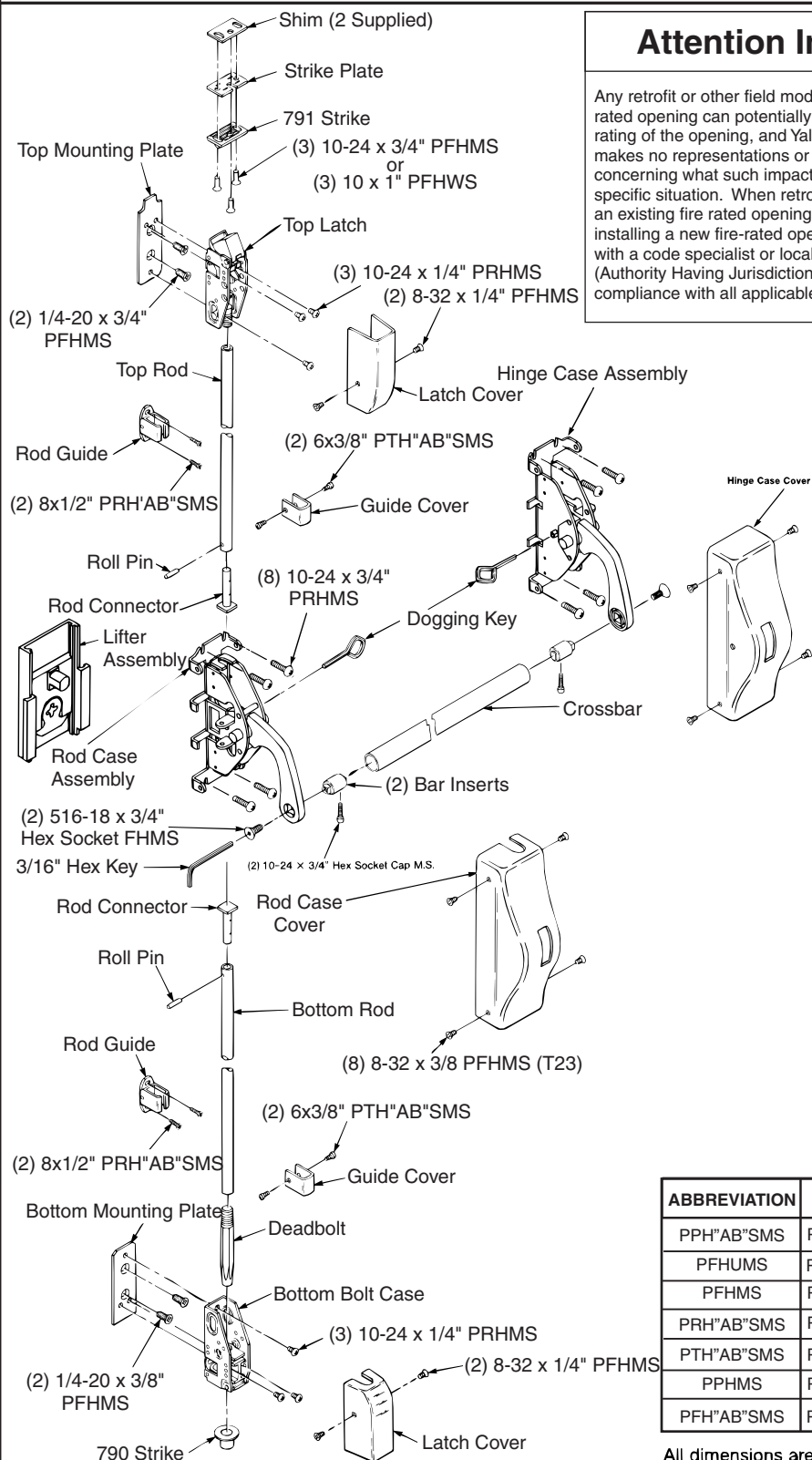




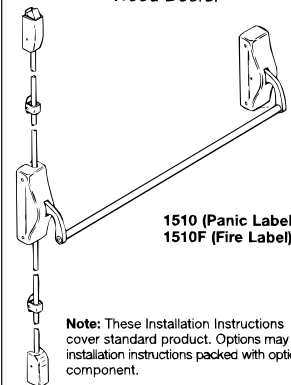
# 1510(F) Surface Vertical Rod Exit Devices Installation Instructions



## 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.

Packed For Reinforced Metal Doors.  
Optional Sex Nuts Required For  
Unreinforced Metal, Composite and  
Wood Doors.



1510 (Panic Label)  
1510F (Fire Label)

**Note:** These Installation Instructions cover standard product. Options may use installation instructions packed with optional component.

## Outside Trim

Lifter for 620F or 630F Series Trim supplied when outside trim is packed with the device.

## Dogging

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

**To Dog Device**  
Set Rod Case Retractor and Hinge Case Retractor, as follows:

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

(Not a feature of fire labeled devices.)

## WARNING

This product can expose you to lead which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65warnings.ca.gov](http://www.P65warnings.ca.gov).

08/2018

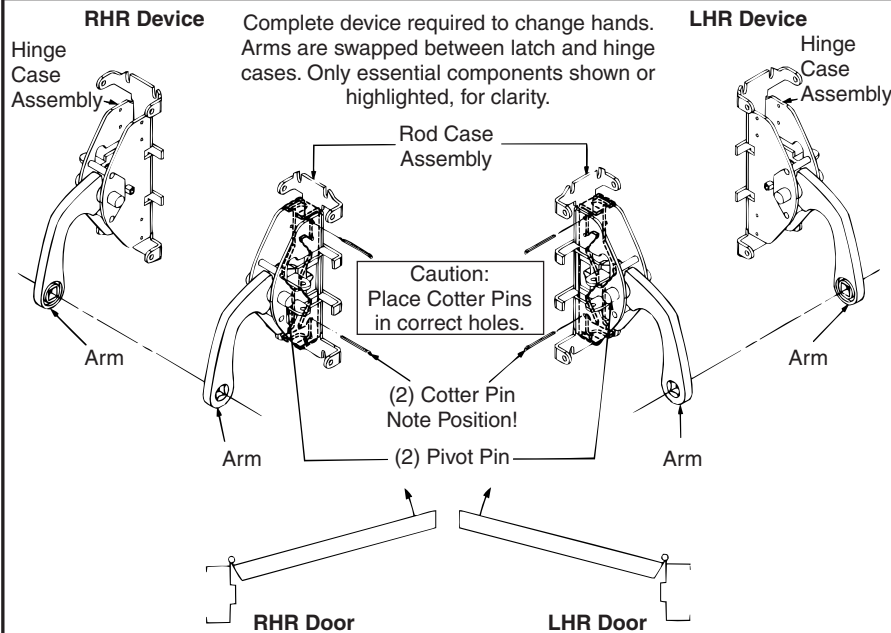
ABBREVIATION	FASTENER DESCRIPTION
PPH"AB"SMS	PHILLIPS PAN HEAD TYPE "AB" SHEET METAL SCREW
PFHUMS	PHILLIPS FLAT HEAD UNDER CUT MACHINE SCREW
PFHMS	PHILLIPS FLAT HEAD MACHINE SCREW
PRH"AB"SMS	PHILLIPS ROUND HEAD TYPE "AB" SHEET METAL SCREW
PTH"AB"SMS	PHILLIPS TRUSS HEAD TYPE "AB" SHEET METAL SCREW
PPHMS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

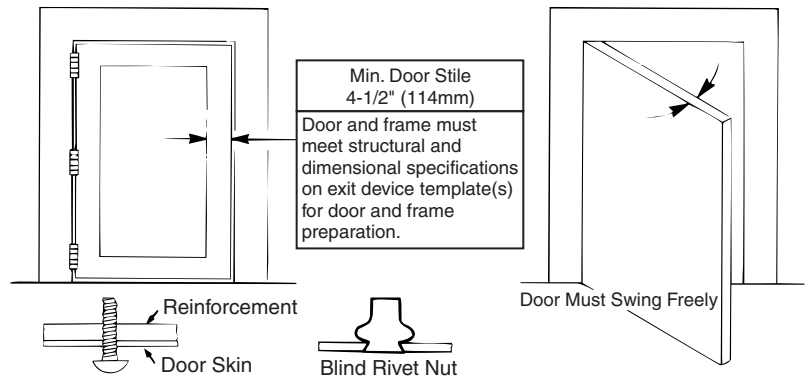
### Unreinforced Doors or Frames

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 and Hardware.



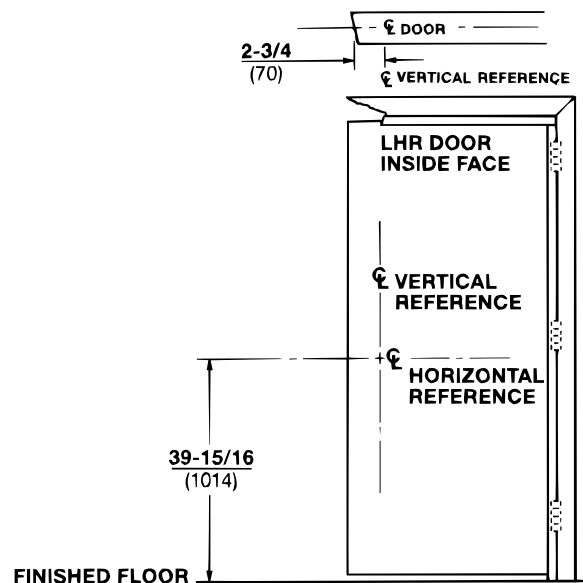
## 1. Mark Door

### Single Door or Pair without Mullion

#### Locate and Mark Horizontal and Vertical Reference Centerlines as shown.

LHR door shown. Preparation is typical for both door hands.

Caution: If device is mounted higher or lower than shown, rod length must change. Lengthen or cut top and bottom rods as shown on Step 5.



## 2. Prepare Door, Frame & Sill

- Locate "Device Template" aligning VERTICAL REFERENCE and HORIZONTAL REFERENCE lines on door and template. Tape template to door face.
- Extend centerline of Rods and Strikes from "Device Template" to door top and bottom, on door face.
- Locate "Top Latch & Strike," "Bottom Case," and "Bottom Strike" template, aligning on centerline of Rods and Strikes on door. Tape templates in place.
- Locate and tape Trim Template to door. (See instructions packed with Trim)
- Spot and prepare holes:

**Rod Case:** Cutout for trim (not for exit only), plus

(4) 1/4-20 Machine Screws\*, or 3/8 (9.50) Dia. Sex Nuts

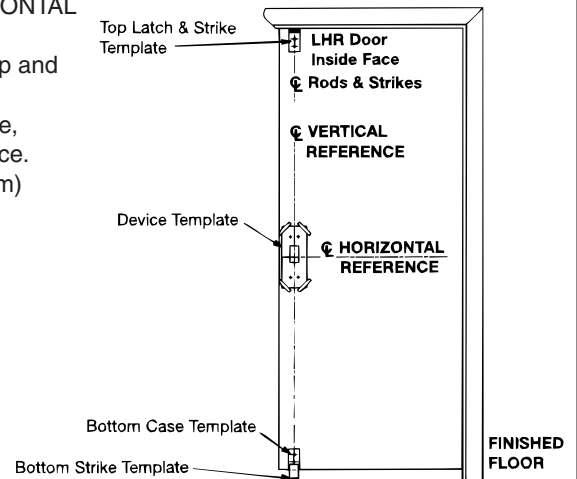
**Bolt Case Plates:** (2) ea. 1/4-20 Machine Screws\*, or

3/8 (9.50) Dia. Sex Nuts

(\*) Metal reinforced doors only.

**Top Strike:** (2) 10-24 Machine Screws, or (2) #10 Wood Screws

**Bottom Strike:**  $\frac{5}{8}$  dia. x  $\frac{3}{4}$  deep hole.  
(16) (19)



## 3. Prepare Device For Trim

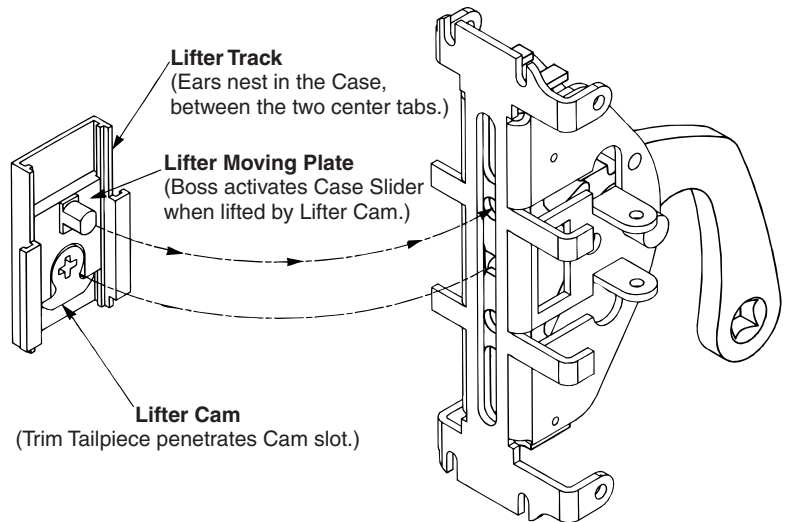
If outside trim is not used, go to step 4.

Drawing shows only essential parts, for clarity.

The Lifter Assembly is nested in the Device Case.

The boss of the lifter moving plate penetrates the round hole above the case slider center.

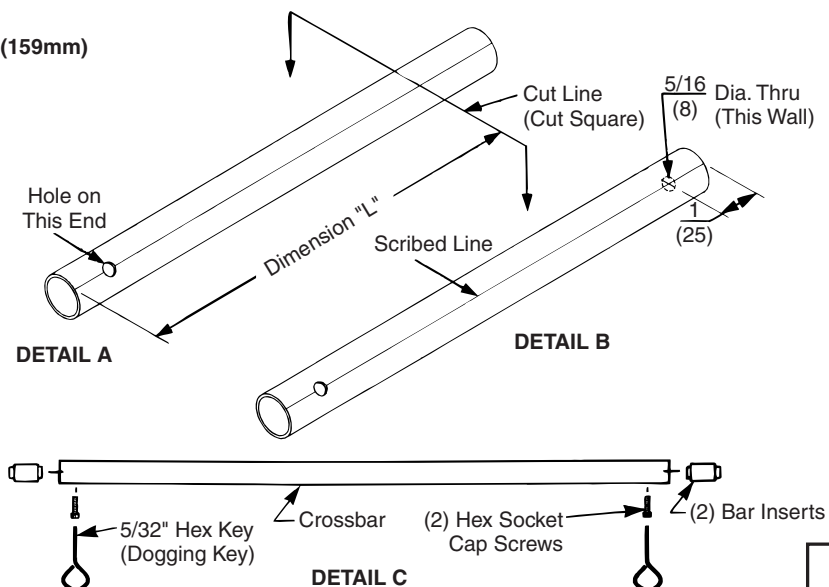
The Device Case seats over the door face, with the Lifter Assembly projecting thru the door cutout surface and into the door cavity.



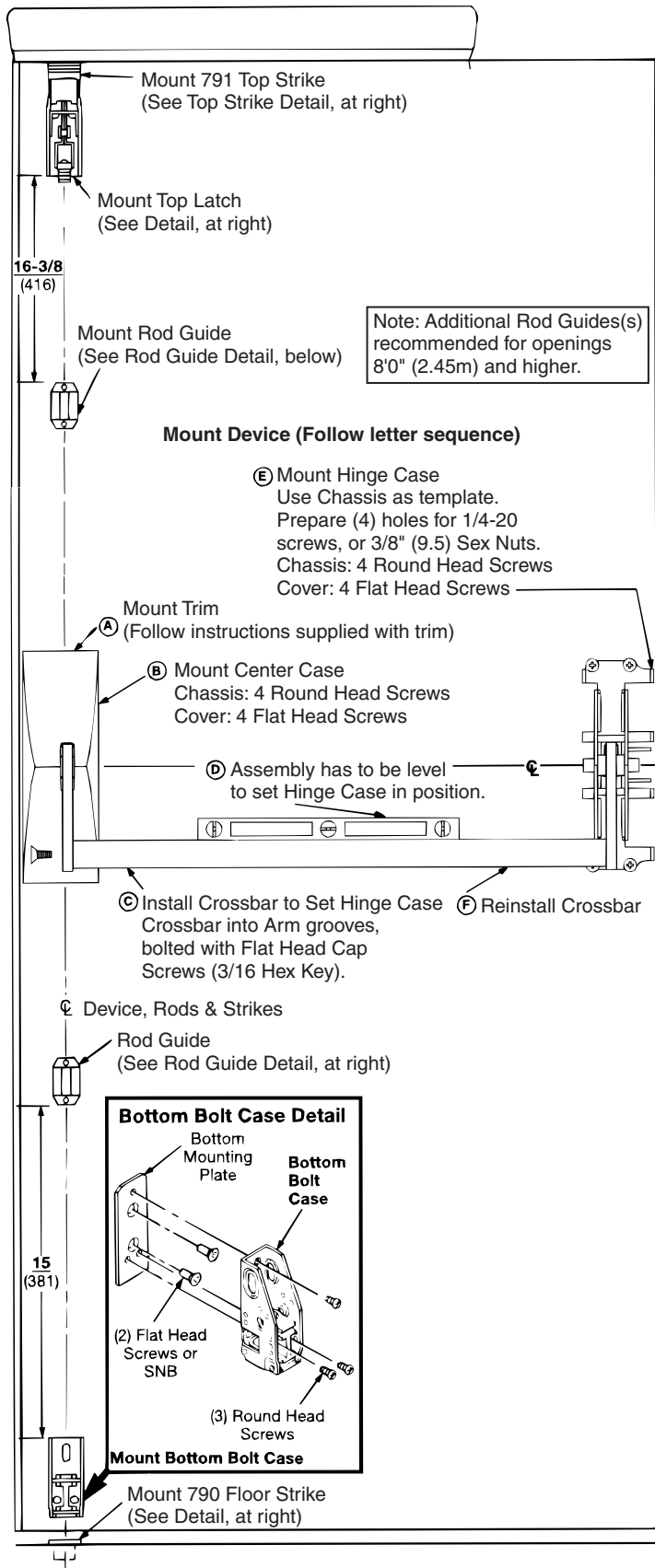
## 4. Prepare Crossbar

**Crossbar length (L) = Door Opening Width - 6-1/4" (159mm)**

- Cut bar to required length (Detail "A").
- Locate and drill hole (Detail "B").
- Assemble crossbar (Detail "C").

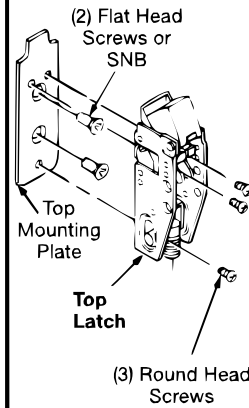


## 5. Mount Components

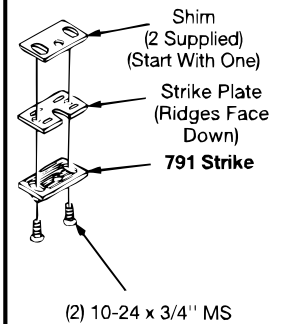


Note that fire openings with thresholds require optional 794 Strikes, anchored to floor under thresholds.

### Top Latch Detail

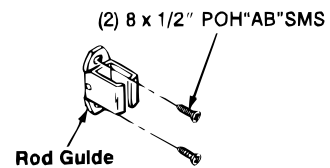


### Top Strike Detail



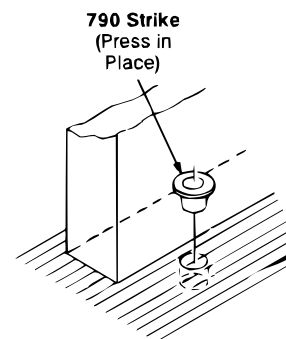
**Note:** Third screw must be installed after device is adjusted and works properly. See Step 7E.

### Rod Guide Detail (Typical 2 Places)



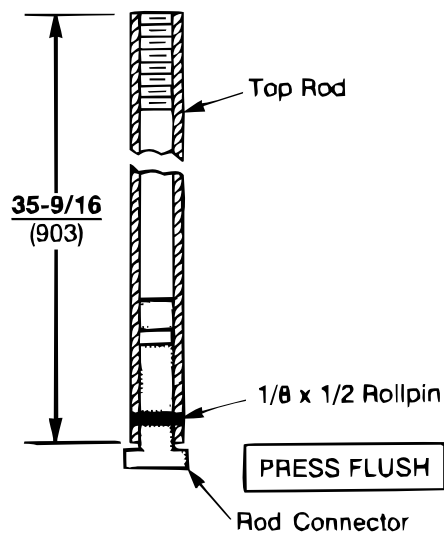
- Locate Rod Guide as dimensioned. Spot (2) mounting holes.
- Prepare holes.  
Metal Door: .140 (3.50) dia. inside face.  
Wood Door: .140 (3.50) dia. x 3/4 (19) deep.
- Mount Guide.

### Bottom Strike Detail



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

## 6. Prepare Rods



### Top Rod

**Ready for 84 (2134) Openings**

#### Openings Under 84 (2134)

For Top Rod cutoff length, deduct OPENING HEIGHT from 84 (2134).

#### Example:

Opening = 80 (2032)

$84 - 80 = 4$  or  $(2134) - (2032) = (102)$

Top Rod must be cut 4 (102).

#### Openings Over 84 (2134)

For Top Rod additional length, deduct 84 (2134) from OPENING HEIGHT.

#### Example:

Opening = 99 (2515)

$99 - 84 = 15$  or  $(2515) - (2134) = (381)$

Top Rod must be lengthened 15 (381).

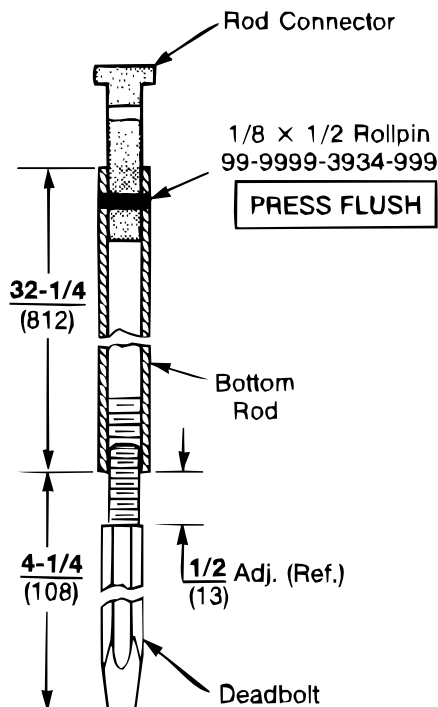
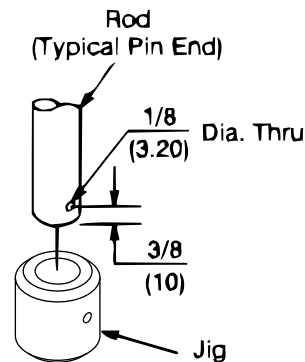
### To Lengthen Rods

- Use Rod Extension(s) to extend Rod to length needed or longer (2", 6", or 12" Rod Extensions available).
- Cut excess length from end of rod with pin hole.
- Apply screw locking compound\* to Rod Extension(s) male threads. Thread Extension(s) until seated tight over Rod.

(\*) Available at automotive parts store.

### To Cut Rods

- Cut from end with pin hole. NEVER CUT THREADED END.
- Press Jig till it bottoms over Rod.
- Drill  $1/8$  (3.20) Dia. hole thru,  $3/8$  (10) from end of Rod.



### Bottom Rod

**Ready for 39-15/16 (1014) Floor to Device Center**

#### To Lower Device

- Bottom Rod cutoff length is distance that device was lowered below 39-15/16 (1014).
- Add to Top Rod a length equal to the Bottom Rod cut.

#### Example:

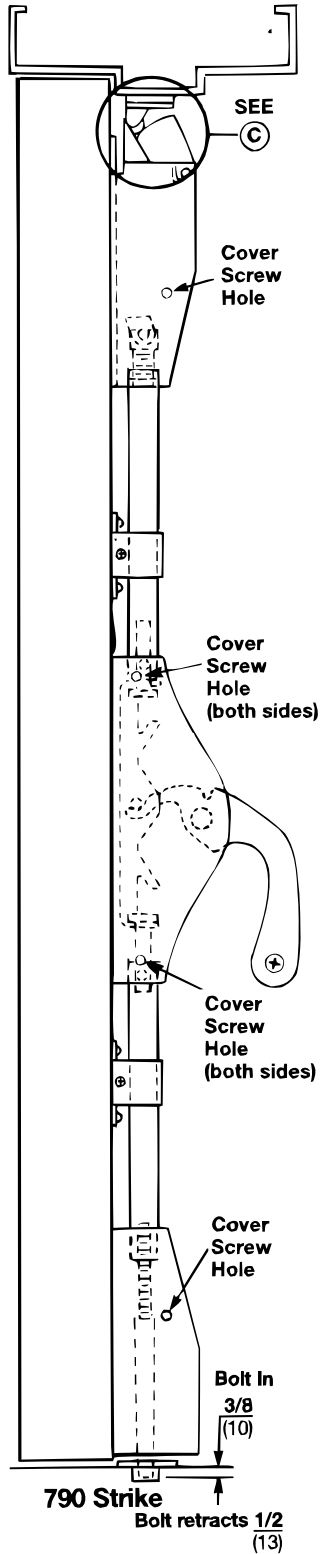
Device at 36 (914) from floor.

$39\frac{15}{16} - 36 = 3\frac{15}{16}$  or  $(1014) - (914) = (100)$

The Bottom Rod must be cut  $3\frac{15}{16}$  (100).

The Top Rod must be lengthened  $3\frac{15}{16}$  (100).

## 7. Complete Installation



- A Check Device Slide Action**  
Slide should move up, at least 9/16 (14). Depress Bar, activate Trim, dog Device. With any of these actions the Slide should move up. The Slide must return to original position when Bar, Trim or Dogging actions ends.  
**Note:** If action is faulty, check for visible binding or interference. If no reason for fault is seen, remove item from door and check operation before assuming that it is defective.

- B Install Rods, as shown**  
Top Rod rests over Device Slide. Bottom Rod Connector hangs from Device Slide.

- C Set Top Strike Roller between Tripping Lever and Bolt.**  
**DO NOT PRELOAD BOLT.**  
Adjust and shim Strike as needed for zero door rattle.

- D Test Device action by Touchbar, by Trim, by Dogging.**  
**ADJUST AS NEEDED.**  
See **D<sub>1</sub>**, Bottom Rod Adjustment, and **D<sub>2</sub>**, Top Rod Adjustment, below.  
Both bolts should retract, permitting free door swing.  
Upper Bolt should retract flat.  
Bottom Bolt should retract 1/2 (13).  
Bolts remain retracted until door shuts and Top Strike hits Tripping Lever.

- D<sub>1</sub> Top Rod Adjustment**  
TILT ROD OUT & TURN  
**SHORTER**  
**TOP ROD**  
**LONGER**  
**Note:** When top bolt does not remain retracted, Top Rod is too short.

FOR ADJUSTMENT, RODS MUST BE DISENGAGED FROM ROD GUIDES.

- D<sub>2</sub> Bottom Rod Adjustment**  
TILT ROD OUT & TURN  
**SHORTER**  
**BOTTOM ROD**  
**LONGER**  
**Note:** When Bottom Rod drags on floor but Top Rod remains retracted, bottom rod is too long.

- E After acceptable Device function, Install third screw in top Strike to lock Strike in position: 10-24 x 3/4" FHMS.**

- F Secure Covers.**  
Device Covers (4 Flat Head Screws each).  
Bolt Case Covers (2 Flat Head Screws each).

# 791 STRIKE

TAPE TO  
FRAME STOP

#26(.147" dia.) Drill  
10-24 Tap  
(2 Holes)

FOLD LINE  
(Stop Line)

Align with  Rods

TAPE TO  
DOOR FACE

A

A

Door	Fastener	Hole "A"
Metal Reinforced	1/4-20 PFHMS	#7(.201"dia.)Drill 1/4-20 Tap
All Others	1/4-20 SNB	3/8 (9.50) Dia. Thru Door

TOP LATCH  
& STRIKE

TAPE TO  
DOOR FACE

Align with  Rods

1-5/16  
(33)

1-5/16  
(33)

1-3/8  
(35)

Door	Fastener	Hole "A"
Metal Reinforced	1/4-20 PFHMS	#7(.201"dia.)Drill 1/4-20 Tap
All Others	1/4-20 SNB	3/8 (9.50) Dia. Thru Door

BOTTOM DOOR EDGE

FOLD ON LINE &  
TAPE THIS TAB TO  
BOTTOM DOOR EDGE

## CAUTION:

Office copiers, printers and facsimile machines may change the size of a drawing and make the template inaccurate to use as a door marker.

CUTLINE



BOTTOM  
BOLT CASE

# 790 STRIKE

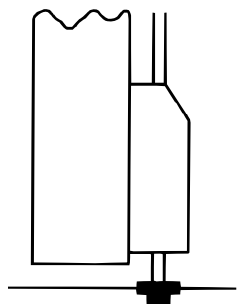
TAPE TO  
DOOR FACE

Align with  Rods

FOLD LINE  
(Floor)

11/16  
(17)

5/8(16) Dia. x  
3/4 (19) Deep



CUTLINE





# Door Inside Face Surface

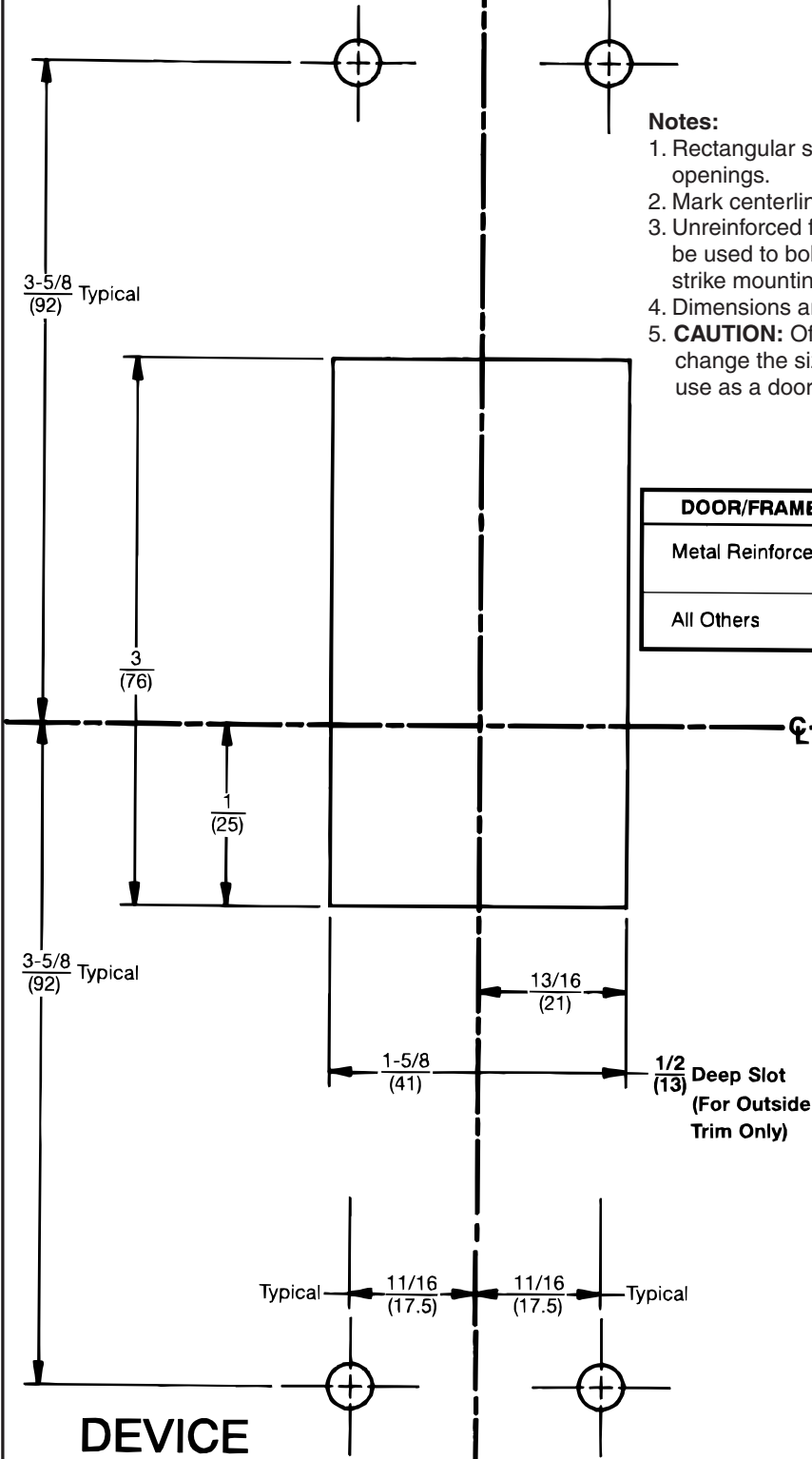
## VERTICAL REFERENCE (Case, Rods & Strikes)

### Notes:

1. Rectangular slot for Trim Lifter is not required for exit only openings.
2. Mark centerline of rods on door face.
3. 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.
4. Dimensions are given in inches (mm).
5. **CAUTION:** Office copiers, printers and facsimile machines may change the size of a drawing and make the template inaccurate to use as a door marker.

DOOR/FRAME	FASTNER	PREPARATION
Metal Reinforced	1/4-20 PRHMS	Drill: #7 (.201" dia.) Tap: 1/4-20
All Others	1/4-20 SNB	3/8" (9.50mm) dia. thru door

## HORIZONTAL REFERENCE (Device Cases)



## Yale Locks & Hardware

Product Support Tel 800.438.1951 • [www.yalelocks.com](http://www.yalelocks.com)

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