

NARROW, MEDIUM AND WIDE STILE, THERMASTILE® AND DURASTILE™

Installation Instructions



PART Y015

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Table of Contents

| Section | Page |
|--|-------------|
| 1. GENERAL NOTES AND GUIDELINES..... | 2 |
| 2. DOOR HARDWARE..... | |
| A. Locks | 3 |
| B. Push/Pulls | 4 |
| 3. DOOR GLASS INSTALLATION..... | |
| A. With the Door Leaf Horizontal - Before Door is Hung in Frame. | 5 |
| B. With the Door Leaf Vertical | 6 |
| 4. DOOR INSTALLATION..... | |
| A. Butt Hinges | 7 |
| B. Continuous Hinge | 8 |
| C. Offset Pivots | 9-10 |
| D. Removing an Offset Pivoted Door | 11 |
| E. Door Closers | 12 |
| F. Door Clearance and Weathering Adjustments | 13 |

These instructions include generic installation instructions for Doors, Glass and Hardware for EFCO series D200, D300, D500, D202, D302, D502, D318, D518 and D618

Order of installation may depend on door size, type, and hardware configurations. Some portions of door system may come assembled/installed. Please read complete instructions before starting installation. This will help ensure hardware, glazing, and door are installed in the proper order. For additional information see individual hardware/part manufactures installation instructions.

Section 1. General Notes and Guidelines

HANDLING / STORING / PROTECTING ALUMINUM

The following guidelines are recommended to ensure early acceptance of your products and workmanship.

- A. **HANDLE CAREFULLY** - Store with adequate separation between components so the material will not rub together. Store the material off the ground. Protect materials against weather elements and other construction trades.
- B. **KEEP MATERIAL AWAY FROM WATER, MUD, AND SPRAY** - Prevent cement, plaster, and other materials from contacting with and damaging the finish. Do not allow moisture to be trapped between the finished surface and the wrapping material.
- C. **PROTECT MATERIALS AFTER ERECTION** - Wrap or erect screens of plastic sheeting over material. Cement, plaster, terrazzo, and other alkaline materials are very harmful to the finish and are to be immediately removed with soap and water. Under no circumstances should these materials be allowed to dry or permanent staining may occur.

GENERAL GUIDELINES

The following practices are recommended for all installations

- A. **REVIEW CONTRACT DOCUMENTS** – Become thoroughly familiar with the project. Check shop drawings, installation instructions, architectural drawings and shipping lists. The shop drawings take precedence and include specific details for the project. Shop drawings govern when conflicting information exists in the assembly and installation instructions. Note any **field verified** notes on the shop drawings prior to installing. EFCO assembly and installation instructions are general in nature and cover only some of the conditions.
- B. **INSTALL ALL FRAMING MATERIAL PLUMB, LEVEL, AND TRUE** – Proper alignment and relationships to benchmarks and column centerlines, as established by the architectural drawings and the general contractor, must be maintained.
- D. **PERIMETER CONDITIONS** - Verify that all job site conditions and accompanying substrates receiving the installation are in accordance with the contract documents. If deviations occur, notification must be given **in writing** to the general contractor and differences resolved before proceeding further with the installation in the area in question.
- E. **ISOLATION OF ALUMINUM** - Prevent all aluminum from coming in direct contact with masonry or dissimilar materials by means of an appropriate primer. Typical slab anchors may be set directly onto concrete surfaces in a block-out pocket at the edge of the slab. The block-out pocket is later filled in with grout thereby covering the slab anchor. In such cases, a heavy coat of zinc chromate or bituminous paint must be pre-applied to the slab anchor.
- F. **SHIPMENT VERIFICATION** - Verify contents of all material shipments received upon their arrival. Verify quantity and correct finishes. **Notify EFCO immediately of any discrepancies or damage that may have occurred.**
- G. **SEALANT** - All sealant must meet **[ASTM C 920, CLASS 50]**. For the purposes of these instructions, sealant is to be defined as the following:
SEALANT - A weather resistant, gunnable liquid filler which when cured provides a resilient, flexible (\pm 50% movement capability min.) air and water seal between similar and dissimilar materials.

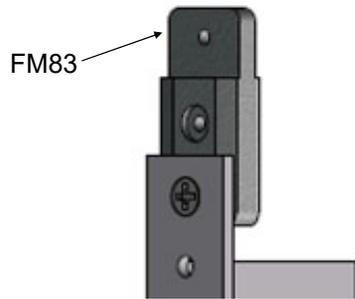
All sealant must be compatible with all surfaces on which adhesion is required, including other sealant surfaces. All frame surfaces should be clean, dry, dust, and frost free. If a primer is required, it must be applied to clean surfaces. All perimeter substrates shall be clean and properly treated to receive sealant. All sealants and primers must be applied according to the sealant manufacturers instructions and recommendations. It is the responsibility of the glazing contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.

Section 2. Door Hardware

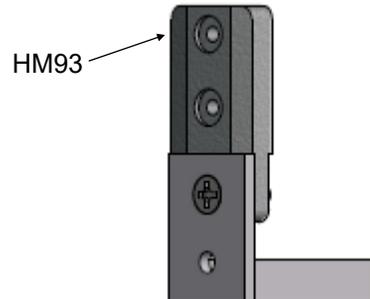
A. Lock Installation

See lock manufacturer's installation instructions for lock specific details. Deadbolt example shown below.

1. Attached FM83/HM93 clip to lock assembly. See below for orientation. (NOTE: For narrow stile doors, install clips in door stile first.)

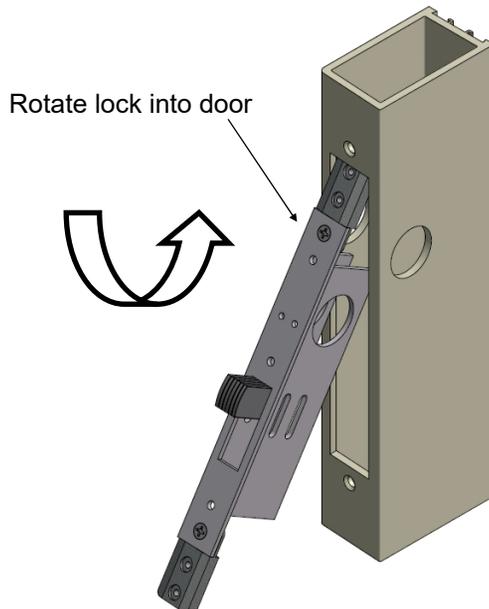


For Radius or Flat Stile



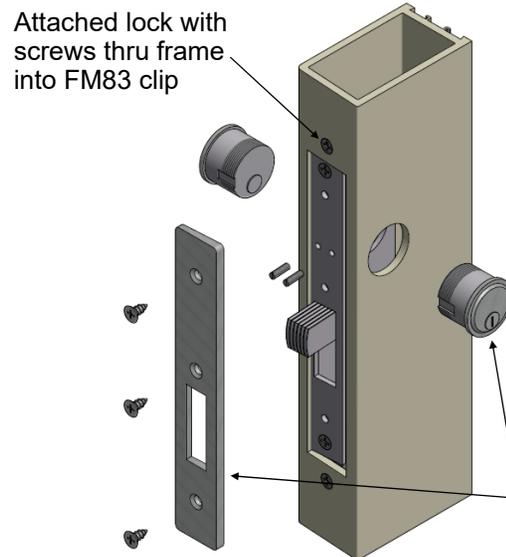
For Beveled Stile
(shown)

2. Slide lock assembly into door, use bolt or latch to hold lock.



Rotate lock into door

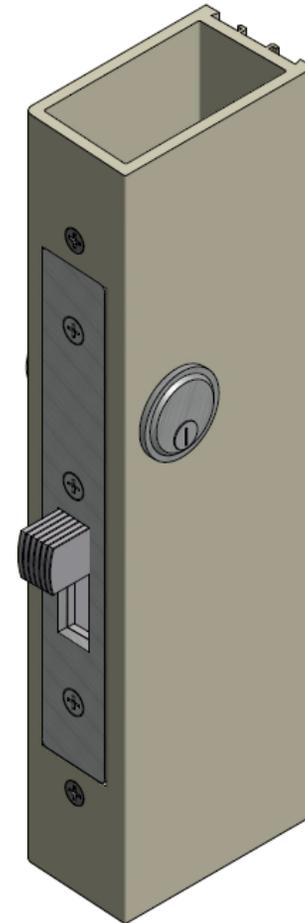
3. Attach with screws. After lock is in place, install cylinder, locking screws, and face plate per lock manufacturer's instructions.



Attached lock with
screws thru frame
into FM83 clip

Attach face plate, cylinders, retaining pins, and any
lock components per lock manufacturer's instructions.

Finished Installed Lock



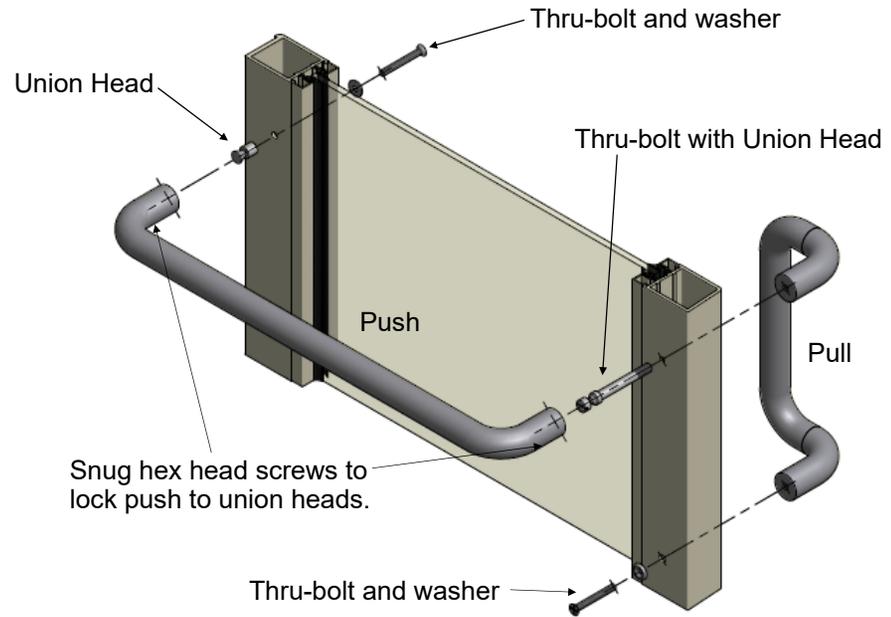
Section 2. Door Hardware

B. Push / Pulls

Standard Ultraline Push/Pulls

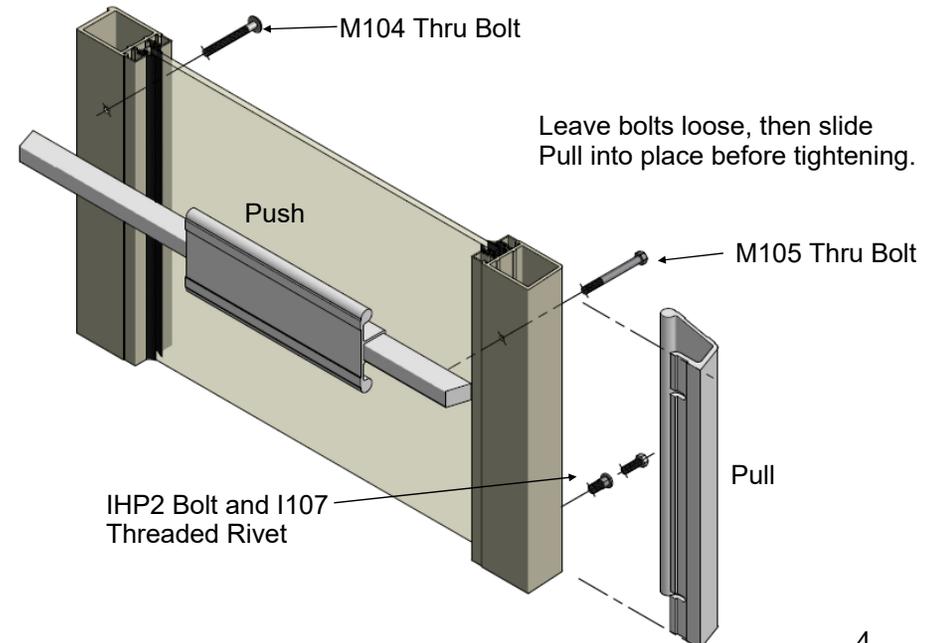
For complete installation instructions, see push/pull manufacturer's instructions. Fasteners provided by push/pull manufacturer.

1. Insert thru-bolt with union head through the door stile and thread it into the offset pull to snug.
2. Insert the thru-bolt fastener and washer into the stile and thread it into the bottom of the offset pull, tighten this, and then tighten the union head fastener.
3. Insert the thru-bolt fastener and washer at the hinge stile and thread it into the cone head union.
4. Fit the push bar on the union head fasteners and snug the hex sets to secure the push bar in place.
5. Tighten the thru-bolt fastener at the hinge stile and then tighten the hex screw. Note: The fasteners may vary depending upon the type of hardware being used



EFCO Optional Extruded Push/Pulls

1. Attach threaded rivet (I107) to lock side stile. Start bolt (IHP2) into threaded rivet, leave loose.
2. Hold push bar to door and start thru-bolt (M105) at lock stile, leave loose.
3. Attach hinge stile end of push bar with finish thru-bolt (M104).
4. Side pull handle under bolts and tighten all bolts.



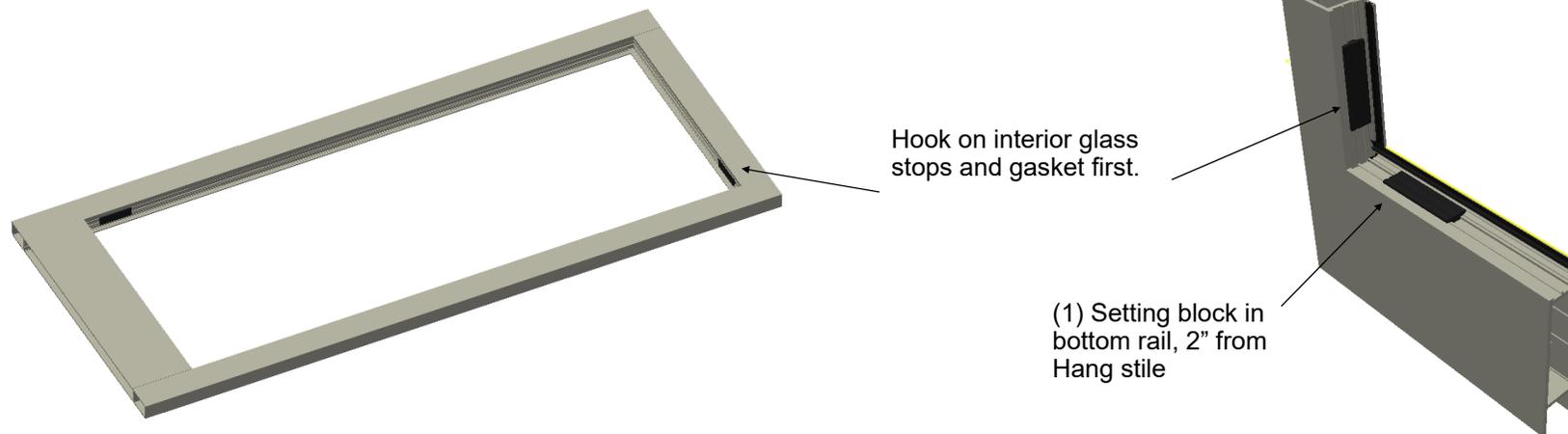
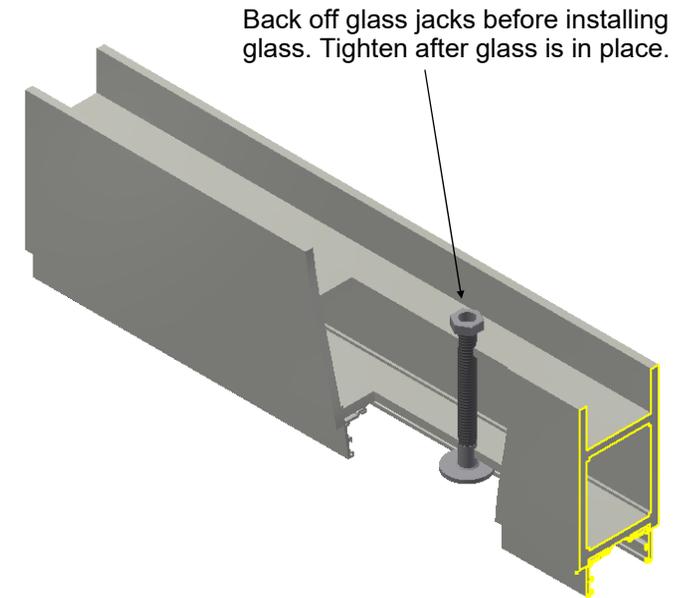
Section 3. Door Glass Installation

A. With the Door Leaf Horizontal

NOTE: These steps describe glazing a door without a mid-rail. When glazing a door with a mid-rail, glaze the lower section of the door first, using the steps that follow. Then glaze the upper section repeating the same steps.

Note: These steps assume that the door frame has been installed plumb and true and has been anchored adequately for the application.

1. If it is possible to glaze the door with it laying on sawhorses, this will aid in compressing the glazing gasket and ease the installation of the glass and glazing beads.
2. To glaze the door laying down, hook on interior glass stops with the glazing gasket in places. Vertical stops to run through. Place this interior side on the sawhorses. Be sure the glass jack is backed off so it does not interfere with the glass unit. Install (1) glass setting blocks at the bottom rail.
3. Place the glass unit on the installed glass beads and block the glass to maintain equal space around the glass to the aluminum, typically 3/16".
4. Check the door is square and adjust the glass blocking to accommodate any discrepancies. Tighten the glass jack to make contact with the glass firmly.
5. Install the outer glass stops with the glazing gaskets installed. Horizontal glass stops to run through.
6. Hang the door leaf, check the perimeter door clearances, and make sure the door is square.



Section 3. Door Glass Installation

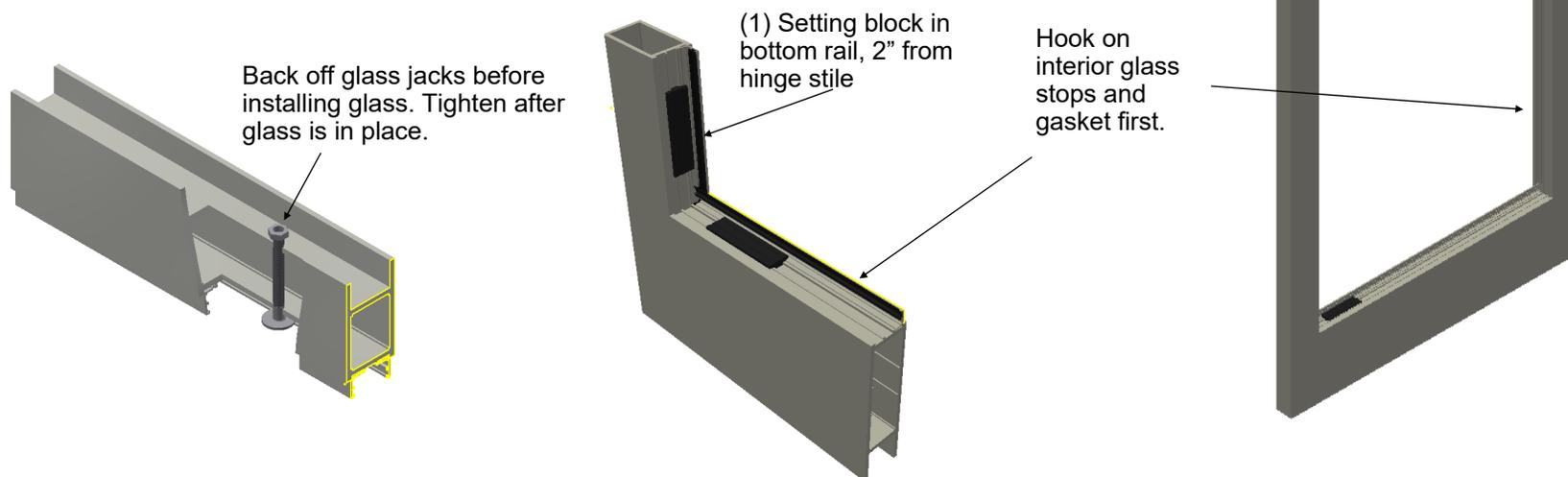
B. With the Door Leaf Vertical

NOTE: These steps describe glazing a door without a mid-rail. When glazing a door with a mid-rail, glaze the lower section of the door first, using the steps that follow. Then glaze the upper section repeating the same steps.

Note: These steps assume that the door frame has been installed plumb and true and has been anchored adequately for the application.

1. To install a glass unit in a door leaf that is installed on hinging. Be sure the door leaf is square. Block or clamp the door leaf accordingly. Be sure the glass jack is backed off so it does not interfere with the glass unit being installed.
2. Install the interior glass stops, verticals running through with the glazing gasket installed.
3. Install (2) glass setting blocks at the bottom rail to set the glass unit on.
4. Set the glass unit in the door leaf, pushed against the interior glazing gaskets and stops.
5. Block the glass unit all around to maintain an equal glass to aluminum space, typically 3/16". Tighten the glass jack to make contact with the glass unit firmly.
6. Remove any extra clamps or blocks, check the door is square. Adjust the blocking to accommodate any discrepancies. Close the door and check the door clearance to the frame all around.
7. Install the exterior glass stops, horizontals running through with the glazing gasket installed.

Block as required to maintain equal spacing. Locate setting block 2" from stile.



Section 4. Door Installation

A. Butt Hinges

1. Install hinges on door before frame. Be sure butt hinge reinforcing plate is in correct position on door stile.
2. Be sure that the butt hinge reinforcing plate is in the correct position on door frame.
3. Align the hinges to the backers in the frame.

Note: (Butt hinges are not applicable with a ThermaStile® door.)

Door Clearances (Typical)—Butt Hinge .

For field fabrication and verification.

Single Door :

Hinge Stile Jamb—3/32"

Lock Stile Jamb—3/32"

Sill (Standard) - 3/16"

Head- 1/8"

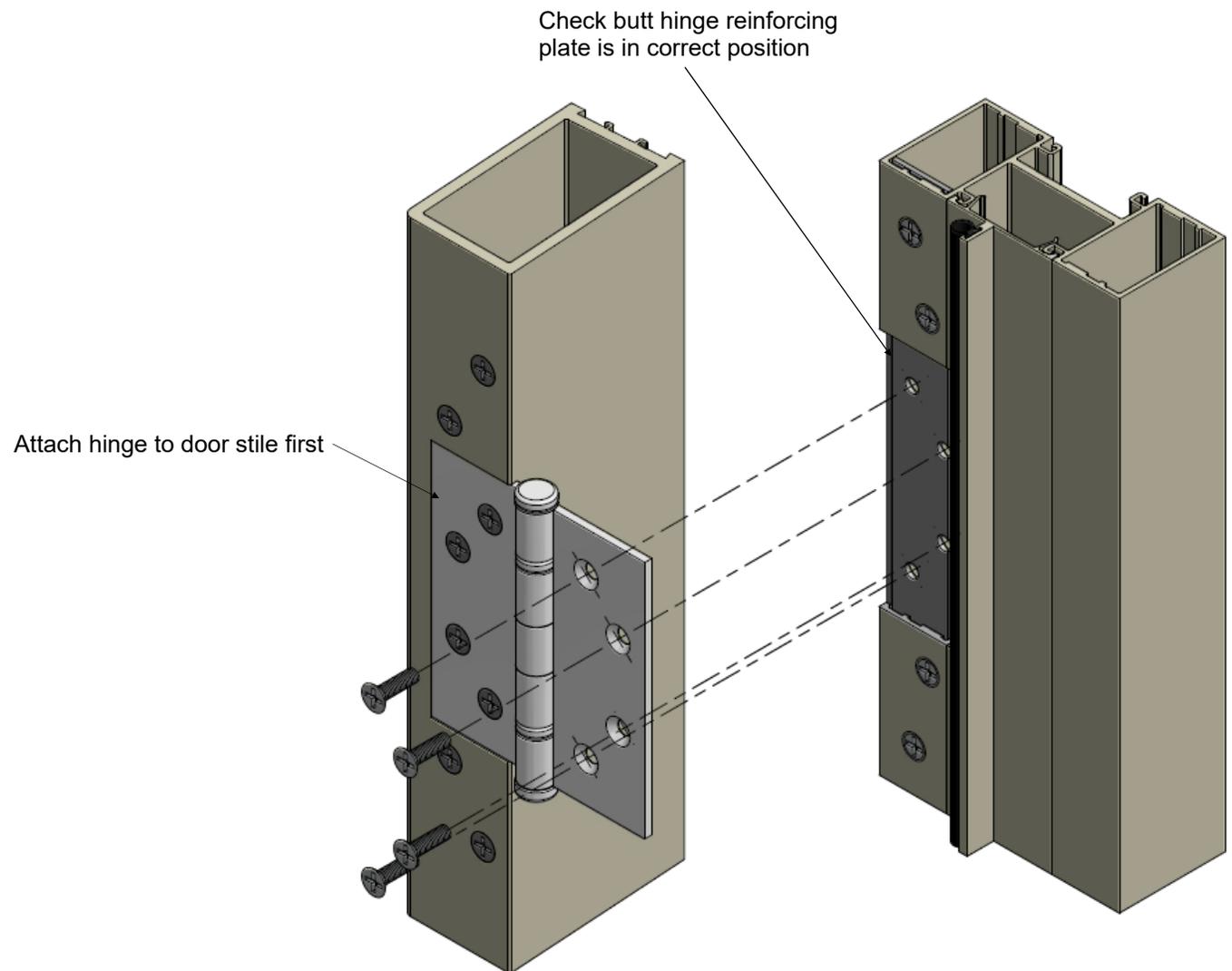
Pair of Doors :

Hinge Stile Jamb—3/32"

Meeting Stiles—1/8"

Sill (Standard) - 3/16"

Head- 1/8"



Section 4. Door Installation

B. Continuous Hinges

1. Attach hinge to door first with screws provided by hinge manufacture.
2. Attach door and hinge to frame with screws provided by hinge manufacturer. Install screws at top and bottom first, check clearance, then install remaining screws.

NOTE: Exact screw location may vary by application, size, and hinge manufacturer.
For field fabrication see hinge manufacturer for instructions and templates.

Door Clearances (Typical) - Continuous Hinge

For field fabrication and verification.

Single Door :

- Hinge Stile Jamb - 5/16" at EFCO Standard continuous hinge.
11/32" at Others (may vary by manufacture)
- Lock Stile Jamb - 3/32"
- Sill (Standard) - 3/16"
- Head - 1/8"

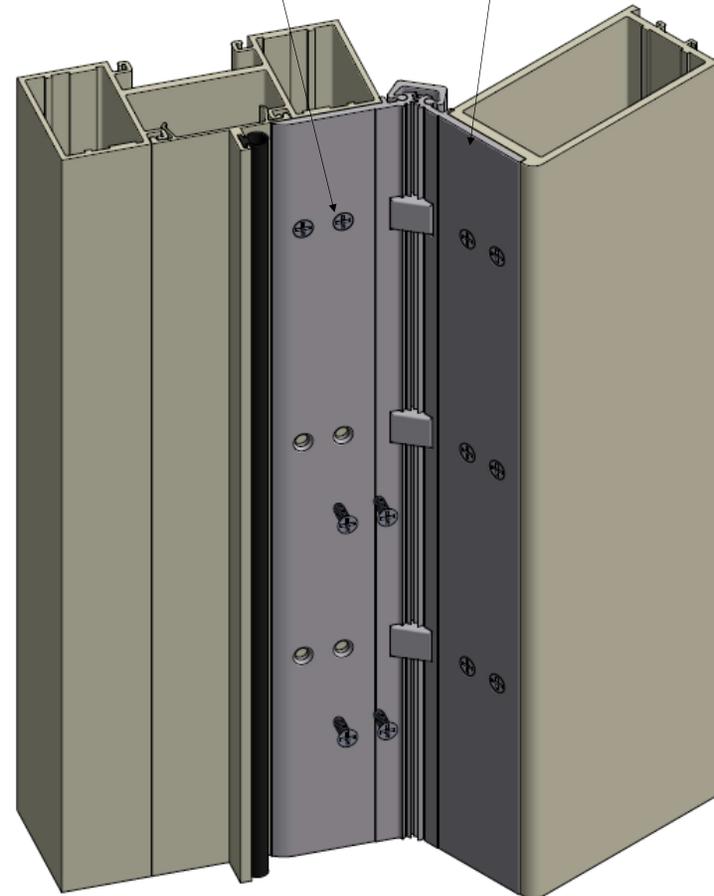
Pair of Doors :

- Hinge Stile Jamb - 5/16" at EFCO Standard continuous hinge.
11/32" at Others (may vary by manufacture)
- Meeting Stiles - 1/8"
- Sill (Standard) - 3/16"
- Head - 1/8"

Note: With ThermaStile® doors use 9932 backer at hinge.

Install a few screws at top and bottom, check clearance, then install remaining screws.

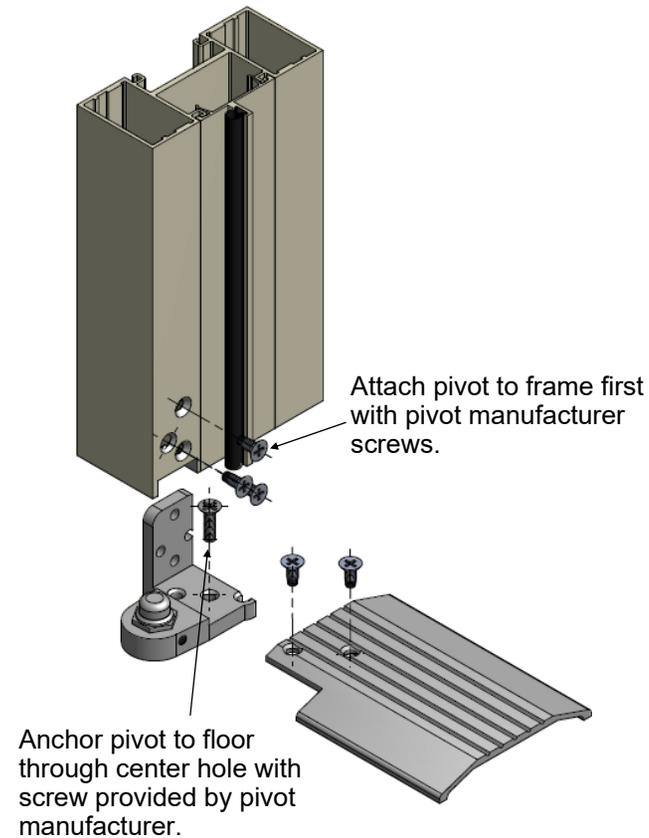
Attach hinge to door stile first



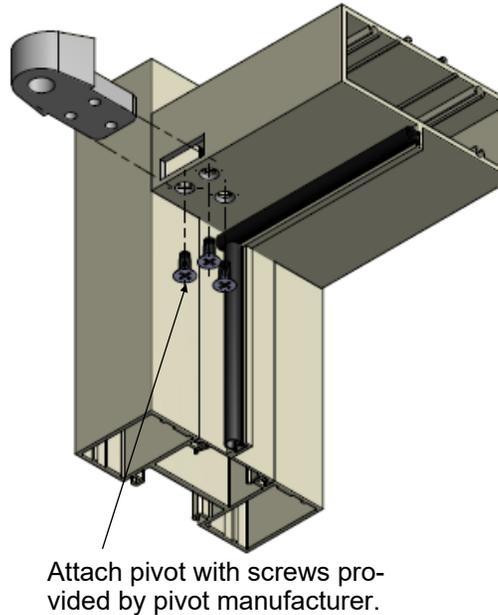
Section 4. Door Installation

C. Offset Pivots - Pivot Installation

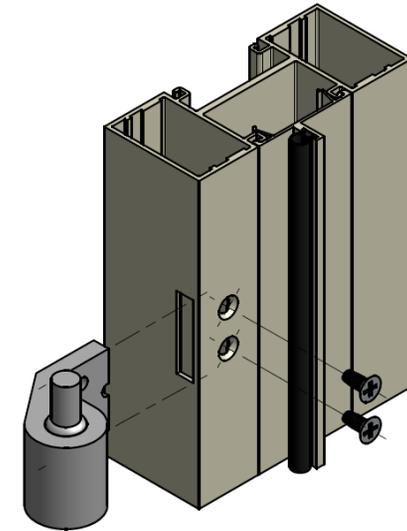
Jamb Prep for Bottom Pivot: Install the frame portion of the bottom pivot into the frame with the screws provided. Install the door jamb into the opening and anchor the pivot to the floor through the center hole of the pivot, this is to prevent the frame from twisting and breaking the pivot. Attach the threshold to the pivot with the screws provided.



Transom Bar Prep For Top Pivot: Install the frame portion of the top pivot with the screws provided.



Jamb Prep For Intermediate Pivot: Install the frame portion of the intermediate pivot with the screws provided. (Intermediate required for tall doors, see shop drawings)



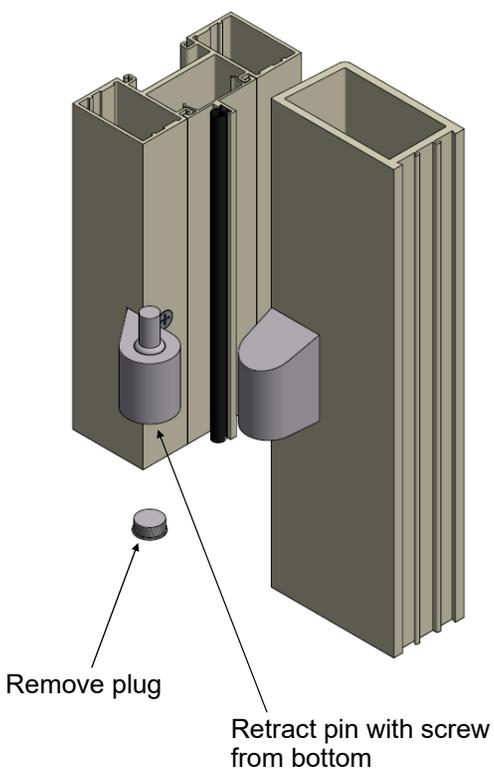
Intermediate pivot required for tall doors. If not required skip steps involving intermediate pivot.

Section 4. Door Installation

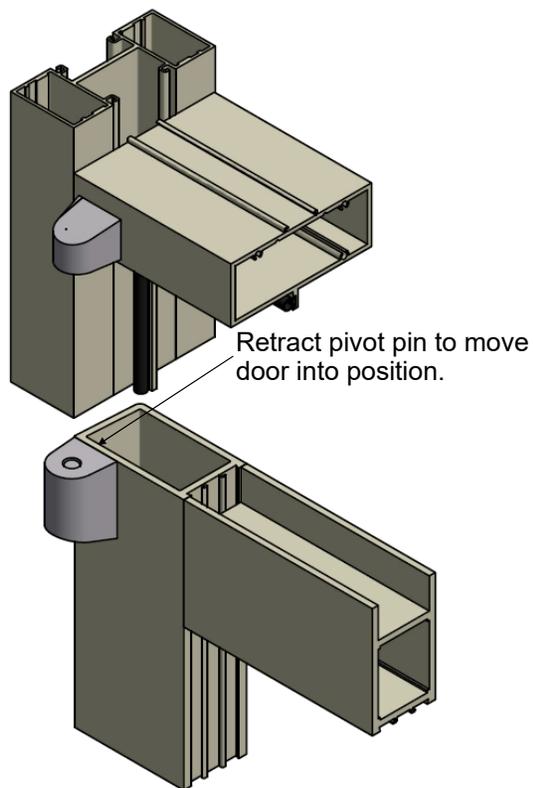
C. Offset Pivots—Door Installation

If Intermediate Pivot is not required, skip Step 1.

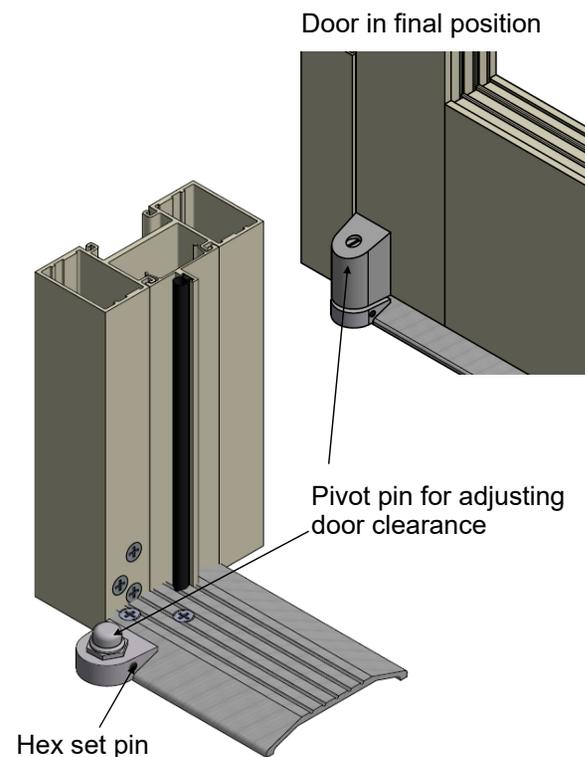
1. If Intermediate is required, retract intermediate pivot pin to allow door pivot to clear. To retract pivot pin first remove bottom hole plug. After door is in place, raise the pivot pin to engage the door pivot and adjust to 'just snug'. Reinstall the bottom hole plug. To set door, retract the frame intermediate pivot pin to allow the door pivot to clear. Set the door on the bottom pivot. Push the top pivot pin into the retracted position. Locate the top door pivot under the frame and release the pin.



2. Set the door on the bottom pivot. Push the top pivot pin into the retracted position. Locate the top door pivot under the frame and release the pin.



3. Adjust the door clearance by turning the pivot pin clockwise to lower the door and counterclockwise to raise the door. Tighten the set screw with a hex key wrench after the final adjustment. Door top rail to frame clearance is 1/8".



Door Clearances—Offset Pivot

Singe Door :

Pivot Stile Jamb -3/32"
 Lock Stile Jamb -3/32"
 Sill (Standard) - 3/16"
 Head - 1/8"

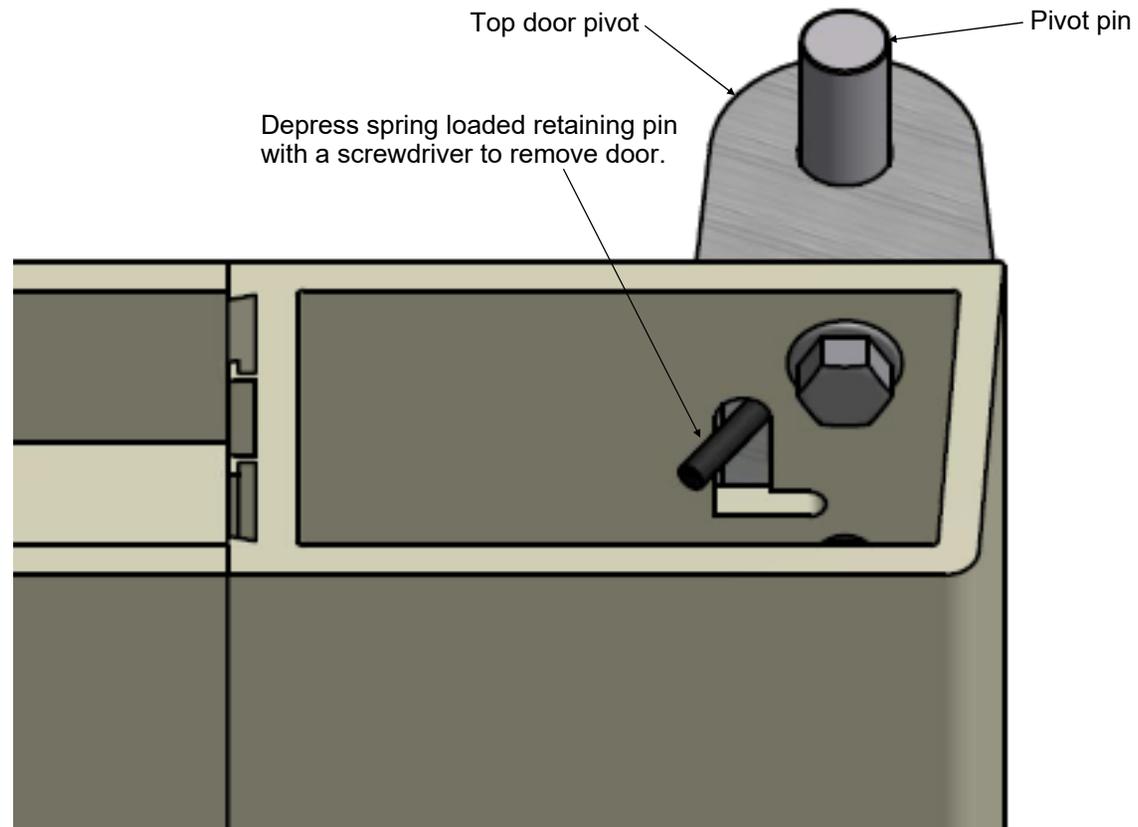
Pair of Doors :

Pivot Stile Jamb—3/32"
 Meeting Stiles—1/8"
 Sill (Standard) -3/16"
 Head - 1/8"

Section 4. Door Installation

D. Removing an Offset Pivoted Door

To remove door, at top pivot place screwdriver on spring loaded retaining pin and slide pin into notch to hold in position. Remove in similar manner to installation.



Section 4. Door Frame Hardware

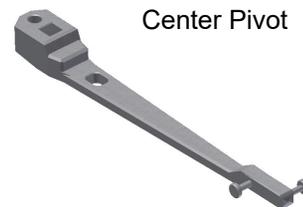
E. Closer Types

For Complete Closer Installation Instructions see Closer Manufactures documents for specific closer being used.

1. **Surface Closers:** Surface closers are installed after the frame and door have been set in the opening and anchored. See the closer carton for template and location dimensions.



1. **Concealed Overhead Closers:** Concealed overhead closers require accurate fabrication of the header or transom bar to ensure correct location and precise fit of the cover plate. (Factory Fabricated transom bars are available.) See closer carton for templates and location dimensions.



Center Pivot



Offset Arm

1. **Concealed Floor Closers:** Concealed floor closers are set in a recess in the floor and must be located at an exact dimension from the pivot jamb. See the closer carton for template and location dimensions.



Section 4. Door Installation

F. Door Clearance and Weathering Adjustments

Using D200 or D300 Doors only:

1. With the door open, wedge the lock stile side of the door until the clearance at the top of the door is equal.
2. Turn glass jack screw clockwise to raise corner, counterclockwise to lower corner.
3. Close door and check for even clearance across top of door. Adjust again if required.

CAUTION

To prevent glass breakage, always support the weight of the door so the screw turns easily. If the door clearance is severely unequal, it may be necessary to remove the glass stops and remove the glass blocking to allow adjustments.

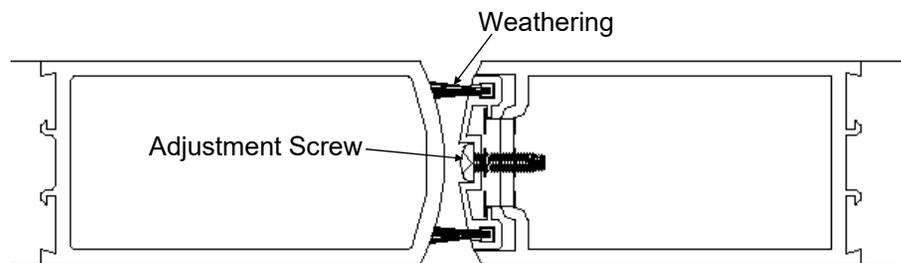
USING OTHER DOOR SERIES:

It will be necessary to remove the glass stops then increase or decrease the glass blocking thickness' to effect the door clearance at the frame.

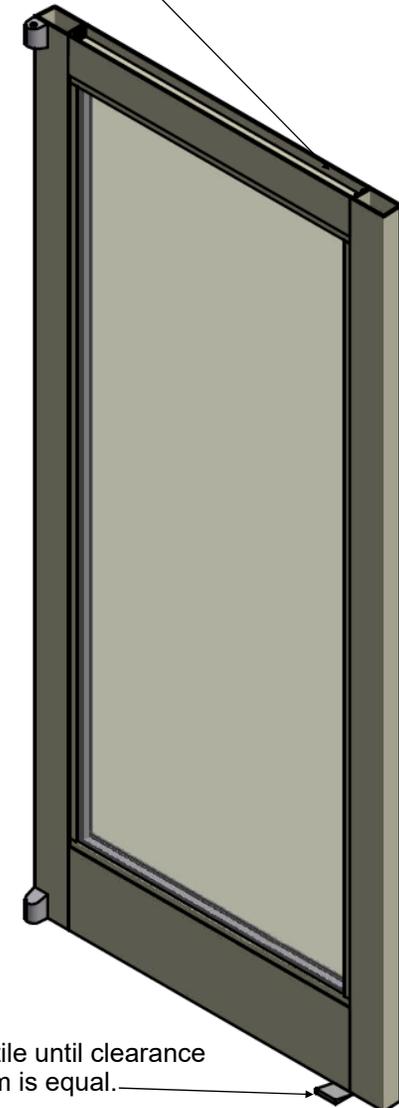
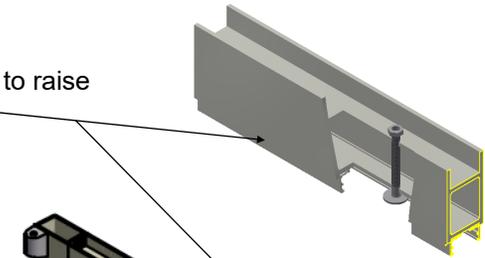
Be sure to check the door frame for plumb and square first.

Weathering Adjustment and Replacement:

1. Adjust weathering clearance with center screw. Initial spacing should be 1/8".
2. Over lifespan of door, adjust as needed.
3. If needed, replace weathering with EFCO part W153(Grey) or W156(Black).



Adjust jack screw to raise and lower corner.



Wedge lock stile until clearance top and bottom is equal.