for applying Astragal.

1. PREPARE DOOR

A. Tape template No. 1 to inside face of lock stile. Be sure centerline "X-X" of template is parallel to edge of door and backset is as shown in schedule. Be sure centerline of device is 39-13/16" to finished floor.

B. Prepare door as shown. See Fig. 1 for wood door application and Fig. 2 for metal door application.

2. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to Line "X-X" on device template and is parallel to edge of door. Transfer Line "X-X" from inside face to outside face of door.

B. Prepare outside face of lock stile.

C. Cut off cylinder tailpiece if necessary, to extend 1/4" to 1/2" beyond inside face of door and into device case. Cut 3/8" off thumbpiece for 1-3/4 thick door installation.

3. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.

B. Assemble axles and tighten securely. (See instructions in axle envelope.)

4. APPLY LOCK STILE CASE

A. Remove key from cylinder.

B. Position cylinder cam as shown in Fig. 8.

C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)

D. Test key and thumbpiece action.

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 7)

A. Dog lever arms in depressed position.

B. Slip crossbar tube on lock stile and hinge stile lever arms. **(See Direction No. 941009 for cutting crossbar, if necessary.)**

C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.

D. Using holes in hinge stile case, mark location and prepare door for attaching screws.

E. Apply hinge stile case with crossbar in place.

F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. **(See Direction No. 941009 for these instructions.)**

6. APPLY TOP LATCH CASE AND STRIKE

A. Close door against stop.

B. Tape template No. 2, 3, or 4 to door and surface indicated on template.

C. Prepare door and soffit for latch case and strike and apply.

7. APPLY TOP ROD

A. Block door in open position.

B. Check rod for correct length. See instruction sheet 0835 for cutting 88 vertical rods.

C. Drive in top rod connector.

D. Attach top rod with rod guide, see Fig. 3. Adjust rod length so connector fits as shown. (Fig. 4 and 5.)

NOTE **BE SURE LATCH BOLT IS RETRACTED AND CROSSBAR IS DOGGED**

E. Test for latch bolt engagement in strike. For less bottom rod applications, omit steps 8 and 9.

8. APPLY BOTTOM LATCH CASE & STRIKE

A. Close door so top bolt engages.

B. Tape template No. 5, 6, or 7 to door and surface indicated on template.

C. Prepare door and floor or threshold for latch case and strike and apply.

9. APPLY BOTTOM ROD

A. Block door in open position.

B. Retract bottom latch bolt.

C. Adjust rod so rod connector fits as shown. (Fig. 6.)

NOTE
1. DO NOT CUT BOTTOM ROD.
2. BE SURE LATCH BOLT IS RETRACTED AND CROSSBAR IS DOGGED.

D. Test door for top and bottom latch engagement.

10. TEST DEVICE FOR FREE ACTION AND COMPLETE LATCH BOLT RETRACTION WHEN CROSSBAR IS DEPRESSED. IF LATCH BOLTS DO NOT RETRACT COMPLETELY, READJUST.

11. APPLY TOP AND BOTTOM LATCH CASE COVERS.

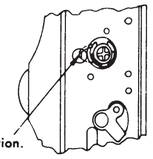


FIG. 8

DEVICE BACKSET SCHEDULE		
INSTALLATION	PANELED DOOR	FLUSH DOOR
TWO VERT. ROD DEVICES	1/2 OF STILE	2-1/2"
VERT. ROD & MORT. DEVICE	2-3/4"	2-3/4"
SINGLE DOOR	1/2 OF STILE	2-3/4"
VERT. ROD & RIM DEVICE REQUIRES 1609J STRIKE	3"	3"
WHEN COORDINATOR IS USED BACKSET OF VERTICAL ROD DEVICE MUST BE	3"	3"

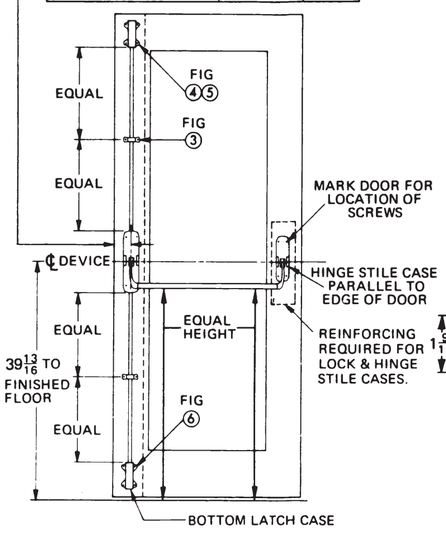


FIG. 7

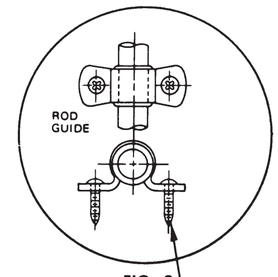


FIG. 3

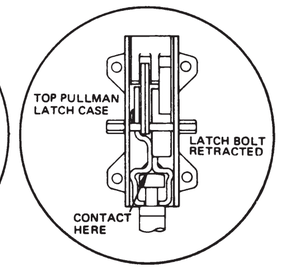


FIG. 4

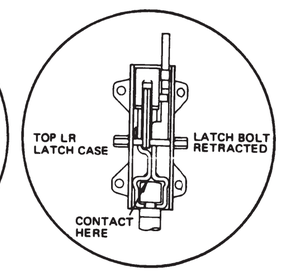


FIG. 5

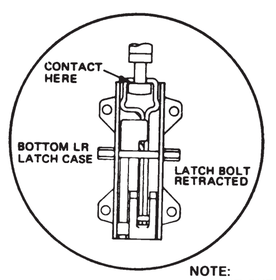
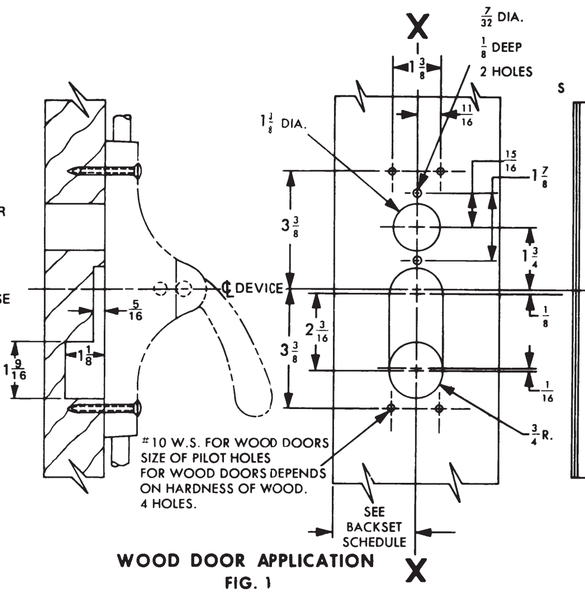


FIG. 6 NOTE: DO NOT CUT BOTTOM ROD.

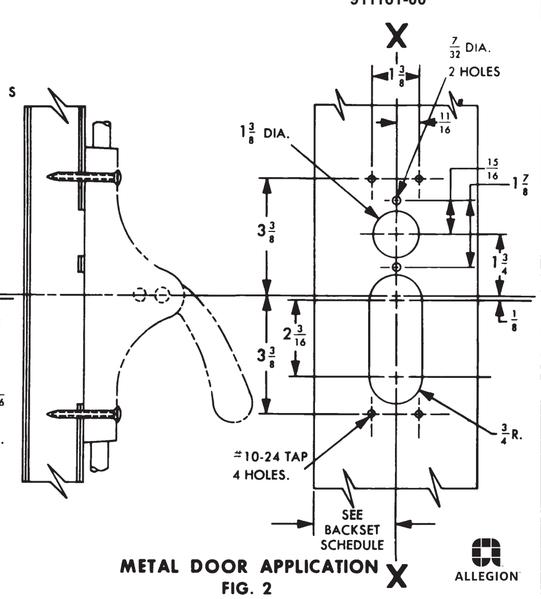
10-24 TAP FOR METAL DOORS SIZE OF PILOT HOLES FOR WOOD DOORS DEPENDS ON HARDNESS OF WOOD. 2 HOLES

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911161-00



WOOD DOOR APPLICATION
FIG. 1

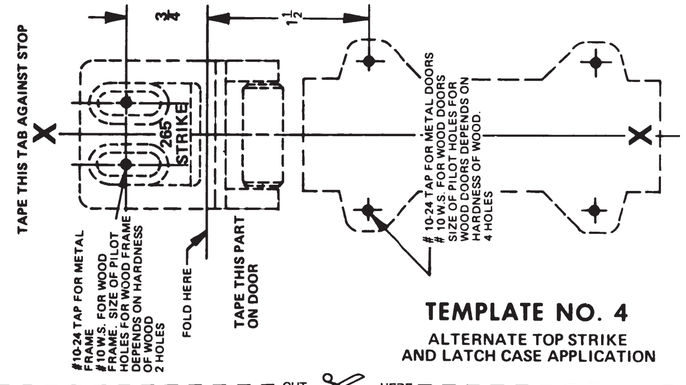


METAL DOOR APPLICATION
FIG. 2

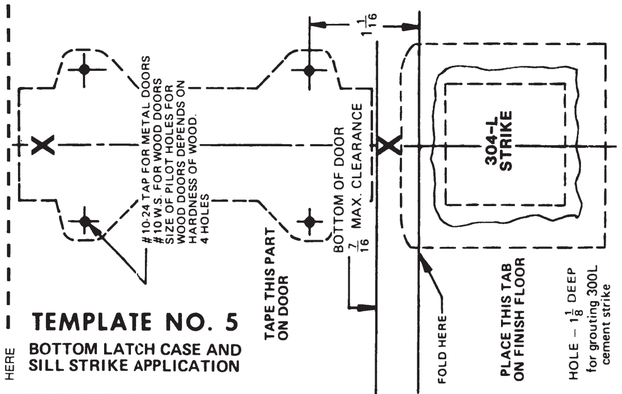
ALLEGION

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

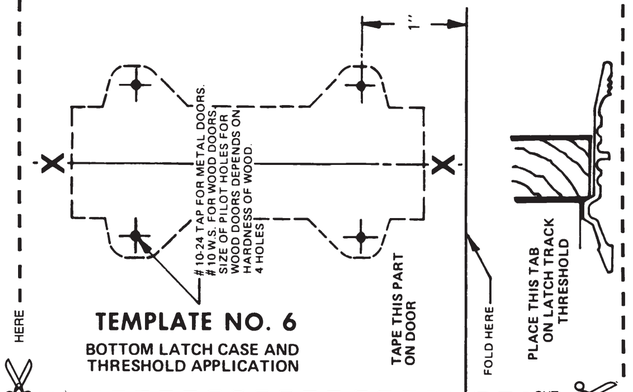
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8827TP & 8827TP-NL SERIES VERTICAL ROD DEVICES	DIRECTION NUMBER: 911161-00 (b) DATE: 06/14



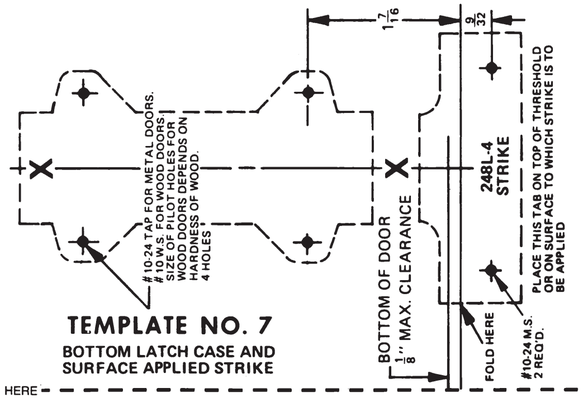
TEMPLATE NO. 4
ALTERNATE TOP STRIKE AND LATCH CASE APPLICATION



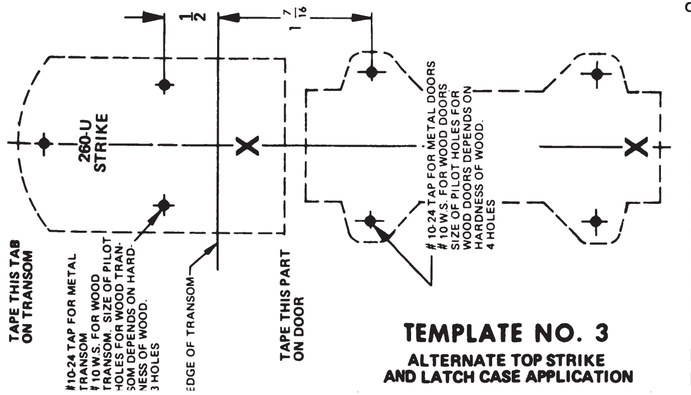
TEMPLATE NO. 5
BOTTOM LATCH CASE AND SILL STRIKE APPLICATION



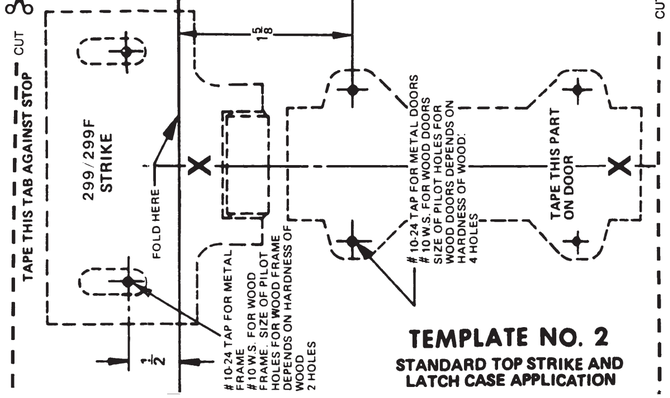
TEMPLATE NO. 6
BOTTOM LATCH CASE AND THRESHOLD APPLICATION



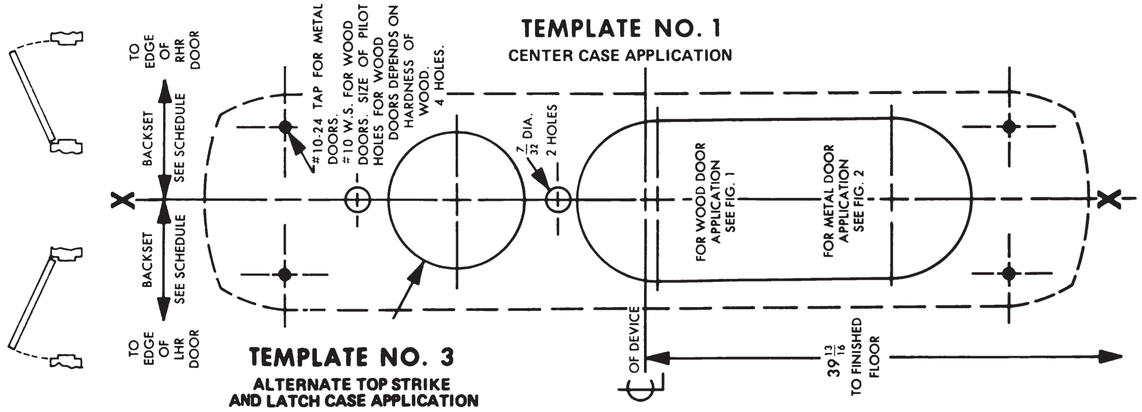
TEMPLATE NO. 7
BOTTOM LATCH CASE AND SURFACE APPLIED STRIKE



TEMPLATE NO. 3
ALTERNATE TOP STRIKE AND LATCH CASE APPLICATION



TEMPLATE NO. 2
STANDARD TOP STRIKE AND LATCH CASE APPLICATION



TEMPLATE NO. 1
CENTER CASE APPLICATION

TEMPLATE NO. 3
ALTERNATE TOP STRIKE AND LATCH CASE APPLICATION

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.

B. Doors must be fitted and hung.

C. Check that handing of hardware corresponds to handing of door.

D. Apply Astragal (if any). See template No. 40106 for applying Astragal.

1. PREPARE DOOR

A. Tape template No. 1 to inside face of lock stile. Be sure centerline "X-X" of template is parallel to edge of door and backset is as shown in schedule. Be sure centerline of device is 39-13/16" to finished floor.

B. Prepare door as shown. See Fig. 1 for wood door application and Fig. 2 for metal door application.

2. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to Line "X-X" on device template and is parallel to edge of door. Transfer Line "X-X" from inside face to outside face of door.

B. Prepare outside face of lock stile.

C. Cut off cylinder tailpiece if necessary, to extend 1/4" to 1/2" beyond inside face of door and into device case.

3. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.

B. Assemble axles and tighten securely. (See instructions in axle envelope.)

4. APPLY LOCK STILE CASE

A. Attach lock stile to door. See Fig. 1 or 2.

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 7)

A. Dog lever arms in depressed position.

B. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction No. 941009 for cutting crossbar

C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.

D. Using holes in hinge stile case, mark location and prepare door for attaching screws.

E. Apply hinge stile case with crossbar in place.

F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Direction No. 941009 for these instructions.)

6. APPLY TOP LATCH CASE AND STRIKE

A. Close door against stop.

B. Tape template No. 2, 3, or 4 to door and surface indicated on template.

C. Prepare door and soffit for latch case and strike and apply.

7. APPLY TOP ROD

A. Block door in open position.

B. Check rod for correct length. **See Instruction sheet #41028 for cutting 88 vertical rods.**

C. Drive in top rod connector.

D. Attach top rod with rod guide, see Fig. 3. Adjust rod length so connector fits as shown. (Fig. 4 and 5.)

NOTE — BE SURE LATCH BOLT IS RETRACTED AND CROSSBAR IS DOGGED

E. Test for latch bolt engagement in strike. For less bottom rod applications, omit steps 8 and 9.

8. APPLY BOTTOM LATCH CASE & STRIKE

A. Close door so top bolt engages.

B. Tape template No. 5, 6, or 7 to door and surface indicated on template.

C. Prepare door and floor or threshold for latch case and strike and apply.

9. APPLY BOTTOM ROD

A. Block door in open position.

B. Retract bottom latch bolt.

C. Adjust rod so rod connector fits as shown. (Fig. 6.)

NOTES — (1) DO NOT CUT BOTTOM ROD. (2) BE SURE LATCH BOLT IS RETRACTED AND CROSSBAR IS DOGGED.

D. Test door for top and bottom latch engagement.

10. TEST DEVICE FOR FREE ACTION AND COMPLETE LATCH BOLT RETRACTION WHEN CROSSBAR IS DEPRESSED. IF LATCH BOLTS DO NOT RETRACT COMPLETELY, READJUST.

11. APPLY TOP AND BOTTOM LATCH CASE COVERS.

DEVICE BACKSET SCHEDULE		
INSTALLATION	PANELED DOOR	FLUSH DOOR
TWO VERT. ROD DEVICES	1/2 OF STILE	2-1/2"
VERT. ROD & MORT. DEVICE	2-3/4"	2-3/4"
SINGLE DOOR	1/2 OF STILE	2-3/4"
VERT. ROD & RIM DEVICE REQUIRES 1609J STRIKE	3"	3"
WHEN COORDINATOR IS USED BACKSET OF VERTICAL ROD DEVICE MUST BE	3"	3"

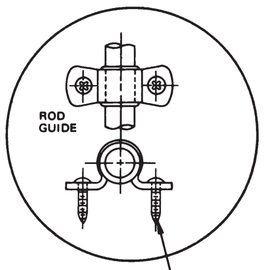


FIG. 3

#10-24 TAP FOR METAL DOORS.
#10 W.S. FOR WOOD DOORS.
SIZE OF PILOT HOLES FOR WOOD DOORS DEPENDS ON HARDNESS OF WOOD.
2 HOLES

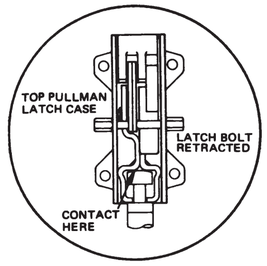


FIG. 4

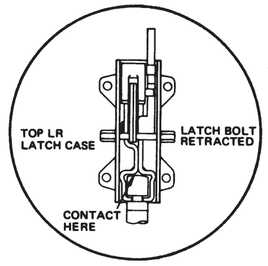
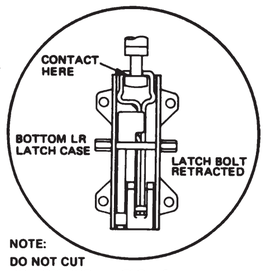


FIG. 5



NOTE: DO NOT CUT BOTTOM ROD

FIG. 6

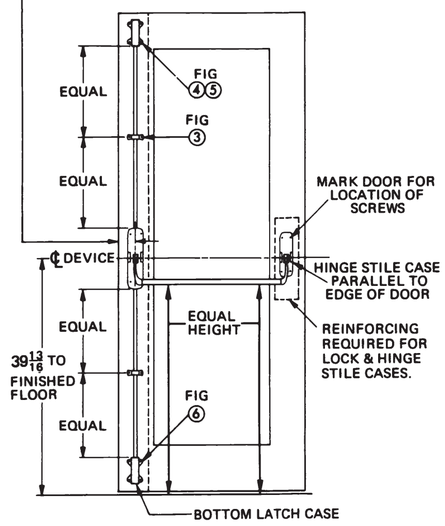
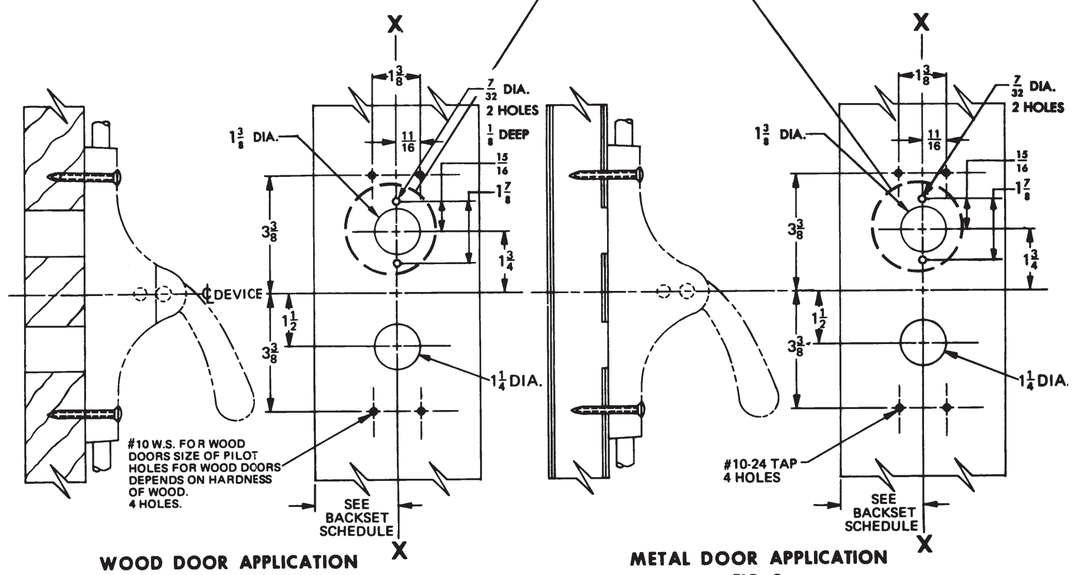


FIG. 7



WOOD DOOR APPLICATION
FIG. 1

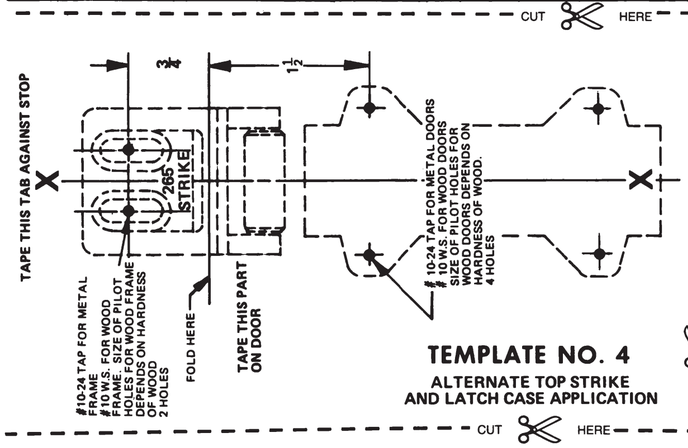
METAL DOOR APPLICATION
FIG. 2

911162-00

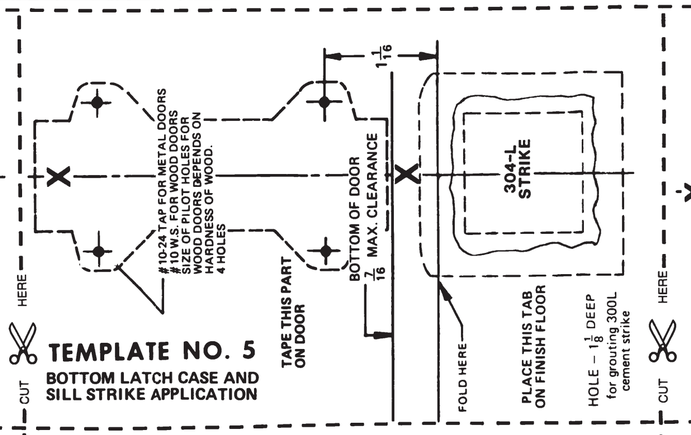
ALLEGION

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

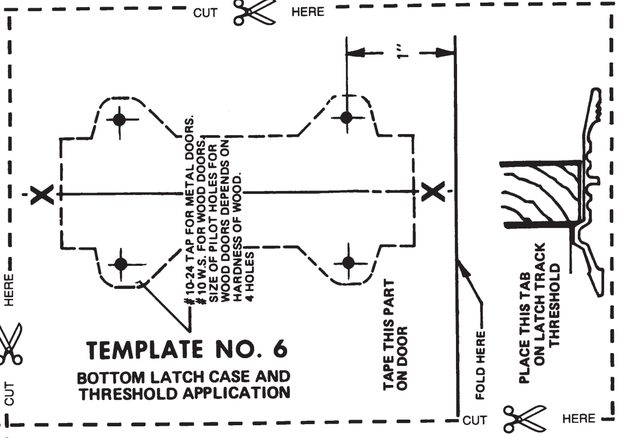
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	DIRECTION NUMBER 911162-00(b)	DATE 01/01/14



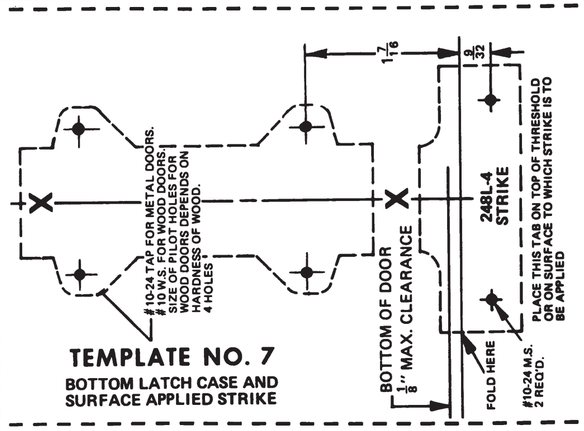
TEMPLATE NO. 4
ALTERNATE TOP STRIKE AND LATCH CASE APPLICATION



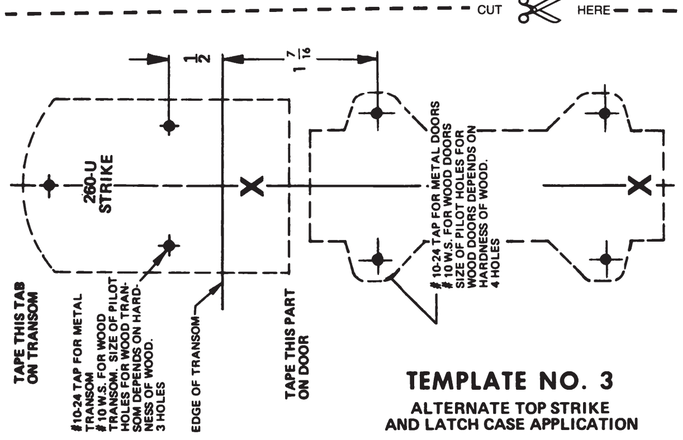
TEMPLATE NO. 5
BOTTOM LATCH CASE AND SILL STRIKE APPLICATION



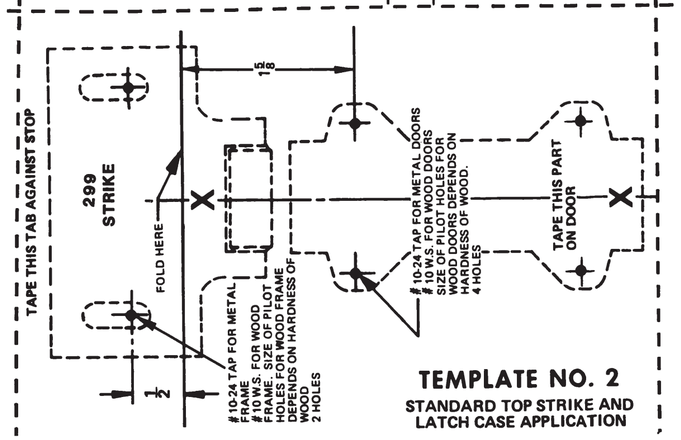
TEMPLATE NO. 6
BOTTOM LATCH CASE AND THRESHOLD APPLICATION



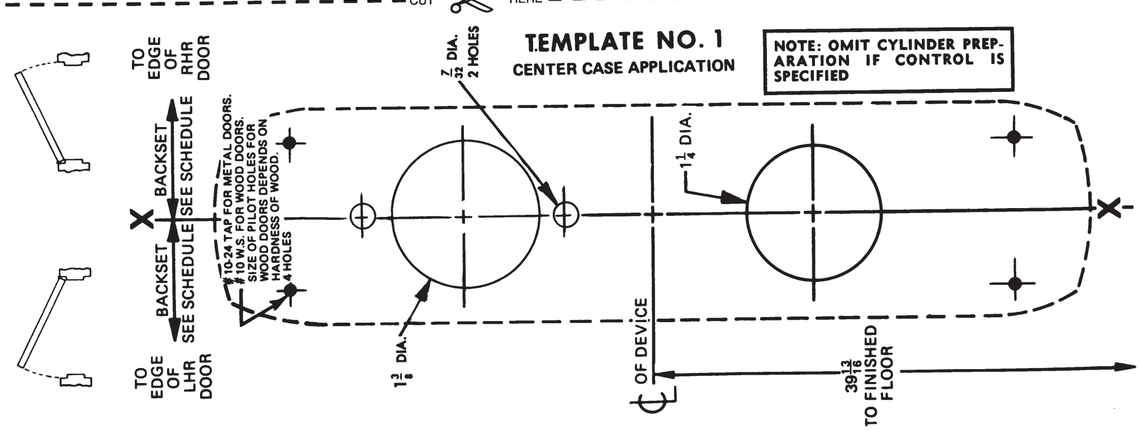
TEMPLATE NO. 7
BOTTOM LATCH CASE AND SURFACE APPLIED STRIKE



TEMPLATE NO. 3
ALTERNATE TOP STRIKE AND LATCH CASE APPLICATION



TEMPLATE NO. 2
STANDARD TOP STRIKE AND LATCH CASE APPLICATION



INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Check that handing of hardware corresponds to handing of door.

1. PREPARE DOOR

A. Tape Template No. 1 or 2, depending on handing of door, to inside face of lock stile. Be sure centerline "X-X" of template is parallel to edge of door and backset is 2-3/4. Be sure centerline of device is 39-13/16" to finished floor.

B. Prepare door as shown. See Fig. 1 for metal door application.

2. INSTALL TOP ROD AND LATCH RELEASE (FIG. 2)

A. Slip top rod and latch release into top door channel cutout. Reference 2-3/8 to centerline of vertical rods.

B. Be sure latch release is flat on top door channel.

C. Apply rod guide and tighten mounting screws. (Fig. 2C)

3. INSTALL BOTTOM ROD AND GUIDE (FIG. 3) NOTE: DO NOT CUT BOTTOM ROD

A. Slip bottom rod through hole in bottom door channel.

B. Screw coupling on bottom rod onto top rod.

C. Install bottom rod guide with spring toward top of door.

4. ADJUST BOTTOM ROD

A. Depress plunger and push top rod toward bottom of door.

B. Bottom rod must extend 5/8" from bottom of door.

C. If necessary adjust coupling to raise or lower bottom rod.

D. Be sure rectangular hole in coupling is visible through rectangular cutout in door.

5. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.

B. Assemble axles and tighten securely. (See instructions in axle envelope.)

6. APPLY LOCK STILE CASE (FIG. 4)

A. Check device lift finger for correct length.
Cut 1/4" off for 1 3/4" thick door installation

B. Adjust lift finger to contact top of rectangular hole in coupling (Fig. 4A).

C. Attach lock stile case to door. See Fig. 1.

7. HANG DOOR AND INSTALL SILL STRIKE AND THRESHOLD (IF ANY) FIG. 5

8. INSTALL SOFFIT LATCH BOLT (FIG. 6)

A. Block door in open position.

B. Install latch bolt as shown.

9. APPLY PLUNGER RELEASE BRACKET (FIG. 7)

A. Close door against stop.

B. Tape Template No. 3 to stop and prepare frame for attaching screws.

C. Position bracket to depress plunger, and allow rods to fall into engaged position.

D. Tighten bracket mounting screws.

10. ADJUST LIFT FINGER (FIG. 8)

A. Depress lock stile case lever arm.

B. Check top rod for full retraction of latch bolt. Top rod should be flush to 1/16" above latch release surface.

C. Check bottom rod for full retraction from strike.

D. Remove lock stile case and adjust finger if necessary. (Fig. 4A)

11. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 9)

A. Slip crossbar tube on lock stile and hinge stile lever arms. (See Form No. 52 for cutting crossbar.)

B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.

C. Using holes in hinge stile case, mark location and prepare door for attaching screws.

D. Apply hinge stile case with crossbar in place.

E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Form No. 52 for these instructions.)

12. APPLY OUTSIDE TRIM (IF REQUIRED)

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.

B. Prepare outside face of lock stile and apply trim.

13. APPLY COORDINATOR

See directions in coordinator package.

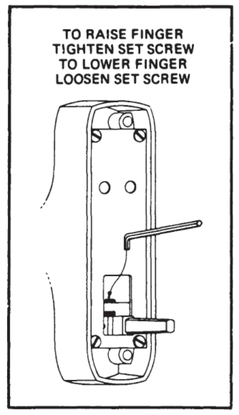


FIG. 4A

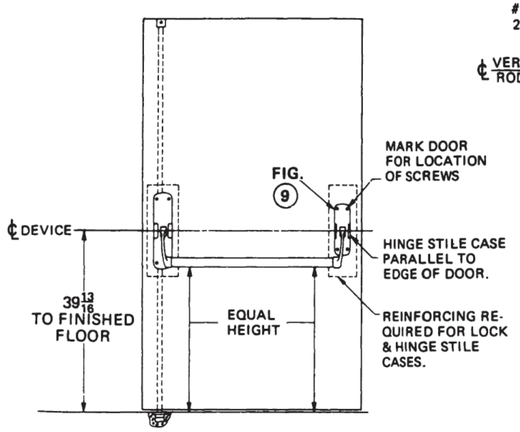
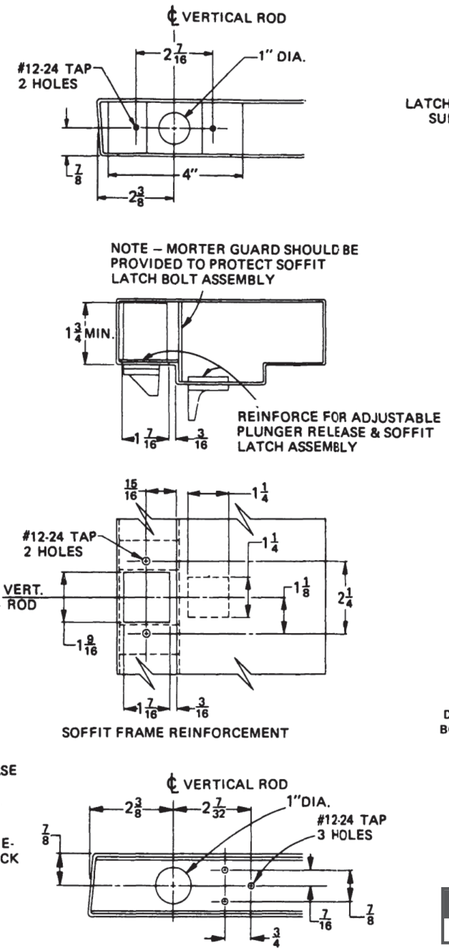
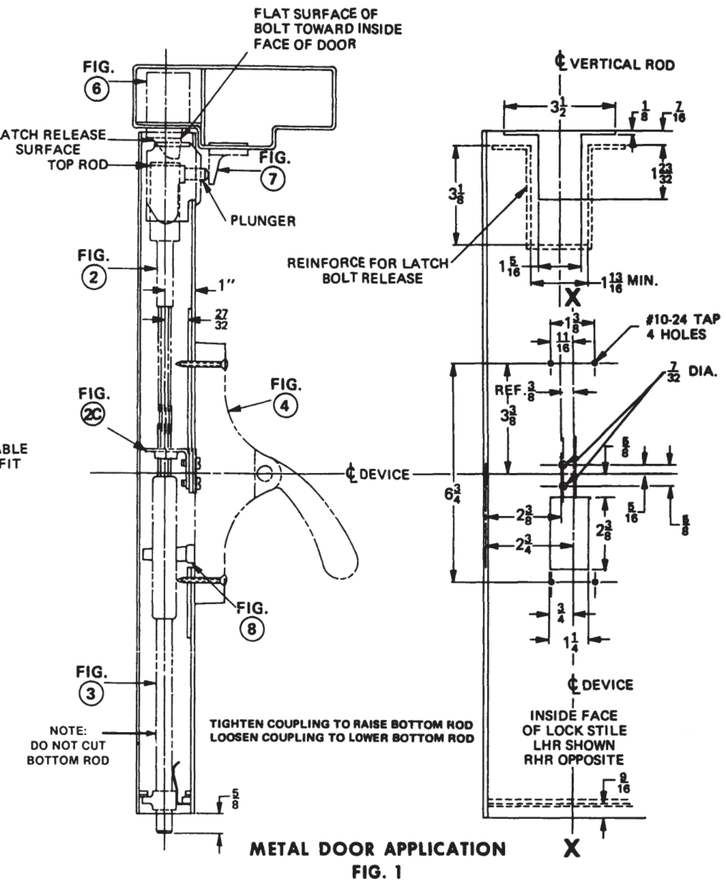


FIG. 5





METAL DOOR APPLICATION
FIG. 1

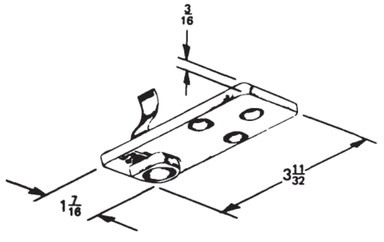
Customer Service
1-877-671-7011 www.allegion.com/us
ALLEGION

911163-00

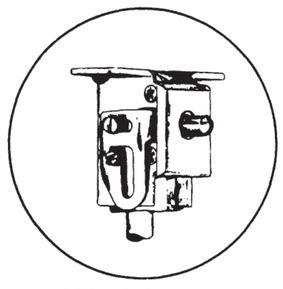
UL LISTED FIRE EXIT HARDWARE

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON IF REQUIRED

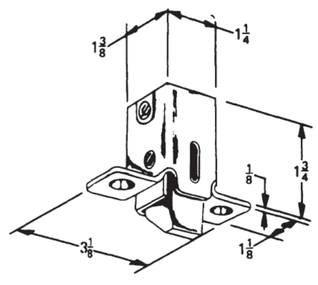
DESCRIPTION	VON DUPRIN
8847-F CONCEALED VERTICAL ROD DEVICE	DIRECTION NUMBER 911163-00 (c) · DATE 10/14



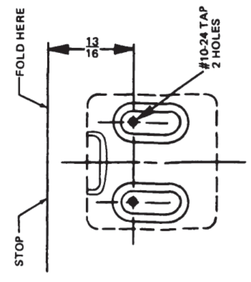
BOTTOM ROD GUIDE



LATCH BOLT RELEASE

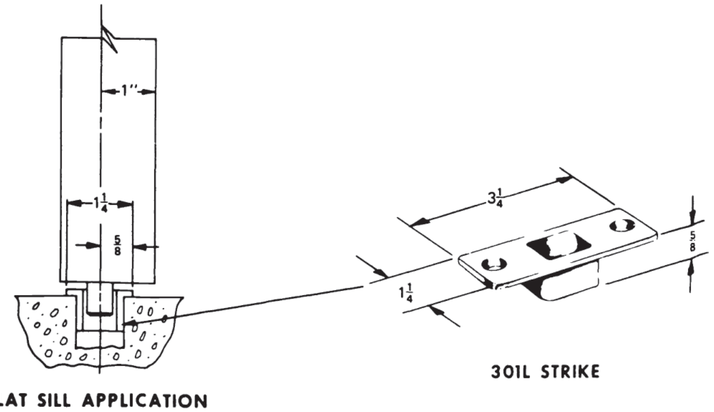


SOFFIT LATCH BOLT ASSEMBLY



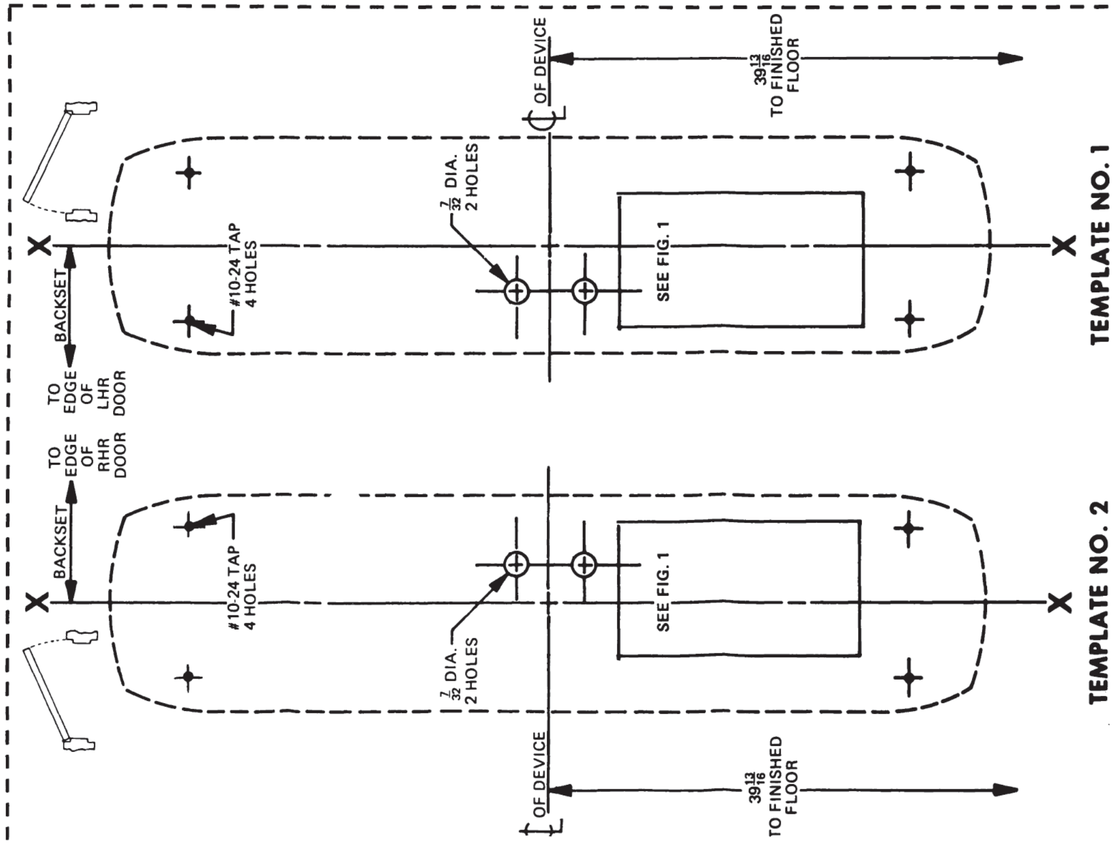
TEMPLATE NO. 3

PLUNGER RELEASE BRACKET



FLAT SILL APPLICATION

301L STRIKE



VON DUPRIN

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds to handing of door.
D. Apply Astragal (if any). See template No. 40106 for applying Astragal.

1. PREPARE DOOR

A. Tape template No. 1 to inside face of lock stile. Be sure centerline "X-X" of template is parallel to edge of door and backset is as shown in schedule. Be sure centerline device is 39 13/16" to finished floor.
B. Prepare door as shown. See Fig. 1 for wood door application and Fig. 2 for metal door application.

NOTE: SEX BOLTS ARE FURNISHED FOR WOOD, FORMICA, AND STEEL COVERED COMPOSITE DOORS. SEE FIG. 6

2. APPLY OUTSIDE TRIM FOR DT APPLICATION ONLY

A. See directions in trim carton if required. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.

3. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

4. APPLY LOCK STILE CASE

A. Attach lock stile to door. See Fig. 1 or 2.

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 7)

A. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction Sheet 41009 for cutting crossbar.)
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Using holes in hinge stile case, mark location and prepare door for attaching screws.
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage and test crossbar for free action. (See Direction Sheet 41009 for these instructions.)

6. INSTALL SOFFIT LATCH BOLT ASSEMBLY (FIG. 6)

A. Block door in open position.
B. Install latch bolt as shown.

7. APPLY TOP LATCH CASE (FIG. 9)

A. Close door against stop.
B. Tape template No. 3 to door and stop.
C. Prepare door for latch case and apply.

8. APPLY PLUNGER RELEASE BRACKET (FIG. 8)

A. Close door against stop.
B. Position backset to depress plunger, and allow rods to fall into engaged position.
C. Tighten bracket mounting screws.

9. APPLY TOP ROD

A. Block door in open position.
B. Check rod for correct length. See Direction Sheet 41028 for cutting 88 vertical rods.
C. Drive in top rod connector.
D. Attach top rod with rod guide. (See Fig. 3) adjust rod length so connector fits as shown (Fig. 4)
E. Check top rod for full retraction of latch bolt. Top rod should be flush to 1/16" above latch release surface.

10. APPLY BOTTOM LATCH CASE

A. Close door against stop so top bolt engages.
B. Tape template No. 2 to door and floor indicated on tempiate.
C. Prepare door for latch case and floor or threshold for strike and apply.

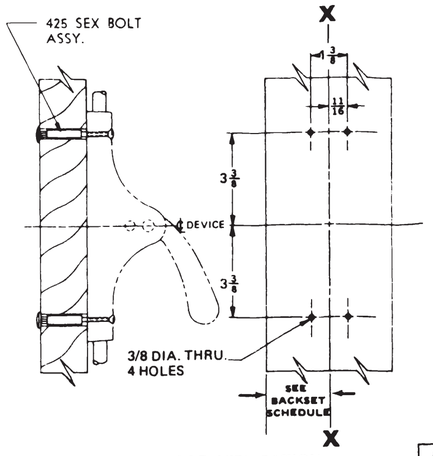
11. APPLY BOTTOM ROD

NOTE: DO NOT CUT BOTTOM ROD
A. Block door in open position.
B. Retract bottom latch bolt.
C. Adjust rod so rod connector fits as shown. (Fig. 5)
D. Test door for top and bottom latch engagement.

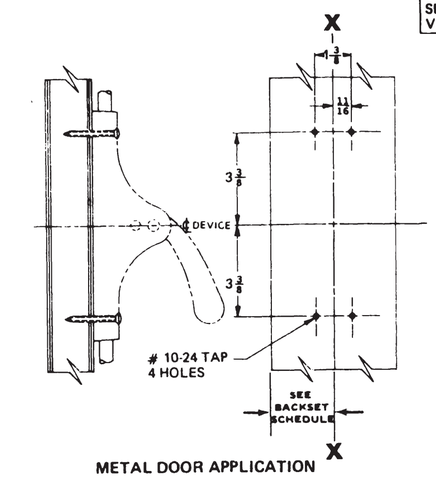
12. APPLY TOP AND BOTTOM LATCH CASE COVER

13. APPLY COORDINATOR

NOTE: 1237 COORDINATOR MUST BE SURFACE APPLIED WHEN USED WITH 8827F SERIES EXIT HARDWARE. SEE DIRECTIONS IN COORDINATOR PACKAGE.



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2

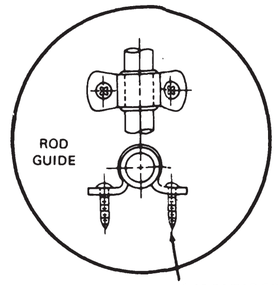


FIG. 3

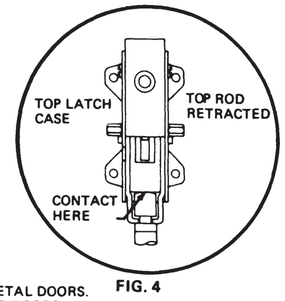


FIG. 4

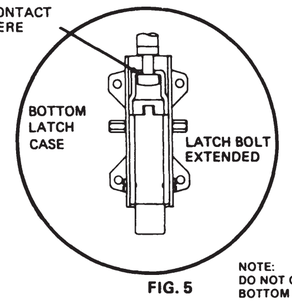


FIG. 5

NOTE: DO NOT CUT BOTTOM ROD

10-24 TAP FOR METAL DOORS.
10 W.S. FOR WOOD DOORS.
SIZE OF PILOT HOLES FOR WOOD DOORS DEPENDS ON HARDNESS OF WOOD
2 HOLES

911164-00

DEVICE INSTALLATION SCHEDULE	
VERT. ROD & MORT. DEVICE	2¾
TWO VERT. ROD DEVICES	2¾
SINGLE DOOR	2¾
WHEN SURFACE APPLIED COORDINATOR IS USED BACKSET OF VERTICAL ROD DEVICE MUST BE	2¾

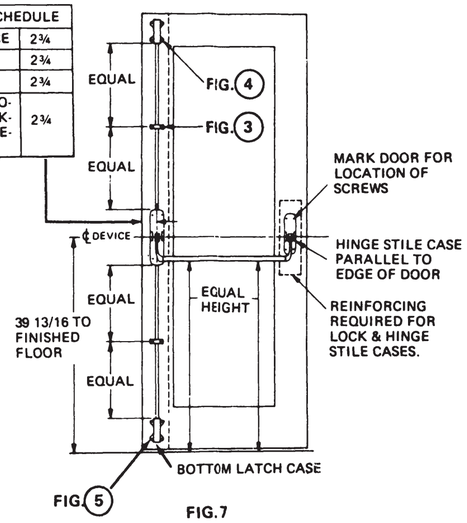


FIG.7

NOTE - MORTAR GUARD SHOULD BE PROVIDED TO PROTECT SOFFIT LATCH BOLT ASSEMBLY

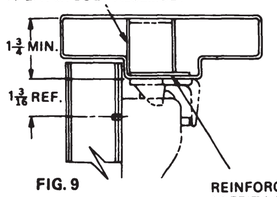
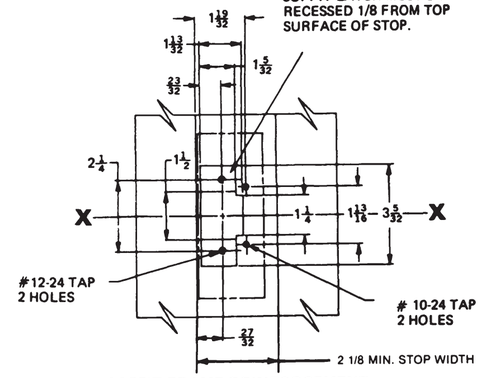


FIG. 9

REINFORCING REQUIRED FOR SOFFIT LATCH MUST BE RECESSED 1/8 FROM TOP SURFACE OF STOP.



SOFFIT FRAME REINFORCEMENT

ALLEGION

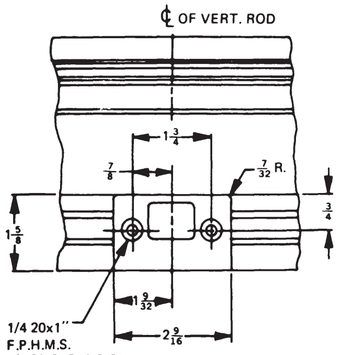
Customer Service	
1-877-671-7011	www.allegion.com/us

UL LISTED FIRE EXIT HARDWARE

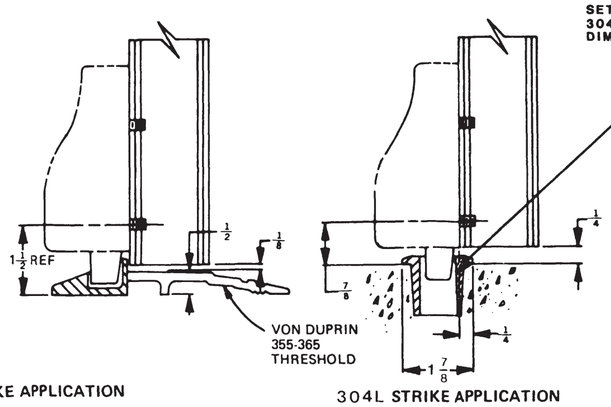
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8827F SURFACE APPLIED DEVICE

VON DUPRIN

DIRECTION NUMBER 911164-00(b) DATE Rev. 01/14

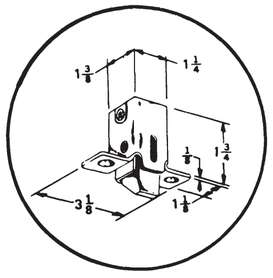


303L STRIKE APPLICATION

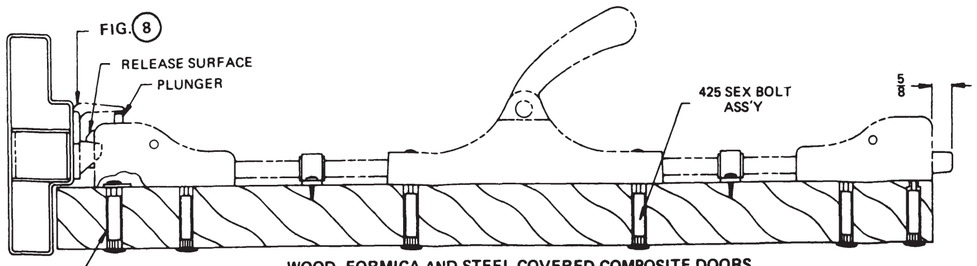


304L STRIKE APPLICATION

304L STRIKE

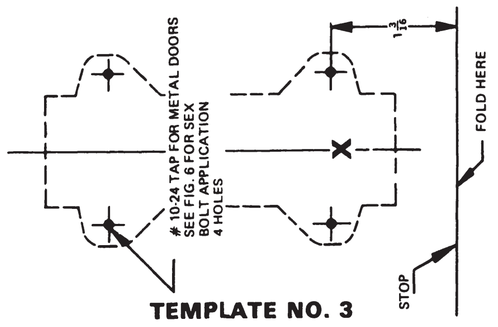


SOFFIT LATCH BOLT ASSEMBLY

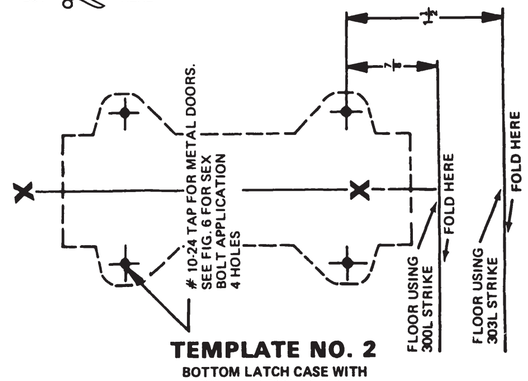


WOOD, FORMICA AND STEEL COVERED COMPOSITE DOORS
FIG. 6

CUT HERE



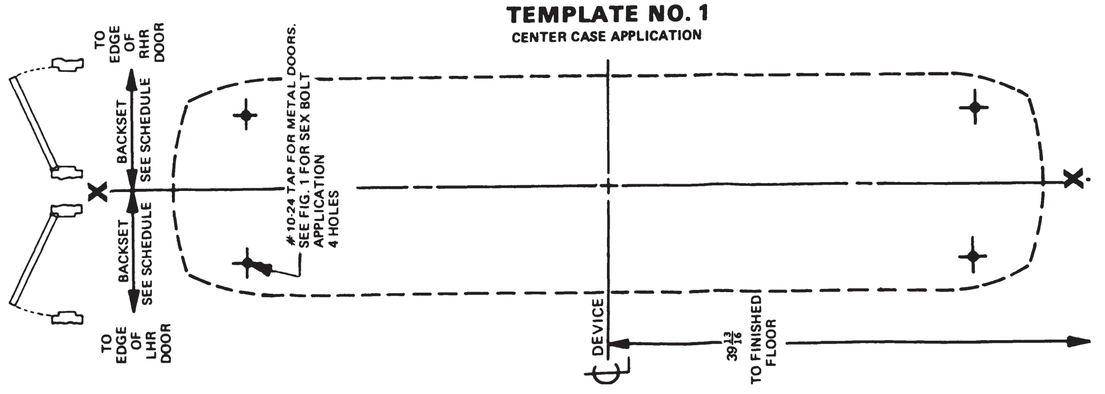
TEMPLATE NO. 3
TOP LATCH CASE



TEMPLATE NO. 2
BOTTOM LATCH CASE WITH 300L AND 303L STRIKE

CUT HERE

TEMPLATE NO. 1
CENTER CASE APPLICATION



INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds to handing of door.
D. Apply Astragal (if any). See template No. 40106 for applying Astragal.

1. PREPARE DOOR

A. Tape template No. 1 to inside face of lock stile. Be sure centerline "X-X" of template is parallel to edge of door and backset is as shown in schedule. Be sure centerline device is 39 13/16" to finished floor.
B. Prepare door as shown. See Fig. 1 for wood door application and Fig. 2 for metal door application.

NOTE: SEX BOLTS ARE FURNISHED FOR WOOD, FORMICA, AND STEEL COVERED COMPOSITE DOORS. SEE FIG. 6

2. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off cylinder tailpiece if necessary, to extend 1/4" to 1/2" beyond inside face of door and into device case. Cut 3/8" off thumbpiece for 1 3/4 thick door installation.

3. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

4. APPLY LOCK STILE CASE

A. Attach lock stile to door. See Fig. 1 or 2.

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 7)

A. Slip crossbar tube on lock stile and hinge stile lever arms. (See form No. 52 for cutting crossbar)
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Using holes in hinge stile case, mark location and prepare door for attaching screws.
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage and test crossbar for free action. (See Form No. 52 for these instructions.)

6. INSTALL SOFFIT LATCH BOLT ASSEMBLY (FIG. 6)

A. Block door in open position.
B. Install latch bolt as shown.

7. APPLY TOP LATCH CASE (FIG. 9)

A. Close door against stop.
B. Tape template No. 3 to door and stop.
C. Prepare door for latch case and apply.

8. APPLY PLUNGER RELEASE BRACKET (FIG. 8)

A. Close door against stop.
B. Position backset to depress plunger, and allow rods to fall into engaged position.
C. Tighten bracket mounting screws.

9. APPLY TO ROD

A. Block door in open position.
B. Check rod for correct length. See instruction sheet 0836 for cutting 88 vertical rods.
C. Drive in top rod connector.
D. Attach top rod with rod guide. (See Fig. 3) adjust rod length so connector fits as shown (Fig. 4)
E. Check top rod for full retraction of latch bolt. Top rod should be flush to 1/16" above latch release surface.

10. APPLY BOTTOM LATCH CASE

A. Close door against stop so top bolt engages.
B. Tape template No. 2 to door and floor indicated on template.
C. Prepare door for latch case and floor or threshold for strike and apply.

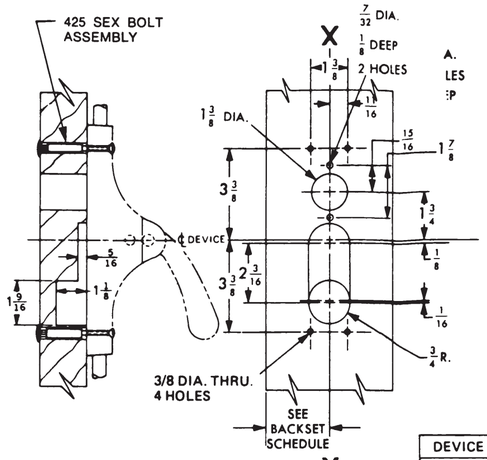
11. APPLY BOTTOM ROD

NOTE: DO NOT CUT BOTTOM ROD
A. Block door in open position.
B. Retract bottom latch bolt.
C. Adjust rod so rod connector fits as shown. (Fig. 5)
D. Test door for top and bottom latch engagement.

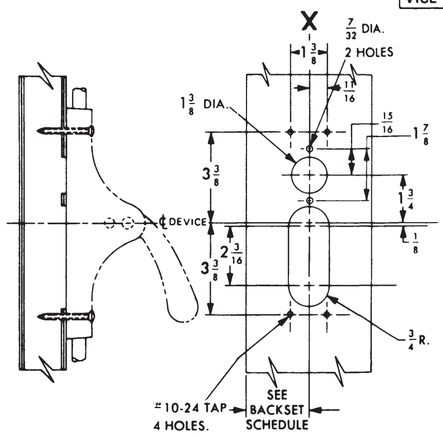
12. APPLY TOP AND BOTTOM LATCH CASE COVER

13. APPLY COORDINATOR

NOTE: 1237 COORDINATOR MUST BE SURFACE APPLIED WHEN USED WITH 8813 & 8817 SERIES EXIT HARDWARE. SEE DIRECTIONS IN COORDINATOR PACKAGE.



WOOD DOOR APPLICATION X
FIG. 1



METAL DOOR APPLICATION X
FIG. 2

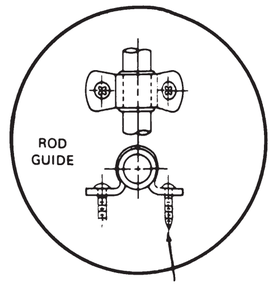


FIG. 3

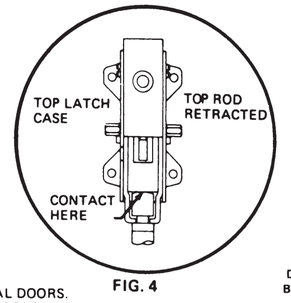
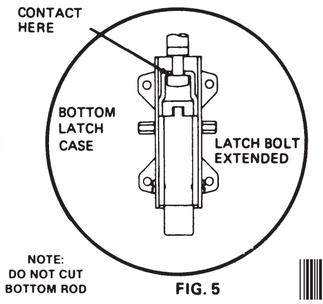


FIG. 4



NOTE: DO NOT CUT BOTTOM ROD

FIG. 5

#10-24 TAP FOR METAL DOORS.
#10 W.S. FOR WOOD DOORS.
SIZE OF PILOT HOLES FOR WOOD DOORS DEPENDS ON HARDNESS OF WOOD
2 HOLES

911165-00

DEVICE INSTALLATION SCHEDULE	
VERT. ROD & MORT. DEVICE	2¾
TWO VERT. ROD DEVICES	2¾
WHEN SURFACE APPLIED COORDINATOR IS USED BACKSET OF VERTICAL ROD DEVICE MUST BE	2¾

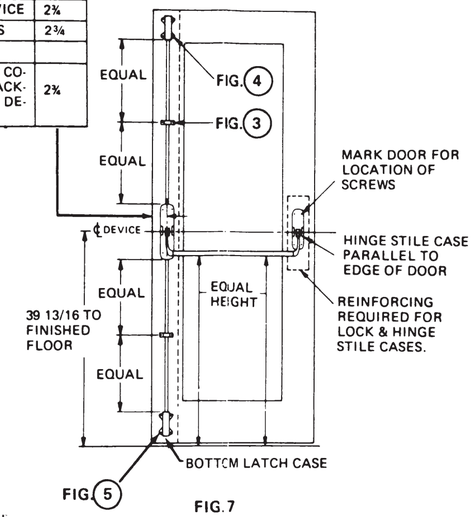


FIG. 7

ALLEGION

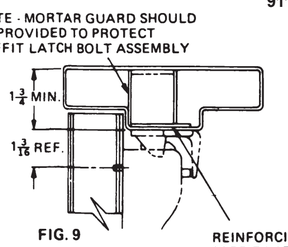
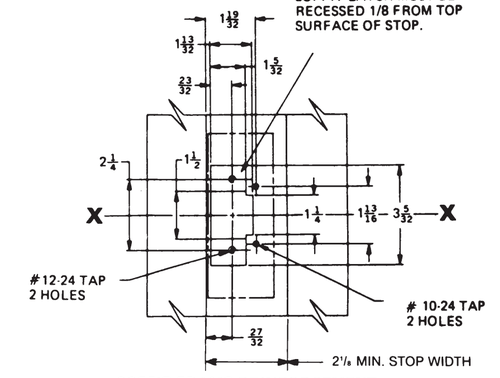


FIG. 9

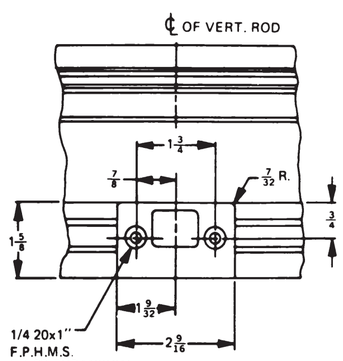


SOFFIT FRAME REINFORCEMENT

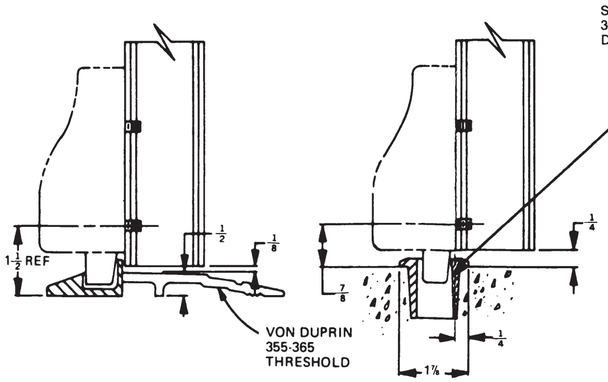
Customer Service	
1-877-671-7011	www.allegion.com/us

UL LISTED FIRE EXIT HARDWARE

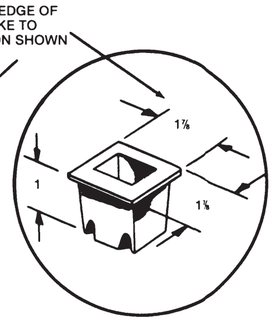
DESCRIPTION	VON DUPRIN	
8827TP-F SURFACE APPLIED DEVICE	DIRECTION NUMBER: 911165-00 (b)	DATE: 06/14



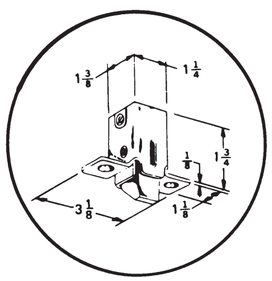
303L STRIKE APPLICATION



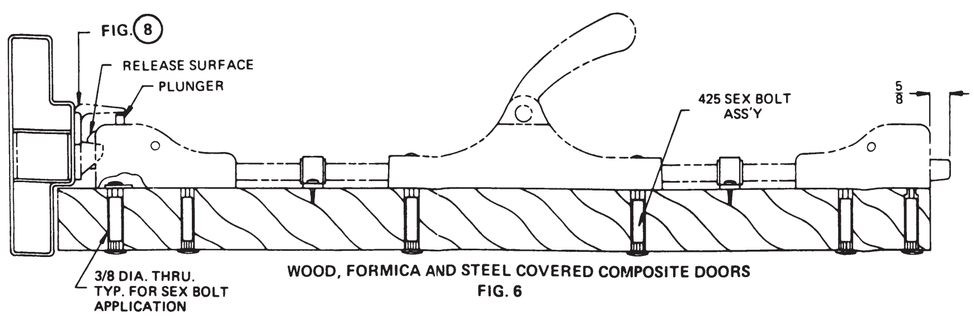
304L STRIKE APPLICATION



304L STRIKE

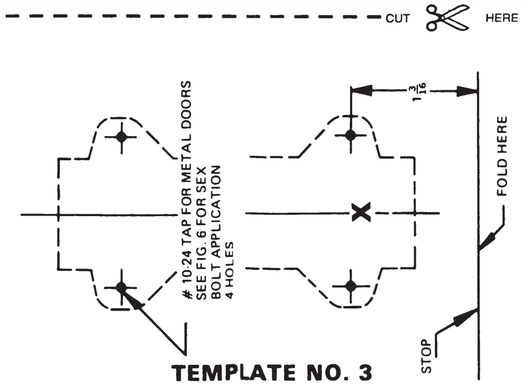


SOFFIT LATCH BOLT ASSEMBLY



WOOD, FORMICA AND STEEL COVERED COMPOSITE DOORS
FIG. 6

CUT HERE



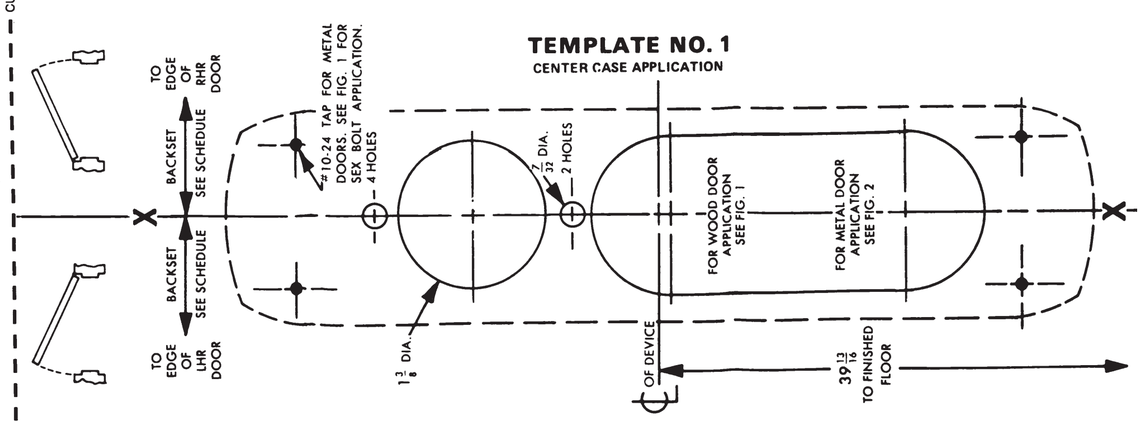
TEMPLATE NO. 3
TOP LATCH CASE

TEMPLATE NO. 2
BOTTOM LATCH CASE WITH 300L AND 303L STRIKE

HERE

CUT

TEMPLATE NO. 1
CENTER CASE APPLICATION



VON DUPRIN

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds to handing of door.
D. Apply Astragal (if any). See template No. 40106 for applying Astragal.

1. PREPARE DOOR

A. Tape template No. 1 to inside face of lock stile. Be sure centerline "X-X" of template is parallel to edge of door and backset is as shown in schedule. Be sure centerline device is 39 13/16" to finished floor.
B. Prepare door as shown. See Fig. 1 for wood door application and Fig. 2 for metal door application.

NOTE: SEX BOLTS ARE FURNISHED FOR WOOD, FORMICA, AND STEEL COVERED COMPOSITE DOORS. SEE FIG. 6

2. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off cylinder tailpiece if necessary, to extend 1/4" to 1/2" beyond inside face of door and into device case.

3. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

4. APPLY LOCK STILE CASE

A. Attach lock stile to door. See Fig. 1 or 2.

5. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 7)

A. Slip crossbar tube on lock stile and hinge stile lever arms. **(See Direction No. 941009 for cutting crossbar, if necessary.)**
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Using holes in hinge stile case, mark location and prepare door for attaching screws.
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage and test crossbar for free action. **(See Direction No. 941009 for these instructions.)**

6. INSTALL SOFFIT LATCH BOLT ASSEMBLY (FIG. 6)

A. Block door in open position.
B. Install latch bolt as shown.

7. APPLY TOP LATCH CASE (FIG. 9)

A. Close door against stop.
B. Tape template No. 3 to door and stop.
C. Prepare door for latch case and apply.

8. APPLY PLUNGER RELEASE BRACKET (FIG. 8)

A. Close door against stop.
B. Position backset to depress plunger, and allow rods to fall into engaged position.
C. Tighten bracket mounting screws.

9. APPLY TO ROD

A. Block door in open position.
B. Check rod for correct length. See instruction sheet 0836 for cutting 88 vertical rods.
C. Drive in top rod connector.
D. Attach top rod with rod guide. (See Fig. 3) adjust rod length so connector fits as shown (Fig. 4)
E. Check top rod for full retraction of latch bolt. Top rod should be flush to 1/16" above latch release surface.

10. APPLY BOTTOM LATCH CASE

A. Close door against stop so top bolt engages.
B. Tape template No. 2 to door and floor indicated on template.
C. Prepare door for latch case and floor or threshold for strike and apply.

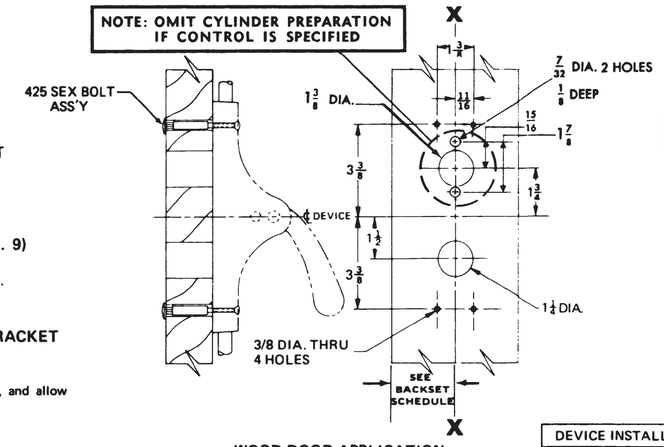
11. APPLY BOTTOM ROD

NOTE: DO NOT CUT BOTTOM ROD.
A. Block door in open position.
B. Retract bottom latch bolt.
C. Adjust rod so rod connector fits as shown. (Fig. 5)
D. Test door for top and bottom latch engagement.

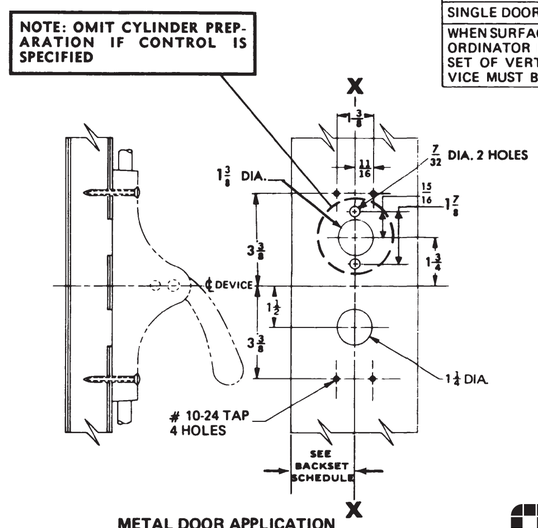
12. APPLY TOP AND BOTTOM LATCH CASE COVER

13. APPLY COORDINATOR

NOTE: 1237 COORDINATOR MUST BE SURFACE APPLIED WHEN USED WITH 8813 & 8817 SERIES EXIT HARDWARE. SEE DIRECTIONS IN COORDINATOR PACKAGE.



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2

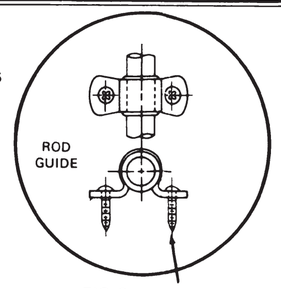


FIG. 3

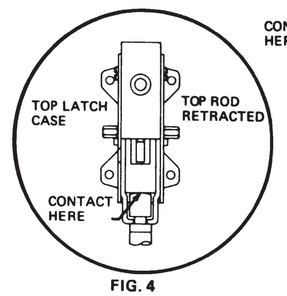


FIG. 4

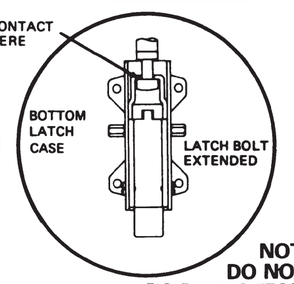


FIG. 5

NOTE: DO NOT CUT BOTTOM ROD

911166-00

DEVICE INSTALLATION SCHEDULE	
VERT. ROD & MORT. DEVICE	2¾
TWO VERT. ROD DEVICES	2¾
SINGLE DOOR	2¾
WHEN SURFACE APPLIED COORDINATOR IS USED BACKSET OF VERTICAL ROD DEVICE MUST BE	2¾

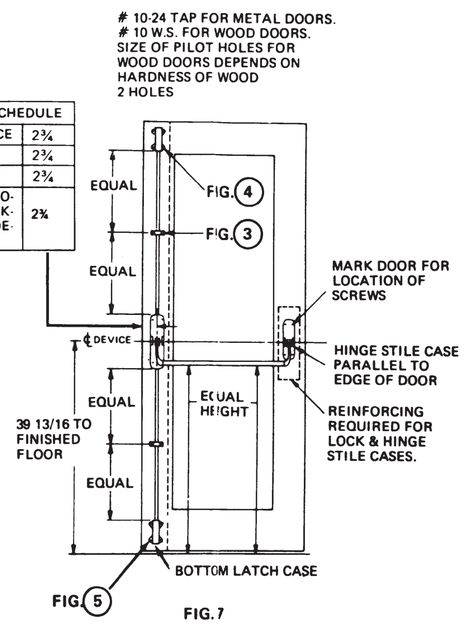


FIG. 7

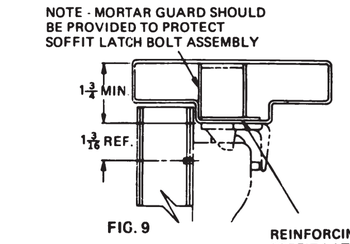
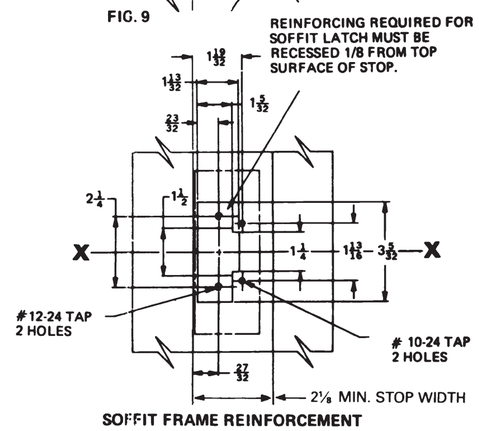


FIG. 9



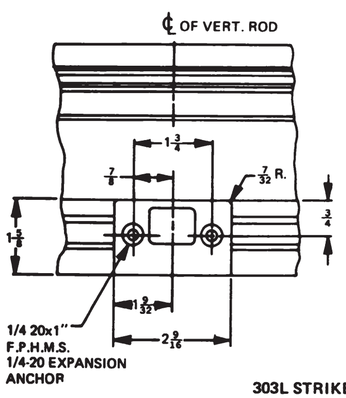
SOFFIT FRAME REINFORCEMENT

UL LISTED FIRE EXIT HARDWARE

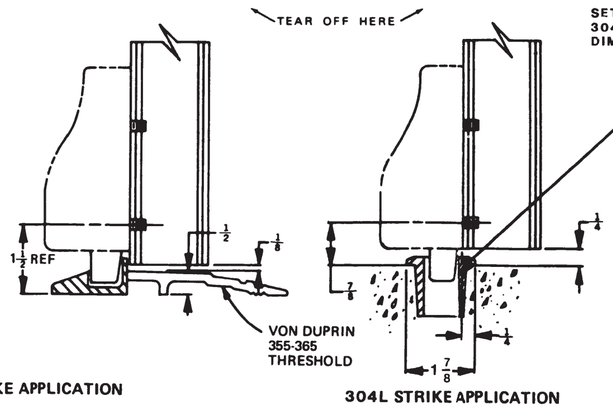
ALLEGION

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

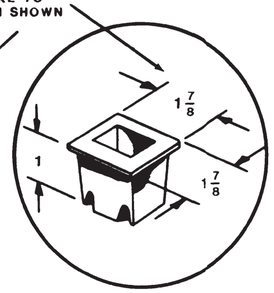
DESCRIPTION	VON DUPRIN
8827K-F SURFACE APPLIED DEVICE	DIRECTION NUMBER: 911166-00(b) · DATE: Rev. 01/14



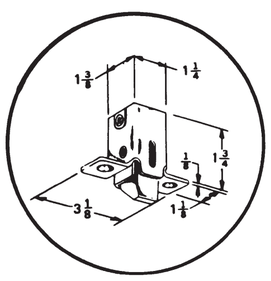
303L STRIKE APPLICATION



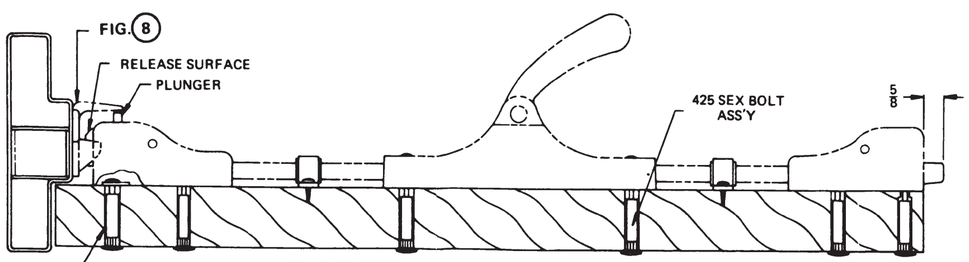
304L STRIKE APPLICATION



304L STRIKE

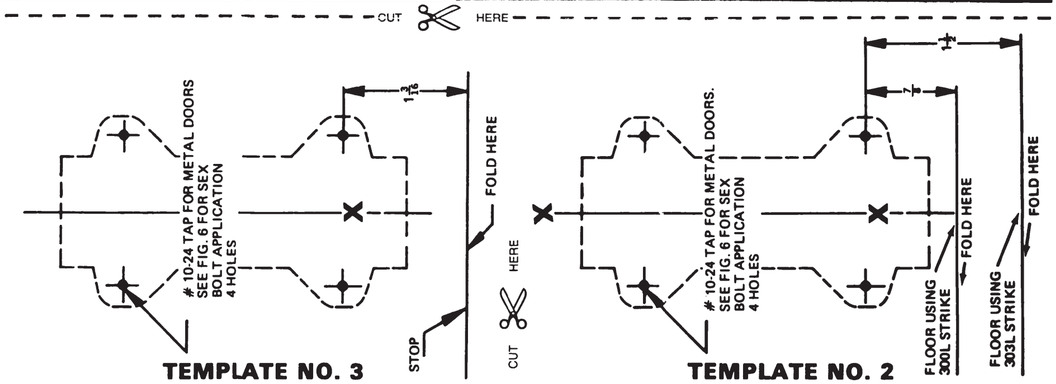


SOFFIT LATCH BOLT ASSEMBLY



WOOD, FORMICA AND STEEL COVERED COMPOSITE DOORS
FIG. 6

CUT HERE



TEMPLATE NO. 3
TOP LATCH CASE

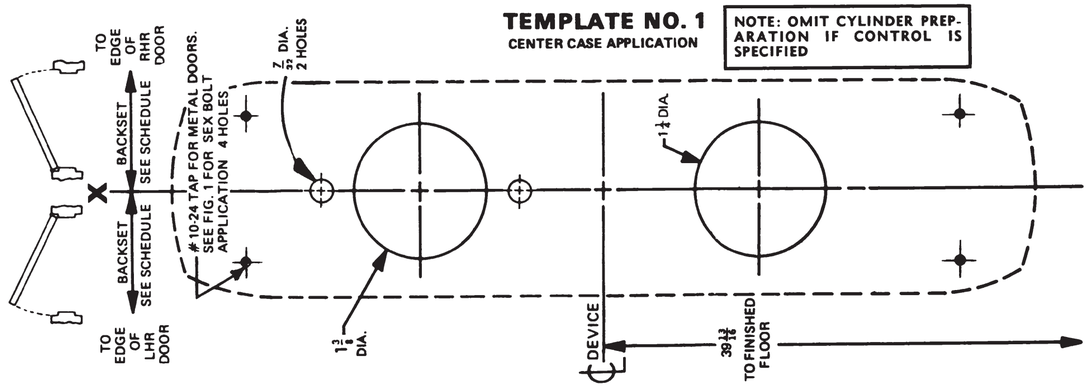
TEMPLATE NO. 2
BOTTOM LATCH CASE WITH 300L AND 303L STRIKE

CUT HERE

CUT HERE

TEMPLATE NO. 1
CENTER CASE APPLICATION

NOTE: OMIT CYLINDER PREPARATION IF CONTROL IS SPECIFIED



VON DUPRIN

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door.

1. APPLY STRIKE

A. Tape appropriate strike template No. 3 or No. 4 depending on handing of door to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1.)

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. Be sure center line of device is 39-13/16" from finished floor.

NOTE: **BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.**

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off thumbpiece and cylinder tailpiece, if necessary, to extend 5/8 to 3/4 thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

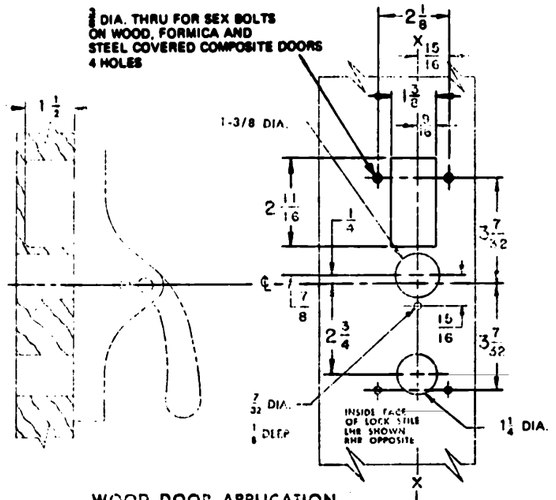
A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

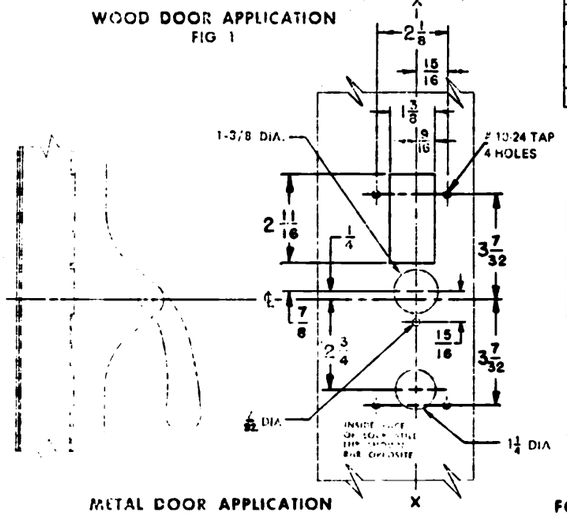
A. Remove key from cylinder.
B. Position cylinder cam as shown in Fig. 3.
C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
D. Test key and thumbpiece action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

A. Slip crossbar tube on lock stile and hinge stile lever arms. (See form No. 52 for cutting crossbar, if necessary.)
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Using holes in hinge stile case, mark location and prepare door for attaching screws.
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See form No. 52 for these instructions.)



WOOD DOOR APPLICATION
FIG 1



METAL DOOR APPLICATION
FIG. 2

WIRING DIAGRAM		
WHITE	CONTINUOUS DUTY SOLENOID 24 VDC	
WHITE		
BLUE		*30° OPTION FOR AC
RED		
YELLOW		

NOTES:
1. ELECTRICAL INSTALLATION SHALL COMPLY WITH PROVISIONS OF NATIONAL ELECTRIC CODE CLASS TWO INSTALLATIONS.
2. POWER IS TO BE TRANSMITTED INTO DOOR AND DEVICE THRU A CONTINUOUS CURRENT ELECTRIC HINGE - STANLEY "CE" TYPE OR EQUAL.
3. STANDARD OPERATION - OUTSIDE TRIM IS LOCKED WHEN DE-ENERGIZED, UNLOCKED WHEN ENERGIZED. FAIL SAFE OPERATION - OUTSIDE TRIM IS LOCKED WHEN ENERGIZED, UNLOCKED WHEN DE-ENERGIZED.

SINGLE DOOR INSTALLATION		
STRIKE	BACKSET	MIN. STILE
268	SEE ILLUST. 2	4-3/8
DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	BACKSET	MIN. STILE
8854 x 268	SEE ILLUST. 1	4-11/16

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
350 or 360	39 13/16
355 or 365	
390	
ALL OTHER THRESHOLDS	
NO THRESHOLD (FLAT SILL)	

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

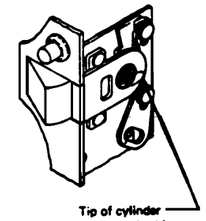


FIG. 3

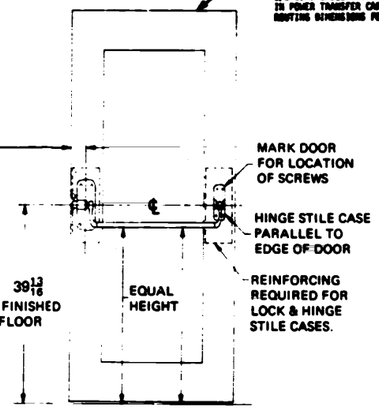
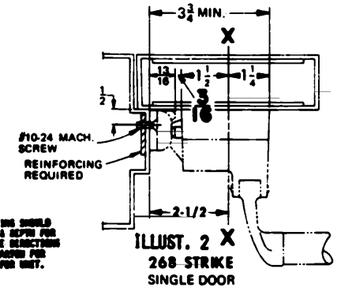
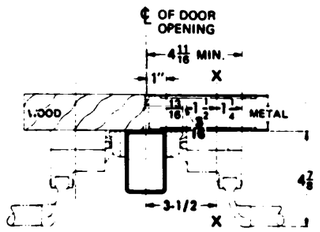


FIG. 4

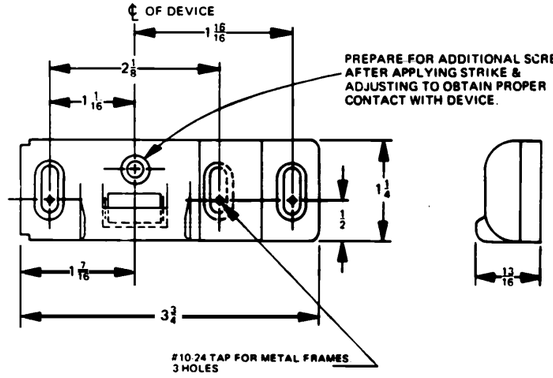


ILLUST. 2
268 STRIKE
SINGLE DOOR

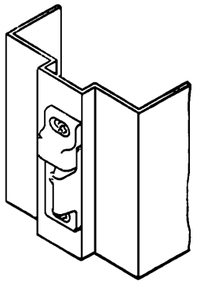


ILLUST. 1
8854 MULLION WITH 268 STRIKE

DESCRIPTION	E-88TP-NL-F & E-88TP-NL-F(F.S.) SERIES ELECTRIC LOCKING RIM DEVICE	VON DUPRIN	
		DIRECTION NUMBER 911187-00	DATE 1/01/03



268 STRIKE



LHR SHOWN
RHR OPPOSITE

911187-00

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

ALLEGION

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INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door.

1. APPLY STRIKE

A. Tape appropriate strike template to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration **1 or 2**)
C. Vertical rod and rim devices on pairs of doors require 1609J strike. See template No. 30021 for this application.

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. See Device Height Schedule.

NOTE **BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.**

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off thumbpiece and cylinder tailpiece, if necessary, to extend 5/8 to 3/4 thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

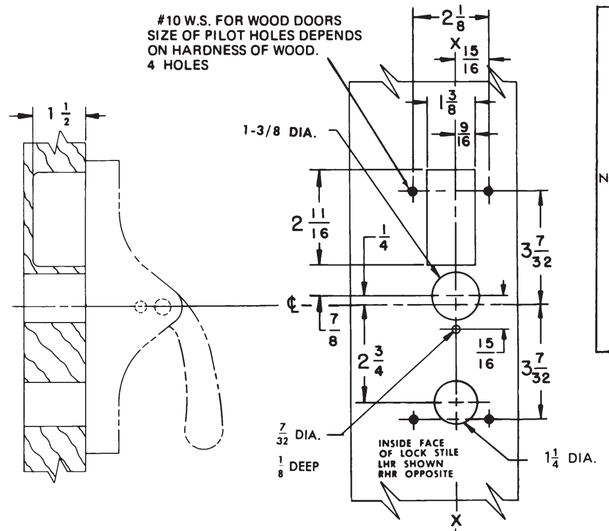
A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

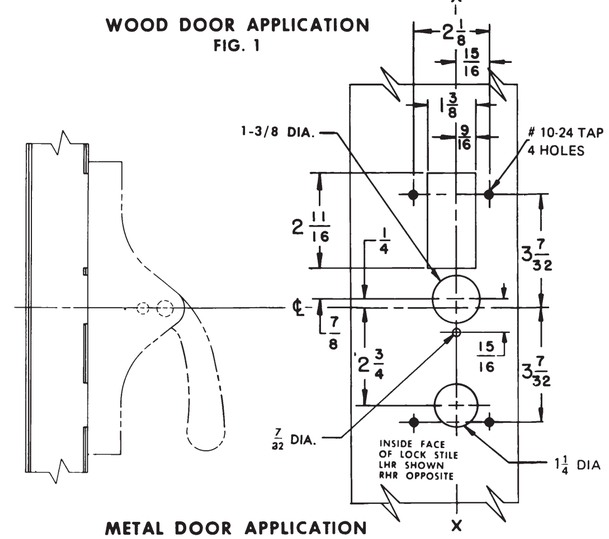
A. Remove key from cylinder.
B. Position cylinder cam as shown in Fig. 3.
C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
D. Test key and thumbpiece action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

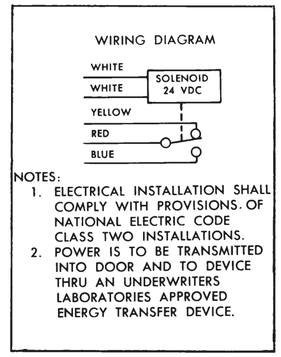
A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock stile and hinge stile lever arms. **(See Direction No. 941009 for cutting crossbar, if necessary.)**
C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
D. Using holes in hinge stile case, mark location and prepare door for attaching screws.
E. Apply hinge stile case with crossbar in place.
F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. **(See Direction No. 941009 for these instructions.)**



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2



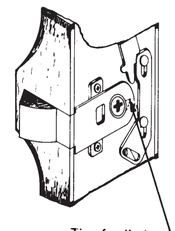
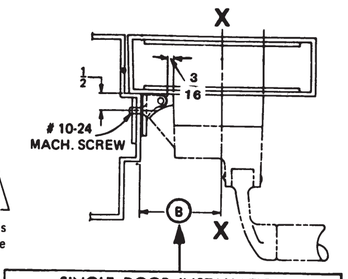
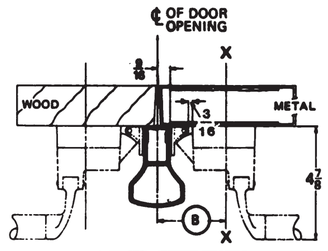


FIG. 3



SINGLE DOOR INSTALLATION		
STRIKE	DIMENSION (B)	MIN. STILE
299/299F(Shown)	2-1/2	4-3/8
264	2-1/4	4-1/8
1606	2-1/16	3-15/16



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
5254/5654x299/299F(Shown)	3-1/16	4-1/4
5254 or 5654 x 264	2-13/16	4"

ILLUST. 1

SINGLE DOOR OPENING
39-13/16 TO FINISHED FLOOR

DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
THRESHOLDS	39-11/16
NO THRESHOLD (FLAT SILL)	39-11/16

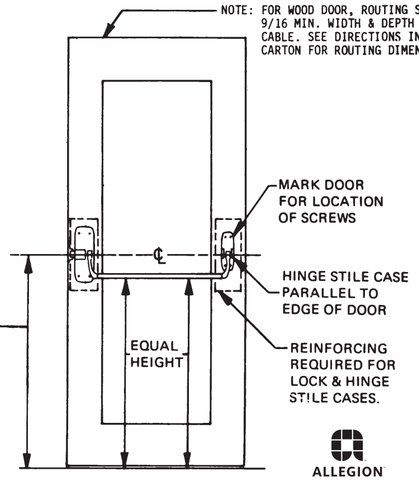
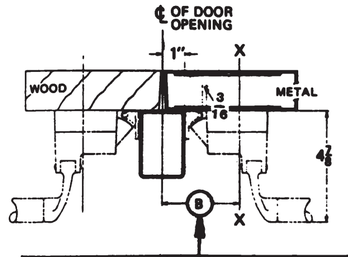


FIG. 4

911183-00



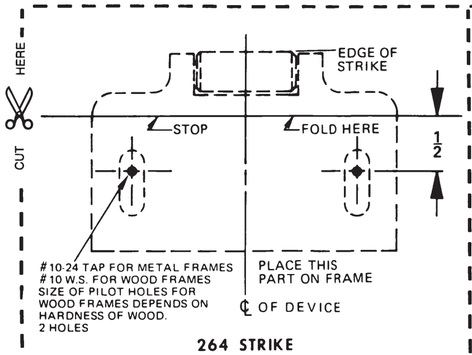
DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
4954 x 299/299F(Shown)	3-1/2	4-11/16
4654 x 264	3-1/4	4-7/16
1654 x 1606	3-1/16	4-1/4

ILLUST. 2

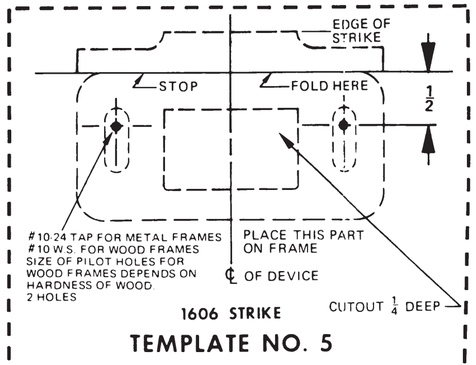
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FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

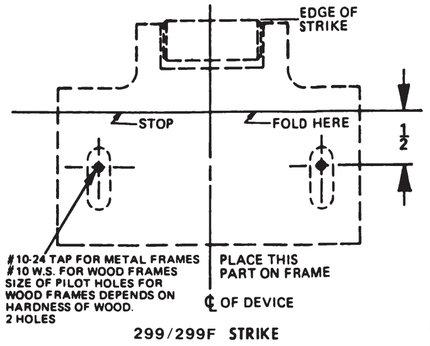
DESCRIPTION	VON DUPRIN
E-88TP & E-88TP (F.S.) SERIES ELECTRIC LOCKING RIM DEVICES.	DIRECTION NUMBER 911183-00(b) · DATE Rev. 06/14



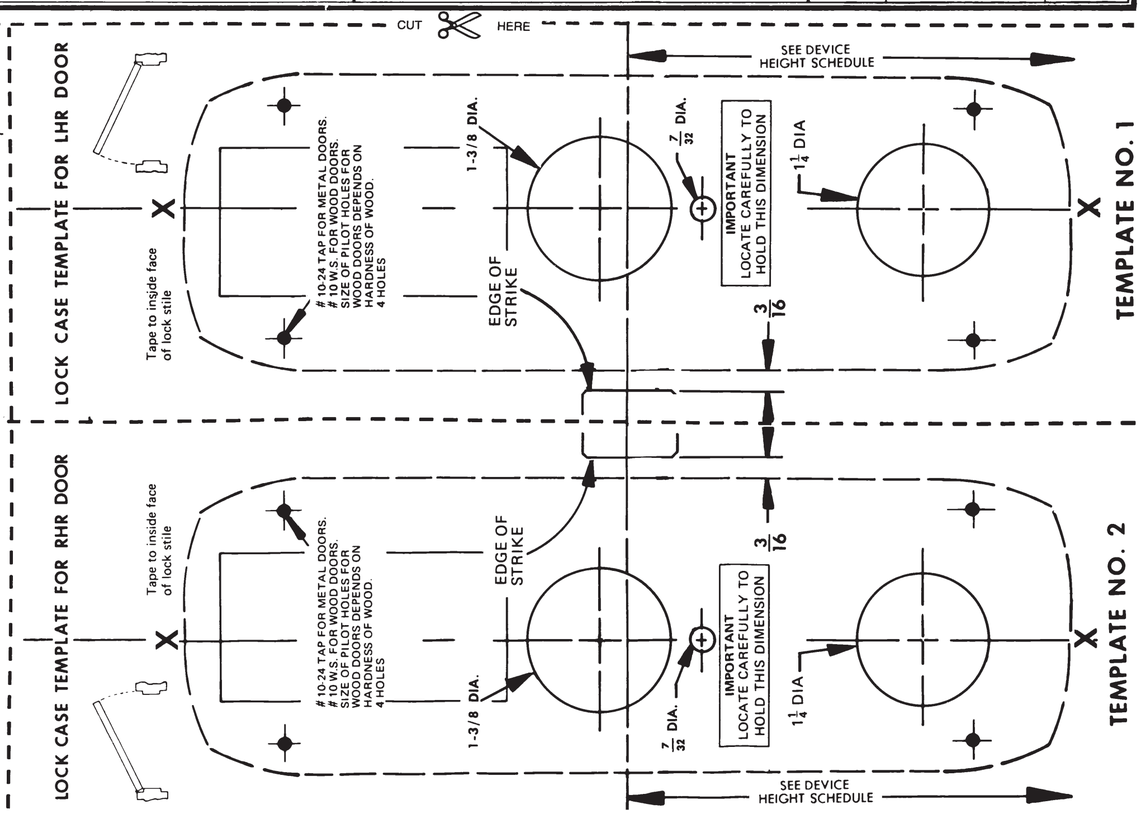
264 STRIKE
TEMPLATE NO. 3



1606 STRIKE
TEMPLATE NO. 5



299/299F STRIKE
TEMPLATE NO. 4



VON DUPRIN

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door. See Fig. 3.

1. APPLY STRIKE

A. Tape appropriate strike template No. 3 or No. 4 depending on handing of door to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1.)

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. Be sure center line of device is 39-13/16" from finished floor.

NOTE: BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. If necessary, cut off knob spindle to extend 1/4" to 1/2" and cylinder tailpiece to extend 5/8" to 3/4" thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

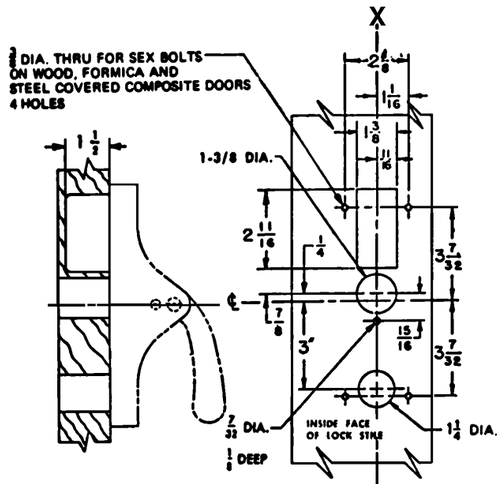
A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

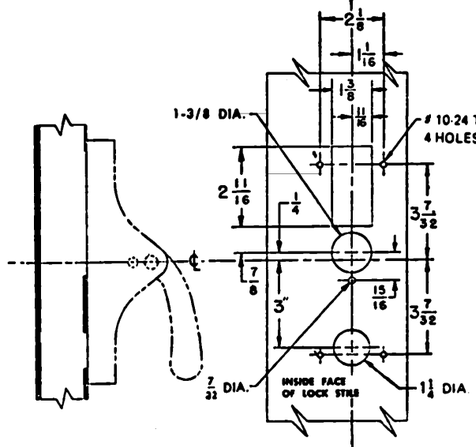
A. Remove key from cylinder.
B. Position cylinder cam as shown in Fig. 3.
C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
D. Test key and knob action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

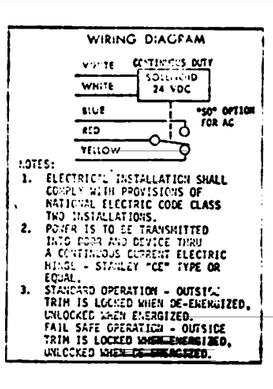
A. Slip crossbar tube on lock stile and hinge stile lever arms. (See form No. 52 for cutting crossbar, if necessary.)
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Usin holes in hinge stile case, mark location and prepare door for attaching scre
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See form No. 52 for these instructions.)



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION X FIG. 2



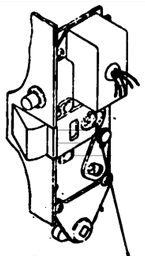


FIG. 3
Tap of cylinder cam to be in this position. Be sure key is removed from cylinder.
RHR SHOWN
LHR OPPOSITE

SINGLE DOOR INSTALLATION		
STRIKE	BACKSET	MIN. STILE
268	SEE ILLUST. 2	4-3/8
DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	BACKSET	MIN. STILE
8864 x 268	SEE ILLUST. 1	4-11/16

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
350 or 360	39 13/16
355 or 365	
390	
ALL OTHER THRESHOLDS	
NO THRESHOLD (FLAT SILL)	

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

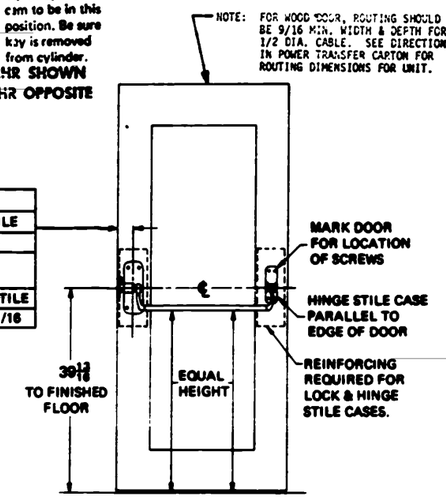
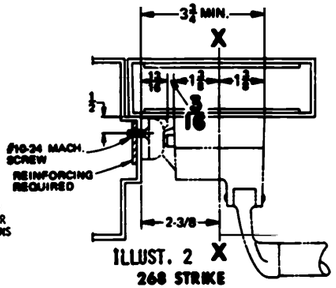
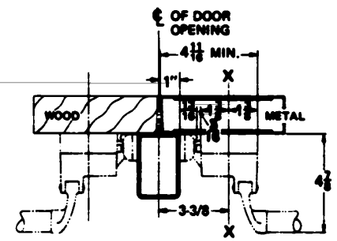


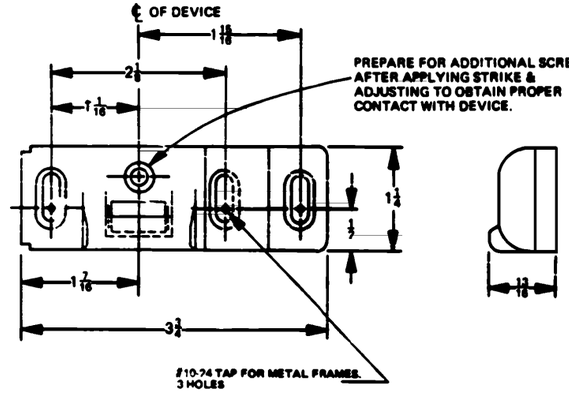
FIG. 4



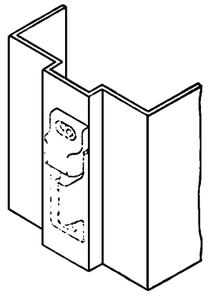
ILLUST. 2
268 STRIKE
SINGLE DOOR



ILLUST. 1
8864 MULLION WITH 268 STRIKE



268 STRIKE



LHR SHOWN
RHR OPPOSITE

DESCRIPTION	E-88K-NL-F & E-88K-NL-F(F.S.) SERIES ELECTRIC LOCKING RIM DEVICE	VON DUPRIN	
		DIRECTION NUMBER: 911188-00	DATE: 6/25/15

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911188-00

VON DUPRIN®

INSTALLATION INSTRUCTIONS

INSTALLATION DIRECTIONS

FOR COMPLETE INSTALLATION INSTRUCTIONS SEE DIRECTION SHEET IN DEVICE CARTON.

LOCK STILE PREPARATION

A. DETERMINE APPROPRIATE FIGURE NO'S. FOR DEVICE BEING INSTALLED.

B. DETERMINE PROPER DEVICE HEIGHT AND MARK INSIDE OF DOOR FOR LOCK STILE PREPARATION.

NOTE **BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.**

C. PREPARE LOCK STILE AS SHOWN FOR TYPE 161 OR TYPE 86 STOCK HOLLOW METAL DOOR.

HINGE STILE PREPARATION

A. FOLLOW HINGE STILE CASE INSTALLATION INSTRUCTIONS ON DEVICE DIRECTION SHEET IN DEVICE CARTON.

B. PREPARE HINGE STILE FOR SEX BOLTS 7/32 DIA. INSIDE AND 13/32 DIA. OUTSIDE.

VERTICAL LATCH CASE PREPARATION (IF APPLICABLE)

A. FOLLOW LATCH CASE INSTALLATION INSTRUCTIONS ON DEVICE DIRECTION SHEET IN DEVICE CARTON.

B. PREPARE DOOR FOR VERTICAL LATCH CASES (SEE FIG. 8).

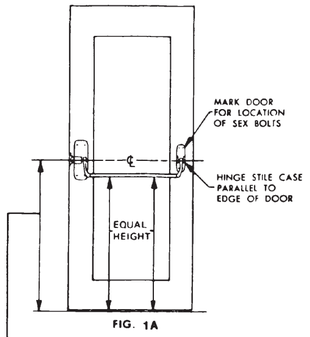


FIG. 1A

SINGLE DOOR OPENING 40-5/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO	TO FIN. FLOOR
350 or 360	40-5/16
355 or 365	40-7/16
390	40-9/16
ALL OTHER THRESHOLDS	40-5/16
NO THRESHOLD (FLAT SILL)	40-5/16

DEVICE HEIGHT FOR RIM DEVICES (FIG. 2, 3 & 4.)

FIG. 1

VON DUPRIN CUTOUTS ARE LOCATED FROM A.N.S.I CUTOUTS. SEE A.N.S.I. SPECIFICATIONS NO. A115 FOR THE SIZE AND LOCATION OF THESE CUTOUTS.

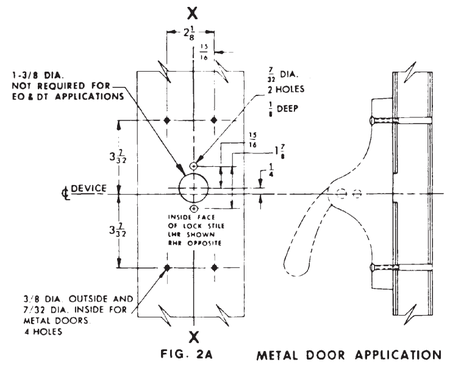
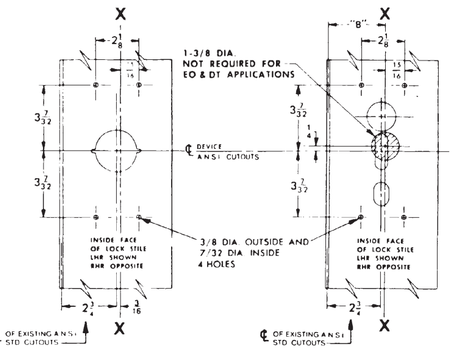


FIG. 2A METAL DOOR APPLICATION



TYPE 161 STOCK HOLLOW METAL DOOR APPLICATION — FIG. 2B — TYPE 86 STOCK HOLLOW METAL DOOR APPLICATION

FIG. 2 88EO, 88DT & 88NL RIM DEVICE

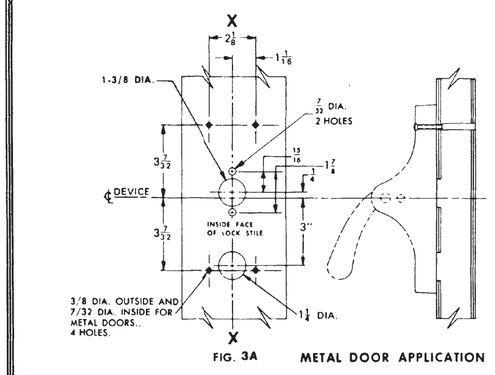
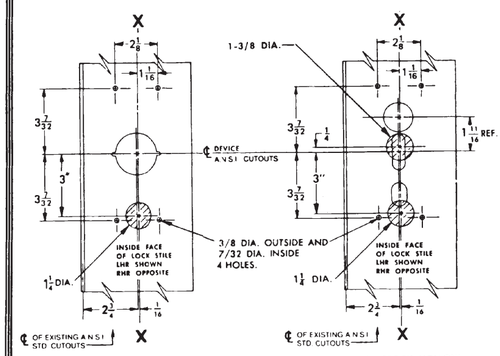


FIG. 3A METAL DOOR APPLICATION



TYPE 161 STOCK HOLLOW METAL DOOR APPLICATION — FIG. 3B — TYPE 86 STOCK HOLLOW METAL DOOR APPLICATION

FIG. 3 88K & 88K2 RIM DEVICE

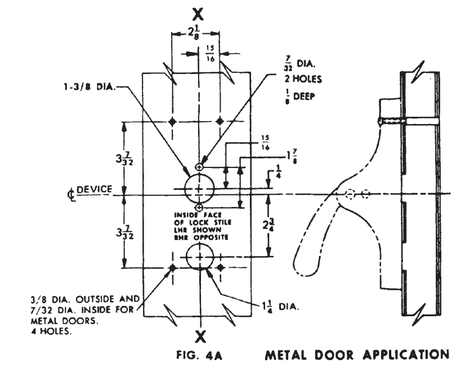
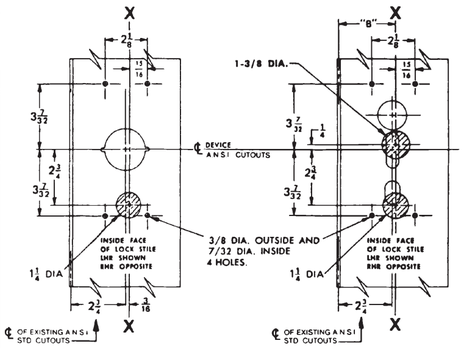


FIG. 4A METAL DOOR APPLICATION



TYPE 161 STOCK HOLLOW METAL DOOR APPLICATION — FIG. 4B — TYPE 86 STOCK HOLLOW METAL DOOR APPLICATION

FIG. 4 88TP & 88TP2 RIM DEVICE

DESCRIPTION

88 RIM, 88 MORTISE & 88 SURFACE VERTICAL SERIES DEVICES WITH 880 & 780 TRIM FOR STOCK HOLLOW METAL APPLICATION.

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DIRECTION NUMBER 911317-00 (b)

DATE Rev. 01/14/2014

911317-00

FIG. 5

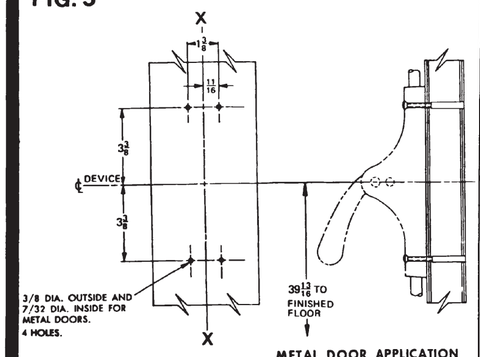
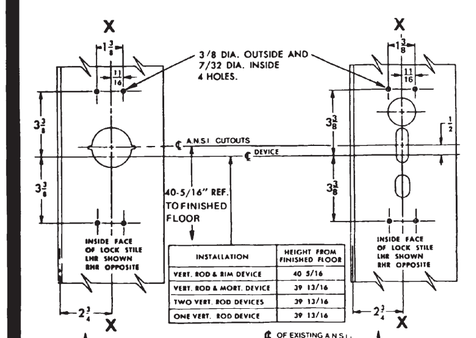


FIG. 5A METAL DOOR APPLICATION

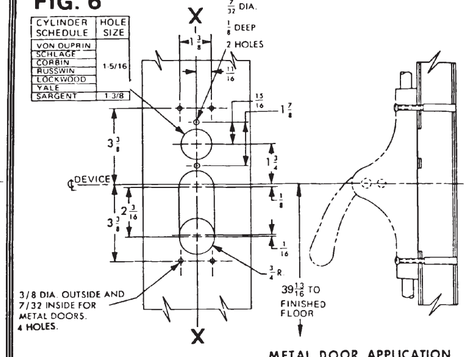


INSTALLATION	HEIGHT FROM FINISHED FLOOR
VERT. ROD & RIM DEVICE	40 5/16
VERT. ROD & MORT. DEVICE	39 13/16
TWO VERT. ROD DEVICES	39 13/16
ONE VERT. ROD DEVICE	39 13/16

TYPE 161 STOCK HOLLOW METAL DOOR APPLICATION — FIG. 5B — TYPE 86 STOCK HOLLOW METAL DOOR APPLICATION

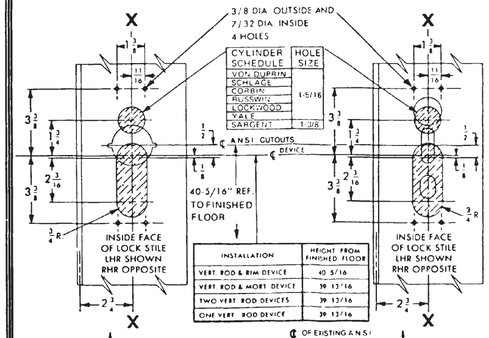
8827EO & 8827DT VERTICAL ROD DEVICE

FIG. 6



CYLINDER SCHEDULE	HOLE SIZE
VON DUPRIN	1-5/16
SCHLAGE	
CORBIN	
RUSSWIN	
LOCKWOOD	
YALE	
SARGENT	1-3/8

FIG. 6A METAL DOOR APPLICATION



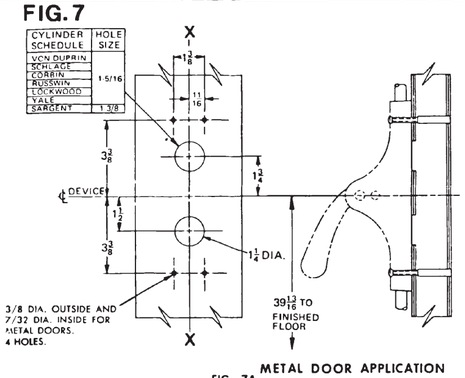
CYLINDER SCHEDULE	HOLE SIZE
VON DUPRIN	1-5/16
SCHLAGE	
CORBIN	
RUSSWIN	
LOCKWOOD	
YALE	
SARGENT	1-3/8

INSTALLATION	HEIGHT FROM FINISHED FLOOR
VERT. ROD & RIM DEVICE	40 5/16
VERT. ROD & MORT. DEVICE	39 13/16
TWO VERT. ROD DEVICES	39 13/16
ONE VERT. ROD DEVICE	39 13/16

TYPE 161 STOCK HOLLOW METAL DOOR APPLICATION — FIG. 6B — TYPE 86 STOCK HOLLOW METAL DOOR APPLICATION

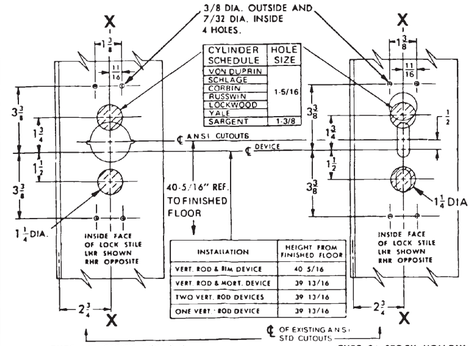
8827TP VERTICAL ROD DEVICE

FIG. 7



CYLINDER SCHEDULE	HOLE SIZE
VON DUPRIN	1-5/16
SCHLAGE	
CORBIN	
RUSSWIN	
LOCKWOOD	
YALE	
SARGENT	1-3/8

FIG. 7A METAL DOOR APPLICATION



CYLINDER SCHEDULE	HOLE SIZE
VON DUPRIN	1-5/16
SCHLAGE	
CORBIN	
RUSSWIN	
LOCKWOOD	
YALE	
SARGENT	1-3/8

INSTALLATION	HEIGHT FROM FINISHED FLOOR
VERT. ROD & RIM DEVICE	40 5/16
VERT. ROD & MORT. DEVICE	39 13/16
TWO VERT. ROD DEVICES	39 13/16
ONE VERT. ROD DEVICE	39 13/16

TYPE 161 STOCK HOLLOW METAL DOOR APPLICATION — FIG. 7B — TYPE 86 STOCK HOLLOW METAL DOOR APPLICATION

8827KVERTICAL ROD DEVICE

FIG. 9 8875 SERIES MORTISE LOCK DEVICE

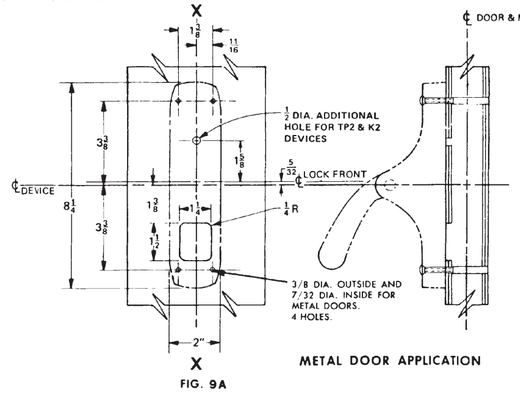


FIG. 9A METAL DOOR APPLICATION

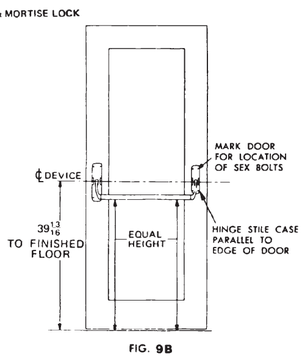
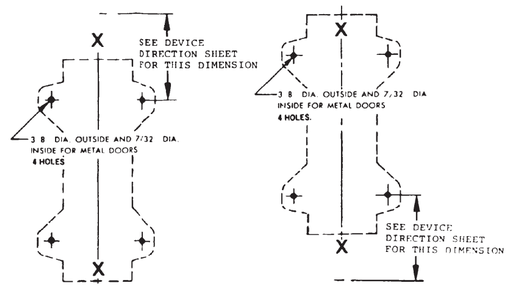


FIG. 9B

FIG. 8 VERTICAL LATCH CASE PREPARATION



TOP LATCH CASE PREPARATION — FIG. 8A — BOTTOM LATCH CASE PREPARATION — FIG. 8B

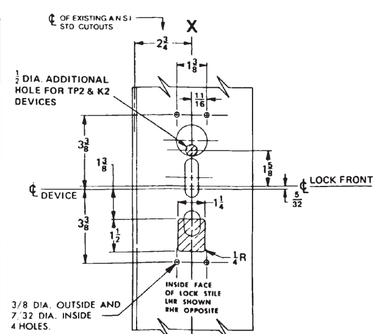


FIG. 9C

TYPE 86 STOCK HOLLOW METAL DOOR APPLICATION

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door.

1. APPLY STRIKE

A. Tape appropriate strike template to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1 or 2)
C. Vertical rod and rim devices on pairs of doors require 1609J strike. See template No. 30021 for this application.

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. See Device Height Schedule.

NOTE: BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off thumbpiece and cylinder tailpiece, if necessary, to extend 5/8 to 3/4 thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

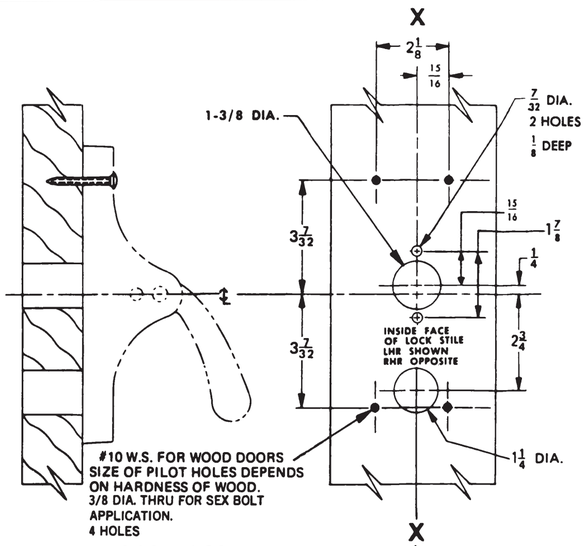
5. APPLY LOCK STILE CASE

A. Remove key from cylinder.
B. Position cylinder cam as shown in Fig. 3.
C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
D. Test key and thumbpiece action.

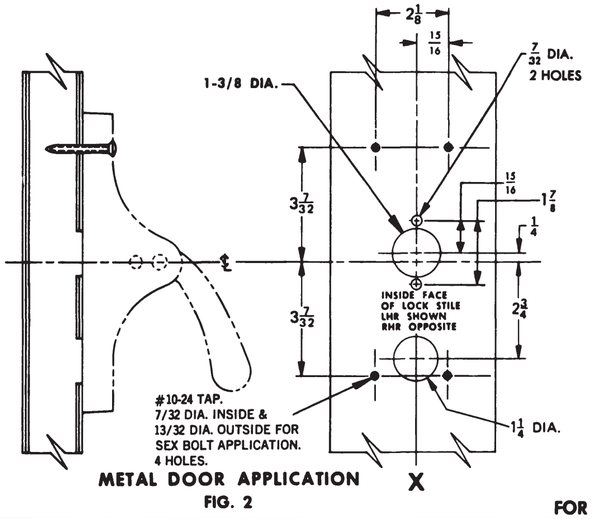
6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction No. 941009 for cutting crossbar, if necessary.)
C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
D. Using holes in hinge stile case, mark location and prepare door for attaching screws.
E. Apply hinge stile case with crossbar in place.
F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Direction No. 941009 for these instructions.)

NOTE: When this device is ordered with two cylinder operation – inside key locks thumbpiece. When locked from inside, outside key retracts latch bolt.



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2

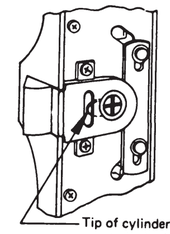
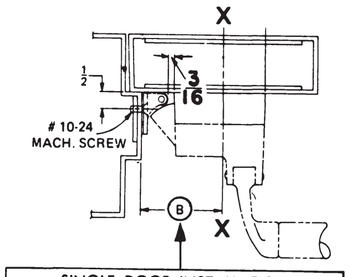
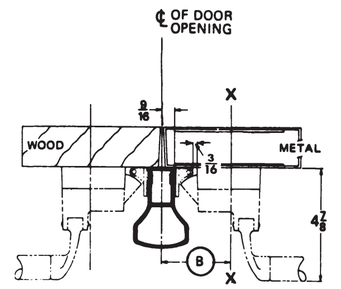


FIG. 3



SINGLE DOOR INSTALLATION		
STRIKE	DIMENSION (B)	MIN. STILE
299 299F Shown	2-1/2	4-3/8
264	2-1/4	4-1/8
1606	2-1/16	3-15/16

NOTE: FOR 1405 STRIKE SEE DIRECTION SHEET NO. 31019



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
5254-5654 x 299/299F (Shown)	3-1/16	4-1/4
5254 or 5654 x 264	2-13/16	4"

ILLUST. 1

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
ALL THRESHOLDS	39-11/16
NO THRESHOLD (FLAT SILL)	39-11/16

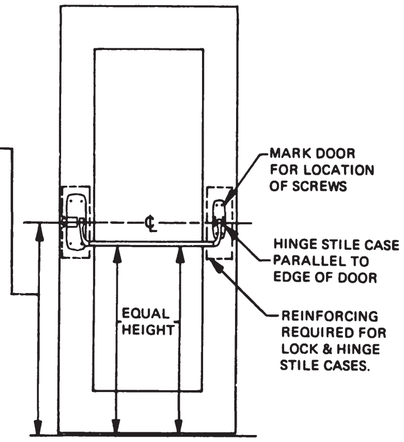
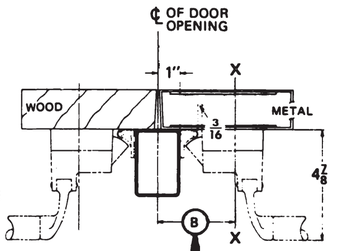


FIG. 4



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
4954 x 299/299F (Shown)	3-1/2	4-11/16
4654 x 264	3-1/4	4-7/16
1654 x 1606	3-1/16	4-1/4

ILLUST. 2

911157-00

ALLEGION

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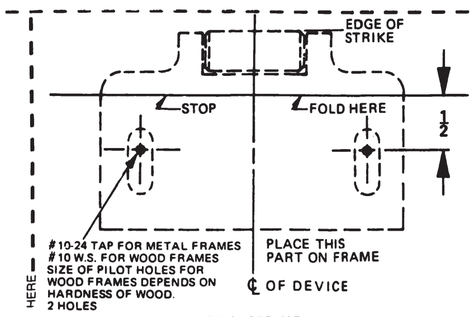
DESCRIPTION	DIRECTION NUMBER	DATE
88TP SERIES RIM DEVICES	911157-00(b)	Rev. 01/14

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

VON DUPRIN

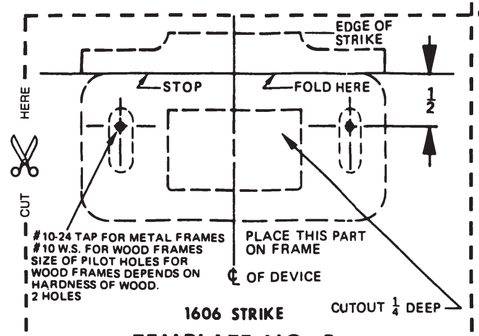
NOTE: FOR 1405 STRIKE SEE DIRECTION SHEET NO. 31019

CUT HERE



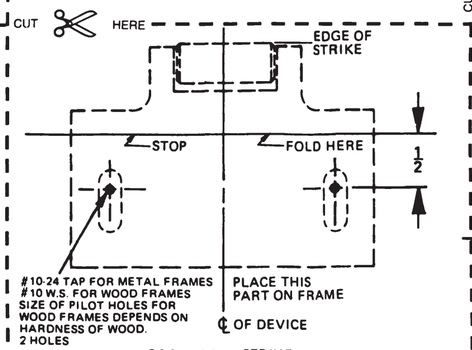
264 STRIKE
TEMPLATE NO. 3

CUT HERE



1606 STRIKE
TEMPLATE NO. 5

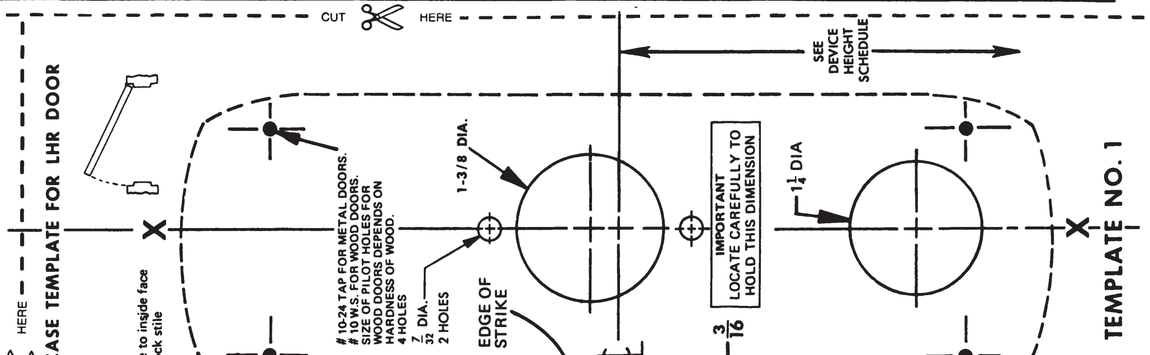
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299/299F STRIKE
TEMPLATE NO. 4

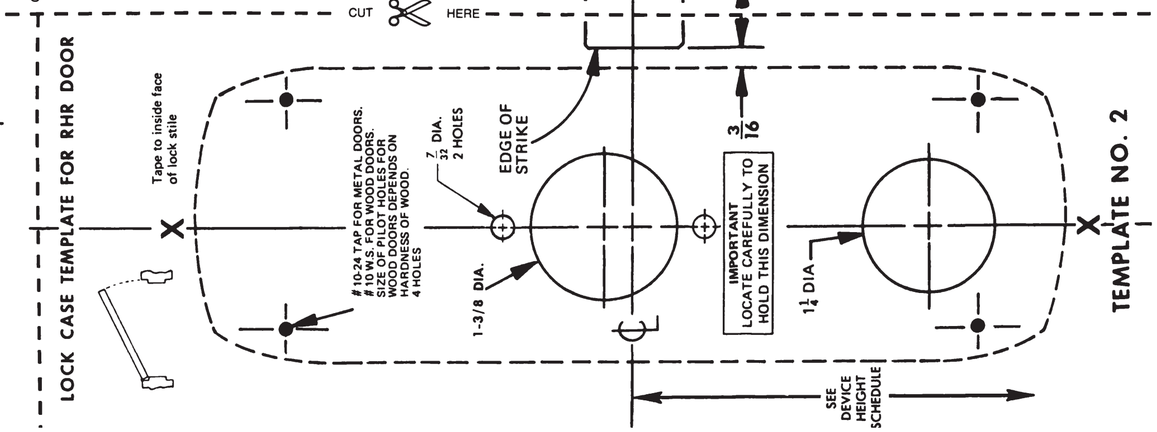
CUT HERE

LOCK CASE TEMPLATE FOR LHR DOOR



CUT HERE

LOCK CASE TEMPLATE FOR RHR DOOR



INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door. See Fig. 3.

1. APPLY STRIKE

A. Tape appropriate strike template to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1 or 2)
C. Vertical rod and rim devices on pairs of doors require 1609J strike. See template No. 30021 for this application.

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. See Device Height Schedule.

NOTE BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. If necessary, cut off knob spindle to extend 1/4" to 1/2" and cylinder tailpiece to extend 5/8" to 3/4" thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

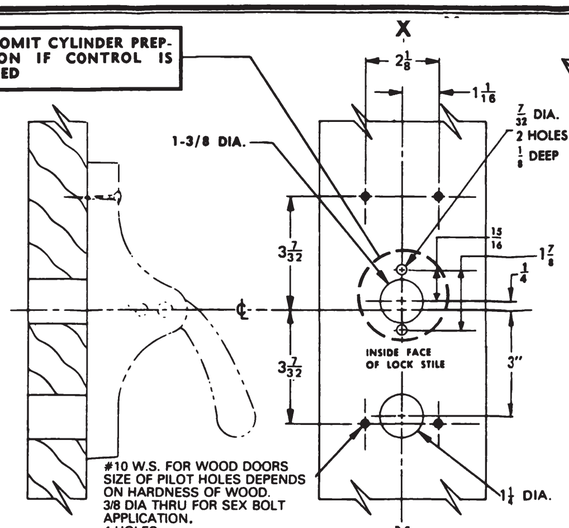
A. Remove key from cylinder.
B. Position cylinder cam as shown in Fig. 3.
C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
D. Test key and knob action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

A. Dog lever arms in depressed position.
B. Slip crossbar tube on lock stile and hinge stile lever arms. **(See Direction No. 941009 for cutting crossbar, if necessary.)**
C. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
D. Using holes in hinge stile case, mark location and prepare door for attaching screws.
E. Apply hinge stile case with crossbar in place.
F. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. **(See Direction No. 941009 for these instructions.)**

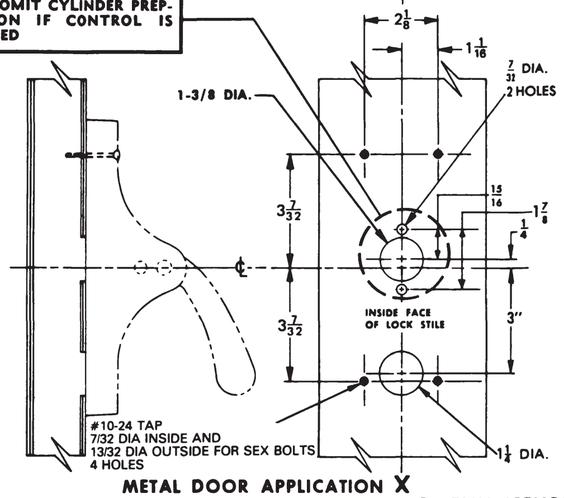
NOTE: When this device is ordered with two cylinder operation – inside key locks knob. When locked from inside, outside key retracts latch bolt.

NOTE: OMIT CYLINDER PREPARATION IF CONTROL IS SPECIFIED



WOOD DOOR APPLICATION
FIG. 1

NOTE: OMIT CYLINDER PREPARATION IF CONTROL IS SPECIFIED



METAL DOOR APPLICATION X
FIG. 2

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

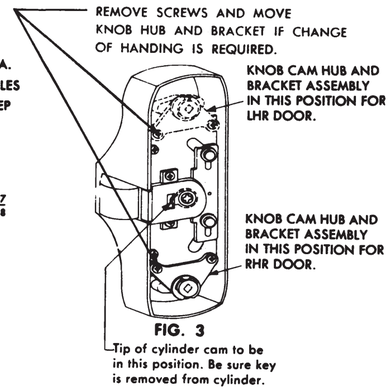
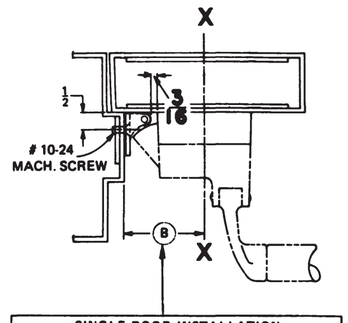
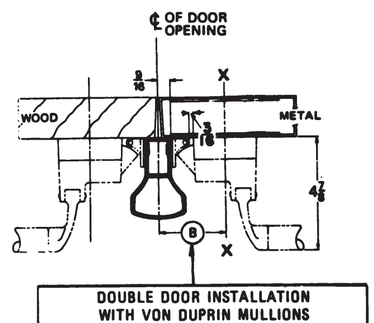


FIG. 3



SINGLE DOOR INSTALLATION		
STRIKE	DIMENSION (B)	MIN. STILE
299/299F (Shown)	2-3/8	4-3/8
264	2-1/8	4-1/8
1606	1-15/16	3-15/16



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
5254/5654 x 299/299F (Shown)	2-15/16	4-1/4
5654 or 5254 x 264	2-11/16	4"

ILLUST. 1

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
ALL THRESHOLDS	39-11/16
NO THRESHOLD (FLAT SILL)	39-11/16

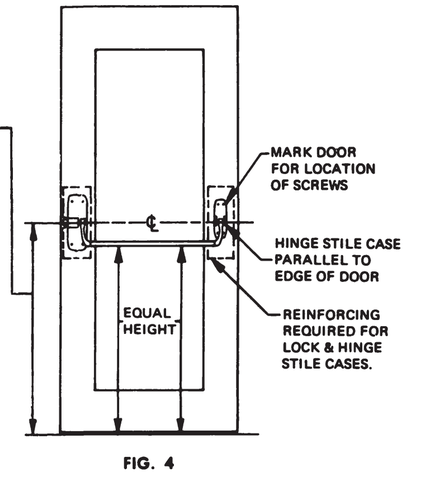
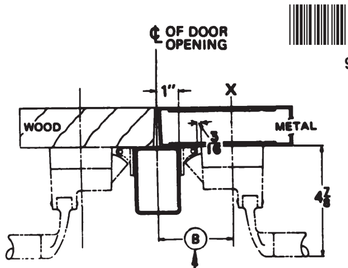


FIG. 4



DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION (B)	MIN. STILE
4954 x 299/299F (Shown)	3-3/8	4-11/16
4954 x 264	3-1/8	4-7/16
1654 x 1606	2-15/16	4-1/4

ILLUST. 2

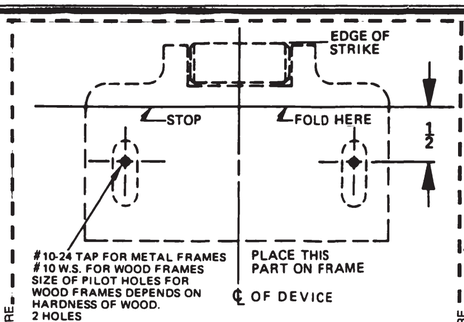
911158-00

ALLEGION

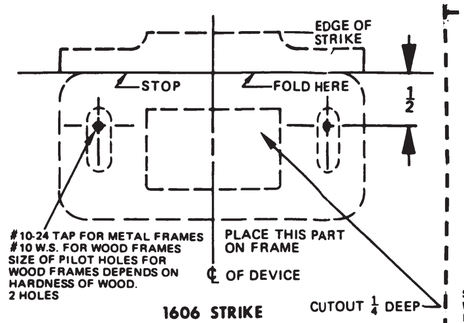
Customer Service
1-877-671-7011 www.allegion.com/us

DESCRIPTION	VON DUPRIN	
88K SERIES RIM DEVICES	DIRECTION NUMBER: 911158-00 (b)	DATE: 06/14

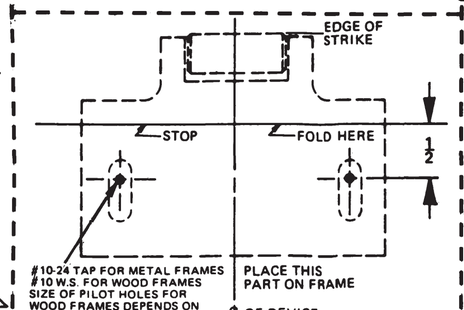
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264 STRIKE
TEMPLATE NO. 3

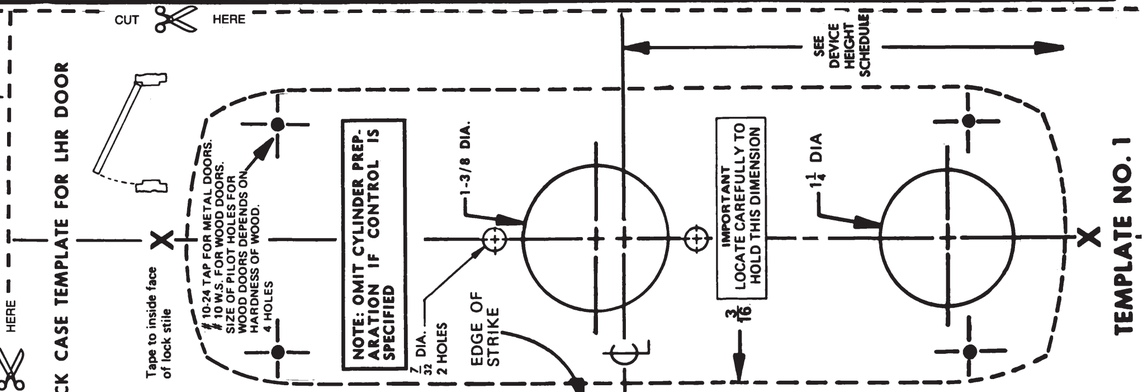


1606 STRIKE
TEMPLATE NO. 5



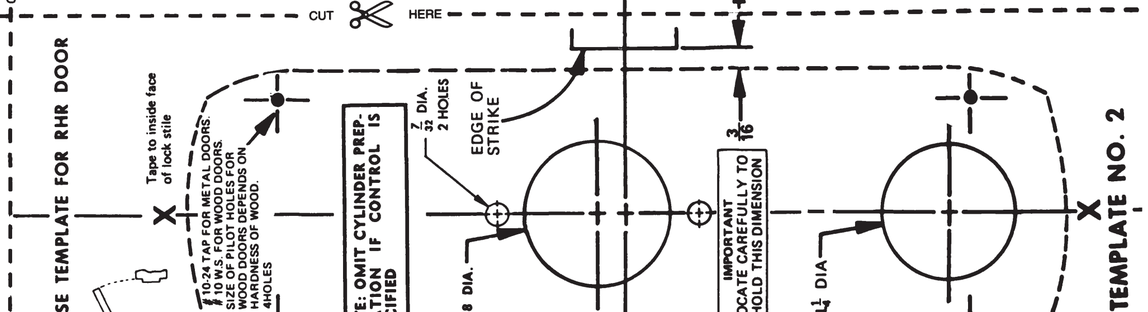
299/299F STRIKE
TEMPLATE NO. 4

LOCK CASE TEMPLATE FOR LHR DOOR



TEMPLATE NO. 1

LOCK CASE TEMPLATE FOR RHR DOOR



TEMPLATE NO. 2

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door.

1. APPLY STRIKE

A. Tape appropriate strike template No. 3 or No. 4 depending on handing of door to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1.)

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. Be sure center line of device is 39-13/16" from finished floor.

NOTE: BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM IF REQUIRED

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off cylinder tailpiece, if necessary, to extend 5/8 to 3/4 thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

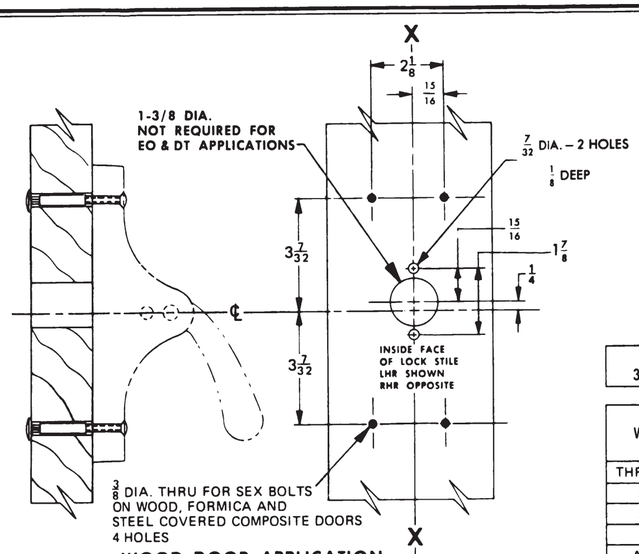
A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

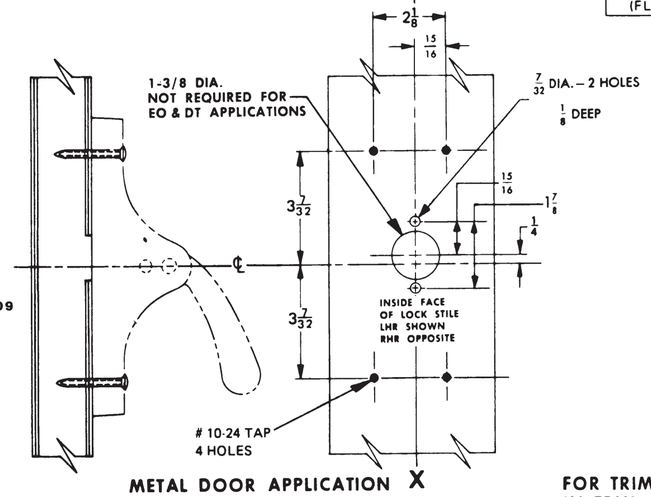
A. Remove key from cylinder.
B. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
C. Test key action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

A. Slip crossbar tube on lock stile and hinge stile lever arms. **(See Direction No. 941009 for cutting crossbar, if necessary.)**
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Using holes in hinge stile case, mark location and prepare door for attaching screws.
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. **(See Direction No. 941009 for these instructions.)**



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
350 or 360	39 13/16
355 or 365	
390	
ALL OTHER THRESHOLDS	
NO THRESHOLD (FLAT SILL)	

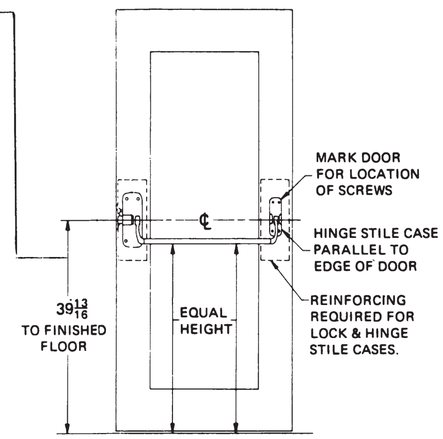
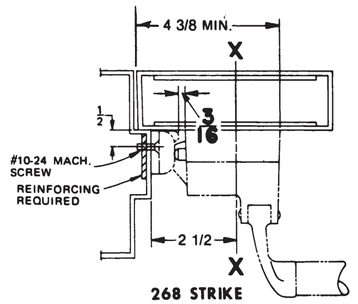
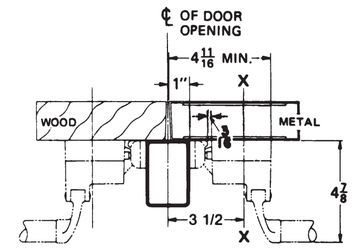


FIG. 4



268 STRIKE
SINGLE DOOR



ILLUST. 1
9954 MULLION WITH 268 STRIKE

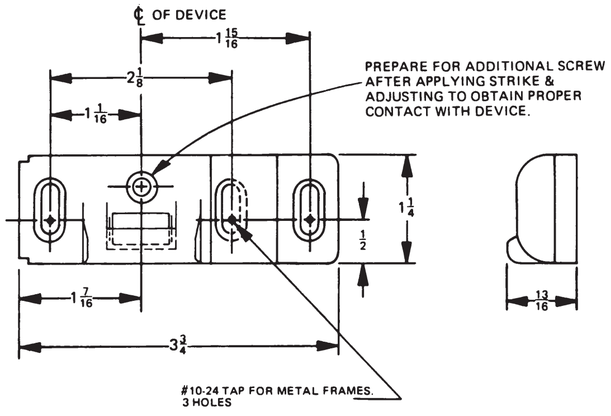
ALLEGION

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

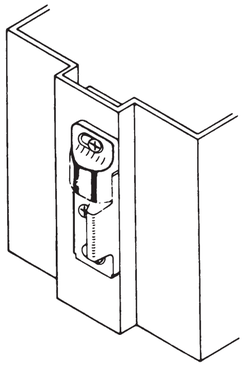
911170-00

DESCRIPTION	VON DUPRIN	
88EO-F, 88DT-F & 88NL-F SERIES RIM DEVICES	DIRECTION NUMBER: 911170-00 (b)	DATE: 06/14

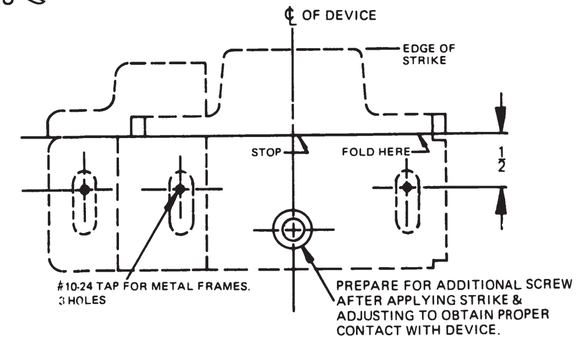
FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON IF REQUIRED.



268 STRIKE

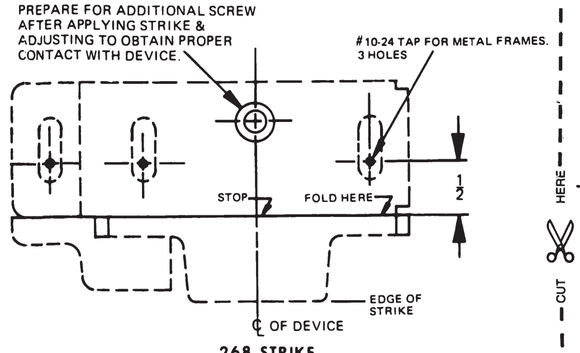


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268 STRIKE
TEMPLATE NO. 3

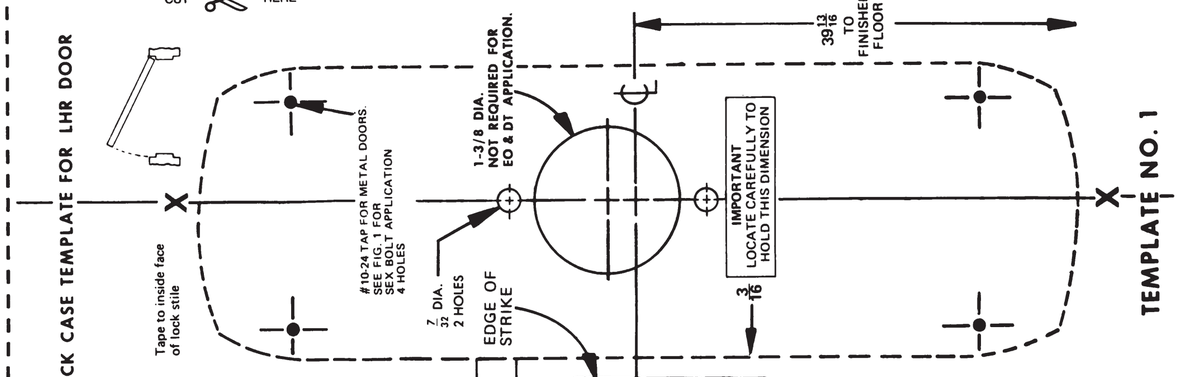
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268 STRIKE
TEMPLATE NO. 4

CUT HERE

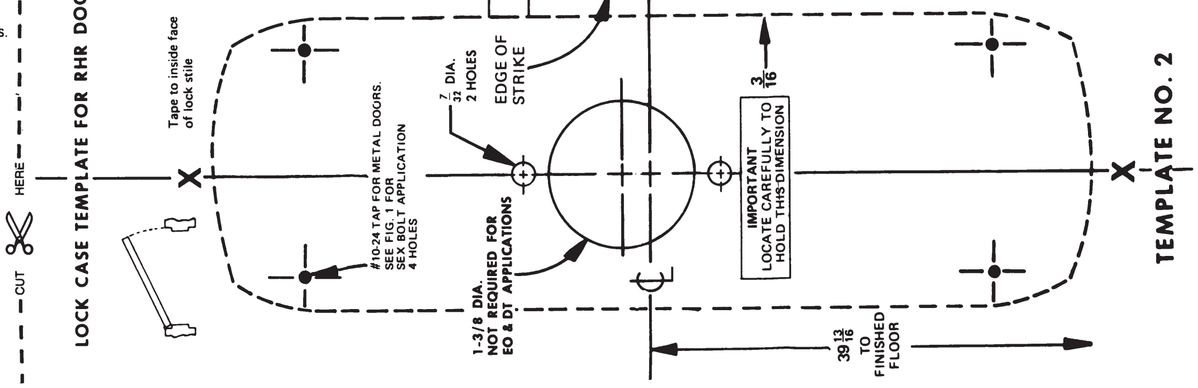
LOCK CASE TEMPLATE FOR LHR DOOR



TEMPLATE NO. 1

CUT HERE

LOCK CASE TEMPLATE FOR RHR DOOR



TEMPLATE NO. 2

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door.

1. APPLY STRIKE

A. Tape appropriate strike template No. 3 or No. 4 depending on handing of door to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1.)

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. Be sure center line of device is 39-13/16" from finished floor.

NOTE **BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.**

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. Cut off thumbpiece and cylinder tailpiece, if necessary, to extend 5/8 to 3/4 thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

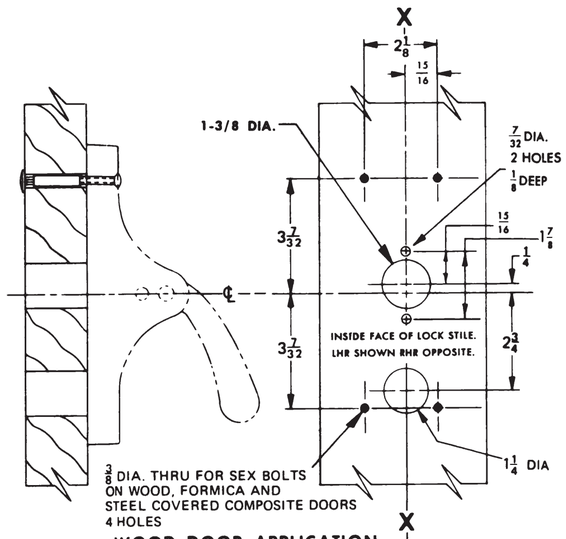
A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

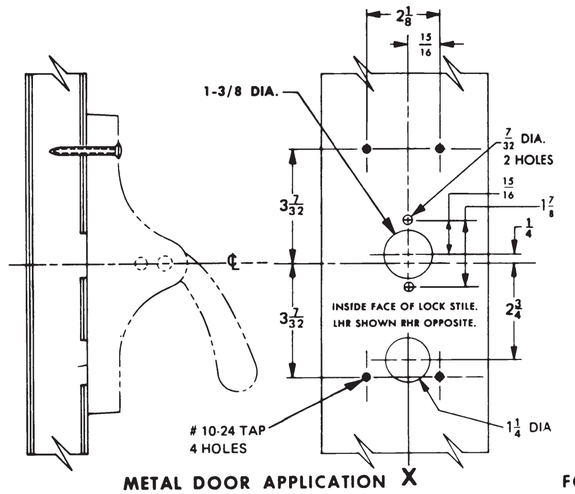
A. Remove key from cylinder.
B. Position cylinder cam as shown in Fig. 3.
C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
D. Test key and thumbpiece action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

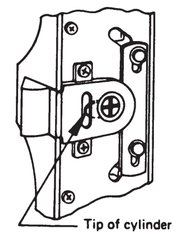
A. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction No. 941009 for cutting crossbar, if necessary.)
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Using holes in hinge stile case, mark location and prepare door for attaching screws.
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Direction No. 941009 for these instructions.)



WOOD DOOR APPLICATION
FIG. 1



METAL DOOR APPLICATION
FIG. 2



Tip of cylinder cam to be in this position. Be sure key is removed from cylinder.

FIG. 3

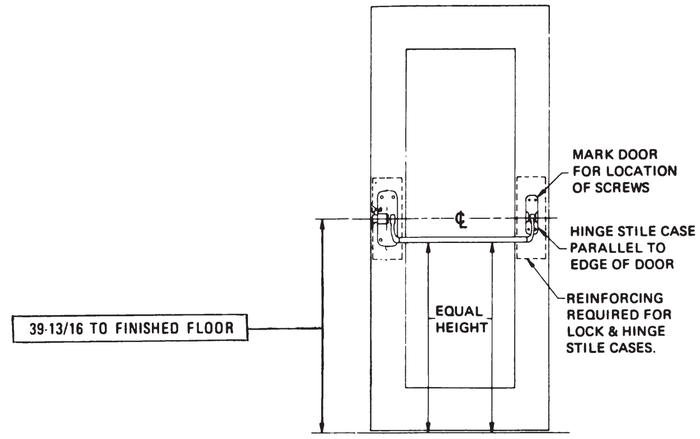
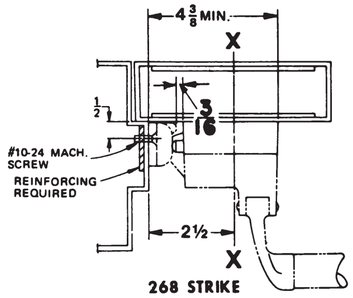
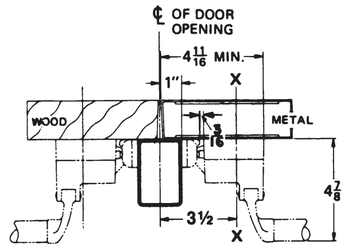


FIG. 4



268 STRIKE
SINGLE DOOR



ILLUST. 1
9954 MULLION WITH 268 STRIKE

ALLEGION

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

911171-00

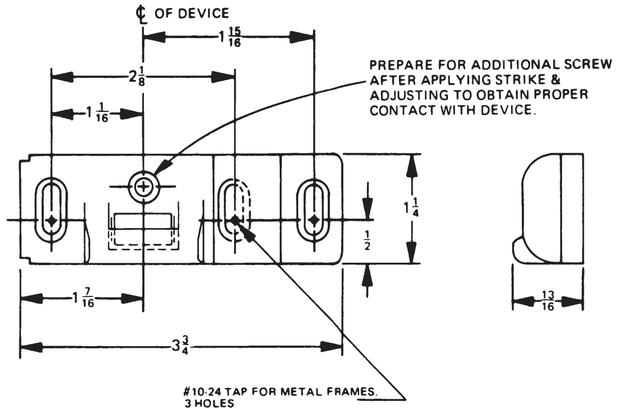
FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON

DESCRIPTION
88TP-F SERIES RIM DEVICES

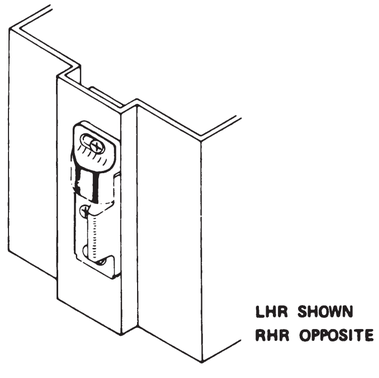
VON DUPRIN

DIRECTION NUMBER 911171-00 (b) DATE 06/14

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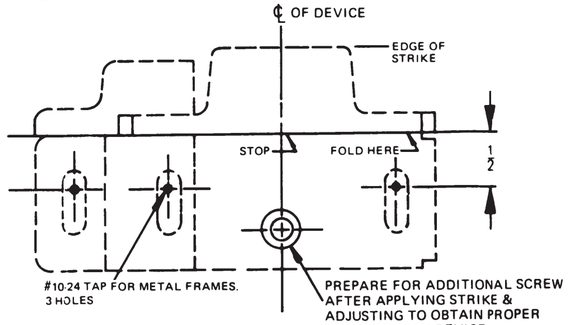


268 STRIKE



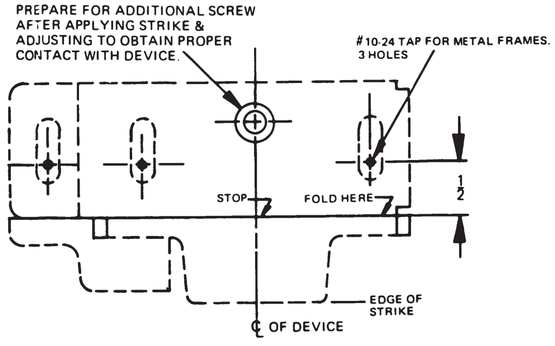
LHR SHOWN
RHR OPPOSITE

CUT HERE



268 STRIKE
TEMPLATE NO. 3

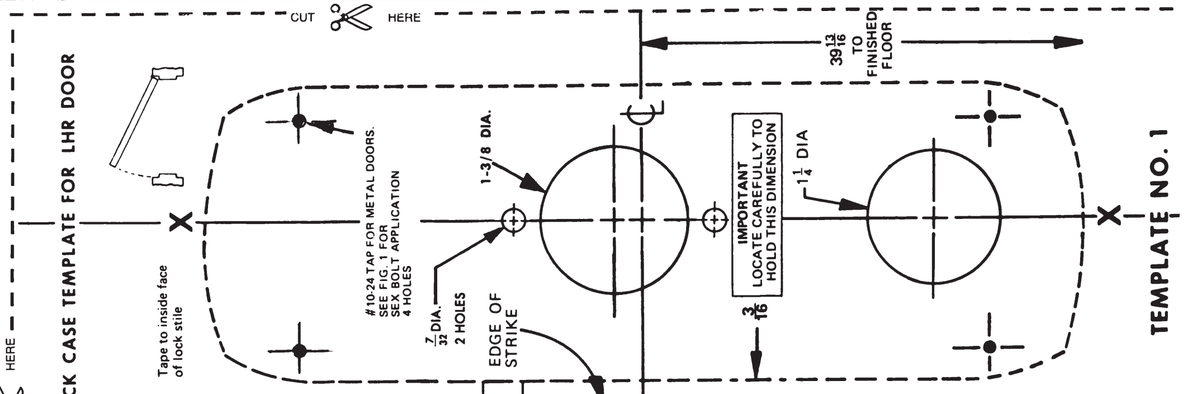
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268 STRIKE
TEMPLATE NO. 4

CUT HERE

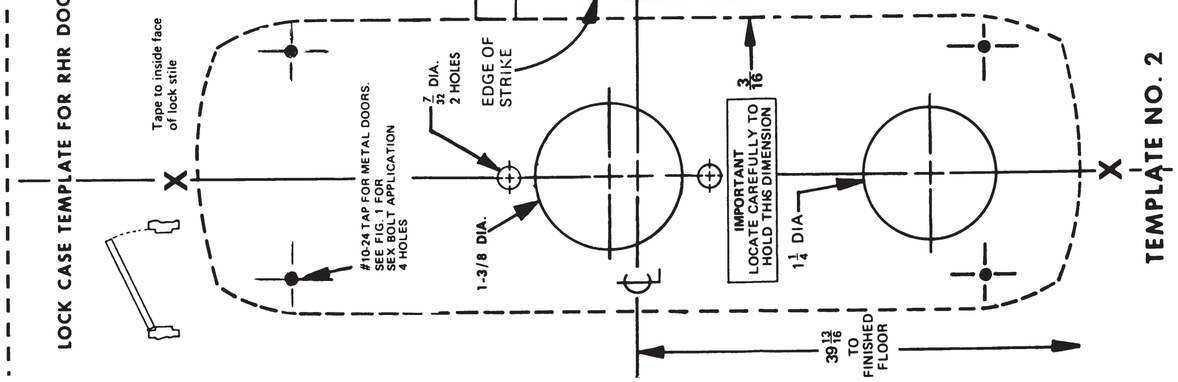
LOCK CASE TEMPLATE FOR LHR DOOR



TEMPLATE NO. 1

CUT HERE

LOCK CASE TEMPLATE FOR RHR DOOR



TEMPLATE NO. 2

VON DUPRIN

INSTALLATION DIRECTIONS

BEFORE APPLYING THIS DEVICE

A. Threshold (if any) must be installed.
B. Doors must be fitted and hung.
C. Check that handing of hardware corresponds with handing of door. See Fig. 3.

1. APPLY STRIKE

A. Tape appropriate strike template No. 3 or No. 4 depending on handing of door to stop.
B. When Von Duprin Mullion is used apply strike at tapped holes in Mullion. (See illustration 1.)

2. PREPARE DOOR

A. Tape full size template No. 1 or 2, depending on handing of door, to inside face of lock stile. Be sure center line of device is 39-13/16" from finished floor.

NOTE BE SURE CENTERLINE OF LOCK STILE CASE IS PARALLEL TO STOP AND THAT EDGE OF CASE IS 3/16 FROM EDGE OF STRIKE. STRIKE MUST BE SHIMMED OUT IF LOCK CASE IS MOUNTED MORE THAN 3/16 FROM STRIKE.

B. Prepare door as shown. See Fig. 1 for wood door application, and Fig. 2 for metal door application.

3. APPLY OUTSIDE TRIM

A. See directions in trim carton. Line "X-X" on trim template corresponds to line "X-X" on device template and is parallel to edge of door. Transfer line "X-X" from inside face to outside face of door.
B. Prepare outside face of lock stile.
C. If necessary, cut off knob spindle to extend 1/4" to 1/2" and cylinder tailpiece to extend 5/8" to 3/4" thru door and into device case.
D. Apply outside trim.

4. INSTALL LEVER ARMS

A. Insert lever arms into lock stile and hinge stile cases.
B. Assemble axles and tighten securely. (See instructions in axle envelope.)

5. APPLY LOCK STILE CASE

A. Remove key from cylinder.
B. Position cylinder cam as shown in Fig. 3.
C. Attach lock stile case to door. (See Fig. 1 or Fig. 2)
D. Test key and knob action.

6. APPLY HINGE STILE CASE AND CROSSBAR TUBE (FIG. 4)

A. Slip crossbar tube on lock stile and hinge stile lever arms. (See Direction No. 941009 for cutting crossbar, if necessary.)
B. Be sure crossbar is level and hinge stile case is parallel to edge of door and approximately on centerline of exposed stile.
C. Using holes in hinge stile case, mark location and prepare door for attaching screws.
D. Apply hinge stile case with crossbar in place.
E. Tighten wedge-tite set screws securely with dog key and screwdriver or equivalent for leverage, and test crossbar for free action. (See Direction No. 941009 for these instructions.)

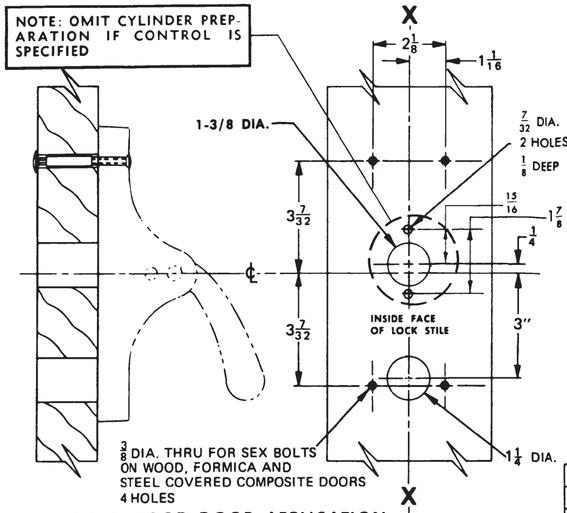


FIG. 1 WOOD DOOR APPLICATION

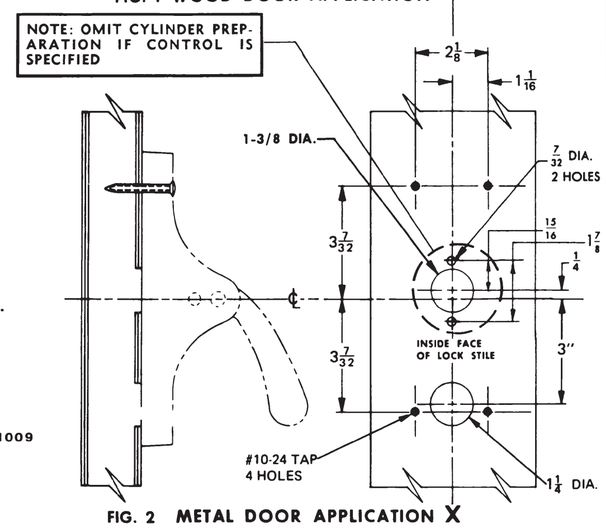


FIG. 2 METAL DOOR APPLICATION

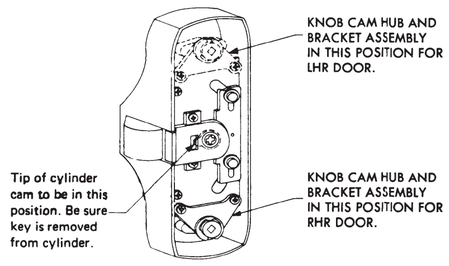


FIG. 3

SINGLE DOOR INSTALLATION		
STRIKE	DIMENSION "B"	MIN. STILE
268	2-3/8	4-3/8
DOUBLE DOOR INSTALLATION WITH VON DUPRIN MULLIONS		
MULLION & STRIKE	DIMENSION "B"	MIN. STILE
8854 x 268	3-3/8	4-11/16

SINGLE DOOR OPENING 39-13/16 TO FINISHED FLOOR	
DOUBLE DOOR OPENING WITH VON DUPRIN MULLION AND THRESHOLD	
THRESHOLD NO.	TO FIN. FLOOR
350 or 360	39 13/16
355 or 365	
390	
ALL OTHER THRESHOLDS	
NO THRESHOLD (FLAT SILL)	

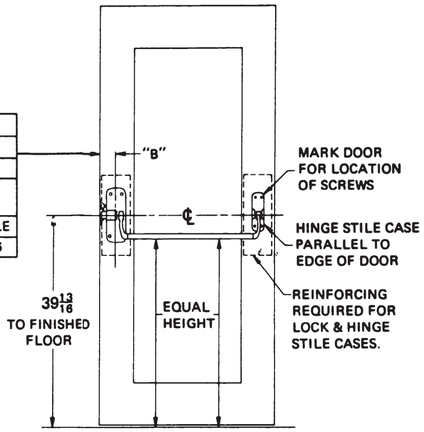
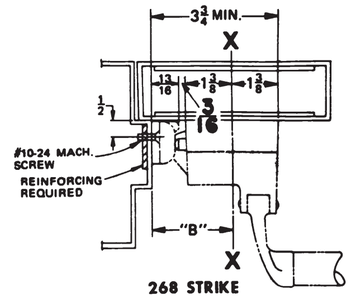
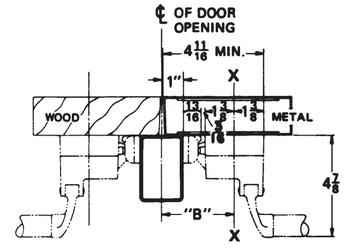


FIG. 4

FOR TRIM APPLICATION SEE DIRECTIONS IN TRIM CARTON



268 STRIKE
SINGLE DOOR



ILLUST. 1
9954 MULLION WITH 268 STRIKE

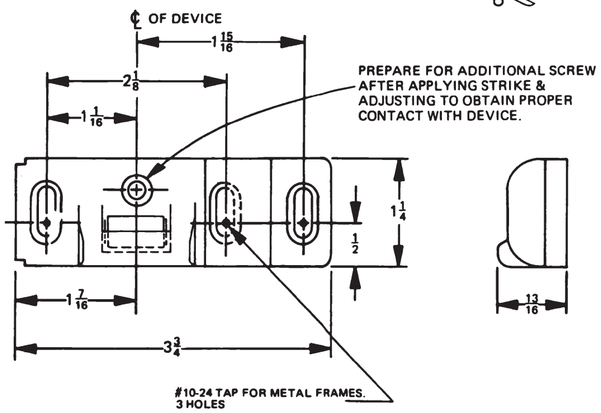
911172-00

ALLEGION

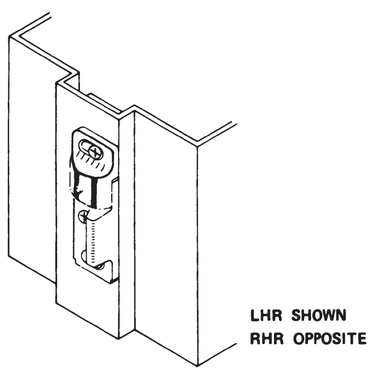
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1-877-671-7011 www.allegion.com/us

DESCRIPTION	VON DUPRIN	
88K-F SERIES RIM DEVICE	DIRECTION NUMBER 911172-00(b)	DATE Rev. 01/14

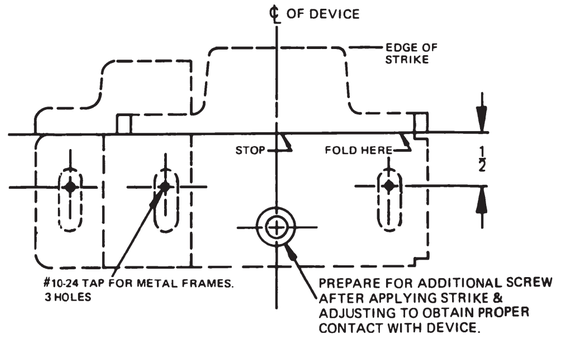
CUT ✂ HERE



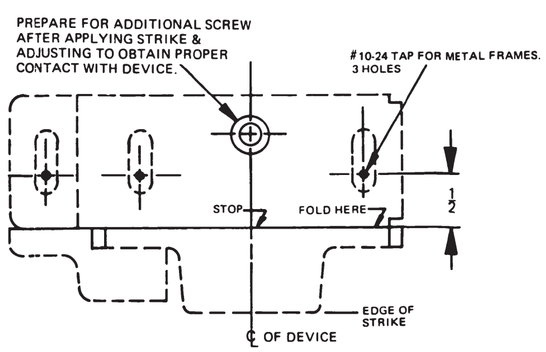
268 STRIKE



LHR SHOWN
RHR OPPOSITE

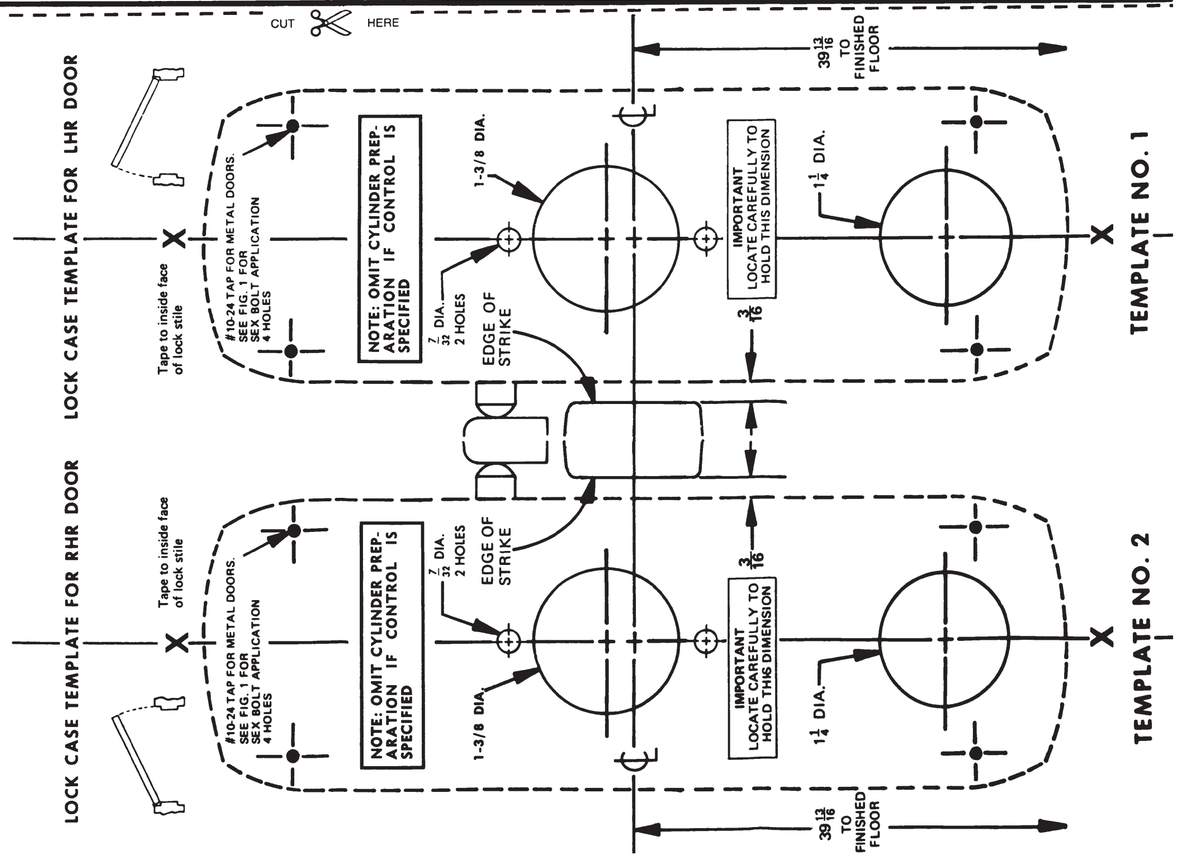


268 STRIKE
TEMPLATE NO. 3



268 STRIKE
TEMPLATE NO. 4

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Exit Devices

–

Inpact Devices

Exit Devices

–

Inpact Devices - QEL Retrofit Baseplate Kit

24045429

94/95

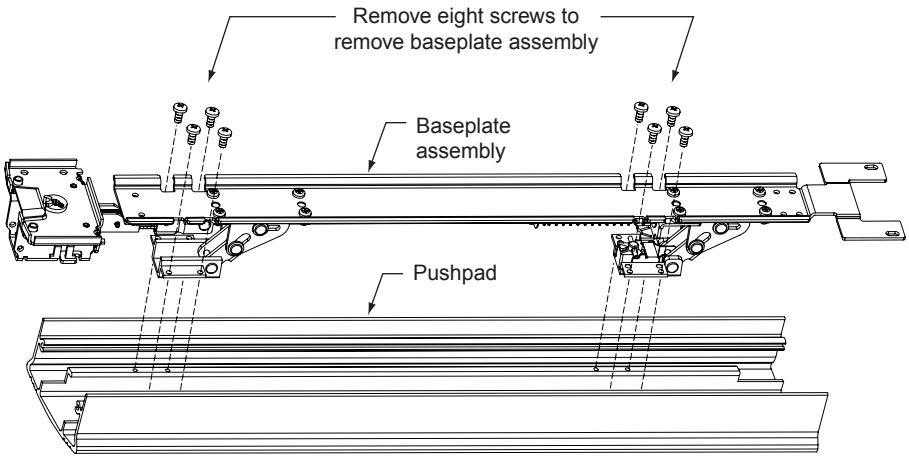
VON DUPRIN

QEL Retrofit Baseplate Kit

Installation Instructions

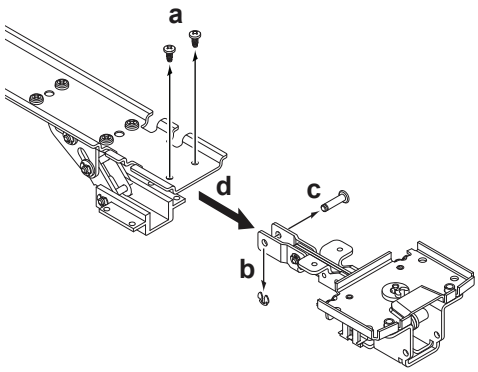
1 Remove Device from Door if Installed (See Device Instructions)

2 Remove Existing Baseplate Assembly from Pushpad



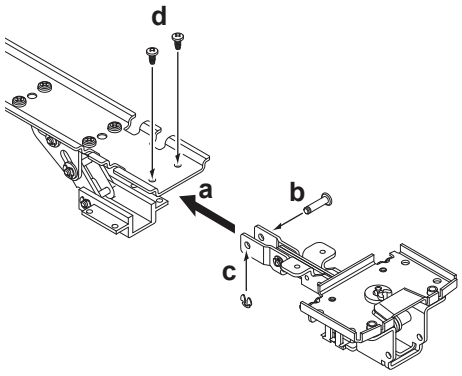
3 Remove Center Case from Existing Baseplate

a. Remove 2 screws
b. Remove retaining ring
c. Remove link pin
d. Remove center case from existing baseplate, and discard baseplate

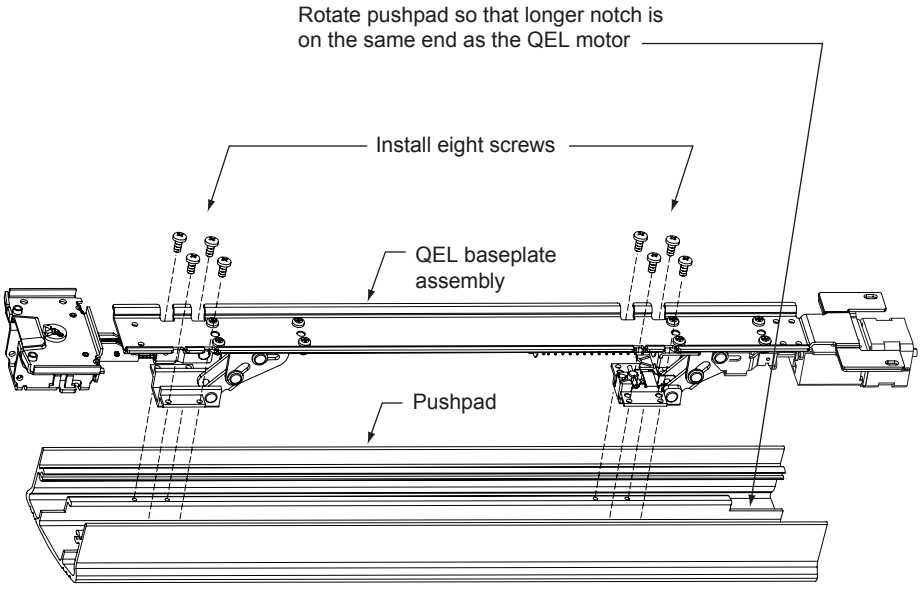


4 Install Center Case onto New QEL Baseplate Assembly

a. Position center case to new baseplate
b. Reinsert link pin to connect bracket on center case with action rod on baseplate
c. Install new retaining ring (two are included with kit, one provided as a spare)
d. Reinstall 2 screws



5 Install New Pushpad onto New QEL Baseplate Assembly



6 Install Device per Supplied Installation Instructions

Customer Service

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ALLEGION

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24045429 Rev. 06/14-c

Exit Devices

–

Inpact Devices - Recessed Exit Device

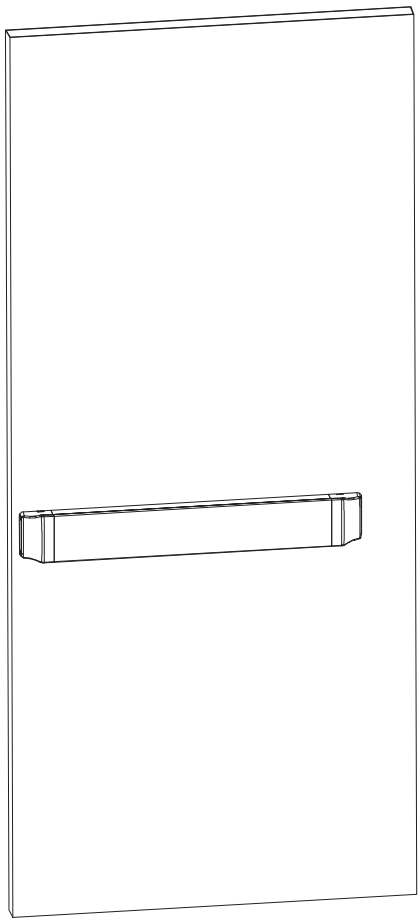
911364-00

94/9547

VON DUPRIN®

Recessed Exit Device

Installation Instructions



⚠ WARNING

Install in accordance with instructions or device will not function.

⚠ CAUTION

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

Devices covered by these instructions:

94/9547/48 Concealed Vertical Rod Device (Panic and Fire)
94/9547-LBR Concealed Vertical Rod Device (Fire)
LX94/9547/48 Concealed Vertical Rod Device (Panic and Fire)
LX94/9547-LBR Concealed Vertical Rod Device (Fire)

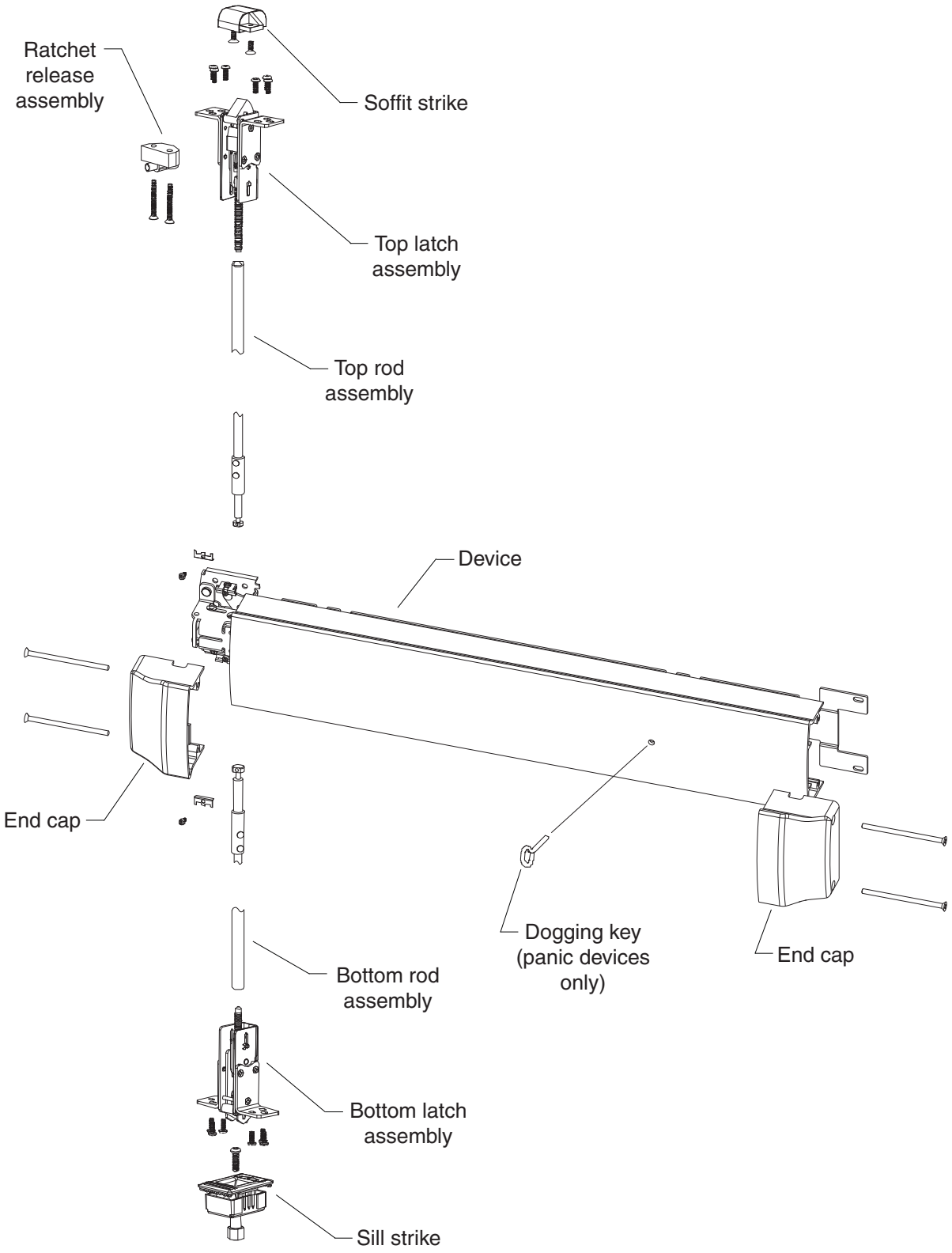
Read All Warnings

Before Starting Installation!

Index

- Warnings 1
- Parts 2
- General Information 3
- Specifications 3
- Tools Needed 3
- Set Handing 3
- Installation 4

Parts


Ratchet release assembly
Soffit strike
Top latch assembly
Top rod assembly
Device
End cap
Dogging key (panic devices only)
End cap
Bottom rod assembly
Bottom latch assembly
Sill strike

General Information

The 94/9547 Exit Device is designed to provide reduced pushpad projection and a unique appearance by embedding the device into the face of the door.

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

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

Specifications

Mechanical

- Vertical rods adjustable for doors 6’8” to 8’ tall
- Rods for 10’ doors are available upon request
- Pushpad projection (depressed) 1 1/8” to 1 1/4”

Tools Needed

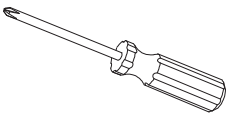
These are the tools needed for installing a 94/9547 into a factory-prepared door and frame.



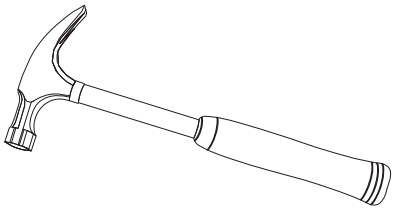
½" drill bit



7⁄64" hex key



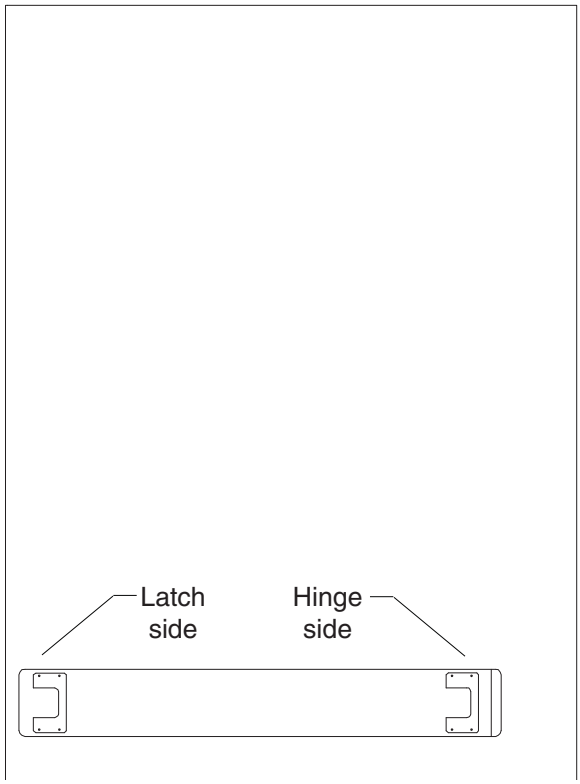
Phillips screwdriver



Hammer

1 Prepare door for trim (skip this step if not using trim)

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



2 Prepare hole for ratchet release plunger

a. Determine stop height (Figure 2-1), then mark center of hole on device side of door (Figure 2-2).
b. Drill a 1/2” diameter hole where marked through device side of door **only**.

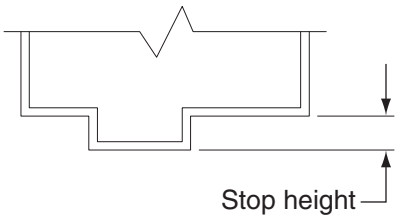


Figure 2-1

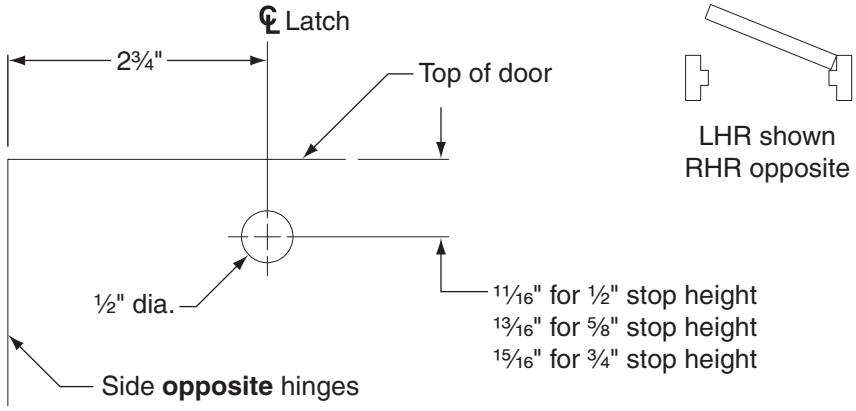


Figure 2-2

3 Wire LX switch (LX devices only)

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

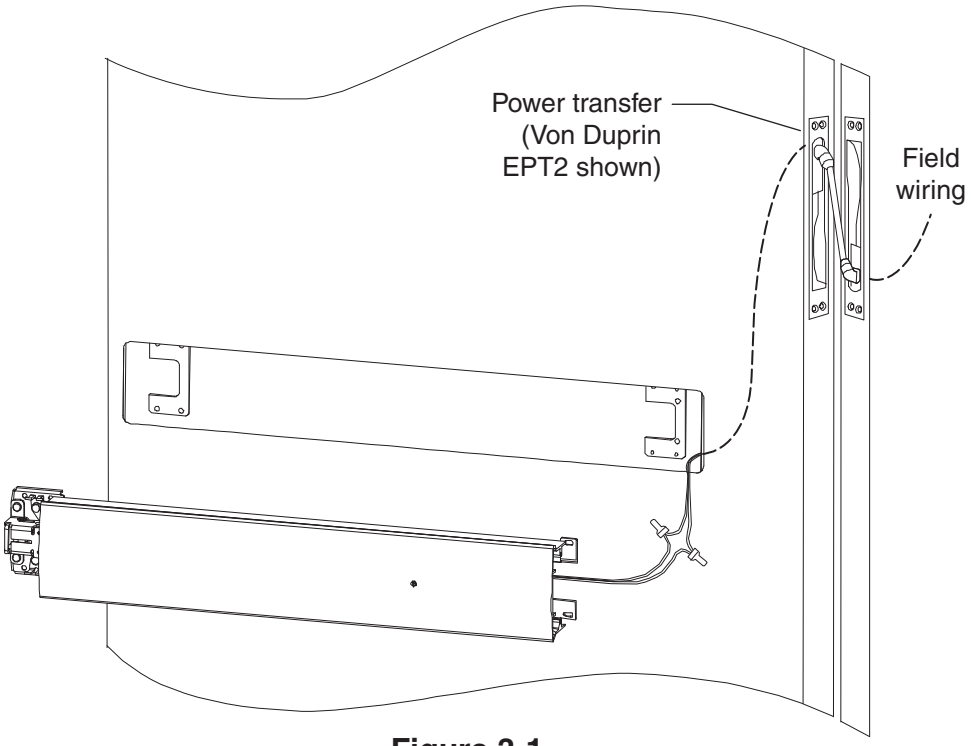


Figure 3-1

⚠ WARNING

Disconnect power before wiring LX switch.

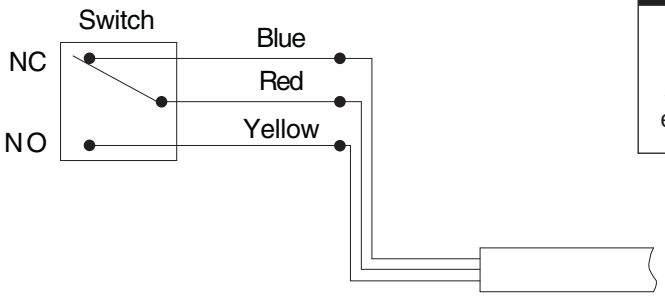


Figure 3-2

⚠ NOTE

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

4 Mount device on door

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

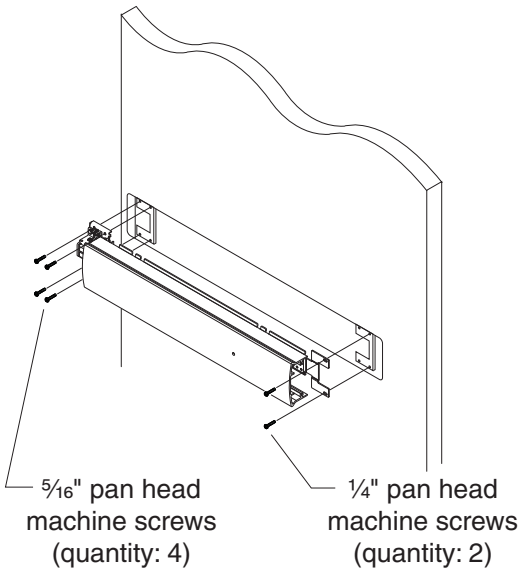


Figure 4-1

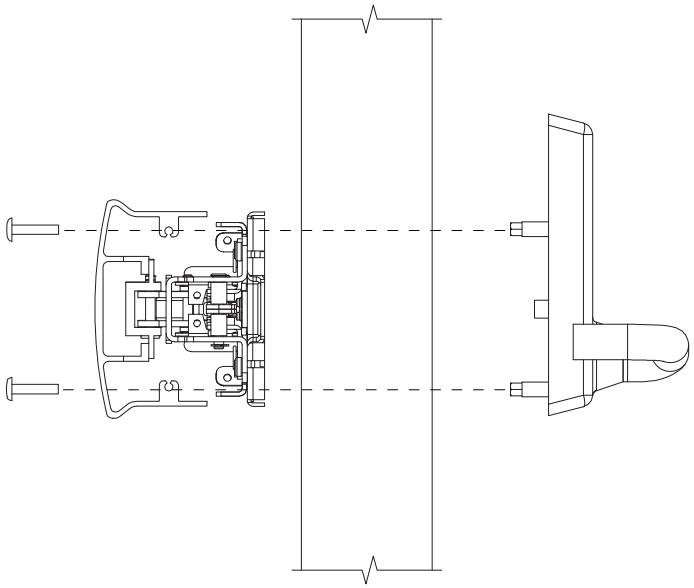


Figure 4-2

5 Install top latch

a. Rivet two-piece top rod together. Align holes according to door height (Figure 5-1). Rod length for a 7-foot door is approximately 38 1/2". Top rod sections are longer than bottom rod sections.
b. Attach brackets to top latch, then thread rod assembly onto latch (Figure 5-2).
c. Slide rod and latch into prep at door top (Figure 5-3), and attach rod to center case (Figure 5-4).
d. Fasten latch to door with supplied screws (Figure 5-5).

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

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

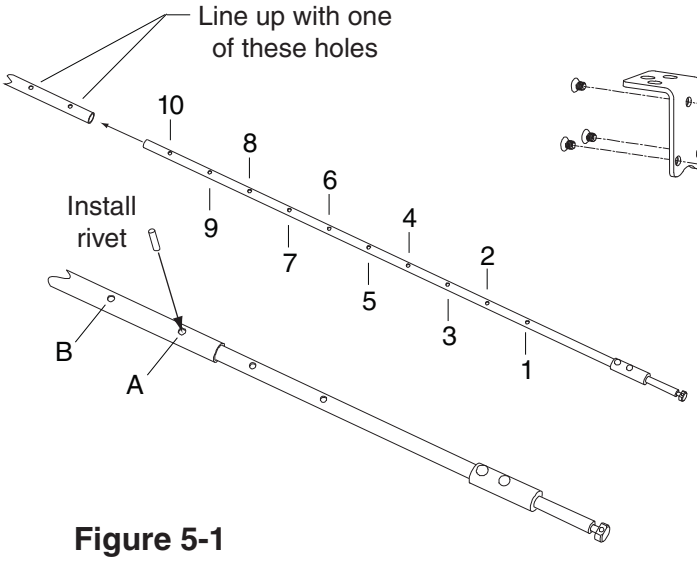


Figure 5-1

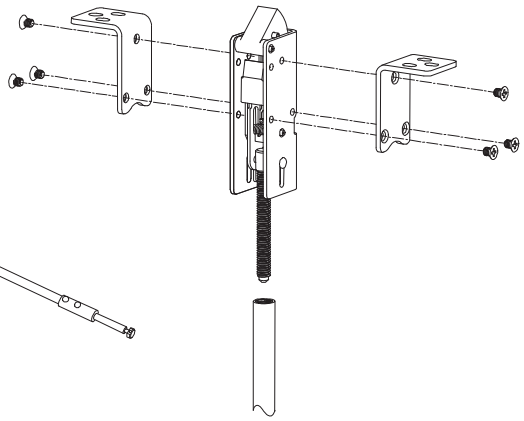


Figure 5-2

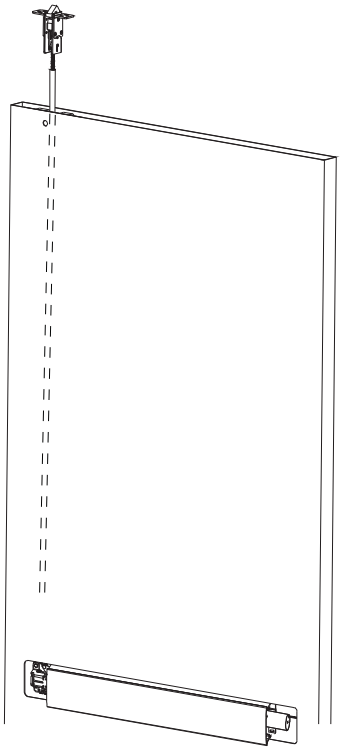


Figure 5-3

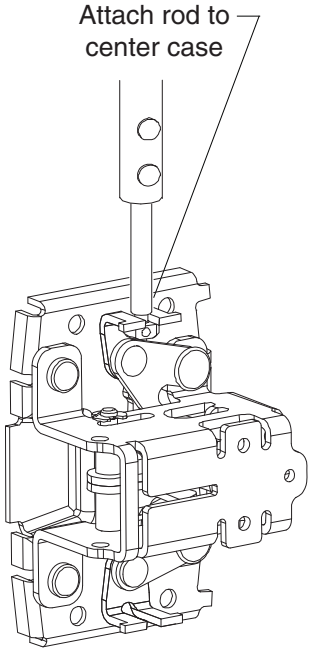


Figure 5-4

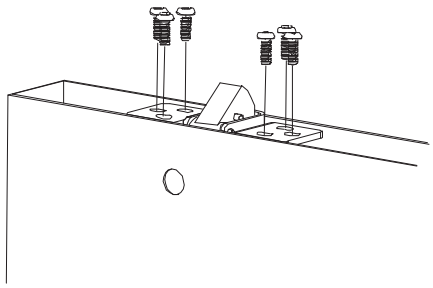
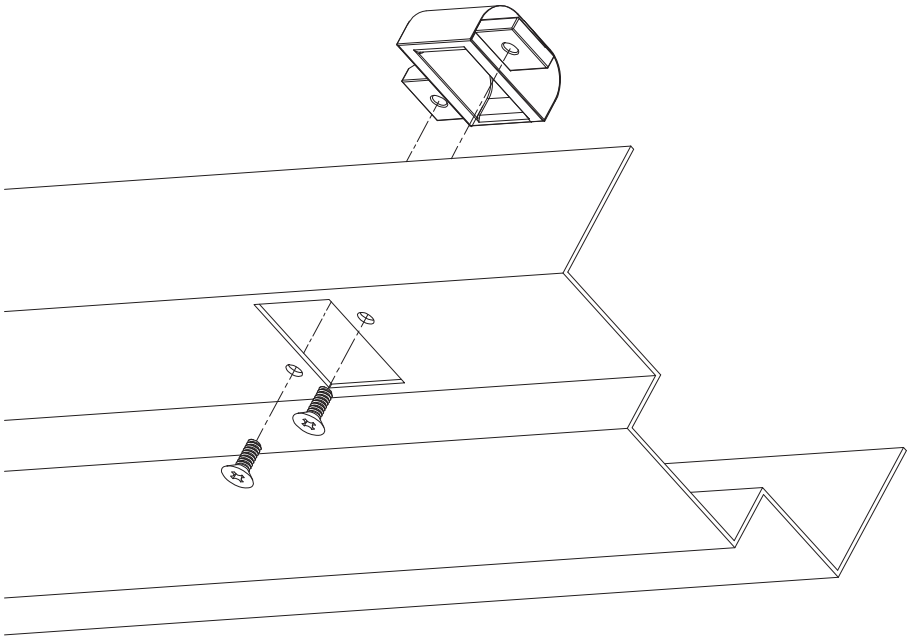


Figure 5-5

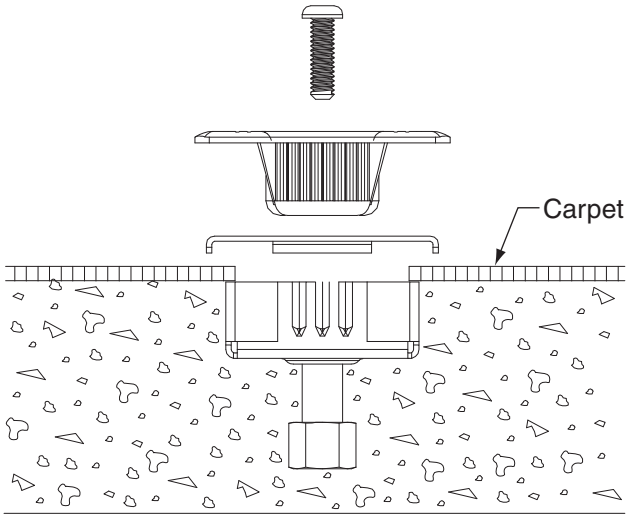
6 Install bottom latch (skip this step for LBR devices)

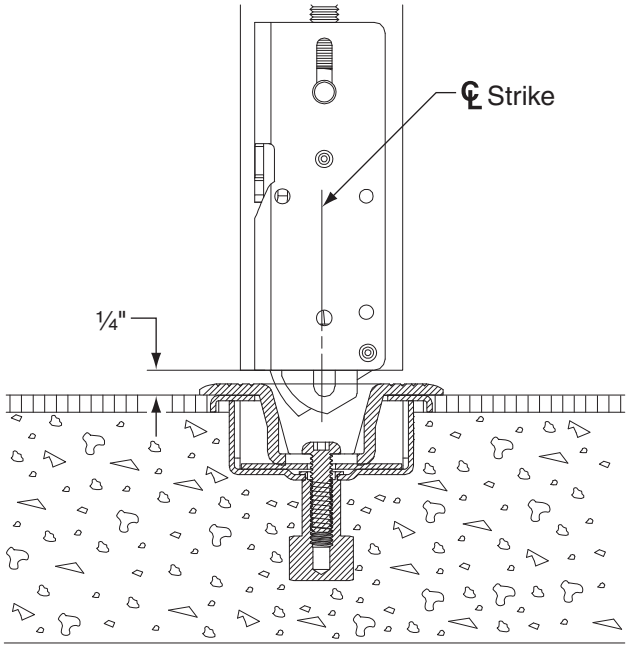
a. Repeat steps 5a through 5d for bottom rod and latch. Use hole 8 for most applications. Approximate rod length is 341/2”.
b. Press pushpad to retract latches.
c. Hang door.

7 Install 338 soffit strike

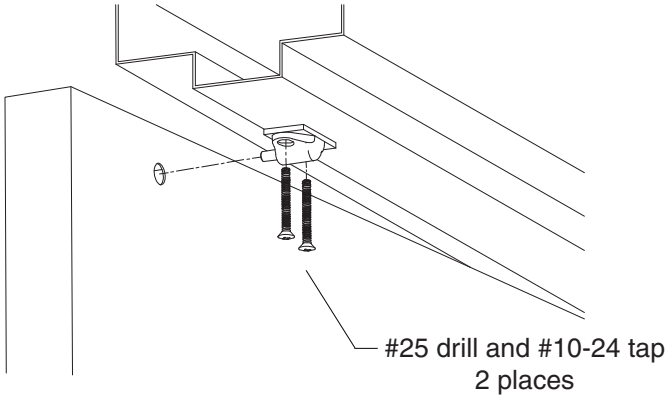


8 Install sill strike or threshold (skip this step for LBR)





9 Install ratchet release assembly



10 Adjust top rod

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

- If top latch bolt does not stay fully retracted, shorten top rod (Figure 10-2) and retest.
- If top latch bolt does not fully extend or deadlock, lengthen top rod (Figure 10-2) and retest.
- If bottom latch bolt does not stay fully retracted, shorten bottom rod (see Step 11) and retest.
- If bottom latch bolt does not fully extend, lengthen bottom rod (see Step 11) and retest.

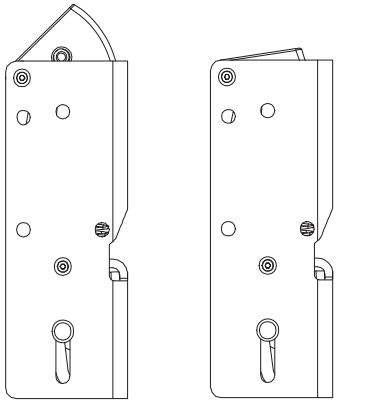


Figure 10-1

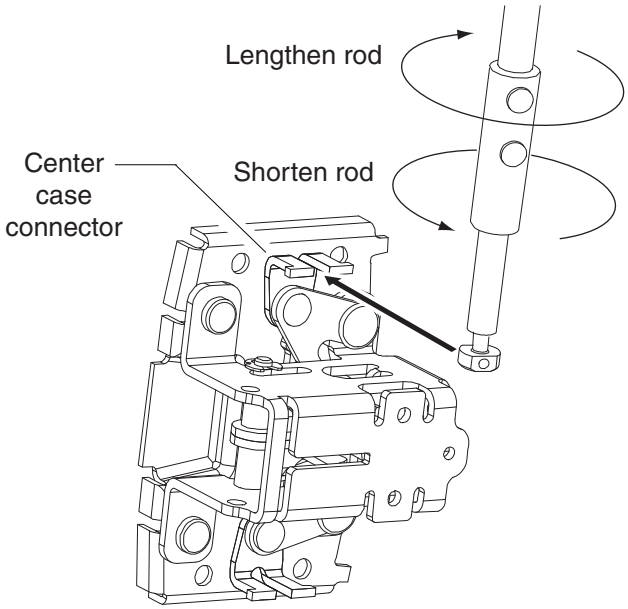
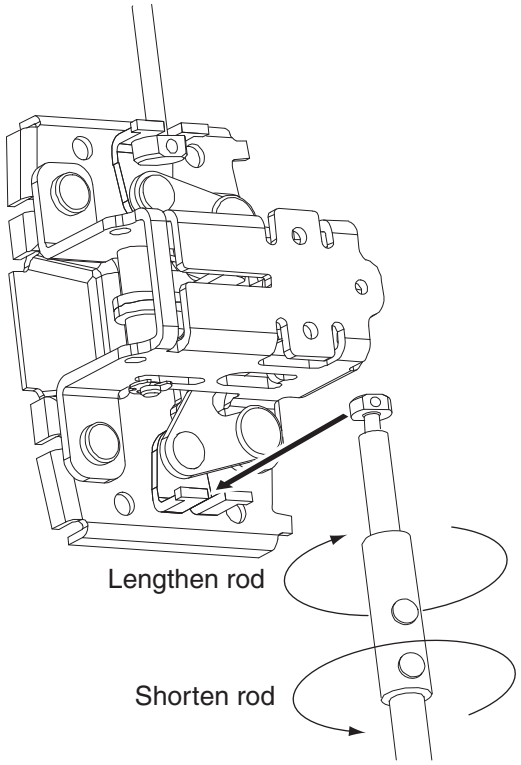


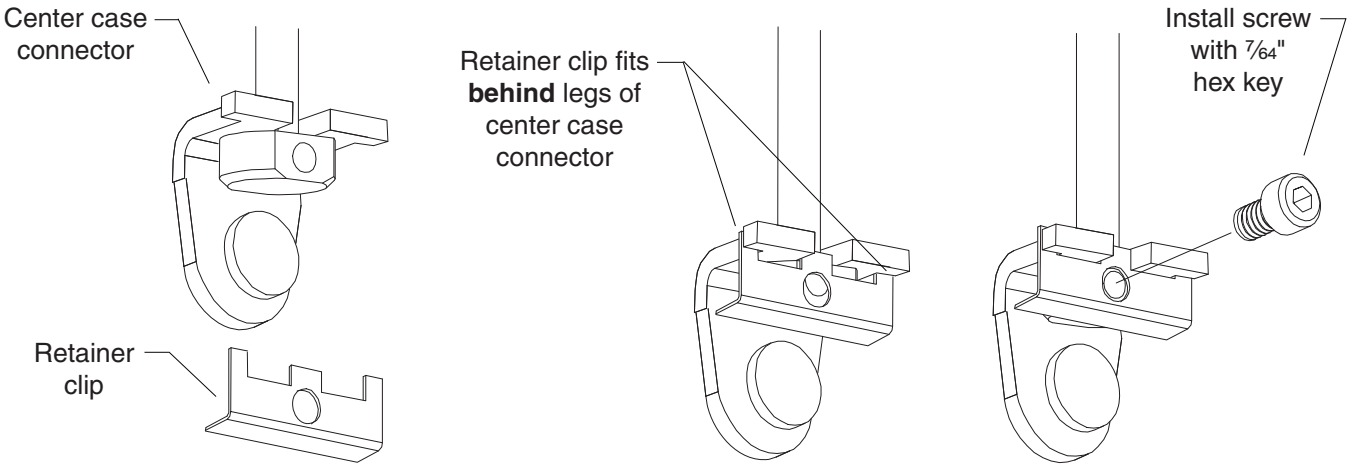
Figure 10-2

11 Adjust bottom rod (skip this step for lbr devices)

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



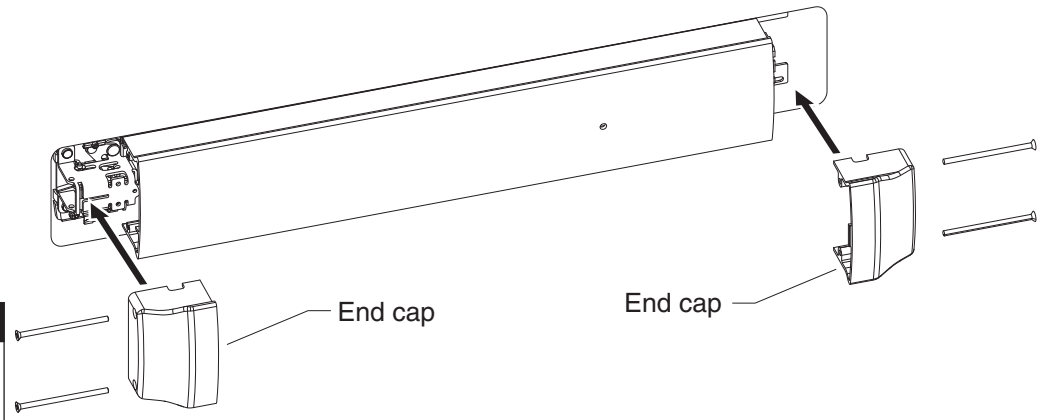
12 Install retainer clips on top and bottom rods at center case



13 Test mechanical device operation

a. Fully depress pushpad and push door open.
b. Release pushpad. Latch bolts should remain retracted.
c. Close door. Latch bolts should fully extend (5/8” ± 1/16”) and engage strikes.

14 Install end caps



NOTE

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

15 Install auxiliary fire latch (LBR devices only)

See installation instructions packaged with auxiliary fire latch kit.

Customer Service

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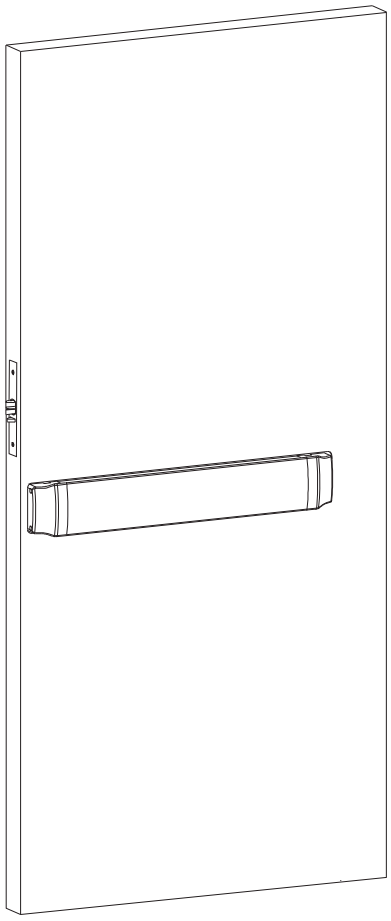
911372-00

94/9575

VON DUPRIN®

Recessed Exit Device

Installation Instructions



⚠ WARNING

Install in accordance with instructions or device will not function.

Devices covered by these instructions:

94/9575 Mortise Device (Panic and Fire)

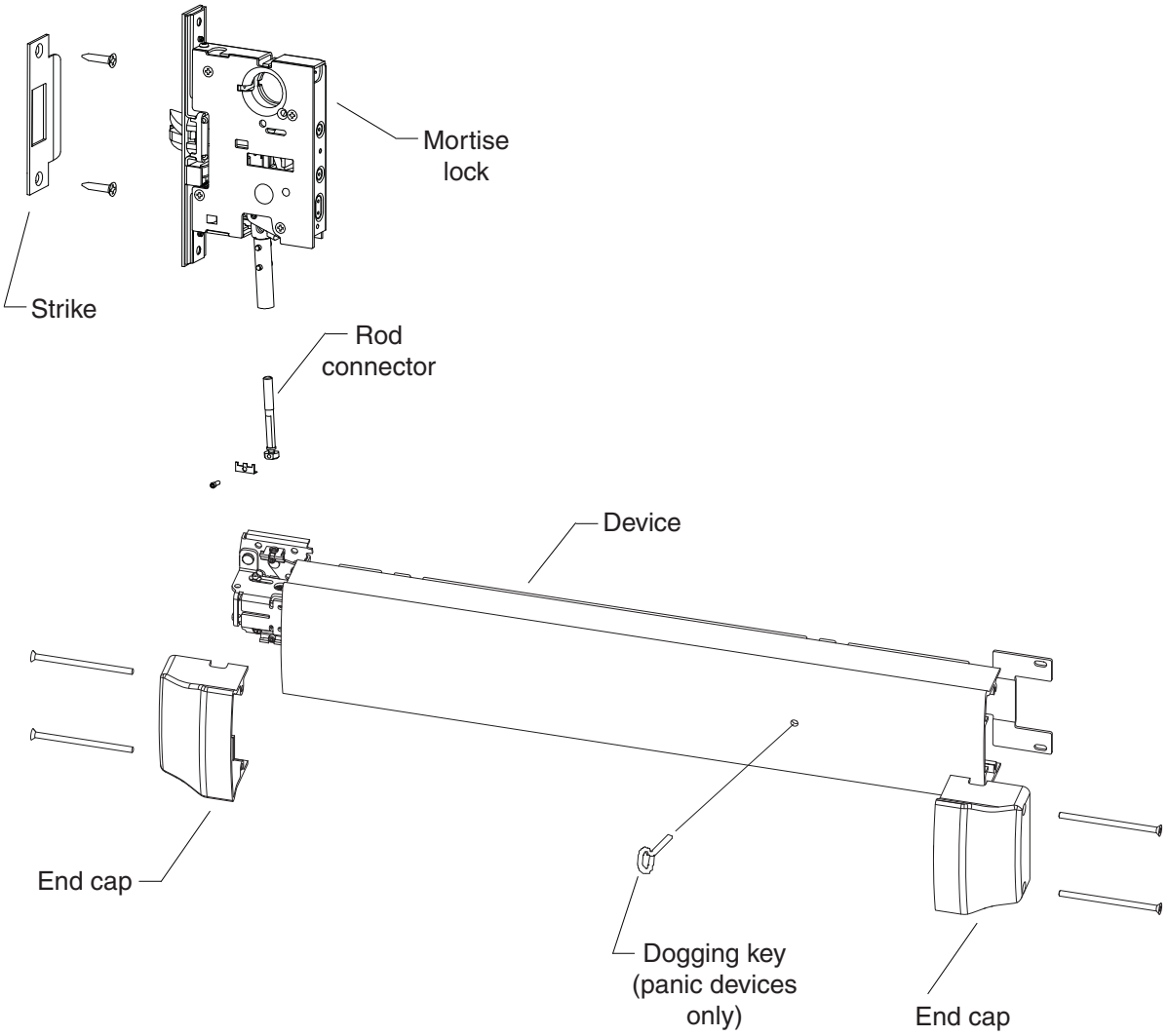
Index

- Warning 1
- Parts 2
- General Information 3
- Specifications 3
- Tools Needed 3
- Set Handing 3
- Installation 4

Read All Warnings

Before Starting Installation!

Parts


Mortise lock
Strike
Rod connector
Device
End cap
Dogging key (panic devices only)
End cap

General Information

The 94/9575 Exit Device is designed to provide reduced pushpad projection and a unique appearance by embedding the device into the face of the door.

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

Before starting installation, review “Warning,” “Parts,” “Specifications,” and “Tools Needed.” ”

Specifications

Mechanical

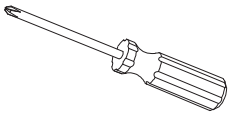
- Pushpad projection (depressed) 1 1/8” to 1 1/4”

Tools Needed

These are the tools needed for installing a 94/9575 into a factory-prepared door and frame.



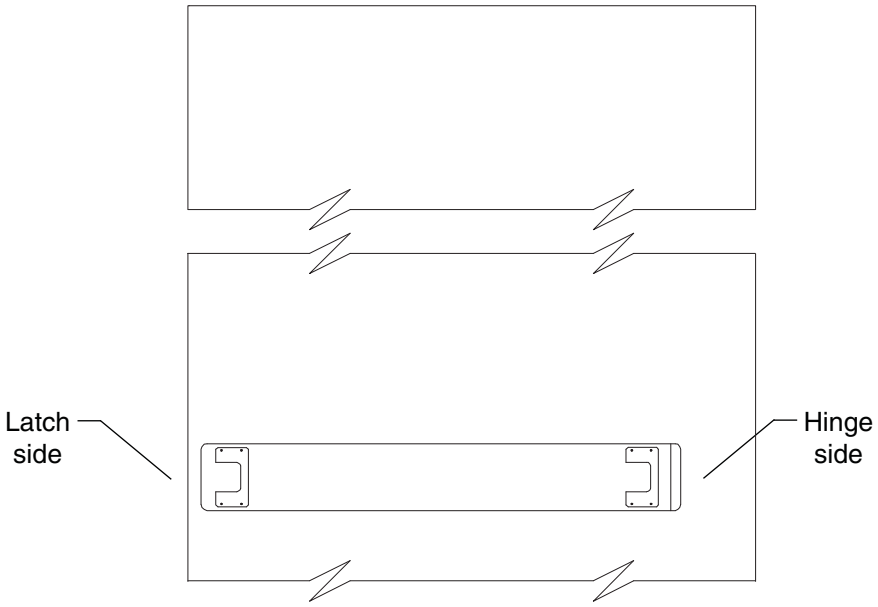
7⁄64" hex key



Phillips screwdriver

1 Prepare door for trim (skip this step if not using trim)

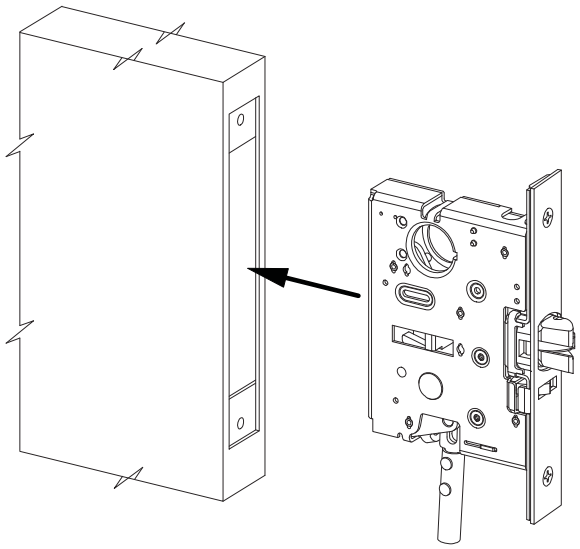
1a Drill through the four mounting holes and trim access hole at the latch side of the cutout. **See trim installation instructions for hole sizes and locations.**

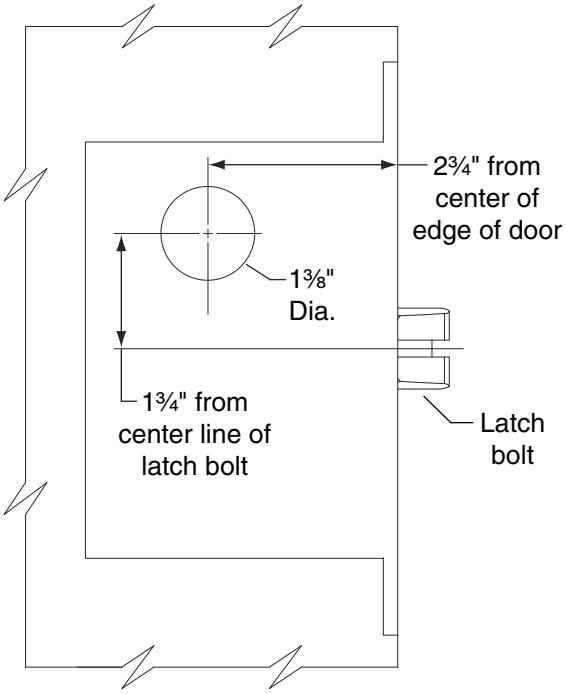


2 Prepare door for outside cylinder (skip step if not using outside cylinder)

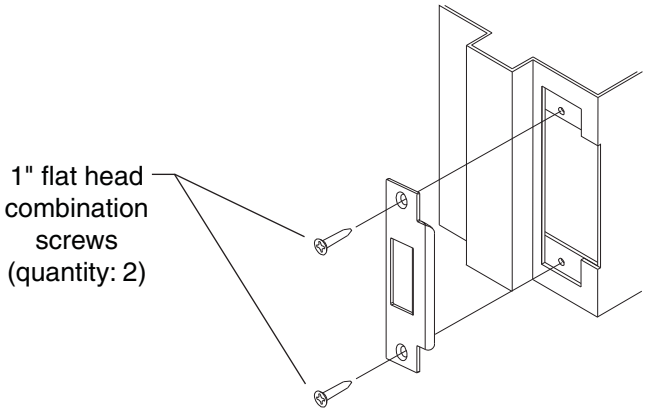
2a Temporarily install mortise lock in door and locate cylinder hole on outside face of door as shown.

2b Remove mortise lock and prepare cylinder hole through outside face of door only.





3 Install strike

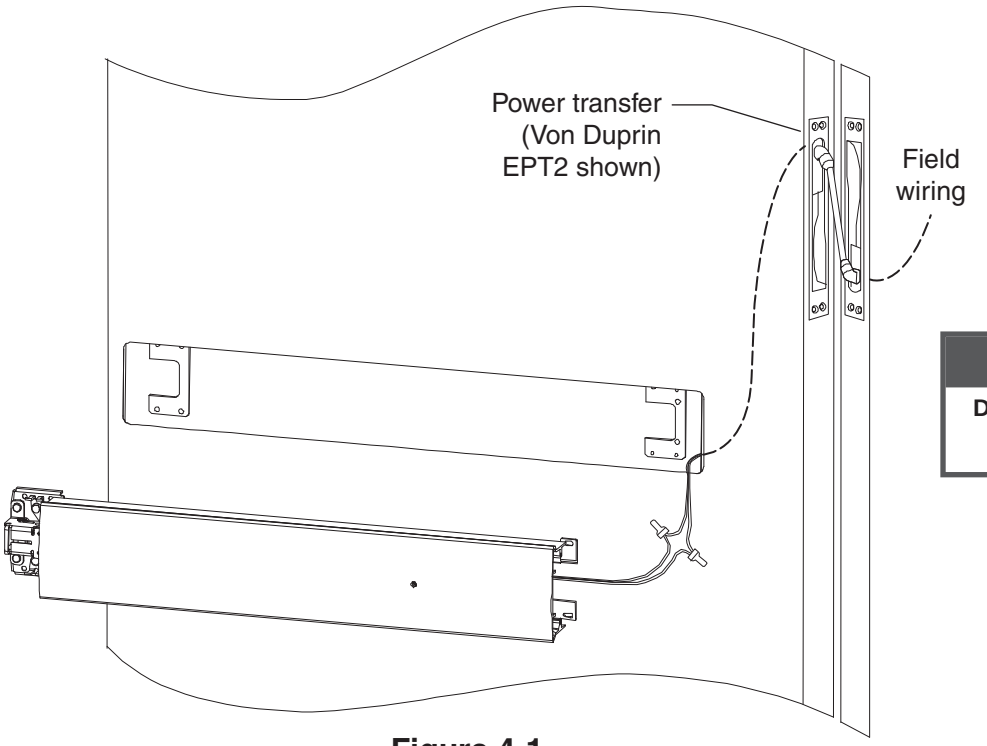


4 Wire LX switch (LX devices only)

4a Connect field wiring to frame side of power transfer (Figure 4-1).

4b See LX switch wiring information (Figure 4-2) for switch configuration.

4c Connect LX switch wiring to door side of power transfer using crimp connectors. Unused wires should be insulated separately.



⚠ WARNING ⚠

Disconnect power before wiring LX switch.

Figure 4-1

⚠ NOTE ⚠

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

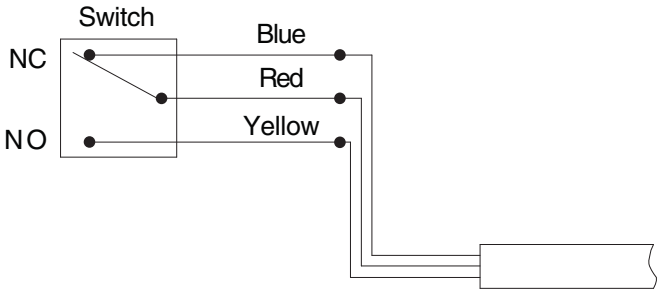


Figure 4-2

5 Mount device on door

5a Mount device on door using supplied mounting screws (Figure 5-1).

5b Center device in pocket, leaving an even gap all around the device.

5c If outside trim is used, bolt through to trim (see Figure 5-2 and trim installation instructions).

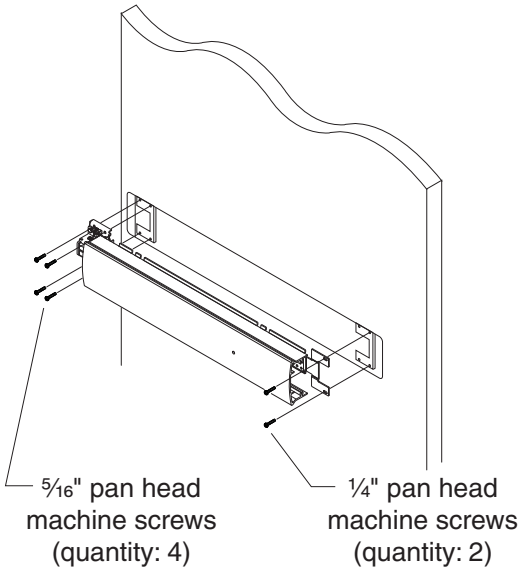


Figure 5-1

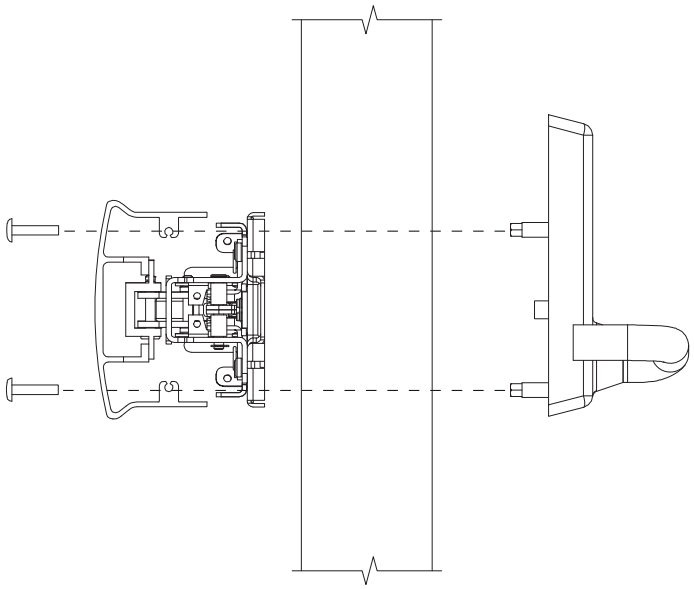
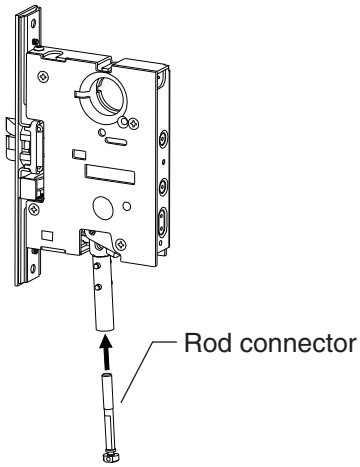


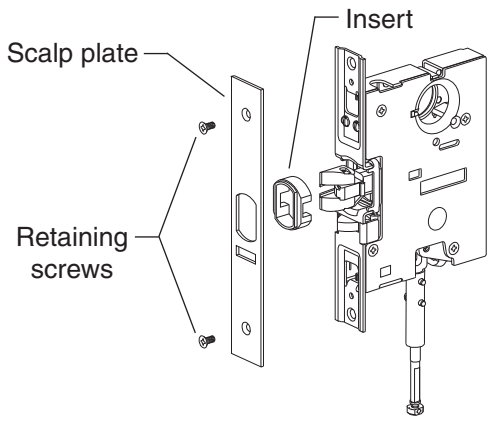
Figure 5-2

6 Install mortise lock

6a Thread rod connector into mortise lock.

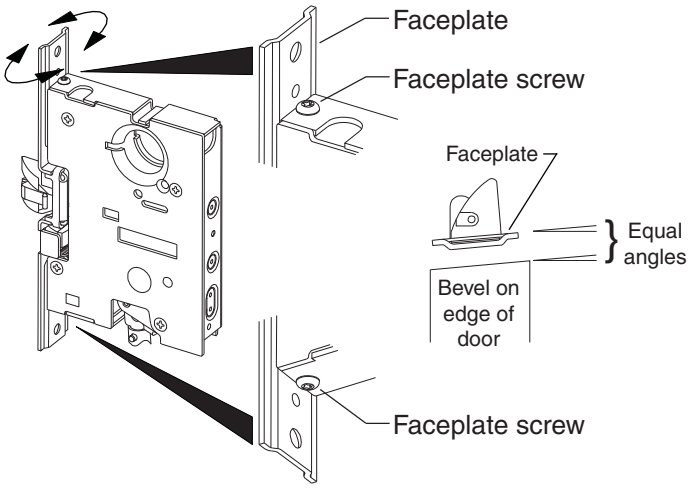


6b Remove retaining screws, scalp plate, and insert.

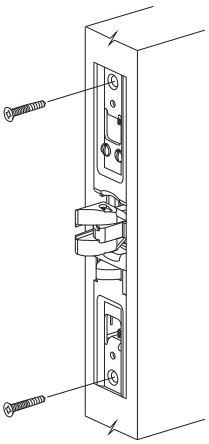


6c Adjust faceplate for door bevel.

a. Loosen top and bottom faceplate screws.
b. Pivot faceplate to match door bevel.
c. Tighten top and bottom faceplate screws.

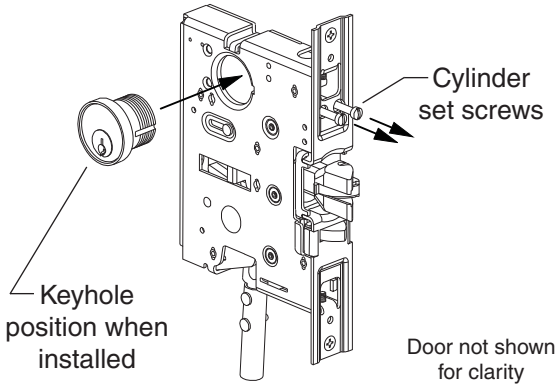


6d Install mortise lock in door with two #12-12 x 12-24 combination screws.

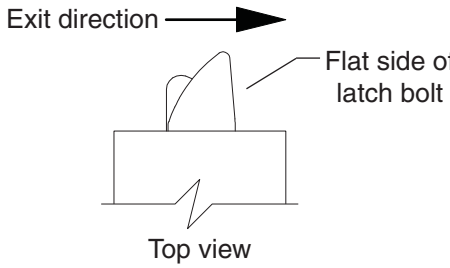


6e If using outside cylinder:

a. Back out cylinder set screws enough to clear cylinder mounting hole.
b. Thread cylinder into mortise lock through hole in outside face of door.
c. Tighten the cylinder set screw that is closest to outside face of door. Remove the other cylinder set screw.



6f Rotate latch bolt so flat side faces exit direction.



6g Replace insert, scalp plate, and scalp plate retaining screws (See step b).

7 Adjust rod connector

7a Fully depress and hold pushpad and pull rod connector to set mortise lock latch bolt in fully retracted (hold) position (Figure 7-1).

7b Push down on center case connector, adjust rod connector length, and connect rod to center case connector (Figure 7-2).

7c Verify that pushpad projection is 1 1/8” to 1 1/4” when depressed. Adjust rod connector if necessary: **Lengthening the rod connector reduces pushpad projection when depressed.**

7d If using trim, verify that the trim fully retracts the latch bolt. If the trim does not fully retract the latch bolt, adjust the rod connector so it is shorter.

7e Open the door and release latch by pushing in auxiliary bolt. Check deadlocking: Latch bolt should not retract when pressed in.

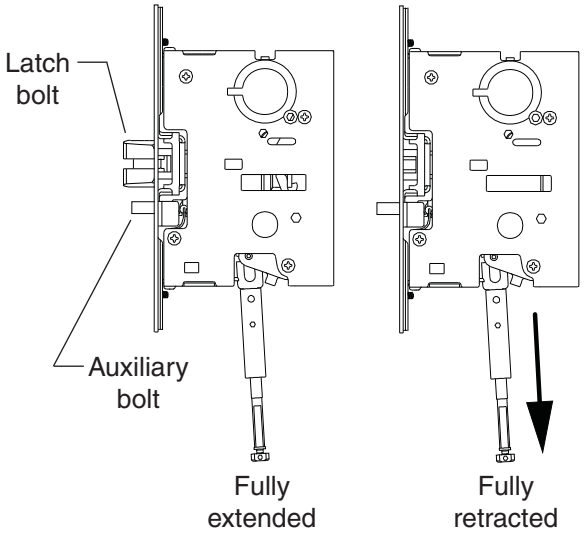


Figure 7-1

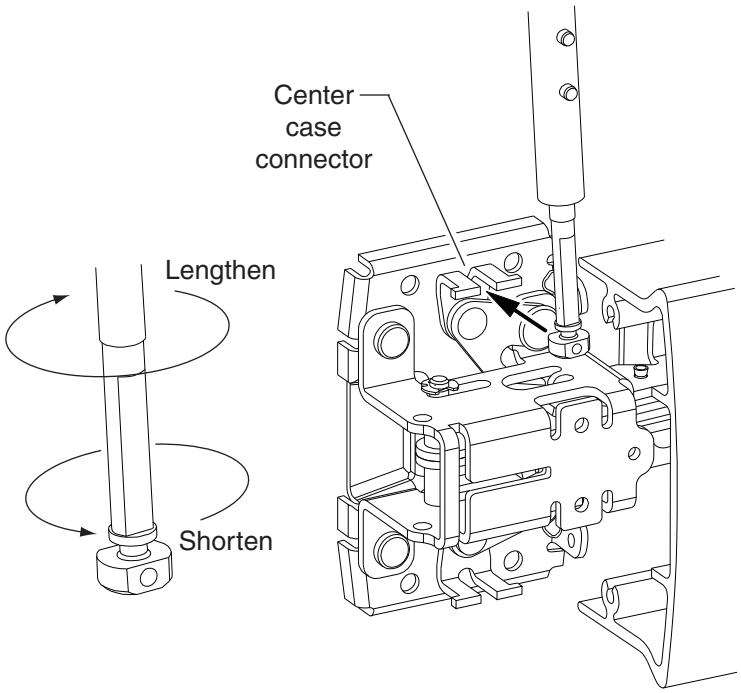
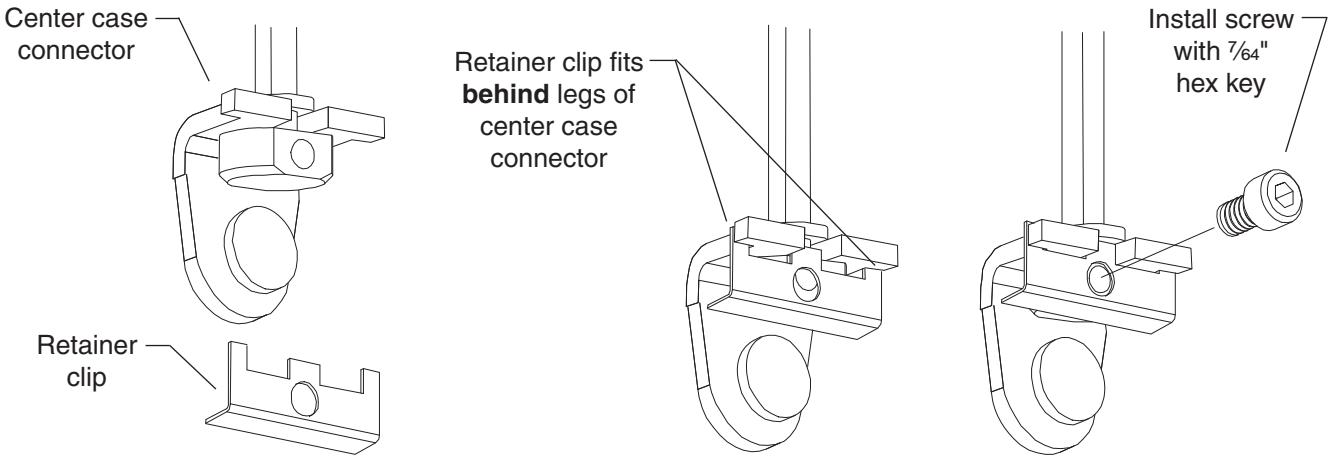


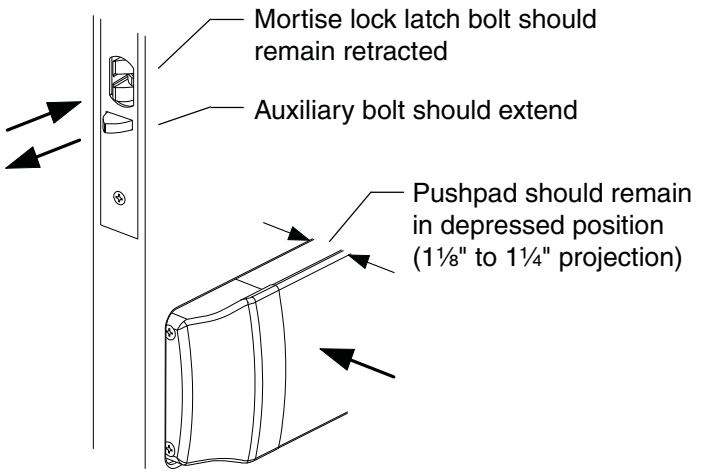
Figure 7-2

8 Install retainer clip on rod connector at center case



9 Test mechanical device operation

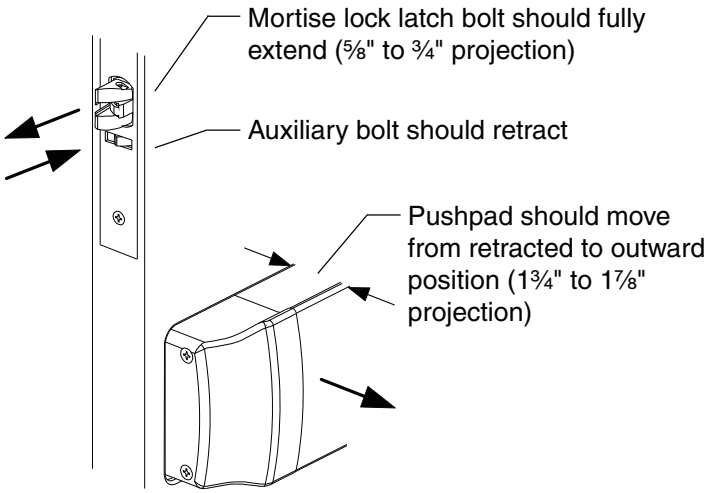
9a Fully depress pushpad, push door open, and release pushpad.



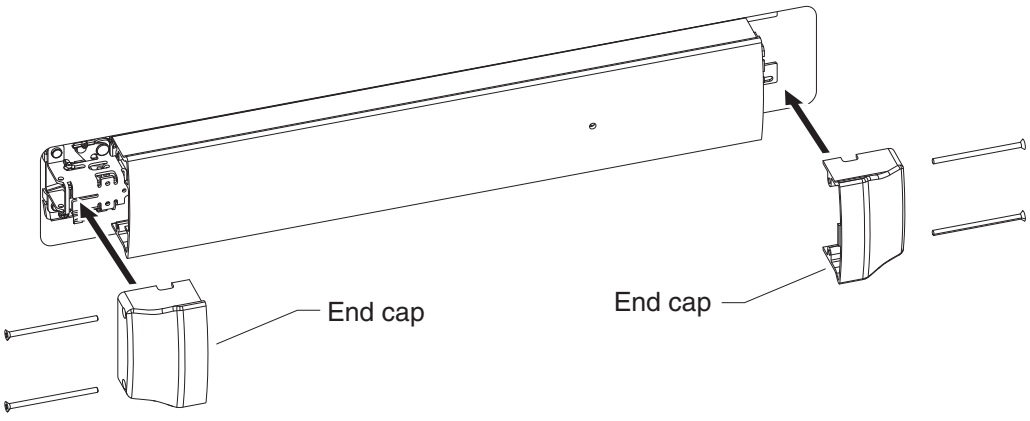
⚠ NOTE ⚠

If latch bolt does not remain retracted, adjust rod connector shorter.

9b Close door or press auxiliary bolt in.



10 Install end caps



⚠ NOTE ⚠

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

Customer Service

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ALLEGION

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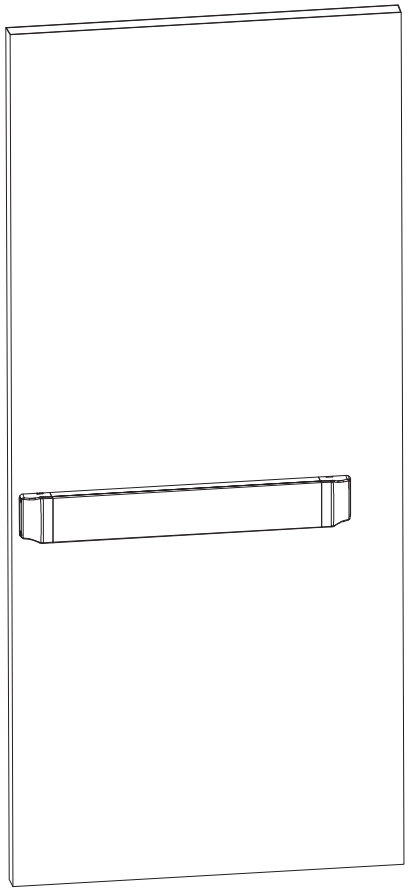
QEL94/9547

VON DUPRIN

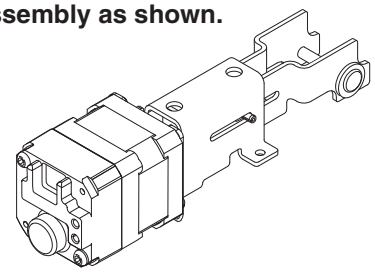
24908402

Recessed Exit Device

Installation Instructions



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



⚠ WARNING

Install in accordance with instructions or device will not function.

⚠ CAUTION

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

Devices covered by these instructions:

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

Read All Warnings Before Starting Installation!

Index

- Warnings 1
- Parts 2
- General Information 3
- Specifications 3
- Tools Needed 3
- Set Handing 3
- Installation 4

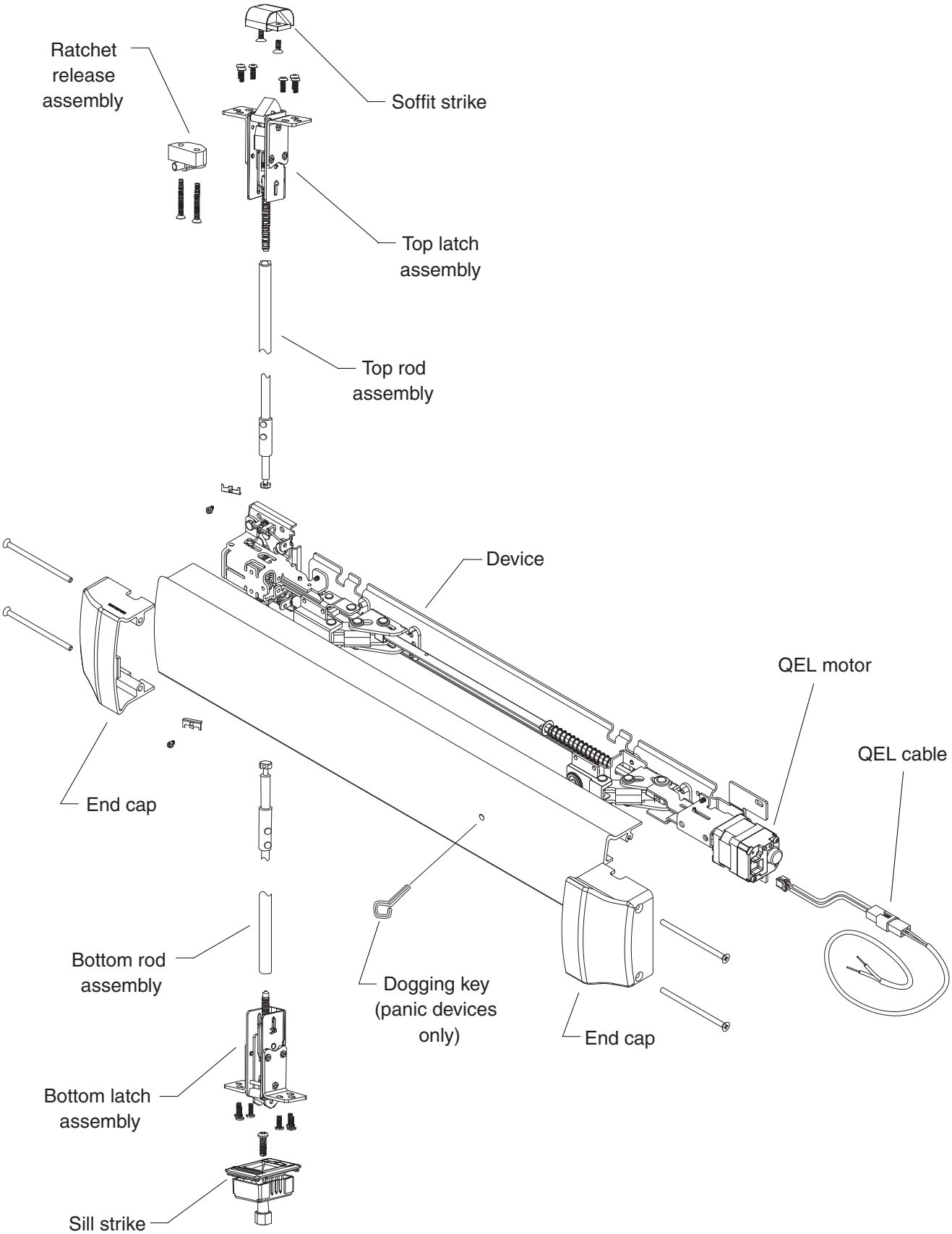
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24908402 Rev. 11/15-b

PARTS


Ratchet release assembly
Soffit strike
Top latch assembly
Top rod assembly
Device
QEL motor
QEL cable
End cap
Bottom rod assembly
Dogging key (panic devices only)
End cap
Bottom latch assembly
Sill strike

GENERAL INFORMATION

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

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

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

SPECIFICATIONS

Mechanical

- Vertical rods adjustable for doors 6'8" to 8' tall
- Rods for 10' doors are available upon request
- Pushpad projection (depressed) 1⅛" to 1¼"

Electrical Load

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

TOOLS NEEDED

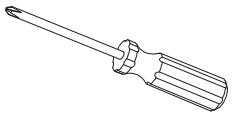
These are the tools needed for installing a QEL94/9547 into a factory-prepared door and frame.



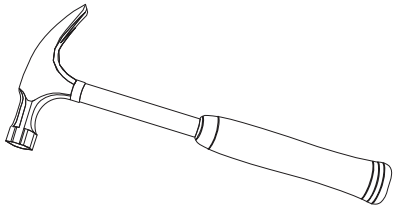
½" drill bit



7⁄64" hex key



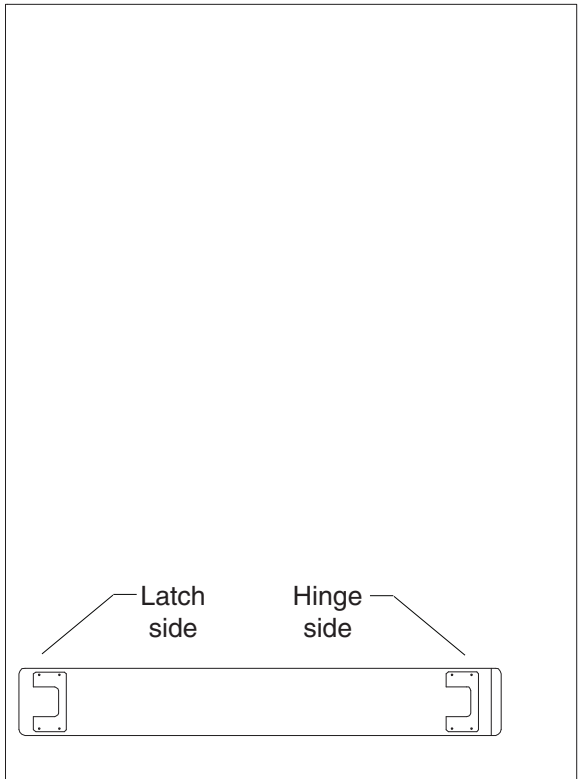
#2 Phillips screwdriver



Hammer

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

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



2 PREPARE HOLE FOR RATCHET RELEASE PLUNGER

a. Determine stop height (Figure 2-1), then mark center of hole on device side of door (Figure 2-2).

b. Drill a ½" diameter hole where marked through device side of door **only**.

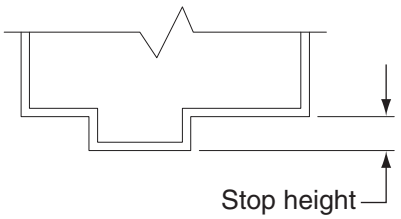


Figure 2-1

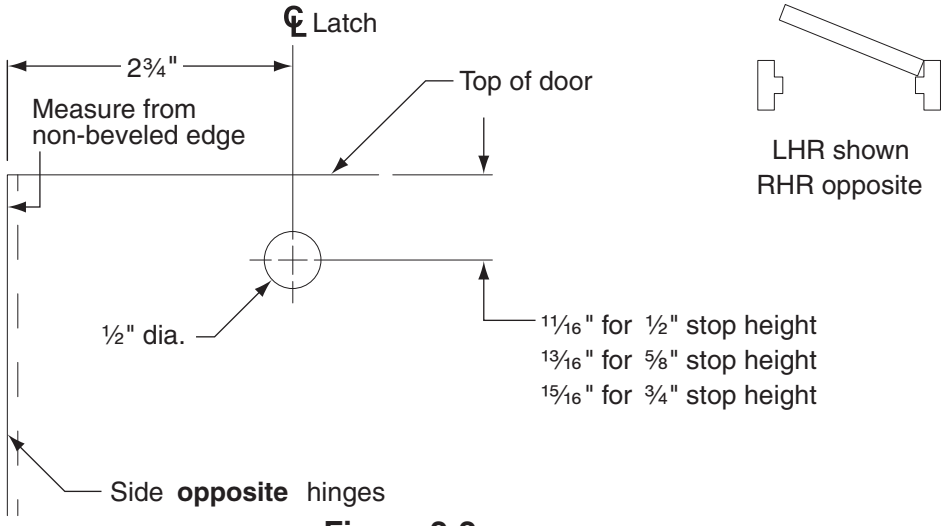


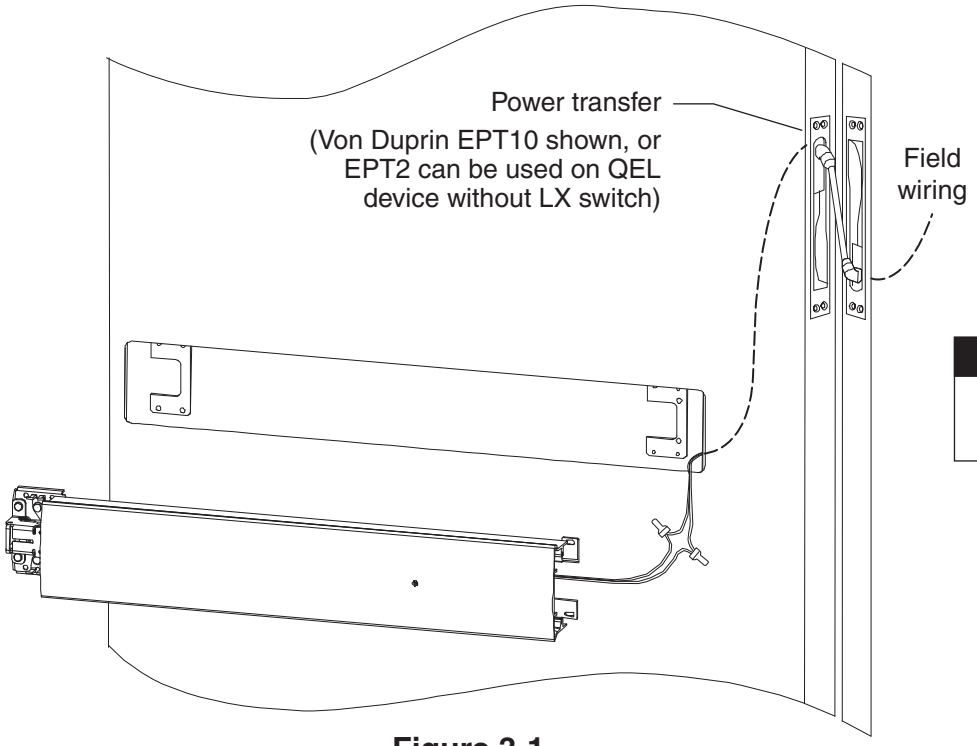
Figure 2-2

3 WIRE LX SWITCH (LX DEVICES ONLY)

a. Connect field wiring to frame side of power transfer (Figure 3-1).

b. See LX switch wiring information (Figure 3-2) for switch configuration.

c. Connect LX switch wiring to door side of power transfer using crimp connectors. Unused wires should be insulated separately.



⚠ WARNING

Disconnect power before wiring LX switch.

Figure 3-1

⚠ NOTE

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

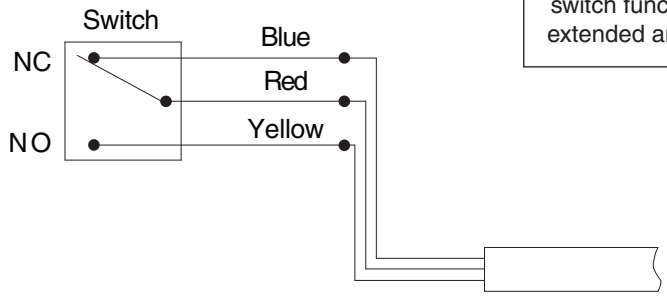


Figure 3-2

4 MOUNT DEVICE ON DOOR

a. Mount device on door using supplied mounting screws (Figure 4-1).

b. Center device in pocket, leaving an even gap all around the device.

c. If outside trim is used, bolt through to trim (see Figure 4-2 and trim installation instructions).

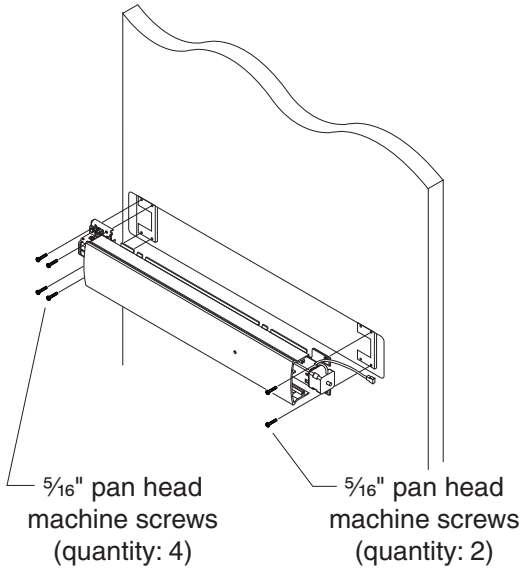


Figure 4-1

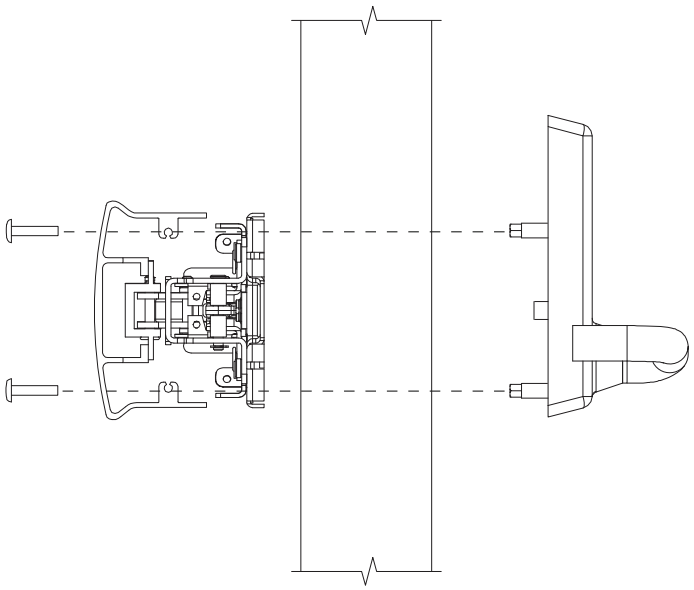


Figure 4-2

5 INSTALL TOP LATCH

a. Rivet two-piece top rod together. Align holes according to door height (Figure 5-1). Rod length for a 7-foot door is approximately 38½". Top rod sections are longer than bottom rod sections.

b. Attach brackets to top latch, then thread rod assembly onto latch (Figure 5-2).

c. Slide rod and latch into prep at door top (Figure 5-3), and attach rod to center case (Figure 5-4).

d. Fasten latch to door with supplied screws (Figure 5-5).

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

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

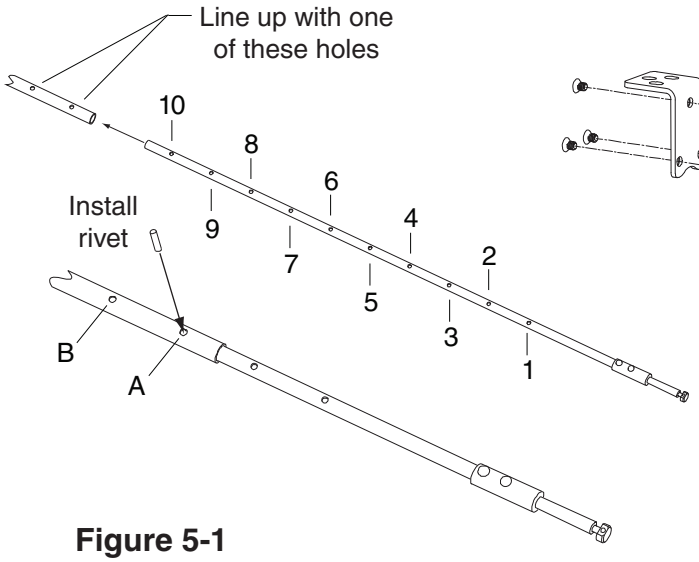


Figure 5-1

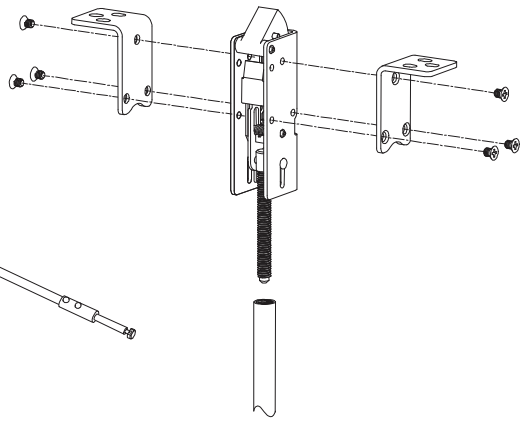


Figure 5-2

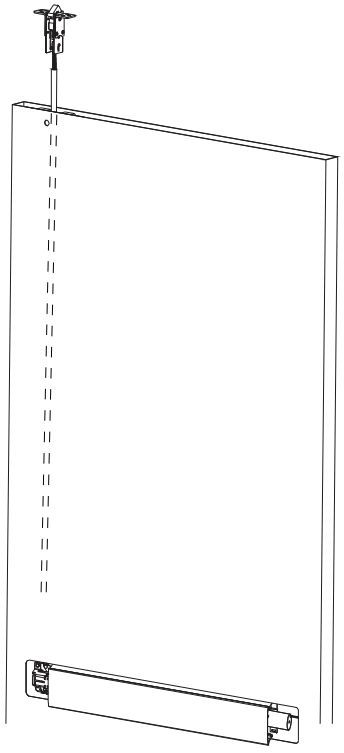


Figure 5-3

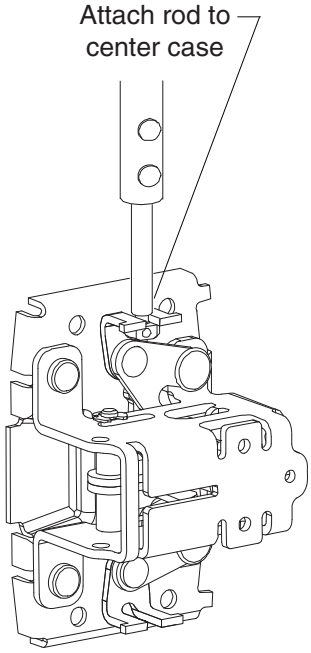


Figure 5-4

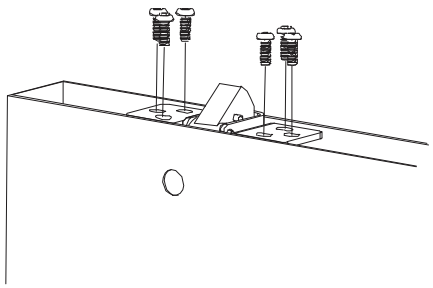


Figure 5-5

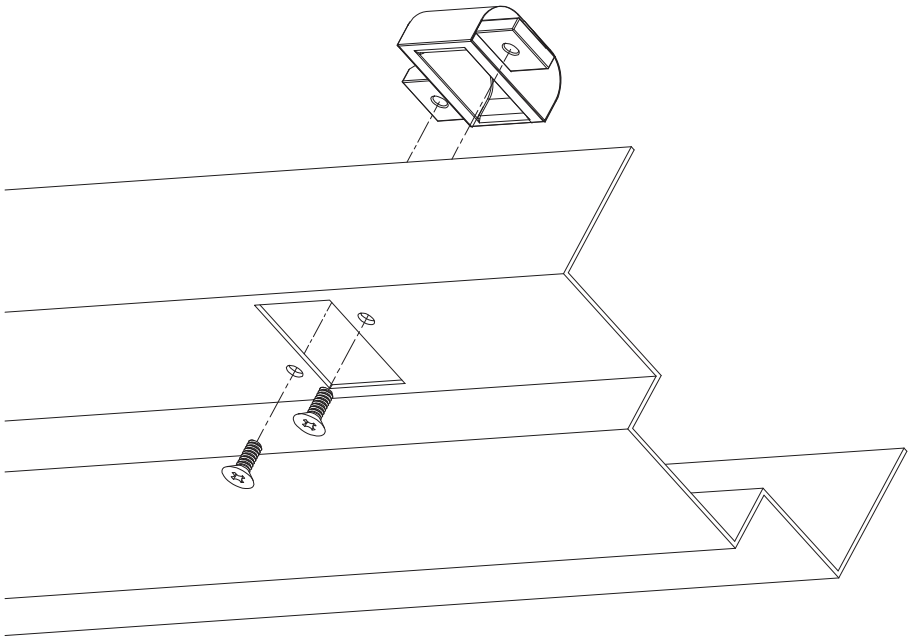
6 INSTALL BOTTOM LATCH (SKIP THIS STEP FOR LBR DEVICES)

a. Repeat steps 6a through 6d for bottom rod and latch. Use hole 8 for most applications. Approximate rod length is 34½”.

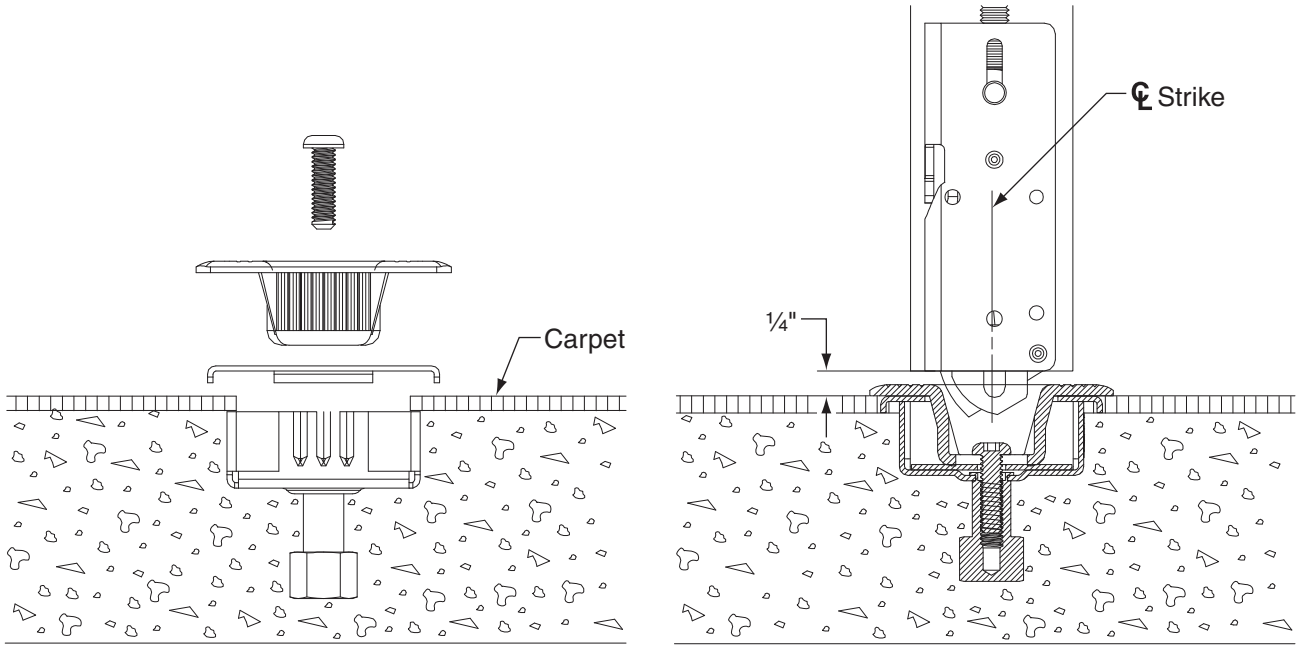
b. Press pushpad to retract latches.

c. Hang door.

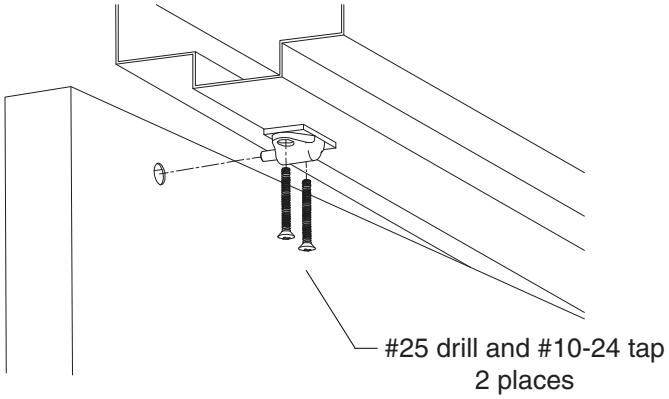
7 INSTALL 338 SOFFIT STRIKE



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



9 INSTALL RATCHET RELEASE ASSEMBLY



10 ADJUST TOP ROD

a. Fully depress and hold pushpad.

b. Set top latch in fully retracted (hold) position (Figure 10-1).

c. Push down on center case connector, adjust rod length, and connect top rod (Figure 10-2).

d. Verify that pushpad projection, when depressed, is between 1⅛" and 1¼". Adjust top rod if necessary: **Lengthening the top rod will reduce pushpad projection when depressed.**

e. If using trim, verify that the trim fully retracts the top latch. If the trim does not fully retract the top latch, adjust the top rod so it is shorter.

f. Open door and release latches by inserting a Phillips head screwdriver into the ratchet release plunger hole. Check top latch deadlocking: Top latch should not retract when pressed down.

- If top latch bolt does not stay fully retracted, shorten top rod (Figure 10-2) and retest.
- If top latch bolt does not fully extend or deadlock, lengthen top rod (Figure 10-2) and retest.
- If bottom latch bolt does not stay fully retracted, shorten bottom rod (see Step 11) and retest.
- If bottom latch bolt does not fully extend, lengthen bottom rod (see Step 11) and retest.

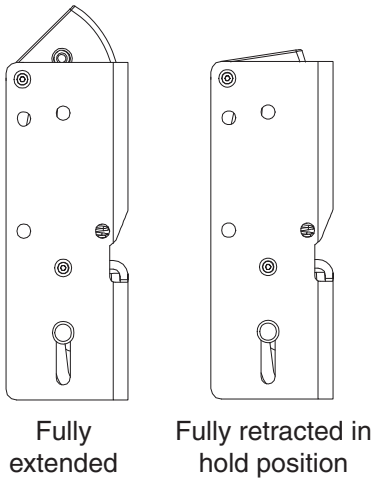


Figure 10-1

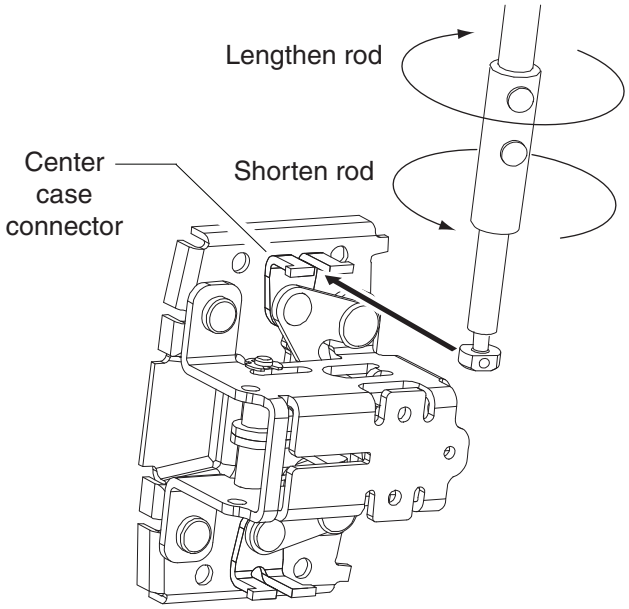
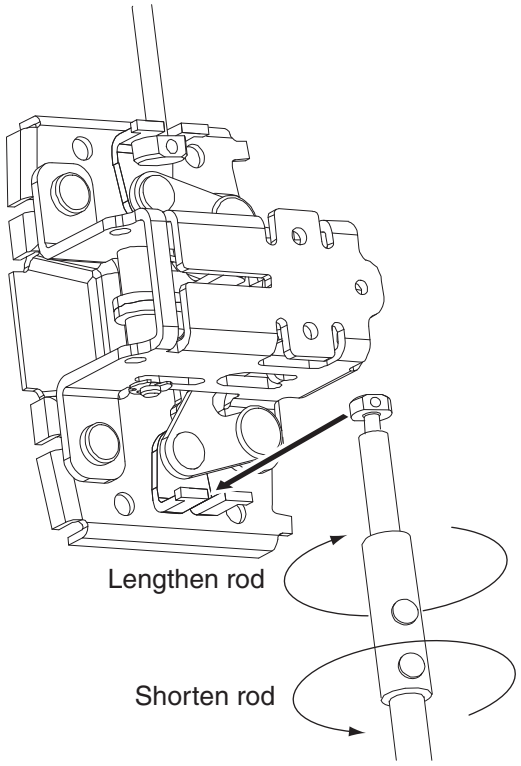


Figure 10-2

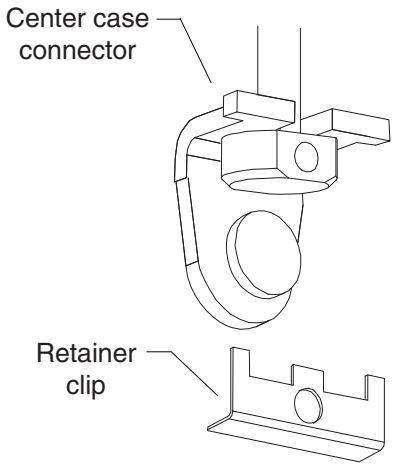
11 ADJUST BOTTOM ROD (SKIP THIS STEP FOR LBR DEVICES)

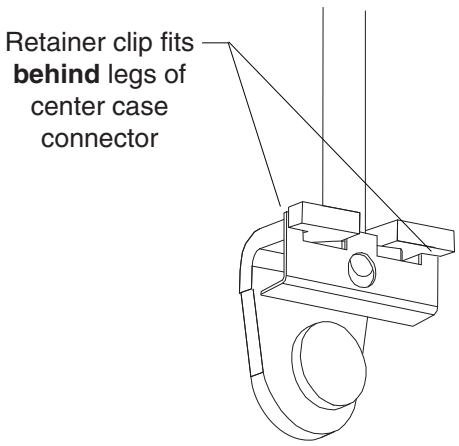
a. Fully depress pushpad and release. Top latch should be in retracted position.

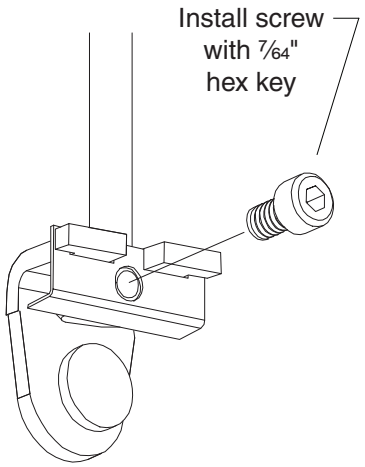
b. Adjust bottom rod length by rotating rod so latch clears floor when door is open.



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







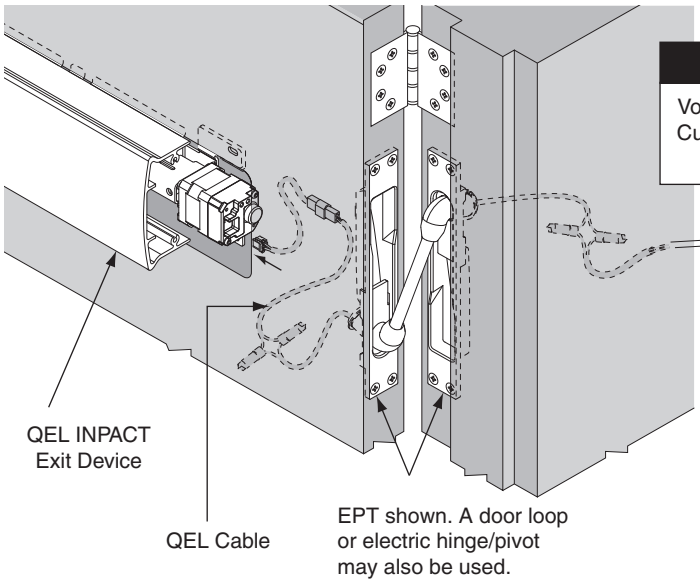
13 TEST MECHANICAL DEVICE OPERATION

a. Fully depress pushpad and push door open.

b. Release pushpad. Latch bolts should remain retracted.

c. Close door. Latch bolts should fully extend (⅝" ± 1⁄16") and engage strikes.

14 ROUTE TWO WIRES FROM QEL EXIT DEVICE TO POWER SUPPLY



QEL Electrical Load

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

PS900-Series Power Supply with 900-Series Option Board(s) installed

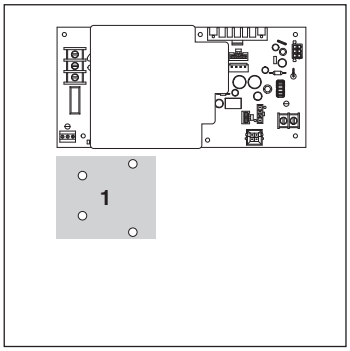
QEL device used with EPT, Door Loop, or Electric Hinge/Pivot	
Distance (one way)	**Wire Gauge**
200’	18AWG
320’	16AWG
500’	14AWG
800’	12AWG

Note: Power wires to QEL are not polarized.

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

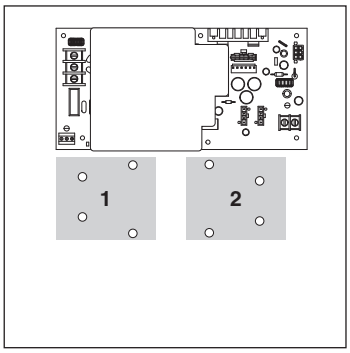
a **Review Available 900 series Option Board Mounting Locations (Gray)**

PS902

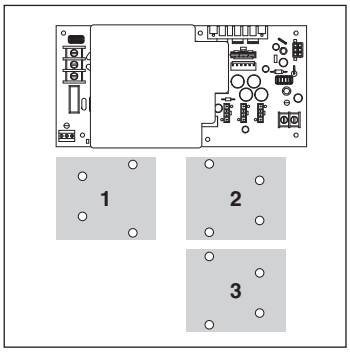


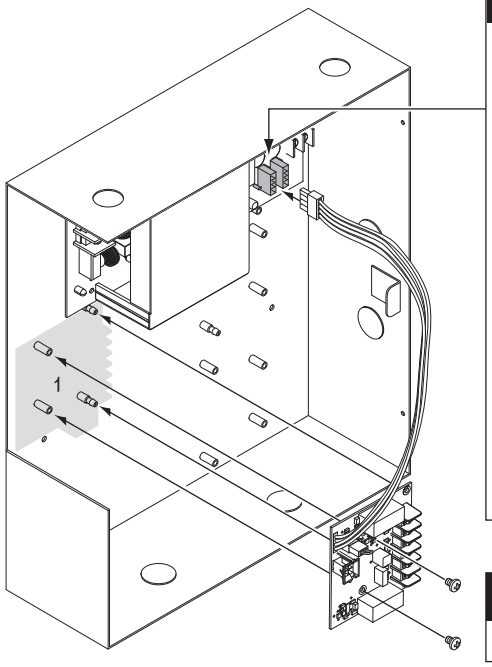
PS904

PS914



PS906

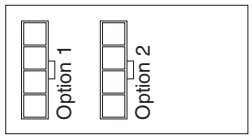




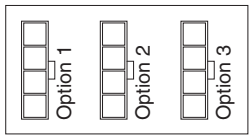
b **Plug Option Board Cable into any Available Option Connector**



PS902
1 Board



PS904, 914
2 Boards



PS906
3 Boards

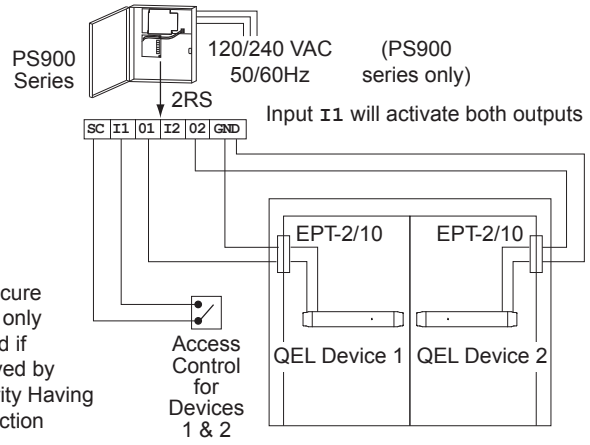
c **Secure Board(s) with Screws**

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.

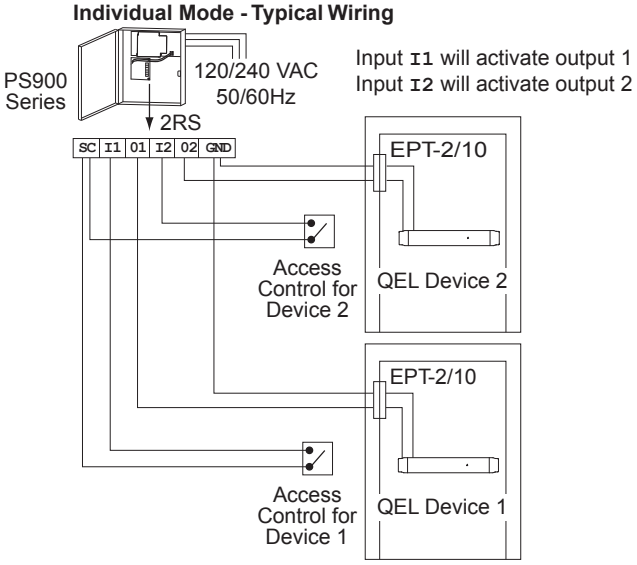
16 CONNECT INPUT AND OUTPUT WIRES TO OPTION BOARD, 2RS SHOWN

Sequential Mode - Typical Wiring



Note:
Fail secure output only allowed if approved by Authority Having Jurisdiction

Individual Mode - Typical Wiring



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

18 CHECK OPERATION

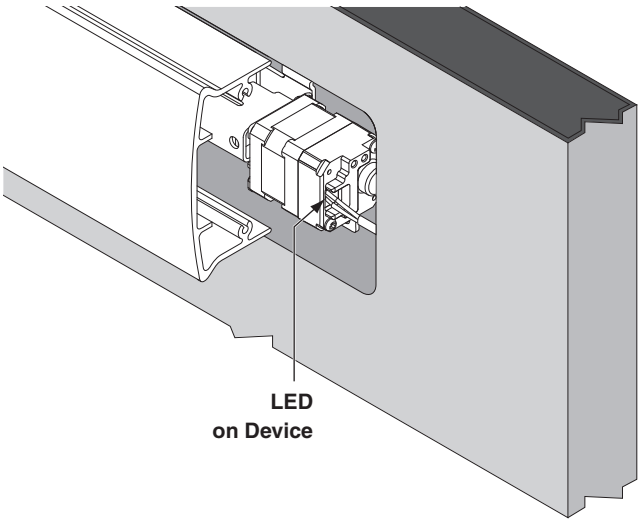
a. Activate each input and verify all QEL devices operate properly.

b. If any device does not operate properly, see step 19 for troubleshooting.

19 IF NECESSARY, TROUBLESHOOT OPERATION

Power at the QEL	QEL Response	Condition/Solution
24VDC	LED - Solid green Latchbolt - retracted	Operation normal, latch retracted immediately
	LED - Solid red after latchbolt attempts to retract multiple times	Latchbolt cannot fully retract mechanically Verify mechanical adjustment (on vertical rod or mortise lock devices if used). Remove and reapply input voltage to reset this condition.* See *Test Mechanical Device Operation* on page 12 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

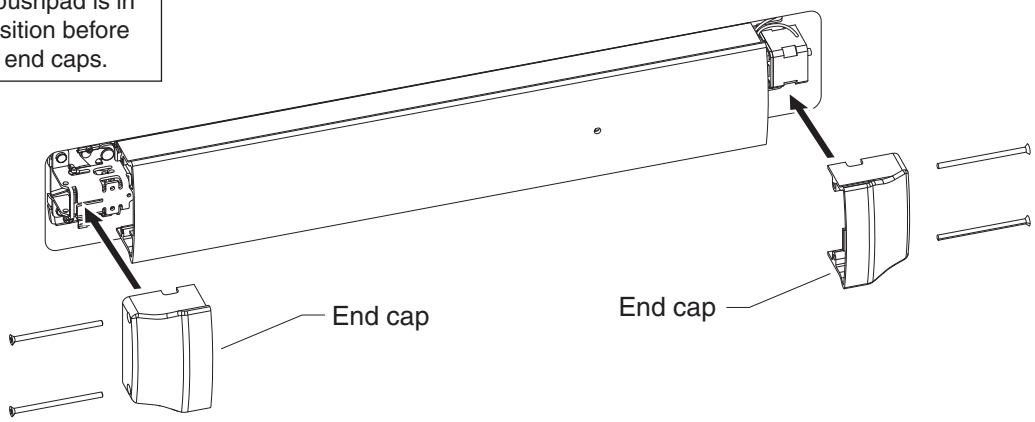
**For information about adjusting exit devices, you can find their installation instructions in the support area at www.allegion.com/us or call Technical Services at 1-877-671-7011*



20 INSTALL END CAPS

⚠ NOTE

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



21 INSTALL AUXILIARY FIRE LATCH (LBR DEVICES ONLY)

See installation instructions packaged with auxiliary fire latch kit.

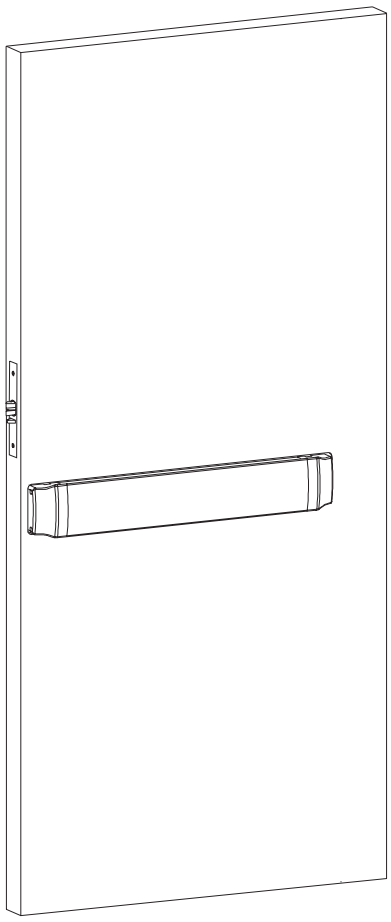
24908410

QEL94/9575

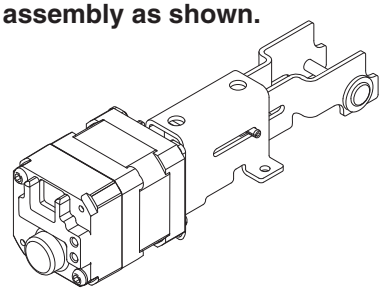
VON DUPRIN

Recessed Exit Device

Installation Instructions



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



⚠ WARNING

Install in accordance with instructions or device will not function.

Devices covered by these instructions:

QEL94/9575 Mortise Device (Panic and Fire)

Read All Warnings Before Starting Installation!

Index

- Warning 1
- Parts 2
- General Information 3
- Specifications 3
- Tools Needed 3
- Set Handing 3
- Installation 4

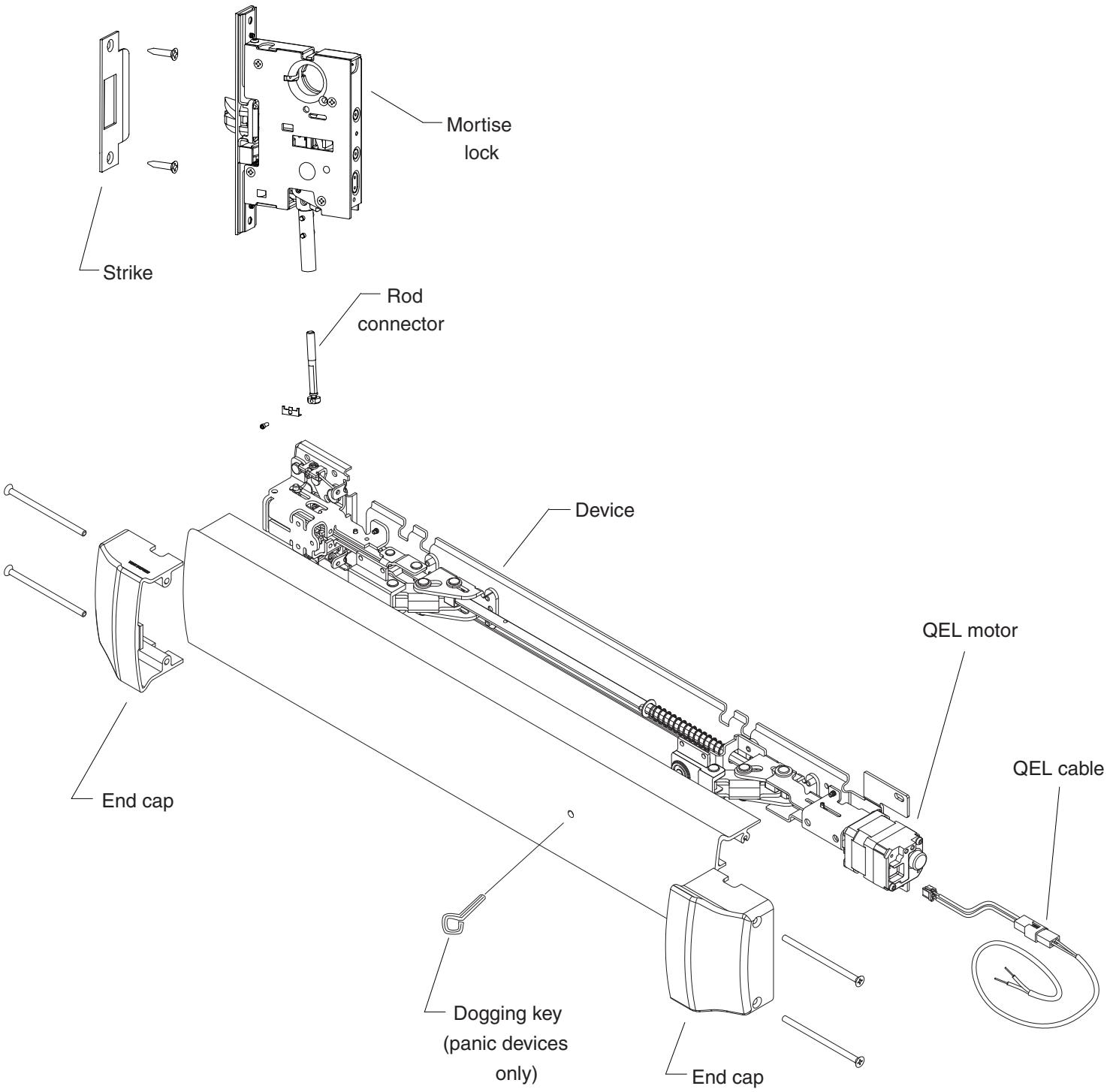
ALLEGION

Customer Service

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

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24908410 Rev. 11/15-b

PARTS


Mortise lock
Strike
Rod connector
Device
QEL motor
QEL cable
End cap
Dogging key (panic devices only)
End cap

GENERAL INFORMATION

The QEL94/9575 Exit Device is designed to provide reduced pushpad projection and a unique appearance by embedding the device into the face of the door.

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

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

SPECIFICATIONS

Mechanical

- Pushpad projection (depressed) 1⅛" to 1¼"

Electrical Load

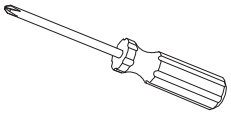
- Voltage: 24 VDC
- Current: 1.0 A inrush (0.5 sec)
  0.14 A holding

TOOLS NEEDED

These are the tools needed for installing a QEL94/9575 into a factory-prepared door and frame.



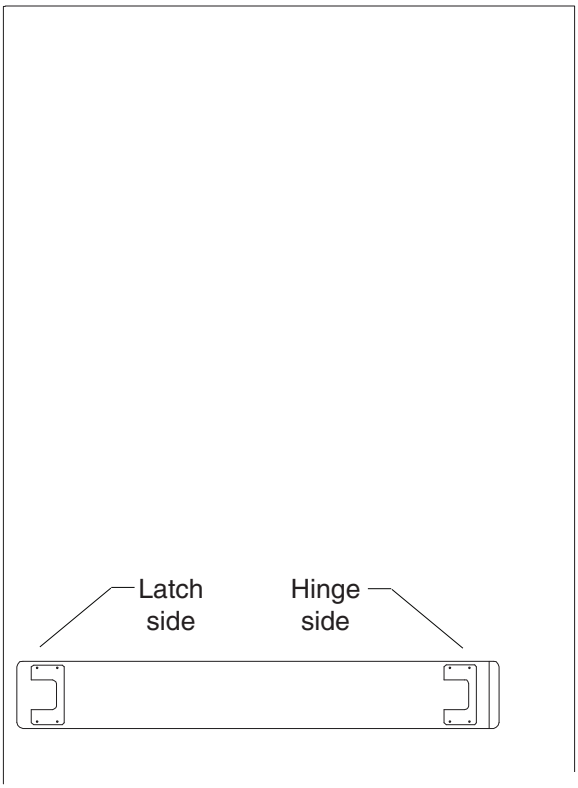
7⁄64" hex key



#2 Phillips screwdriver

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

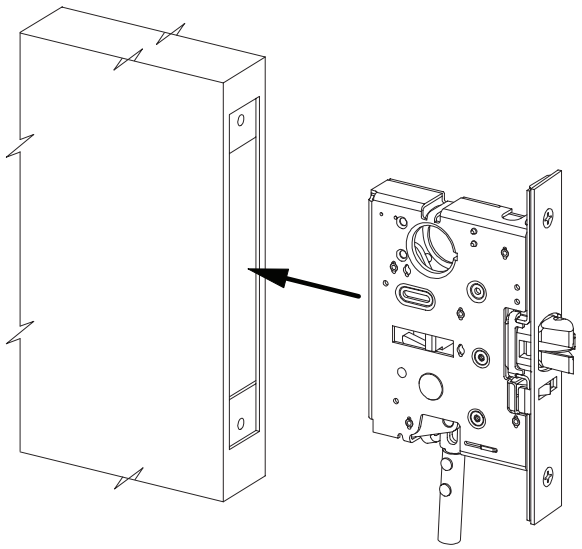
Drill through the four mounting holes and trim access hole at the latch side of the cutout. **See trim installation instructions for hole sizes and locations.**

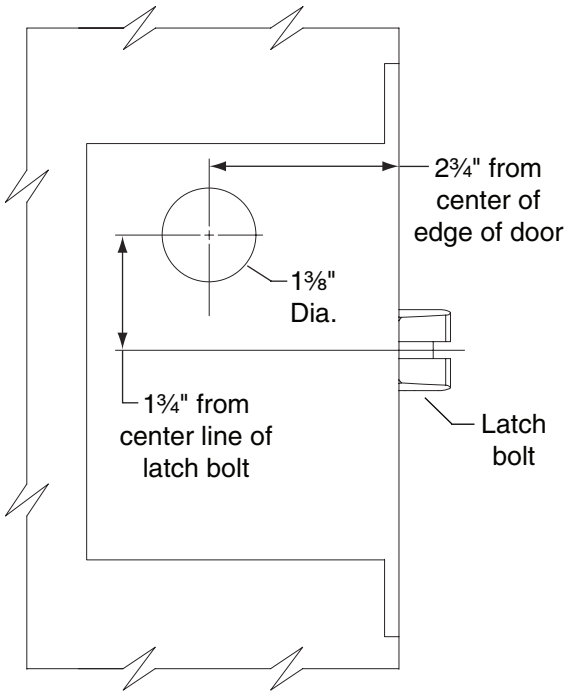


2 PREPARE DOOR FOR OUTSIDE CYLINDER (SKIP STEP IF NOT USING OUTSIDE CYLINDER)

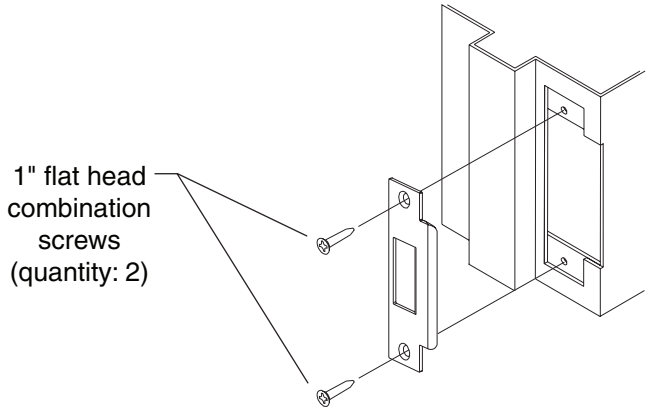
a. Temporarily install mortise lock in door and locate cylinder hole on outside face of door as shown.

b. Remove mortise lock and prepare cylinder hole through outside face of door only.





3 INSTALL STRIKE

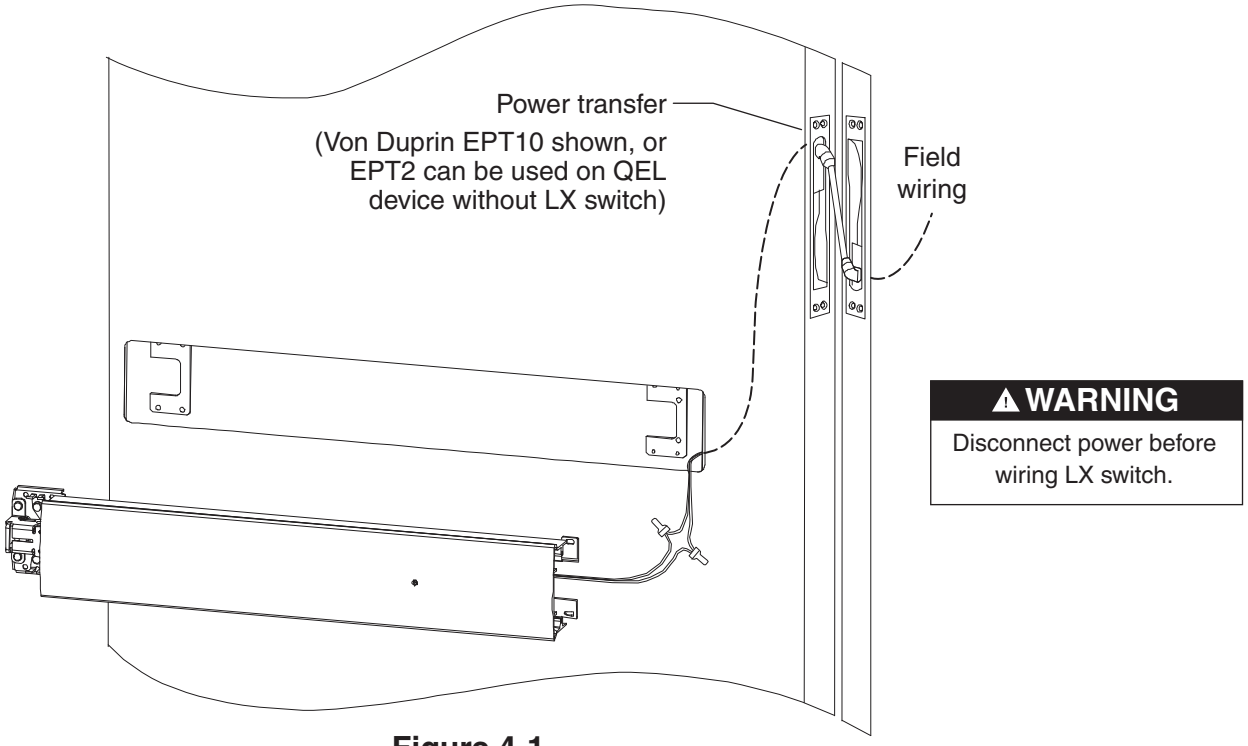


4 WIRE LX SWITCH (LX DEVICES ONLY)

a. Connect field wiring to frame side of power transfer (Figure 4-1).

b. See LX switch wiring information (Figure 4-2) for switch configuration.

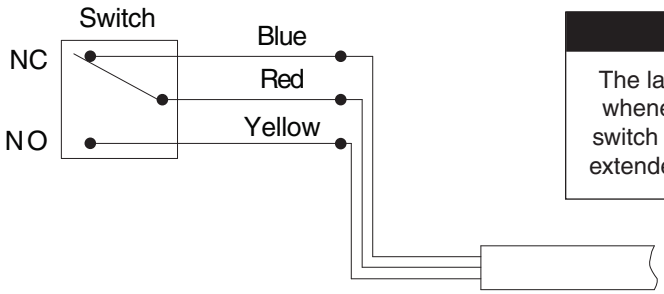
c. Connect LX switch wiring to door side of power transfer using crimp connectors. Unused wires should be insulated separately.



⚠ WARNING

Disconnect power before wiring LX switch.

Figure 4-1



⚠ NOTE

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

Figure 4-2

5 MOUNT DEVICE ON DOOR

a. Mount device on door using supplied mounting screws (Figure 5-1).

b. Center device in pocket, leaving an even gap all around the device.

c. If outside trim is used, bolt through to trim (see Figure 5-2 and trim installation instructions).

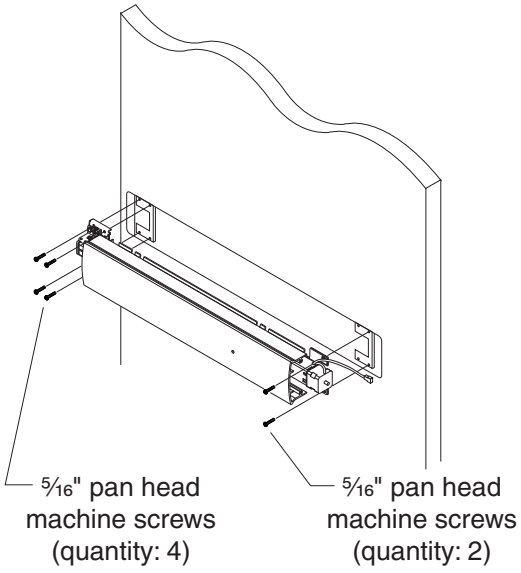


Figure 5-1

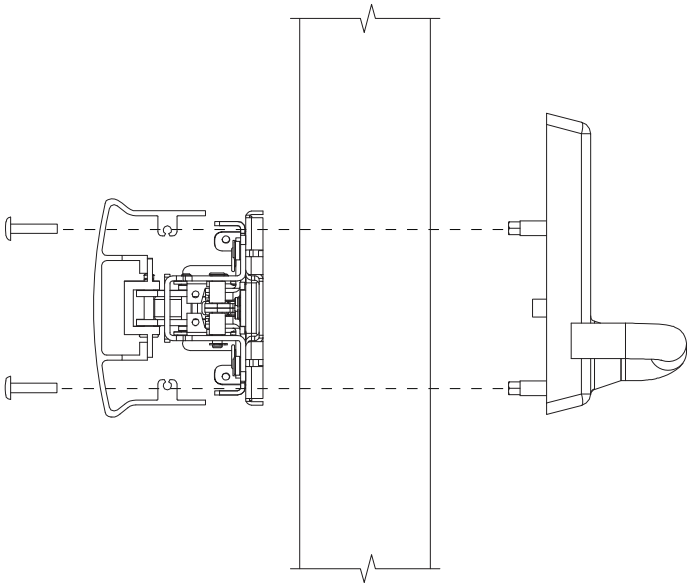
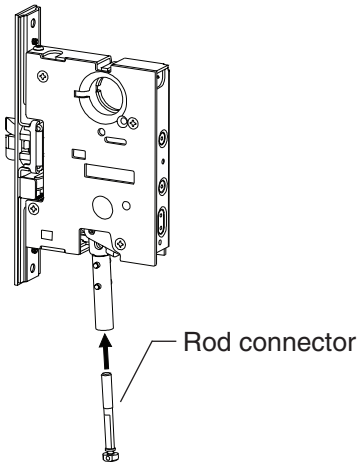


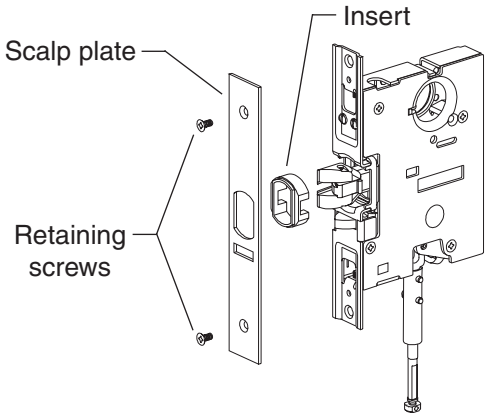
Figure 5-2

6 INSTALL MORTISE LOCK

a. Thread rod connector into mortise lock.

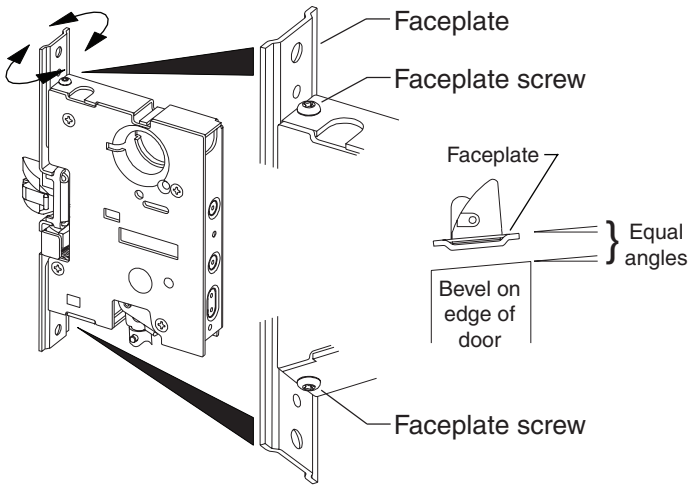


b. Remove retaining screws, scalp plate, and insert.

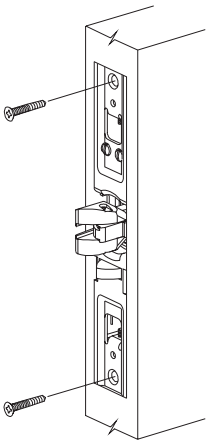


6 INSTALL MORTISE LOCK (continued)

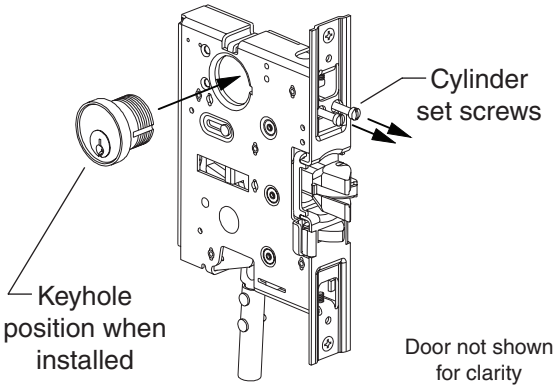
c. Adjust faceplate for door bevel.
   1. Loosen top and bottom faceplate screws.
   2. Pivot faceplate to match door bevel.
   3. Tighten top and bottom faceplate screws.



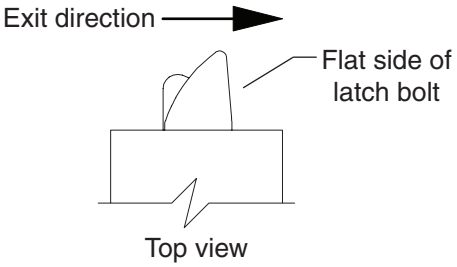
d. Install mortise lock in door with two #12-12 x 12-24 combination screws.



e. If using outside cylinder:
   1. Back out cylinder set screws enough to clear cylinder mounting hole.
   2. Thread cylinder into mortise lock through hole in outside face of door.
   3. Tighten the cylinder set screw that is closest to outside face of door. Remove the other cylinder set screw.



f. Rotate latch bolt so flat side faces exit direction.



g. Replace insert, scalp plate, and scalp plate retaining screws (See step b).

7 ADJUST ROD CONNECTOR

a. Fully depress and hold pushpad and pull rod connector to set mortise lock latch bolt in fully retracted (hold) position (Figure 8-1).

b. Push down on center case connector, adjust rod connector length, and connect rod to center case connector (Figure 8-2).

c. Verify that pushpad projection is 1⅛" to 1¼" when depressed. Adjust rod connector if necessary: **Lengthening the rod connector reduces pushpad projection when depressed.**

d. If using trim, verify that the trim fully retracts the latch bolt. If the trim does not fully retract the latch bolt, adjust the rod connector so it is shorter.

e. Open the door and release latch by pushing in auxiliary bolt. Check deadlocking: Latch bolt should not retract when pressed in.

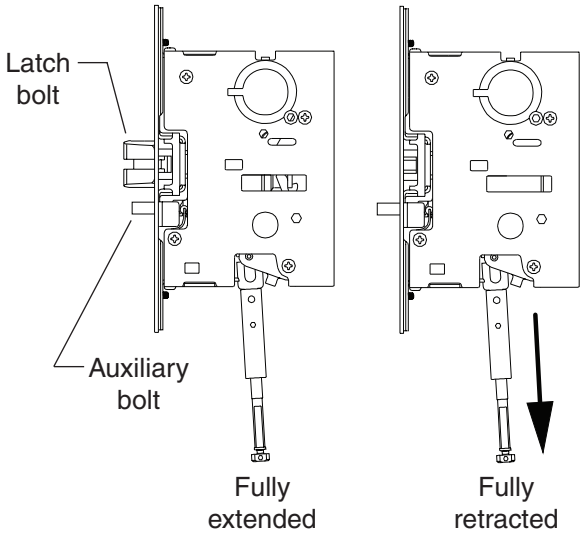


Figure 8-1

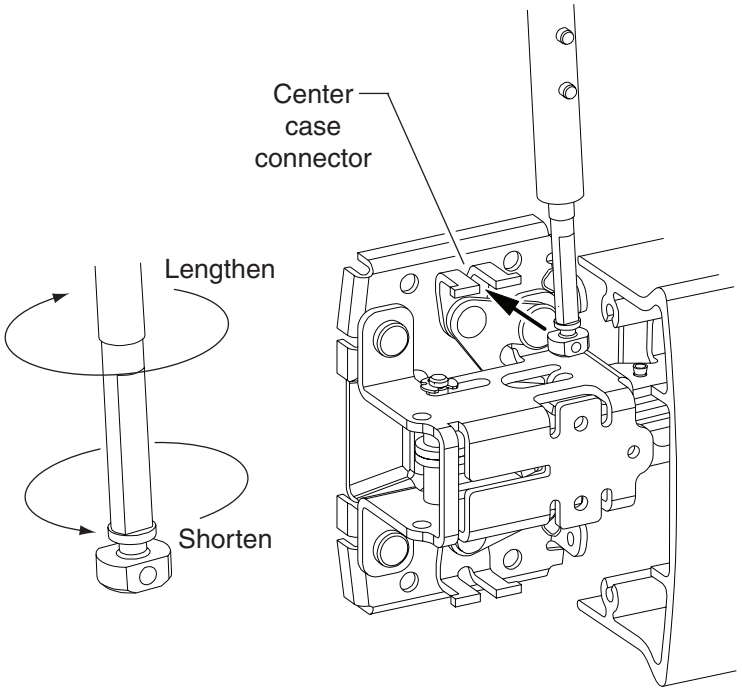
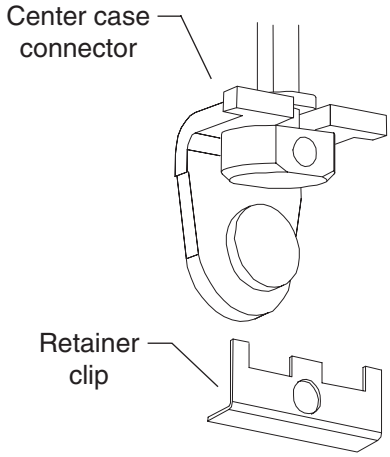
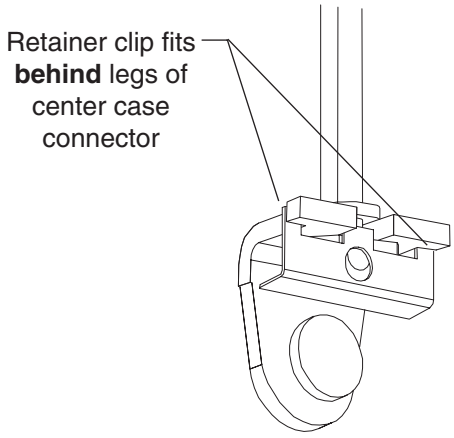
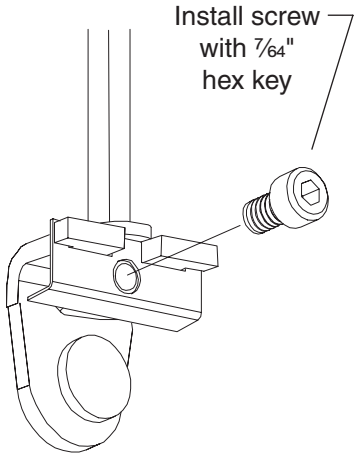


Figure 8-2

8 INSTALL RETAINER CLIP ON ROD CONNECTOR AT CENTER CASE

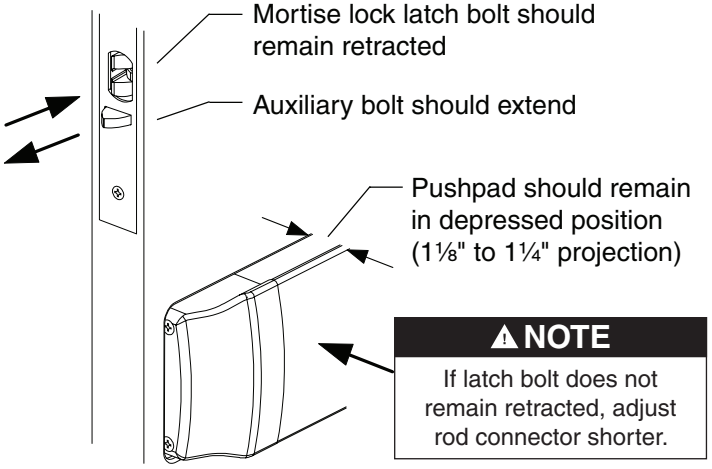






9 TEST MECHANICAL DEVICE OPERATION

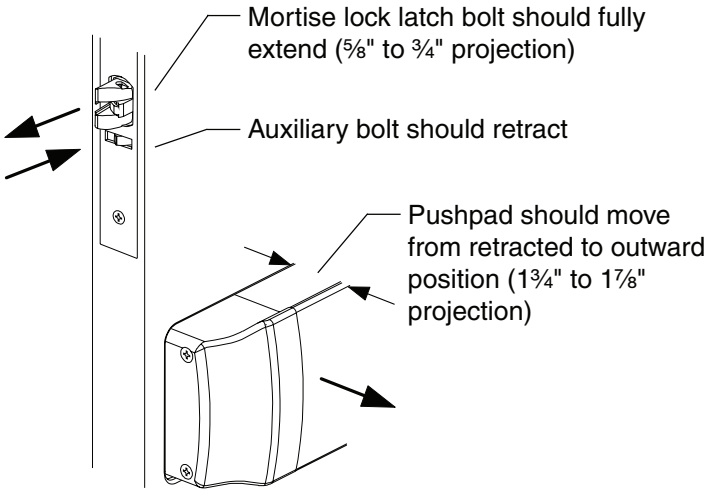
a. Fully depress pushpad, push door open, and release pushpad.



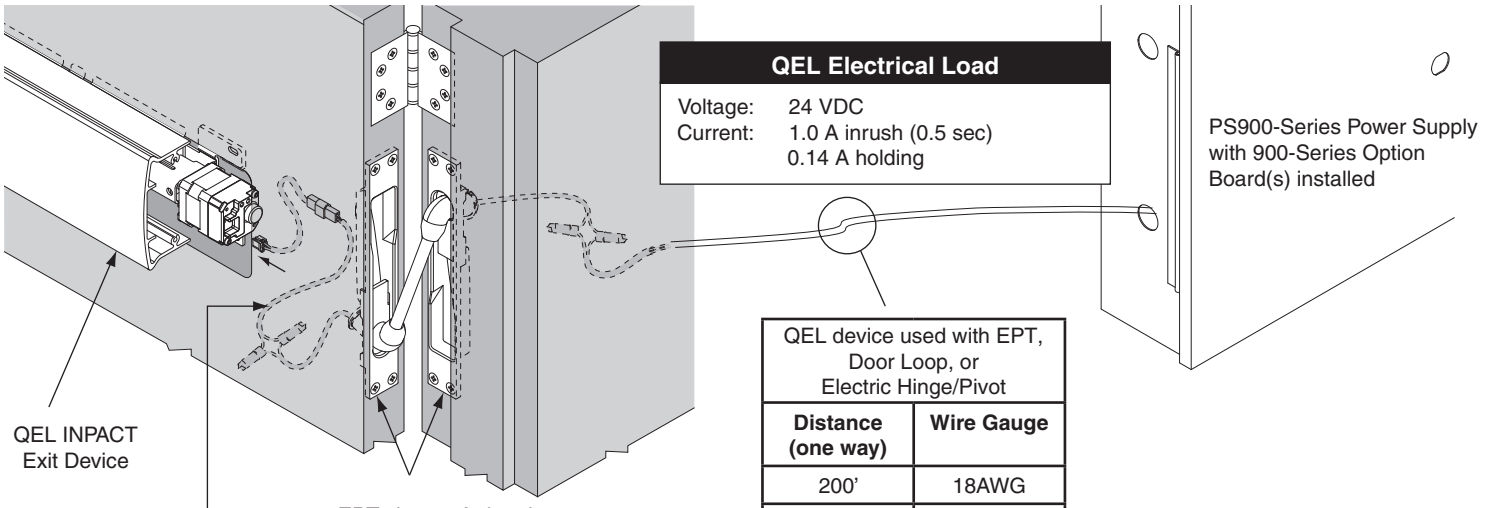
⚠ NOTE

If latch bolt does not remain retracted, adjust rod connector shorter.

b. Close door or press auxiliary bolt in.



10 ROUTE TWO WIRES FROM QEL EXIT DEVICE TO POWER SUPPLY



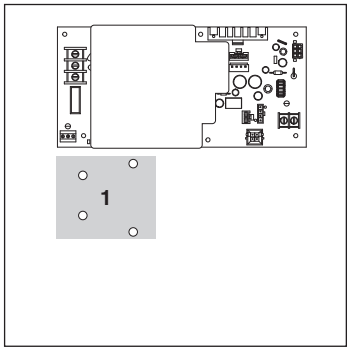
QEL device used with EPT, Door Loop, or Electric Hinge/Pivot	
Distance (one way)	**Wire Gauge**
200’	18AWG
320’	16AWG
500’	14AWG
800’	12AWG

Note: Power wires to QEL are not polarized.

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

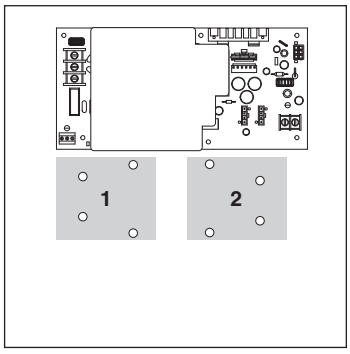
a **Review Available 900 series Option Board Mounting Locations (Gray)**

PS902

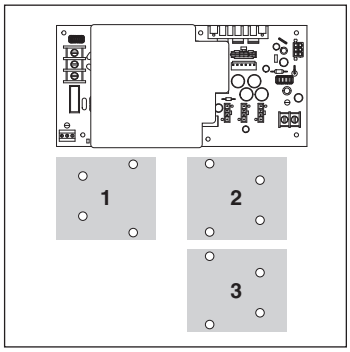


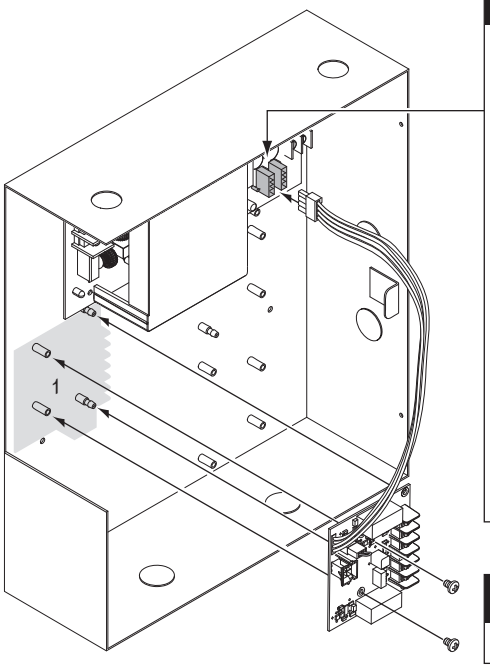
PS904

PS914

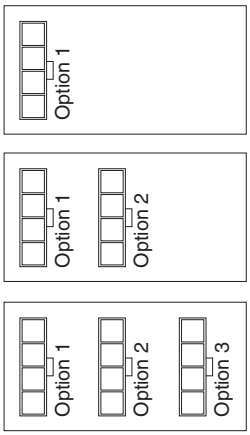


PS906





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



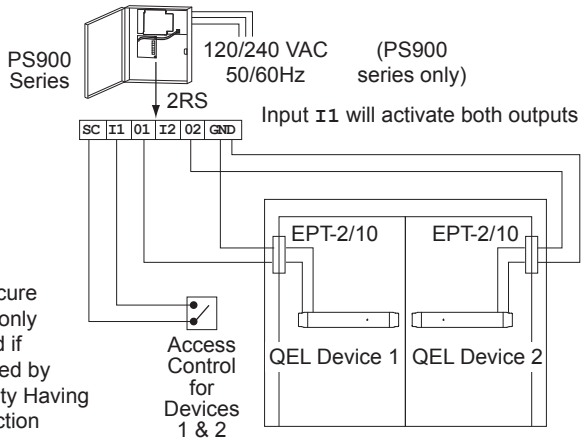
c **Secure Board(s) with Screws**

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.

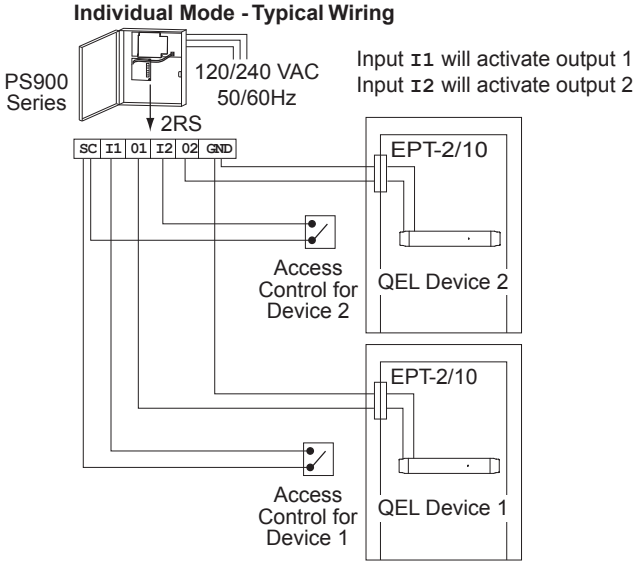
12 CONNECT INPUT AND OUTPUT WIRES TO OPTION BOARD, 2RS SHOWN

Sequential Mode - Typical Wiring



Note:
Fail secure output only allowed if approved by Authority Having Jurisdiction

Individual Mode - Typical Wiring



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

14 CHECK OPERATION

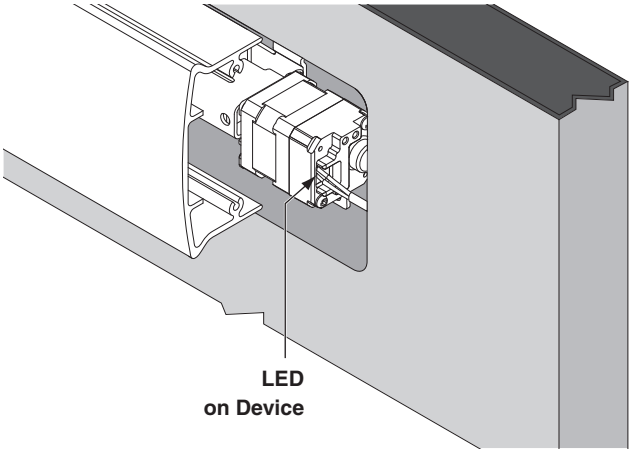
a. Activate each input and verify all QEL devices operate properly.

b. If any device does not operate properly, see step 15 for troubleshooting.

15 IF NECESSARY, TROUBLESHOOT OPERATION

Power at the QEL	QEL Response	Condition/Solution
24VDC	LED - Solid green Latchbolt - retracted	Operation normal, latch retracted immediately
	LED - Solid red after latchbolt attempts to retract multiple times	Latchbolt cannot fully retract mechanically Verify mechanical adjustment (on vertical rod or mortise lock devices if used). Remove and reapply input voltage to reset this condition.* See *Test Mechanical Device Operation* on page 9 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

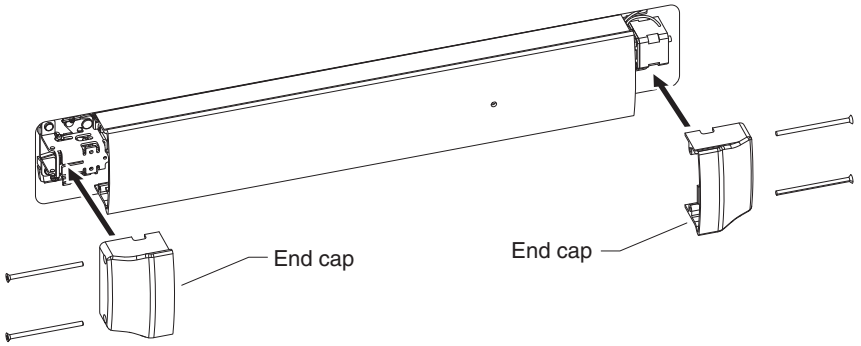
**For information about adjusting exit devices, you can find their installation instructions in the support area at www.allegion.com/us or call Technical Services at 1-877-671-7011*



16 INSTALL END CAPS

⚠ NOTE

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



Exit Devices

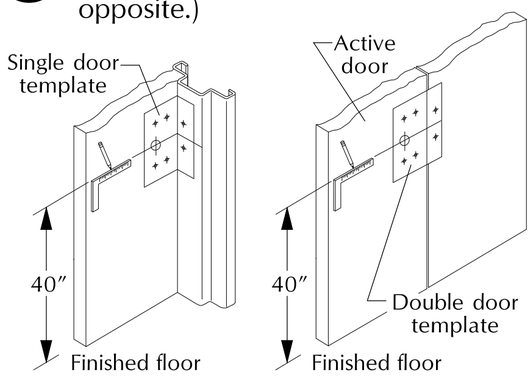
—

Guard - X Devices

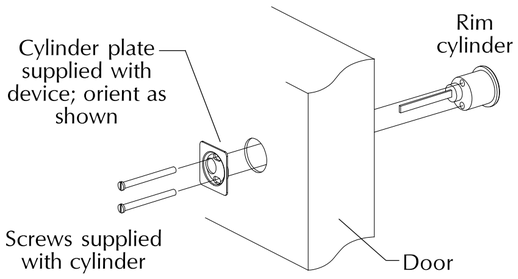
VON DUPRIN GUARD-X™ Exit Alarm Lock

Skip Steps 2, 3, and 4 if no outside cylinder

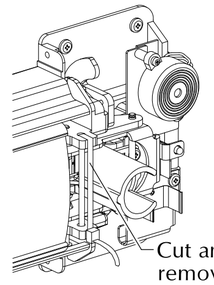
1 Apply template and prepare door per template. (RHR shown; LHR opposite.)



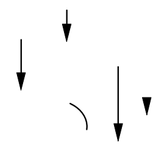
2 Install rim cylinder (key removed). Cut down screws if necessary.



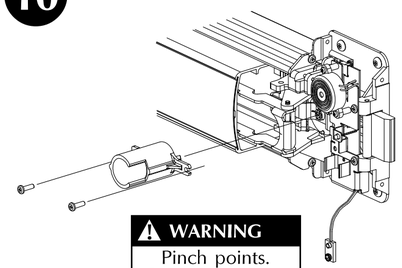
9 Cut and remove cable tie to release pushpad.



⚠ WARNING
Pinch points. Can cause injury if pushpad pressed with center case cover removed. Keep clear.

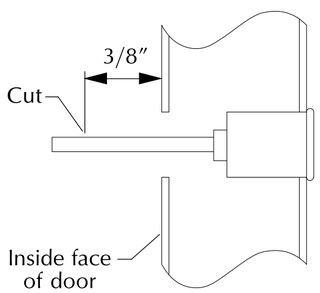


10 Remove cylinder bracket.

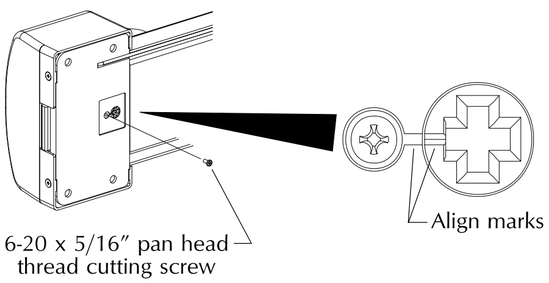


⚠ WARNING
Pinch points. Can cause injury. Keep clear.

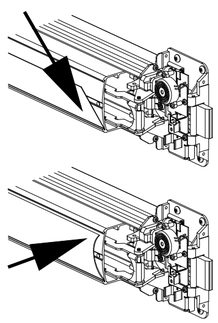
3 Cut cylinder tailpiece.



4 Remove screw. Use Phillips screwdriver to rotate cross slots so marks align.

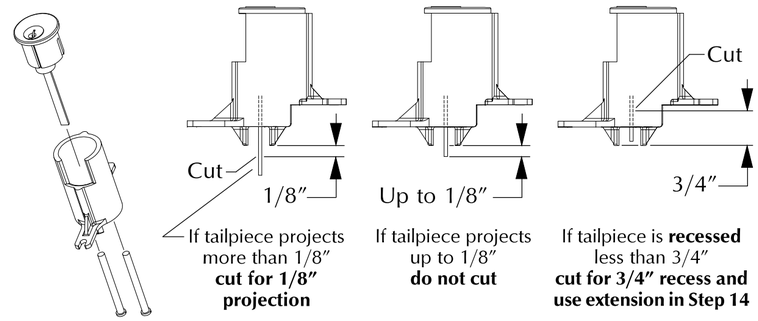


11 Peel backing from adhesive strips on sign. Install sign as shown.

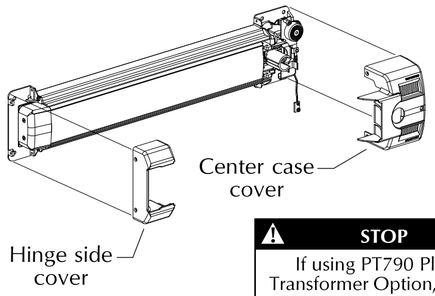


⚠ WARNING
Pinch points. Can cause injury. Keep clear.

12 Install cylinder in cylinder bracket. Cut cylinder tailpiece if necessary.



5 Remove cover screws and covers (shipped with one screw in each cover).



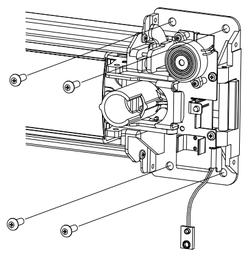
⚠ STOP
If using PT790 Plug-in Transformer Option, refer to PT790 instructions before continuing with Step 6.

6 Mount center case to door. **Level device before tightening screws.**

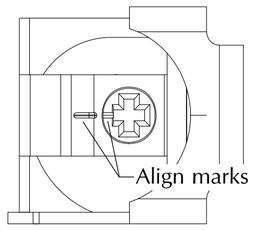
⚠ NOTE
If using outside cylinder, make sure tailpiece engages cross slot on underside of device.

Metal door: 1/4-20 x 3/4″ pan head machine screws
Wood door: 1/4-14 x 1″ pan head sheet metal screws

⚠ NOTE
#325 sex bolts (6 places) recommended for aluminum door application.

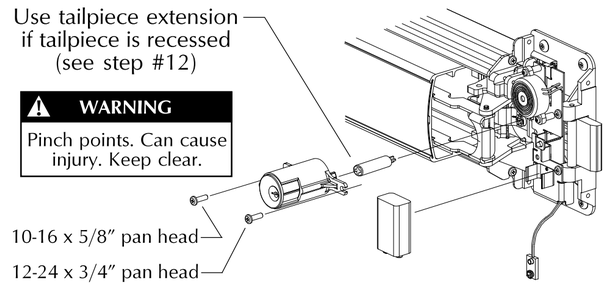


13 Use Phillips screwdriver to rotate cross slots inside center case so marks align.



⚠ STOP
If using PT790 Plug-in Transformer Option, refer to PT790 instructions before continuing with Step 14.

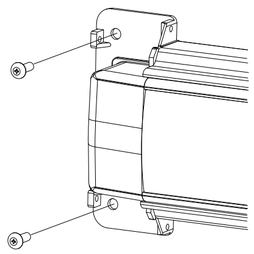
14 Install cylinder bracket and cylinder. Make sure cylinder tailpiece engages cross slot in center case. If tailpiece is recessed (see Step 12), use tailpiece extension. Make sure to install screws as shown. Install 9 volt battery and attach battery clip.



⚠ WARNING
Pinch points. Can cause injury. Keep clear.

7 **With device level,** mark and drill hinge side mounting holes using device as template. Install hinge side mounting screws.

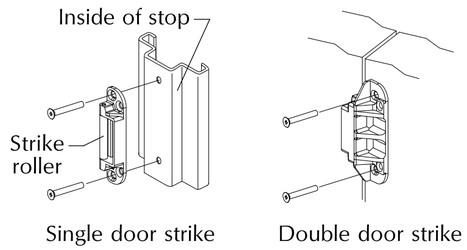
Metal door: #7 drill and 1/4-20 tap, inside only; 1/4-20 x 3/4″ pan head machine screws
Wood door: 1/8″ drill x 3/4″ deep; 1/4-14 x 1″ pan head sheet metal screws



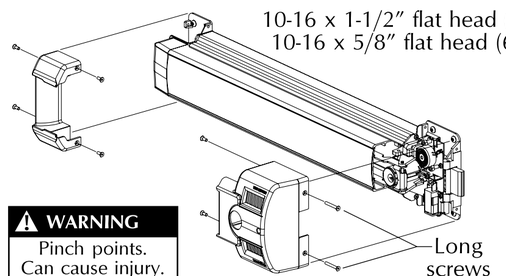
8 Install strike with two screws as shown.

Metal frame/door: 1/4-20 x 1″ flat head machine screws
Wood frame/door: 1/4-14 x 1-1/4″ flat head sheet metal screws

⚠ STOP
If using PT790 Plug-in Transformer Option, refer to PT790 instructions before continuing with Step 9.

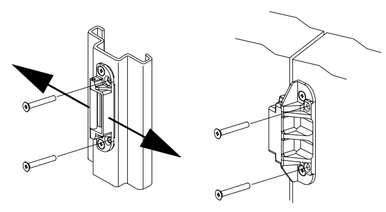


15 Install center case cover. **Use long screws where shown for tamper resistance.** Depress pushpad to install hinge side cover.



⚠ WARNING
Pinch points. Can cause injury. Keep clear.

16 Close door and turn key 360 degrees each way. If dead bolt binds in single door strike, adjust strike as shown. Tighten screws. Prepare lockdown holes and install two lockdown screws as shown. Test device (see “Testing” on back of “Parts List”).



Metal frame/door: #7 drill and 1/4-20 tap; 1/4-20 x 1″ flat head machine screws
Wood frame/door: 1/8″ drill x 3/4″ deep; 1/4-14 x 1-1/4″ flat head sheet metal screws

Recommend 1/2" to edge of paper

1/2" REMOVABLE A-40/A-95 3M ADHESIVE TAPE (HIGH TACK/LOW TACK DOUBLE COATED TAPE)

1/2" REMOVABLE A-40/A-95 3M ADHESIVE TAPE (HIGH TACK/LOW TACK DOUBLE COATED TAPE)

Recommend 1/2" to edge of paper

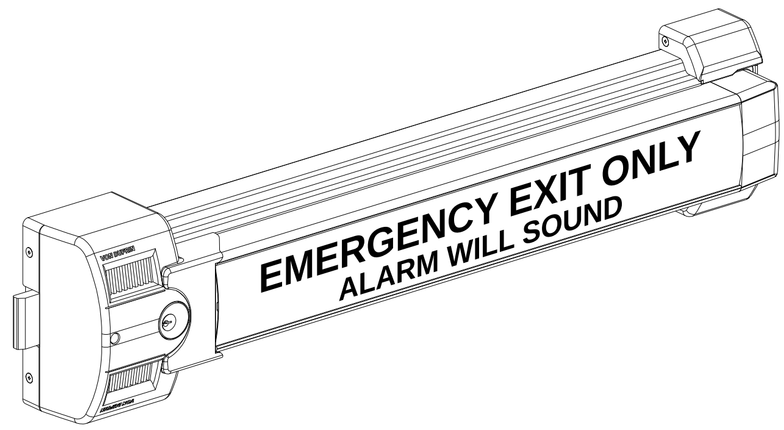
911513-00

VON DUPRIN

Installation Instructions

GUARD-X™

Exit Alarm Lock



Unfold these instructions, remove backing strip, and stick instructions on door during installation.

Special Tools Required:

Drill bits: #7 and 1/8" dia.
1/4-20 tap
1-1/4" dia. hole saw

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911514-00

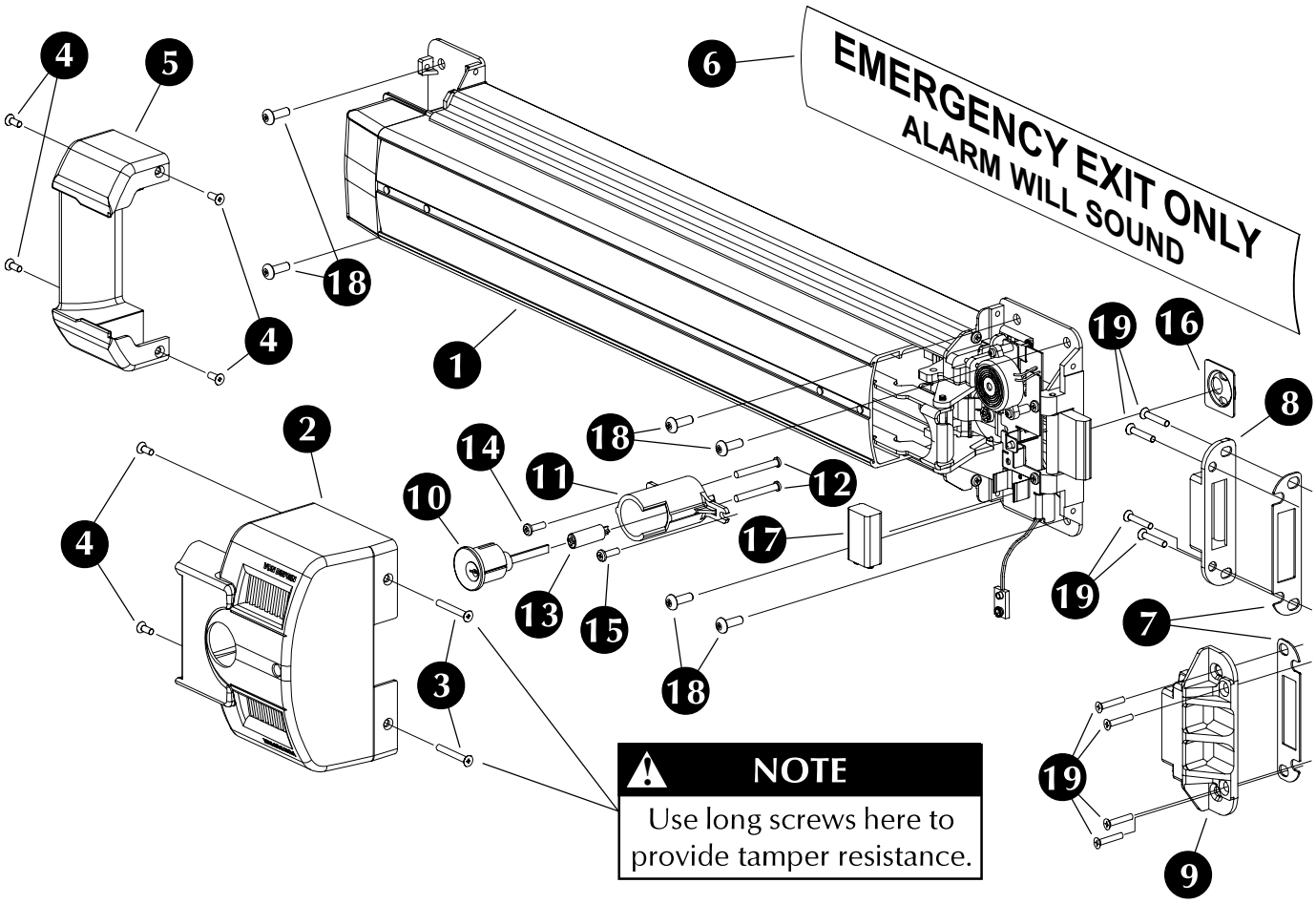
Exit Alarm Lock

Guard-X

VON DUPRIN

Installation Instructions

PARTS LIST



Item	Quantity	Description
1	1	GUARD-X Exit Alarm Lock
2	1	Center case cover
3	2	10-16 x 1-1/2″ flat head sheet metal screw
4	6	10-16 x 5/8″ flat head sheet metal screw
5	1	Hinge side case cover
6	1	Signage insert
7	1	Strike shim
8	1	Single door strike*
9	1	Double door strike*

*Supplied with single door strike ***OR*** double door strike.

Item	Quantity	Description
10	1	Standard rim cylinder (required; not supplied)
11	1	Cylinder mounting bracket
12	2	Rim cylinder mounting screws
13	1	Cylinder tailpiece extension
14	1	10-16 x 5/8″ pan head machine screw
15	1	12-24 x 3/4″ pan head machine screw
16	1	Outside cylinder plate
17	1	9 volt battery
18	6	1/4-20 x 3/4″ pan head machine screw and
	6	1/4-14 x 1″ pan head sheet metal screw
19	4	1/4-20 x 1″ flat head machine screw and
	4	1/4-14 x 1-1/4″ flat head sheet metal screw

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911514-00 Rev. 01/14-b

TESTING

Test device as described below. If device fails any step, check cross slot alignment (see Step 13 of installation instructions) and battery installation (see Step 14 of installation instructions).

1. Close door and turn cylinder key 360 degrees clockwise. Dead bolt will extend and red light on device will blink every 16 seconds indicating that device is armed.
2. Press pushpad to open door. Alarm will sound.
3. Close door. Turn cylinder key 360 degrees clockwise. Dead bolt will extend, alarm will stop, and red light on device will blink every 16 seconds indicating that device is armed.
4. Turn cylinder key 360 degrees counterclockwise to retract dead bolt. Red light on device will stop blinking indicating that device is not armed.
5. Press pushpad to open door. Alarm will not sound.

OPERATION

	Inside Cylinder	**Outside Cylinder**
Turning key 360 degrees clockwise	**Extends dead bolt, stops sounding alarm, and arms device (red light blinks every 16 seconds)**	**Retracts dead bolt and disarms device (red light is off)**
Turning key 360 degrees counterclockwise	**Retracts dead bolt and disarms device (red light is off)**	**Extends dead bolt, stops sounding alarm, and arms device (red light blinks every 16 seconds)**

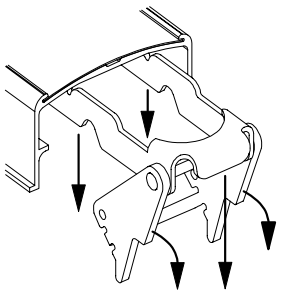
BATTERY CONDITION

When the 9 volt battery in the device is running low, the device will emit a beep every 16 seconds. When this occurs, remove the center case cover and change the battery. **When changing the battery, be careful of the pinch points (see "Warning" below).**

When reinstalling the center case cover, be sure to use long screws where shown in the "Parts List" (other side) for tamper resistance.

⚠ WARNING

Pinch points. Can cause injury when pushpad is pressed with center case cover removed. Keep clear.



VON DUPRIN®

GUARD-X™

Exit Alarm Lock

ALLEGION™

Refer to Step #1
when using this template
(template to scale)

This edge up for RHR

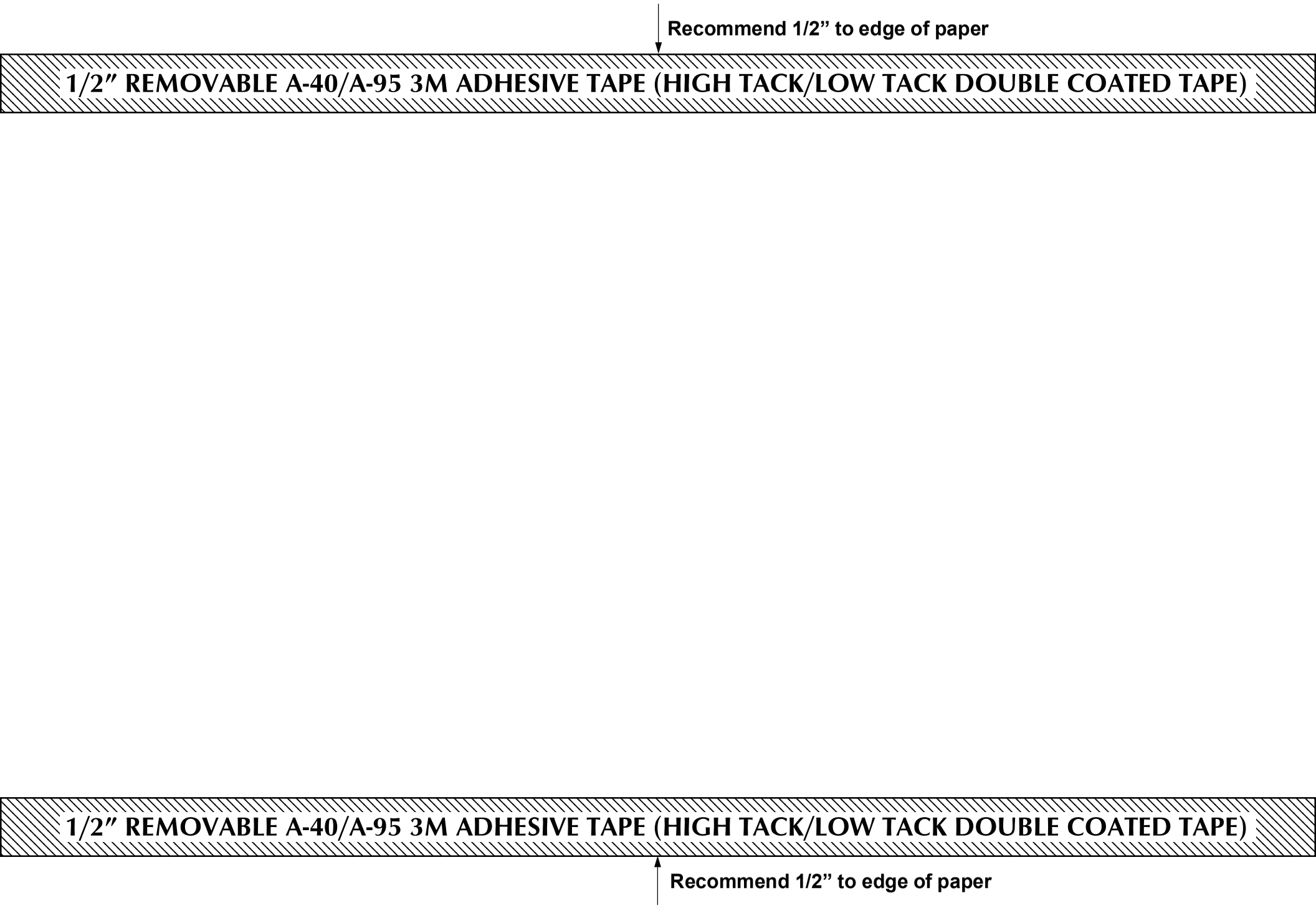
RHR

911515-00

LHR

This edge up for LHR

911515_00(b)

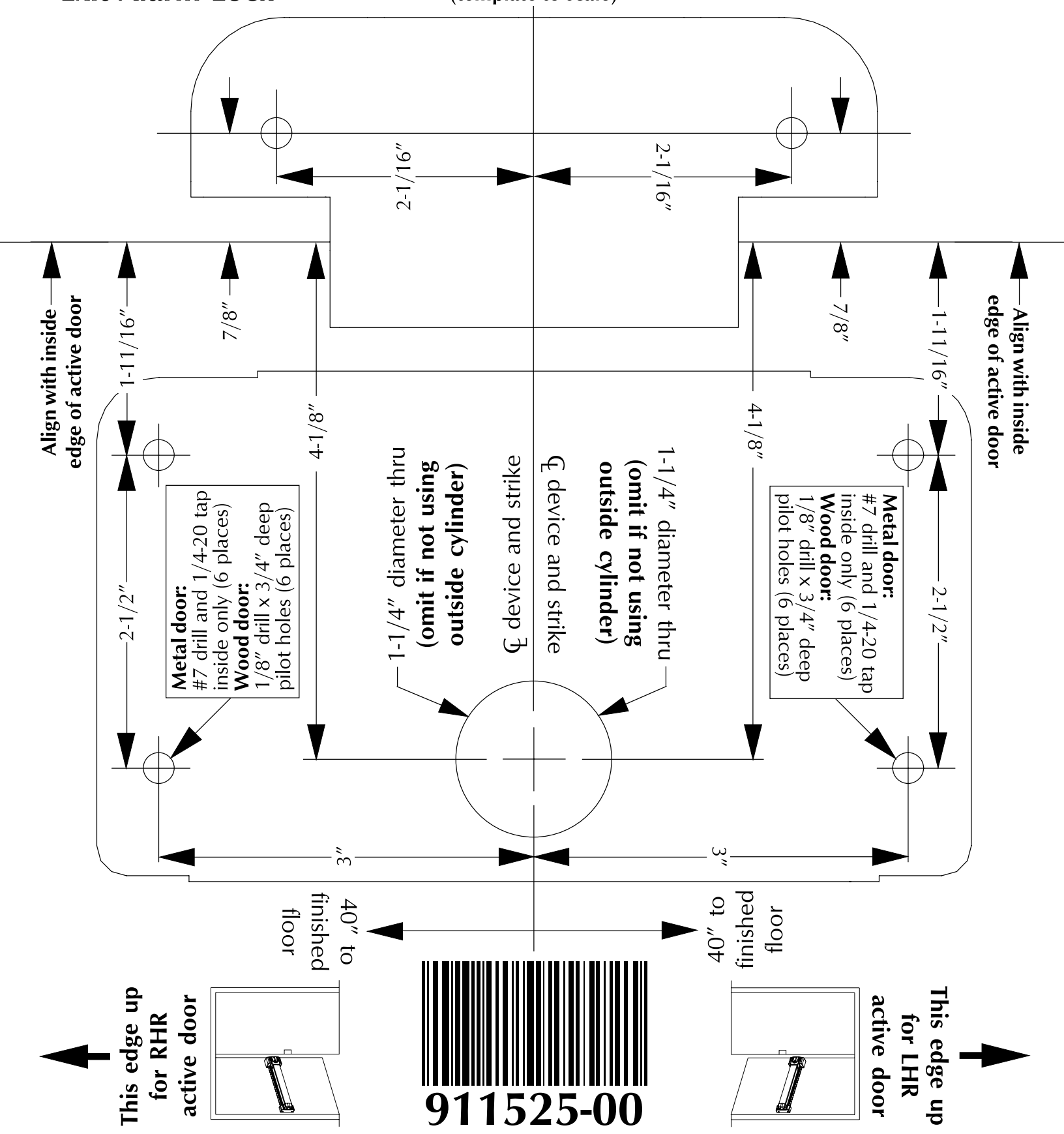

Recommend 1/2” to edge of paper
1/2″ REMOVABLE A-40/A-95 3M ADHESIVE TAPE (HIGH TACK/LOW TACK DOUBLE COATED TAPE)
1/2″ REMOVABLE A-40/A-95 3M ADHESIVE TAPE (HIGH TACK/LOW TACK DOUBLE COATED TAPE)
Recommend 1/2” to edge of paper

ATTENTION:
When printing, verify that print is scaled to 100% by measuring dimensions shown on template.

VON DUPRIN® GUARD-X™
Exit Alarm Lock

Security & Safety

DOUBLE DOOR TEMPLATE
Refer to Step #1 when using this template
(template to scale)



911525-00

911525_00(0)

911536-00

Guard-X

VON DUPRIN

Exit Alarm Lock, PC Board Replacement Kit

Installation Instructions

IMPORTANT

When installing new PC board and re-assembling device, be sure to install all screws into the holes they were removed from.

1. If using PT790 Plug-in Transformer Option, unplug transformer from AC outlet.
2. Remove center case cover (Figure 1).

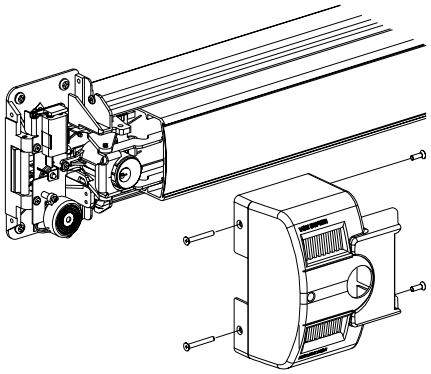
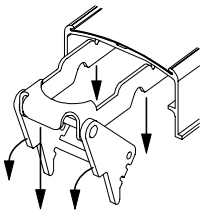


Figure 1

WARNING

Pinch points. Can cause injury if pushpad pressed with center case cover removed. Keep clear.



3. Remove 9 V battery (Figure 2). If using PT790 Plug-in Transformer Option, disconnect transformer cable from PC board (Figure 3).

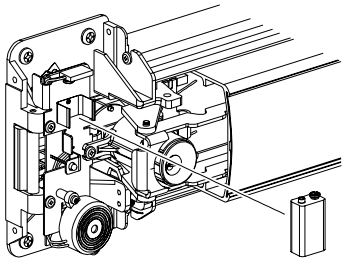


Figure 2

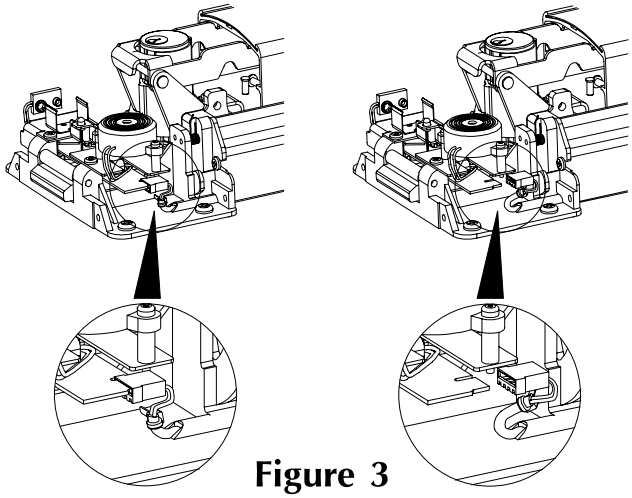


Figure 3

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4 Remove cylinder bracket (Figure 4).

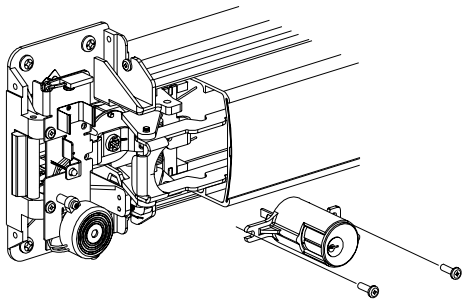


Figure 4

5 Remove PC board (Figure 5). If switching link comes loose, replace as shown in Figure 6.

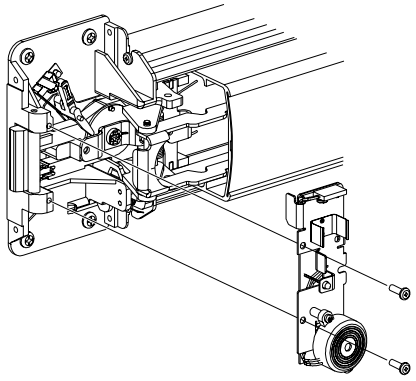


Figure 5

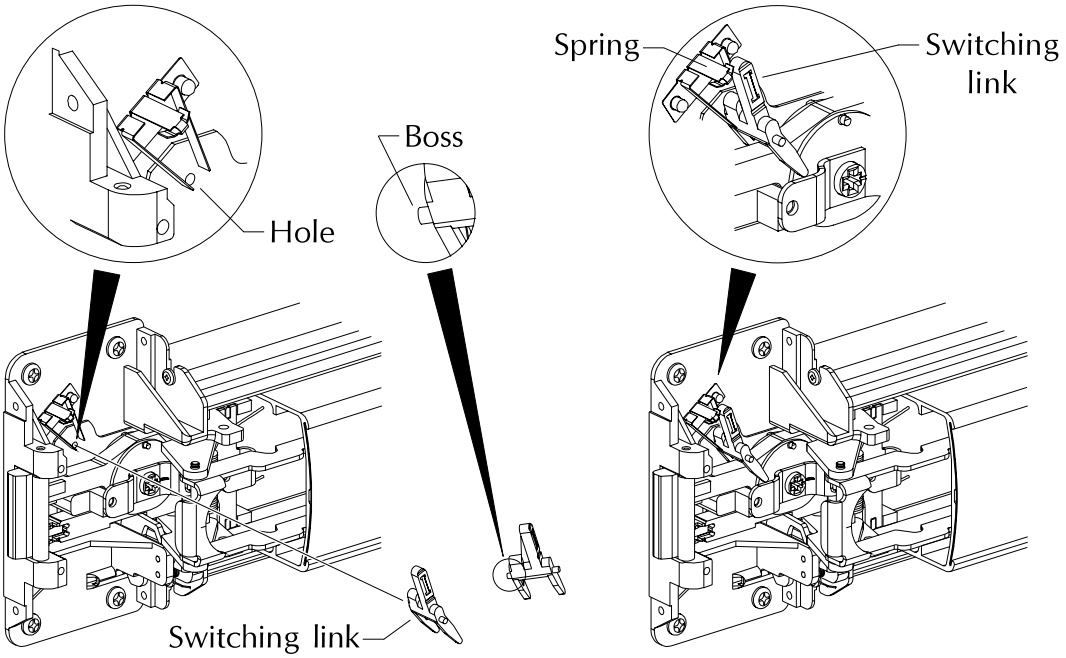


Figure 6. Boss on bottom of switching link fits into hole. Switching link aligns with spring as shown.

6 Install new PC board (Figure 7). Hole in bottom of PC board fits over boss on switching link.

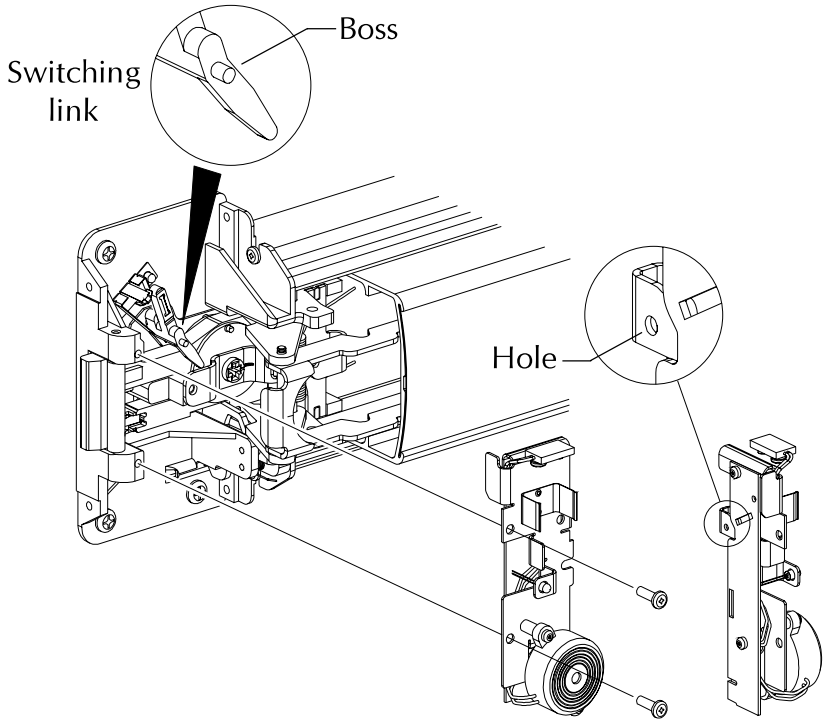


Figure 7

7 Use Phillips screwdriver to rotate cross slots inside center case so marks align (Figure 8). Install cylinder bracket, making sure cylinder tailpiece engages slot in center case (Figure 9). **The cylinder bracket screws are different. Be sure to install the screws as shown in Figure 9.**

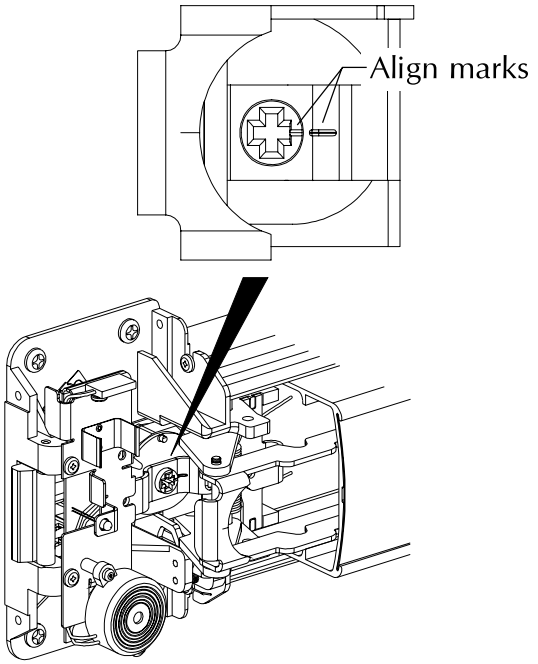


Figure 8

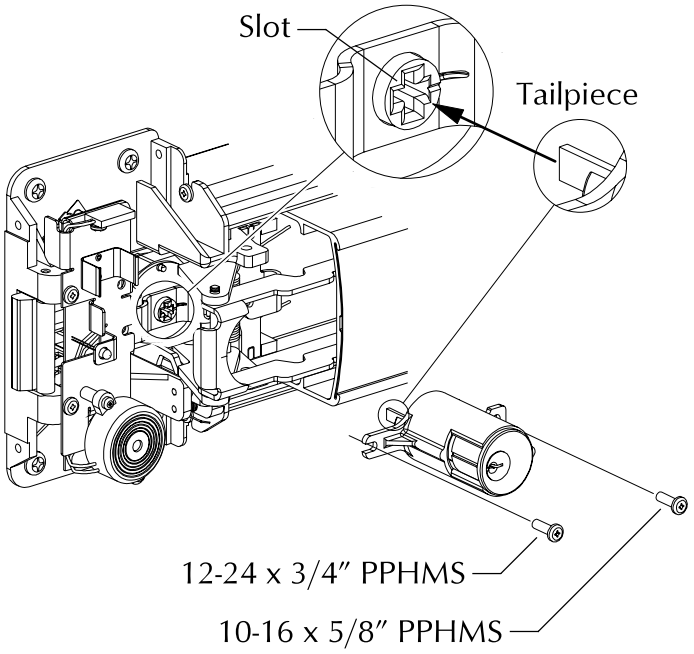


Figure 9

8 Install 9 V battery and attach battery clip to battery (Figure 10). If using PT790 Plug-in Transformer Option, connect transformer cable (Figure 11).

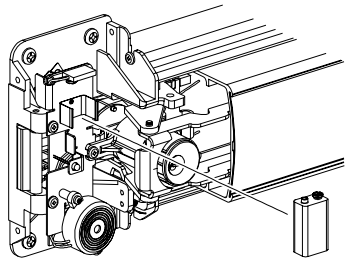


Figure 10

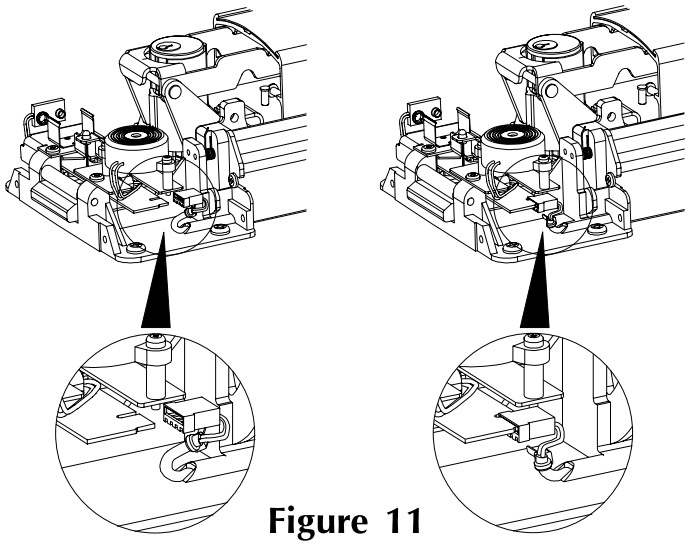


Figure 11

9 Install center case cover (Figure 12). Use long screws where shown for tamper resistance.

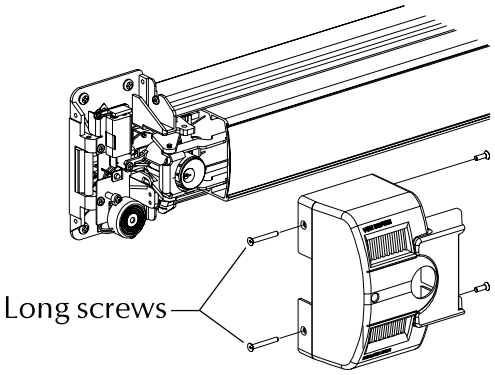


Figure 12

10 If using PT790 Plug-in Transformer Option, plug transformer into AC outlet.

11 Test device as described below. If device fails any step, check switching link position (see Step 5), cross slot alignment (see Step 7), and battery installation (see Step 8).

A. Close door and turn cylinder key 360 degrees clockwise. Dead bolt will extend and red light on device will blink every 16 seconds indicating that device is armed.

B. Press pushpad to open door. Alarm will sound.

C. Close door. Turn cylinder key 360 degrees clockwise. Dead bolt will extend, alarm will stop, and red light on device will blink every 16 seconds indicating that device is armed.

D. Turn cylinder key 360 degrees counterclockwise to retract dead bolt. Red light on device will stop blinking indicating that device is not armed.

E. Press pushpad to open door. Alarm will not sound.

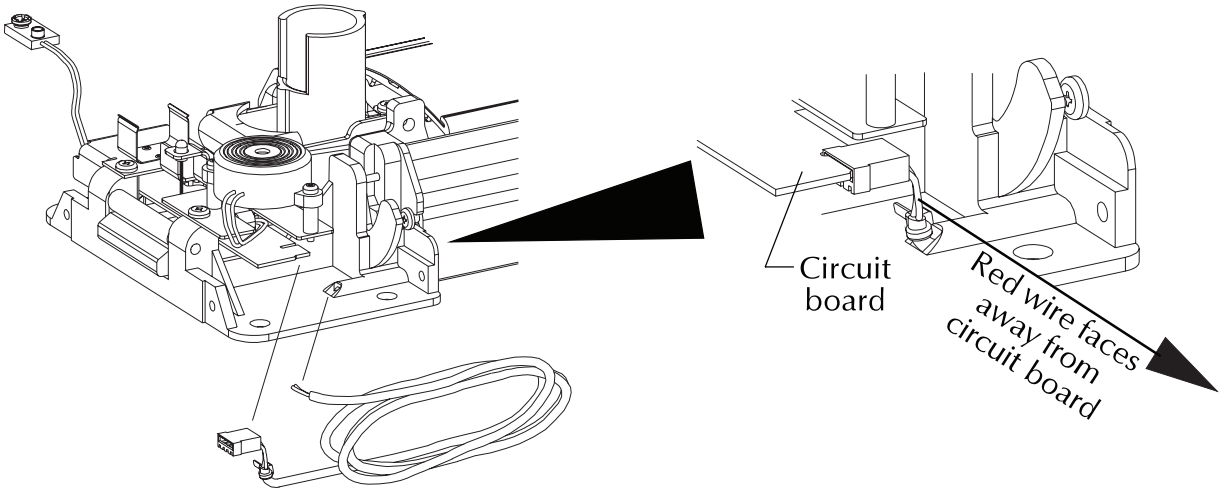
VON DUPRIN®

Installation Instructions

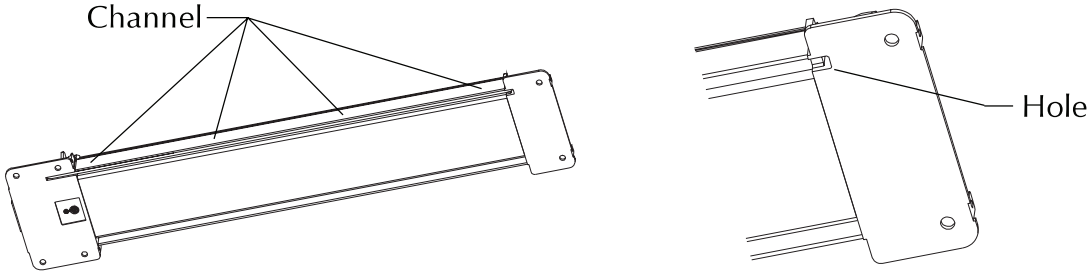
GUARD-X™ Exit Alarm Lock
PT790 Plug-in Transformer Option

After completing Step 5 of the GUARD-X installation instructions:

A. Feed the pigtail end of the PT790 cable through the hole in the center case and attach the cable connector to the circuit board.



B. Place the cable in the channel on the underside of the device and run the pigtail end through the hole in the hinge side mounting plate.



C. Continue with Step 6 of the GUARD-X installation instructions. **Make sure that the PT790 cable stays in the channel when mounting device on door.**

ALLEGION

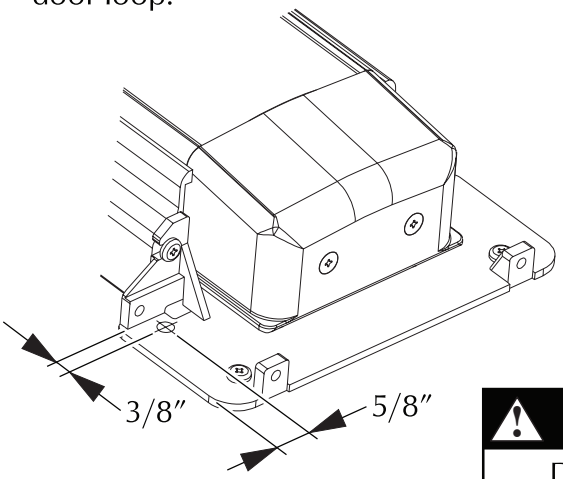
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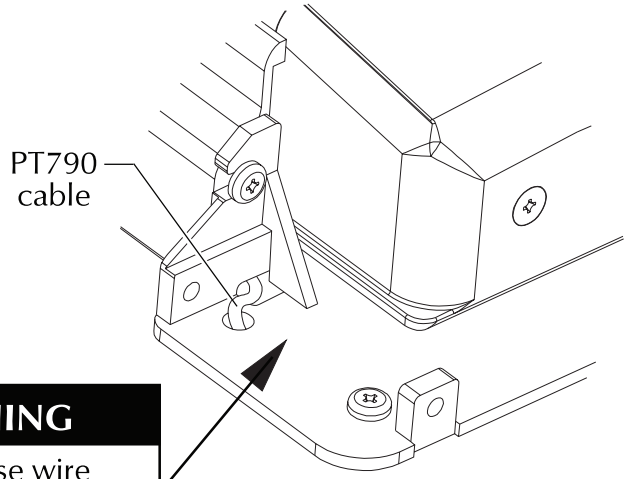
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After completing Step 8 of the GUARD-X installation instructions:

A. Prepare the door for a door loop (recommended).

B. Drill a 1/4″ diameter hole through the hinge side mounting plate and through the inside face of the door where shown. Run the loose end of the PT790 cable into the hole and through the door loop.





⚠ WARNING

Do not use wire connectors in this area. They may interfere with pushpad operation.

C. Connect PT790 cable wires to PT790 transformer leads using crimp connectors or wire nuts:

PT790 Cable Wires		PT790 Transformer Leads
Red wire	connects to	Wire with red tubing (smooth insulation)
Black wire	connects to	Unmarked wire (ribbed insulation)

D. Secure the door loop to the door and frame.

E. Continue with Step 9 of the GUARD-X installation instructions.

After completing Step 13 of the GUARD-X installation instructions:

A. Install cylinder bracket and cylinder (see Step 14).

B. Plug in PT790 transformer and test device (see "Testing" on back of "Parts List").

C. Install 9 volt battery and attach battery clip (see Step 14).

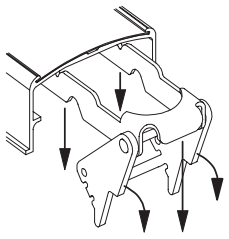
D. Continue with Step 15 of the GUARD-X installation instructions.

⚠ NOTE

Install the 9 volt battery when using the PT790 option. This will allow the GUARD-X to continue functioning if AC power is lost.

⚠ WARNING

Pinch points. Can cause injury when pushpad is pressed with center case cover removed. Keep clear.



Exit Devices

—

98/99 Devices

941316-00

Service Parts Replacement

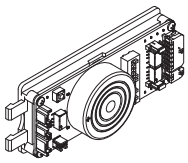
Chexit/RCM/DE5300

VON DUPRIN

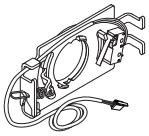
Special Instructions

Chexit/RCM/DE5300 Service Parts

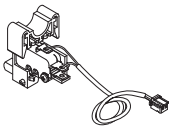
Chexit Service Parts



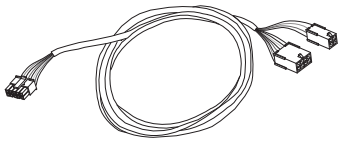
Chexit Module



Key Switch



RX Switch

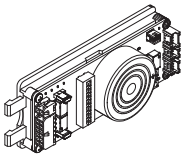


Chexit Field Wiring Cable

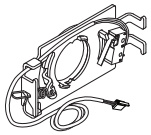


Blocking Device Cable (connected to motor)

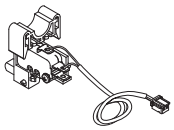
DE5300/RCM Service Parts



DE5300/RCM Module



Key Switch



RX Switch



DE5300/RCM Field Wiring Cable



DE5300/RCM Device Wiring Cable

Table of Contents

Module Replacement on CX Device..... 2-3
Module Replacement on DE5300 or RCM Device 4-5
Key Switch Replacement CX Device..... 6
Key Switch Replacement DE5300 or RCM Device 7
RX Switch Replacement on Chexit or RCM Exit Device 8

⚠ WARNING ⚠

To avoid risk of shock, disconnect AC power from power supply before proceeding with component replacement. If using Battery Backup option, unplug all four wires from battery terminals.

Customer Service

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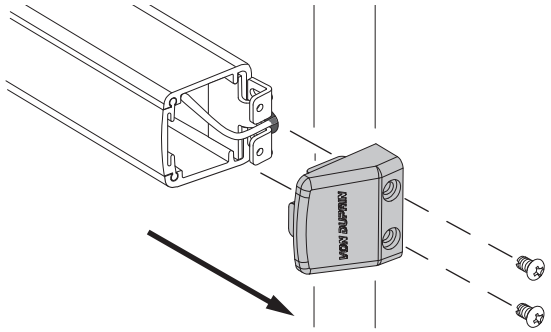
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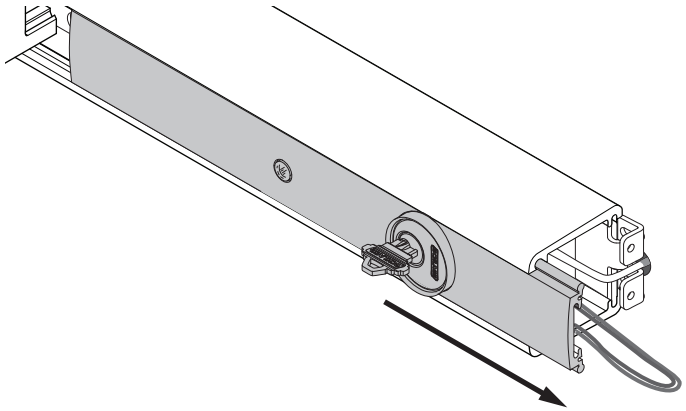
941316-00 Rev. 07/15-a

Module Replacement on a Chexit Device

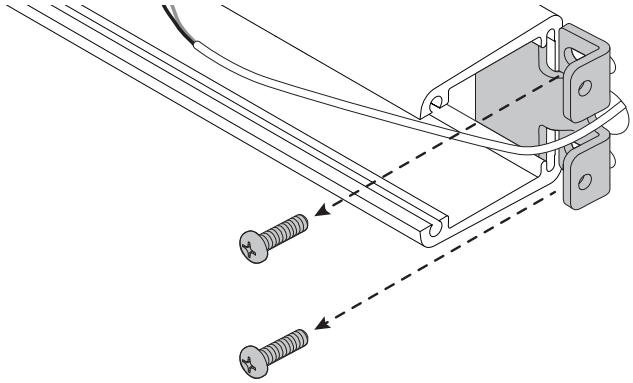
1a **Removal of Chexit Module.** First, remove end cap.



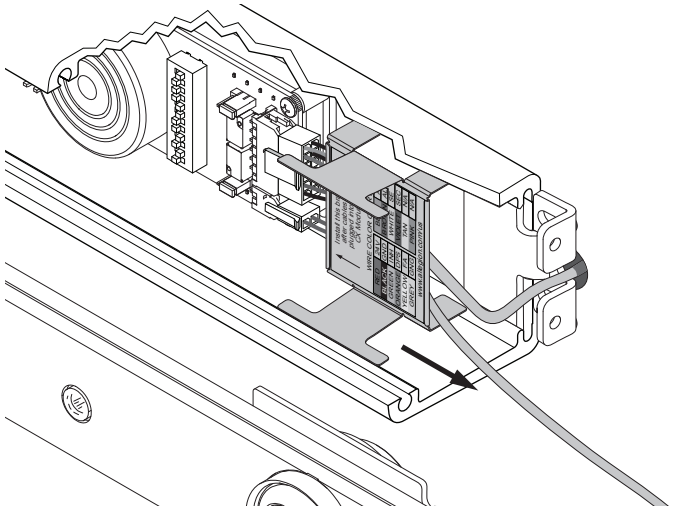
1b Slide and remove Cover Plate.



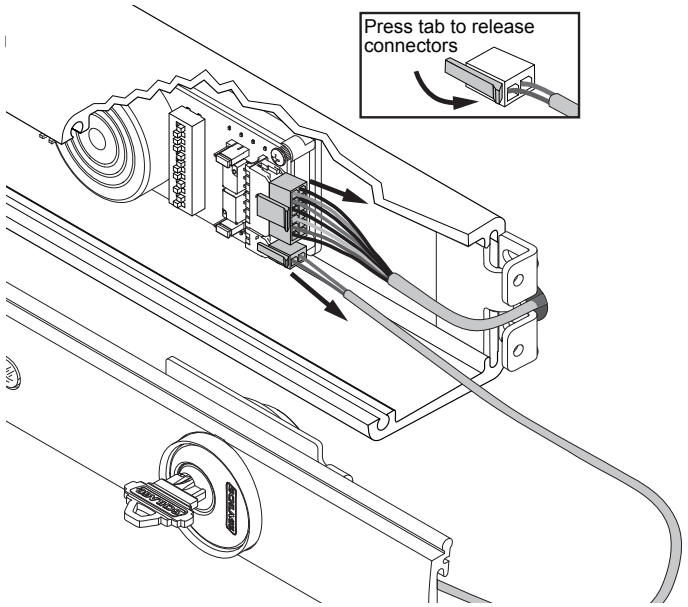
1c Remove end cap bracket.



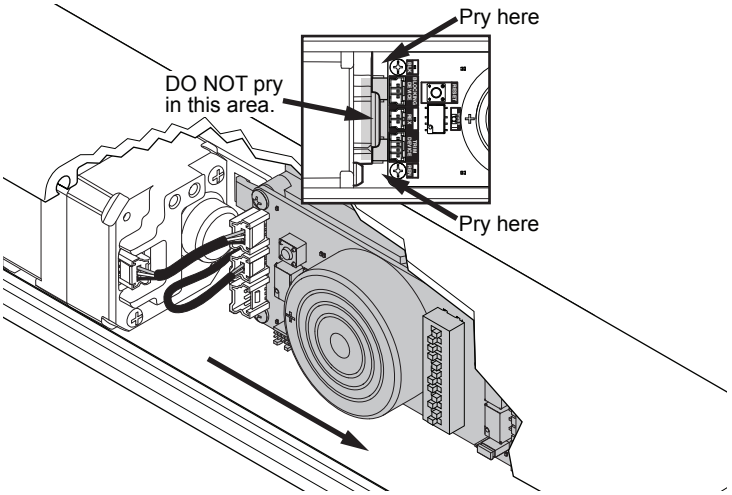
1d Slide Wire Guard out of end of case.



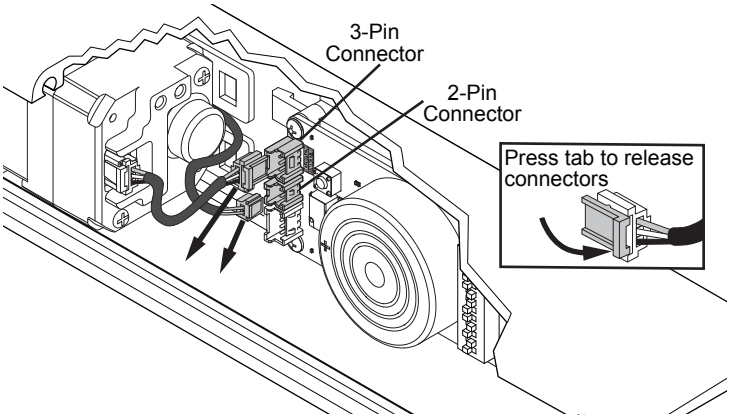
1e Press release tabs on Chexit Field Wiring Cable and Key Switch Cable to disconnect from module.



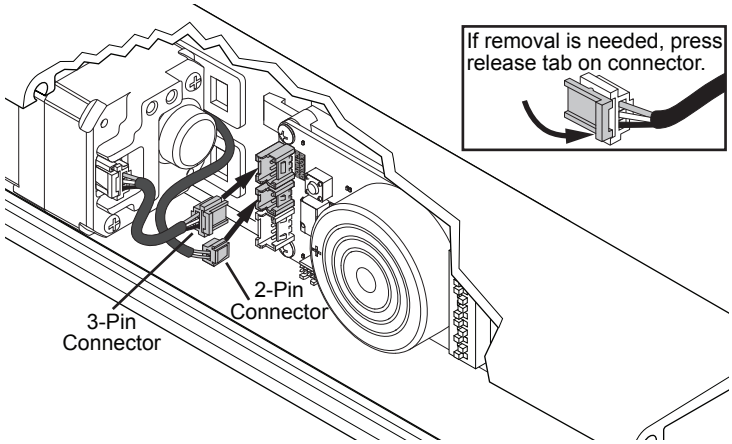
1f Insert flathead screwdriver between module and motor (only in the area shown) and pry until the module disengages.



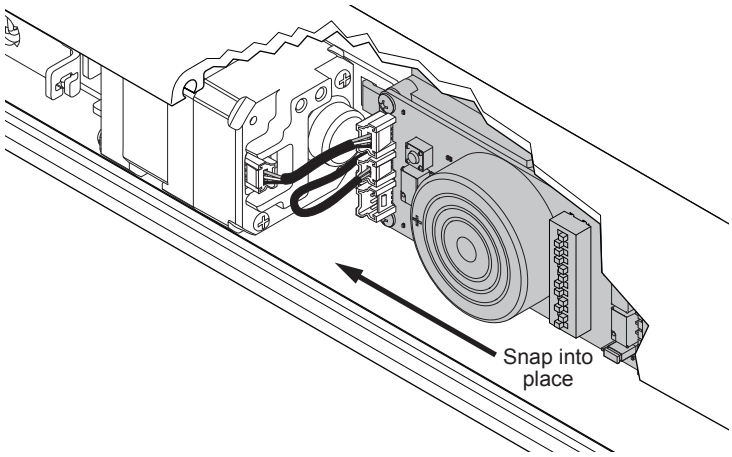
1g Disconnect Blocking Device Cable from 3-pin connector labeled “BLK” and RX Cable from 2-pin connector labeled “REX” on Module. Slide Chexit Module fully out of device case.



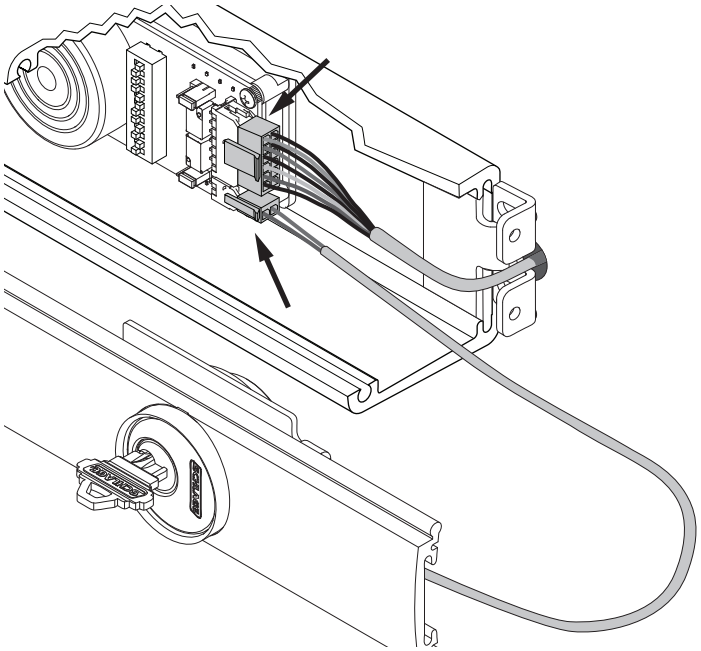
1h **Installation of Chexit Module.** First, slide Module into device case. Connect Blocking Device Cable from motor to 3-pin connector on Module. Connect 2-pin cable from under motor to Request-to-Exit connector labeled “REX” on Module.



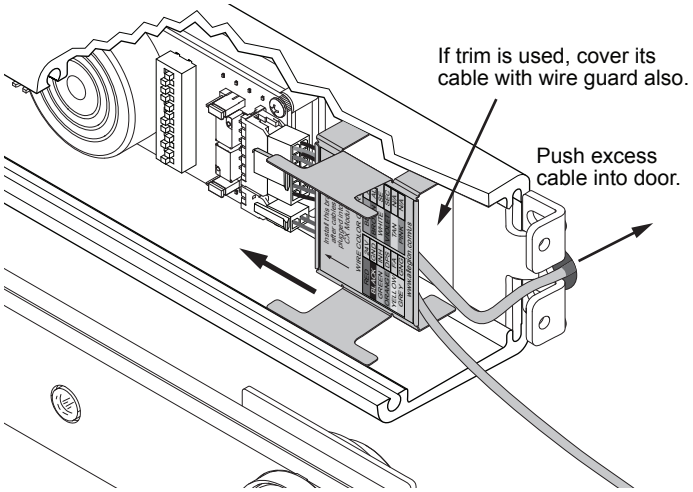
1i Push Module toward motor until it snaps into place.



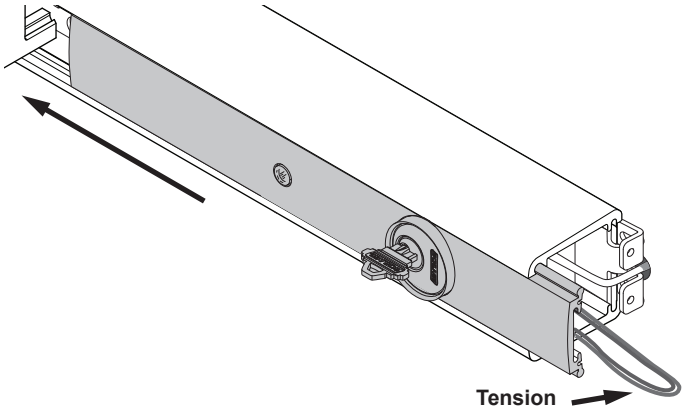
1j Connect Field Wiring Cable and Key Switch Cable to Module as shown.



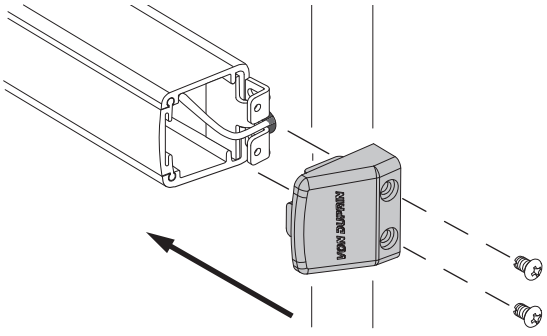
1k Slide Wire Guard into case end and above Key Switch and Chexit Door Wiring Cables until making contact with module.



1l While keeping tension on the Key Switch Cable and pushing wires flat against door, slide Cover Plate fully into place. After Cover Plate is installed, push Key Switch Cable under the wire guard

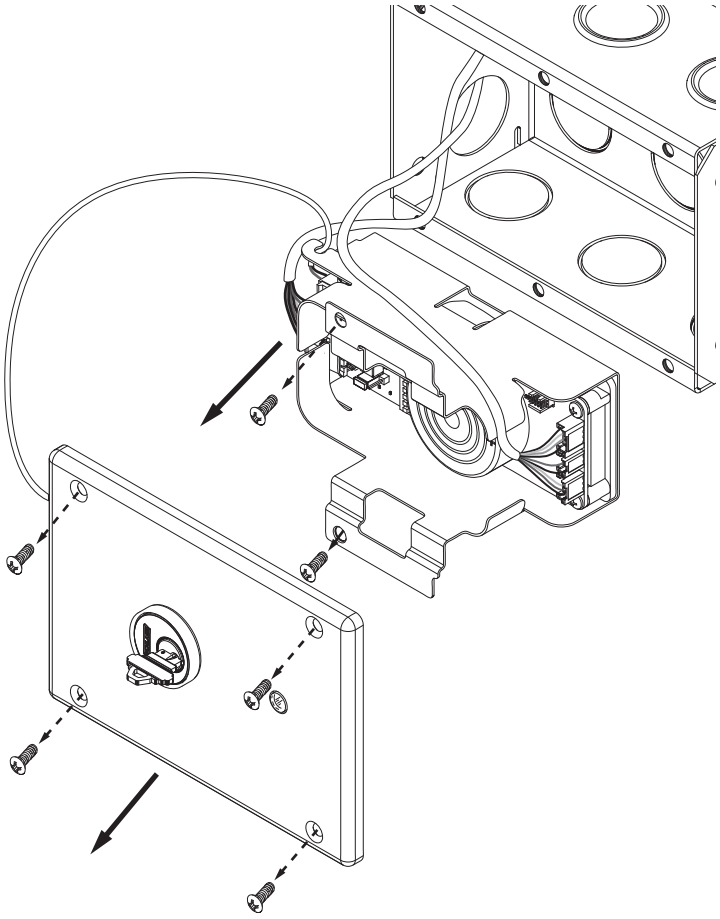


1m Install end cap.

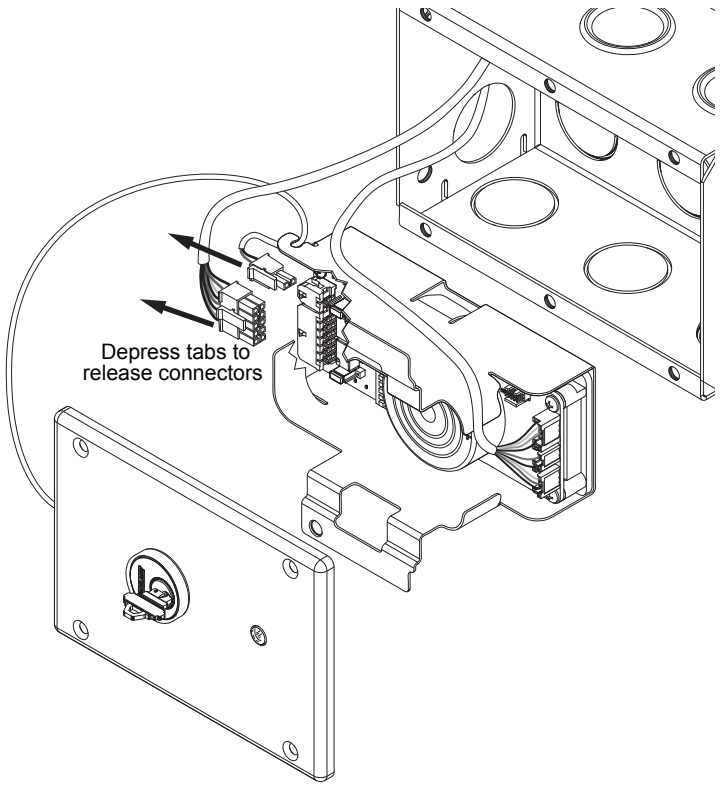


Module Replacement on DE5300 or RCM Device

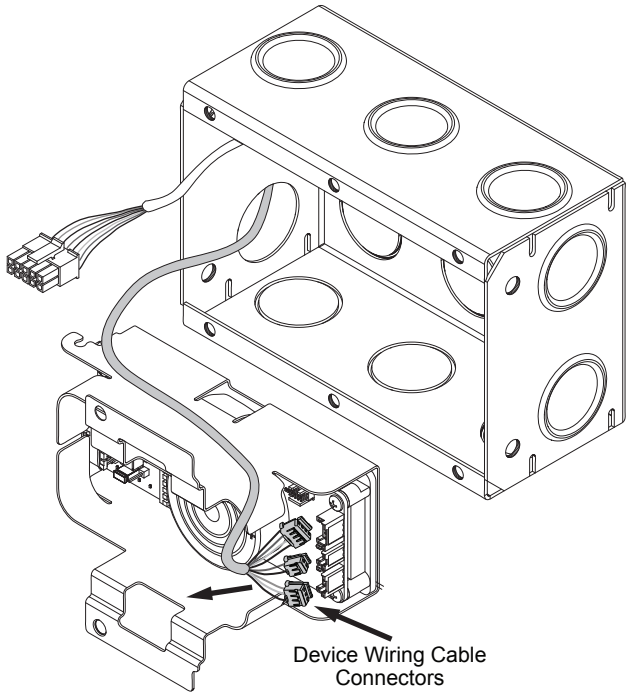
1a **Removal of DE5300 or RCM Module.** First remove screws then pull out face plate and mounting bracket with Module from control box.



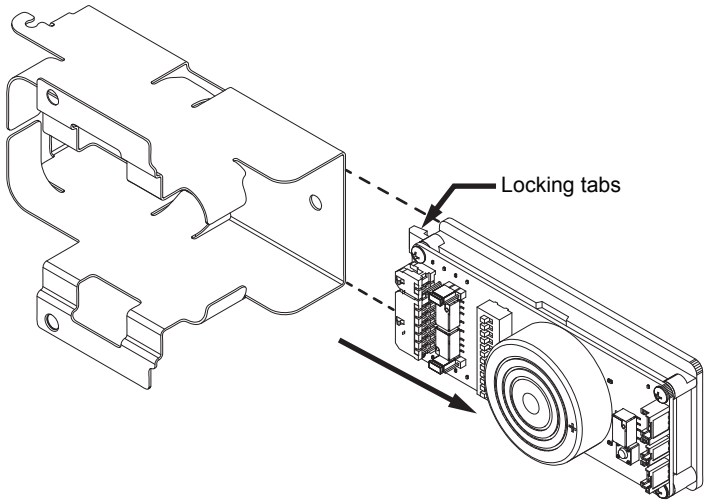
1b Disconnect Key Switch Cable and DE5300/RCM Field Wiring Cable from Module.



1c Disconnect the three DE5300/RCM Device Wiring Cable connectors from the Module.

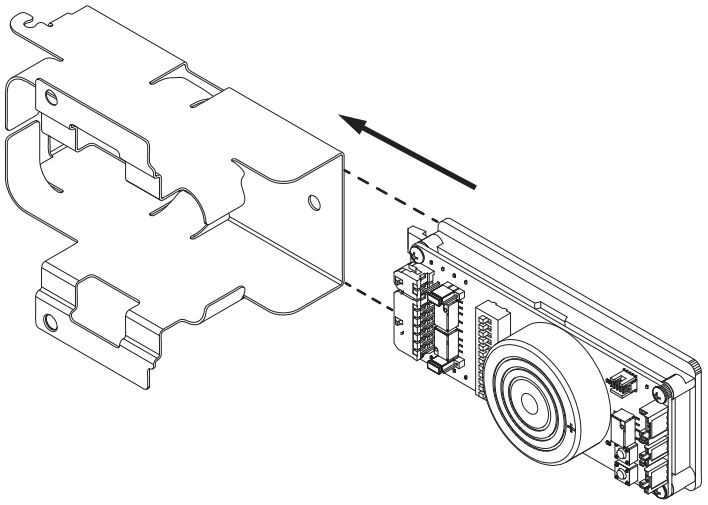


1d Pull up on both locking tabs and slide Module out of mounting bracket.

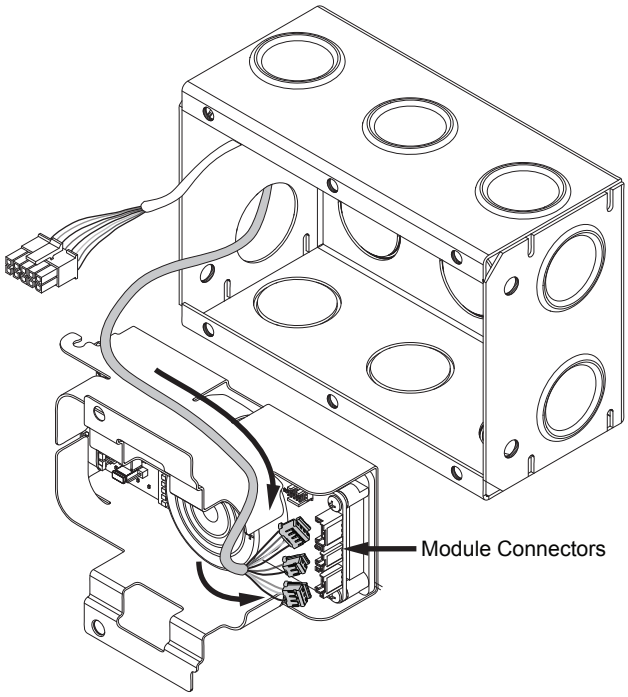


Module Replacement on DE5300 or RCM Device (Continued)

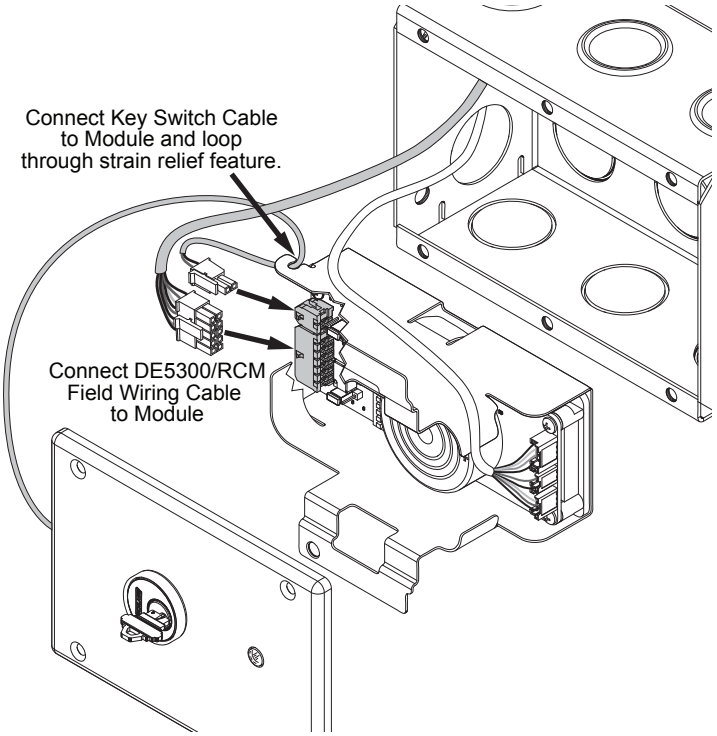
1e **Installation of DE5300 or RCM Module.** First slide new Module into mounting bracket until it snaps into place.



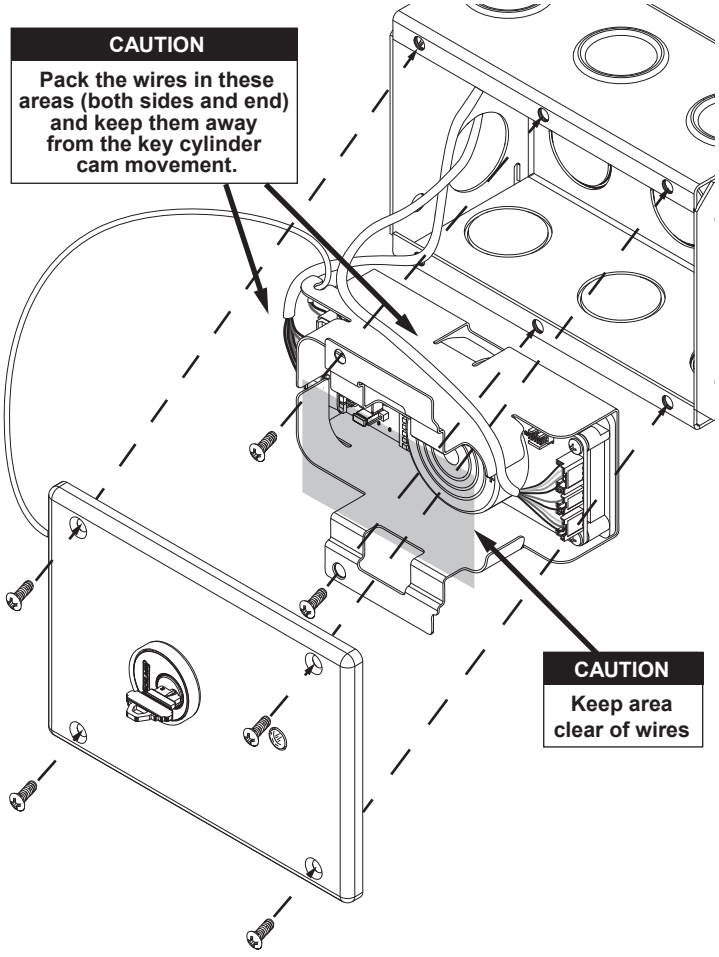
1f Route DE5300/RCM Device Wiring Cable over mounting bracket and connect to Module.



1g Connect Key Switch Cable and DE5300/RCM Field Wiring Cable to Module.

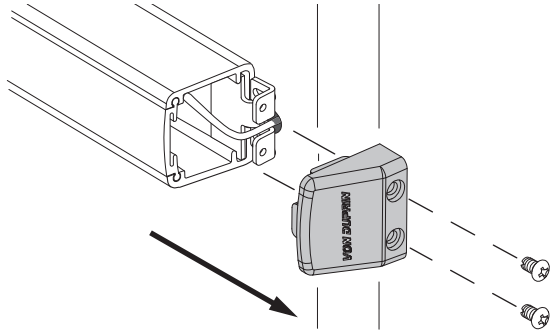


1h Insert mounting bracket with Module into control box and screw into place. Screw face plate into place.

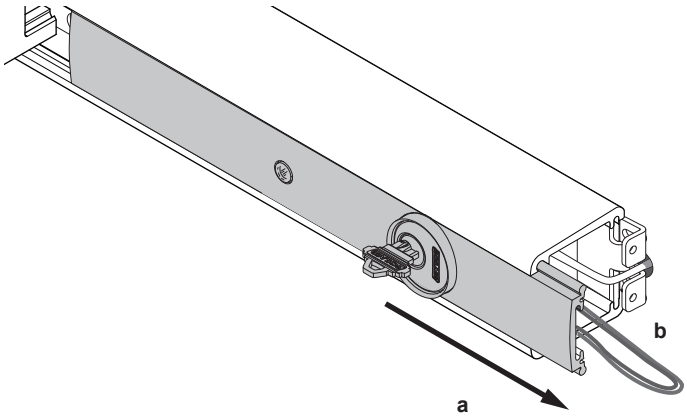


Key Switch Replacement on Chexit Device

1a Remove end cap.



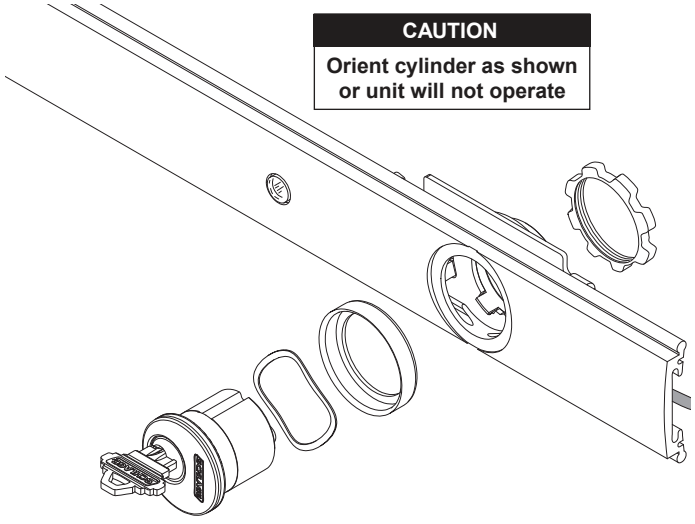
1b Slide and remove cover plate. Detach Key Switch Cable from Module.



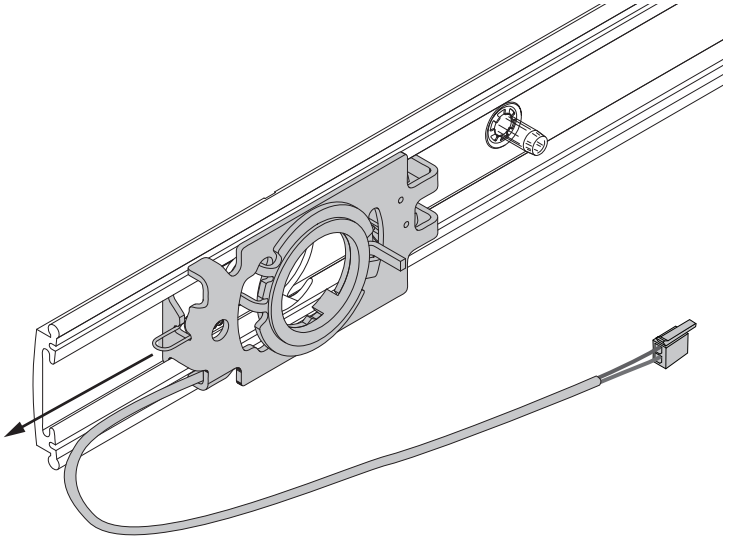
1c Disassemble cylinder.

CAUTION

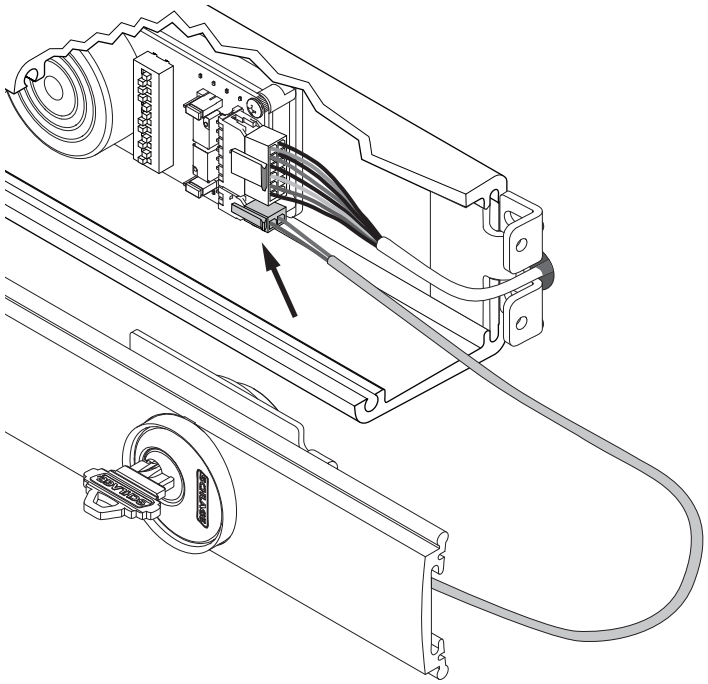
Orient cylinder as shown or unit will not operate



1d Slide and remove Key Switch assembly. Replace with new Key Switch assembly.

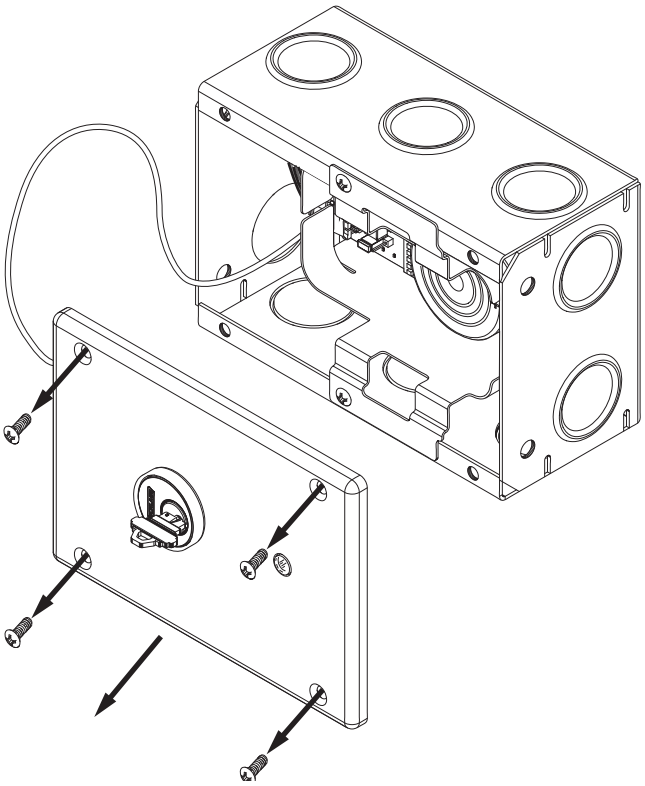


1e Reassemble cylinder per orientation shown in 1c, attach Key Switch Cable to Module, replace cover plate and end cap.

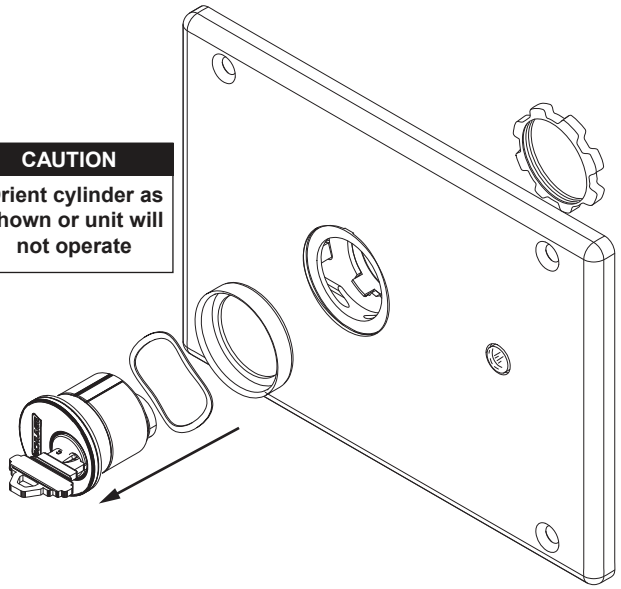


Key Switch Replacement on DE5300 or RCM Device

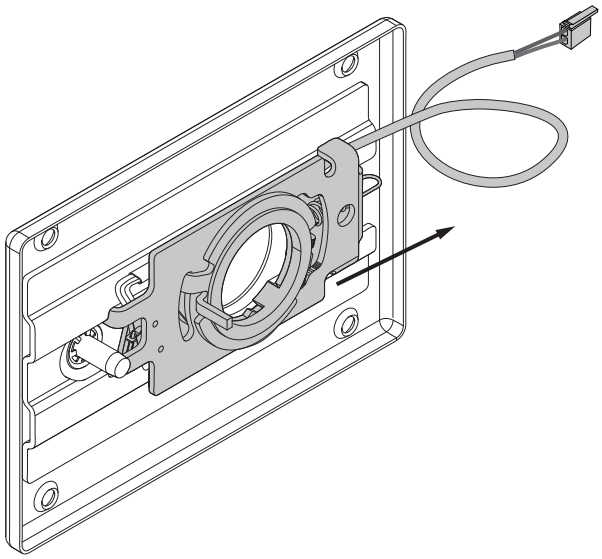
1a Remove face plate. Detach Key Switch Cable from Module.



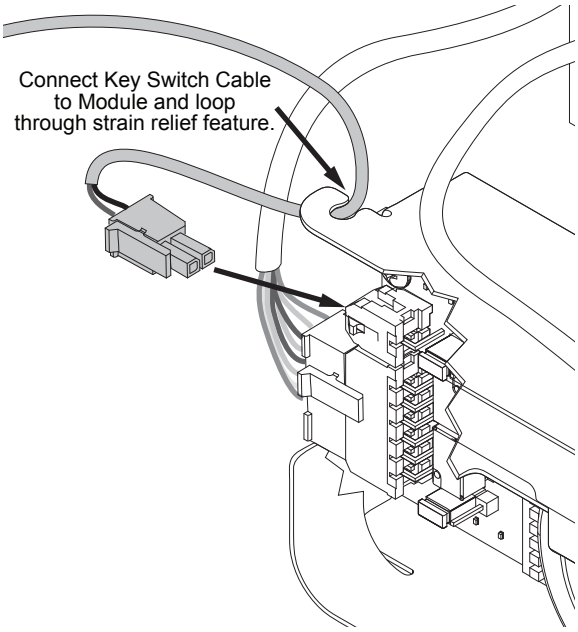
1b Disassemble cylinder.



1c Slide and remove Key Switch assembly. Replace with new Key Switch assembly.

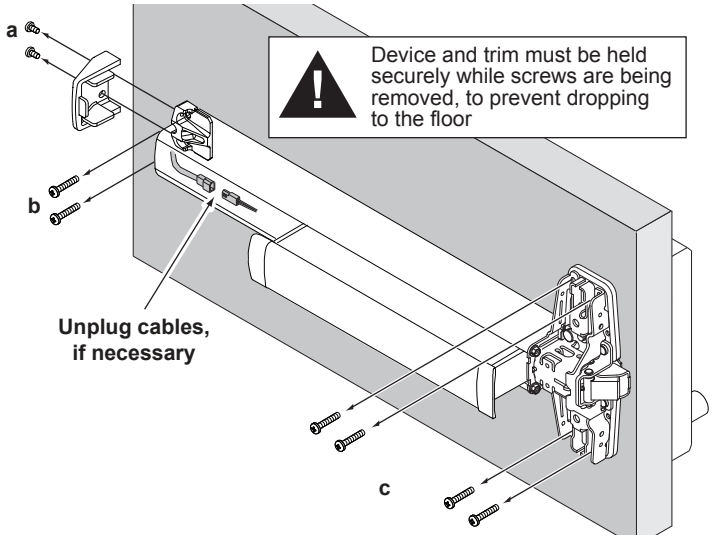


1d Reassemble cylinder per orientation shown in 1b, attach Key Switch Cable to Module and replace face plate.

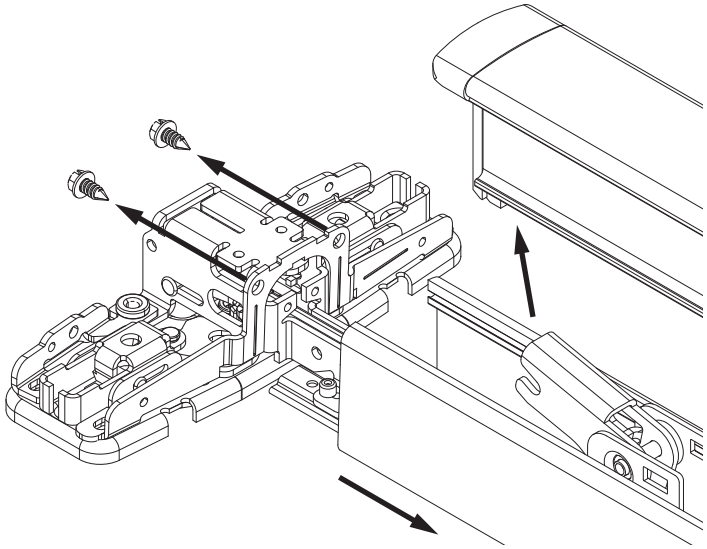


RX Switch Replacement on Chexit or RCM Device

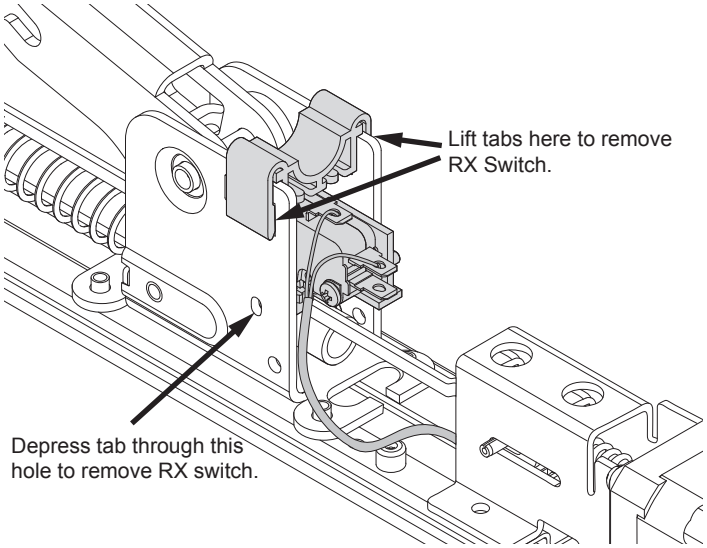
1a Remove centercase cover, end cap, cover plate, and end cap bracket.



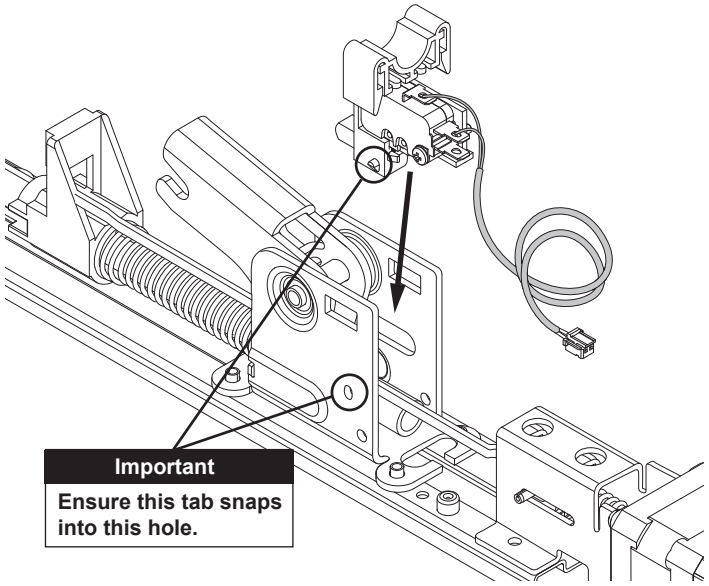
1b Remove centercase screws and slide case off of baseplate. Lift off push pad.



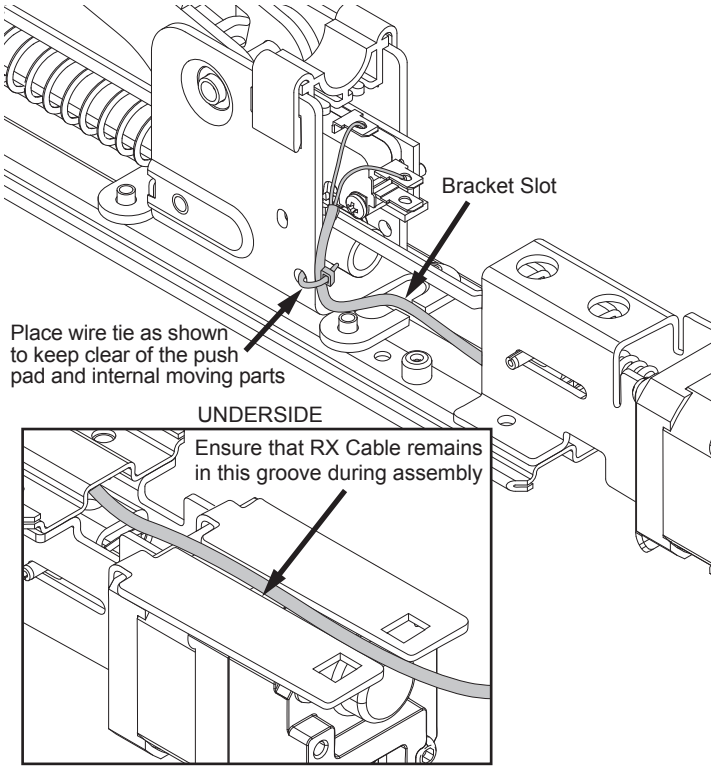
1c Remove old RX switch.



1d Install new RX switch.



1e Route RX Cable through the bracket slot and under the motor assembly as shown. Secure cable with wire tie supplied.



1f Reinstall push pad, case and centercase screws. Mount exit device on door. Reinstall end cap bracket, cover plate, end cap and centercase cover.

1g IMPORTANT: Test proper function of device. Refer to the Basic Functional Test in the Chexit or RCM instructions to confirm the push pad on the Chexit / RCM exit device is working properly.

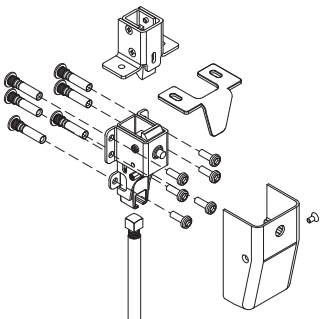
24645558

Windstorm Exit Device
Puerta de tormenta
Dispositif de sortie Windstorm

WS9857/WS9957 & WS9857-F/WS9957-F

VON DUPRIN®

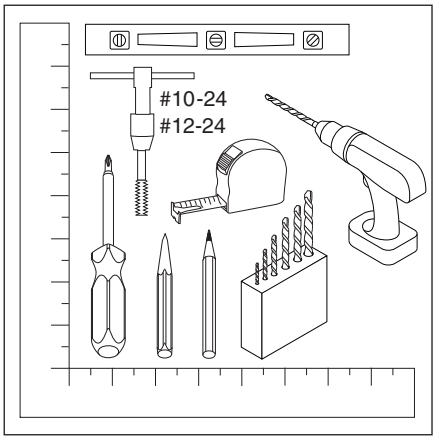
Installation Instructions
Instrucciones de Instalación
Notice d'installation

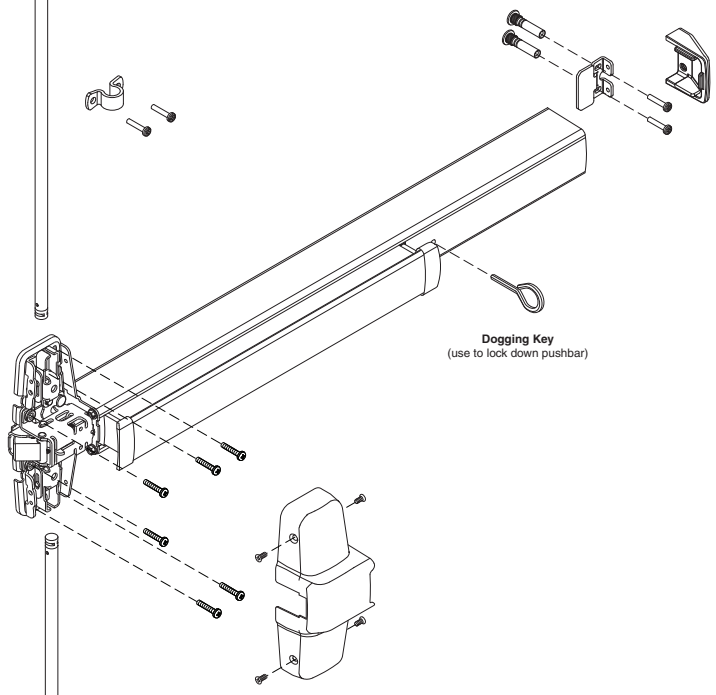


> **!** You must use the screws and sexbolts provided with this exit device or the device will not be UL Tornado or Windstorm certified. Do not substitute any hardware on door.

> **!** Debe usar los tornillos y los pernos de montaje de refuerzo que se proporcionan con esta puerta, ya que de lo contrario la puerta no cumplirá con la certificación UL para Tornados o Tormentas. No sustituya ninguno de los herrajes de la puerta.

> **!** Vous devez utiliser les vis et colonnettes fournies avec ce dispositif de sortie pour assurer l'homologation UL Tornado ou Windstorm. Ne pas modifier aucune pièce de quincaillerie de la porte.





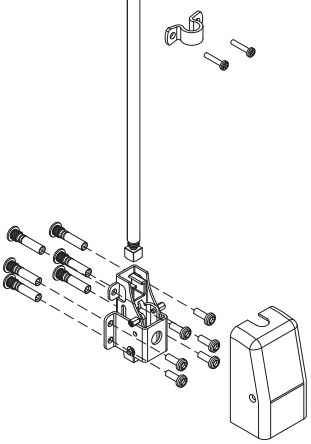
Dogging Key	Llave del trinquete	Œillet vissé
	Use to lock down pushbar Utilícela para asegurar hacia abajo la barra de empuje Utilisé pour verrouiller la barre antipanique	

QEL WS9827/9927 & QEL WS9827-F/9927-F

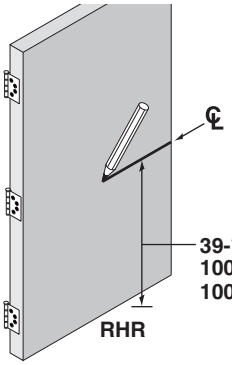
- Requires the use of electric hinge for power transfer
- See instruction sheet 44487098 for wiring to PS900 series power supply

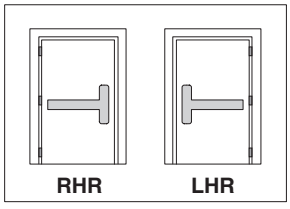
- Se necesita una bisagra eléctrica para la transferencia de potencia
- Consulte la hoja de instrucciones 44487098 para obtener información sobre el cableado de la alimentación eléctrica de la serie PS900

- L'utilisation d'une charnière électrique est requise pour le transfert d'alimentation
- Pour savoir comment effectuer le câblage du bloc d'alimentation de série PS900, consultez le feuillet d'instructions 44487098

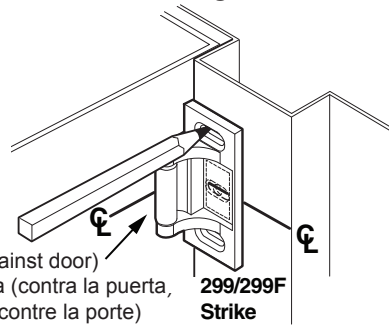


1 Draw Exit Device Centerline (℄)
Sacar línea central del dispositivo de salida de misión (℄)
Tracer l'axe du dispositif (℄)

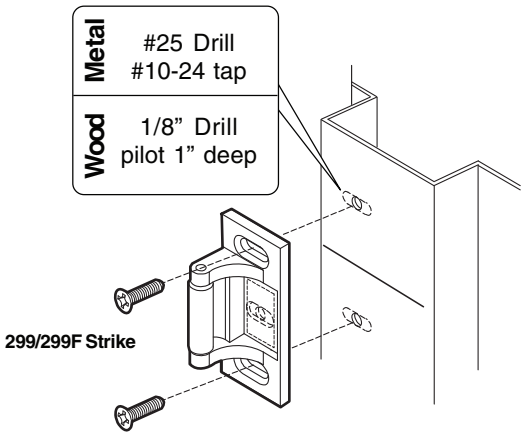




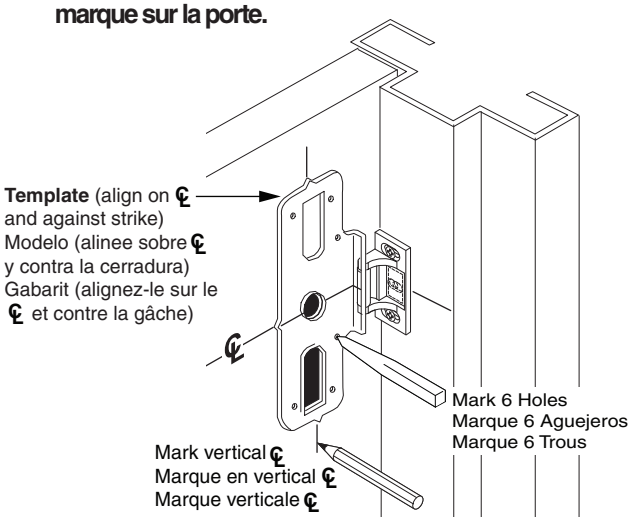
2 Align strike on ℄ and mark the two slotted holes.
Alinee la cerradura en ℄ y marque los dos agujeros ranurados.
Alignez la gâche sur ℄ et marquez les deux trous oblongs.



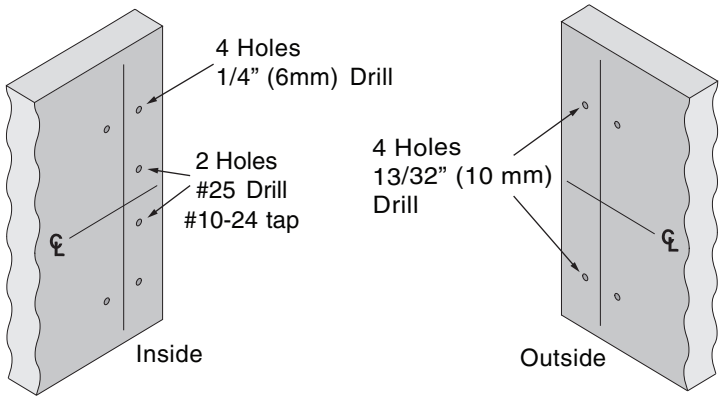
3 **Prepare 2 holes and install a screw thru each slot.**
Prepare 2 agujeros e inserte un tornillo a través de cada ranura.
Préparez deux trous et installez une vis dans chaque fente.



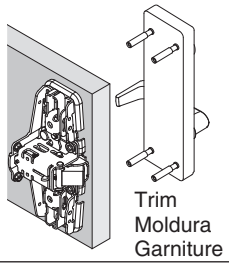
4 **Position template against strike and on ℄ and mark door.**
Posicione el modelo contra la cerradura y ℄ y marque la puerta.
Positionnez le gabarit contre la gâche et sur le ℄ et faites une marque sur la porte.



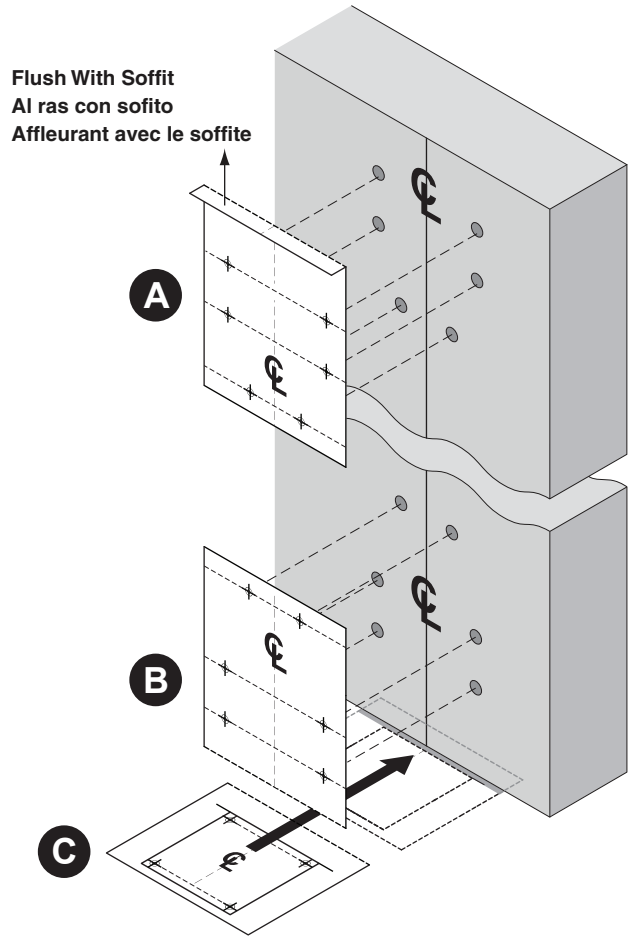
5 **Prepare Holes**
Prepare orificios
Préparer orifices



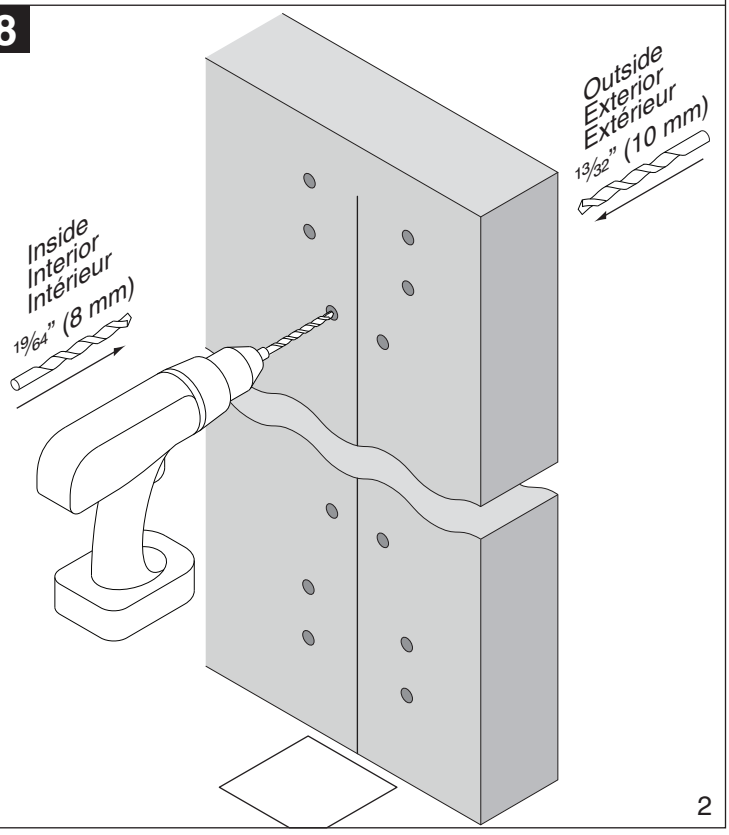
6 **If Installing Trim,**
Go To Trim Instructions
Si instala una moldura vaya a las instrucciones de moldura
Pour l'installation d'une garniture, Voir les « Instructions de garniture »



7 **Mark Door For Top & Bottom Latches Using Paper Templates On Back Cover**
Colocar el seguro en la parte superior y el seguro en la parte inferior utilizando plantillas de papel
Marquer la porte pour le verrou supérieur et le verrou inférieur en utilisant les gabarits de papier



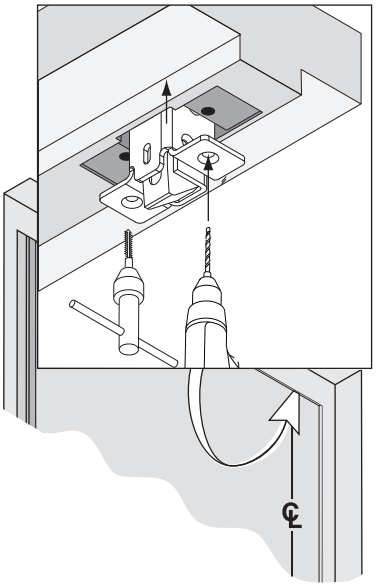
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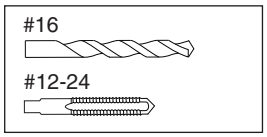


9 Mark and Drill Top Strike Holes Using Soffit as Template

Marque y perfore los orificios de la cerradura superior usando la cerradura como plantilla

Marquer et percer les orifices des gâches à l'aide du gabarit

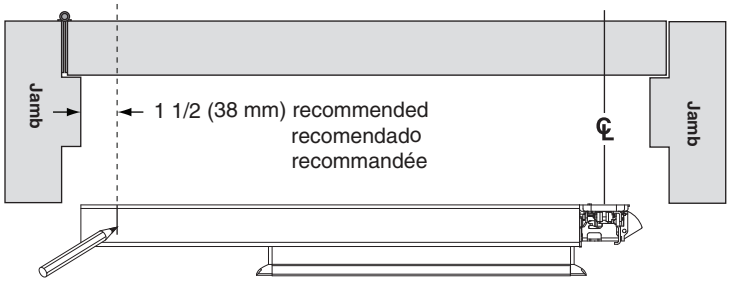




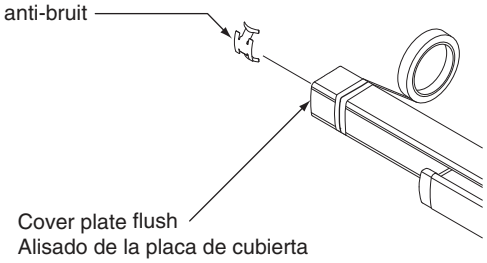
10 If Necessary, Cut Device

Si es necesario, corte el dispositivo

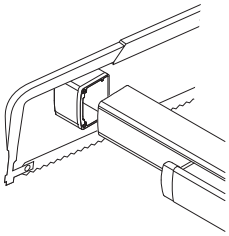
Couper le dispositif si nécessaire



Temporarily remove anti-rattle clip
Remueva temporalmente el gancho antitraqueteo
Enlevez de façon temporaire l'attache anti-bruit



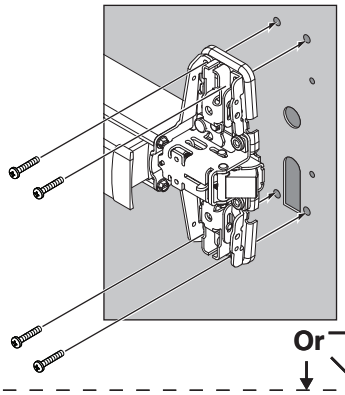
Cover plate flush
Alisado de la placa de cubierta
Alisado de la placa de cubierta



11 Attach center case to door

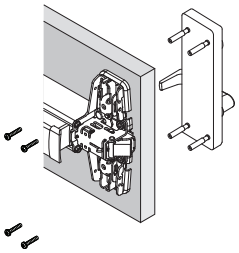
Una la caja central a la puerta

Fixez le boîtier central à la porte

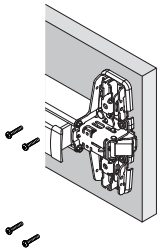


Or

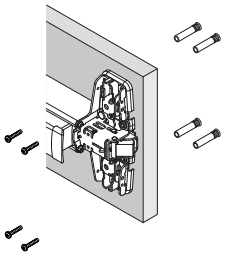
Thru-Bolting Trim
Recorte a través del perno
Vissage transversal de garniture



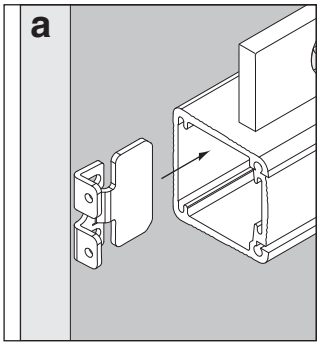
Surface Mount
Montaje de la superficie
Montage en surface

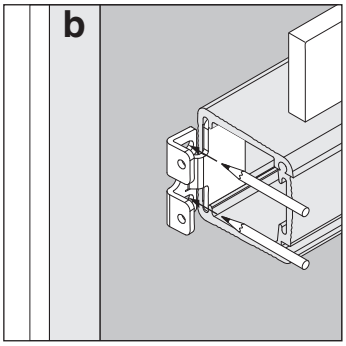


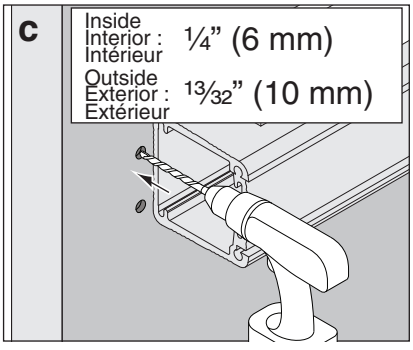
Sex Bolts
Pernos hembra
Colonnettes



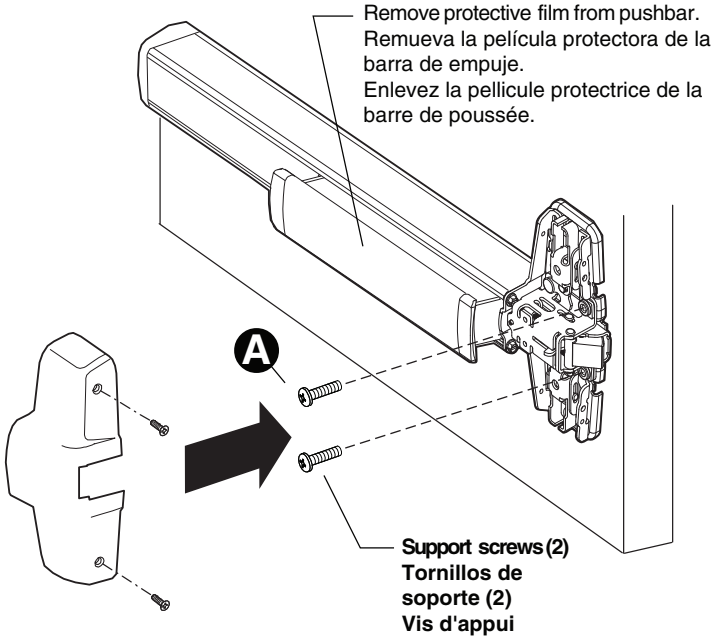
12





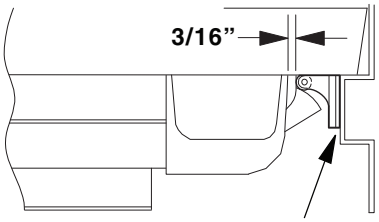


13 **Install 2 support screws, and center case cover.**
Instale 2 tornillos de soporte y la cubierta de la caja central.
Installez 2 vis d'appui et le couvercle du boîtier central

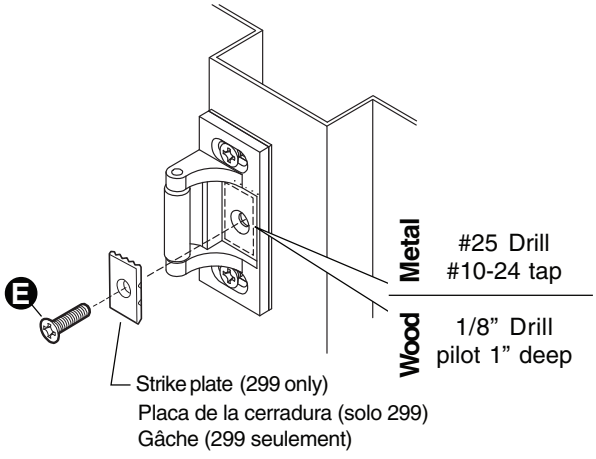


14 **Adjust and secure strike.**
Ajuste y asegure la cerradura.
Ajustez et serrez la gâche.

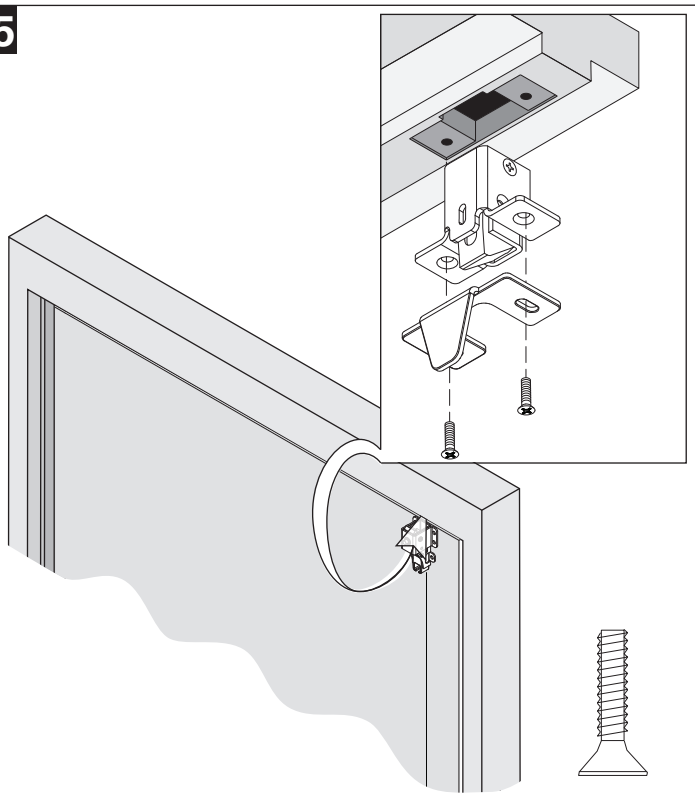
299/299F Strike



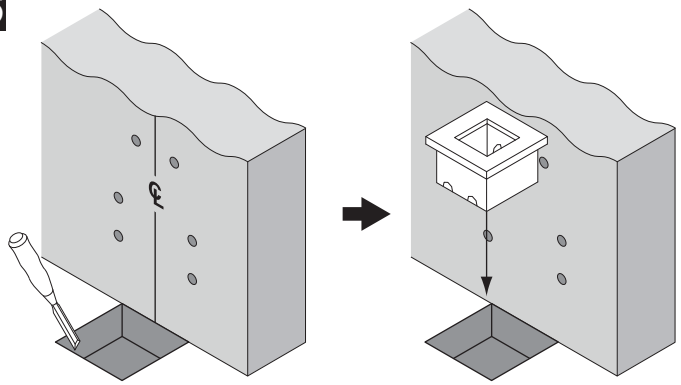
Shim for 3/16” if shimming is necessary
Separador para 3/16” si se necesita una separación
Cale pour 3/16 po si un calage est nécessaire



15

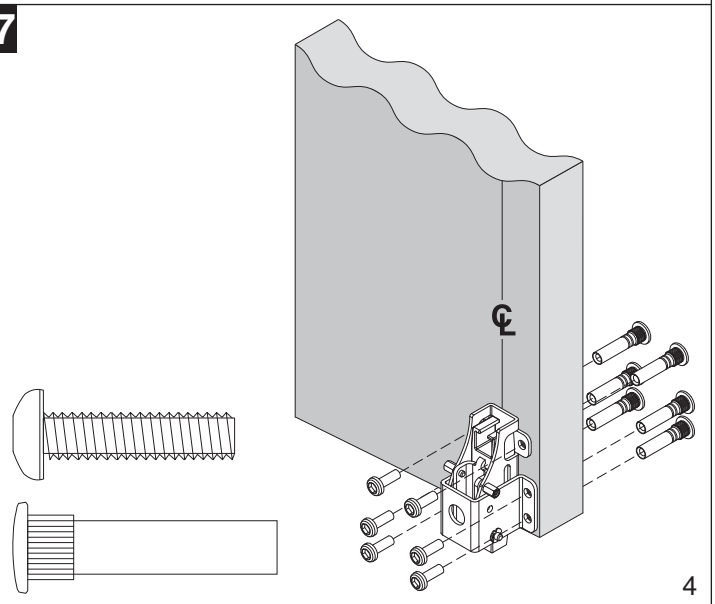


16



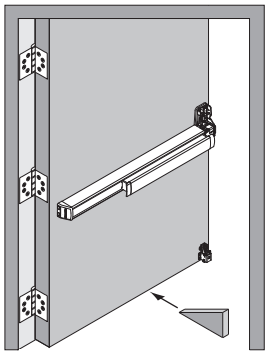
Grout Strike Into Floor
Aplique mezcla para juntas para colocar la cerradura en el piso
Encavure du plancher pour gâche

17

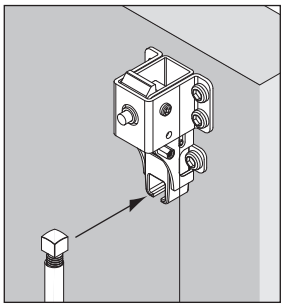


Adjust Top Rod

1 **Prop Door Open**
Abra la puerta
Étai oblique - porte ouverte



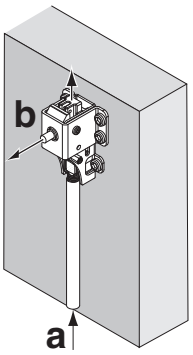
2 **Place Top Rod in Slot of Top Latch**
Coloque la varilla superior en la ranura del seguro superior
Insérer la tige supérieure dans la fente du verrou supérieur



3 **Push Top Rod (a) Upward Until Top Latch (b) Clicks and Holds**

Empuje la varilla superior (a) hasta que el seguro superior (b) ajuste y se mantenga cerrado

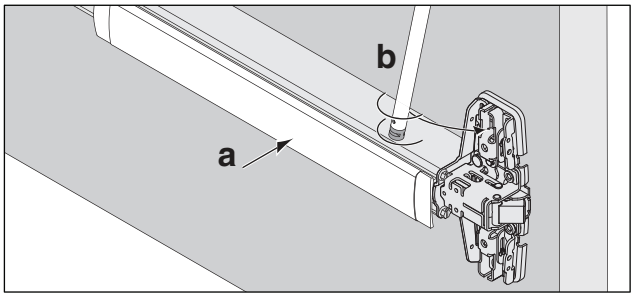
Pousser la tige supérieure (a) vers le haut jusqu'à ce que le verrou supérieur (b) s'enclenche et demeure fixe



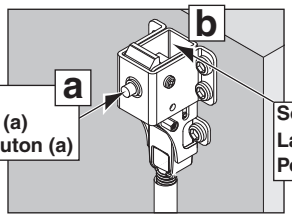
4 **While Holding Pushbar In (a), Rotate Top Rod Until it Slides Into Slot on Device (b)**

Mientras sujeta la barra de empuje en (a), gire la varilla superior hasta que deslice dentro de la ranura de la puerta (b)

Tenir la barre antipanique (a) puis tourner la tige supérieure jusqu'à ce qu'elle s'insère dans la fente du dispositif (b)

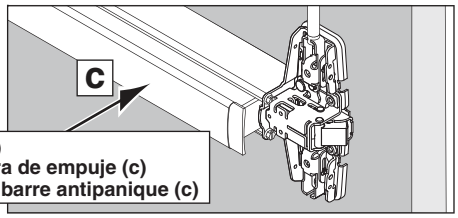


5

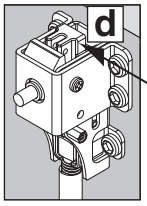


Press Button (a)
Presione el botón (a)
Appuyer sur le bouton (a)

So Rod (b) Drops
La varilla (b) baja
Pour que la tige (b) relâche

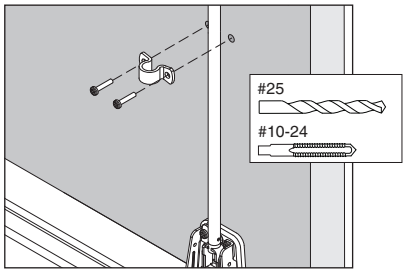


Slowly Depress Pushbar (c)
Presione lentamente la barra de empuje (c)
doucement la tension de la barre antipanique (c)

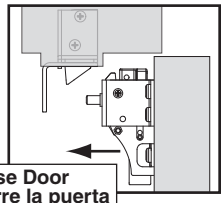


Verify That Top Latch Clicks and Holds (d)
Revise que el seguro superior ajuste y se mantenga en su lugar (d)
Vérifier l'enclenchement et la fixation du verrou supérieur (d)

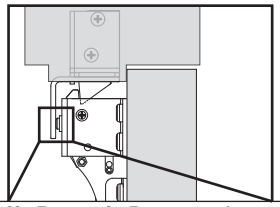
6 **Install Top Rod Guide**
Instale la guía de la varilla superior
Installer le guide de la tige supérieure



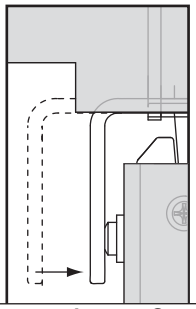
7



Close Door
Cierre la puerta
Fermer la porte

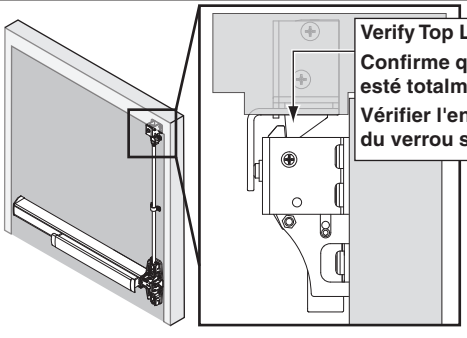


Verify Button is Depressed
Confirme que el botón esté apretado
Vérifier l'abaissement du bouton



If Necessary, Loosen Screw and Adjust Strike
Si es necesario, afloje el tornillo y ajuste la cerradura
Si nécessaire, dévisser légèrement la vis et régler la gâche

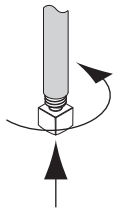
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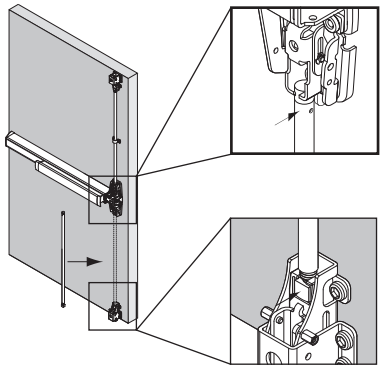
Verify Top Latch is Fully Engaged
Confirme que el seguro superior esté totalmente cerrado
Vérifier l'enclenchement complet du verrou supérieur

Adjust Bottom Rod

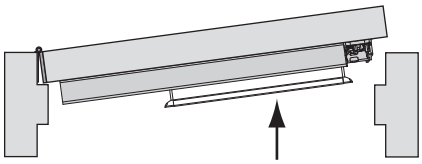
1 **Screw Bottom Rod Fitting All the Way In**
Atornillar la varilla inferior hasta que quede totalmente instaladaVisser et faire pénétrer entièrement la pièce de fixation de la tige inférieure



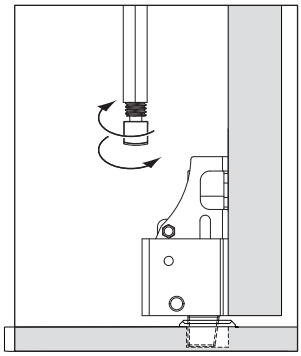
2 **Slide Bottom Rod Ends Into Respective Slots**
Deslice los extremos de la varilla inferior en las ranuras correspondientes
Glisser les extrémités de la tige inférieure dans les fentes respectives



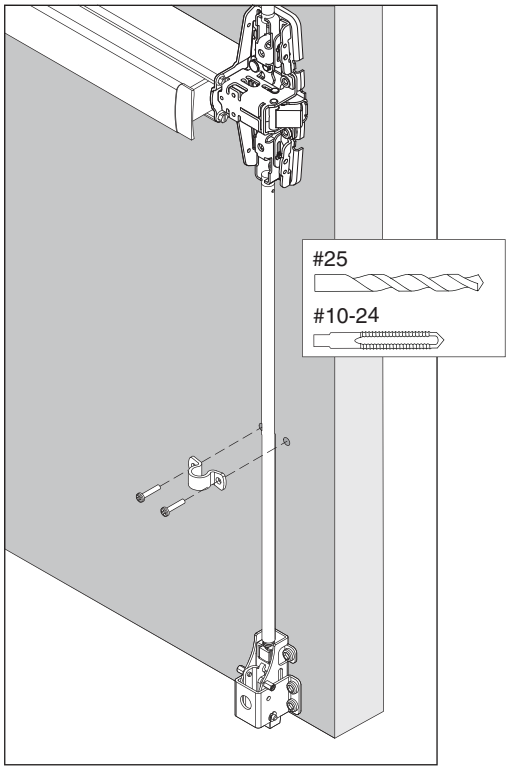
3 **Attempt to Open Door By Pressing Pushbar. If Door Will Not Open, Go to Step 4.**
Intente abrir la puerta presionando la barra de empuje. Si la puerta no se abre, vaya al paso 4.
Essayer d'ouvrir la porte en appuyant sur la barre antipanique. Si la porte ne s'ouvre pas, voir l'étape 4.



4 **Adjust Bottom Rod Fitting One Turn at a Time Until Door Will Open and Bottom Latch Clears Strike and Floor.**
Ajuste la varilla inferior una vuelta a la vez hasta que la puerta se abra y el seguro inferior libre la cerradura y el piso.
Pour ajuster, visser la pièce de fixation de la tige inférieure sur un tour à la fois jusqu'à ce que la porte s'ouvre et que le verrou inférieur soit dégagé de la gâche et du plancher



5 **Install Bottom Rod Guide**
Instale la guía de la varilla inferior
Installer le guide de tige inférieure



6 **Test Function**

a. Open and close door several times checking for proper latch engagement, retraction, and smooth operation.

b. If device is not functioning properly, redo top and/or bottom rod adjustment as necessary.

Prueba de función

a. Abra y cierre la puerta varias veces, asegurándose de que el seguro cierre bien, que el retroceso sea adecuado y que la operación sea suave.

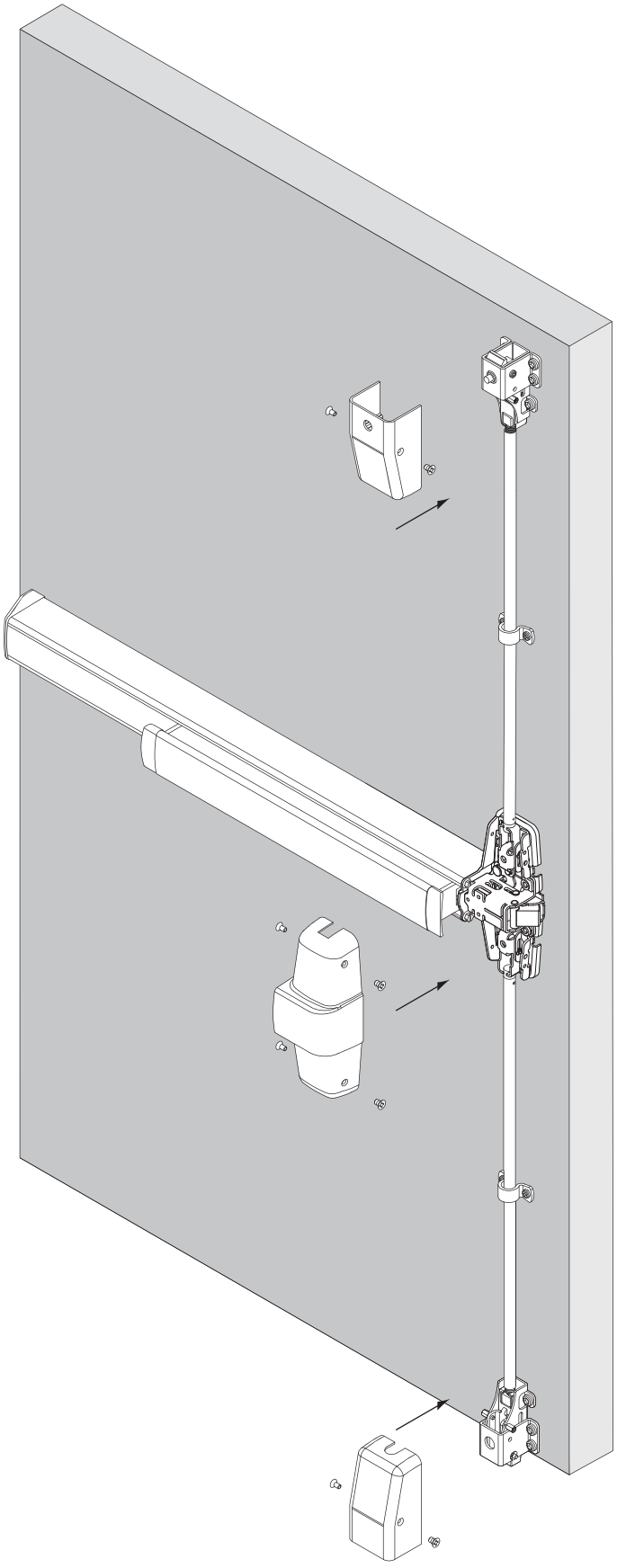
b. Si la puerta no funciona adecuadamente, vuelva a ajustar la varilla superior o la varilla inferior, según sea necesario.

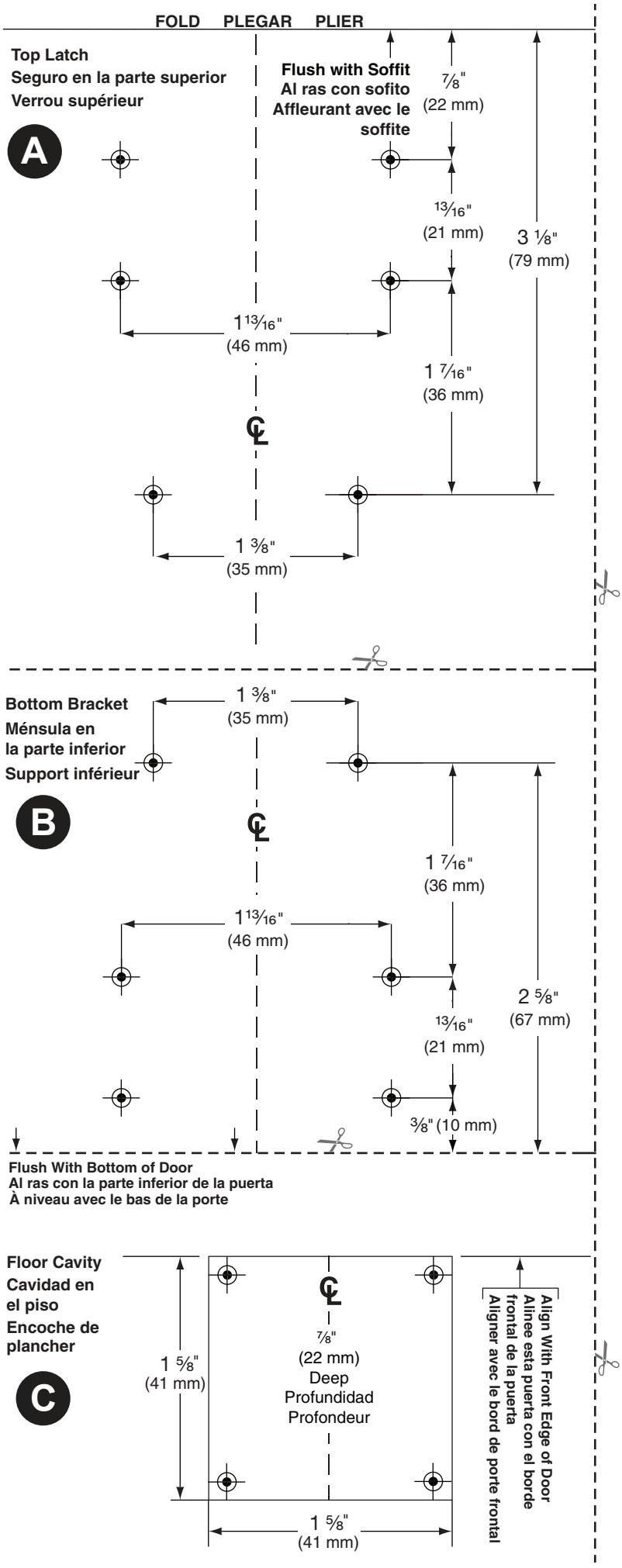
Vérification d'essai

a. Ouvrir et fermer la porte à plusieurs reprises tout en vérifiant l'enclenchement du verrou, la rétraction et le fonctionnement adéquats.

b. Si le dispositif ne fonctionne pas correctement, reprendre l'ajustement de la tige inférieure et supérieure au besoin.

Install Covers
Instale las cubiertas
Installer les couvercles





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911031-00

Wiring and Configuration

DE5300 Delayed Egress System

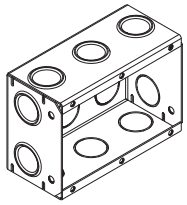
VON DUPRIN

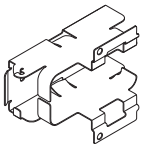
Installation Instructions

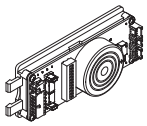
General Information

The Von Duprin DE5300 is designed for controlled egress applications when used in conjunction with a magnetic lock. It meets both life safety and security needs, as well as the requirements of NFPA101 for “Special Locking Arrangement” and IBC “Special Egress-Control Devices”. All control inputs, auxiliary locking, local alarm and remote signaling outputs are self-contained in the DE5300 assembly. Numerous field configurable options allow the device to be customized for the specific code or application requirements. The standard DE5300 sounds an alarm and keeps the door secured for 15 seconds following an exit attempt with immediate release upon fire.

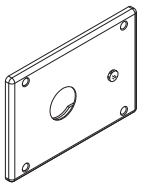
Parts Included


Control Box


Mounting Bracket


Module


Key Switch


Faceplate



Door Sign


Field Wiring Cable


Device Wiring Cable


#6-32 X 3/8” Faceplate Screws (4)


#6-32 X 1/4” Mounting Bracket Screws (2)

Table of Contents

Basic Features....2
Installation Components....3
Electrical Specifications....3
Typical Wiring Diagrams....4
- Single Door....4
- Double Door....5
- Electrical Trim....7

Retrofit Wiring....7
Installation....8
Basic Functional Test....11
Module Setup....11
Onboard Switch Settings Table....12
Advanced Function Test....13
Onboard Indicators....14
Troubleshooting....15

⚠ WARNING ⚠

- **Do not exceed rated specifications.**
- **The DE5300 must be installed in accordance with these instructions by a qualified electrician.**
- **Wiring and applications must be in accordance with all local codes and regulations.**

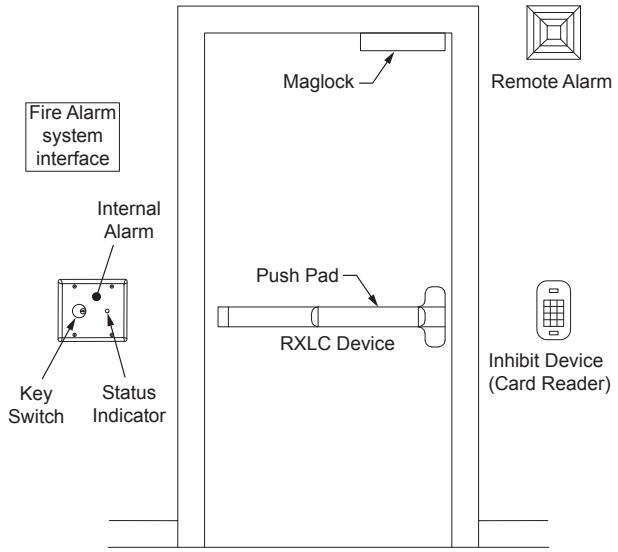
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1 Basic Features



Inputs & Outputs

Fire Alarm Input
This input releases the door immediately upon a fire alarm, allowing immediate egress. The Internal Alarm can be silenced during a fire input via an onboard switch setting.

Inhibit Input (Access Control)
This optional input is provided to allow authorized egress or entry when the device is Armed using an external card reader, Key Switch, etc. It also allows remote reset of the DE5300 in an alarmed condition. The ability to reset alarms with the inhibit input can be disabled via an onboard switch setting.

Door Position Switch Input
An optional Door Position Switch (DPS) can provide door position status to DE5300 for additional security, ensuring that the door is closed, and can cause alarm when the door is left or forced open. The DPS may be part of the maglock or independent of the lock.

Gang Bus
The Gang bus allows a DE5300 device to signal other DE5300 devices when it enters the Release Delay, allowing multiple doors to release at the same time in an emergency. Up to 8 devices may be connected to the Gang bus.

Alarm Relay Contacts
The Alarm Relay contacts are provided as a means to control a Remote Alarm, such as a horn or lamp, or signal an external monitor. The contacts can be configured with a jumper as Normally Open or Normally Closed, and become active upon entering an alarmed condition.

Secure Relay Contacts
The Secure Relay contacts are provided as a means to signal an external monitor. The contacts can be configured as Normally Open or Normally Closed with a jumper, and become active when the opening is Secure, as indicated by the DPS and MBS. The DPS must show the door is closed. Also, if the maglock is equipped with an MBS (Magnetic Bond Sensor), it can be used to monitor the maglock security. The DE5300 will indicate the door is not properly locked if the maglock is not properly bonding with its armature.

Delays

Release Delay
When the Push Pad is pushed and the Nuisance Delay expires, the DE5300 enters the Release Delay with alarm. During the Release Delay, the Internal Alarm sounds, the Alarm Relay activates, and the DE5300 keeps the maglock locked for 15 seconds (less any time already elapsed during the Nuisance Delay). Once started the Release Delay sequence will not stop and the maglock will unlock.

Nuisance Delay
When a DE5300 is located in a public area, it can be desirable to limit false releases when the Push Pad is accidentally pushed. The Nuisance Delay is the brief time a Push Pad can be accidentally pushed before the Release Delay sequence starts. If the Nuisance Time is set to 0 seconds, the DE5300 will enter Release Delay as soon as the Push Pad is pushed (when armed). Setting the Nuisance Time to 1, 2, or 3 seconds allows the Push Pad to be pressed for 1 to 3 seconds before the DE5300 goes into Release Delay. If the Nuisance Audio and Nuisance Delay are both on, the Internal Alarm will pulse during the Nuisance Delay. The Alarm Relay does not activate during the Nuisance Delay. If the Push Pad is released before the Nuisance Delay expires, the DE5300 will remain armed.

Rearm Delay
The Rearm Delay is the amount of time after the Key Switch or Inhibit Input is deactivated to when the device rearms. It is designed to give someone time to pass through the door before rearming occurs. The Rearm Time can be changed via the onboard switch settings from 0 and 28 seconds in 2 second increments.

If the Rearm Time is set to 30 seconds and a DPS is used, and the door is opened and the Rearm Time expires, there will be no alarm. The DE5300 will rearm after the door is closed. If the door never opens, the DE5300 will rearm after 30 seconds.

If not using a DPS, the DE5300 will always rearm in 30 seconds.

DPS Delay
If the DPS detects that the door closed during the Rearm Delay, the DE5300 ends the Rearm Delay and allows 2 seconds for the latch to clear the strike before rearming.

Interface

Key Switch
The Key Switch provides the means to Arm or Disarm/Reset the DE5300. Turning the Key Switch clockwise initiates the Rearm Delay, and turning the Key Switch counter-clockwise Disarms/Resets the DE5300. The Key Switch allows the key to be removed in either the Arm or the Disarm/Reset position.

Status Indicator
The red Status Indicator displays the status of the DE5300. The Status Indicator flashes slow if the DE5300 is armed, flashes fast in an alarmed mode, is off when inhibited and on solid during Rearm Delay.

Internal Alarm
The Internal Alarm sounds the status of the DE5300. The Internal Alarm sounds continuously during and after a fire alarm or a Release Delay, pulses fast during the Nuisance Delay or a tamper and pulses slow during Disarmed Powerup mode.

Settings

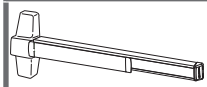
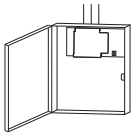
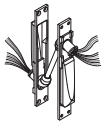
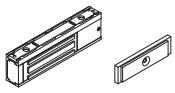
Armed Powerup
When set to OFF, a power disruption and power return will put the DE5300 in a disarmed, unlocked alarm mode.

Trim Fail Safe / Fail Secure (FS/FSE)
The trim input power can be set to FS (Fail Safe; locked when energized, unlocked when deenergized or during power failure) or FSE (Fail Secure; unlocked when energized, locked when deenergized or during power failure).

The trim must be bought or modified to physically function as FS or FSE. This onboard setting only selects the trim input power.

2 Installation Components

Table 1.1 Installation Components

Picture	Component	Function	Optional/Required
	Von Duprin RXLC Exit Device or Falcon RX Exit Device	Provides means for detecting an egress request.	**Required**
	1¼" Mortise Cylinder (with straight cam)	Provides means to use the Key Switch.	**Required**
	Power Supply PS902, PS904, PS906, or PS914	Provides power to DE5300.	**Required**
	Power Transfer (EPT10 shown)	Provides means to transfer electrical power and signals through frame to door.	**Required** EPT2/10 Recommended Door loop or electric hinge can also be used.
	Fire Alarm **(NC contacts)**	Provides fire alarm status to DE5300 so that it can release the maglock in case of fire alarm.	**Required** Multiple Fire Alarms can be used in series.
	Inhibit (Access Control) Device (card reader, Key Switch, etc.) **(NC contacts)**	Provides additional means of signaling an authorized access to DE5300.	**Optional** Multiple Inhibit Devices can be used in series. If not used, connect green wire to red wire.
	Magnetic Lock (M490P shown)	Provides the means for locking the door.	**Required** (DPS and MBS included in 400P series maglock)
	Door Position Switch **(NC contacts)**	Provides door position status to DE5300 for additional security.	**Optional** If not used, connect orange wire to red wire.
	Remote Alarm	Provides an additional alarm that may be louder or located in a remote location.	**Optional** If not used, insulate blue and brown wires separately.
	Electric Mortise Lock (E7500) (FS or FSE)	Provides means for DE5300 to control entry through the door.	**Optional**
	Electric Trim (E996L shown, or E360L-BE) (FS or FSE)	Provides means for DE5300 to control entry through the door.	**Optional**

3 Electrical Specifications

Cable	Wire Color	Signal Description		Signal Type		Voltage Rating	Current Rating	Wire Gauge Minimum	Wire Length Maximum	One-Way Measurement From Power Transfer To
Field Wiring Cable	Red	24 VDC	24VDC	Power	Input	24 VDC	1 A*	18 AWG	200 feet	Power Supply
	Black	Ground	GND			Ground		14 AWG	500 feet	
	Yellow	Fire Alarm	FA	NC	Input	24 VDC	10 mA	22 AWG	1000 feet	Fire Alarm
	Green	Inhibit	INH							Inhibit Device
	Orange	Door Position Switch	DPS							Door Position Switch
	Gray	Gang	GNG	Active Low	Bus					Ganged DE5300 Device
	Blue	Alarm Relay	ALM	COM	Relay Contact Output	24 VDC	1 A	22 AWG	100 feet	Remote Alarm or External Monitor
	Brown			NO or NC						
	White	Secure relay	SEC	COM						External Monitor
	Violet			NO or NC						
Device Wiring Cable	Red	24 VDC	24VDC	Power	Output	24 VDC	1 A	18 AWG	50 feet	Blocking Device (Maglock)
	Gray	Blocking Ground	BGND			Ground		14 AWG	150 feet	
	White	Blocked	BLK	Active Low	Input	24 VDC	10 mA	22 AWG	1000 feet	
	Orange	24 VDC	24VDC	Power	Output	24 VDC	10mA	22 AWG	1000 feet	Power Transfer
	Brown	Request-to-Exit	REX	NC	Input			22 AWG	1000 feet	
	Yellow	24 VDC	24VDC	Power	Output	24 VDC	1 A	18 AWG	50 feet	Power Transfer
	Blue	Locking Ground	LGND			Ground		14 AWG	150 feet	
	Green	Request-to-Enter	REN	NO	Input	24VDC	10 mA	22 AWG	1000 feet	
	Black	Ground	GND	Not Used				Not Used		

*Includes current from DE5300 only (does not include current from optional components such as Inhibit Device, Remote Alarm, or Trim Device)

4 Typical Wiring Diagrams

Single Door

- The DE5300 is used as a controlled egress device with access control.
- The external inhibit device (card reader contacts) provides additional means of signaling an authorized access to DE5300.
- The Remote Alarm is used as an additional alarm in a remote location.
- Using a door position switch, either in the maglock or separate, gives added security in case the door is not closed or is forced open.
- The maglock releases immediately when the Fire Alarm is active.
- If card readers are required on both sides of the door, the normally closed contacts of the readers should be wired in series.

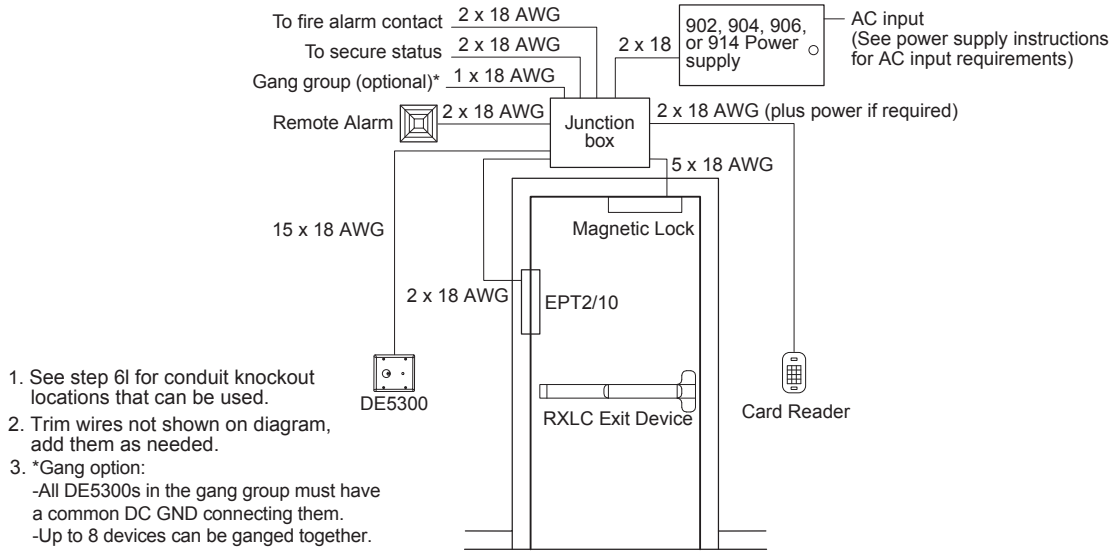


Figure 1. Riser Diagram, Single Door

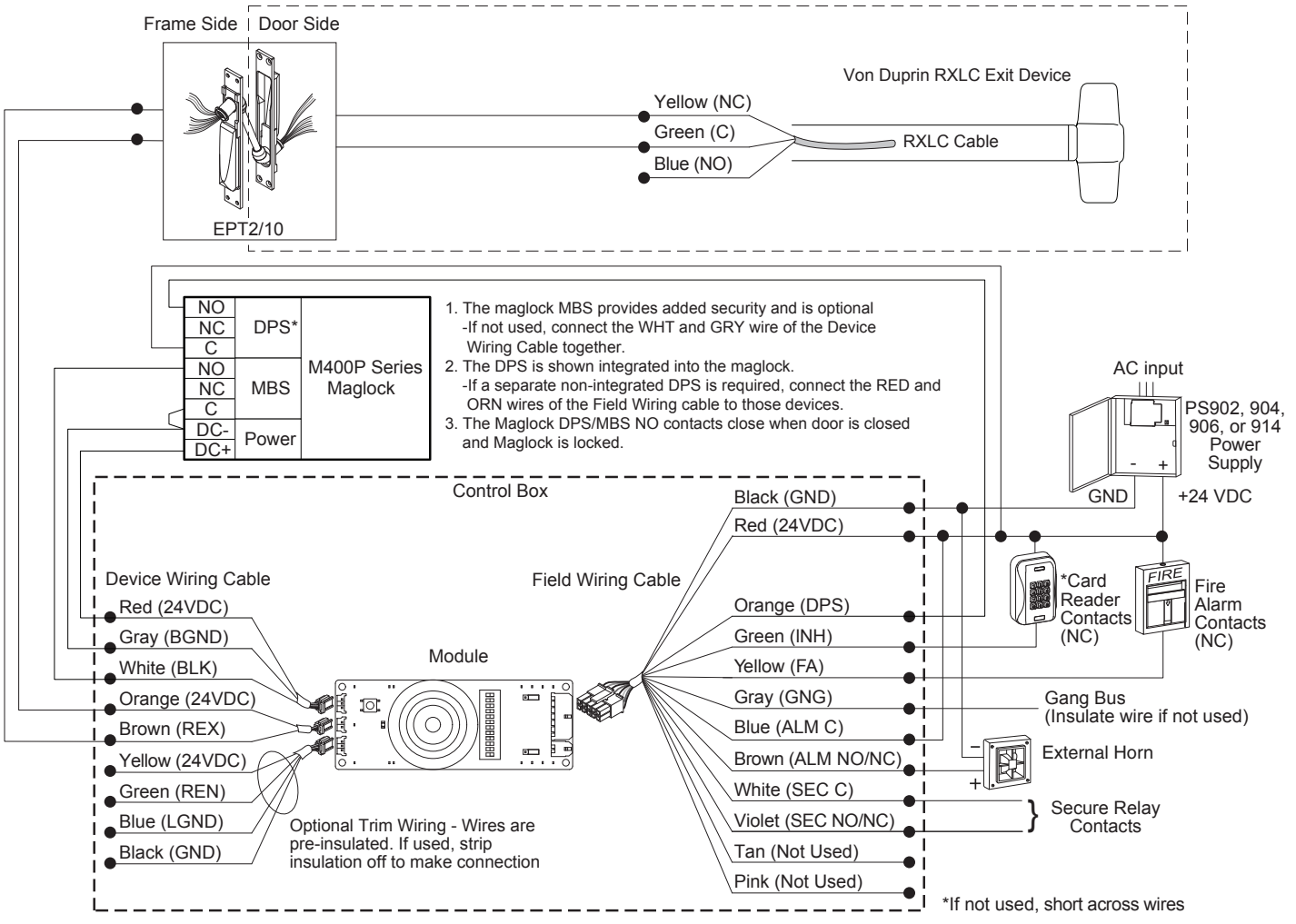
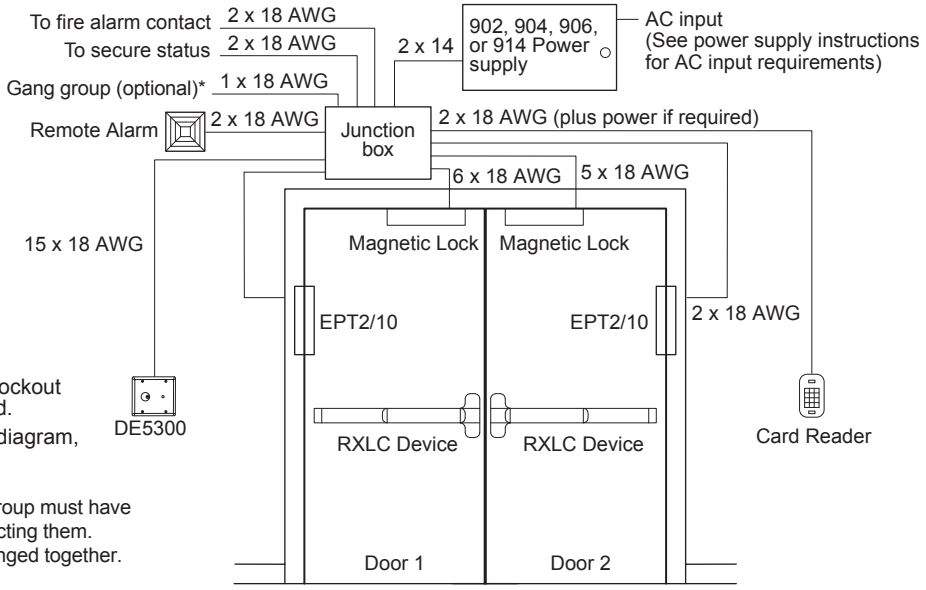


Figure 2. Point-to-Point, Single Door

Double Door Application - Rim/Vertical

- Both doors open in the same direction and each is equipped with an RX exit device.
- Either RX device will trigger the Release Delay (activated by the Push Pad) and both doors will unlock after the Release Delay.
- A fire alarm unlocks both doors immediately.
- An inhibit device (card reader contacts) also unlocks both doors at the same time.
- After an inhibit signal from the card reader, the door that was used rearms both doors 2 seconds after closing.



1. See step 6l for conduit knockout locations that can be used.
2. Trim wires not shown on diagram, add them as needed.
3. *Gang option:
   -All DE5300s in the gang group must have a common DC GND connecting them.
   -Up to 8 devices can be ganged together.

Figure 3. Riser Diagram, Double Door

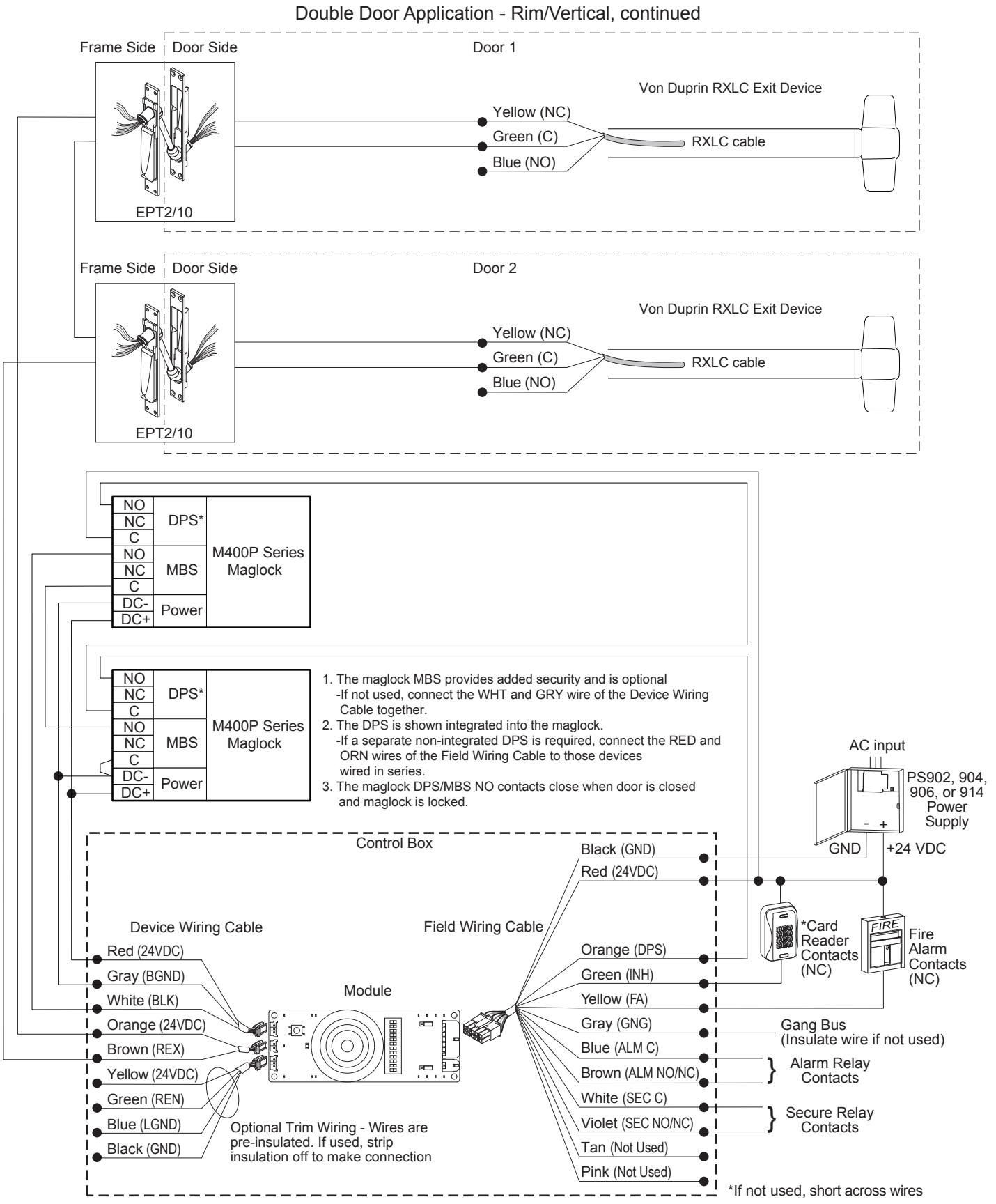
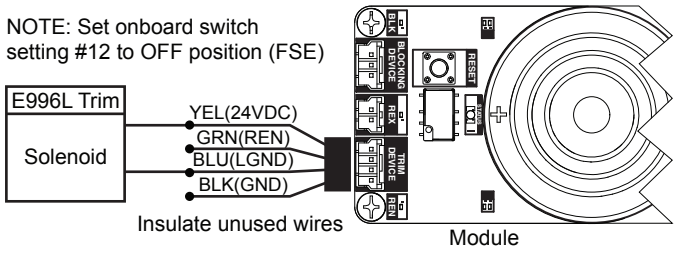


Figure 4. Point-to-Point, Double Door

5 Typical Wiring Diagram for Electric Trim Function

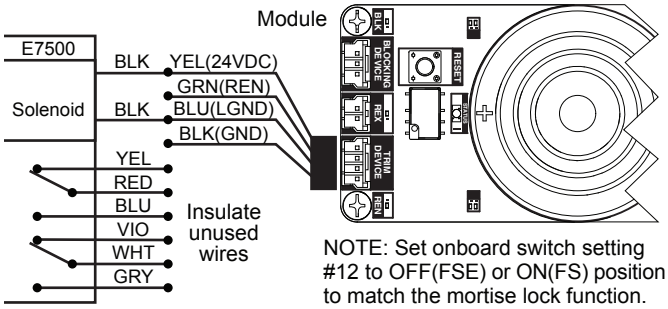
This section describes the option of adding an electrical trim function to the DE5300 installation.

5a Controlled entry application (E996L Trim – FSE shown)



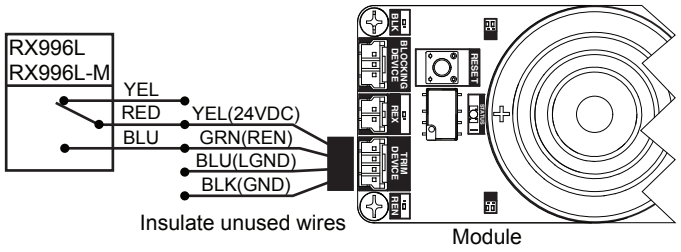
Access control to the DE5300 (not shown) inhibits the DE5300 and unlocks the outside FSE (Fail Secure) trim to allow entry. For access control wiring, see previous wiring diagrams.

5b Controlled entry application (E7500 Mortise Lock)



Access control to the DE5300 (not shown) inhibits the DE5300 and unlocks the E7500 mortise lock to allow entry. The E7500 can be either FS (Fail Safe) or FSE (Fail Secure). For access control wiring, see previous wiring diagrams.

5c Free entry application (RX996L and RX996L-M)



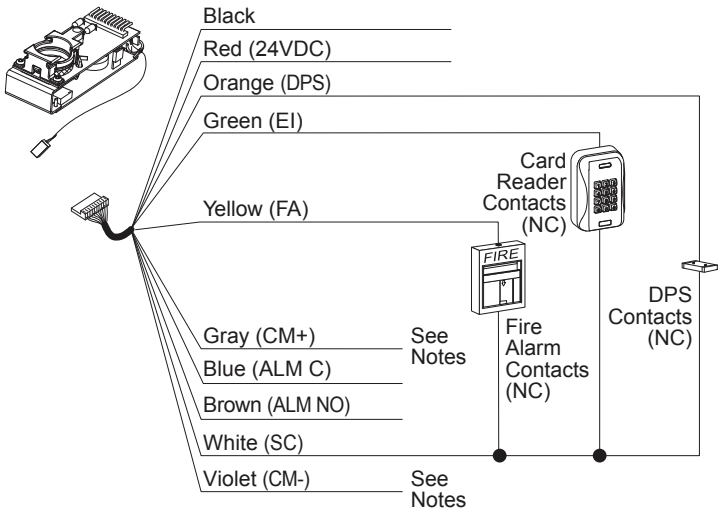
RX trim uses the REN feature to allow entry. It inhibits the DE5300 and unlocks the maglock when the lever is turned.

6 Retrofit Wiring

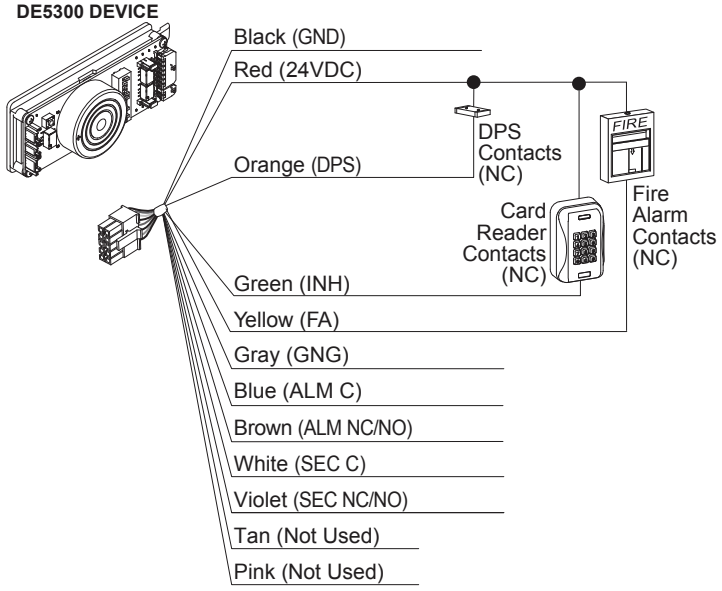
On the discontinued DE5101 device, the Door Position Switch, Card reader and Fire Alarm contacts were tied to the white SC wire. On the new DE5300 device, these contacts are wired to the red 24VDC wire (see wiring diagrams below).

ⓘ **Caution: Do not connect the gray and violet wires of the discontinued DE5101 device to the gray and violet wires of the new DE5300 device. The discontinued and new DE5300 devices can not be ganged together.**

DISCONTINUED DE5101 DEVICE



NEW DE5300 DEVICE

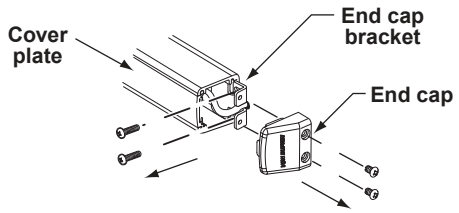


7 Installation

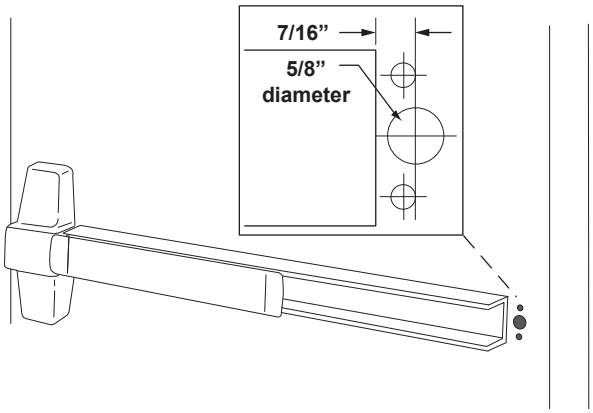
7a ⚠ Disconnect Power ⚠

To avoid risk of shock, disconnect AC power from power supply before proceeding with this installation. If using battery backup option, unplug all four wires from battery terminals.

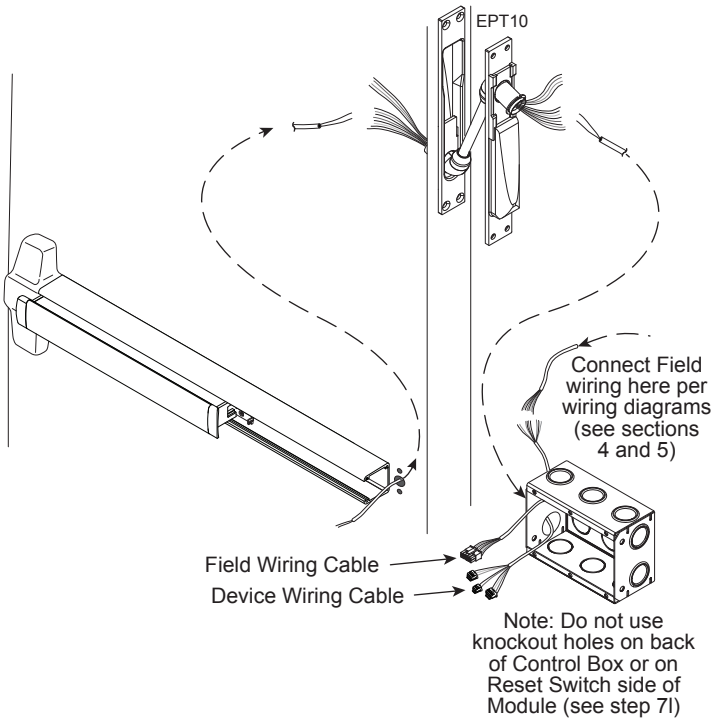
7b If installed, remove end cap, cover plate and end cap bracket.



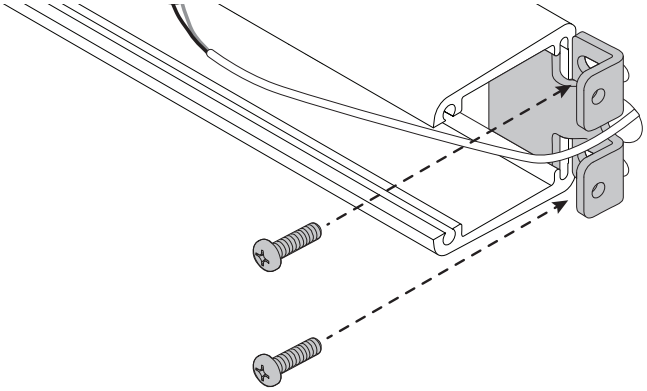
7c Drill 5/8” diameter wire access hole in surface of door.



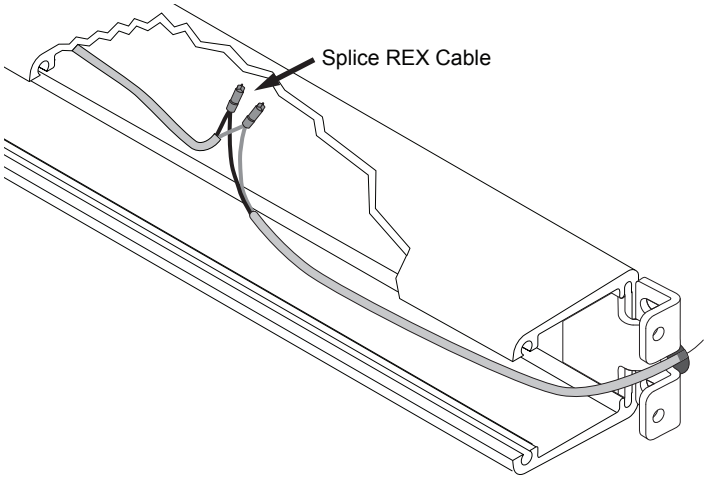
7d Route wires through door to EPT and from EPT to the device wiring cable. Install control box in wall if not already done.



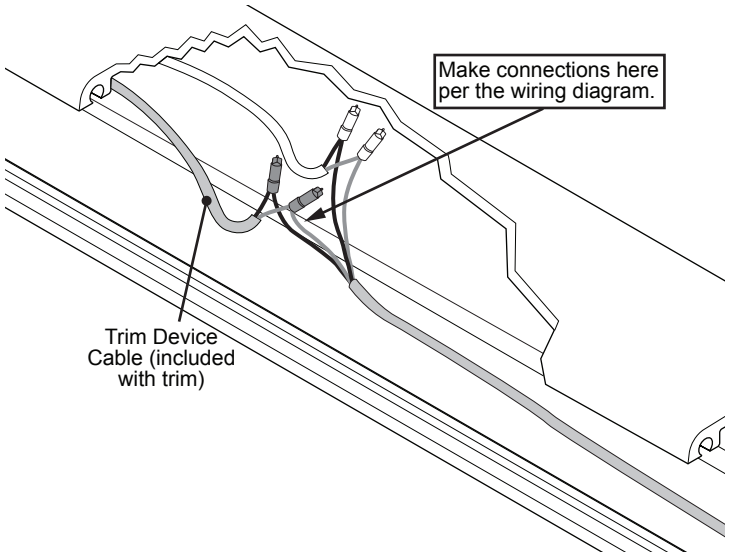
7e Install end cap bracket.



7f Connect the REX cable to the EPT2/10 and device wiring cable per wiring diagrams.

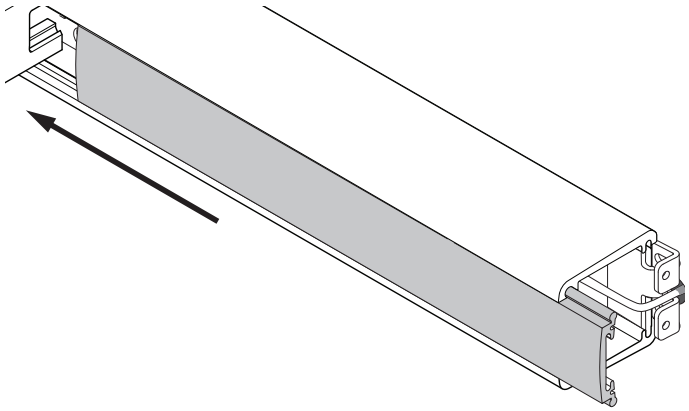


ⓘ **If using electric trim (E996L/E360L-BE). Install electric trim per instructions included with the trim. Route trim wires through the exit device as shown.**

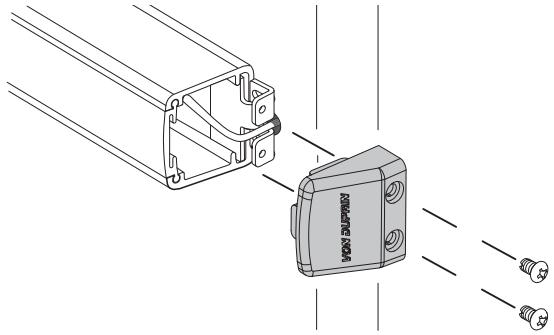


7 Installation, continued

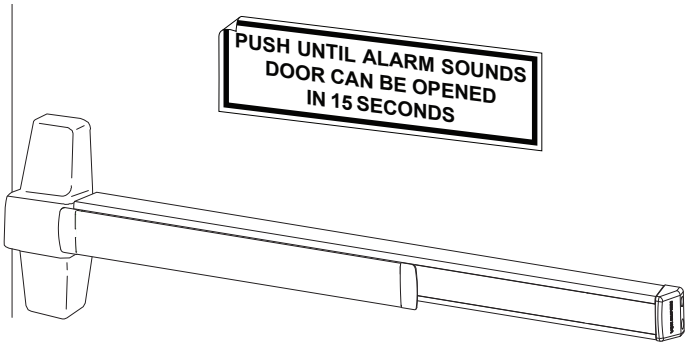
7g Slide cover plate fully into place.



7h Install end cap.



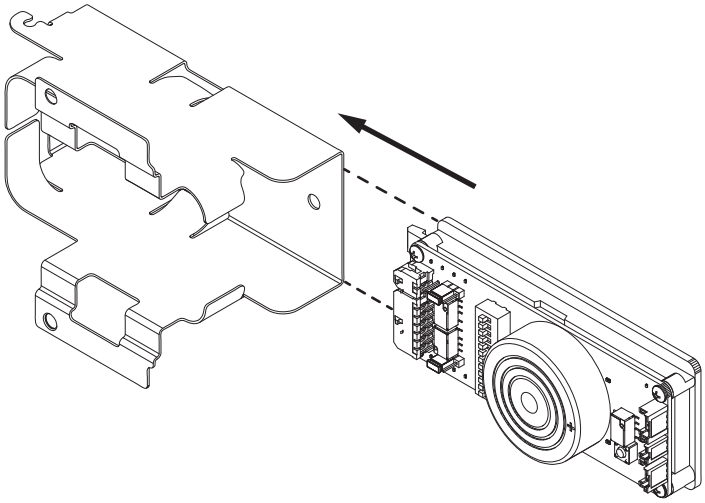
7i Remove backing from door sign and apply above exit device (door sign is in cardboard tube).



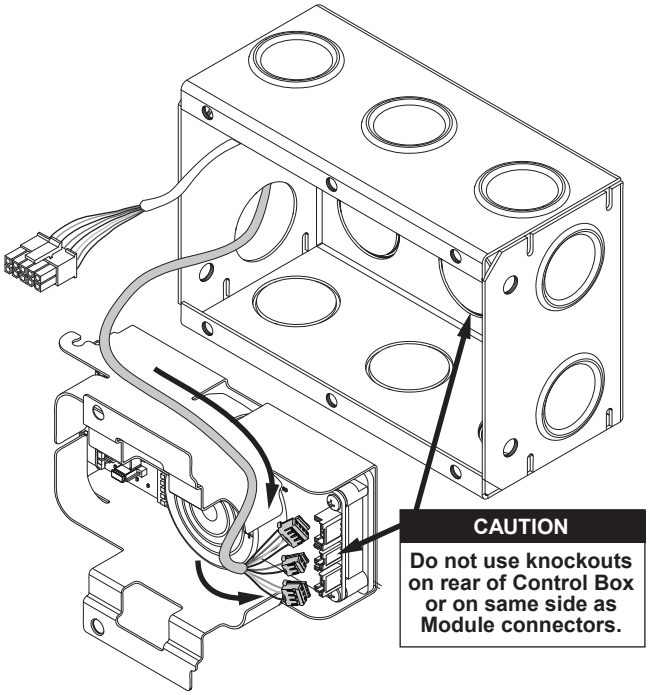
ⓘ **Locate sign per local code.**

7j Complete field wiring per wiring diagrams in Section 4.

7k Slide module into mounting bracket as shown until module snaps into place.

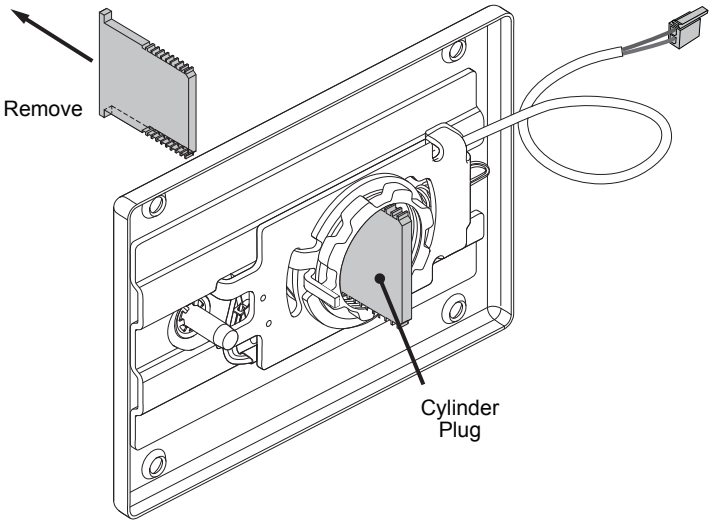


7l Route device wiring cable over mounting bracket and make connections on module per wiring diagrams in Section 4.

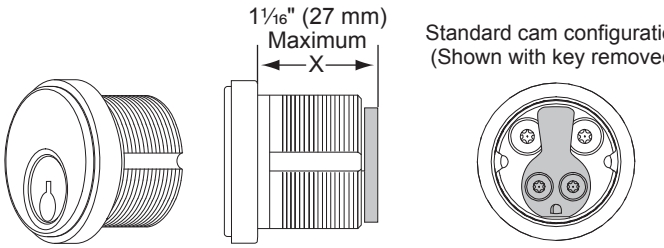


7 Installation, continued

7m Remove and discard cylinder plug from key switch assembly in faceplate.



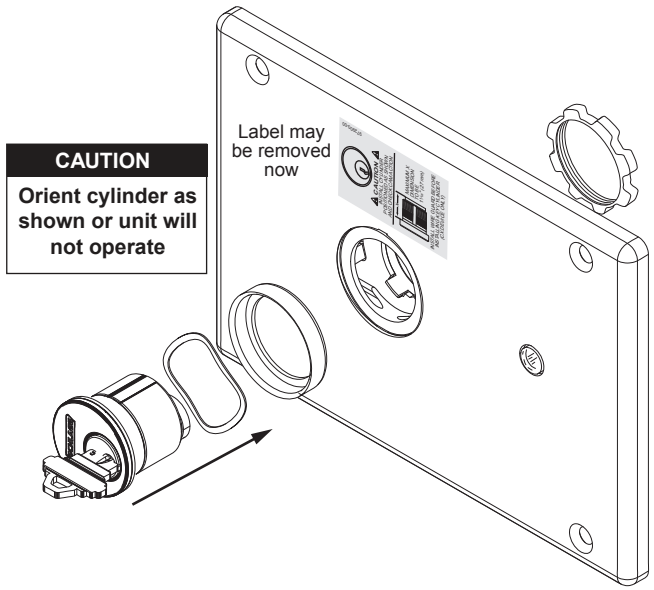
7n Use 1¼" mortise cylinder with compression ring K510-406 with straight cam and orient cam as shown. Schlage cylinder 20-001-114 recommended.



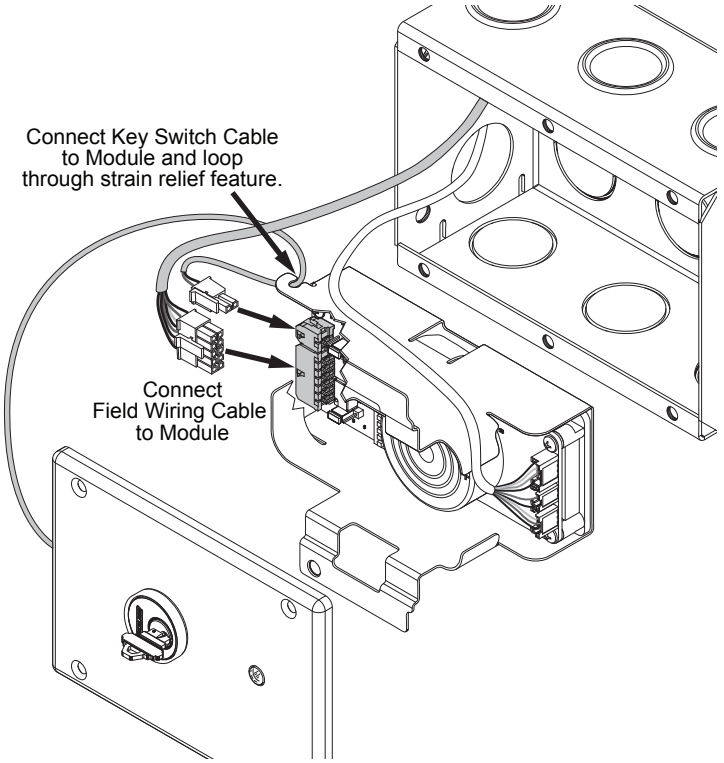
⚠ CAUTION ⚠

Dimension X as shown above must be no more than 1 1/16" or damage to product may occur.

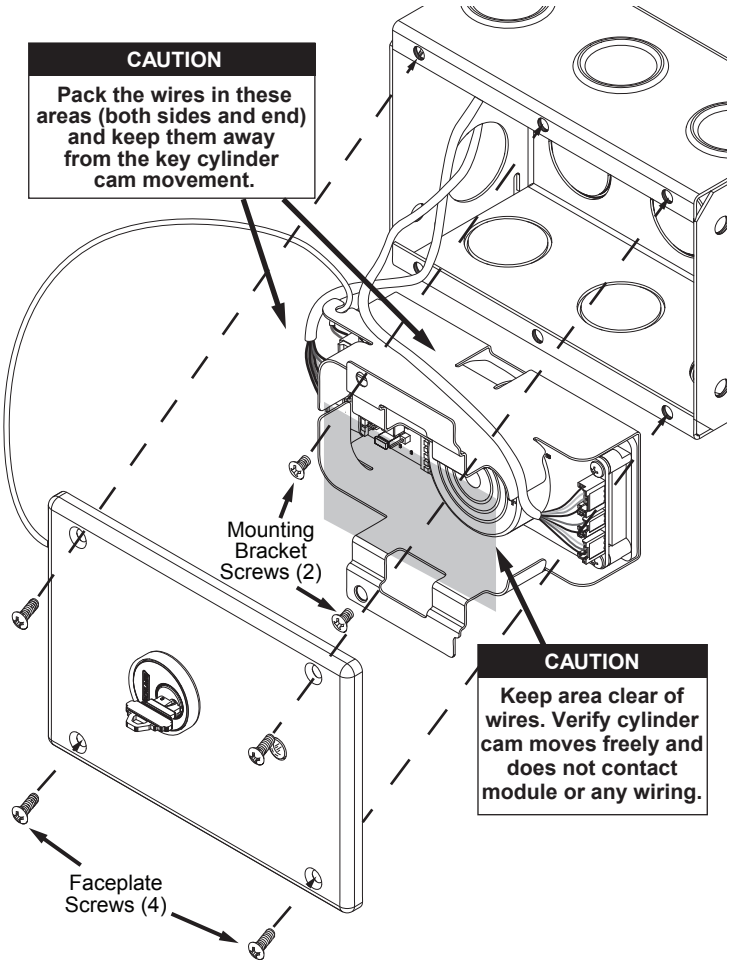
7o Install mortise cylinder onto faceplate. Verify cylinder cam operates key switch properly.



7p Connect key switch cable and field wiring cable to module.



7q Insert mounting bracket with module into control box and screw into place. Screw faceplate into place.



8 Basic Functional Test

This test is to be performed with DE5300 switches in default settings and with door closed. Follow the instructions below and verify that the DE5300 performs as described.

Note: If at any time the Internal Alarm sounds and you wish to silence it, turn the Key Switch counter-clockwise.

Test Powerup

1. Turn the Key Switch clockwise. Then turn the power supply ON which causes the DE5300 to enter **Armed Mode** (Status Indicator is flashing slow).
2. Turn the Key Switch counter-clockwise to put the DE5300 into **Disarmed/Reset Mode** (Status Indicator is OFF).
3. Turn the Key Switch clockwise which causes the DE5300 to enter **Rearm Delay Mode** (Status Indicator is ON for 10 seconds - this time is adjustable).
4. After **Rearm Delay Mode** expires, the DE5300 will enter **Armed Mode** (Status Indicator is flashing slow).

Test Delayed Egress

5. Confirm that the DE5300 is in **Armed Mode** per step 4.
6. Push the Push Pad and verify that the maglock is locking the door.
   DE5300 will immediately begin sounding the Internal Alarm and enter **Release Delay Mode** for 15 second (Status Indicator is flashing fast and Internal Alarm is ON).
7. After the **Release Delay Mode** expires, the DE5300 will enter **Released Mode** (Status Indicator is flashing fast and the Internal Alarm is ON).
   The maglock will be unlocked (you can now push the Push Pad and open the door).

Mode	Maglock	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (2)	Off	On	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
Release Delay	Locked	Locked	Fast Flash (2)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (2)	On	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

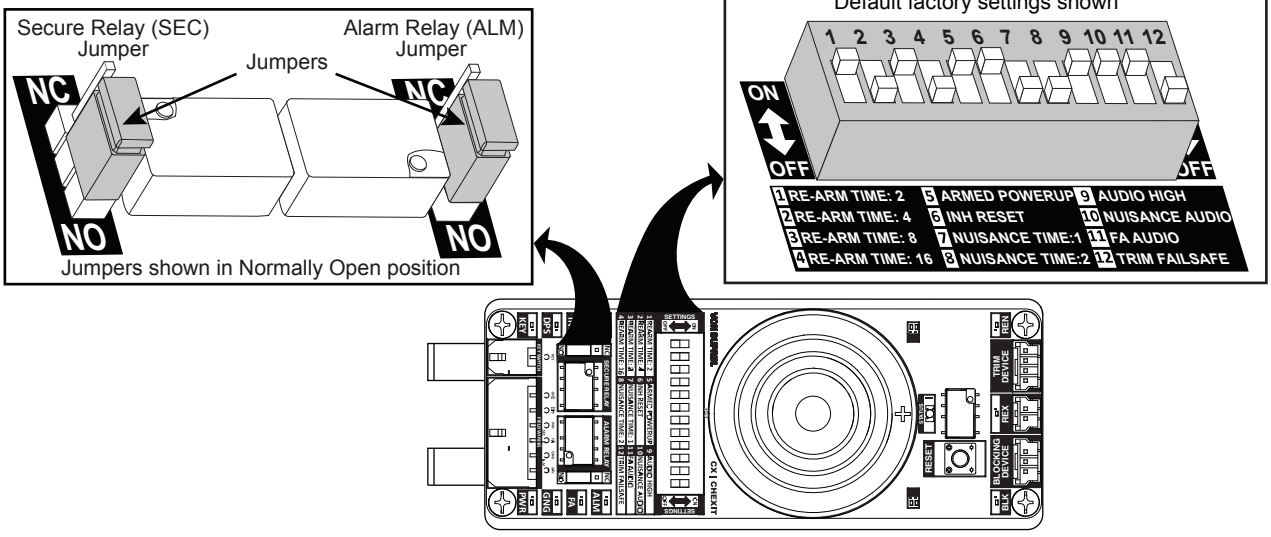
(1) Trim will be Locked or Unlocked depending on if the Trim is Fail Secure or Fail Safe (and if the Trim Fail Safe onboard switch setting is set to OFF or ON)
(2) SLOW FLASH = 1 per second, FAST FLASH = 4 per second

9 Module Setup

9a Remove Faceplate for access to Module as needed.

9b Set the Relay Jumpers and Onboard Switch Settings for desired device functionality.

- Position the Alarm Relay Jumper and Secure Relay Jumper to NO or NC.
- Position each Onboard Switch Setting to ON or OFF.
  - Refer to Onboard Switch Settings Table on next page for detailed description of each setting.



10 Onboard Switch Settings Table

Switch Numbers	Switch Position				Onboard Settings Specifications		Description
	1	2	3	4			
1-4 Rearm Time	OFF	OFF	OFF	OFF	0	Rearm Time (seconds)	The delay time initiated after the INH or KEY goes inactive (back to normal position) before the DE5300 rearms, allowing a person to exit or enter without an alarm through an unlocked door.
	ON	OFF	OFF	OFF	2		
	OFF	ON	OFF	OFF	4		
	ON	ON	OFF	OFF	6		
	OFF	OFF	ON	OFF	8		
	ON*	**OFF***	**ON***	**OFF***	10		
	OFF	ON	ON	OFF	12		
	ON	ON	ON	OFF	14		
	OFF	OFF	OFF	ON	16		
	ON	OFF	OFF	ON	18		
	OFF	ON	OFF	ON	20		
	ON	ON	OFF	ON	22		
	OFF	OFF	ON	ON	24		
	ON	OFF	ON	ON	26		
	OFF	ON	ON	ON	28		
	ON	ON	ON	ON	30 (Infinite)		
5 Armed Powerup	OFF				DE5300 powers up into Disarmed Powerup Mode (unlocked with alarm sounding).		If the DE5300 is Armed and there is a power outage, then upon power restoration, the DE5300 will either power up into Armed Mode or Disarmed Powerup Mode with alarm sounding.
	ON*				DE5300 powers up into Armed Powerup Mode (locked).		
6 INH (Access Control) Reset	OFF				All alarms reset by KEY only (meaning user must be at the door to manually reset).		Selects what action is allowed to reset an alarm condition.
	ON*				All alarms reset by KEY OR INH (INH allows any access control user to reset the alarm at the door or remotely).		
7-8 Nuisance Time	7		8				The delay time the Push Pad can be pushed without starting the release sequence. It is used to prevent accidental bumps from triggering the alarm.
	OFF*		**OFF***		0	Nuisance Time (seconds)	
	ON		OFF		1		
	OFF		ON		2		
	ON		ON		3		
9 Audio High	OFF				Sets Internal Alarm to Low.		Selects between High and Low audio levels during alarm.
	ON*				Sets Internal Alarm to High.		
10 Nuisance Audio	OFF				Internal Alarm OFF during Nuisance Delay (if Nuisance Delay is enabled).		Selects whether Internal Alarm is ON or OFF during the Nuisance Delay (if Nuisance Delay is enabled).
	ON*				Internal Alarm ON during Nuisance Delay (If Nuisance Delay is enabled).		
11 FA Audio	OFF				Internal Alarm OFF during Fire Alarm.		Selects whether the Internal Alarm ON or OFF during a Fire Alarm.
	ON*				Internal Alarm ON during Fire Alarm.		
12 Trim Fail Safe	**OFF***				Trim is selected to be Fail Secure (FSE).		Matches FSE or FS trim to DE5300 trim device output.
	ON				Trim is selected to be Fail Safe (FS).		

***Default settings**

⚠ Consult AHJ or local building codes for onboard switch settings.

11 Advanced Function Test

Chart below shows the various Modes of the DE5300. Follow the steps below the chart to check each Mode.

Mode	Maglock	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (3)	Off	On	Off
Disarmed Powerup	Unlocked	Locked	Slow Flash (3)	Slow Pulse (4)	Off	Off
Inhibited	Unlocked	Unlocked	Off	Off	Off	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
DPS Delay	Unlocked	Locked	On	Off	Off	Off
Nuisance Delay	Locked	Locked	Slow Flash (3)	Fast Pulse (2) (4)	On	Off
Release Delay	Locked	Locked	Fast Flash (3)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (3)	On	Off	On
Tamper	Unlocked	Locked	Fast Flash (3)	Fast Pulse (4)	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

(1) Electric Trim will be Locked or Unlocked based on whether the Trim Fail Safe onboard setting is set to OFF or ON
(2) Audio may be turned OFF through Nuisance Audio onboard switch setting
(3) SLOW FLASH = 1 per second, FAST FLASH = 4 per second
(4) SLOW PULSE = 1 per second, FAST PULSE = 4 per second

Test Powerup

1. Ensure that the Key Switch is turned clockwise. Turn the Power Supply ON.
   -If the Armed Powerup onboard switch setting is ON (default), the DE5300 will enter **Armed Mode**.
   -Note: If the Armed Powerup onboard switch setting is OFF, the DE5300 will enter **Disarmed Powerup Mode**.
2. Turn the Key Switch counter-clockwise to put the DE5300 into **Disarmed/Reset Mode**.
3. Turn the Key Switch clockwise to arm the DE5300.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the DE5300 will enter **Rearm Delay Mode**.
   After **Rearm Delay Mode** expires, the DE5300 will enter **Armed Mode**.
   -If the Rearm Time onboard switch setting is OFF, the DE5300 will enter **Armed Mode** without a delay.

Test Delayed Egress

4. Confirm that the DE5300 is in **Armed Mode**.
5. Push and hold the Push Pad.
   -If the Nuisance Time onboard switch setting is OFF, the DE5300 will immediately enter **Release Delay Mode**.
   -The DE5300 will release in 15 seconds.
   -If the Nuisance Time onboard switch setting is ON, the DE5300 will enter **Nuisance Delay Mode**.
   -If the Nuisance Audio onboard switch setting is ON, the Internal Alarm will pulse fast.
   -If the Nuisance Audio onboard switch setting is OFF, the Internal Alarm will not sound.
   -If the Push Pad is released before the Nuisance Delay expires, the DE5300 will go back to **Armed Mode**.
   -If the Push Pad is held until the Nuisance Time expires, the DE5300 will enter **Release Delay Mode**.
   After the Release Time expires, the DE5300 will enter **Released Mode**.
   The DE5300 will release in 15 seconds, less the Nuisance Time already elapsed.
6. Repeat Step 2 and Step 3 to make the DE5300 return to **Armed Mode**.

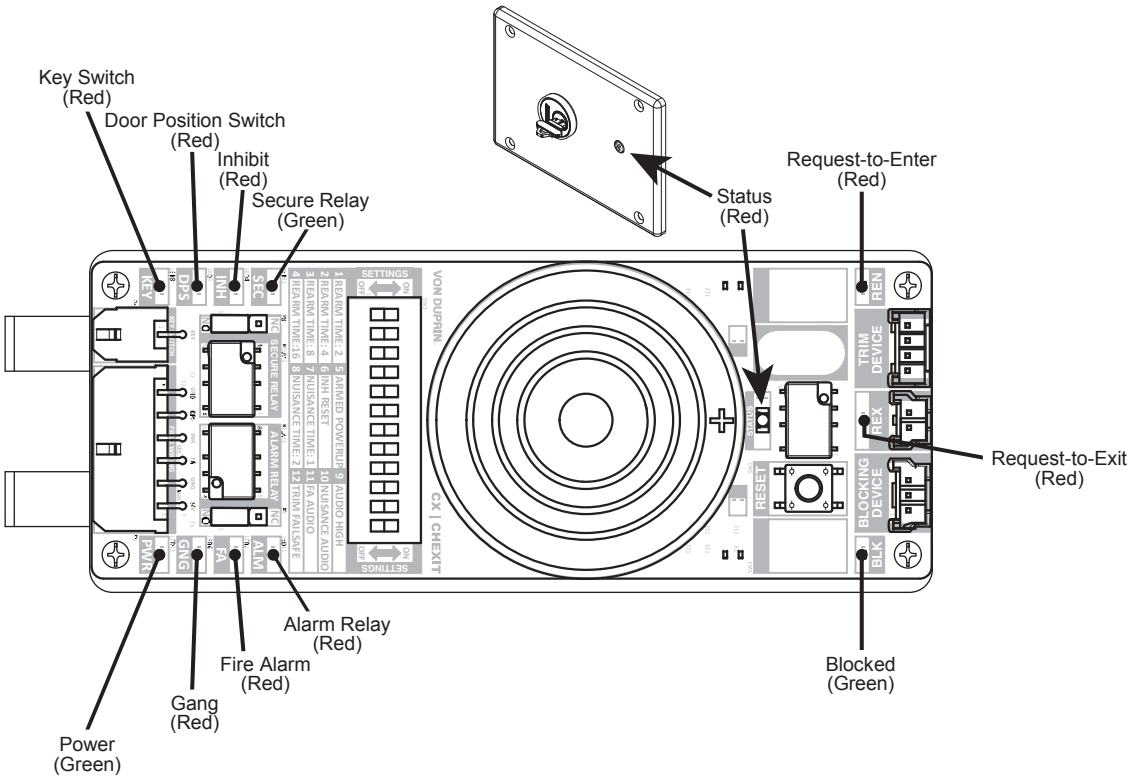
Test Access Control

7. Confirm that the DE5300 is in **Armed Mode**.
8. Activate the Inhibit (INH) Input to make the DE5300 enter **Inhibited Mode**.
9. Release the Inhibit (INH) Input.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the DE5300 will enter **Rearm Delay Mode**.
   -If the door is opened and closed before the Rearm Time expires, the DE5300 will enter **DPS Delay Mode.**
   The DE5300 will enter **Armed Mode** in 2 seconds.
   -If the door is left open and the Rearm Time expires, the DE5300 will enter **Released Mode**.
   -If the Rearm Time onboard switch setting is OFF.
   -If the door is closed, the DE5300 will go back to **Armed Mode**.
   -If the door is left open the DE5300 will enter **Tamper Mode**.

Test Fire Alarm

10. Confirm that the DE5300 is in **Armed Mode**.
11. Activate the FA input to make the DE5300 enter **Released Mode**.
    -If the FA Audio onboard switch setting is ON, the Internal Alarm will sound.
    -If the FA Audio onboard switch setting is OFF, the Internal Alarm will not sound.
12. Repeat Step 2 and Step 3 to make the DE5300 return to **Armed Mode**.

12 Onboard Indicators



Signal	Indication	Description
PWR	OFF	Power is OFF
	ON	Power is ON
KEY	OFF	Key Switch turned clockwise (Arm)
	ON	Key Switch turned counter-clockwise (Disarm/Reset)
GNG	OFF	No Gang signal (Inactive)
	ON	Gang signal (Active)
FA	OFF	Fire Alarm contacts closed (Inactive)
	ON	Fire Alarm contacts open (Active)
DPS	OFF	Door Position Switch closed (Door Closed)
	ON	Door Position Switch open (Door Open)
INH	OFF	Inhibit contacts closed (Inactive)
	ON	Inhibit contacts open (Active)
SEC	OFF	DE5300 not secure (Relay contact state depends on Secure Relay NO/NC jumper setting)
	ON	DE5300 secure
ALM	OFF	DE5300 not in alarm (Relay contact state depends on Alarm Relay NO/NC jumper setting)
	ON	DE5300 in alarm condition
BLK	OFF	Maglock is unlocked
	ON	Maglock is locked
REX	OFF	Push Pad is not pushed (Inactive)
	ON	Push Pad is pushed (Active)
REN	OFF	Request-to-Enter contacts open (Inactive)
	ON	Request-to-Enter contacts closed (Active)
STATUS	OFF	DE5300 is in Disarmed/Reset Mode or in Inhibited Mode
	SLOW FLASH	DE5300 is in Armed Mode or in Disarmed Powerup Mode
	FAST FLASH	DE5300 is in Release Delay Mode or Released Mode
	ON	DE5300 is in Rearm Delay Mode or DPS Delay Mode

13 Troubleshooting

Normal DE5300 operation:

-After turning the Key Switch clockwise to Arm, the DE5300 will wait the selected Rearm Time (red Status Indicator is ON).
-At the end of this delay, the DE5300 will lock the maglock (red Status Indicator is flashing slow) indicating the DE5300 is Armed.
-To trigger delayed egress, push the Push Pad in. The DE5300 will sound an Internal Alarm (red Status Indicator is flashing fast).
-At the end of the Release Delay, the maglock will unlock allowing exit. The Internal Alarm will continue until the DE5300 is reset with the Key Switch or Inhibit Input (if INH Reset onboard switch setting is ON).

Most wiring issues can be diagnosed by observing the Module's onboard LED indicators (see section 12, Onboard Indicators).

An Armed DE5300's LED's should appear as:

Status LED - flashing slow
PWR, SEC and BLK - ON (PWR LED is on when power is applied to the Module and is independent of any switch positions)
All other LED's - OFF

Status Indicator flashing fast or **Internal Alarm pulsing fast** is 4 times per second. **Status Indicator flashing slow** or **Internal Alarm pulsing slow** is 1 time per second. **Status Indicator ON** or **Internal Alarm ON** means on continuously.

With 24VDC applied to the DE5300, turn the Key Switch clockwise to Arm and note the possible symptoms below.

Symptoms		Possible Cause	Solution
Maglock is NOT locked. Internal Alarm is NOT sounding.	Module PWR (Power) LED is OFF.	Power supply is not supplying any voltage.	Check power supply output voltage at the supply and at the DE5300.
		Power supply voltage is too low.	Check power supply output voltage is 24VDC.
		Field wiring connection is broken.	Verify the power wiring has continuity from power supply to the Module.
		Power supply is reverse polarity.	Verify proper color code is used to supply power to DE5300 (see section 4, point-to-point diagrams).
	Module Status Indicator is ON.	Rearm Delay is active.	Verify proper rearm delay setting (see section 9 and 10, switches 1-4). If set to 30 see section 1, "Rearm Delay".
	Module Status Indicator flashes once.	INH (access control) wiring/ connection is open.	Verify the INH wiring continuity.
		INH (access control) is active (contacts open).	Verify the access control device is using normally closed contacts (see section 4, point-to-point diagrams).
Maglock is NOT locked. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module FA (Fire Alarm) LED is ON. Module ALM (Alarm) LED is ON.	FA wiring/connection is open.	Verify the FA wiring has continuity from FA contacts to Module.
		FA is active (contacts open).	Verify the FA contacts are closed when there is no fire alarm.
	Module Status Indicator is flashing fast. Module GNG (Gang) LED is ON. Module ALM (Alarm) LED is ON.	GNG wire is shorted to the power supply ground.	Find and remove short. Insulate any unused GNG wire.

13 Troubleshooting, continued

Symptoms		Possible Cause	Solution
When Arming, Release Delay starts immediately. Maglock is first Locked and then releases after 15 seconds. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module REX (Req. to EXIT) LED is ON. Module ALM (Alarm) LED is ON.	Push Pad is not returning to the full extended position.	Pull Push Pad out fully and verify this corrected the problem. Check for dirt and rubbing around the Push Pad area. Check for full latch bolt extension (see section 12, REX LED indication).
		Device Wiring Cable (2 position plug) is disconnected.	Plug in the Device Wiring Cable 2 position plug (see section 7, step 7l).
		REX wiring/connector is defective.	Check for broken wiring from the Device Wiring Cable 2 position plug to the REX switch under the Push Pad.
		REX switch is defective.	Check the REX switch is closed when the Push Pad is fully extended. If still open, replace switch.
When Arming, maglock remains unlocked. Internal Alarm is pulsing fast	Module Status Indicator is flashing fast. Module DPS (Door Pos. Switch) LED is ON. Module ALM (Alarm) LED is ON.	DPS switch contact is open.	Close the door, if open. Verify the DPS contacts are closed when the door is closed.
		DPS wiring/connection is open.	With door closed, verify the DPS wiring has continuity from DPS contacts to Module.
When Arming, maglock remains unlocked. Internal Alarm is pulsing fast after 2 seconds.	Module Status Indicator is flashing fast after 2 seconds. Module BLK (Blocking) LED is OFF. Module ALM (Alarm) LED is ON.	Device Wiring Cable (3 position plug) is disconnected.	Plug in the Device Wiring Cable 3 position plug (see section 7, step 7l).
		Maglock wiring/connection is open or not wired correctly.	Check for broken wiring from the Device Wiring Cable 3 position plug to the maglock. Verify the correct connection (see section 4, Point-to-Point diagrams for wiring and configuration: Note 1 on MBS connection). Verify the maglock is measuring 24VDC on its input.
		Maglock MBS sensor or maglock is defective.	Separately test the basic functions of the maglock to verify correct operation.
After a power outage and power is restored, maglock remains unlocked (Key Switch is in Armed position - clockwise). Internal Alarm is pulsing slow.	Module Status Indicator is flashing slow. Module ALM (Alarm) LED is ON.	The DE5300 is not self arming after a power outage. DE5300 onboard switch #5 (Armed Power Up) is set to OFF.	Some jurisdictions require the DE5300 to be disarmed and alarming to be manually reset only after a power loss. For those jurisdictions, the Module switch #5 is set to OFF (see section 9 and 10, switch 5).
Trim is locked when it should be unlocked. OR Trim is unlocked when it should be locked.		Trim switch setting is incorrect. Incorrect trim type. Verify if FS (Fail Safe) or FSE (Fail Secure) is being used.	Select the correct trim switch setting to match the trim being used (see section 9 and 10, switch 12). Install the correct trim type.

911032-00

Wiring and Configuration

Remote Chexit Module (RCM) System

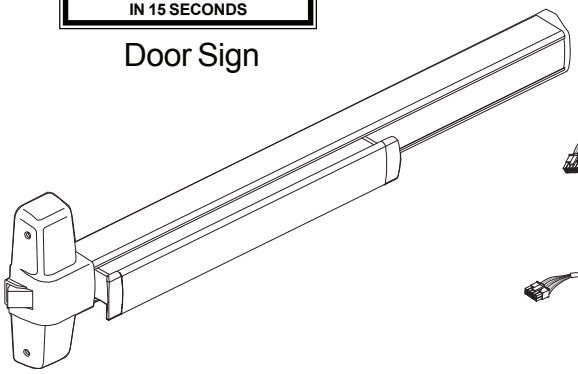
VON DUPRIN

Installation Instructions

General Information

The Von Duprin RCM is designed for controlled egress applications. It meets both life safety and security needs, as well as the requirements of NFPA101 for “Special Locking Arrangement” and IBC “Special Egress-Control Devices”. All control inputs, auxiliary locking, local alarm and remote signaling outputs are self-contained in the RCM assembly. Numerous field configurable options allow the device to be customized for the specific code or application requirements. The standard RCM sounds an alarm and keeps the door secured for 15 seconds following an exit attempt with immediate release upon fire.

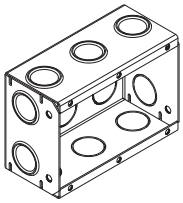
Parts Included



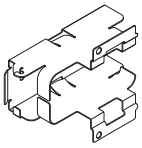
RCM Exit Device (CX98/99 Rim shown)



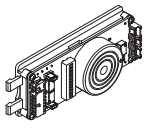
Door Sign



Control Box



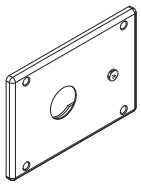
Mounting Bracket



Module



Key Switch



Faceplate



Field Wiring Cable



Device Wiring Cable



#6-32 X 3/8” Faceplate Screws (4)



Door Wiring Cable



RCM Device Cable



#6-32 X 1/4” Mounting Bracket Screws (2)

Table of Contents

Basic Features....2
Installation Components....3
Electrical Specifications....3
Typical Wiring Diagrams....4
Single Door....4
Double Door....5
Electrical Trim Function....7
Retrofit Wiring....7
Installation....8
Basic Functional Test....11
Module Setup....11
Onboard Switch Settings Table....12
Advanced Function Test....13
Onboard Indicators....14
Troubleshooting....15

⚠ WARNING ⚠

- **Do not exceed rated specifications.**
- **The RCM must be installed in accordance with these instructions by a qualified electrician.**
- **Wiring and applications must be in accordance with all local codes and regulations.**

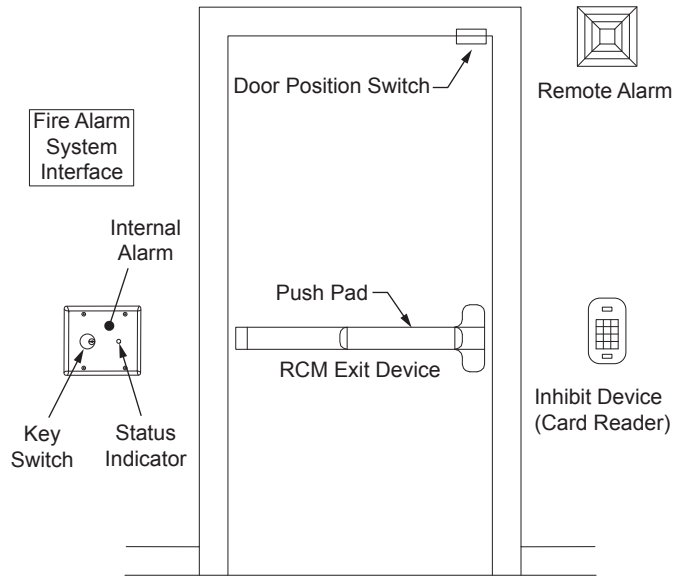
Customer Service

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ALLEGION

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1 Basic Features



Inputs & Outputs

Fire Alarm Input
This input releases the door immediately upon a fire alarm allowing immediate egress. The Internal Alarm can be silenced during a fire input via an onboard switch setting.

Inhibit Input (Access Control)
This optional input is provided to allow authorized egress or entry when the device is Armed using an external card reader, Key Switch, etc. It also allows remote reset of the RCM in an alarmed condition. The ability to reset alarms with the inhibit input can be disabled via an onboard switch setting.

Door Position Switch Input
An optional Door Position Switch (DPS) can provide door position status to RCM for additional security, ensuring that the door is closed, and can cause alarm when the door is left or forced open.

Gang Bus
The Gang bus allows a RCM device to signal other RCM devices when it enters the Release Delay, allowing multiple doors to release at the same time in an emergency. Up to 8 devices may be connected to the Gang bus.

Alarm Relay Contacts
The Alarm Relay contacts are provided as a means to control a Remote Alarm, such as a horn or lamp, or signal an external monitor. The contacts can be configured with a jumper as Normally Open or Normally Closed, and become active upon entering an alarmed condition.

Secure Relay Contacts
The Secure Relay contacts are provided as a means to signal an external monitor. The contacts can be configured as Normally Open or Normally Closed with a jumper, and become active when the DPS indicates the door is closed and the Push Pad is locked.

Delays

Release Delay
When the Push Pad is pushed and the Nuisance Delay expires, the RCM enters the Release Delay with alarm. During the Release Delay, the Internal Alarm sounds, the Alarm Relay activates, and the RCM keeps the Push Pad locked for 15 seconds (less any time already elapsed during the Nuisance Delay). Once started the Release Delay sequence will not stop and the Push Pad will unlock.

Nuisance Delay
When a RCM is located in a public area, it can be desirable to limit false releases when the Push Pad is accidentally pushed. The Nuisance Delay is the brief time a Push Pad can be accidentally pushed before the Release Delay sequence starts. If the Nuisance Time is set to 0 seconds the RCM will enter Release Delay as soon as the Push Pad is pushed (when armed). Setting the Nuisance Time to 1, 2, or 3 seconds allows the Push Pad to be pressed for 1 to 3 seconds before the RCM goes into Release Delay. If the Nuisance Audio and Nuisance Delay are both on, the Internal Alarm will pulse during the Nuisance Delay. The Alarm Relay does not activate during the Nuisance Delay. If the Push Pad is released before the Nuisance Delay expires, the RCM will remain armed.

Rearm Delay
The Rearm Delay is the amount of time after the Key Switch or Inhibit Input is deactivated to when the device rearms. It is designed to give someone time to pass through the door before rearming occurs. The Rearm Time can be changed via the onboard switch settings from 0 to 28 seconds in 2 second increments.

If the Rearm Time is set to 30 seconds and a DPS is used, if the door is opened and the Rearm Time expires, there will be no alarm. The RCM will rearm after the door is closed. If the door never opens, the RCM will rearm after 30 seconds.

If not using a DPS, the RCM will always rearm in 30 seconds.

DPS Delay
If the DPS detects that the door closed during the Rearm Delay, the RCM ends the Rearm Delay and allows 2 seconds for the latch to clear the strike before rearming.

Interface

Key Switch
The Key Switch provides the means to Arm or Disarm/Reset the RCM. Turning the Key Switch clockwise initiates the Rearm Delay, and turning the Key Switch counter-clockwise Disarms/Resets the RCM. The Key Switch allows the key to be removed in either the Arm or the Disarm/Reset position.

Status Indicator
The red Status Indicator displays the status of the RCM. The Status Indicator flashes slow if the RCM is armed, flashes fast in an alarmed mode, is off when inhibited and on solid during Rearm Delay.

Internal Alarm
The Internal Alarm sounds the status of the RCM. The Internal Alarm sounds continuously during and after a fire alarm or a Release Delay, pulses fast during the Nuisance Delay or a tamper and pulses slow during Disarmed Powerup mode.

Settings

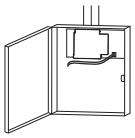
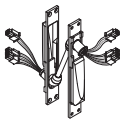
Armed Powerup
When set to OFF, a power disruption and power return will put the RCM in a disarmed, unlocked alarm mode.

Trim Fail Safe / Fail Secure (FS/FSE)
The trim input power can be set to FS (Fail Safe; locked when energized, unlocked when deenergized or during power failure) or FSE (Fail Secure; unlocked when energized, locked when deenergized or during power failure).

The trim must be bought or modified to physically function as FS or FSE. This onboard setting only selects the trim input power.

2 Installation Components

Table 1.1 Installation Components

Picture	Component	Function	Optional/Required
	1¼" Mortise Cylinder (with straight cam)	Provides means to use the Key Switch.	**Required**
	Power Supply PS902, PS904, PS906, or PS914	Provides power to RCM.	**Required**
	Power Transfer (EPT10-CON shown)	Provides means to transfer electrical power and signals through frame to door.	**Required** EPT2/10-CON Recommended Door loop or electric hinge can also be used.
	Fire Alarm **(NC contacts)**	Provides fire alarm status to RCM so that it can unlock Push Pad in case of fire alarm.	**Required** Multiple Fire Alarms can be used in series.
	Inhibit (Access Control) Device (card reader, Key Switch, etc.) **(NC contacts)**	Provides additional means of signaling an authorized access to RCM.	**Optional** Multiple Inhibit Devices can be used in series. If not used, connect green wire to red wire.
	Door Position Switch **(NC contacts)**	Provides door position status to RCM for additional security.	**Optional** If not used, connect orange wire to red wire.
	Remote Alarm	Provides an additional alarm that may be louder or located in a remote location.	**Optional** If not used, insulate blue and brown wires separately.
	Electric Mortise Lock (E7500) (FS or FSE)	Provides means for RCM to control entry through the door.	**Optional**
	Electric Trim (E996L shown, or E360L-BE) (FS or FSE)	Provides means for RCM to control entry through the door.	**Optional**

3 Electrical Specifications

Cable	Wire Color	Signal Description		Signal Type		Voltage Rating	Current Rating	Wire Gauge Minimum	Wire Length Maximum	One-Way Measurement From Power Transfer To
Field Wiring Cable	Red	24 VDC	24VDC	Power	Input	24 VDC	390mA Holding*	18 AWG 14 AWG	200 feet 500 feet	Power Supply
	Black	Ground	GND			Ground	1.25 A Inrush			
	Yellow	Fire Alarm	FA	NC	Input	24 VDC	10 mA	22 AWG	1000 feet	Fire Alarm
	Green	Inhibit	INH							Inhibit Device
	Orange	Door Position Switch	DPS							Door Position Switch
	Gray	Gang	GNG	Active Low	Bus					Ganged RCM Device
	Blue	Alarm Relay	ALM	COM	Relay Contact Output	24 VDC	1 A	22 AWG	100 feet	Remote Alarm or External Monitor
	Brown			NO or NC						
	White	Secure relay	SEC	COM						External Monitor
	Violet			NO or NC						
Device Wiring Cable	Red	24 VDC	24VDC	Power	Output	24 VDC	1 A	18 AWG 14 AWG	50 feet 150 feet	Blocking Device (RCM Exit Device)
	Gray	Blocking Ground	BGND			Ground				
	White	Blocked	BLK	Active Low	Input	24 VDC	10 mA	22 AWG	1000 feet	
	Orange	24 VDC	24VDC	Power	Output	24 VDC	10mA	22 AWG	1000 feet	Power Transfer
	Brown	Request-to-Exit	REX	NC	Input			22 AWG	1000 feet	
	Yellow	24 VDC	24VDC	Power	Output	24 VDC	1 A	18 AWG 14 AWG	50 feet 150 feet	Power Transfer
	Blue	Locking Ground	LGND			Ground				
	Green	Request-to-Enter	REN	NO	Input	24VDC	10 mA	22 AWG	1000 feet	
	Black	Ground	GND	Not Used				Not Used		

*Includes current from RCM only (does not include current from optional components such as Inhibit Device, Remote Alarm, or Trim Device)

4 Typical Wiring Diagrams

Single Door

- The RCM is used as a controlled egress device with access control.
- The external inhibit device (card reader contacts) provides additional means of signaling an authorized access to RCM.
- The Remote Alarm is used as an additional alarm in a remote location.
- Using a door position switch gives added security in case the door is not closed or is forced open.
- The Push Pad releases immediately when the Fire Alarm is active.
- If card readers are required on both sides of the door, the normally closed contacts of the readers should be wired in series.

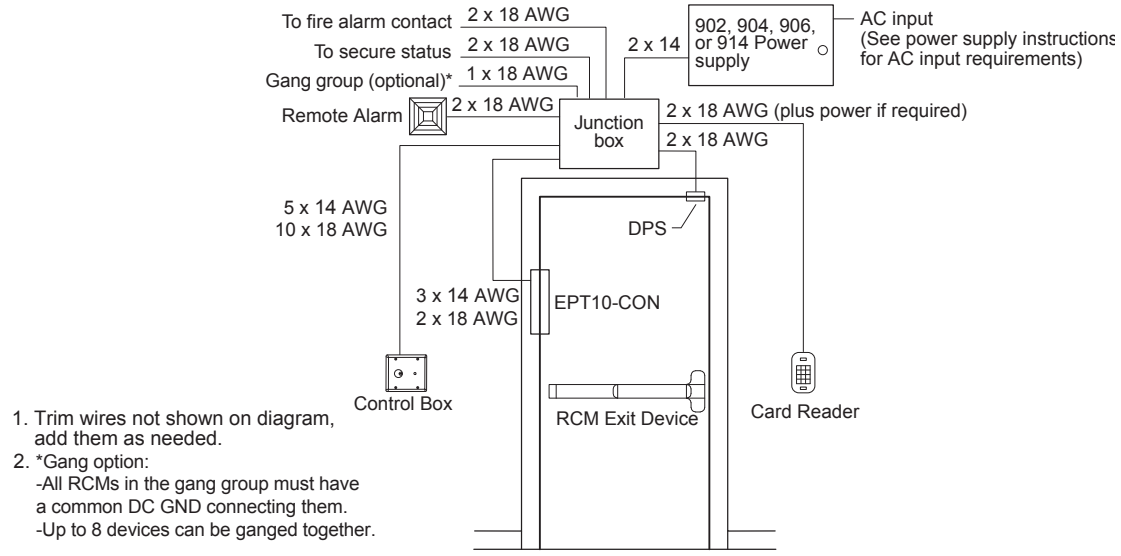


Figure 1. Riser Diagram, Single Door

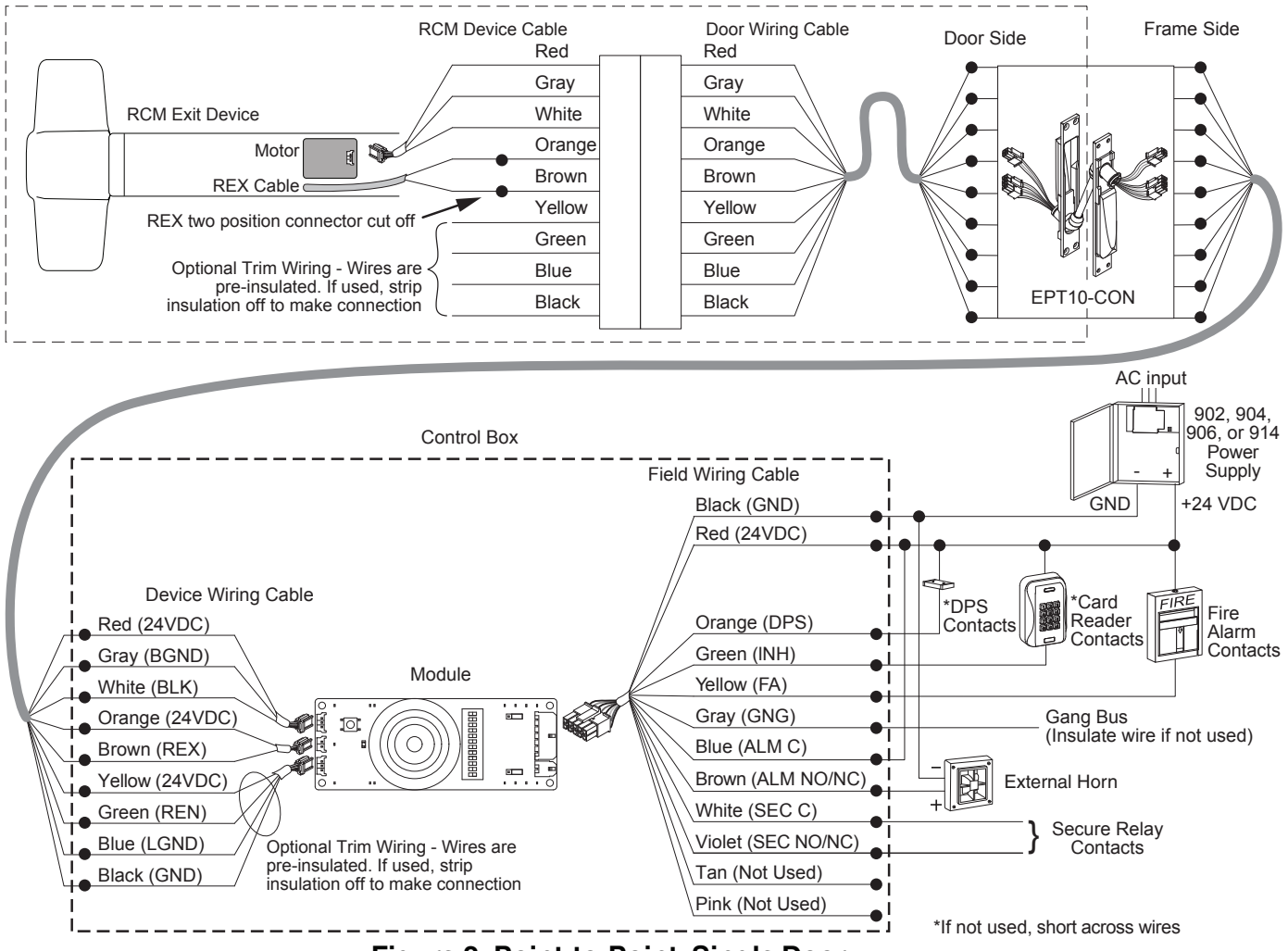


Figure 2. Point-to-Point, Single Door

4 Typical Wiring Diagrams, continued

Double Door Application - Rim/Vertical

- Both doors open in the same direction and each is equipped with an RCM Exit Device.
- Either RCM Exit Device will trigger the Release Delay (activated by the Push Pad) and both doors will unlock after the Release Delay.
- A fire alarm unlocks both doors immediately.
- An inhibit device (card reader contacts) also unlocks both doors at the same time.
- After an inhibit signal from the card reader, the door that was used rearms both doors 2 seconds after closing.

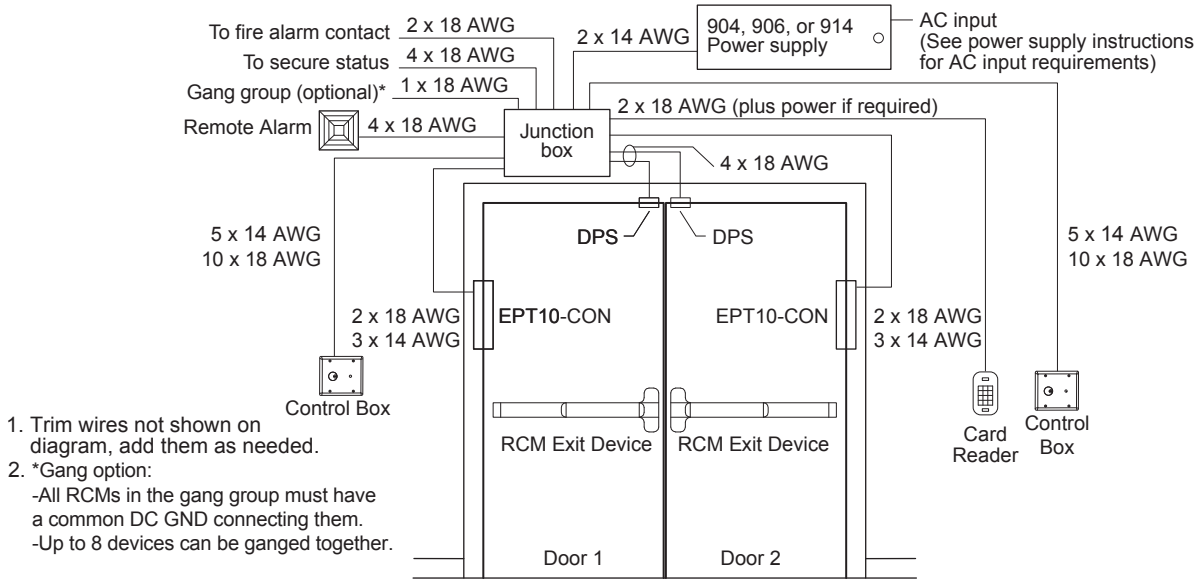
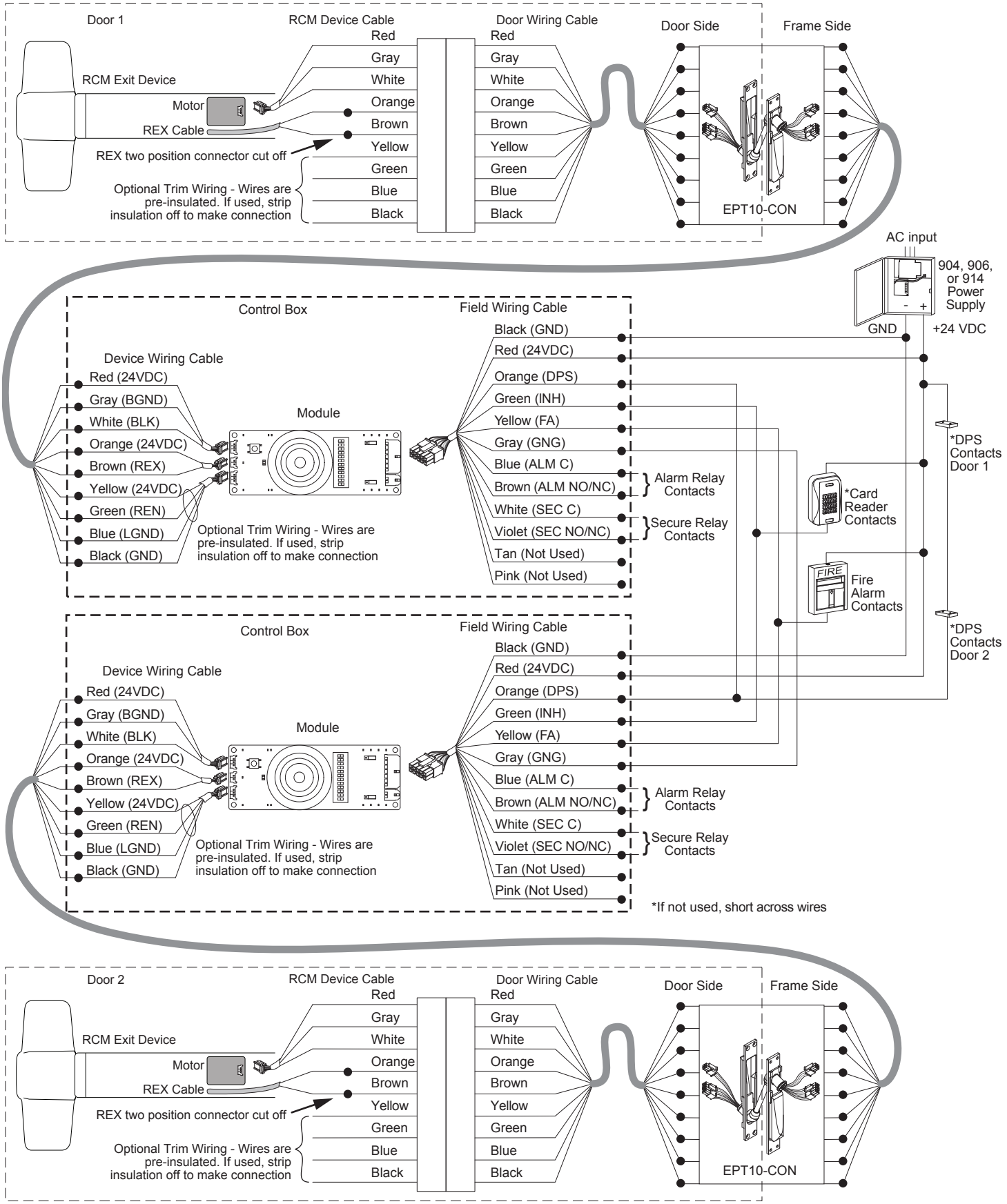


Figure 3. Riser Diagram, Double Door

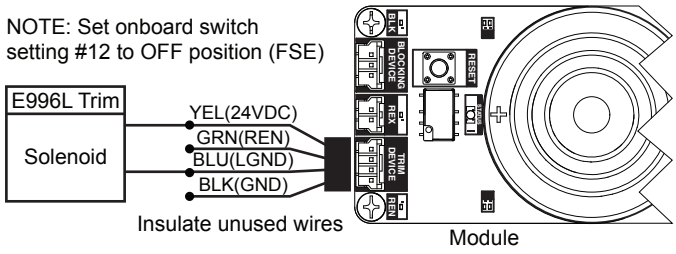
Double Door Application - Rim/Vertical, continued



5 Typical Wiring Diagram for Electric Trim Function

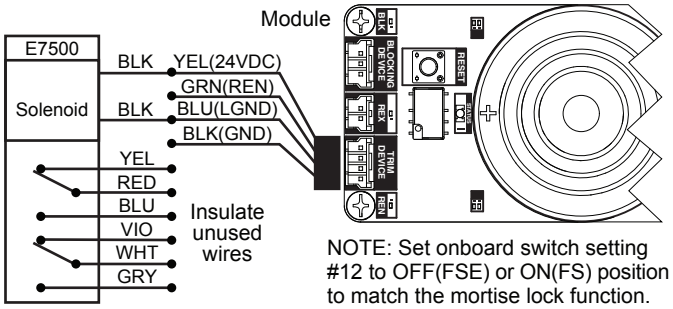
This section describes the option of adding an electrical trim function to the RCM installation.

5a Controlled entry application (E996L Trim – FSE shown)



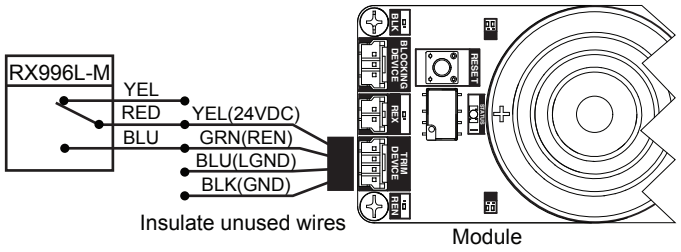
Access control to the RCM (not shown) inhibits the RCM and unlocks the outside FSE (Fail Secure) trim to allow entry. For access control wiring, see previous wiring diagrams.

5b Controlled entry application (E7500 Mortise Lock)



Access control to the RCM (not shown) inhibits the RCM and unlocks the E7500 mortise lock to allow entry. The E7500 can be either FS (Fail Safe) or FSE (Fail Secure). For access control wiring, see previous wiring diagrams.

5c Free entry application (RX996L-M + 98/99 Mortise device)

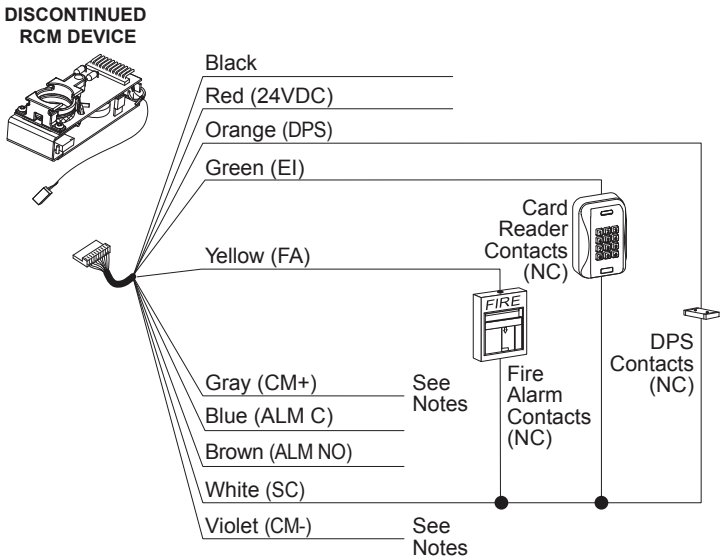


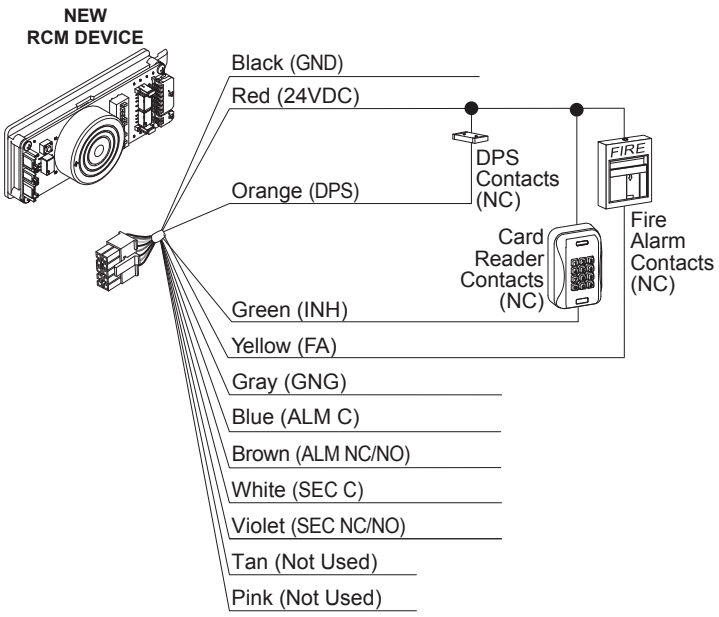
RX trim is not locked and allows entry at all times. The trim inhibits the RCM using the REN function during entry.

6 Retrofit Wiring

On the discontinued RCM device, the Door Position Switch, Card reader and Fire Alarm contacts were tied to the white SC wire. On the new RCM device, these contacts are wired to the red 24VDC wire (see wiring diagrams below).

ⓘ **Caution: Do not connect the gray and violet wires of the discontinued RCM device to the gray and violet wires of the new RCM device. The discontinued and new RCM devices can not be ganged together.**



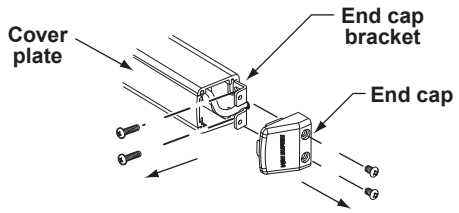


7 Installation

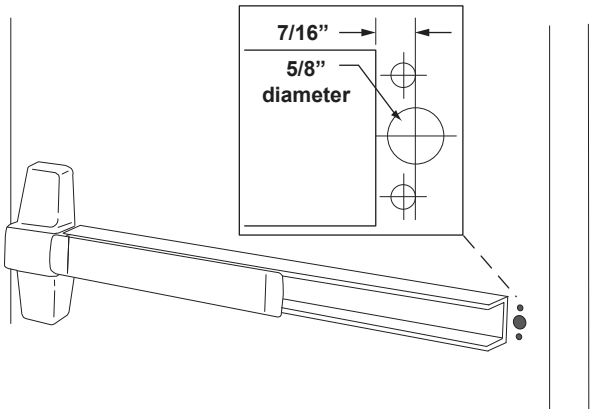
7a ⚠ Disconnect Power ⚠

To avoid risk of shock, disconnect AC power from power supply before proceeding with this installation. If using battery backup option, unplug all four wires from battery terminals.

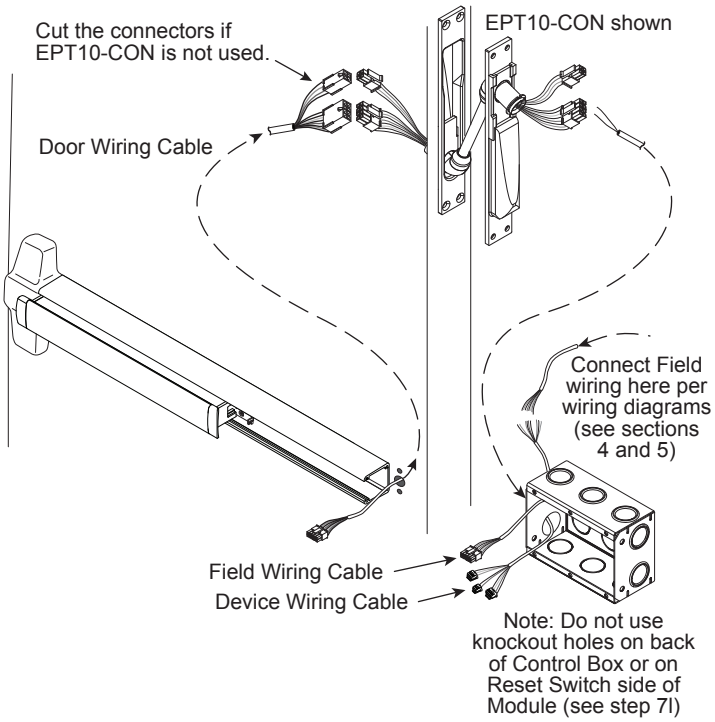
7b If installed, remove end cap, cover plate and end cap bracket.



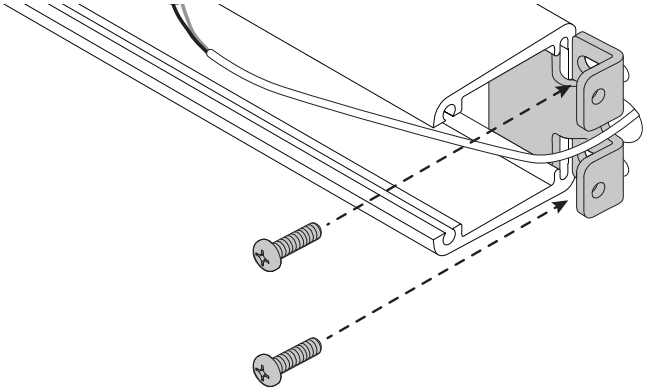
7c Drill 5/8” diameter wire access hole in surface of door.



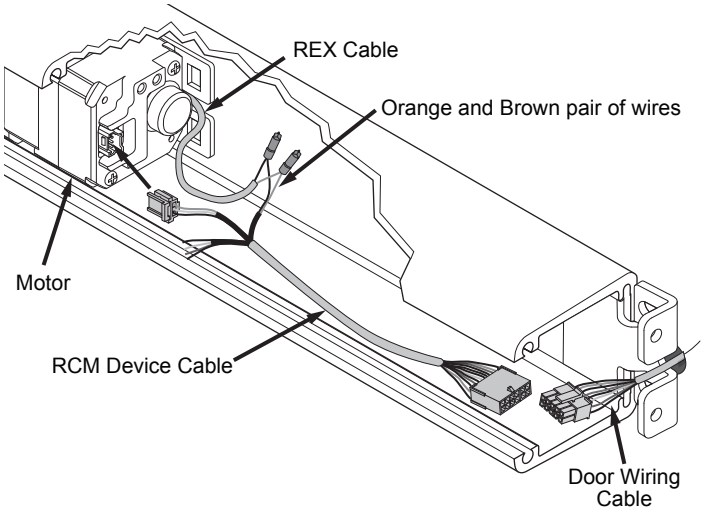
7d Route wires through door to EPT and from EPT to the device wiring cable. Install control box in wall if not already done.



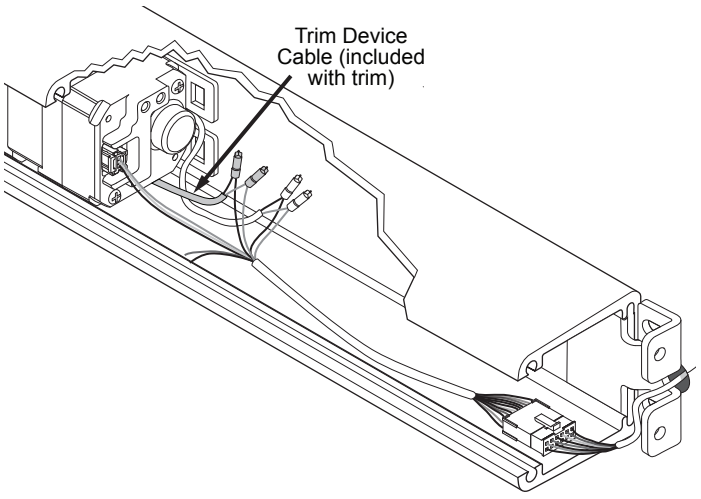
7e Install end cap bracket.



7f Splice the REX cable to the RCM device cable and connect 3 pin connector to motor. Connect RCM device wiring cable and door wiring cable 12 pin connectors.

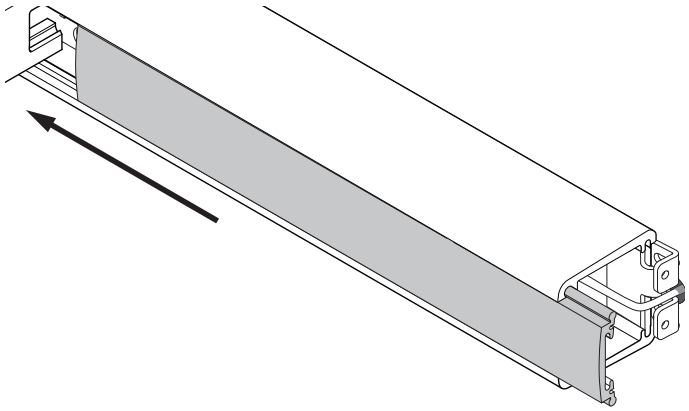


ⓘ **If using electric trim (E996L/E360L-BE). Install electric trim per instructions included with the trim. Route trim wires through the exit device and splice to RCM device cable per wiring diagrams in Sections 4 and 5.**

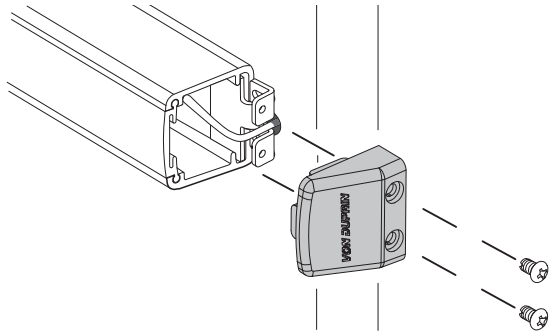


7 Installation, continued

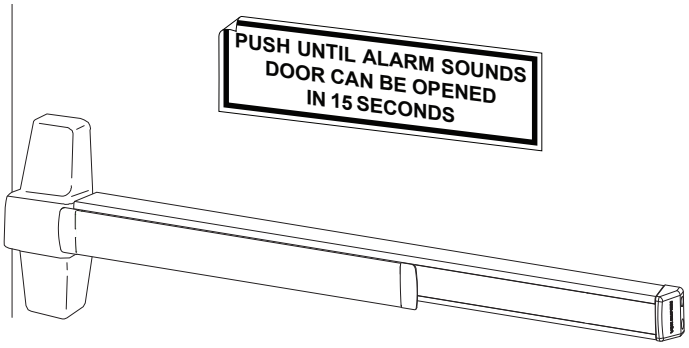
7g Slide cover plate fully into place.



7h Install end cap.



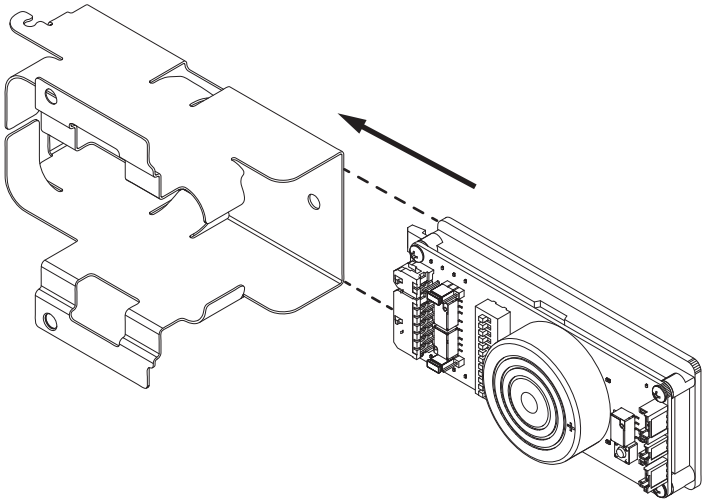
7i Remove backing from door sign and apply above exit device (door sign is in cardboard tube).



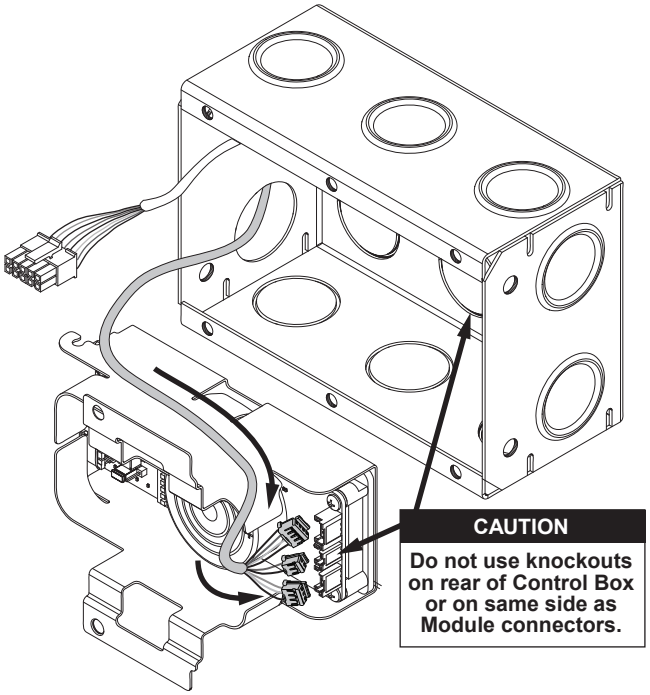
ⓘ **Locate sign per local code.**

7j Complete field wiring per wiring diagrams in Section 4.

7k Slide module into mounting bracket as shown until module snaps into place.

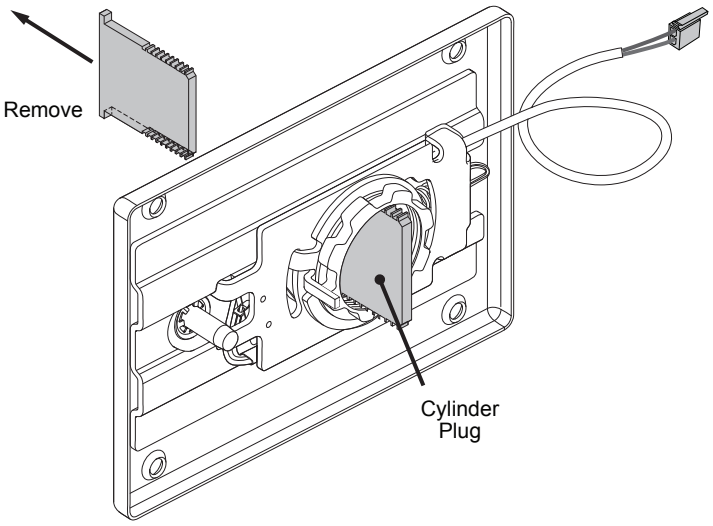


7l Route device wiring cable over mounting bracket and make connections on module per wiring diagrams in Section 4.

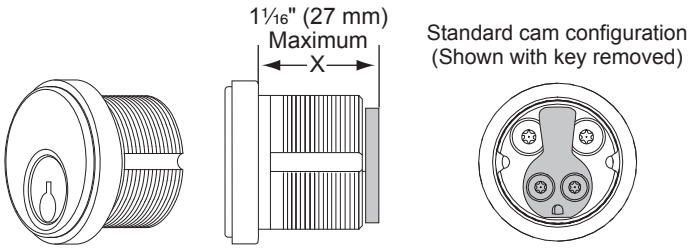


7 Installation, continued

7m Remove and discard cylinder plug from key switch assembly in faceplate.



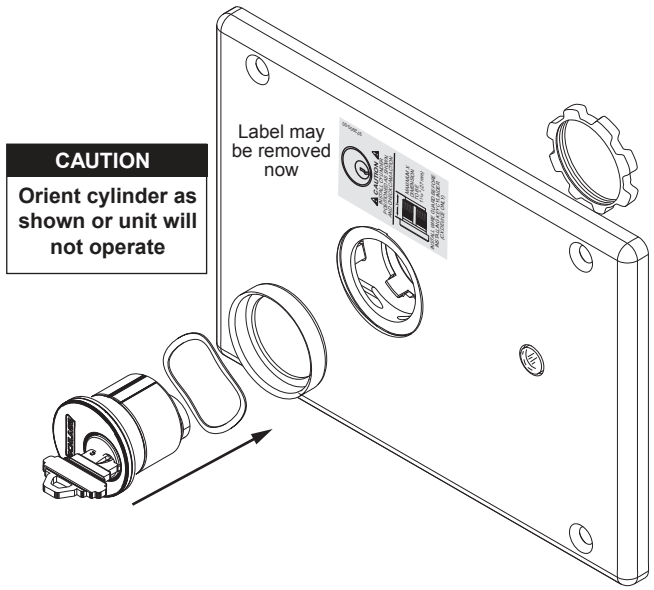
7n Use 1¼" mortise cylinder with compression ring K510-406 with straight cam and orient cam as shown. Schlage cylinder 20-001-114 recommended.



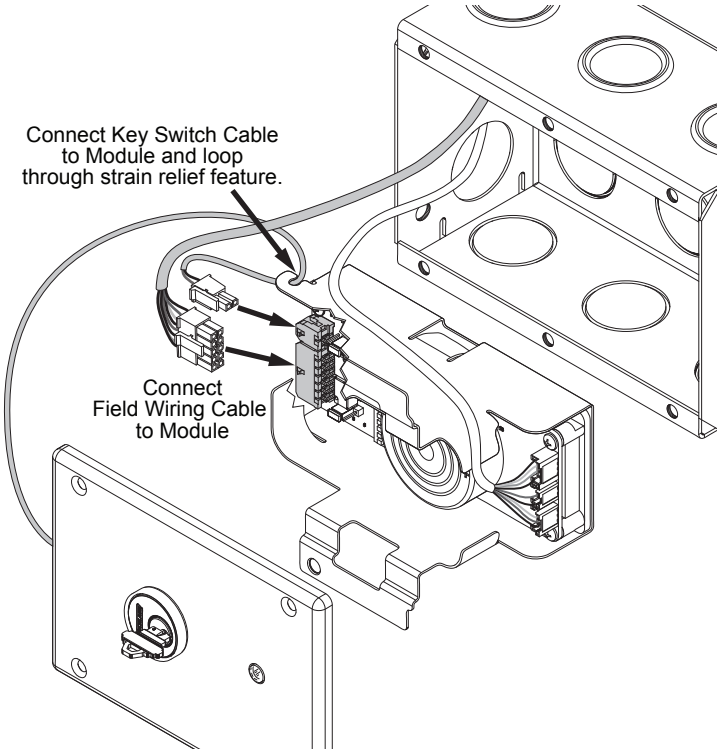
⚠ CAUTION ⚠

Dimension X as shown above must be no more than 1 1/16" or damage to product may occur.

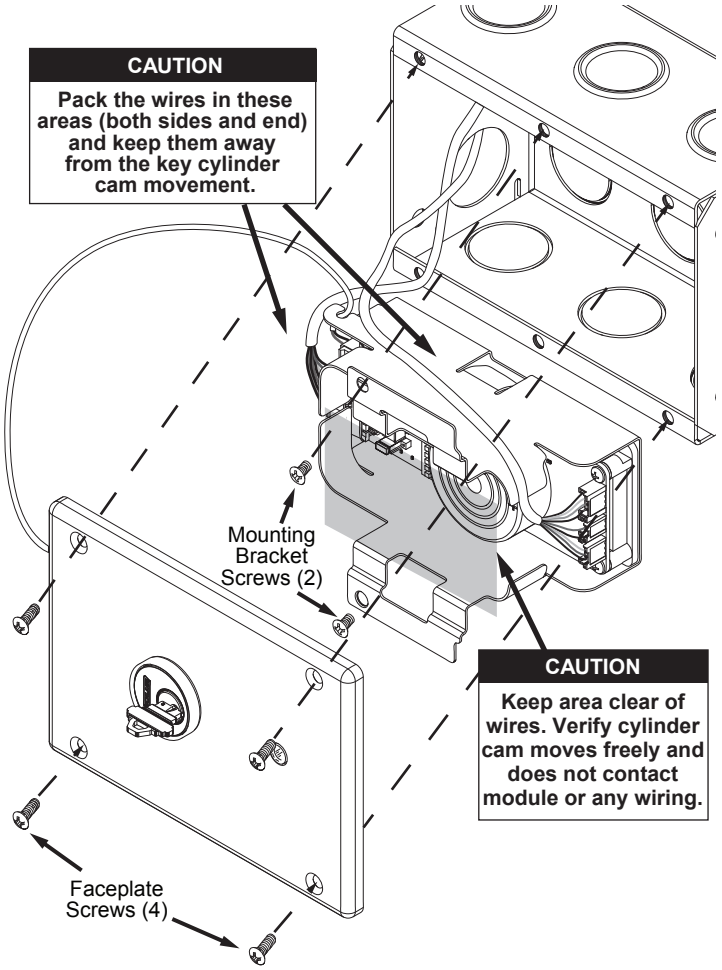
7o Install mortise cylinder onto faceplate. Verify cylinder cam operates key switch properly.



7p Connect key switch cable and field wiring cable to module.



7q Insert mounting bracket with module into control box and screw into place. Screw faceplate into place.



8 Basic Functional Test

This test is to be performed with RCM switches in default settings and with door closed. Follow the instructions below and verify that the RCM performs as described.

Note: If at any time the Internal Alarm sounds and you wish to silence it, turn the Key Switch counter-clockwise.

Test Powerup

1. Turn the Key Switch clockwise. Then turn the power supply ON which causes the RCM to enter **Armed Mode** (Status Indicator is flashing slow).
2. Turn the Key Switch counter-clockwise to put the RCM into **Disarmed/Reset Mode** (Status Indicator is OFF).
3. Turn the Key Switch clockwise which causes the RCM to enter **Rearm Delay Mode** (Status Indicator is ON for 10 seconds - this time is adjustable).
4. After **Rearm Delay Mode** expires, the RCM will enter **Armed Mode** (Status Indicator is flashing slow).

Test Delayed Egress

5. Confirm that the RCM is in **Armed Mode** per step 4.
6. Push the Push Pad and verify that the RCM Exit Device is locking the door.
   RCM will immediately begin sounding the Internal Alarm and enter **Release Delay Mode** for 15 seconds (Status Indicator is flashing fast and Internal Alarm is ON).
7. After the **Release Delay Mode** expires, the RCM will enter **Released Mode** (Status Indicator is flashing fast and the Internal Alarm is ON).
   The RCM Exit Device will be unlocked (you can now push the Push Pad and open the door).

Mode	RCM Exit Device	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (2)	Off	On	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
Release Delay	Locked	Locked	Fast Flash (2)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (2)	On	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

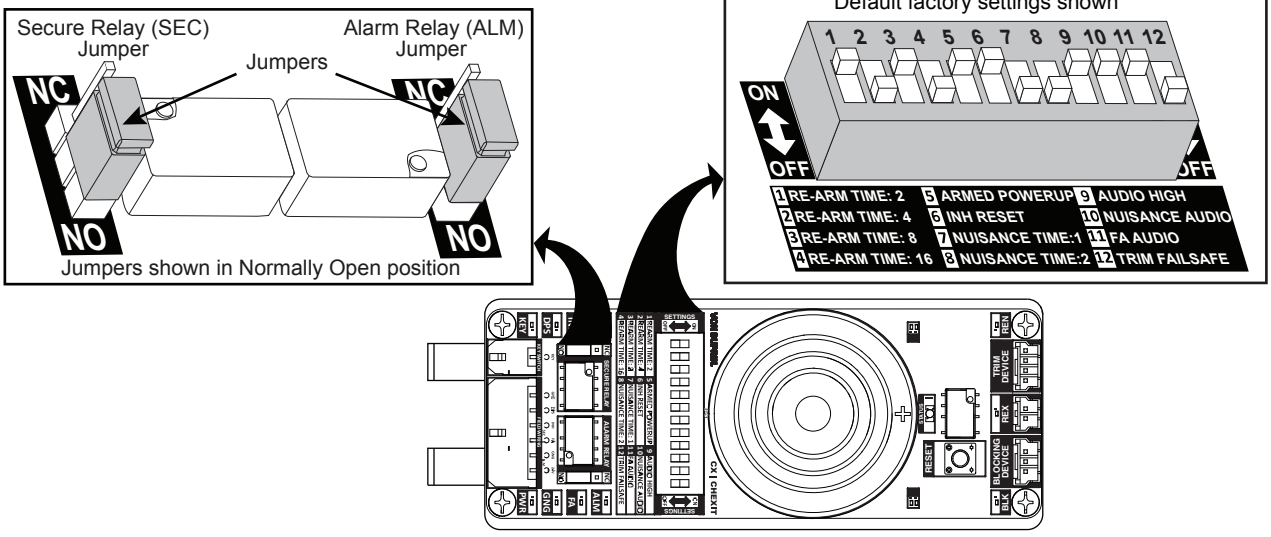
(1) Trim will be Locked or Unlocked depending on if the Trim is Fail Secure or Fail Safe (and if the Trim Fail Safe onboard switch setting is set to OFF or ON)
(2) SLOW FLASH = 1 per second, FAST FLASH = 4 per second

9 Module Setup

9a Remove Faceplate for access to Module as needed.

9b Set the Relay Jumpers and Onboard Switch Settings for desired device functionality.

- Position the Alarm Relay Jumper and Secure Relay Jumper to NO or NC.
- Position each Onboard Switch Setting to ON or OFF.
  - Refer to Onboard Switch Settings Table on next page for detailed description of each setting.



10 Onboard Switch Settings Table

Switch Numbers	Switch Position				Onboard Settings Specifications		Description
	1	2	3	4			
1-4 Rearm Time	OFF	OFF	OFF	OFF	0	Rearm Time (seconds)	The delay time initiated after the INH or KEY goes inactive (back to normal position) before the RCM rearms, allowing a person to exit or enter without an alarm through an unlocked door.
	ON	OFF	OFF	OFF	2		
	OFF	ON	OFF	OFF	4		
	ON	ON	OFF	OFF	6		
	OFF	OFF	ON	OFF	8		
	ON*	**OFF***	**ON***	**OFF***	10		
	OFF	ON	ON	OFF	12		
	ON	ON	ON	OFF	14		
	OFF	OFF	OFF	ON	16		
	ON	OFF	OFF	ON	18		
	OFF	ON	OFF	ON	20		
	ON	ON	OFF	ON	22		
	OFF	OFF	ON	ON	24		
	ON	OFF	ON	ON	26		
	OFF	ON	ON	ON	28		
	ON	ON	ON	ON	30 (Infinite)		
5 Armed Powerup	OFF				RCM powers up into Disarmed Powerup Mode (unlocked with alarm sounding).		If the RCM is Armed and there is a power outage, then upon power restoration, the RCM will either power up into Armed Mode or Disarmed Powerup Mode with alarm sounding.
	ON*				RCM powers up into Armed Powerup Mode (locked).		
6 INH (Access Control) Reset	OFF				All alarms reset by KEY only (meaning user must be at the door to manually reset).		Selects what action is allowed to reset an alarm condition.
	ON*				All alarms reset by KEY OR INH (INH allows any access control user to reset the alarm at the door or remotely).		
7-8 Nuisance Time	7	8					The delay time the Push Pad can be pushed without starting the release sequence. It is used to prevent accidental bumps from triggering the alarm.
	OFF*	**OFF***			0	Nuisance Time (seconds)	
	ON	OFF			1		
	OFF	ON			2		
	ON	ON			3		
9 Audio High	OFF				Sets Internal Alarm to Low.		Selects between High and Low audio levels during alarm.
	ON*				Sets Internal Alarm to High.		
10 Nuisance Audio	OFF				Internal Alarm OFF during Nuisance Delay (if Nuisance Delay is enabled).		Selects whether Internal Alarm is ON or OFF during the Nuisance Delay (if Nuisance Delay is enabled).
	ON*				Internal Alarm ON during Nuisance Delay (If Nuisance Delay is enabled).		
11 FA Audio	OFF				Internal Alarm OFF during Fire Alarm.		Selects whether the Internal Alarm is ON or OFF during a Fire Alarm.
	ON*				Internal Alarm ON during Fire Alarm.		
12 Trim Failsafe	**OFF***				Trim is selected to be Fail Secure (FSE).		Matches FSE or FS trim to RCM trim device output.
	ON				Trim is selected to be Fail Safe (FS).		

***Default settings**

⚠ Consult AHJ or local building codes for onboard switch settings.

11 Advanced Function Test

Chart below shows the various Modes of the RCM. Follow the steps below the chart to check each Mode.

Mode	RCM Exit Device	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (3)	Off	On	Off
Disarmed Powerup	Unlocked	Locked	Slow Flash (3)	Slow Pulse (4)	Off	Off
Inhibited	Unlocked	Unlocked	Off	Off	Off	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
DPS Delay	Unlocked	Locked	On	Off	Off	Off
Nuisance Delay	Locked	Locked	Slow Flash (3)	Fast Pulse (2) (4)	On	Off
Release Delay	Locked	Locked	Fast Flash (3)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (3)	On	Off	On
Tamper	Unlocked	Locked	Fast Flash (3)	Fast Pulse (4)	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

(1) Electric Trim will be Locked or Unlocked based on whether the Trim Fail Safe onboard setting is set to OFF or ON
(2) Audio may be turned OFF through Nuisance Audio onboard switch setting
(3) SLOW FLASH = 1 per second, FAST FLASH = 4 per second
(4) SLOW PULSE = 1 per second, FAST PULSE = 4 per second

Test Powerup

1. Ensure that the Key Switch is turned clockwise. Turn the Power Supply ON.
   -If the Armed Powerup onboard switch setting is ON (default), the RCM will enter **Armed Mode**.
   -Note: If the Armed Powerup onboard switch setting is OFF, the RCM will enter **Disarmed Powerup Mode**.
2. Turn the Key Switch counter-clockwise to put the RCM into **Disarmed/Reset Mode**.
3. Turn the Key Switch clockwise to arm the RCM.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the RCM will enter **Rearm Delay Mode**.
   After **Rearm Delay Mode** expires, the RCM will enter **Armed Mode**.
   -If the Rearm Time onboard switch setting is OFF, the RCM will enter **Armed Mode** without a delay.

Test Delayed Egress

4. Confirm that the RCM is in **Armed Mode**.
5. Push and hold the Push Pad.
   -If the Nuisance Time onboard switch setting is OFF, the RCM will immediately enter **Release Delay Mode**.
   -The RCM will release in 15 seconds.
   -If the Nuisance Time onboard switch setting is ON, the RCM will enter **Nuisance Delay Mode**.
   -If the Nuisance Audio onboard switch setting is ON, the Internal Alarm will pulse fast.
   -If the Nuisance Audio onboard switch setting is OFF, the Internal Alarm will not sound.
   -If the Push Pad is released before the Nuisance Delay expires, the RCM will go back to **Armed Mode**.
   -If the Push Pad is held until the Nuisance Time expires, the RCM will enter **Release Delay Mode**.
   After the Release Time expires, the RCM will enter **Released Mode**.
   The RCM will release in 15 seconds, less the Nuisance Time already elapsed.
6. Repeat Step 2 and Step 3 to make the RCM return to **Armed Mode**.

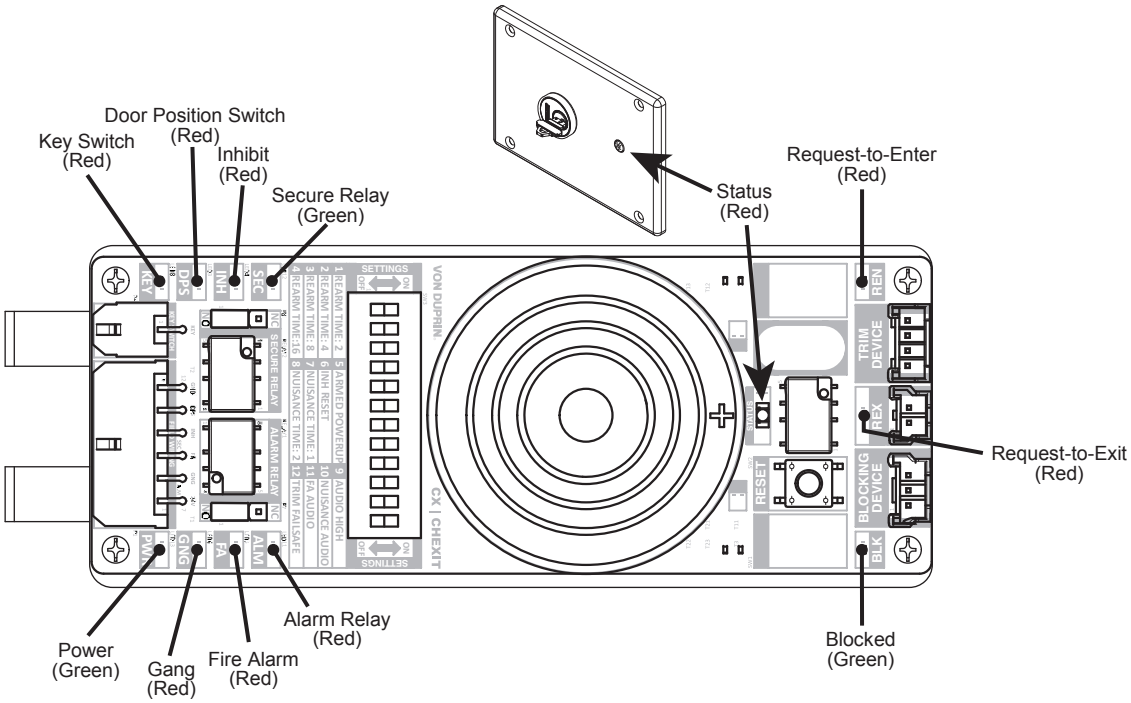
Test Access Control

7. Confirm that the RCM is in **Armed Mode**.
8. Activate the Inhibit (INH) Input to make the RCM enter **Inhibited Mode**.
9. Release the Inhibit (INH) Input.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the RCM will enter **Rearm Delay Mode**.
   -If the door is opened and closed before the Rearm Time expires, the RCM will enter **DPS Delay Mode.**
   The RCM will enter **Armed Mode** in 2 seconds.
   -If the door is left open and the Rearm Time expires, the RCM will enter **Released Mode**.
   -If the Rearm Time onboard switch setting is OFF.
   -If the door is closed, the RCM will go back to **Armed Mode**.
   -If the door is left open the RCM will enter **Tamper Mode**.

Test Fire Alarm

10. Confirm that the RCM is in **Armed Mode**.
11. Activate the FA input to make the RCM enter **Released Mode**.
    -If the FA Audio onboard switch setting is ON, the Internal Alarm will sound.
    -If the FA Audio onboard switch setting is OFF, the Internal Alarm will not sound.
12. Repeat Step 2 and Step 3 to make the RCM return to **Armed Mode**.

12 Onboard Indicators



Signal	Indication	Description
PWR	OFF	Power is OFF
	ON	Power is ON
KEY	OFF	Key Switch turned clockwise (Arm)
	ON	Key Switch turned counter-clockwise (Disarm/Reset)
GNG	OFF	No Gang signal (Inactive)
	ON	Gang signal (Active)
FA	OFF	Fire Alarm contacts closed (Inactive)
	ON	Fire Alarm contacts open (Active)
DPS	OFF	Door Position Switch closed (Door Closed)
	ON	Door Position Switch open (Door Open)
INH	OFF	Inhibit contacts closed (Inactive)
	ON	Inhibit contacts open (Active)
SEC	OFF	RCM not secure (Relay contact state depends on Secure Relay NO/NC jumper setting)
	ON	RCM secure
ALM	OFF	RCM not in alarm (Relay contact state depends on Alarm Relay NO/NC jumper setting)
	ON	RCM in alarm condition
BLK	OFF	RCM Exit Device is unlocked
	ON	RCM Exit Device is locked
REX	OFF	Push Pad is not pushed (Inactive)
	ON	Push Pad is pushed (Active)
REN	OFF	Request-to-Enter contacts open (Inactive)
	ON	Request-to-Enter contacts closed (Active)
STATUS	OFF	RCM is in Disarmed/Reset Mode or in Inhibited Mode
	SLOW FLASH	RCM is in Armed Mode or in Disarmed Powerup Mode
	FAST FLASH	RCM is in Release Delay Mode or Released Mode
	ON	RCM is in Rearm Delay Mode or DPS Delay Mode
MOTOR STATUS	OFF	Push pad is not blocked/unlocked
	GREEN	Push pad is blocked/locked
	SLOW FLASH RED	Overvoltage

13 Troubleshooting

Normal RCM operation:

-After turning the Key Switch clockwise to Arm, the RCM will wait the selected Rearm Time (red Status Indicator is ON).
-At the end of this delay, the RCM will lock the Push Pad (red Status Indicator is flashing slow) indicating the RCM is Armed.
-To trigger delayed egress, push the Push Pad in. The RCM will sound an Internal Alarm (red Status Indicator is flashing fast).
-At the end of the Release Delay, the Push Pad will unlock allowing exit. The Internal Alarm will continue until the RCM is reset with the Key Switch or Inhibit Input (if INH Reset onboard switch setting is ON).

Most wiring issues can be diagnosed by observing the Module's onboard LED indicators (see section 12, Onboard Indicators).

An Armed RCM's LED's should appear as:

Status LED - flashing slow
PWR, SEC and BLK - ON (PWR LED is on when power is applied to the Module and is independent of any switch positions)
All other LED's - OFF

Status Indicator flashing fast or **Internal Alarm pulsing fast** is 4 times per second. **Status Indicator flashing slow** or **Internal Alarm pulsing slow** is 1 time per second. **Status Indicator ON** or **Internal Alarm ON** means on continuously.

With 24VDC applied to the RCM, turn the Key Switch clockwise to Arm and note the possible symptoms below.

Symptoms		Possible Cause	Solution
Push Pad is NOT locked. Internal Alarm is NOT sounding.	Module PWR (Power) LED is OFF.	Power supply is not supplying any voltage.	Check power supply output voltage at the supply and at the RCM.
		Power supply voltage is too low.	Check power supply output voltage is 24VDC.
		Field wiring connection is broken.	Verify the power wiring has continuity from power supply to the Module.
		Power supply is reverse polarity.	Verify proper color code is used to supply power to RCM (see section 4, point-to-point diagrams).
	Module Status Indicator is ON.	Rearm Delay is active.	Verify proper rearm delay setting (see section 9 and 10, switches 1-4). If set to 30 see section 1, "Rearm Delay".
	Module Status Indicator flashes once.	INH (access control) wiring/ connection is open.	Verify the INH wiring continuity.
		INH (access control) is active (contacts open).	Verify the access control device is using normally closed contacts (see section 4, point-to-point diagrams).
Push Pad is NOT locked. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module FA (Fire Alarm) LED is ON. Module ALM (Alarm) LED is ON.	FA wiring/connection is open.	Verify the FA wiring has continuity from FA contacts to Module.
		FA is active (contacts open).	Verify the FA contacts are closed when there is no fire alarm.
	Module Status Indicator is flashing fast. Module GNG (Gang) LED is ON. Module ALM (Alarm) LED is ON.	GNG wire is shorted to the power supply ground.	Find and remove short. Insulate any unused GNG wire.

13 Troubleshooting, continued

Symptoms		Possible Cause	Solution
When Arming, Release Delay starts immediately. Push Pad is first Locked and then releases after 15 seconds. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module REX (Req. to EXIT) LED is ON. Module ALM (Alarm) LED is ON.	Push Pad is not returning to the full extended position.	Pull Push Pad out fully and verify this corrected the problem. Check for dirt and rubbing around the Push Pad area. Check for full latch bolt extension (see section 12, REX LED indication).
		Device Wiring Cable (2 position plug) is disconnected.	Plug in REX cable (see section 7, step 7f).
		REX wiring/connector is defective.	Check for broken wiring from the REX connector at the Module to the REX switch under the RCM Exit Device Push Pad.
		REX switch is defective.	Check the REX switch is closed when the Push Pad is fully extended. If still open, replace switch.
When Arming, Push Pad remains unlocked. Internal Alarm is pulsing fast	Module Status Indicator is flashing fast. Module DPS (Door Pos. Switch) LED is ON. Module ALM (Alarm) LED is ON.	DPS switch contact is open.	Close the door, if open. Verify the DPS contacts are closed when the door is closed.
		DPS wiring/connection is open.	With door closed, verify the DPS wiring has continuity from DPS contacts to Module.
When Arming, Push Pad remains unlocked. Internal alarm is pulsing fast after 2 seconds.	Module Status Indicator is flashing fast after 2 seconds. Module BLK (Blocking) LED is OFF. Motor Status LED is OFF. Module ALM (Alarm) LED is ON.	CX motor cable is disconnected.	Plug in CX motor cable (see section 7, step 7f).
		CX motor wiring/connection is open.	Check for broken wiring in the motor cable.
		CX motor assembly is defective.	Call customer service.
		On a rim or vertical rod device, the latch bolt can't extend.	Door is not closed enough for proper latching. Make necessary mechanical adjustments to latch properly. If using a vertical rod device and arming with door open, the latch bolts are held retracted.
		On any device, the Push Pad is held in.	Verify the Push Pad is extending fully (see REX) above
After a power outage and power is restored, Push Pad remains unlocked (Key Switch is in Armed position - clockwise). Internal Alarm is pulsing slow.	Module Status Indicator is flashing slow. Module ALM (Alarm) LED is ON.	The RCM is not self arming after a power outage. RCM onboard switch #5 (Armed Power Up) is set to OFF.	Some jurisdictions require the RCM to be disarmed and alarming to be manually reset only after a power loss. For those jurisdictions, the Module switch #5 is set to OFF (see section 9 and 10, switch 5).
Trim is locked when it should be unlocked. OR Trim is unlocked when it should be locked.		Trim switch setting is incorrect. Incorrect trim type. Verify if FS (Fail Safe) or FSE (Fail Secure) is being used.	Select the correct trim switch setting to match the trim being used (see section 9 and 10, switch 12). Install the correct trim type.

911030-00

Chexit (CX)

VON DUPRIN

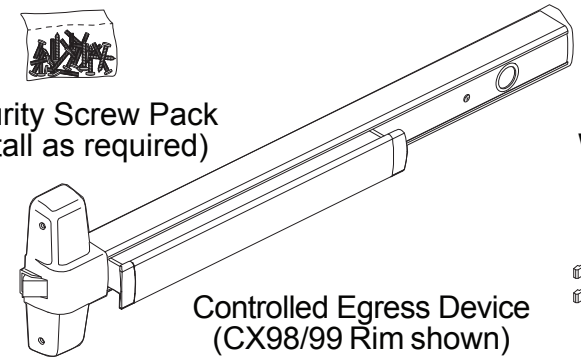
Wiring and Configuration

Installation Instructions

General Information

The Von Duprin Chexit device is designed for controlled egress applications. It meets both life safety and security needs, as well as the requirements of NFPA101 for “Special Locking Arrangement” and IBC “Special Egress-Control Devices”. All control inputs, auxiliary locking, local alarm and remote signaling outputs are self-contained in the Chexit assembly. Numerous field configurable options allow the device to be customized for the specific code or application requirements. The standard Chexit device sounds an alarm and keeps the door secured for 15 seconds following an exit attempt with immediate release upon fire.

Parts Included



Security Screw Pack
(Install as required)

Controlled Egress Device
(CX98/99 Rim shown)



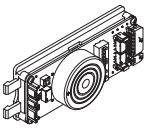
Wire Guard



Blocking Device Cable



Door Sign



Module



Field Wiring Cable



Trim Device
Cable*

*Included when ordering with an E7500, E996L, E360L-BE or RX996L-M.

Table of Contents

Basic Features....2
Installation Components....3
Electrical Specifications....3
Typical Wiring Diagrams....4
- Single Door....4
- Double Door....5
- Double-Egress Door....6
- Electrical Trim....7
- Retrofit Wiring....7

Installation....8
Basic Functional Test....11
Module Setup....11
Onboard Switch Settings Table....12
Advanced Function Test....13
Onboard Indicators....14
Troubleshooting....15

⚠ WARNING ⚠

- **Do not exceed rated specifications.**
- **The Chexit device must be installed in accordance with these instructions by a qualified electrician.**
- **Wiring and applications must be in accordance with all local codes and regulations.**

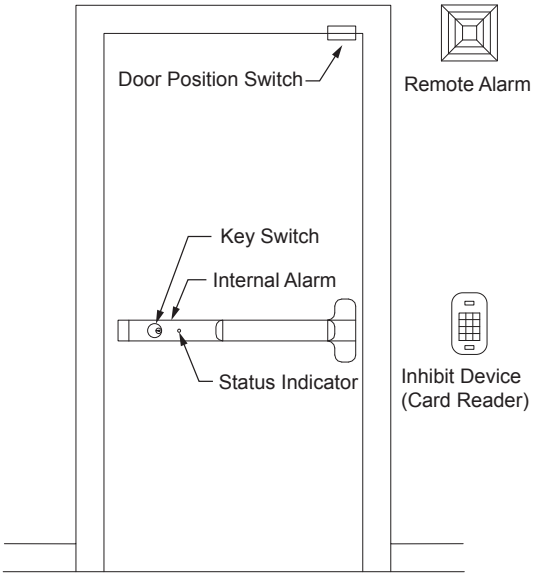
Customer Service

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

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1 Basic Features



Inputs & Outputs

Fire Alarm Input
This input releases the door immediately upon a fire alarm, allowing immediate egress. The Internal Alarm can be silenced during a fire input via an onboard switch setting.

Inhibit Input (Access Control)
This optional input is provided to allow authorized egress or entry when the device is Armed using an external card reader, Key Switch, etc. It also allows remote reset of the Chexit in an alarmed condition. The ability to reset alarms with the inhibit input can be disabled via an onboard switch setting.

Door Position Switch Input
An optional Door Position Switch (DPS) can provide door position status to Chexit for additional security, ensuring that the door is closed, and can cause alarm when the door is left or forced open.

Gang Bus
The Gang bus allows a Chexit device to signal other Chexit devices when it enters the Release Delay, allowing multiple doors to release at the same time in an emergency. Up to 8 devices may be connected to the Gang bus.

Alarm Relay Contacts
The Alarm Relay contacts are provided as a means to control a Remote Alarm, such as a horn or lamp, or signal an external monitor. The contacts can be configured with a jumper as Normally Open or Normally Closed, and become active upon entering an alarmed condition.

Secure Relay Contacts
The Secure Relay contacts are provided as a means to signal an external monitor. The contacts can be configured as Normally Open or Normally Closed with a jumper, and become active when the DPS indicates the door is closed and the Push Pad is locked.

Delays

Release Delay
When the Push Pad is pushed and the Nuisance Delay expires, the Chexit enters the Release Delay with alarm. During the Release Delay, the Internal Alarm sounds, the Alarm Relay activates, and the Chexit keeps the Push Pad locked for 15 seconds (less any time already elapsed during the Nuisance Delay). Once started, the Release Delay sequence will not stop and the Chexit will unlock.

Nuisance Delay
When a Chexit is located in a public area, it can be desirable to limit false releases when the Push Pad is accidentally pushed. The Nuisance Delay is the brief time a Push Pad can be accidentally pushed before the Release Delay sequence starts. If the Nuisance Time is set to 0 seconds, the Chexit will enter Release Delay as soon as the Push Pad is pushed (when armed). Setting the Nuisance Time to 1, 2, or 3 seconds allows the Push Pad to be pressed for 1 to 3 seconds before the Chexit goes into Release Delay. If the Nuisance Audio and Nuisance Delay are both on, the Internal Alarm will pulse during the Nuisance Delay. The Alarm Relay does not activate during the Nuisance Delay. If the Push Pad is released before the Nuisance Delay expires, the Chexit will remain armed.

Rearm Delay
The Rearm Delay is the amount of time after the Key Switch or Inhibit Input is deactivated to when the device rearms. It is designed to give someone time to pass through the door before rearming occurs. The Rearm Time can be changed via the onboard switch settings from 0 to 28 seconds in 2 second increments.

If the Rearm Time is set to 30 seconds and a DPS is used, if the door is opened and the Rearm Time expires, there will be no alarm. The Chexit will rearm after the door is closed. If the door never opens, the Chexit will rearm after 30 seconds.

If not using a DPS, the Chexit will always rearm in 30 seconds.

DPS Delay
If the DPS detects that the door closed during the Rearm Delay, the Chexit ends the Rearm Delay and allows 2 seconds for the latch to clear the strike before rearming.

Interface

Key Switch
The Key Switch provides the means to Arm or Disarm/Reset the Chexit. Turning the Key Switch clockwise initiates the Rearm Delay, and turning the Key Switch counter-clockwise Disarms/Resets the Chexit. The Key Switch allows the key to be removed in either the Arm or the Disarm/Reset position.

Status Indicator
The red Status Indicator displays the status of the Chexit. The Status Indicator flashes slow if the Chexit is armed, flashes fast in an alarmed mode, is off when inhibited and on solid during Rearm Delay.

Internal Alarm
The Internal Alarm sounds the status of the Chexit. The Internal Alarm sounds continuously during and after a fire alarm or a Release Delay, pulses fast during the Nuisance Delay or a tamper and pulses slow during Disarmed Powerup mode.

Settings

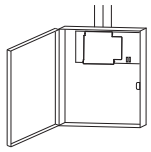
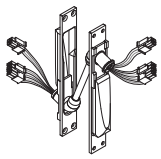
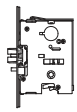
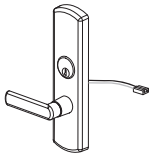
Armed Powerup
When set to OFF, a power disruption and power return will put the Chexit in a disarmed, unlocked alarm mode.

Trim Fail Safe / Fail Secure (FS/FSE)
The trim input power can be set to FS (Fail Safe; locked when energized, unlocked when deenergized or during power failure) or FSE (Fail Secure; unlocked when energized, locked when deenergized or during power failure).

The trim must be bought or modified to physically function as FS or FSE. This onboard setting only selects the trim input power.

2 Installation Components

Table 1.1 Installation Components

Picture	Component	Function	Optional/Required
	1¼" Mortise Cylinder (with straight cam and ¼" spacer)	Provides means to use the Key Switch.	**Required**
	Power Supply PS902, PS904, PS906, or PS914	Provides power to Chexit.	**Required**
	Power Transfer (EPT10-CON shown)	Provides means to transfer electrical power and signals through frame to door.	**Required** EPT10-CON Recommended Door loop or electric hinge can also be used.
	Fire Alarm **(NC contacts)**	Provides fire alarm status to Chexit so that it can unblock Push Pad in case of fire alarm.	**Required** Multiple Fire Alarms can be used in series.
	Inhibit (Access Control) Device (Card Reader, Key Switch, etc.) **(NC contacts)**	Provides additional means of signaling an authorized access to Chexit.	**Optional** Multiple Inhibit Devices can be used in series. If not used, connect green wire to red wire.
	Door Position Switch **(NC contacts)**	Provides door position status to Chexit for additional security.	**Optional** If not used, connect orange wire to red wire.
	Remote Alarm	Provides an additional alarm that may be louder or located in a remote location.	**Optional** If not used, insulate blue and brown wires separately.
	Electric Mortise Lock (E7500) (FS or FSE)	Provides means for Chexit to control entry through the door.	**Optional** (Included with CXE9975L)
	Electric Trim (E996L shown, or E360L-BE) (FS or FSE)	Provides means for Chexit to control entry through the door.	**Optional**

3 Electrical Specifications

Cable	Wire Color	Signal Description		Signal Type		Voltage Rating	Current Rating	Wire Gauge Minimum	Wire Length Maximum	One-Way Measurement From Power Transfer To
Field Wiring	Red	24 VDC	24 VDC	Power	Input	24 VDC	390 mA Holding*	18 AWG	200 feet	Power Supply
	Black	Ground	GND			Ground	1.25 A Inrush*	14 AWG	500 feet	
	Yellow	Fire Alarm	FA	NC	Input	24 VDC	10 mA	22 AWG	1000 feet	Fire Alarm
	Green	Inhibit	INH							Inhibit Device
	Orange	Door Position Switch	DPS							Door Position Switch
	Gray	Gang	GNG	Active Low	Bus					Ganged Chexit Device
	Blue	Alarm Relay	ALM	COM	Relay Contact Output	24 VDC	1 A	22 AWG	100 feet	Remote Alarm or External Monitor
	Brown			NO or NC						
	White	Secure Relay	SEC	COM						External Monitor
	Violet			NO or NC						
	Tan	Not Used		Not Used				Not Used		
	Pink									
Trim Device	Yellow	24 VDC	24 VDC	Power	Output	24 VDC	1 A	Trim Device Cable (Included when ordered with an E7500, E996L, RX996L-M or E360L)		
	Blue	Locking Ground	LGND			Ground				
	Green	Request to Enter	REN	NO	Input	24 VDC	10 mA			
	Black	Not Used		Not Used						

*Includes current from Chexit device only (does not include current from optional components such as Inhibit Device, Remote Alarm, or Trim Device)

4 Typical Wiring Diagrams

Single Door

- The Chexit is used as a controlled egress device with access control.
- The Inhibit Device (card reader) provides additional means of signaling an authorized access to Chexit.
- The Remote Alarm is used as an additional alarm in a remote location.
- Using a door position switch gives added security in case the door is not closed or is forced open.
- The Push Pad releases immediately when the Fire Alarm is active.
- If card readers are required on both sides of the door, the normally closed contacts of the readers should be wired in series.

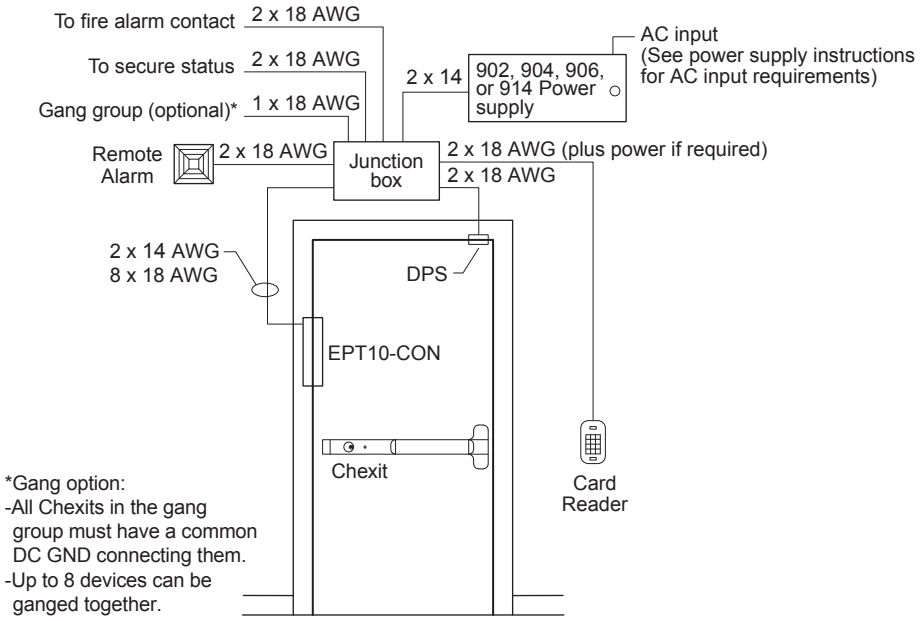


Figure 1. Riser Diagram, Single Door

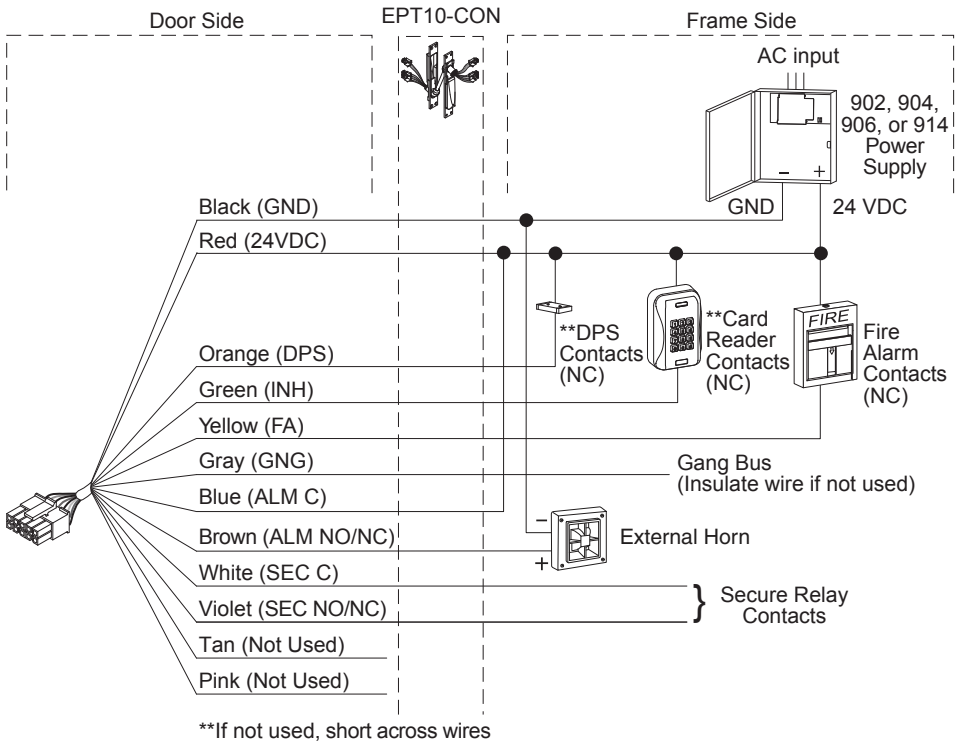


Figure 2. Point-To-Point Diagram, Single Door

4 Typical Wiring Diagrams, continued

Double Door Application - Rim/Vertical

- Both doors open in the same direction and each is equipped with a Chexit.
- The two Chexits are connected (ganged) by the gray (GNG) wires. **(If not used, insulate these wires separately.)**
- When one Chexit is set into Release Delay (activated by Push Pad), the other also goes into Release Delay and both unlock after the Release Delay.
- A fire alarm unlocks both doors immediately.
- An external inhibit device (card reader contacts) also unlocks both doors at the same time.
- After an inhibit signal from the card reader, the door that was used rearms both doors 2 seconds after closing.

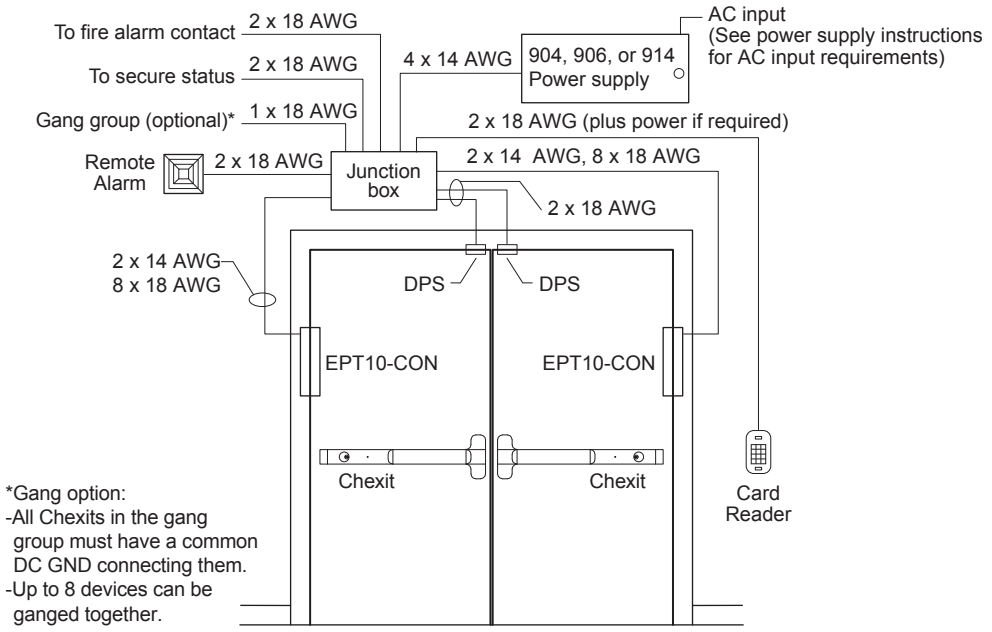
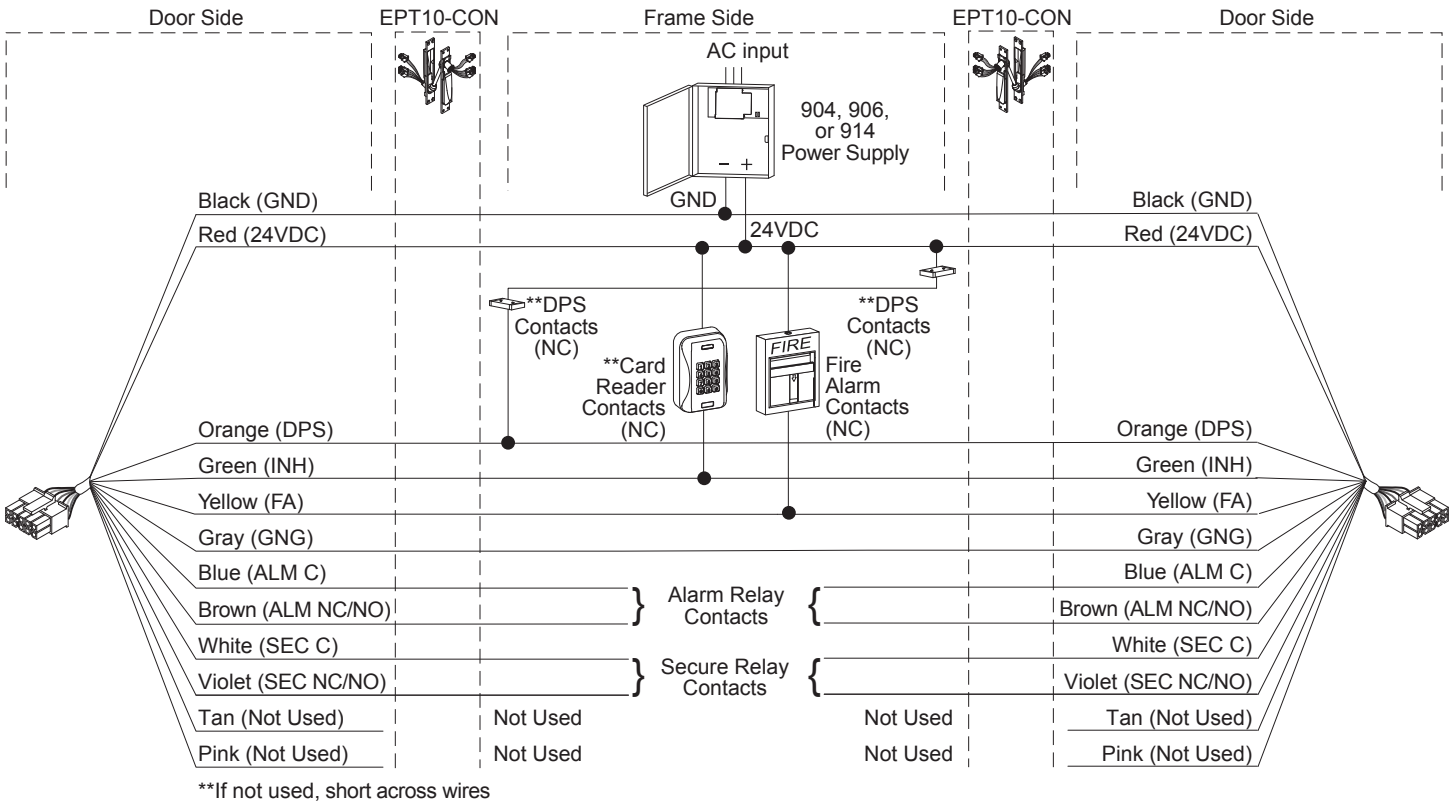


Figure 3. Riser Diagram, Double Door

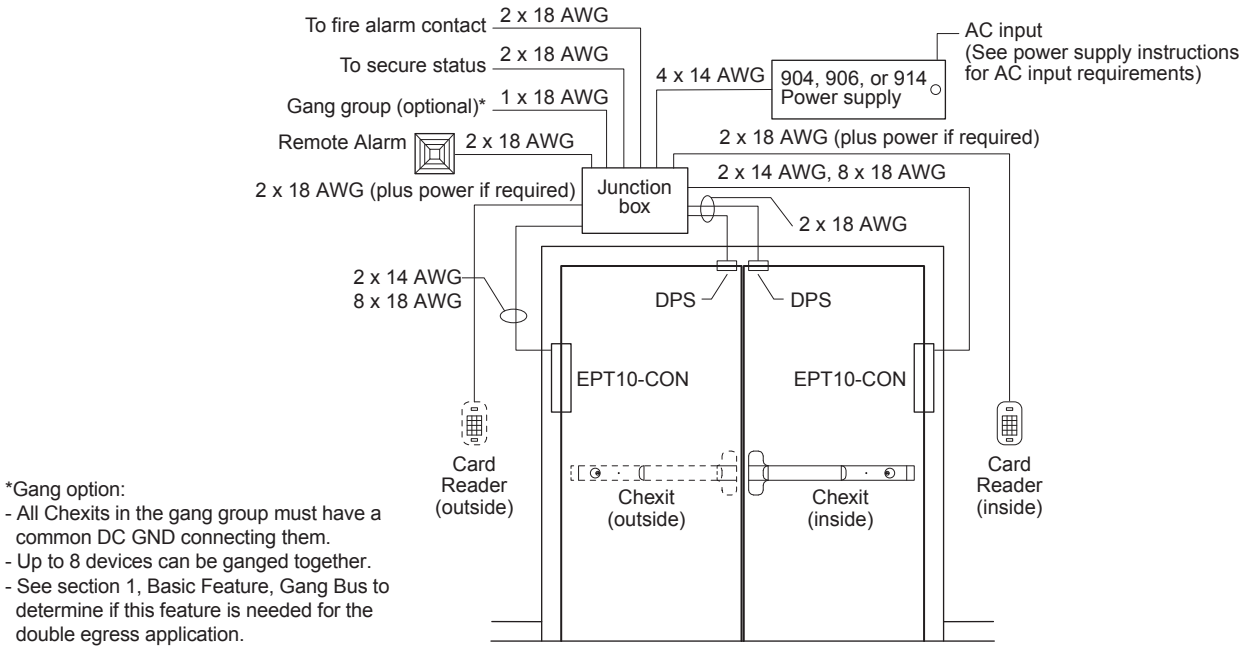


**If not used, short across wires

Figure 4. Point-To-Point Diagram, Double Door

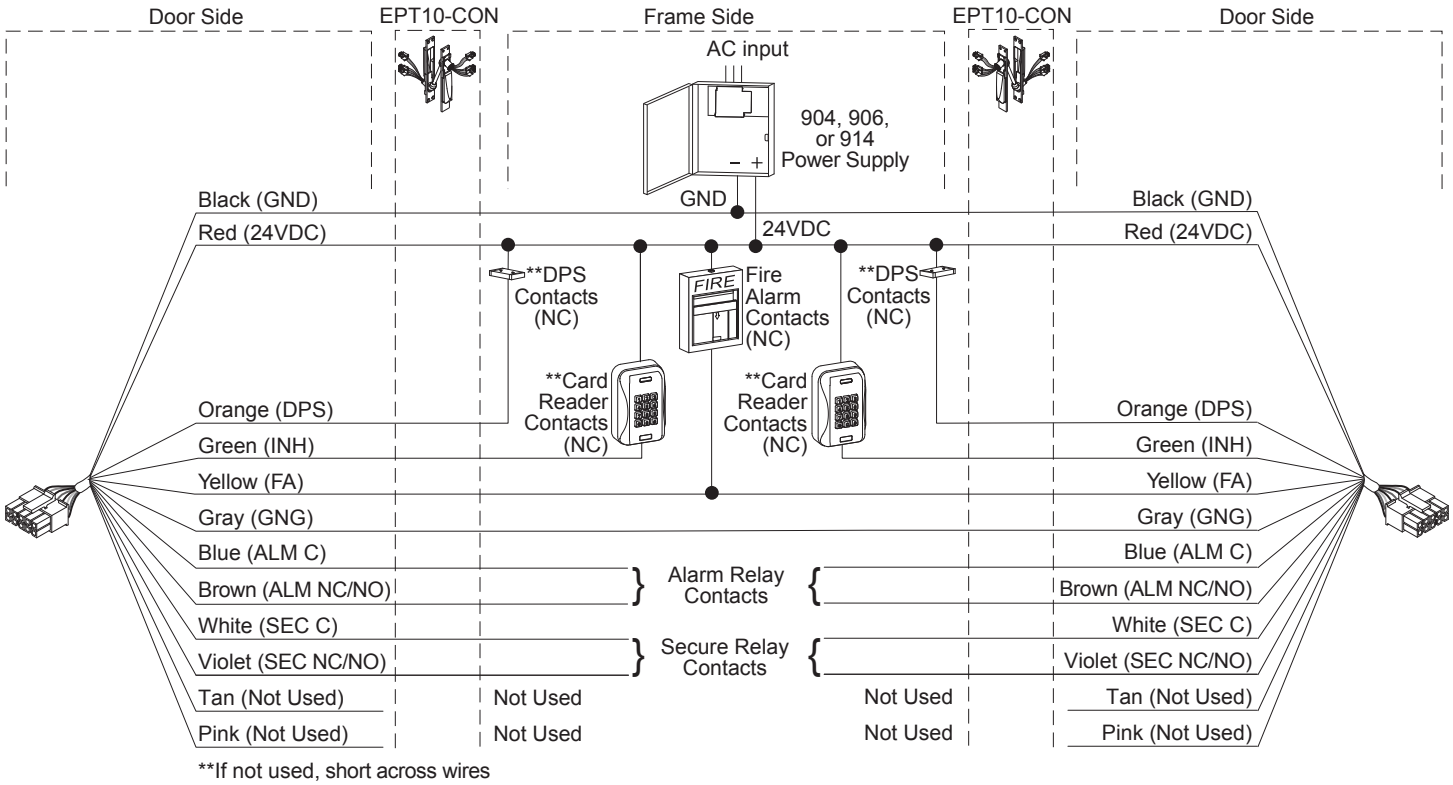
Vertical - Double-Egress Doors

- Pair of doors open in opposite directions and each is equipped with a Chexit.
- The two Chexits are connected (ganged) by the gray (GNG) wires. **(If not used, insulate these wires separately.)**
- When one Chexit is set into Release Delay (activated by Push Pad), the other also goes into Release Delay and both unlock after the Release Delay.
- A fire alarm unlocks both doors at the same time immediately.
- An external inhibit device (card reader contacts) also unlocks each door individually.
- After an external inhibit, the door that was used rearms 2 seconds after closing.



*Gang option:
- All Chexits in the gang group must have a common DC GND connecting them.
- Up to 8 devices can be ganged together.
- See section 1, Basic Feature, Gang Bus to determine if this feature is needed for the double egress application.

Figure 5. Riser Diagram, Double-Egress Doors



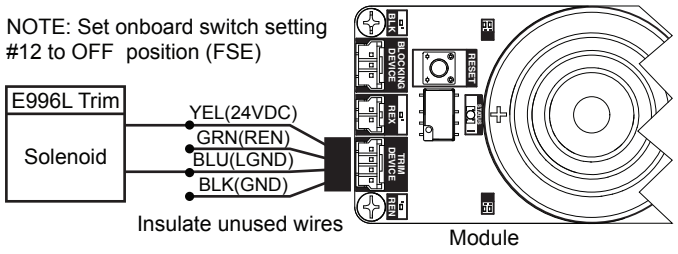
**If not used, short across wires

Figure 6. Point-To-Point Diagram, Double-Egress Doors

5 Typical Wiring Diagram for Electric Trim Function

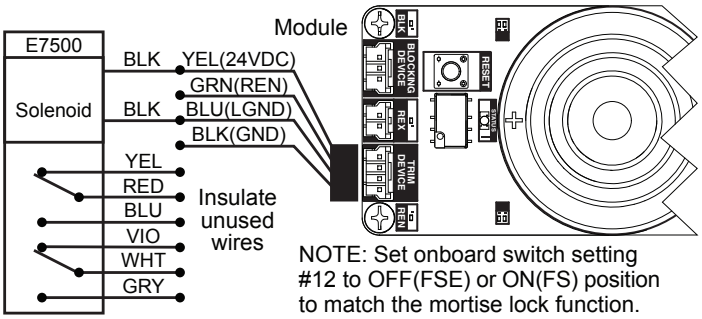
This section describes the option of adding an electrical trim function to the Chexit installation.

5a Controlled entry application (E996L Trim – FSE shown)



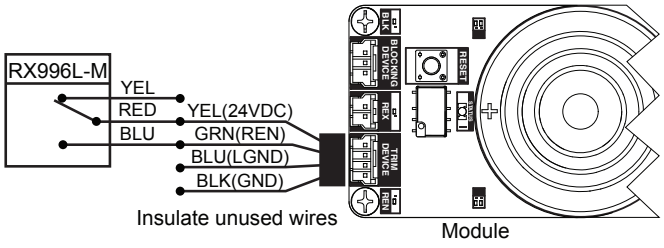
Access control to the CX (not shown) inhibits the CX and unlocks the outside FSE (Fail Secure) trim to allow entry. For access control wiring, see previous wiring diagrams.

5b Controlled entry application (E7500 Mortise Lock)



Access control to the CX (not shown) inhibits the CX and unlocks the E7500 mortise lock to allow entry. The E7500 can be either FS (Fail Safe) or FSE (Fail Secure). For access control wiring, see previous wiring diagrams.

5c Free entry application (RX996L-M + 98/99 Mortise device)

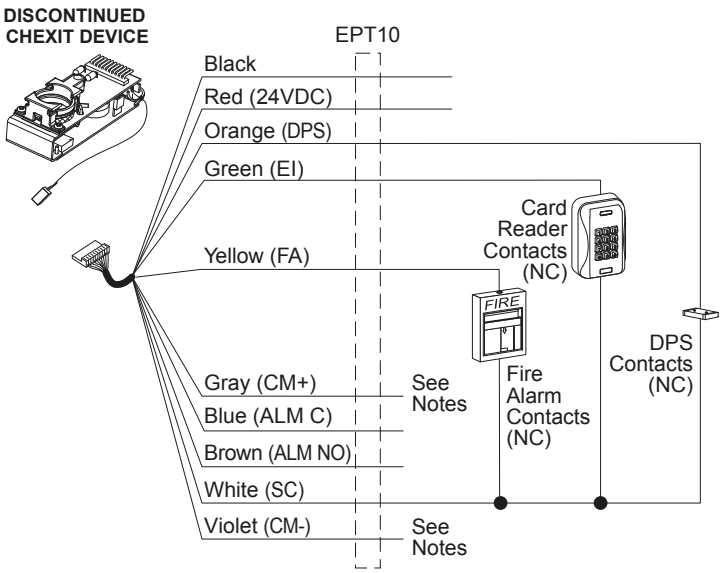


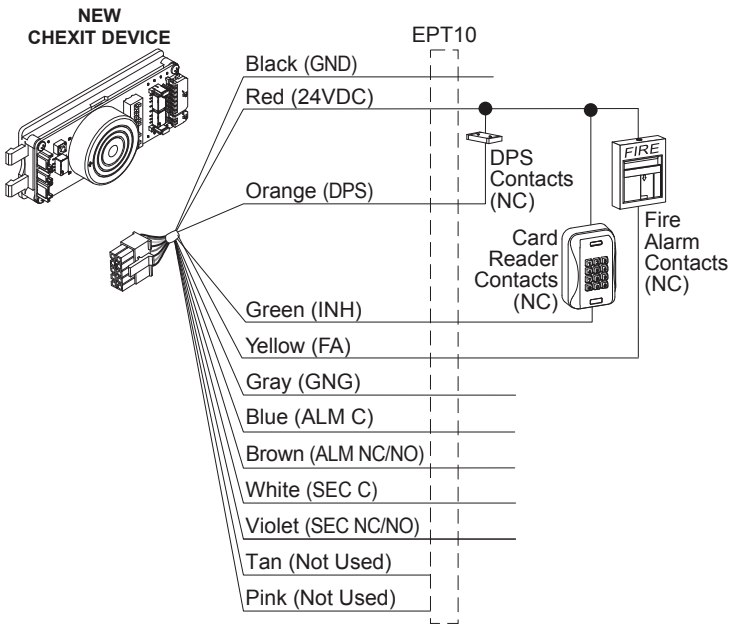
RX trim is not locked and allows entry at all times. The trim inhibits the CX using the REN function during entry. This application is only used on a CX9975 mortise device.

6 Retrofit Wiring

On the discontinued Chexit device, the Door Position Switch, Card reader and Fire Alarm contacts were tied to the white SC wire. On the new Chexit device, these contacts are wired to the red 24VDC wire (see wiring diagrams below).

ⓘ **Caution: Do not connect the gray and violet wires of the discontinued Chexit device to the gray and violet wires of the new Chexit device. The discontinued and new Chexit devices can not be ganged together.**



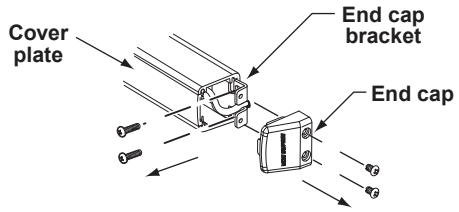


7 Installation

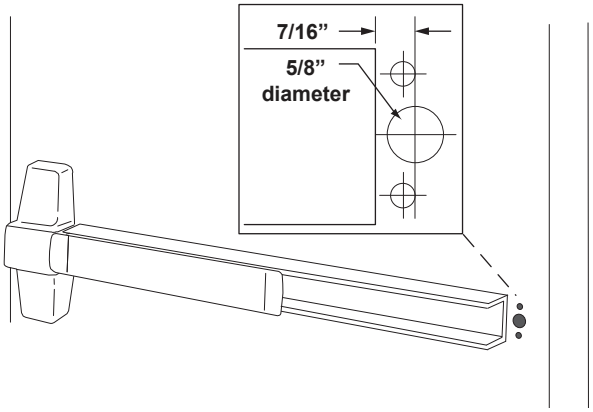
7a ⚠ Disconnect Power ⚠

To avoid risk of shock, disconnect AC power from power supply before proceeding with this installation. If using battery backup option, unplug all four wires from battery terminals.

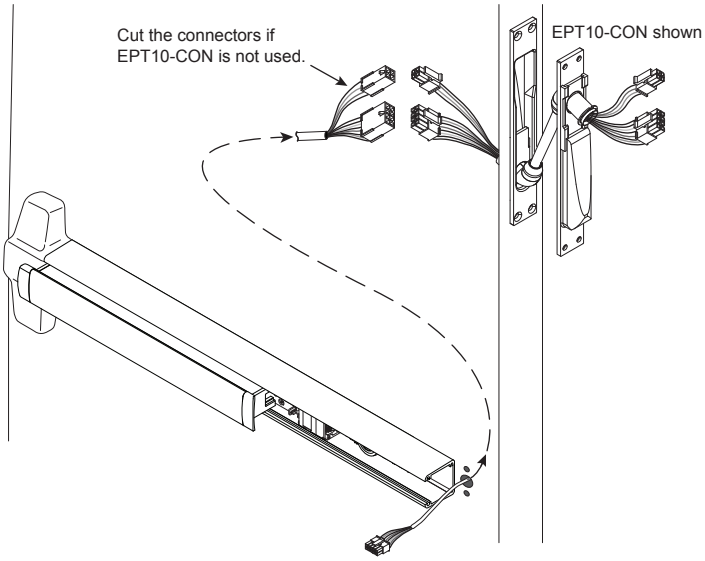
7b If installed, remove end cap, cover plate and end cap bracket.



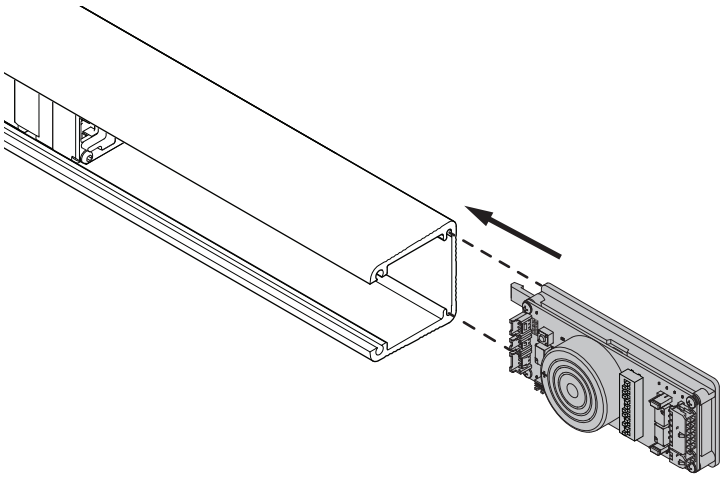
7c Drill 5/8” diameter wire access hole in surface of door.



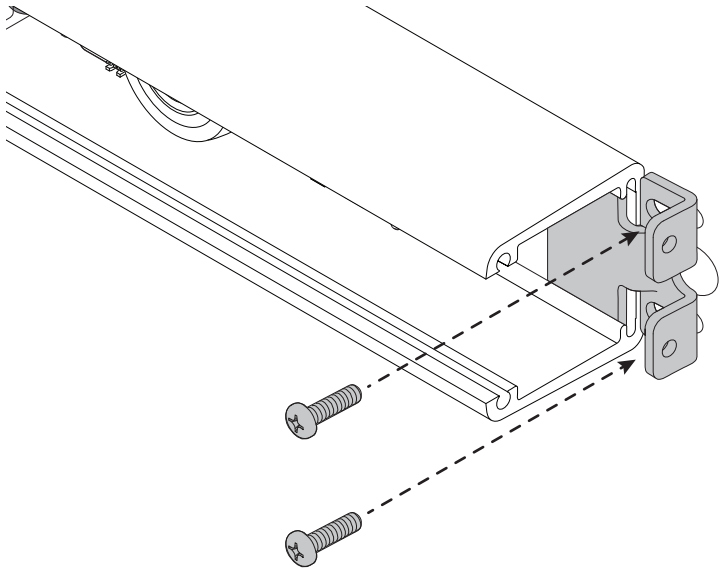
7d Route field wiring cable through hole and connect wires to EPT10 / 10-CON power transfer (see EPT instructions as needed).



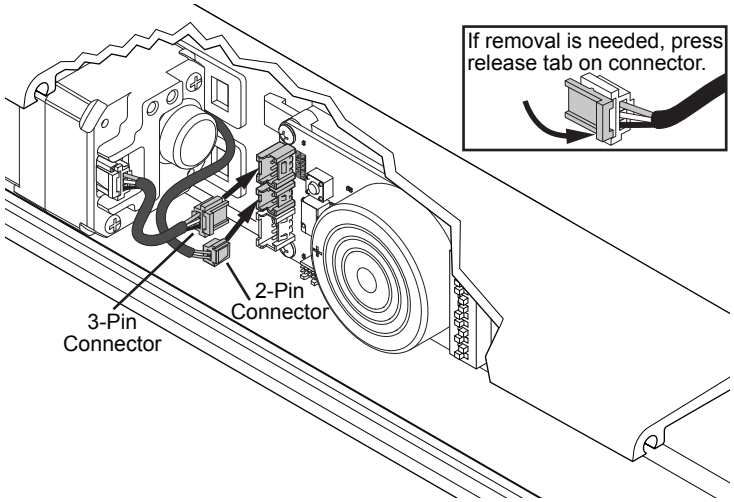
7e Slide module into exit device case as shown.



7f Install end cap bracket.

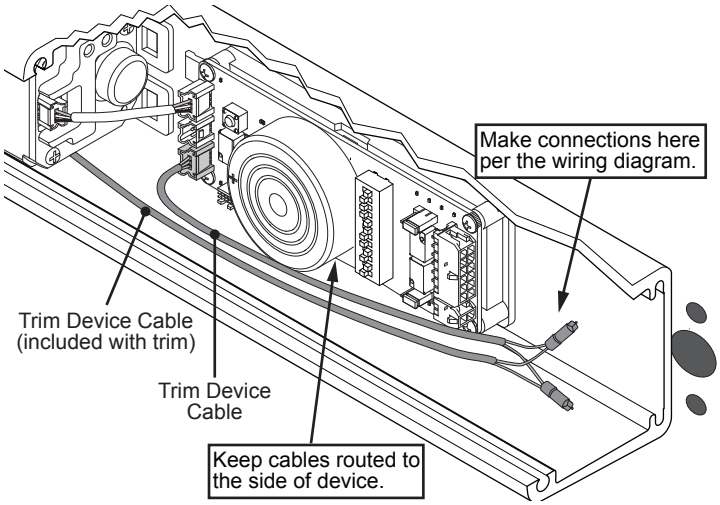


7g Connect blocking device cable to motor and to 3-pin connector on module. Connect 2-pin cable from under motor to Request-to-Exit connector labeled “REX” on module.

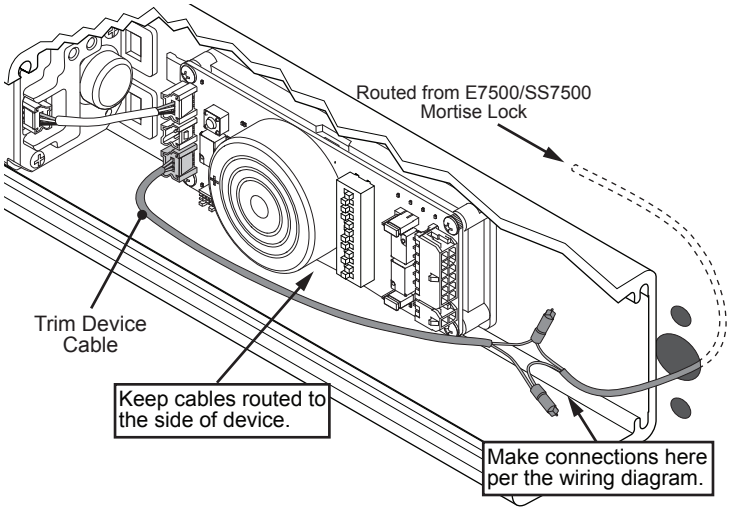


7g (cont)

ⓘ **If using electric trim (E996L/E360L-BE), install electric trim per instructions included with trim. Route trim wires through the CX device as shown.**

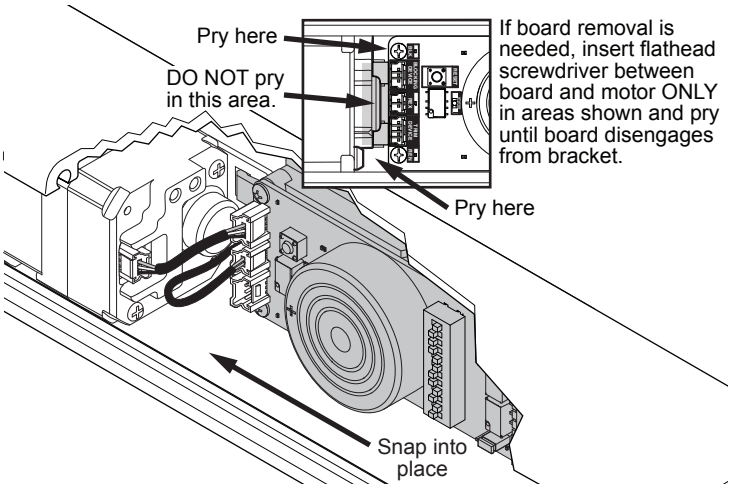


ⓘ **If using electric mortise lock (E7500 or SS7500 monitor mortise lock), install lock per instructions included with lock. Route lock wires through the door as shown.**

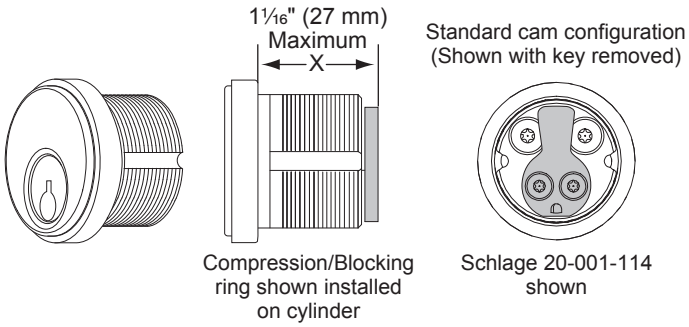


7h Refer to Section 11, Advanced Function Test table – Electric Trim for trim lock/unlock function.

7i Push toward motor until module snaps into place.



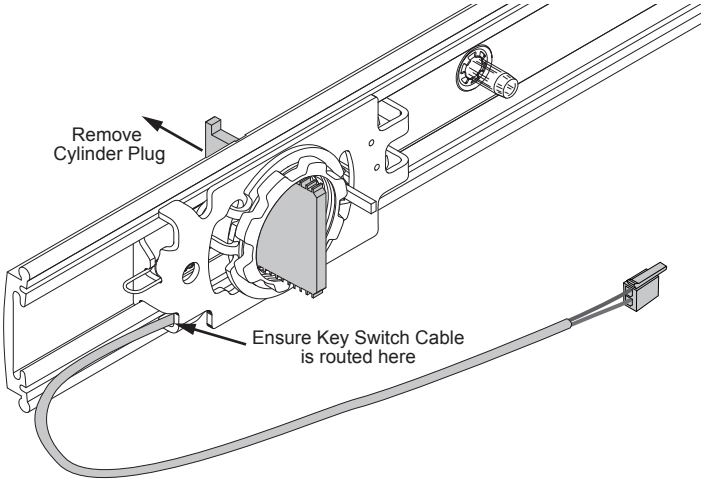
7j Use 1¼" mortise cylinder with compression ring K510-406 with straight cam and orient cam as shown. Schlage cylinder 20-001-114 recommended.



⚠ CAUTION ⚠

Dimension X as shown above must be no more than 1 1/16" or damage to product may occur.

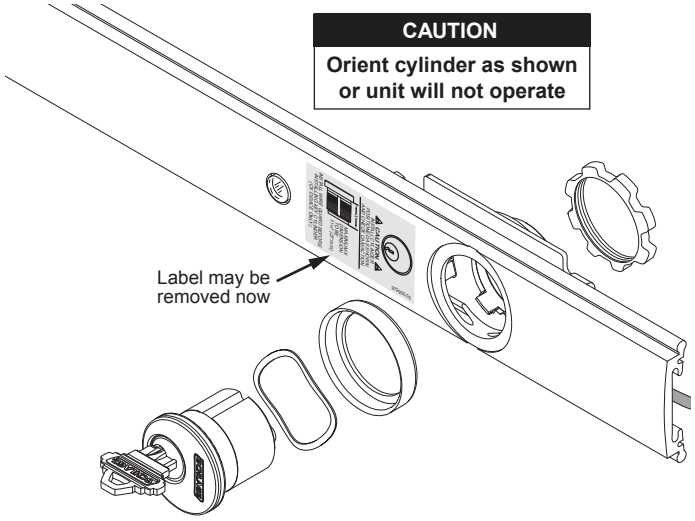
7k Remove and discard cylinder plug from key switch assembly. Keep key switch cable routed as shown.



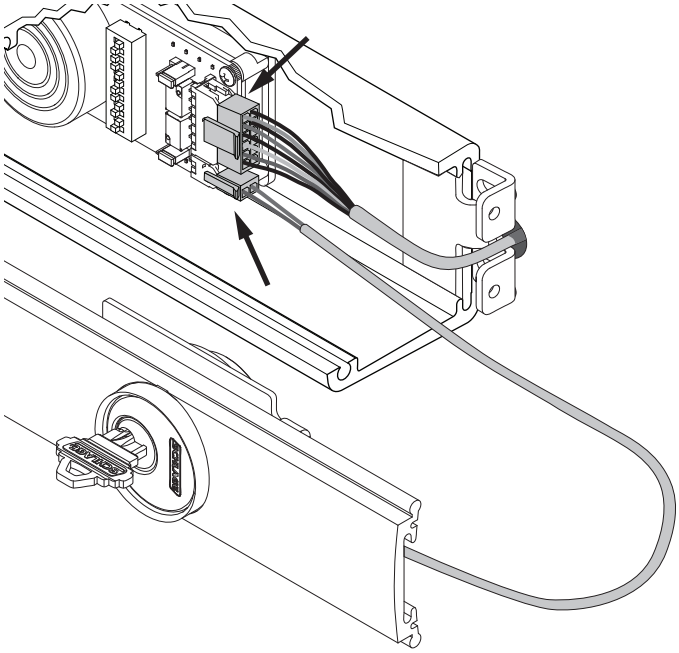
7l Install mortise cylinder. Verify cylinder cam operates key switch properly.

CAUTION

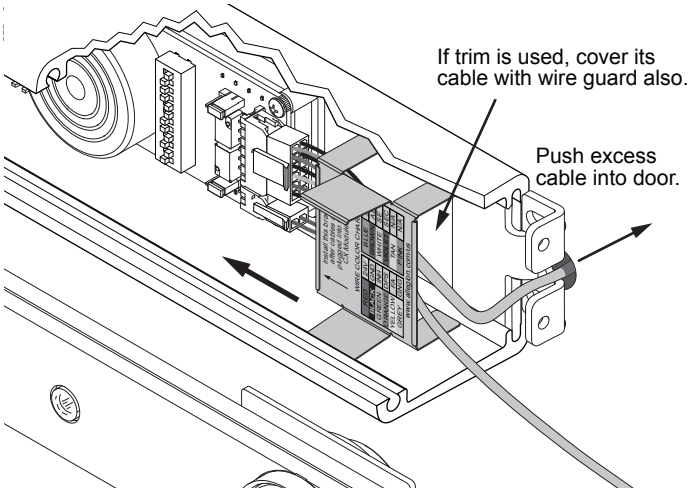
Orient cylinder as shown or unit will not operate



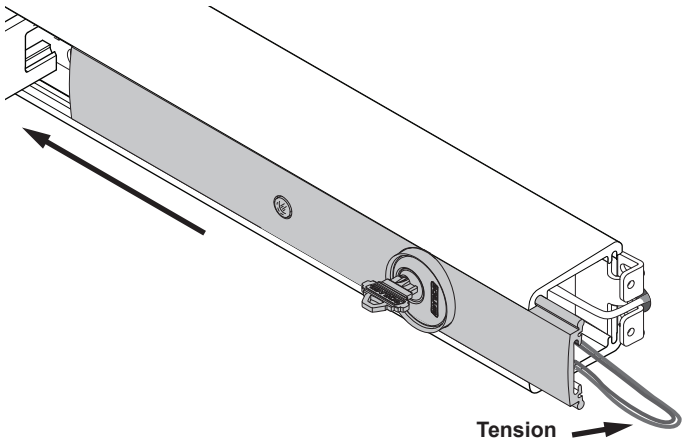
7m Connect field wiring cable and key switch cable to module as shown.



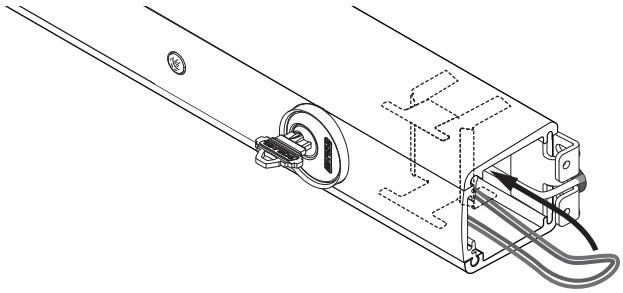
7n Slide wire guard into case end and above key switch cable until making contact with module.



7o While keeping tension on the key switch cable and pushing wires flat against door, slide cover plate fully into place.



7p Place excess wire beneath wire guard.



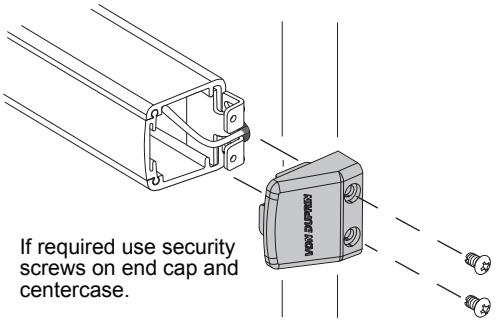
⚠ CAUTION ⚠

Verify cylinder cam moves freely and does not contact module or any wiring.

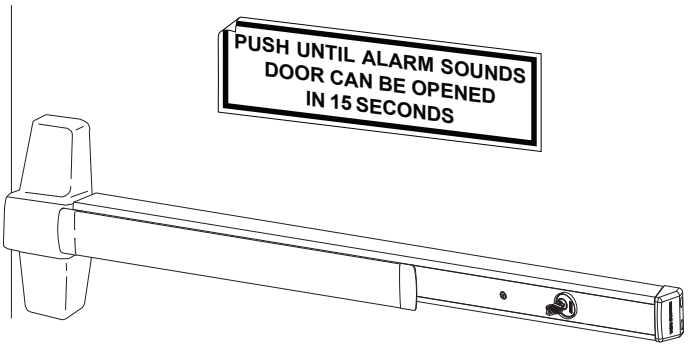
7q Complete field wiring per wiring diagrams in section 4.

7r Install end cap.

ⓘ **See pages 11 through 14 before installing end cap**



7s Remove backing from sign and put sign on door above Chexit device (sign is in cardboard tube).



ⓘ **Locate sign per local code.**

8 Basic Functional Test

This test is to be performed with Chexit switches in default settings and with door closed. Follow the instructions below and verify that the Chexit performs as described.

Note: If at any time the Internal Alarm sounds and you wish to silence it, turn the Key Switch counter-clockwise.

Test Powerup

1. Turn the Key Switch clockwise. Then turn the power supply ON which causes the Chexit to enter **Armed Mode** (Status Indicator is flashing slow).
2. Turn the Key Switch counter-clockwise to put the Chexit into **Disarmed/Reset Mode** (Status Indicator is OFF).
3. Turn the Key Switch clockwise which causes the Chexit to enter **Rearm Delay Mode** (Status Indicator is ON for 10 seconds - this time is adjustable).
4. After **Rearm Delay Mode** expires, the Chexit will enter **Armed Mode** (Status Indicator is flashing slow).

Test Delayed Egress

5. Confirm that the Chexit is in **Armed Mode** per step 4.
6. Push the Push Pad and verify that it is locked (it will not push down).
   Chexit will immediately begin sounding the Internal Alarm and enter **Release Delay Mode** for 15 seconds (Status Indicator is flashing fast and Internal Alarm is ON).
7. After the **Release Delay Mode** expires, the Chexit will enter **Released Mode** (Status Indicator is flashing fast and the Internal Alarm is ON).
   The Push Pad will be unlocked (you can now push it down and open the door).

Mode	Push pad	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (2)	Off	On	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
Release Delay	Locked	Locked	Fast Flash (2)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (2)	On	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

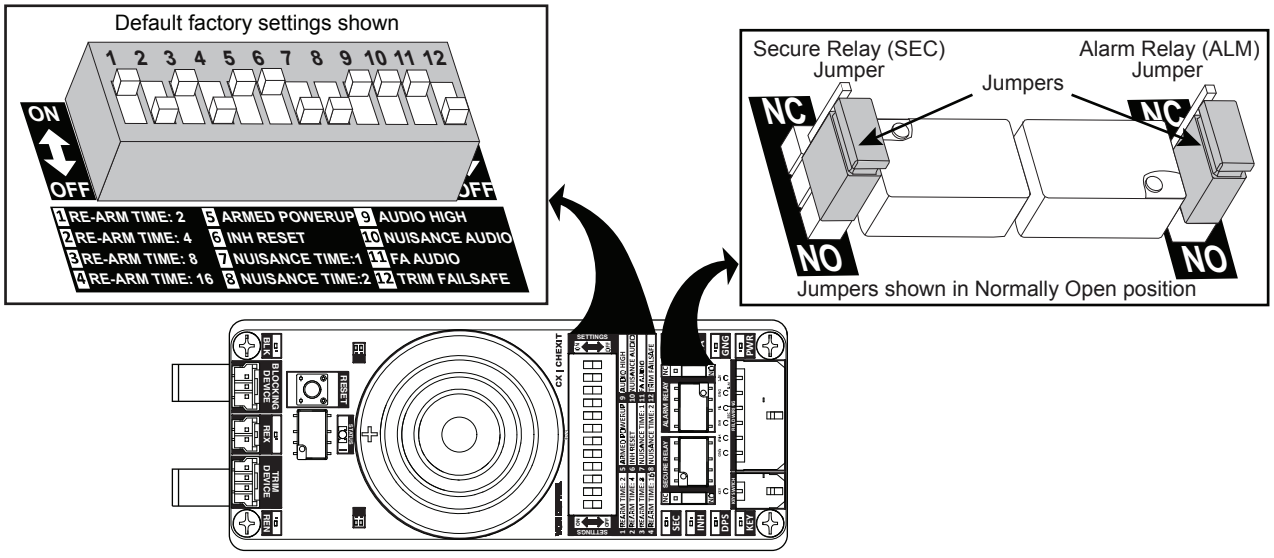
(1) Trim will be Locked or Unlocked depending on if the Trim is Fail Secure or Fail Safe (and if the Trim Fail Safe onboard switch setting is set to OFF or ON)
(2) SLOW FLASH = 1 per second, FAST FLASH = 4 per second

9 Module Setup

9a Remove Cover Plate for access to Module as needed.

9b Set the Relay Jumpers and Onboard Switch Settings for desired device functionality.

- Position the Alarm Relay Jumper and Secure Relay Jumper to NO or NC.
- Position each Onboard Switch Setting to ON or OFF.
  - Refer to Onboard Switch Settings Table on next page for detailed description of each setting.



10 Onboard Switch Settings Table

Switch Numbers	Switch Position				Onboard Settings Specifications		Description
	1	2	3	4			
1-4 Rearm Time	OFF	OFF	OFF	OFF	0	Rearm Time (seconds)	The delay time initiated after the INH or KEY goes inactive (back to normal position) before the Chexit rearms, allowing a person to exit or enter without an alarm through an unlocked door.
	ON	OFF	OFF	OFF	2		
	OFF	ON	OFF	OFF	4		
	ON	ON	OFF	OFF	6		
	OFF	OFF	ON	OFF	8		
	ON*	**OFF***	**ON***	**OFF***	10		
	OFF	ON	ON	OFF	12		
	ON	ON	ON	OFF	14		
	OFF	OFF	OFF	ON	16		
	ON	OFF	OFF	ON	18		
	OFF	ON	OFF	ON	20		
	ON	ON	OFF	ON	22		
	OFF	OFF	ON	ON	24		
	ON	OFF	ON	ON	26		
	OFF	ON	ON	ON	28		
	ON	ON	ON	ON	30 (Infinite)		
5 Armed Powerup	OFF				Chexit powers up into Disarmed Powerup Mode (unlocked with alarm sounding).		If the Chexit is Armed and there is a power outage, then upon power restoration, the Chexit will either power up into Armed Mode or Disarmed Powerup Mode with alarm sounding.
	ON*				Chexit powers up into Armed Powerup Mode (locked).		
6 INH (Access Control) Reset	OFF				All alarms reset by KEY only (meaning user must be at the door to manually reset).		Selects what action is allowed to reset an alarm condition.
	ON*				All alarms reset by KEY OR INH (INH allows any access control user to reset the alarm at the door or remotely).		
7-8 Nuisance Time	7		8				The delay time the Push Pad can be pushed without starting the release sequence. It is used to prevent accidental bumps from triggering the alarm.
	OFF*		**OFF***		0	Nuisance Time (seconds)	
	ON		OFF		1		
	OFF		ON		2		
	ON		ON		3		
9 Audio High	OFF				Sets Internal Alarm to Low.		Selects between High and Low audio levels during alarm.
	ON*				Sets Internal Alarm to High.		
10 Nuisance Audio	OFF				Internal Alarm OFF during Nuisance Delay (if Nuisance Delay is enabled).		Selects whether Internal Alarm is ON or OFF during the Nuisance Delay (if Nuisance Delay is enabled).
	ON*				Internal Alarm ON during Nuisance Delay (If Nuisance Delay is enabled).		
11 FA Audio	OFF				Internal Alarm OFF during Fire Alarm.		Selects whether the Internal Alarm ON or OFF during a Fire Alarm.
	ON*				Internal Alarm ON during Fire Alarm.		
12 Trim Fail Safe	**OFF***				Trim is selected to be Fail Secure (FSE).		Matches FSE or FS trim to Chexit trim device output.
	ON				Trim is selected to be Fail Safe (FS).		

***Default settings**

⚠ Consult AHJ or local building codes for onboard switch settings.

11 Advanced Function Test

Chart below shows the various Modes of the Chexit. Follow the steps below the chart to check each Mode.

Mode	Push Pad	Electric Trim	Status Indicator	Internal Alarm	Secure Relay	Alarm Relay
Armed	Locked	Locked	Slow Flash (3)	Off	On	Off
Disarmed Powerup	Unlocked	Locked	Slow Flash (3)	Slow Pulse (4)	Off	Off
Inhibited	Unlocked	Unlocked	Off	Off	Off	Off
Rearm Delay	Unlocked	Unlocked	On	Off	Off	Off
DPS Delay	Unlocked	Locked	On	Off	Off	Off
Nuisance Delay	Locked	Locked	Slow Flash (3)	Fast Pulse (2) (4)	On	Off
Release Delay	Locked	Locked	Fast Flash (3)	On	On	On
Released	Unlocked	Off (1)	Fast Flash (3)	On	Off	On
Tamper	Unlocked	Locked	Fast Flash (3)	Fast Pulse (4)	Off	On
Disarmed/Reset	Unlocked	Locked	Off	Off	Off	Off

(1) Electric Trim will be Locked or Unlocked based on whether the Trim Fail Safe onboard setting is set to OFF or ON
(2) Audio may be turned OFF through Nuisance Audio onboard switch setting
(3) SLOW FLASH = 1 per second, FAST FLASH = 4 per second
(4) SLOW PULSE = 1 per second, FAST PULSE = 4 per second

Test Powerup

1. Ensure that the Key Switch is turned clockwise. Turn the Power Supply ON.
   -If the Armed Powerup onboard switch setting is ON (default) the Chexit will enter **Armed Mode**.
   -Note: If the Armed Powerup onboard switch setting is OFF the Chexit will enter **Disarmed Powerup Mode**.
2. Turn the Key Switch counter-clockwise to put the Chexit into **Disarmed/Reset Mode**.
3. Turn the Key Switch clockwise to arm the Chexit.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the Chexit will enter **Rearm Delay Mode**.
   After **Rearm Delay Mode** expires, the Chexit will enter **Armed Mode**.
   -If the Rearm Time onboard switch setting is OFF, the Chexit will enter **Armed Mode** without a delay.

Test Delayed Egress

4. Confirm that the Chexit is in **Armed Mode**.
5. Push and hold the Push Pad.
   -If the Nuisance Time onboard switch setting is OFF, the Chexit will immediately enter **Release Delay Mode**.
   -The Chexit will release in 15 seconds.
   -If the Nuisance Time onboard switch setting is ON, the Chexit will enter **Nuisance Delay Mode**.
   -If the Nuisance Audio onboard switch setting is ON, the Internal Alarm will pulse fast.
   -If the Nuisance Audio onboard switch setting is OFF, the Internal Alarm will not sound.
   -If the Push Pad is released before the Nuisance Delay expires, the Chexit will go back to **Armed Mode**.
   -If the Push Pad is held until the Nuisance Time expires, the Chexit will enter **Release Delay Mode**.
   After the Release Time expires, the Chexit will enter **Released Mode**.
   The Chexit will release in 15 seconds, less the Nuisance Time already elapsed.
6. Repeat Step 2 and Step 3 to make the Chexit return to **Armed Mode**.

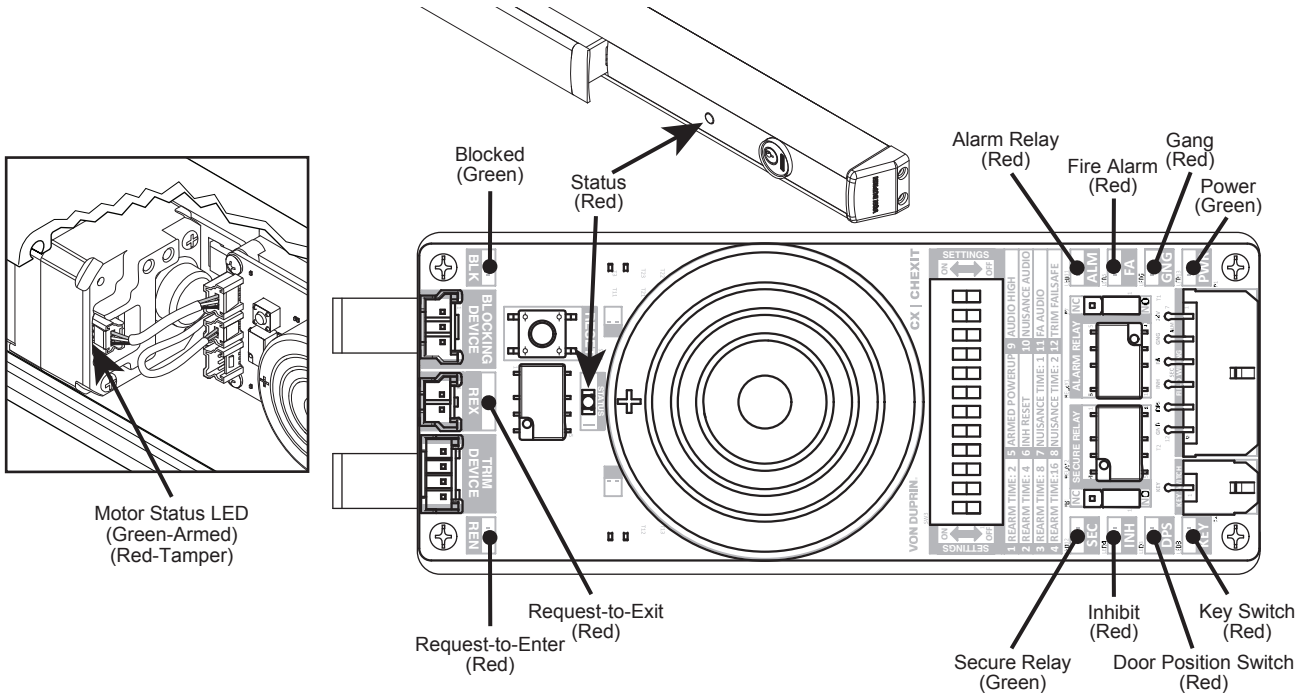
Test Access Control

7. Confirm that the Chexit is in **Armed Mode**.
8. Activate the Inhibit (INH) Input to make the Chexit enter **Inhibited Mode**.
9. Release the Inhibit (INH) Input.
   -If the Rearm Time onboard switch setting is ON (default = 10 seconds), the Chexit will enter **Rearm Delay Mode**.
   -If the door is opened and closed before the Rearm Time expires, the Chexit will enter **DPS Delay Mode.**
   The Chexit will enter **Armed Mode** in 2 seconds.
   -If the door is left open and the Rearm Time expires, the Chexit will enter **Released Mode**.
   -If the Rearm Time onboard switch setting is OFF.
   -If the door is closed, the Chexit will go back to **Armed Mode**.
   -If the door is left open the Chexit will enter **Tamper Mode**.

Test Fire Alarm

10. Confirm that the Chexit is in **Armed Mode**.
11. Activate the FA input to make the Chexit enter **Released Mode**.
    -If the FA Audio onboard switch setting is ON, the Internal Alarm will sound.
    -If the FA Audio onboard switch setting is OFF, the Internal Alarm will not sound.
12. Repeat Step 2 and Step 3 to make the Chexit return to **Armed Mode**.

12 Onboard Indicators



Signal	Indication	Description
PWR	OFF	Power is OFF
	ON	Power is ON
KEY	OFF	Key Switch turned clockwise (Arm)
	ON	Key Switch turned counter-clockwise (Disarm/Reset)
GNG	OFF	No Gang signal (Inactive)
	ON	Gang signal (Active)
FA	OFF	Fire Alarm contacts closed (Inactive)
	ON	Fire Alarm contacts open (Active)
DPS	OFF	Door Position Switch closed (Door Closed)
	ON	Door Position Switch open (Door Open)
INH	OFF	Inhibit contacts closed (Inactive)
	ON	Inhibit contacts open (Active)
SEC	OFF	Chexit not secure (Relay contact state depends on Secure Relay NO/NC jumper setting)
	ON	Chexit secure
ALM	OFF	Chexit not in alarm (Relay contact state depends on Alarm Relay NO/NC jumper setting)
	ON	Chexit in alarm condition
BLK	OFF	Push Pad is unlocked
	ON	Push Pad is locked
REX	OFF	Push Pad is not pushed (Inactive)
	ON	Push Pad is pushed (Active)
REN	OFF	Request-to-Enter contacts open (Inactive)
	ON	Request-to-Enter contacts closed (Active)
STATUS	OFF	Chexit is in Disarmed/Reset Mode or in Inhibited Mode
	SLOW FLASH	Chexit is in Armed Mode or in Disarmed Powerup Mode
	FAST FLASH	Chexit is in Release Delay Mode or Released Mode
	ON	Chexit is in Rearm Delay Mode or DPS Delay Mode
MOTOR STATUS	OFF	Push pad is not blocked/unlocked
	GREEN	Push pad is blocked/locked
	SLOW FLASH RED	Overvoltage

13 Troubleshooting

Normal Chexit operation:

-After turning the Key Switch clockwise to Arm, the Chexit will wait the selected Rearm Time (red Status Indicator is ON).
-At the end of this delay, the Chexit will lock the Push Pad (red Status Indicator is flashing slow) indicating the Chexit is Armed.
-To trigger delayed egress, push the Push Pad in. The Chexit will sound an Internal Alarm (red Status Indicator is flashing fast).
-At the end of the Release Delay, the Push Pad will unlock allowing exit. The Internal Alarm will continue until the Chexit is reset with the Key Switch or Inhibit Input (if INH Reset onboard switch setting is ON).

Most wiring issues can be diagnosed by observing the Module's onboard LED indicators (see section 12, Onboard Indicators).

An Armed Chexit's LED's should appear as:

Status LED - flashing slow
PWR, SEC and BLK - ON (PWR LED is on when power is applied to the Module and is independent of any switch positions)
All other LED's - OFF

Status Indicator flashing fast or **Internal Alarm pulsing fast** is 4 times per second. **Status Indicator flashing slow** or **Internal Alarm pulsing slow** is 1 time per second. **Status Indicator ON** or **Internal Alarm ON** means on continuously.

With 24VDC applied to the Chexit, turn the Key Switch clockwise to Arm and note the possible symptoms below.

Symptoms		Possible Cause	Solution
Push Pad is NOT locked. Internal Alarm is NOT sounding.	Module PWR (Power) LED is OFF.	Power supply is not supplying any voltage.	Check power supply output voltage at the supply and at the Chexit.
		Power supply voltage is too low.	Check power supply output voltage is 24VDC.
		Field wiring connection is broken.	Verify the power wiring has continuity from power supply to the Module.
		Power supply is reverse polarity.	Verify proper color code is used to supply power to Chexit (see section 4, point-to-point diagrams).
	Module Status Indicator is ON.	Rearm Delay is active.	Verify proper rearm delay setting (see section 9 and 10, switches 1-4). If set to 30 see section 1, "Rearm Delay".
	Module Status Indicator flashes once.	INH (access control) wiring/ connection is open.	Verify the INH wiring continuity.
		INH (access control) is active (contacts open).	Verify the access control device is using normally closed contacts (see section 4, point-to-point diagrams).
Push Pad is NOT locked. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module FA (Fire Alarm) LED is ON. Module ALM (Alarm) LED is ON.	FA wiring/connection is open.	Verify the FA wiring has continuity from FA contacts to Module.
		FA is active (contacts open).	Verify the FA contacts are closed when there is no fire alarm.
	Module Status Indicator is flashing fast. Module GNG (Gang) LED is ON. Module ALM (Alarm) LED is ON.	GNG wire is shorted to the power supply ground.	Find and remove short. Insulate any unused GNG wire.

13 Troubleshooting, continued

Symptoms		Possible Cause	Solution
When Arming, Release Delay starts immediately. Push Pad is first Locked and then releases after 15 seconds. Internal Alarm is ON.	Module Status Indicator is flashing fast. Module REX (Req. to EXIT) LED is ON. Module ALM (Alarm) LED is ON.	Push Pad is not returning to the full extended position.	Pull Push Pad out fully and verify this corrected the problem. Check for dirt and rubbing around the Push Pad area. Check for full latch bolt extension (see section 12, REX LED indication).
		REX cable is disconnected	Plug in REX cable (see section 7, step 7g)
		REX wiring/connector is defective.	Check for broken wiring from the REX connector to the REX switch under the Push Pad.
		REX switch is defective.	Verify the REX switch is closed when the Push Pad is fully extended. If still open, replace switch.
When Arming, Push Pad remains unlocked. Internal Alarm is pulsing fast	Module Status Indicator is flashing fast. Module DPS (Door Pos. Switch) LED is ON. Module ALM (Alarm) LED is ON.	DPS switch contact is open.	Close the door, if open. Verify the DPS contacts are closed when the door is closed.
		DPS wiring/connection is open.	With door closed, verify the DPS wiring has continuity from DPS contacts to Module.
When Arming, Push Pad remains unlocked. Internal alarm is pulsing fast after 2 seconds.	Module Status Indicator is flashing fast after 2 seconds. Module BLK (Blocking) LED is OFF. Motor Status LED is OFF. Module ALM (Alarm) LED is ON.	CX motor cable is disconnected.	Plug in CX motor cable (see section 7, step 7g).
		CX motor wiring/connection is open.	Check for broken wiring in the motor cable.
		CX motor assembly is defective.	Call customer service.
		On a rim or vertical rod device, the latch bolt can't extend.	Door is not closed enough for proper latching. Make necessary mechanical adjustments to latch properly. If using a vertical rod device and arming with door open, the latch bolts are held retracted.
		On any device, the Push Pad is held in.	Verify the Push Pad is extending fully (see REX) above
After a power outage and power is restored, Push Pad remains unlocked (Key Switch is in Armed position - clockwise). Internal Alarm is pulsing slow.	Module Status Indicator is flashing slow. Module ALM (Alarm) LED is ON.	The Chexit is not self arming after a power outage. Chexit onboard switch #5 (Armed Power Up) is set to OFF.	Some jurisdictions require the Chexit to be disarmed and alarming to be manually reset only after a power loss. For those jurisdictions, the Module switch #5 is set to OFF (see section 9 and 10, switch 5).
Trim is locked when it should be unlocked. OR Trim is unlocked when it should be locked.		Trim switch setting is incorrect. Incorrect trim type. Verify if FS (Fail Safe) or FSE (Fail Secure) is being used.	Select the correct trim switch setting to match the trim being used (see section 9 and 10, switch 12). Install the correct trim type.

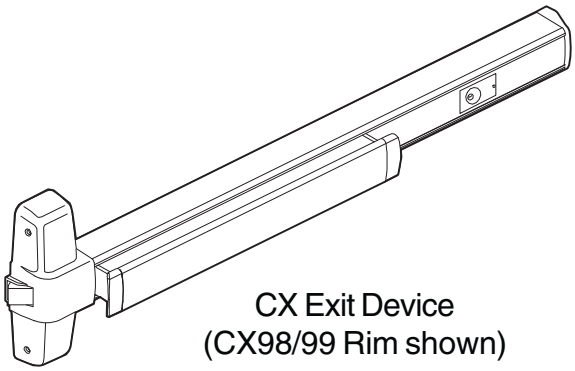
911352-00

Chexit Device

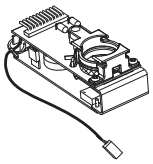
CX33A/35A
CX98/99

VON DUPRIN®

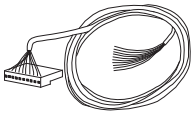
Installation Instructions - Electrical



CX Exit Device
(CX98/99 Rim shown)



Chexit Module



Cable



Door Sign

GENERAL INFORMATION

The Von Duprin Chexit device is designed for accident hazard or fire exit applications. It meets both life safety and security needs as well as all requirements of NFPA101® for "Special Locking Arrangement" and UBC "Special Egress-Control Devices."

The Von Duprin Chexit device sounds an alarm and keeps an exit door secured for 15 seconds following an attempt to exit. The Chexit releases immediately upon a fire alarm condition.

ELECTRICAL SPECIFICATIONS

Voltage	24 VDC
Current (Chexit)	0.4 A
Current (Electric mortise)	0.3 A
Current on arming	300-mS 16-A in-rush
External alarm dry contacts (NO and C)	24 VDC, 1 A rating
Normally closed inputs	Fire alarm (FA; **required**)
	External inhibit (EI)
	Door position switch (DPS)

⚠ WARNING

Do not exceed rated specifications.

⚠ WARNING

The Chexit device must be installed in accordance with these instructions by a qualified electrician.

⚠ WARNING

Wiring must be in accordance with all local codes and regulations.

ALLEGION™

Customer Service

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

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PRE-INSTALLATION CHECKLIST

Complete the items on the checklist below before installing the Chexit module. Each component listed should be prepared and installed according to the installation instructions supplied with it.

Mechanical Preparation

- ☐ **1.** Door and frame have been prepared for power transfer.
- ☐ **2.** Chexit device has been installed. (See instructions packaged with Chexit device.)
- ☐ **3.** Trim such as a lever handle, if used, has been installed.
- ☐ **4.** Suggested: Obtain a 1 1/4" mortise cylinder. (It is easier to install the mortise cylinder during electrical installation than after electrical installation.)

Electrical Preparation

- ☐ **1.** Read all of these instructions before installing the Chexit module.
- ☐ **2.** If available, get a wiring diagram for your installation. Otherwise, refer to Figures 2, 3, 5, 7 and Table 1 in "Typical Wiring" and mark the components you use in Table 1.
- ☐ **3.** Determine the physical location of each component used (see Figure 1, 4, and 6).
- ☐ **4.** Pull field wiring between component locations and frame side of power transfer (see Figure 1, 4, and 6).

> ⚠ **IMPORTANT**
>
> The wiring requirements in Table 2 in "Typical Wiring" **must** be followed.

- ☐ **5.** Mount components and connect them to field wiring (see Figure 2, 3, 5, or 7).
- ☐ **6.** Connect field wiring to frame side of power transfer. (Route wires through frame back box.)

> ⚠ **IMPORTANT**
>
> Components **must** be connected to wire colors as shown in Figures 2, 3, 5, and 7 in "Typical Wiring."

- ☐ **7.** Install frame back box and frame side of power transfer.
- ☐ **8.** Get requirements for Chexit option switches, record in Table 3 in "Options," and set switches.
- ☐ **9.** Complete steps 1 through 9 of "Installation."

To install mortise cylinder after electrical installation:

1. Remove end cap and end cap bracket (see "Installation" step No. 1).
2. Slide cover plate out until knurled ring is visible; install cylinder (see "Installation" step No. 4).
3. Complete steps No. 4, 6, 7, and 9 of "Installation."

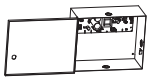
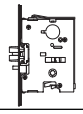
Table 1. Installation Components					
Picture	**Component**	**Function**	**Optional/Required**	**Used?**	**If Not Used...**
	PS914 24 VDC power supply	Supplies power to Chexit	**Required** (Von Duprin PS914)	Yes	**Required**
	E7500 Electric Mortise Lock	Serves as locking device on CXE9975 mortise applications	Optional (for CXE9975)	Yes	Optional (for CXE9975)
	Building fire alarm **(normally closed contacts)**	Unlocks Chexit in case of fire alarm	**Required**	Yes	**Required**
	Power transfer (EPT-10 shown)	Transfers electrical power through frame to door (wires concealed)	Highly recommended		Use door loop or electric hinge
	External inhibit device (card reader, key switch, etc.) Rim and vertical - **(normally closed contacts)**	Allows authorized egress or ingress without alarm	Optional (wire multiple external inhibit devices in series)		Connect green wire to white wire
	Electric Mortise Fail safe - **(normally closed contacts)**	Allows authorized egress or ingress without alarm	Optional (wire multiple external inhibit devices in series)		
	Electric Mortise Fail secure - **(normally open contacts)**	Allows authorized egress or ingress without alarm	Optional (wire multiple external inhibit devices in parallel)		
	Door position switch (normally closed contacts)	Arms Chexit 2.5 seconds after door closes; sounds alarm if door forced open	Optional		Connect orange wire to white wire
	External horn	Provides louder alarm than Chexit internal horn	Optional		Insulate blue and brown wires separately

Table 2. Wiring Requirements			
Wiring	**Type of Power Transfer (door to frame)**	**Maximum Wire Length from Power Supply to Power Transfer**	**Minimum Wire Gauge**
Power Supply Input	N/A	Per code	Per code
Power Supply Output (+24 and GND)	EPT-10	100 feet	14 GA
	EPT-10	200 feet	12 GA
	Electric Hinge	75 feet	14 GA
	Electric Hinge	150 feet	12 GA
External Alarm, Fire Alarm, Door Position Switch, External Inhibit Device	EPT-10, Electric Hinge	Not critical	18-22 GA

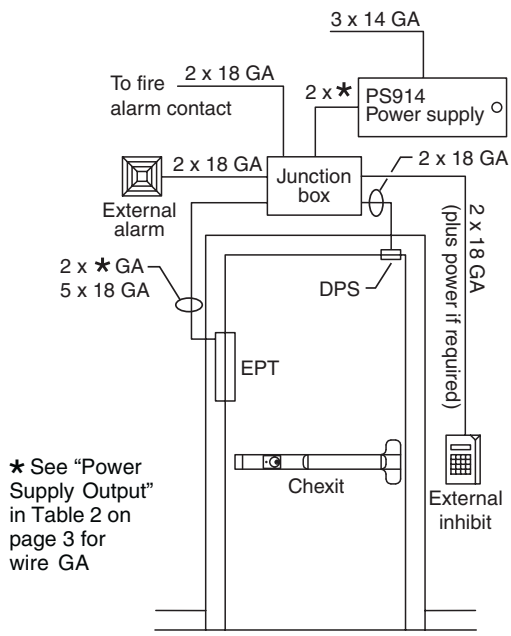
⚠ IMPORTANT

The wiring requirements in Table 2 above **must** be followed.

Table 3. Wire Functions		
Red	+24	Power supply +24 VDC
Blue	C	Common for NO output; 24 VDC, 1 A maximum
Brown	NO	Normally open output; closes during alarm
Violet	CM-	Communication line; used to connect Chexits
Gray	CM+	Communication line; used to connect Chexits
Yellow	FA	Fire alarm input; 0 VDC = fire, 24 VDC = no fire
Orange	DPS	Door position switch input; 0 VDC = door open, 24 VDC = door closed
Green	EI	External inhibit input; 0 VDC = Chexit inhibited, 24 VDC = Chexit active
White	SC	Signal common +24 VDC; can be used to power FA, DPS, and EI inputs
Black	GND	Power supply ground

TYPICAL WIRING

Rim/Vertical - Single Door Application



See tables 1, 2, and 3 on page 3 for details regarding components and wire requirements

Figure 1. Component Placement and Wiring Requirements, Single Door

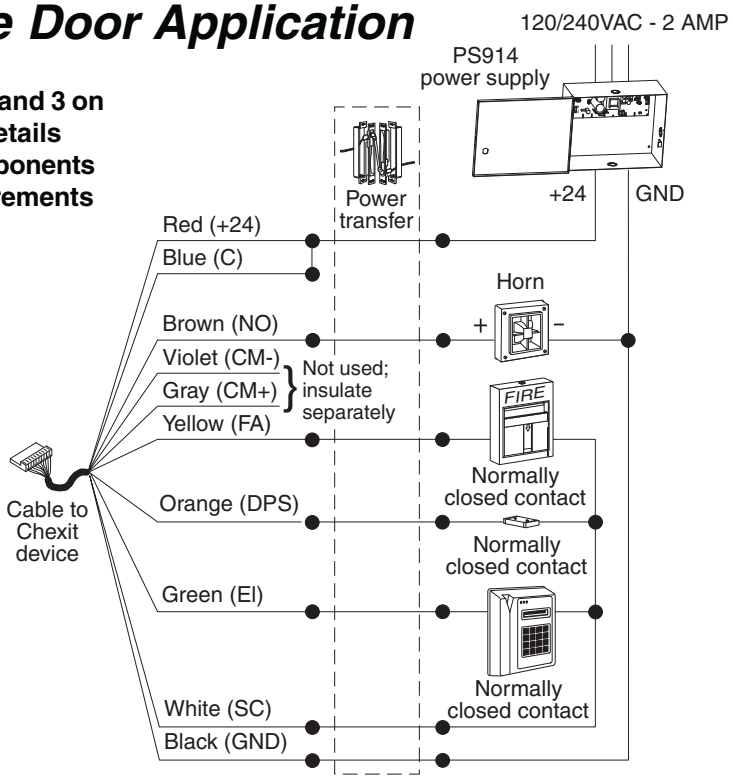


Figure 2. Wiring Connections, Single Door

Rim/Vertical - Double Door Application

In this double door application, both doors open in the same direction and each is equipped with a Chexit. The two Chexits are connected (ganged) by the gray (CM+) and violet (CM-) wires. **(If not used, insulate these wires separately.)** When one Chexit is set into alarm, the other also goes into alarm, and both unlock after 15 seconds. A fire alarm unlocks both doors at the same time. An external inhibit device also unlocks both doors at the same time. After an external inhibit, the door that was used rearms 2 seconds after closing, and the unused door rearms after the full rearm time. **For proper operation, the rearm times of ganged Chexits must differ by at least 2 seconds.**

See tables 1, 2, and 3 on page 3 for details regarding components and wire requirements

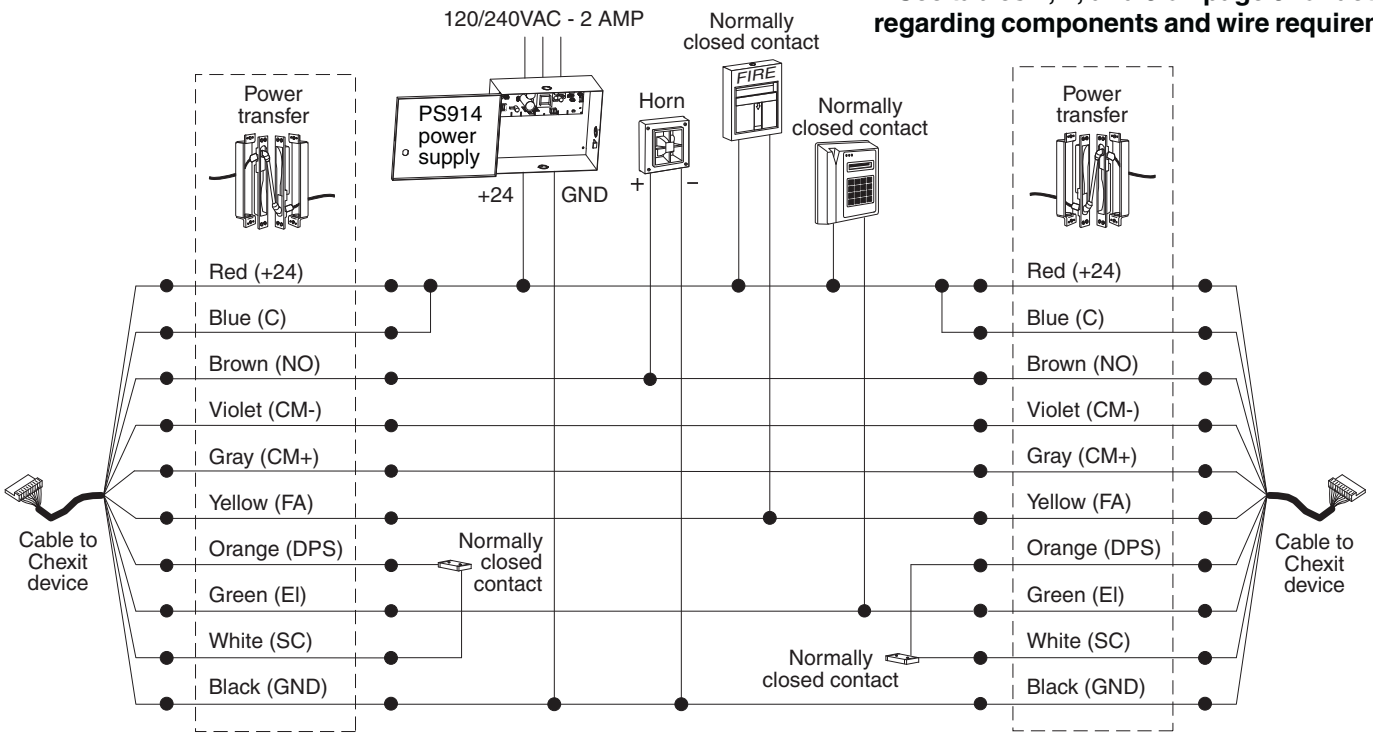


Figure 3. Wiring Connections, Double Doors

TYPICAL WIRING (continued)

Electric Mortise - Fail Secure Application

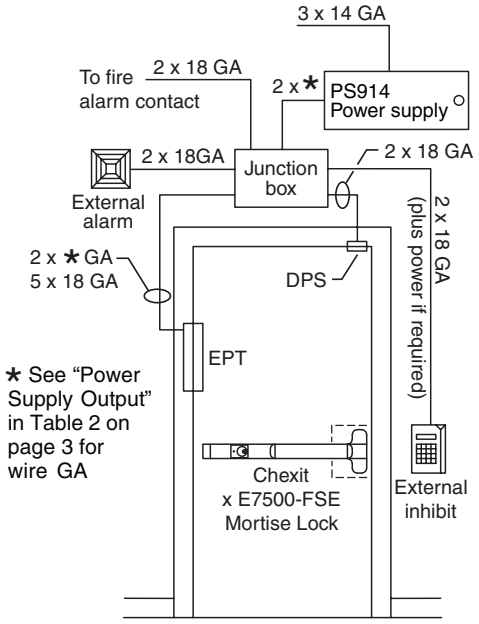


Figure 4. Component Placement and Wiring Requirements for FSE Mortise Applications

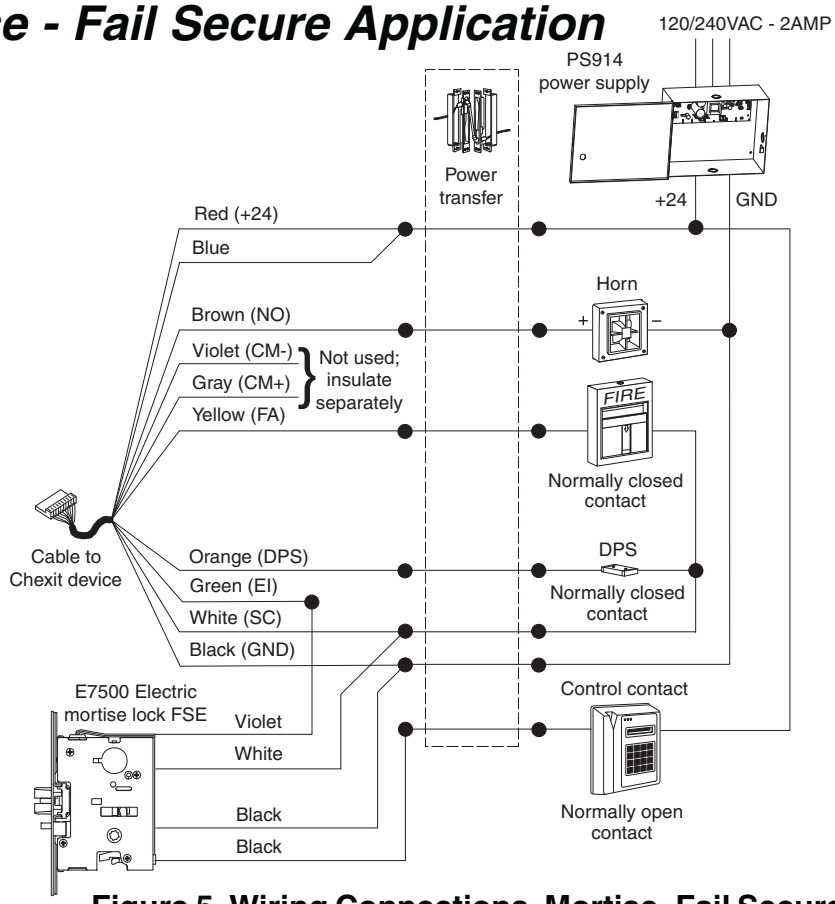


Figure 5. Wiring Connections, Mortise -Fail Secure

Electric Mortise - Fail Safe Application

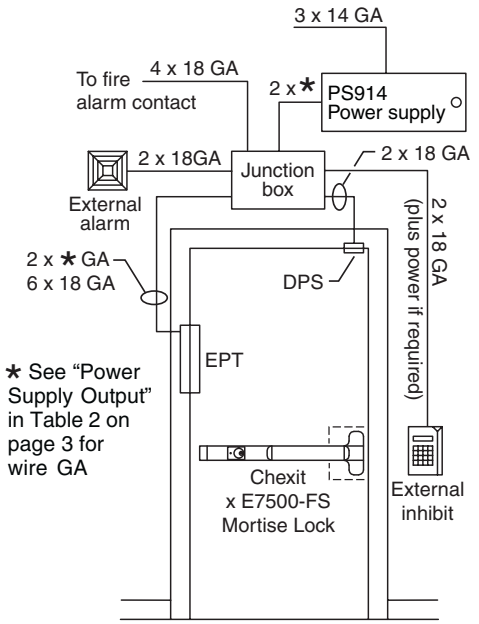


Figure 6. Component Placement and Wiring Requirements for FS Mortise Applications

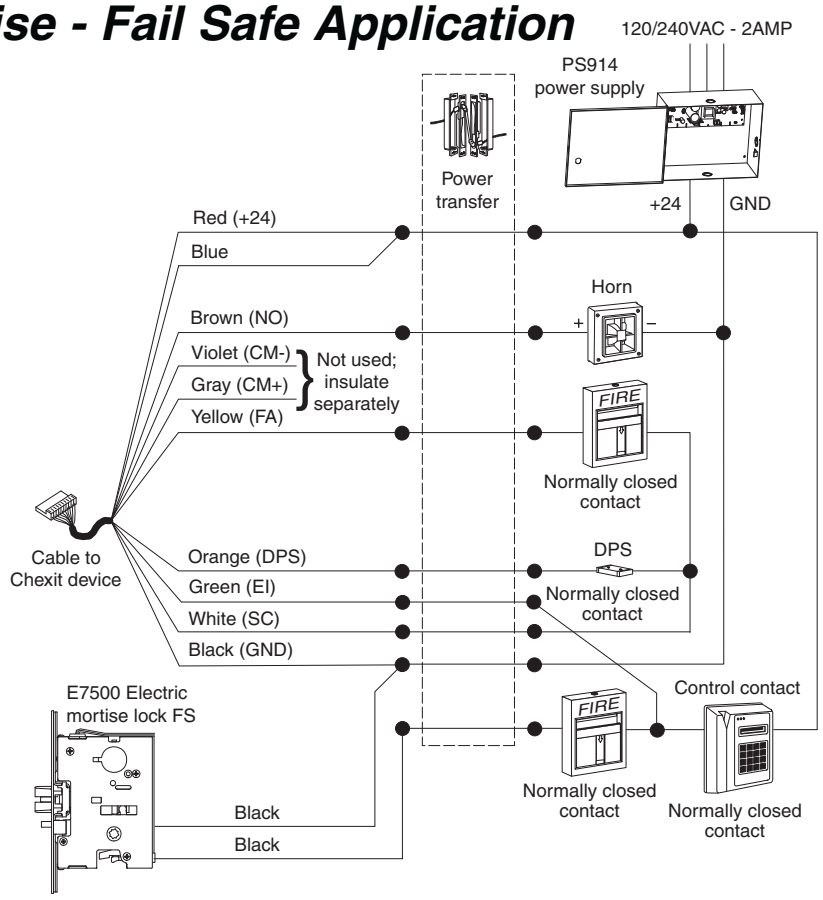
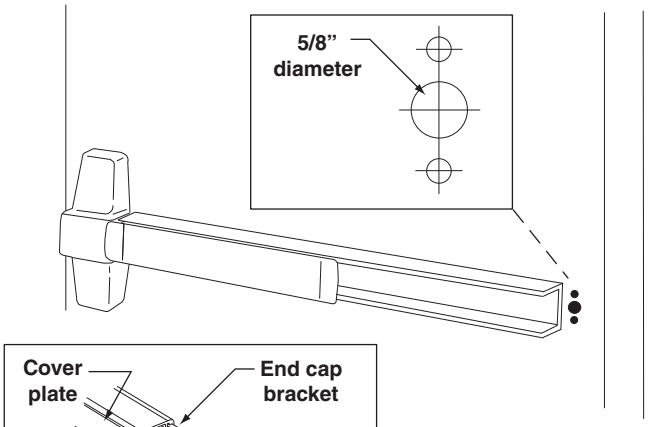


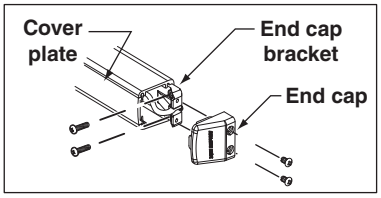
Figure 7. Wiring Connections, Mortise - Fail Safe

INSTALLATION

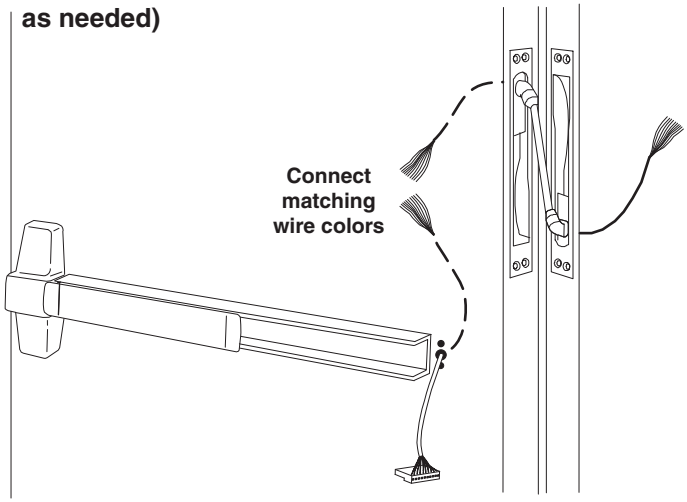
NOTE: Turn off power supply before installing cables

1 **With end cap and cover plate removed, drill 5/8" diameter wire access hole in surface of door**

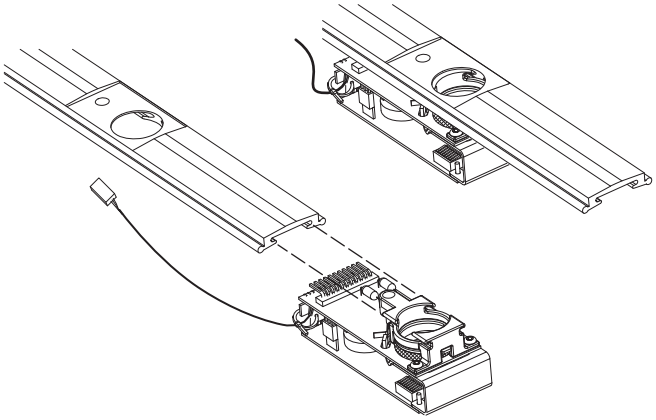




2 **Route Chexit cable through hole and connect wires to EPT-10 power transfer (see EPT-10 instructions as needed)**

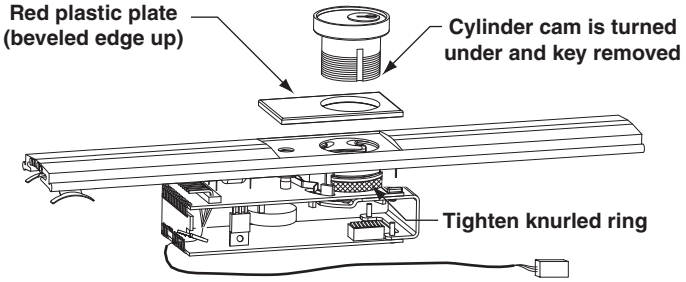


3 **Slide module into cover plate as shown**

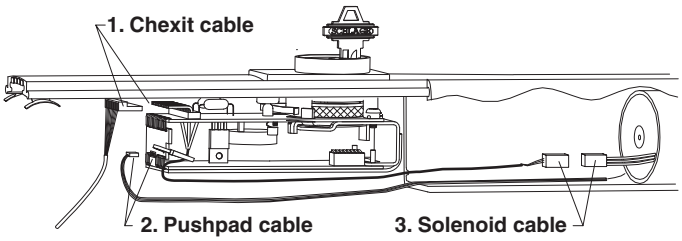


4 **Install key cylinder, if available**

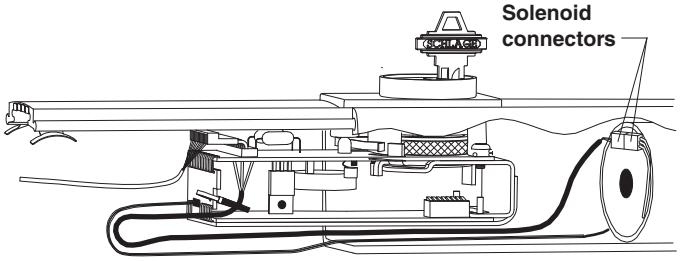
CAUTION
Orient cylinder as shown or unit will not operate



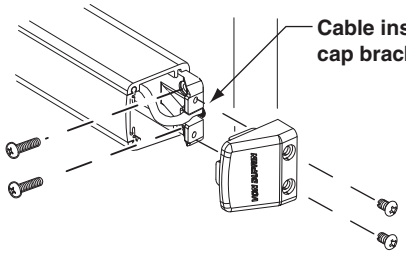
5 **Slide cover plate half way into place while routing and connecting three cables as shown**



6 **Route three cables as shown while slowly sliding cover plate into place**



7 **Install end cap bracket and end cap**



8 **Remove backing from sign and put sign on door above Chexit device (sign is in cardboard tube)**

9 **Go to "Operation" for testing and troubleshooting**

OPERATION

The basic function of a Chexit is to sound an alarm and keep an exit door secured for 15 seconds following an attempt to exit. Test the operation of your Chexit by performing actions No. 1 through 6 in the summary below. Make sure your Chexit matches the descriptions in the summary. If it does not, see "Troubleshooting."

Summary of Chexit Modes					
Action	**Mode**	**Pushpad**	**Red LED**	**Alarm**	**Duration**
1. Turn on Chexit with key switch (turn key clockwise)	Rearm	Unlocked	On solid	Off	Rearm time (0-28 seconds)
2. Rearm time expires	Armed	Locked	Slow flash	Off	Continuous
3. Press pushpad	Release delay	Locked	Fast flash	On	15 seconds
4. 15 second release delay expires	Alarm	Unlocked	Fast flash	On	Continuous
5. Turn off keyswitch or activate EI (external inhibit)	Inhibit	Unlocked	Off	Off	Returns to rearm mode when key switch turned on or EI reset
6. Fire alarm contacts open	Alarm	Unlocked	Fast flash	On if option switch No. 8 is off	Continuous (turn off key switch to clear)

The operation of a Chexit with a **door position switch** is the same as described in the summary table, but:

- The Chexit enters **Armed** mode 2.5 seconds after the door position switch contacts close.
- If the door is held open and rearm time expires, the Chexit goes into **Alarm** mode.
- When in **Armed** mode, the Chexit goes into **Alarm** mode if the door position switch contacts open.

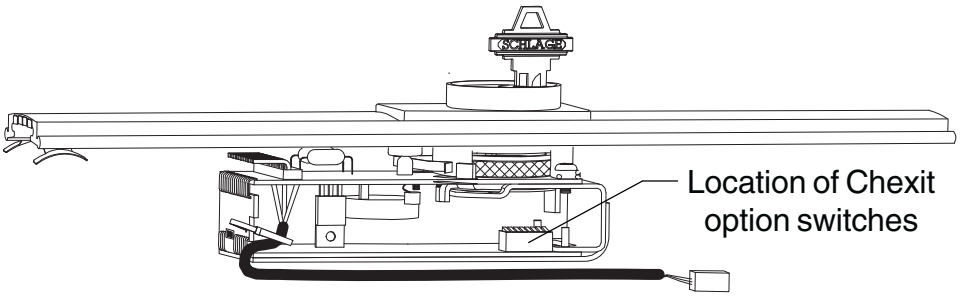
TROUBLESHOOTING

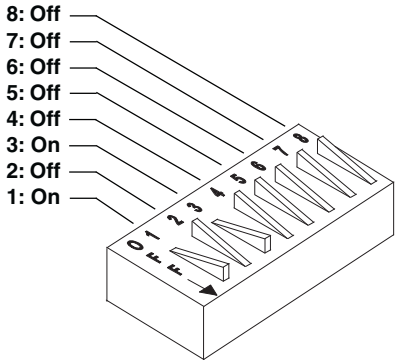
Turn Chexit off, then back on, using key switch. Compare Chexit operation with the following table to identify problems and solutions. After troubleshooting, re-test Chexit using steps under "Operation."

Symptom	Problem	Solution
Red LED does not light	Power not reaching Chexit	Replace/reset AC fuse/circuit breaker; check power supply input/output voltages; check input voltage at Chexit cable connector
Red LED flashes fast and horn sounds	Fire alarm contacts open	Connect normally closed fire alarm contacts between yellow and white wires
Red LED flashes once	**1.** External inhibit contacts open **2.** External inhibit function not used and wires not terminated properly	**1.** Connect normally closed external inhibit contacts between green and white wires **2.** If external inhibit not used, connect green and white wires together
Red LED on solid then flashes fast and horn sounds	**1.** Pushpad pressed **2.** Pushpad switch disconnected	**1.** Release the pushpad **2.** Connect pushpad switch connectors (see step No. 6 of "Installation")
Red LED on solid then flashes fast, horn sounds, and solenoid pulls in for one second (two sharp sounds)	**1.** Door open **2.** Door position switch contacts open **3.** Door position function not used and wires not terminated properly	**1.** Close door **2.** Connect normally closed door position switch contacts between orange and white wires **3.** If door position switch not used, connect orange and white wires together

OPTIONS

Options are set by switches on the Chexit module. Before changing option settings, turn the Chexit off. Changes in option settings take effect when the Chexit is turned on.





Factory settings shown

Table 3. Chexit Options			
Option	**Function**	**Settings for Door No: ___**	
Rearm time	**Switches No. 1 through 4** set amount of time you have to pass through door after turning on key switch or using an external inhibit device (see table below)	_____ seconds	
Nuisance delay	If **switch No. 5** is on, the pushpad must be pressed 1 second to set off alarm	on	off
Nuisance alarm	If **switch No. 6** is on, the Chexit horn sounds while pushpad is pressed during nuisance delay; use in accordance with local code	on	off
Self-test	If **switch No. 7** is on, the Chexit performs a self-test when turned on; this switch must be off for normal operation	on	(off)
Local fire alarm	If **switch No. 8** is off, the Chexit internal horn sounds during a fire alarm	on	off

Rearm Time Switch Settings				
Seconds	**Switch No. 1**	**Switch No. 2**	**Switch No. 3**	**Switch No. 4**
0	off	off	off	off
2	on	off	off	off
4	off	on	off	off
6	on	on	off	off
8	off	off	on	off
10	on	off	on	off
12	off	on	on	off
14	on	on	on	off
16	off	off	off	on
18	on	off	off	on
20	off	on	off	on
22	on	on	off	on
24	off	off	on	on
26	on	off	on	on
28	off	on	on	on
infinite	on	on	on	on

Rearm Time Notes

1. Set the rearm time a few seconds longer than the door will be open so the door closes before the Chexit arms.
2. The Chexit is shipped from the factory with the rearm time set to 10 seconds.
3. When the rearm time is infinite, the Chexit arms when the door position switch detects that the door is closed.
4. When the rearm time is infinite, you must open and close the door after the Chexit is turned on.
5. If a door position switch is used, the Chexit arms 2.5 seconds after the door closes.
6. If you are using a door position switch but you want the full rearm time to expire before the Chexit arms, call Technical Support at 1-877-671-7011.
7. For proper operation, the rearm time of each ganged Chexit must differ by at least 2 seconds.

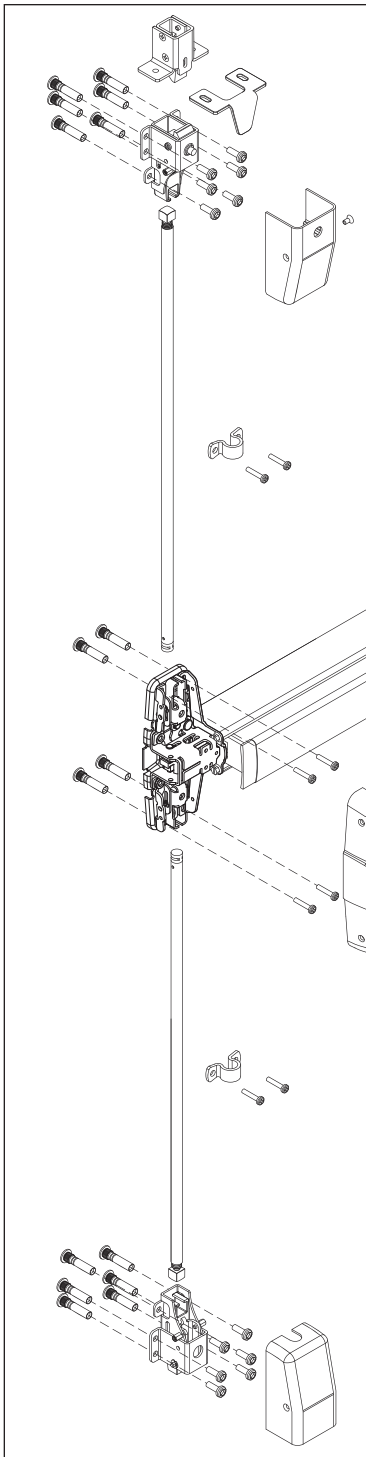
941109-00

WS9827/WS9927 & WS9827-F/WS9927-F

VON DUPRIN®

Windstorm Exit Device
Puerta de tormenta
Dispositif de sortie Windstorm

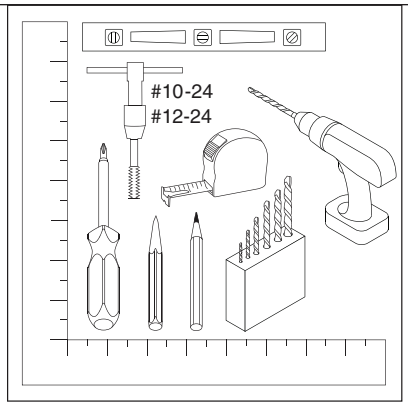
Installation Instructions
Instrucciones de Instalación
Notice d'installation



You must use the screws and sexbolts provided with this exit device or the device will not be UL Tornado or Windstorm certified. Do not substitute any hardware on door.

Debe usar los tornillos y los pernos de montaje de refuerzo que se proporcionan con esta puerta, ya que de lo contrario la puerta no cumplirá con la certificación UL para Tornados o Tormentas. No sustituya ninguno de los herrajes de la puerta.

Vous devez utiliser les vis et colonnettes fournies avec ce dispositif de sortie pour assurer l'homologation UL Tornado ou Windstorm. Ne pas modifier aucune pièce de quincaillerie de la porte.



Dogging Key	Llave del trinquete	Œillet vissé
	Use to lock down pushbar Utilícela para asegurar hacia abajo la barra de empuje Utilisé pour verrouiller la barre antipanique	

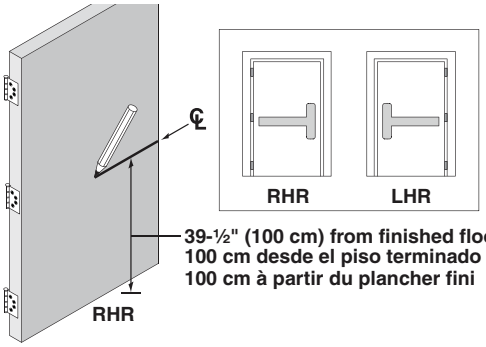
QEL WS9827/9927 & QEL WS9827-F/9927-F

- Requires the use of electric hinge for power transfer
- See instruction sheet 44487098 for wiring to PS900 series power supply

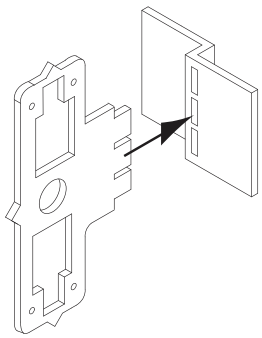
- Se necesita una bisagra eléctrica para la transferencia de potencia
- Consulte la hoja de instrucciones 44487098 para obtener información sobre el cableado de la alimentación eléctrica de la serie PS900

- L'utilisation d'une charnière électrique est requise pour le transfert d'alimentation
- Pour savoir comment effectuer le câblage du bloc d'alimentation de série PS900, consultez le feuillet d'instructions 44487098

1 Draw Exit Device Centerline (℄)
Sacar línea central del dispositivo de salida de misión (℄)
Tracer l'axe du dispositif (℄)



2 Assemble Plastic Template
Ensamble plantilla de plástico
Assembler gabarit en plastique

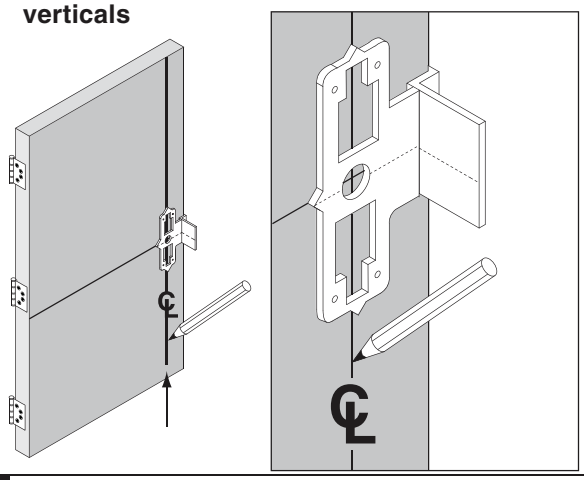


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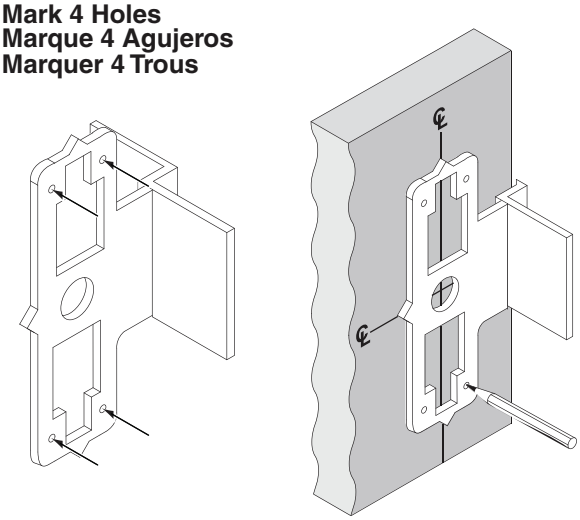
Customer Service
1-877-671-7011 www.allegion.com/us

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941109-00 Rev. 01/16-g

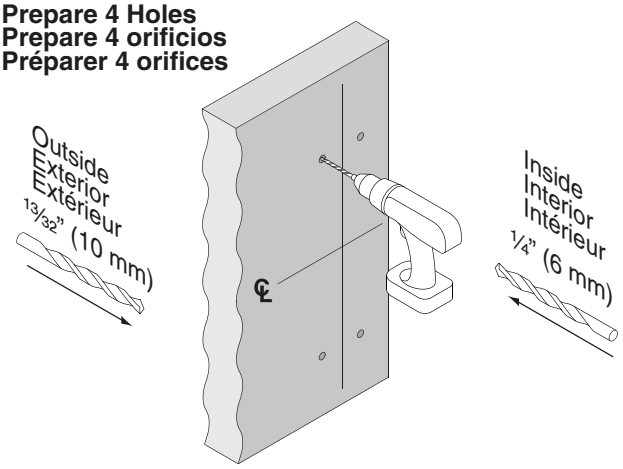
3 **Affix Template and Mark Vertical Center Line**
Coloque plantilla de plástico y marque la línea central vertical
Collez gabarit en plastique et marquer l'axe verticals



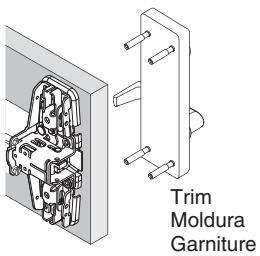
4 **Mark 4 Holes**
Marque 4 Agujeros
Marquer 4 Trous



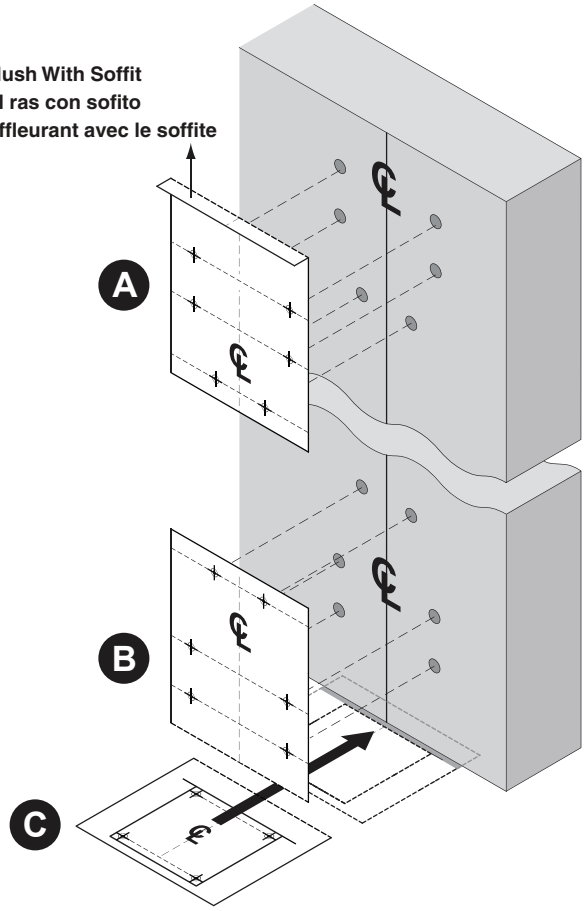
5 **Prepare 4 Holes**
Prepare 4 orificios
Préparer 4 orifices



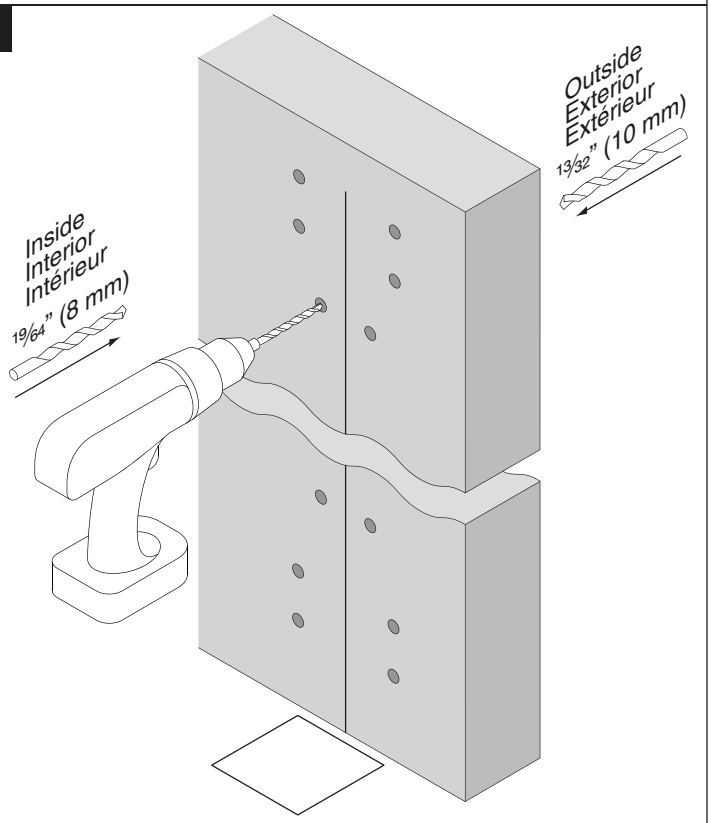
6 **If Installing Trim,**
Go To Trim Instructions
Si instala una moldura vaya a las instrucciones de moldura
Pour l'installation d'une garniture, Voir les « Instructions de garniture »



7 **Mark Door For Top & Bottom Latches Using Paper Templates On Back Cover**
Colocar el seguro en la parte superior y el seguro en la parte inferior utilizando plantillas de papel
Marquer la porte pour le verrou supérieur et le verrou inférieur en utilisant les gabarits de papier



8

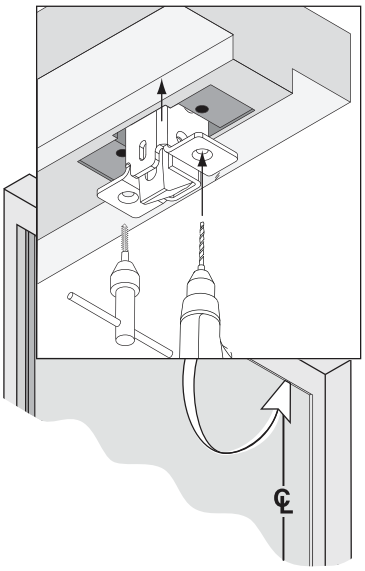


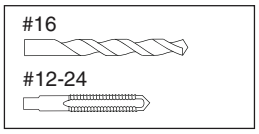
9

Mark and Drill Top Strike Holes Using Soffit as Template

Marque y perfore los orificios de la cerradura superior usando la cerradura como plantilla

Marquer et percer les orifices des gâches à l'aide du gabarit



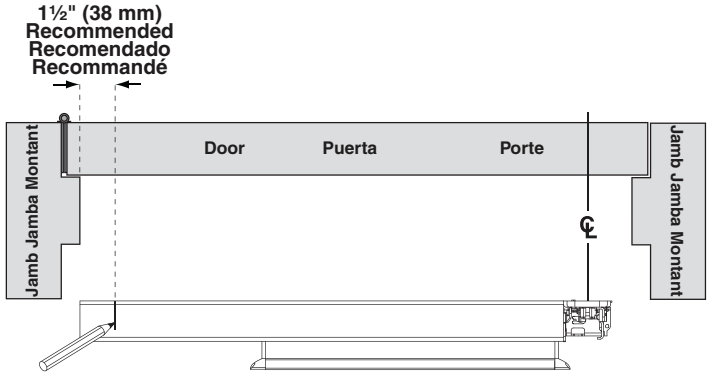


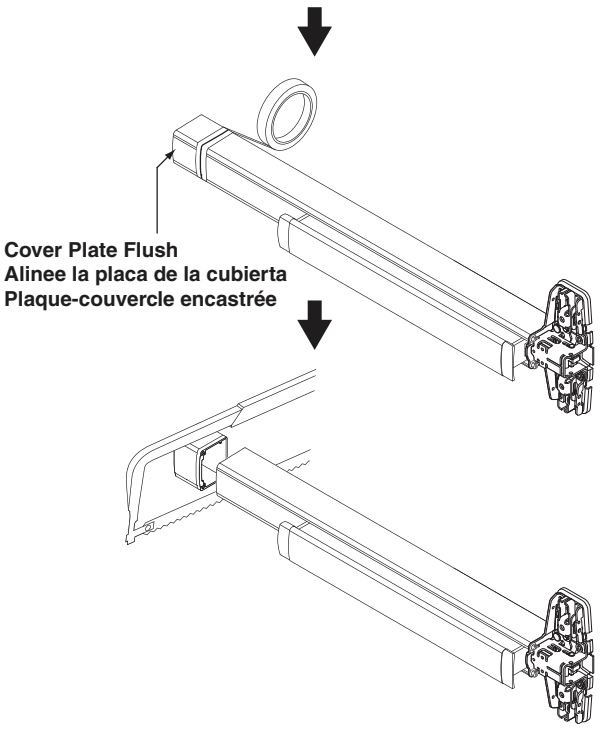
10

If Necessary, Cut Device

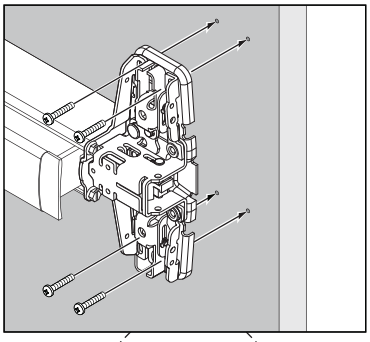
Si es necesario, corte el dispositivo

Couper le dispositif si nécessaire

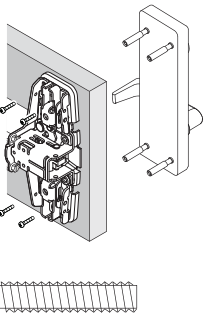




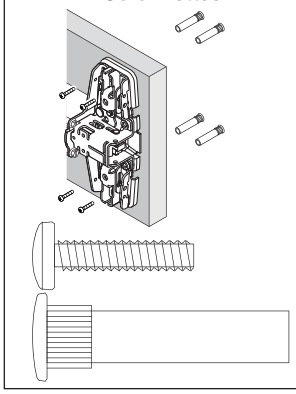
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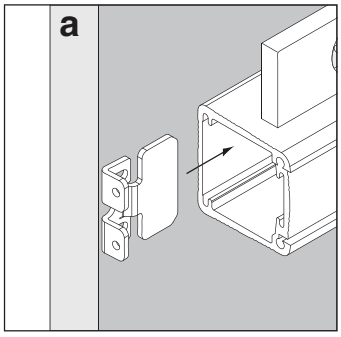
Thru-bolting Trim
Moldura apernada
Vissage transversal de garniture

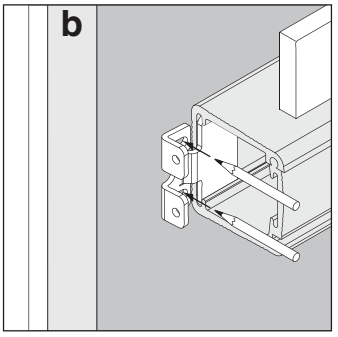


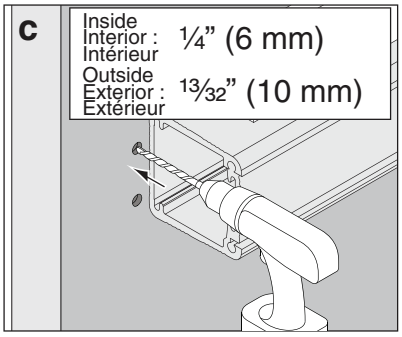
Sex Bolts
Pernos de montaje de refuerzo
Colonnettes



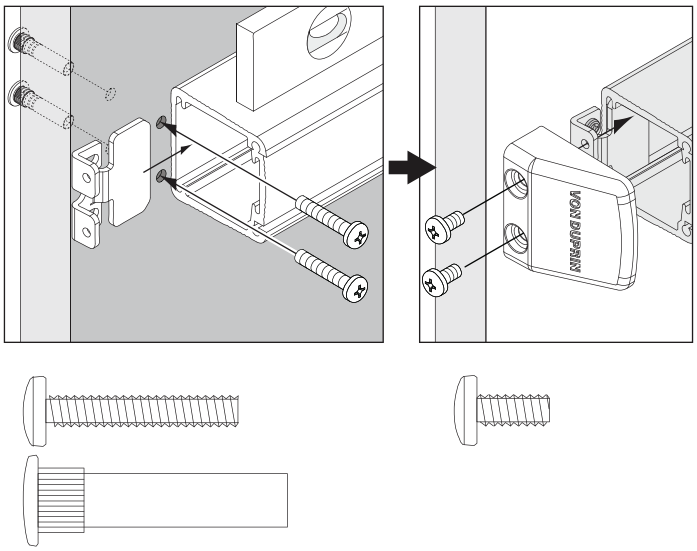
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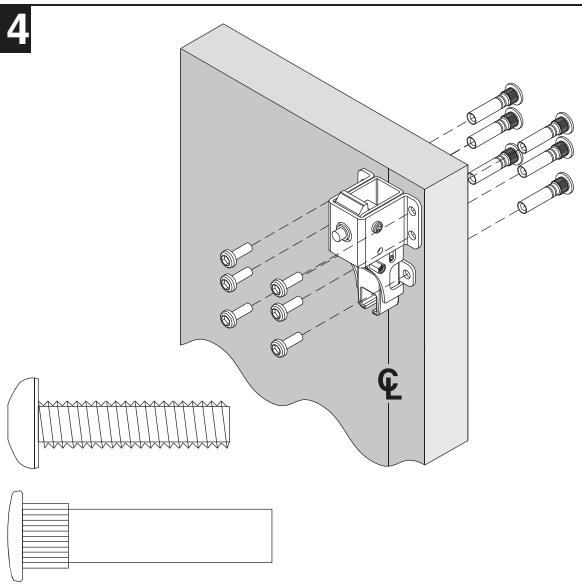




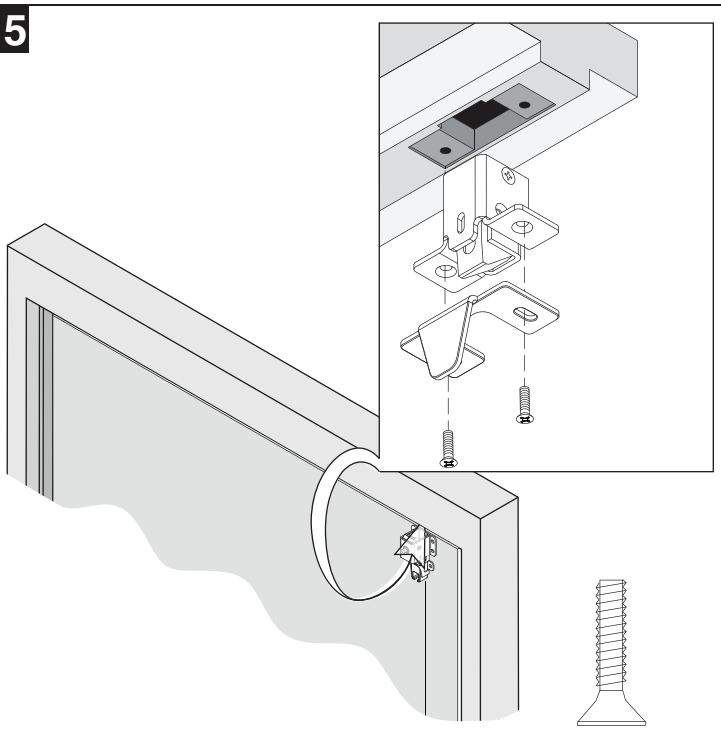
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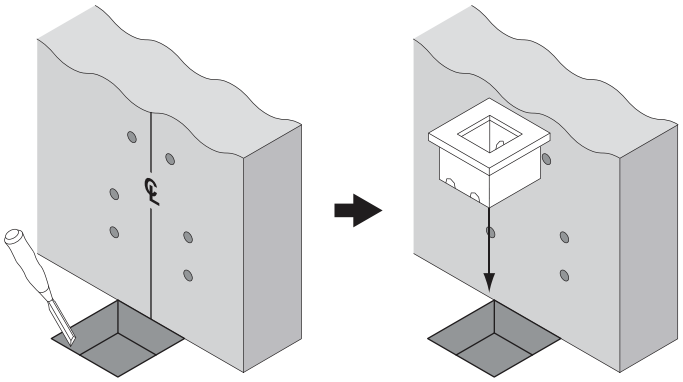


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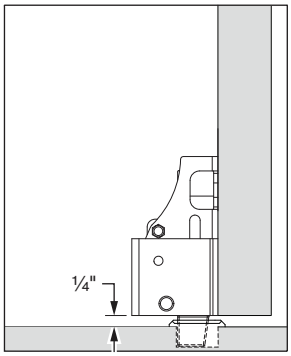


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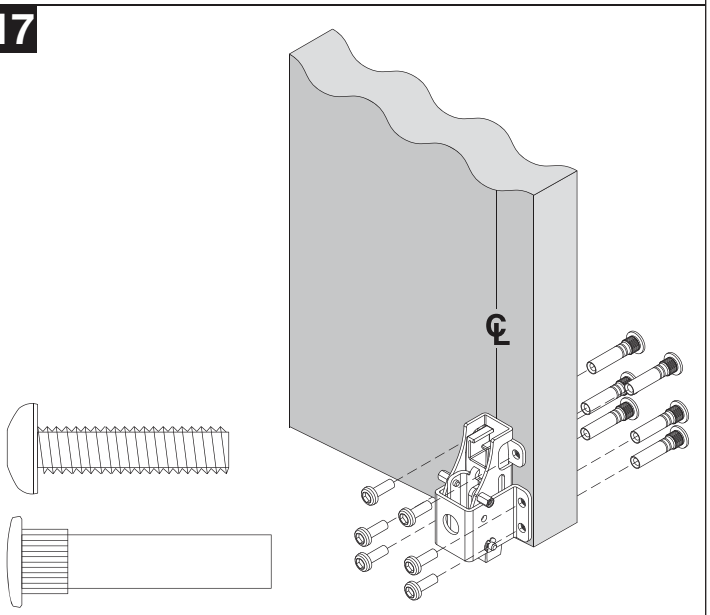
⚠ **NOTE:** See page 7 for threshold applications.
NOTA: Lea la página 7 para conocer las aplicaciones del umbral.
REMARQUE: Consulter la page 7 pour l'installation du calfeutrage.



Grout Strike Into Floor
Aplique mezcla para juntas para colocar la cerradura en el piso
Encavure du plancher pour gâche

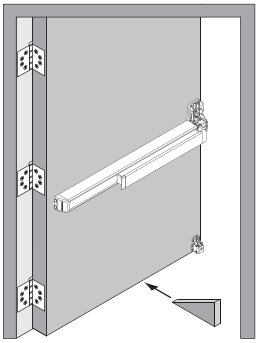


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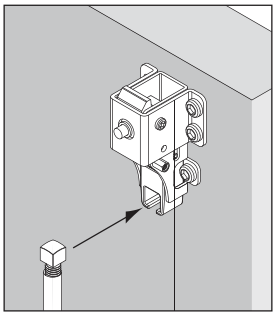


Adjust Top Rod / Ajuste la varilla superior / Ajuster la tige supérieure

1 **Prop Door Open**
Abra la puerta
Étai oblique - porte ouverte



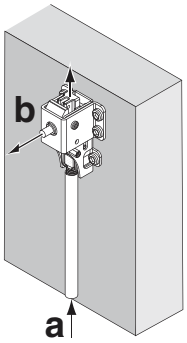
2 **Place Top Rod in Slot of Top Latch**
Coloque la varilla superior en la ranura del seguro superior
Insérer la tige supérieure dans la fente du verrou supérieur



3 **Push Top Rod (a) Upward Until Top Latch (b) Clicks and Holds**

Empuje la varilla superior (a) hasta que el seguro superior (b) ajuste y se mantenga cerrado

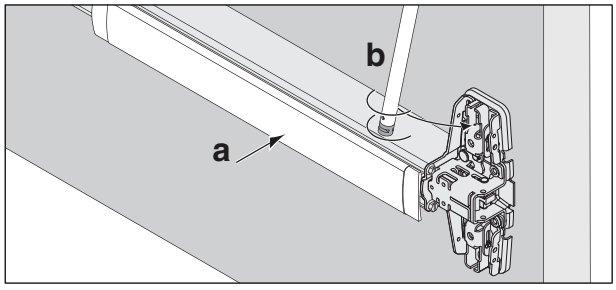
Pousser la tige supérieure (a) vers le haut jusqu'à ce que le verrou supérieur (b) s'enclenche et demeure fixe



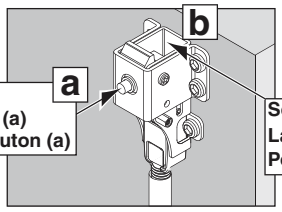
4 **While Holding Pushbar In (a), Rotate Top Rod Until it Slides Into Slot on Device (b)**

Mientras sujeta la barra de empuje en (a), gire la varilla superior hasta que deslice dentro de la ranura de la puerta (b)

Tenir la barre antipanique (a) puis tourner la tige supérieure jusqu'à ce qu'elle s'insère dans la fente du dispositif (b)

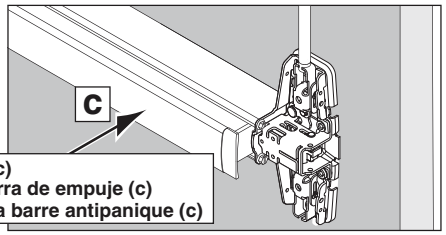


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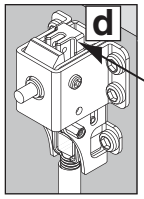


Press Button (a)
Presione el botón (a)
Appuyer sur le bouton (a)

So Rod (b) Drops
La varilla (b) baja
Pour que la tige (b) relâche

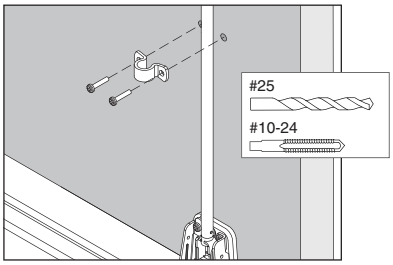


Slowly Depress Pushbar (c)
Presione lentamente la barra de empuje (c)
doucement la tension de la barre antipanique (c)

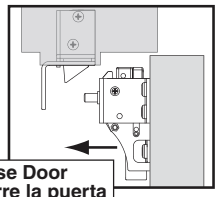


Verify That Top Latch Clicks and Holds (d)
Revise que el seguro superior ajuste y se mantenga en su lugar (d)
Vérifier l'enclenchement et la fixation du verrou supérieur (d)

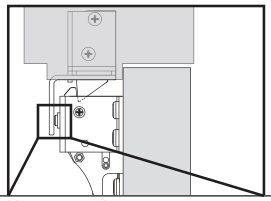
6 **Install Top Rod Guide**
Instale la guía de la varilla superior
Installer le guide de la tige supérieure



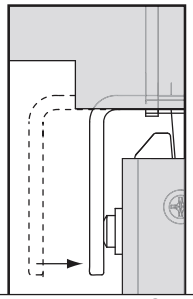
7



Close Door
Cierre la puerta
Fermer la porte

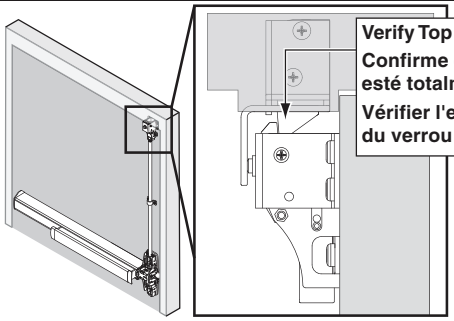


Verify Button is Depressed
Confirme que el botón esté apretado
Vérifier l'abaissement du bouton



If Necessary, Loosen Screw and Adjust Strike
Si es necesario, afloje el tornillo y ajuste la cerradura
Si nécessaire, dévisser légèrement la vis et régler la gâche

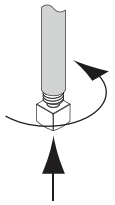
8



Verify Top Latch is Fully Engaged
Confirme que el seguro superior esté totalmente cerrado
Vérifier l'enclenchement complet du verrou supérieur

1 **Screw Bottom Rod Fitting All the Way In**

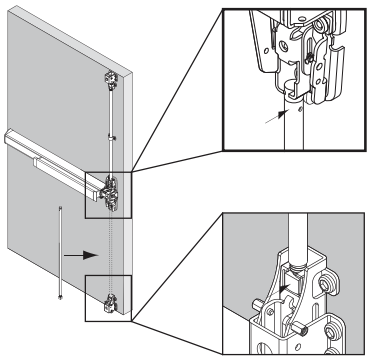
Atornillar la varilla inferior hasta que quede totalmente instaladaVisser et faire pénétrer entièrement la pièce de fixation de la tige inférieure



2 **Slide Bottom Rod Ends Into Respective Slots**

Deslice los extremos de la varilla inferior en las ranuras correspondientes

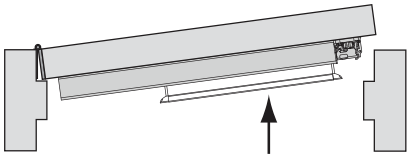
Glisser les extrémités de la tige inférieure dans les fentes respectives



3 **Attempt to Open Door By Pressing Pushbar. If Door Will Not Open, Go to Step 4.**

Intente abrir la puerta presionando la barra de empuje. Si la puerta no se abre, vaya al paso 4.

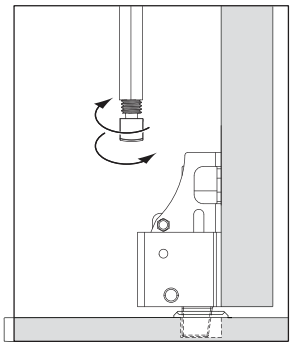
Essayer d'ouvrir la porte en appuyant sur la barre antipanique. Si la porte ne s'ouvre pas, voir l'étape 4.



4 **Adjust Bottom Rod Fitting One Turn at a Time Until Door Will Open and Bottom Latch Clears Strike and Floor.**

Ajuste la varilla inferior una vuelta a la vez hasta que la puerta se abra y el seguro inferior libre la cerradura y el piso.

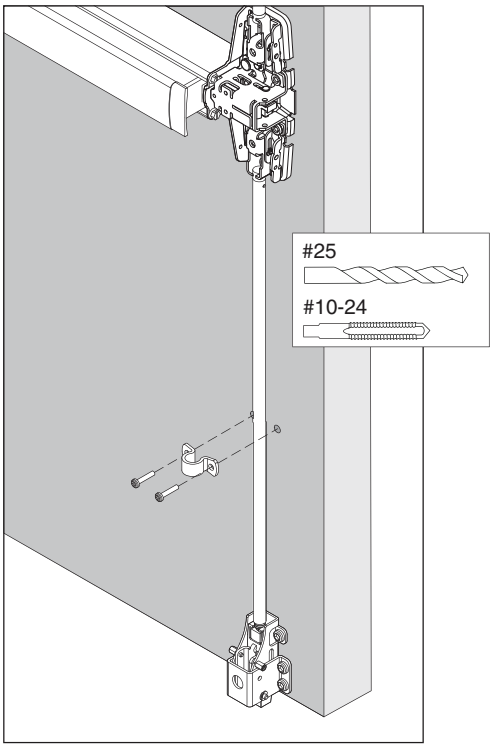
Pour ajuster, visser la pièce de fixation de la tige inférieure sur un tour à la fois jusqu'à ce que la porte s'ouvre et que le verrou inférieur soit dégagé de la gâche et du plancher



5 **Install Bottom Rod Guide**

Instale la guía de la varilla inferior

Installer le guide de tige inférieure



6

Test Function

a. Open and close door several times checking for proper latch engagement, retraction, and smooth operation.

b. If device is not functioning properly, redo top and/or bottom rod adjustment as necessary.

Prueba de función

a. Abra y cierre la puerta varias veces, asegurándose de que el seguro cierre bien, que el retroceso sea adecuado y que la operación sea suave.

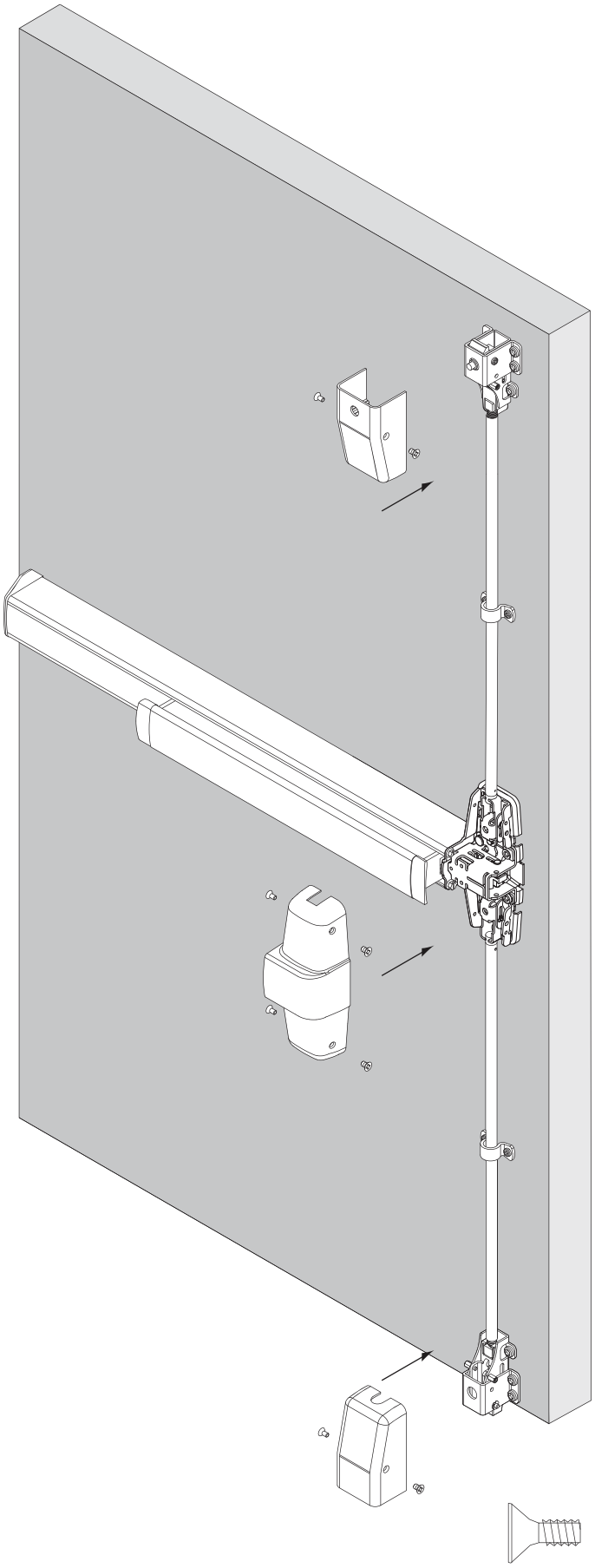
b. Si la puerta no funciona adecuadamente, vuelva a ajustar la varilla superior o la varilla inferior, según sea necesario.

Vérification d'essai

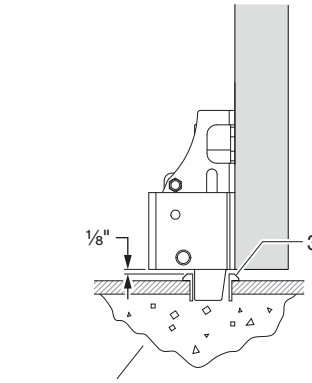
a. Ouvrir et fermer la porte à plusieurs reprises tout en vérifiant l'enclenchement du verrou, la rétraction et le fonctionnement adéquats.

b. Si le dispositif ne fonctionne pas correctement, reprendre l'ajustement de la tige inférieure et supérieure au besoin.

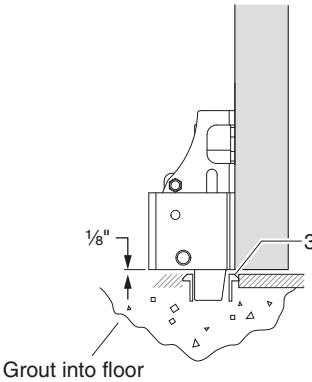
Install Covers
Instale las cubiertas
Installer les couvercles



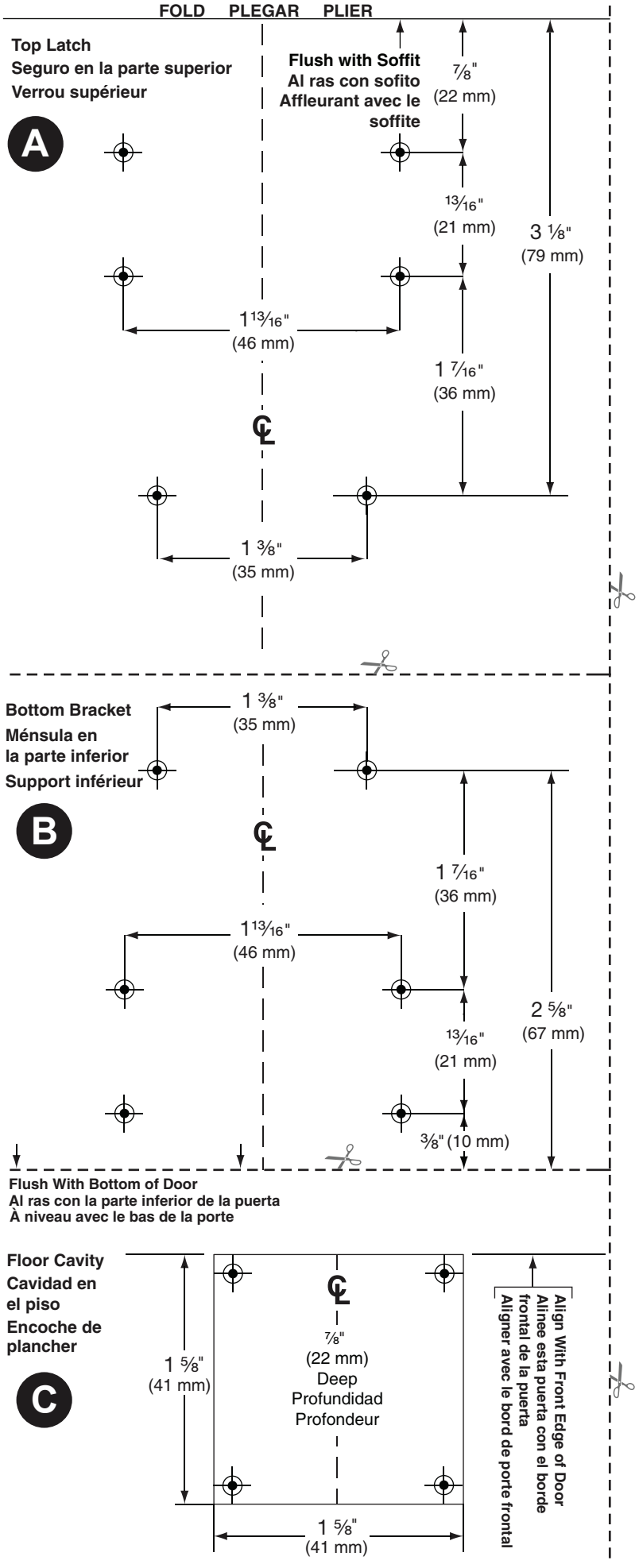
Sill Strike Threshold Applications
Aplicaciones de umbrales de cerradura con perno
Installation du calfeutrage sur le seuil de la gâche



⚠ **NOTE:** Cut out threshold for strike clearance
NOTA: Corte el umbral para lograr espacio libre en la cerradura
REMARQUE: Couper le calfeutrage pour libérer la gâche



⚠ **NOTE:** Cut out threshold for strike clearance
NOTA: Corte el umbral para lograr espacio libre en la cerradura
REMARQUE: Couper le calfeutrage pour libérer la gâche


FOLD PLEGAR PLIER
Top Latch
Seguro en la parte superior
Verrou supérieur
A
Flush with Soffit
Al ras con sofito
Affleurant avec le soffite
7/8" (22 mm)
13/16" (21 mm)
3 1/8" (79 mm)
1 13/16" (46 mm)
1 7/16" (36 mm)
1 3/8" (35 mm)
Bottom Bracket
Ménsula en la parte inferior
Support inférieur
B
1 3/8" (35 mm)
1 7/16" (36 mm)
1 13/16" (46 mm)
2 5/8" (67 mm)
13/16" (21 mm)
3/8" (10 mm)
Flush With Bottom of Door
Al ras con la parte inferior de la puerta
À niveau avec le bas de la porte
Floor Cavity
Cavidad en el piso
Encoche de plancher
C
1 5/8" (41 mm)
7/8" (22 mm) Deep
Profundidad
Profondeur
1 5/8" (41 mm)
Align With Front Edge of Door
Alinee esta puerta con el borde frontal de la puerta
Aligner avec le bord de porte frontal

911000-00

XP98/XP99

VON DUPRIN

Rim Exit Device

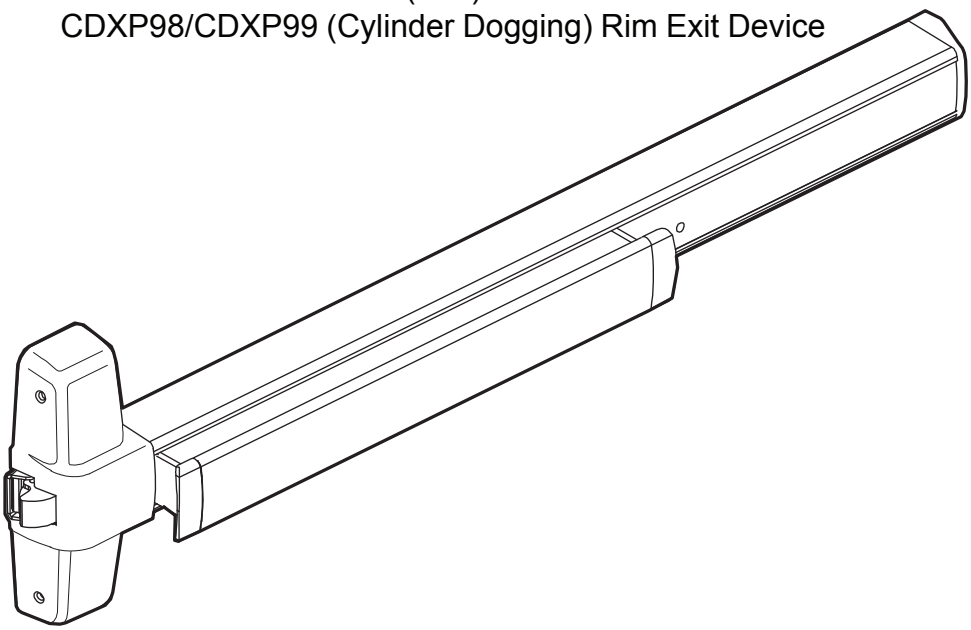
Installation Instructions

Devices covered by these instructions:

XP98/XP99 Rim Exit Device

XP98-F/XP99-F (Fire) Rim Exit Device

CDXP98/CDXP99 (Cylinder Dogging) Rim Exit Device



Please give these instructions to building owner after device is installed

Special tools needed:

Taps: #10-24, 1/4”-20

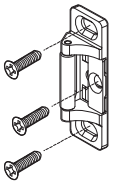
Drill bits: #7, #25, 1/8”, 1/4”, 5/16”, 3/8”, 13/32”

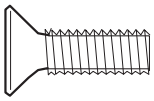
Index:

- Screw chart 2
- Preparation chart 3
- Device installation 4-6
- Retrofit installation 7
- Hex dogging information 8
- CD (cylinder dogging) 9
- Cut device 10
- 954 strike installation 10

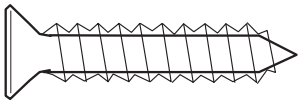
SCREW CHART

A 909 Strike



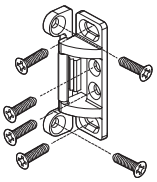


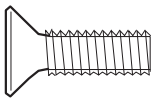
1/4"-20 X 3/4" (3 qty) — Metal frame



#14 X 1-1/2" Wood screw (3 qty) — Wood frame

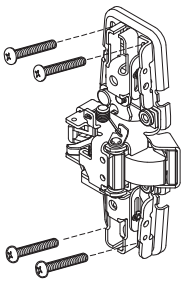
B 954 Strike

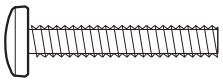




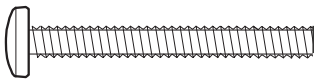
1/4"-20 X 3/4" (6 qty) — Metal frame

C

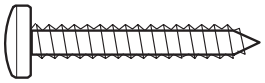




#10-24 X 1" (4 qty) — Surface mount or Sex bolts (1-3/4" door)

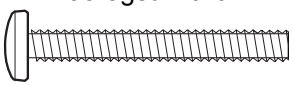


#10-24 X 1-1/2" (4 qty) — Sex bolts (2-1/4" door)

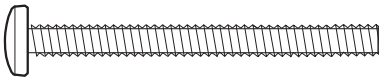


#10 X 1-1/4" Wood screw (4 qty) — Surface mount (wood)

- Packaged with trim -

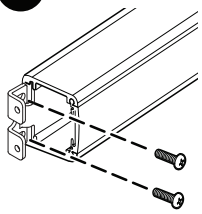


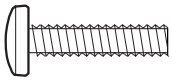
#10-24 X 1-3/8" (4 qty) — 990 Trims (1-3/4" door)



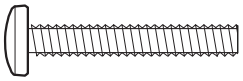
#10-24 X 1-7/8" (4 qty) — 990 Trims (2-1/4" door)

D

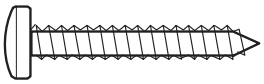




#10-24 X 3/4" (2 qty) — Surface mount or Sex bolts (1-3/4" door)

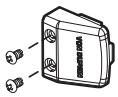


#10-24 X 1-1/8" (2 qty) — Sex bolts (2-1/4" door)



#10 X 1-1/4" Wood screw (2 qty) — Surface mount (wood)

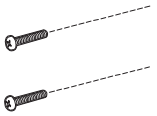
E

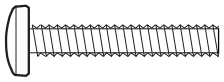




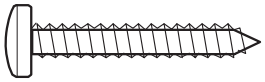
#10-16 X 3/8" Thread cutting (2 qty) — End cap screw

F



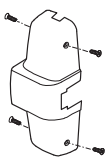


#10-24 X 1" (2 qty) — Surface mount (metal)



#10 X 1-1/4" Wood screw (2 qty) — Surface mount (wood)

G

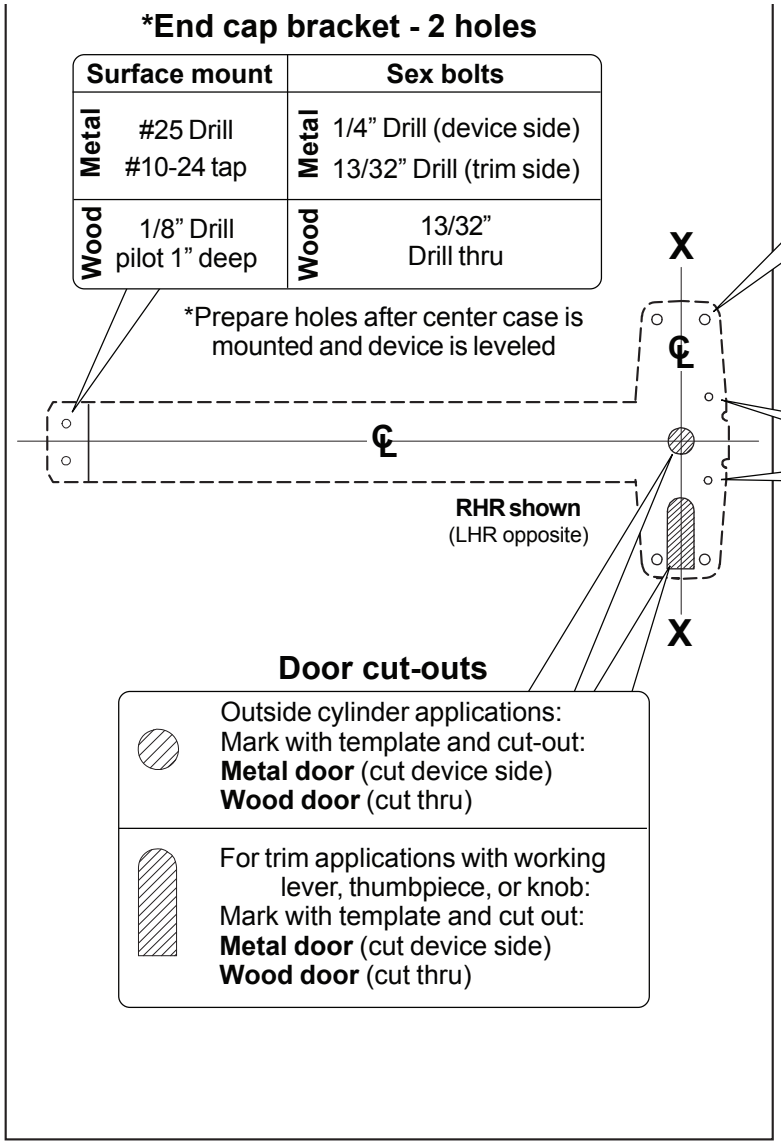




#8-18 X 3/8" Thread cutting (4 qty) — Cover screw

PREPARATION CHART

Go to "Device Installation" on next page before using this preparation chart



*End cap bracket - 2 holes

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

*Prepare holes after center case is mounted and device is leveled

RHR shown
(LHR opposite)

Center case - 4 holes

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

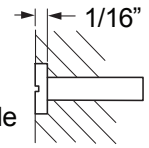
Center case - 2 support holes

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

For XP98-F/XP99-F (fire) wood door

#825 Sex bolts (2) required

Wood or composite	3/2" Drill thru 5/8" Spade drill 1/16" Deep outside



Door cut-outs

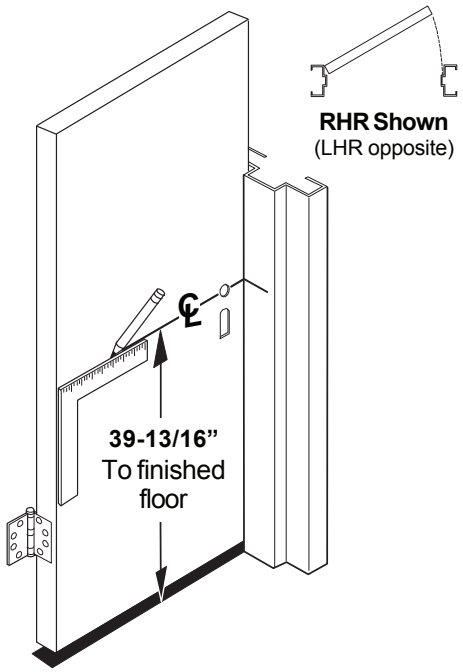
Outside cylinder applications:
Mark with template and cut-out:
Metal door (cut device side)
Wood door (cut thru)

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

DEVICE INSTALLATION

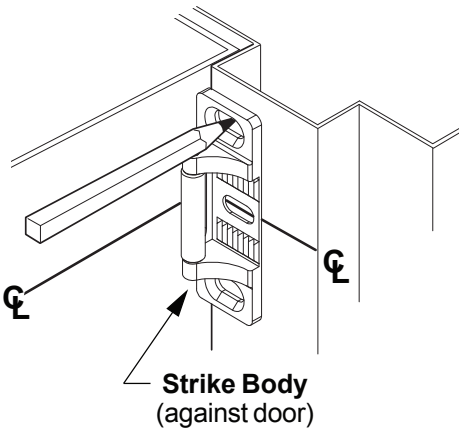
Note: For retrofit applications where an existing 98/99 Rim device is being replaced, see "Retrofit Installation" on page 7.

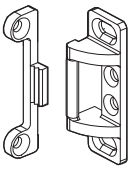
1 Draw horizontal device and strike center line (℄).



2 Align strike on ℄ and mark the two outer slots.

909 Strike

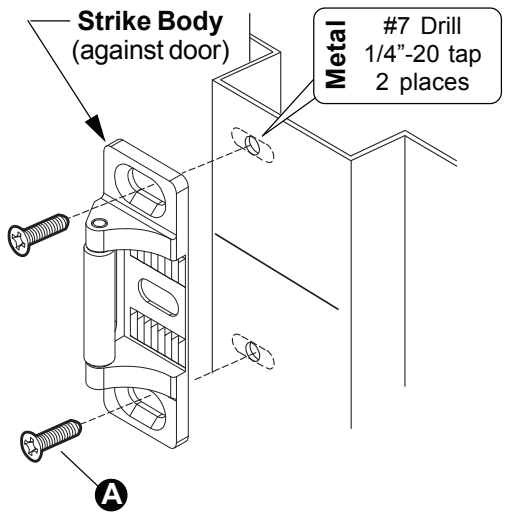




For **954 strike,** see page 10

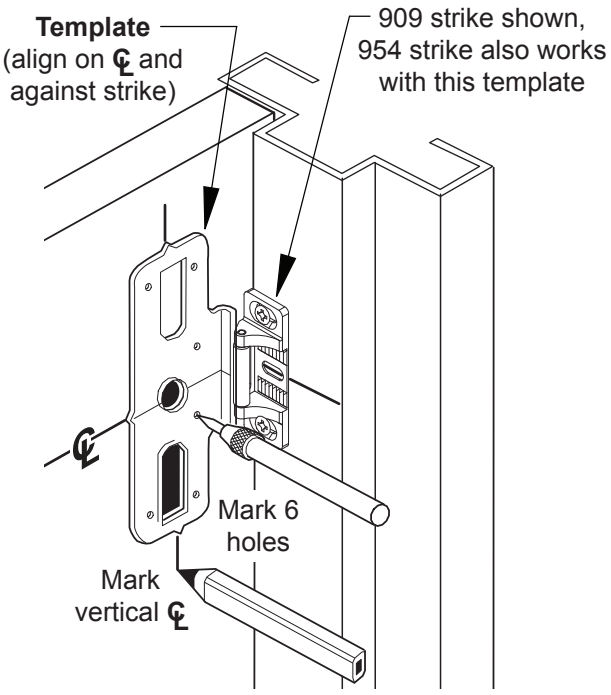
3 Prepare holes thru center of 2 outer slots and install screws.

909 Strike



See "**Screw Chart**" on page 2 for screw type and size

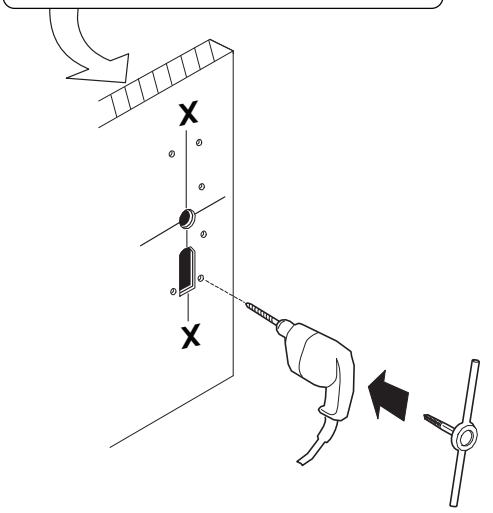
4 Position template against strike and on ℄ and mark door.



5 Prepare lock side of door for device and trim.

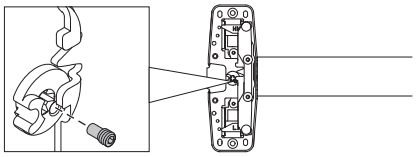
See "**Preparation Chart**" on page 3 for drill, tap, and cut-out information

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



6 If Necessary, Remove NL Drive Screw

NL drive screw
Factory installed on back of center case



With NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For trims listed below, **REMOVE** NL drive screw.

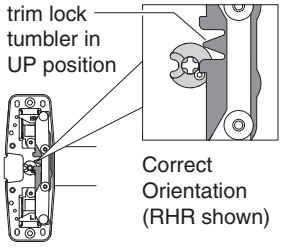
996L	696TP	990TP
996K	697TP	

With NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

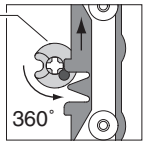
NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

*If trim being installed is "BE" (i.e. 996L-BE), trim lock tumbler on back of device must be in **UP** position before device is installed. This allows trim to be unlocked at all times.

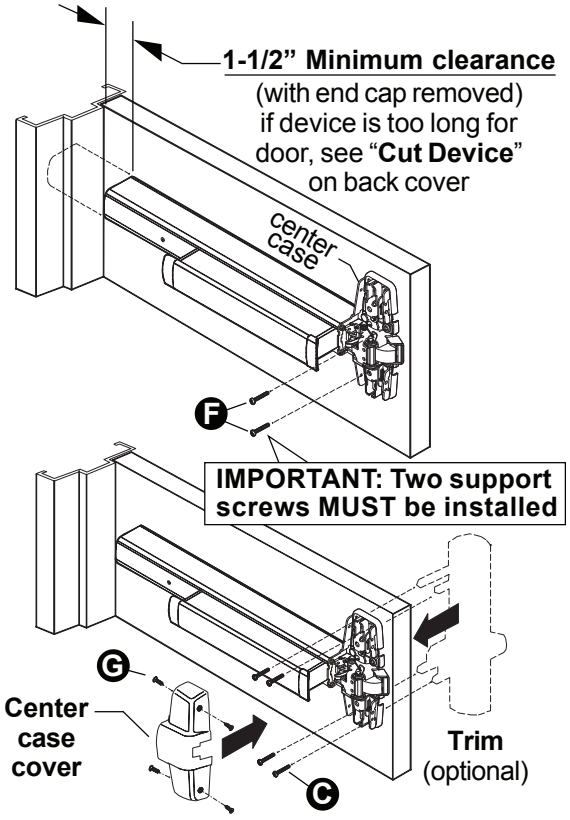


If necessary, remove drive screw and rotate cam until trim lock tumbler is in UP position, then reinstall drive screw

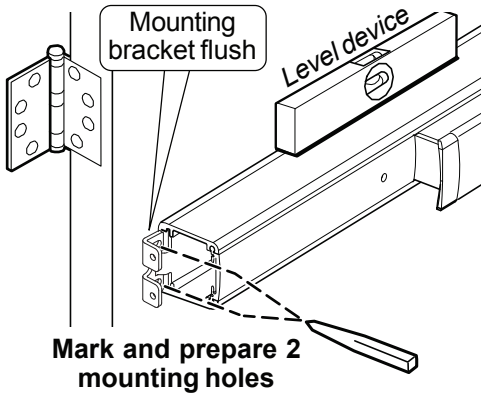


Incorrect Orientation

7 Secure device center case to door and install trim (if using).

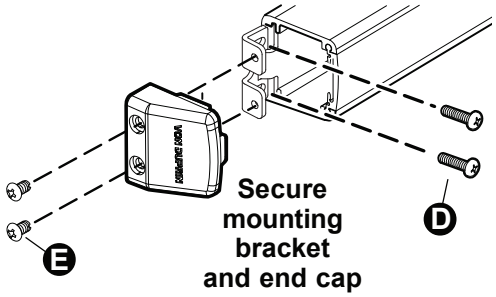


8 Install mounting bracket and end cap.



Mark and prepare 2 mounting holes

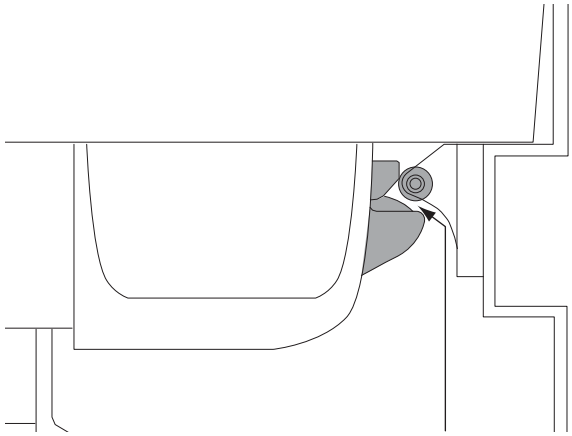
See "**Preparation Chart**" on page 3 for drill and tap sizes



Secure mounting bracket and end cap

9 IMPORTANT!
Verify gap between latch bolt and strike and adjust strike as needed.

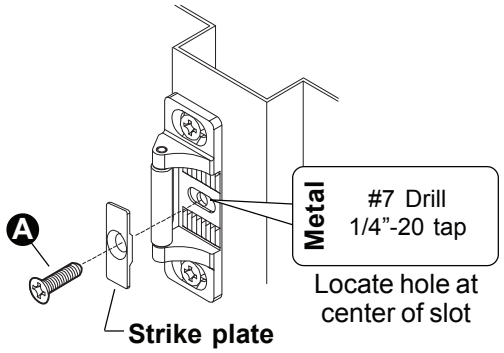
Strike MUST have some gap



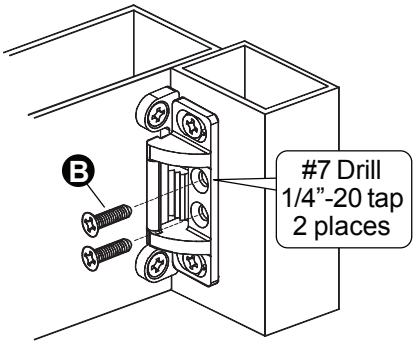
Gap
(no more than 3/16")

10 When properly adjusted, secure strike with additional screw(s).

909 Strike

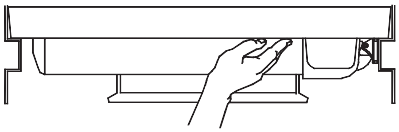


954 Strike

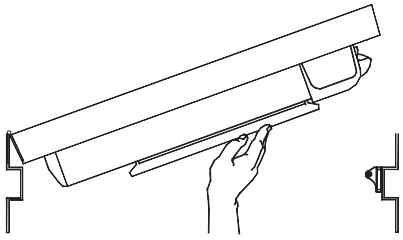


11 IMPORTANT!
Perform operational check.

A. With door closed, push against door without touching device.
Device should NOT allow door to open.



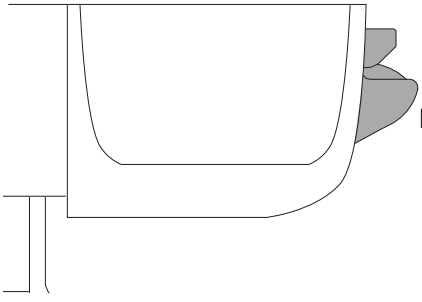
B. With door closed, push device pushbar. Device should allow door to open.



C. If device does not function as described, adjust strike position and continue operational check until device functions as described above.

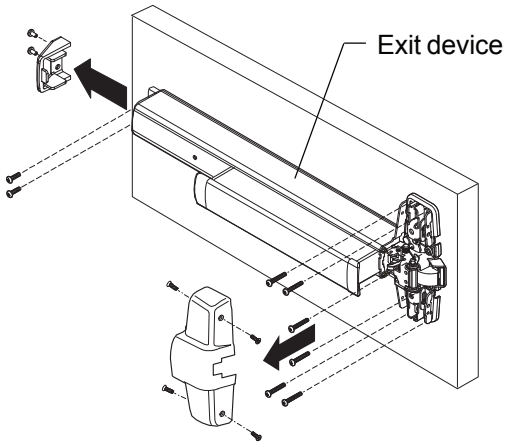
12 Note about the XP latch operation

The XP latch bolt operates differently from a standard latch bolt. When the pushbar is depressed, the latch bolt does not retract. This is normal because the XP latch bolt can swivel in both directions.



RETROFIT INSTALLATION

1 Remove existing exit device and old strike from door.

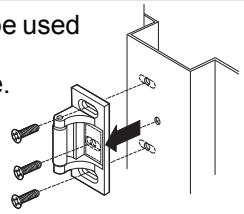


⚠ CAUTION

Old 299/299F or 499F strike cannot be used with XP98/99 device. Strike must be removed and replaced with new strike.

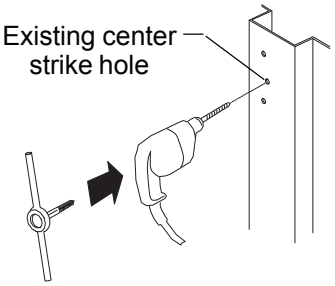
Old strike	Replace with
299/299F	909
499F	954*

*See page 11 for 954 installation



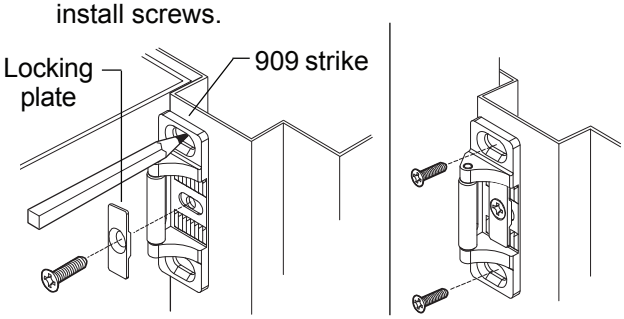
2 Install new 909 strike to replace 299/299F strike.

A. Re-drill and tap existing center strike hole for 1/4”-20.



B. Attach strike to frame with new center screw and locking plate and position strike against door.

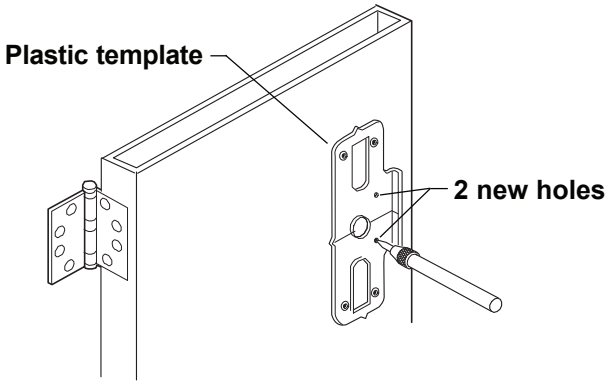
C. Mark and prepare 2 outer holes for 1/4”-20 and install screws.



3 Mark and prepare 2 new support holes in door.

A. Align plastic template with existing holes as shown.
B. Mark 2 new holes as shown.
C. Prepare 2 new holes per chart below:

Metal	#25 Drill #10-24 tap	**Wood**	1/8” Drill pilot 1” deep



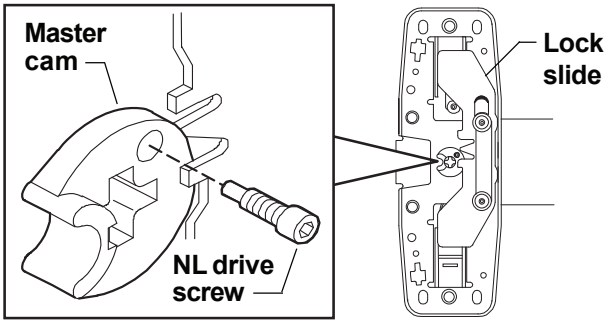
NOTE:
If plastic template will not align correctly with the 4 outer holes, bolt new XP exit device on door temporarily with the 4 screws and use it as a template to mark the 2 holes shown above.

4 Match master cam function for new XP device to that of removed exit device.

A. Inspect underside of old center case for master cam.

B. If NL drive screw (shown below) has been removed, it must be removed from new XP center case as well.

If NL drive screw is present in old center case, leave NL drive screw in new XP center case.



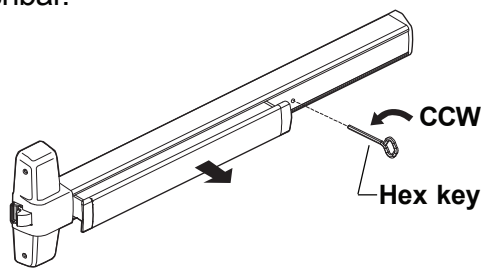
Go to page 5-6 and continue device installation steps 7-10.

HEX DOGGING INFORMATION

To undog exit device:

Note: Panic devices are shipped dogged (pushbar down).

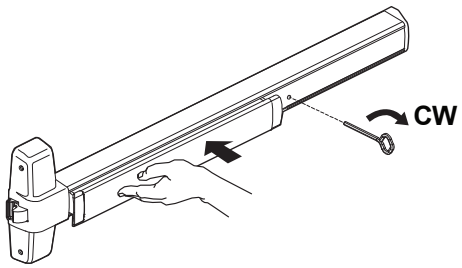
1. To undog device, place hex key in hole as shown and turn counterclockwise releasing pushbar.



To dog exit device:

Note: Dogging is recommended during times of high traffic through door.

1. Depress pushbar.
2. Place hex key in hole as shown and turn clockwise. Pushbar stays in down position.



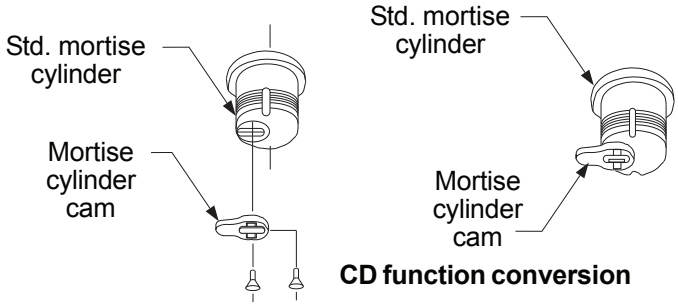
CD (CYLINDER DOGGING)

(DO NOT USE ON FIRE RATED DEVICE)

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).

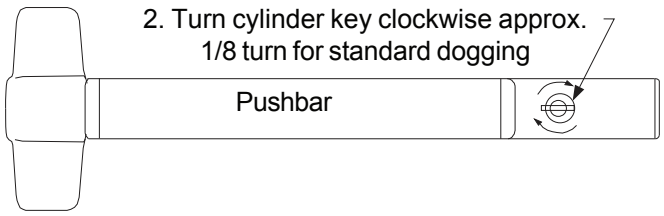
3. Remove key to slide cover plate in position in the mechanism case.



CD function conversion

Figure 1

Dogging procedure



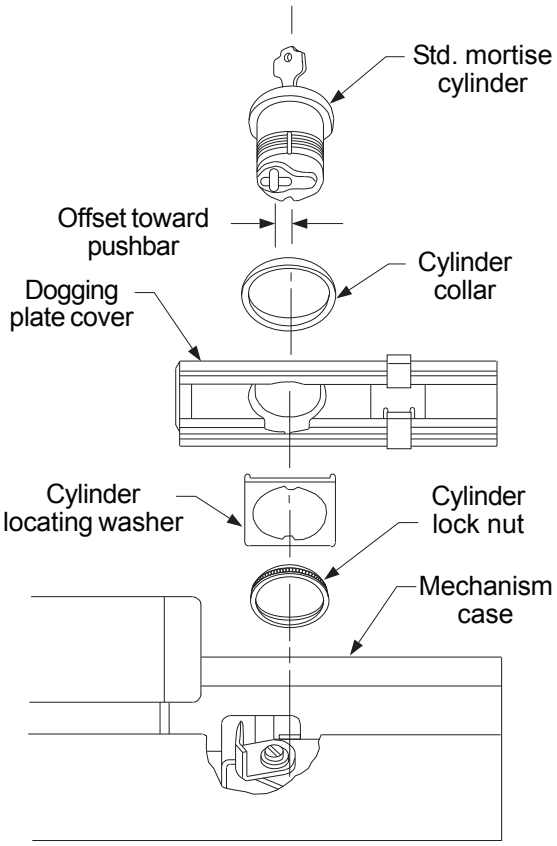
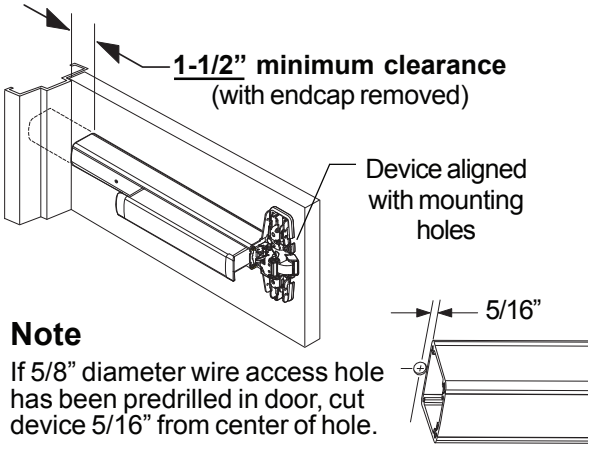


Figure 2

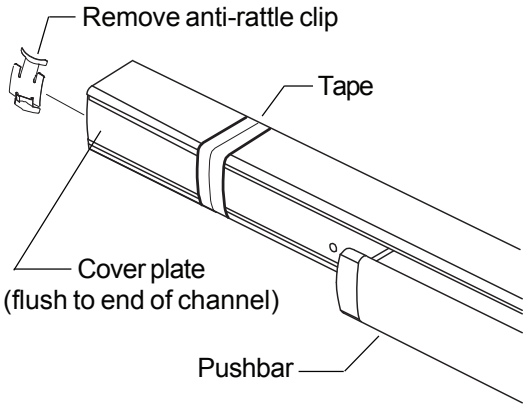
CUT DEVICE

1 Measure amount to cut off device.

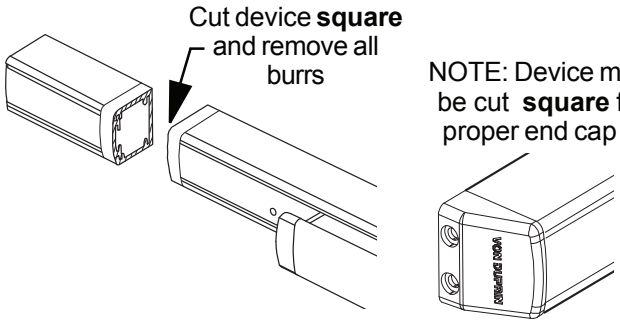


Note
If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.

2 Tape and mark area being cut.

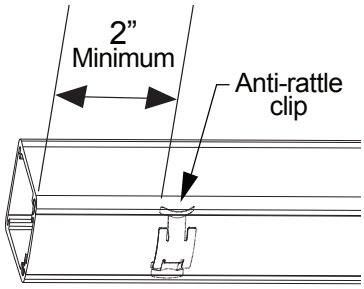


3 Cut device square.



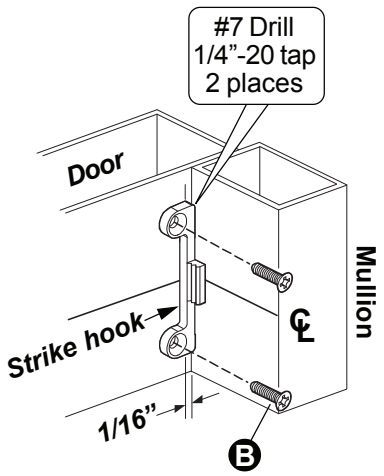
NOTE: Device must be cut **square** for proper end cap fit

4 Slide anti-rattle clip into device.

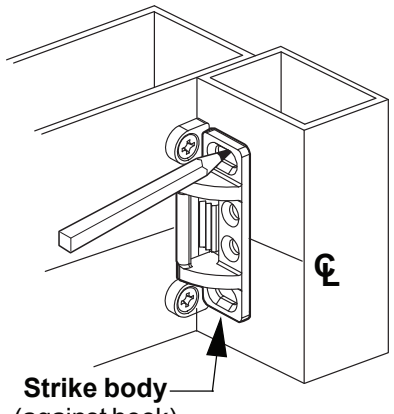


954 STRIKE INSTALLATION

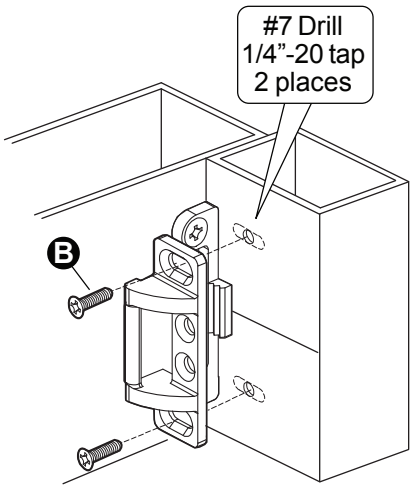
1 Install strike hook along exit device ℄.



2 Mark 2 slotted holes for strike.



3 Prepare 2 holes and install 2 screws as shown.



XP98/XP99

VON DUPRIN

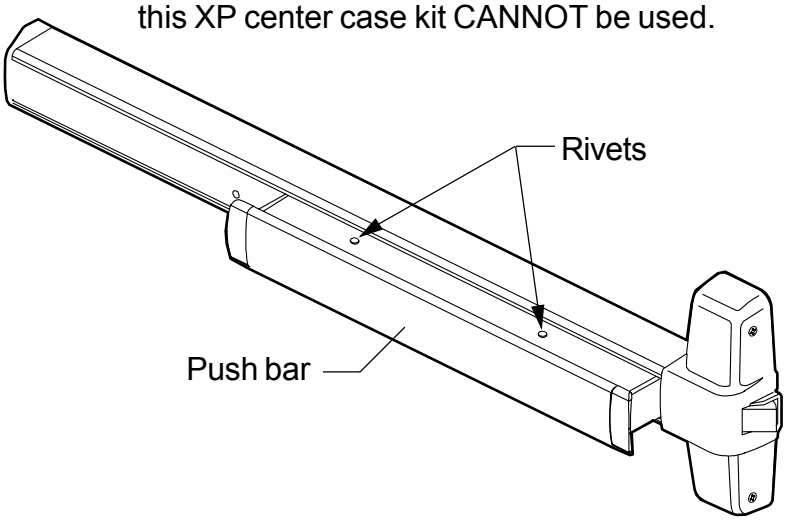
911001-00

Center Case Retrofit

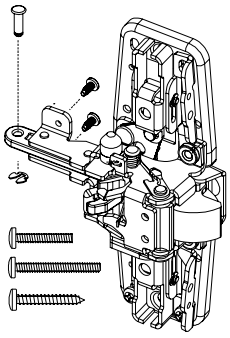
Installation Instructions

⚠ WARNING

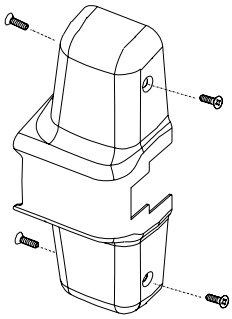
If exit device has a push bar with rivets, as shown below, this XP center case kit CANNOT be used.



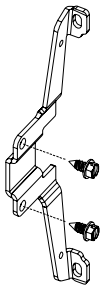
The parts shown below are included in this kit:



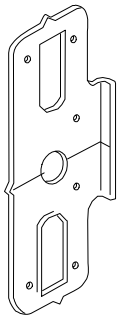
Center case, mounting screws, pin, and retaining ring



Center case cover and screws



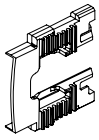
Center case bracket and screws



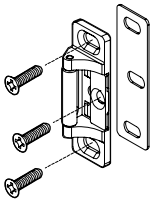
Template



Tailpiece guide

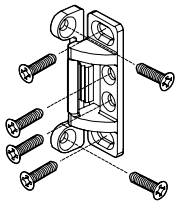


Push bar guide



909 strike package

OR



954 strike package

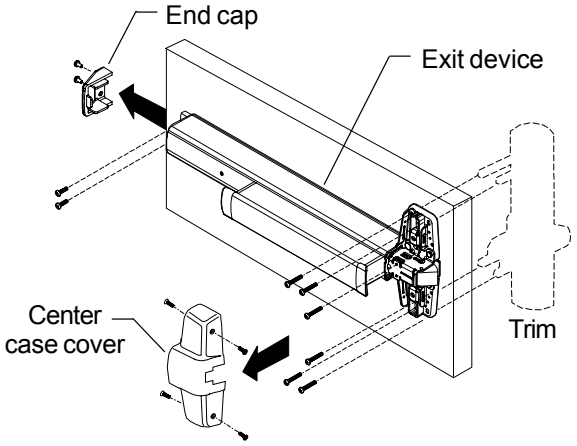
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911001-00 Rev. 01/14-b

1 Remove existing exit device and strike from door.

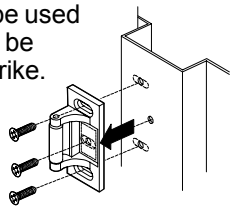
Note: Disconnect device wiring if necessary.



⚠ CAUTION

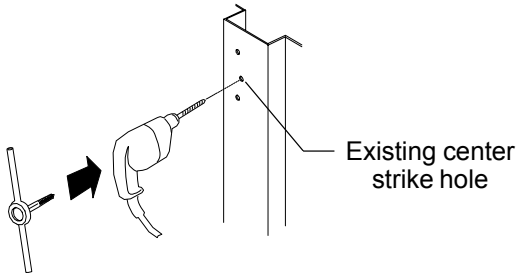
Old 299/299F or 499F strike cannot be used with XP98/99 device. Strike must be removed and replaced with new strike.

Old strike	Replace with
299/299F	909
499F	954

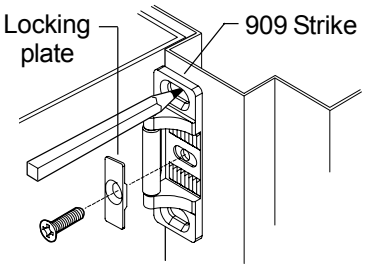


2 Install 909 strike. If 954 strike is being installed see step 3.

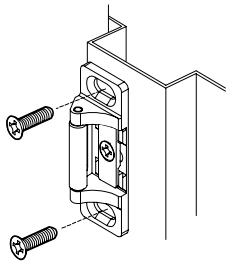
A. Re-drill and tap existing center strike hole for 1/4”-20.



B. Position strike against door, then attach strike to frame with new center screw and locking plate.



C. Mark and prepare 2 outer holes for 1/4-20 and install screws.



5 Match master cam function for new XP center case to that of removed center case.

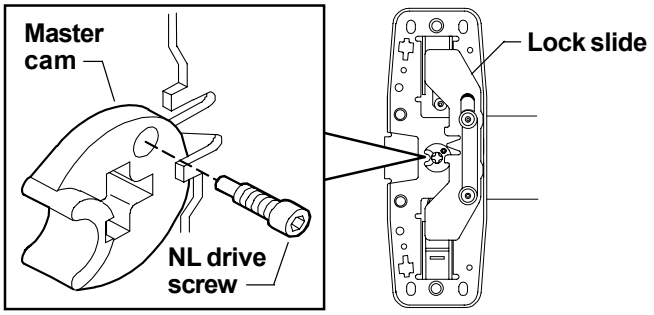
Inspect underside of old center case for master cam.

If NL drive screw (shown below) has been removed, it must be removed from new XP center case as well.

If NL drive screw is present in old center case, leave NL drive screw in new XP center case.

Additionally, if NL drive screw is present in old centercase, handing of the lock slide must also be matched on the new XP center case.

To change handing of lock slide temporarily remove NL drive screw and rotate master cam until lock slide is in the same position as old center case (full up or full down).



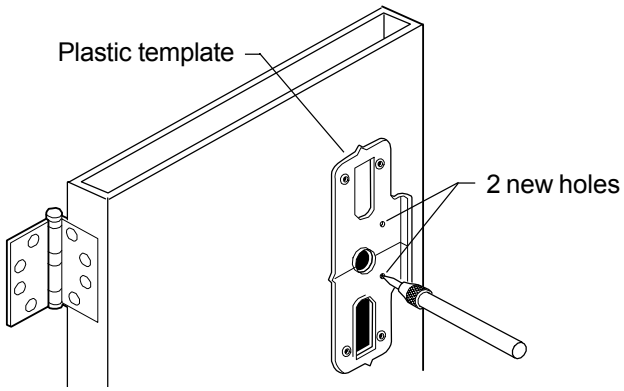
6 Drill and tap two new support holes in door.

A. Align plastic template with existing holes as shown.

B. Mark 2 new holes as shown.

C. Prepare 2 new holes per chart below:

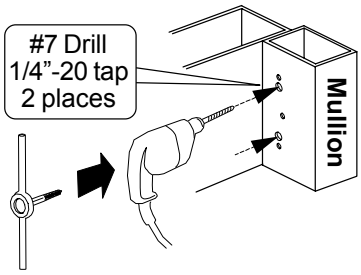
Metal	#25 Drill #10-24 tap	**Wood**	1/8” Drill pilot 1” deep



NOTE:
If plastic template will not align correctly with the 4 outer holes, bolt new center case on door with the 4 screws and use it as a template to mark the 2 holes shown above.

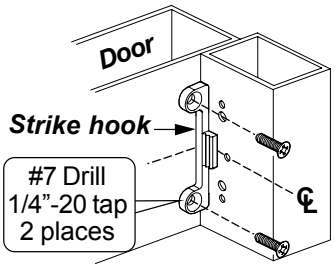
3 Install 954 strike, if necessary.

A. Re-drill and tap two existing strike holes for 1/4”-20.

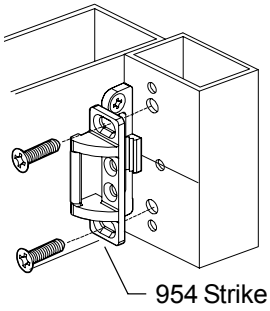


Note: Only redrill and tap the two holes show.

B. Align strike along dashed centerline (℄) as shown. This represents the centerline of the strike. Prep two holes and install.

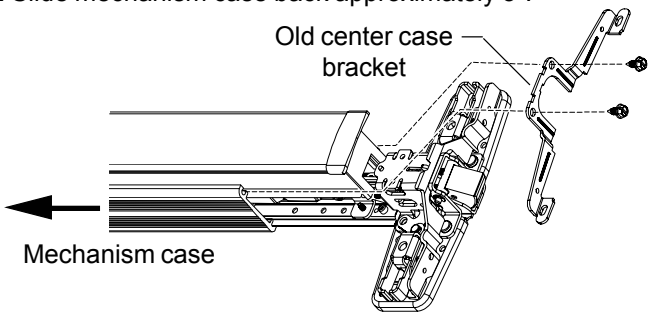


C. Attach strike with two screws through slots.

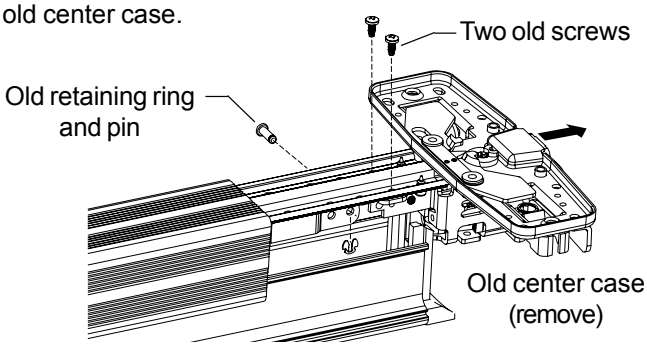


4 Remove old center case.

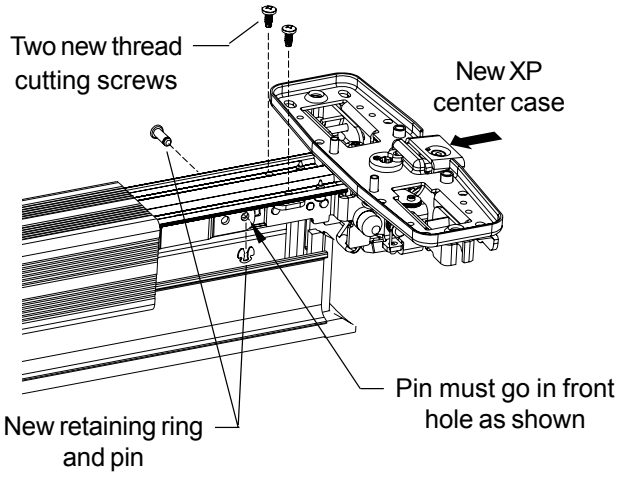
A. Remove old center case bracket.
B. Slide mechanism case back approximately 5”.



C. Remove retaining ring and pin, and two screws to remove old center case.



7 Attach new XP center case to device as shown.

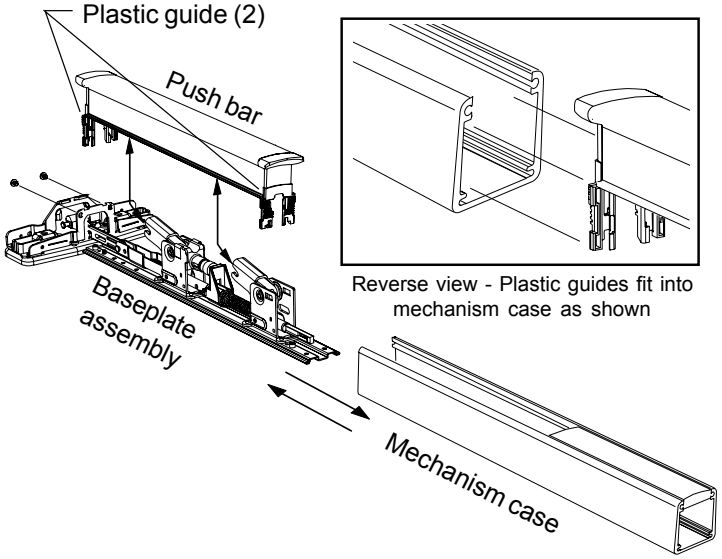


⚠ WARNING

New retaining ring and pin must be installed securely. If pin comes out, door will not open properly.

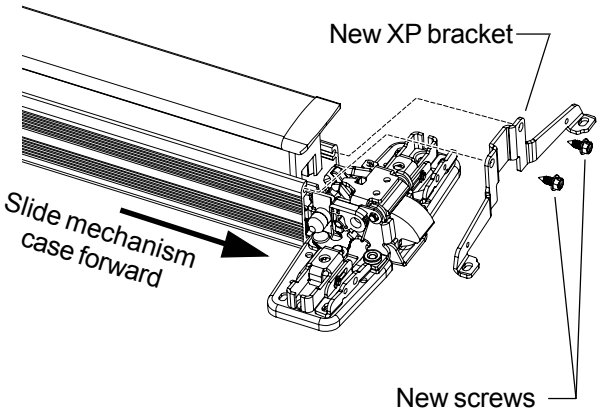
8 If device does not have plastic guide near center case, install plastic guide.

A. Slide mechanism case off baseplate assembly.
B. Lift push bar off baseplate assembly.
C. Install new plastic guide on push bar near center case.
D. Hold both plastic guides on push bar and reinstall push bar.
E. Slide mechanism case back onto baseplate assembly.
F. Verify that plastic guides stay on each end of pushbar.



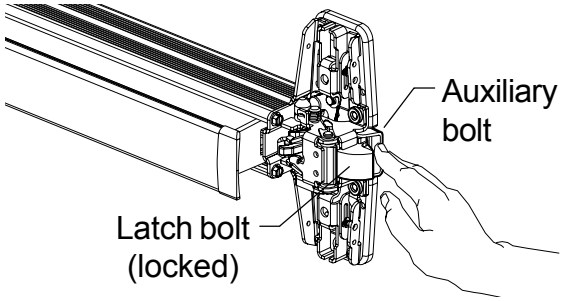
Reverse view - Plastic guides fit into mechanism case as shown

9 Slide mechanism case forward and install new XP bracket.

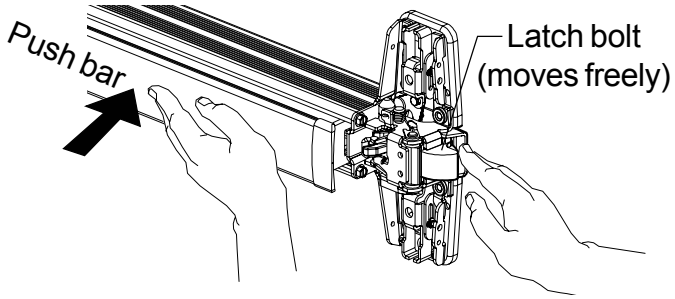


10 Check latch function as shown.

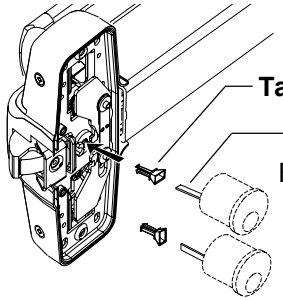
A. Depress auxiliary bolt and check latch bolt. Latch bolt should be locked and will not move while auxiliary bolt is depressed.



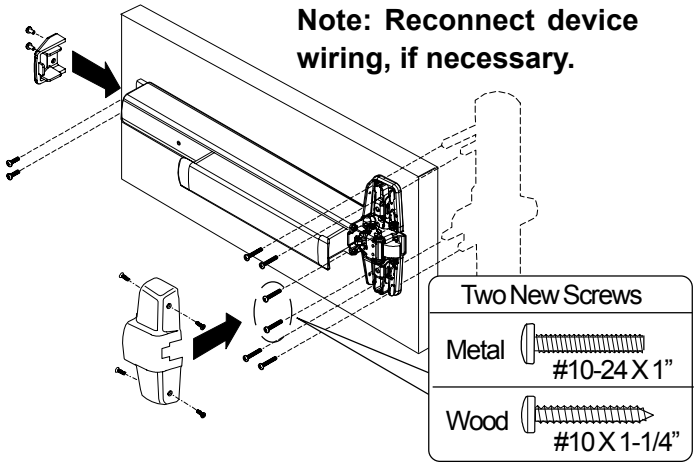
B. With auxiliary bolt still depressed, press and hold device push bar. Press latch bolt from top and bottom. It should depress freely in both directions.



11 Install tailpiece guide, if necessary, and reinstall device.

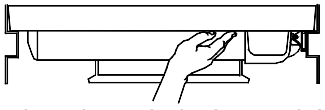


Note: Reconnect device wiring, if necessary.

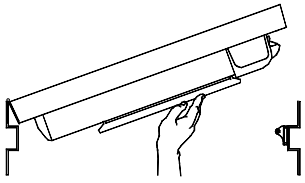


12 IMPORTANT! Perform operational check.

A. With door closed, push against door without touching device. **Device should NOT allow door to open.**

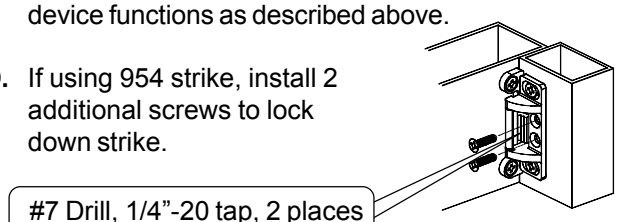


B. With door closed, push device push bar. Device should allow door to open.



C. If device does not function as described, adjust strike position and continue operational check until device functions as described above.

D. If using 954 strike, install 2 additional screws to lock down strike.



911386-00

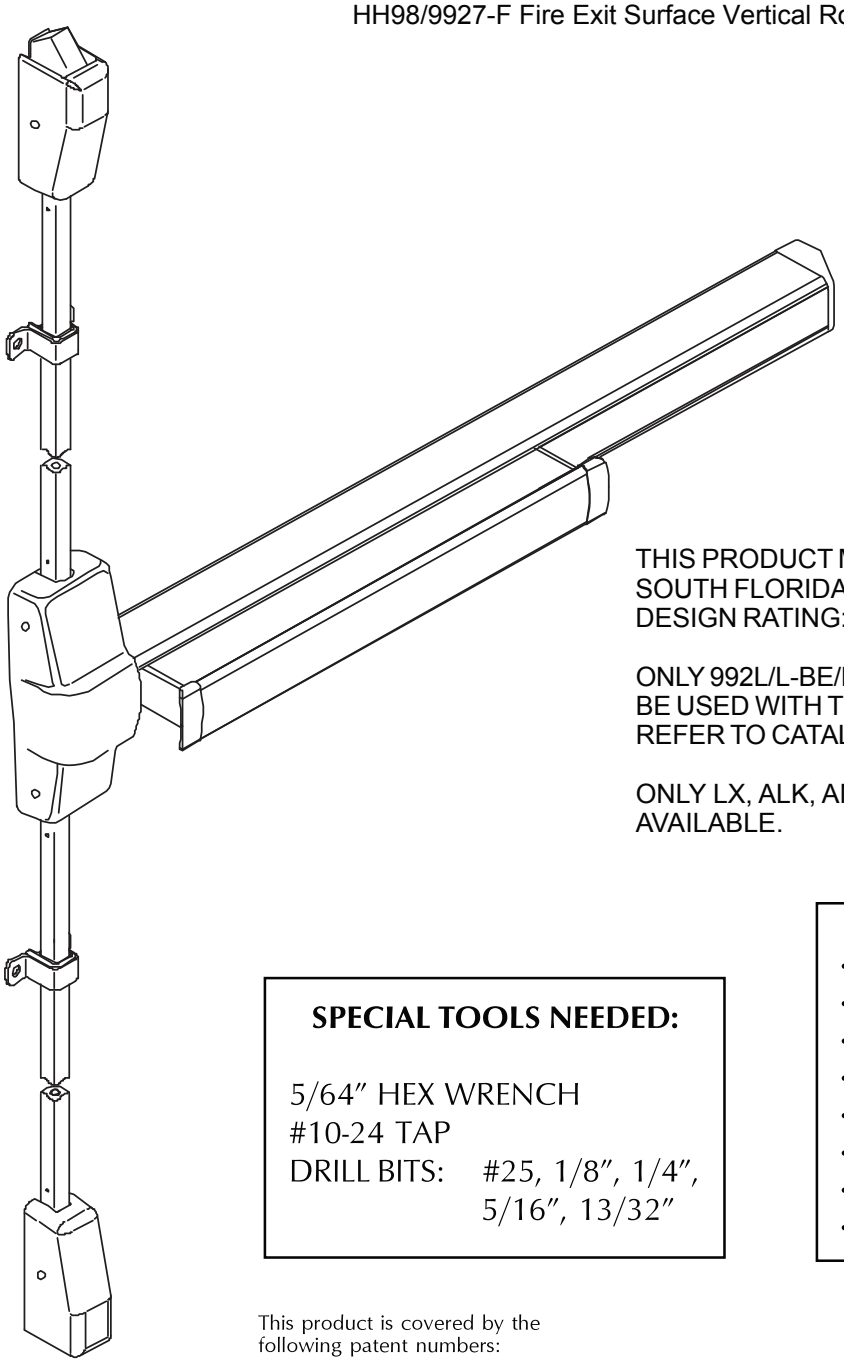
Surface Vertical Rod Device

HH98/9927 & HH98/9927-F

VON DUPRIN®

Installation Instructions

Devices covered by these instructions:
HH98/9927 Surface Vertical Rod Device
HH98/9927-F Fire Exit Surface Vertical Rod Device



THIS PRODUCT MEETS THE REQUIREMENTS OF THE SOUTH FLORIDA BUILDING CODE CHAPTER 32. DESIGN RATING: 65 PSF.

ONLY 992L/L-BE/L-DT, 994L/L-BE/L-DT, OR 990DT TRIM CAN BE USED WITH THIS PRODUCT. NO NL FUNCTION TRIM. REFER TO CATALOG FOR OUTSIDE TRIM OPTIONS.

ONLY LX, ALK, AND SS ELECTRICAL OPTIONS ARE AVAILABLE.

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
- PREPARATION CHART 6
- CUT TOP ROD 7
- INSTALL ROD EXTENSION 7
- CUT DEVICE 8
- CD (CYLINDER DOGGING) 9
- LATCH & STRIKE TEMPLATES 11

This product is covered by the following patent numbers:

3,767,238 4,427,223
3,854,763 4,466,643
4,167,280 4,741,563

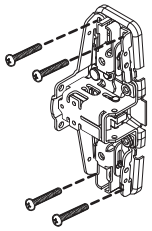
ALLEGION™

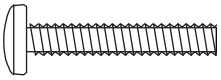
Customer Service
1-877-671-7011 www.allegion.com/us

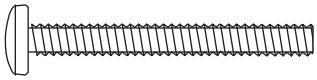
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911386-00 Rev. 10/15-d

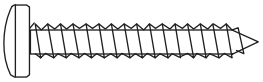
SCREW CHART

A

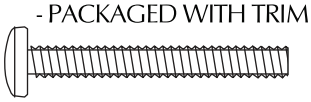


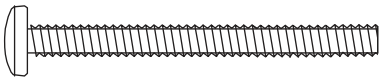

#10-24 X 1″ — SURFACE MOUNT OR SEXBOLTS (1-3/4″ DOOR)


#10-24 X 1-1/2″ — SEXBOLTS (2-1/4″ DOOR)

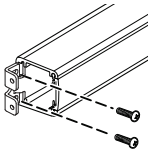

#10 X 1-1/4″ WOOD SCREW — SURFACE MOUNT (WOOD)

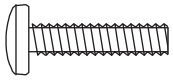
- PACKAGED WITH TRIM -

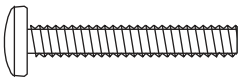

#10-24 X 1-3/8″ — 990 TRIMS (1-3/4″ DOOR)

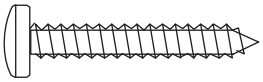

#10-24 X 1-7/8″ — 990 TRIMS (2-1/4″ DOOR)

B




#10-24 X 3/4″ — SURFACE MOUNT OR SEXBOLTS (1-3/4″ DOOR)


#10-24 X 1-1/8″ — SEXBOLTS 2-1/4″ DOOR

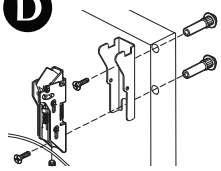

#10 X 1-1/4″ WOOD SCREW — SURFACE MOUNT (WOOD)

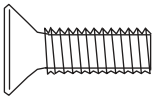
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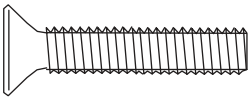



#10-16 X 3/8″ THREAD CUTTING — END CAP

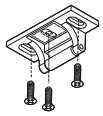
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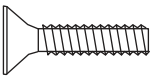


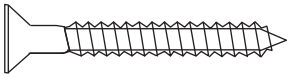

1/4-20 X 3/4″ — 1-3/4″ DOOR


1/4-20 X 1-1/4″ — 2-1/4″ DOOR

E




#10-24 X 3/4″ — METAL FRAME

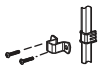

#10 X 1-1/4″ WOOD SCREW — WOOD FRAME

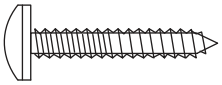
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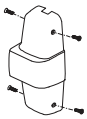

#8-32 X 1/4″ — LATCH COVERS

G



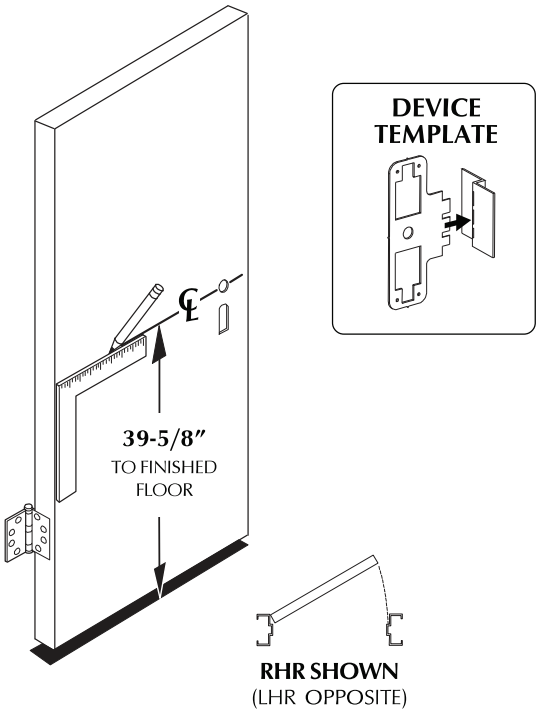

#10-12 X 10-24 X 1″ COMBINATION — METAL OR WOOD DOOR

H

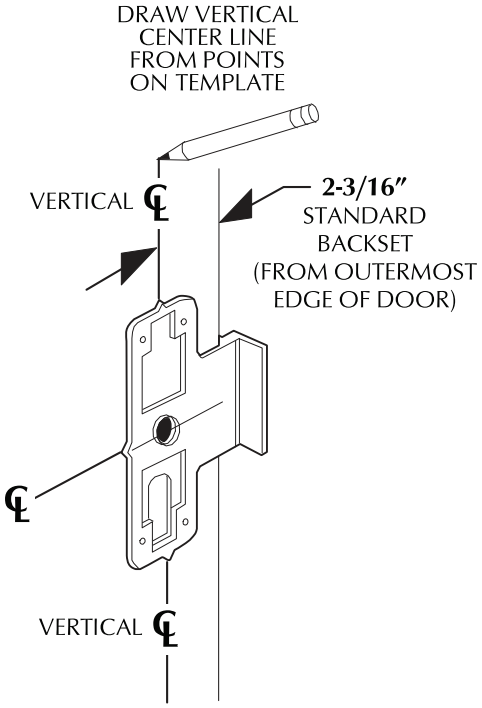



#8-18 X 3/8″ THREAD CUTTING — CENTER CASE COVER

1 DRAW HORIZONTAL CENTER LINE (℄) AND ASSEMBLE DEVICE TEMPLATE.

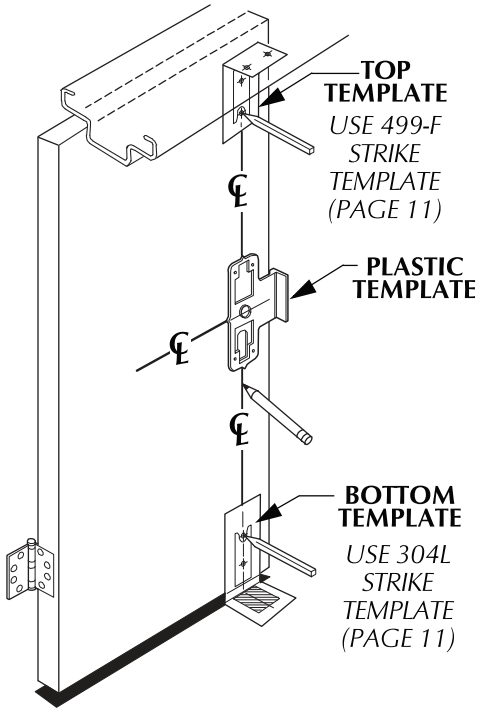


2 POSITION TEMPLATE AS SHOWN AND MARK VERTICAL ℄

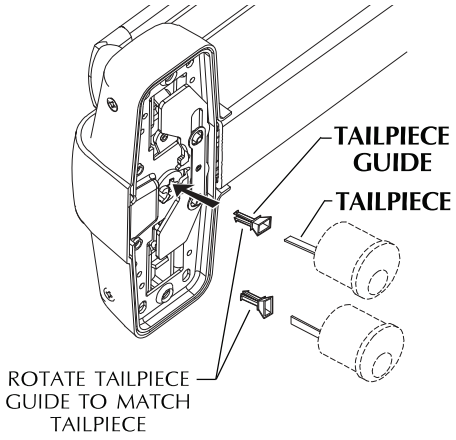


3 ALIGN TOP AND BOTTOM TEMPLATES ALONG CENTER LINE, THEN MARK AND PREPARE DOOR.

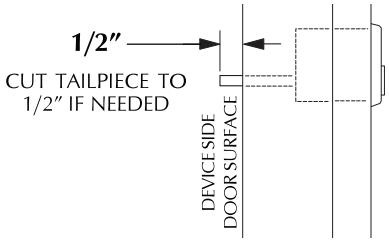
SEE "**PREPARATION CHART**" ON PAGE 6 FOR DRILL, TAP, AND CUT-OUT INFORMATION



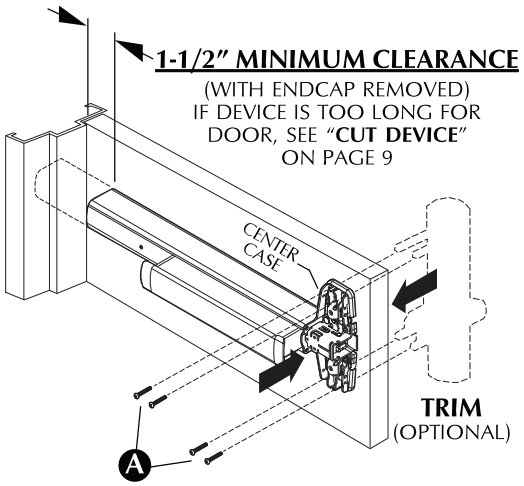
4 IF USING AN OUTSIDE LOCKING CYLINDER, INSTALL TAILPIECE GUIDE.



CYLINDER TAILPIECE LENGTH

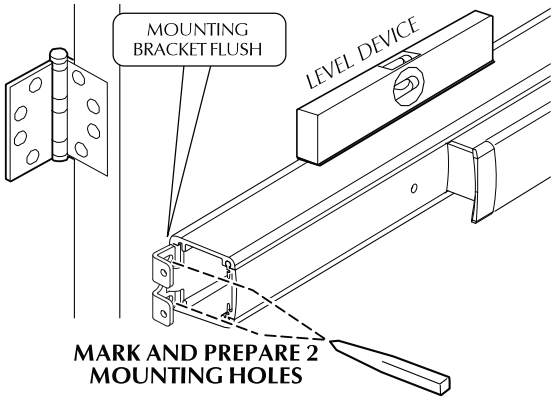


5 INSTALL TRIM (IF USING) AND SECURE DEVICE CENTER CASE TO DOOR.

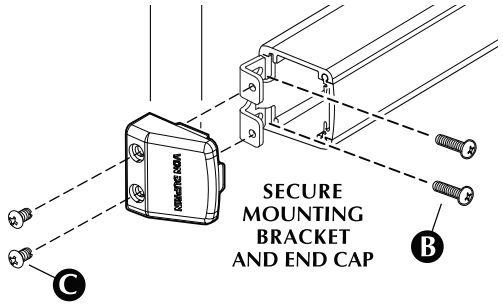


SEE "**SCREW CHART**" ON PAGE 2 FOR SCREW TYPES AND SIZES

6 INSTALL MOUNTING BRACKET AND END CAP.



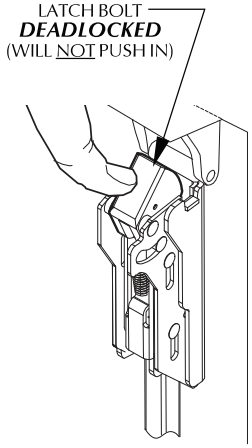
SEE "**PREPARATION CHART**" ON PAGE 6 FOR PREPARATION INFORMATION



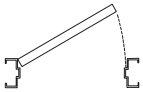
9 ADJUST TOP ROD (SCREW ROD INTO OR OUT OF LATCH) UNTIL ADJUSTED AS SHOWN .

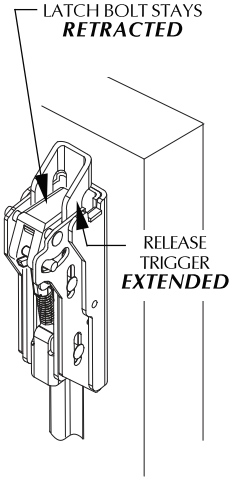
WITH DOOR CLOSED:





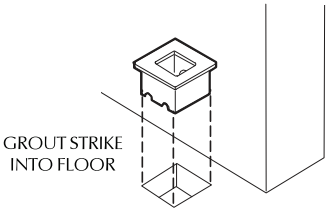
WITH DOOR OPEN:

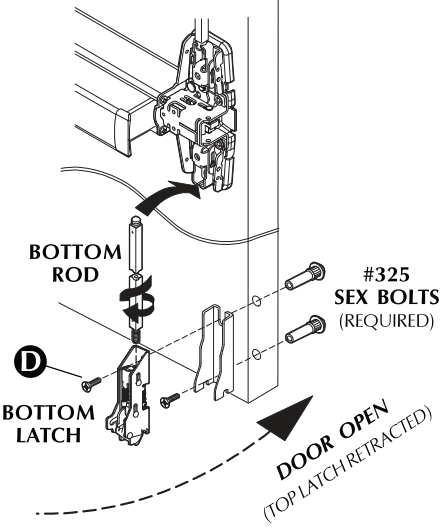




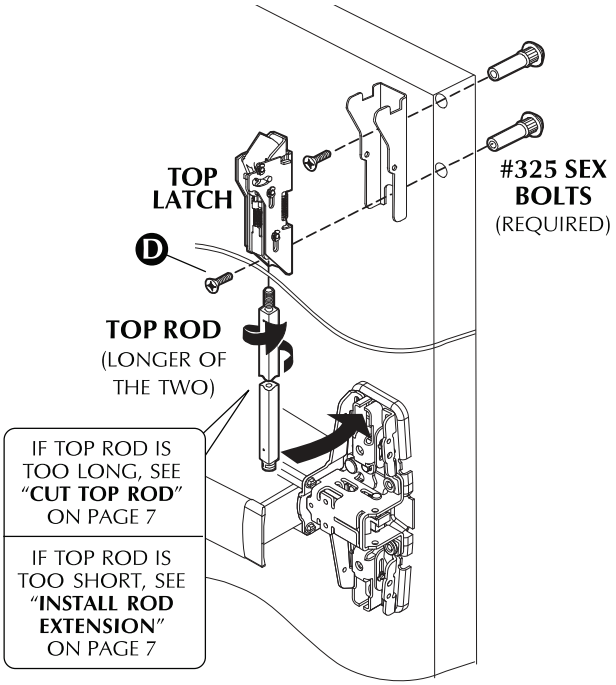
10 INSTALL BOTTOM STRIKE, LATCH, AND ROD.

304L STRIKE

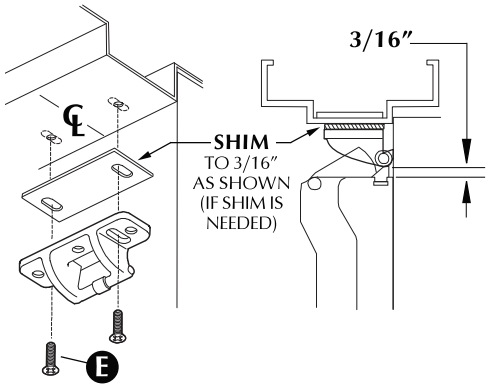


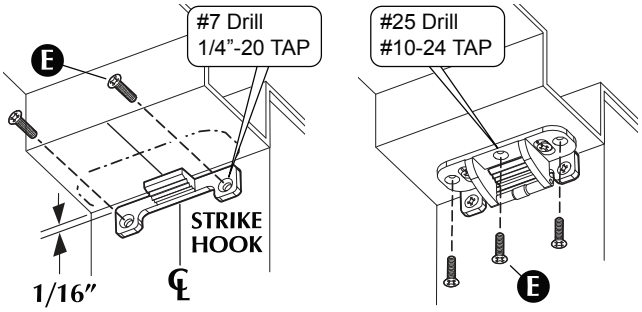


7 INSTALL TOP LATCH AND ROD.



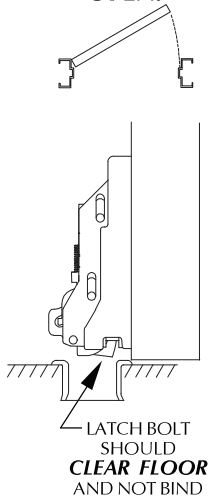
8 INSTALL TOP STRIKE.



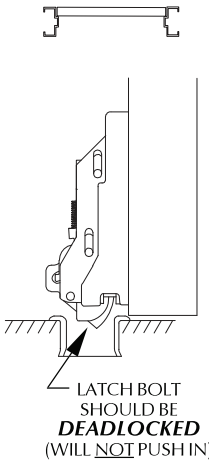


11 ADJUST BOTTOM ROD WITH DOOR OPEN (TOP LATCH RETRACTED).

WITH DOOR OPEN:



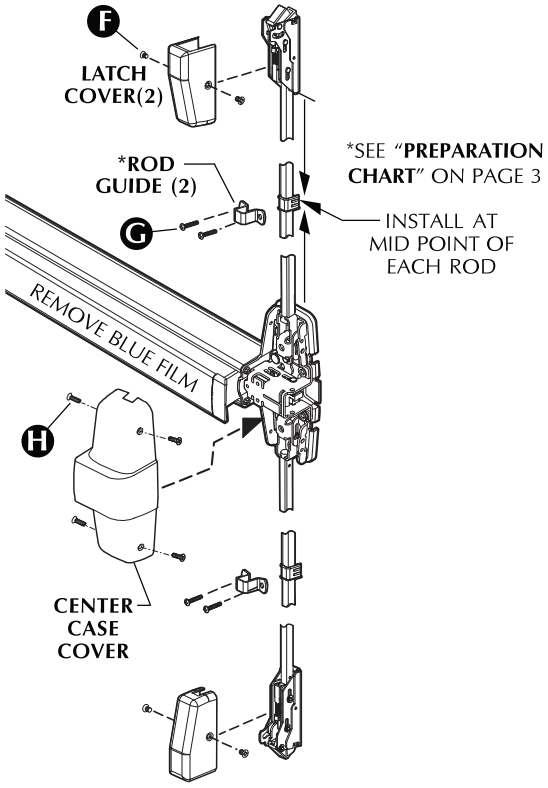
WITH DOOR CLOSED:



OPEN AND CLOSE DOOR A FEW TIMES AND CHECK FOR DEADLATCHING WHEN DOOR IS CLOSED

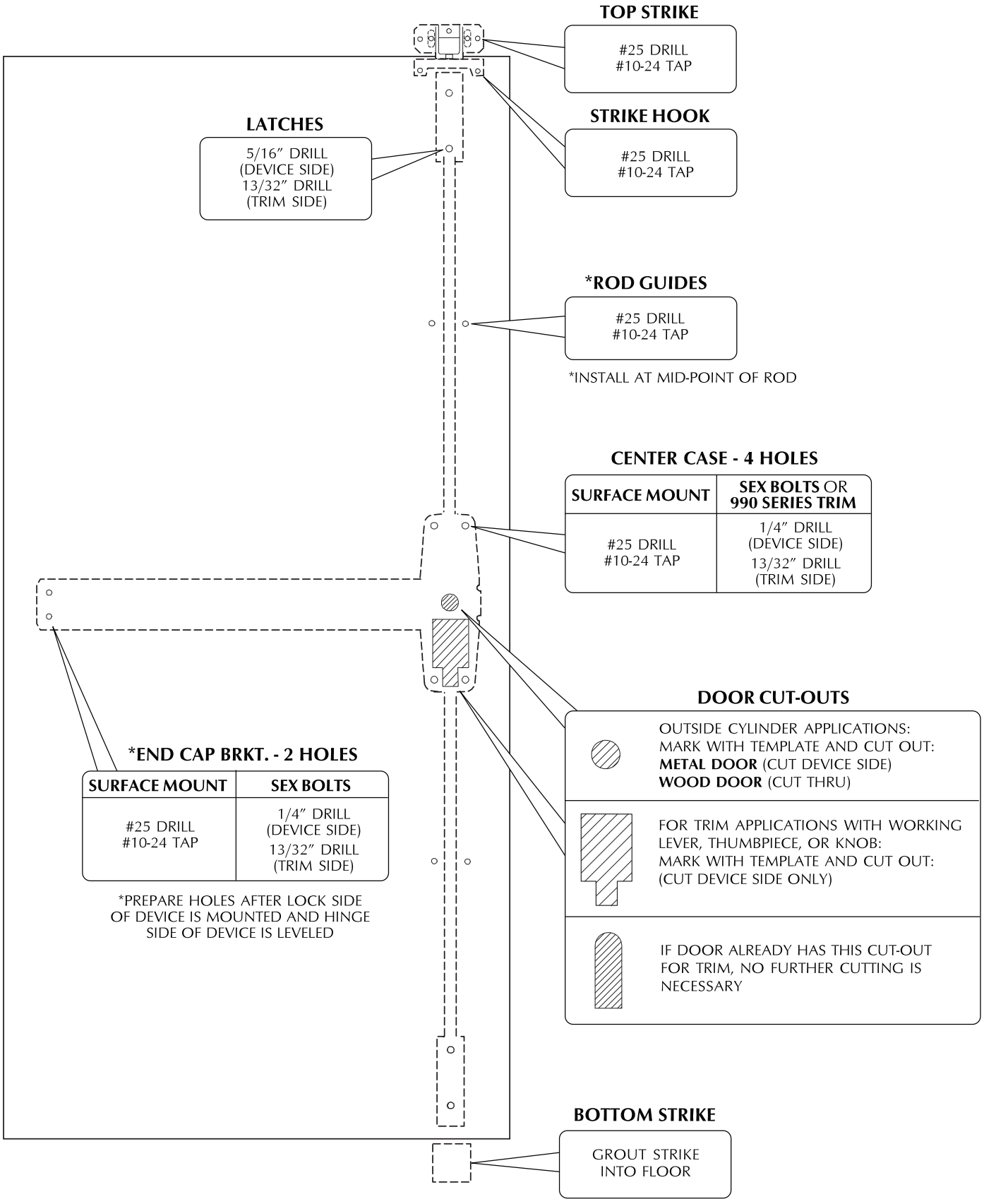
READJUST RODS IF NEEDED

12 INSTALL ROD GUIDES AND COVERS.



PREPARATION CHART

GO TO INSTRUCTIONS ON NEXT PAGE BEFORE USING PREPARATION CHART



TOP STRIKE

#25 DRILL
#10-24 TAP

STRIKE HOOK

#25 DRILL
#10-24 TAP

LATCHES

5/16″ DRILL
(DEVICE SIDE)
13/32″ DRILL
(TRIM SIDE)

***ROD GUIDES**

#25 DRILL
#10-24 TAP

*INSTALL AT MID-POINT OF ROD

CENTER CASE - 4 HOLES

SURFACE MOUNT	**SEX BOLTS** OR **990 SERIES TRIM**
#25 DRILL #10-24 TAP	1/4″ DRILL (DEVICE SIDE) 13/32″ DRILL (TRIM SIDE)

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)

IF DOOR ALREADY HAS THIS CUT-OUT FOR TRIM, NO FURTHER CUTTING IS NECESSARY

***END CAP BRKT. - 2 HOLES**

SURFACE MOUNT	SEX BOLTS
#25 DRILL #10-24 TAP	1/4″ DRILL (DEVICE SIDE) 13/32″ DRILL (TRIM SIDE)

*PREPARE HOLES AFTER LOCK SIDE OF DEVICE IS MOUNTED AND HINGE SIDE OF DEVICE IS LEVELED

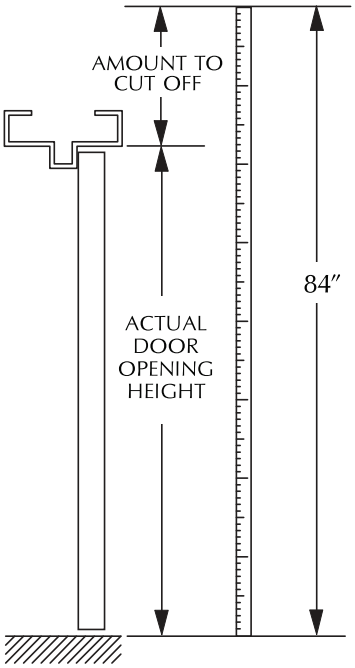
BOTTOM STRIKE

GROUT STRIKE
INTO FLOOR

CUT TOP ROD

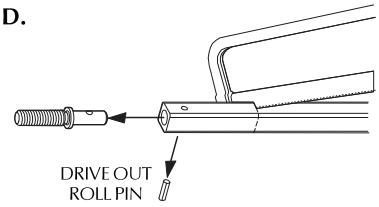
1. MEASURE AMOUNT TO CUT OFF ROD AS SHOWN BELOW.

NOTE: ROD CUTTING IS REQUIRED FOR DOORS SHORTER THAN 7′.

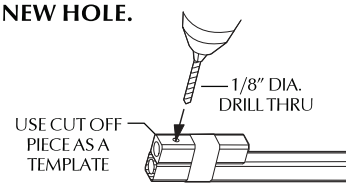


RODS ARE FACTORY SIZED FOR 7′ (84″) DOOR. MEASURE ACTUAL DOOR HEIGHT AND SUBTRACT THAT NUMBER FROM 84″ TO GET AMOUNT TO CUT OFF TOP ROD.

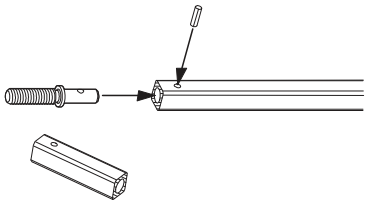
2. CUT ROD.



3. DRILL NEW HOLE.

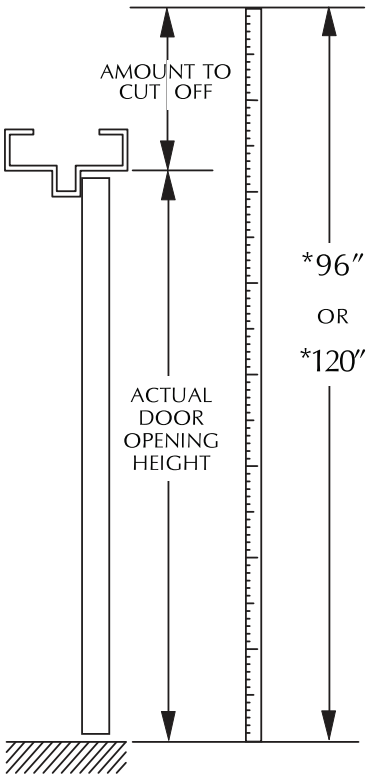


4. REINSTALL ROD END AND ROLL PIN.



INSTALL ROD EXTENSION

1. MEASURE DOOR OPENING TO DETERMINE AMOUNT TO CUT OFF ROD EXTENSION.

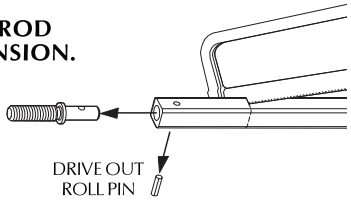


***STANDARD DOOR HEIGHTS:**

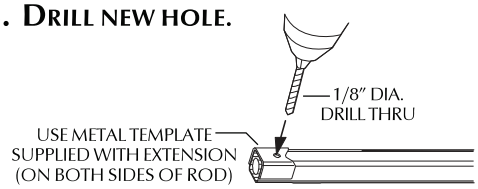
WITH NO EXTENSION	7′ (84″)
WITH 1′ EXTENSION	8′ (96″)
WITH 3′ EXTENSION	10′(120)

RODS ARE FACTORY SIZED FOR DOOR HEIGHTS SHOWN ABOVE. MEASURE ACTUAL DOOR HEIGHT AND SUBTRACT THAT NUMBER FROM 96″ (FOR 1′ EXTENSION) OR 120″ (FOR 3′ EXTENSION) TO GET AMOUNT TO CUT OFF EXTENSION.

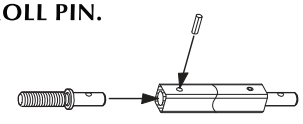
2. CUT ROD EXTENSION.



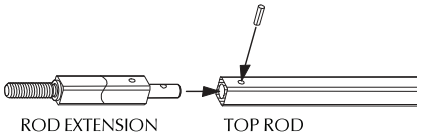
3. DRILL NEW HOLE.



4. REINSTALL ROD END AND ROLL PIN.

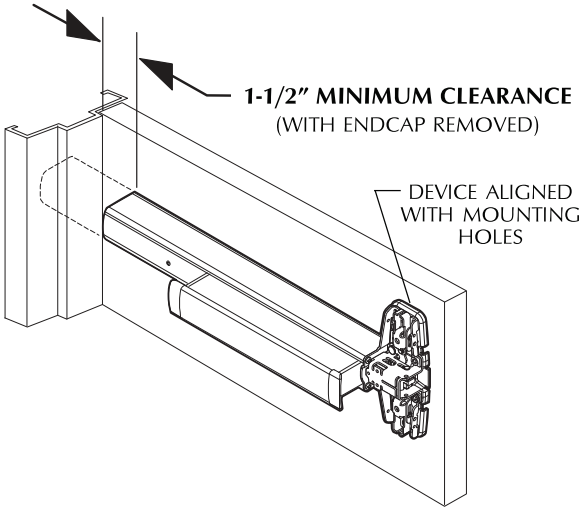


5. CONNECT TOP ROD AND ROD EXTENSION.

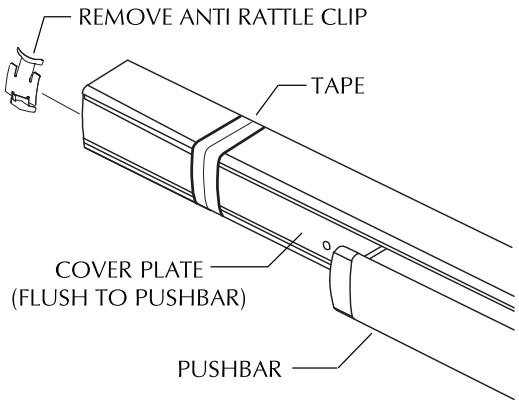


CUT DEVICE

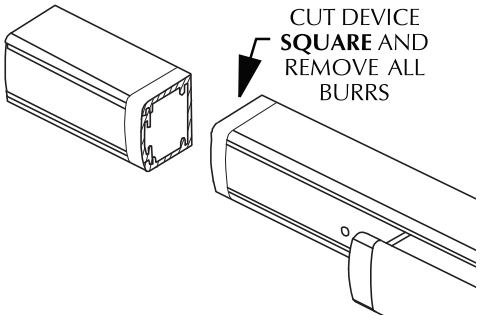
1 MEASURE AMOUNT TO CUT OFF DEVICE.

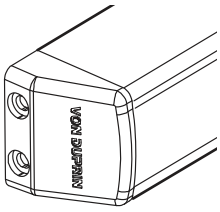


2 TAPE AND MARK AREA BEING CUT.



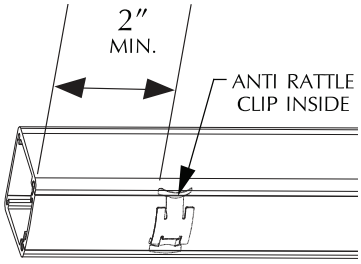
3 CUT DEVICE SQUARE.





NOTE: DEVICE MUST BE CUT **SQUARE** FOR PROPER END CAP FIT

4 SLIDE ANTI RATTLE CLIP INTO DEVICE.



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.

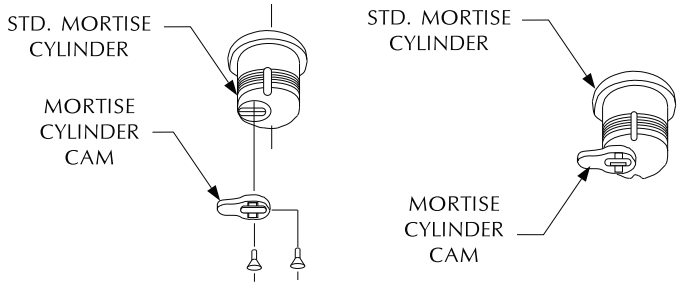
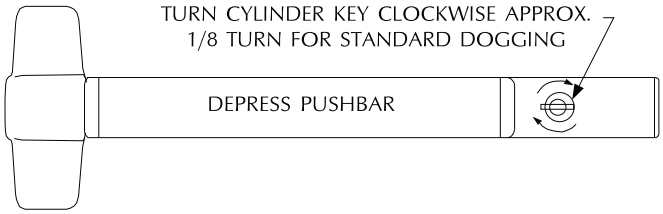


FIGURE 1

DOGGING PROCEDURE



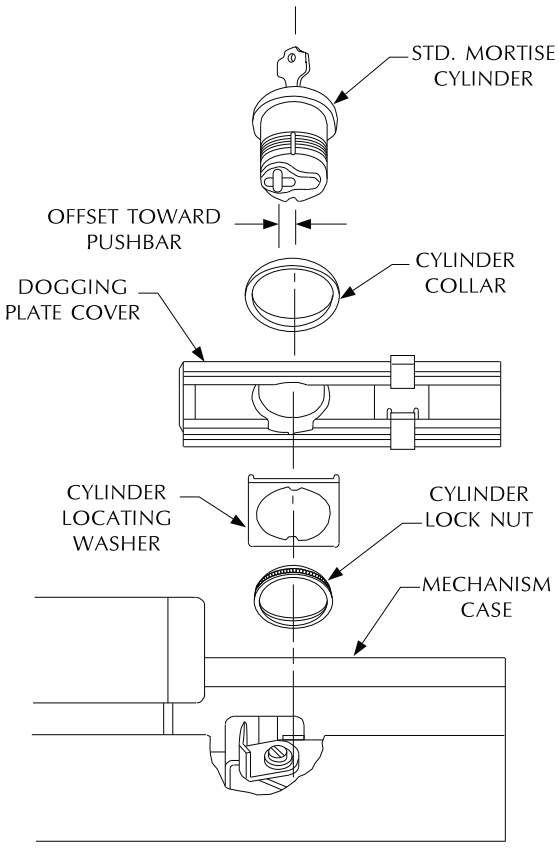
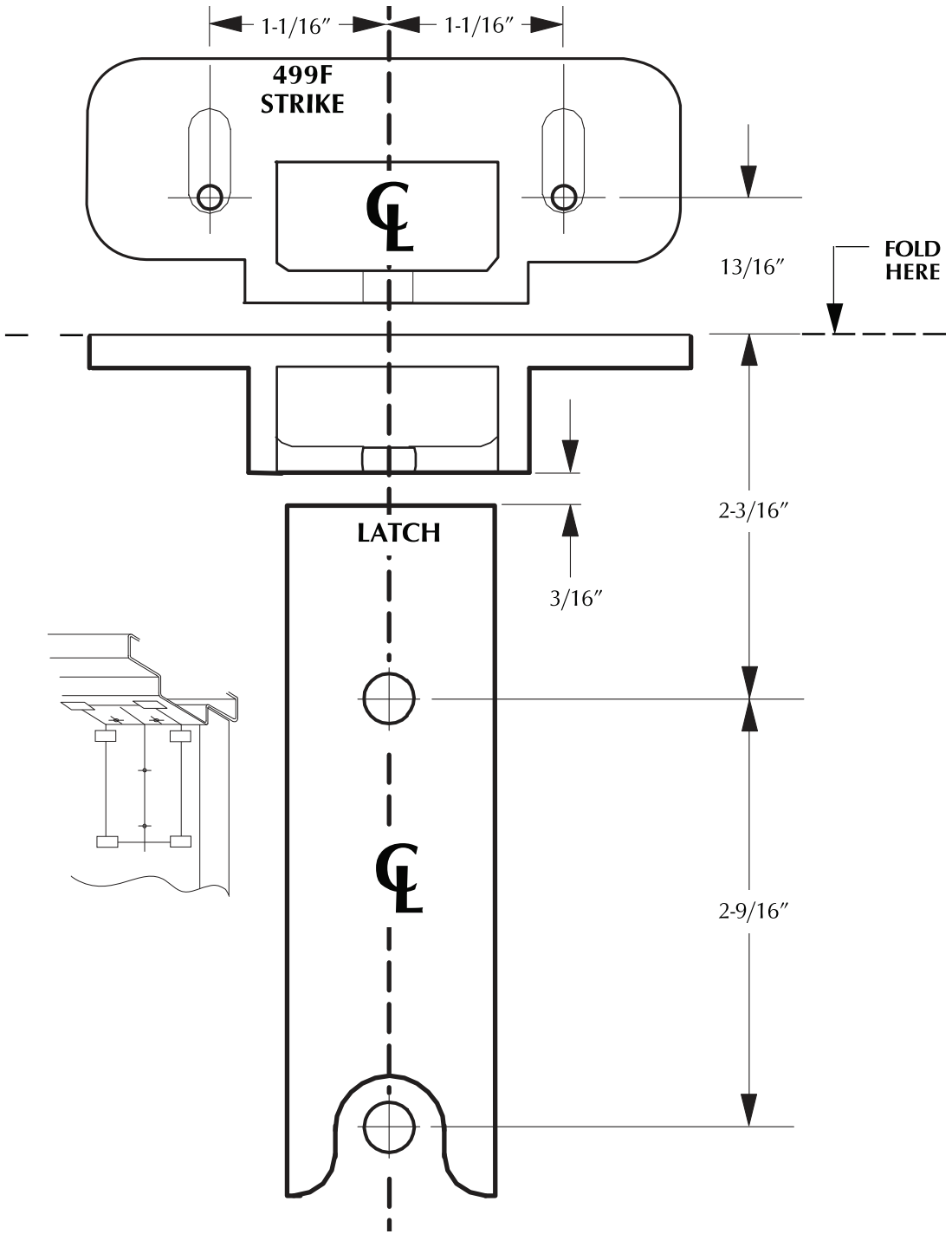
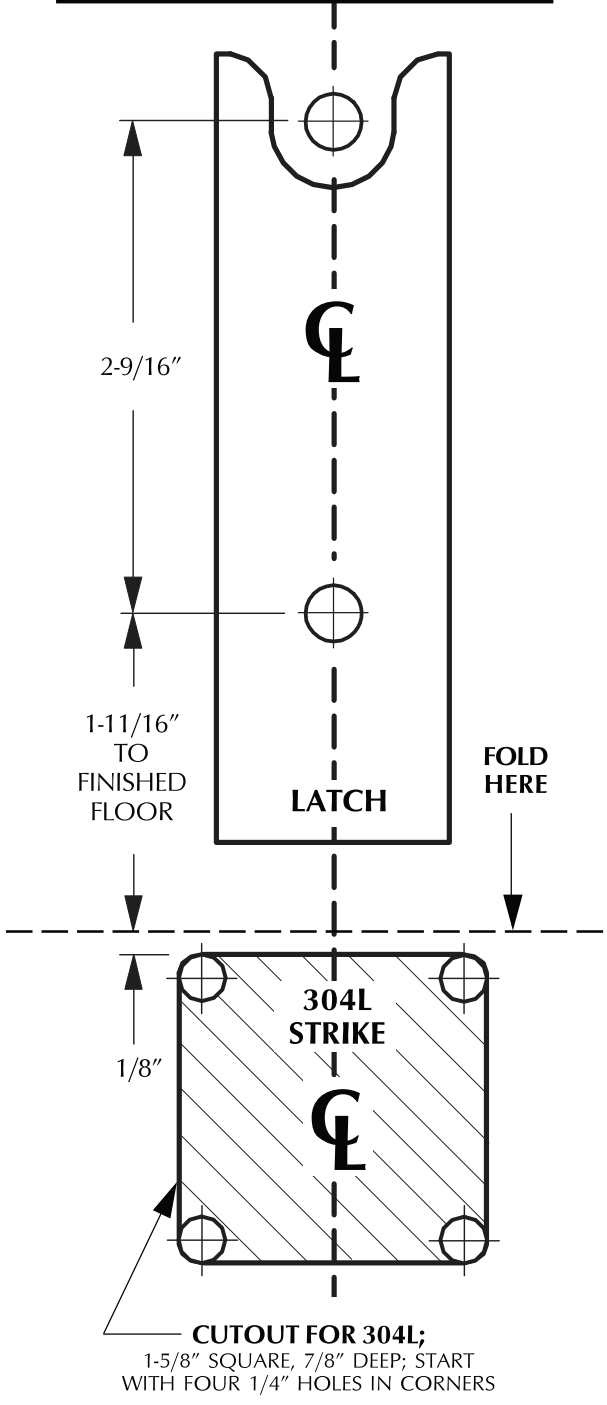


FIGURE 2

TOP LATCH & 499F STRIKE



BOTTOM LATCH & 304L STRIKE



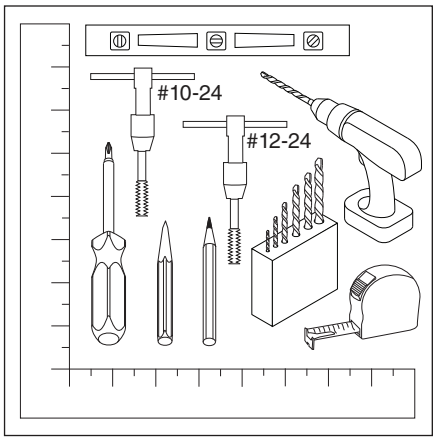
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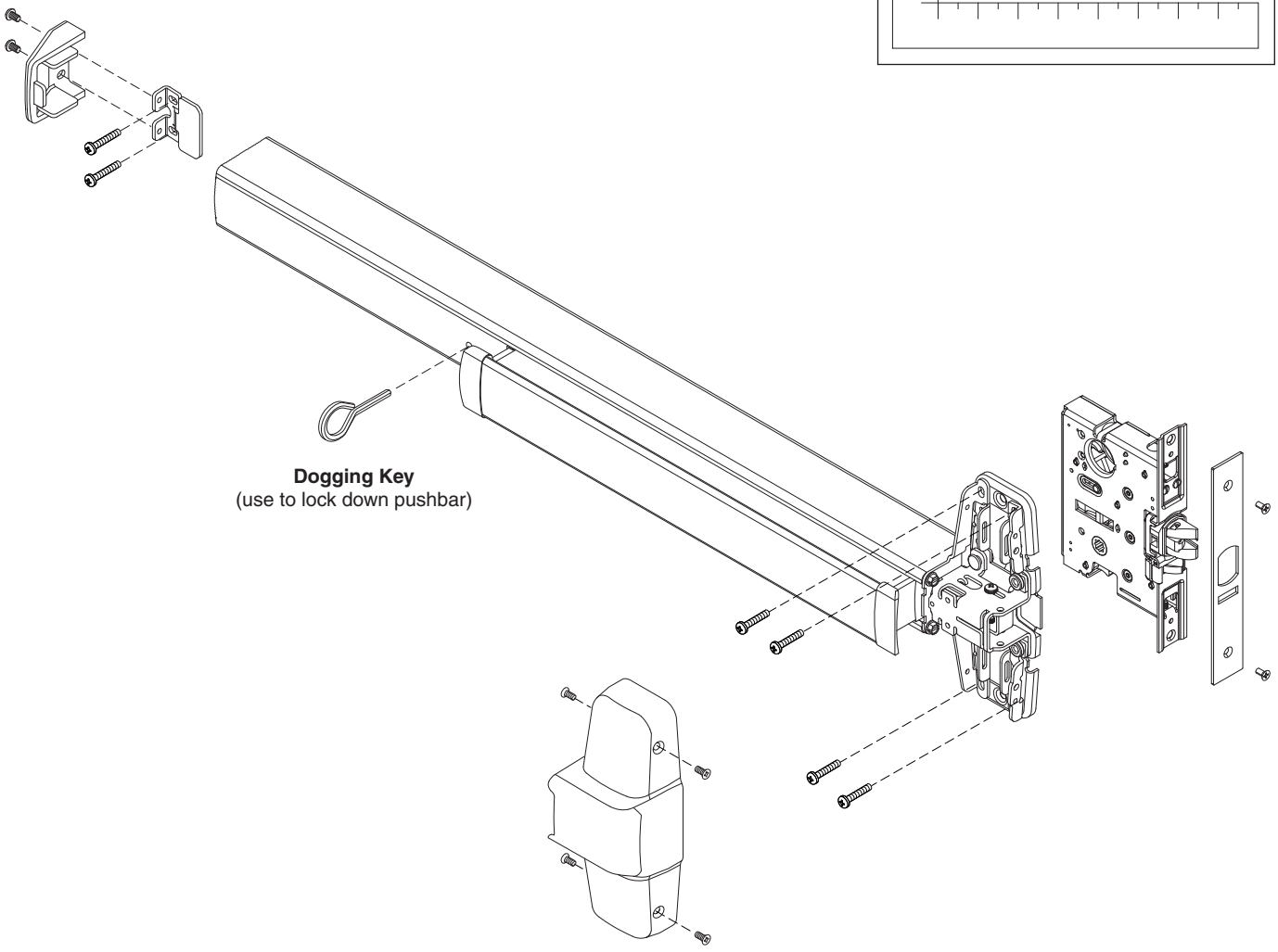
9875/9975

VON DUPRIN

Mortise Exit Device

Installation Instructions





Dogging Key
(use to lock down pushbar)

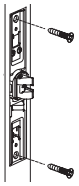
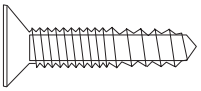
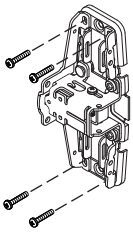
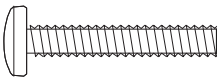
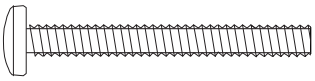
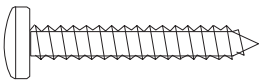
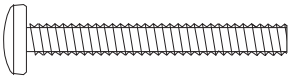
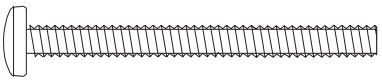
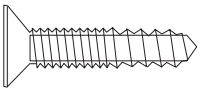
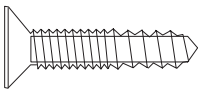
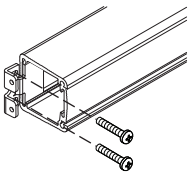
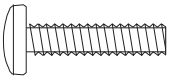
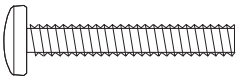
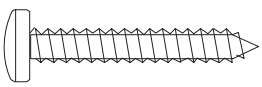
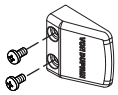
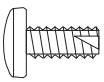
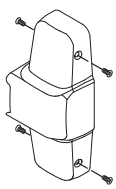
ALLEGION

Customer Service

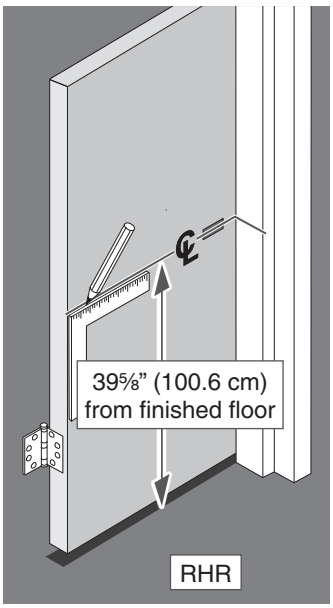
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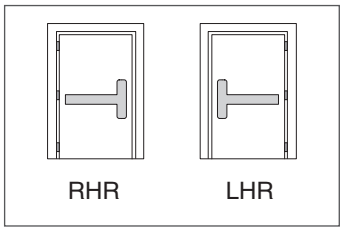
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911374-00 Rev. 10/15-g

SCREW CHART

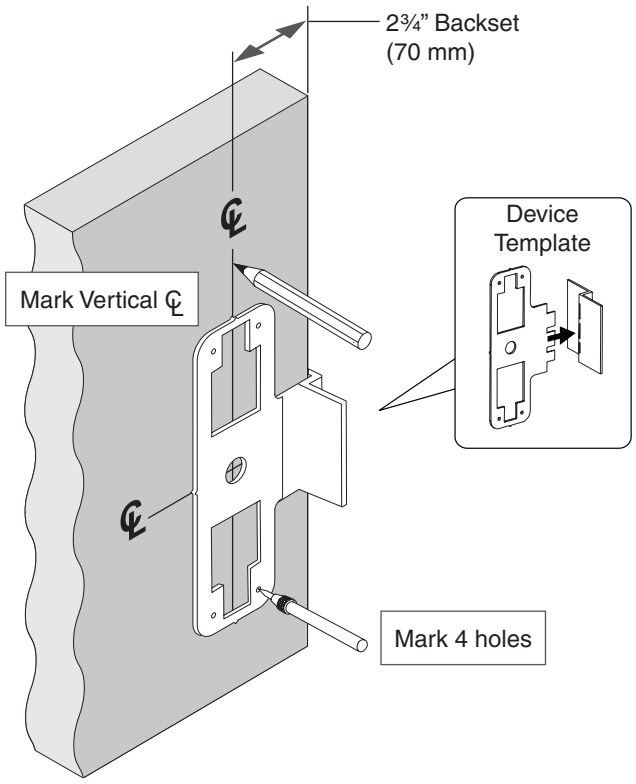
Subassembly	Screw		Application
A 		#12-12 x 12-24 x 1” (25 mm) Combination	Metal or wood door
B 		#10-24 x 1” (25 mm)	Surface mount or Sex bolts 1¾” (44 mm) door
		#10-24 x 1½” (38 mm)	Sex bolts, 2¼” (57 mm) door
		#10 x 1¼” (32 mm) Wood screw	Surface mount (wood)
	Packaged with 990 Trims:		
		#10-24 x 1⅜” (35 mm)	1¾” (44 mm) door, 990 Trim
		#10-24 x 1⅞” (48 mm)	2¼” (57 mm) door, 990 Trim
C  575 Strike  575-2 Strike		#12-12 x 12-24 x 1” (25 mm) Combination	Metal or wood frame
C  576A Strike  576B Strike		#12-12 x 12-24 x 1” (25 mm) Combination	Metal or wood door
D 		#10-24 x ¾” (19 mm)	Surface mount or Sex bolts 1¾” (44 mm) door
		#10-24 x 1⅛” (29 mm)	Sex bolts, 2¼” (57 mm) door
		#10 x 1¼” (32 mm) Wood screw	Surface mount (wood)
E 		#10-16 x ⅜” (10 mm) Thread cutting	End cap
F 		#8-18 x ⅜” (10 mm) Thread cutting	Center case cover

1 Draw horizontal device center line (℄).

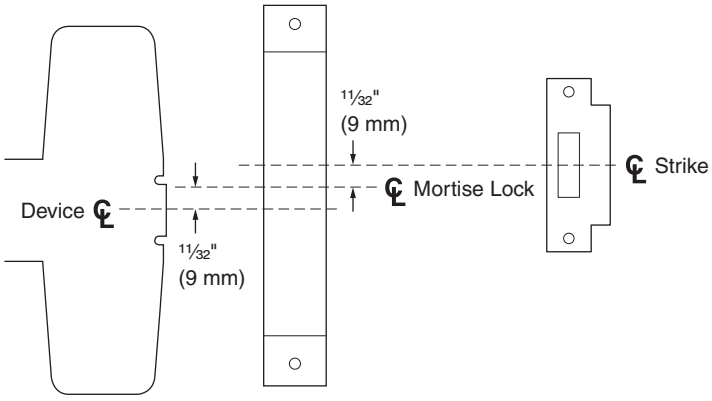




2 Position template on ℄ and mark door.



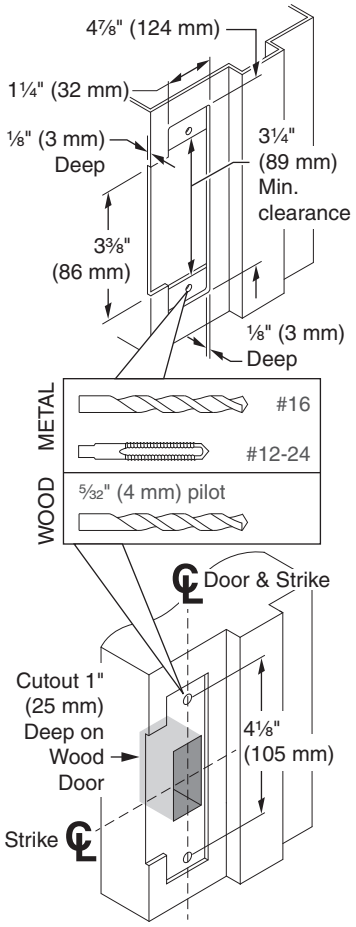
3 Locate strike center line (℄).



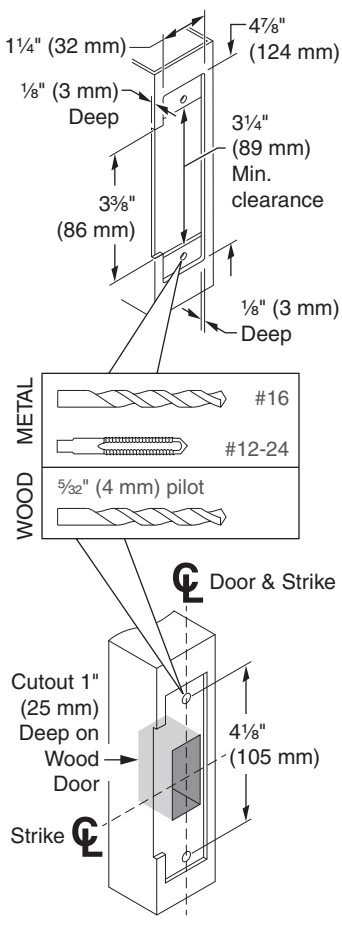
4 Prepare the door frame (or other door) for strike.

ⓘ **575, 575-2 strike shown. For 576A/576B strike preparation, see page 7.**

575 STRIKE
(Single Door)

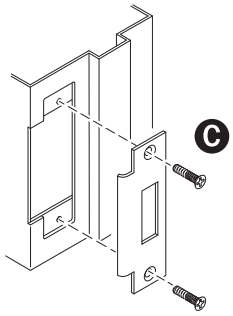


575-2 STRIKE
(Double Door)



5 Install strike.

ⓘ **For 576A/576B strike installation, see page 7.**

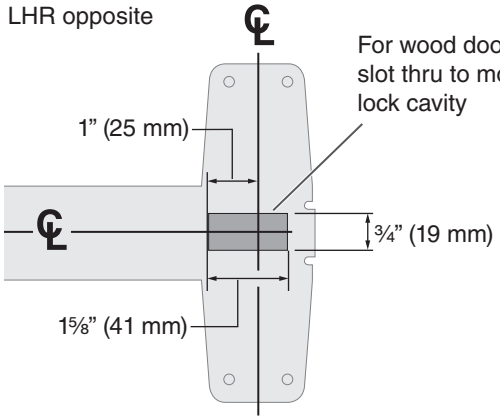


ⓘ **See "Screw Chart" on page 2 for screw types and sizes.**

6 If necessary, prepare door cutout.

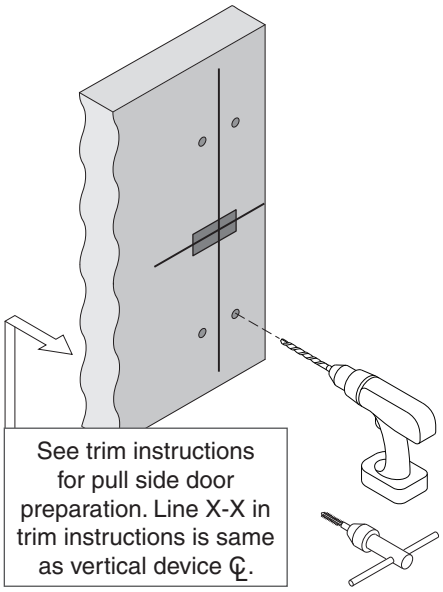
For all 98/9975 devices

RHR shown, LHR opposite

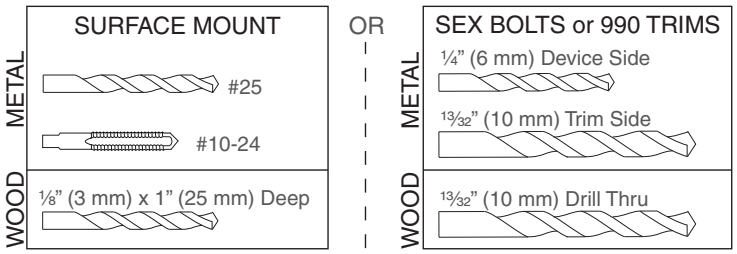


7 Prepare door for device and trim.

Prepare 4 center case mounting holes.

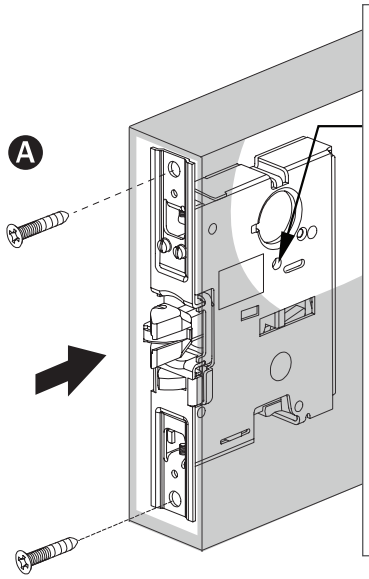


See trim instructions for pull side door preparation. Line X-X in trim instructions is same as vertical device ℄.



8 Install mortise lock into door.

ⓘ **See 7500 mortise lock instruction #941019.**



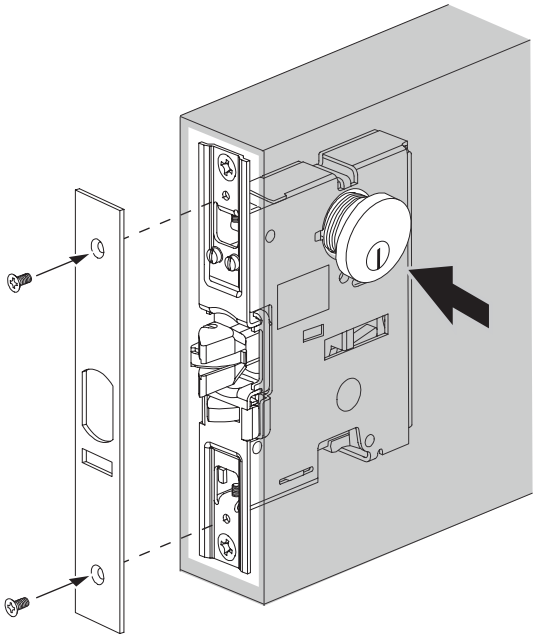
For TP, K and L trims with outside cylinder to lock and unlock trim function: Turn set screw all the way in until screw head is no longer visible.

ⓘ **Screw has Loctite. It may be necessary to run screw up and back down a second time.**

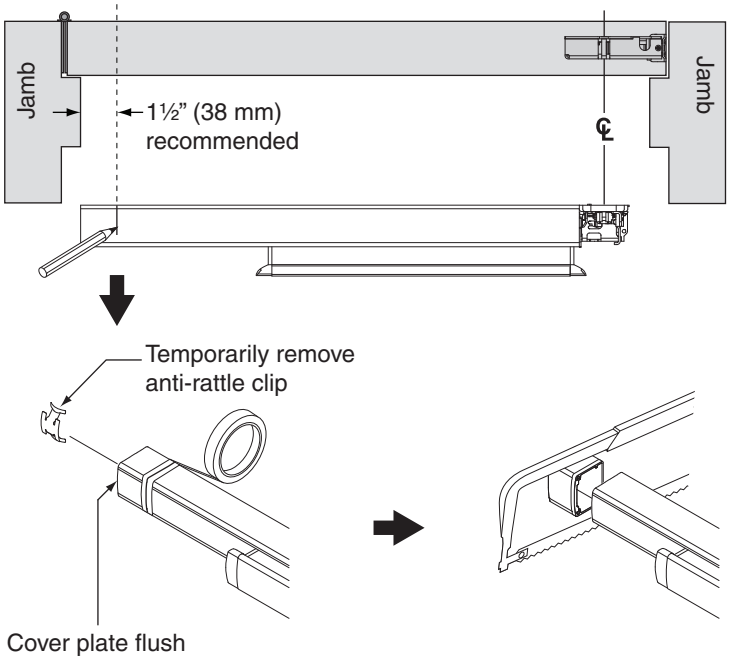
For EO, DT, NL and "double cylinder" applications, leave the set screw as shipped.

9 Install outside locking cylinder (if using) and complete installation of mortise lock.

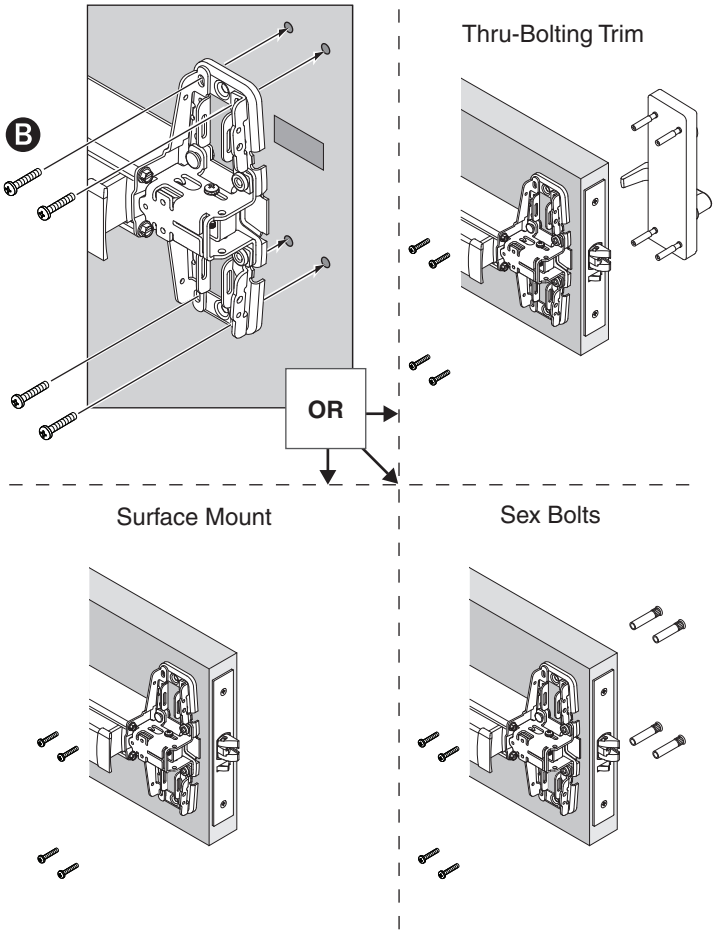
ⓘ **See 7500 mortise lock instruction #941019.**



10 If necessary, cut device.

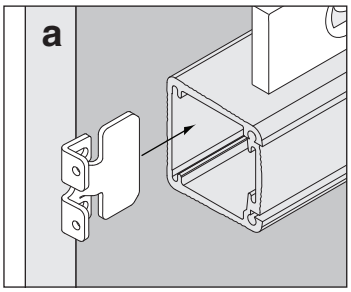


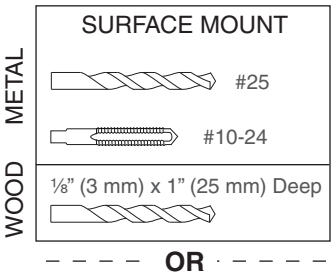
11 Install trim (if using) and attach center case to door.



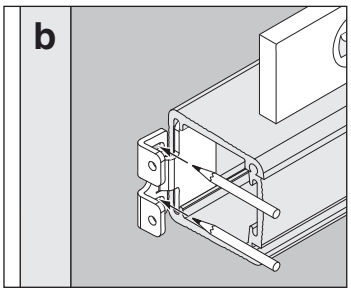
12 Mark and prepare two holes for end cap bracket.

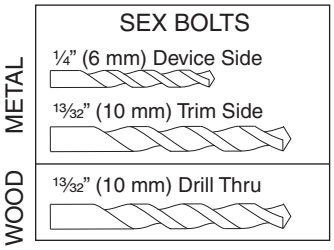
ⓘ **Prepare holes after lock side of device is mounted and hinge side is leveled.**

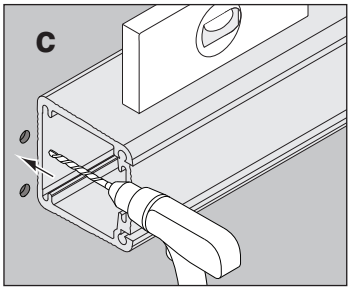




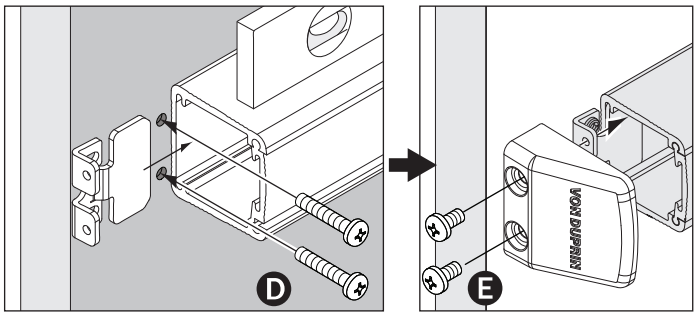
OR





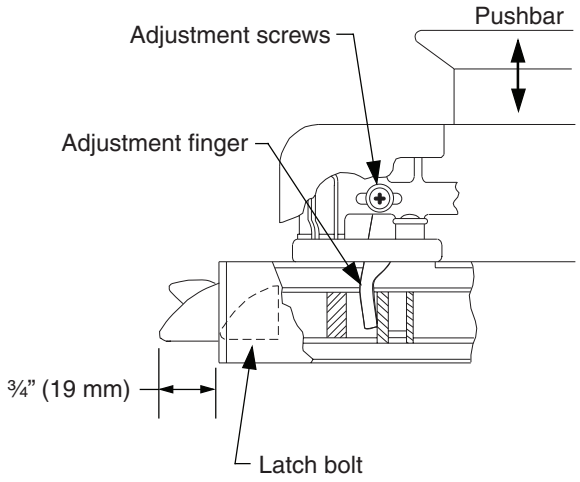


13 Install end cap bracket and end cap.



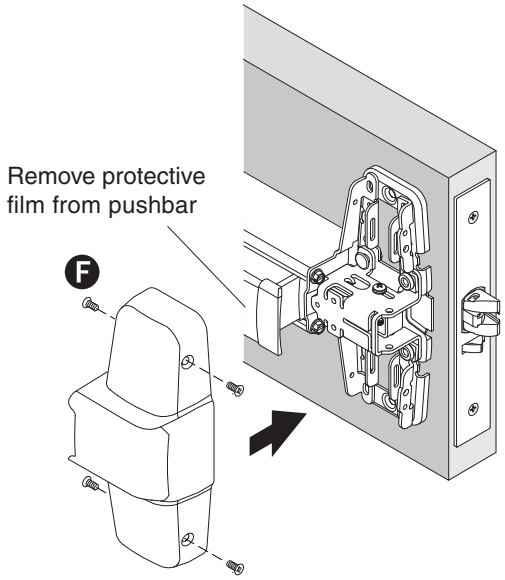
14 Adjust latch bolt.

TOP VIEW

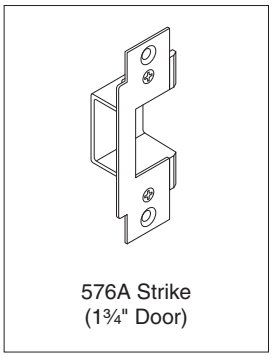


Loosen adjustment screws and adjust finger in or out until latch bolt is fully retracted (with pushbar down) and fully extended ¾" (with pushbar up).

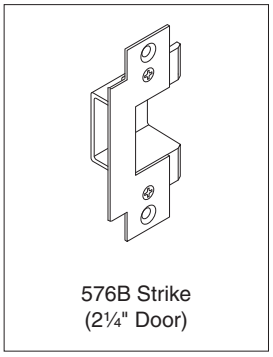
15 Install center case cover.



576A/576B STRIKE PREPARATION & INSTALLATION

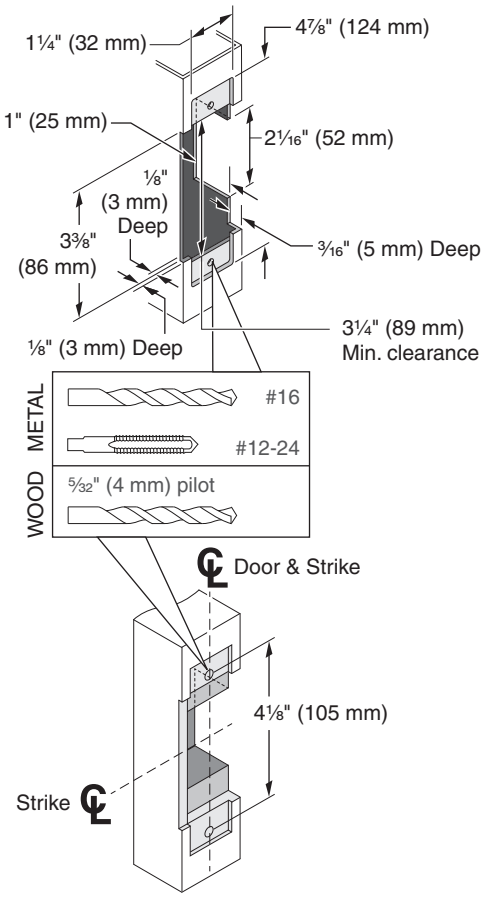


576A Strike
(1¾" Door)

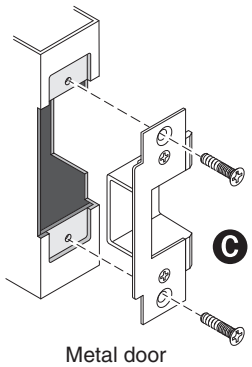


576B Strike
(2¼" Door)

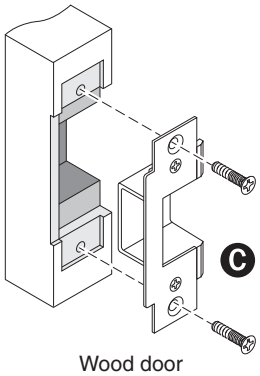
PREPARATION



INSTALLATION



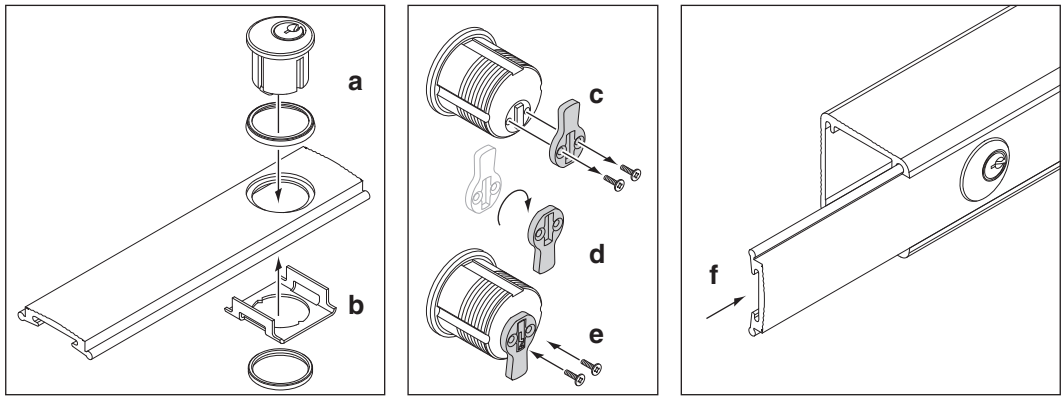
Metal door

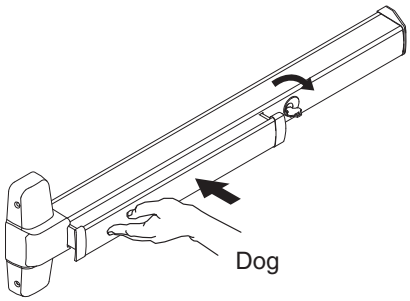


Wood door

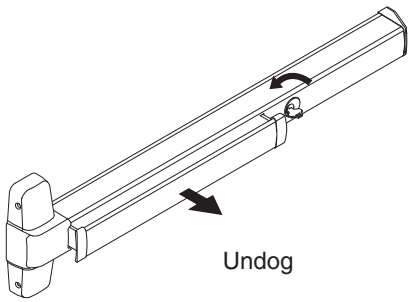
OPTIONAL EQUIPMENT

CD (Cylinder Dogging) Option





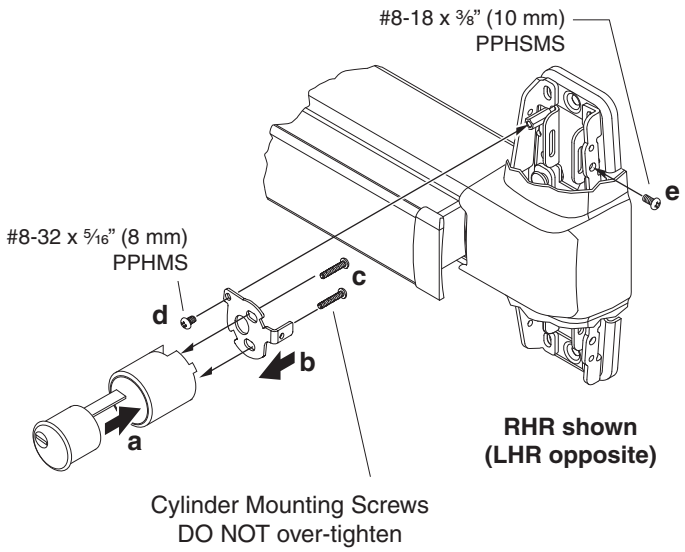
Dog



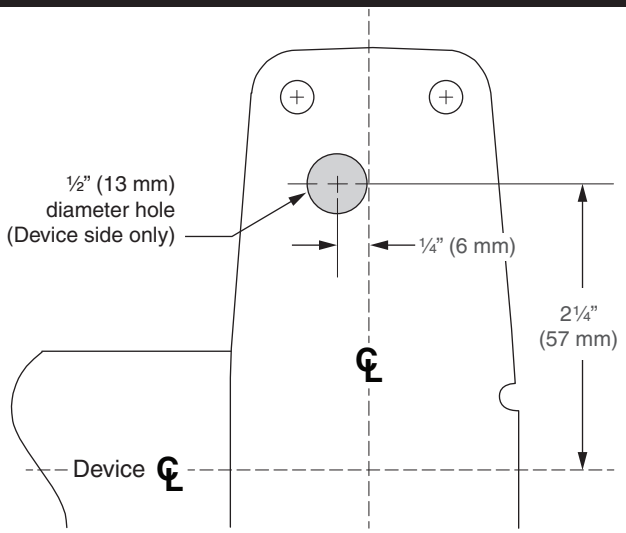
Undog

OPTIONAL EQUIPMENT (98/9975-2 DOUBLE CYLINDER)

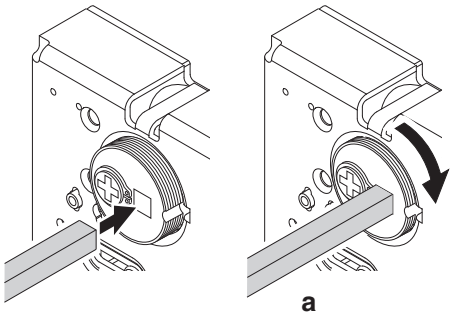
Install Cylinder

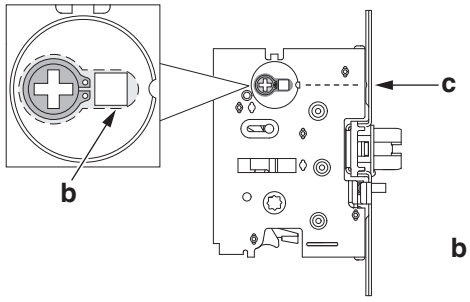


Door Cutout for 98/9975-2 "Double Cylinder" Option

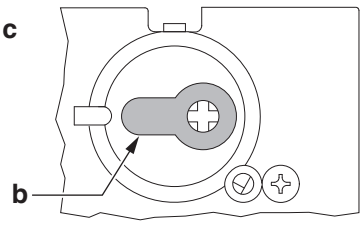


Install Cylinder Adapter Plug Assembly to Mortise Lock





RHR Shown



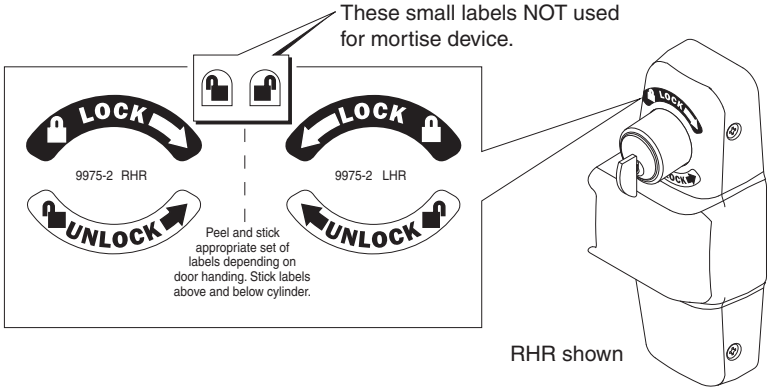
Opposite Side of Lock

a. Screw cylinder adapter plug assembly into lock on device side using a ¼" (6 mm) square socket driver.

b. Position finger as shown.

c. Tighten cylinder screw to hold in place.

A lock/unlock label is an available option that can be used with the 98/9975-2, and is sold separately. The labels are applied above and below cylinder to match door handing.



ⓘ Manually affix the label:

Ensure surface is clean of dirt, dust, or oils. Clean with alcohol if necessary.

Peel the label from the paper backing and apply to the surface. Minimize handling when applying and use pressure to burnish label to surface. The adhesive will require up to 8 hours to achieve the proper bond.

24228413

VON DUPRIN®

Electrical Options Booklet

Table of Contents

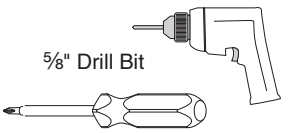
QEL Wiring & Configuration 2-4
QEL Troubleshooting 5-6
EL Wiring 7-8
EL Troubleshooting 8-10
SD/EL 98/99 Cylinder Dogging 11
RX or RX-LC/S1 Switch Wiring 12
330, 350, RX-330 and RX-350 Push Bar Trim Mechanical Installation 13-14
LX or LX-LC Switch Wiring 15
SS Wiring 16

QEL Wiring & Configuration (page 1 of 3)

⚠DANGER:

To avoid risk of electric shock, turn off AC power to power supply before installing or wiring option board

Tools for Installation



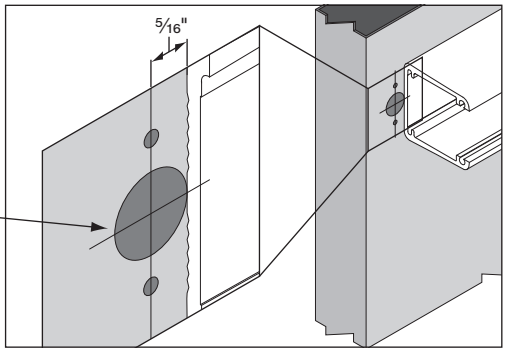
1 Confirm Equipment Compatibility

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

2 Drill Wire Access Hole

Drill 5/8" dia. access hole through device side of door.



3 Route Two Wires from QEL Exit Device to Power Supply

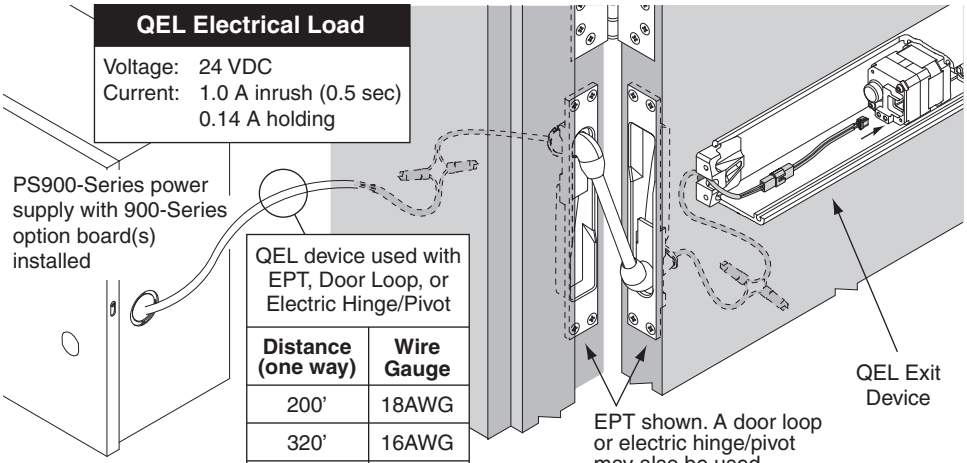
QEL Electrical Load

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

PS900-Series power supply with 900-Series option board(s) installed

QEL device used with EPT, Door Loop, or Electric Hinge/Pivot

Distance (one way)	Wire Gauge
200'	18AWG
320'	16AWG
500'	14AWG
800'	12AWG

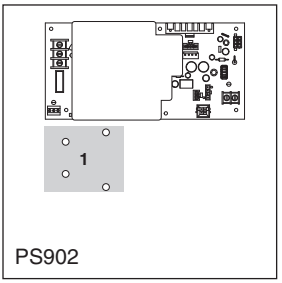


Note: Power wires to QEL are not polarized

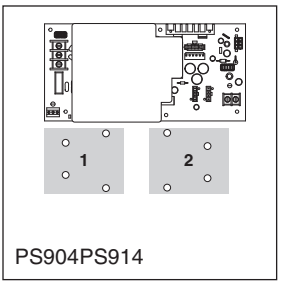
QEL Wiring & Configuration (page 2 of 3)

4 Install 900-2RS, 4RL, or 4R option board(s) into power supply

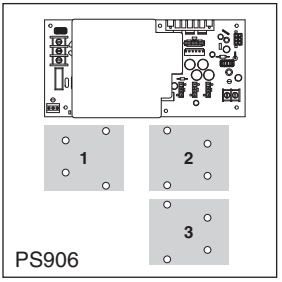
a Review Available 900 series Option Board Mounting Locations (Gray)



PS902

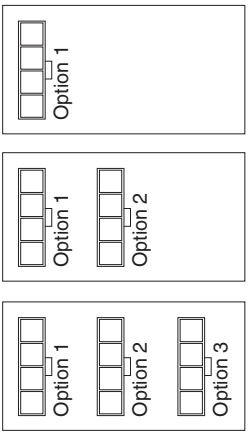


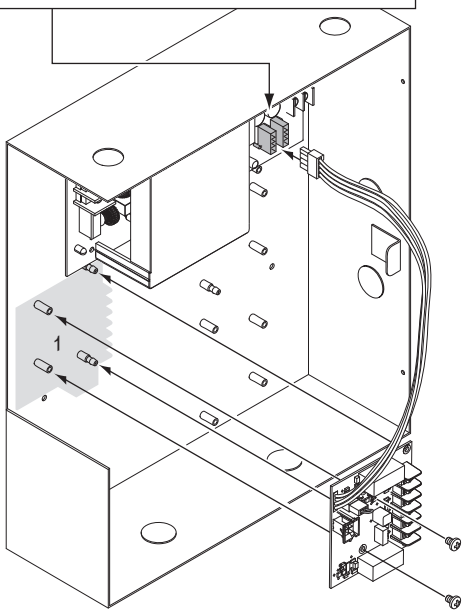
PS904PS914



PS906

b Plug Option Board Cable into any Available Option Connector





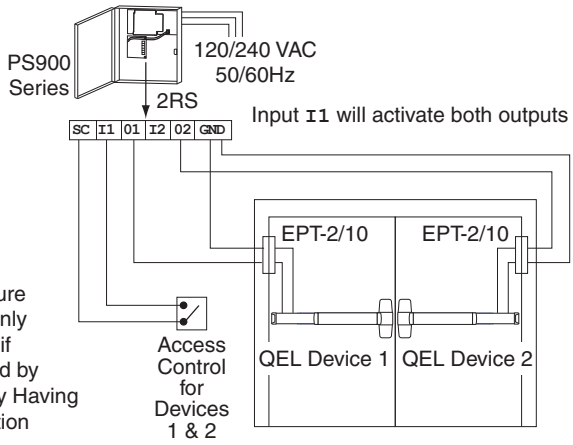
c Secure Board(s) with Screws

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.

QEL Wiring & Configuration (page 3 of 3)

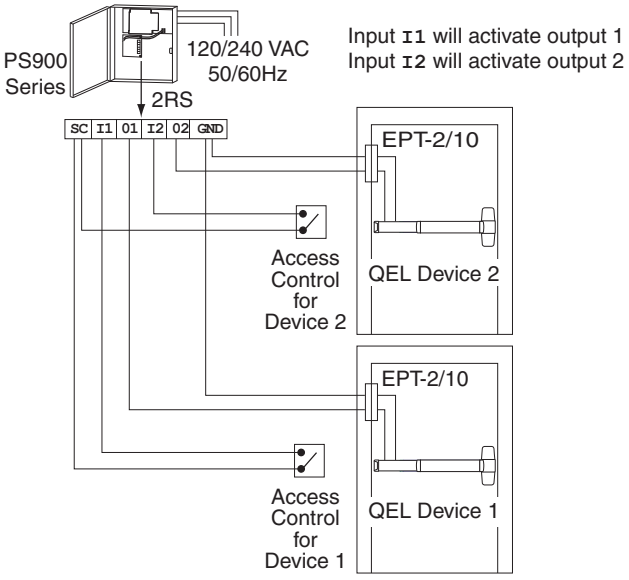
5 Connect Input and Output Wires to Option Board (2RS Shown)

Sequential Mode - Typical Wiring



Note:
Fail secure output only allowed if approved by Authority Having Jurisdiction

Individual Mode - Typical Wiring



6 Check Operation

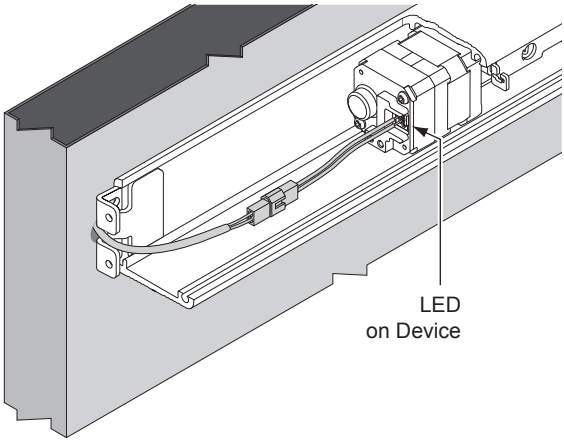
A. Activate each input and verify all QEL devices operate properly.
B. If any device does not operate properly, see step 7 for troubleshooting.

QEL Troubleshooting (page 1 of 2)

7 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 *Check Mechanical Operation* on page 6 as needed.**
	LED - Flashing green/red Latchbolt - not retracted	Excessive tamper (while power applied, the push-pad was pulled out at least 3 time) Wait 15 seconds and latchbolt will retract again OR remove and reapply power to clear condition
24VDC low	LED - Flashing green Latchbolt - retracted	Voltage low during latchbolt retraction (latchbolt retracts at reduced force) Wire length is too long, wire gauge is too small or power supply has poor regulation
29VDC or greater	LED- Flashing red Latchbolt - will not retract	Input voltage is too high for proper operation Wrong power supply, power supply defective.
13VDC or lower		Input voltage is too low for proper operation Wrong power supply, power supply defective or not set to the proper output voltage. To set, remove AC power from power supply, change power supply setting from 12 to 24VDC, then reapply AC power and verify proper operation.
0VDC	LED - off Latchbolt - not retracted	No input voltage Problem with the power supply, control switch or wiring
0VDC	LED - off Latchbolt - retracted	No input voltage Mechanical dogging is engaged

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



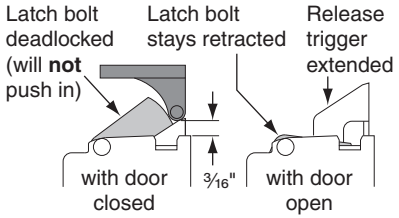
QEL Troubleshooting (page 2 of 2)

Check Mechanical Operation

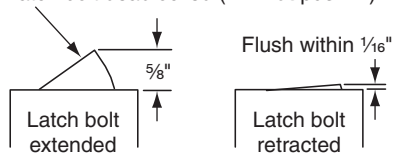
33A/3527A	98/9927	98/9947WDC
33A/3547A	98/9947	98/9957
		98/9975

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.

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



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



98/9975

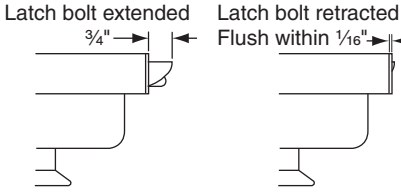


Figure 1

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. 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

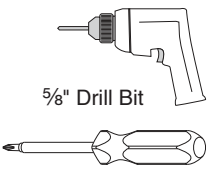
1. Fully depress pushbar.
2. Insert hex dogging key and turn clockwise.
3. Release pushbar and verify latchbolt remains retracted.
4. Fully depress pushbar.
5. Insert hex dogging key and turn counter clockwise.
6. Release pushbar and verify latchbolt extends fully.

EL Wiring (page 1 of 2)

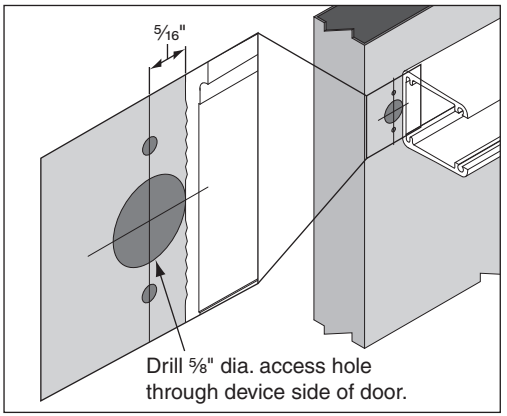
⚠DANGER:

To avoid risk of electric shock, turn off AC power to power supply before installing or wiring option board

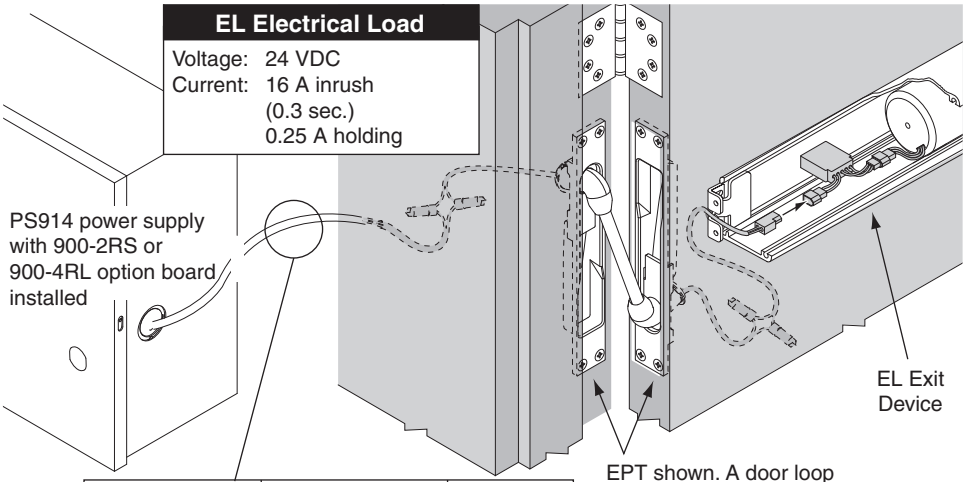
Tools for Installation



1 Drill Wire Access Hole



2 Route Two Wires from EL Exit Device to Power Supply



	Wire length (feet)[1]	Wire gauge
EL 98/99 EL 33A/35A	0-500	12
	0-300	14
	0-200	16
All other EL 98/99 and EL 33A/35A device types	0-250	12
	0-150	14
	0-100	16

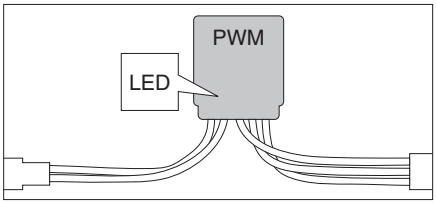
1 Wire lengths include an EPT, door loop, electric hinge or pivot and are measured one way between the PS914/option board and the device.

EL Wiring (page 2 of 2)

3 Review LED Functions

(For devices purchased after 8/15/12)

Normal Operation	LED will flash "ON" briefly when +24V DC is applied. This is when PWM is operational and power is being applied to the exit device. LED then goes into a steady "OFF" state and holds there, even with +24V continuing to be applied to the module.
Fault Condition	LED will turn "ON" and remain illuminated when over-voltage is detected. The PWM will remain in this state until power is removed from the module. **NOTE:** Input voltage greater than 30V will cause an over-voltage condition.



4 Check EL Device Operation

Activate input and verify that EL device operates properly. Solenoid should retract latch bolt(s). If device does not operate properly, see EL Troubleshooting section.

EL Troubleshooting (page 1 of 3)

A

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. Make sure PS914-2RS or PS914-4RL power supply is installed.
3. Check for latch bolt binding caused by improper strike installation, warped door, etc.
4. If device still does not function properly, continue to Section B.

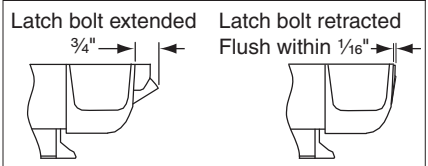
EL Troubleshooting (page 2 of 3)

B Check For Proper Function

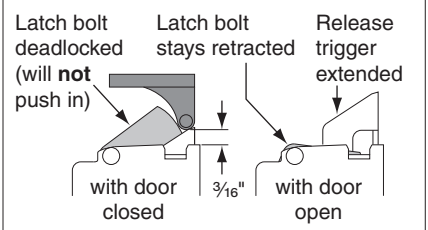
33A/35A Rim	98/99 Rim	98/9947WDC
33A/3527A	98/9927	98/9957
33A/3547A	98/9947	98/9975

1. Make sure device is not dogged for SD/HD-EL.
2. Depress pushbar and make sure latch bolt retracts and extends fully (see Figure 1). If latch bolt does not retract or extend fully, adjustment may be required per the device installation instructions.
3. Electrically energize solenoid and hold.
4. Check latch bolt(s) for full retraction (must clear strike, see Figure 1).
5. Release solenoid and check latch bolt extension (see Figure 1)
6. Continue to Section C if device does not function electrically.

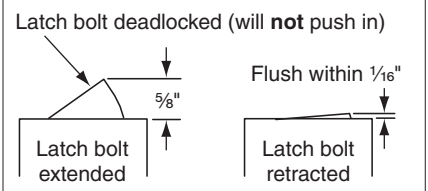
33A/35A Rim, 98/99 Rim, 98/9957



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



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



98/9975

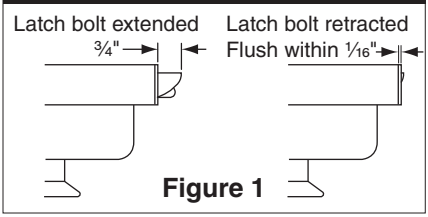
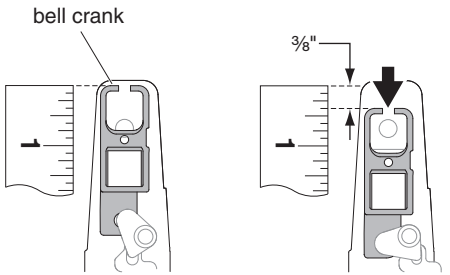


Figure 1

33/3549A
98/9949
98/9949WDC

1. Make sure device is not dogged for SD/HD-EL.
2. Using a ruler, locate the extended position of the bell crank (see Figure 2).
3. Electrically energize solenoid and hold.
4. Check bell crank travel. Bell crank must be a minimum of 3/8" from extended position and must not run out of travel (see Figure 2).
5. Continue to Section C if bell crank travel is too short or long.

33/3549A



98/9949, 98/9949WDC

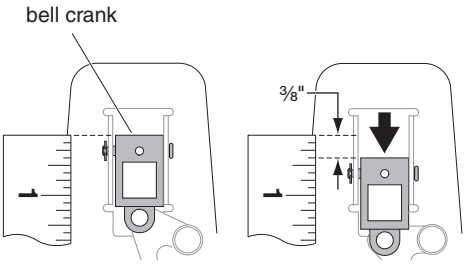


Figure 2

EL Troubleshooting (page 3 of 3)

C Determine if Dogging Rod Adjustment is Too Long or Short

Device	
33A/35A Rim 98/9927 33A/3527A 98/9947 33A/3547A 98/9947WDC 98/99 Rim 98/9975	1. The dogging rod adjustment is too **long** if latch bolt does not retract and clear strike (see Section D 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).
33/3549A	1. The dogging rod adjustment is too **long** if bell crank moves less than ⅜" (see Section D for adjustment). 2. The dogging rod adjustment is too **short** if bell crank runs out of travel (see Section D for adjustment).
98/9949 98/9949WDC	1. The dogging rod adjustment is too **long** if bell crank pin moves less than ⅜" (see Section D for adjustment). 2. The dogging rod adjustment is too **short** if bell crank pin bottoms out on the end of the slot (see Section D for adjustment).

D Adjust Solenoid Plunger if Required (See Figure 4)

1. Remove end cap ① and dogging cover ②.
2. Loosen cap screw ③ with 3⁄32" hex key.
3. Hold plunger ④ so it does not rotate.
4. Turn threaded bushing ⑤ in or out to see 8 to 10 threads showing so plunger ④ just bottoms in solenoid housing ⑥ and latch bolt is fully retracted.
5. Tighten cap screw ③.
   Note: Cap screw ③ must be tightened against flat on threaded bushing ⑤. 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 B to check for proper function.

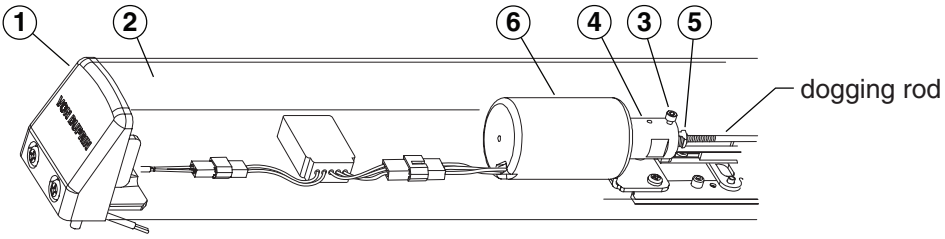


Figure 4

SD/EL 98/99 Cylinder Dogging

1. Obtain a 1¼" mortise cylinder.

2. Make sure cylinder cam is in position shown **with key removed** (Figure A). If not, remove key, remove cam, and reinstall in position shown (Figure B).

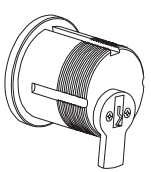


Figure A

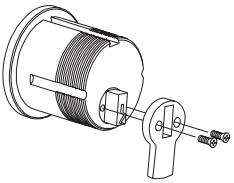
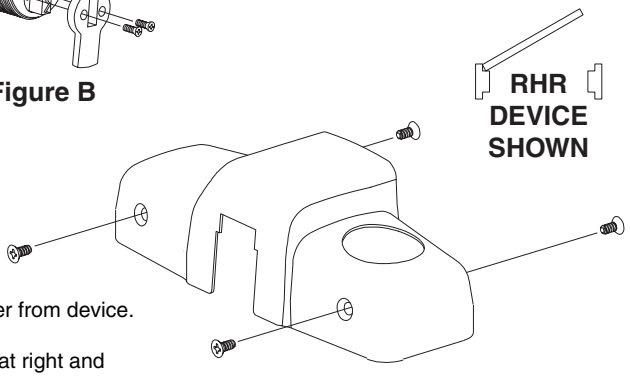


Figure B



3. Remove center case cover from device.

4. Orient cylinder as shown at right and insert cylinder into bracket.

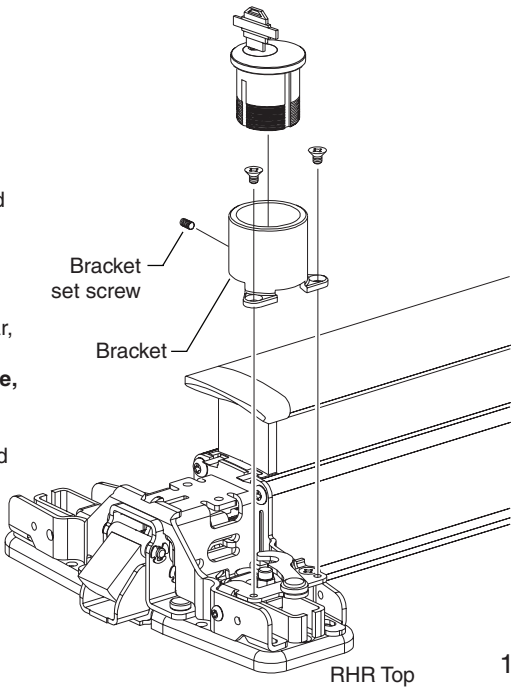
5. Tighten bracket set screw with a 1/16" hex wrench.

   If you cannot reach bracket set screw with wrench, remove bracket from center case, install cylinder in bracket, tighten bracket set screw, and reinstall bracket in center case.

6. Install center case cover.

   To dog RHR device, depress pushbar, insert key, and turn key 180 degrees counterclockwise. **To dog LHR device,** turn key clockwise.

   To undog RHR device, insert key and turn key 180 degrees clockwise. **To undog LHR device,** turn key counterclockwise.

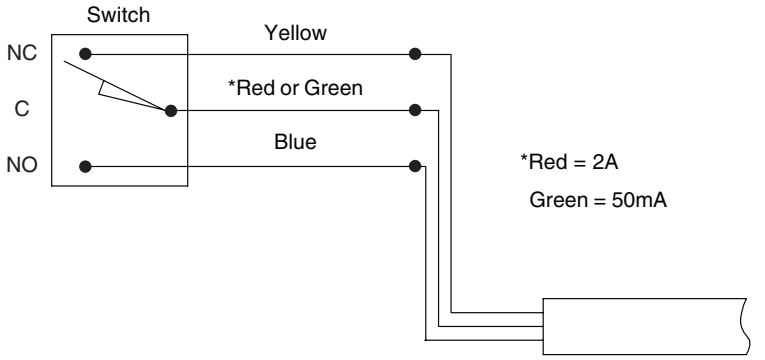


RX or RX-LC/S1 Switch Wiring

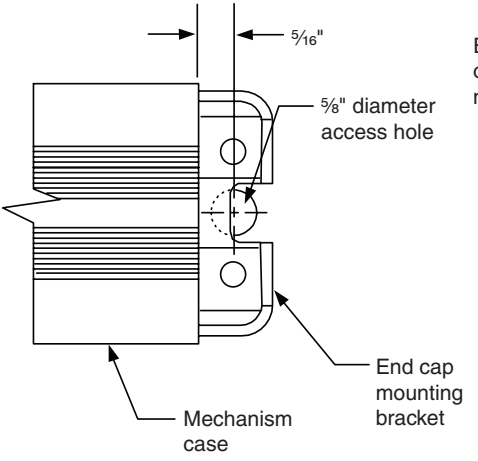
RX - Switch is intended for signaling purposes only and is rated for a maximum 2 ampere resistance load at 24VDC/AC. Use with inductive or capacitive loads (magnetic locks or solenoid devices) derates the capacity of the switch. Consult the factory for assistance.

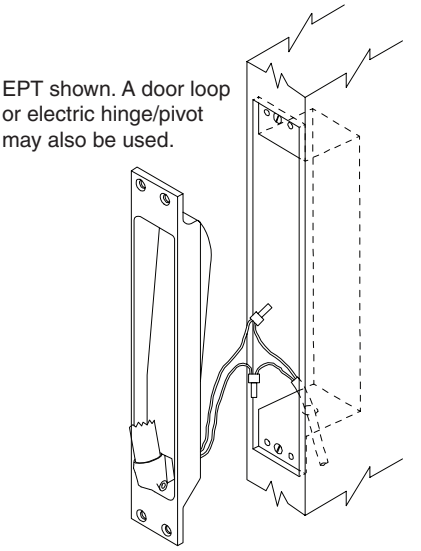
RX-LC - Switch is intended for systems using low current signals and is rated for a maximum 50mA. Consult the factory for assistance.

1. The RX touchbar monitor switch is activated whenever the touchbar is depressed.
2. The switch function is shown with the latchbolt extended and the touchbar not depressed.



3. Mark and drill wiring access hole on inside face of door (only after device is cut to length).
4. The Von Duprin EPT-10 power transfer (for three wires) or EPT-2 power transfer (for two wires) is required to transfer the wiring from the door to the frame.
5. Connect the power transfer wires and switch assembly wires with crimp connectors. Unused wires should be insulated separately.

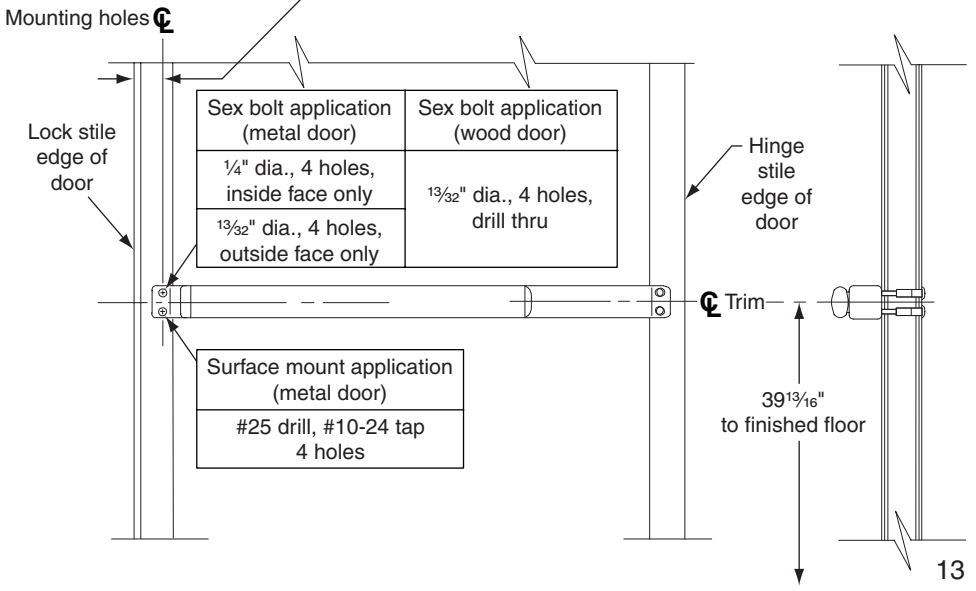




330, 350, RX-330 and RX-350 Push Bar Trim Mechanical Installation (page 1 of 2)

1. Follow directions for fitting and cutting trim (see next page). See trim installation schedule below to determine proper formula to use.
2. Use lock stile mounting bracket to mark lock stile mounting holes, then prepare lock stile mounting holes. Be sure bracket is flush against mechanism case on both ends before marking holes; be sure trim is level.
3. Temporarily install trim using lock stile mounting bracket.
4. Insert hinge stile mounting bracket in hinge stile end of trim and mark hinge stile mounting holes.
5. Remove trim from door and prepare hinge stile mounting holes.
6. For RX-330/350 wiring, see page 10.
7. Install trim on door and attach end caps.

Trim Installation Schedule			
Installation	Stile Size	Backset	Cutoff Formula (see next page)
Single door ½" stop and back to back with 386DT, 337DT or 696/697DT trim on single door ½" stop	1¾" - 3"	1 5⁄16"	Fig. 1A
Single door ⅝" stop and back to back with 386DT, 337DT or 696/697DT trim on single door ⅝" stop	1⅞" - 3"	1 7⁄16"	Fig. 1A
Pair of doors without mullion and back to back with 386DT, 337DT or 696/697DT trim on pair of doors without mullion	1¾" - 3"	1 5⁄16"	Fig. 1B
Single door, pair of doors without mullion, and back to back with 990DT, 991DT, 992DT, or 230DT trim	3" flush	½ of stile	Fig. 1C



330, 350, RX-330 and RX-350 Push Bar Trim Mechanical Installation (page 2 of 2)

Cutoff Instructions

1. To determine required trim length, fill in appropriate chart below Figure 1A, 1B, or 1C. See trim installation schedule on previous page to determine proper formula to use.

2. Cut trim as shown in Figure 2.

⚠ NOTE

Measure trim with both end caps and mounting brackets removed.

Figure 1A

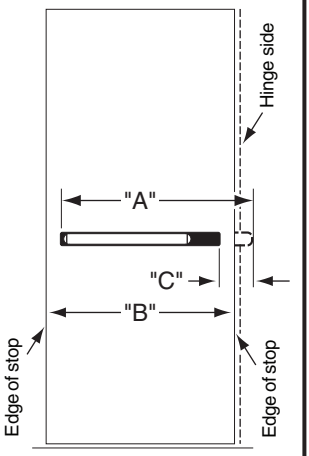


Figure 1B

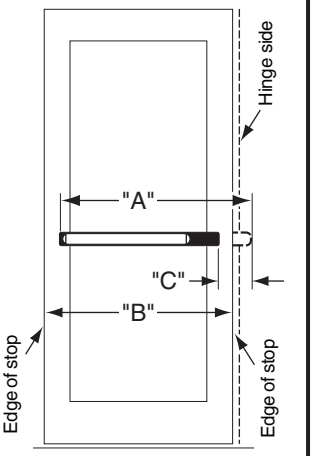
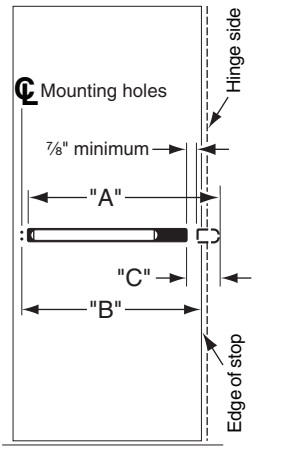


Figure 1C



Trim Cutoff Formula for Single Doors 1¾ - 3" Stile		Trim Cutoff Formula for Double Doors without Mullion		Trim Cutoff Formula for 3" Stile - Flush	
44 15/16" (4' door) 32 15/16" (3' door)	"A" Trim length *	44 15/16" (4' door) 32 15/16" (3' door)	"A" Trim length *	44 15/16" (4' door) 32 15/16" (3' door)	"A" Trim length *
+ 2 1/16"		+ 2 1/2"		+ 2 1/16"	
=		=		=	
-	"B" (stop to stop)	-	"B" (edge of door at lock stile to hinge stop)	-	"B" (℄ mounting holes to hinge stile stop)
=	"C" (cutoff dim.)	=	"C" (cutoff dim.)	=	"C" (cutoff dim.)

* "A" trim length is measured with both end caps and mounting brackets removed.

1. Mark dimension "C" on mechanism case and cover plate. (Measure trim with both end caps and mounting brackets removed.)

2. Cut mechanism case and cover plate. Cover plate ① must be flush against end of mechanism case ② when cutting.

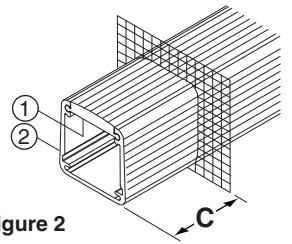


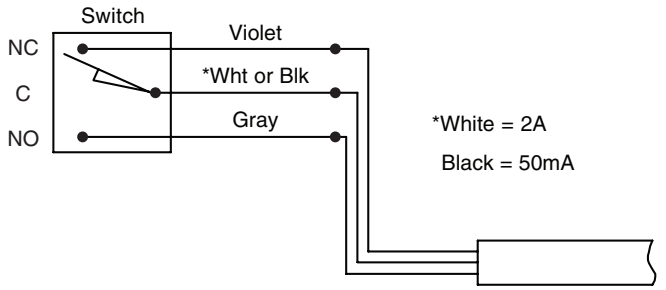
Figure 2

LX or LX-LC Switch Wiring

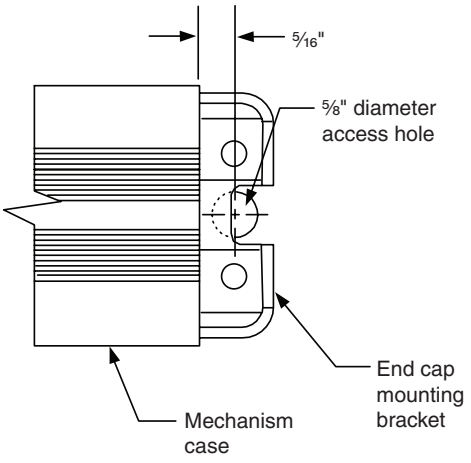
LX - Switch is intended for signaling purposes only and is rated for a maximum 2 ampere resistance load at 24VDC/AC. Use with inductive or capacitive loads (magnetic locks or solenoid devices) derates the capacity of the switch. Consult the factory for assistance.

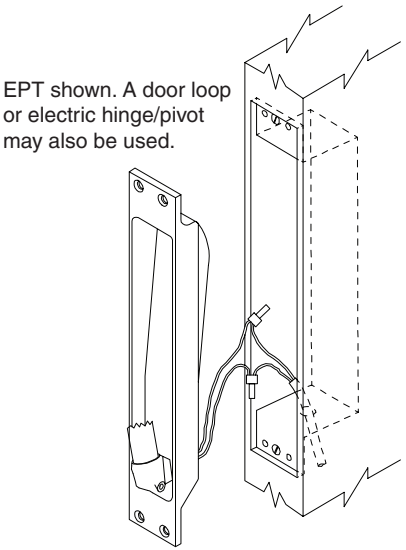
LX-LC - Switch is intended for systems using low current signals and is rated for a maximum 50mA. Consult the factory for assistance.

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



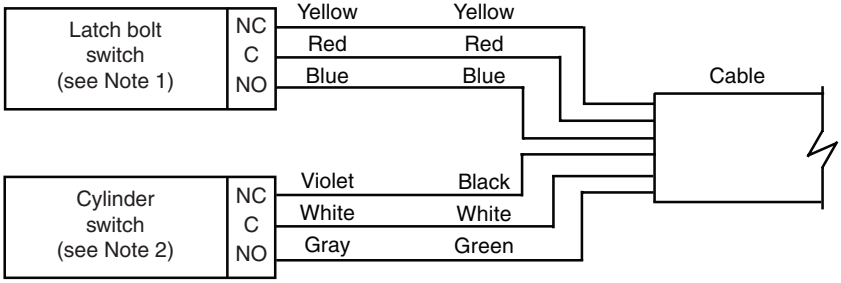
3. Mark and drill wiring access hole on inside face of door (only after device is cut to length).
4. The Von Duprin EPT-10 power transfer (for three wires) or EPT-2 power transfer (for two wires) is required to transfer the wiring from the door to the frame.
5. Connect the power transfer wires and switch assembly wires with crimp connectors. Unused wires should be insulated separately.





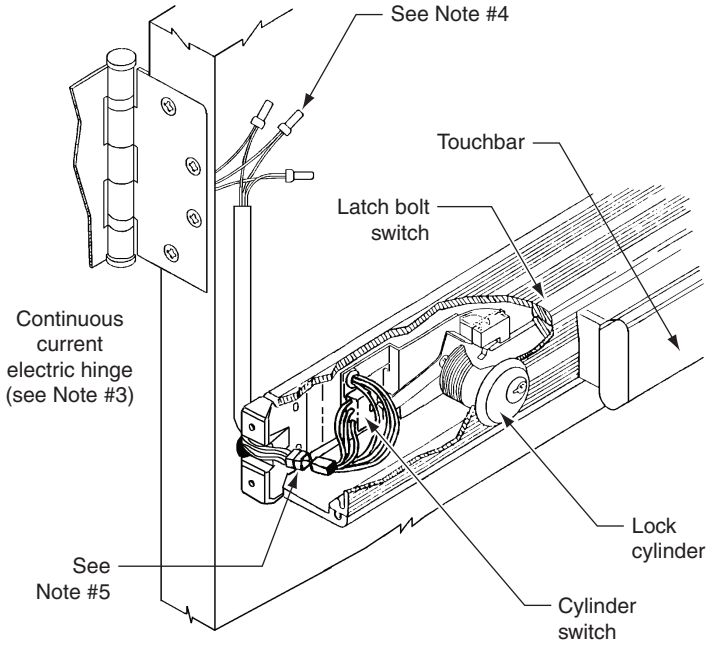
SS Wiring

Applies to all SS33/35, SS33A/35A, & SS98/99 series exit devices



Notes:

1. The latch bolt 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 separately.
5. Cut device to proper length before connecting cable and switch wires.



Customer Service

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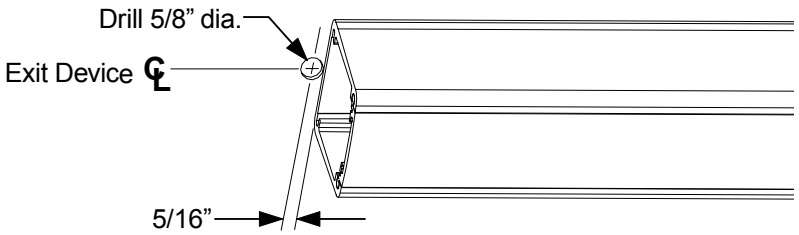
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Pneumatic Exit Device

VON DUPRIN

Installation Instructions

1. Install exit device on door (see device installation instructions).
2. Remove end cap and mounting bracket from hinge end of door.
3. Drill 5/8” dia. air tubing hole access hole as shown below through device side of door only.
4. Route air tubing from exit device through hole to pneumatic power transfer or door loop on edge of door.
5. See general information below regarding pneumatic system connection and operation.



Pneumatic Hose and Connector

Von Duprin PN (pneumatic) exit device is furnished with 3’ (914mm) x 5/32” OD (4mm) air tubing and 5/32” (4mm) OD quick connect coupler and furnished with a LCN adapter kit for the 7900 series controllers. This kit contains a 5/32” (4mm) OD quick connect coupler and a 1/4” (6mm) barb fitting to connect to the standard LCN tubing.

Von Duprin PNT-1 (pneumatic power transfer) is furnished with a 5/32” (4mm) OD quick connect coupler.

Von Duprin DL-1 (door loop) is furnished with a 5/32” (4mm) OD quick connect coupler.

Pneumatic Solenoid Operation

Von Duprin PN exit device is activated by applying 50-120 psi of clean dry air to the quick connect fitting on air cylinder. This holds the pushbar down, providing push/pull operation during heavy traffic periods to avoid sparking in intrinsically safe areas and reducing wear of any moving parts.

Loss of air pressure will release the pushbar and allow the door to latch meeting the requirements of the fire code (NFPA 80).

A 3-way normally open pneumatic control valve with spring return is required for proper operation. This ensures the device will latch to secure the door if there is a loss of air pressure.

Controlling Operation

Either pneumatically or electrically controlled relays can be used to actuate the control valve remotely by a wall switch, key switch, card reader, timer, etc.

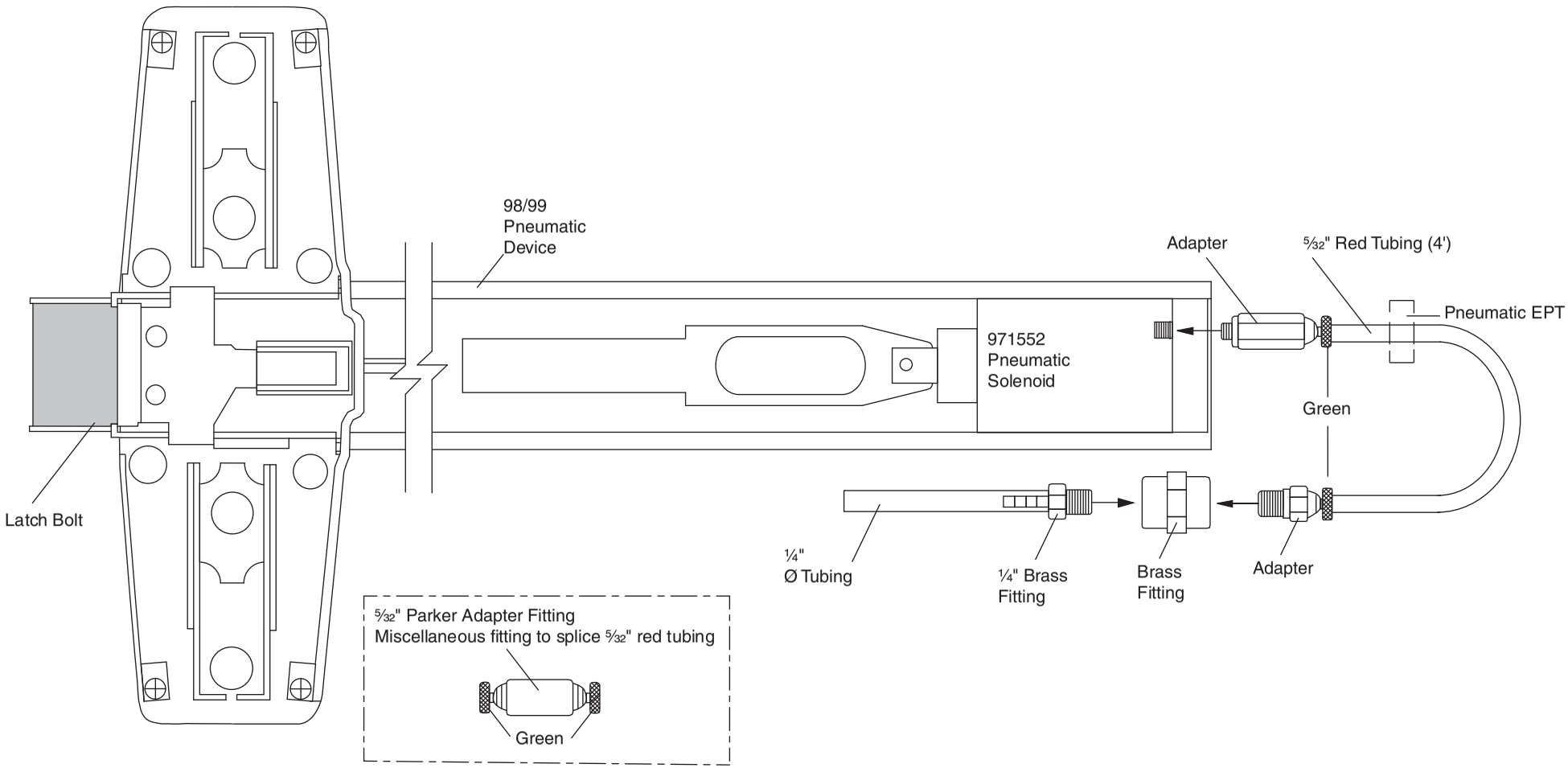
The LCN 7902 sequencing control box interface is well suited for controlling the pneumatic device for extended periods of time with shop air and provides a fire alarm contact. Order the 7902 x ST2046-1 w/920 for an alternate action relay that will pulse on and off for hold open applications.

The LCN 7982 sequencing control box interface is well suited for controlling the pneumatic device momentarily and contains and onboard air compressor and provides a fire alarm contact.

ALLEGION

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98/99
Pneumatic
Device
Adapter
5⁄32" Red Tubing (4')
Pneumatic EPT
971552
Pneumatic
Solenoid
Green
Latch Bolt
¼"
Ø Tubing
¼" Brass
Fitting
Brass
Fitting
Adapter
5⁄32" Parker Adapter Fitting
Miscellaneous fitting to splice 5⁄32" red tubing
Green

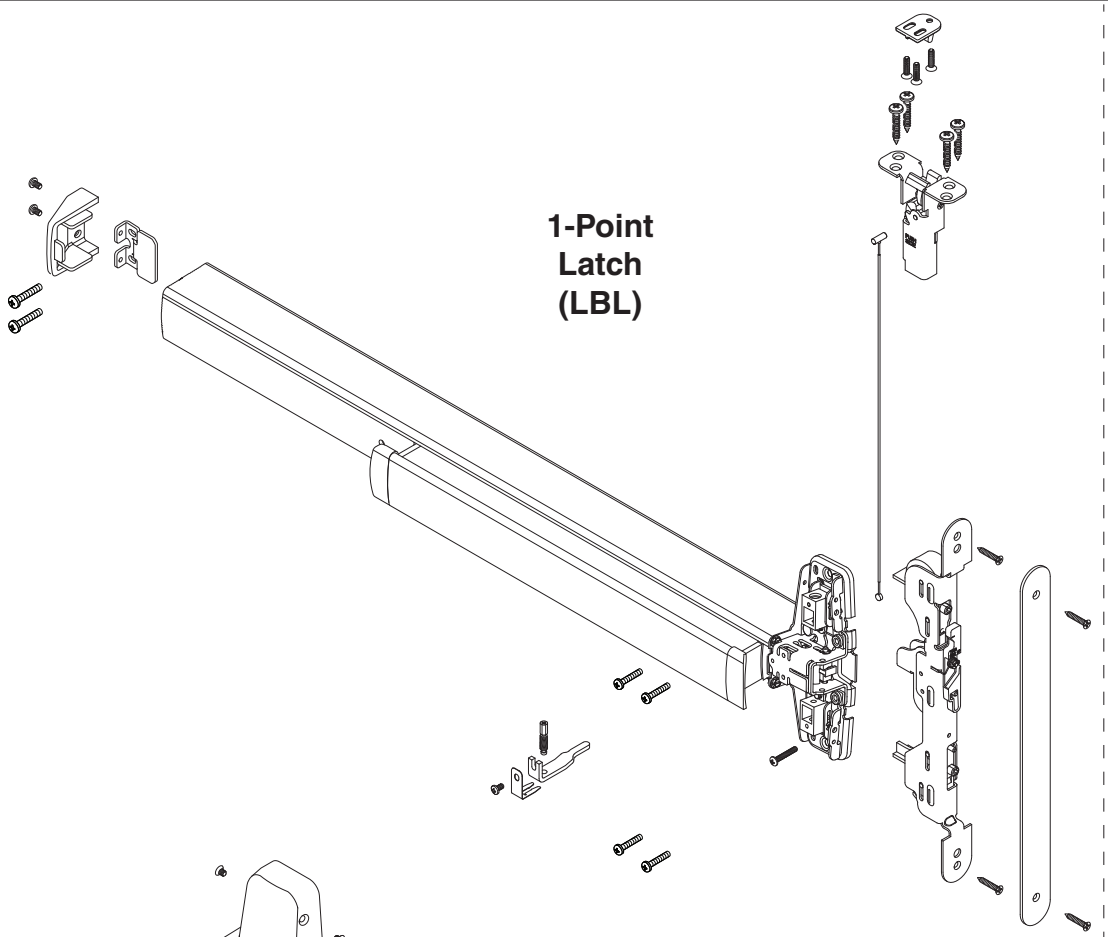
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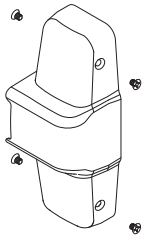
98/9950WDC

VON DUPRIN

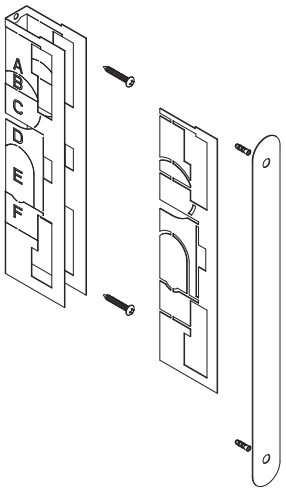
Installation Instructions

1-Point Latch (LBL)

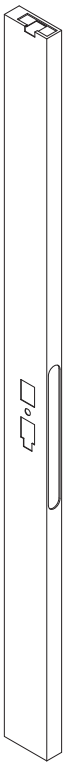




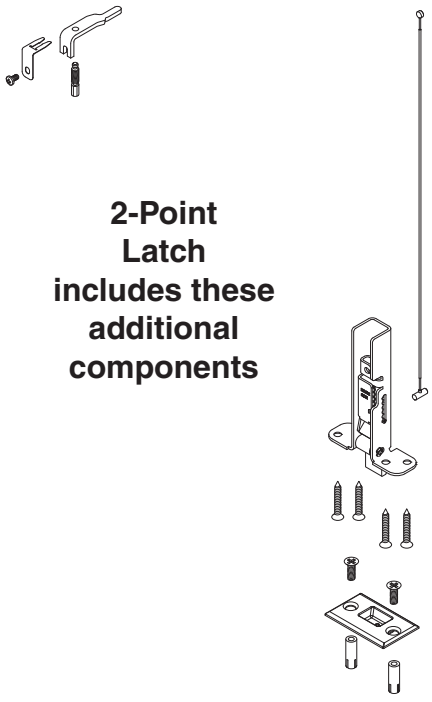
Fire-Rated Devices include these additional components



Metal Edge Wrap required for 60 and 90-minute applications



2-Point Latch includes these additional components



⚠ **NOTE:** If door does not have a cutout for cabling inside lock stile, door must be routed. Refer to 98/9950WDC wood door template #24663650.

1 OVERVIEW AND DOOR PREPARATION

98/9950WDC

Instead of traditional rods, concealed vertical cables are utilized, making use of a proven technology that enables quick installation and allows for easy maintenance. Simplified sizing, ease of adjustment and greater door integrity make the Wood Door Concealed exit device a more secure solution, without the complexity associated with traditional concealed systems. Another key benefit of the system is the ability to make adjustments to the system by simply removing the scalp plate from the edge of the door.

If you have any questions or comments please visit the resources below or give us a call so we can help get you on your way. Thank you for your continued support of Von Duprin.

Technical Support hot line: 877-671-7011

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TABLE OF CONTENTS

INSTALLATION

1. Overview and Door Preparation pg 2-3
2. Fire Barrier pg 4-5
3. Latch Installation pg 6
4. Cable Installation pg 7
5. Device Installation pg 8-9

ADJUSTMENT

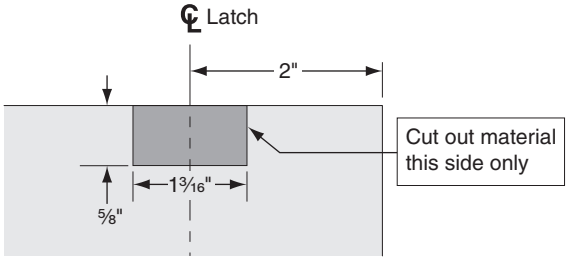
6. Device Adjustment pg 10-11
7. Strikes and Fire Pin pg 12-13
8. Bottom Latchbolt Clearance pg 14
9. Top Strike and Covers pg 15
10. Troubleshooting pg 16

1 (continued)

1a For 60 and 90-minute applications, install metal edge wrap.

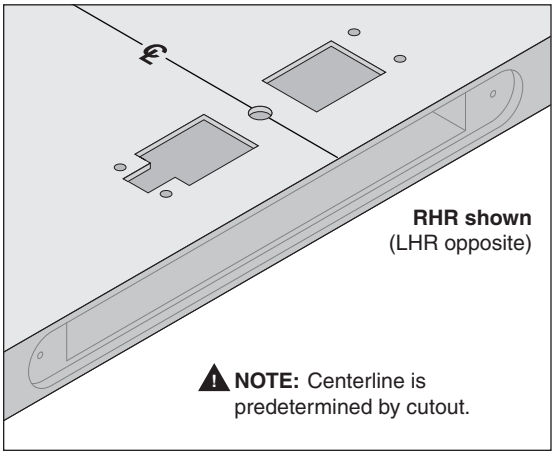


1b If necessary, prepare door for top strike cutout.

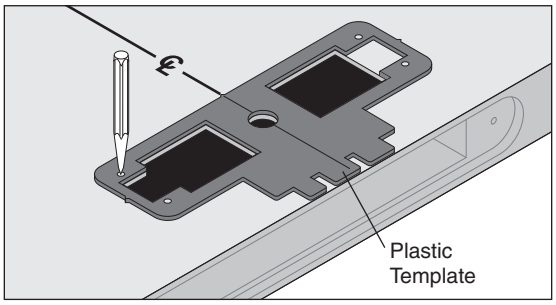


Push side of door, RHR shown

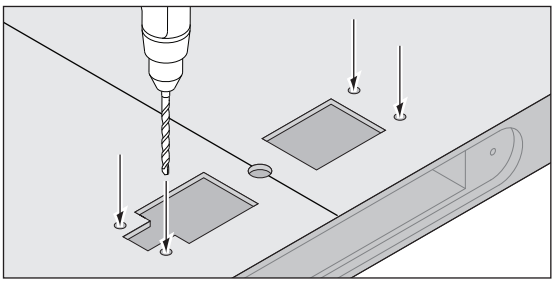
1c With door laying flat, draw horizontal device center line (℄).



1d If necessary, align plastic template to mark 4 holes.

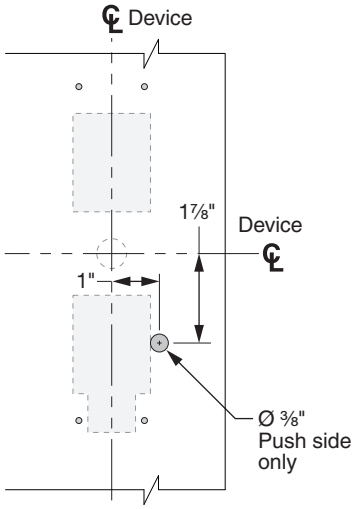


1e Prepare center case mounting holes as required.



Surface Mount	OR	Sex Bolts or 990 Trims
1⁄8" Drill Pilot 1½" Deep		5⁄16" Device side 13⁄32" Trim side

1f Prepare center slide mounting hole.



Push side of door, RHR shown
(LHR opposite)

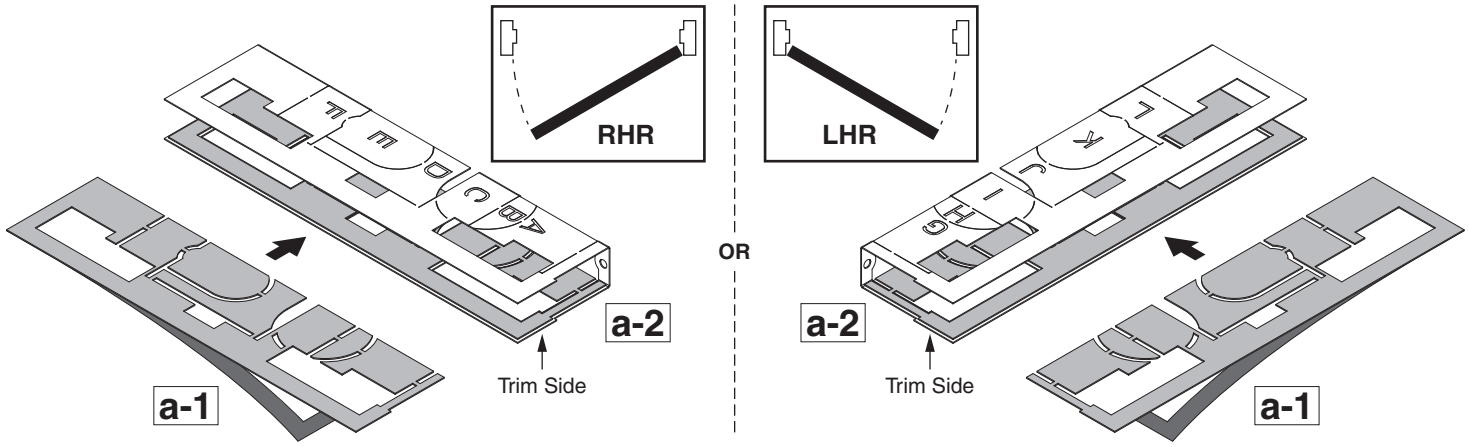
2 FIRE BARRIER

⚠ **Fire application only**

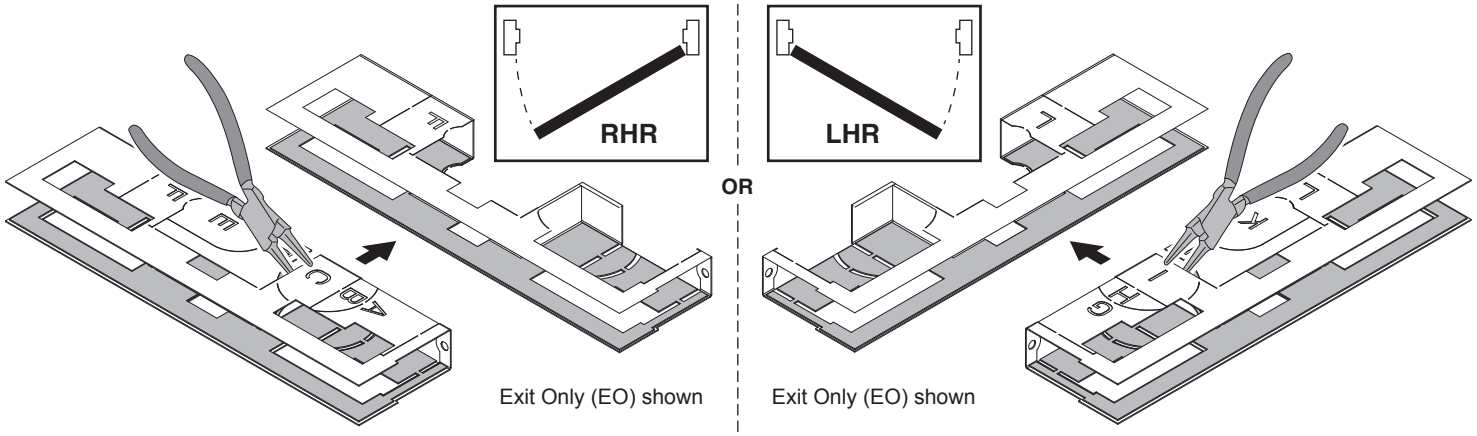
⚠ **Fire components must be installed to maintain fire rating of opening.**

2a Peel adhesive backing from intumescent and apply to trim side of fire barrier.

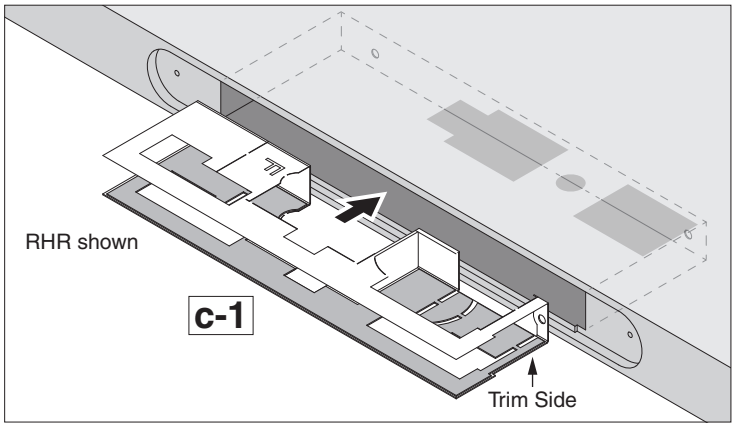
⚠ **Intumescent must be properly aligned before exposed adhesive contacts fire barrier. Adhesive is permanent and not repositionable.**

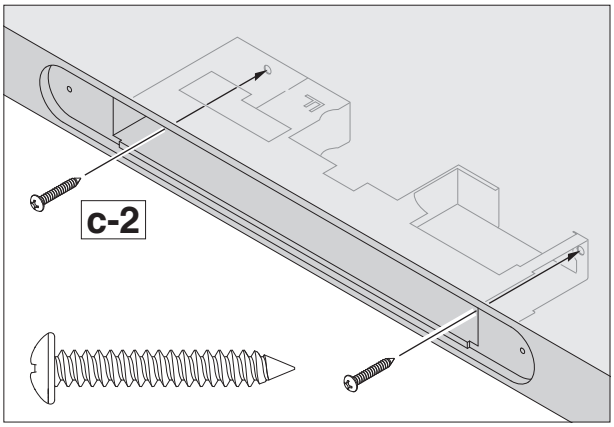


2b Remove appropriate knockouts for device and trim.



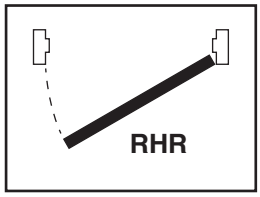
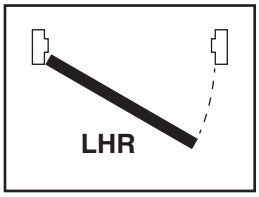
2c With fire barrier in correct orientation, slide barrier into door pocket. Secure fire barrier to inside of pocket with 2 screws.





2 (continued)

FIRE BARRIER KNOCKOUT TABLE

Trim Model	Trim Function	 Right Hand Reverse (RHR) Remove the knockouts listed below	 Left Hand Reverse (LHR) Remove the knockouts listed below
Exit Only	EO	A B C D E J K	D E G H I J K
990	DT		
990	NL	A B C D E H I J K	B C D E G H I J K
996	L-NL		
996	K-NL		
990	TP	A B C D E H I J K L	B C D E F G H I J K
990	TP-BE		
996	L		
996	L-BE		
996	L-DT		
996	K		
996	K-BE		
996	K-DT		
VR910	DT		
VR910	NL		
VR914	DT		
VR914	NL		
AD-993	-		
CO-993	-		
696	DT	A B C D E K	E G H I J K
697	DT		
392-7	-		
696	NL	A B C D E H I K	B C E G H I J K
697	NL		
696	TP	A B C D E F H I K	B C E G H I J K L
696	TP-BE		
697	TP		
697	TP-BE		
110	NL-MD	A B C D E H I K	B C E G H I J K
110WD	NL-OP		
IVES 8190	-	Drill thru barrier	Drill thru barrier

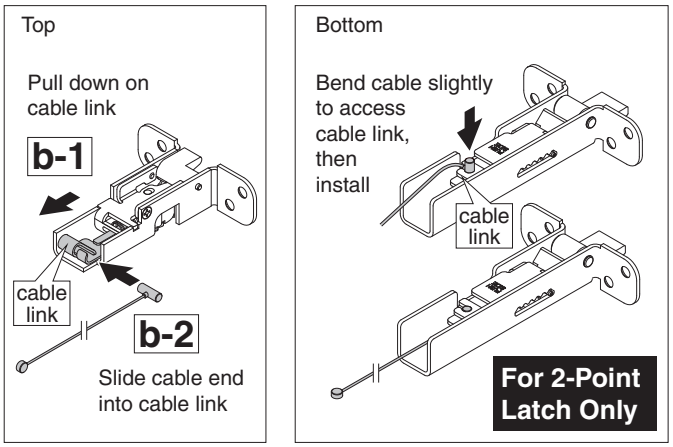
3 LATCH INSTALLATION

3a Confirm top latch is marked for EXIT DEVICES ONLY, then remove label.



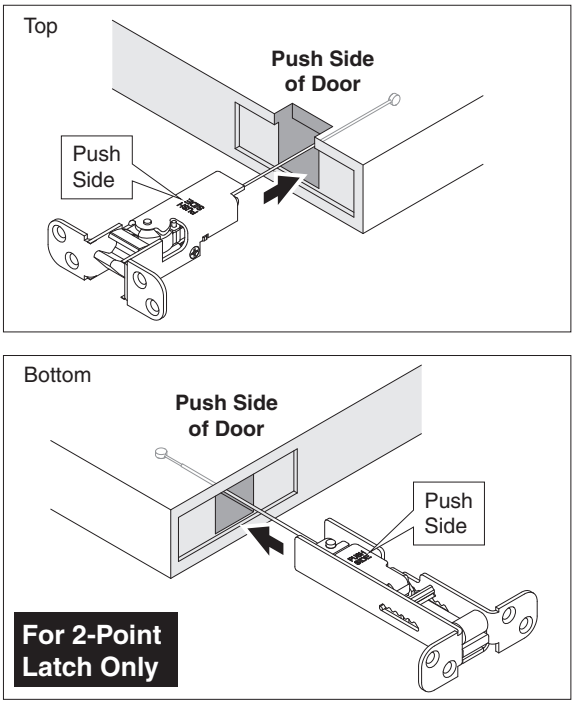
3b Connect cable end fitting(s) to latch(es).

⚠ **For 2-point latches, the top cable is the longer of the two cables. Top cable is silver, bottom cable is black.**

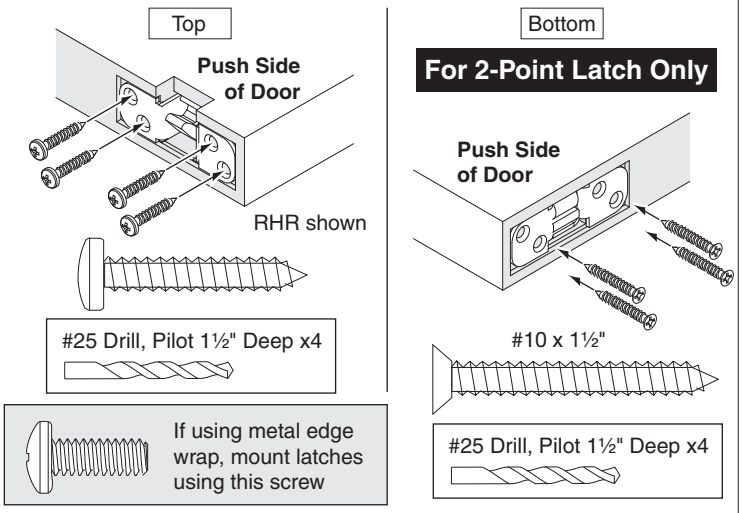


3c Slide latch(es) into door pocket.

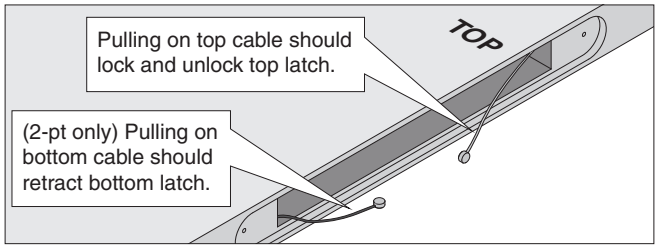
⚠ **Clear cable channel of debris first if necessary.**



3d Secure latch(es).

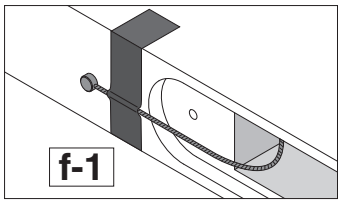


3e Perform cable binding check at mortise pocket.



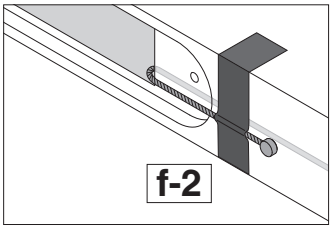
3f Prepare door for hanging.

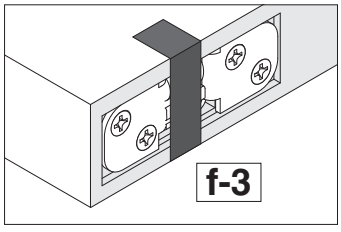
Pull top cable taut and tape cable end to door edge (f-1).



For 2-Point Latch Only

Pull bottom cable taut enough so bottom bolt will not drag against floor, and tape cable end to door edge (f-2). This holds cable in place, preventing it from dropping into door channel. Tape bottom bolt in place (f-3).





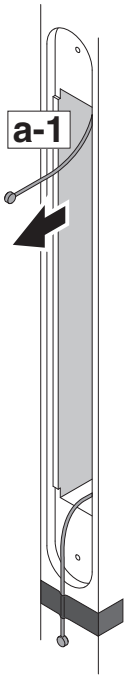
3g Hang door on frame.

⚠ **For 2-point latches, bottom latch cannot be in locked position while hanging door on frame. Latch must be retracted.**

4 CABLE INSTALLATION

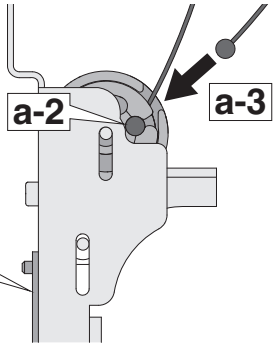
4a Insert cable end fitting(s) into center slide.

⚠ **Be sure to attach top cable to top end of center slide (marked "This Side Up")**



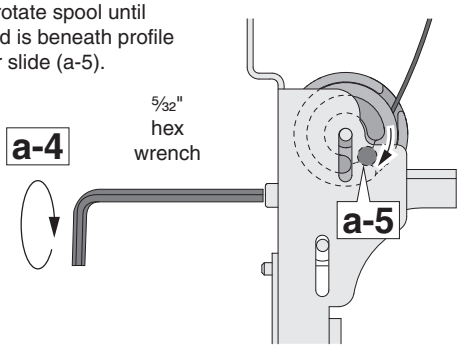
Pull top cable thru mortise opening (a-1).

Rotate spool using hex wrench to reveal cable hole in spool (a-2), if it is not visible or only partially visible.



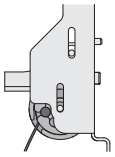
Insert cable end into spool (a-3).

Turn **spool screw** clockwise (a-4) to rotate spool until cable end is beneath profile of center slide (a-5).



a-6 **For 2-Point Latch Only**

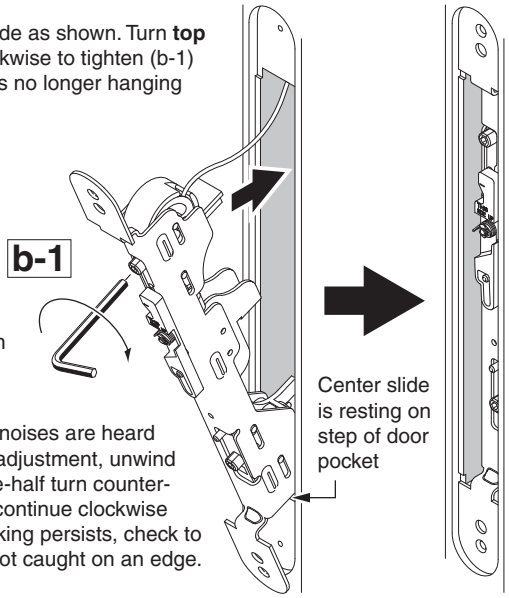
Remove tape from door edge, then repeat process to install bottom cable into bottom spool.



4b Take up top cable slack only.

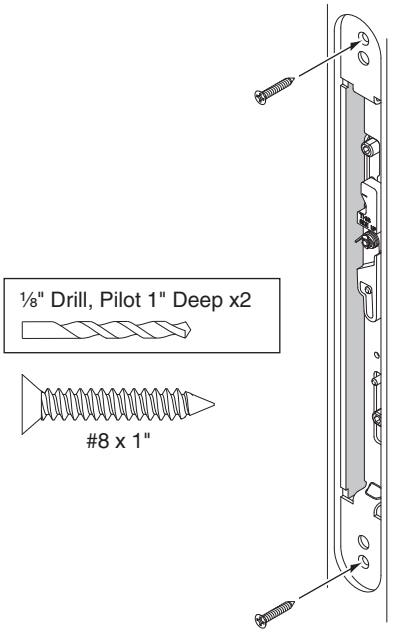
Position center slide as shown. Turn **top spool screw** clockwise to tighten (b-1) until center slide is no longer hanging outside door.

⚠ Do not adjust bottom cable at this time.



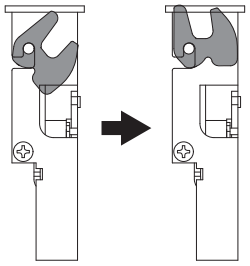
⚠ **NOTE:** If clicking noises are heard during clockwise adjustment, unwind the cable with one-half turn counter-clockwise. Then, continue clockwise adjustment. If clicking persists, check to be sure cable is not caught on an edge.

4c Secure center slide.

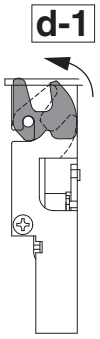


4d Adjust top spool.

⚠ **NOTE:** Top latch must be placed in locked position prior to making top adjustment.

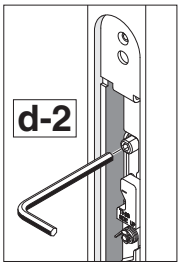


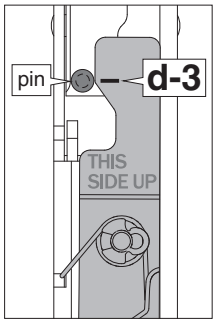
Put top latch in locked position (d-1).



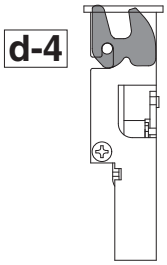
⚠ If latch won't lock, **top spool screw** was overtightened in Step 4b and needs to be backed out counter-clockwise.

Turn **top spool screw** (d-2) until pin is centered to the line (d-3).





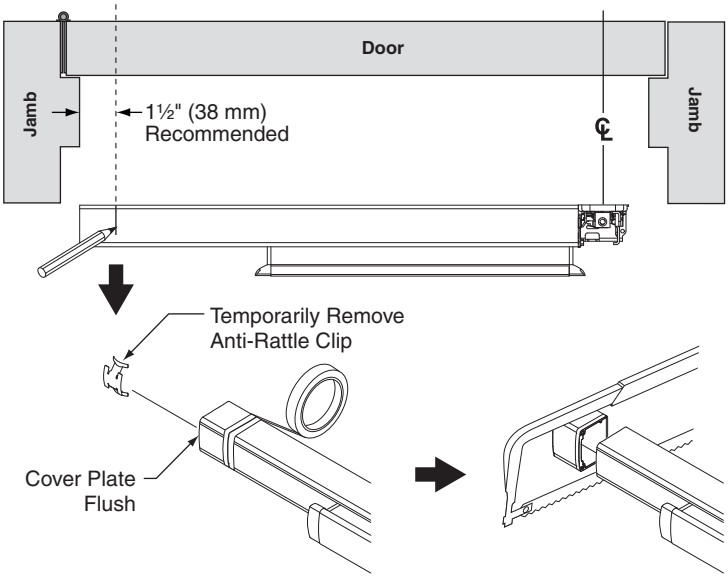
Confirm top latch is still locked (d-4).



⚠ **NOTE:** No further top spool adjustment needed. Put hex wrench away until Step 8b.

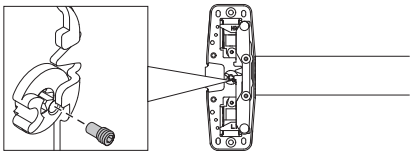
5 DEVICE INSTALLATION

5a If necessary, cut device.



5b If necessary, remove NL drive screw.

NL drive screw
Factory installed on back of center case



With the NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For the trims listed below, **REMOVE** NL drive screw.

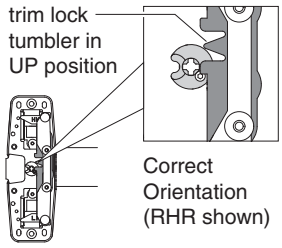
996L	696TP	990TP
996K	697TP	

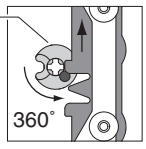
With the NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

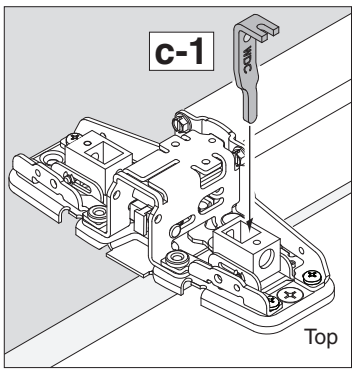
* If the trim being installed is "BE" (i.e. 996L-BE), the trim lock tumbler on the back of the device must be in the **UP** position before device is installed. This allows the trim to be unlocked at all times.



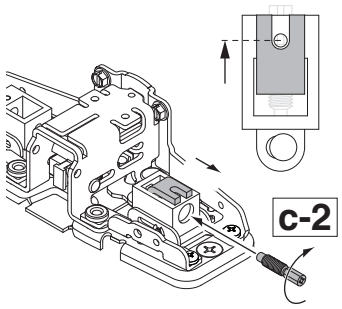


5c Install lift finger(s) and retainer clip(s).

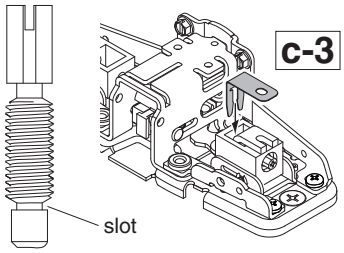
With device center case hanging over edge of table, slide L-shaped lift finger thru upper block of center case.



Insert **lift finger screw** and turn clockwise with screwdriver to raise lift finger until the slot aligns with diameter of screw hole.

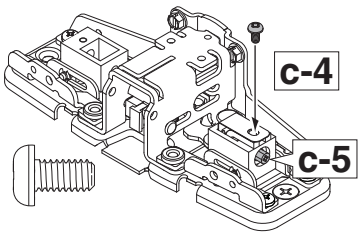


Install retainer clip against lift finger, snapping it into the slot of the **lift finger screw**.



Lightly tighten **locking screw** (c-4).

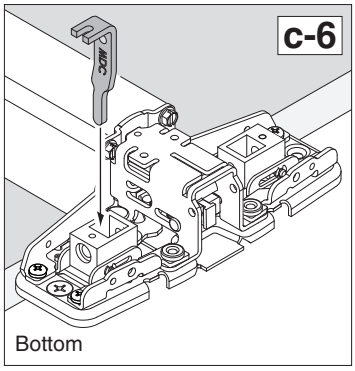
⚠ It may be necessary to rotate the **lift finger screw** to realign retainer clip and lift finger holes.



⚠ Confirm **lift finger screw** is free to rotate (c-5).

For 2-Point Latch Only

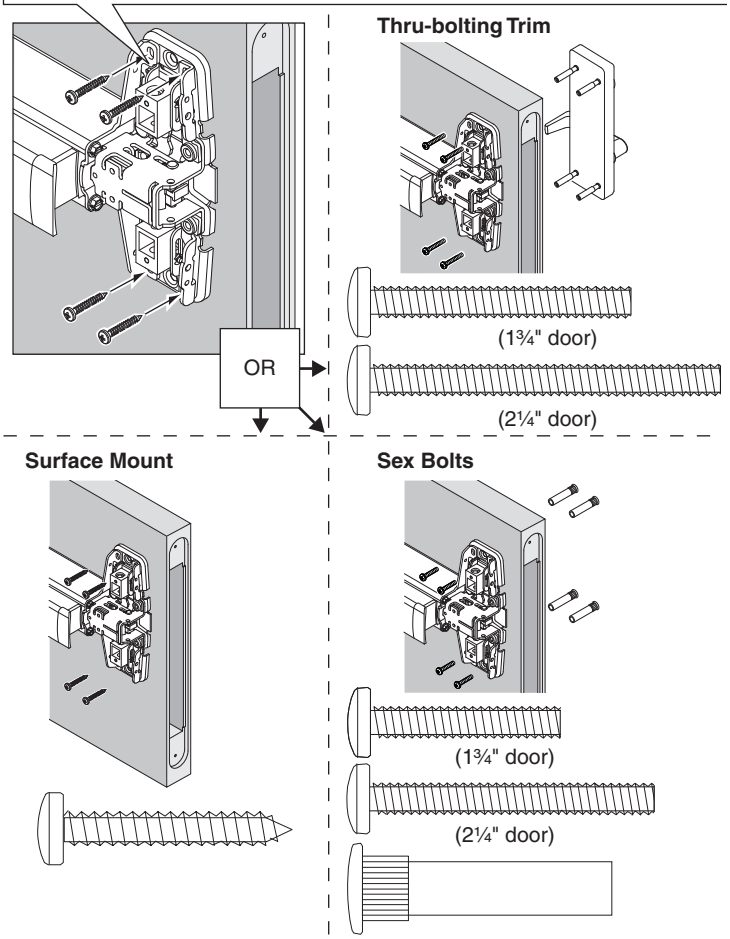
Repeat steps c-1 thru c-5 for lower block of center case.



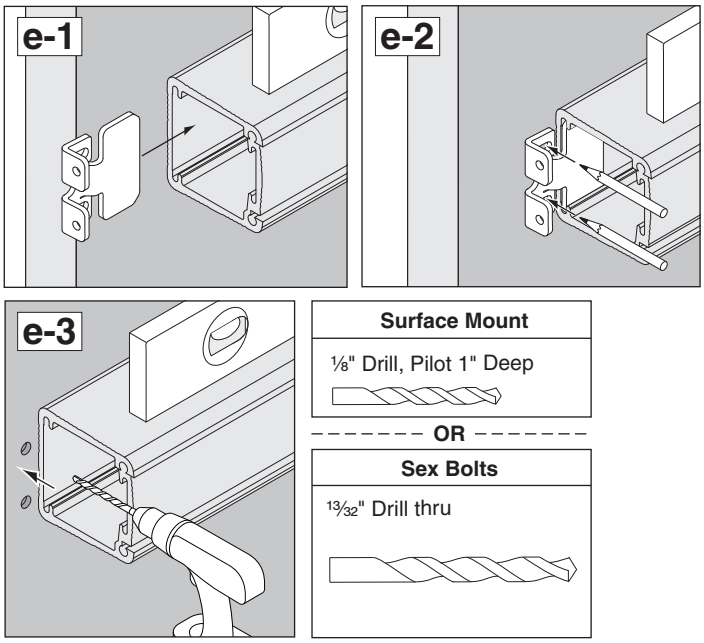
5 (continued)

5d Attach center case to door.

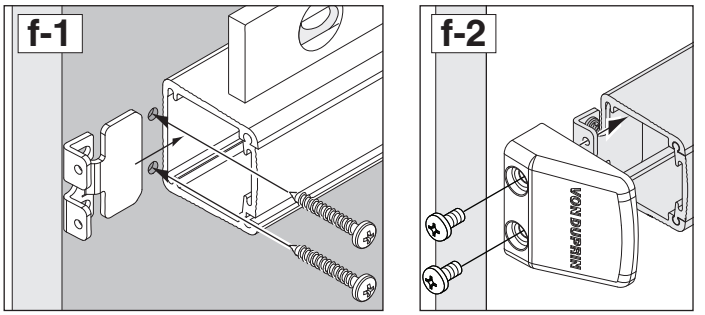
⚠ Do not overtighten center case to door (door edge cover plate won't fit).

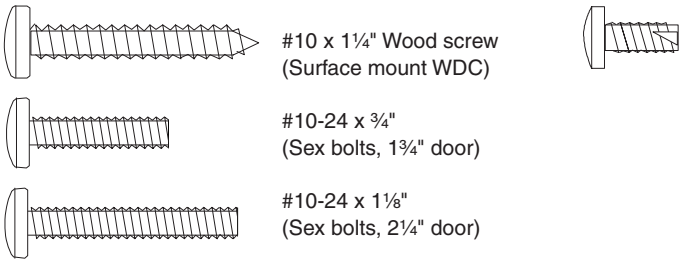


5e Mark and prepare 2 holes.

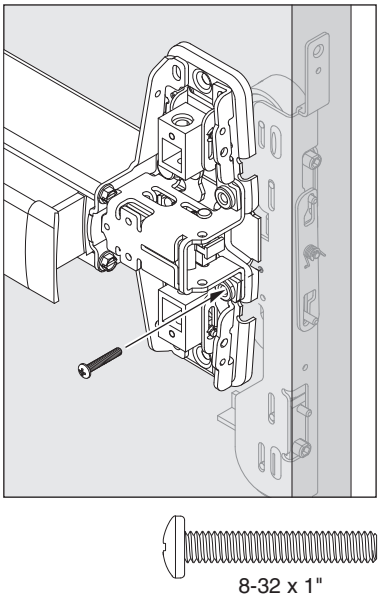


5f Install end cap bracket and end cap.





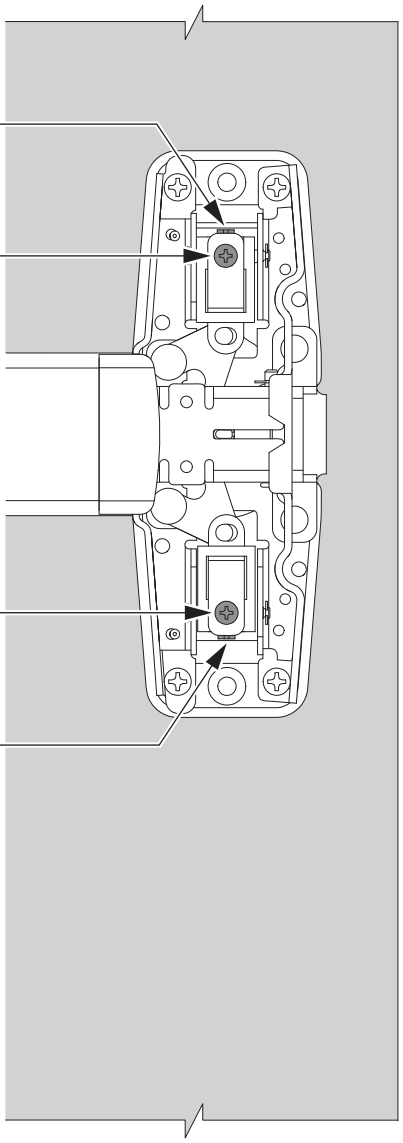
5g Secure center slide to face of door.



6 DEVICE ADJUSTMENT

ADJUSTMENT COMPONENTS

Center Case



Top lift finger screw:
Adjusts release point of latches

Top locking screw:
Locks lift finger screw adjustment

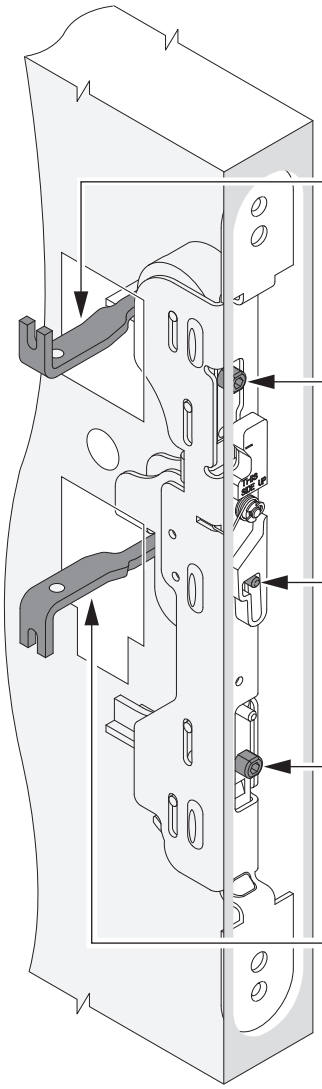
Bottom locking screw*:
Locks lift finger screw adjustment

Bottom lift finger screw*:
Adjusts release point of latches

* For 2-point latch only

Push Side of Door

Center Slide



Top lift finger:
Transfers motion from exit device spool inputs

Top spool screw:
Sizes cable to door height and undercut

Bottom latch pin*:
(reference for adjustment)

Bottom spool screw*:
Sizes cable to door height and undercut

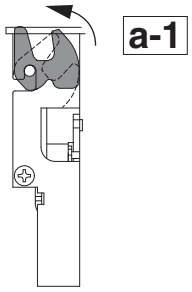
Bottom lift finger*:
Transfers motion from exit device spool inputs

Push Side / Edge of Door

6 (continued)

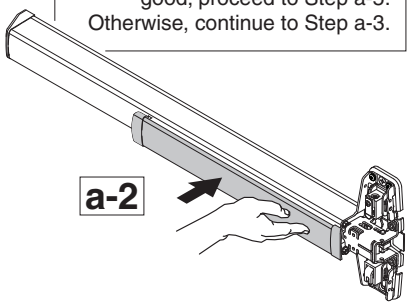
6a Adjust device for top latch retraction position.

Put top latch in locked position.

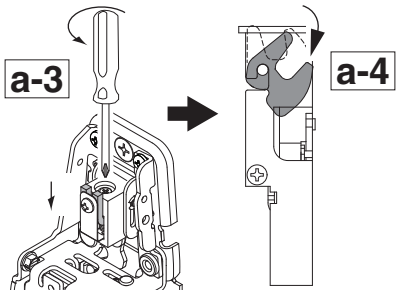


Depress and **HOLD** push pad (or dog device) until Step a-6.

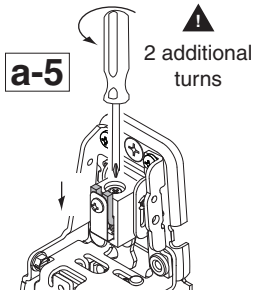
If top latch releases, adjustment is good; proceed to Step a-5. Otherwise, continue to Step a-3.



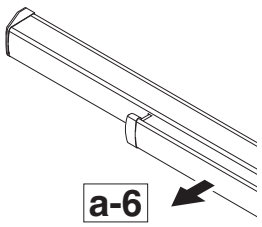
Maintain downward pressure on screwdriver and turn **top lift finger screw** counterclockwise to lower lift finger. With other hand, press on top latchbolt. STOP as soon as top latch releases.



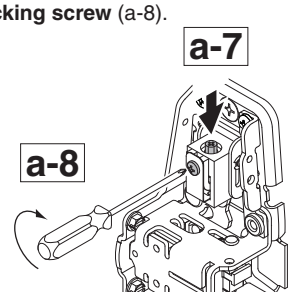
Turn **top lift finger screw** counterclockwise an additional 2 full turns.



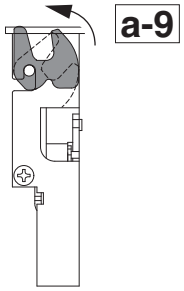
Release push pad.



While pressing down on **top lift finger screw** (a-7) so it is seated, tighten **top locking screw** (a-8).

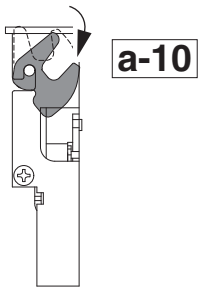


Using your finger, put top latch in locked position.



Locked

With pushpad depressed, you should be able to release top latch with your finger as shown below.

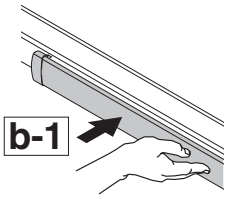


Released

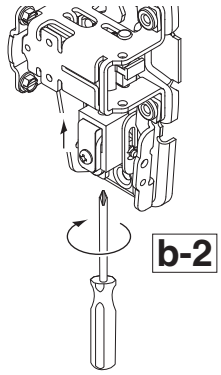
6b Adjust device for bottom latch retraction positon.

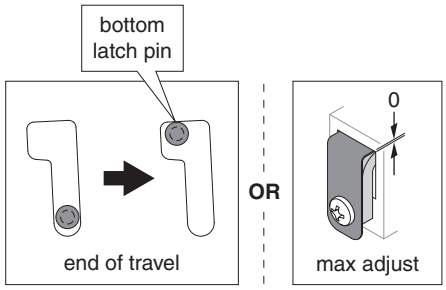
For 2-Point Latch Only

Depress and **HOLD** push pad (or dog device) until Step b-3.

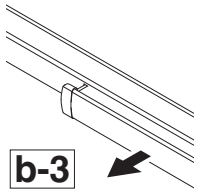


Maintain upward pressure on screwdriver and turn **bottom lift finger screw** (b-2) counterclockwise to adjust. Continue adjusting until **bottom latch pin** reaches end of travel or until **bottom lift finger** reaches max adjust. If **bottom latch pin** does not move, see Troubleshooting on back page.

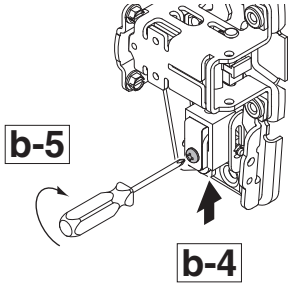




Release push pad.



Push up on **bottom lift finger screw** (b-4) so it is seated, and tighten the **bottom locking screw** (b-5).

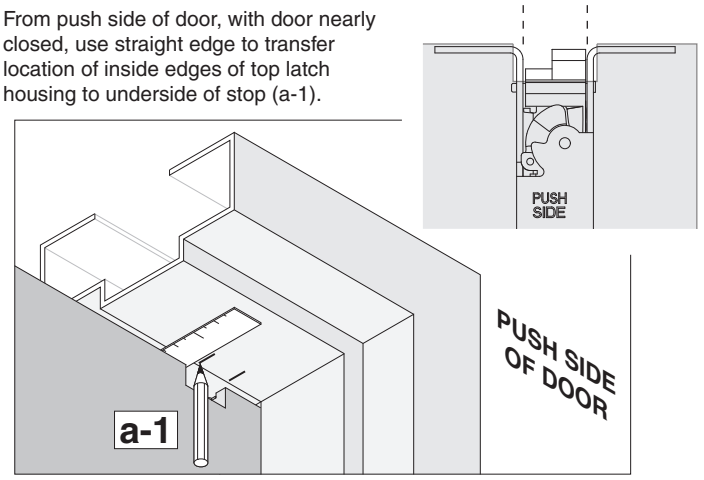


7 STRIKES AND FIRE PIN

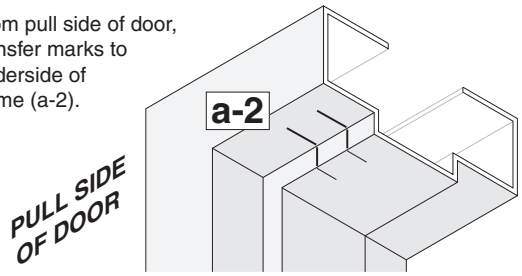
7a Prepare door frame for top strike.

⚠ If using a door seal or gasket, install first.

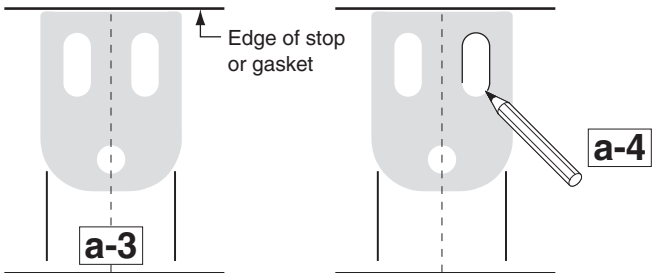
From push side of door, with door nearly closed, use straight edge to transfer location of inside edges of top latch housing to underside of stop (a-1).



From pull side of door, transfer marks to underside of frame (a-2).

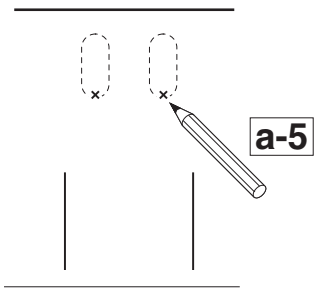


With flat end of strike against stop, center strike to marks on frame (a-3). Use a pencil to trace contour of the two slotted holes (a-4).



Mark the bottom center point of each slot (a-5) and prepare door frame as shown.

⚠ Do not drill 3rd hole at this time.

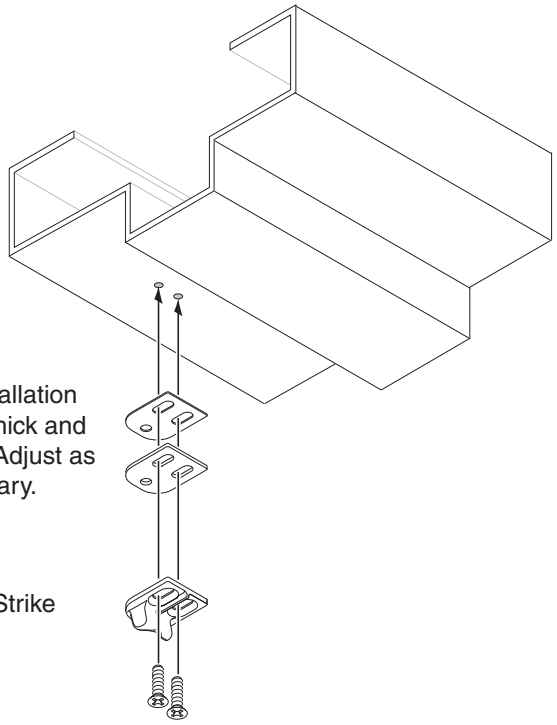


Metal
Center punch + 1/16" Pilot #25 x 3/4" Deep x2 #10-24

— — — — — OR — — — — —

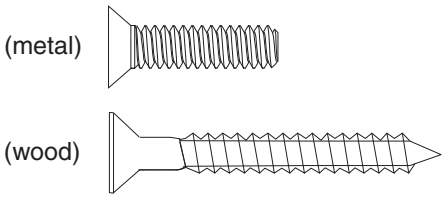
Wood
1/8" Drill Pilot 1" Deep x2

7b Install 2 top strike screws using the slot features on the strike.



Typical installation requires 1-thick and 1-thin shim. Adjust as necessary.

150 Top Strike



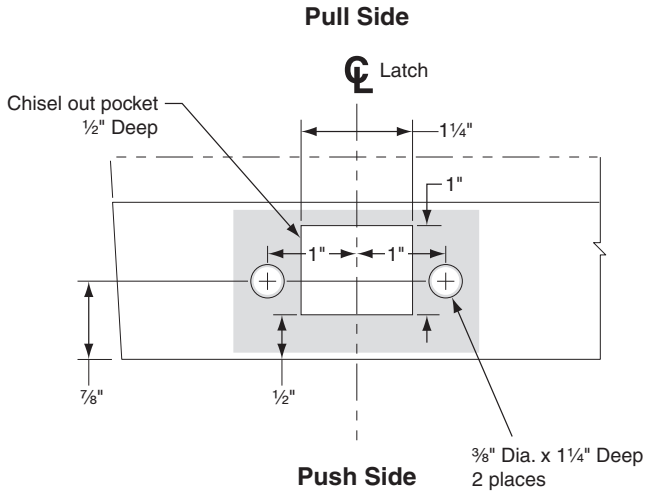
7c Perform top latch functional test.

c-1. Close door.
c-2. With door closed, top latch should be secure.
c-3. If door fails to relatch, adjust top strike location.
c-4. Depress pushbar. Door should begin to open when pushbar is nearly fully depressed. If necessary, refer to Step 6A to readjust top latch retraction position.

7 (continued)

7d Prepare floor for bottom strike.

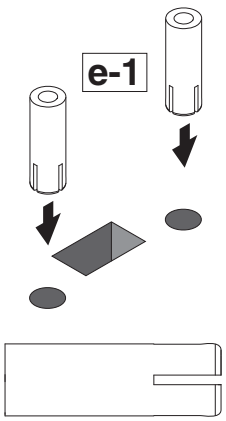
For 2-Point Latch Only



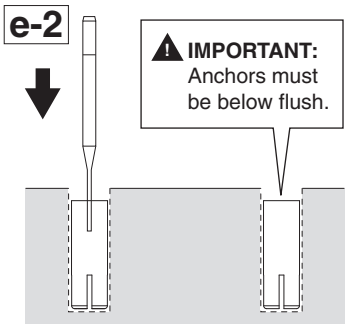
7e Install bottom strike.

For 2-Point Latch Only

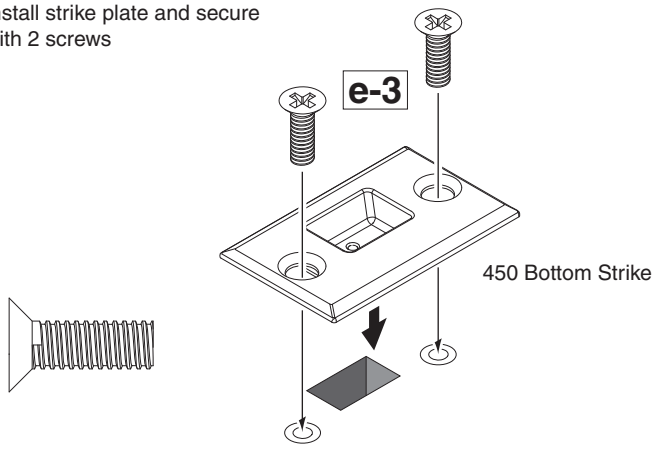
Clear holes of debris, then drop in anchors (slotted end first)



Secure the anchors using a hammer and punch



Install strike plate and secure with 2 screws



7f For Fire LBL applications only, install fire pin.

⚠ **See instructions packaged with fire pin.**

8 BOTTOM LATCHBOLT CLEARANCE

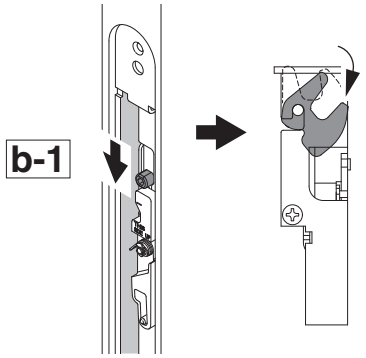
8a Remove tape holding bottom bolt in place from bottom of door.

For 2-Point Latch Only

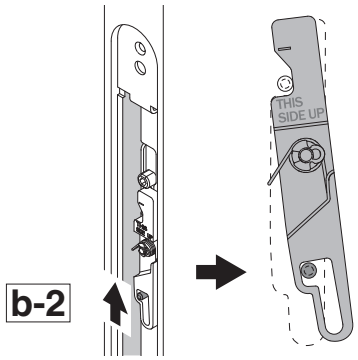
8b Adjust bottom latchbolt clearance.

For 2-Point Latch Only

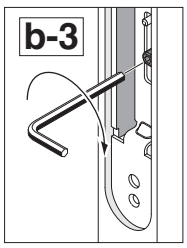
Pull **top spool screw** downward to release top latch, if not already retracted.

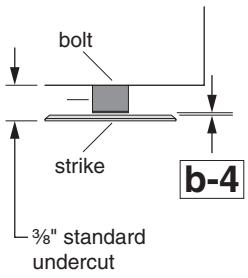


Push **bottom latch pin** upward. Link will tilt.



Turn **bottom spool screw** clockwise approximately 20 turns to remove slack. Continue turning until bolt just clears top of strike (b-4).





⚠ **NOTE:** If clicking noises are heard during clockwise adjustment, unwind the cable with one-half turn counter-clockwise. Then, continue clockwise adjustment. If clicking persists, check to be sure cable is not caught on an edge.

8c Perform bottom latch functional test.

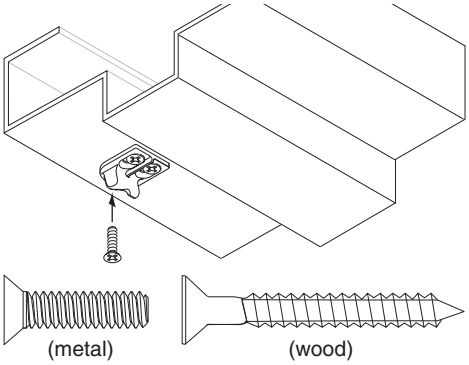
For 2-Point Latch Only

c-1. Confirm bottom latchbolt does not drag against floor when door is opened.

c-2. With door closed, bottom latch should be secure.

9 TOP STRIKE AND COVERS

9a Adjust top strike as necessary, then install the third strike screw to fix the strike position.



Metal
#25 x ¾" Deep
#10-24

OR

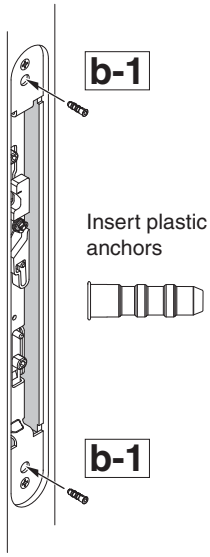
Wood
⅛" Drill
Pilot 1" Deep

9b For fire devices, prepare door edge and cover plate.

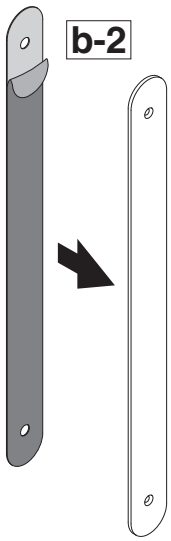
⚠ **Fire application only**

⚠ **Intumescent must be properly aligned before exposed adhesive contacts cover plate. Adhesive is permanent and not repositionable.**

3/16" Drill, Pilot 1" Deep x2



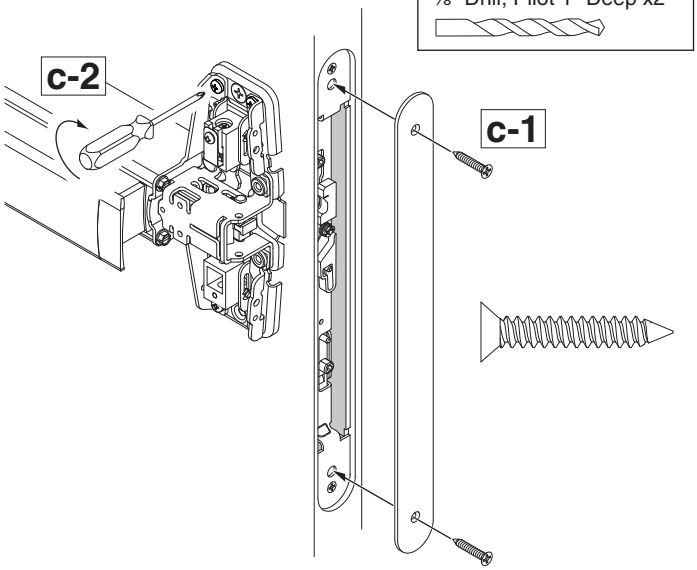
Peel adhesive backing from intumescent and apply to back side of cover plate



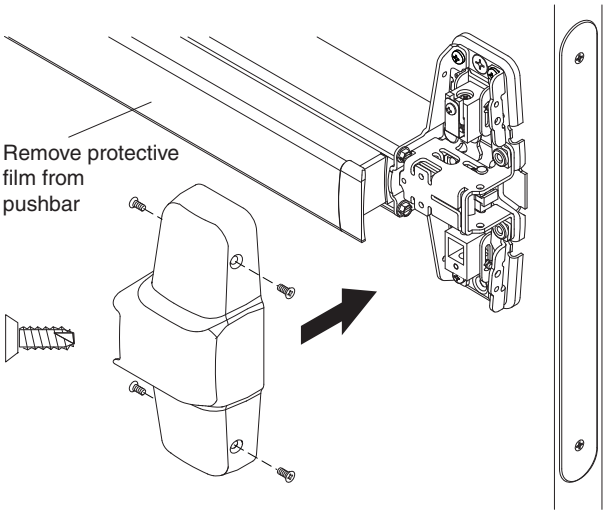
9c Install cover plate to door edge, then completely tighten down center case screws.

For non-fire devices, first prepare door edge

⅛" Drill, Pilot 1" Deep x2



9d Install center case cover.



10 TROUBLESHOOTING

If latches do not retract when pushpad is depressed:

Remove cover plate from edge of door

Pull down on **top spool screw**. If the top latch fails to actuate, readjust top spool (Steps 4d-1 thru 4d-4).

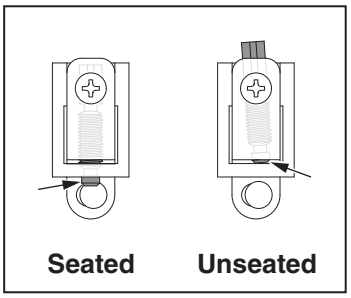
Pull up on **bottom spool screw**. If the bottom latch fails to actuate, readjust bottom latch clearance (Steps 8b-1 thru 8b-4).

If both actuate and the door is not functioning, proceed to next check.

Remove center case cover

Check **lift finger screws** to ensure they are still fully seated. If unseated, loosen **locking screw**, and while applying pressure to the head of the **lift finger screw** to seat it, tighten locking screw. If door is not functioning, proceed to next step.

With both **lift finger screws** fully seated, loosen **top and bottom locking screws**, turn **lift finger screws** clockwise to end of travel, and repeat device adjustment, Step 6.



If bottom latch pin does not move during Step 6b-2:

Loosen **bottom spool screw** 10 turns.

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98/9949
CS 98/9949

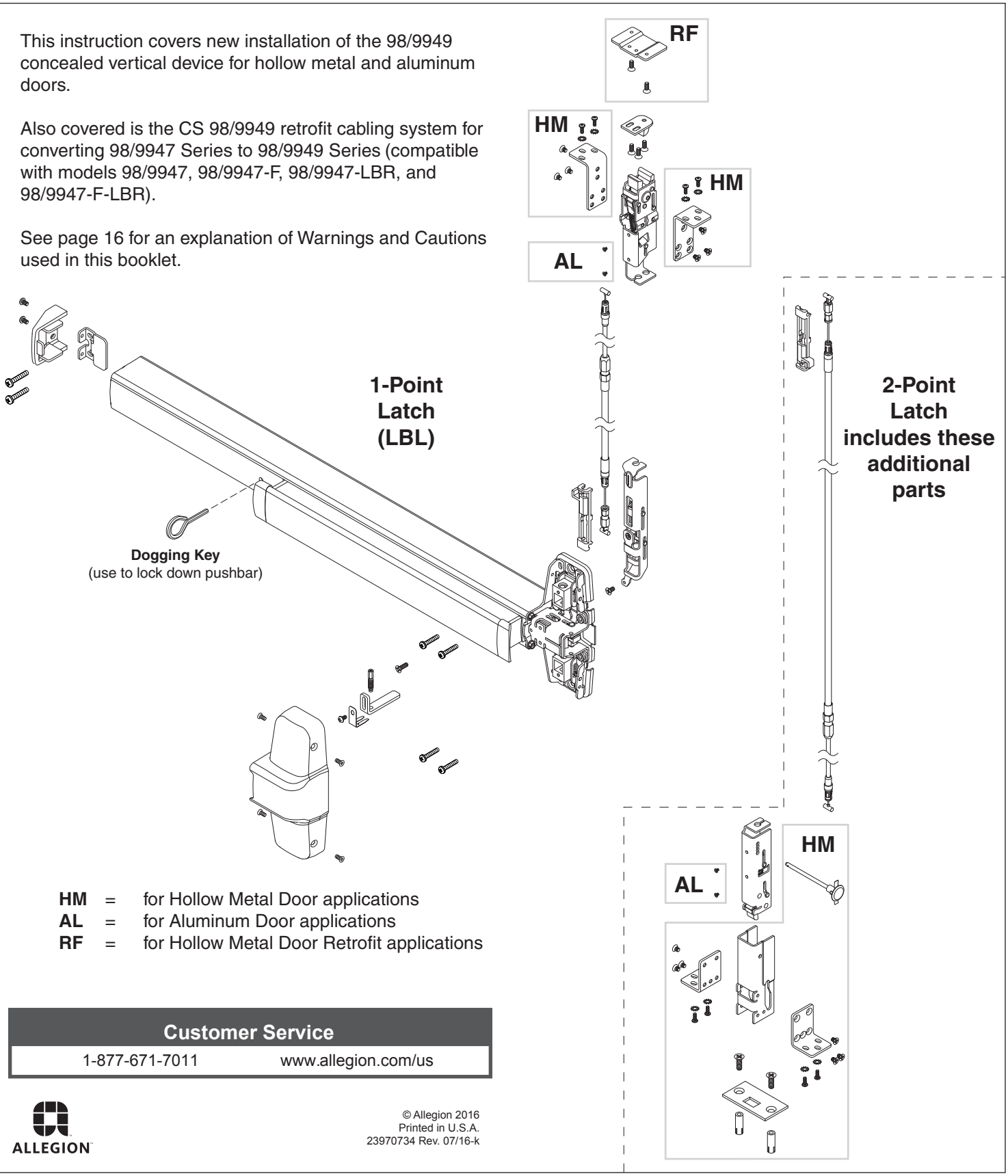
VON DUPRIN®

Installation Instructions

This instruction covers new installation of the 98/9949 concealed vertical device for hollow metal and aluminum doors.

Also covered is the CS 98/9949 retrofit cabling system for converting 98/9947 Series to 98/9949 Series (compatible with models 98/9947, 98/9947-F, 98/9947-LBR, and 98/9947-F-LBR).

See page 16 for an explanation of Warnings and Cautions used in this booklet.



HM = for Hollow Metal Door applications
AL = for Aluminum Door applications
RF = for Hollow Metal Door Retrofit applications

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23970734 Rev. 07/16-k

CABLE IDENTIFICATION

1 **Identify Cables and Locations.**

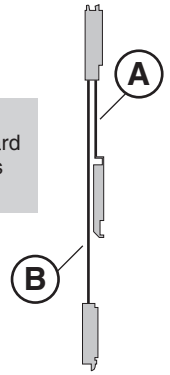
NOTE: For retrofit installations, begin at Step 19.

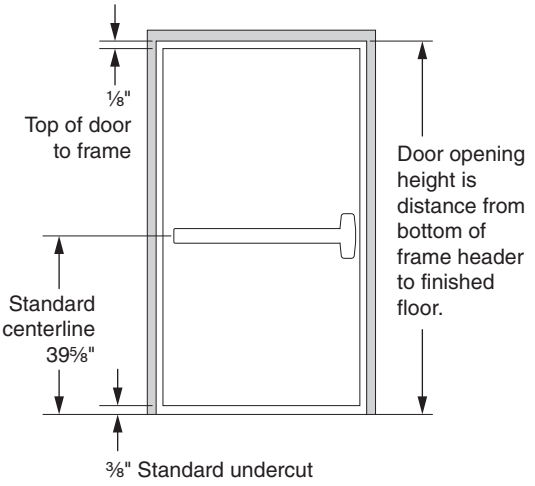
CABLE IDENTIFICATION		
	HOLLOW METAL AND ALUMINUM DOORS	
* Door Opening Height	**A** Top Cable (Red)	**B** Bottom Cable (White)
6' 0" - 6' 10"	47250398	47250403
6' 10" - 8' 0"	47250175	47250178
8' 0" - 9' 2"	47250176	47250179
9' 2" - 10' 4"	47250177	47250180
10' 4" - 11' 6"	47250399	47250404
11' 6" - 12' 8"	47250400	47250405
12' 8" - 13' 10"	47250401	47250406
13' 10" - 15' 0"	47250402	47250407

* Based on standard centerline of 39⅝" from finished floor

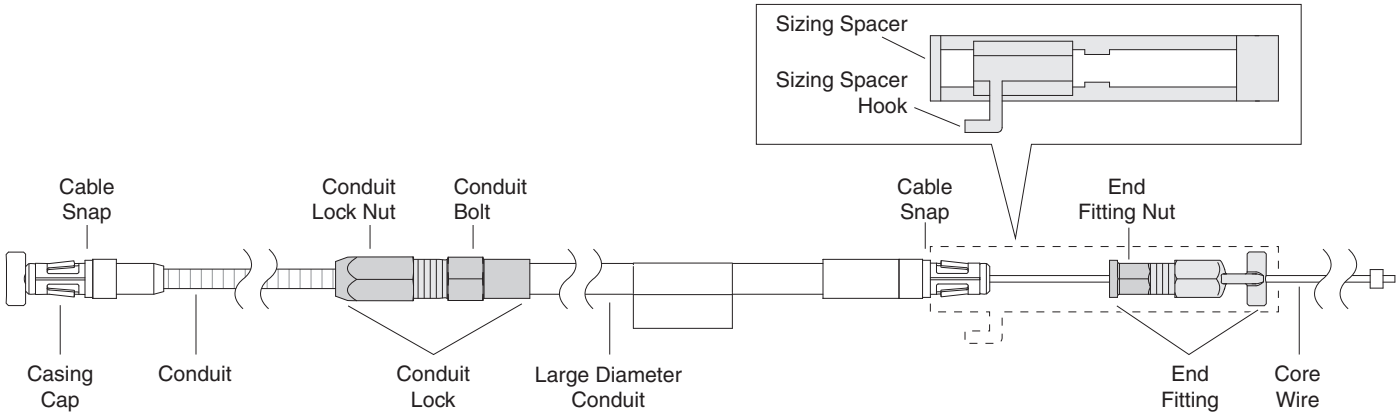
For easy identification, each cable is labeled with part number and location.

Standard Sizes





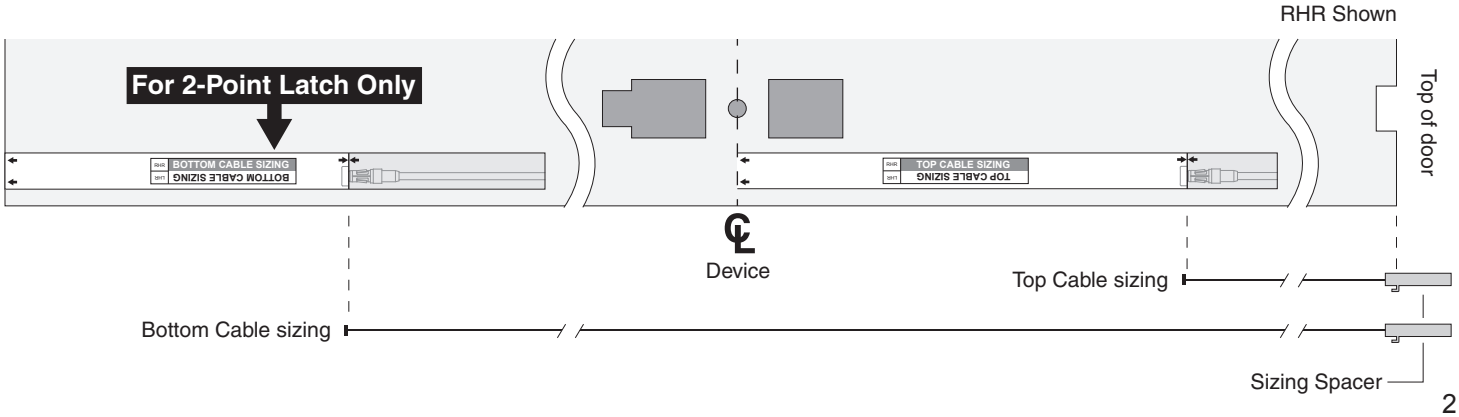
CABLE COMPONENTS



CABLE SIZING PREPARATION

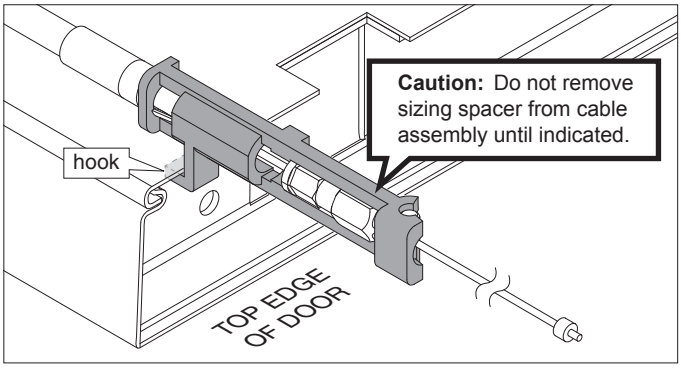
2 **Align Sizing Tape to Horizontal Device Center Line as shown. For Bottom Cable Sizing (if applicable), Align Sizing Tape to Bottom Edge of Door.**

Use cable components diagram above for reference.

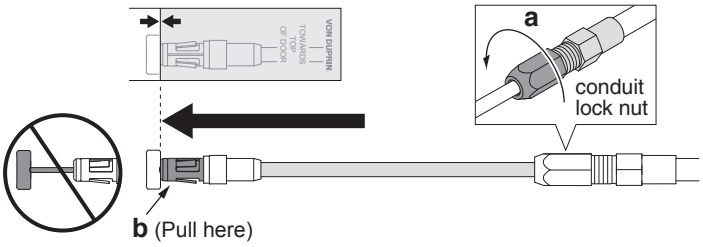


CABLE SIZING

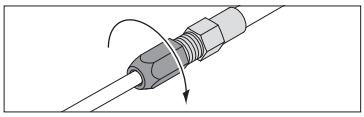
3 **To Size Top Cable, Align Sizing Spacer Hook to Top Edge of Door.**



4 **Loosen Conduit Lock Nut ½ Turn. At Opposite End of Cable, Pull Casing Cap to Line on Tape.**



5 **Hand Tighten Conduit Lock Nut.**

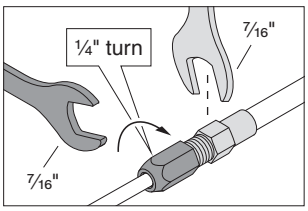


6 **Wrench Tighten Conduit Lock Nut ¼ Turn.**

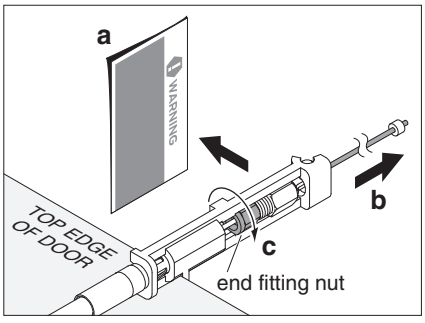
Caution: Do not overtighten.

WARNING

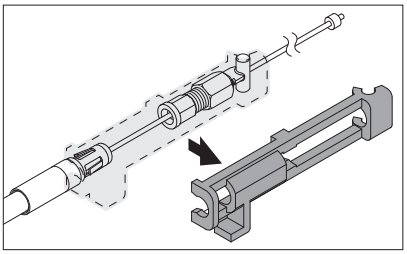
Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.



7 **Remove Warning Label. While Pulling Core Wire Tight, Hand Tighten End Fitting Nut.**



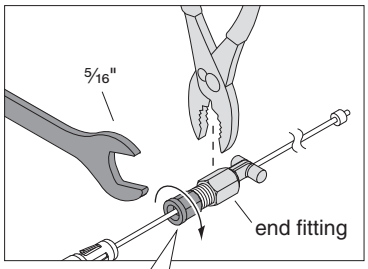
8 **Remove Sizing Spacer. (Do not discard.)**



9 **While Holding End Fitting in Place with Pliers, Fully Tighten End Fitting Nut with Wrench.**

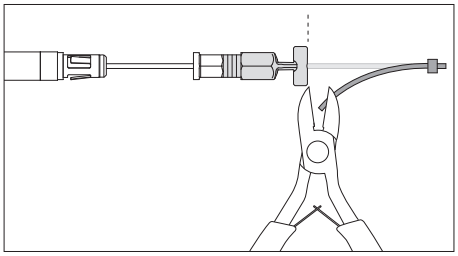
WARNING

Failure to properly tighten end fitting nut will result in device malfunction and possible lock in or lock out situation.

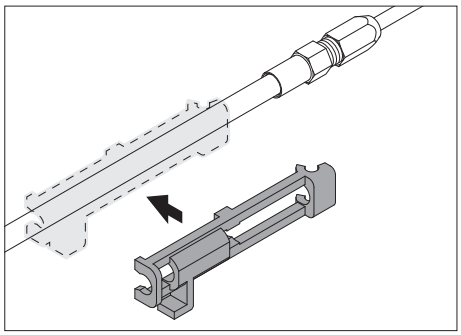


Once tightened down, end fitting nut can't be loosened or readjusted.

10 **Cut Core Wire Flush with End Fitting.**



11 **Snap Sizing Spacer onto Large Diameter Conduit for Storage.**



12 **To Size Bottom Cable, Align Sizing Spacer Hook to Top Edge of Door as before, and Repeat Steps 3 thru 10.**

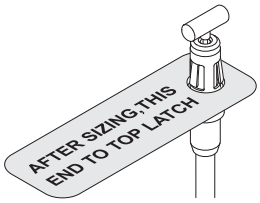
For 2-Point Latch Only

Repeat Steps 3 thru 10

CABLE INSTALLATION

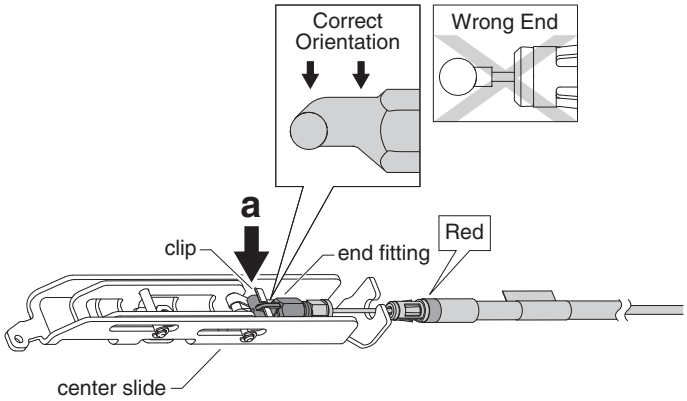
13 Flip Top Cable.

Caution: After sizing, **TOP** cable must be flipped 180° before installing. See tag.

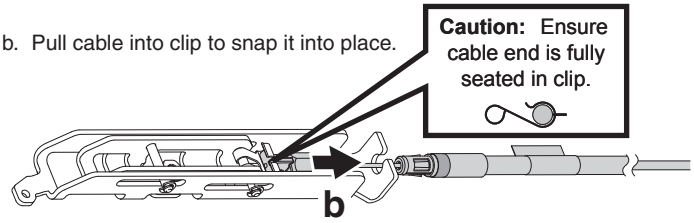


14 Install Top Cable.

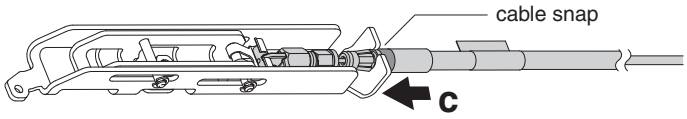
a. There is an end fitting on one end of the red cable. Position this end to clip on center slide.



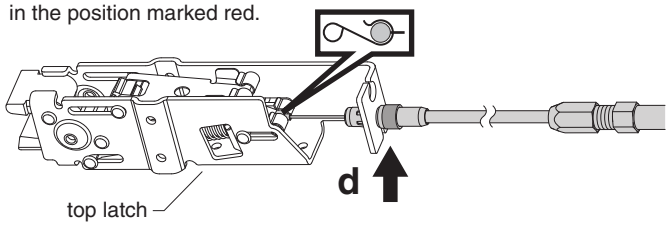
b. Pull cable into clip to snap it into place.



c. Push cable snap against center slide to secure cable.



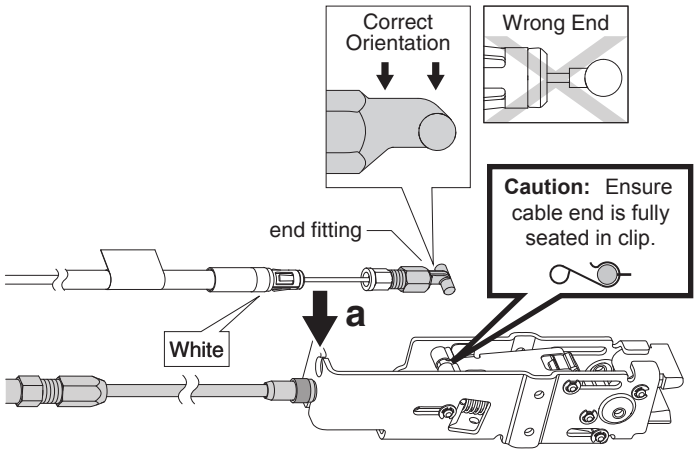
d. Follow steps (a) thru (c) to install opposite end of red cable to top latch in the position marked red.



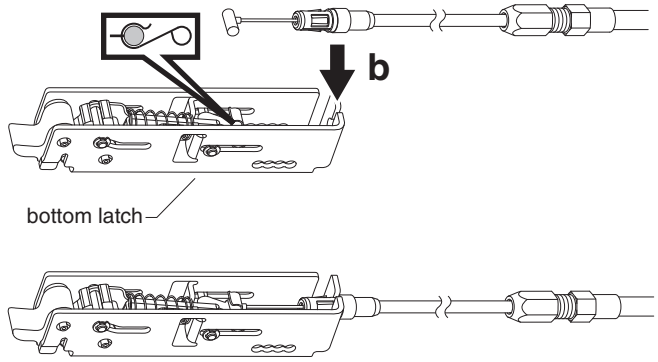
15 Install Bottom Cable.

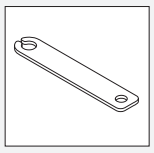
For 2-Point Latch Only

a. There is an end fitting on one end of the white cable. Install this end to the remaining top latch position (marked as white).



b. Install opposite end of white cable to bottom latch.

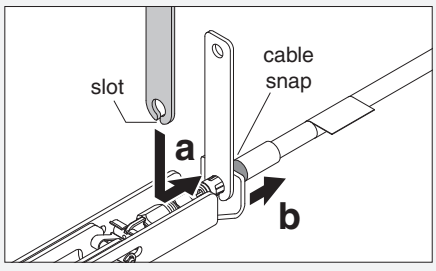




Cable Removal

(If the cable was installed in wrong position)

A cable removal tool was included with device. Slot in tool fits over cable, holding tabs down. Pull on cable snap to loosen cable for removal.



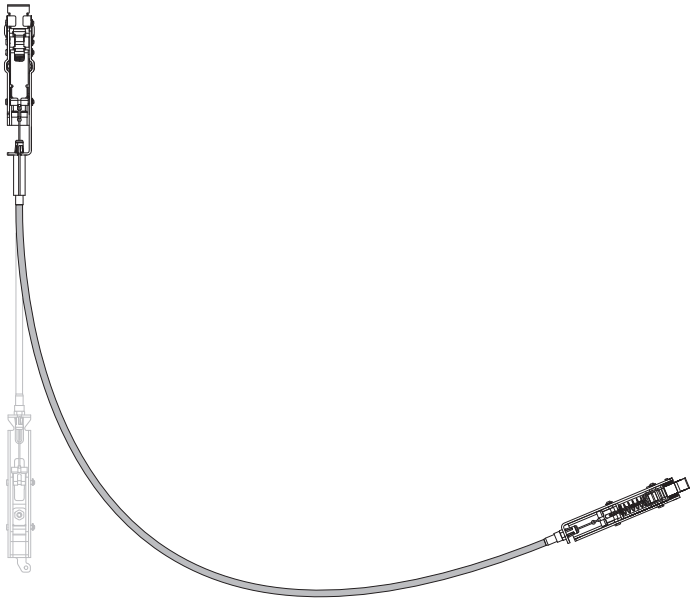
16 Determine if Bottom Latch Retraction Adjustment is Necessary.

For 2-Point Latch Only

CAUTION
Critical step

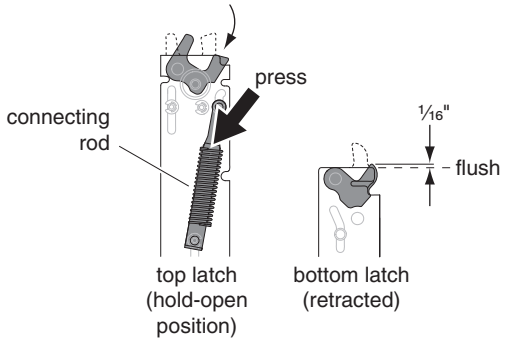
CAUTION
Adjustment must be made while the top latch is in the hold-open position.

a. Flex the cable into an L-shape as shown to simulate the installed condition of the latches.



b. To determine whether an adjustment is required, actuate the top latch to the hold-open position by pressing down on the connecting rod. Bottom latch should retract to within 1⁄16" of flush. If it does not, an adjustment is necessary.

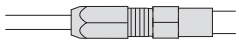
If no adjustment is needed, proceed to Step 18.



17 Adjust Bottom Latch Retraction (if necessary).

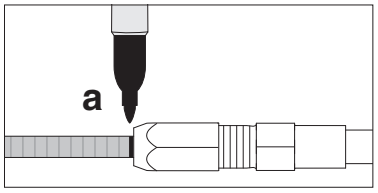
For 2-Point Latch Only

The conduit lock is used to make this adjustment.

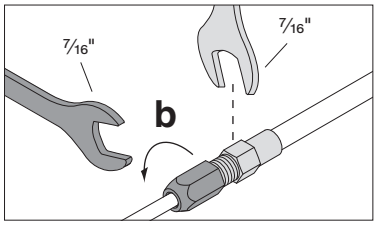


CAUTION
Adjustment must be made while the top latch is in the hold-open position.

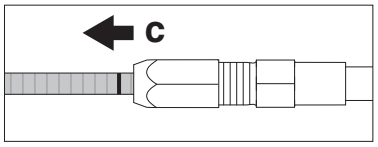
a. Use a permanent marker or tape to mark position of bottom cable conduit.



b. Loosen conduit lock nut so conduit is free to slide.

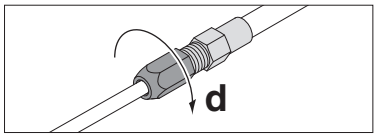


c. Pull until (1) extra wrap of conduit can be seen (1 wrap = 1⁄8").



d. Hand tighten conduit lock nut.

e. Repeat Step 16. Confirm bottom latch now retracts to within 1⁄16" of flush.

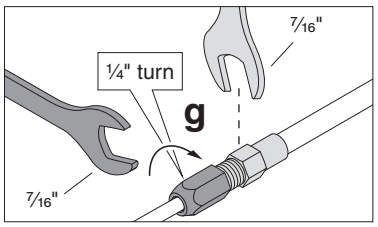


f. If not, loosen conduit lock nut, pull out an additional wrap of conduit, and hand tighten conduit lock nut.

g. Wrench tighten conduit lock nut 1⁄4 turn.

Caution: Do not overtighten.

WARNING
Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.



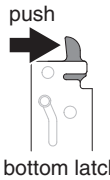
18 Confirm Bottom Deadlatching.

For 2-Point Latch Only

a. Lock top latch. Flex the cable into an L-shape as before.

b. Push against flat side of bottom latchbolt. Latchbolt should NOT release.

If latchbolt releases, return conduit to position marked in Step 17a. Repeat bottom latch retraction adjustment.



CAUTION
If no bottom latch retraction adjustment was necessary, yet the bottom latch won't deadlatch, contact technical support.

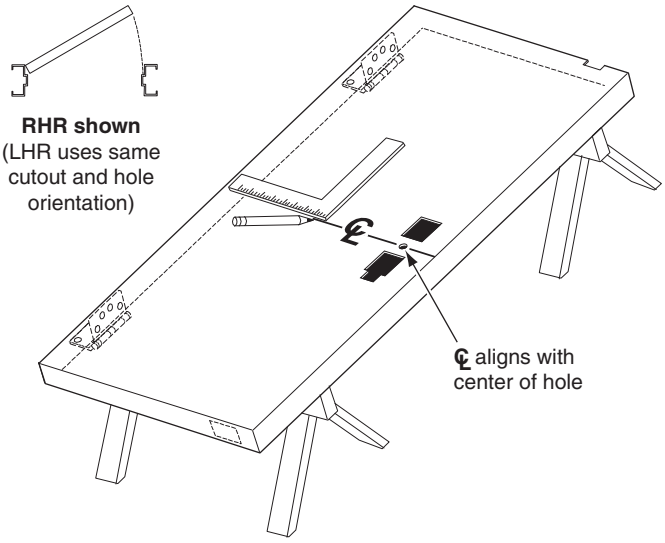
19 If Retrofit Installation

a. Remove device from existing door.

b. Remove existing door.

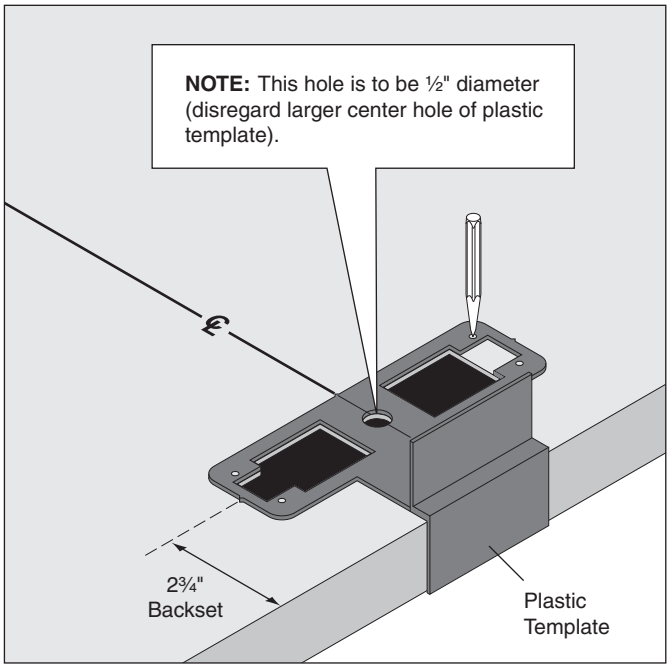
c. Remove and discard existing strikes.

20 With Door Laying Flat, Draw Horizontal Device Center Line (℄).

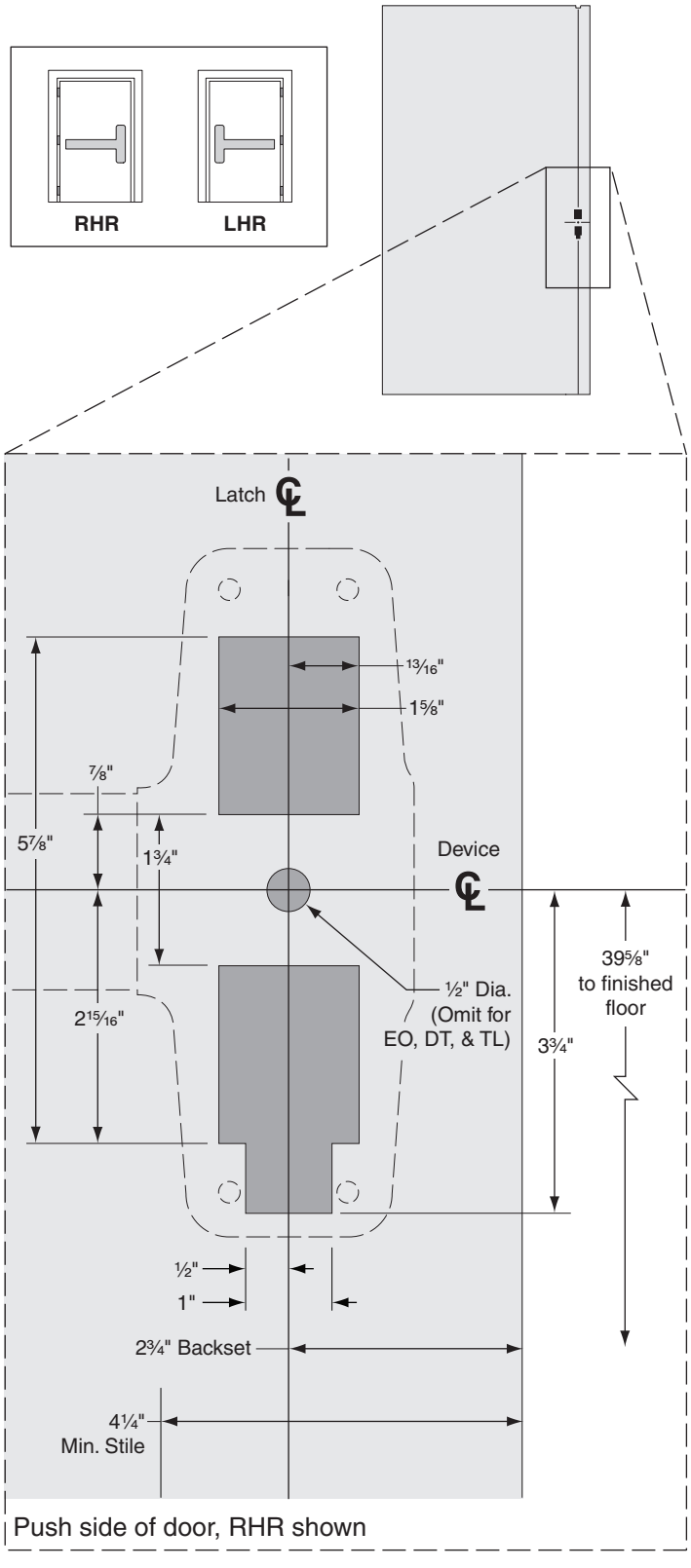


NOTE: Centerline is predetermined by cutout. If no cutout exists, refer to Step 22 to determine centerline.

21 Align Plastic Template and Mark Door.

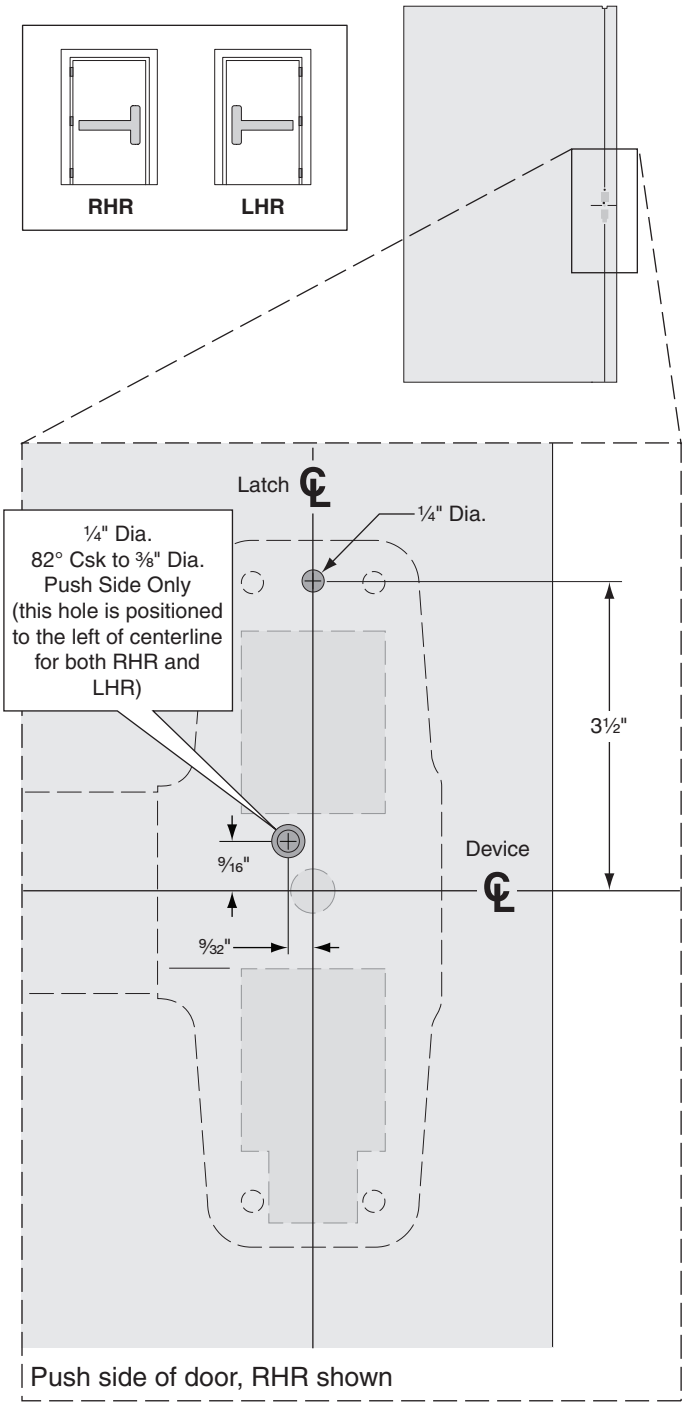


22 If Necessary, Prepare Door Cutouts.



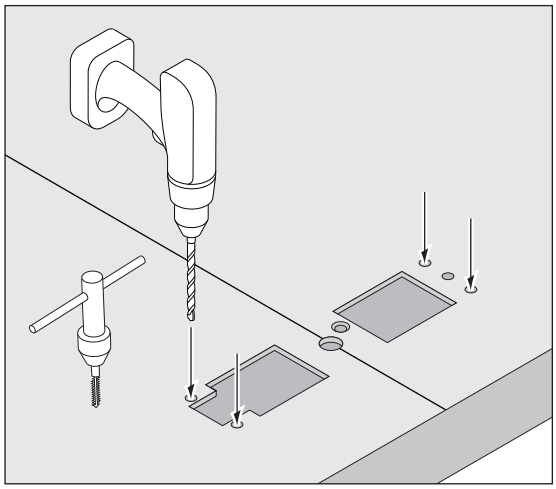
Push side of door, RHR shown

23 If Necessary, Prepare 2 Center Slide Holes.



Push side of door, RHR shown

24 Prepare 4 Holes per Plastic Template.

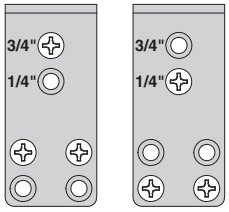


Surface Mount (metal doors only)		Sex Bolts or 990 Trims
#25 #10-24	OR	¼" (device side) 13/32" (trim side)

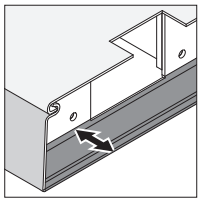
25 Assemble Latch Mounting Brackets.

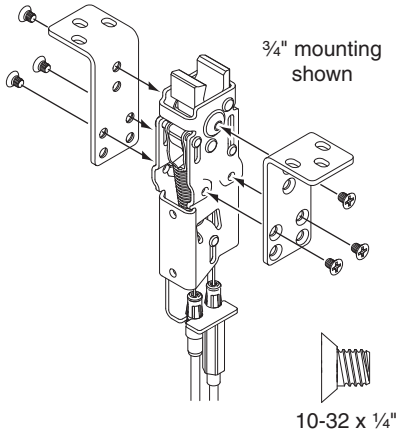
Hollow Metal Only

Top



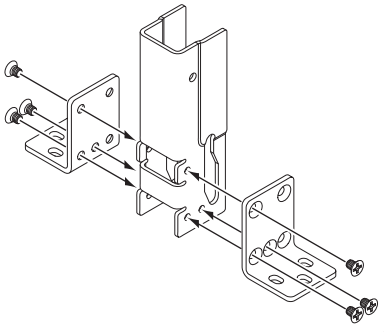
Depth from top edge of door to the channel





Bottom

For 2-Point Latch Only

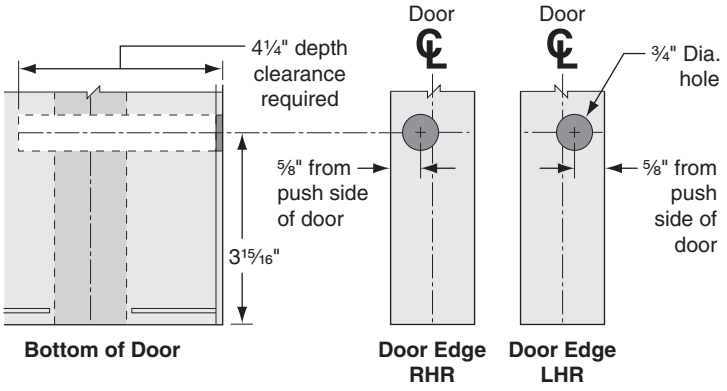




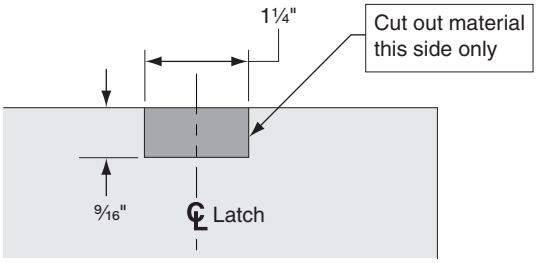
10-32 x ¼"

26 Prepare Access Hole for Bottom Latch Adjustment Pin.

Hollow Metal **For 2-Point Latch Only**



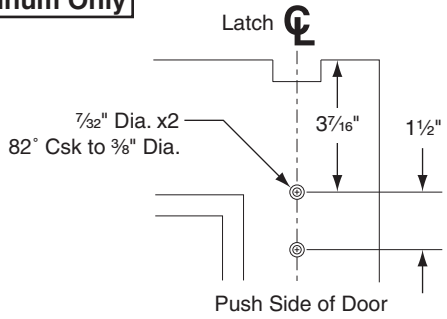
27 If Necessary, Prepare Door for Top Strike Cutout.



Push side of door, RHR shown

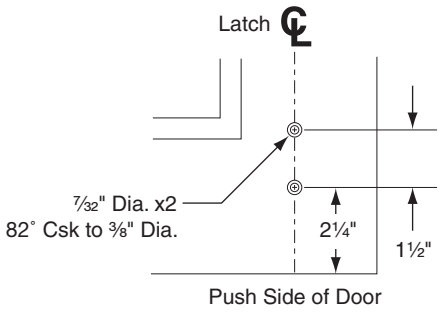
28 Prepare Top of Door for Latch Mounting.

Aluminum Only

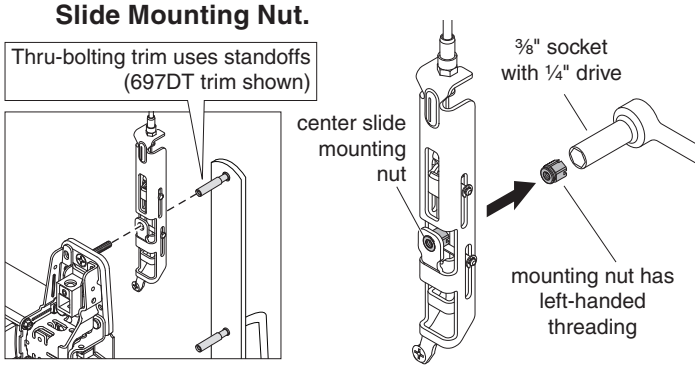


29 Prepare Bottom of Door for Latch Mounting.

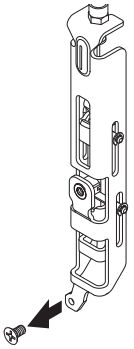
Aluminum **For 2-Point Latch Only**



30 If Using 696/697 Thru-Bolting Trim, Remove Center Slide Mounting Nut.



31 Remove Screw from Center Slide.



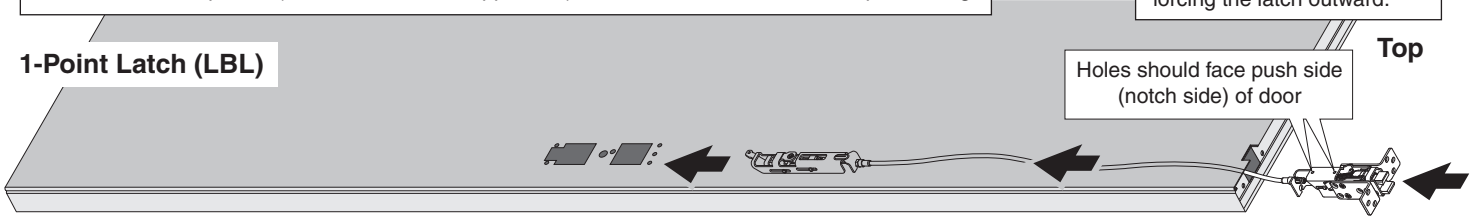
This screw will be used to secure center slide to door in Step 33.

32 Slide Latch and Center Slide Assembly thru Door.

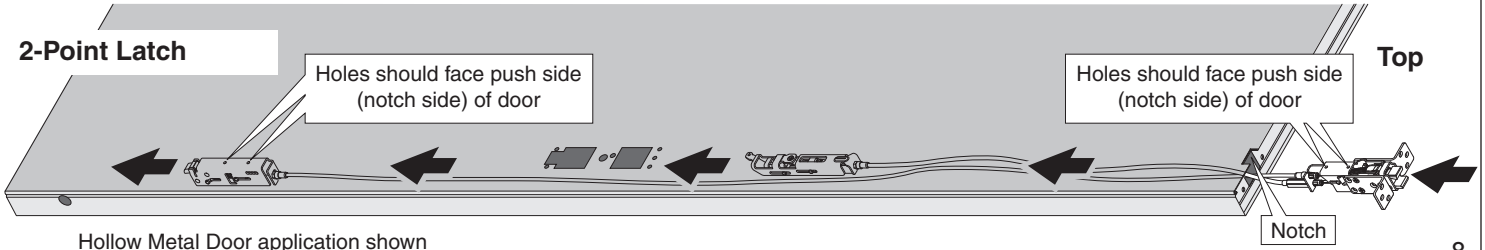
NOTE: Confirm top latch (and bottom latch, if applicable) is in correct orientation before proceeding.

NOTE: It is normal for the cable to bend inside the door, forcing the latch outward.

1-Point Latch (LBL)



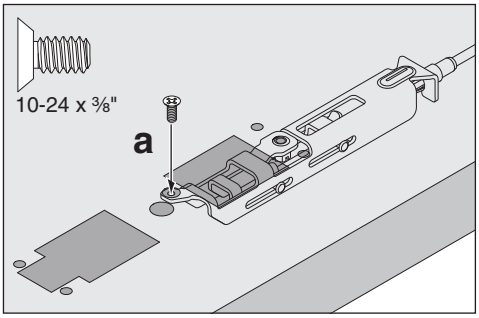
2-Point Latch



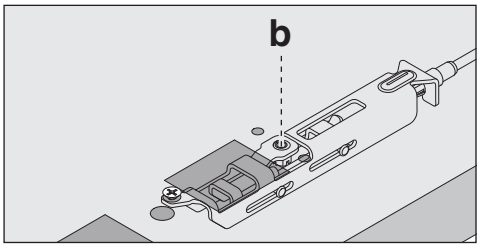
Hollow Metal Door application shown

33 Secure Center Slide to Door.

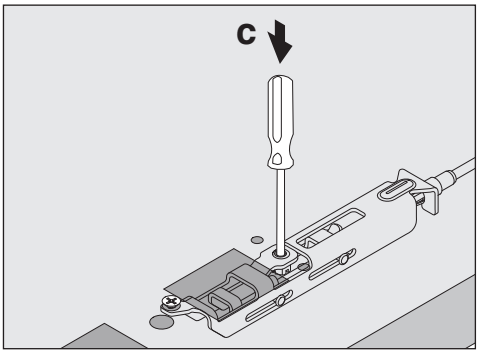
Secure center slide to door by lightly tightening lower screw.



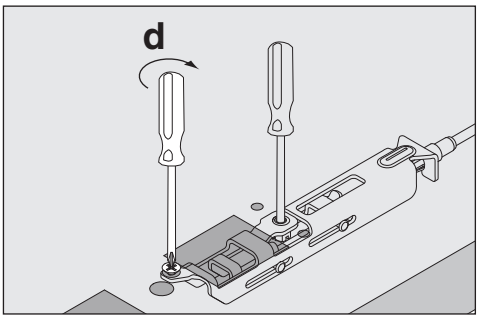
Align upper hole visually.



Insert small screwdriver into upper hole to prevent center slide from rotating.

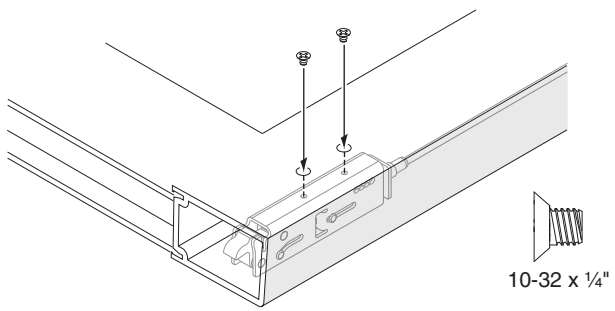


Fully tighten lower screw.



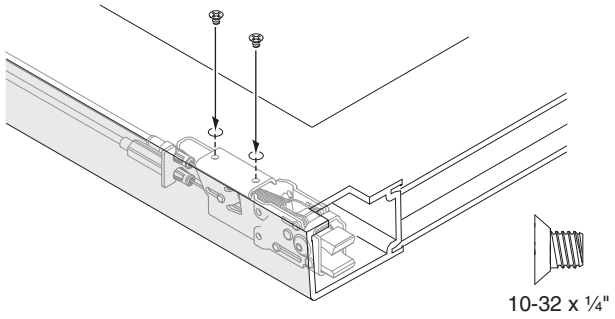
34 Align Bottom Latch and Install Mounting Screws.

Aluminum **For 2-Point Latch Only**



35 Secure Top Latch with 2 Screws.

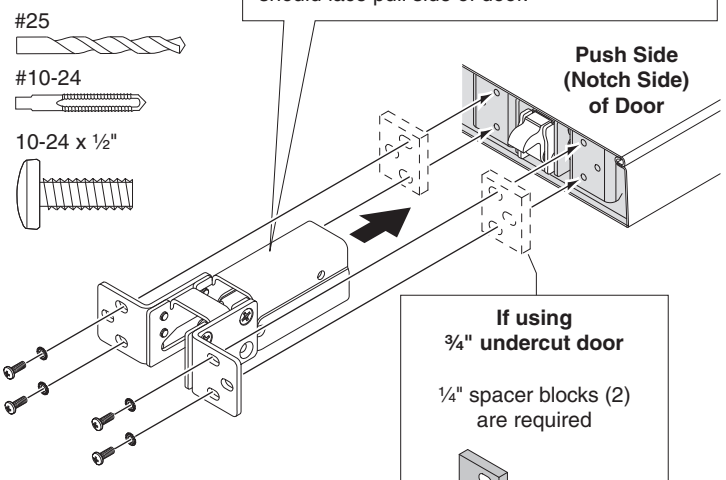
Aluminum Only



36 Install Bottom Latch Mounting Bracket Assembly.

Hollow Metal **For 2-Point Latch Only**

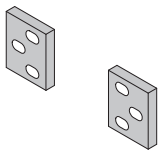
NOTE: Confirm correct orientation of assembly before proceeding. Open side of housing should face pull side of door.



NOTE: Use 2 screws per bracket (center hole not used for this application).

If using ¾" undercut door

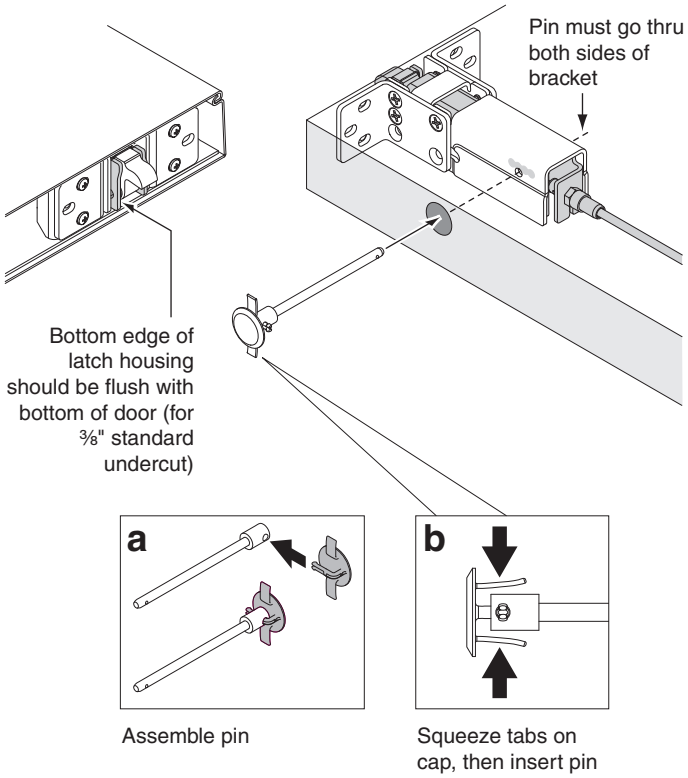
¼" spacer blocks (2) are required



Spacer Block Kit (24231516) purchased separately

37 Insert Latch Adjustment Pin to Hold Bottom Latch in Place.

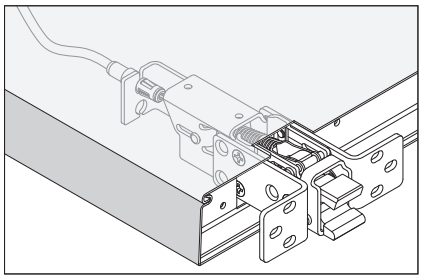
Hollow Metal **For 2-Point Latch Only**

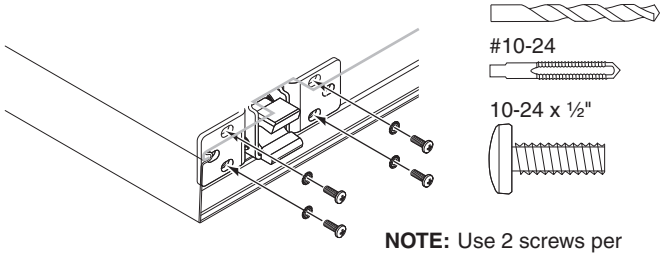


38 Secure Top Latch Mounting Bracket.

Hollow Metal Only

NOTE: It is normal for the cable to bend inside the door, forcing the latch outward as shown here.





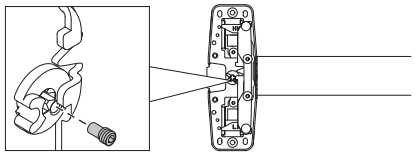
NOTE: Use 2 screws per bracket (center hole not used for this application).

39 Hang Door on Frame.

Caution: For 2-point latches, bottom latch cannot be in locked position while hanging door on frame. Latch must be retracted.

40 If Necessary, Remove NL Drive Screw.

NL drive screw
Factory installed on back of center case



With the NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For the trims listed below, **REMOVE** NL drive screw.

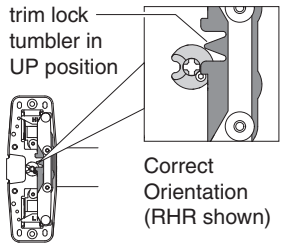
996L	696TP	990TP
996K	697TP	

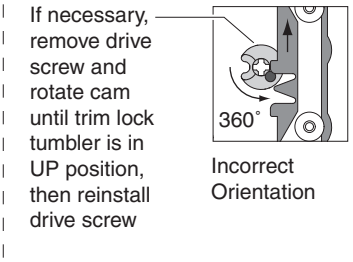
With the NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

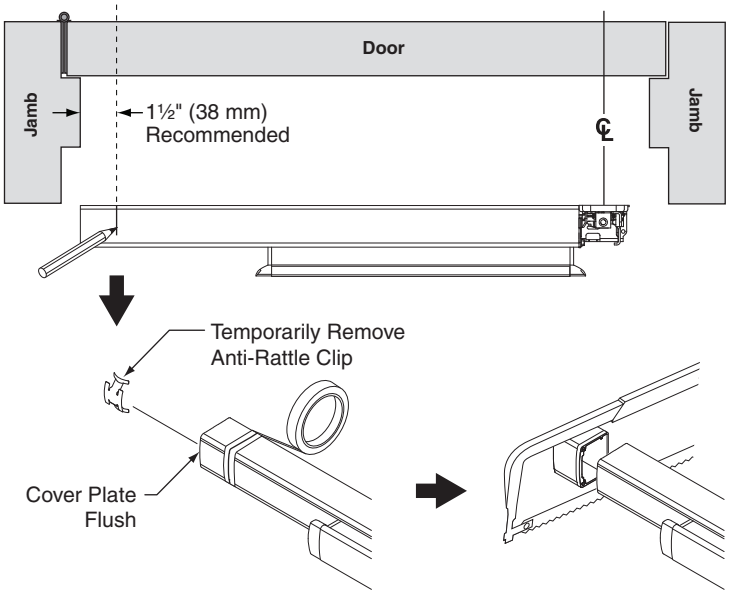
*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

* If the trim being installed is "BE" (i.e. 996L-BE), the trim lock tumbler on the back of the device must be in the **UP** position before device is installed. This allows the trim to be unlocked at all times.

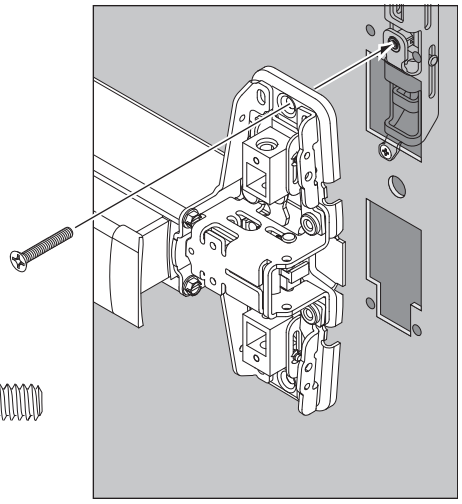


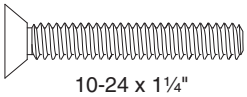


41 If Necessary, Cut Device.



42 Install Top Center Slide Screw.

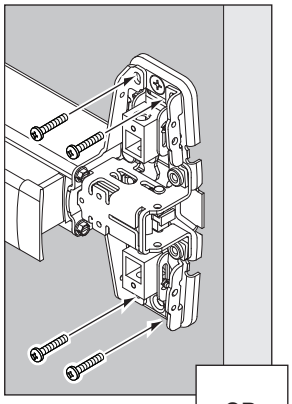




10-24 x 1¼"

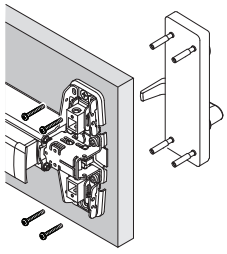
NOTE: If using 696/697 trim, this screw will pass thru top center slide hole and secure directly into trim during Step 43.

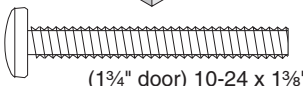
43 Attach Center Case to Door.



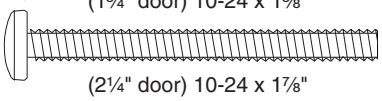
OR

Thru-bolting Trim



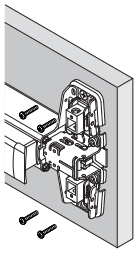


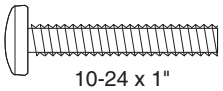
(1¾" door) 10-24 x 1⅜"



(2¼" door) 10-24 x 1⅞"

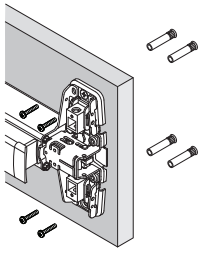
Surface Mount (metal doors only)

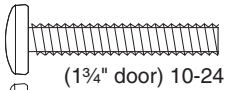




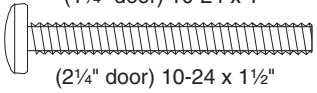
10-24 x 1"

Sex Bolts

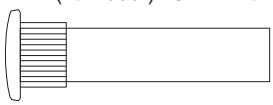




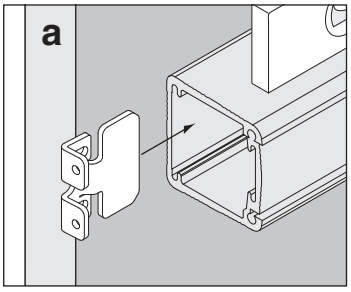
(1¾" door) 10-24 x 1"

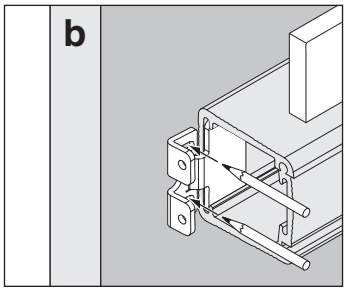


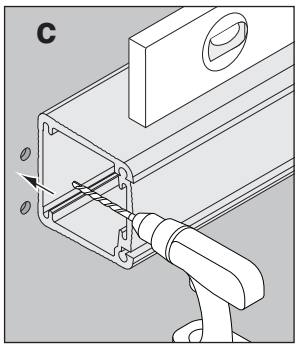
(2¼" door) 10-24 x 1½"



44 Mark and Prepare 2 Holes.







Surface Mount (metal doors only)

#25 #10-24



OR

Sex Bolts

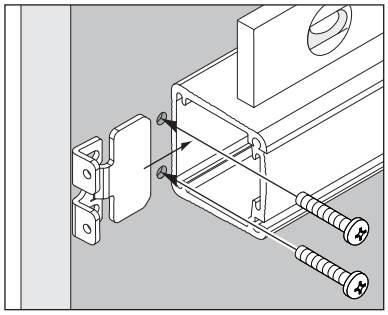
¼" (device side)

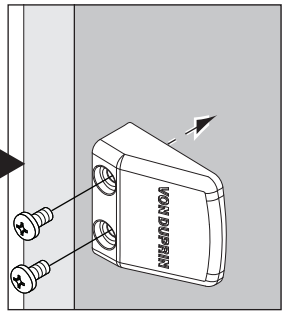


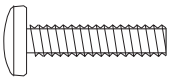
13/32" (trim side)



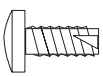
45 Install End Cap Bracket and End Cap.



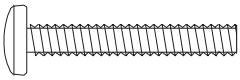




Surface Mount or Sex Bolts
(1¾" door) 10-24 x ¾"

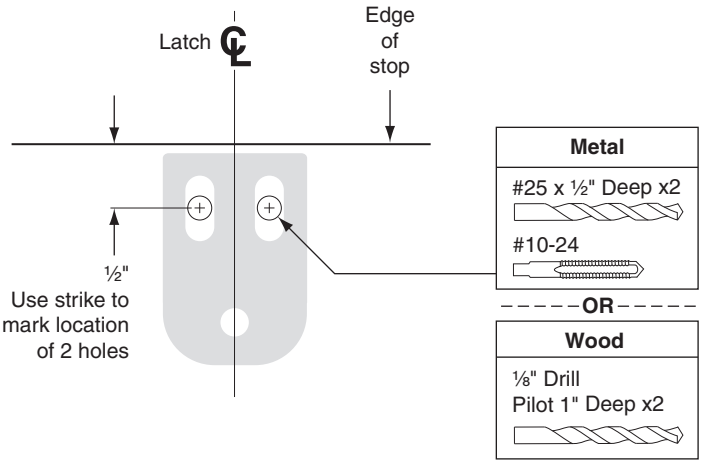


10-16 x ⅜"

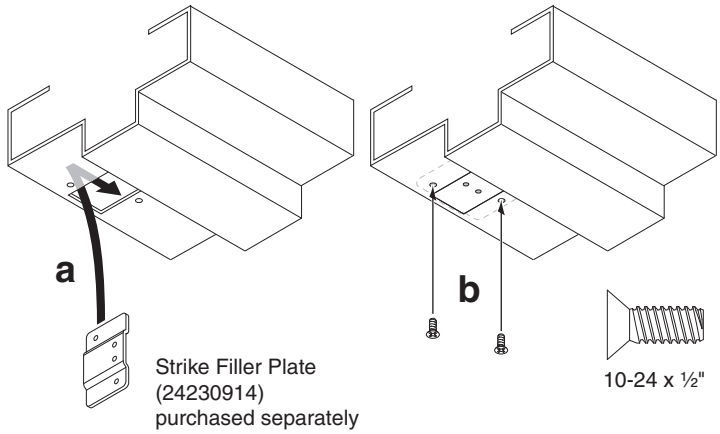


Sex Bolts
(2¼" door) 10-24 x 1⅛"

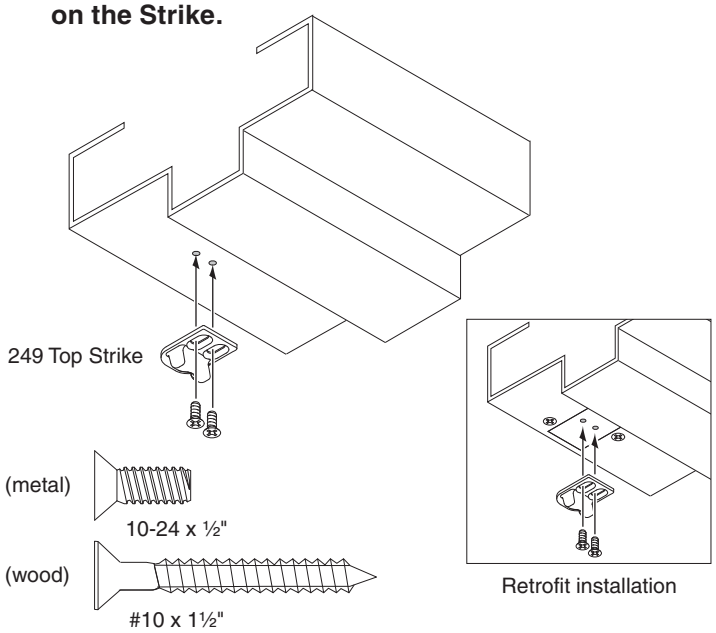
46 If New Installation, Prepare Door Frame for Top Strike.



47 If Retrofit Installation, Install Steel Cover Plate to Cover Existing 338 Strike Opening in Accordance with the Frame Manufacturer's Fire Listing.

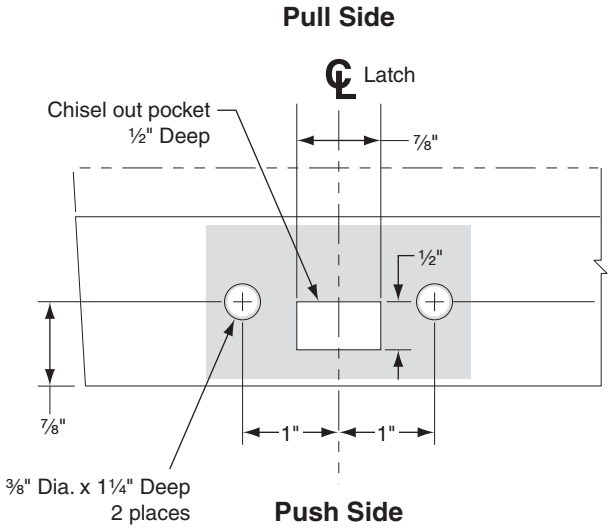


48 Install 2 Top Strike Screws Using the Slot Features on the Strike.



49 Prepare Floor for Bottom Strike.

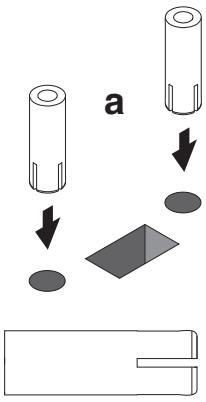
Hollow Metal **For 2-Point Latch Only**



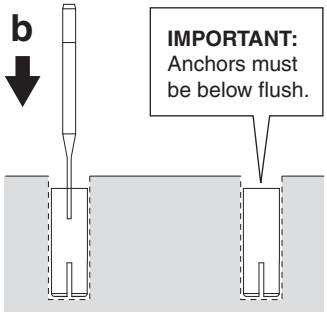
50 Install Bottom Strike.

Hollow Metal **For 2-Point Latch Only**

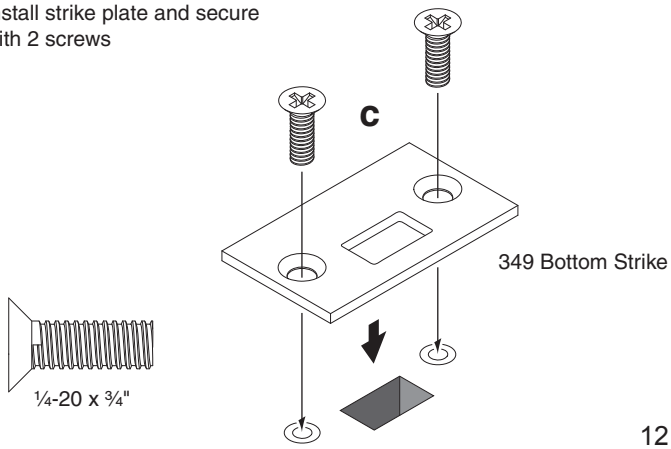
Clear holes of debris, then drop in anchors (slotted end first)



Secure the anchors using a hammer and punch



Install strike plate and secure with 2 screws

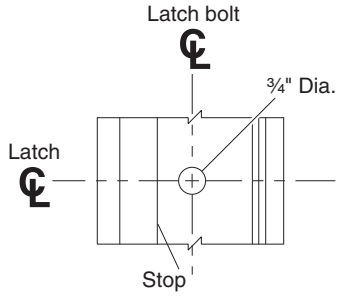


51 Prepare Threshold.

Aluminum **For 2-Point Latch Only**

a. After closing door with bottom latch installed, mark location where bottom latch bolt is contacting the threshold.

b. Drill a ¾" diameter hole in the threshold.



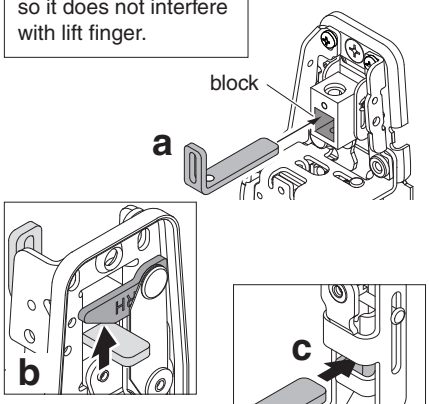
52 Install Lift Finger and Retainer Clip.

NOTE: Lift finger installation must be performed while the latches are in the extended (latched) position.

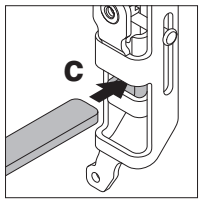
Slide L-shaped lift finger thru block in device center case and then into center slide

For 2-Point Latch Only

Push cable to the side so it does not interfere with lift finger.

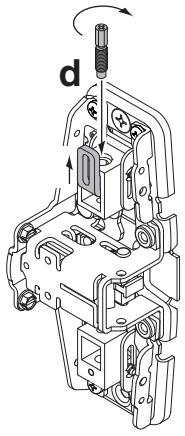


Lift finger must pass below locking tumbler (back of center case shown for clarity)



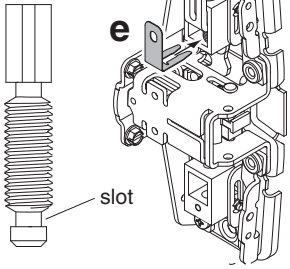
Lift finger must insert into center slide here

Insert adjustment screw and rotate clockwise with screwdriver to raise lift finger until it is snug against block

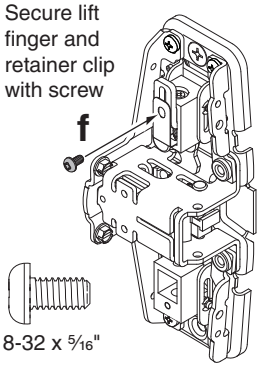


Install retainer clip against lift finger, snapping it into the slot of the adjustment screw

It may be necessary to back out adjustment screw a couple turns to see slot.



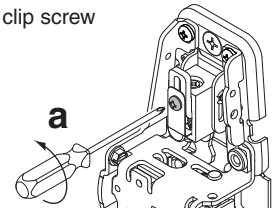
Secure lift finger and retainer clip with screw



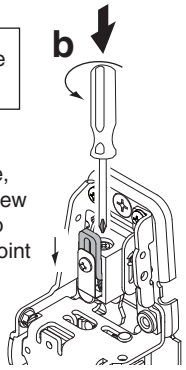
53 Adjust Lift Finger.

NOTE: Lift finger adjustment must be performed while the latches are in the extended (latched) position.

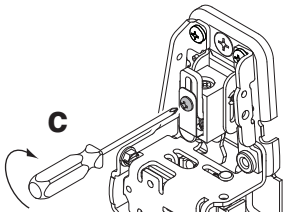
Loosen retainer clip screw



While maintaining downward pressure, turn adjustment screw counterclockwise to lower lift finger to point where top latch unlocks with push pad depressed halfway



Tighten retainer clip screw



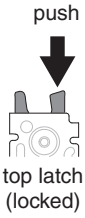
54 Confirm Top Deadlatching.

a. Lock top latch.

b. Push down on top latchbolt. Latchbolt should NOT release.

If latchbolt releases,

- Loosen retainer clip screw.
- Rotate adjustment screw clockwise a couple turns to raise lift finger.
- Retighten retainer clip screw.





55 Perform Functional Test of Door.

a. Depress pushbar. Door should begin to open when pushbar is nearly fully depressed. If necessary, refer to Step 53 to readjust lift finger.

b. With door closed, top latch should be secure.

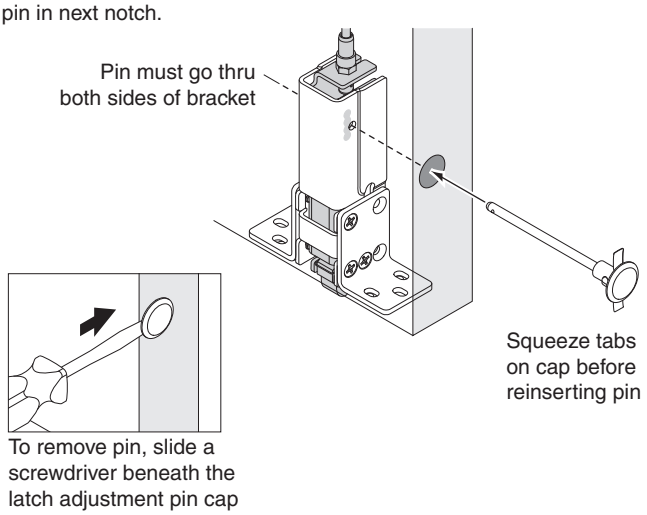
For 2-Point Latch Only

c. With door closed, bottom latch should be secure.

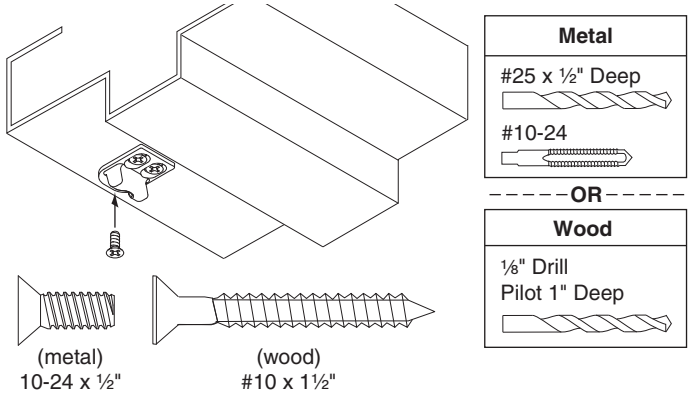
d. Confirm that bottom latch does not drag against floor when door is opened.

Hollow Metal **For 2-Point Latch Only**

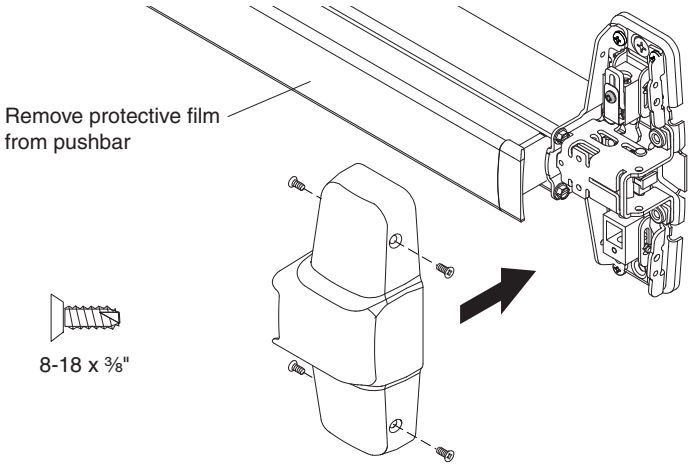
If this occurs, remove latch adjustment pin and raise latch, then reinsert pin in next notch.



56 Adjust Top Strike as Necessary, then Install the Third Strike Screw to Fix the Strike Position.



57 Install Center Case Cover.



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.

CD function conversion

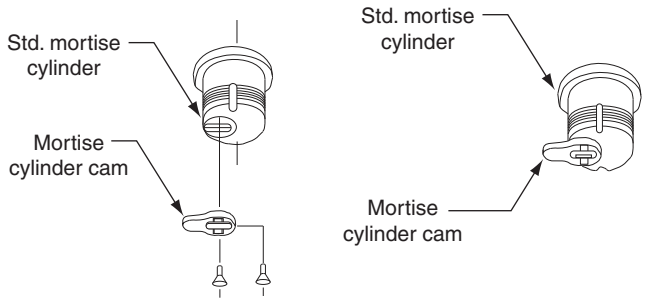
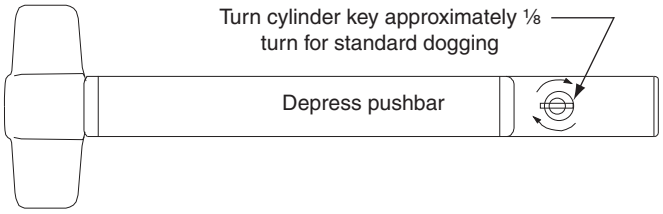


Figure 1

Dogging procedure



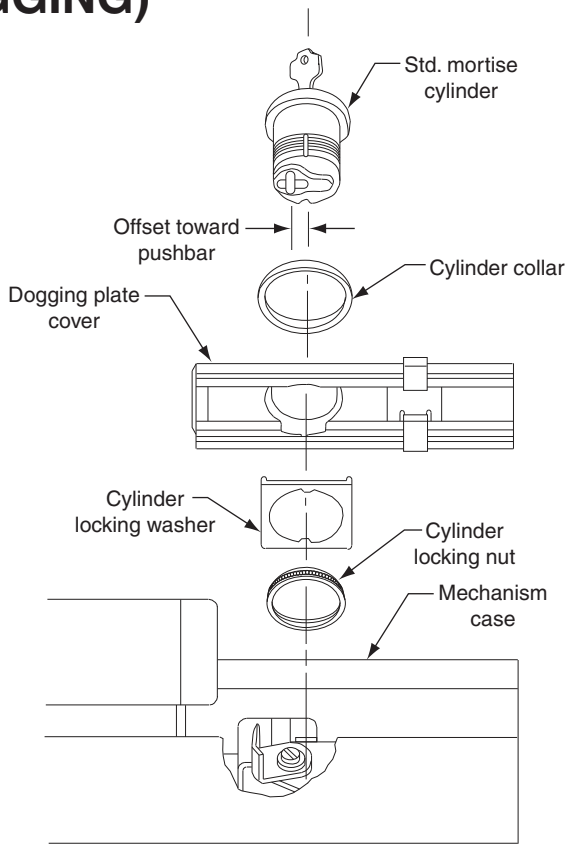


Figure 2

WARNINGS AND CAUTIONS

WARNING

Warnings indicate potentially hazardous conditions, which if not avoided or corrected, may cause death or serious injury.

CAUTION

Cautions indicate potentially hazardous conditions, which if not avoided or corrected, may cause minor or moderate injury. Cautions may also warn against unsafe practices.

Caution: Cautions indicate a condition that may cause equipment or property damage only.

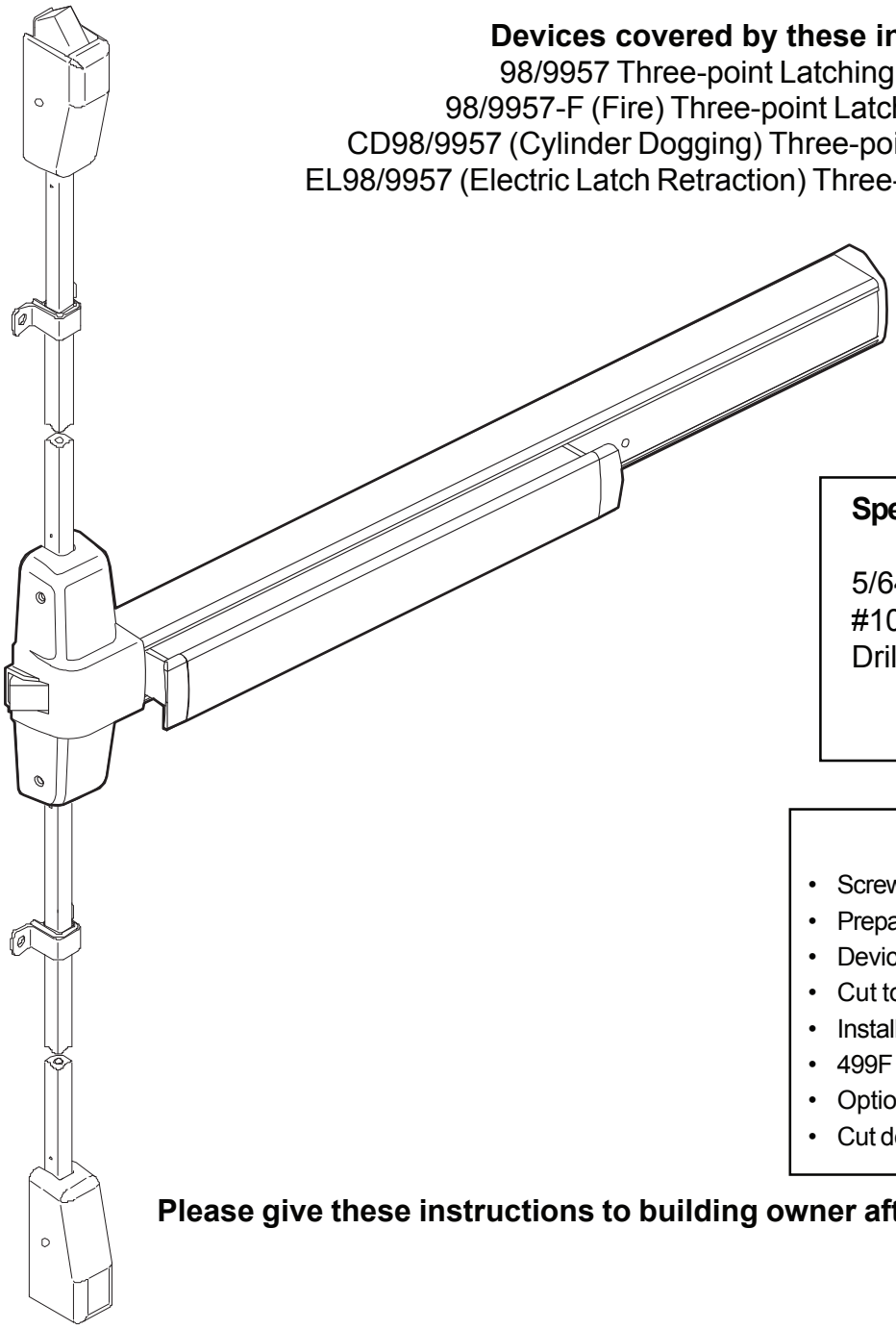
911378-00

98/9957

VON DUPRIN

Three-point Latching Exit Device

Installation Instructions



Devices covered by these instructions:

98/9957 Three-point Latching Exit Device
98/9957-F (Fire) Three-point Latching Exit Device
CD98/9957 (Cylinder Dogging) Three-point Latching Exit Device
EL98/9957 (Electric Latch Retraction) Three-point Latching Exit Device

Special tools needed:

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

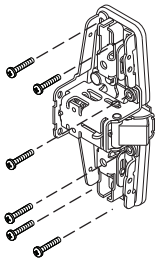
Index:

- Screw chart 2
- Preparation chart 3
- Device installation 4-7
- Cut top rod 8
- Install rod extension 8
- 499F strike installation 9
- Optional equipment 9
- Cut device 10

Please give these instructions to building owner after device is installed

SCREW CHART

A



#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)

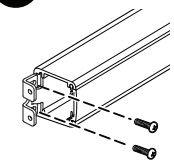
#10 x 1-1/4" Wood screw — Surface mount (wood)

- 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)

B



#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

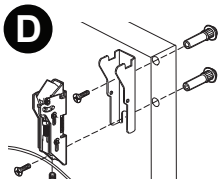
#10 x 1-1/4" Wood screw — Surface mount (wood)

C



#10-16 X 3/8" Thread cutting — End cap

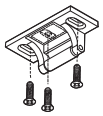
D



1/4-20 X 3/4" — 1-3/4" door

1/4-20 X 1-1/4" — 2-1/4" door

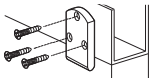
E



#10-24 X 3/4" — Metal frame

#10 X 1-1/2" Wood screw — Wood frame

F



#10-12 X 10-24 X 1-1/4" Combination — Metal or wood frame

G



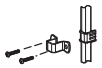
#10-12 X 10-24 X 1-1/4" Combination — Variable floor surfaces

H



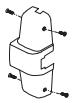
#8-32 X 1/4" — Latch covers

I



#10-12 X 10-24 X 1" Combination — Metal or wood door

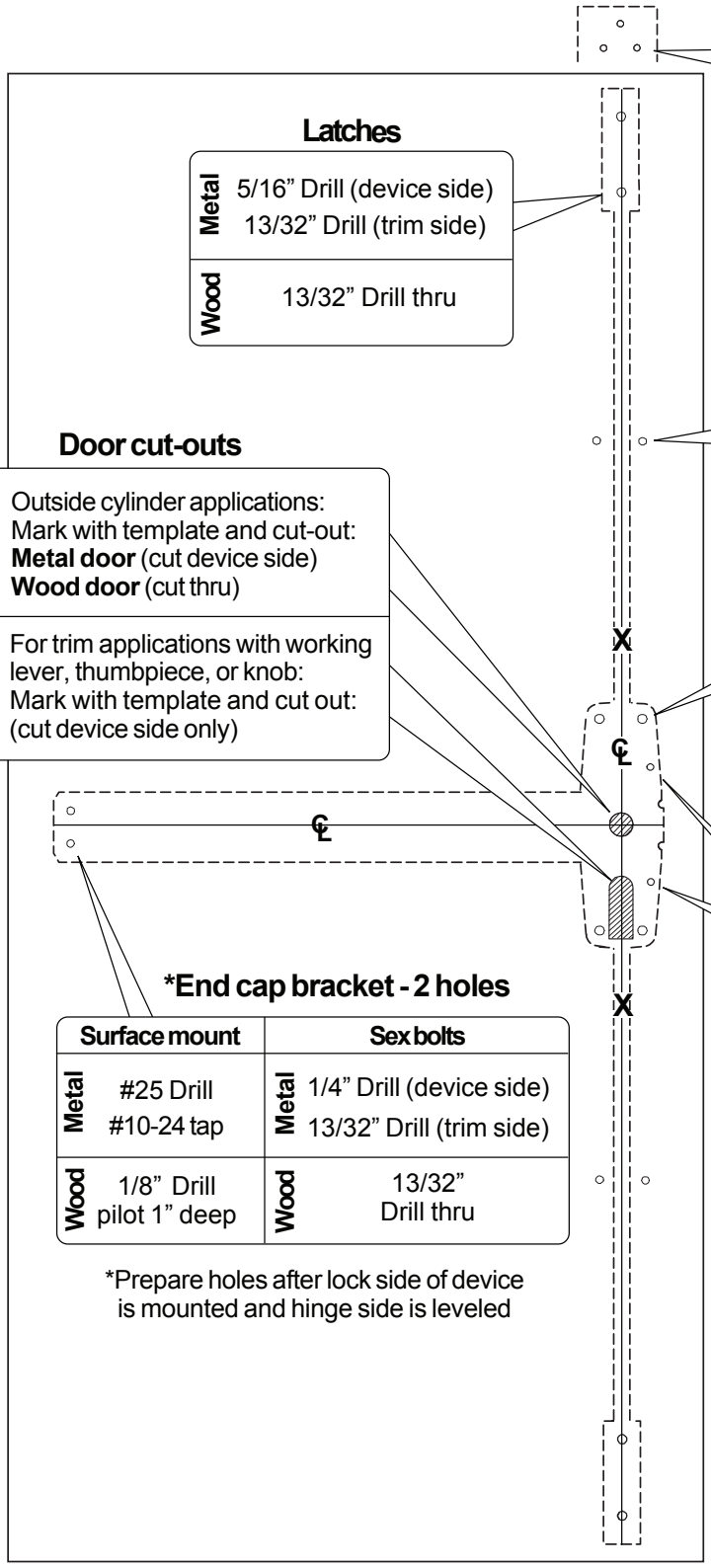
J



#8-18 X 3/8" Thread cutting — Center case cover

PREPARATION CHART

Go to instructions on next page before using Preparation Chart



Top strike

Metal	#25 Drill #10-24 Tap
Wood	1/8" Drill pilot 1" deep

Latches

Metal	5/16" Drill (device side) 13/32" Drill (trim side)
Wood	13/32" Drill thru

*Rod guides

Metal	#25 Drill #10-24 Tap
Wood	1/8" Drill pilot 1" deep

*Use rod guide as a template to mark holes

Door cut-outs

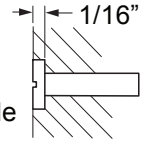
	Outside cylinder applications: Mark with template and cut-out: **Metal door** (cut device side) **Wood door** (cut thru)
	For trim applications with working lever, thumbpiece, or knob: Mark with template and cut out: (cut device side only)

Center case - 4 holes

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

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



*End cap bracket - 2 holes

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

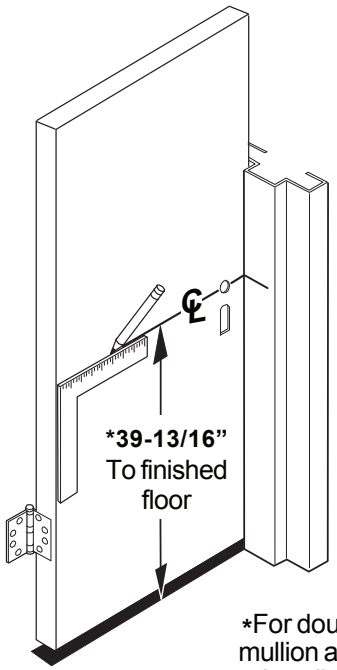
*Prepare holes after lock side of device is mounted and hinge side is leveled

Bottom strike

Metal	#25 Drill #10-24 Tap
Wood	1/8" Drill pilot 1" deep

See template for strike variations

1 Draw horizontal device and strike center line (℄).

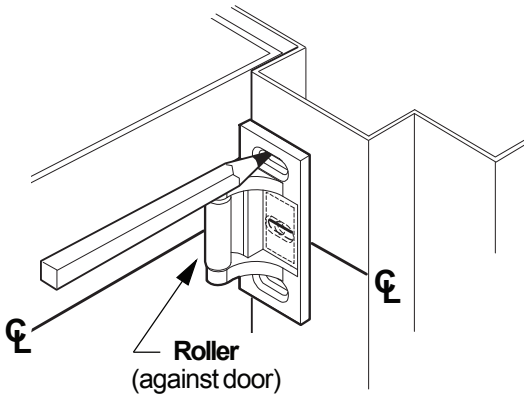


RHR Shown
(LHR opposite)

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

2 Align strike on ℄ and mark the two slotted holes.

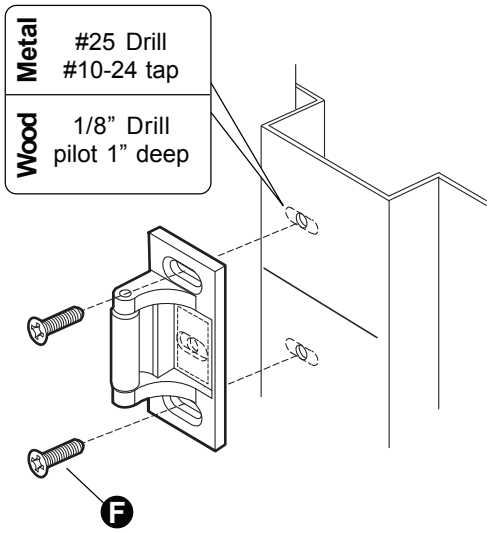
299/299F Strike



For **499F Strike** see page 9.

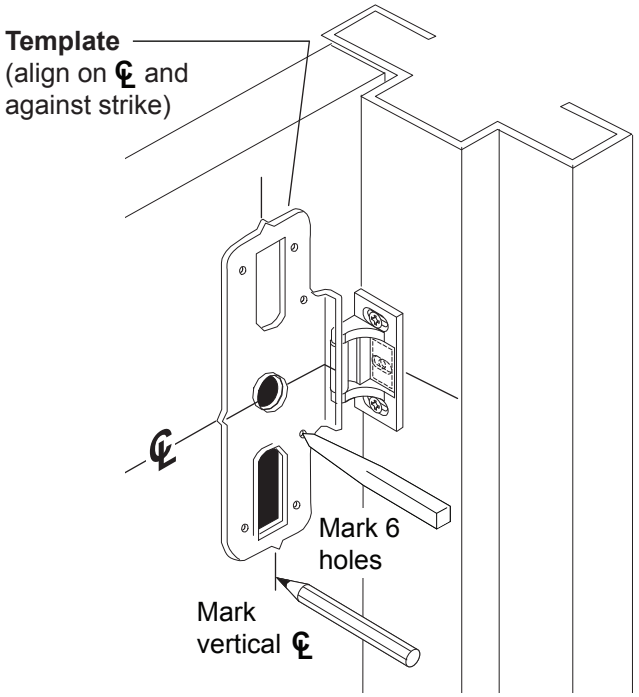
3 Prepare 2 holes and install a screw thru each slot.

299/299F Strike



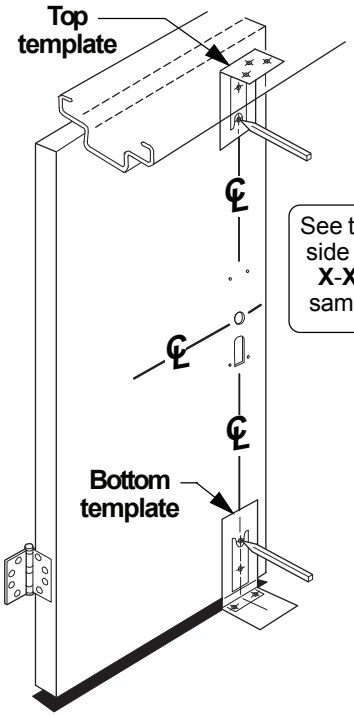
See "**Screw Chart**" on page 2 for screw types and sizes

4 Position template against strike and on ℄ and mark door.



5 Mark vertical ℄ with template and use top and bottom templates to prepare door and frame.

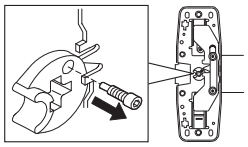
See "**Preparation Chart**" on page 3 for drill, tap, and cut-out information



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 and install tailpiece guide.

NL drive screw

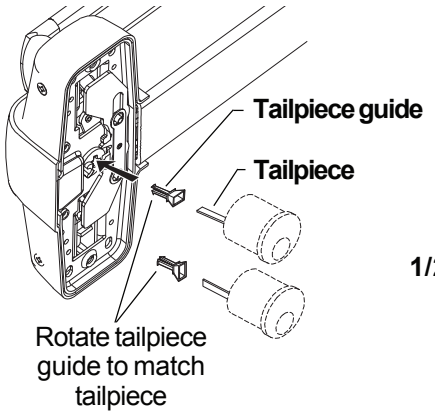


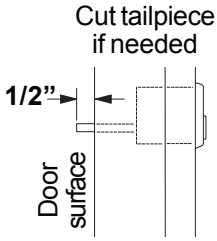
Note: When the NL drive screw is left in back of device, the outside cylinder will function only as a Night Latch.

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.

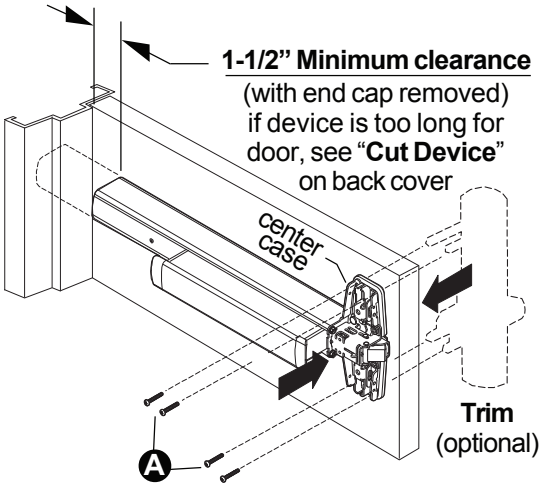
DO NOT remove NL drive screw for the following trims:
NL, EO, DT, TP-2, L-2, and K-2.

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

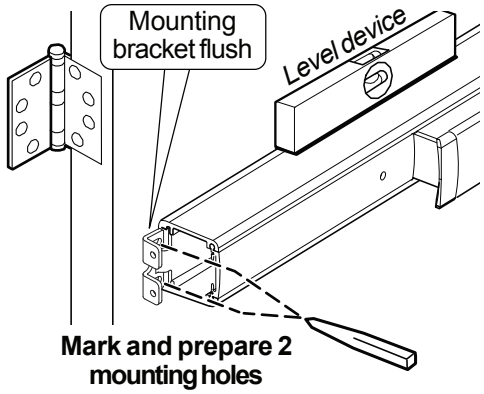




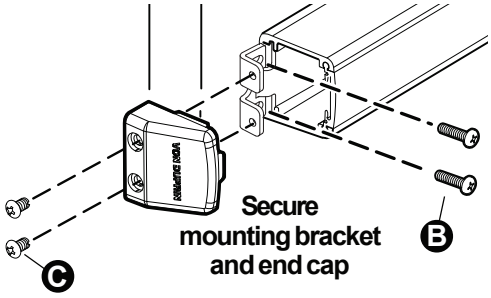
7 Install trim (if using) and secure device center case to door.



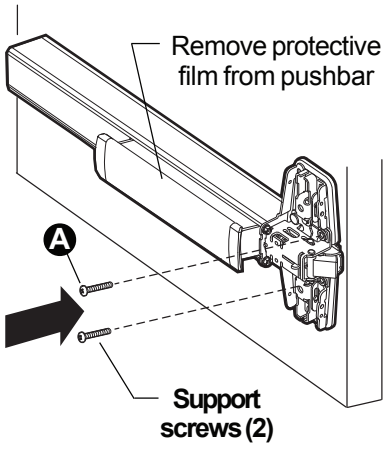
8 Install mounting bracket and end cap.



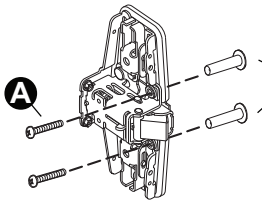
See "**Preparation Chart**" on page 3 for preparation



9 Install 2 support screws.



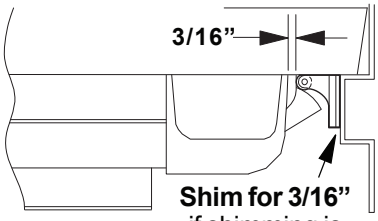
For **98/9957F (fire rated)** devices on wood or composite door:

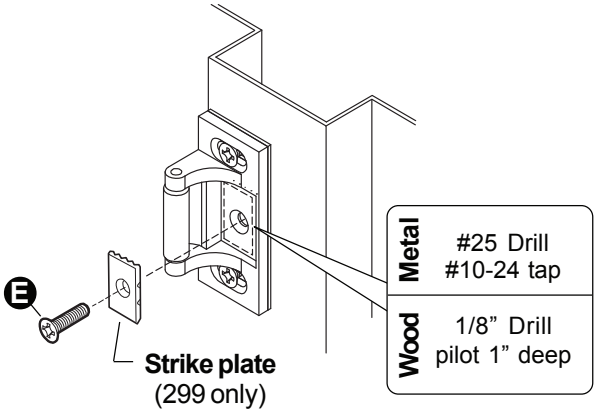


#825 sex bolts required for 2 support screws

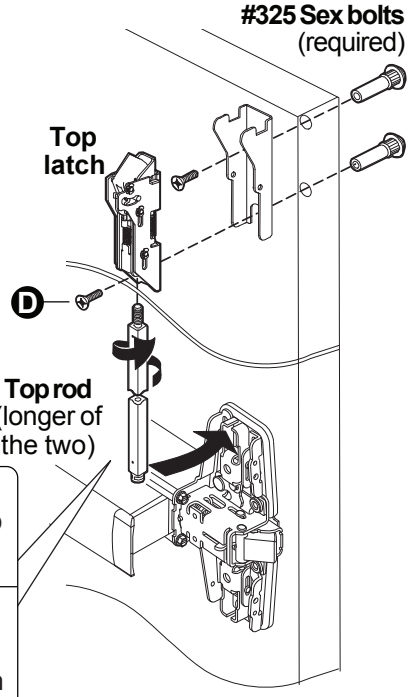
10 Adjust and secure strike.

299/299F Strike





11 Install top latch and rod.

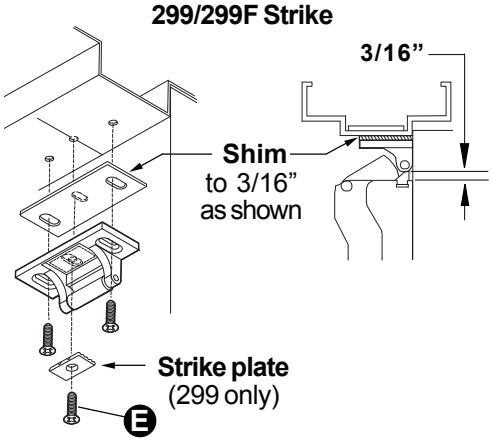


If top rod is too long, see "**Cut top rod**" on page 8

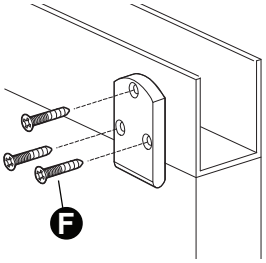
If top rod is too short, see "**Install rod extension**" on page 8

12 Install top strike.

299/299F Strike

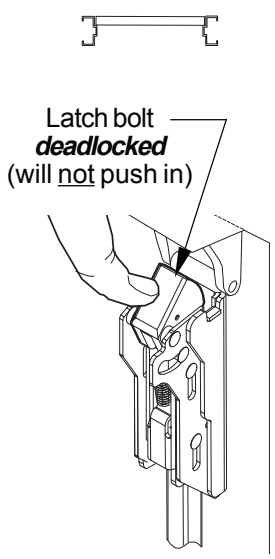


260U Strike

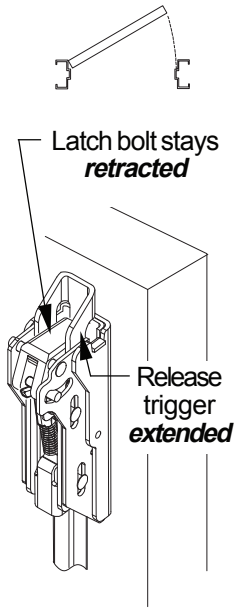


13 Adjust top rod (screw rod into or out of latch) until adjusted as shown.

With door closed:

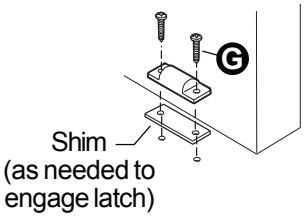


With door open:

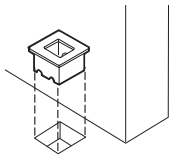


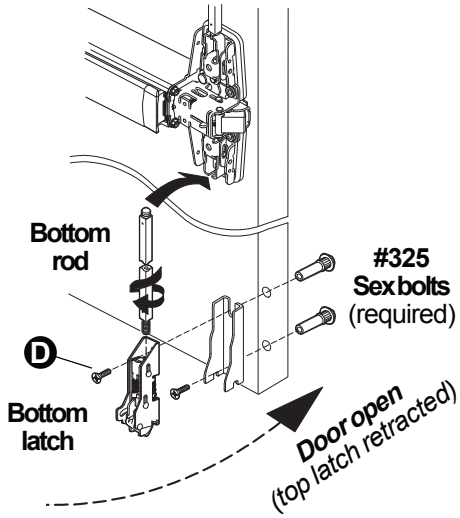
14 Install bottom strike, latch, and rod.

248L-4 Strike



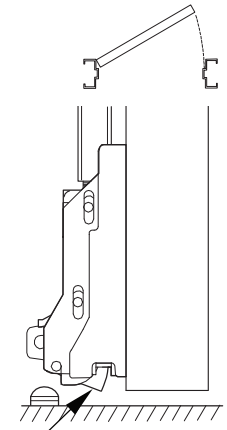
304L Strike
Grout strike into floor



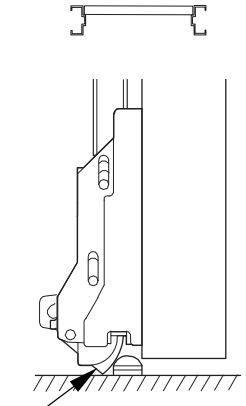


15 Adjust bottom rod with door open (top latch retracted).

With door open:



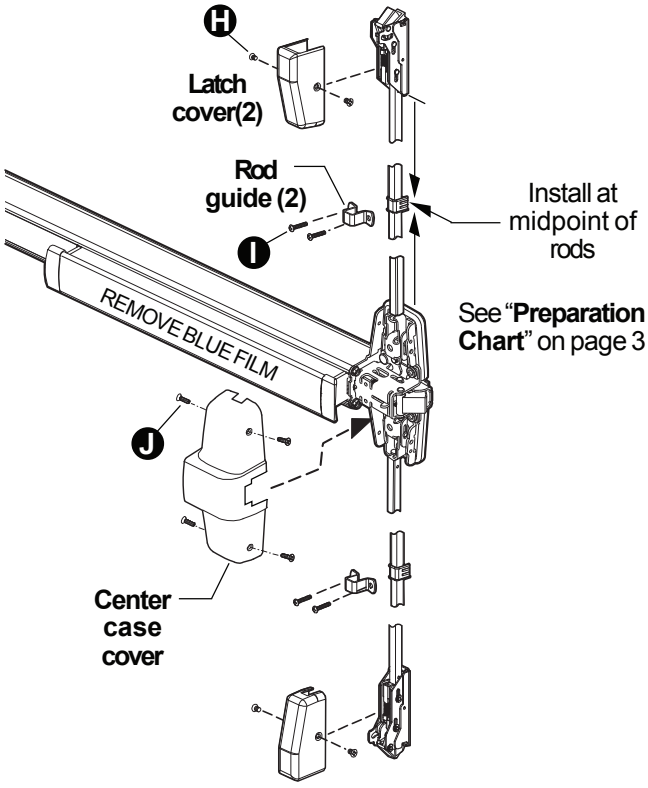
With door closed:



Open and close door a few times and check for deadlocking when door is closed

Readjust rods if needed

16 Install rod guides and covers.

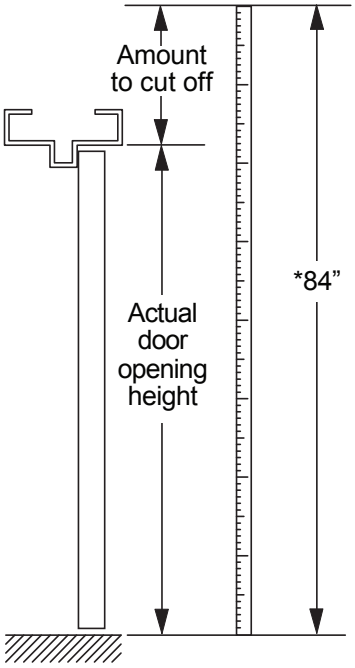


See "**Preparation Chart**" on page 3

CUT TOP ROD

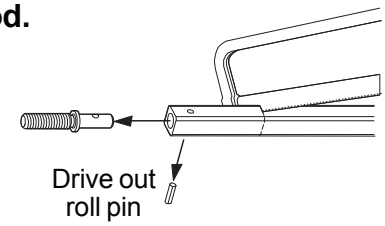
1. Measure amount to cut off rod as shown below.

Note: Rod cutting is required for doors shorter than 7'.

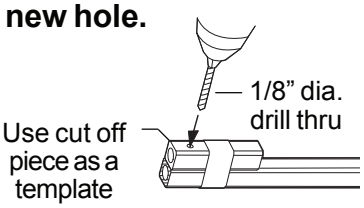


*Rods are factory sized for 7' (84") door. Measure actual door height and subtract that number from 84" to get amount to cut off top rod.

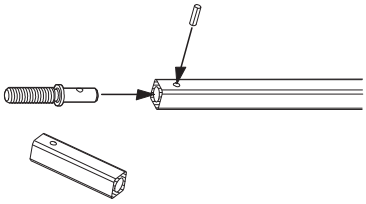
2. Cut rod.



3. Drill new hole.

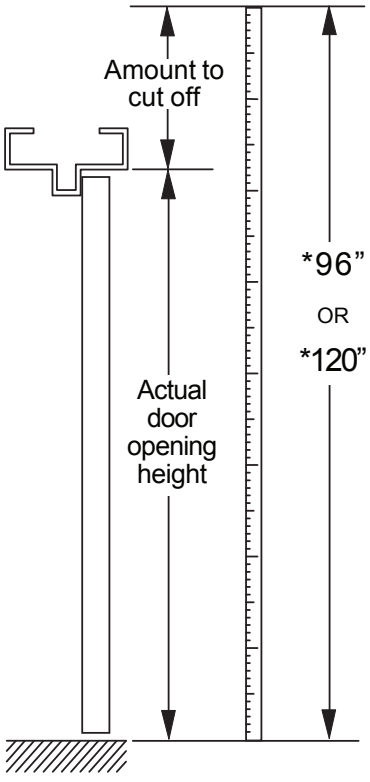


4. Reinstall rod end and roll pin.



INSTALL ROD EXTENSION

1. Measure door opening to determine amount to cut off rod extension.

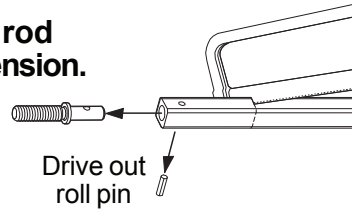


***Standard door heights:**

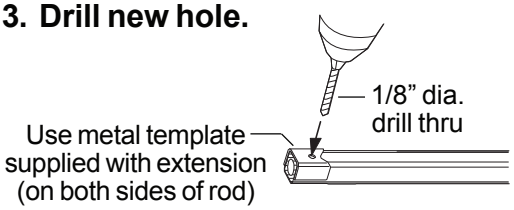
With no extension	7' (84")
With 1' extension	8' (96")
With 3' extension	10' (120")

*Rods are factory sized for door heights shown above. Measure actual door height and subtract that number from 96" (for 1' extension) or 120" (for 3' extension) to get amount to cut off extension.

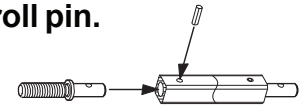
2. Cut rod extension.



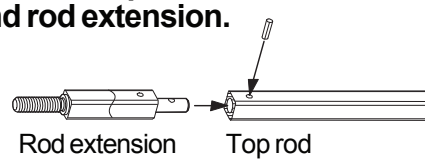
3. Drill new hole.



4. Reinstall rod end and roll pin.



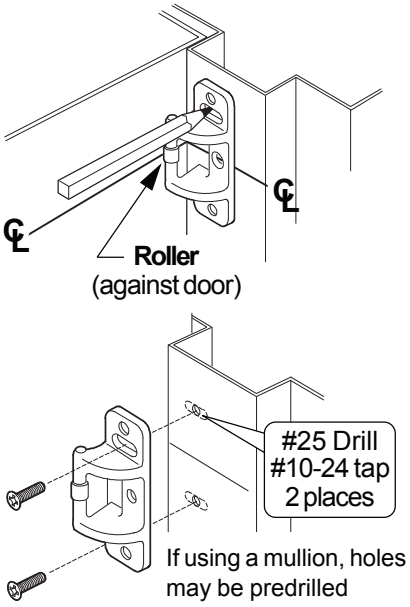
5. Connect top rod and rod extension.



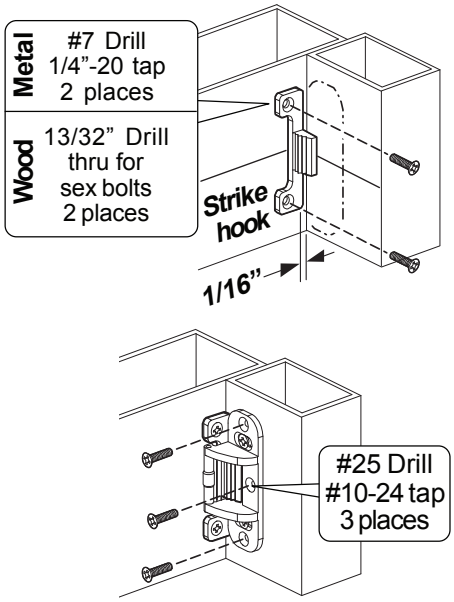
OPTIONAL EQUIPMENT

499F STRIKE INSTALLATION

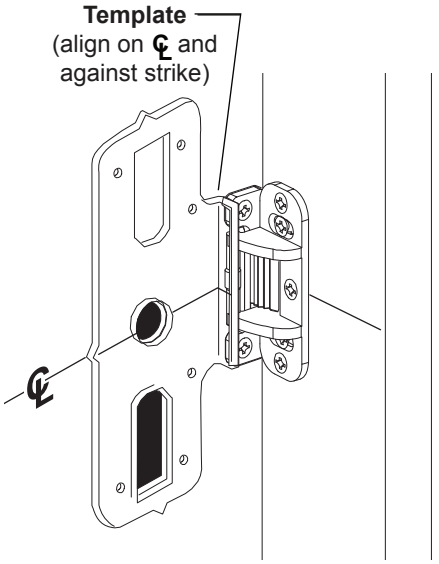
1 **Prepare and install screws through 2 strike slots.**



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



3 **Template aligns as shown.**



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.

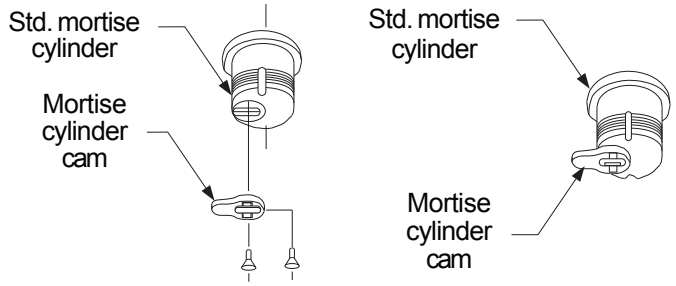
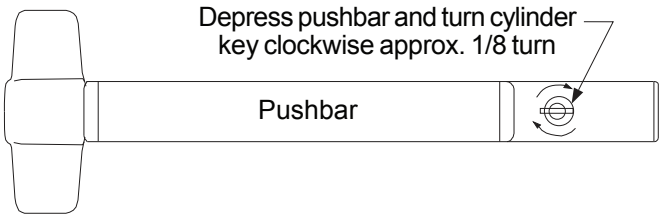


Figure 1

Dogging procedure



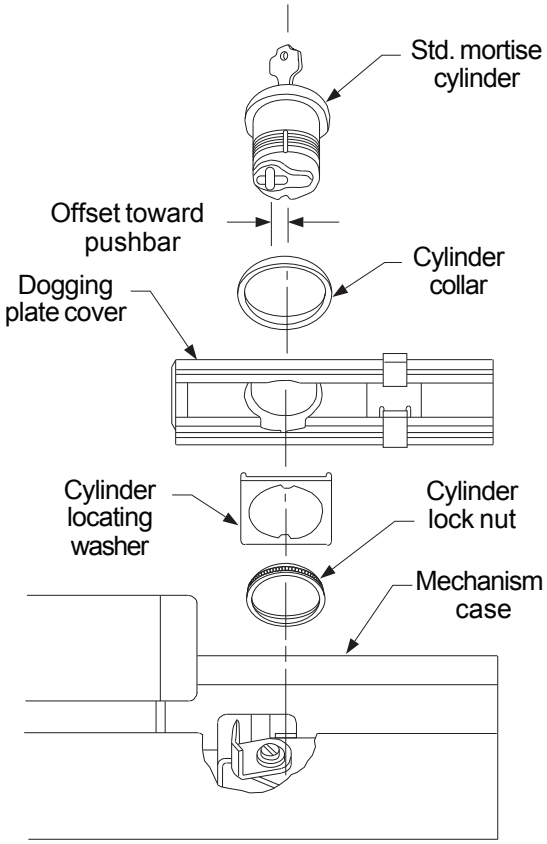
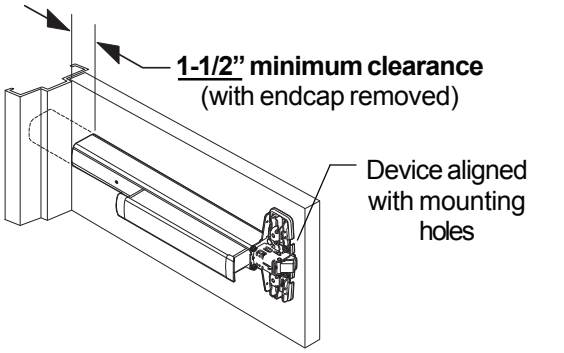


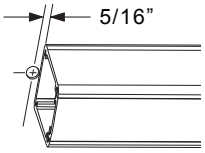
Figure 2

CUT DEVICE

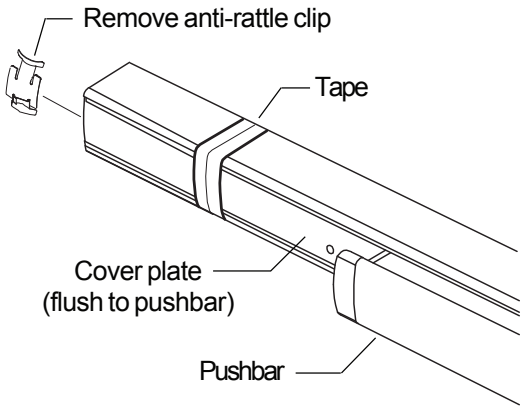
1 Measure amount to cut off device.



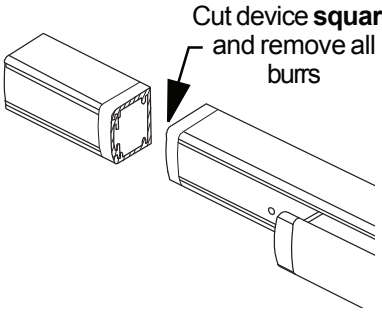
Note
If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.



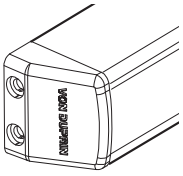
2 Tape and mark area being cut.



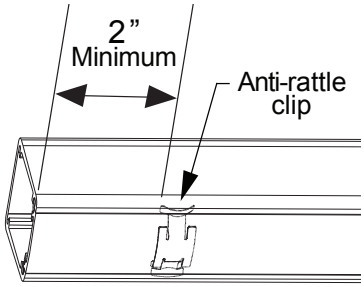
3 Cut device square.



NOTE: Device must be cut **square** for proper end cap fit



4 Slide anti-rattle clip into device.



24807570

CVC Cable Attachment

VON DUPRIN

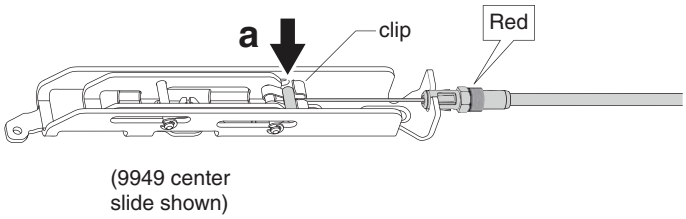
Installation Instructions

FOR DEVICES SOLD PRIOR TO 8-10-16

98/9949, 33/3549A

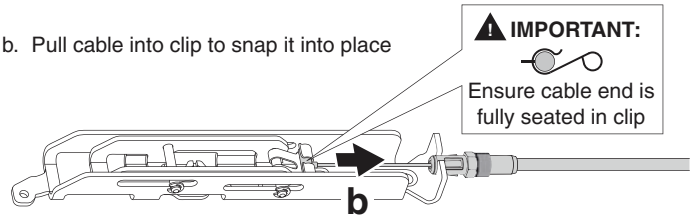
1 Install Cable(s).

a. Position red cable end to clip on center slide

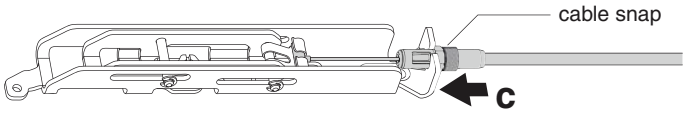


(9949 center slide shown)

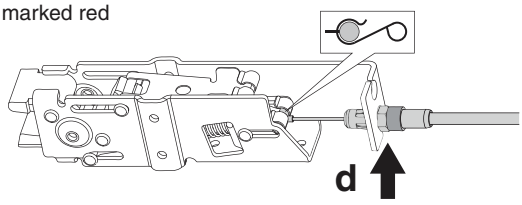
b. Pull cable into clip to snap it into place



c. Push cable snap against center slide to secure cable

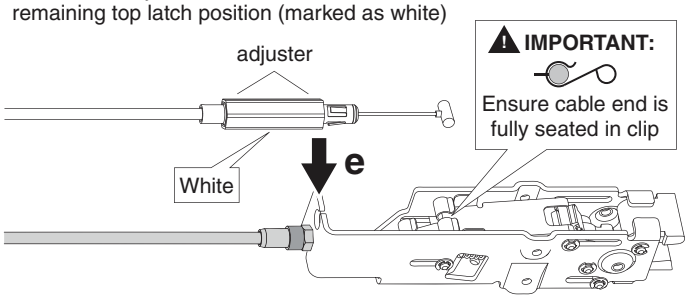


d. In the same way, install opposite end of red cable to top latch in the position marked red

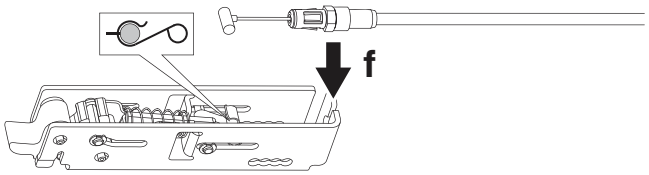


For 2-Point Latch Only

e. There is an adjuster on one end of the white cable. Install this end to the remaining top latch position (marked as white)



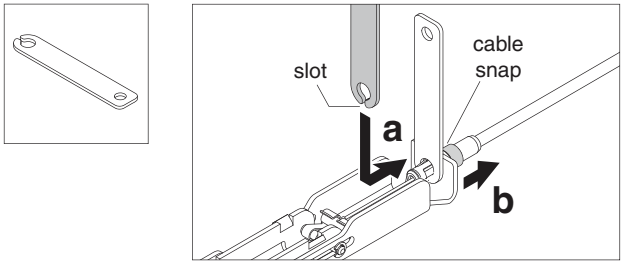
f. Install opposite end of white cable to bottom latch



2 Refer to Device Instructions to Complete Installation.

CABLE REMOVAL

A cable removal tool was included with device. Slot in tool fits over cable, holding tabs down. Pull on cable snap to loosen cable for removal.

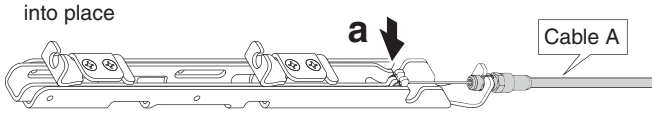


98/9949WDC

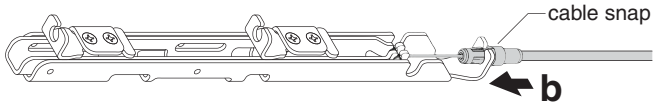
Cable A = Top Cable
Cable B = Upper Bottom Cable
Cable C = Lower Bottom Cable

1 Install Top Latch Cable Assembly.

a. Using **Cable A**, position cable end to clip on center slide, and snap it into place

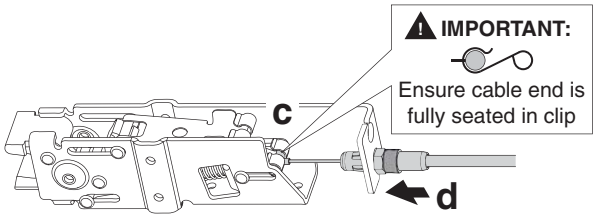


b. Push cable snap against center slide to secure cable



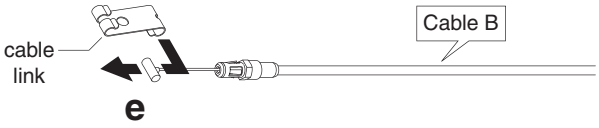
c. Position opposite end of **Cable A** to the top latch in the position marked red. Pull cable into clip to snap it into place.

d. Push cable snap against latch to secure cable

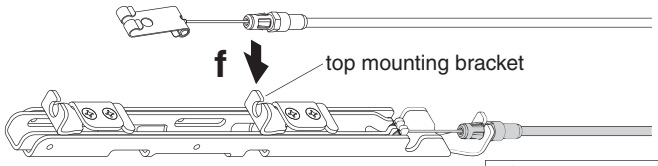


For 2-Point Latch Only

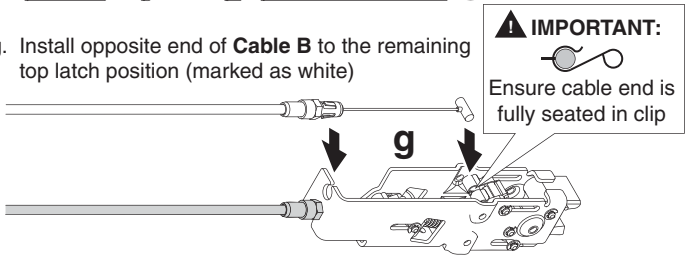
e. Snap cable link onto one end of **Cable B**



f. Install **Cable B** to the top mounting bracket



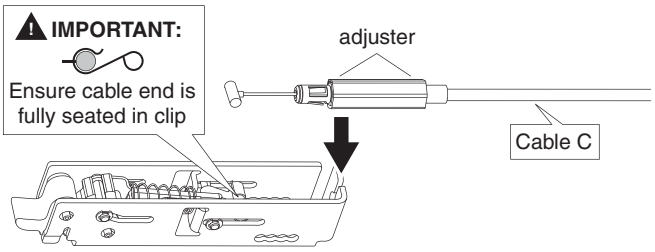
g. Install opposite end of **Cable B** to the remaining top latch position (marked as white)



2 Install Bottom Latch Cable Assembly.

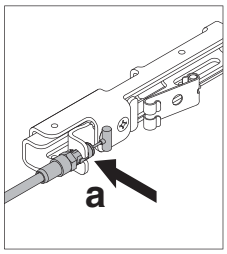
For 2-Point Latch Only

One end of **Cable C** has an adjuster. Install this end to the bottom latch.

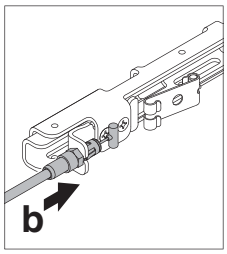


3 Temporarily Attach Bottom Latch Cable Assembly to Center Slide.

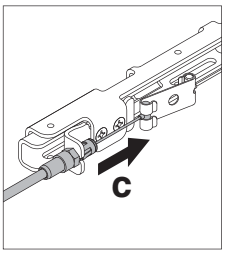
For 2-Point Latch Only



Position **Cable C** to bottom mounting bracket on center slide



Push cable snap against mounting bracket to secure cable

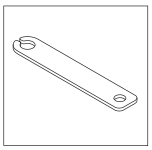


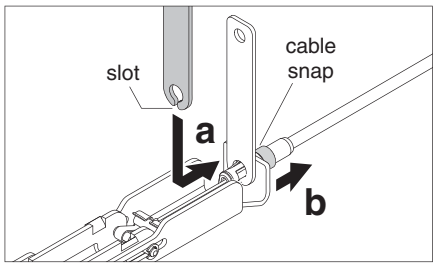
Pull on cable end to attach it to the cable link

4 Refer to Device Instructions to Complete Installation.

CABLE REMOVAL

A cable removal tool was included with device. Slot in tool fits over cable, holding tabs down. Pull on cable snap to loosen cable for removal.





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

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24807570 Rev. 05/14-a

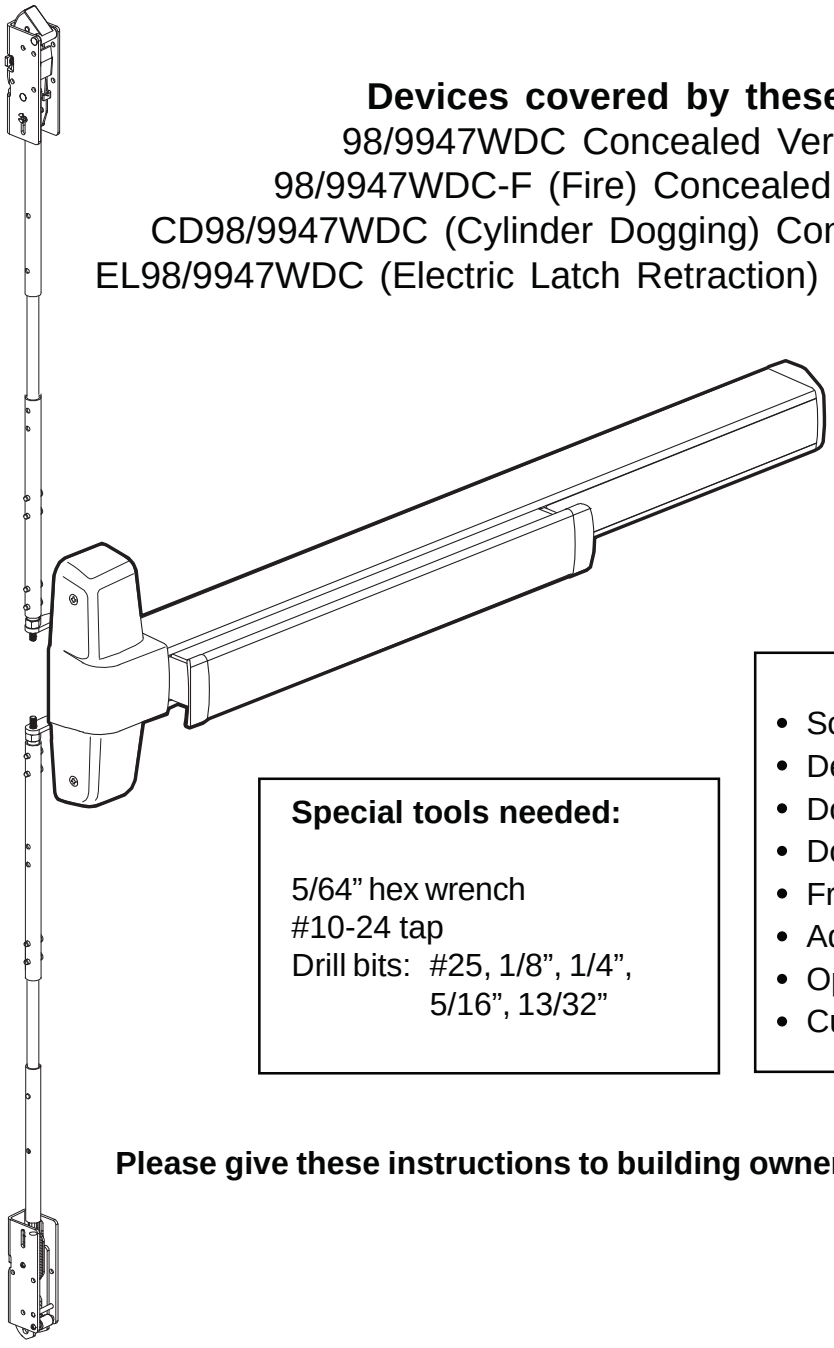
911377-00

98/9947WDC

VON DUPRIN

Concealed Vertical Rod Exit Device for Wood Door Applications

Installation Instructions



Devices covered by these instructions:

98/9947WDC Concealed Vertical Rod Device
98/9947WDC-F (Fire) Concealed Vertical Rod Device
CD98/9947WDC (Cylinder Dogging) Concealed Vertical Rod Device
EL98/9947WDC (Electric Latch Retraction) Concealed Vertical Rod Device

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
- Door preparation chart. 6
- Door routing instructions 7
- Frame preparation chart 8
- Adjust rods 9
- Optional equipment. 10
- Cut device 11

Please give these instructions to building owner after device is installed

Customer Service
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ALLEGION

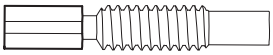
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911377-00 09/14-d

SCREW CHART

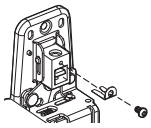
A





Rod adjustment screw

B

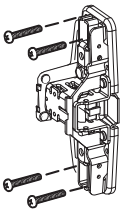


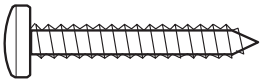


#8-32 X 5/16”

Rod locking screw

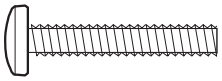
C





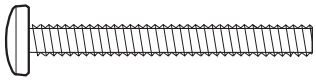
#10 X 1-1/4” Wood screw

Surface mount (WDC)



#10-24 X 1”

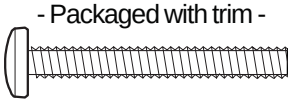
Sexbolts (1-3/4” door)



#10-24 X 1-1/2”

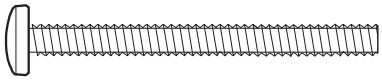
Sexbolts (2-1/4” door)

- Packaged with trim -



#10-24 X 1-3/8”

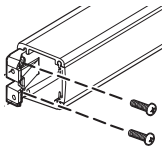
990 trims (1-3/4” door)

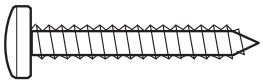


#10-24 X 1-7/8”

990 trims (2-1/4” door)

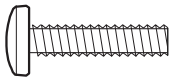
D





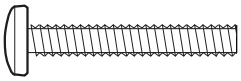
#10 X 1-1/4” Wood screw

Surface mount (WDC)



#10-24 X 3/4”

Sex bolts (1-3/4” door)



#10-24 X 1-1/8”

Sex bolts (2-1/4” door)

E

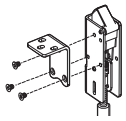




#10-16 X 3/8” Thread cutting

End cap screw

F

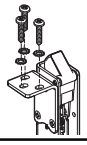


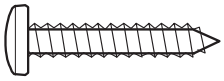


#10-32 X 1/4”

Bracket screw

G

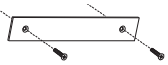




#10 X 1” Wood screw

Bracket to door screw

H



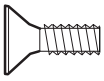


#8-16 X 8-32 X 1”

Cover plate screw

I



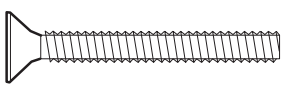


#10-24 X 1/2”

338 strike screw

J

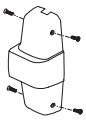




#10-24 X 1-1/2”

Ratchet release screw

K

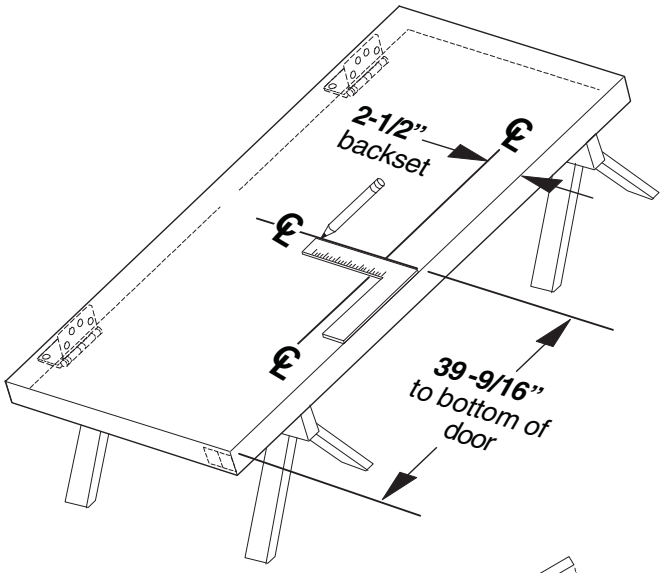


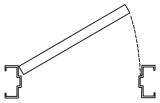


#8-18 X 3/8” Thread cutting

Center case cover screw

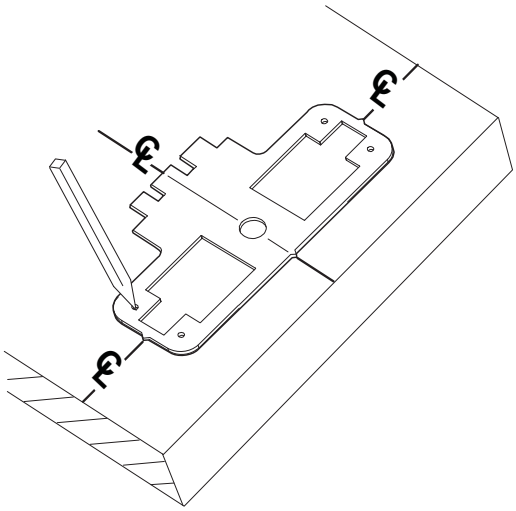
1 Draw horizontal and vertical device center lines (℄).



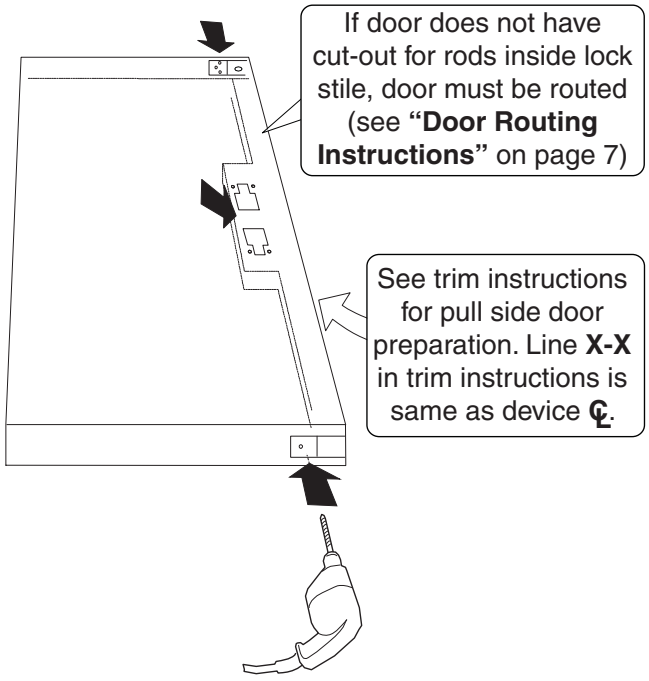


RHR shown
(LHR opposite)

2 Align template along center lines and mark holes and cut-outs.



3 Prepare door per preparation chart on page 6.

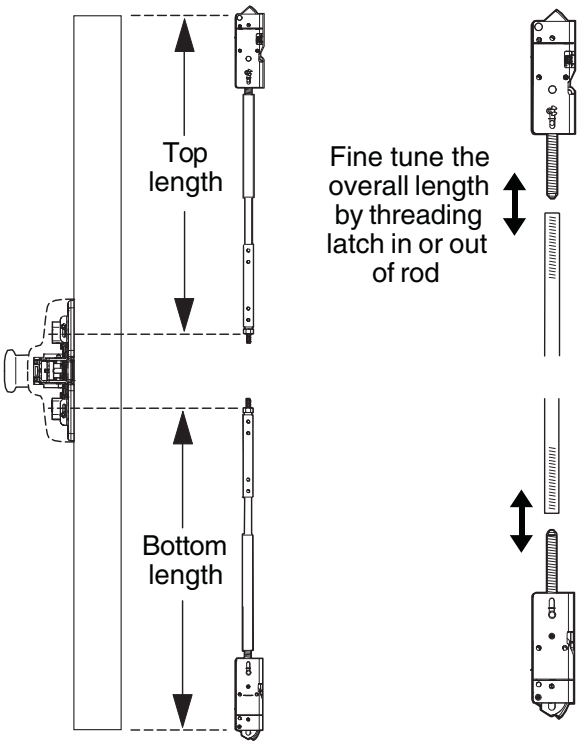


If door does not have cut-out for rods inside lock stile, door must be routed (see **"Door Routing Instructions"** on page 7)

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

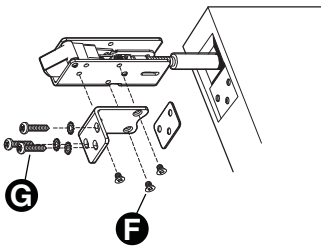
4 Assemble rods and latches and adjust length for proper door height.

Follow red and blue instruction cards on rods to set initial rod length

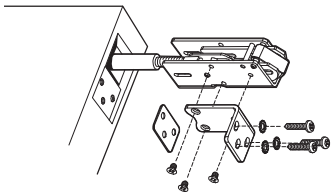


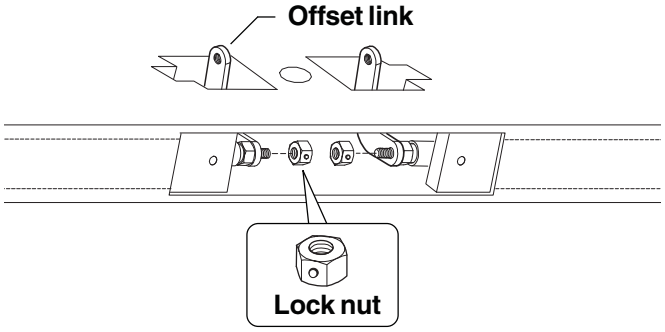
5 Secure latches and rods into door as shown and attach offset links.

Top latch & rod



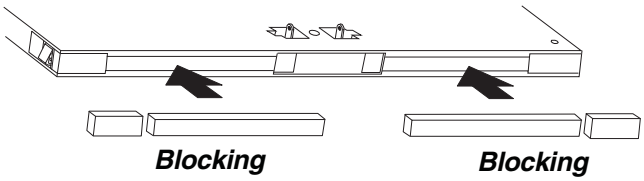
Bottom latch & rod



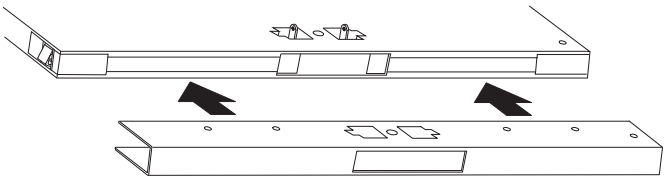


6 Install blocking and door wrap (if using door wrap).

NOTE: If not using door wrap, the blocking can be installed after device is installed.



See page 7 for blocking dimensions

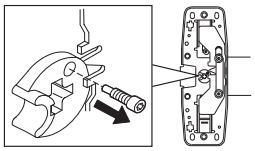


Door wrap

Optional- to be used on fire doors only, not supplied by Von Duprin

7 If using an outside cylinder, check NL drive screw and install tailpiece guide.

NL drive screw

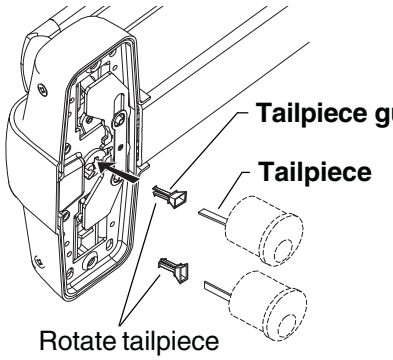


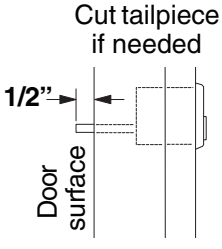
Note: When the NL drive screw is left in back of device, the outside cylinder will function only as a Night Latch.

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.

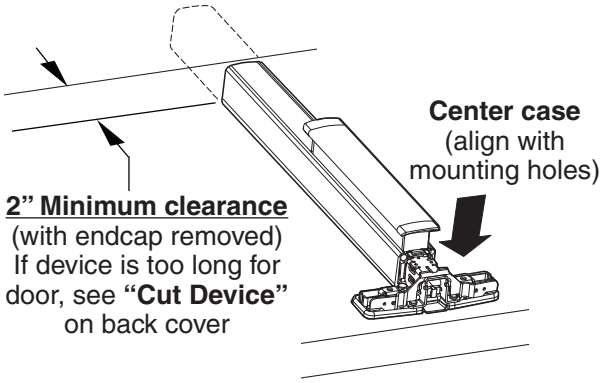
DO NOT remove NL drive screw for the following trims:
NL, EO, DT, TP-2, L-2, and K-2.

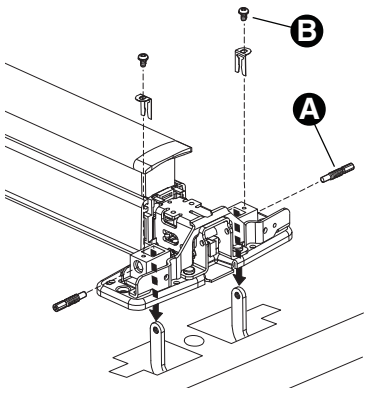
With **"BE"** trim, device may need rehanded. Look for instructions on back of trim.



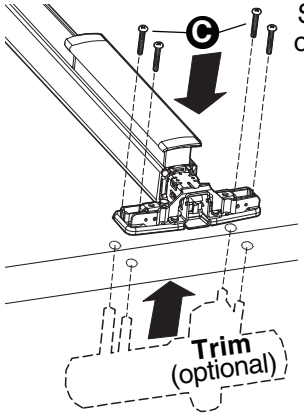


8 Check device length and attach device center case to two offset links as shown.

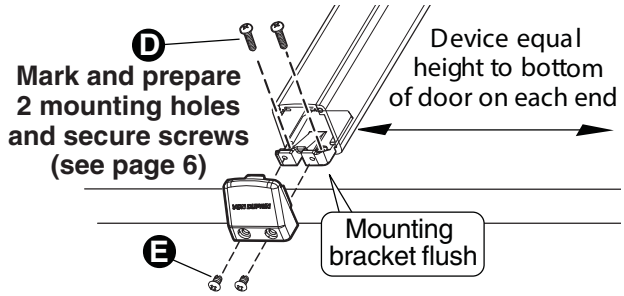




9 Secure device to door.

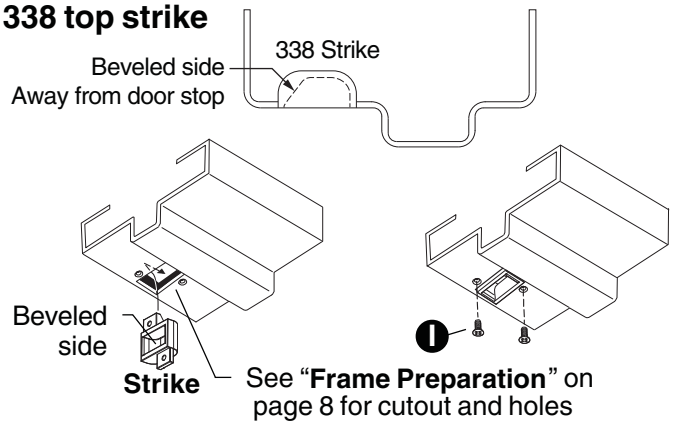


See "**Screw Chart**" on page 2 for screw types and sizes



10 Hang door on frame and install top strike and ratchet release.

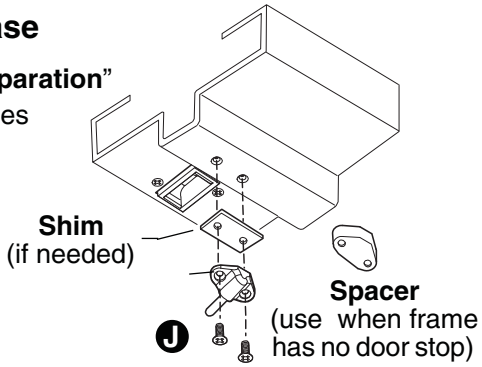
338 top strike



See "**Frame Preparation**" on page 8 for cutout and holes

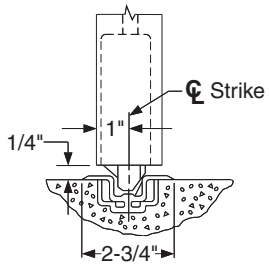
Ratchet release

See "**Frame Preparation**" on page 8 for holes

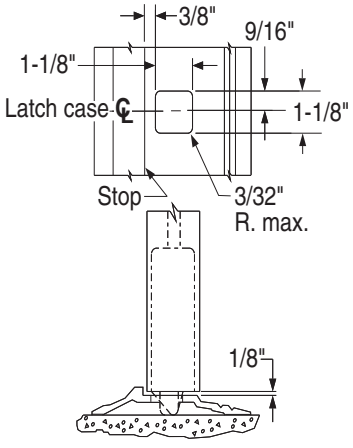


11 Install bottom strike or prepare threshold.

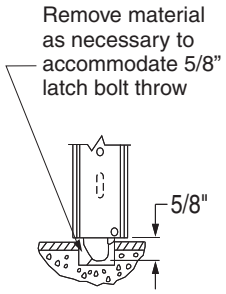
385-A Bottom strike



Threshold application

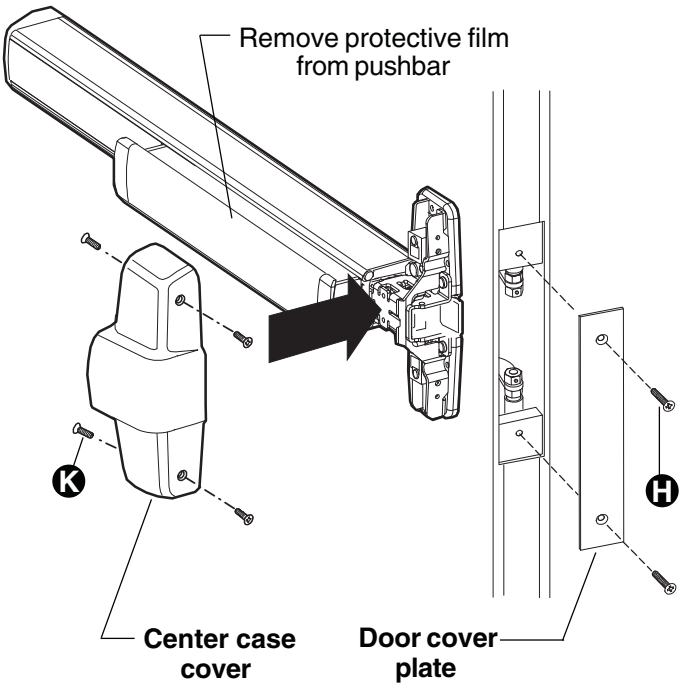


Flat threshold application



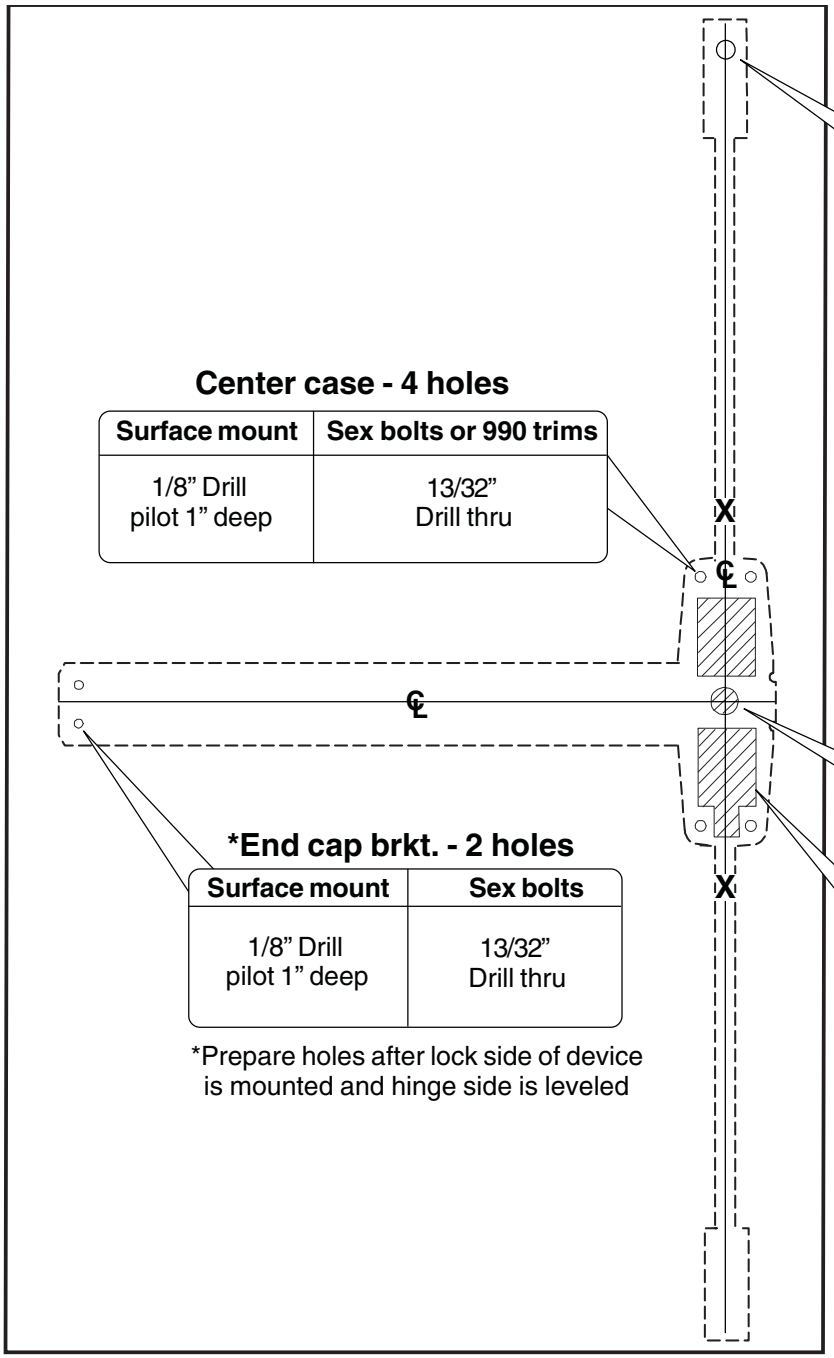
12 Adjust rods and install center case cover and door cover plate.

See "**Adjust Rods**" on page 9 for adjustment procedure



DOOR PREPARATION CHART

Prepare all holes and cutouts shown if they are not already present on door



Center case - 4 holes

Surface mount	Sex bolts or 990 trims
1/8" Drill pilot 1" deep	13/32" Drill thru

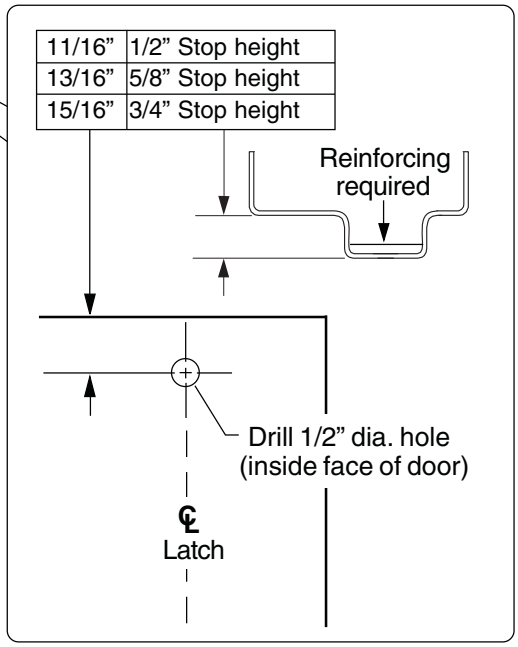
*End cap brkt. - 2 holes

Surface mount	Sex bolts
1/8" Drill pilot 1" deep	13/32" Drill thru

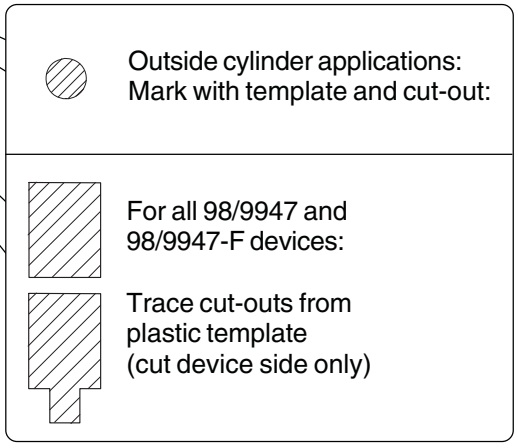
*Prepare holes after lock side of device is mounted and hinge side is leveled

Ratchet Release Hole

11/16"	1/2" Stop height
13/16"	5/8" Stop height
15/16"	3/4" Stop height

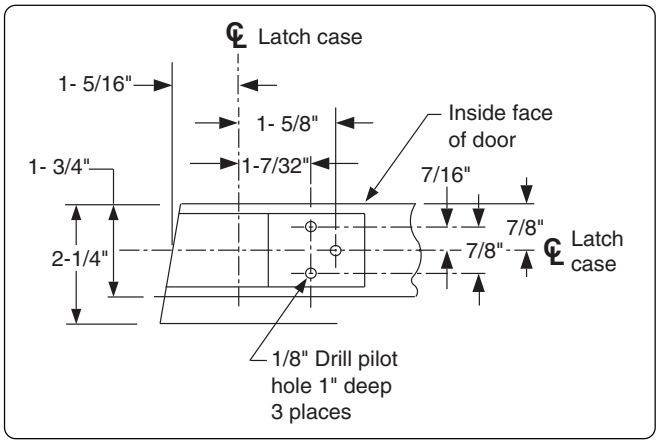


Door Cut-outs

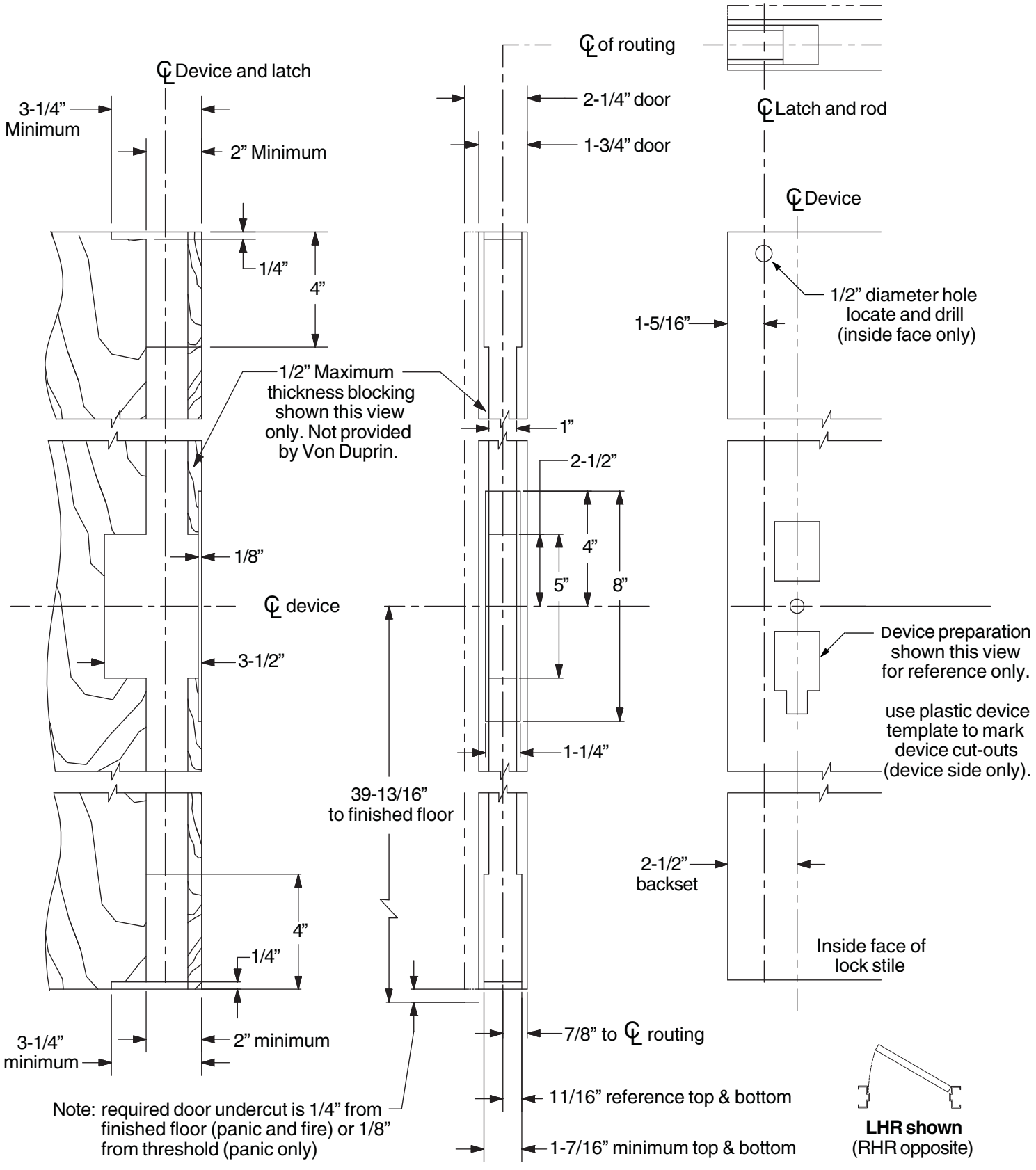


Latch Cases

(Drill top and bottom of door)

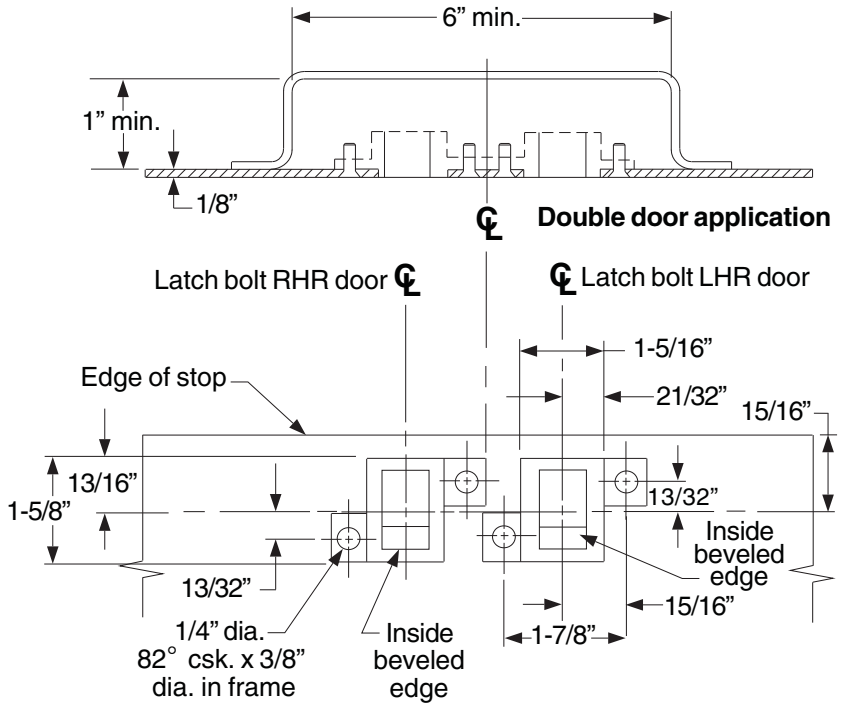


DOOR ROUTING INSTRUCTIONS

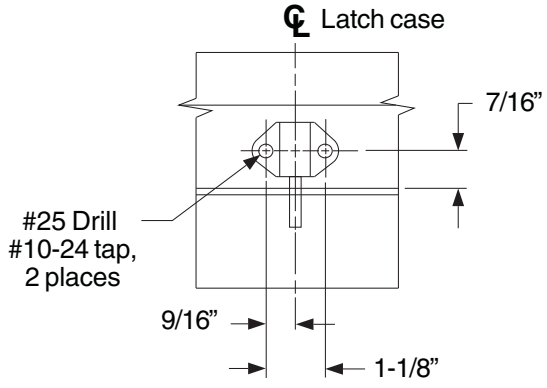


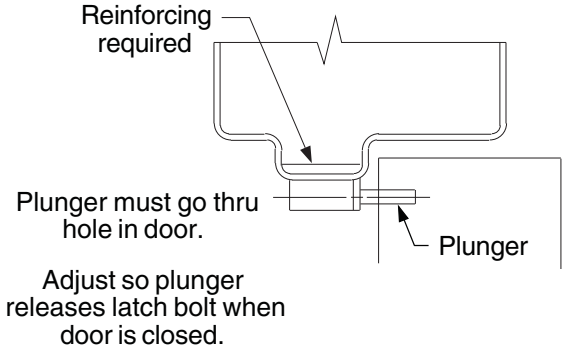
FRAME PREPARATION

338 Top strike



Ratchet release





ADJUST RODS

1. Open door and release top latch bolt as shown (Figure 1).

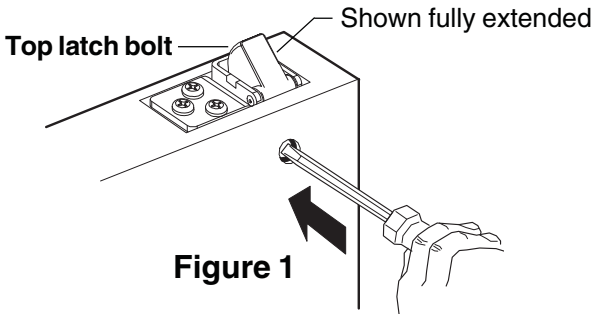


Figure 1

2. Loosen bottom locking screw (Figure 2).
3. Disconnect bottom vertical rod by removing bottom adjusting screw.
4. Loosen top locking screw.
5. Rotate top adjusting screw clockwise until top latch bolt is fully extended (Figure 1).
6. Check top latch bolt for deadlocking (latch bolt should not push in).
7. Turn top locking screw in. Do not over-tighten.

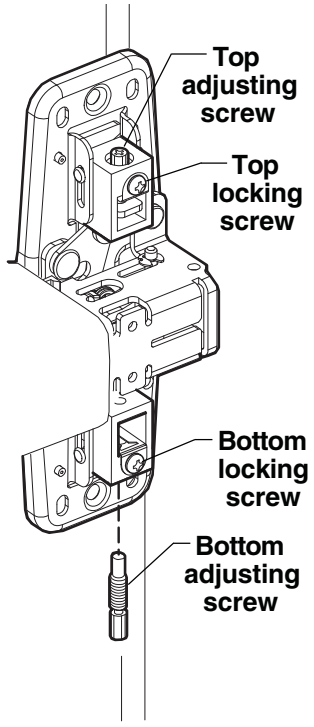


Figure 2

8. Depress pushbar and release.
9. Make sure top latch bolt stays retracted as shown.

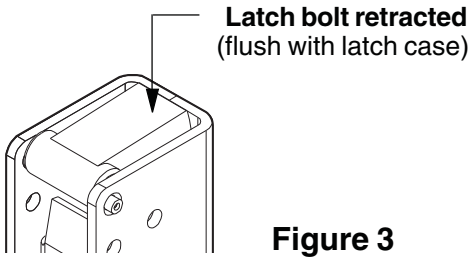


Figure 3

10. Install bottom adjusting screw through bottom rod (Figure 2).
11. With top latch bolt still retracted, adjust bottom rod so latch bolt clears floor and bottom strike.

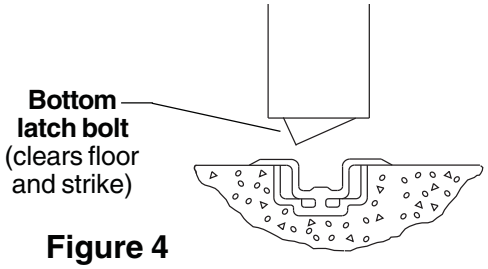


Figure 4

12. Turn bottom locking screw in. Do not over-tighten.
13. Check device operation by opening and closing door several times from the outside.

Redo adjustment procedure if :

- Top latch bolt is not held retracted
- Bottom latch bolt does not clear floor and bottom strike

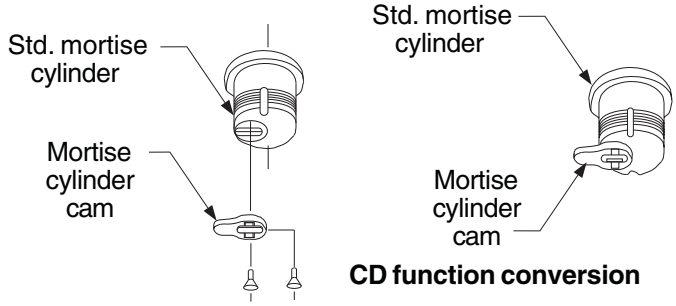
OPTIONAL EQUIPMENT

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).

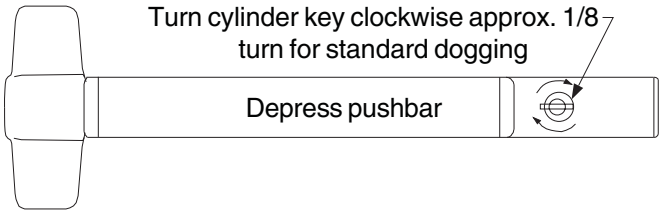
3. Remove key to slide cover plate in position in the mechanism case.



CD function conversion

Figure 1

Dogging procedure



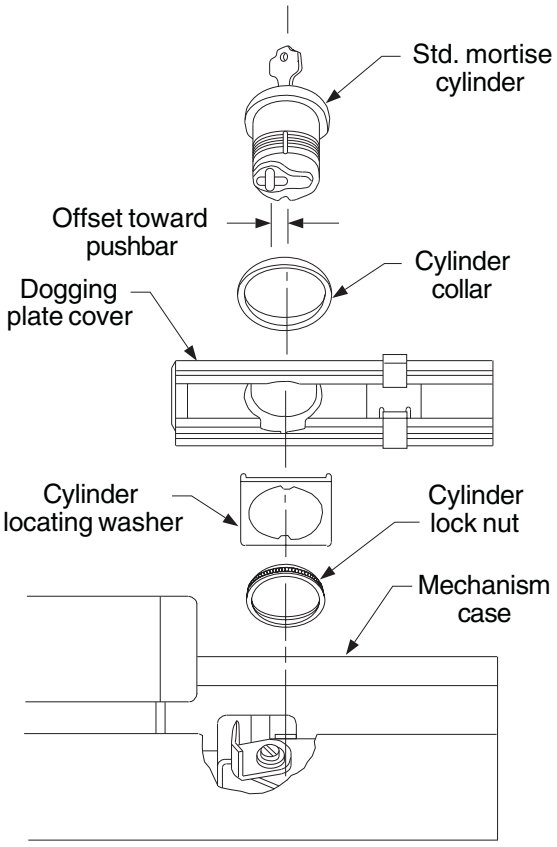
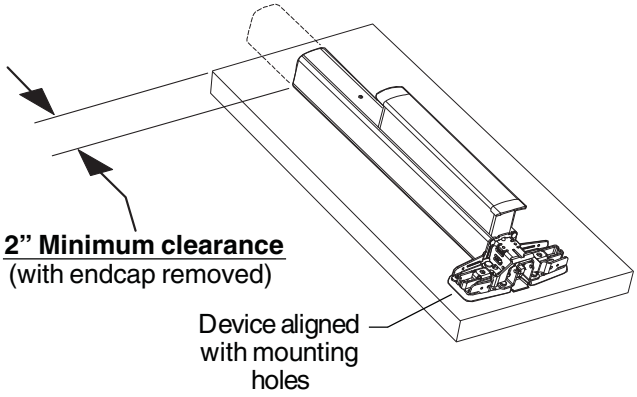


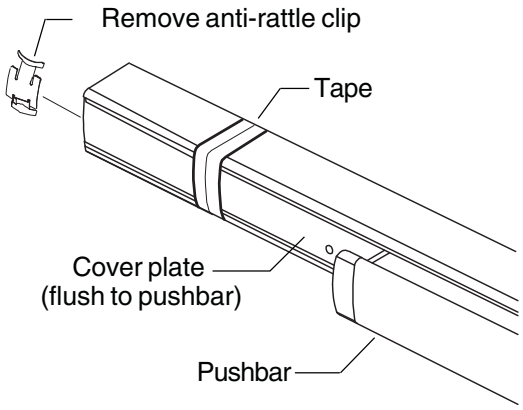
Figure 2

CUT DEVICE

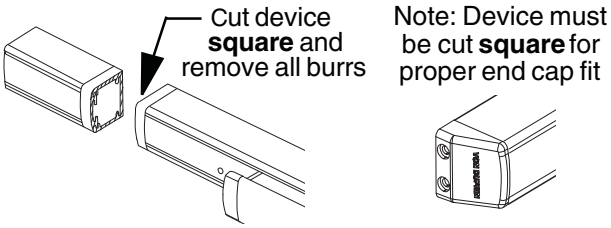
1 Measure amount to cut off device.



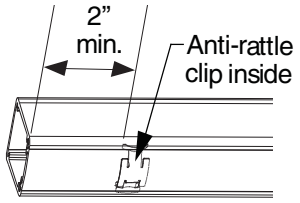
2 Tape and mark area being cut.



3 Cut device square.



4 Slide anti-rattle clip into device.



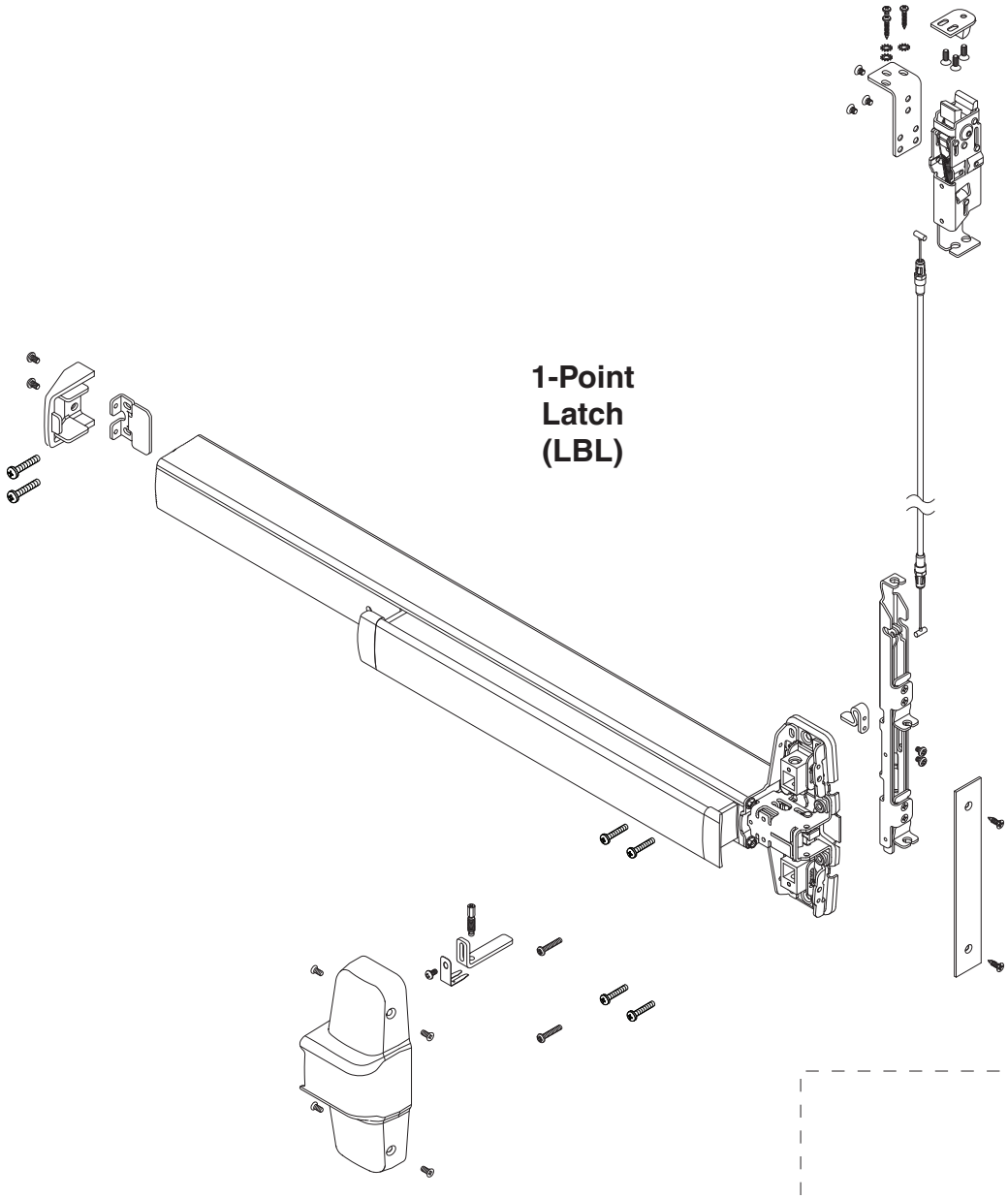
98/9949WDC

VON DUPRIN

24017501

Concealed Vertical Device for Wood Doors

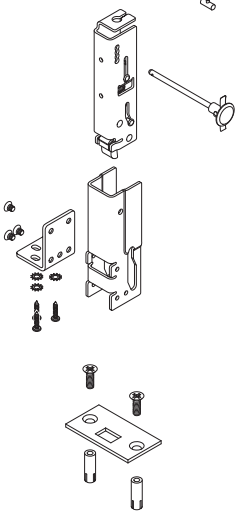
Installation Instructions



1-Point Latch (LBL)



2-Point Latch includes these additional parts



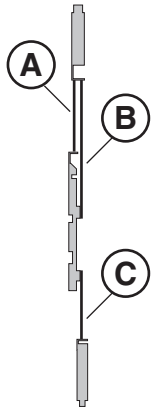
NOTE: If door does not have a cutout for cabling inside lock stile, door must be routed. Refer to 9949 wood door template.

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24017501 Rev. 10/15-g

1 Identify Cables and Locations.



CABLE IDENTIFICATION (STANDARD SIZES) WOOD DOORS			
Door Opening Height	A	B	C
6' 8"	24078495	23925761	24078453
7' 0"	23925787	23925720	24078453
8' 0"	23925662	23925605	24078453
9' 0"	23925548	23925480	24078453
10' 0"	23925423	24009334	24078453

NOTE: Cables **A** and **B** are red. Cable **C** is white

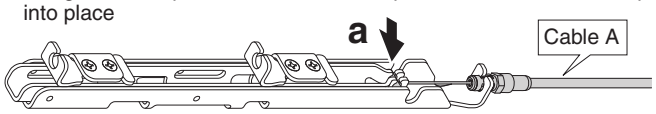
NOTE: Cables **B** is 6" longer than Cable **A**.

24492399

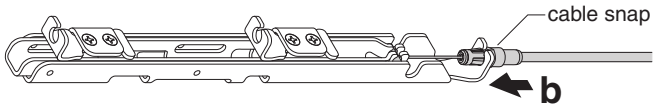
NOTE: 98/9949WDC 2-point latch with threshold requires cable 24492399 (sold separately) for Cable C.

2 Install Top Latch Cable Assembly.

a. Using **Cable A**, position cable end to clip on center slide, and snap it into place

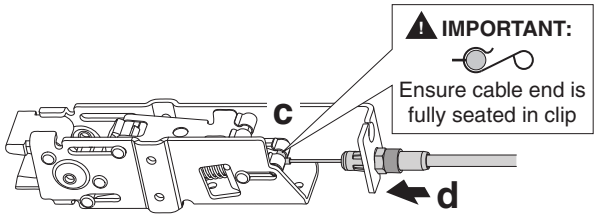


b. Push cable snap against center slide to secure cable



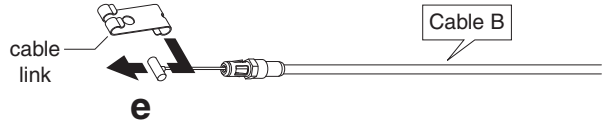
c. Position opposite end of **Cable A** to the top latch in the position marked red. Pull cable into clip to snap it into place.

d. Push cable snap against latch to secure cable

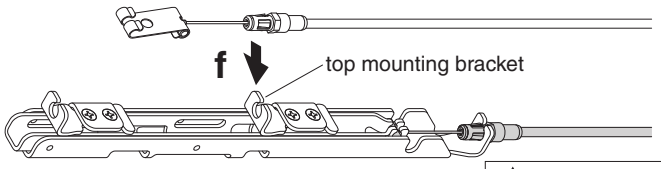


For 2-Point Latch Only

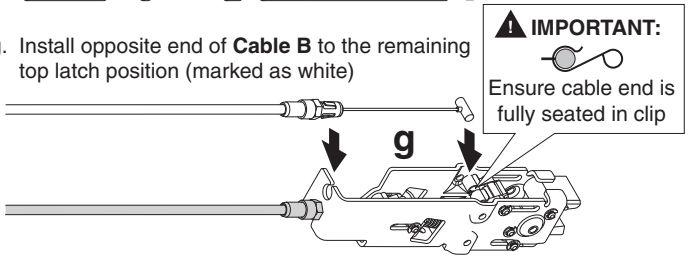
e. Snap cable link onto one end of **Cable B**



f. Install **Cable B** to the top mounting bracket



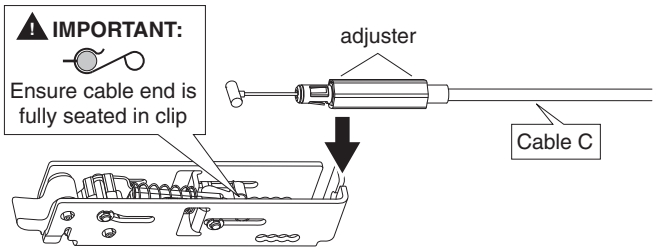
g. Install opposite end of **Cable B** to the remaining top latch position (marked as white)



3 Install Bottom Latch Cable Assembly.

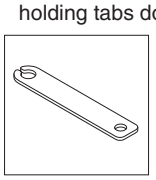
For 2-Point Latch Only

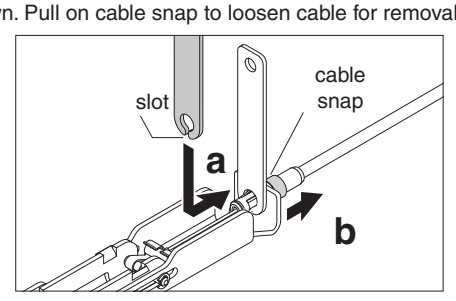
One end of **Cable C** has an adjuster. Install this end to the bottom latch.



CABLE REMOVAL

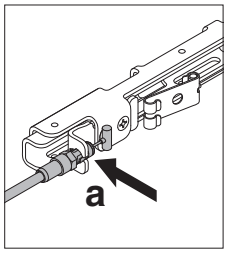
A cable removal tool has been provided. Slot in tool fits over cable, holding tabs down. Pull on cable snap to loosen cable for removal.



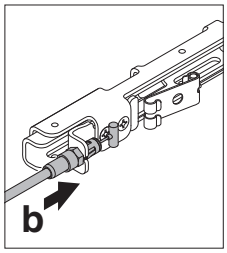


4 Temporarily Attach Bottom Latch Cable Assembly to Center Slide.

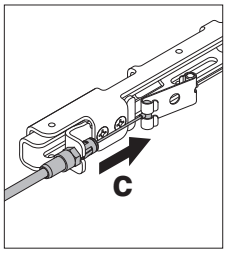
For 2-Point Latch Only



Position **Cable C** to bottom mounting bracket on center slide



Push cable snap against mounting bracket to secure cable



Pull on cable end to attach it to the cable link

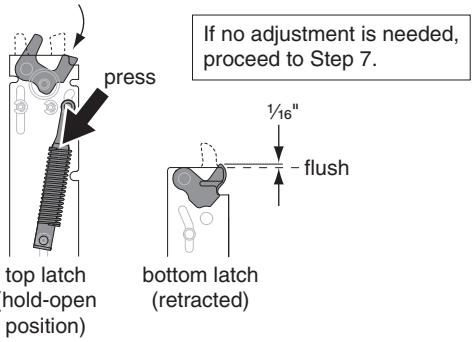
5 Determine if Bottom Latch Retraction Adjustment is Necessary.

For 2-Point Latch Only

a. Flex the cable into an L-shape as shown to simulate the installed condition of the latches.



b. To determine whether an adjustment is required, actuate the top latch to the hold-open position by pressing down on the connecting rod. Bottom latch should retract to within 1/16" of flush. If it does not, an adjustment is necessary.



If no adjustment is needed, proceed to Step 7.

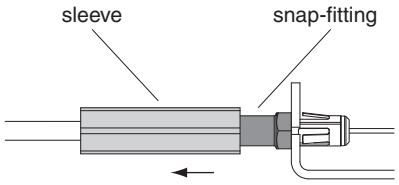
6 Adjust Bottom Latch Retraction (if necessary).

For 2-Point Latch Only

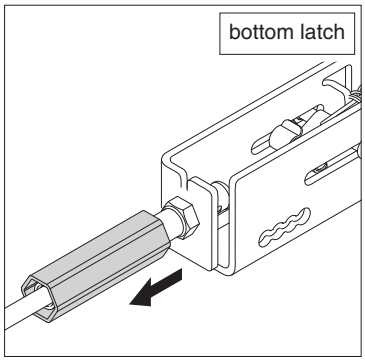
⚠ **NOTE**: Adjustment must be made while the top latch is in the hold-open position, with cable flexed into an L-shape to simulate the installed condition of the latches.



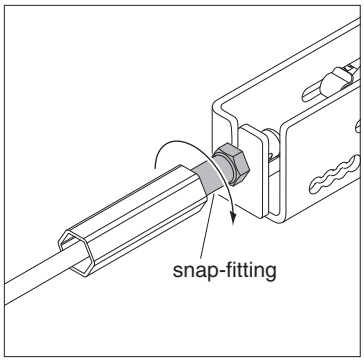
These (2) hex components are used to make the adjustment.



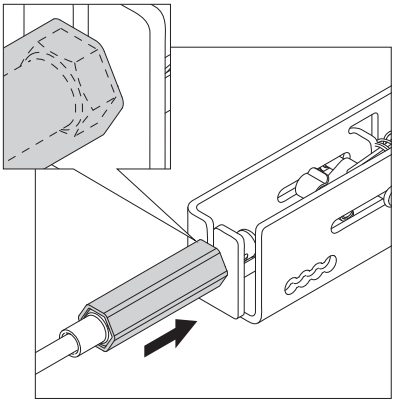
a. Pull back and hold the spring-loaded sleeve.



b. While holding the sleeve in place, rotate the barrel of the snap-fitting clockwise by hand until the bottom latch is retracted to within 1/16" of flush.

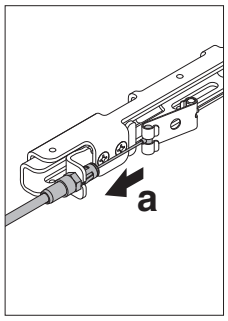


c. Slowly release the sleeve, confirming it has seated over the hex end of the snap-fitting.

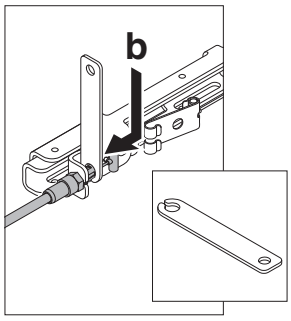


7 Disconnect Bottom Latch Cable Assembly from Center Slide.

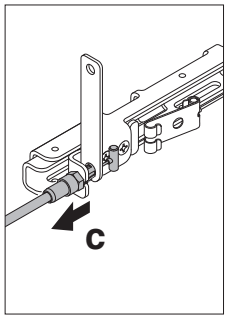
For 2-Point Latch Only



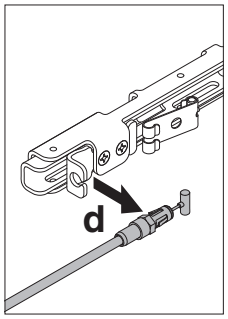
Disconnect cable end from cable link



A cable removal tool has been provided. Slot in tool fits over cable, holding tabs down



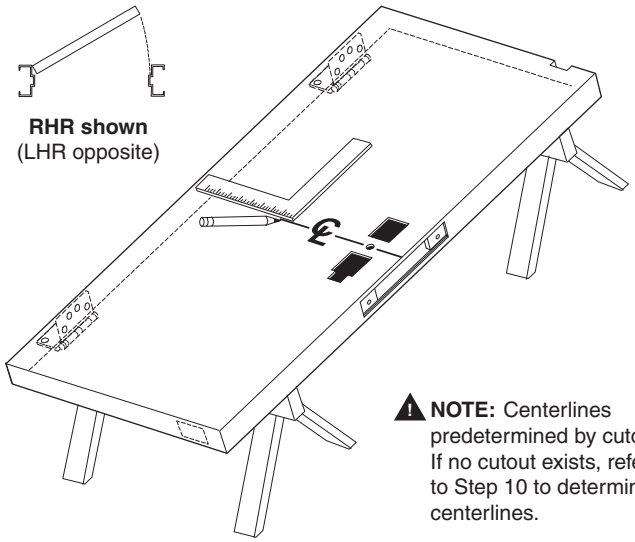
Pull on cable snap to loosen cable for removal



Remove bottom latch cable assembly from center slide.

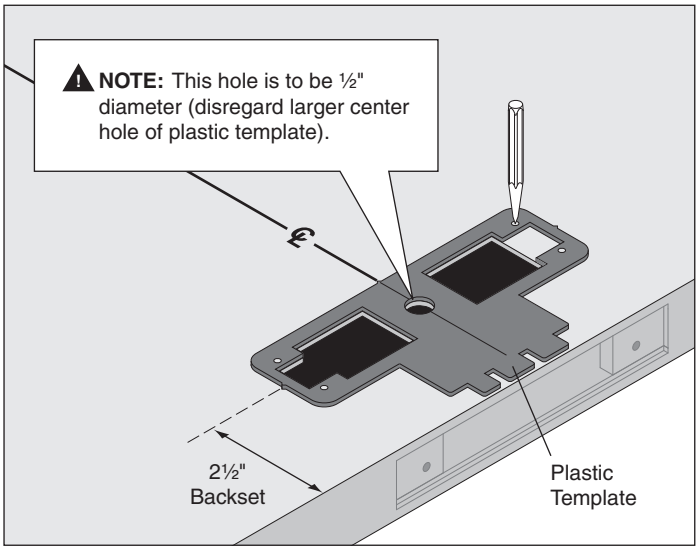
8 With Door Laying Flat, Draw Horizontal and Vertical Device Center Lines (℄).

RHR shown
(LHR opposite)

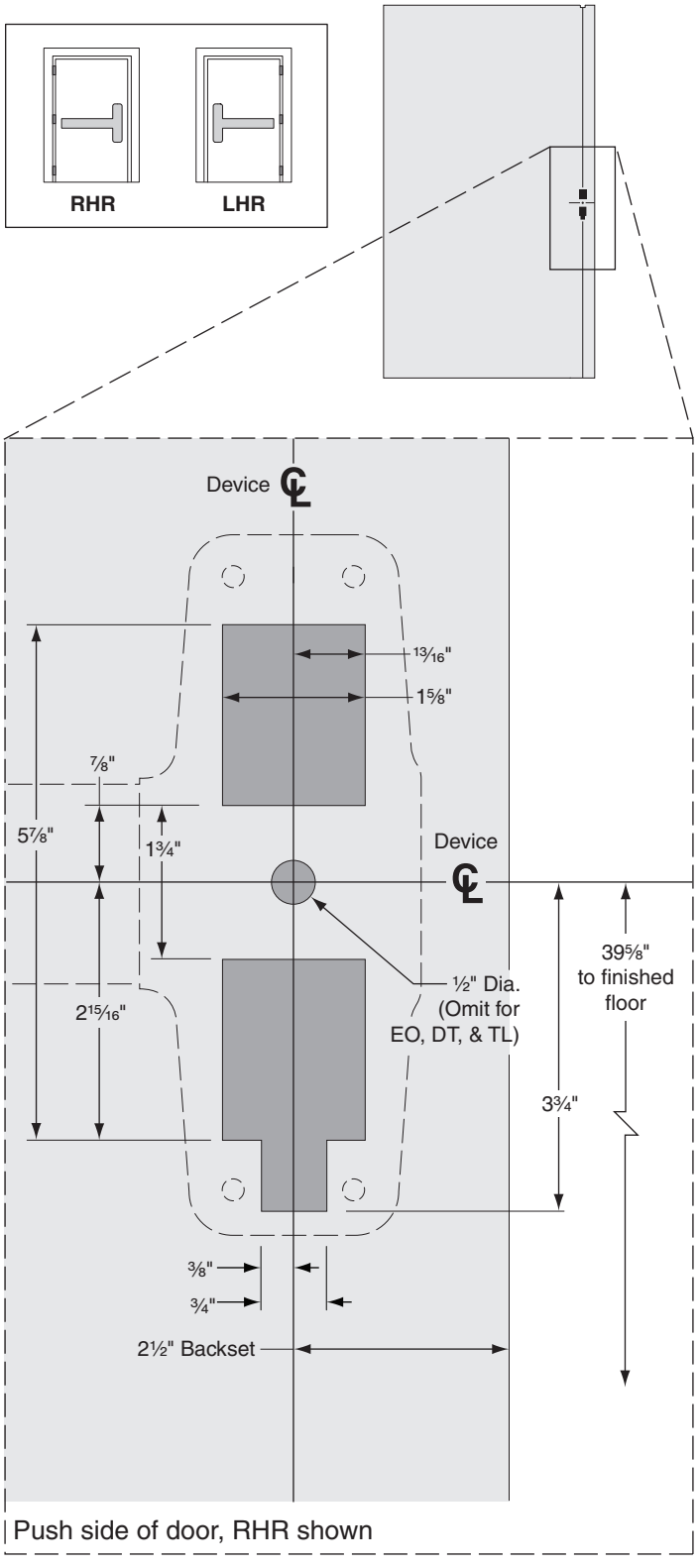


NOTE: Centerlines predetermined by cutout. If no cutout exists, refer to Step 10 to determine centerlines.

9 Align Plastic Template to Mark and Prepare Door, if Required.

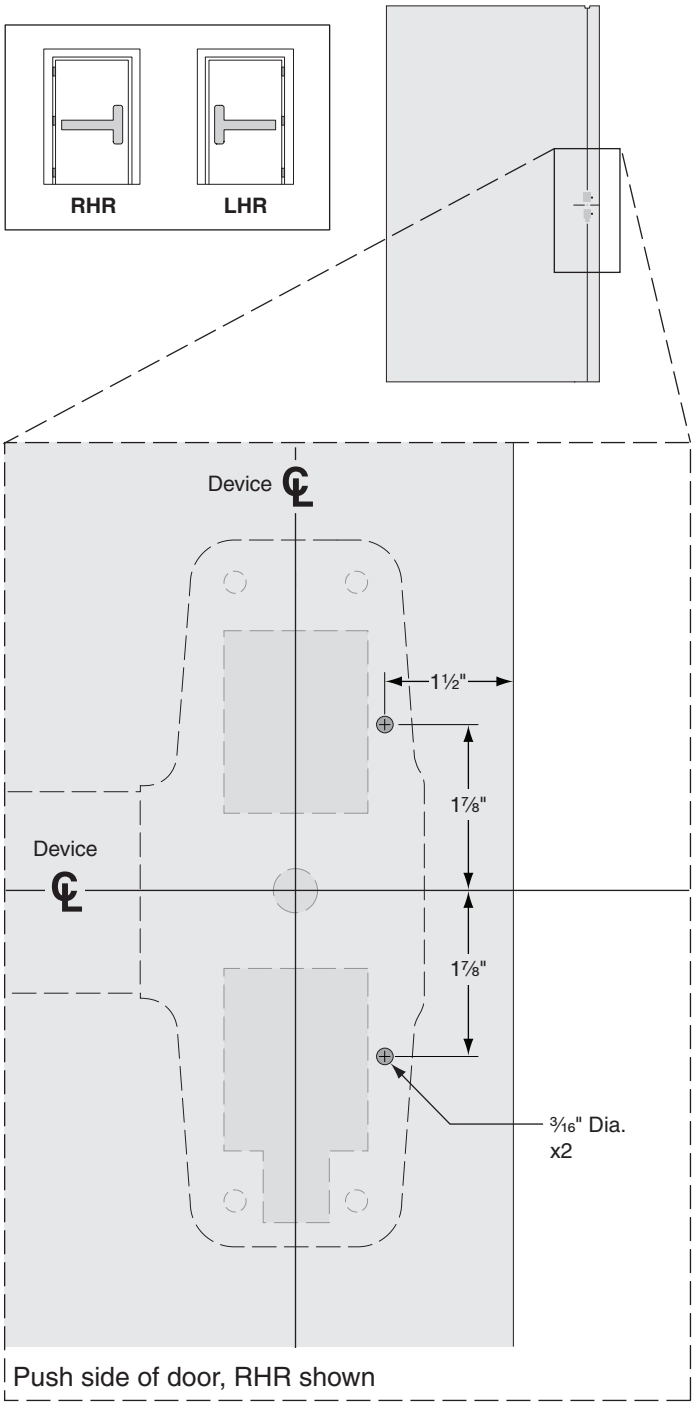


10 If Necessary, Prepare Door Cutouts.



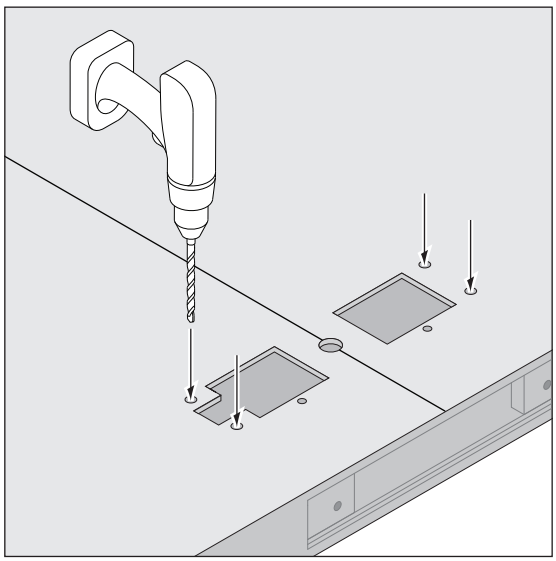
Push side of door, RHR shown

11 Prepare 2 Center Slide Holes.



Push side of door, RHR shown

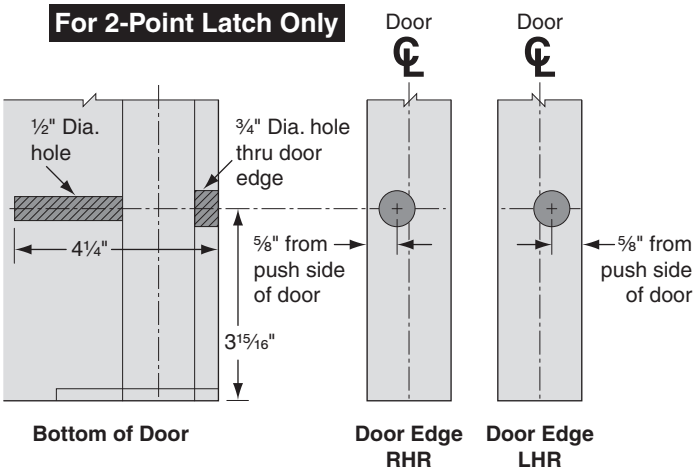
12 Prepare 4 Holes.



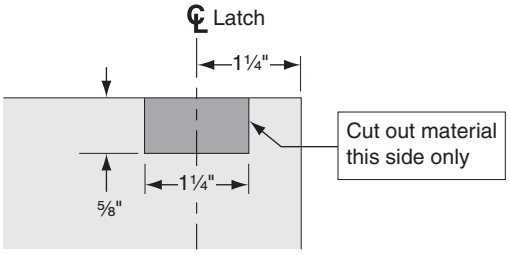
Surface Mount	OR	Sex Bolts or 990 Trims
1/8" Drill Pilot 1" Deep		13/32" Drill thru

13 Prepare Access Hole for Bottom Latch Adjustment Pin.

For 2-Point Latch Only



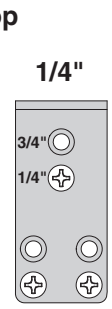
14 If Necessary, Prepare Door for Top Strike Cutout.



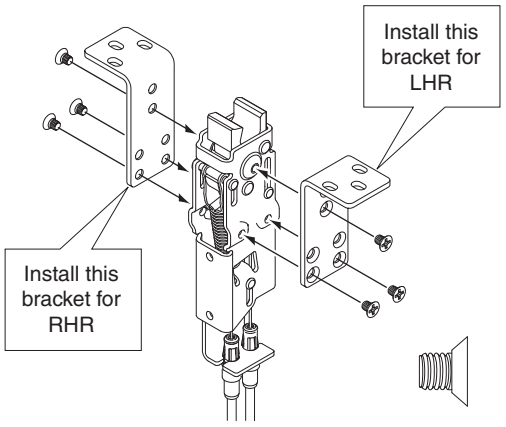
Push side of door, RHR shown

15 Assemble Latch Mounting Bracket(s).

Top

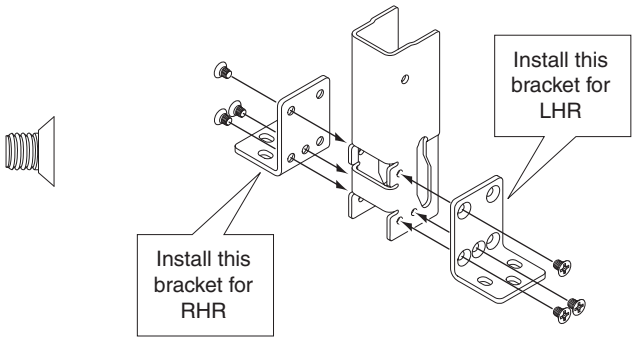


Top Door Channel



Bottom

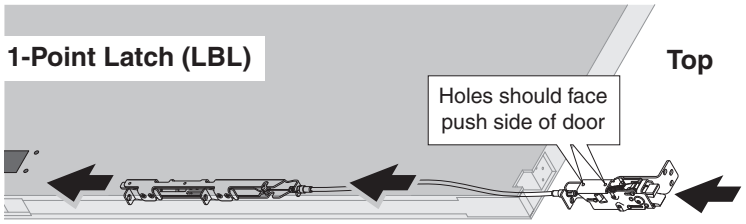
For 2-Point Latch Only

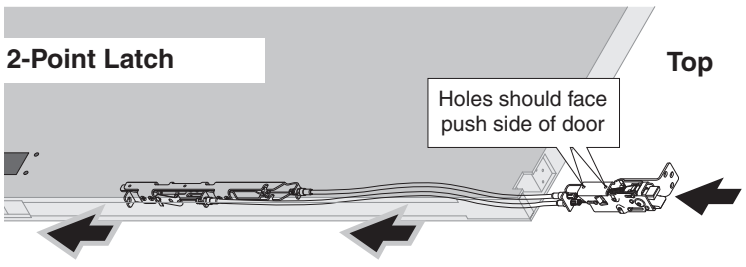


16 Insert Center Slide Assembly Thru Top Door Pocket.

> ⚠ **NOTE:** Confirm top latch is in correct orientation before proceeding.

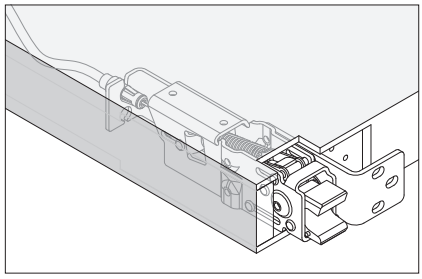
> ⚠ **NOTE:** It is normal for the cable to bend inside the door, forcing the latch outward.

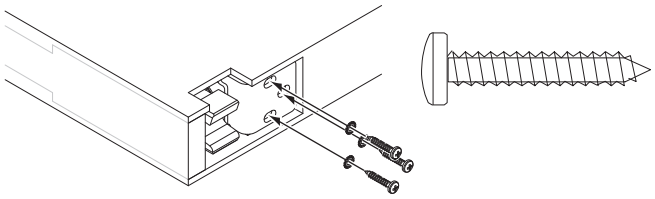




17 Secure Top Latch Mounting Bracket with 3 Screws.

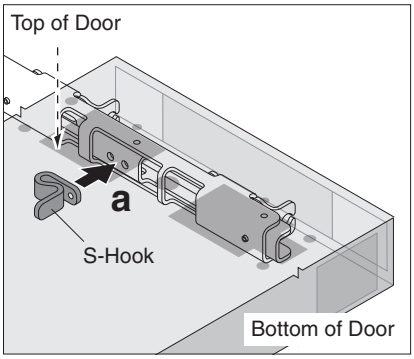
⚠ **NOTE:** It is normal for the cable to bend inside the door, forcing the latch outward as shown here.





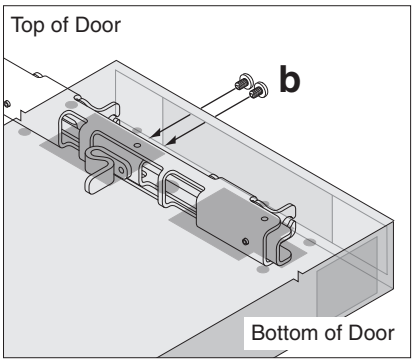
18 Install S-Hook.

Reach into push side face of door and hold S-hook in place



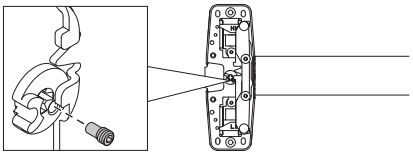
While holding onto S-hook, install finger screws through pocket in edge of door to secure S-hook





19 If Necessary, Remove NL Drive Screw.

NL drive screw
Factory installed on back of center case



With the NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For the trims listed below, **REMOVE** NL drive screw.

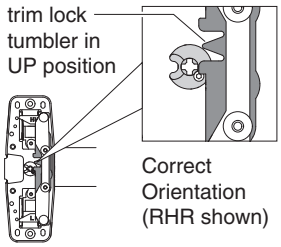
996L	696TP	990TP
996K	697TP	

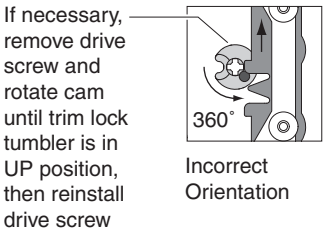
With the NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

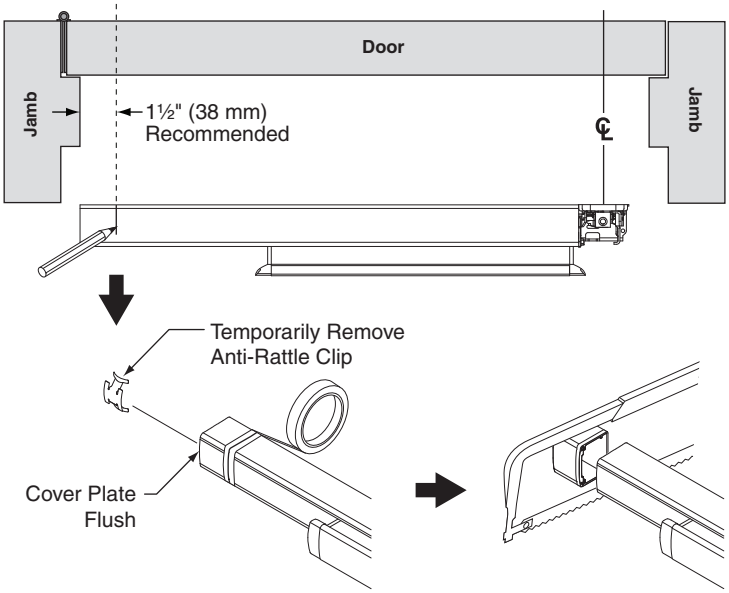
*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

* If the trim being installed is "BE" (i.e. 996L-BE), the trim lock tumbler on the back of the device must be in the **UP** position before device is installed. This allows the trim to be unlocked at all times.

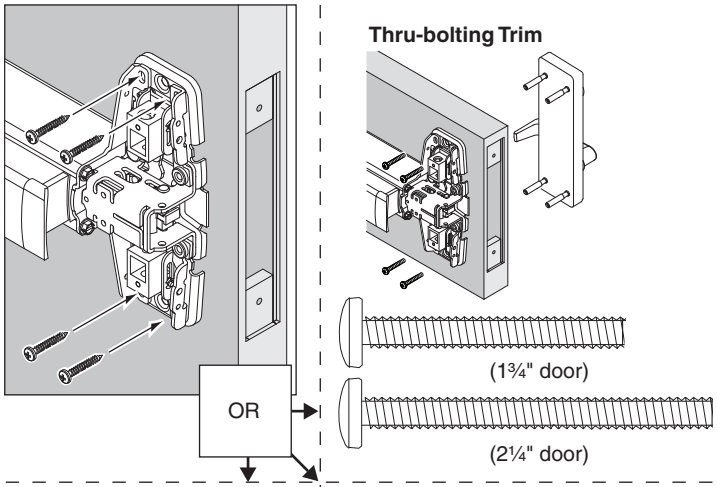




20 If Necessary, Cut Device.

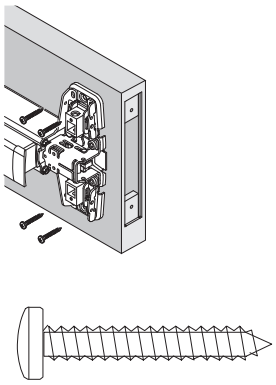


21 Attach Center Case to Door.

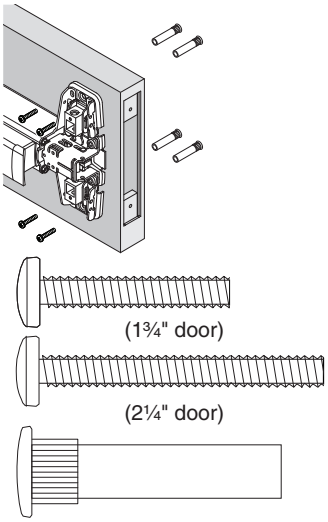


Thru-bolting Trim

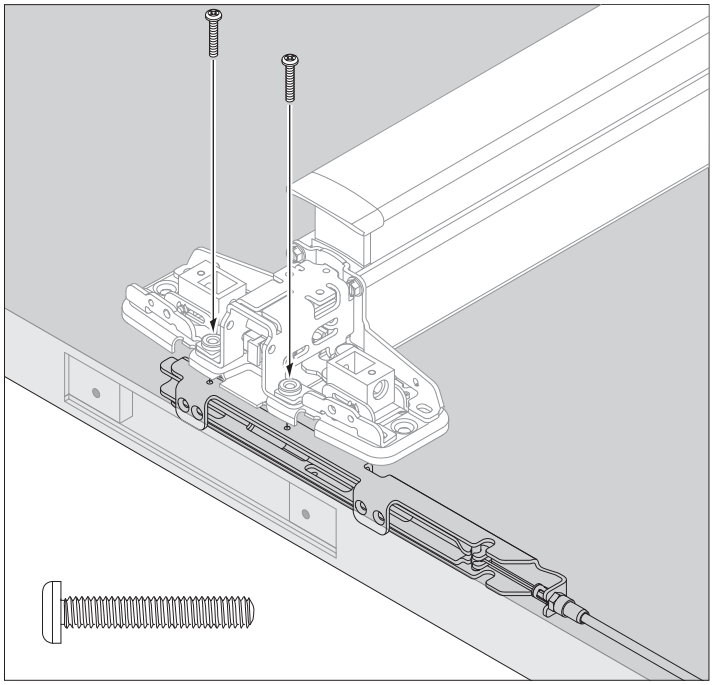
Surface Mount



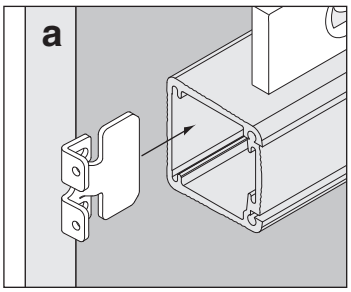
Sex Bolts

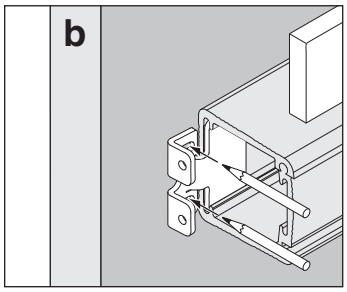


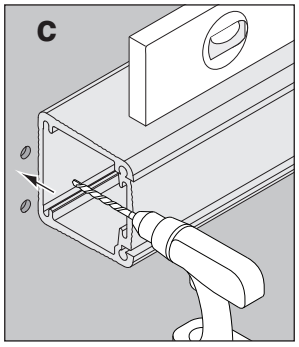
22 Install 2 Center Slide Mounting Screws.



23 Mark and Prepare 2 Holes.

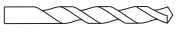






Surface Mount

⅛" Drill, Pilot 1" Deep



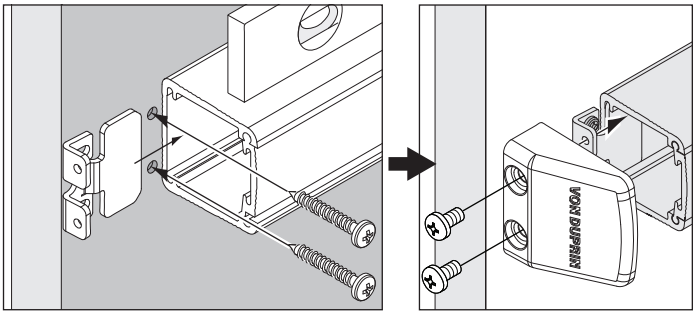
OR

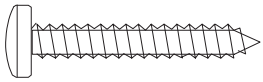
Sex Bolts

$^{13}/_{32}$" Drill thru

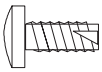


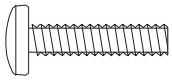
24 Install End Cap Bracket and End Cap.



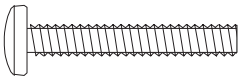


#10 x 1¼" Wood screw
(Surface mount WDC)





#10-24 x ¾"
(Sex bolts, 1¾" door)

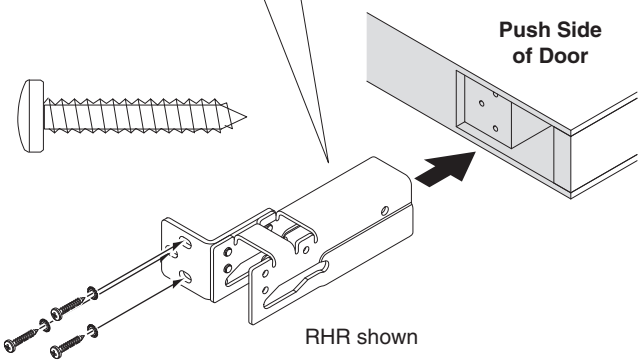


#10-24 x 1⅛"
(Sex bolts, 2¼" door)

25 Install Bottom Latch Mounting Bracket Assembly to Bottom of Door with 3 Screws.

For 2-Point Latch Only

NOTE: Confirm correct orientation of assembly before proceeding. Open side of housing should face pull side of door.

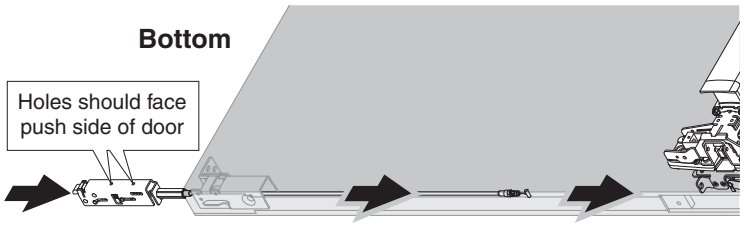


RHR shown

26 Slide Lower Cable / Bottom Latch Assembly Thru Bottom Latch Housing and into Bottom Door Pocket.

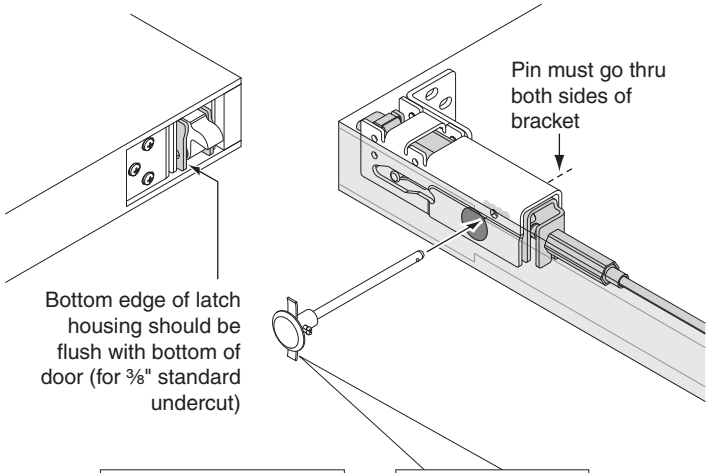
For 2-Point Latch Only

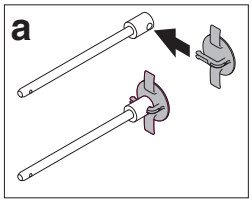
NOTE: Confirm bottom latch is in correct orientation before proceeding.



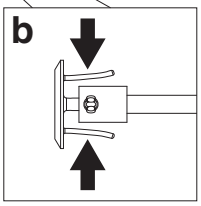
27 Insert Latch Adjustment Pin to Hold Bottom Latch in Place.

For 2-Point Latch Only





Assemble pin

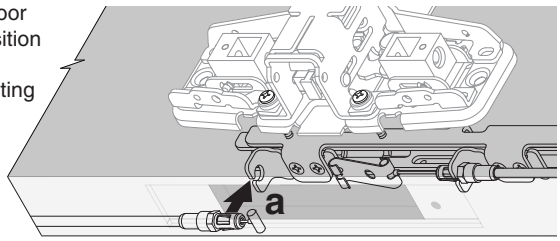


Squeeze tabs on
cap, then insert pin

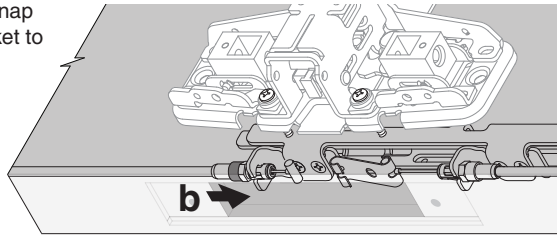
28 Attach Lower Cable Assembly to Center Slide.

For 2-Point Latch Only

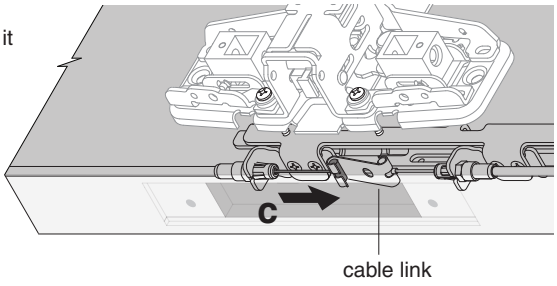
Reach into door pocket to position cable end to bottom mounting bracket



Push cable snap against bracket to secure cable



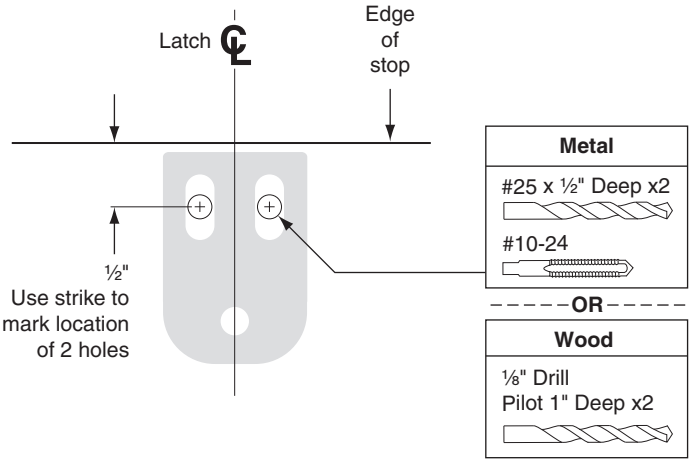
Pull on cable end to attach it to cable link



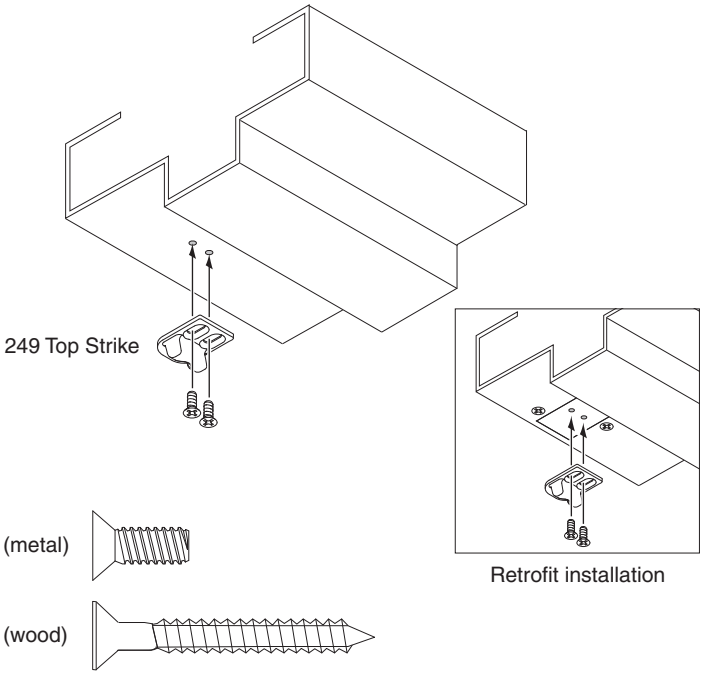
29 Hang Door on Frame.

⚠ **CAUTION:** For 2-point latches, bottom latch cannot be in locked position while hanging door on frame. Latch must be retracted.

30 Prepare Door Frame for Top Strike.

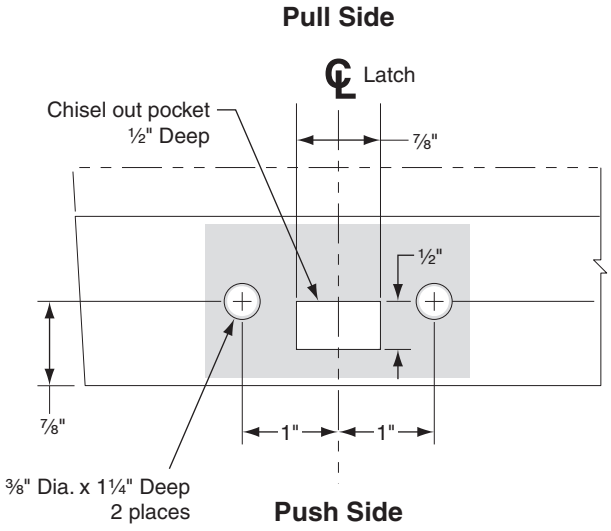


31 Install 2 Top Strike Screws Using the Slot Features on the Strike.



32 Prepare Floor for Bottom Strike.

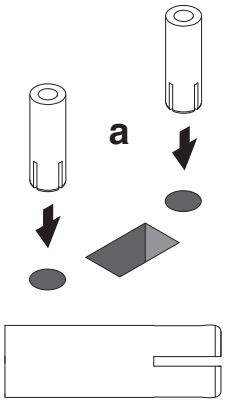
For 2-Point Latch Only



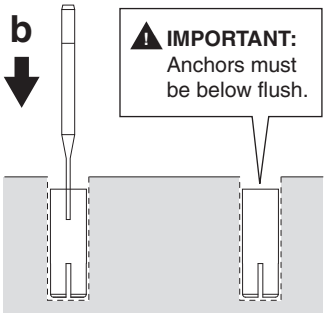
33 Install Bottom Strike.

For 2-Point Latch Only

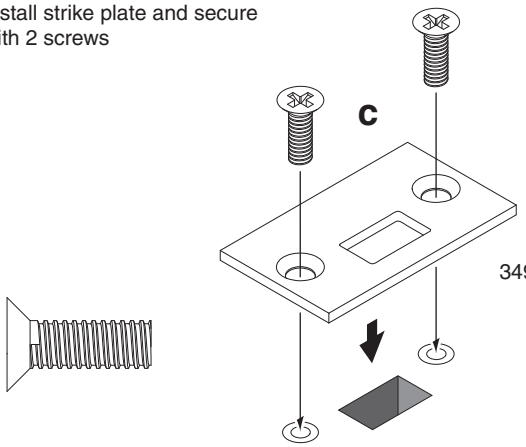
Clear holes of debris, then drop in anchors (slotted end first)



Secure the anchors using a hammer and punch



Install strike plate and secure with 2 screws

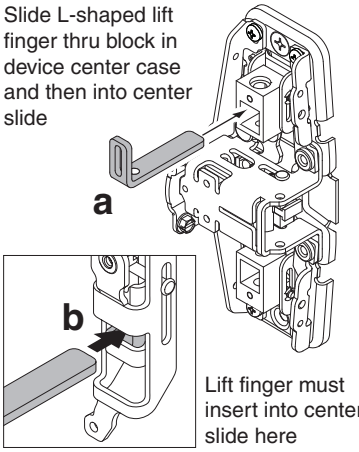


349 Bottom Strike

34 Install Lift Finger and Retainer Clip.

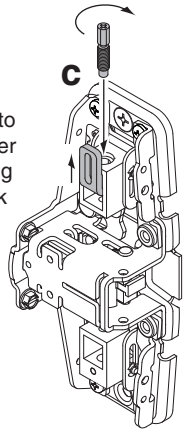
NOTE: The lift finger installation and adjustment must be performed while the latches are in the extended (latched) position.

Slide L-shaped lift finger thru block in device center case and then into center slide

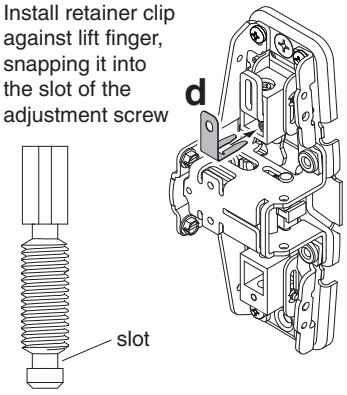


Lift finger must insert into center slide here

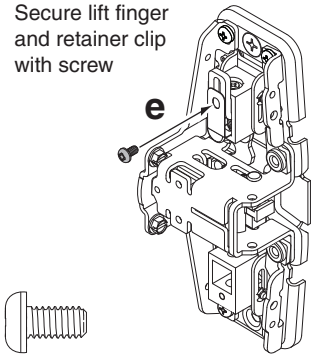
Insert adjustment screw and rotate with screwdriver to raise lift finger until it is snug against block



Install retainer clip against lift finger, snapping it into the slot of the adjustment screw



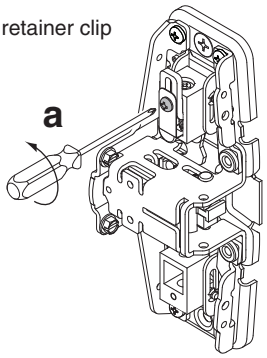
Secure lift finger and retainer clip with screw



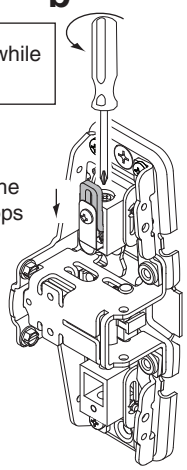
35 Adjust Lift Finger.

NOTE: Lift finger adjustment must be performed while the latches are in the extended (latched) position.

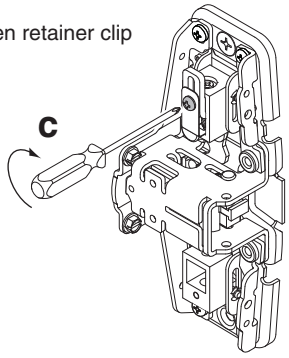
Loosen retainer clip screw



Loosen adjustment screw until the lift finger drops and you feel contact with the S-Hook



Tighten retainer clip screw



36 Perform Functional Test of Door.

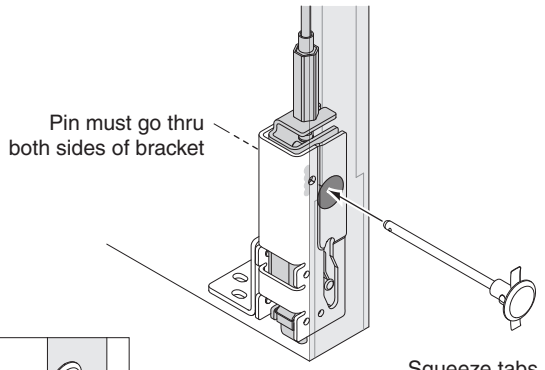
a. Depress pushbar. Door should begin to open when pushbar is nearly fully depressed. If necessary, refer to Step 35 to readjust lift finger.

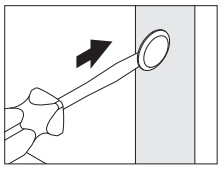
b. With door closed, top latch should be secure.

For 2-Point Latch Only

c. With door closed, bottom latch should be secure.

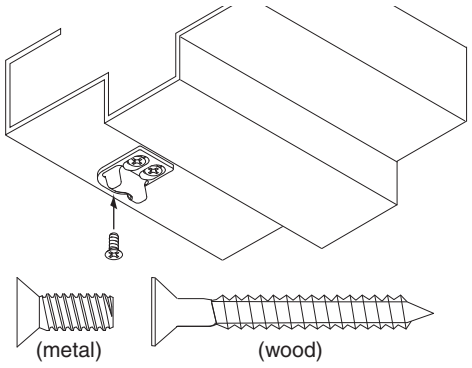
d. Confirm that bottom latch does not drag against floor when door is opened. If this occurs, remove latch adjustment pin and raise latch, then reinsert pin in next notch.





To remove pin, slide a screwdriver beneath the latch adjustment pin cap

37 Adjust Top Strike as Necessary, then Install the Third Strike Screw to Fix the Strike Position.

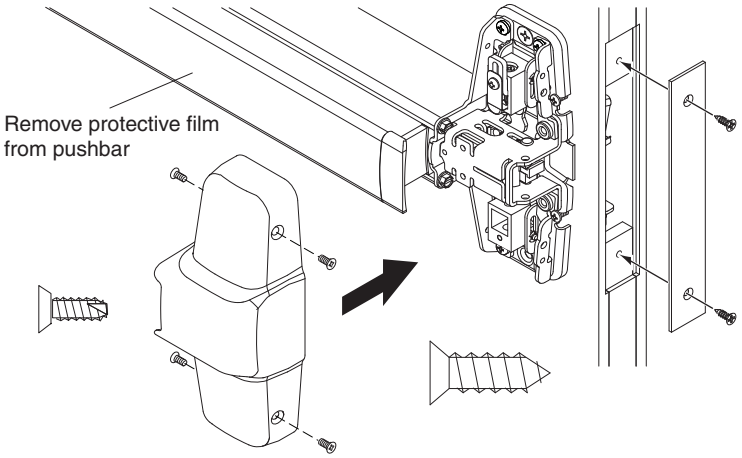


Metal
#25 x ½" Deep
#10-24

OR

Wood
⅛" Drill Pilot 1" Deep

38 Install Center Case Cover and Door Cover Plate.



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.

CD function conversion

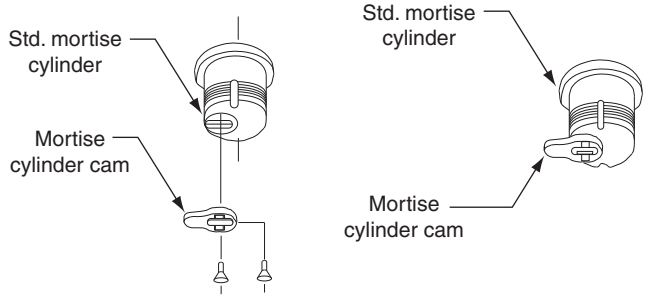
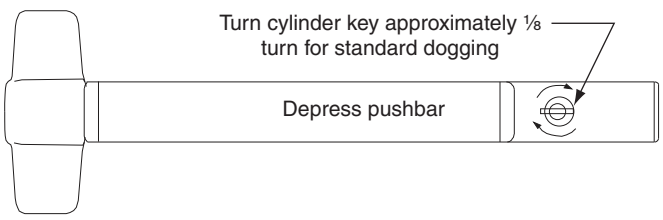


Figure 1

Dogging procedure



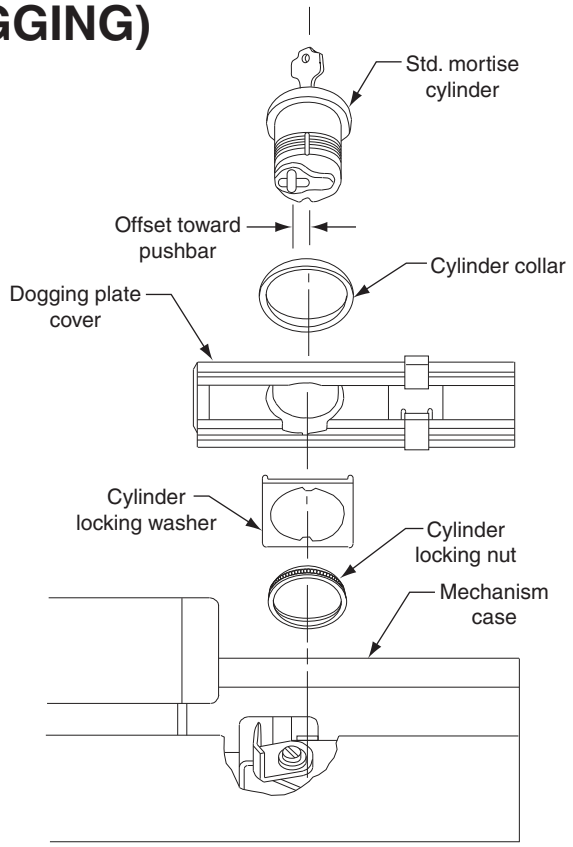


Figure 2

23970734

98/9949
CS 98/9949

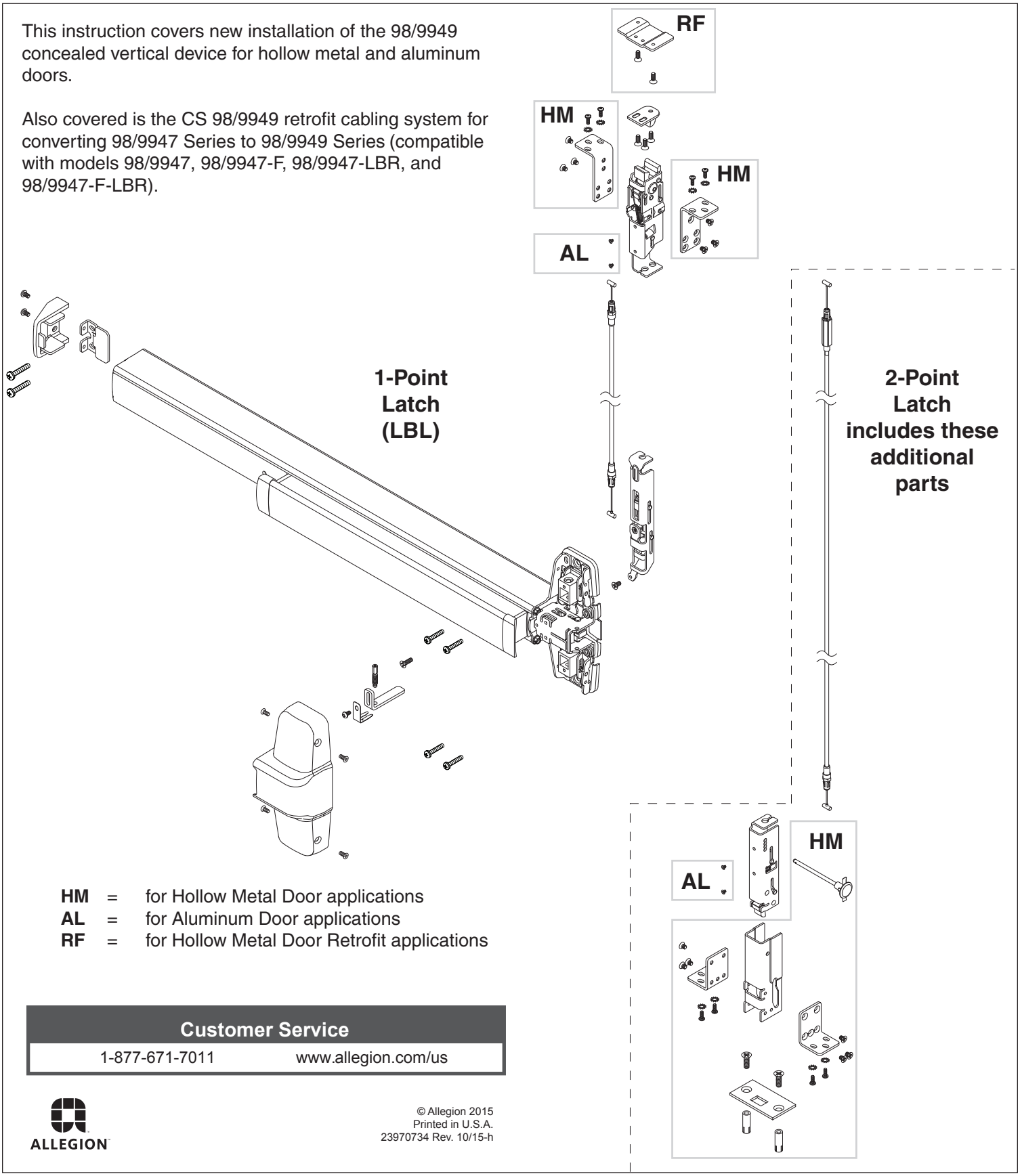
VON DUPRIN

Installation Instructions

FOR DEVICES SOLD PRIOR TO 8-10-16

This instruction covers new installation of the 98/9949 concealed vertical device for hollow metal and aluminum doors.

Also covered is the CS 98/9949 retrofit cabling system for converting 98/9947 Series to 98/9949 Series (compatible with models 98/9947, 98/9947-F, 98/9947-LBR, and 98/9947-F-LBR).



HM = for Hollow Metal Door applications
AL = for Aluminum Door applications
RF = for Hollow Metal Door Retrofit applications

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

ALLEGION

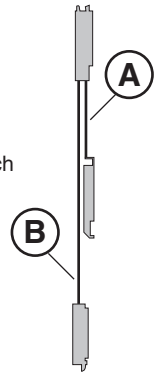
© Allegion 2015
Printed in U.S.A.
23970734 Rev. 10/15-h

1 Identify Cables and Locations.

(if not preinstalled in door)

NOTE: For retrofit installations, begin at Step 5.

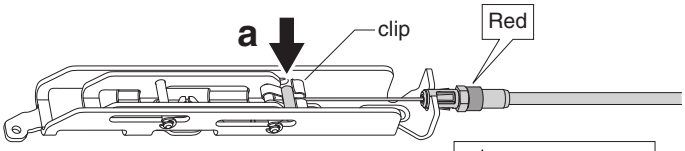
For easy identification, each cable is labeled with part number and location.



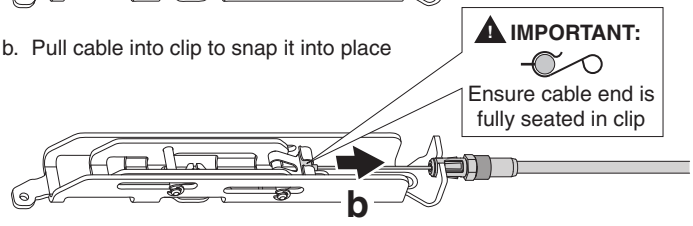
CABLE IDENTIFICATION (STANDARD SIZES)				
	HOLLOW METAL AND WIDE STILE ALUMINUM DOORS		NARROW STILE ALUMINUM DOORS	
Door Opening Height	**A** Top Cable (Red)	**B** Bottom Cable (White)	**A** Top Cable (Red)	**B** Bottom Cable (White)
6' 8"	23925795	23926207	23925803	23926215
7' 0"	23925761	23926173	23925761	23926173
8' 0"	23925647	23926058	23925647	23926058
9' 0"	23925522	23925936	23925522	23925936
10' 0"	23925407	23925811	23925407	23925811

2 Install Cable(s).

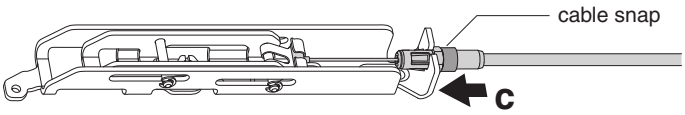
a. Position red cable end to clip on center slide



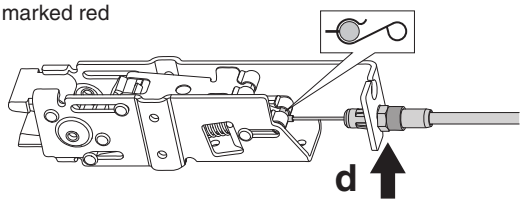
b. Pull cable into clip to snap it into place



c. Push cable snap against center slide to secure cable

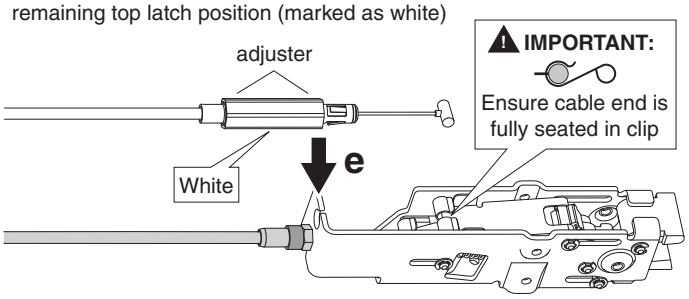


d. In the same way, install opposite end of red cable to top latch in the position marked red

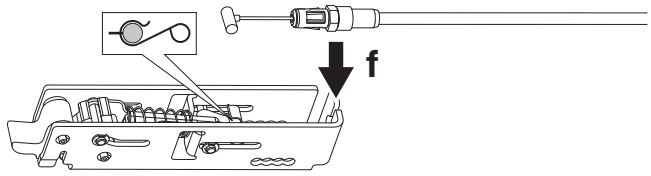


For 2-Point Latch Only

e. There is an adjuster on one end of the white cable. Install this end to the remaining top latch position (marked as white)

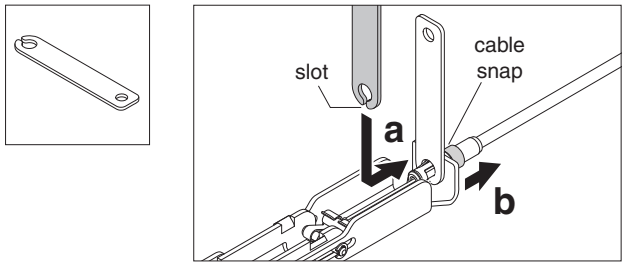


f. Install opposite end of white cable to bottom latch



CABLE REMOVAL

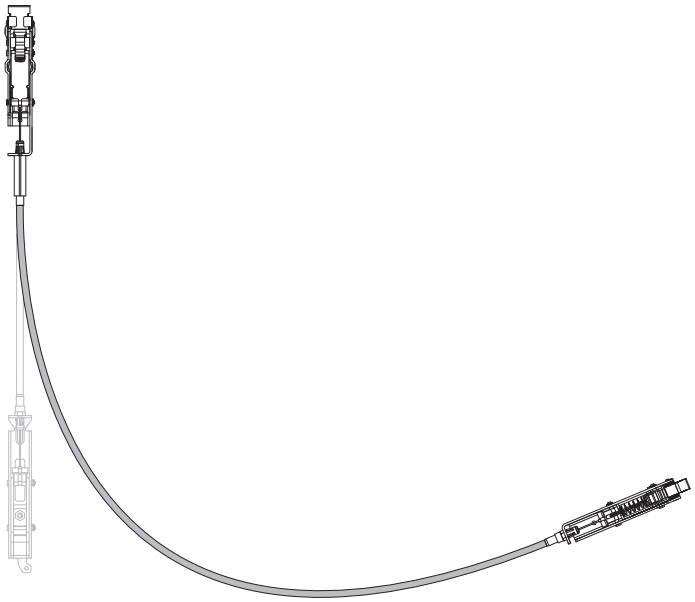
A cable removal tool has been provided. Slot in tool fits over cable, holding tabs down. Pull on cable snap to loosen cable for removal.



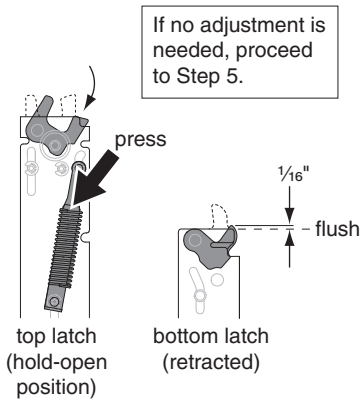
3 Determine if Bottom Latch Retraction Adjustment is Necessary.

For 2-Point Latch Only

a. Flex the cable into an L-shape as shown to simulate the installed condition of the latches.



b. To determine whether an adjustment is required, actuate the top latch to the hold-open position by pressing down on the connecting rod. Bottom latch should retract to within 1/16" of flush. If it does not, an adjustment is necessary.



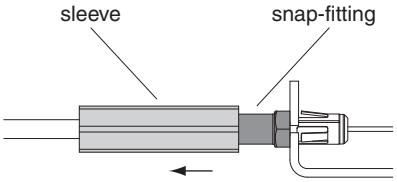
4 Adjust Bottom Latch Retraction (if necessary).

For 2-Point Latch Only

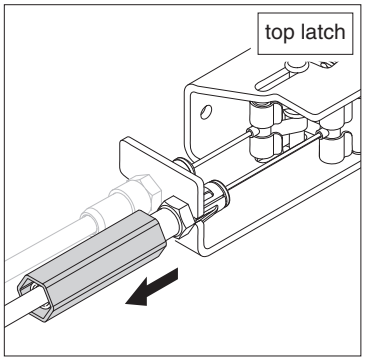
⚠ **NOTE**: Adjustment must be made while the top latch is in the hold-open position, with cable flexed into an L-shape to simulate the installed condition of the latches.



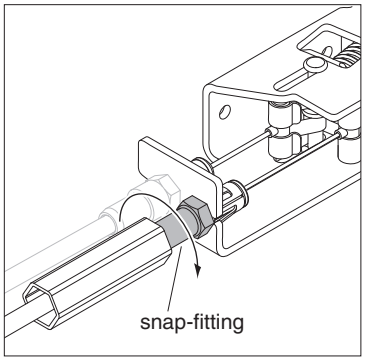
These (2) hex components are used to make the adjustment.



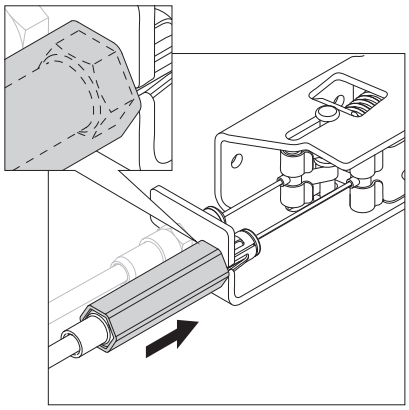
a. Pull back and hold the spring-loaded sleeve.



b. While holding the sleeve in place, rotate the barrel of the snap-fitting clockwise by hand until the bottom latch is retracted to within 1/16" of flush.



c. Slowly release the sleeve, confirming it has seated over the hex end of the snap-fitting.



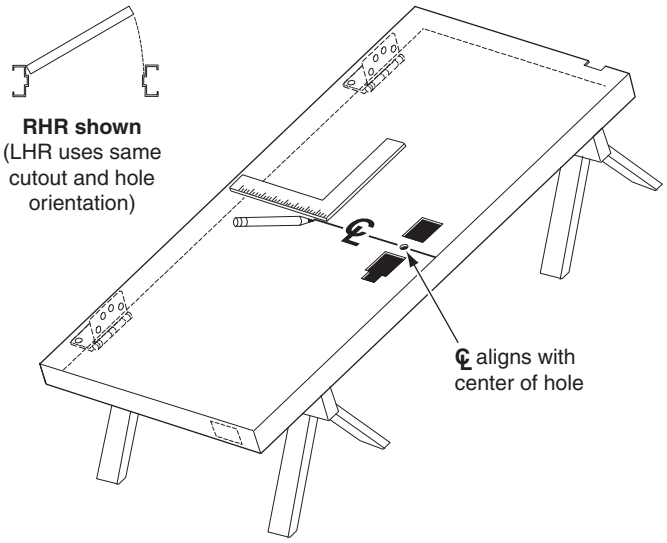
5 If Retrofit Installation

a. Remove device from existing door.

b. Remove existing door.

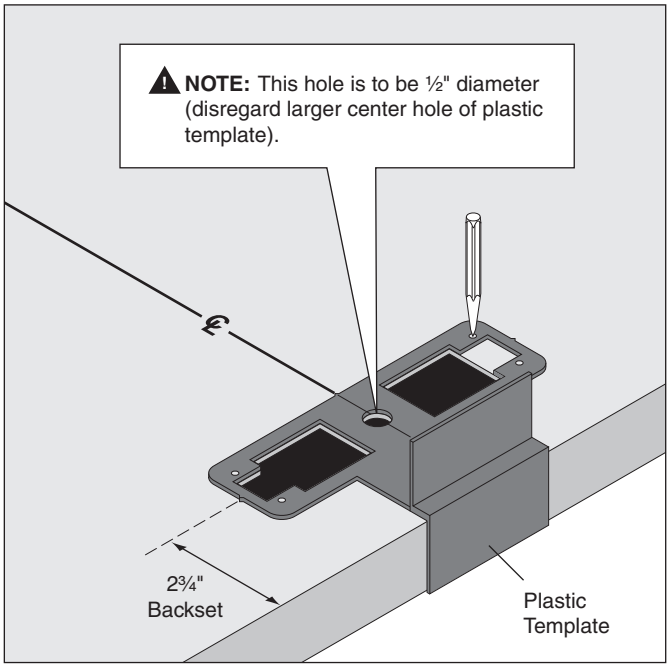
c. Remove and discard existing strikes.

6 With Door Laying Flat, Draw Horizontal Device Center Line (℄).

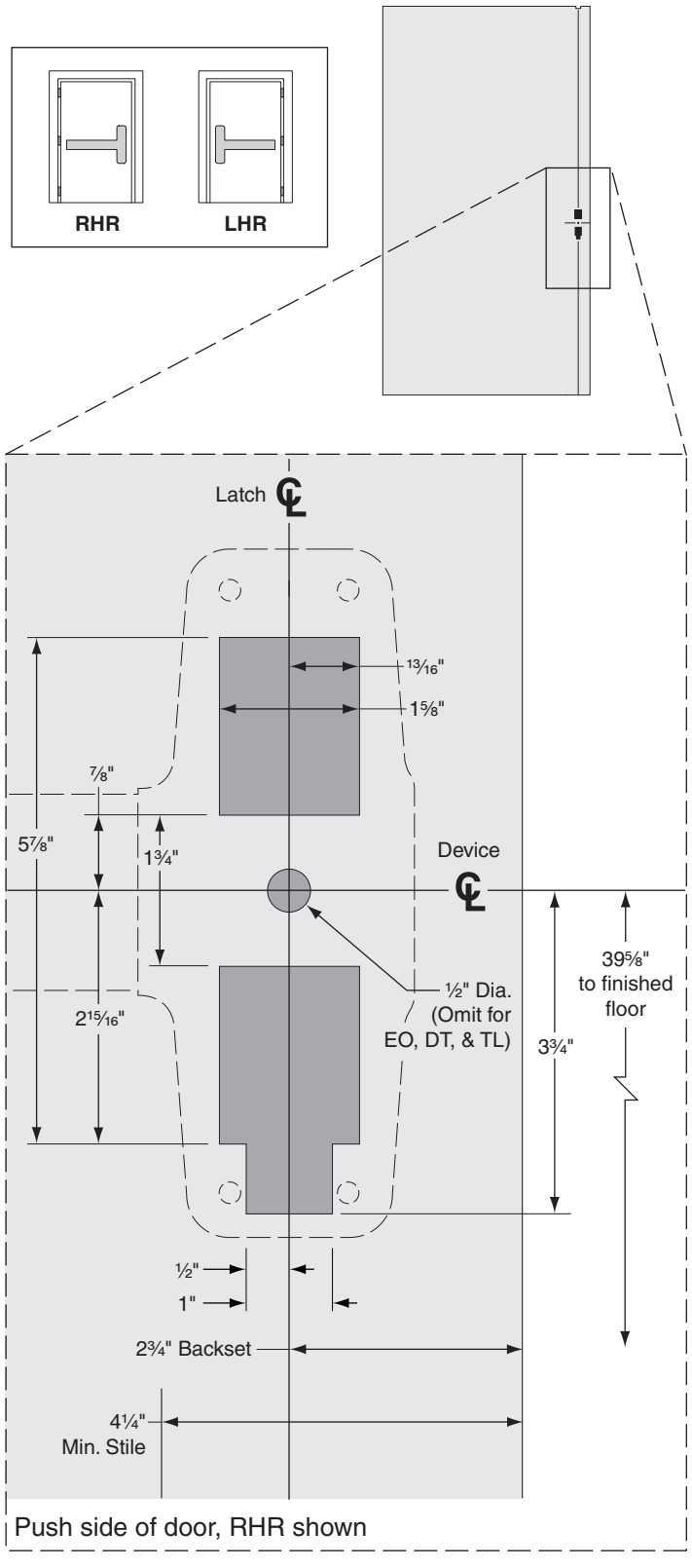


> ⚠ **NOTE:** Centerline is predetermined by cutout. If no cutout exists, refer to Step 8 to determine centerline.

7 Align Plastic Template and Mark Door.

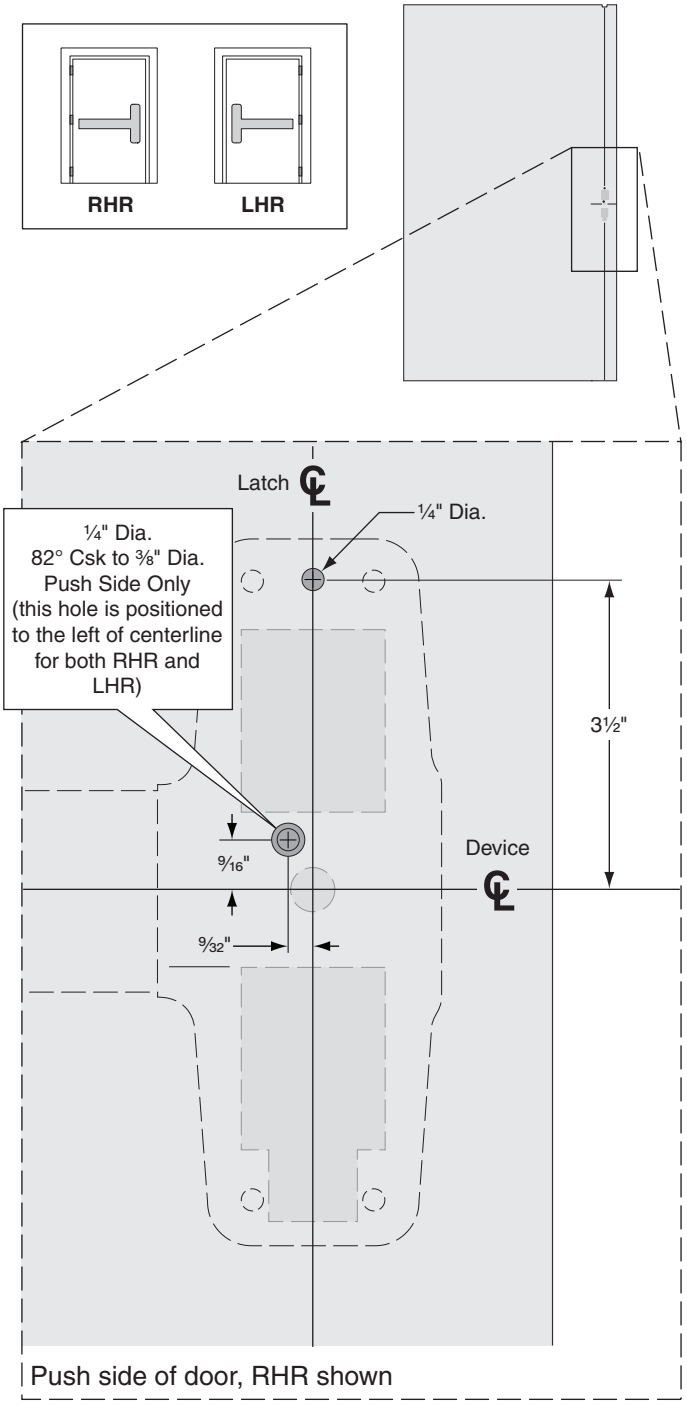


8 If Necessary, Prepare Door Cutouts.



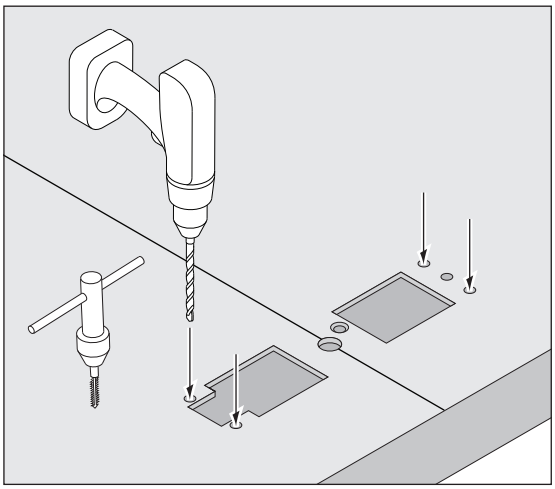
Push side of door, RHR shown

9 If Necessary, Prepare 2 Center Slide Holes.



Push side of door, RHR shown

10 Prepare 4 Holes per Plastic Template.

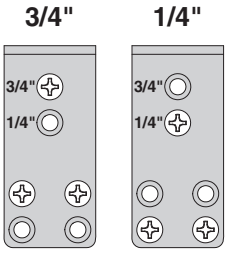


Surface Mount (metal doors only)		Sex Bolts or 990 Trims
#25	OR	¼" (device side)
#10-24		13/32" (trim side)

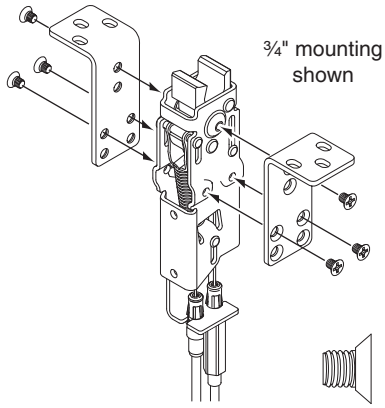
11 Assemble Latch Mounting Brackets.

Hollow Metal

Top

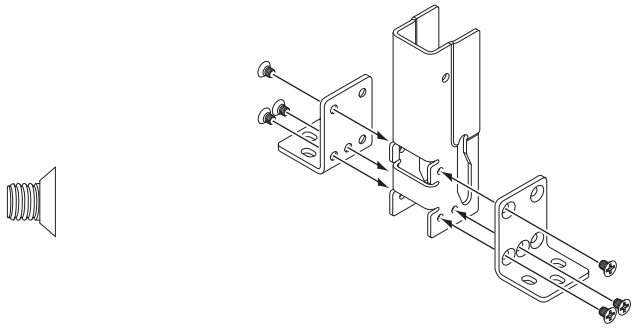


Top Door Channel



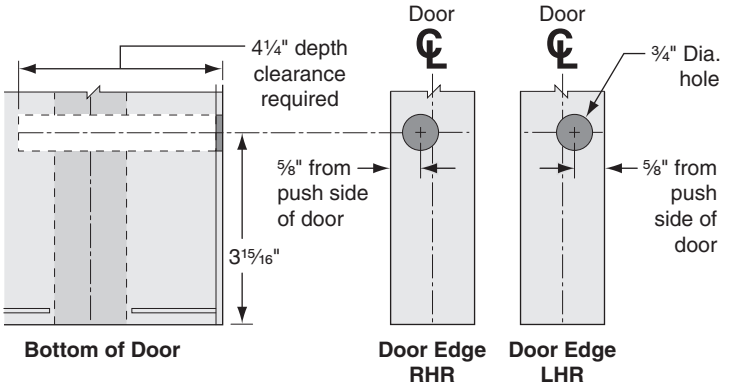
Bottom

For 2-Point Latch Only

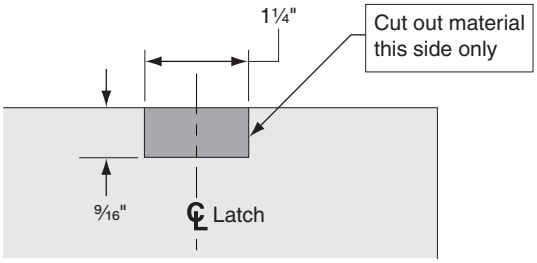


12 Prepare Access Hole for Bottom Latch Adjustment Pin.

Hollow Metal **For 2-Point Latch Only**



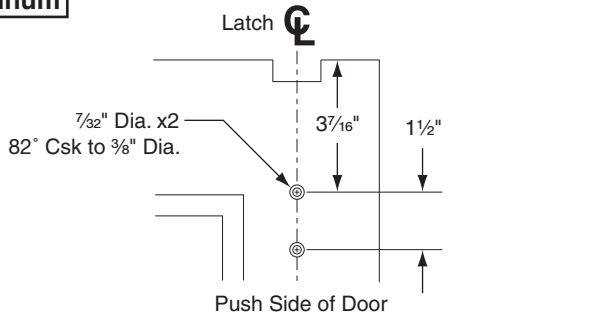
13 If Necessary, Prepare Door for Top Strike Cutout.



Push side of door, RHR shown

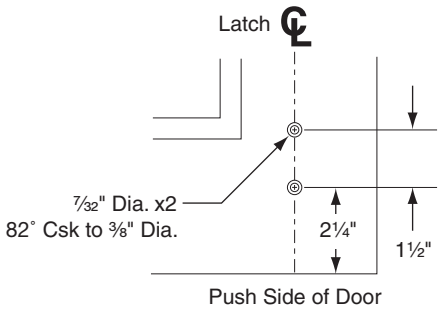
14 Prepare Top of Door for Latch Mounting.

Aluminum

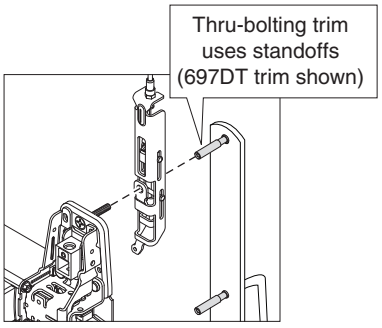


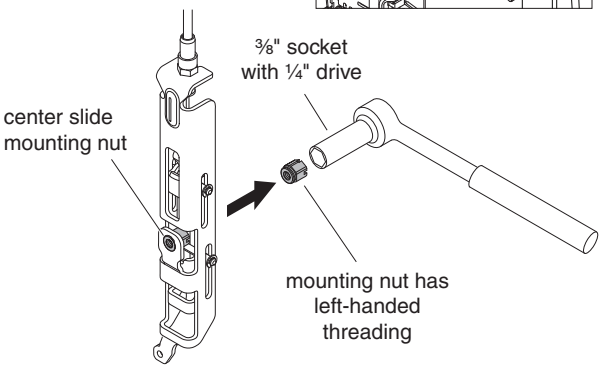
15 Prepare Bottom of Door for Latch Mounting.

Aluminum **For 2-Point Latch Only**



16 If Using 696/697 Thru-Bolting Trim, Remove Center Slide Mounting Nut.



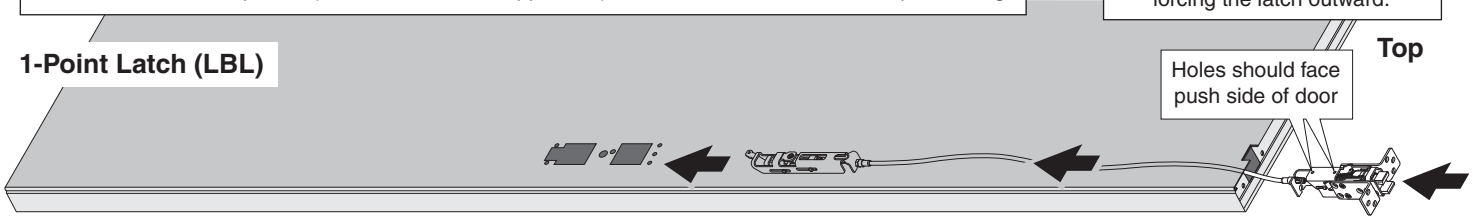


17 Slide Latch and Center Slide Assembly thru Door.

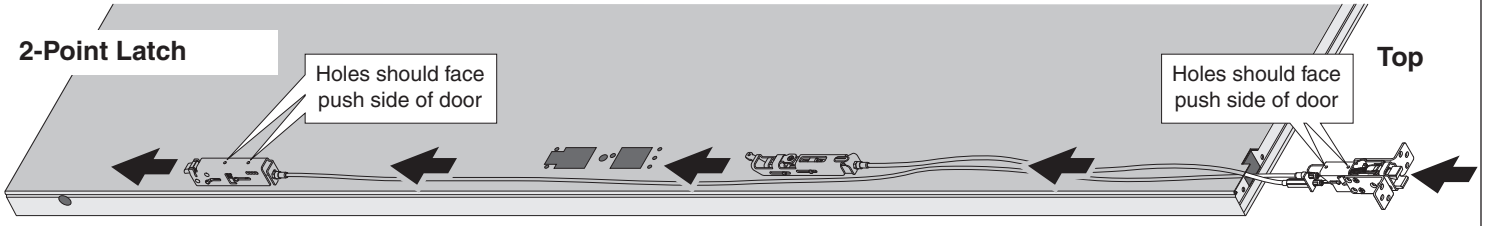
⚠ NOTE: Confirm top latch (and bottom latch, if applicable) is in correct orientation before proceeding.

⚠ NOTE: It is normal for the cable to bend inside the door, forcing the latch outward.

1-Point Latch (LBL)



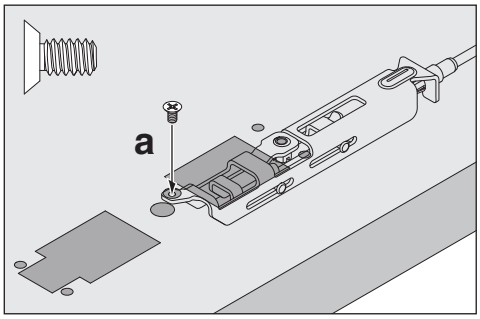
2-Point Latch



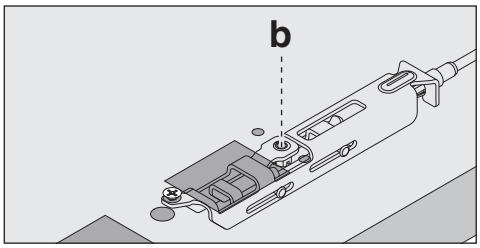
Hollow Metal Door application shown

18 Secure Center Slide to Door.

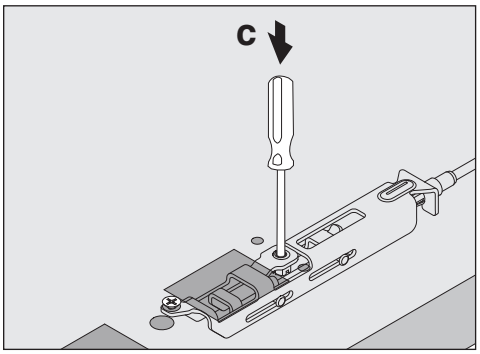
Secure center slide to door by lightly tightening lower screw



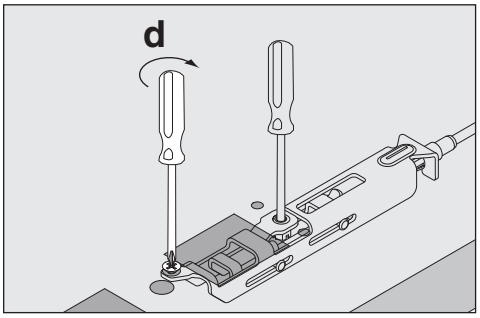
Align upper hole visually



Insert small screwdriver into upper hole to prevent center slide from rotating

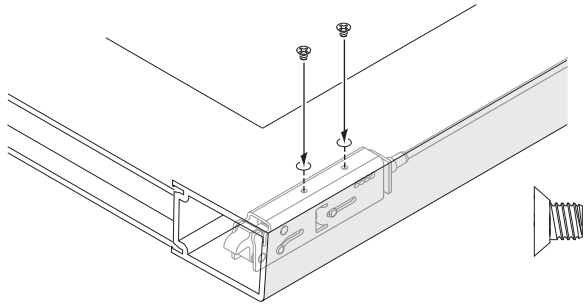


Fully tighten lower screw



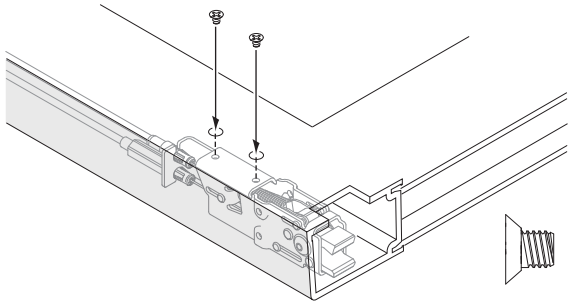
19 Align Bottom Latch and Install Mounting Screws.

Aluminum **For 2-Point Latch Only**



20 Secure Top Latch with 2 Screws.

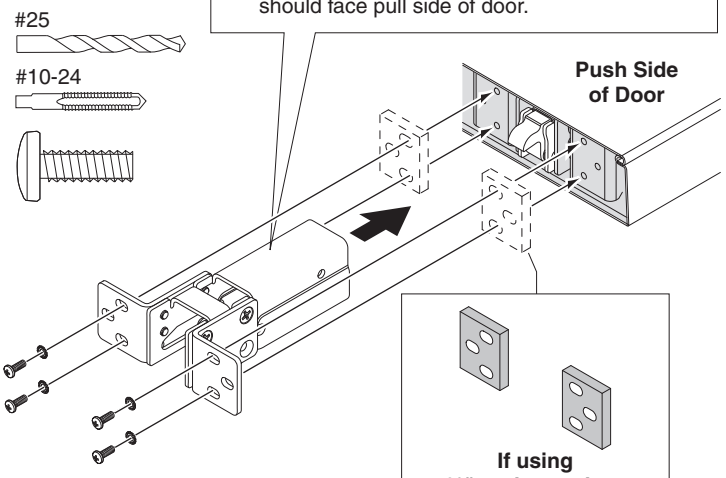
Aluminum



21 Install Bottom Latch Mounting Bracket Assembly.

Hollow Metal **For 2-Point Latch Only**

NOTE: Confirm correct orientation of assembly before proceeding. Open side of housing should face pull side of door.



NOTE: Use 2 screws per bracket (center hole not used for this application).

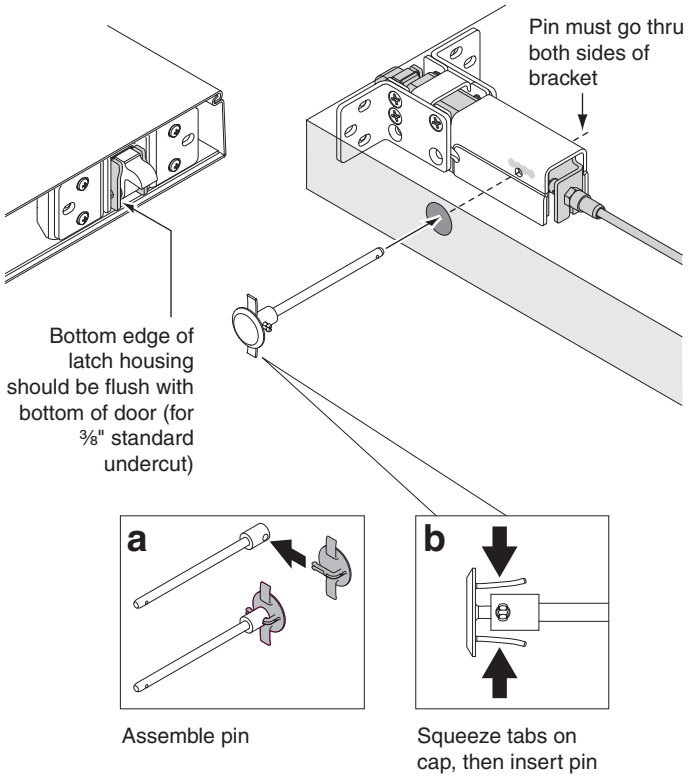
If using ¾" undercut door

spacer blocks (2) are required

Spacer Block Kit (24231516) purchased separately

22 Insert Latch Adjustment Pin to Hold Bottom Latch in Place.

Hollow Metal **For 2-Point Latch Only**



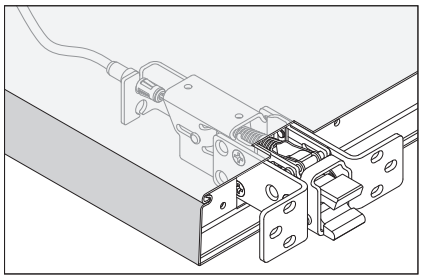
Assemble pin

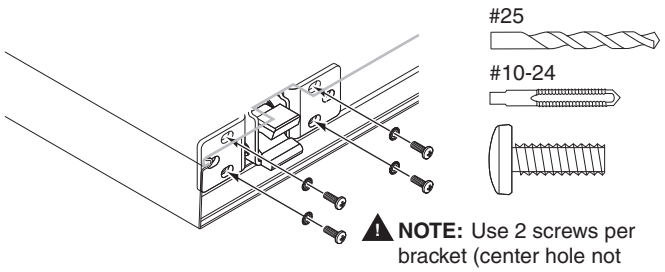
Squeeze tabs on cap, then insert pin

23 Secure Top Latch Mounting Bracket.

Hollow Metal

⚠ **NOTE:** It is normal for the cable to bend inside the door, forcing the latch outward as shown here.





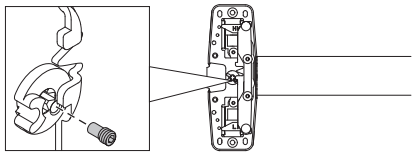
⚠ **NOTE:** Use 2 screws per bracket (center hole not used for this application).

24 Hang Door on Frame.

⚠ **CAUTION:** For 2-point latches, bottom latch cannot be in locked position while hanging door on frame. Latch must be retracted.

25 If Necessary, Remove NL Drive Screw.

NL drive screw
Factory installed on back of center case



With the NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For the trims listed below, **REMOVE** NL drive screw.

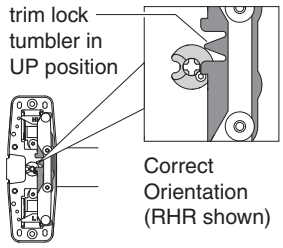
996L	696TP	990TP
996K	697TP	

With the NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

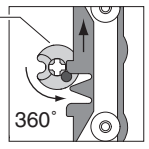
*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

* If the trim being installed is "BE" (i.e. 996L-BE), the trim lock tumbler on the back of the device must be in the **UP** position before device is installed. This allows the trim to be unlocked at all times.



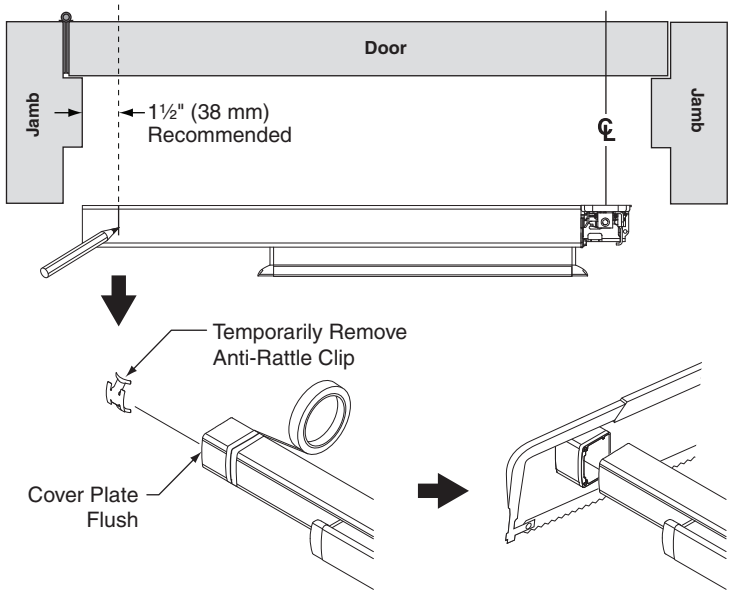
Correct Orientation (RHR shown)

If necessary, remove drive screw and rotate cam until trim lock tumbler is in UP position, then reinstall drive screw

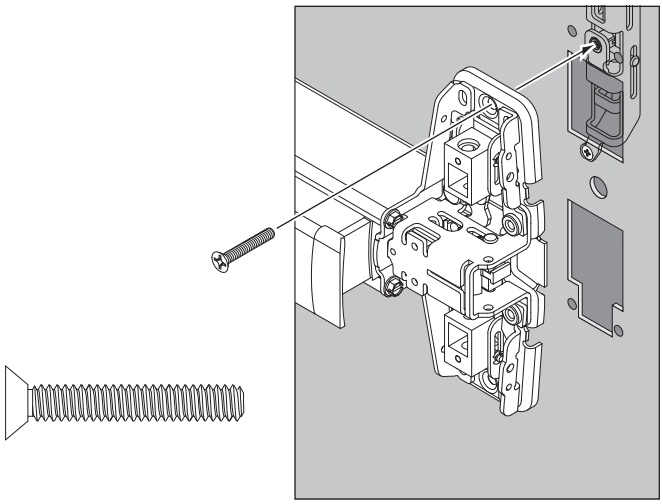


Incorrect Orientation

26 If Necessary, Cut Device.

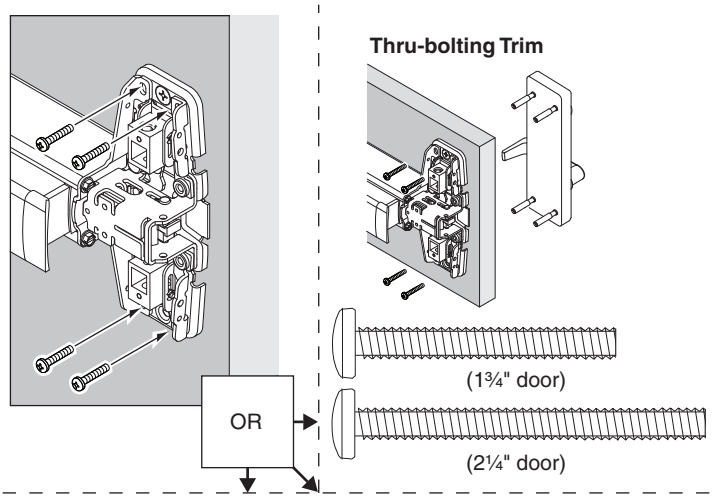


27 Install Top Center Slide Screw.

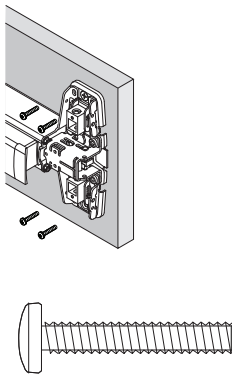


NOTE: If using 696/697 trim, this screw will pass thru top center slide hole and secure directly into trim during Step 28.

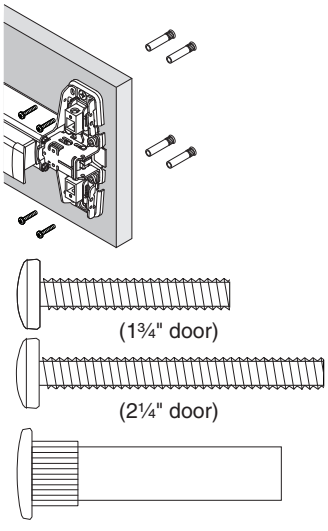
28 Attach Center Case to Door.



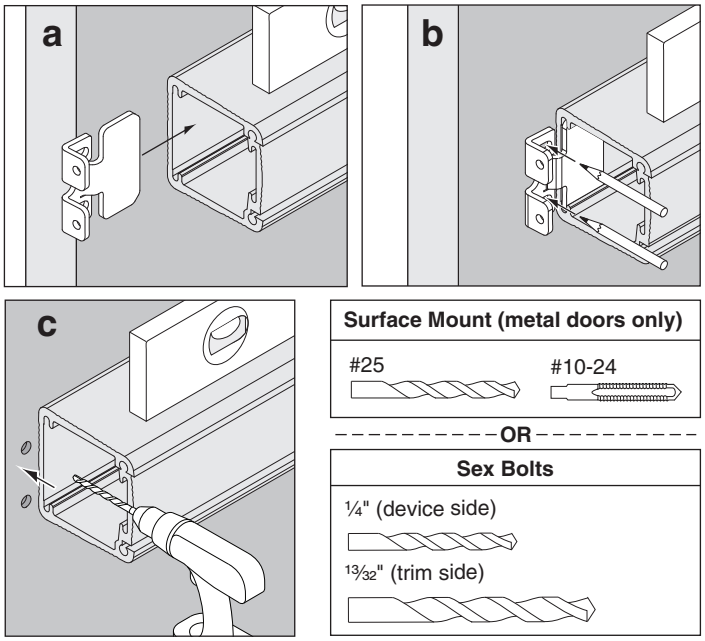
Surface Mount (metal doors only)



Sex Bolts



29 Mark and Prepare 2 Holes.



Surface Mount (metal doors only)

#25 #10-24

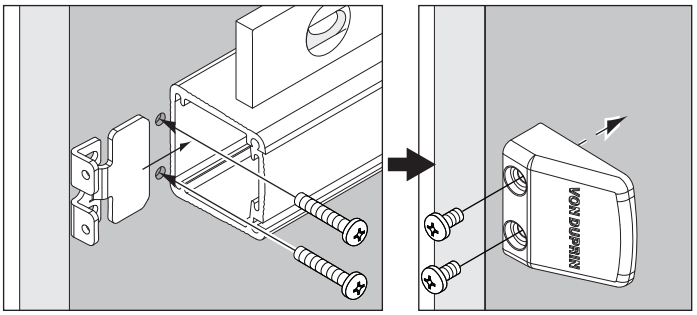
OR

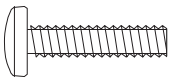
Sex Bolts

¼" (device side)

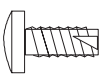
13/32" (trim side)

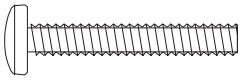
30 Install End Cap Bracket and End Cap.





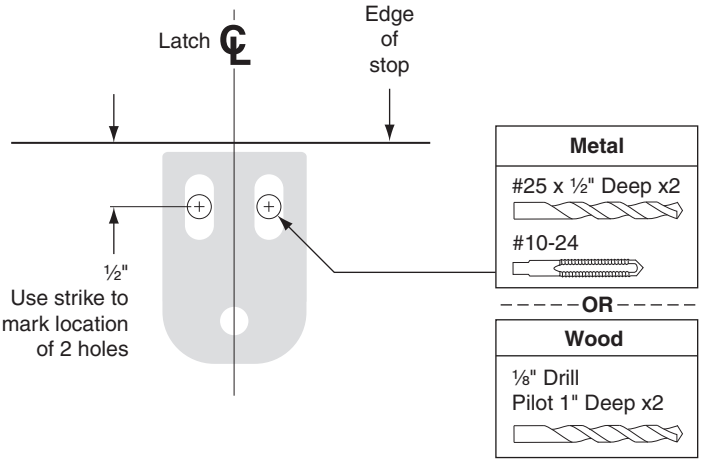
Surface Mount or Sex Bolts (1¾" door)



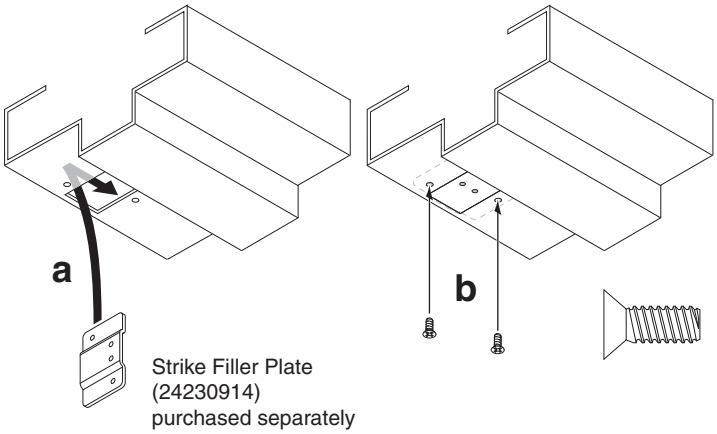


Sex Bolts (2¼" door)

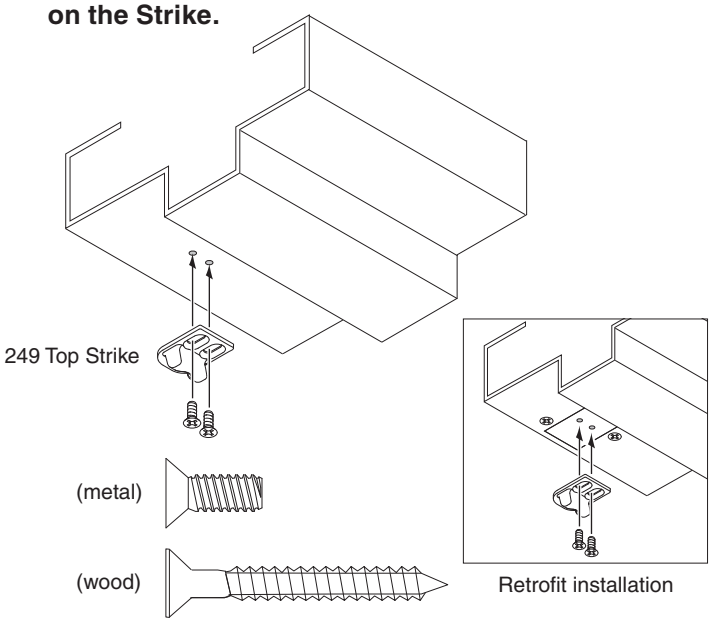
31 If New Installation, Prepare Door Frame for Top Strike.



32 If Retrofit Installation, Install Steel Cover Plate to Cover Existing 338 Strike Opening in Accordance with the Frame Manufacturer's Fire Listing.

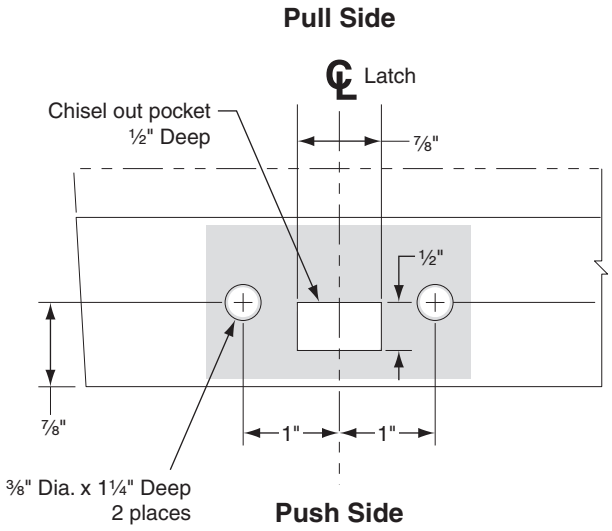


33 Install 2 Top Strike Screws Using the Slot Features on the Strike.



34 Prepare Floor for Bottom Strike.

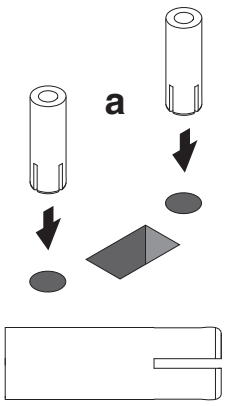
Hollow Metal **For 2-Point Latch Only**



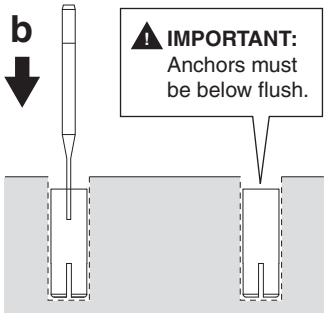
35 Install Bottom Strike.

Hollow Metal **For 2-Point Latch Only**

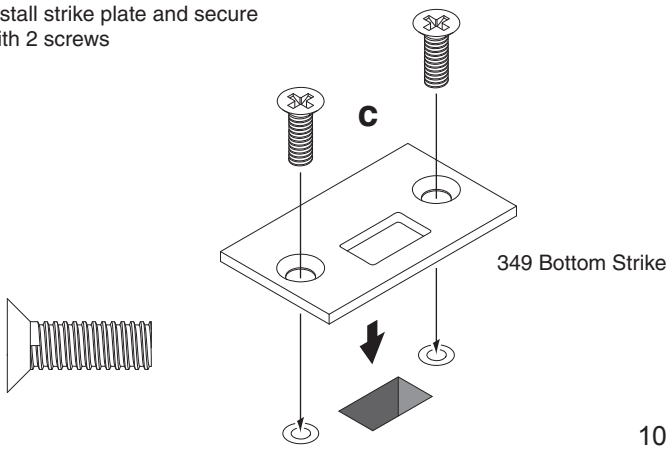
Clear holes of debris, then drop in anchors (slotted end first)



Secure the anchors using a hammer and punch



Install strike plate and secure with 2 screws

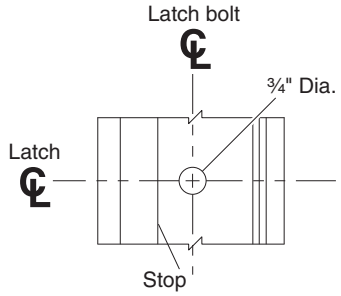


36 Prepare Threshold.

Aluminum **For 2-Point Latch Only**

a. After closing door with bottom latch installed, mark the location the bottom latch bolt is contacting the threshold.

b. Drill a ¾" diameter hole in the threshold.



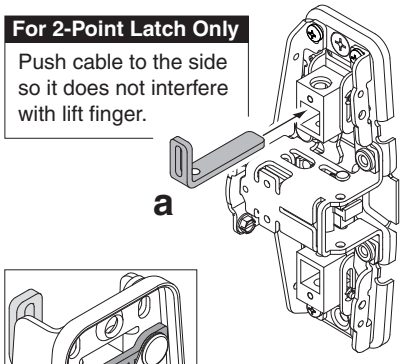
37 Install Lift Finger and Retainer Clip.

⚠ **NOTE:** The lift finger installation and adjustment must be performed while the latches are in the extended (latched) position.

Slide L-shaped lift finger thru block in device center case and then into center slide

For 2-Point Latch Only

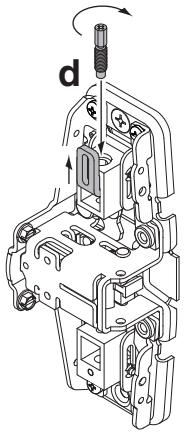
Push cable to the side so it does not interfere with lift finger.



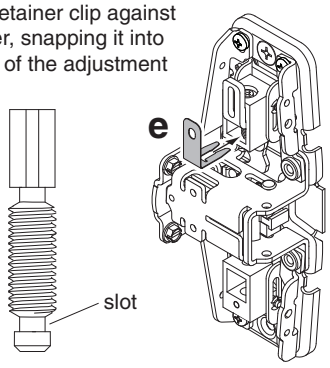
Lift finger must pass below locking tumbler (back of center case shown for clarity)

Lift finger must insert into center slide here

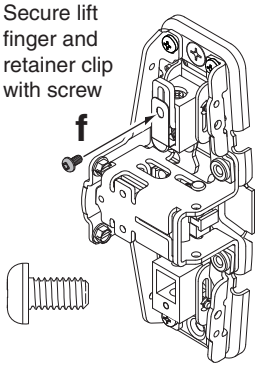
Insert adjustment screw and rotate with screwdriver to raise lift finger until it is snug against block



Install retainer clip against lift finger, snapping it into the slot of the adjustment screw



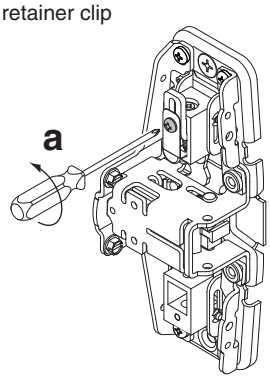
Secure lift finger and retainer clip with screw



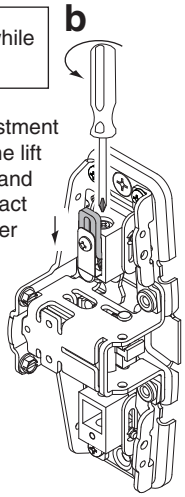
38 Adjust Lift Finger.

⚠ **NOTE:** Lift finger adjustment must be performed while the latches are in the extended (latched) position.

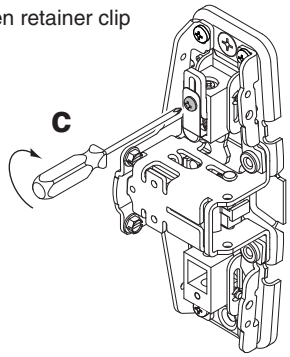
Loosen retainer clip screw



Loosen adjustment screw until the lift finger drops and you feel contact with the center slide



Tighten retainer clip screw



39 Perform Functional Test of Door.

a. Depress pushbar. Door should begin to open when pushbar is nearly fully depressed. If necessary, refer to Step 38 to readjust lift finger.

b. With door closed, top latch should be secure.

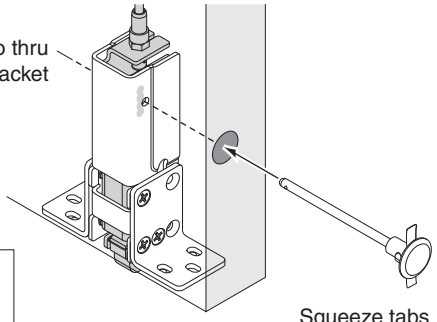
For 2-Point Latch Only

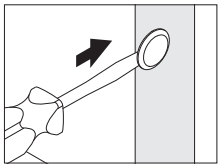
c. With door closed, bottom latch should be secure.

d. Confirm that bottom latch does not drag against floor when door is opened.

Hollow Metal **For 2-Point Latch Only**

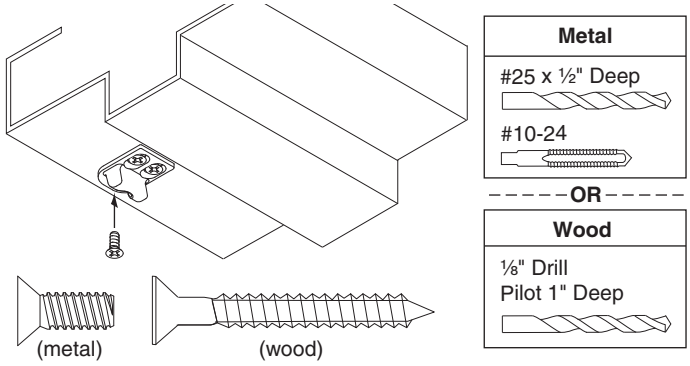
If this occurs, remove latch adjustment pin and raise latch, then reinsert pin in next notch.



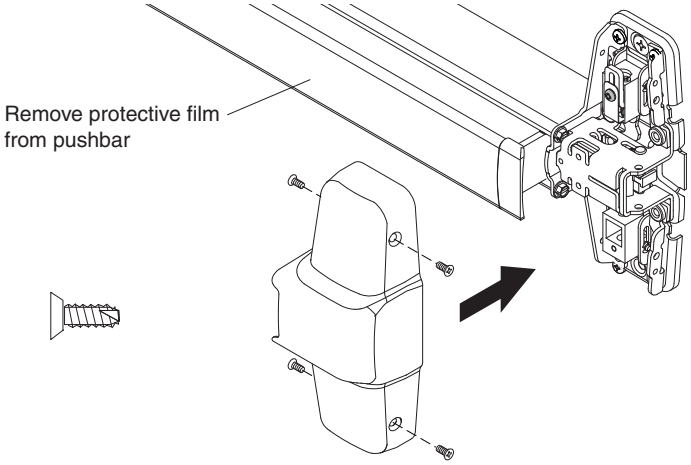


To remove pin, slide a screwdriver beneath the latch adjustment pin cap

40 **Adjust Top Strike as Necessary, then Install the Third Strike Screw to Fix the Strike Position.**



41 **Install Center Case Cover.**



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.

CD function conversion

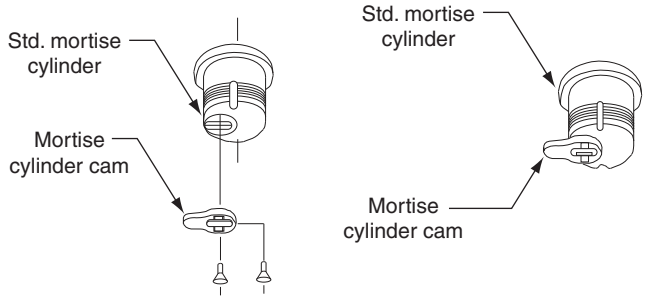
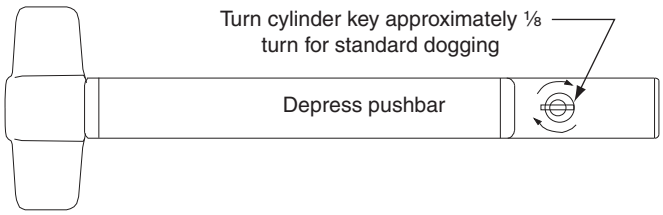


Figure 1

Dogging procedure



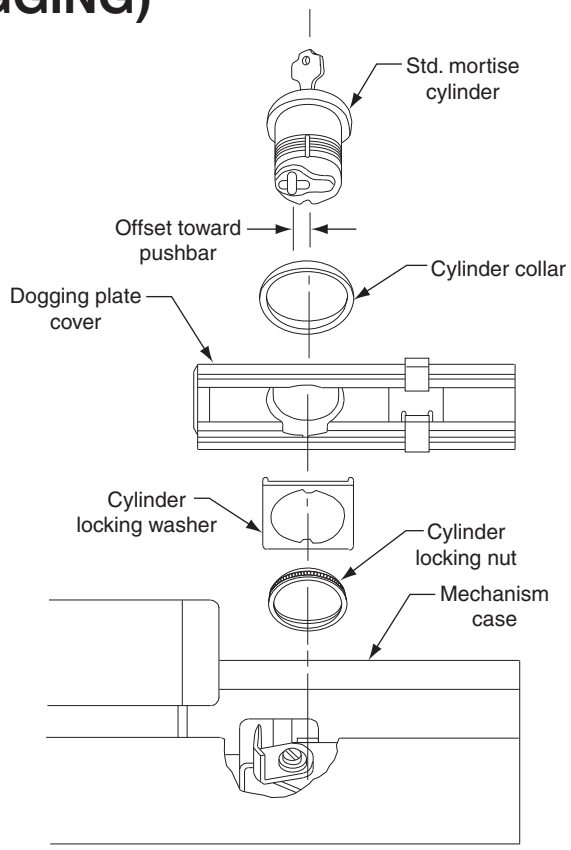


Figure 2

941359-00

CVC Cable Sizing and Attachment

VON DUPRIN

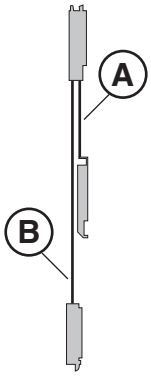
98/9949 and 33/3549A Devices

Installation Instructions

CABLE IDENTIFICATION

1 **Identify Cables and Locations.**

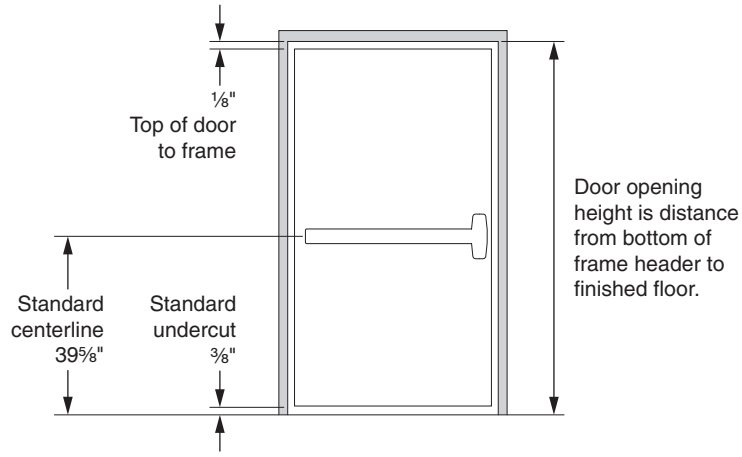
For easy identification, each cable is labeled with part number and location.



CABLE IDENTIFICATION		
	HOLLOW METAL AND ALUMINUM DOORS	
* Door Opening Height	**A** Top Cable (Red)	**B** Bottom Cable (White)
6' 0" - 6' 10"	47250398	47250403
6' 10" - 8' 0"	47250175	47250178
8' 0" - 9' 2"	47250176	47250179
9' 2" - 10' 4"	47250177	47250180
10' 4" - 11' 6"	47250399	47250404
11' 6" - 12' 8"	47250400	47250405
12' 8" - 13' 10"	47250401	47250406
13' 10" - 15' 0"	47250402	47250407

Standard Sizes

* Based on standard centerline of 39⅝" from finished floor



WARNINGS AND CAUTIONS

WARNING

Warnings indicate potentially hazardous conditions, which if not avoided or corrected, may cause death or serious injury.

CAUTION

Cautions indicate potentially hazardous conditions, which if not avoided or corrected, may cause minor or moderate injury. Cautions may also warn against unsafe practices.

Caution: Cautions indicate a condition that may cause equipment or property damage only.

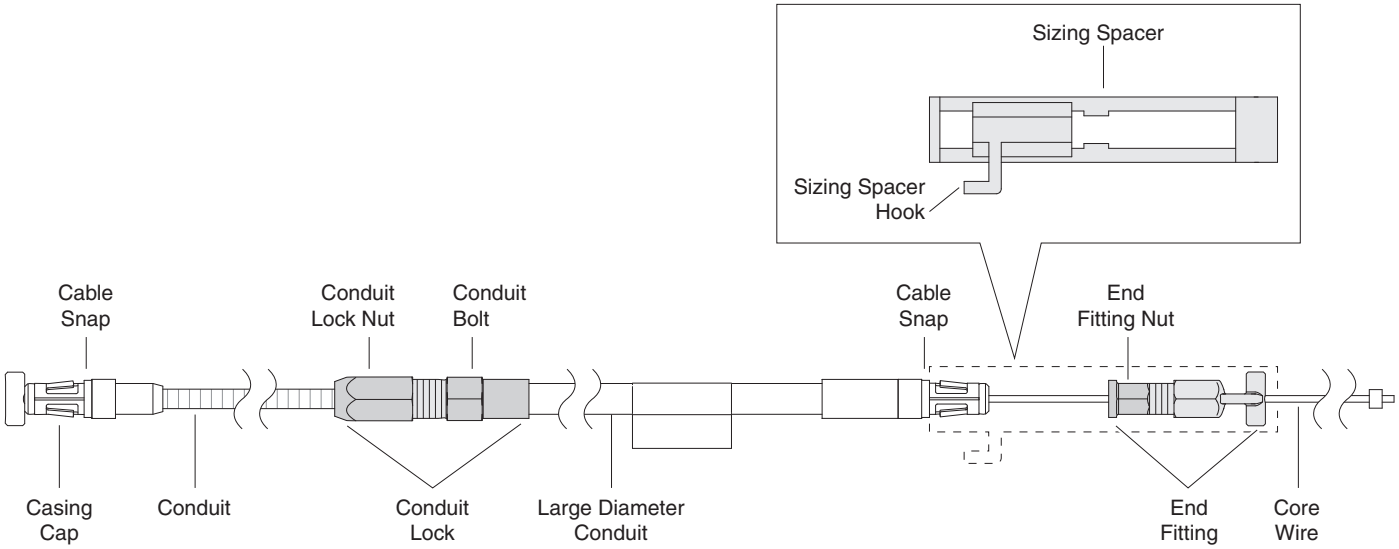
ALLEGION

Customer Service

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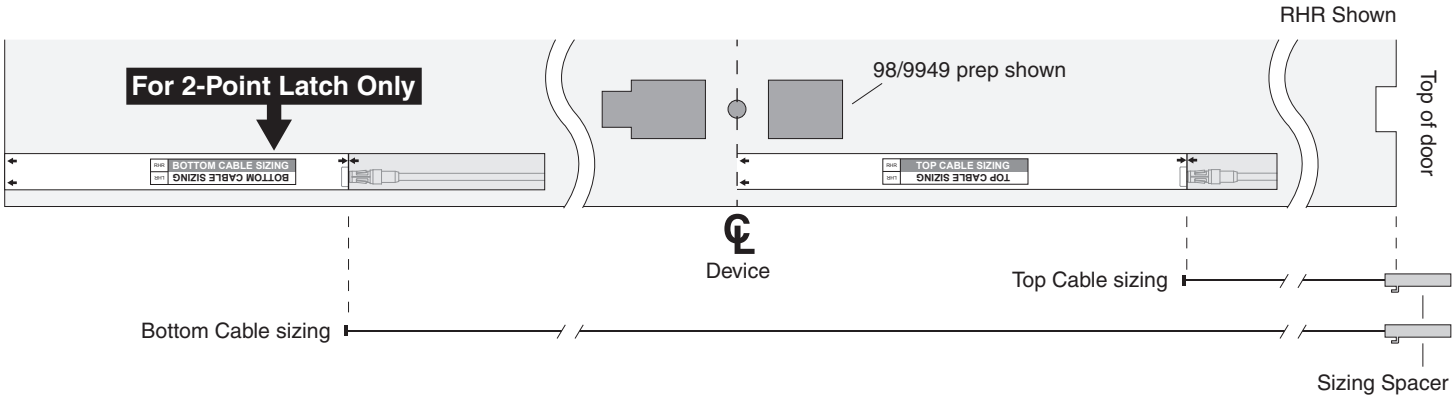
CABLE COMPONENTS



CABLE SIZING PREPARATION

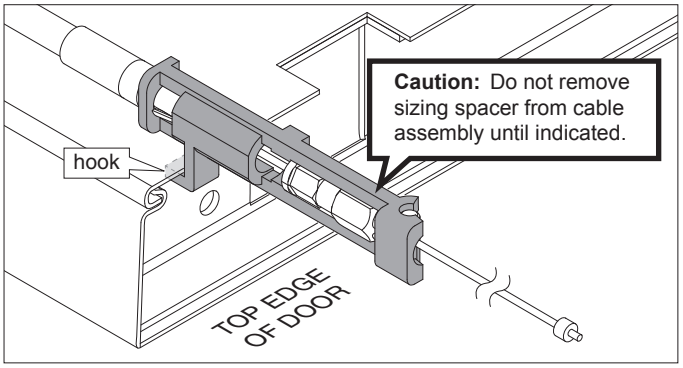
2 **Align Sizing Tape to Horizontal Device Center Line as shown. For Bottom Cable Sizing (if applicable), Align Sizing Tape to Bottom Edge of Door.**

Use cable components diagram above for reference.

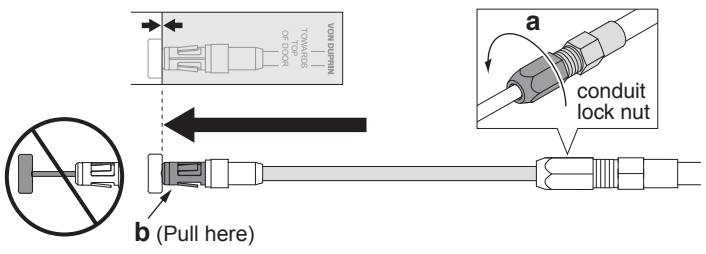


CABLE SIZING

3 **To Size Top Cable, Align Sizing Spacer Hook to Top Edge of Door.**

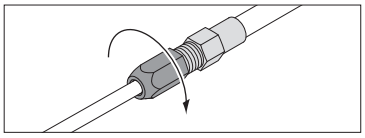


4 **Loosen Conduit Lock Nut ½ Turn. At Opposite End of Cable, Pull Casing Cap to Line on Tape.**

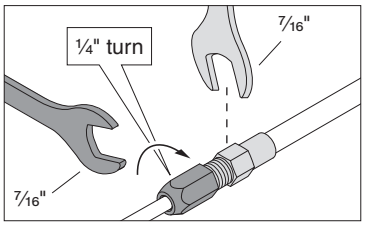


CABLE SIZING (continued)

5 **Hand Tighten Conduit Lock Nut.**



6 **Wrench Tighten Conduit Lock Nut ¼ Turn.**

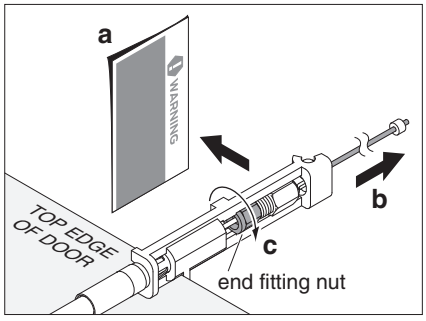


Caution: Do not overtighten.

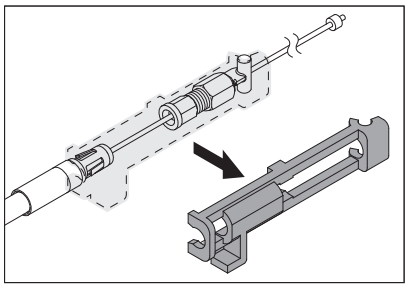
WARNING

Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.

7 **Remove Warning Label. While Pulling Core Wire Tight, Hand Tighten End Fitting Nut.**



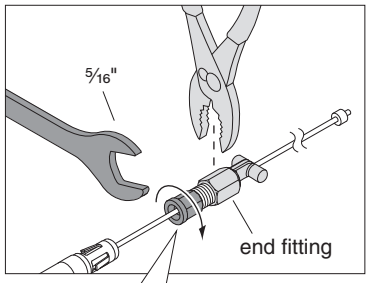
8 **Remove Sizing Spacer. (Do not discard.)**



9 **While Holding End Fitting in Place with Pliers, Fully Tighten End Fitting Nut with Wrench.**

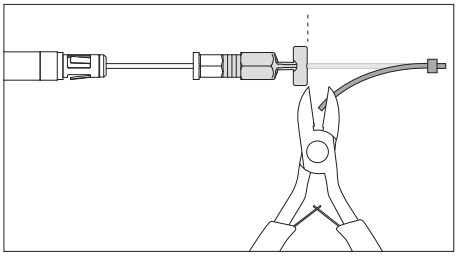
WARNING

Failure to properly tighten end fitting nut will result in device malfunction and possible lock in or lock out situation.

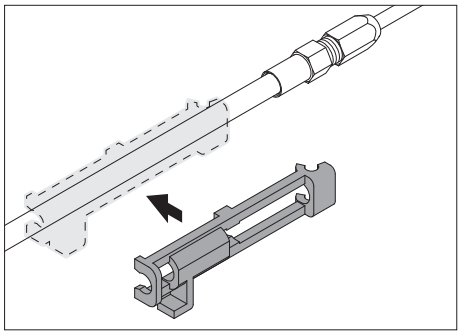


Once tightened down, end fitting nut can't be loosened or readjusted.

10 **Cut Core Wire Flush with End Fitting.**



11 **Snap Sizing Spacer onto Large Diameter Conduit for Storage.**



12 **To Size Bottom Cable, Align Sizing Spacer Hook to Top Edge of Door as before, and Repeat Steps 3 thru 10.**

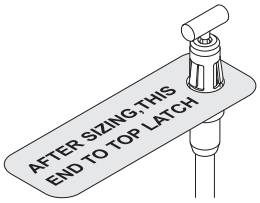
For 2-Point Latch Only

Repeat Steps 3 thru 10

CABLE ATTACHMENT

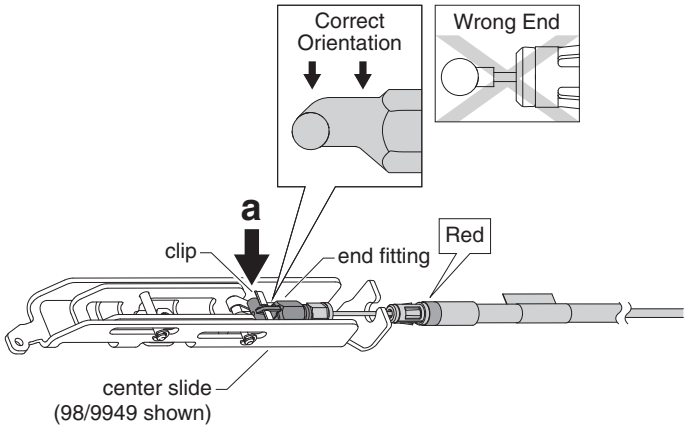
13 Flip Top Cable.

Caution: After sizing, **TOP** cable must be flipped 180° before installing. See tag.

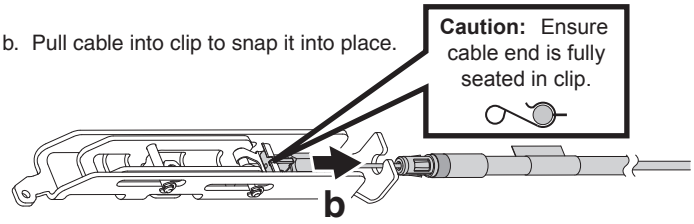


14 Install Top Cable.

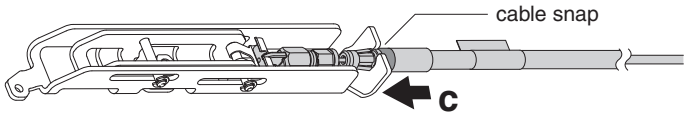
a. There is an end fitting on one end of the red cable. Position this end to clip on center slide.



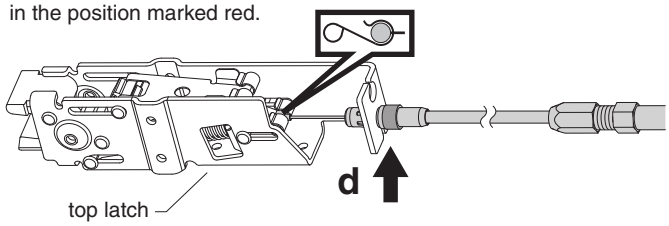
b. Pull cable into clip to snap it into place.



c. Push cable snap against center slide to secure cable.



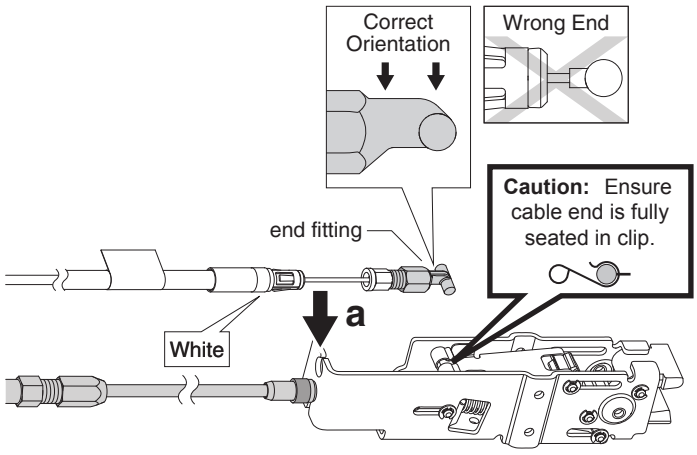
d. Follow steps (a) thru (c) to install opposite end of red cable to top latch in the position marked red.



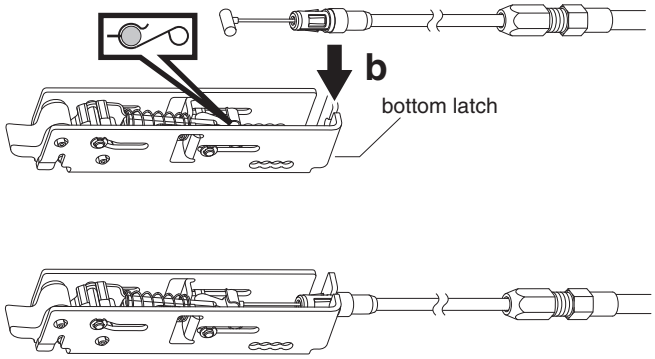
15 Install Bottom Cable.

For 2-Point Latch Only

a. There is an end fitting on one end of the white cable. Install this end to the remaining top latch position (marked as white).



b. Install opposite end of white cable to bottom latch.



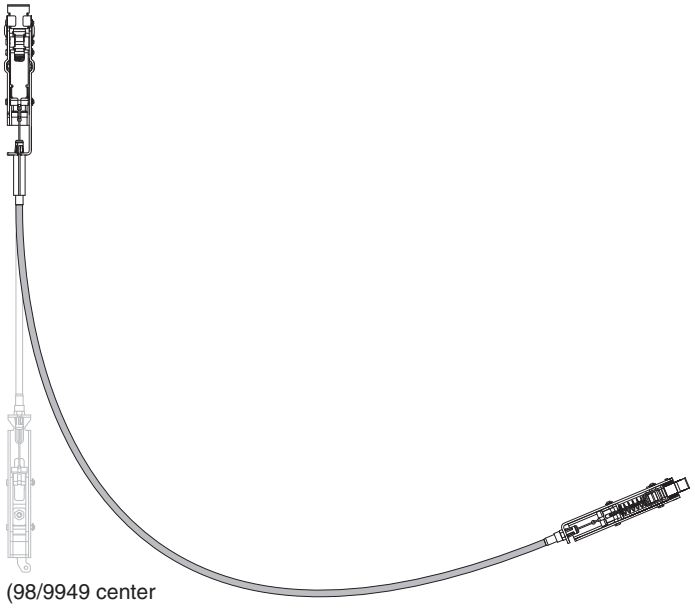
16 Determine if Bottom Latch Retraction Adjustment is Necessary.

For 2-Point Latch Only

CAUTION
Critical step.

CAUTION
Adjustment must be made while the top latch is in the hold-open position.

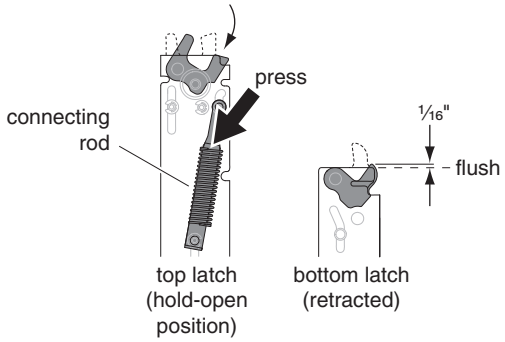
a. Flex the cable into an L-shape as shown to simulate the installed condition of the latches.



(98/9949 center slide shown)

b. To determine whether an adjustment is required, actuate the top latch to the hold-open position by pressing down on the connecting rod. Bottom latch should retract to within 1⁄16" of flush. If it does not, an adjustment is necessary.

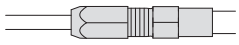
If no adjustment is needed, proceed to Step 18.



17 Adjust Bottom Latch Retraction (if necessary).

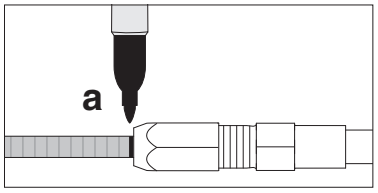
For 2-Point Latch Only

The conduit lock is used to make this adjustment.

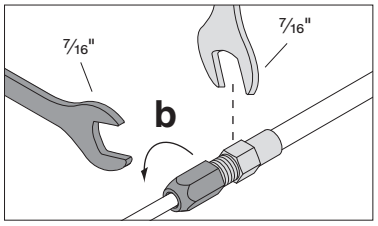


CAUTION
Adjustment must be made while the top latch is in the hold-open position.

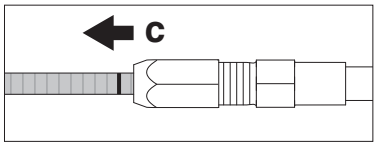
a. Use a permanent marker or tape to mark position of bottom cable conduit.



b. Loosen conduit lock nut so conduit is free to slide.

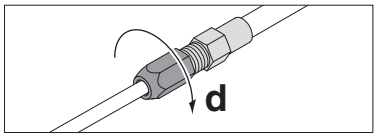


c. Pull until (1) extra wrap of conduit can be seen (1 wrap = 1⁄8").



d. Hand tighten conduit lock nut.

e. Repeat Step 16. Confirm bottom latch now retracts to within 1⁄16" of flush.

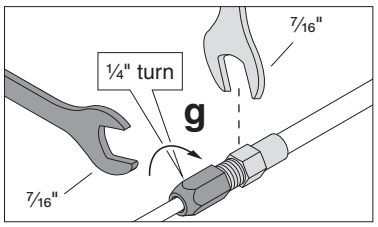


f. If not, loosen conduit lock nut, pull out an additional wrap of conduit, and hand tighten conduit lock nut.

g. Wrench tighten conduit lock nut 1⁄4 turn.

Caution: Do not overtighten.

WARNING
Failure to properly tighten conduit lock nut will result in device malfunction and possible lock in or lock out situation.



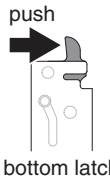
18 Confirm Bottom Deadlatching.

For 2-Point Latch Only

a. Lock top latch. Flex the cable into an L-shape as before.

b. Push against flat side of bottom latchbolt. Latchbolt should NOT release.

If latchbolt releases, return conduit to position marked in Step 17a. Repeat bottom latch retraction adjustment.

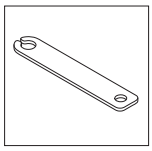


CAUTION
If no bottom latch retraction adjustment was necessary, yet the bottom latch won't deadlatch, contact technical support.

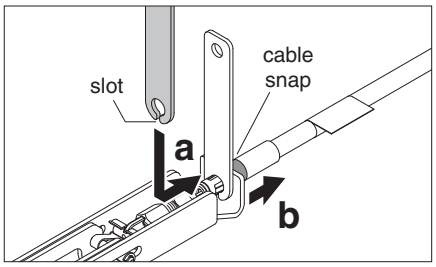
19 **Refer to Device Instructions to Complete Installation.**

CABLE REMOVAL

(If cable was installed in wrong position)



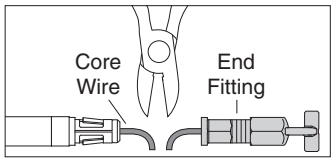
A cable removal tool was included with device.
Slot in tool fits over cable, holding tabs down.
Pull on cable snap to loosen cable for removal.



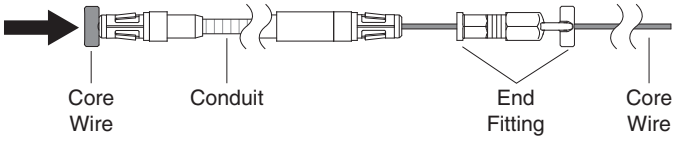
CORE WIRE REPLACEMENT

(If core wire was cut too short)

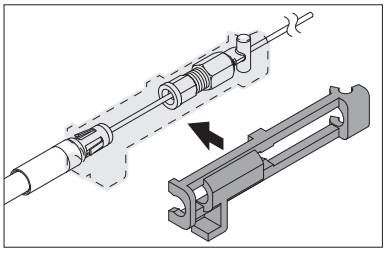
a. Cut core wire. Discard old core wire and end fitting.



b. Slide new core wire thru conduit and end fitting.



c. Reattach spacer as shown.



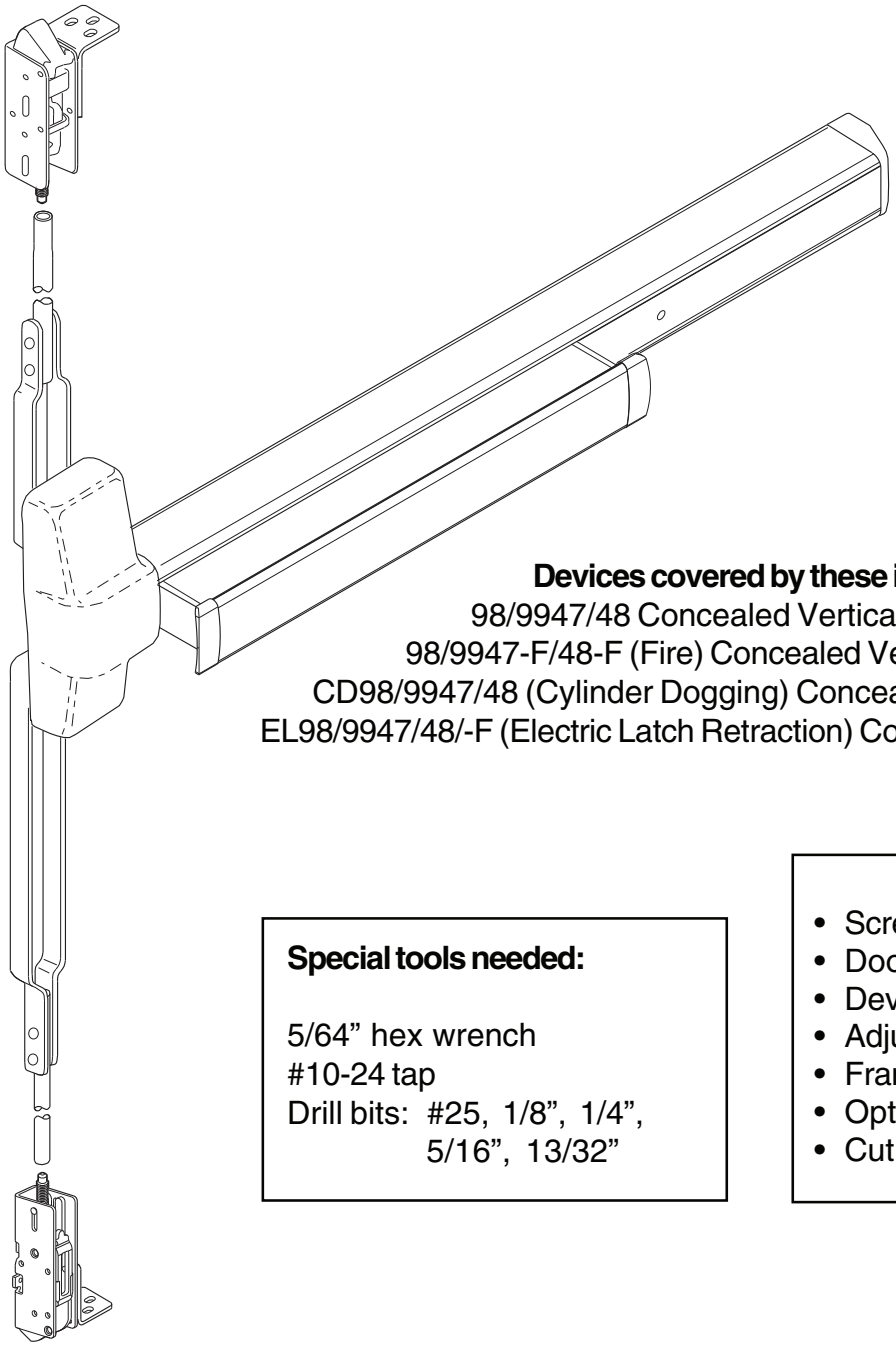
911376-00

98/9947

VON DUPRIN®

Concealed Vertical Rod Exit Device
Metal Door Applications

Installation Instructions



Devices covered by these instructions:

98/9947/48 Concealed Vertical Rod Exit Device
98/9947-F/48-F (Fire) Concealed Vertical Rod Exit Device
CD98/9947/48 (Cylinder Dogging) Concealed Vertical Rod Exit Device
EL98/9947/48/-F (Electric Latch Retraction) Concealed Vertical Rod Exit Device

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
- Door preparation chart 3
- Device installation 4-6
- Adjust rods 7
- Frame preparation chart 7
- Optional equipment .....
- Cut device 8

ALLEGION

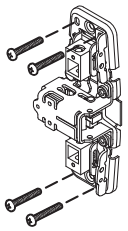
Customer Service

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

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911376-00 Rev. 07/16-f

SCREW CHART

A



#10-24 x 1" — Surface mount or Sex bolts (1-3/4" door)

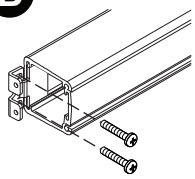
#10-24 x 1-1/2" — Sex bolts (2-1/4" door)

- 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)

B



#10-24 x 3/4" — Surface mount or Sex bolts (1-3/4" door)

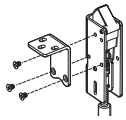
#10-24 x 1-1/8" — Sex bolts (2-1/4" door)

C



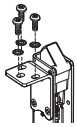
#10-16 X 3/8" Thread cutting — End cap

D



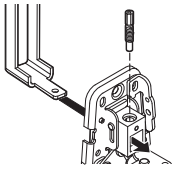
#10-32 X 1/4" — Bracket to latch

E



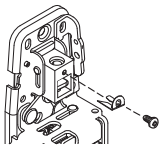
#10-24 X 1/2" — Bracket to door

F



Rod adjusting screw — Retaining clip

G



#8-32 X 5/16" — Retaining clip

H



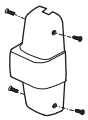
#10-24 X 1/2" — 338 strike

I



#10-24 X 1-1/2" — Ratchet release

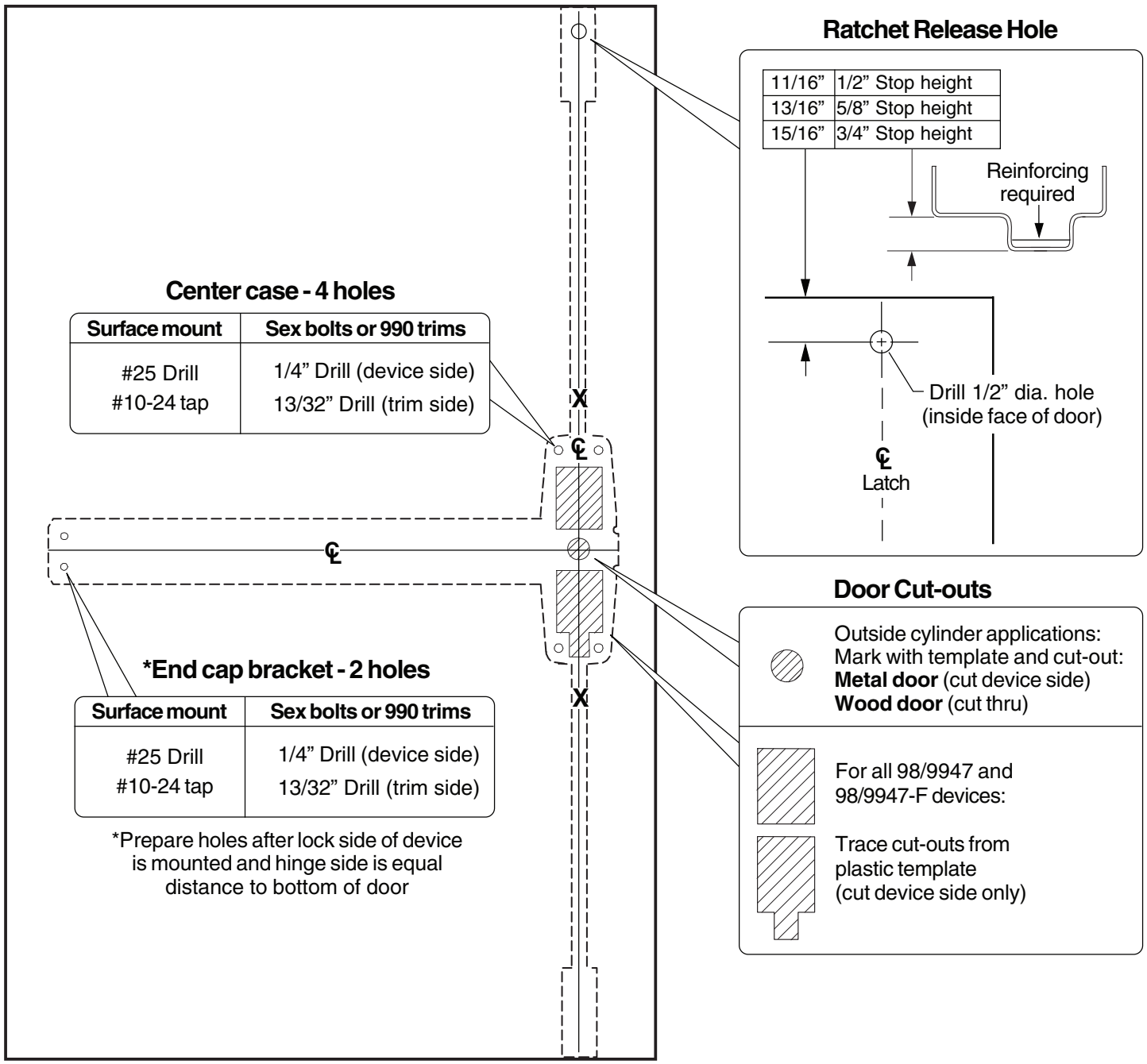
J



#8-18 x 3/8" Thread cutting — Center case cover

DOOR PREPARATION CHART

Go to instructions on next page before using preparation chart



Ratchet Release Hole

11/16”	1/2” Stop height
13/16”	5/8” Stop height
15/16”	3/4” Stop height

Reinforcing required

Drill 1/2” dia. hole (inside face of door)

℄ Latch

Center case - 4 holes

Surface mount	Sex bolts or 990 trims
#25 Drill #10-24 tap	1/4” Drill (device side) 13/32” Drill (trim side)

*End cap bracket - 2 holes

Surface mount	Sex bolts or 990 trims
#25 Drill #10-24 tap	1/4” Drill (device side) 13/32” Drill (trim side)

*Prepare holes after lock side of device is mounted and hinge side is equal distance to bottom of door

Door Cut-outs

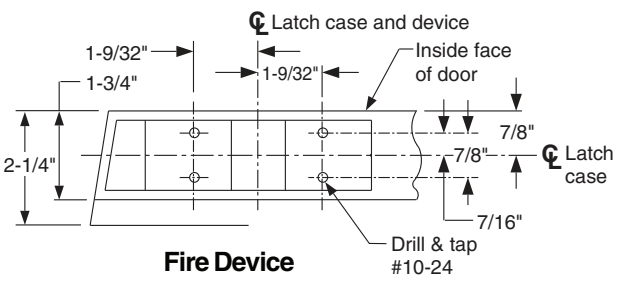
Outside cylinder applications:
Mark with template and cut-out:
Metal door (cut device side)
Wood door (cut thru)

For all 98/9947 and 98/9947-F devices:

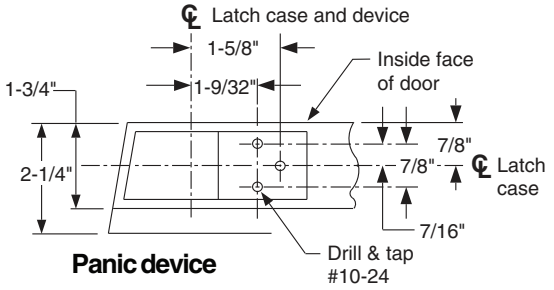
Trace cut-outs from plastic template (cut device side only)

Latch Cases

(Drill top and bottom of door)

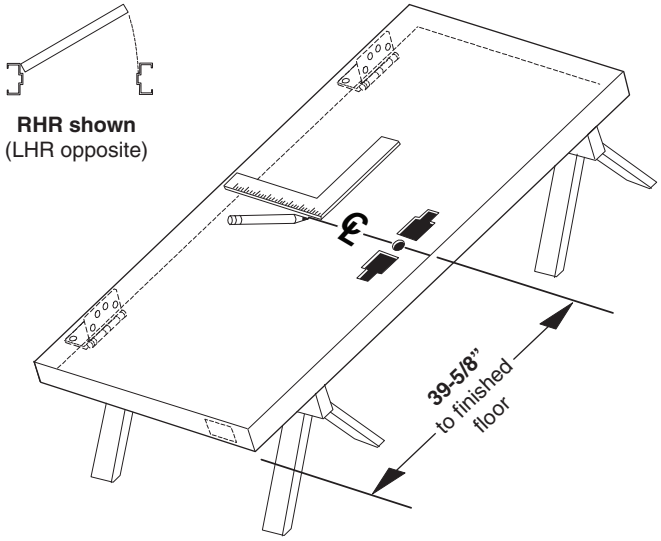


Fire Device



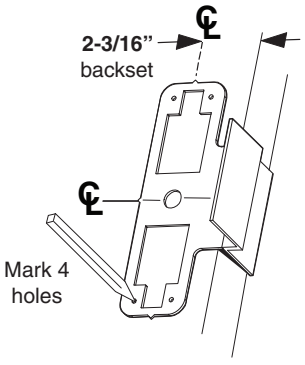
Panic device

1 Draw Horizontal Device Center Line (℄)

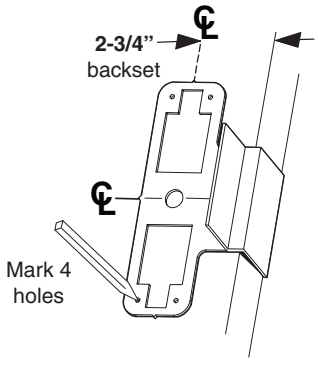


2 Determine Correct Backset, then Mark 4 Holes for Device Center Case Using Template

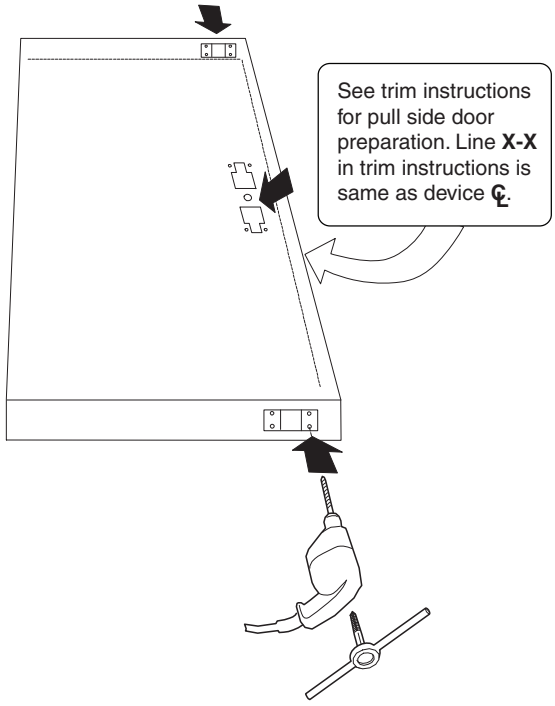
98/9947
(non-fire rated device)
single or double door



98/9947-F
(fire rated device)
or **98/9947**
double door with
98/9975 (mortise device)
on opposite door

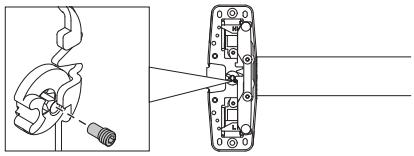


3 Prepare Door per Preparation Chart on Page 3



4 If Necessary, Remove NL Drive Screw

NL drive screw
Factory installed on back of center case



With the NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For the trims listed below, **REMOVE** NL drive screw.

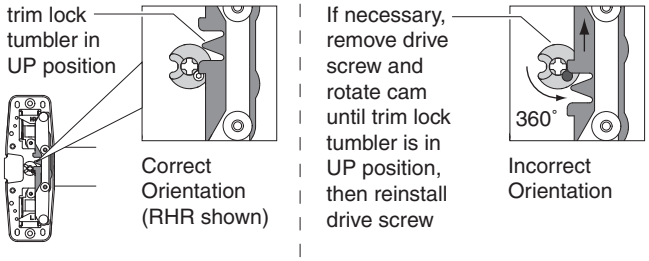
996L	696TP	990TP
996K	697TP	

With the NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

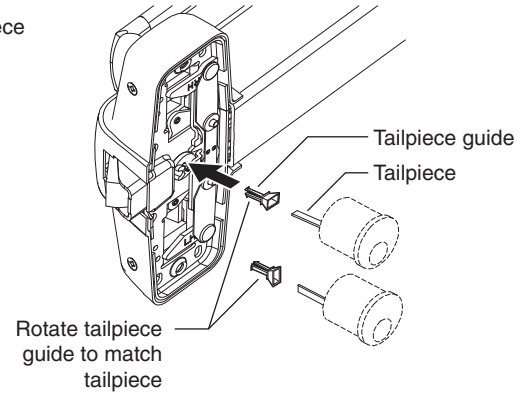
*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

* If the trim being installed is "BE" (i.e. 996L-BE), the trim lock tumbler on the back of the device must be in the **UP** position before device is installed. This allows the trim to be unlocked at all times.

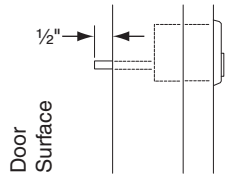


5 If Using a Cylinder with a Tailpiece, Prepare Device and Cylinder

a. Install tailpiece guide.

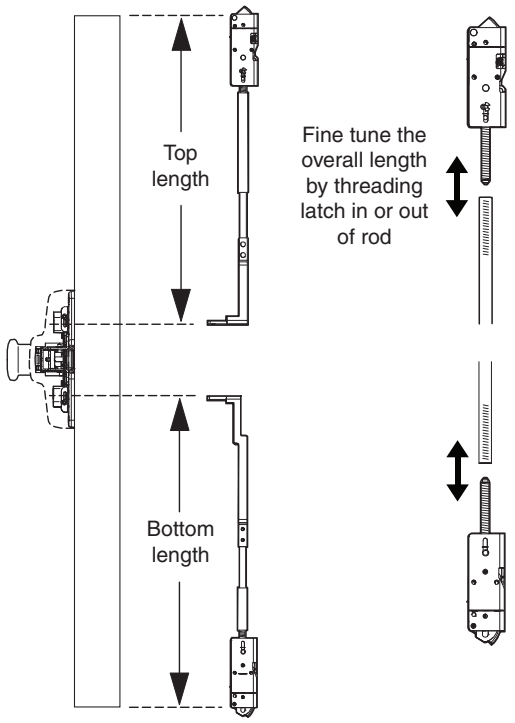


b. Cut tailpiece as needed.



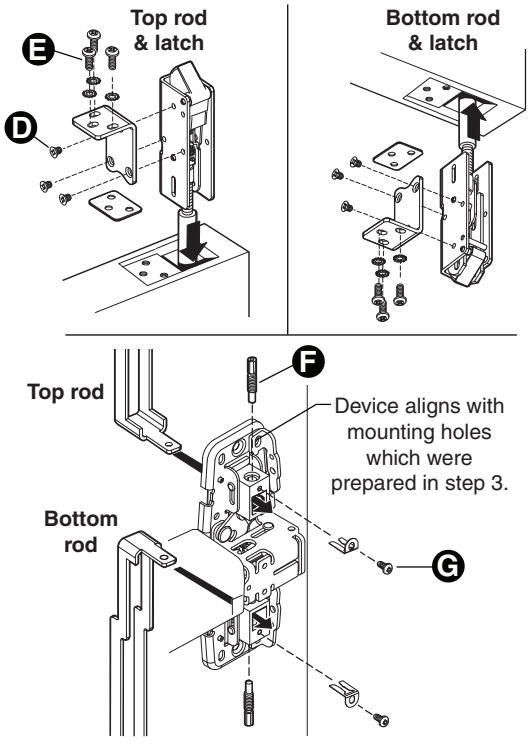
6 Assemble Rods and Latches and Adjust Length for Proper Door Height

Follow red and blue instruction cards on rods to set initial rod length

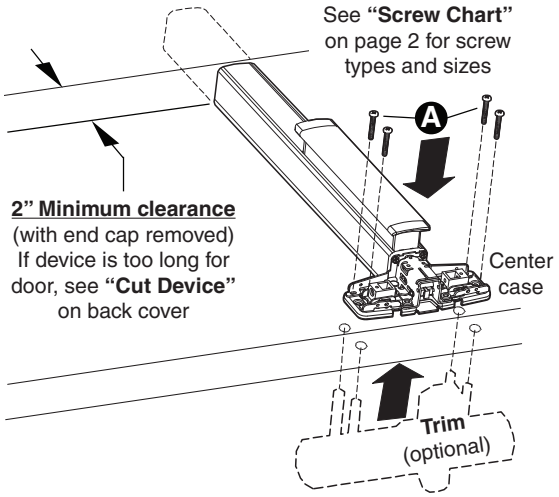


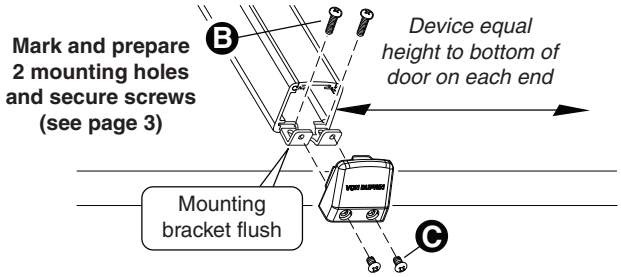
7 Install Rods and Latches as Shown

Note: Fire devices use brackets on both sides of latches

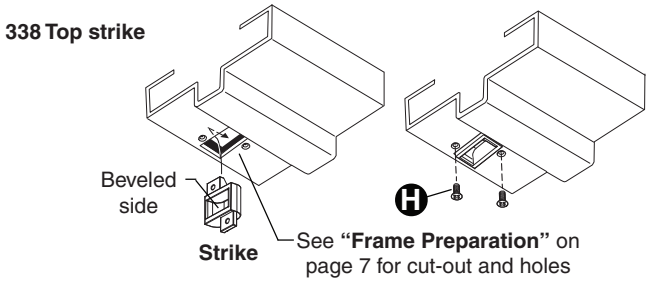


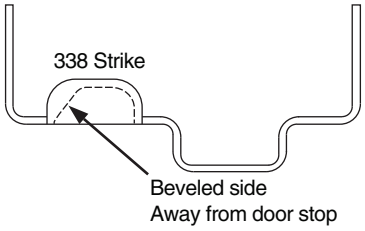
8 Secure Device to Door as Shown, then Hang Door on Frame

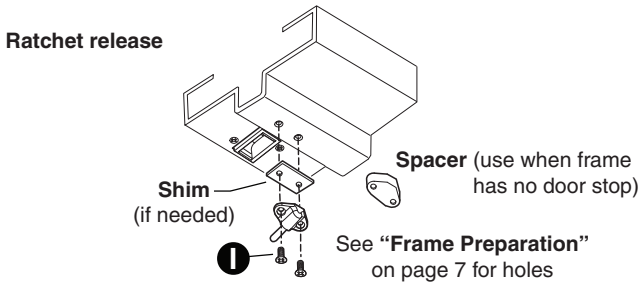




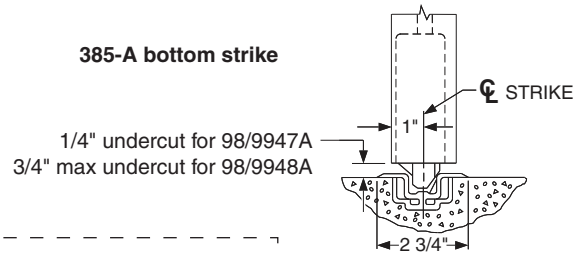
9 Install Top Strike and Ratchet Release

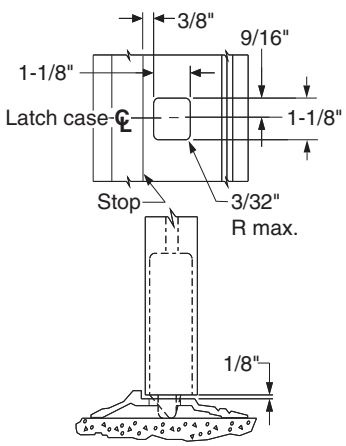


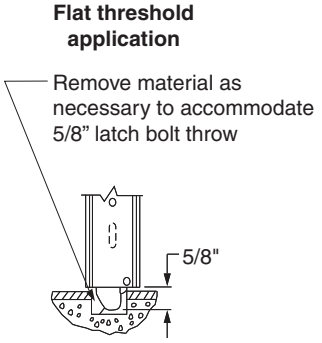




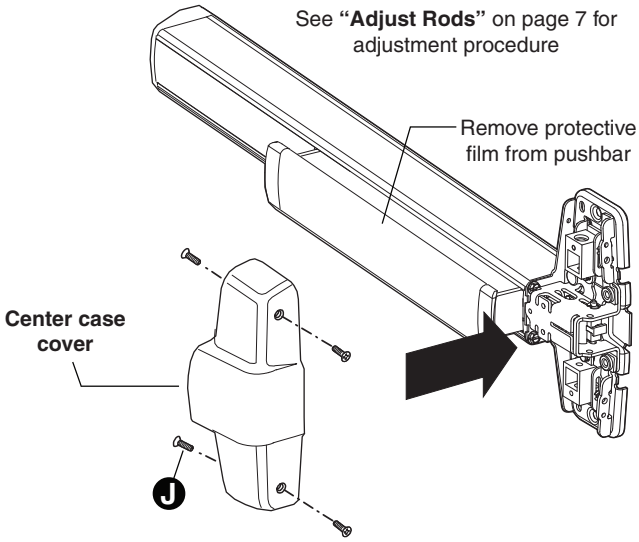
10 Install Bottom Strike or Prepare Threshold







11 Adjust Rods and Install Center Case Cover



ADJUST RODS

1. Open door and release top latch bolt as shown (Figure 1).

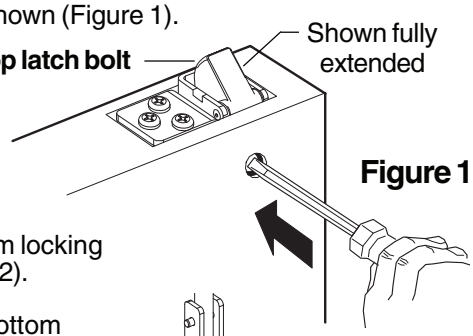


Figure 1

2. Loosen bottom locking screw (Figure 2).

3. Disconnect bottom vertical rod by removing bottom adjusting screw.

4. Loosen top locking screw.

5. Rotate top adjusting screw clockwise until top latch bolt is fully extended (Figure 1).

6. Check top latch bolt for deadlocking (latch bolt should not push in).

7. Turn top locking screw in. Do not over-tighten

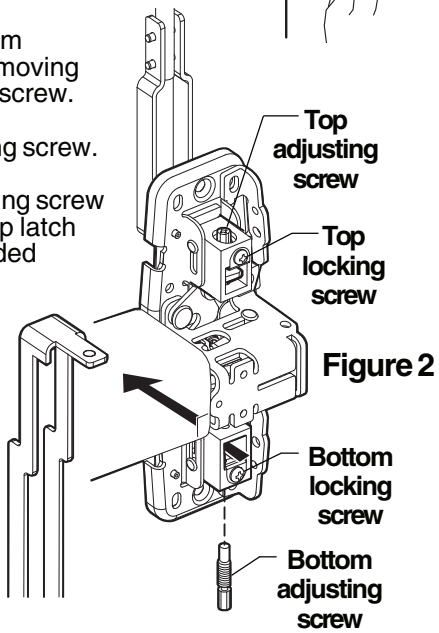


Figure 2

8. Depress pushbar and release.

9. Make sure top latch bolt stays retracted as shown.

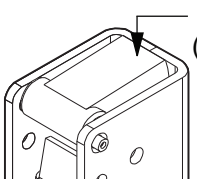


Figure 3

10. Install bottom adjusting screw through bottom rod (Figure 2).

11. With top latch bolt still retracted, adjust bottom rod so latch bolt clears floor and bottom strike.

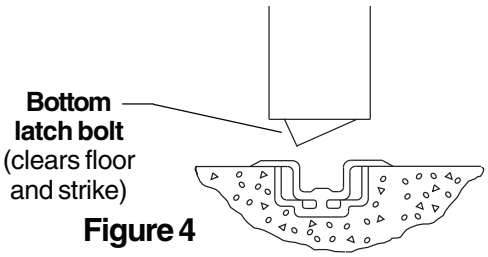


Figure 4

12. Turn bottom locking screw in. Do not over-tighten.

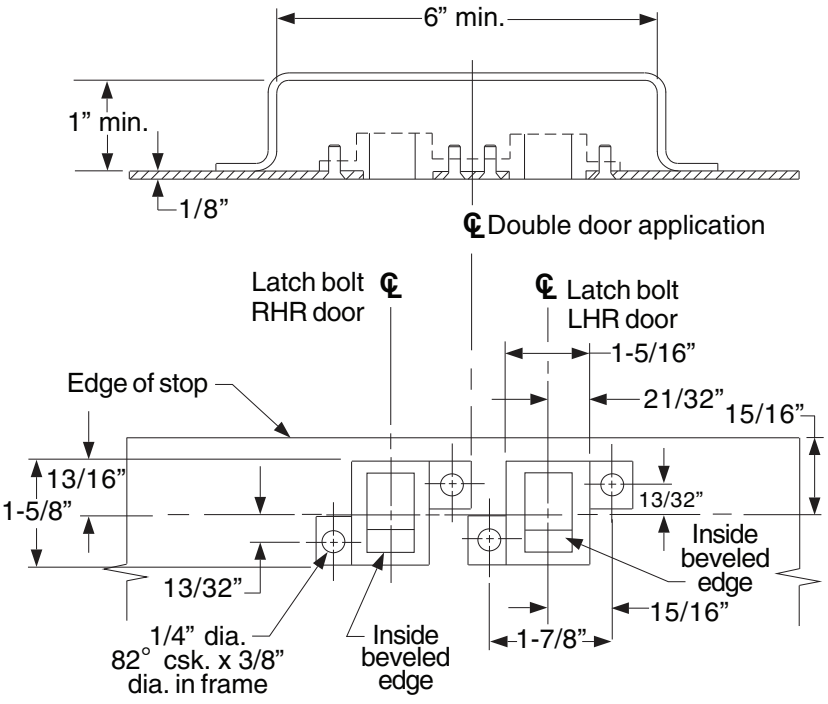
13. Check device operation by opening and closing door several times from the outside.

Redo adjustment procedure if :

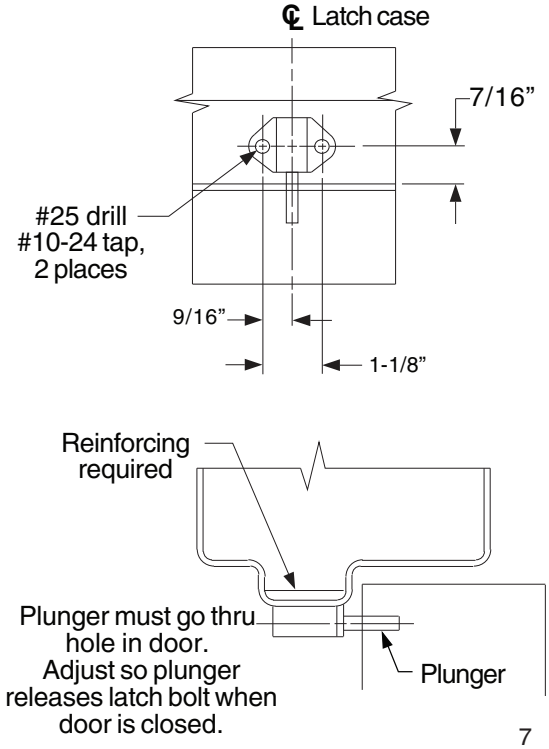
- Top latchbolt is not held retracted
- Bottom latchbolt does not clear floor and bottom strike

FRAME PREPARATION

TOP STRIKE



RATCHET RELEASE



OPTIONAL EQUIPMENT - CONTINUED

CD (CYLINDER DOGGING)

1. Remove mortise cylinder cam and reinstall in reverse (Figure 6).
2. Insert key and rotate cam to install the cylinder to the cover plate (Figure 7).
3. Remove key to slide cover plate in position in the mechanism case.

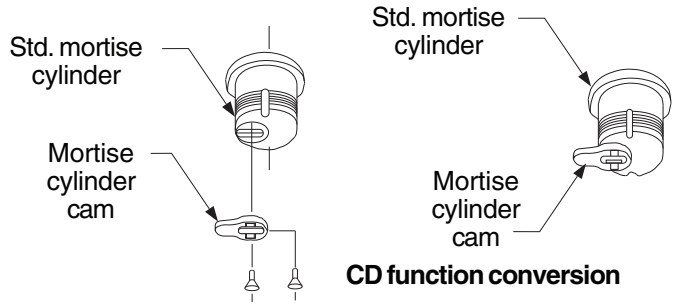


Figure 6

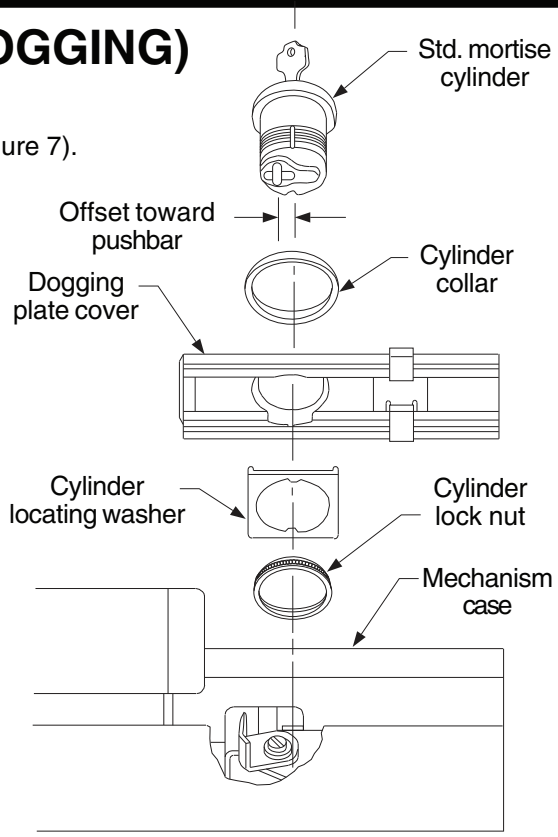
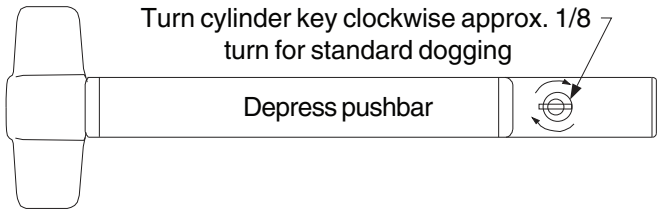


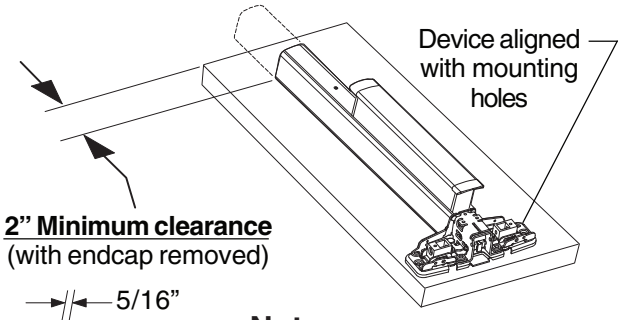
Figure 7

Dogging procedure



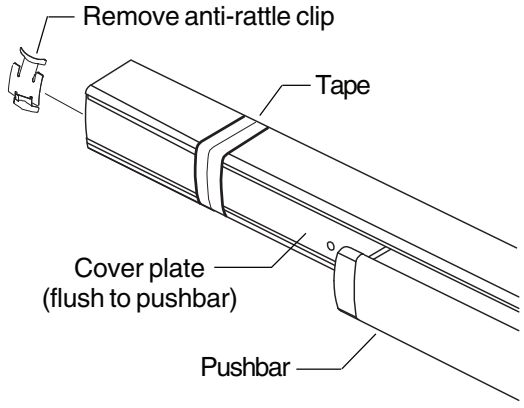
CUT DEVICE

1 Measure amount to cut off device.

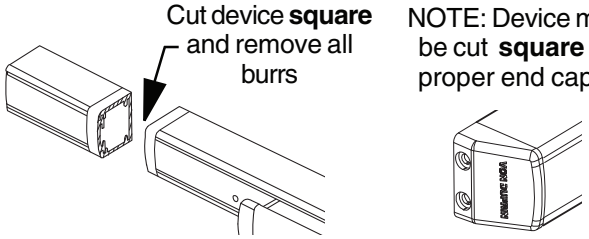


Note
If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.

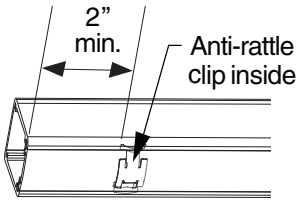
2 Tape and mark area being cut.



3 Cut device square.



4 Slide anti-rattle clip into device.



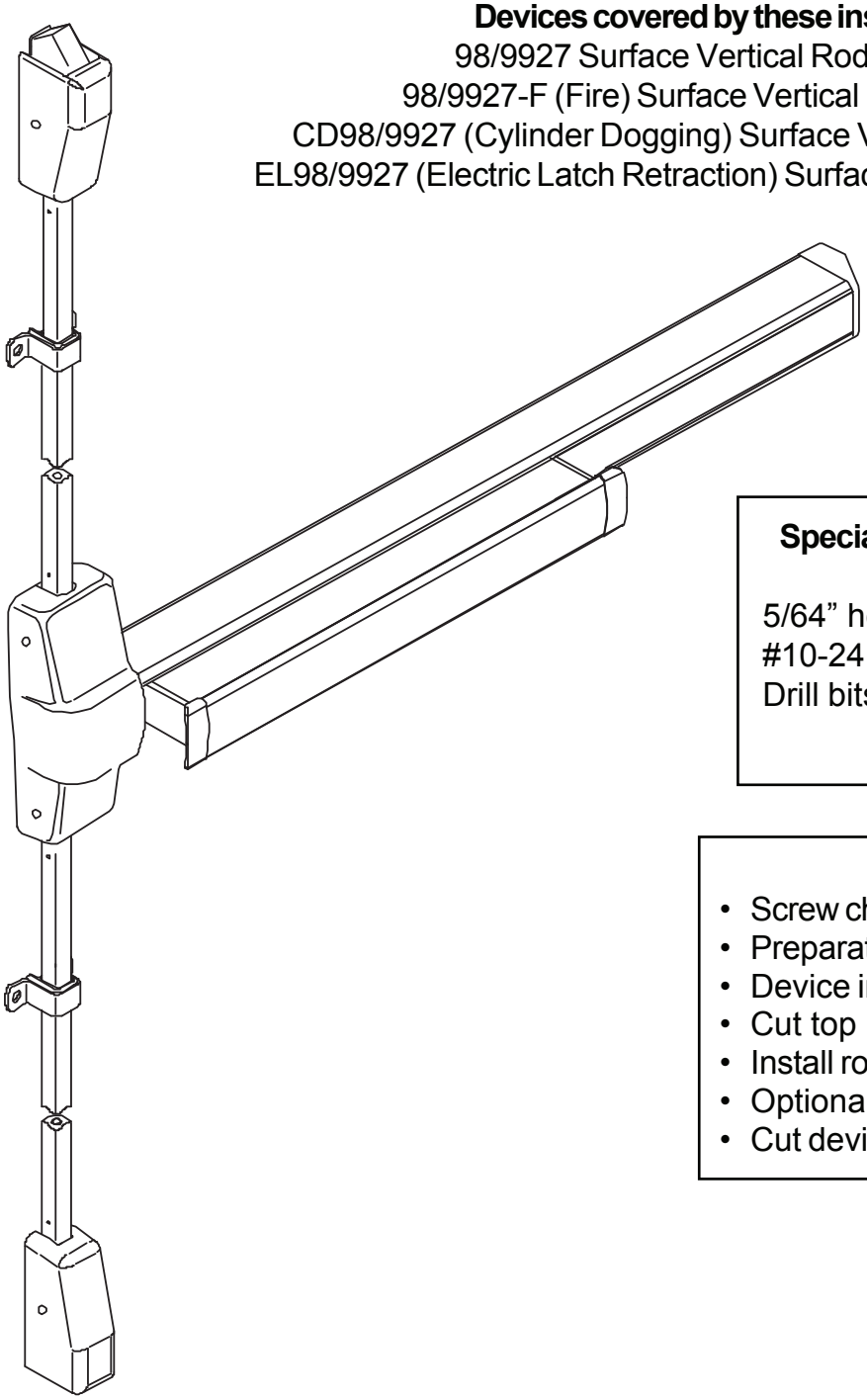
911375-00

98/9927

VON DUPRIN®

Surface Vertical Rod Exit Device

Installation Instructions



Devices covered by these instructions:

98/9927 Surface Vertical Rod Exit Device
98/9927-F (Fire) Surface Vertical Rod Exit Device
CD98/9927 (Cylinder Dogging) Surface Vertical Rod Exit Device
EL98/9927 (Electric Latch Retraction) Surface Vertical Rod Exit Device

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
- Preparation chart 3
- Device installation 4-6
- Cut top rod 7
- Install rod extension 7
- Optional equipment 8
- Cut device 8

ALLEGION

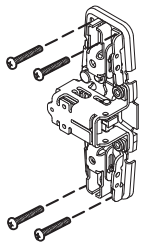
Customer Service

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

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911375-00 Rev. 09/15-d

SCREW CHART

A



#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)

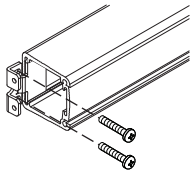
#10 x 1-1/4" Wood screw — Surface mount (wood)

- 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)

B



#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

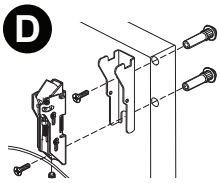
#10 x 1-1/4" Wood screw — Surface mount (wood)

C



#10-16 x 3/8" Thread cutting — End cap

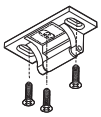
D



1/4-20 X 3/4" — 1-3/4" door

1/4-20 X 1-1/4" — 2-1/4" door

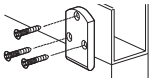
E



#10-24 X 3/4" — Metal frame

#10 x 1-1/2" Wood screw — Wood frame

F



#10-12 x 10-24 x 1-1/4" Combination — Metal or wood frame

G



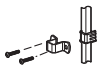
#10-12 x 10-24 x 1-1/4" Combination — Variable floor surfaces

H



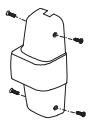
#8-32 X 1/4" — Latch covers

I



#10-12 x 10-24 x 1" Combination — Metal or wood door

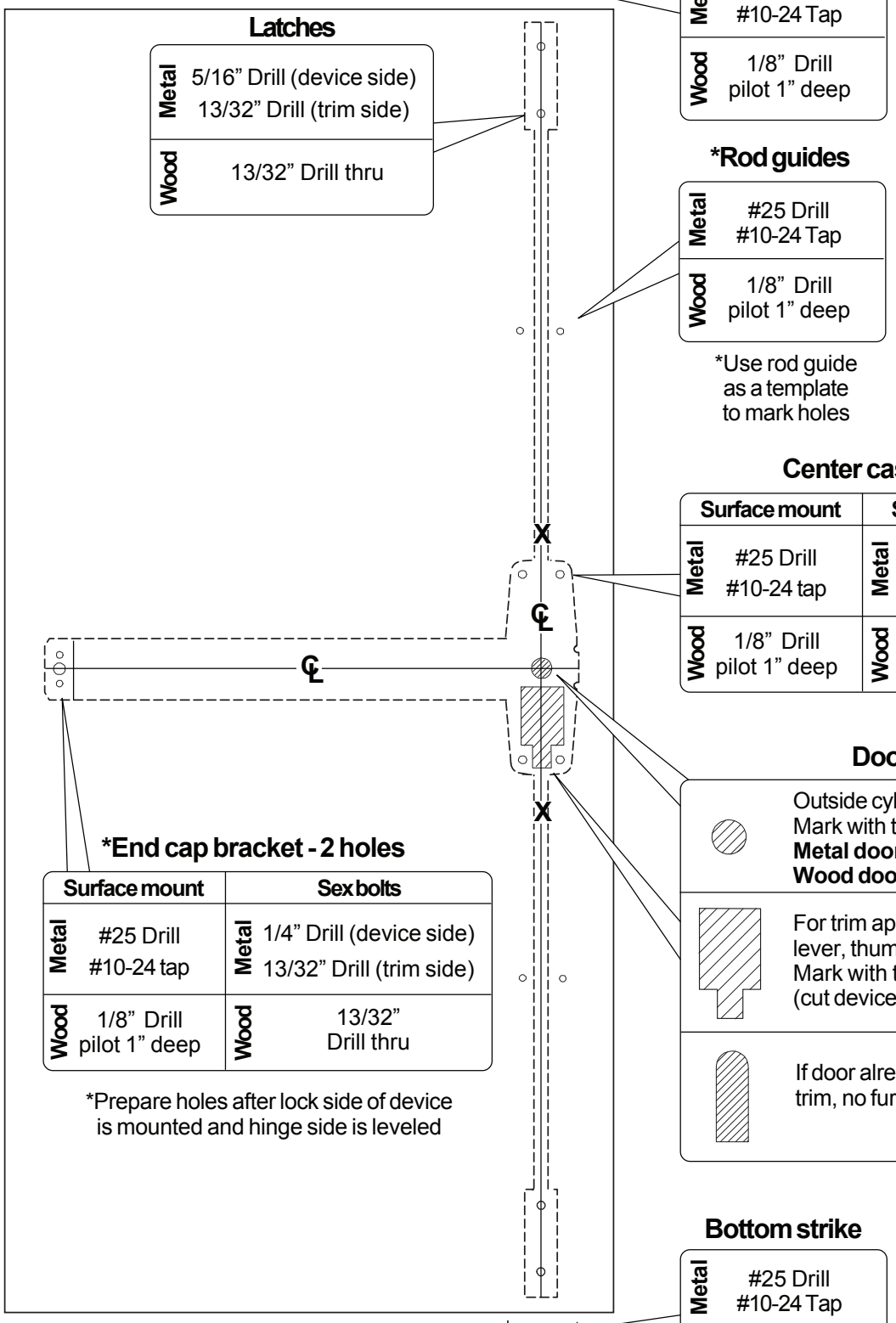
J



#8-18 x 3/8" Thread cutting — Center case cover

PREPARATION CHART

Go to instructions on next page before using Preparation Chart



Top strike

Metal	#25 Drill #10-24 Tap
Wood	1/8" Drill pilot 1" deep

Latches

Metal	5/16" Drill (device side) 13/32" Drill (trim side)
Wood	13/32" Drill thru

*Rod guides

Metal	#25 Drill #10-24 Tap
Wood	1/8" Drill pilot 1" deep

*Use rod guide as a template to mark holes

Center case - 4 holes

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

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)
	If door already has this cut-out for trim, no further cutting is necessary

*End cap bracket - 2 holes

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

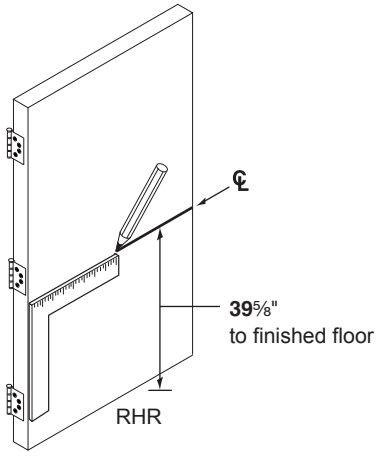
*Prepare holes after lock side of device is mounted and hinge side is leveled

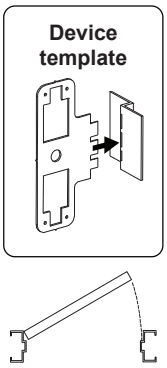
Bottom strike

Metal	#25 Drill #10-24 Tap
Wood	1/8" Drill pilot 1" deep

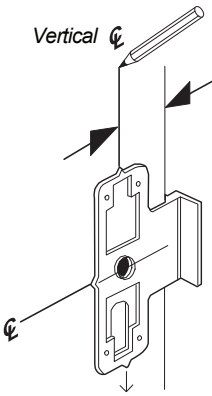
See template for strike variations

1 Draw Horizontal Center Line (℄) and Assemble Device Template

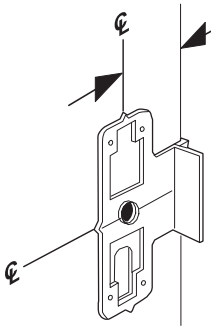




2 Position Template as Shown and Mark Vertical ℄



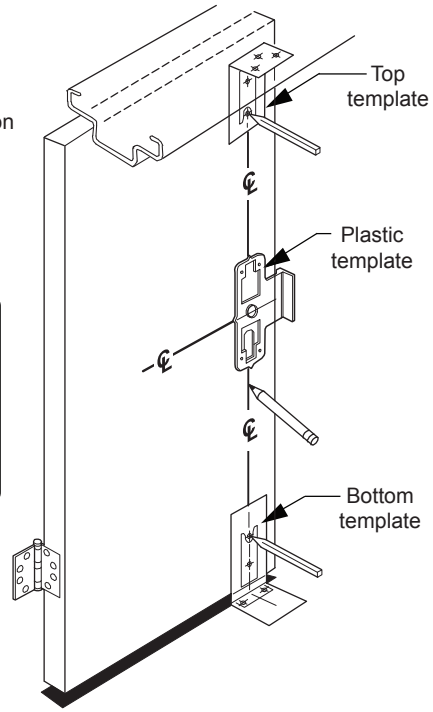
Or flip template over for:



3 Align Top and Bottom Templates Along ℄ and Prepare Door

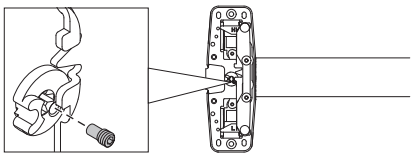
See "**Preparation Chart**" on page 3 for drill, tap, and cut-out information

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



4 If Necessary, Remove NL Drive Screw

NL drive screw
Factory installed on back of center case



With the NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For the trims listed below, **REMOVE** NL drive screw.

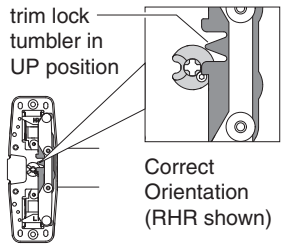
996L	696TP	990TP
996K	697TP	

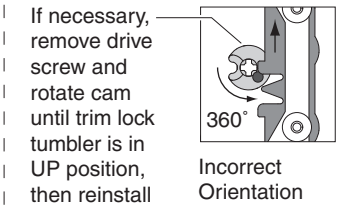
With the NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

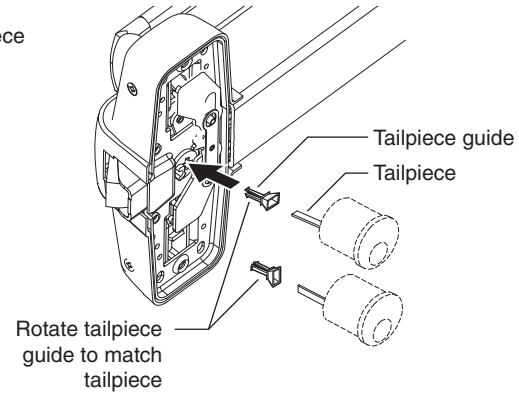
* If the trim being installed is "BE" (i.e. 996L-BE), the trim lock tumbler on the back of the device must be in the **UP** position before device is installed. This allows the trim to be unlocked at all times.



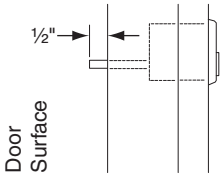


5 If Using a Cylinder with a Tailpiece, Prepare Device and Cylinder

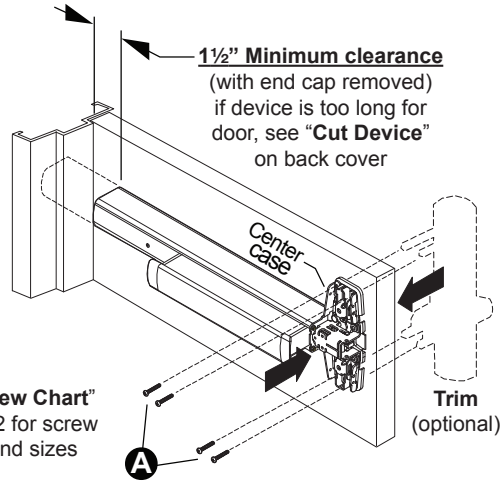
a. Install tailpiece guide.



b. Cut tailpiece as needed.

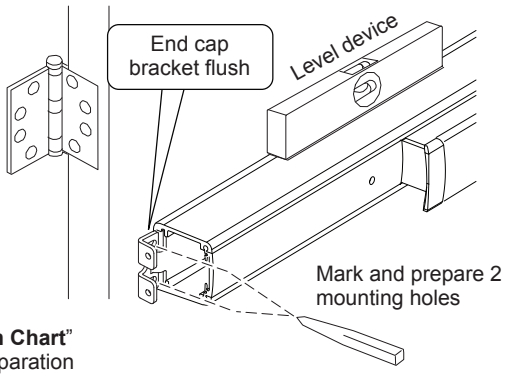


6 Install Trim (if using) and Secure Device Center Case to Door



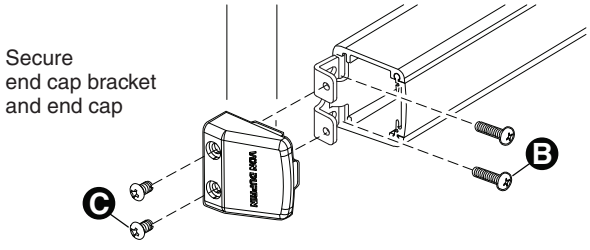
See "**Screw Chart**" on page 2 for screw types and sizes

7 Mark and Prepare 2 Holes for End Cap Bracket

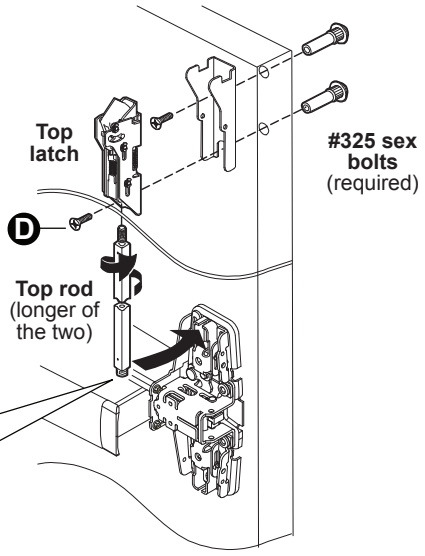


See "**Preparation Chart**" on page 3 for preparation information

8 Install End Cap Bracket and End Cap



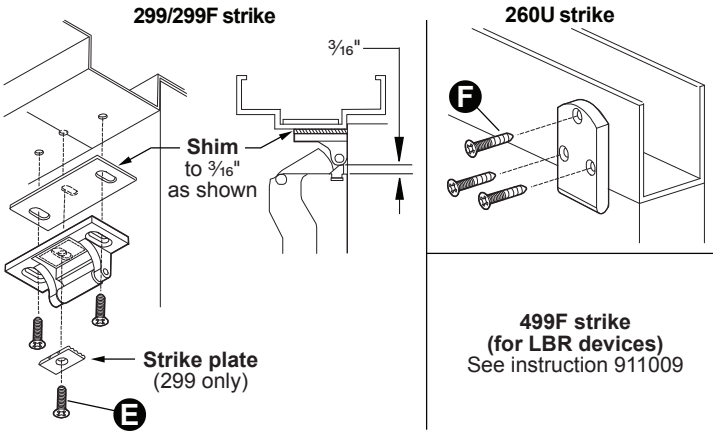
9 Install Top Latch and Rod



If top rod is too long, see "**Cut Top Rod**" on page 7

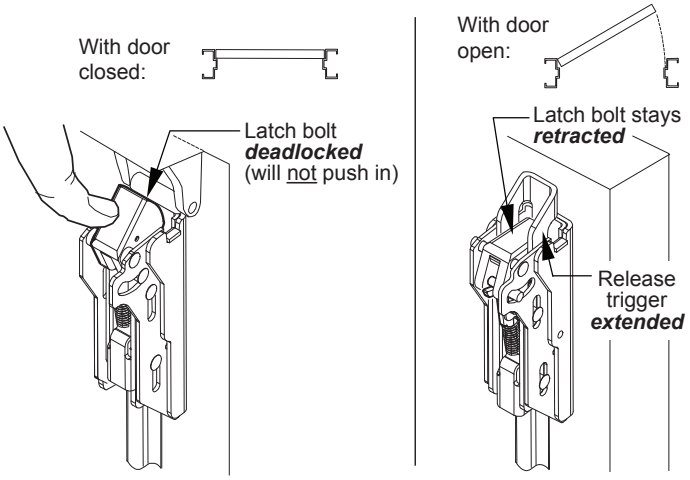
If top rod is too short, see "**Install Rod Extension**" on page 7

10 Install Top Strike

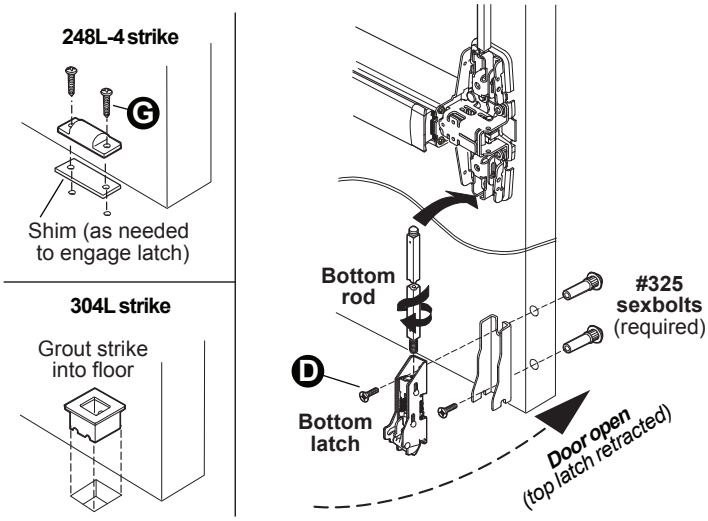


499F strike
(for LBR devices)
See instruction 911009

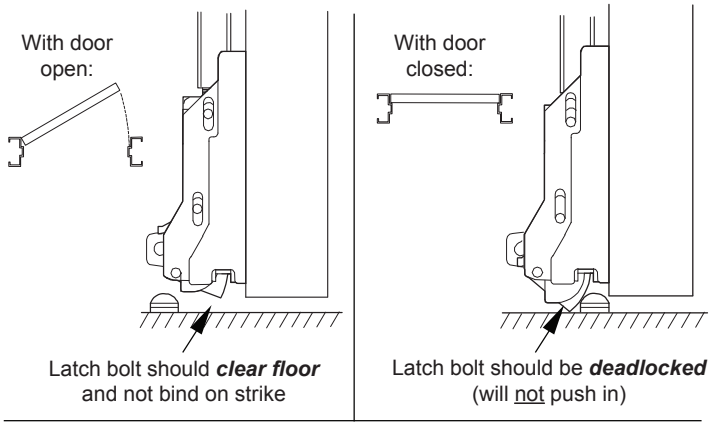
11 Adjust Top Rod (Screw Rod Into or Out of Latch) Until Adjusted as Shown



12 Install Bottom Strike, Latch, and Rod

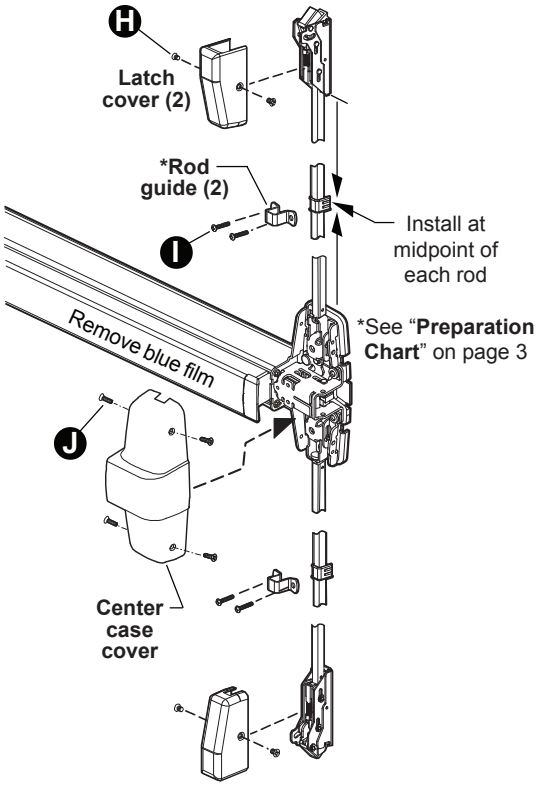


13 Adjust Bottom Rod with Door Open (Top Latch Retracted)



Open and close door a few times and check for deadlatching when door is closed. Readjust rods if needed.

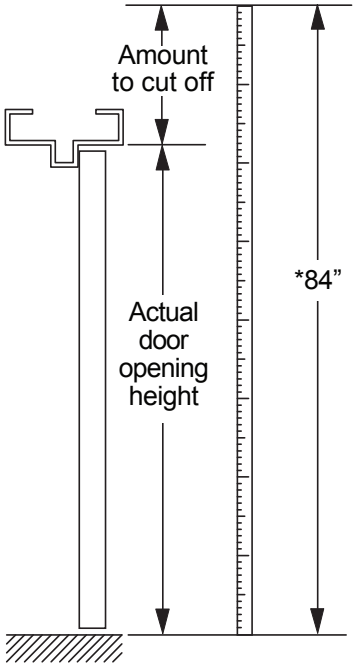
14 Install Rod Guides and Covers



CUT TOP ROD

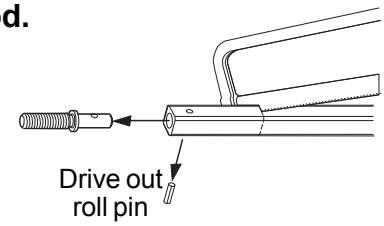
1. Measure amount to cut off rod as shown below.

Note: Rod cutting is required for doors shorter than 7'.

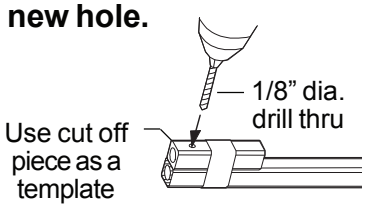


*Rods are factory sized for 7' (84") door. Measure actual door height and subtract that number from 84" to get amount to cut off top rod.

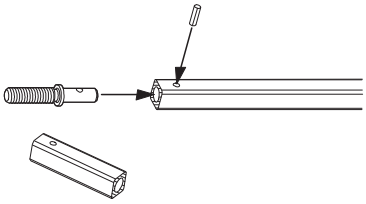
2. Cut rod.



3. Drill new hole.

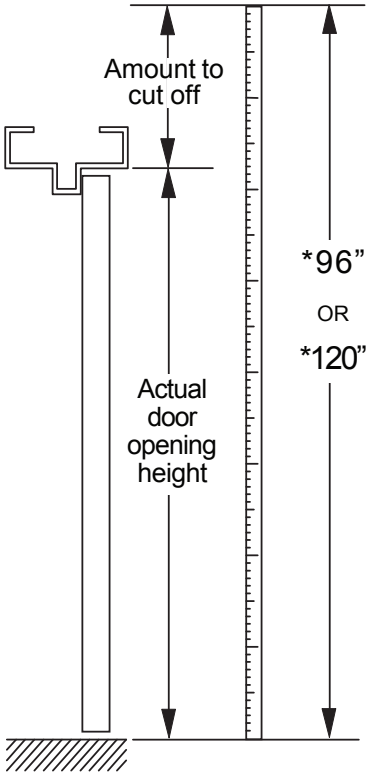


4. Reinstall rod end and roll pin.



INSTALL ROD EXTENSION

1. Measure door opening to determine amount to cut off rod extension.

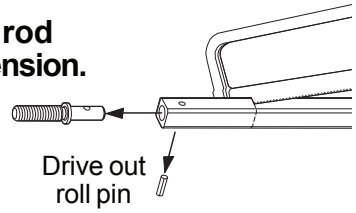


***Standard door heights:**

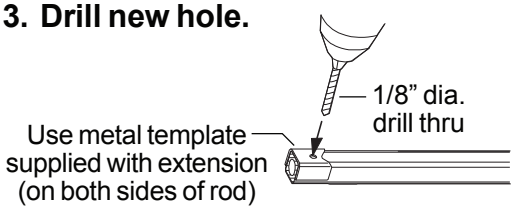
With no extension	7' (84")
With 1' extension	8' (96")
With 3' extension	10' (120")

*Rods are factory sized for door heights shown above. Measure actual door height and subtract that number from 96" (for 1' extension) or 120" (for 3' extension) to get amount to cut off extension.

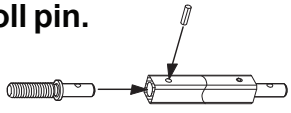
2. Cut rod extension.



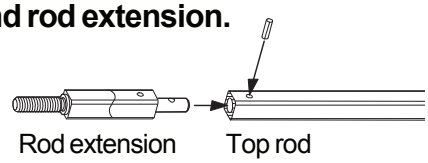
3. Drill new hole.



4. Reinstall rod end and roll pin.



5. Connect top rod and rod extension.



OPTIONAL EQUIPMENT - CONTINUED

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.

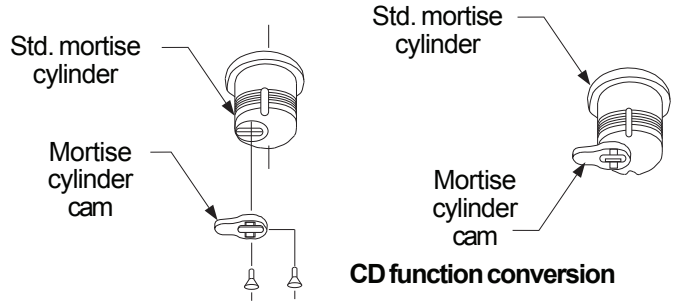


Figure 1

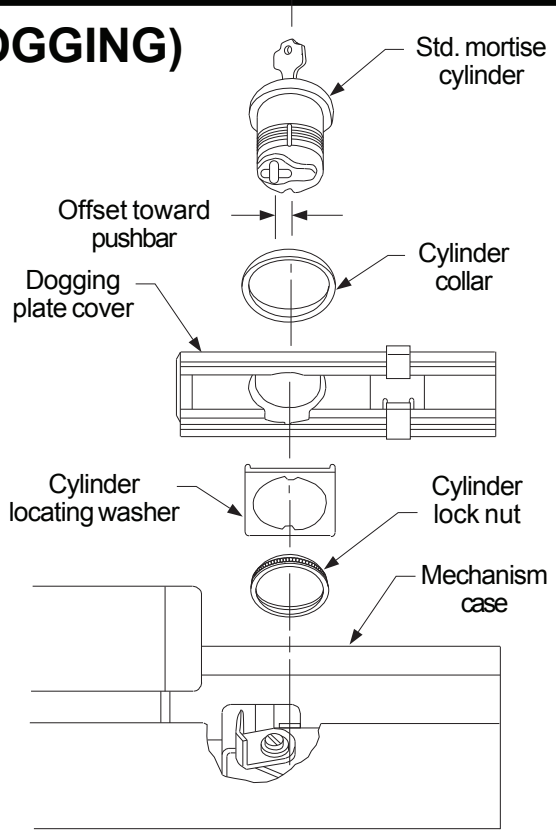
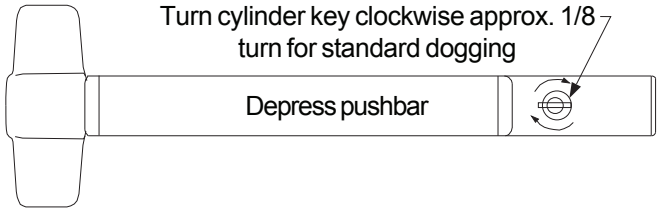


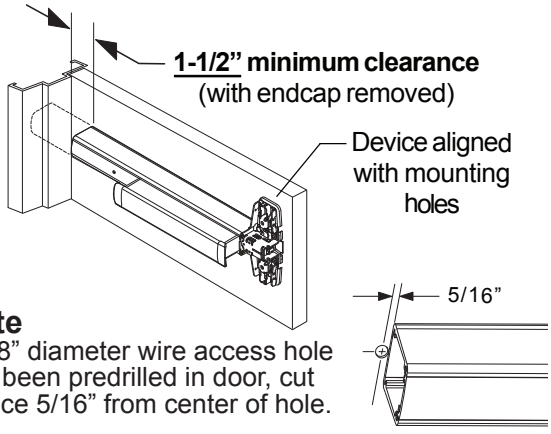
Figure 2

Dogging procedure



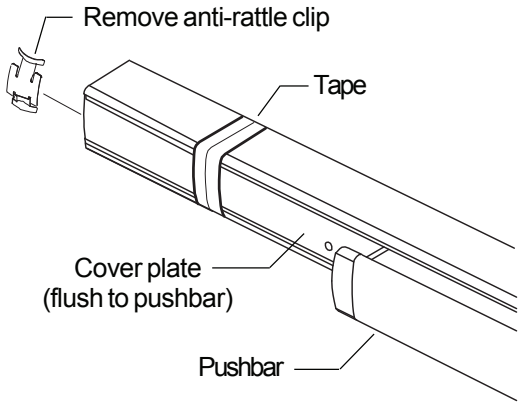
CUT DEVICE

1 Measure amount to cut off device.

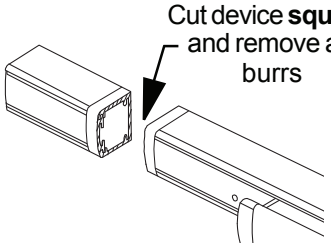


Note
If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.

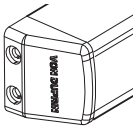
2 Tape and mark area being cut.



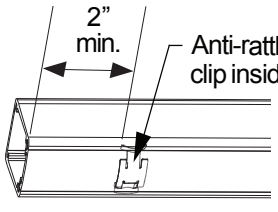
3 Cut device square.



NOTE: Device must be cut **square** for proper end cap fit



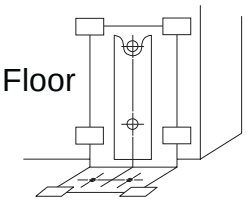
4 Slide anti-rattle clip into device.

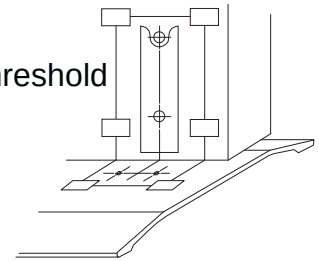


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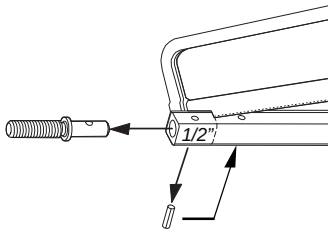
98/9927 AND 98/9957
LATCH AND STRIKE TEMPLATES

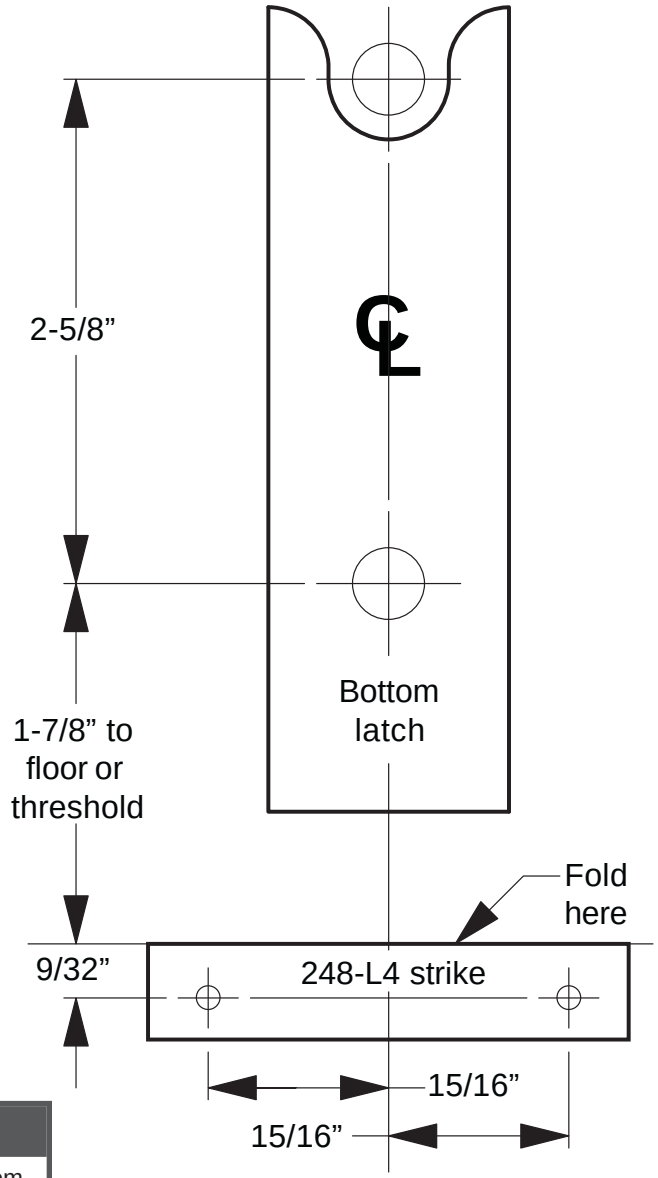
BOTTOM LATCH AND 248-L4 STRIKE





For **threshold** application, remove roll pin and fitting, cut bottom rod, reinstall fitting and roll pin in second hole

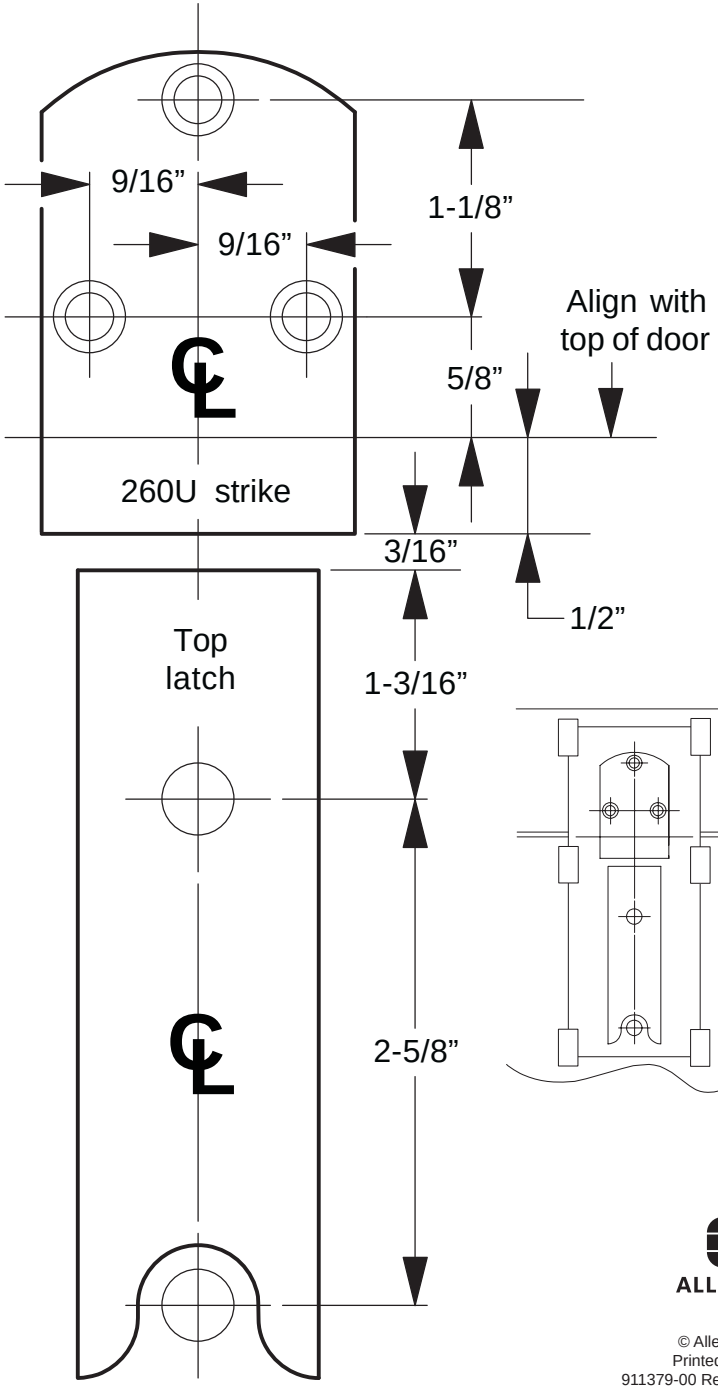


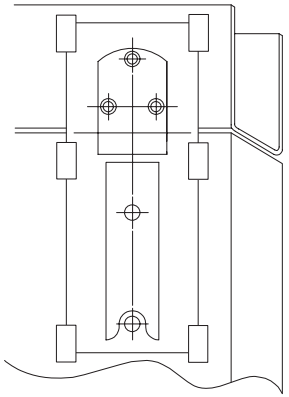


911379-00

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

TOP LATCH AND 260U STRIKE

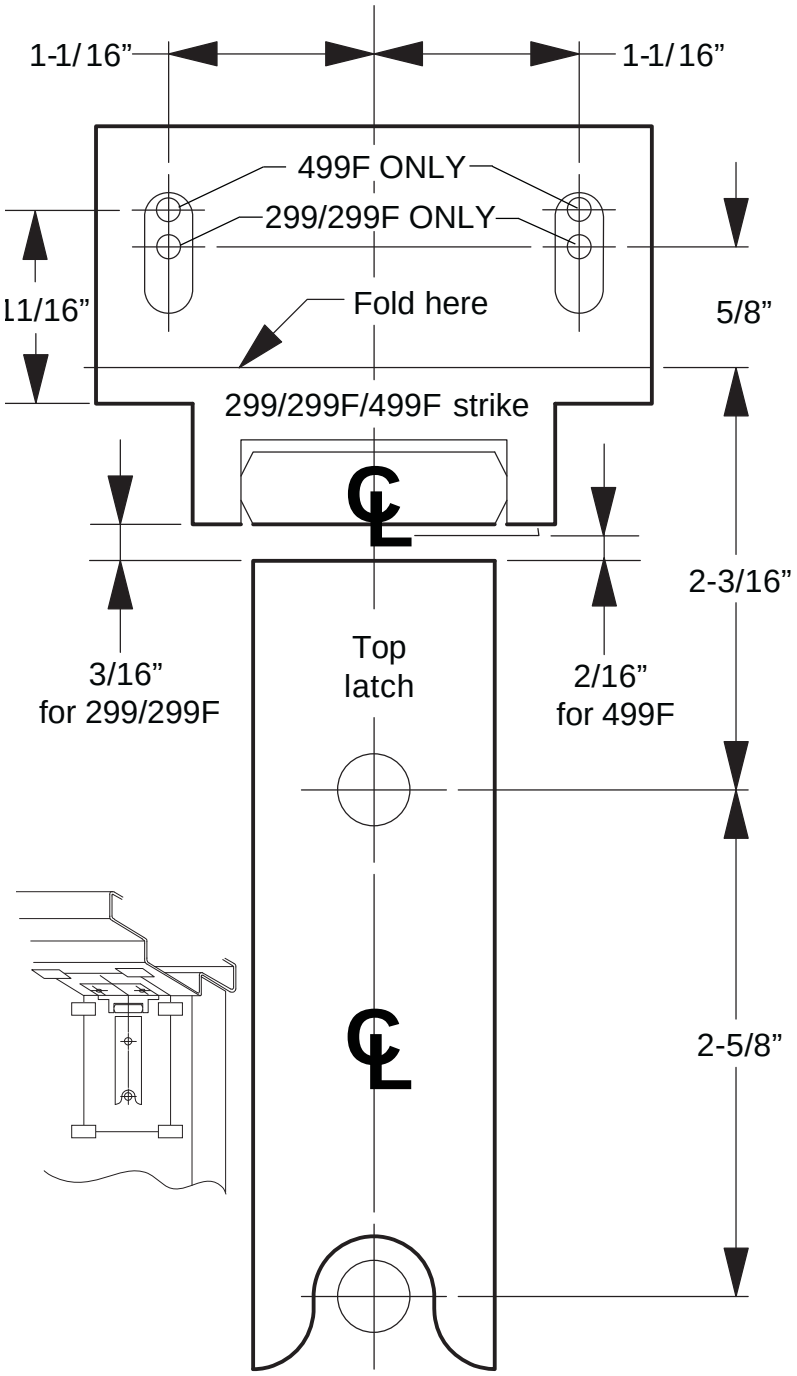




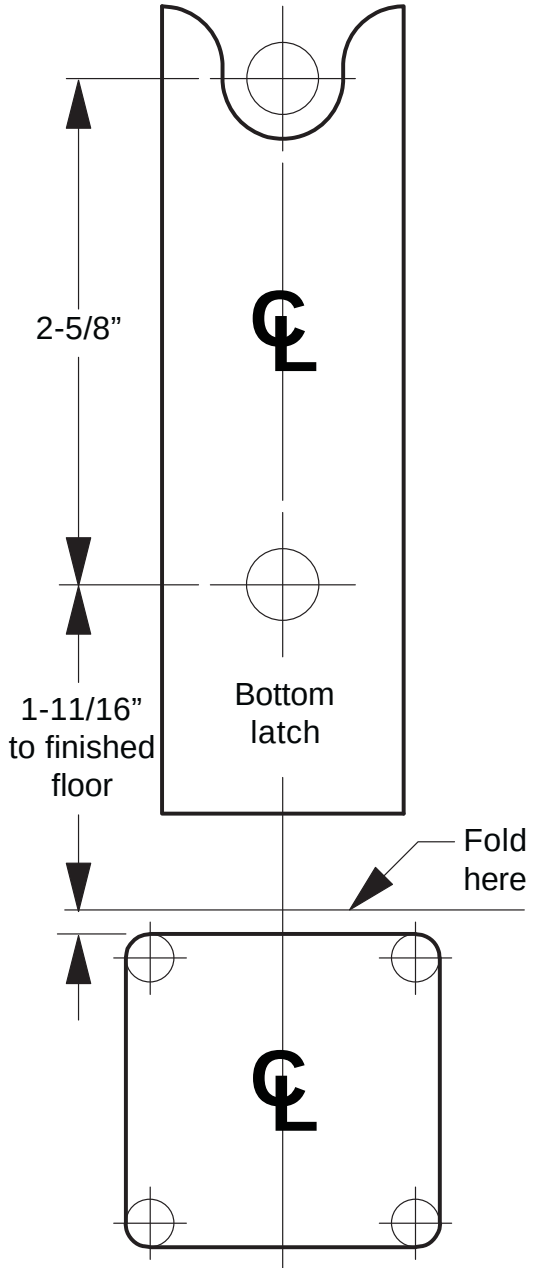
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TOP LATCH AND 299/299F/499F STRIKE

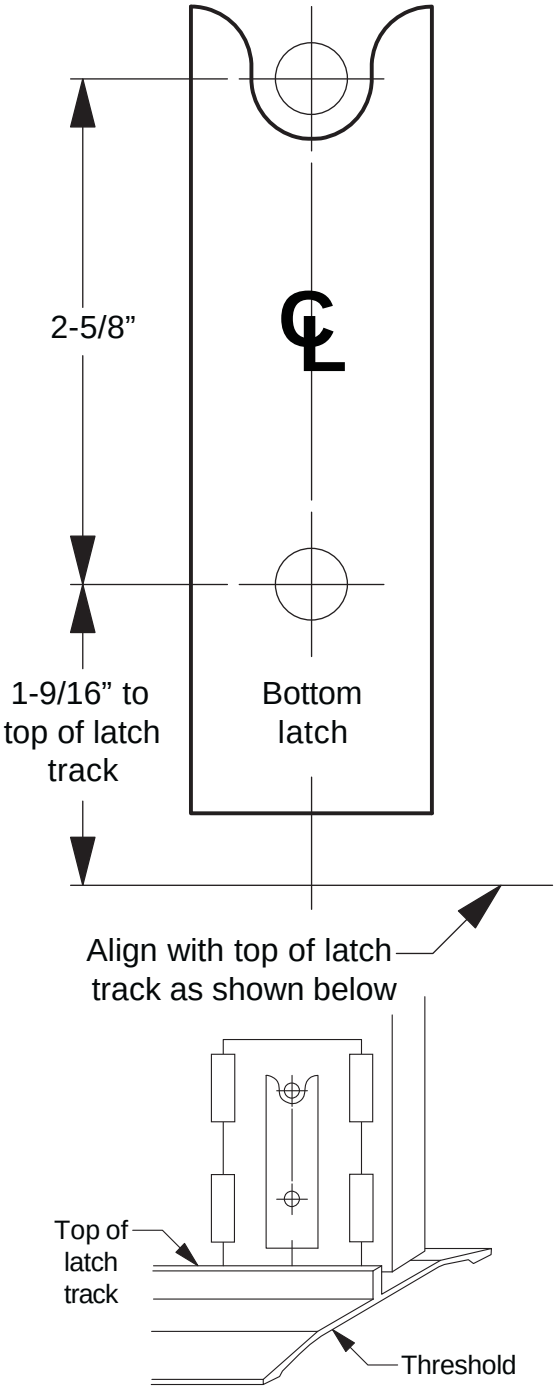


BOTTOM LATCH AND 304L STRIKE



Cutout in floor for 304L strike
1-5/8” square x 7/8” deep
(start with four 1/4” holes in corners)

BOTTOM LATCH AND LATCH TRACK



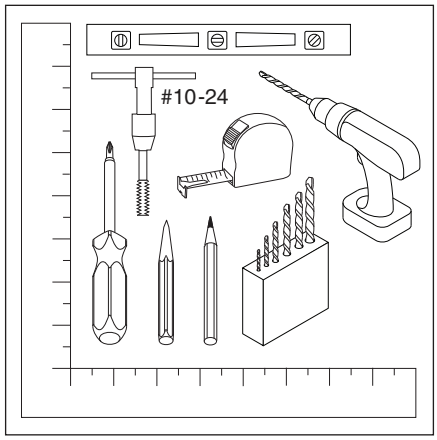
911373-00

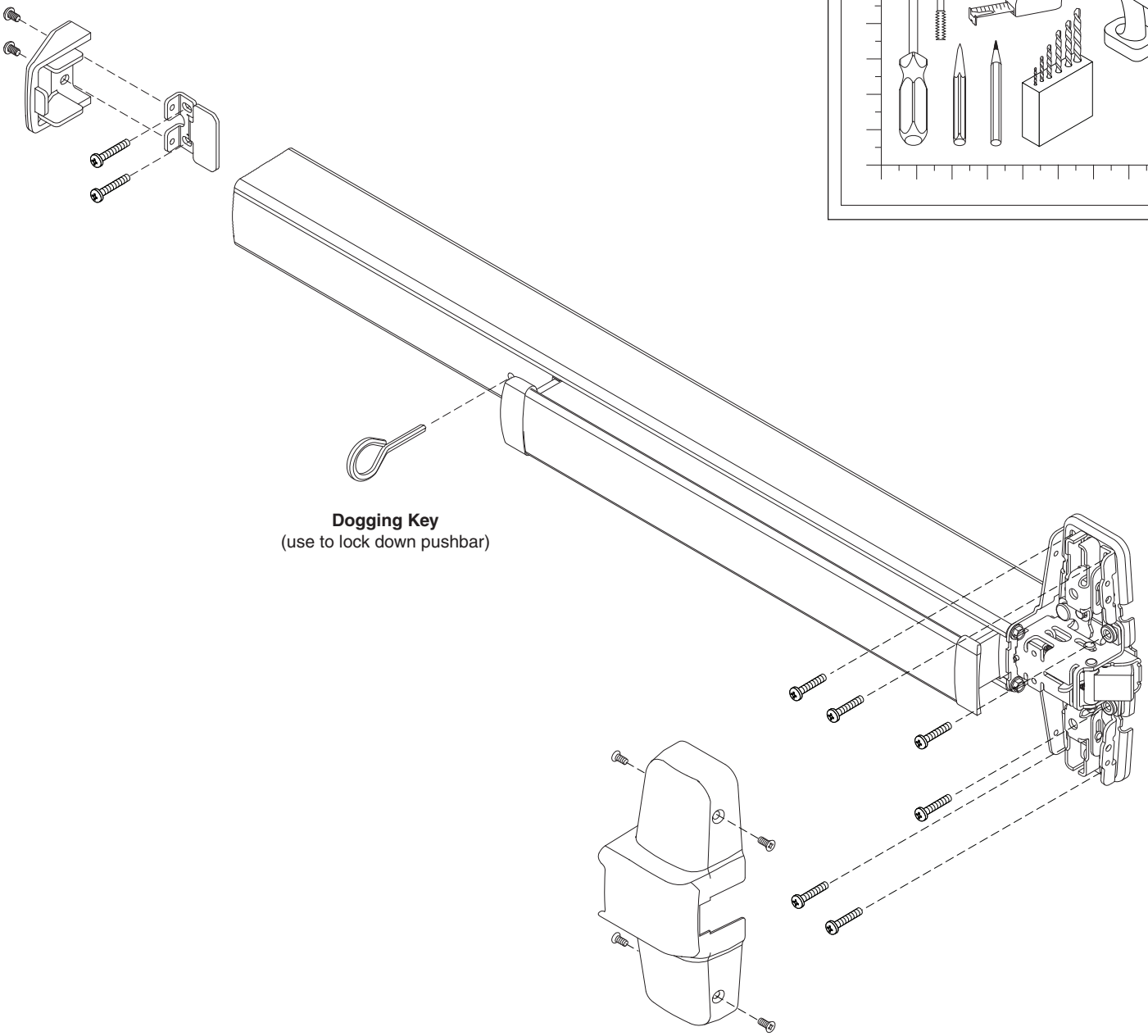
98/99

VON DUPRIN®

Rim Exit Device

Installation Instructions





Dogging Key
(use to lock down pushbar)

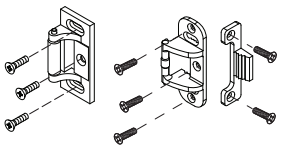
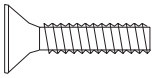
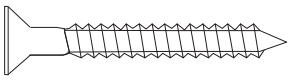
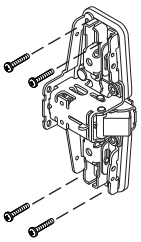
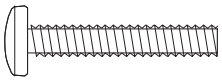
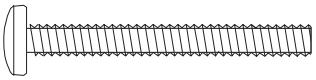
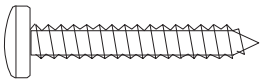
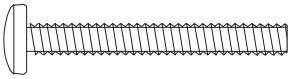
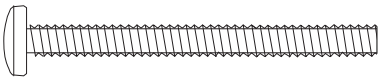
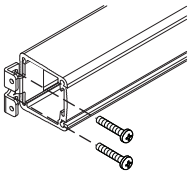
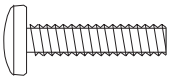
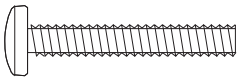
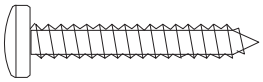
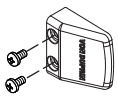
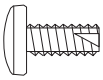
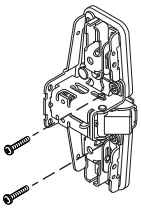
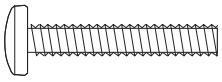
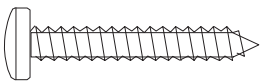
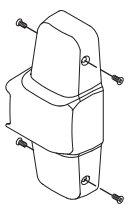
ALLEGION

Customer Service

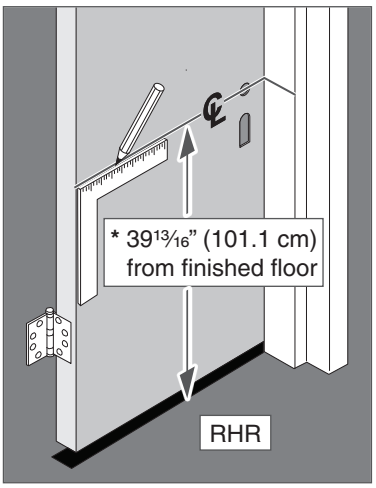
1-877-671-7011 www.allegion.com/us

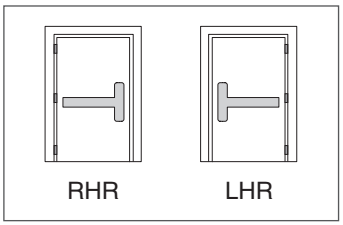
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911373-00 Rev. 11/15-g

SCREW CHART

Subassembly	Screw		Application
A  299 Strike 499F Strike		#10-24 x ¾" (19 mm)	Metal frame
		#10 x 1½" (38 mm) Wood screw	Wood frame
B 		#10-24 x 1" (25 mm)	Surface mount or Sex bolts 1¾" (44 mm) door
		#10-24 x 1½" (38 mm)	Sex bolts, 2¼" (57 mm) door
		#10 x 1¼" (32 mm) Wood screw	Surface mount (wood)
	Packaged with 990 Trims:		
		#10-24 x 1⅜" (35 mm)	1¾" (44 mm) door, 990 Trim
		#10-24 x 1⅞" (48 mm)	2¼" (57 mm) door, 990 Trim
C 		#10-24 x ¾" (19 mm)	Surface mount or Sex bolts 1¾" (44 mm) door
		#10-24 x 1⅛" (29 mm)	Sex bolts, 2¼" (57 mm) door
		#10 x 1¼" (32 mm) Wood screw	Surface mount (wood)
D 		#10-16 x ⅜" (10 mm) Thread cutting	End cap
E 		#10-24 x 1" (25 mm)	Surface mount (metal)
		#10 x 1¼" (32 mm) Wood screw	Surface mount (wood)
F 		#8-18 x ⅜" (10 mm) Thread cutting	Center case cover

1 Draw horizontal device and strike center lines (℄).

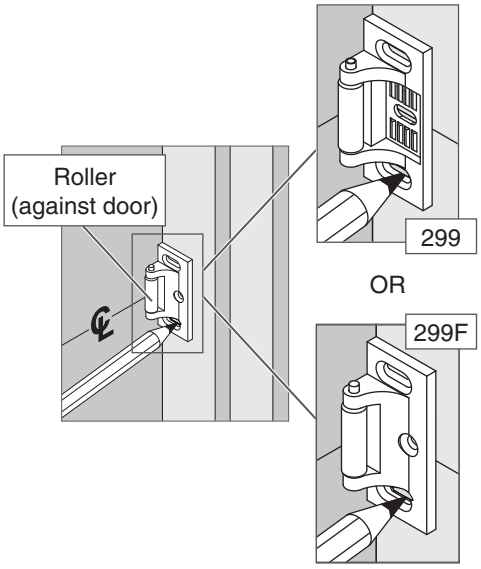




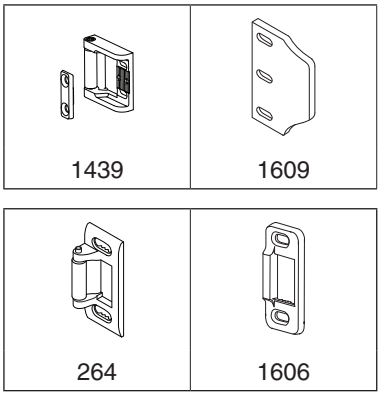
* For double doors with a mullion and strike already installed, use existing strike center line.

2 Align strike on ℄ and mark the two slotted holes.

ⓘ **For 499F strike installation, see page 6.**

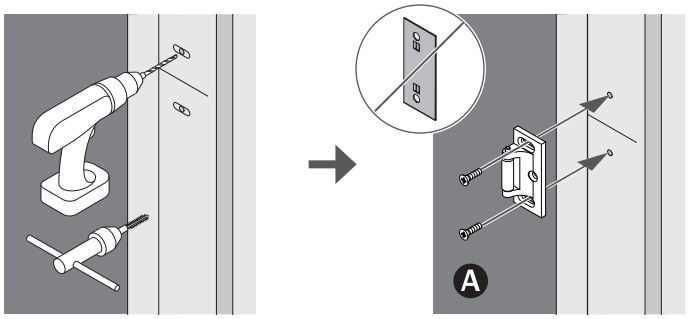


ⓘ **For more information on the strikes shown below, go to http://w3securitytechnologies.com and look for the Support area for Von Duprin installation instructions.**



3 Prepare 2 holes and install 2 screws.

ⓘ **See "Screw Chart" on previous page for screw types and sizes**

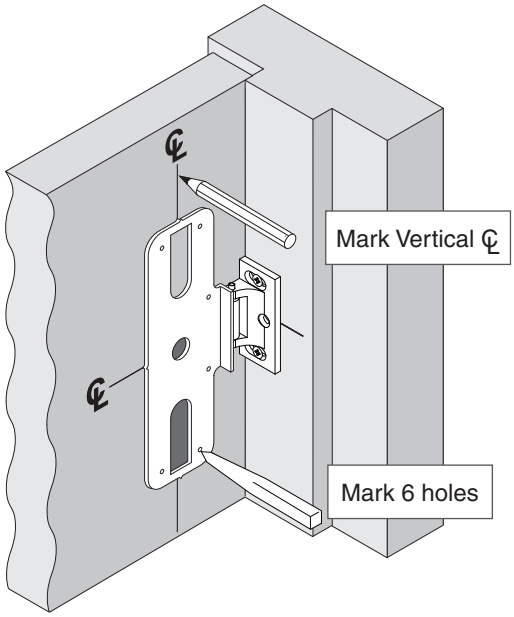


Metal	#25	#10-24

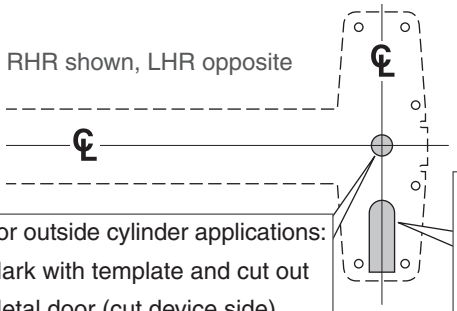
OR

Wood	⅛" (3 mm) x 1" (25 mm) deep

4 Position template against strike and on ℄ and mark door.



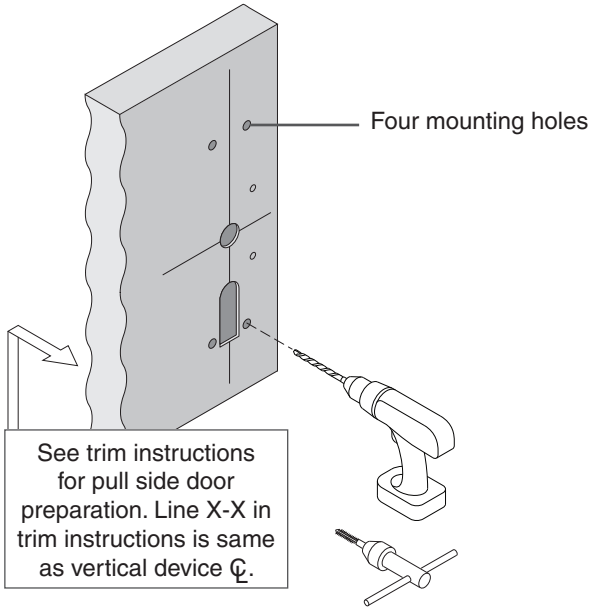
5 If necessary, prepare cutouts for cylinder and trim.

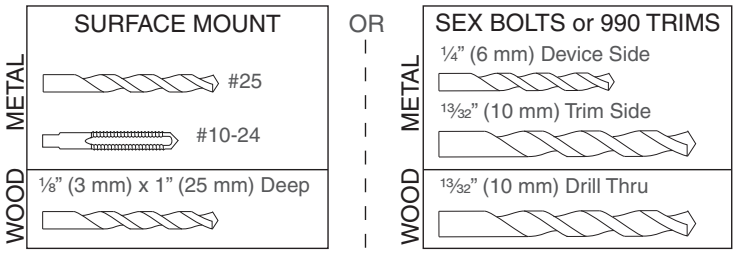


For outside cylinder applications:
Mark with template and cut out
Metal door (cut device side)
Wood door (cut thru)

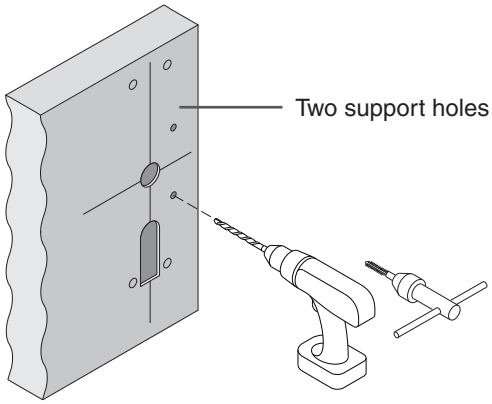
For trim applications with working lever, thumbpiece, or knob:
Mark with template and cut out (cut device side only)

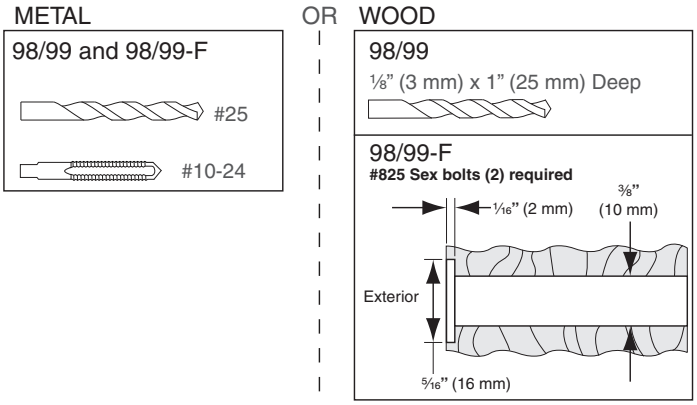
6 Prepare 4 center case mounting holes.





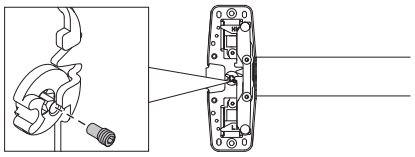
7 Prepare 2 center case support holes.





8 If necessary, remove NL drive screw

NL drive screw
Factory installed on back of center case



With the NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For the trims listed below, **REMOVE** NL drive screw.

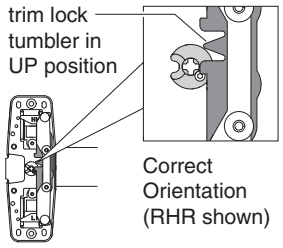
996L	696TP	990TP
996K	697TP	

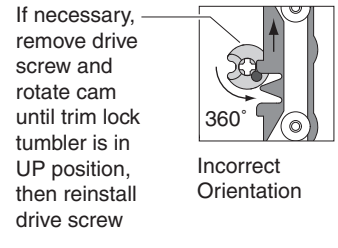
With the NL drive screw installed, key retracts latch bolt. **DO NOT** remove NL drive screw for the following applications:

NL, EO, DT trims and 98/99-2 double cylinder devices (i.e. TP-2, L-2, and K-2).

*996L-BE	*E996L	*696TP-BE	*990TP-BE
*996K-BE	*E996L-BE	*697TP-BE	

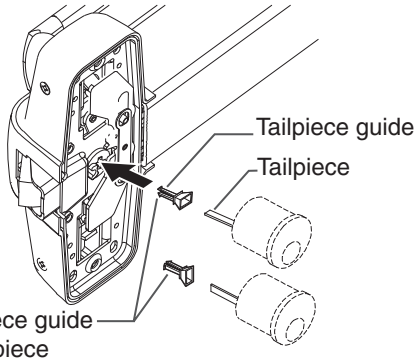
* If the trim being installed is "BE" (i.e. 996L-BE), the trim lock tumbler on the back of the device must be in the **UP** position before device is installed. This allows the trim to be unlocked at all times.



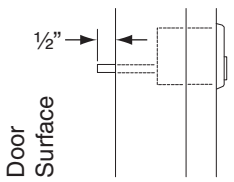


9 If using a cylinder with a tailpiece, prepare device and cylinder.

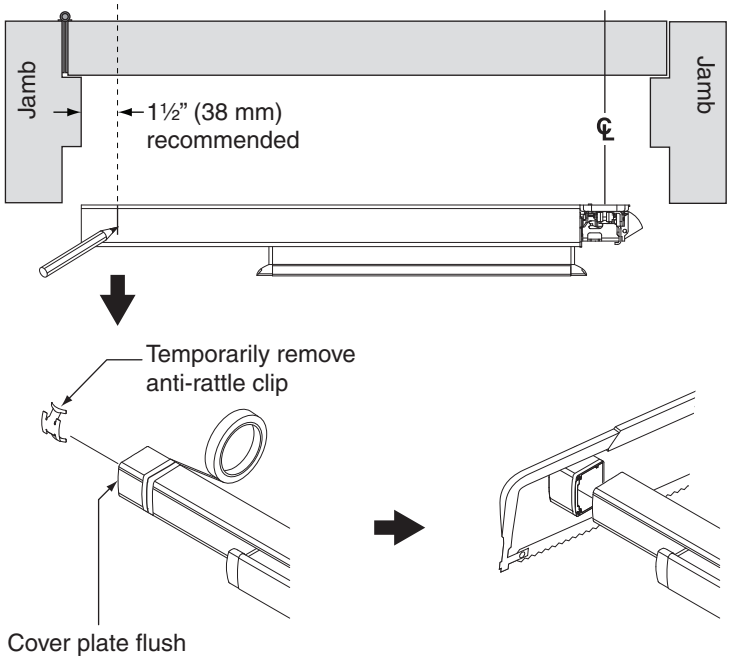
9a Install tailpiece guide.



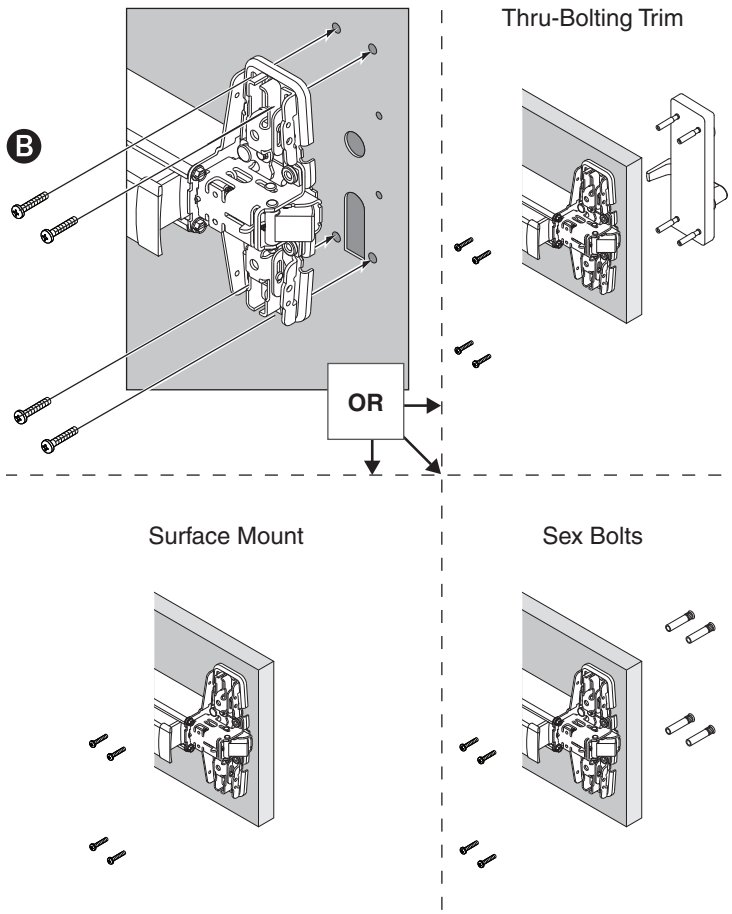
9b Cut tailpiece as needed.



10 If necessary, cut device.

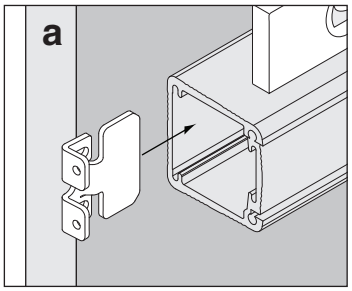


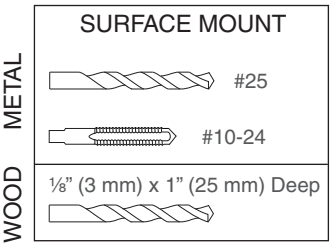
11 Attach center case to door.



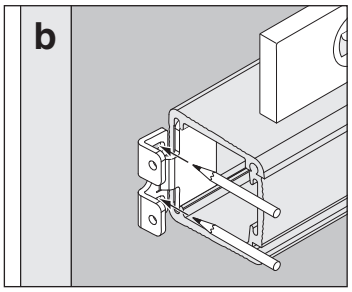
12 Mark and prepare two (2) holes.

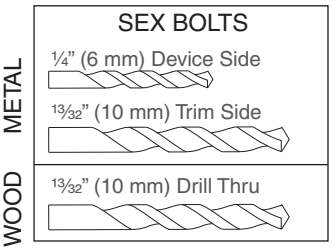
ⓘ **Prepare holes after lock side of device is mounted and hinge side is leveled.**

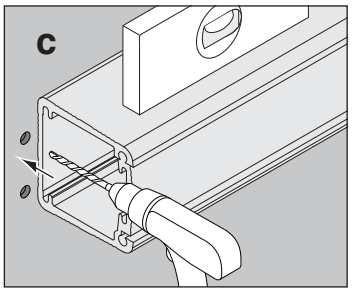




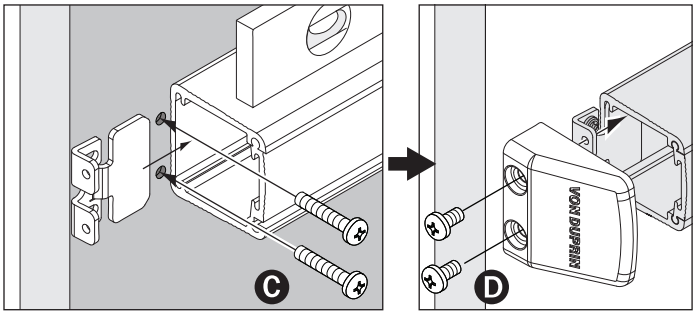
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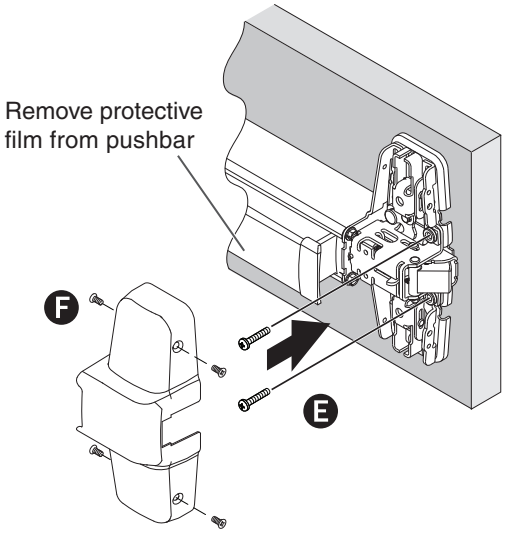




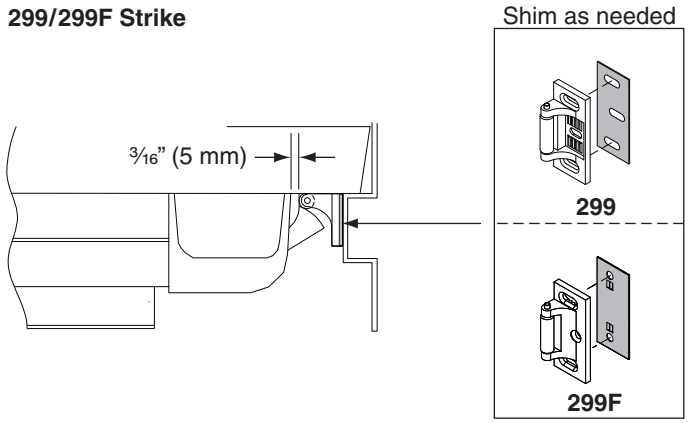
13 Install end cap bracket and end cap.



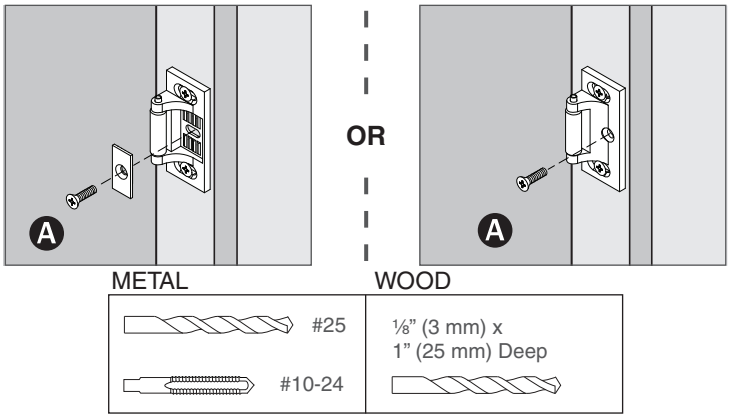
14 Install required support screws and center case cover.



15 Adjust strike as needed.

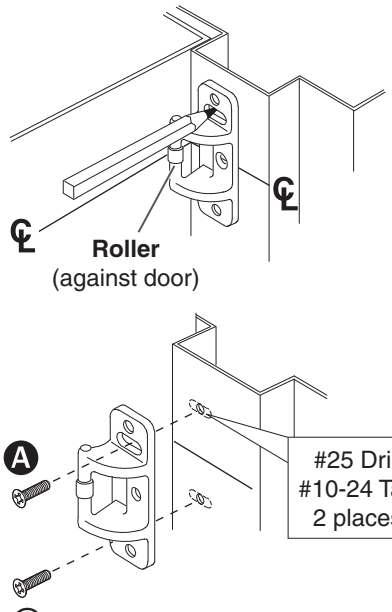


16 Install strike support screw.



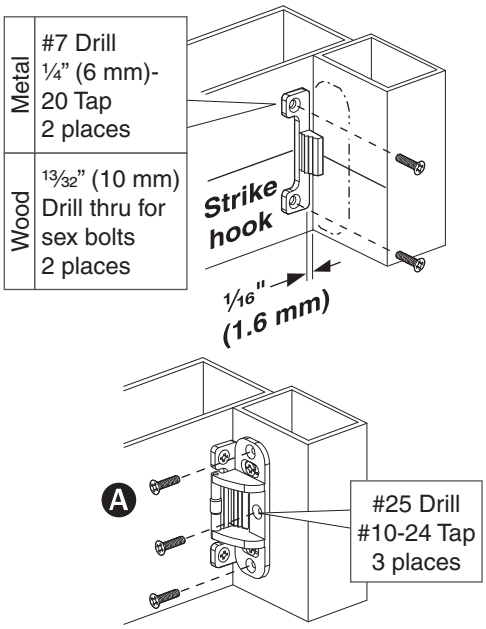
499F STRIKE INSTALLATION

1. Prepare and install screws through two strike slots.

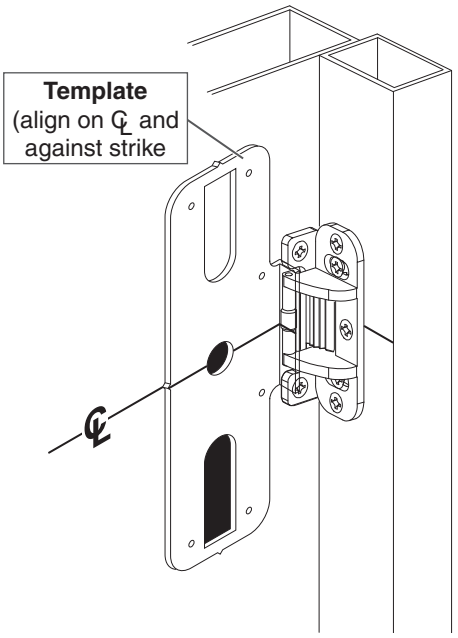


ⓘ **If using a mullion, holes may be predrilled**

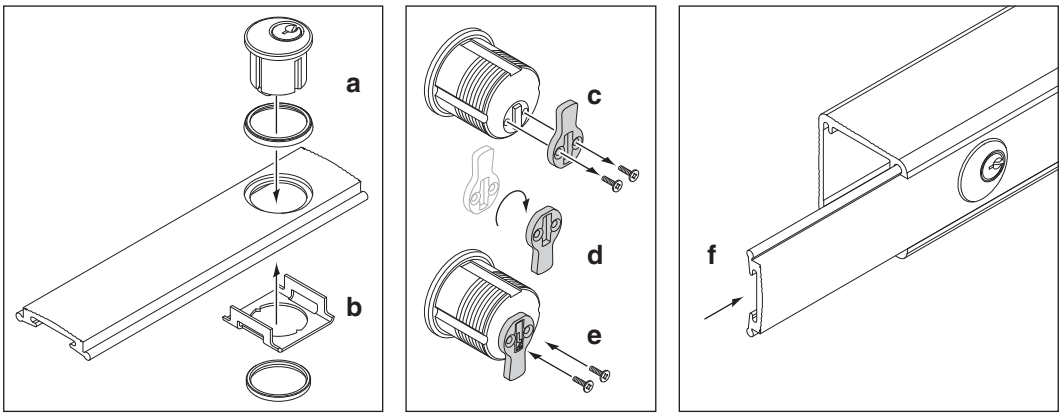
2. Install strike hook and additional strike screws.

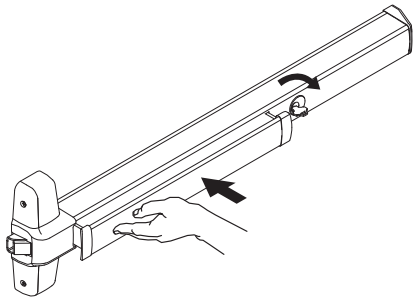


3. Template aligns as shown.

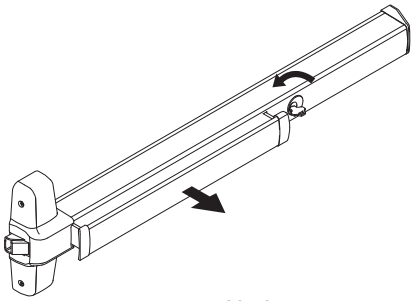


CD (Cylinder Dogging) Option



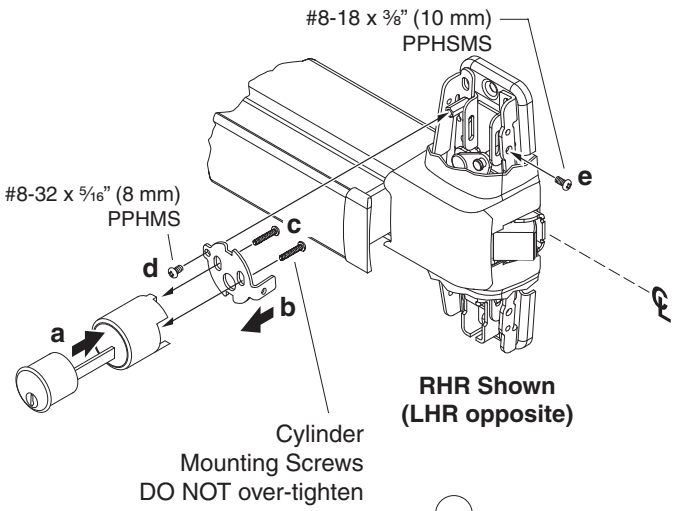


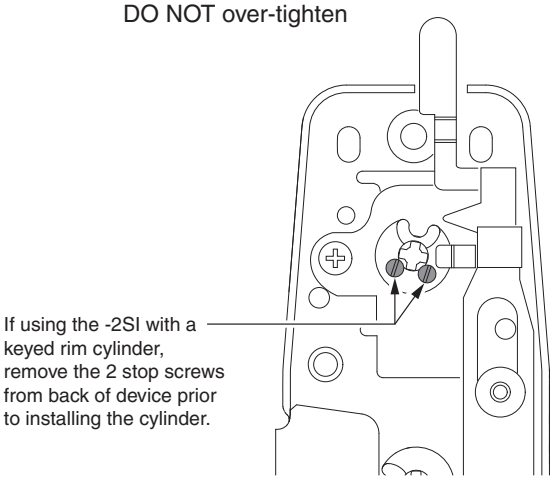
Dog



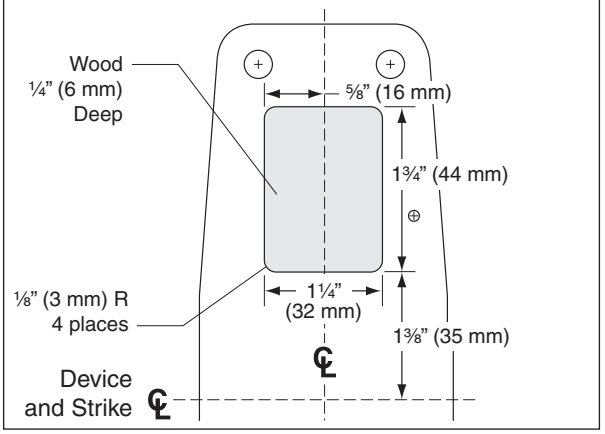
Undog

99-2 (Double Cylinder) Option

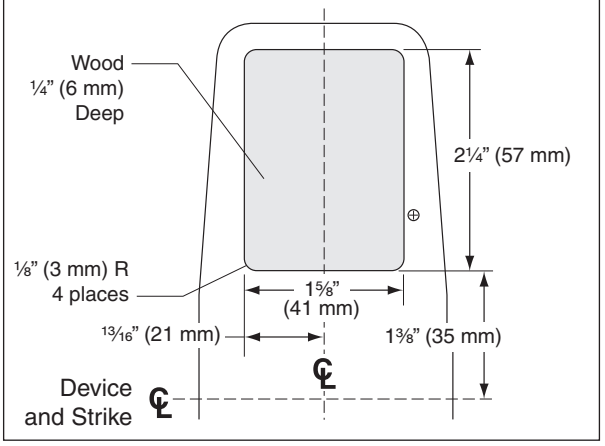




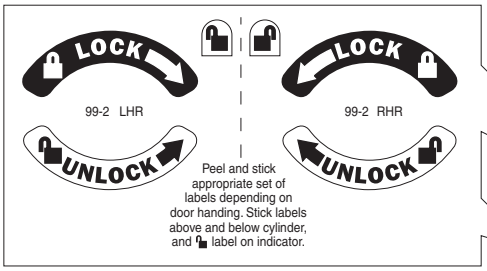
Door Cutout for 99-2 "Double Cylinder" Option

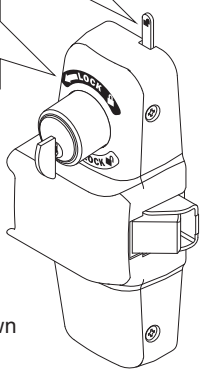


Door Cutout for 99-2SI "Double Cylinder" Option



For 98/99-2SI models with Classroom Security Indicator, apply supplied labels above and below cylinder to match door handing, and label on indicator.

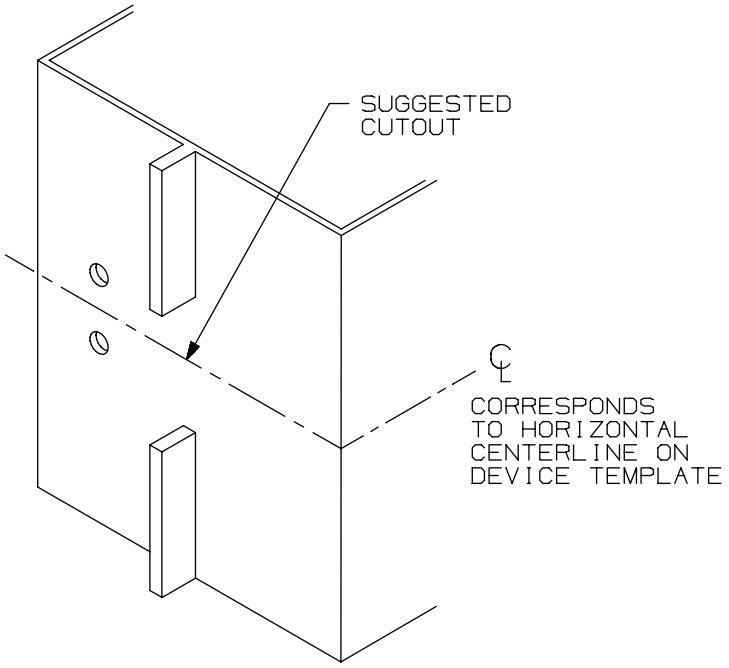


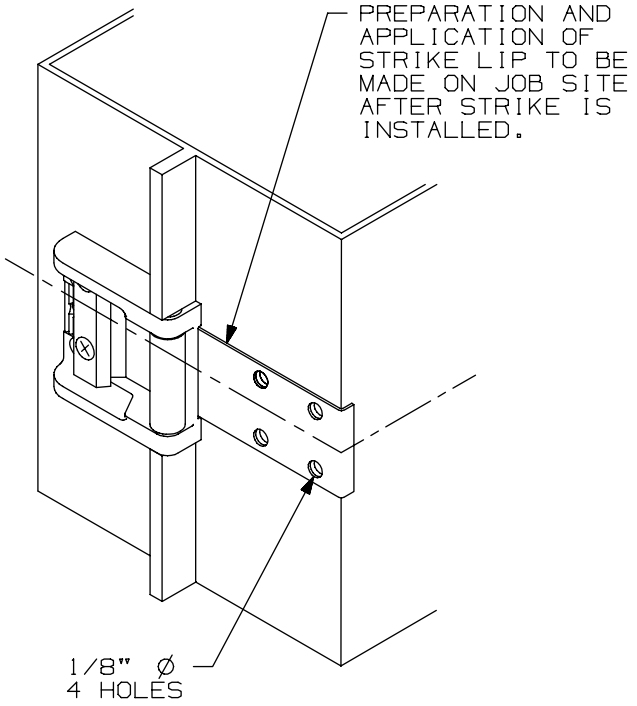


Manually affix the label:

Ensure surface is clean of dirt, dust, or oils. Clean with alcohol if necessary.

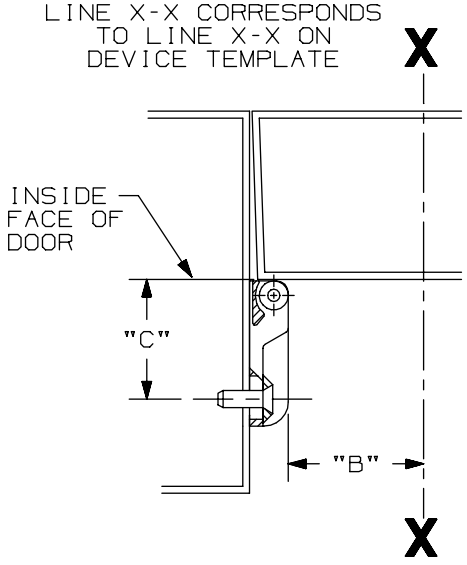
Peel the label from the paper backing and apply to the surface. Minimize handling when applying and use pressure to burnish label to surface. The adhesive will require up to 8 hours to achieve the proper bond.

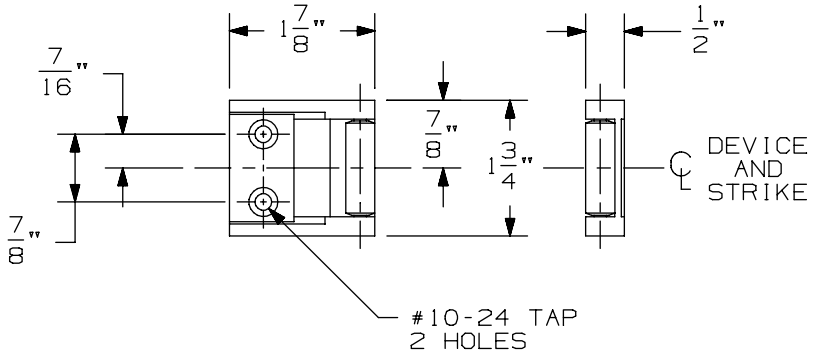




SINGLE DOOR INSTALLATION			
DEVICE	DIM "B"	DIM "C"	RECOMMENDED MIN STILE* (1)
33A/35A RIM	19/32"	1 9/16"	2"
44 RIM EO,DT,NL,TP	1 11/16"	1 9/16"	3 3/8"
44 RIM K	1 9/16"	1 9/16"	3 3/8"
55 RIM	17/32"	1 9/16"	1 3/4"
22 RIM	1 9/16"	1 9/16"	3 13/16"
88 RIM EO,DT,NL,TP	1 11/16"	1 9/16"	3 3/8"
44 RIM K,L	1 9/16"	1 9/16"	3 3/8"
98/99 RIM	1 9/16"	1 9/16"	3 13/16"

* CONSULT FACTORY FOR STILE WIDTHS LESS THAN
(1) MIN. RECOMMENDED TO ENSURE PROPER APPLICATION





LHR APPLICATION SHOWN, RHR APPLICATION OPPOSITE

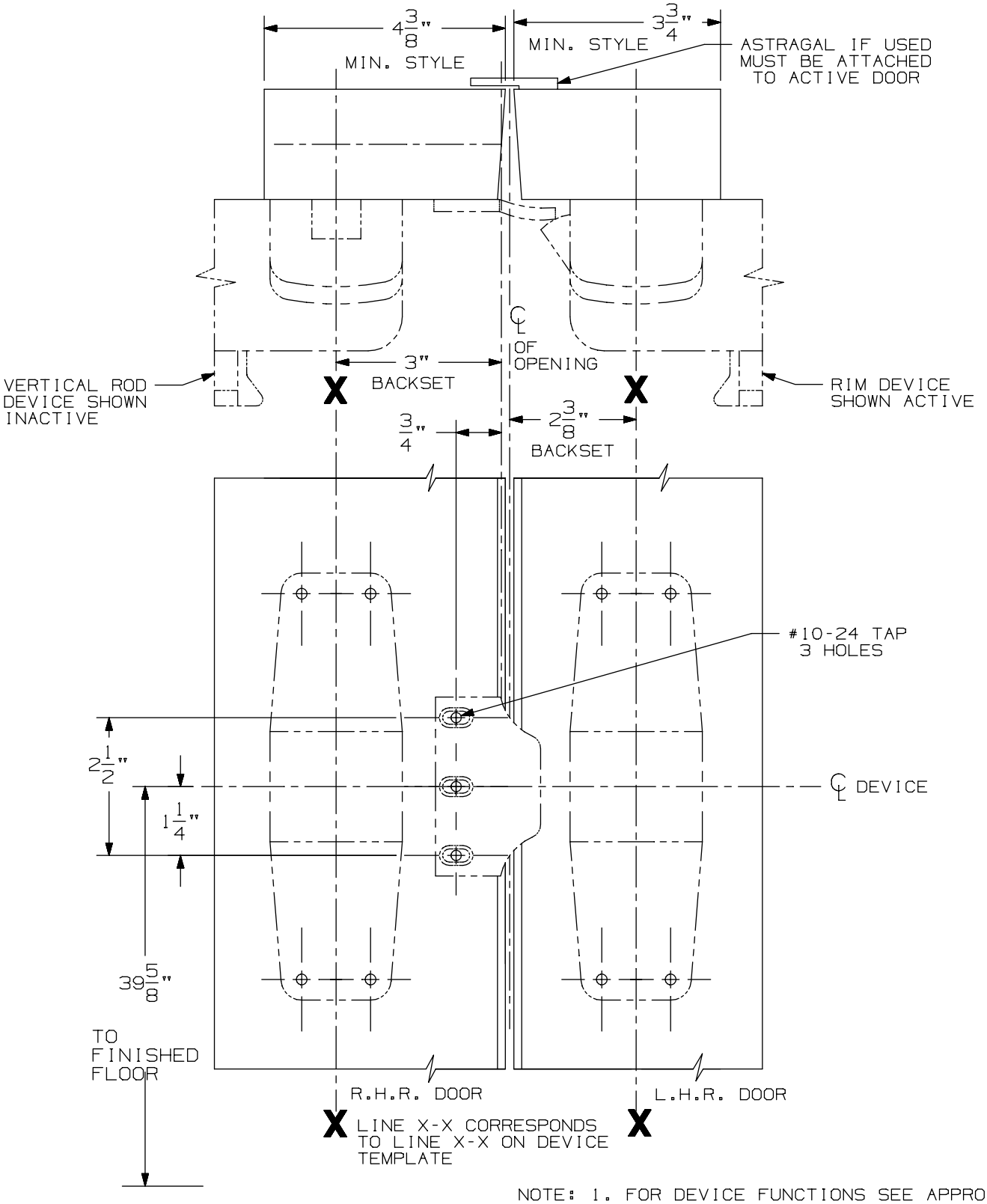
1439 Roller Strike

VON DUPRIN®

NOTES: SEE MASTER SHEET #10001 FOR SUGGESTED REINFORCING

TEMPLATE NUMBER: 30029_a

DATE: 05-23-13



NOTE: 1. FOR DEVICE FUNCTIONS SEE APPROPRIATE DEVICE TEMPLATES.

2. SEE DEVICE TEMPLATE FOR MOUNTING HOLE LOCATIONS.

3. A COORDINATOR MUST BE USED ON THE INACTIVE DOOR.

1609 Strike Application for 98/99 Vertical Rod & 98/99 Rim Devices (Panic Device Only)

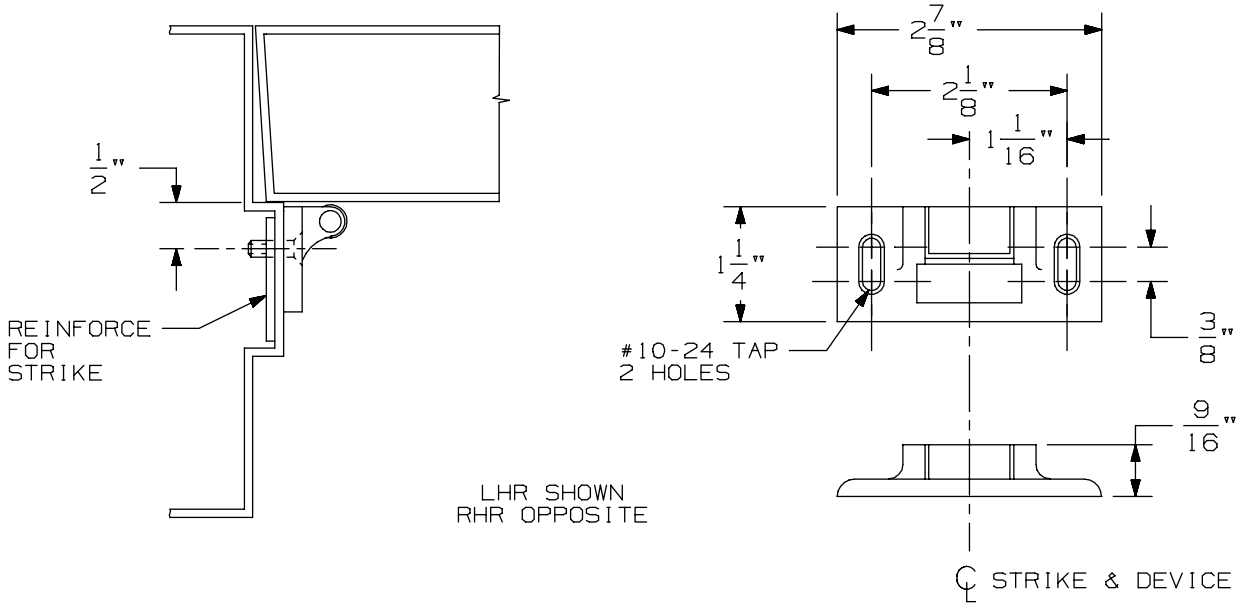
VON DUPRIN®

NOTES: SEE MASTER SHEET #10001 FOR SUGGESTED REINFORCING

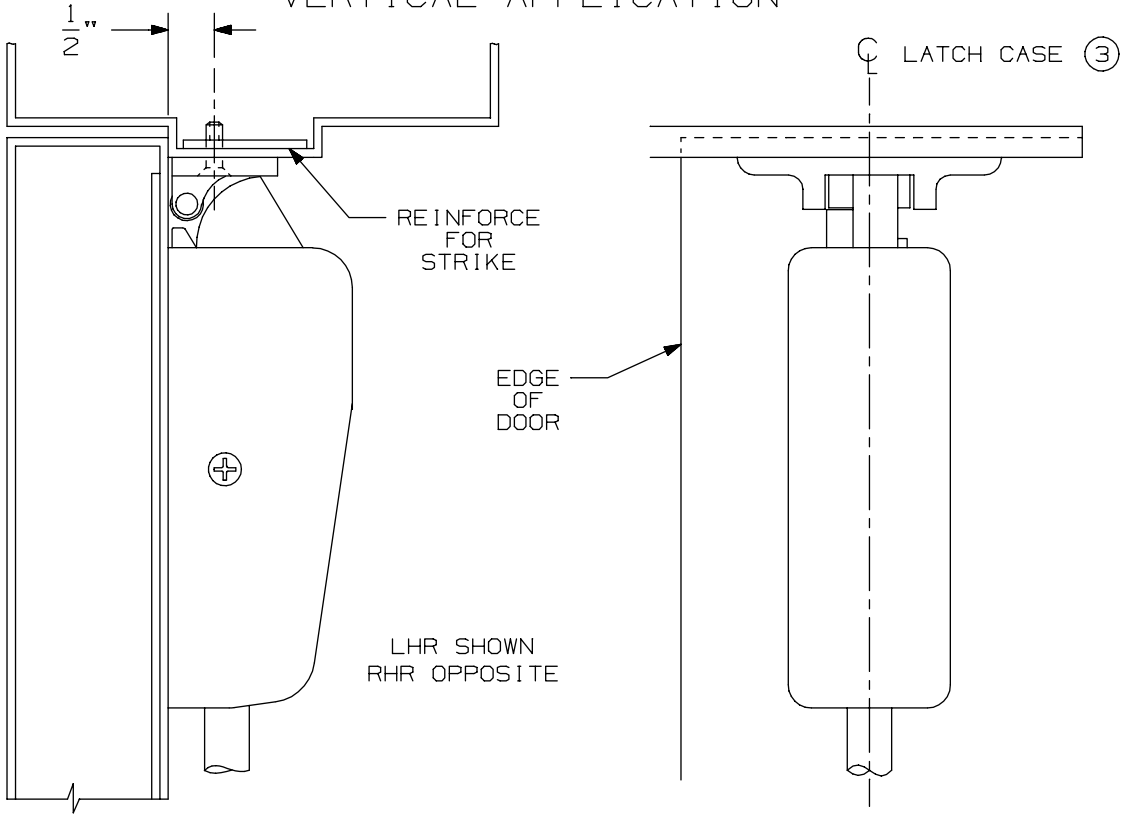
TEMPLATE NUMBER: 30229_a

DATE: 05-28-13

RIM APPLICATION



VERTICAL APPLICATION



NOTE: LATCH CASE MOUNTING HOLES TO BE PREPARED AT INSTALLATION ON DOOR.

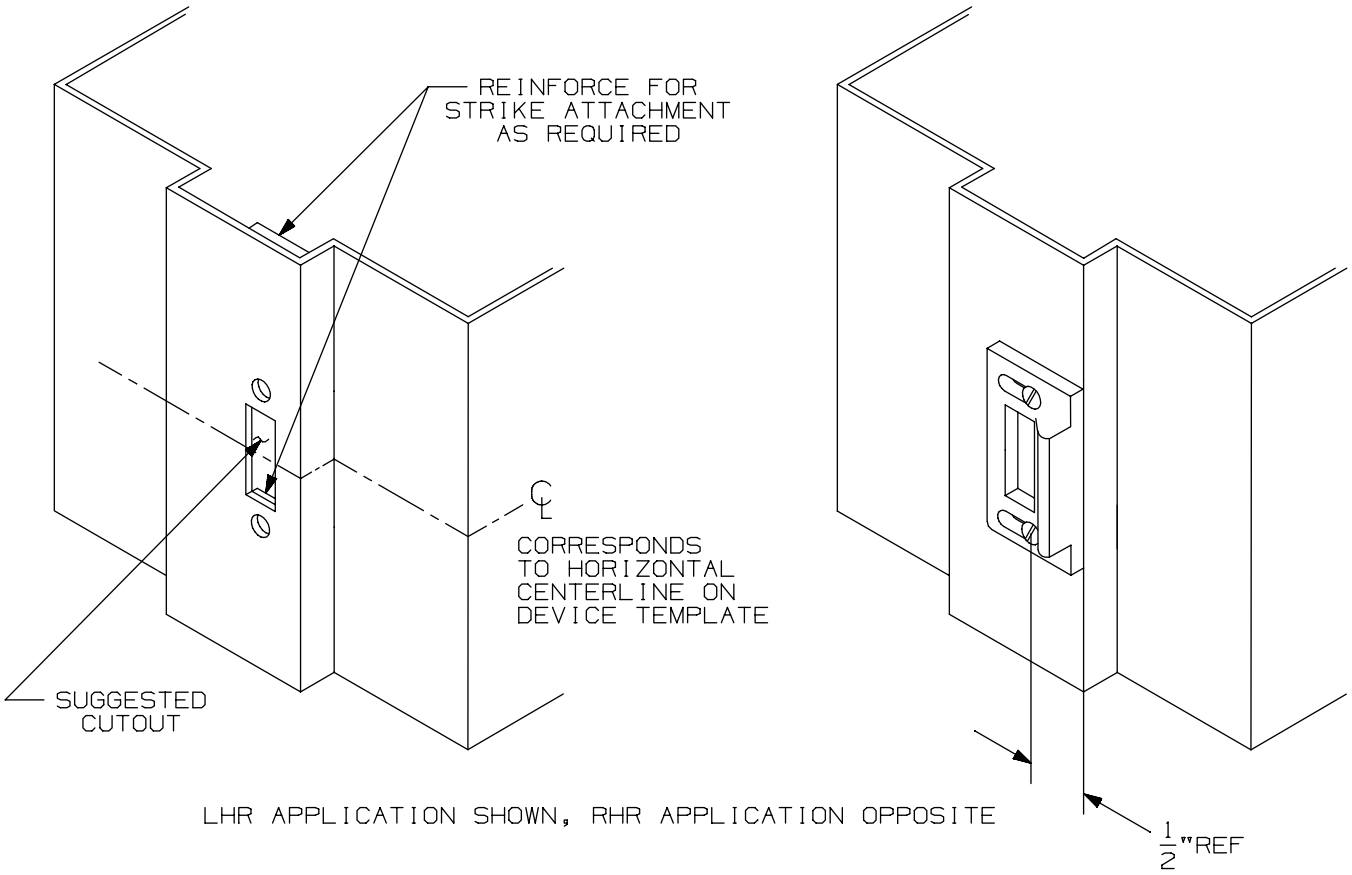
264 Strike

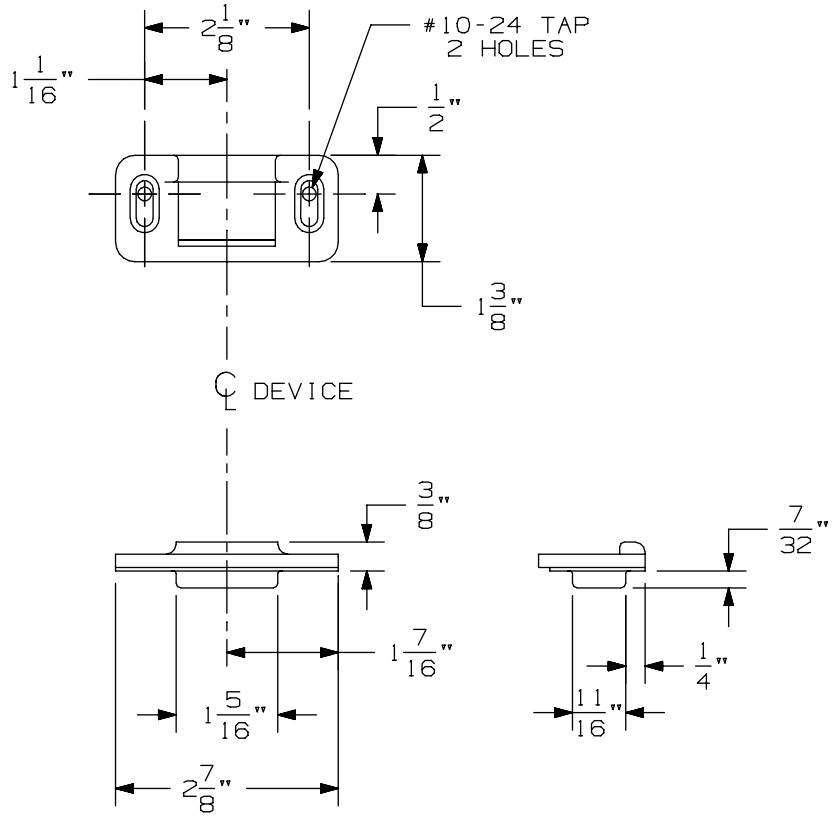
VON DUPRIN®

NOTES: SEE MASTER SHEET #10001 FOR SUGGESTED REINFORCING

TEMPLATE NUMBER: 30009_a

DATE: 05-23-13





1606 Half Mortise Strike

VON DUPRIN®

NOTES: SEE MASTER SHEET #10001 FOR SUGGESTED REINFORCING

TEMPLATE NUMBER: 30024_a

DATE: 05-23-13