INSTALLATION INSTRUCTIONS FOR H90R/H90R5 MULLION
(Top level part number & drawing: 106080)

Drawing: 106080

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<td>5/16-18 X 1&quot; PFHMS P/N 106096</td>
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<td>1/4-20 X 1&quot; PPHMS P/N 100980</td>
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<td><img src="image4" alt="Screw" /></td>
<td>10-24 X 5/8&quot; PFHUMS P/N 100112</td>
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<td>3/8-16 X 1&quot; SOCKET FLAT HEAD MS P/N 106094-5</td>
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<tr>
<td><img src="image8" alt="Screw" /></td>
<td>3/8 FLAT WASHER P/N PP-5063-37 3/8 LOCK WASHER P/N PP-5067-37</td>
<td>Base fitting</td>
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<td><img src="image9" alt="Screw" /></td>
<td>3/8 X 1-1/4 ANCHOR Drill Bit Diameter: 1/2 Minimum Hole Depth: 2&quot; P/N 106071-2</td>
<td>Base fitting</td>
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**Tools Required:**

- Power Drill
- Safety Glasses
- Allen Wrenches (1/8", 7/32, 1/4, 5/16)
- Level
- Pencil
- Phillips Screw Drivers (#2 and #3)
- Hammer
- Combination Square
- Tap Wrenches (1/4-20 & 5/16-18)
- Tape Measure
- Center Punch
!!!CHECK BEFORE STARTING!!!

Wide Stile (Surface Strike) 99
Minimum door stile 4-1/2" (114 mm)
Template drawings provide door and frame structural and dimensional specifications for door and frame preparation.
Narrow Stile 98
Minimum door stile 2" (51mm)

Doors and frames with walls having a structural thickness (metal skin plus reinforcement, or solid wood) to engage less than (3) full screw threads, are considered unreinforced for hardware.
Unreinforced Doors: Use Sex Nuts and Bolts
Unreinforced Frames: Use Blind Rivet Nuts (see sketch)
Fasteners for unreinforced openings are not supplied by Detex.

Reinforced door or frame engages at least (3) screw threads.

Blind Rivet Nut

Door Must Swing Freely
Door Must Not be Warped
Door Must Not Bind
Door Must Not Sag

NOTE: 750mm MAXIMUM DOOR WIDTH OPENING FOR EUROPE FOR 36" DEVICE
1000mm MAXIMUM DOOR WIDTH OPENING FOR EUROPE FOR 48" DEVICE
THE SAFETY FEATURES OF THIS PRODUCT ARE ESSENTIAL TO IT'S COMPLIANCE WITH EN 1125.
NO MODIFICATION OF ANY KIND, OTHER THAN THOSE DESCRIBED IN THESE INSTRUCTIONS ARE PERMITTED.
**STEP 1: REMOVE FITTINGS - FIND HARDWARE KIT**

**REMOVE** top and base fittings.

Loosen set-screws with 1/8 allen wrench.

**BASE Fitting**

**TOP Fitting**

**Hardware kit** inside tube
P/Ns:
106085-1 (H90R5 kit)
106085-3 (H90R kit)

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**STEP 2: MARK CENTER OF DOOR OPENING**

**MARK** center of the door opening at the soffit and at the floor

Door

Soffit

Floor
**STEP 3:** TRIAL FIT MULLION & CUT (IF NECESSARY)

If mullion requires cutting, position cut end to the bottom
(Unless mullion is ordered with strike prep, then cut top end).

3a Assemble base fitting to base plate with screw and washers

![Base plate and screw diagram]

3b Align fitting with baseplate, then tighten screw snug

![Aligning fitting diagram]

5/16 allen wrench

**CORRECT**

1/8 GAP

**CAUTION!**
Ensure mullion channel is stable

H (Distance from soffit to floor) - 1-1/8"

= C (Cut length of Mullion)

Base fitting

Base plate

Close doors firmly and trial fit the mullion.
1. Assemble base fitting to base plate with screw and washers.
2. Place the top fitting into mullion channel; place the mullion channel into the base fitting and base plate, then pivot the top upward into place.
3. If mullion channel is too long, measure the distance from the soffit to the floor.
   Subtract 1-1/8" from this measurement. Mark and cut the mullion channel to new length.

**NOTE:** If there is a threshold, be sure to CUT the threshold so that the base fitting is resting on the secured non-flammable flooring.
**STEP 4: MARK FITTING PERIMETER LOCATIONS**

- **4a** Position mullion firmly against closed door. Align the top fitting with MARK made on soffit. Align base fitting and base plate with MARK made on floor. TRIAL fit mullion to achieve desired mullion location.

- **4b** Tighten set-screws snug.

- **4c** DRAW a line around perimeter of base plate and top fitting

- **4d** REMOVE mullion. Set mullion safely down. Be sure to loosen set-screws before removing fittings.
STEP 5: INSTALL BASE FITTING and BASE PLATE

PREP FLOOR FOR BASE FITTING and BASE PLATE

5a POSITION base plate over drawn perimeter. Align notches on plate with center mark on floor.

5b MARK and DRILL floor at two locations

DRILL (2) holes for anchors:
1/2 hole x 2" deep

INSTALL BASE FITTING

5c INSTALL anchors with 1/4 hex drive tool. Install top of anchors 1/4" below floor surface.

Recommended tool for installing anchors:
Hex Drive Setting Tool Powers Fasteners P/N: 6407SD

5d INSTALL base fitting and plate with washers & screws provided

TIGHTEN all screws
**STEP 6: INSTALL TOP FITTING**

**PREP FRAME FOR TOP FITTING**

6a **POSITION** top fitting over drawn perimeter. Align notches on fitting with center mark on soffit.

6b **MARK, DRILL, and TAP** the soffit at six (6) hole locations. Tap holes with 5/16"-18 tap (#F - 0.257 drill).

**INSTALL TOP FITTING**

6c Assemble top fitting and mullion channel to soffit with screws provided.

- **Screws QTY: 2** 5/16-18 x 1-1/2"  
- **Screws QTY: 4** 5/16-18 x 1"  

If top fitting over hangs stop, **USE FRAME SPACER BLOCK**

Add a 1/4-20 Tapped hole (#7 - 0.201 drill) for installing frame spacer block.

- **Screw**  
- **Frame Spacer Block**  
  Block designed for 5/8 stops only  
- **Screws QTY: 4** 5/16-18 x 1-1/2"
**STEP 7: SECURE MULLION**

**CAUTION!**
Ensure mullion channel is appropriately secured.

**TIGHTEN** set-screws to eliminate mullion channel rattle or looseness.

1/8 allen wrench

**TIGHTEN**
TOP FITTING
SET-SCREW

1/8 allen wrench

**TIGHTEN**
BASE FITTING
SET-SCREW

**STEP 8: INSTALL STRIKE HOOKS (FIRE RATED ONLY)**

**STRIKE HOOK**
P/N 100091

**INSTALL** with (2) screws
10-24 X 5/8"

**DOOR**

**EXIT DEVICE STRIKE**
(NOT included with H90R/H90R5 mullions)

**MULLION CHANNEL**

Attach the strikes to the side of the mullion according to the template provided with the locking device to be used.

Attach one strike hook per door leaf according to the template provided with the locking device to be used. Ensure that the strike hook engages the strike without interference to the latching mechanism. Open and close the door. The strike hook should not cause friction or bind during the opening and closing cycles of the door.
REMOVING THE MULLION CHANNEL

CAUTION!
Ensure mullion channel is appropriately supported during & after loosening/removing the top fitting screws.

The top fitting must be removed before removing mullion channel.

TROUBLE SHOOTING

1. If Mullion channel is too long:
   a) See Step 3 for cutting the mullion channel to correct length.
2. Mullion channel rattles after door is closed:
   a) Tighten set-screws in top and base fittings (See Step 7).
   b) Verify base and top fittings are secured. Tighten screws as needed.

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