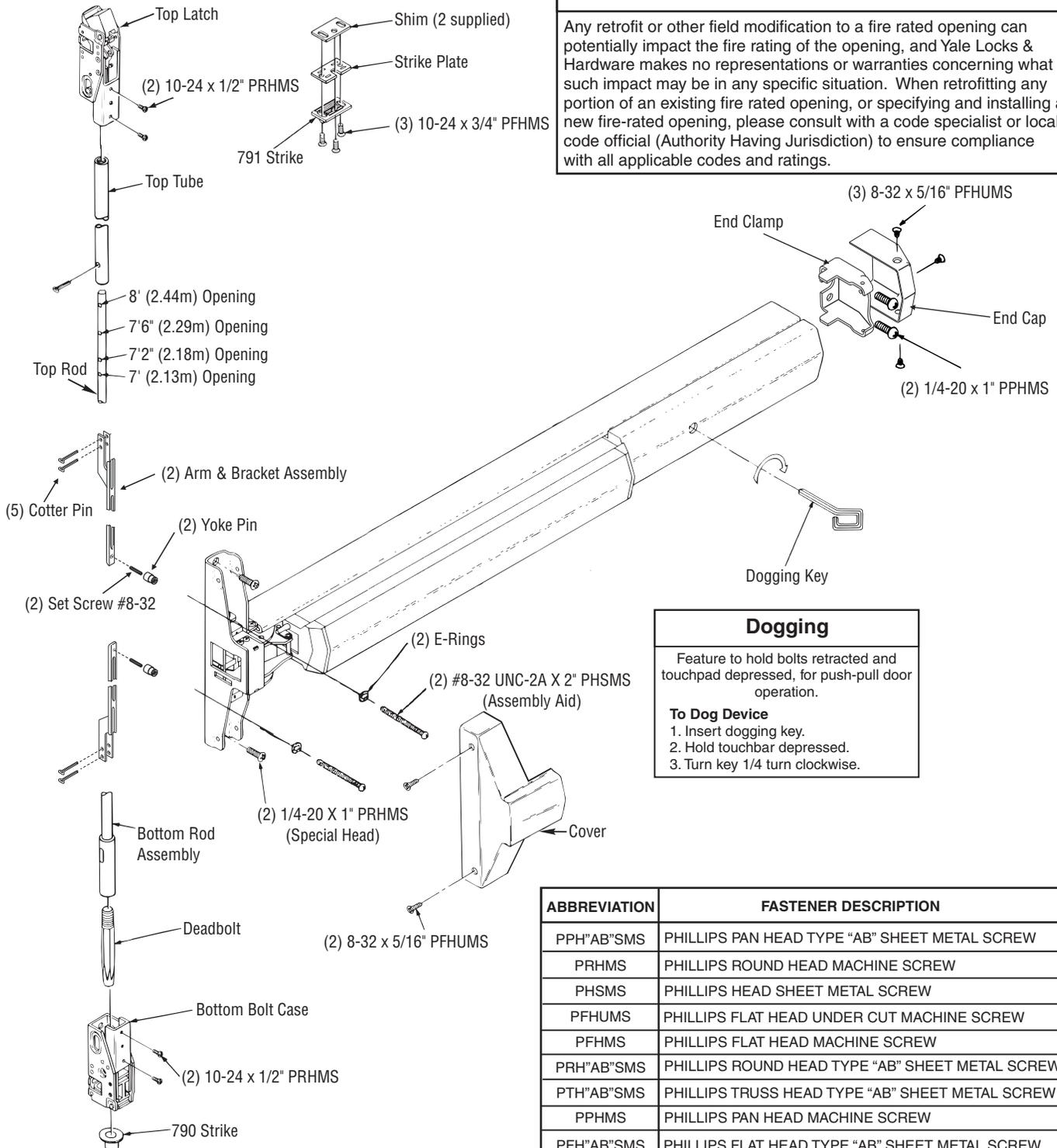




7220 Concealed Vertical Rod Exit Device Installation Instructions

Attention Installer

Any retrofit or other field modification to a fire rated opening can potentially impact the fire rating of the opening, and Yale Locks & Hardware makes no representations or warranties concerning what such impact may be in any specific situation. When retrofitting any portion of an existing fire rated opening, or specifying and installing a new fire-rated opening, please consult with a code specialist or local code official (Authority Having Jurisdiction) to ensure compliance with all applicable codes and ratings.



Dogging

Feature to hold bolts retracted and touchpad depressed, for push-pull door operation.

To Dog Device

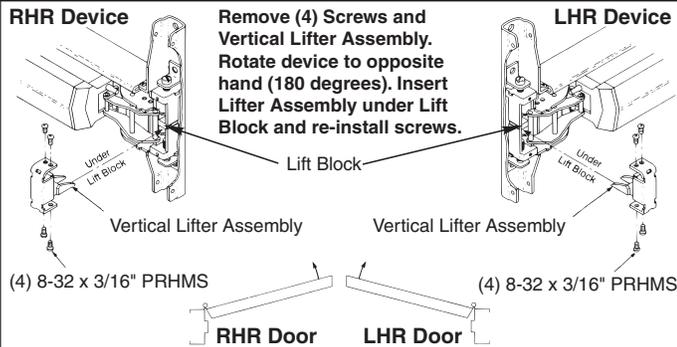
1. Insert dogging key.
2. Hold touchbar depressed.
3. Turn key 1/4 turn clockwise.

ABBREVIATION	FASTENER DESCRIPTION
PPH"AB"SMS	PHILLIPS PAN HEAD TYPE "AB" SHEET METAL SCREW
PRHMS	PHILLIPS ROUND HEAD MACHINE SCREW
PHSMS	PHILLIPS HEAD SHEET METAL SCREW
PFHUMS	PHILLIPS FLAT HEAD UNDER CUT MACHINE SCREW
PFHMS	PHILLIPS FLAT HEAD MACHINE SCREW
PRH"AB"SMS	PHILLIPS ROUND HEAD TYPE "AB" SHEET METAL SCREW
PTH"AB"SMS	PHILLIPS TRUSS HEAD TYPE "AB" SHEET METAL SCREW
PPHMS	PHILLIPS PAN HEAD MACHINE SCREW
PFH"AB"SMS	PHILLIPS FLAT HEAD TYPE "AB" SHEET METAL SCREW

All dimensions are in inches (mm) unless otherwise noted.



To Change Hands



Maintenance

1. Periodically remove covers and coat mechanisms with a silicone base lubricant. This is particularly required in corrosive environments for proper product function.
2. Check mounting fasteners periodically. Retighten if found loose. Apply screw locking compound (available at automotive part stores) or change part fasteners if screws continue to back out.
3. Periodic checks (and adjustments) of strikes are required to compensate for changes in the opening (e.g. door sagging).

Check Before Starting

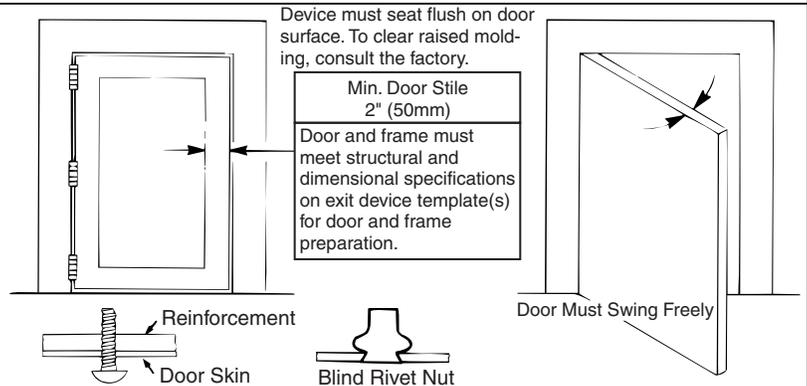
Unreinforced Doors or Frames

Doors and Frames with walls having a structural thickness (metal skin plus reinforcement or solid hardwood) to engage less than (3) full screw threads are considered unreinforced.

Unreinforced Doors: Use SNB (sex nuts and bolts).

Unreinforced Frames: Use Blind Rivet Nuts.

Recommended fasteners for unreinforced openings are not necessarily supplied by Yale Locks & Hardware.

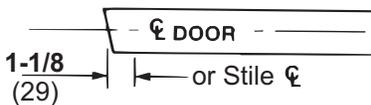


1. Mark Door

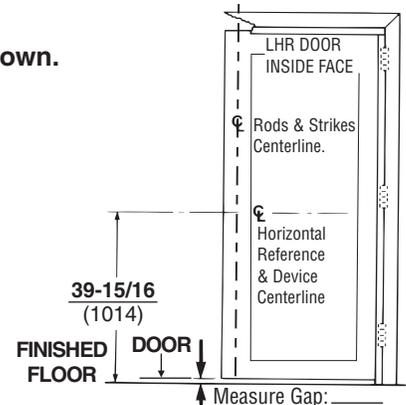
Single Door or Pair without Mullion

Locate and Mark Horizontal Reference and Rod & Strike Centerlines as shown.

LHR door shown, preparation is typical for both door hands.

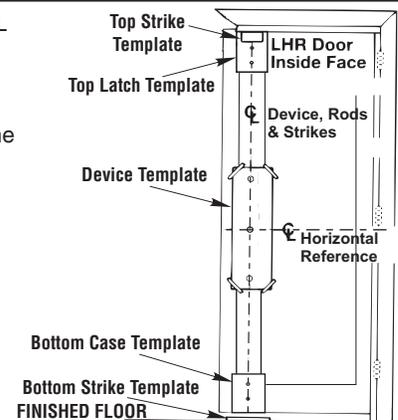


Note: Bottom Bolt will retract to 1/8" (3mm) above Floor Strike. Floor covering in the door path must be laid out accordingly.



2. Prepare Door, Frame, & Sill

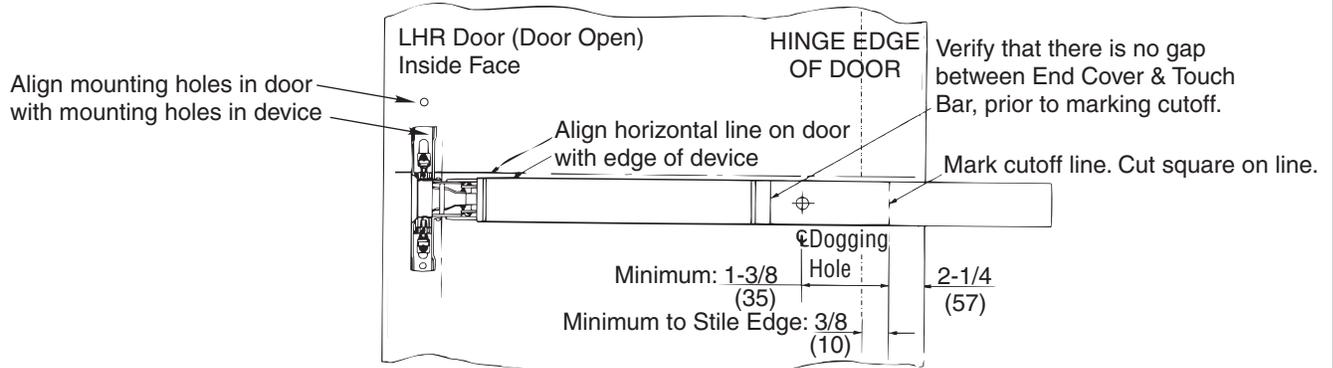
- A. Locate "Device Template" aligning RODS & STRIKES CENTERLINE and HORIZONTAL REFERENCE CENTERLINE on door and template. Tape template to door face.
- B. Extend centerline of Rod & Strikes from "Device Template" to door top and bottom, on door face.
- C. Locate Top Latch/Strike, Bottom Case and Bottom Strike templates aligned on centerline of Device, Rods & Strikes on door. Tape templates in place and mark holes.
- D. Locate and tape Trim Template to door (See instructions packed with Trim).
- E. Mark and prepare holes:
 Device: Each (2) 1/4-20 Machine Screws (Metal reinforced door only.)
 or (2) 3/8" (10mm) Dia. Sex Nuts & Bolts
 Top Latch Case & Bottom Bolt Case: Each (2) 7/32" (5.5mm) Dia. Holes (Door Inside Face Only)
 Top Strike: (2) 10-24 Machine Screws or (2) #10 Wood Screws
 NOTE: Third screw MUST ONLY be used to lock Strike in final position (Step 8C).
 Bottom Strike: 5/8" (16mm) dia x 3/4" (19mm) deep hole



2

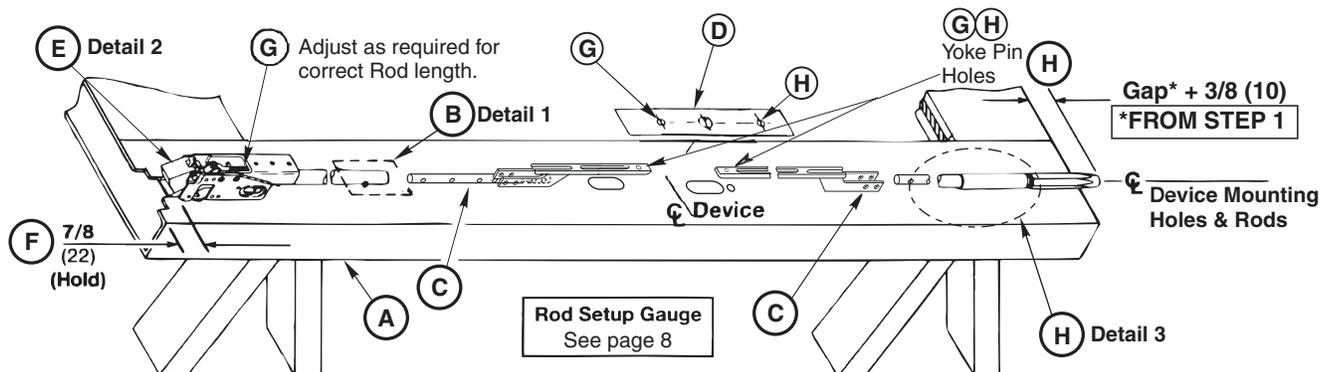
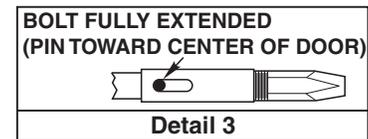
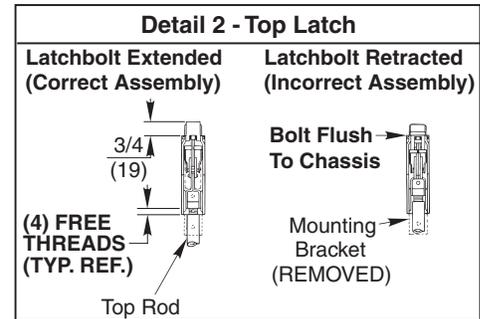
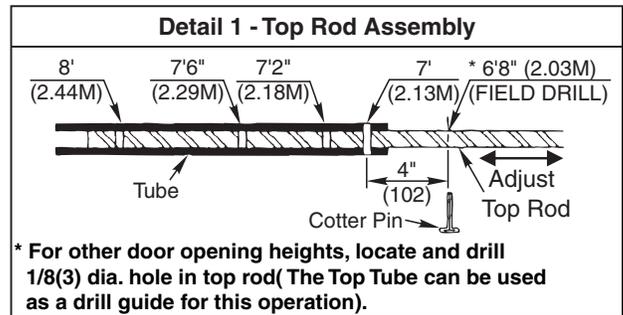
3. Size Device

Device must be field cut to size unless standard opening and device are 36" (0.91m) or 48" (1.22m).



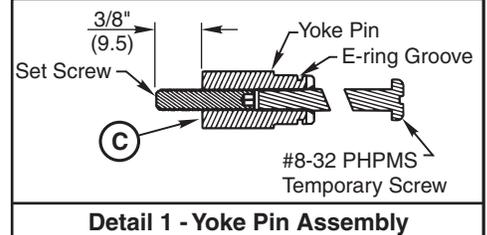
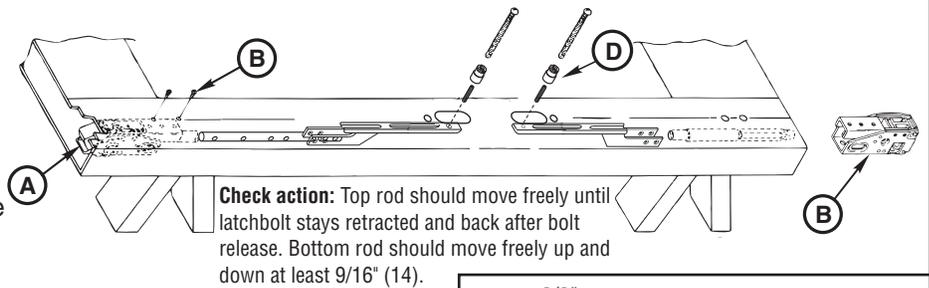
4. Rod Assembly & Preliminary Adjustment

- Remove door from opening. Set flat, device side up. (Do not hang door until Step 8 of device installation sheet)
- Set length of Top Rod Assembly (see Detail 1).
- Connect Top & Bottom Rods to Arm/Bracket Assemblies. (2 Cotter Pins each)
- Align Rod Setup Gauge over Device Cutouts and Centerlines. Tape Gauge to door face.
- Connect top latch to Rod Assembly.
- Set Top Latch and Rod Assembly in place on door. Maintain 7/8" (21) location from top as shown.
- Align Yoke Pin holes in Arm and Bracket Assembly with Alignment Hole in Rod Setup Gauge. Adjust top Latch and Rod Assembly for proper alignment. Latchbolt must be extended. (See Detail 2).
- Thread bottom bolt into Bottom Rod Assembly. Set Bottom Bolt Rod Assembly in place on door. Align Yoke pin hole in the Bottom Arm and Bracket Assembly with Alignment Hole in Rod Setup Gauge. Adjust Bottom Bolt until it protrudes 3/8" (10) + the gap from Step 1, past the bottom edge of door. Make sure Bottom Bolt is fully extended, (See Detail 3).



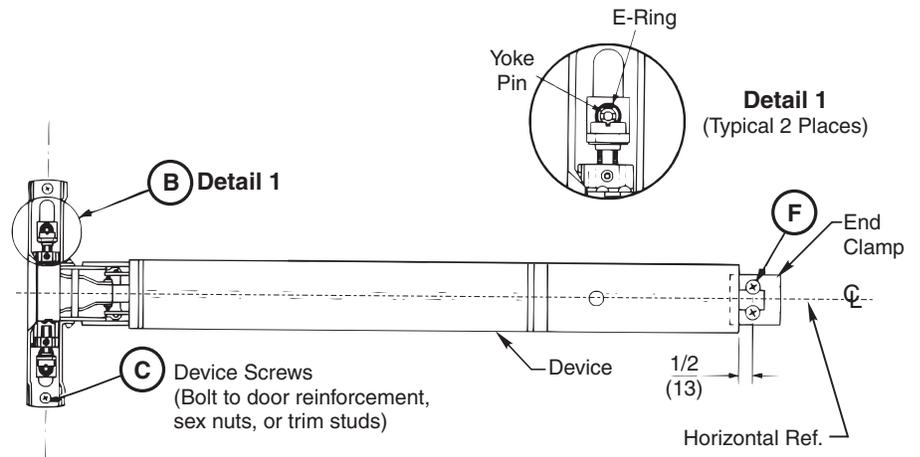
5. Install Rods

- A. Slide Rod Assemblies into door.
- B. Attach Top Latch and Bottom Bolt Case with (4) #10-24 X 1/2" PFHMS.
- C. Thread Set Screw into Yoke Pins (Insert With Hex Socket End Inside Pin). Thread #8-32 X 2" PHPMS Screws into slotted end of Yoke Pins, until seated to Hex Head Set Screw. (See Detail 1.)
- D. Install (2) Yoke Pin Assemblies into Arm and Bracket Assemblies.

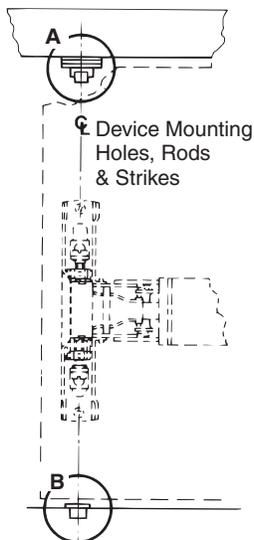


6. Install Device

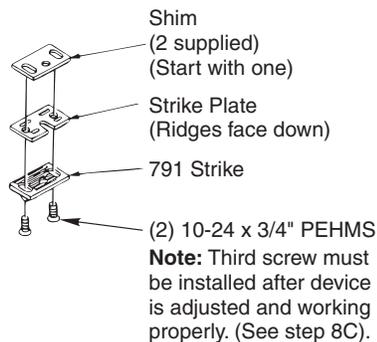
- A. Mount trim (follow instructions packed with trim).
- B. Seat device in place using the Temporary Screws from Step 5 to position the Yoke Pins to the latch head. Install E-Ring into Yoke Pin Grooves. (See Detail 1).
- C. Fasten device Latch Head (2) 1/4-20 PPHMS or 3/8" (10) dia. SNB.
- D. Remove Temporary Screws.
- E. Center end of device on horizontal reference line of door. Using the End Clamp as a template, locate the end clamp mounting holes.
- F. Prepare end clamp holes and mount End Clamp using (2) 1/4-20 PPHMS or 3/8" (10) SNB.



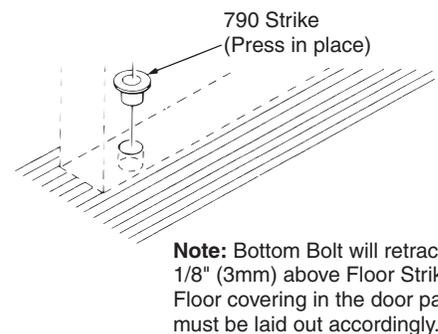
7. Install Strikes



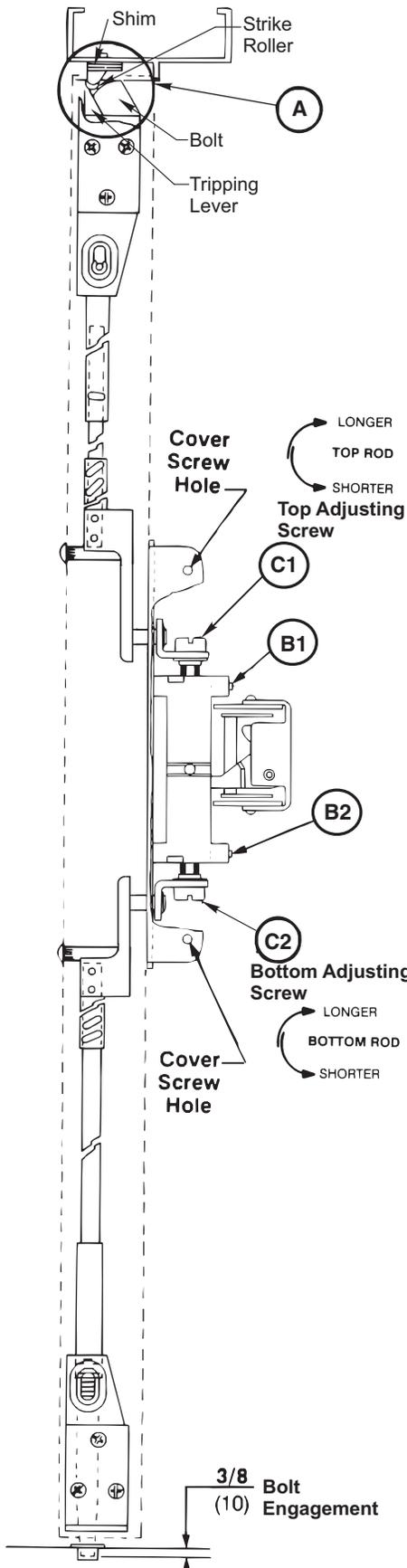
Detail A
(Upper Strike)



Detail B
(Bottom Strike)



8. Complete Installation



- A.** Rehang the door plumb and true to the opening. Set strike roller between tripping lever and bolt. **DO NOT PRELOAD THE BOLT.** Shim strike as needed.

NOTE: Rods should move freely inside door. Bolts extend automatically and should deadlock when door closes and top strike hits tripping lever. Top bolt should retract flat. Bottom bolt should travel 1/2" and engage 3/8" into strike in down position, without dragging on floor surface in up position.

Test device action by touchbar, by trim, and by dogging. Adjust as needed.

B. Rod Adjustment for Proper Bolt Throw

1. Use 3/32" hex wrench to loosen set screws B1 and B2.
2. Adjust the top rod first with adjusting screw C1. With device in dogged position (panic devices) or touchbar fully depressed (fire devices) adjust top rod so that the top latchbolt is flush and the hold back feature is engaged. Lengthen top rod an additional 1/2 turn for proper latchbolt positioning.

NOTE: If adjusting screws bottom out before proper device operation, door and device must be removed so larger adjustments may be made by threading rod in or out, or by moving cotter pin to different hole in rod (See Installation Instructions Step 4).

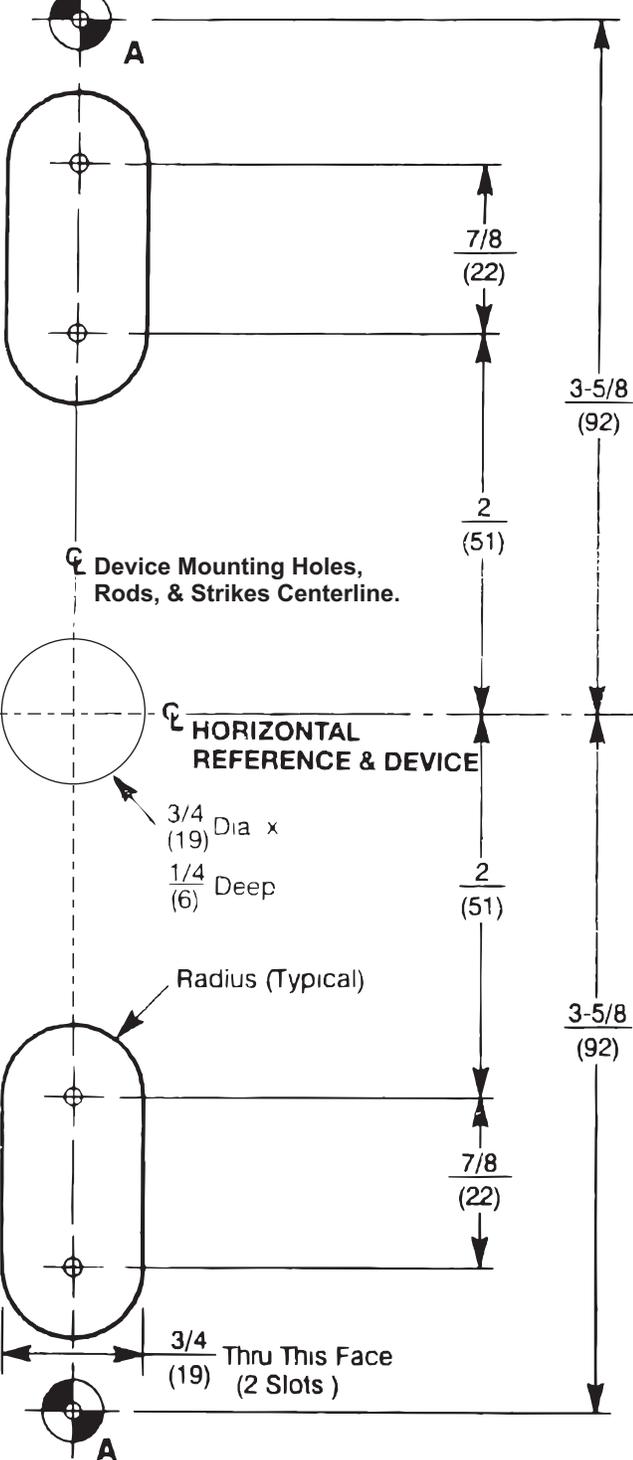
3. Adjust bottom rod with adjusting screw C2. With top latch retracted in hold back position, and touchbar dogged or fully depressed, adjust bottom rod so that the deadbolt clears the strike by 1/16". The bottom rod should be in position in the active case with the square head of the connector hanging in the Guide. (See note in Step 2 above).
4. Check device operation by opening and closing the door. An additional minor adjustment may be required for full retraction and correct strike engagement.

NOTE: To avoid thread damage and provide positive locking, be sure set screws engage flats on adjusting screws.

- C.** After acceptable device function, install third screw in top strike to lock strike in position with 10-24 x 3/4" PFHMS.
- D.** Install device cover and end cap with (2) 8-32 PFHMS each.

TAPE TO DOOR
(INSIDE FACE)

DEVICE



Device Mounting Holes,
Rods, & Strikes Centerline.

HORIZONTAL
REFERENCE & DEVICE

3/4 Dia x
(19)
1/4 Deep
(6)

Radius (Typical)

3/4 Thru This Face
(19)
(2 Slots)

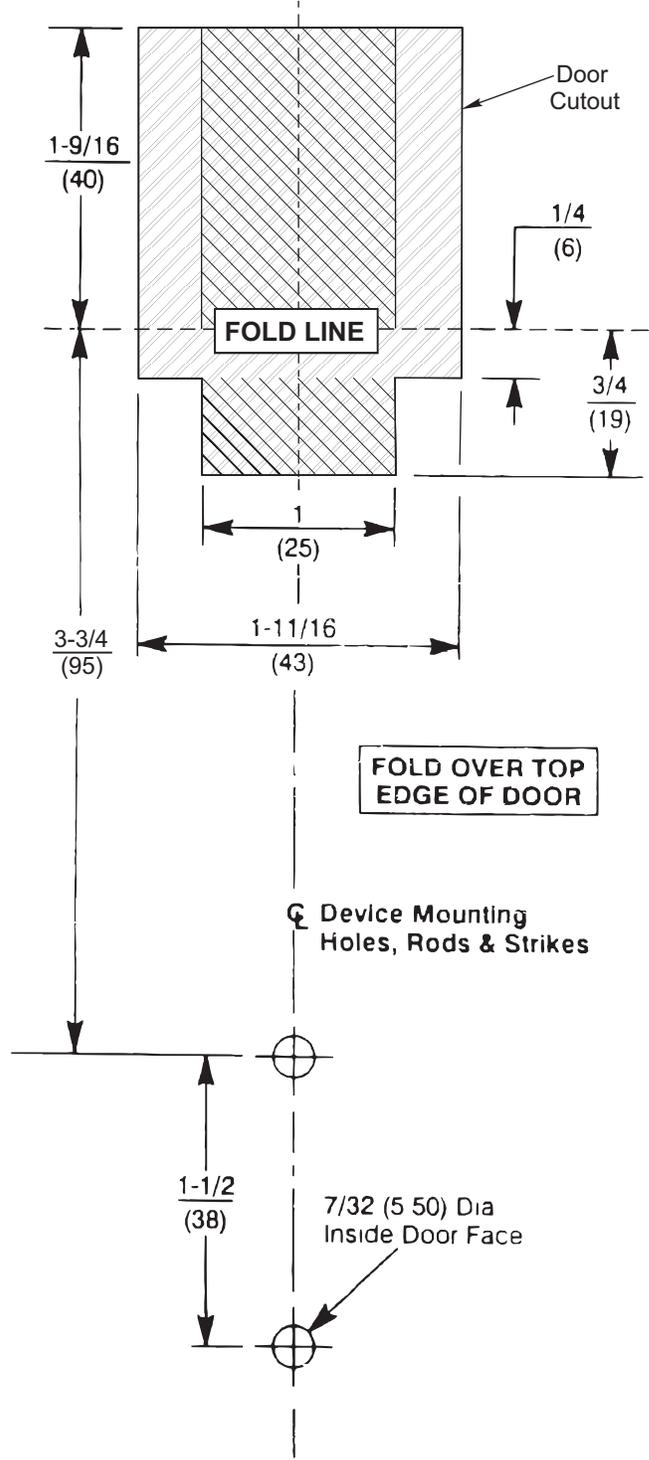
(2) Holes A:
1/4-20 tap
(metal reinforced doors),
or
3/8 dia thru door for SNB
(9.50)
(all other doors)

CUTLINE



TAPE TO DOOR

TOP LATCH CASE



Door
Cutout

FOLD LINE

FOLD OVER TOP
EDGE OF DOOR

Device Mounting
Holes, Rods & Strikes

7/32 (5.50) Dia
Inside Door Face

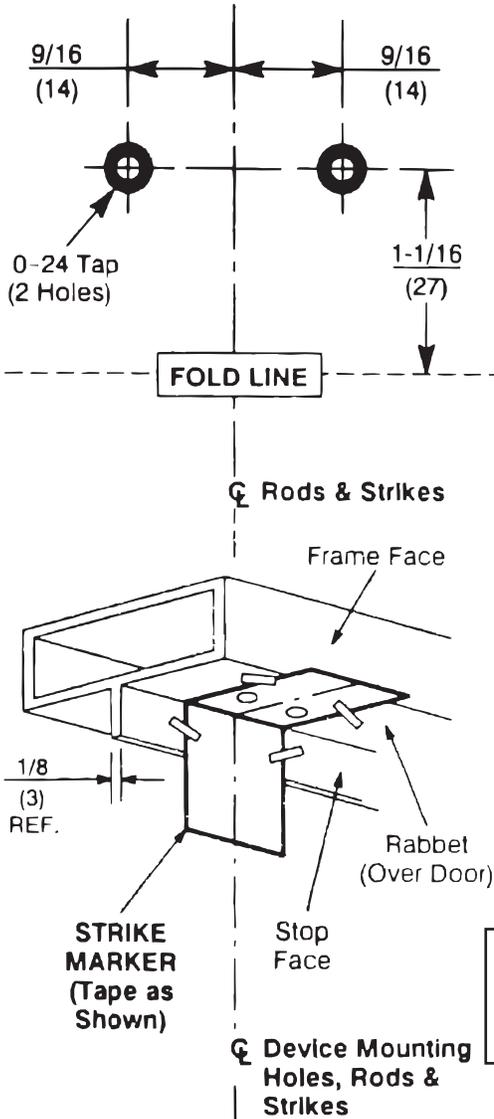
Notes:

1. Unreinforced frames require that 10-24 blind rivet nuts (by others) be used to bolt strike. Frames are considered not reinforced when strike mounting screws cannot engage (3) full threads.
2. Dimensions are given in inches (mm).
3. **CAUTION:** Office copiers and facsimile machines may change the size of a drawing and make the template inaccurate to use as a door marker. If this is not the original template packed with the device, use only the dimensions written on the template to locate the holes on the door (do not use the template as a door marker).

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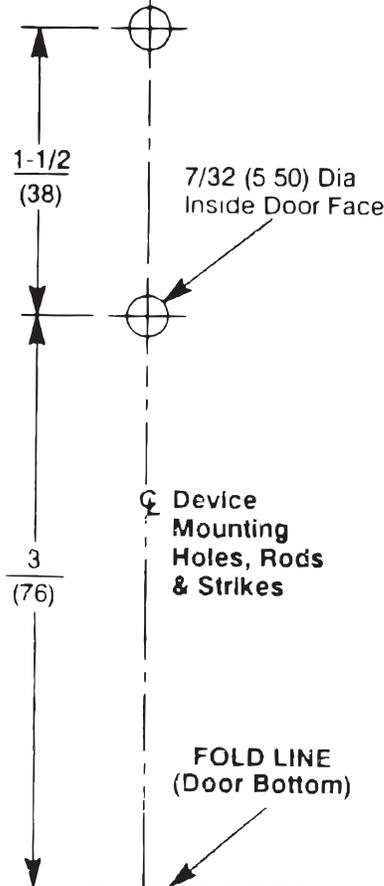
TAPE TO FRAME RABBET

791 STRIKE (Top Strike)



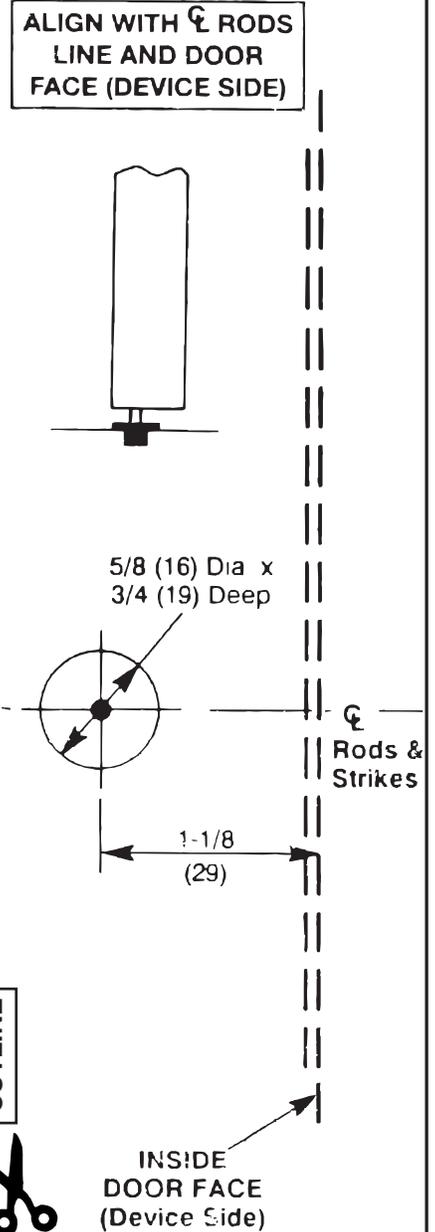
TAPE TO DOOR

BOTTOM BOLT CASE

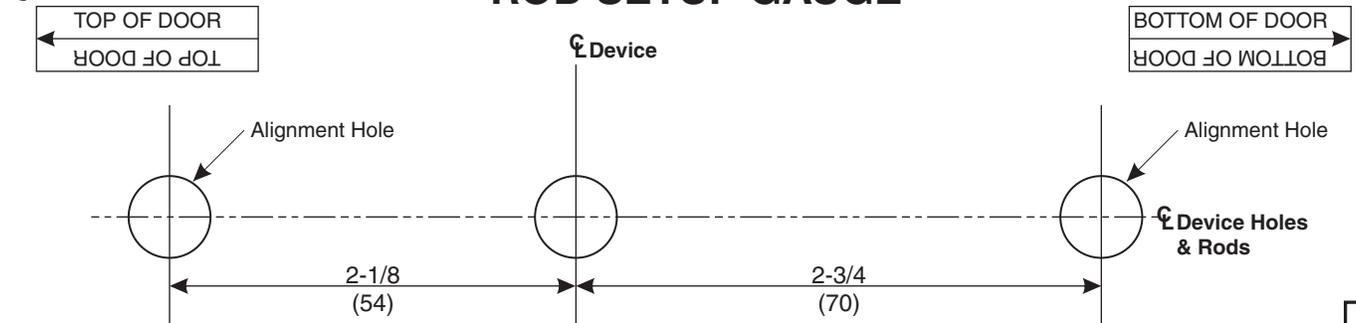


POSITION ON FLOOR

790 STRIKE (Floor Strike)



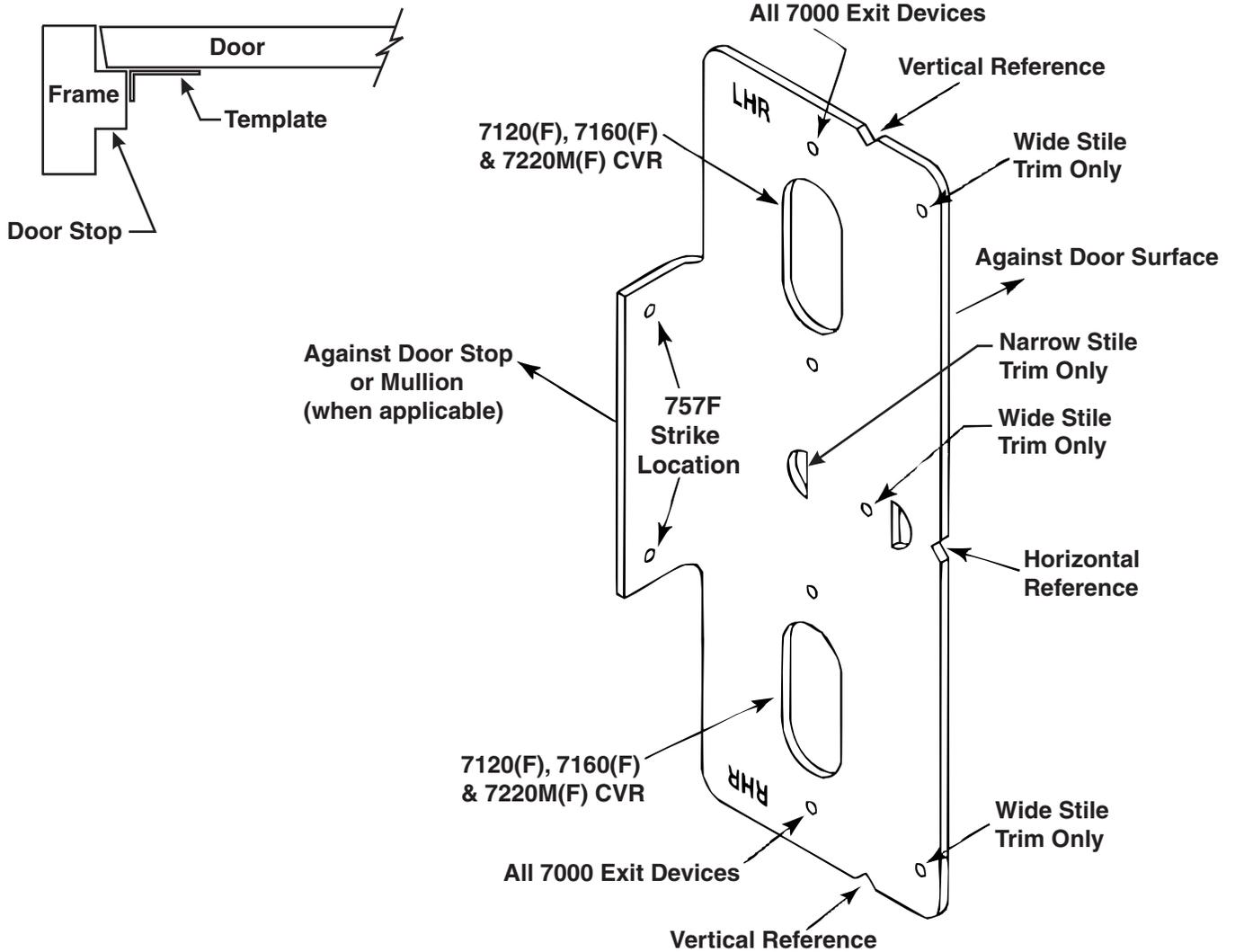
ROD SETUP GAUGE



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Plastic Installation Template

For use in conjunction with instruction sheets packed with exit device.
 Holes and slots are identified below by exit device series and trim. Prep door and frame for only those features required for the exit device being installed.



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