

# ASSEMBLY GUIDE

## Attaching Transom to Pre-Hung Door Unit

**THERMA-TRU**  
DOORS

**Builders**  
CHOICE



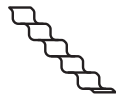
**THIS ASSEMBLY GUIDE APPLIES TO BOTH THERMA-TRU AND BUILDERS CHOICE DOOR SYSTEMS. READ ALL INSTRUCTIONS AND REVIEW DIAGRAMS BEFORE BEGINNING THE INSTALLATION TO GET A THOROUGH UNDERSTANDING OF THE PROCESS.**



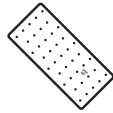
### REQUIRED TOOLS & MATERIALS



Elastomeric Sealant  
(non-silicone)



9 Corrugated  
Fasteners  
1" Crown X 3/8" Leg



2 SIMPSON  
Strong-Tie® TP35  
Strapping Plates



2 Bar Clamps



20 3/8" Screws



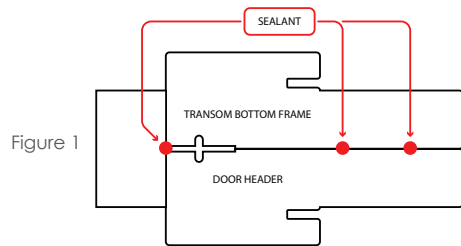
2" Finish Nails

#### STEP 1:

Lay transom and pre-hung door unit down on an even surface with the exterior sides facing up.

#### STEP 2:

Apply two 1/4" beads of sealant along the entire length of the pre-hung door header or bottom of transom unit, as shown.



#### STEP 3:

Clamp transom atop pre-hung door unit and use corrugated fasteners to secure units together. Fasteners should be applied every 4 to 6 inches.

#### STEP 4:

Center strapping plate over transom side and frame leg on the door. Apply ten screws as shown in figures 2 & 3.

#### STEP 5:

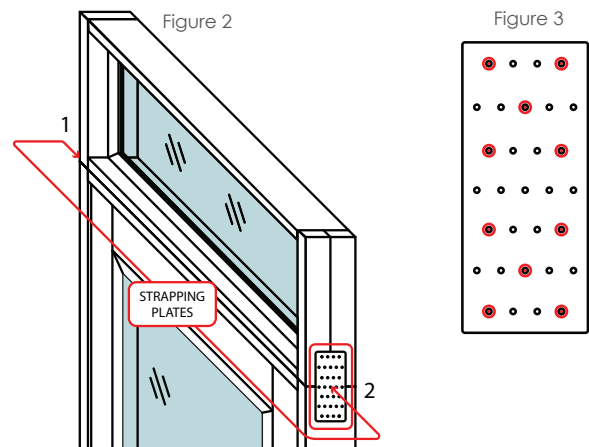
Apply mull cover over joined seams by running a 1/4" bead of sealant the entire length of the seam before securing with 2" finish nails every 6 to 8 inches.

#### STEP 6:

Flip unit over and apply corrugated fasteners to the interior side.

#### STEP 7:

Apply mull cover to interior side in the same way as the exterior.



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**THERMA ■ TRU<sup>®</sup>**  
DOORS

# Therma-Tru<sup>®</sup> Hinged Patio Door System

**THERMA ■ TRU<sup>®</sup>**  
DOORS

1750 Indianwood Circle Maumee, OH 43537  
1-800-THERMATRU (843-7628)  
[www.thermatru.com](http://www.thermatru.com)

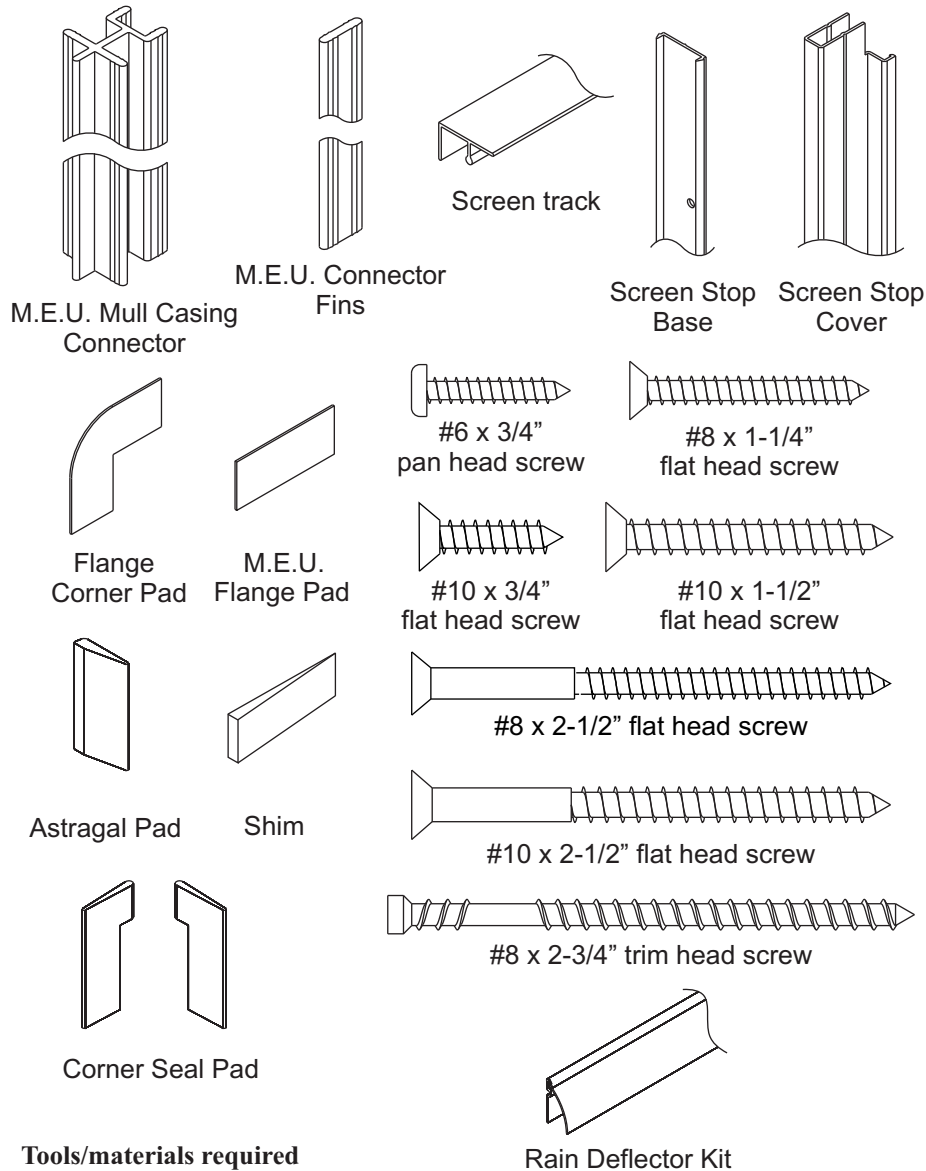
## *Unit Installation*

**Read all instructions before starting.**

The applicable standards for these products are governed by  
the International Residential Code.  
Copies of performance ratings and testing are available on our website  
[www.thermatru.com](http://www.thermatru.com) and our product manual.

## Part identification

Not all parts shown will be included in package.  
Parts will vary for type of unit purchased.



## Tools/materials required

This is a listing of tools that may be required to assemble unit.

- Drill/screw gun
- Sealant (Elastomeric or Polyurethane)
- Caulk gun
- Rubber mallet
- 3/32" & 1/8" drill bit
- Tape measure
- Phillips head drive bit or screwdriver
- Structural adhesive
- Utility knife
- Hammer
- Level
- Metal Shears

## FINISHING INSTRUCTIONS

Work only when temperatures are between 50° and 90°F and with humidity less than 85%. Do not finish in direct sunlight.

### SMOOTH-STAR® UNITS

#### Painting Door Interior:

1. Clean first with mild detergent and water or use a TSP (tri-sodium phosphate) solution. Rinse well and allow to dry completely.
2. Mask glass and hardware.
3. Use high-quality acrylic latex house paint, following manufacturer's application instructions.
4. Paint edges and exposed ends of door.

#### Painting Frame Interior:

1. Clean first with a clean damp cloth. Allow to dry completely.
2. Mask hardware and weatherstripping. Weatherstripping may be removed from jambs by gently pulling out. Re-insert weatherstripping by pushing in after door is completely finished and dry.
3. Scuff frame using a Scotch-Brite pad or 180-grit sandpaper.
4. Paint using a high-quality acrylic latex house paint, following manufacturer's application instructions.

### FIBER-CLASSIC® UNITS

#### Painting Door Interior:

1. Clean first with mild detergent and water or use a TSP (tri-sodium phosphate) solution. Rinse well and allow to dry completely.
2. Mask glass and hardware.
3. Prime with an alkyd- or acrylic-based primer. Allow primer to dry completely.
4. Paint with an oil-based or acrylic latex house paint, following manufacturer's application instructions. Use a primer and paint that are compatible.
5. Paint edges and exposed ends of door.

**Painting Frame Interior:** (see above for Smooth-Star units)

#### Staining Door Interior:

*We only recommend the use of the stain and clear coat products found in the Therma-Tru Finishing System. (See the Therma-Tru Finishing System instructions for complete details.)*

1. Clean first with a clean cloth and mineral spirits and allow to air dry OR wash door with a mild detergent and water, or a TSP (tri-sodium phosphate) solution. Rinse well and allow to dry completely.
2. Mask glass and hardware.
3. Apply stain with a cloth in a circular motion to one section at a time.
4. Wait 5-10 minutes before brushing, depending on the desire for a lighter or darker shade.
5. Brush with the natural bristle brush in the direction of the grain to "feather" or blend the stain to a rich wood look. *Clean brush tips frequently with a dry cloth to remove excess stain.* Stain and brush out each section completely before moving onto next section.
6. Allow a minimum of 48 hours drying time for the stain to cure before applying topcoat.

#### Staining Frame Interior:

1. Clean first with a clean damp cloth. Allow to dry completely.
2. Mask hardware and weatherstripping. Weatherstripping may be removed from jambs by gently pulling out. Re-insert weatherstripping by pushing in after door is completely finished and dry.
3. Prime, using Kilz2 latex primer color matched to a skin sample from the *Therma-Tru Finishing System*, following manufacturer's application instructions.
4. Apply stain from the *Therma-Tru Finishing System*.

## 24 INSTALL RAIN DEFLECTOR

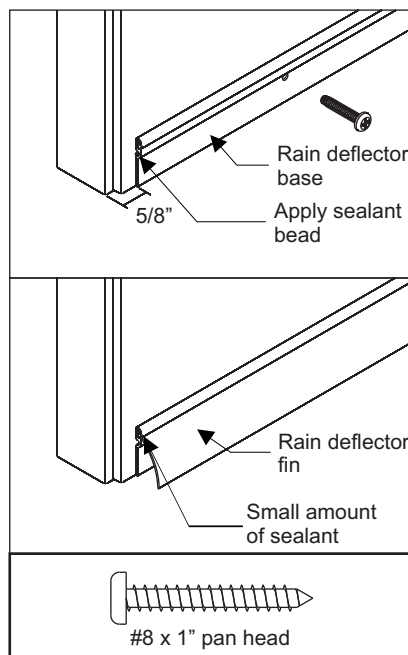
Align the rain deflector base with the bottom edge of the door slab, 5/8" from either end of the door. Mark the four screw locations and set base aside.

Pre-drill 3/32" dia. pilot holes through the door slab for the mounting screws. Apply a 1/8" bead of sealant (Elastomeric or Polyurethane) along the channel on the back side of the base.

Using #8 x 1" screws, fasten the rain deflector base to the door panel.

With door in the open position, slide the rain deflector fin into the channel on the front side of the base from the either side of the door.

Apply a small amount of silicone to the fin on either end to prevent movement and rattle.



## 25 WEATHERPROOF, FINISH AND MAINTAIN

- Add insulation to air space between opening and unit.
- Seal around entire perimeter of unit on "weather" side; seal brickmould to siding or facing, seal front bottom edge of sill, seal all joints between jamb and mouldings.
- Use included patch stick to fill over trim head screws and finish nails.
- For larger holes, use *Minwax Wood Filler* or *Elmer's Fill-n-Finish*.
- Seal joints between exterior hardware trim and door face to prevent air and water infiltration.
- Provide and maintain a properly installed cap flashing to protect top surfaces from water damage.
- Paint or stain according to Therma-Tru instructions. Do not paint gaskets or weatherstrip. Weatherstrip may be removed for easier painting or staining.
- Swing-out doors must have all edges - sides, top, and bottom - finished. Inspect and maintain these edges as regularly as all other surfaces.
- Maintain or replace sealants and finishes as soon as any deterioration is evident. For semi-gloss or glossy paints or clear coats, do this when surface becomes dull or rough. More severe exposures require more frequent maintenance.
- All Therma-Tru doors must be finished and maintained in accordance with our recommendations. Failure to do so may affect the applicable warranty.

Warning : Modification or machining of this product can release wood dust, a substance known to the State of California to cause cancer.

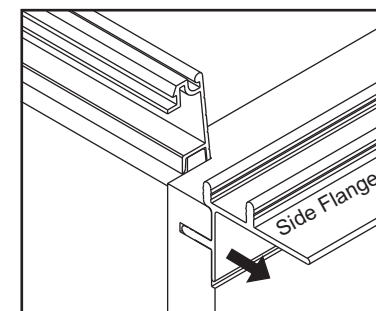
## 1 REMOVE PACKAGING



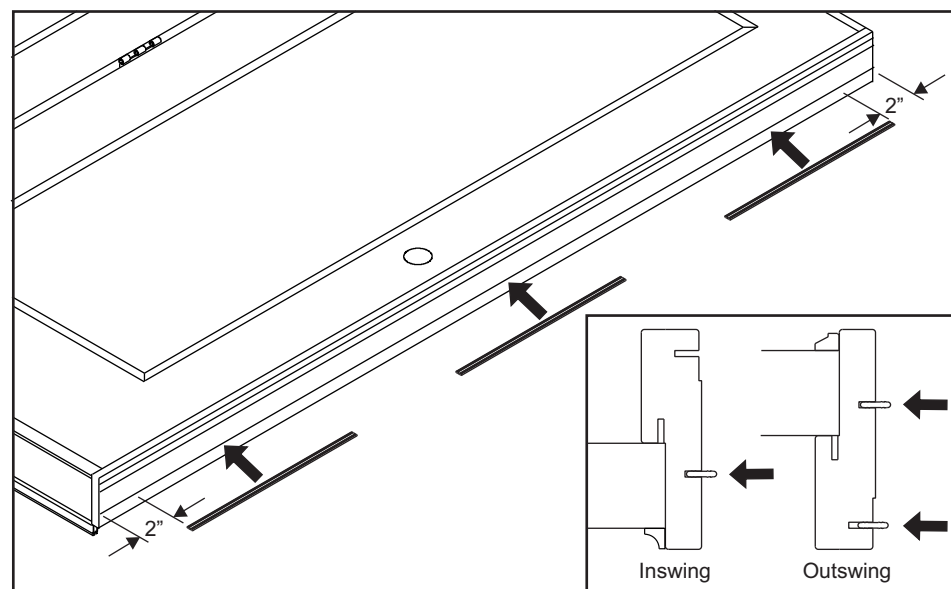
Remove packaging but keep door fastened closed with transport clip. Do not remove clip or open door until instructed to do so. Proceed to step 5, *APPLY SEALING PADS*, if not attaching Multiple Extension Units.

## 2 REMOVE SIDE FLANGE, if applicable (Multiple Extension Units)

For units receiving Multiple Extension Units, remove flange on side to receive Multiple Extension Unit by carefully prying up an end and pulling straight up.



## 3 ATTACH MULTIPLE EXTENSION UNIT



### Install Connector Fins to Active Panel Unit

Carefully lay unit flat.

Align top and bottom connector fins approximately 2" from jamb ends.

Firmly press into specified groove shown using a rubber mallet if necessary.

### 3 ATTACH MULTIPLE EXTENSION UNIT - cont.

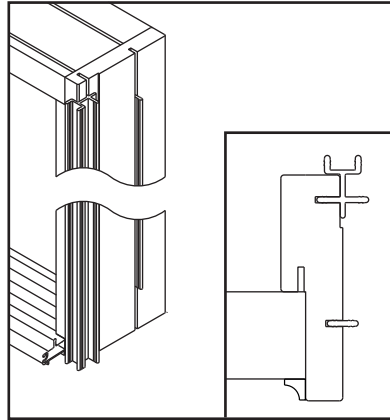
#### Install Mull Casing Connector (Inswing Units)

Set unit upright on sill.

Align connector with bottom edge of jamb.

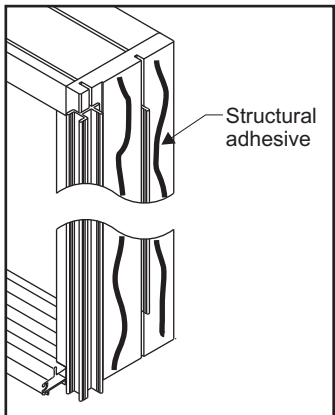
Firmly press into groove using a rubber mallet if necessary.

Connector will be offset from top edge of jamb approximately 3/4".



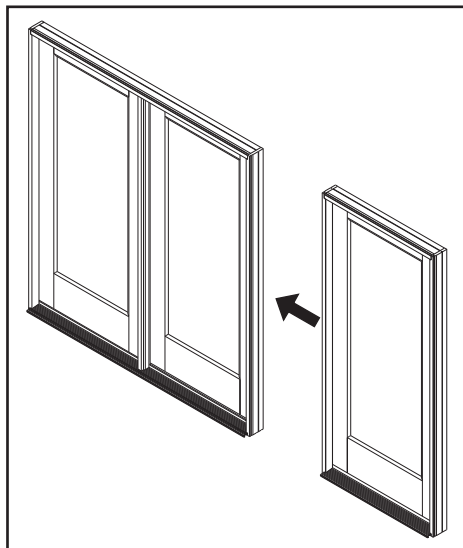
#### Apply Structural Adhesive

Apply (2) generous beads of structural adhesive along entire length of jamb mating surfaces.



#### Attach Units

Align units and press firmly together until butted flush.



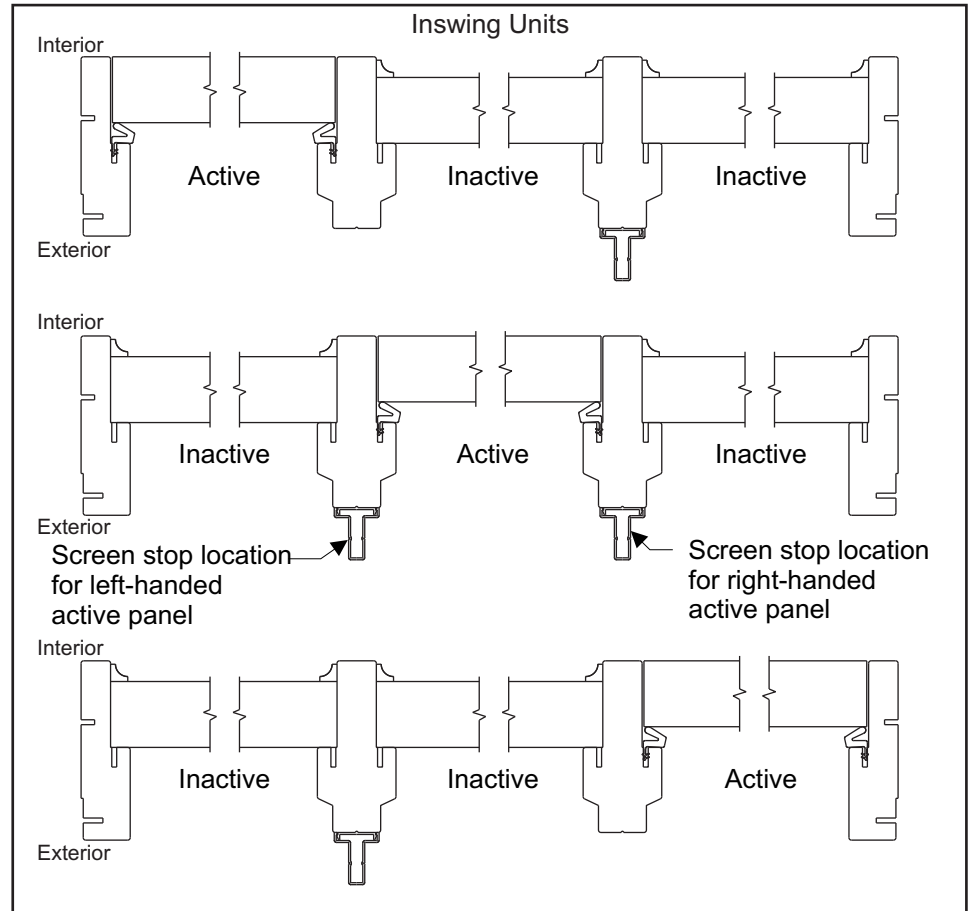
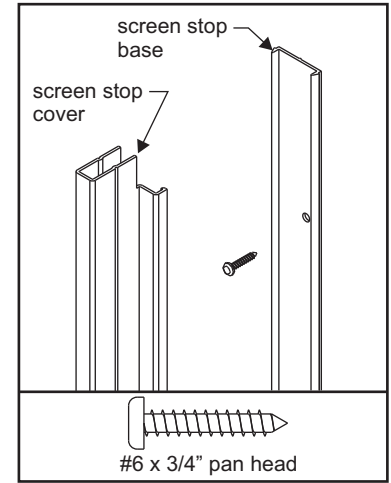
### 23 ATTACH SCREEN STOP (Triple Units)

See diagram below for correct placement of screen stop.

Place screen stop base on mullion, mark hole locations and pre-drill 1/16" dia. pilot holes.

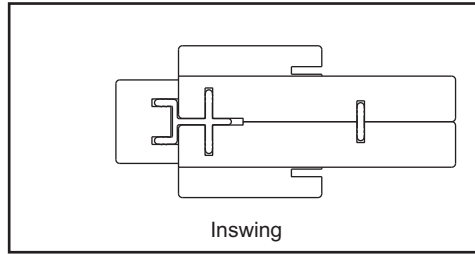
Fasten screen stop base to mullion with #6 x 3/4" pan head screws.

Snap screen stop cover over base.

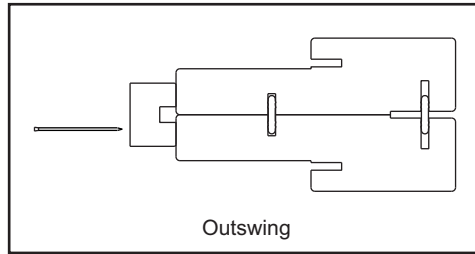


## 21 ATTACH MULL CASING (Multiple Extension Units)

**Inswing:**  
Align mull casing and press firmly onto mull casing connector bars. Use a rubber mallet if necessary.



**Outswing:**  
Align mull casing. Using 2" finishing nails (not supplied), fasten mull casing to jambs. Space nails approximately 8" apart.

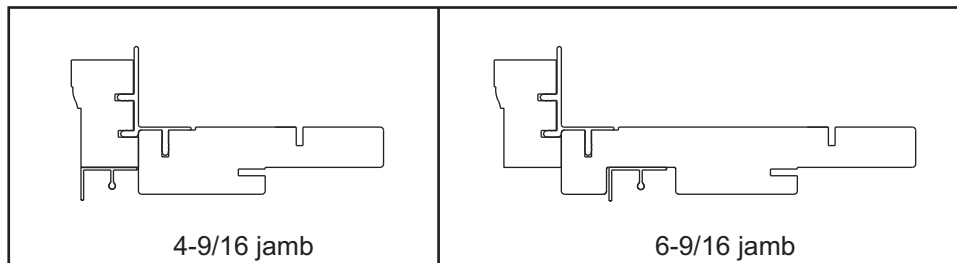
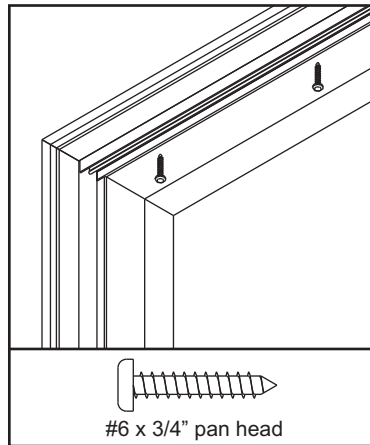


## 22 ATTACH SCREEN TRACK

Place screen track up on brickmould or jamb, depending on frame size.

Mark hole locations and pre-drill 1/16" dia. pilot hole into brickmould.

Fasten screen track with #6 x 3/4" pan head screws.



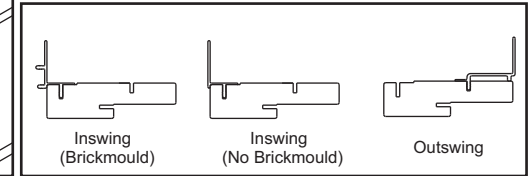
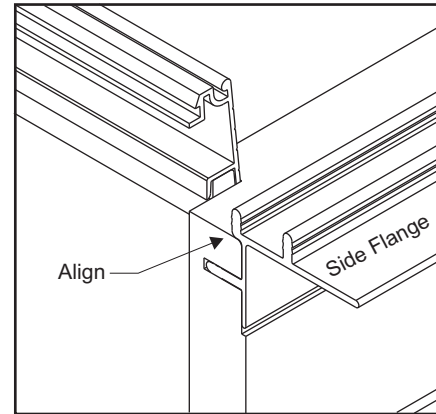
## 4 ATTACH FLANGES (Multiple Extension Units)

### Align and Install Side Flanges

Align edge of side flange with bottom of side jambs.

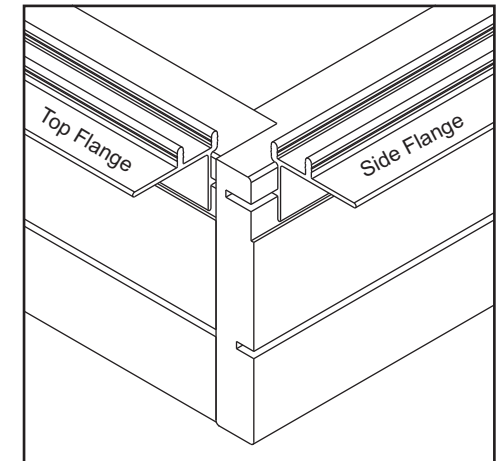
Firmly press into kerf in jamb using a rubber mallet if necessary.

Flange will be set back approximately 1/2" from top edge of jamb.



### Install Top Flange

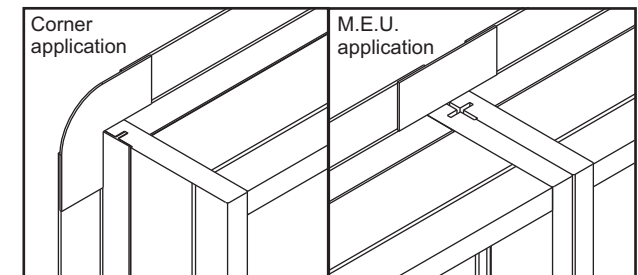
Center top flange into head jamb kerf and press into place using a rubber mallet if necessary.



## 5 APPLY SEALING PADS

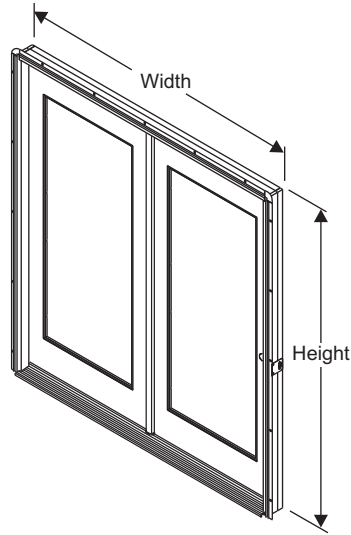
Peel off backing from flange sealing pads.

Align and apply to backside of flange (surface to be against opening).



## 6 CHECK UNIT SIZE

Check height and width by measuring the frame, not flange.



## 7 CHECK AND PREPARE OPENING

Is subfloor level and solid? *Provide a flat, level, clean bearing surface so the sill may be caulked and sealed to the opening. Scrape, sand, or fill as required.*

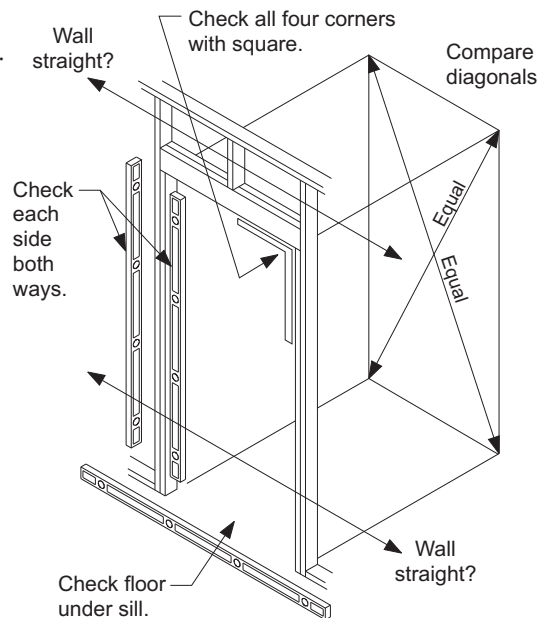
Shim subfloor for floor covering clearance, if required.  
*If shimming, caulk under shims.*

Is opening square? Check all corners with a framing square. Double-check by comparing diagonal measurements.  
*Fix any problems now.*

Are framing and walls plumb? Use a 6-foot level and check both sides of opening, both ways. *Fix any problems now.*

Are wall surfaces around opening in the same plane? There must be no "warps" or "jogs". *Fix any problems now.*

Is opening correct size? Check it against door frame size now before installation. Opening should be frame height plus 1/2", and frame width plus 1/2" to 1".



## 20 ATTACH BRICKMOULD

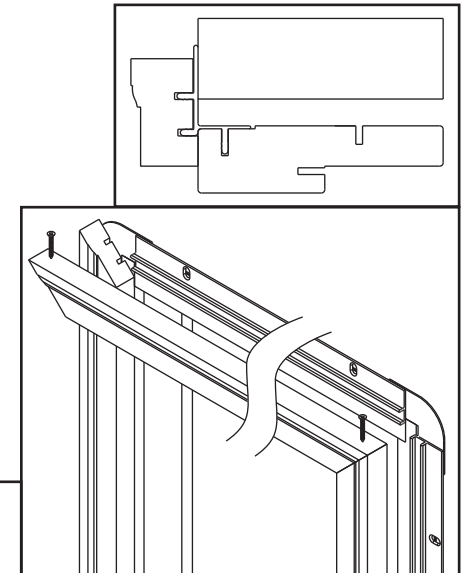
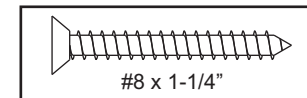
### Inswing

Position kerfs in brickmould on flange bars. Do not press on completely until all brickmould pieces are properly aligned.

Firmly press on brickmould using a rubber mallet if necessary.

Pre-drill 3/32" dia. pilot holes through top of brickmould at corners.

Fasten with #8 x 1-1/4" flat head screws.



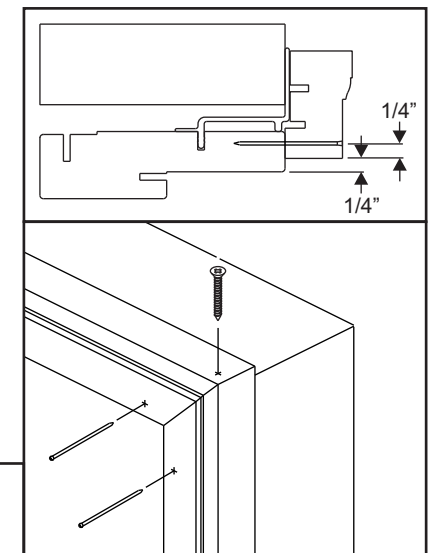
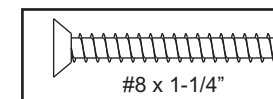
### Outswing

Locate brickmould 1/4" from jamb edge as shown.

Fasten with 2" finishing nails (not supplied) locating nails approximately 8" apart and securing corners as shown.

Pre-drill 3/32" dia. pilot holes through top of brickmould at corners.

Fasten with #8 x 1-1/4" flat head screws.

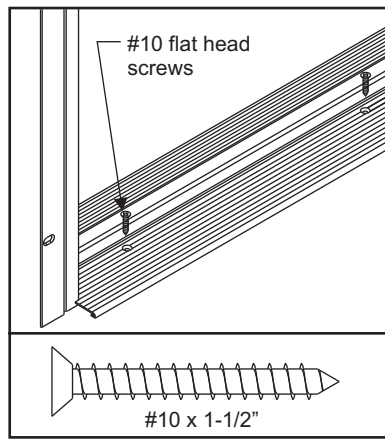


## 17 ANCHOR SILL

For outswing units, fasten sill to subfloor through pre-punched holes using #10 x 1-1/2" flat head screws.

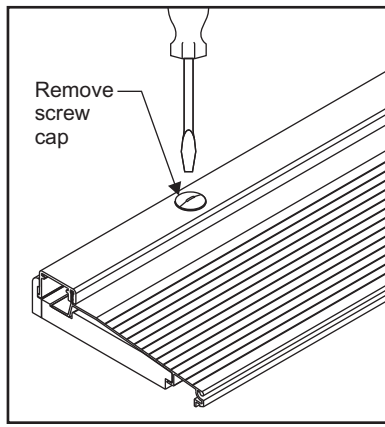
For inswing units, drill 3/16" holes through the sill 6" from either end, and 12" on center.

Use #10 x 1-1/2" flat head masonry screws (not supplied) for concrete floor installation.



## 18 ADJUST THRESHOLD

For inswing units, remove screw cap on threshold and turn set screw accordingly to obtain a good seal with door bottom.



## 19 APPLY CORNER SEAL PADS

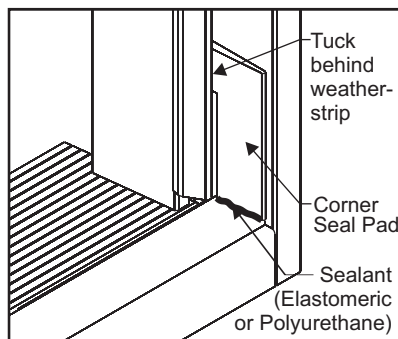


If unit will be painted or stained, apply corner seal pad after finishing.

For adjustable sills, after threshold adjustment, apply a bead of sealant (Elastomeric or Polyurethane) where threshold and jamb meet.

Peel off backing from corner seal pad.

Apply to jamb with thick portion of pad tucked behind weatherstrip.



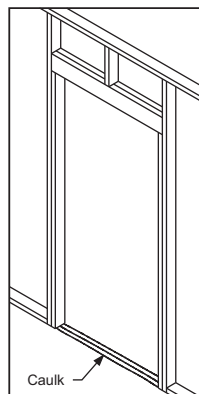
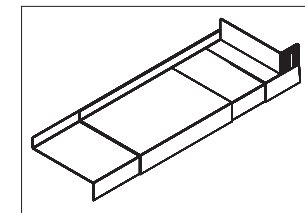
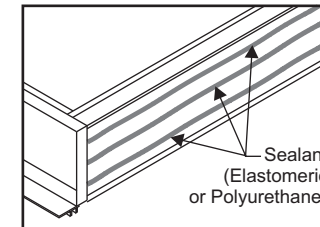
## 8 CAULK SUBFLOOR AND SILL BOTTOM

### When no Sill Pan is used

Lay door unit on edge or face so that bottom side of sill can be caulked. Place very large beads of sealant (Elastomeric or Polyurethane) across full width at front edge of sill. Place one or more very large sealant beads at parallel lines across bottom surfaces which will bear on subfloor.

### For Sill Pan option

Using a pair of metal shears, remove the corner of sill pan as shown to allow for clearance with the nailing flange. Then follow instructions included with sill pan.

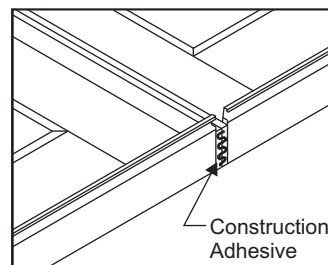
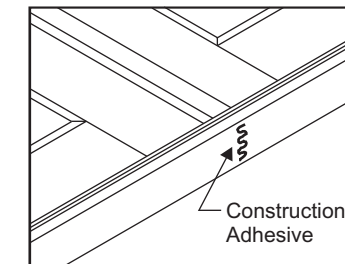


On subfloor at opening, place very large beads of sealant (Elastomeric or Polyurethane) that will match with those placed on sill or sill pan. Run beads full width of opening.

**Avoid callbacks due to leaks!**  
Use an entire tube of caulking to seal between sill and subfloor.

### NOTE:

If installing **double or triple units**, place construction adhesive under mullion or point where doors meet at center. Complete installation before adhesive cures.



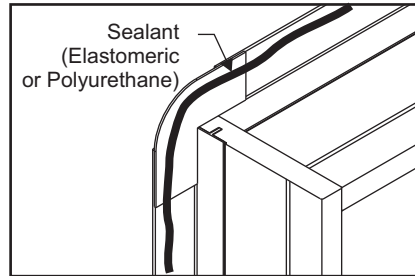
### NOTE:

If installing **units with M.E.U.s**, place construction adhesive under points where door jambs will bear on floor. Complete installation before adhesive cures.



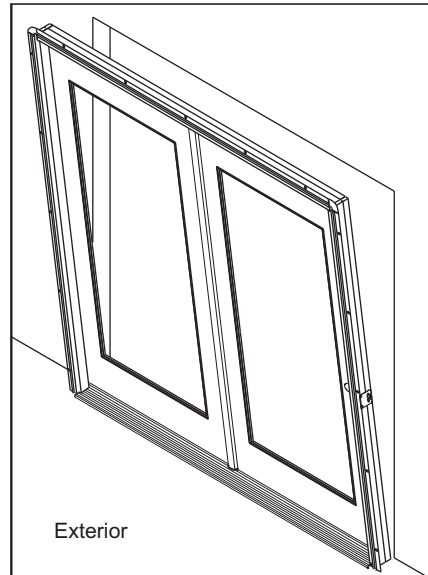
## 9 CAULK FLANGE

Place a generous bead of sealant (Elastomeric or Polyurethane) around entire backside perimeter of flange where it will set against opening.



## 10 PLACE UNIT IN OPENING

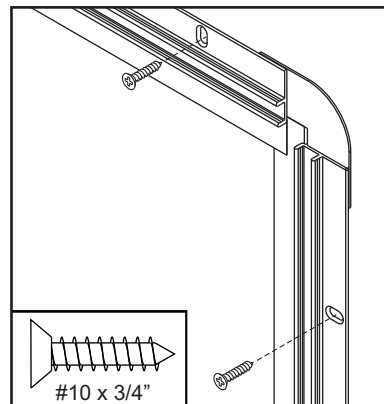
From the exterior side of the opening, carefully lift unit up. With top edge tilted away from opening, center unit and place sill down onto caulk beads. Tilt into place. Flange to be flat against opening.



## 11 FASTEN FLANGE TO OPENING

Check unit for plumb and square.

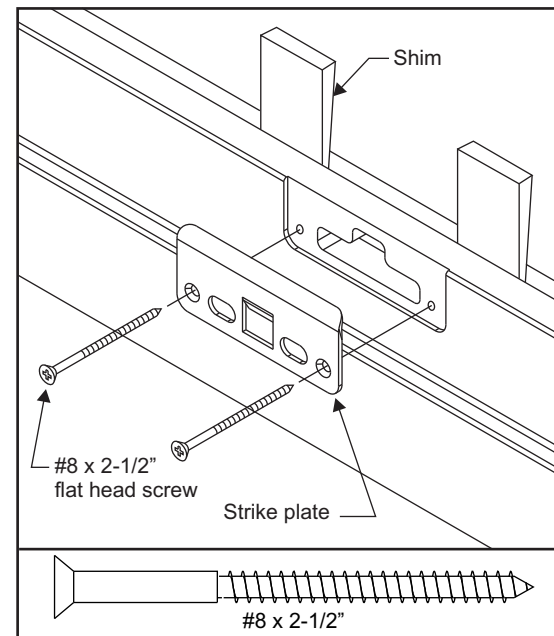
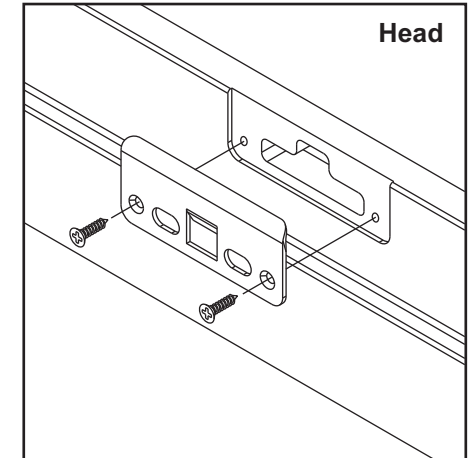
Fasten unit to opening through holes in flanges using #10 x 3/4" flat head screws.



## 16 SHIM AND SECURE HEAD JAMB - cont.

### For Double French Units with Multi-point Lock

Remove screws from head strike plate.



Shim on either side or both sides of strike. Do not shim directly over strike covering hole. This may cause locking mechanism not to completely engage.

Fasten strike with #8 x 2-1/2" flat head screws.

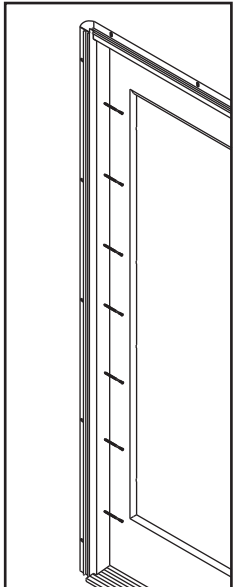
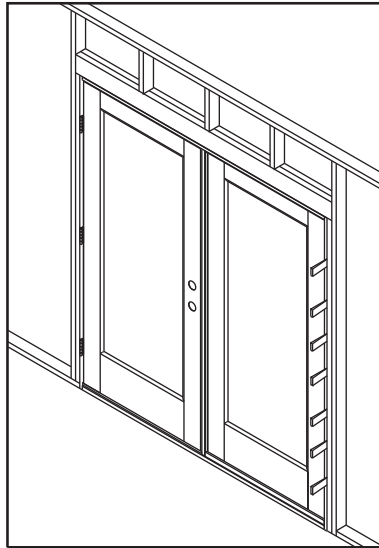
Do not over torque screws to keep jamb from bowing.

## 15 SHIM AND SECURE INACTIVE JAMB

### For Double/Triple and M.E.U. Units

Insert shims on inactive side of jamb, 6" from the top and 12" on center.

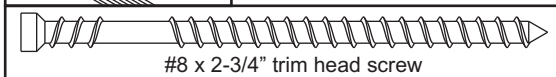
Check jamb to ensure it is plumb and straight. Use a 6-foot level.



Pre-drill 3/32" dia. pilot holes through jamb at shim locations.

Using (3) #8 x 2-3/4" trim head screws, fasten jamb to opening.

Do not over torque screws to keep jamb plumb and straight.



#8 x 2-3/4" trim head screw

## 16 SHIM AND SECURE HEAD JAMB

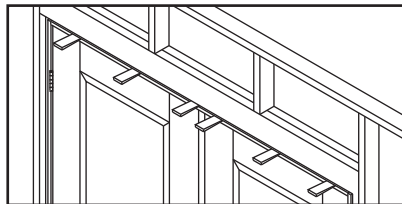
### For Double French and Double/Triple Units

Place shim between head jamb and opening on both sides of astragal or mullion and 12" on center.

Pre-drill 3/32" dia. pilot holes through frame at shim location.

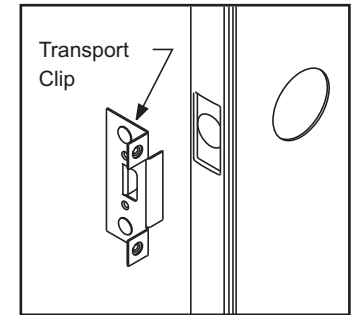
Fasten with #8 x 2-3/4" trim head screws through frame into header.

Do not over torque screw to keep jamb from bowing.



## 12 REMOVE TRANSPORT CLIP

Unscrew transport clip from jamb and door.

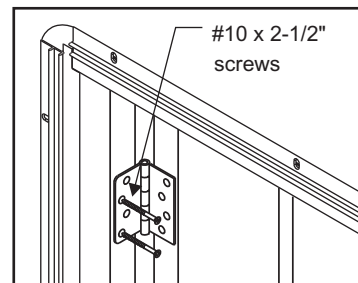
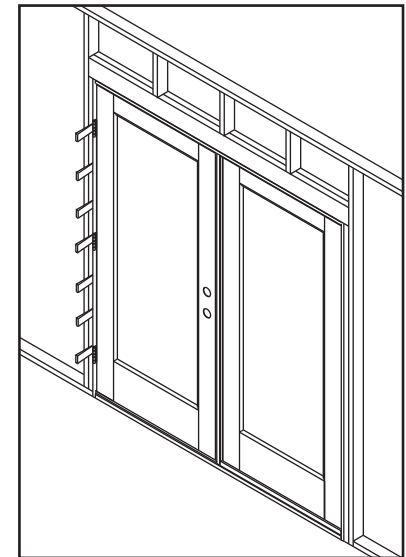


## 13 SHIM AND SECURE HINGE JAMB

### For Single, Double French and Double/Triple Panel Units

Insert shims behind hinges and every 12" on center between jamb and opening to prevent sagging and bowing.

Recheck hinge jamb to ensure it is plumb and straight. Use a 6-foot level.



Open door.

Drill 1/8" dia. pilot holes through open holes in top, middle and bottom hinges, drilling through jamb and through flange on outswing units.

Fasten with #10 x 2-1/2" screws through hinges and shims to anchor frame and prevent sagging.

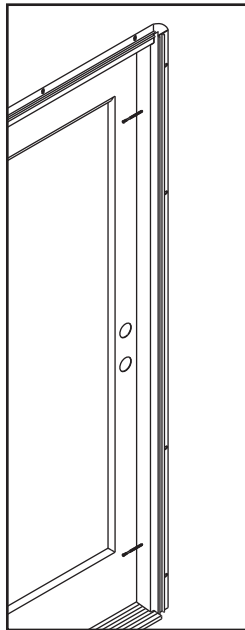
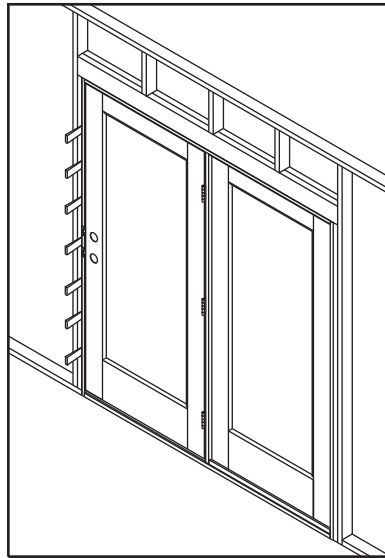
For screws not going through the hinges, drill 3/32" pilot hole and use #8 x 2-3/4" trim head screws.

# 14 SHIM AND SECURE LOCK JAMB

## For Single and Double/Triple Units with Standard Lock Option

Insert shims 6" from top and bottom and 12" on center to prevent sagging and bowing.

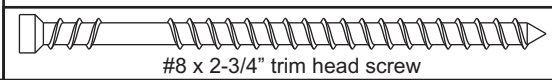
Check to ensure jamb is plumb and straight. Use a 6-foot level.



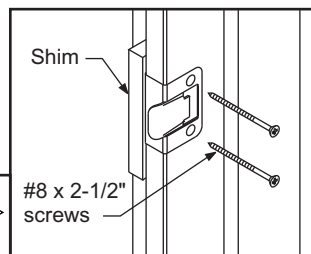
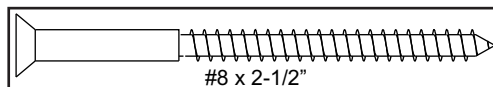
Pre-drill 3/32" dia. pilot holes through jamb at shim locations.

Using (2) #8 x 2-3/4" trim head screws, fasten jamb to opening.

Do not over torque screws to keep jamb plumb and straight.



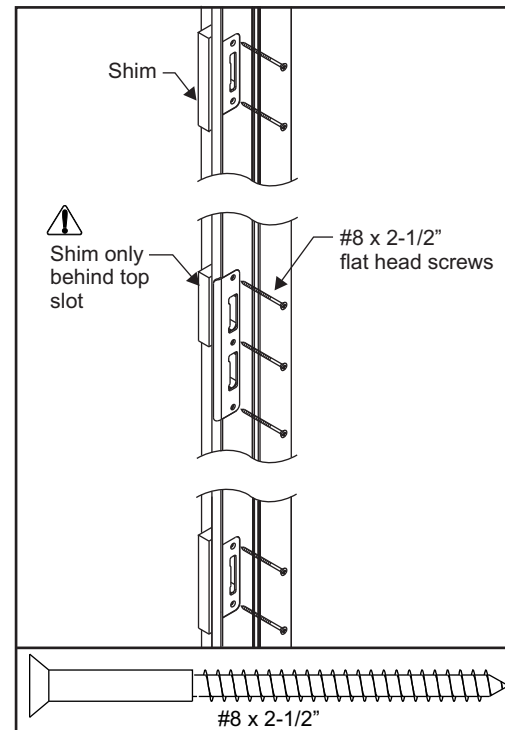
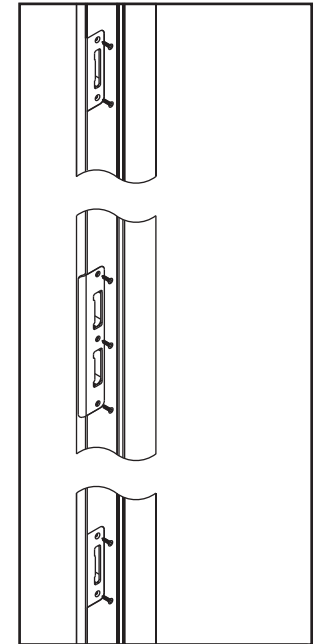
Insert shim behind latch area, open door and drill 3/32" dia. pilot holes and place (2) #8 x 2-1/2" screws through strike mounting holes to secure lock jamb center and provide security. Adjust strike in or out for proper door operation and tighten screws.



# 14 SHIM AND SECURE LOCK JAMB - cont.

## For Single and Double/Triple Units with Multi-point Lock Option

Open door and remove screws from strike plates.



Shim behind top and bottom strikes and behind top slot on middle strike plate.

For outswing units, pre-drill 3/32" dia. pilot holes through flange.

Fasten strikes with #8 x 2-1/2" flat head screws going through shim into opening.

Do not over torque screws to keep jamb plumb and straight.



Swing Door  
Service  
Installation  
Packet

Do Not Discard  
Leave with Homeowner

Part No. 7500026



# Swing Door Handle Set Installation Instructions

A Phillips screwdriver is required.

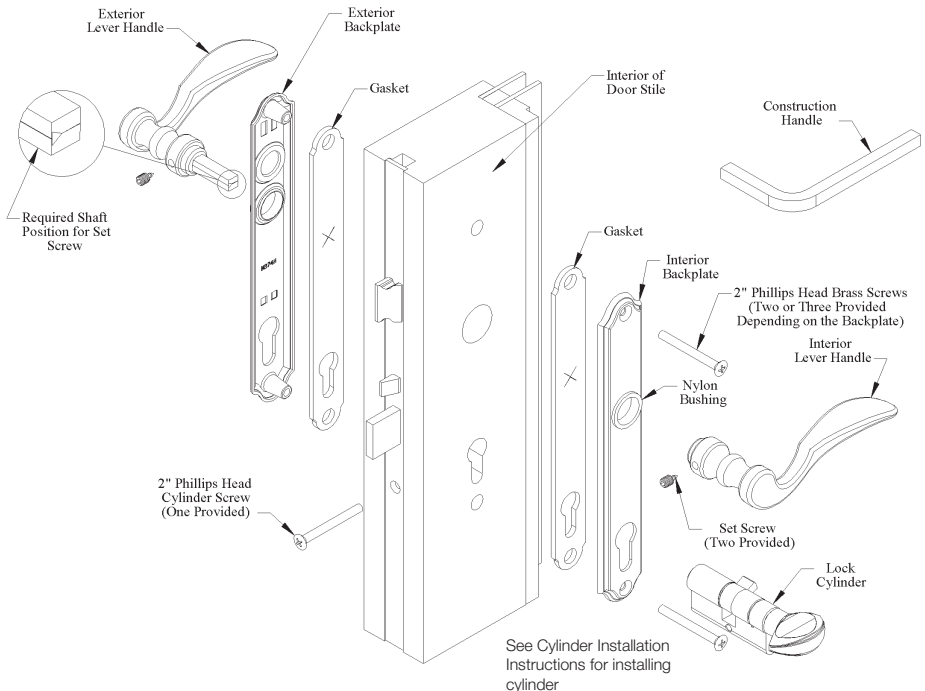
A 3mm hex wrench for set screws is provided in the hardware package.

To prevent damage to the handle set during the construction phase, use the enclosed construction handle to operate the door. Lift the handle to engage the multipoints. Push down to disengage.

Use water and a soft cloth to clean. Do not use brass cleaner or solvent based cleaning agents as they will remove the protective coating on the hardware.

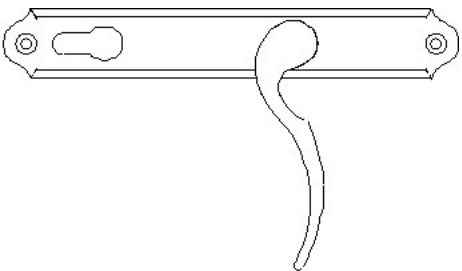
Note: Handles and backplates vary by style but application is the same.

1. Apply the backplate gasket to the inside of the exterior and interior backplates. Push gaskets firmly into place to ensure a tight seal. Attach interior and exterior backplates to the door and fasten loosely with the screws provided. Note: The screw heads must be on the interior side of the door.
2. Insert the two-piece handle shaft into one handle. Be sure to orient the shaft as shown below. Screw the set screw until flush with handle using the hex wrench provided. Insert the handle with shaft attached through the escutcheon plate and door gear handle hole until extending out opposite side of door.
3. Install remaining handle onto shaft, pressing tightly to the backplates. Tighten the handle set screw with hex wrench. Screw until flush with handle.
4. Insert the keyed cylinder from the interior side of the door until it is flush with the exterior backplate. Install the cylinder screw in the screw hole below the deadbolt in the edge of the door to secure in place.
5. Hand tighten the backplate screws to complete assembly.



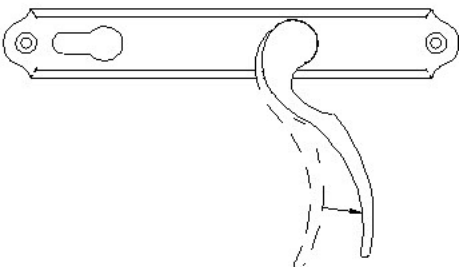
## Swing Door Handle Operation Instructions

Handles and backplates vary in style.

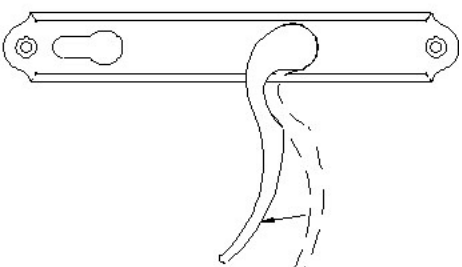


To lock manual system, lift handle to engage multipoints prior to engaging deadbolt.

Use key or thumbturn to engage deadbolt.



If deadbolt will not fully engage, manually engage system by lifting handle prior to engaging deadbolt.

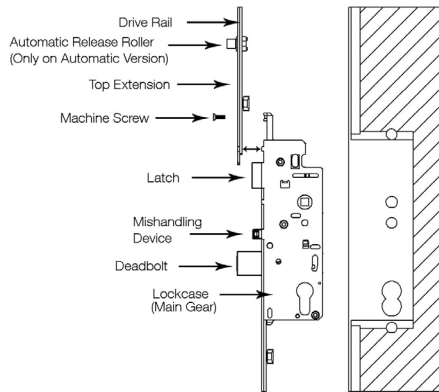


To open, disengage deadbolt with key or thumbturn, push handle down to stop and then open door.

# Installation of Multipoint Swing Door Hardware

PLEASE NOTE: MAIN GEAR AND EXTENSIONS SHOULD BE HAND-TIGHTENED ONLY. EXCESSIVE FORCE MAY CAUSE DRIVE RAIL TO BIND AND INHIBIT SYSTEM OPERATION.

1. With the door in the open position, the bevel on the latch should push the latch into the latch and deadbolt door frame strike when you close the door. If you need to reverse the latch, see Hardware Adjustment Sheet also see page 14.
2. Slide main gear (shown in drawing) into place aligning holes drilled in door face with cylinder, handle holes and lockcase to properly accommodate trim.
3. Install handle set per Swinging Patio Door Handle Set Installation Instructions.



4. Remove machine screw in top of lockcase. Top drive rail needs to connect to linkage in gear lockcase. Slide top extension into place and fasten to lockcase with the supplied machine screws to door edge. Use #6 screws. The #6 stainless steel screws should be screwed in flush with the faceplate, but not over tightened. Test gear with the door in the open position. Engage system by depressing mishandling device and lifting handle (note if multipoint system operates on the edge of the door) and extend deadbolt by turning thumbturn. If the system operates freely on the door edge and the deadbolt operates, the hardware system in the door is fully functional. If not, please see the Troubleshooting Guide.

PLEASE NOTE: MAIN GEAR AND EXTENSIONS SHOULD BE HAND TIGHTENED ONLY. EXCESSIVE FORCE MAY CAUSE DRIVE RAIL TO BIND AND INHIBIT SYSTEM OPERATION.



# HLS9000 Multipoint Hardware System

## Maintenance and Terminology

### 1. Trim Maintenance:

DO NOT SUBJECT TRIM TO ABRASIVE OR SOLVENT-BASED CLEANING MATERIALS OR EARLY TARNISHING WILL RESULT!

Use water to clean and a soft cloth. Do not use brass cleaner as it will remove the protective coating.

### 2. Profile Cylinder:

Cylinders are available in rekeyable Schlage C version. Key blanks are available at most hardware stores

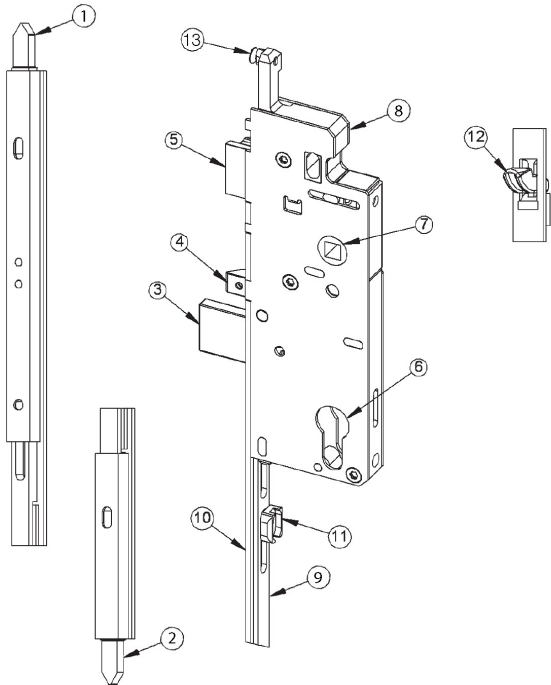
Note:

All options are shown for the sake of terminology.

The gear system you have will NOT contain all of the components as shown in the diagram below.

### TERMINOLOGY:

1. Top Shootbolt
2. Bottom Shootbolt
3. Deadbolt
4. Mishandling Device
5. Latch Bolt
6. Cylinder Hole
7. Handle Hole
8. Lockcase
9. Drive Rail
10. Faceplate
11. Screw Support
12. Tongue
13. Top Extension Phillips Machine Screw



# Troubleshooting Guide

## Multipoint Swing Door Hardware

Be certain door is square in frame before adjusting other hardware. With the door in the open position, engage system by lifting handle and extend deadbolt by turning thumb turn. If the system operates on the door edge and the deadbolt operates, the hardware system is fully functional.

1. SYSTEM WILL NOT OPERATE WHEN YOU LIFT THE HANDLE

**Probable Cause:** Improper installation of handle set.

**Solution:** Remove handle and reinstall. See Handle Set Installation Instructions.

2. SYSTEM OPERATES IN THE OPEN POSITION WHEN YOU LIFT THE HANDLE BUT NOT IN THE CLOSED POSITION WITH THE DOOR SHUT

**Probable Cause:** Relationship of door in the frame.

**Solution:** Check to make sure the door is square in the frame.

3. LOCKING POINTS WILL NOT ENGAGE WITH DOOR SHUT

**Probable Cause:** Deadbolt is not fully extending.

**Solution:** Clear away anything blocking travel of deadbolt (insulation, wood, etc.).

4. DEADBOLT WILL NOT FULLY ENGAGE

**Probable Cause:** Locking points are not fully engaged. System design does not permit deadbolt operation unless locking points are fully engaged.

**Solution:** Check system again for binding problems. Confirm deadbolt extends fully into strike. Check to confirm locking points are correctly engaging strikes on the frame.

5. THUMBTURN OR KEY WILL NOT TURN

**Probable Cause:** Backplates may not be on straight.

**Solution:** Confirm that inside and outside holes line up with lockcase. Loosen backplate screws ½ turn.

6. HANDLE SAGS OR RETURNS SLOWLY

**Probable Cause:** Cladding or wood in the hole is interfering with shaft.

**Solution:** Check to see if machined holes line up with screw and handle holes. May need to file or drill hole slightly larger.

7. SET SCREWS WILL NOT GO INTO HANDLE COMPLETELY

**Probable Cause:** Shaft is not assembled properly.

**Solution:** Remove handle to see how shaft is assembled. See Handle Set Installation Instructions for proper assembly and position of shaft.

8. BOTTOM LOCKING POINT MOVES BUT TOP LOCKING POINT DOES NOT

**Probable Cause:** Top extension drive rail is not connected at the lockcase.

**Solution:** Remove screws used to attach top extension to the door and the machine screw that attaches it to the lockcase, and remove top extension. Place the end of the drive rail (the "L" shape) in the lockcase above the latchbolt, as you slide the top extension into the door. Fasten with a screw at the lockcase and the one up higher. Operate the gear to make sure it works. Then finish installing the rest of the screws.

9. IF DOOR HAS PLAY OR IS NOT SEALING CORRECTLY

**Probable Cause:** Unit is not adjusted properly.

**Solution:** Bend tab on strike.

**Solution:** If available adjust Hinge

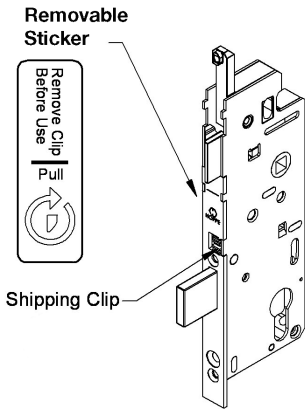
10. KEY DOES NOT WORK IN CYLINDER

**Probable Cause:** Cylinder was rekeyed incorrectly.

**Solution:** Check with Builder or Installer to see if cylinder was rekeyed to match other doors in the house. If so, return to locksmith to rekey properly.

# Hardware Modification Instruction Sheet

## Shipping Clip for Mishandling Device



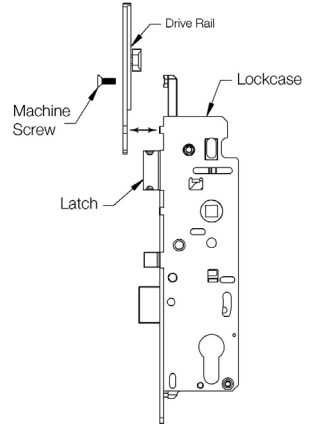
### Reversing Mishandling Device in Field:

1. Remove sticker
2. Remove shipping clip
3. Make sure mishandling device is sloped the same as latch.
4. If not, pull out and spin 180° to the same direction.

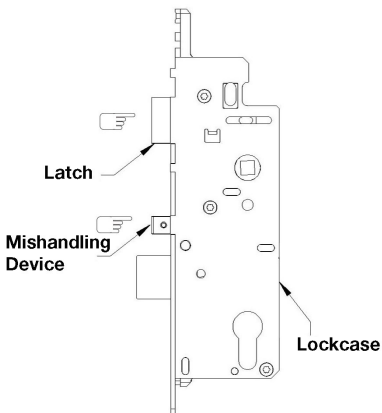
### Reversing Mishandling Device in Factory:

1. Remove shipping clip
2. Pull out mishandling device to spin to slope the same as latch.
3. Push mishandling device in and snap shipping clip back in.

## Attaching Top Extension



Hook drive rail of top extension into gear linkage just above latch.



## Reversing Latch

Pull and rotate latch 180° with hand and release back into the lockcase.

# HOPPE Profile Cylinders Rekeying Instructions

## Introduction

- Rekeying should be done by a qualified locksmith.
- Cylinder designs vary. HOPPE supplies CES brand cylinders and non-logo cylinders.
- Cylinders feature Schlage® SC1 keyways and may be rekeyed using Schlage® rekey kits.
- Cylinders should be rekeyed to an existing Schlage® key whenever possible.
- The HOPPE key gauge measures key cuts 1 through 9 the same as a Schlage® key gauge.
- If rekeying a CES cylinder with CES pins, use the CES pin number that corresponds with the measured key cut.
- If rekeying a CES cylinder with Schlage® pins, use the Schlage® pin number that is one less than the measured key cut. A key cut measuring 4 uses a #3 Schlage® pin.
- If rekeying a non-logo cylinder with Schlage® pins, then use the Schlage® pin number that corresponds with the measured key cut.
- If rekeying a non-logo cylinder with CES pins, use the CES pin number that is one higher than the measured key cut. A key cut measuring 4 uses a #5 CES pin.

## Recommended Tools and Accessories



REMOVAL TOOL for PLASTIC INSERT  
Part Number 2000899  
(for use with CES cylinders)



2 mm or 5/64" HEX WRENCH  
(for use with non-logo cylinders)



PLASTIC INSERT  
Part Number 8771719  
(for use with CES cylinders)



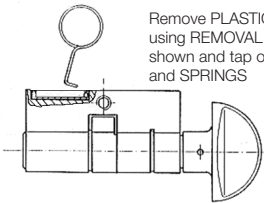
HOPPE KEY GAUGE  
Part Number 2070820



HOPPE REKEY KITS  
Schlage® Pins, 30 cyl. capacity  
- Part Number 3459001  
CES Pins, 10 cyl. capacity  
- Part Number 8785243

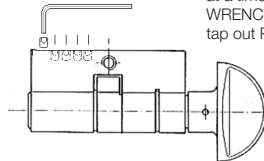
## Steps to Rekey

1.



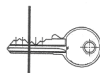
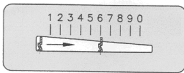
Remove PLASTIC INSERT using REMOVAL TOOL as shown and tap out PINS and SPRINGS

OR



Remove one SET SCREW at a time using 2 mm HEX WRENCH as shown and tap out PINS and SPRING

2.



Determine CORE PIN size with KEYING GAUGE

3.

- Insert desired CORE PIN into the appropriate cylinder pin hole.
  - Note: for cylinder designs featuring six pin holes, the innermost hole (furthest from the key face) is left blank.
- Insert HOUSING PIN
- Insert SPRING
- Repeat until all PINS have been replaced and install PLASTIC INSERT OR install SET SCREW and repeat until all PINS have been replaced.

PLASTIC PLUG



SET SCREWS

SPRINGS



SPRINGS

HOUSING (TOP) PINS



HOUSING (TOP) PINS

CORE (BOTTOM) PINS



CORE (BOTTOM) PINS

OR

# Installation Instructions

## 90-Degree Turn Cylinder

### Tools required:

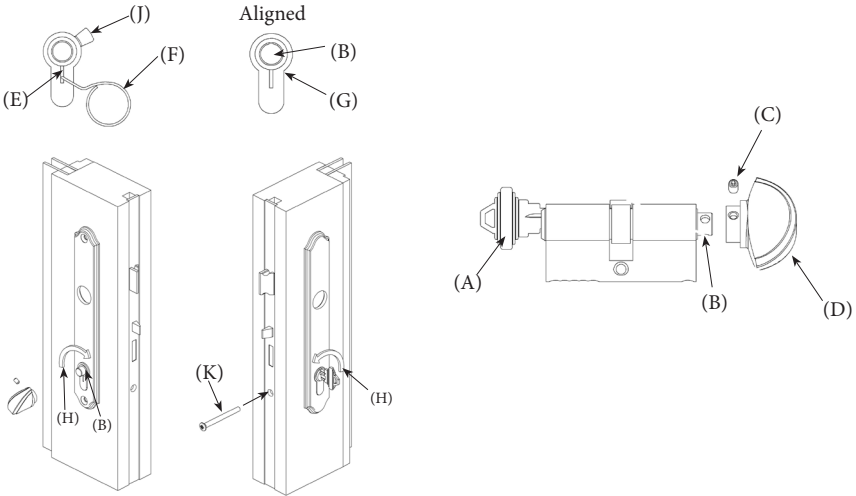
- Phillips head screw driver
- Hex wrench (provided)
- Ring wrench (provided)
- Pliers (recommended)

### Installation:

- Loosen set screw (C) on knob (D) using the hex wrench provided. Knob designs may vary from design shown.
- Remove knob (D) from body of cylinder (B).
- Align drive tab (J) with the cylinder body to install the cylinder into the lock as shown by (G). If the drive tab (J) cannot be rotated to this position, push the pin (E) down with the ring wrench (F) to disengage the stops and turn the cylinder shaft (B) until the drive tab (J) is aligned with the cylinder as shown by (G).
- Holding the cylinder in this position, insert the cylinder body into the lock so the drive tab (J) is inside of the lock.
- Rotate the shaft (B) (use pliers if necessary) so the top of the shaft (B) moves toward the edge of the door or insert the key (A) into the cylinder and rotate so the top of the key (A) moves towards the edge of the door (H). The shaft or key will rotate freely and will stop after approximately 120°. Do not force rotation. The dead bolt should not extend (exception: dead bolt will extend on single point gear). Confirm that one of the two set screw openings is positioned on the bottom of the shaft (B).  
**Warning:** If the shaft (B) or key (A) is rotated the wrong direction, the cylinder will lock after approximately 120° and cannot be rotated in either direction. If this happens, push the pin (E) down with the ring wrench (F) included to disengage the stops and turn the shaft (b) or key (A) in the opposite direction until the dead bolt extends.
- Attach knob (D) on shaft (B) as shown.
- Tighten set screw (C). Install cylinder screw (K) as shown.

### Removal:

- Loosen and remove cylinder screw (K) and repeat steps 1-4 above.



Knob designs may vary from design shown.

**THERMA ■ TRU®**  
**DOORS**

Therma-Tru Doors  
Customer Service  
1750 Indian Wood Circle  
Maumee, Ohio 43537  
1-800-THERMA-TRU (843-7628)