



ALPEN

HIGH PERFORMANCE PRODUCTS

Sliding Glass Door Assembly and Installation Guide



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Door System Components and Hardware

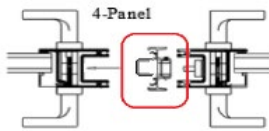
The following components are needed to complete the installation of your Sliding Patio Door unit. Check all components for correct size, color, quantity, and for any damages.

***DO NOT PROCEED WITH ANY ASSEMBLY IF DAMAGED OR MISSING COMPONENTS ***

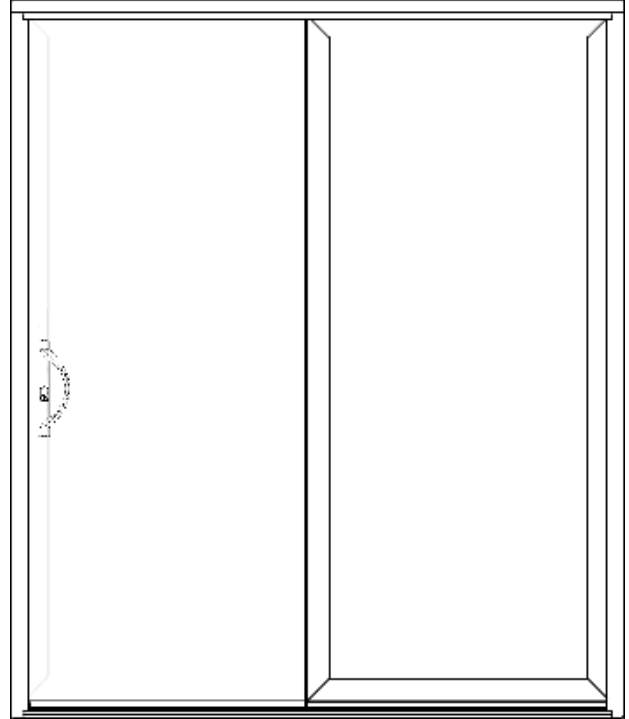
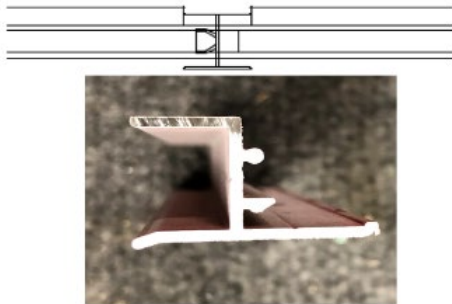
Frame Kit

- 1 – Head Jamb 2 – Side Jambs 1 – Sill
- 1 – Active Weather Strip Carrier (1 for 2- and 3-panel doors, 2 for 4-panel doors)
- 1 – Inactive Weather Strip Carrier (1 for 2- and 3-panel doors, 2 for 4-panel doors)
- 2 – Active Panel Hole Plugs for Each Moving Panel
- 1 – Grey Rubber Head Stop Bumper
- 12 – #10 x 3" Pan Head Screws
- 12 – #10 x 3/4" Pan Head Screws
- 1 – Fixed Plastic L Shaped Panel Anchor for Head (1 for 2-panel, 2 for 3- and 4-panel doors)
- 1 – Metal L Corner Anchor for Fixed (1 for 2-panel doors, 2 for 3- and 4-panel doors)
- 2 – #10 x 1 1/2" Phillips Anchor Screws (2 for 2-panel doors, 4 for 3- and 4-panel doors)
- 2 – #10 x 3" Phillips Pan Head Screws
- 1 – Sill Cover (2 Sill Covers with Quad-Panel)
- Touch-Up Paint

*** 4 Panel Doors will also have Door and Screen Astragals*



Screen for 4-Panel Unit



Required Materials

- Silicone Sealant
- Caulk Gun
- 6'ft Level
- Measuring Tape
- Electric Drill
- #2 Phillips Drive Bit
- Staple Gun or Brad Nails
- 1/8" Drill Bit
- Flat-blade Screwdriver
- Shims
- Head Flashing
- Sill Pan (Optional)
- Glazing Cups are recommended

Handle Set Kit

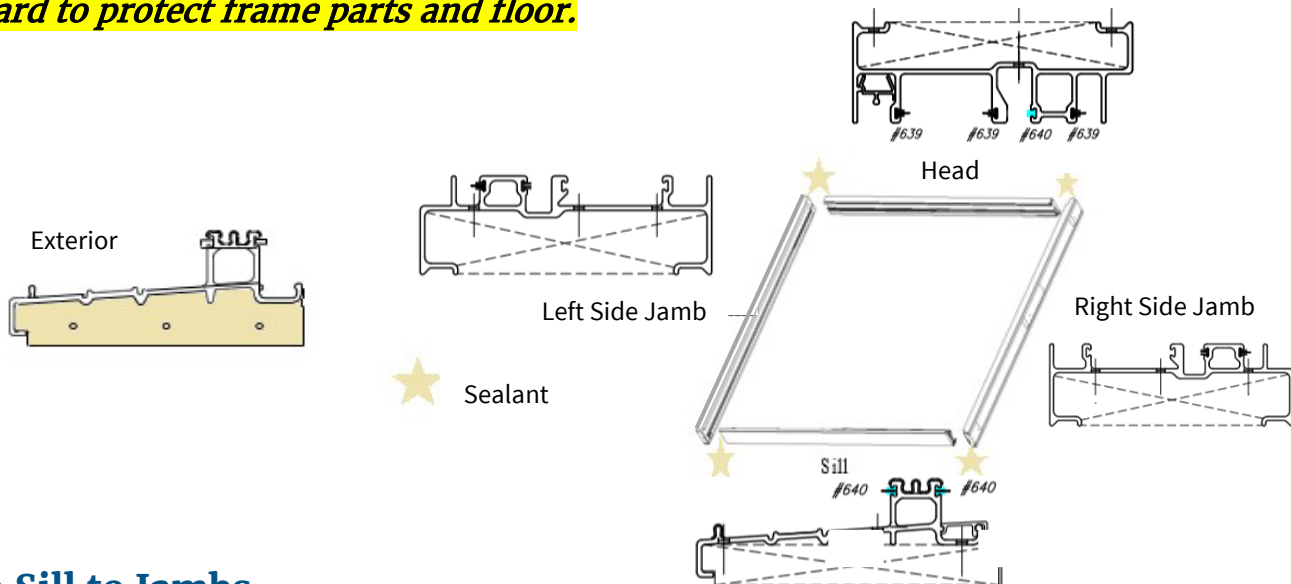
- 1 – Handles, Interior and Exterior
- 1 – Strike Plate (for side Jamb)
- 1 – Escutcheon with Lock
- 1 – Escutcheon
- 2 – Phillips Screws with colored Heads
- 4 – Machine Screws
- 2 – Keys
- 2 – #8 x 1" Flat Head Screws
- 4 – #8 x 2 1/2" Pan Head Sheet Metal Screws

Frame

Lay frame components onto work area

Lay parts on floor and position sill, head and side jambs with interior side up.

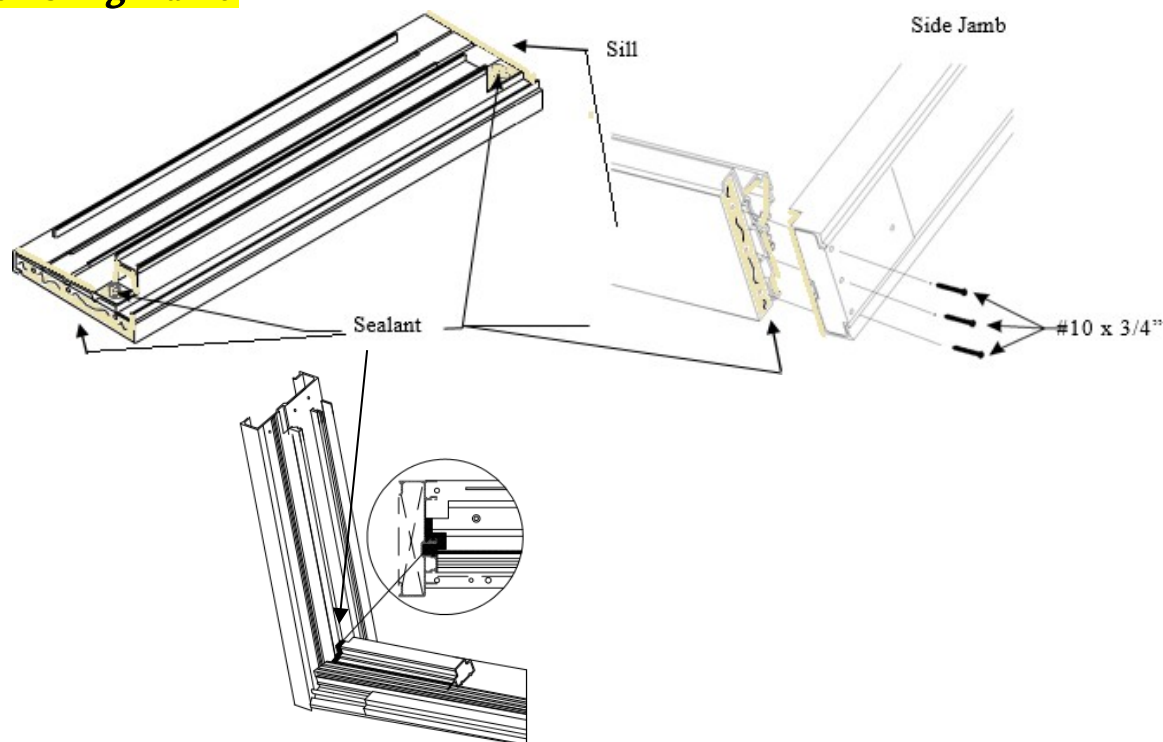
Special note: A large work area is needed to assemble the frame kit. Cover area with cardboard to protect frame parts and floor.



Attach Sill to Jambs

1. Apply sealant to bottom ends of sill and around entire frame profile as shown.
2. Fasten side jambs to sill through pre-drilled holes using (3) #10 x 3/4" screws. (Starting with center screw is recommended).
3. Repeat for opposite side.

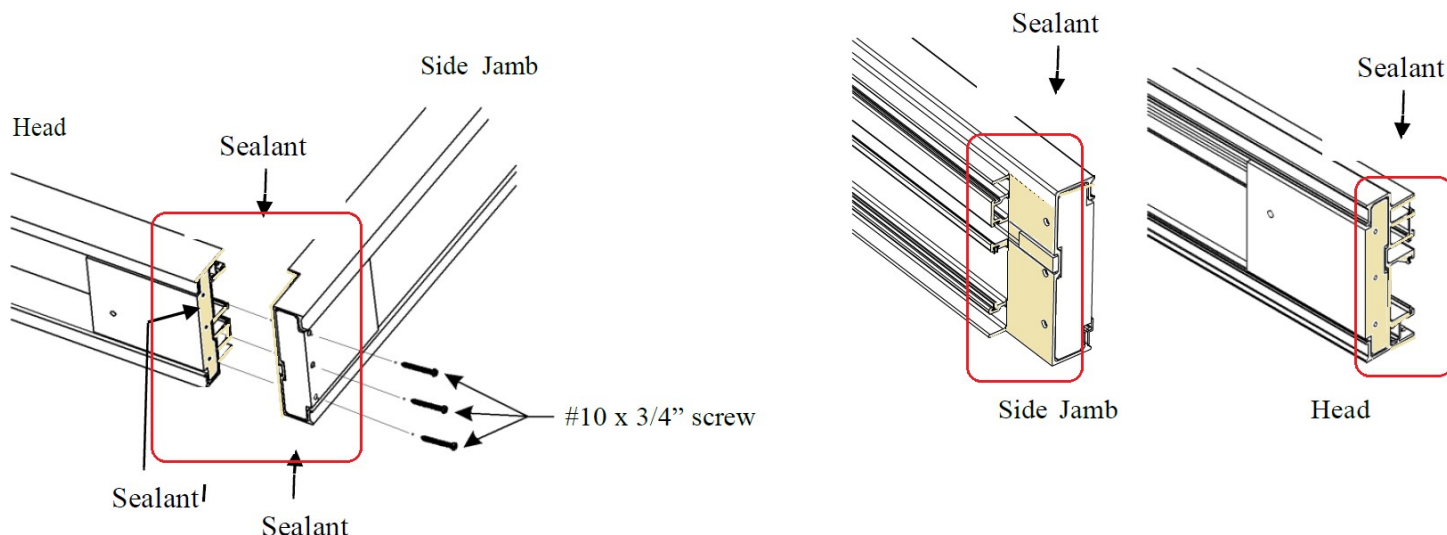
Special note: Be sure that sealant is on all connecting points of jambs and sill before assembling frame.



Frame

Attach Head to Jamb

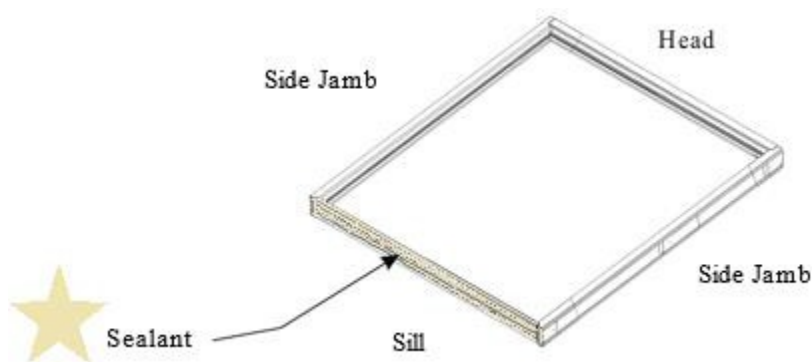
Apply sealant to cover surface at top ends of head frame. Fasten side jambs to head through pre-drilled holes using (3) #10 x 3/4" screws. (Starting with center screw is recommended). Repeat for opposite side. You want to see sealant wick out once assembled



Apply silicone sealant to bottom of sill

Run beads of silicone sealant across entire length of sill bottom to provide a weather-tight seal.

Special note: A continuous bead of sealant is required.



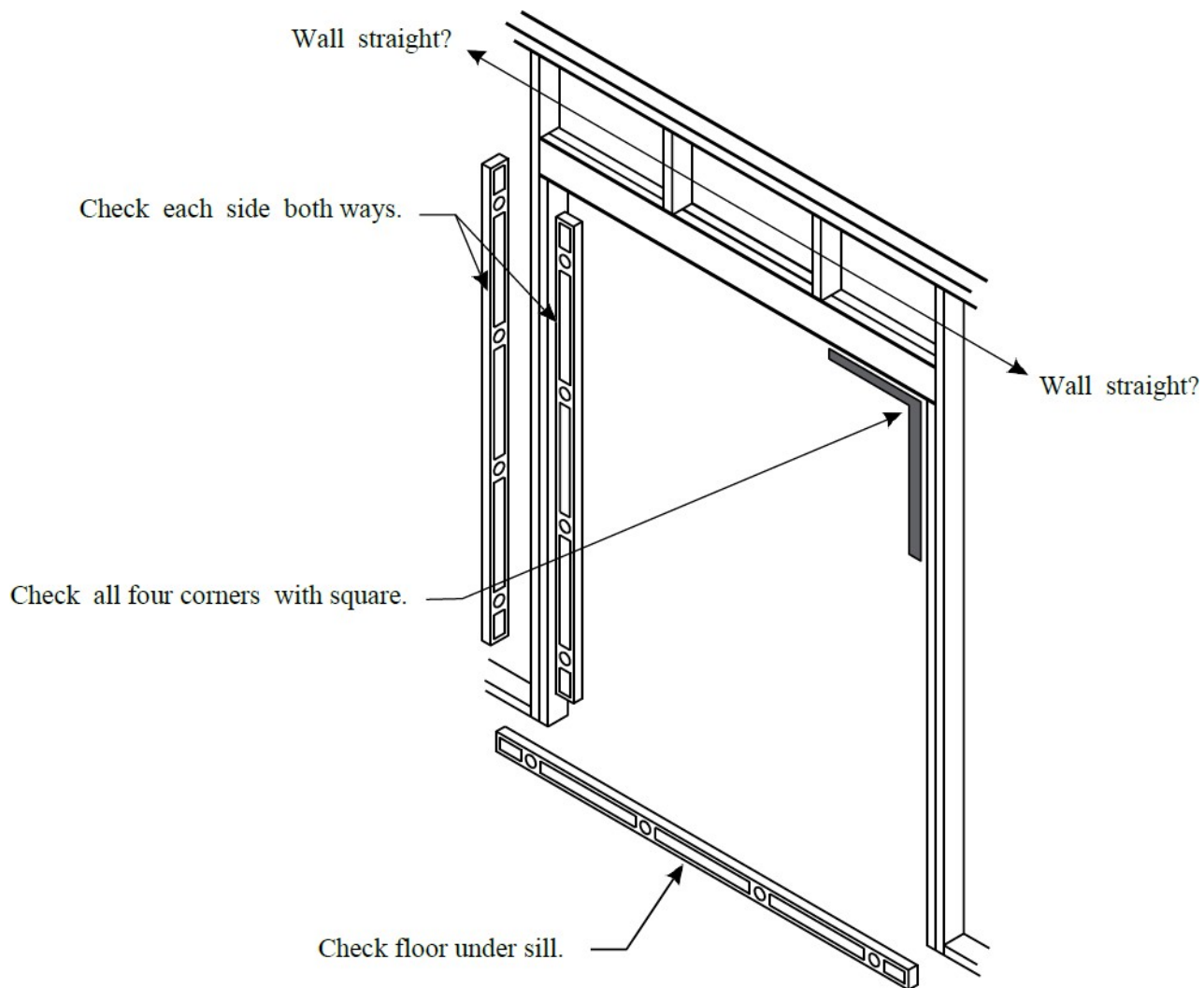
***Sealant Application:**

- Seal all joints between jambs and moldings.
- Apply sealant to bottom ends of sills before attaching them to the threshold.
- Run continuous beads of sealant along entire length of bottom frame sill.
- Apply 1/4" bead of sealant to bottom of sill along fixed (inactive) door riser.

Frame

Check rough opening as follows and correct if necessary:

- Sub-floor to be flat, level and clean. Sill must be supported throughout its entire length.
- All four corners to be square. Check with a framing square. Check cross-dimensions.
- Framing and walls to be plumb. Use a 6-foot level to check both side of opening.
- All wall surfaces to be straight and sides parallel.
- Opening to be correct size. Allow $\frac{1}{4}$ " to $\frac{3}{8}$ " on sides and $\frac{1}{2}$ " at head.



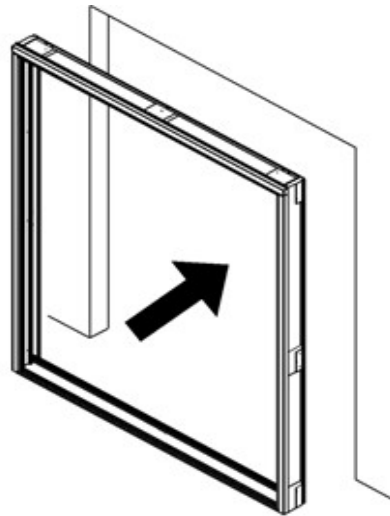
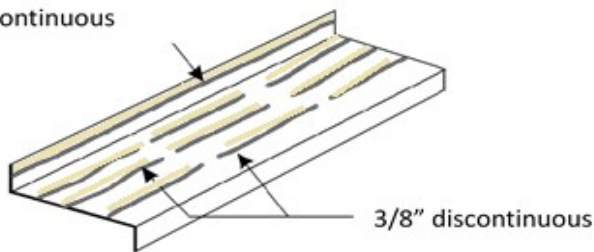
Set Unit Into Rough Opening

Seal all joints between the sill (pan flashing optional) and the jambs for a watertight sill. Apply a $\frac{3}{8}$ " continuous bead of sealant to the backside of sill and two $\frac{3}{8}$ " discontinuous beads of sealant to the bottom of the sill and continue 6" up the jamb. Install drip cap to the head and flash as necessary.

Special note: $\frac{3}{8}$ " discontinuous sealant beads applied to bottom of sill pan allow for drainage

From outside of building, set unit into rough opening. Apply pressure on sill to set sealant.

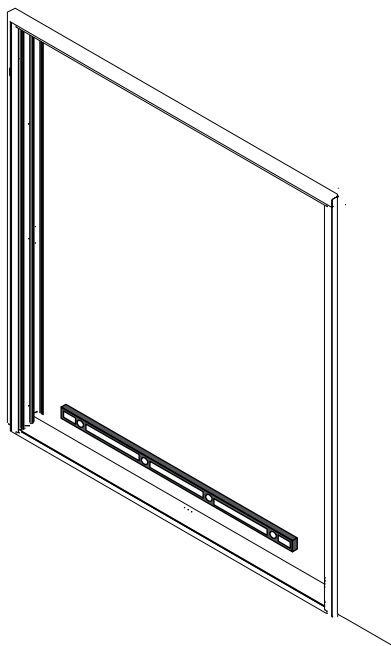
$\frac{3}{8}$ " continuous



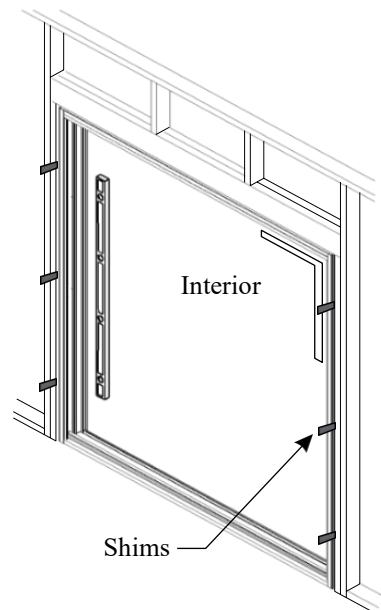
Level Sill

Sill must be flat and level; verify and adjust as necessary.

Add temporary blocking under projecting exterior edge of sill to serve as support during construction, as needed.

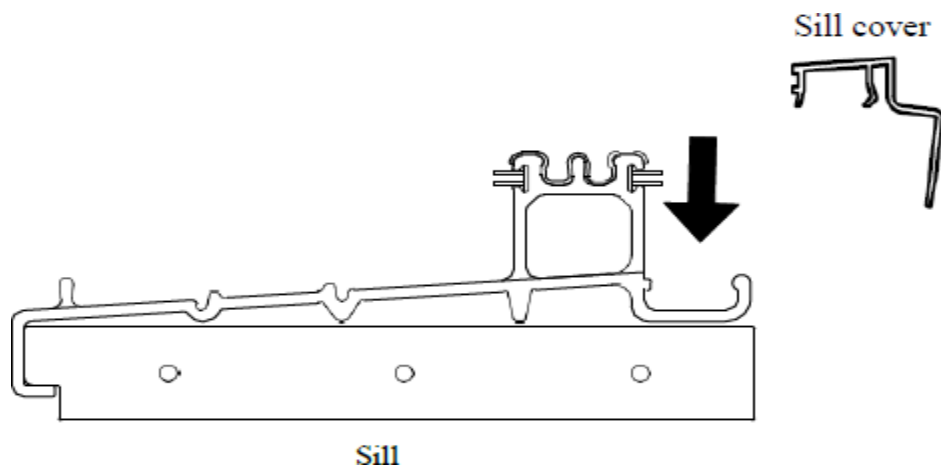


Jambs must be plumb and straight. Shim as necessary to remove any bow. Frame head must be straight. Shim frame head as necessary to remove any bow. Secure jamb shims with screws taking care not to pull the frame out of square.

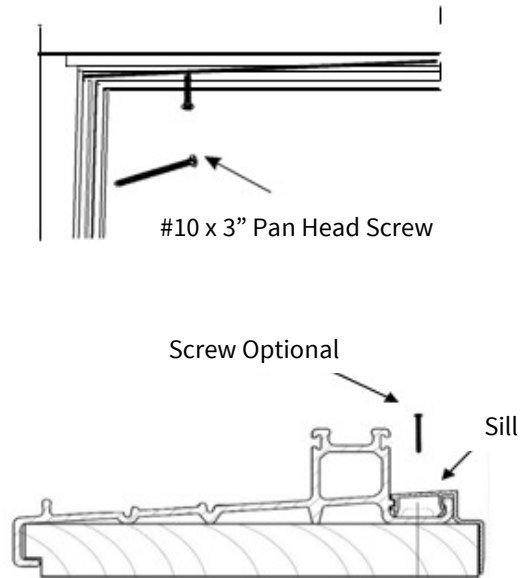
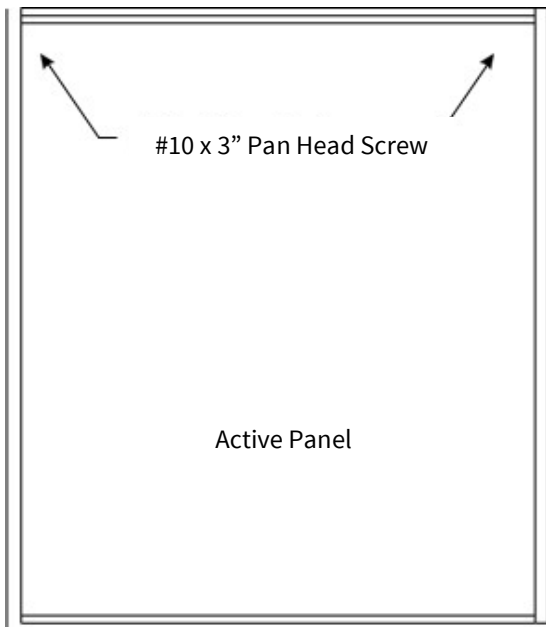


Install Sill Cover

Install the vinyl sill cover base by starting at each jamb and working towards the center of the door. Use a rubber mallet to snap in place.



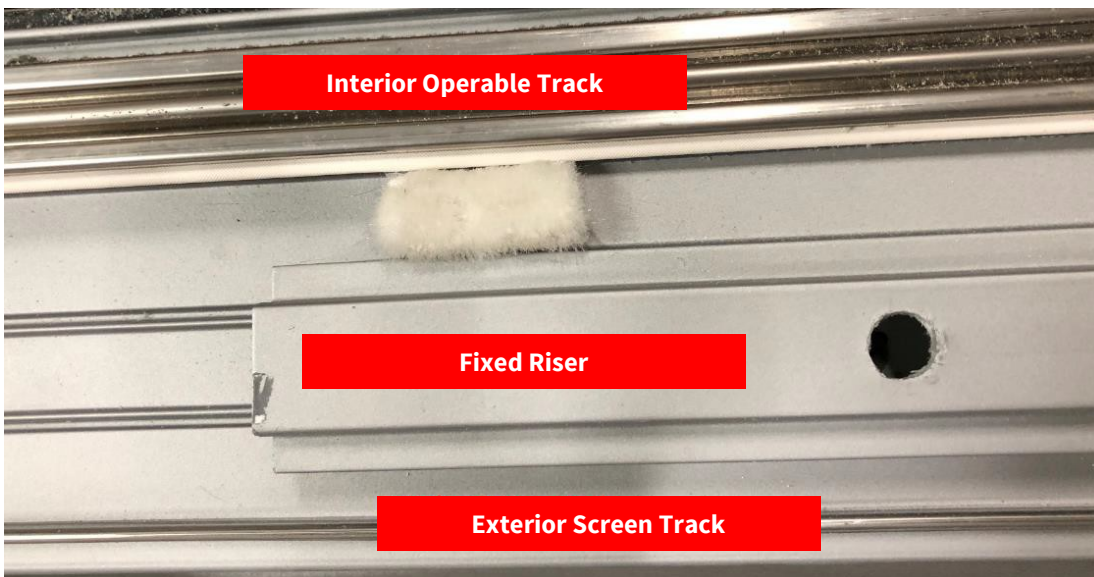
Using (12) #10 x 3" pan head screws, fasten frame to rough opening through pre-drilled holes in frame.
There are no pre-drilled holes in the sill.



Once frame is assembled and installed, install fixed panel(s) for a dry fit (before applying any sealant) insert top of stationary panel into the exterior channel of the door frame. Rotate the bottom of the panel in until the panel rests onto the frame riser groove. Slide stationary slab tight against the side frame jamb, pushing fixed panel all the way into the jamb. Then install operable panel(s). Make sure everything is lining up properly before securing fixed panel. Operate door to ensure interlocks are meeting and operable panel connects to locking jamb (astragal on 4-panel doors).

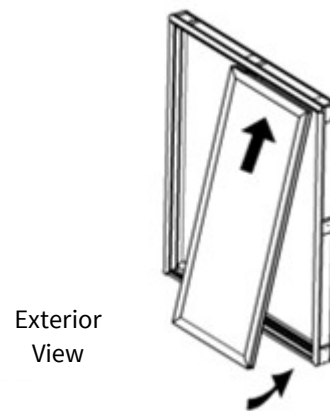
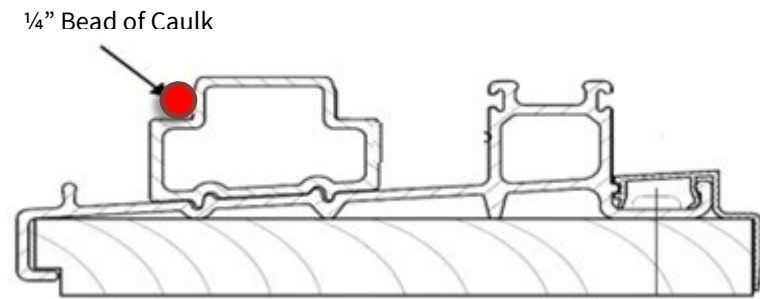
Once this is completed, remove operable and fixed panels then follow next steps.

Install weather strip square at threshold, between fixed panel riser and operable track.



Install Stationary Panel

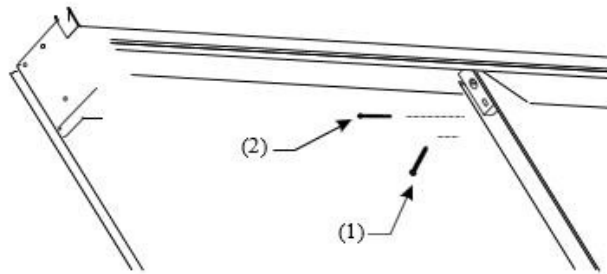
1. Apply a ¼" bead of caulk (recommend clear sealant).
2. From exterior side of unit, install stationary panel by inserting top of panel into exterior channel. Rotate bottom panel inward until sill inactive door riser leg sets into groove.
3. Slide slab slightly against side jamb
4. Wipe off excess caulking



Note: Use a glazing cup positioned in the center of the glass panel and push down on cup to completely secure fixed panel to fixed riser.

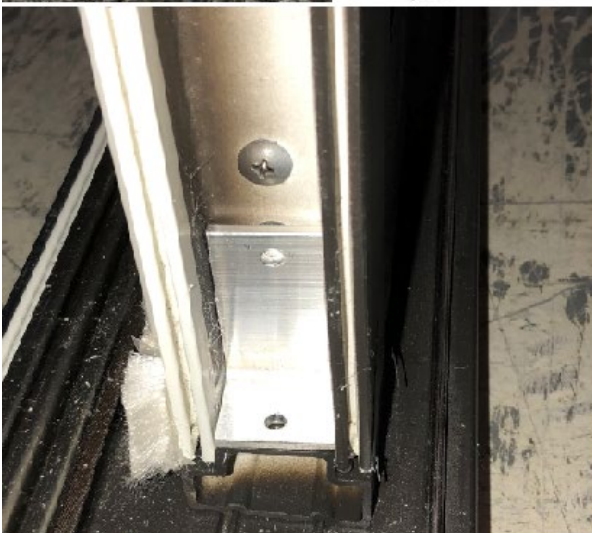
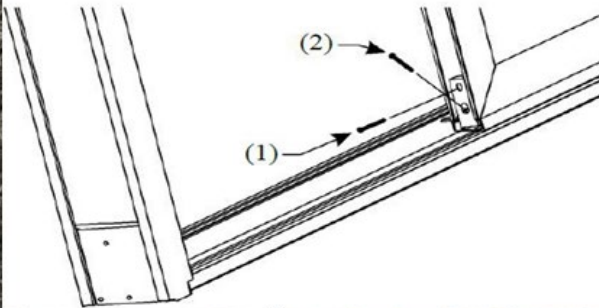
Step 1

Remove (and discard) the top screw in the inactive panel. Then, insert the fixed plastic L shaped panel anchor for head as shown. Drill a $\frac{1}{8}$ " pilot hole in the frame head and blocking substrate. Install the #10 x 3" Phillips pan head screw (1) through the panel anchor to the frame.



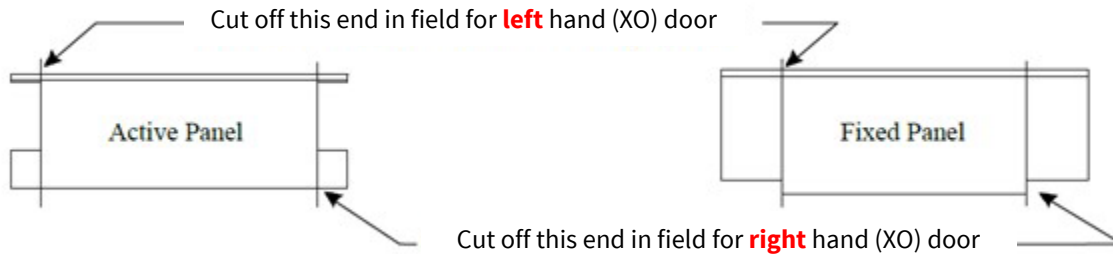
Step 2

Remove (and discard) the bottom screw in the inactive panel. Then insert the panel anchor as shown. Drill a $\frac{1}{8}$ " pilot hole in the frame sill and blocking substrate. Install the #10 x 3" Phillips pan head screw (1) through the panel anchor to the frame. Install the metal L-bracket at bottom of fixed panel #10 x $1\frac{1}{2}$ " Phillips pan head screws (2) through the panel anchor into the bottom screw hole of the inactive panel.



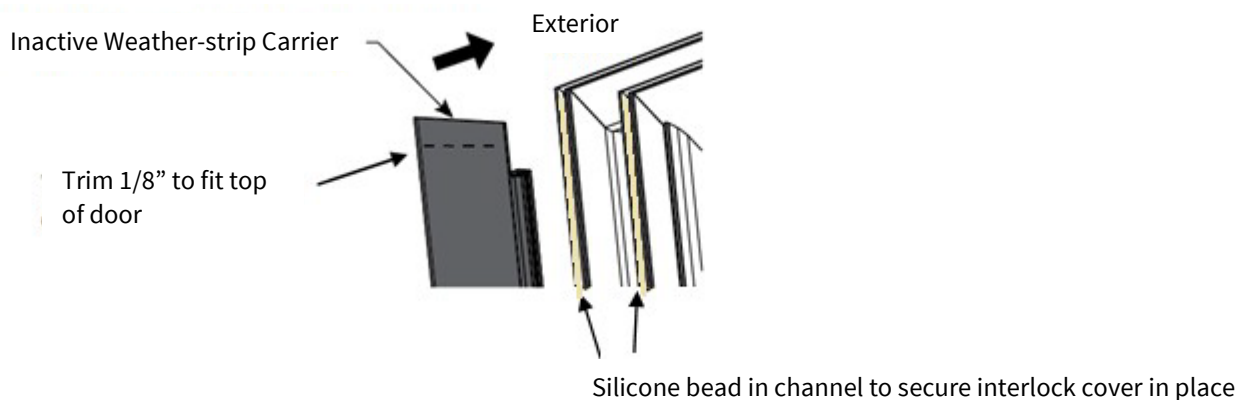
Install Stationary Panel

1. Locate the two (2) weather-strip carriers in the frame box; one for the active panel and one for the fixed panel.
2. The carriers have been sent along for cutting in the field, based on the handing of the door.
3. Follow the instructions below for the door handing you are installing.

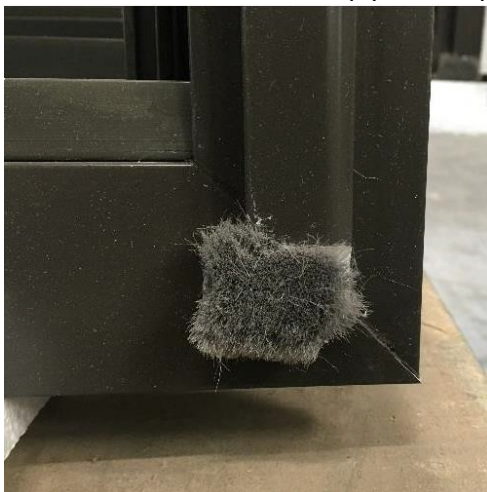


Install Stationary Panel

Install weather-strip carrier, use a block of wood or rubber mallet to avoid damage to the parts. Line up the fixed slab weather-strip carrier 1/8" under the bottom of the head jamb. Bottom straight edge of interlock cover may need to be trimmed 1/8". Insert barbs into stile grooves, tap into place, then do the same at the sill, working your way towards the center of the panel. Make sure that both carriers fit properly into the slots on the edge of each slab.

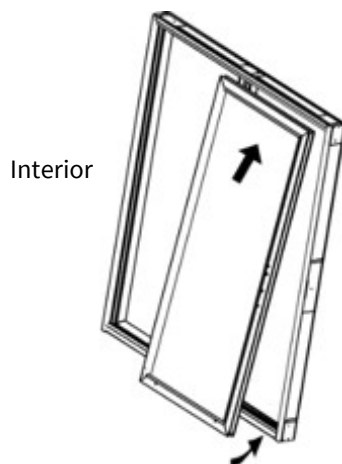


Install interlock weather strip pile at top and bottoms of fixed interlock



Install Active Panel

From interior side of unit, install active panel up into interior channel in head jamb. Push upwards as far as possible and rotate into place with rollers engage onto sill roller track.



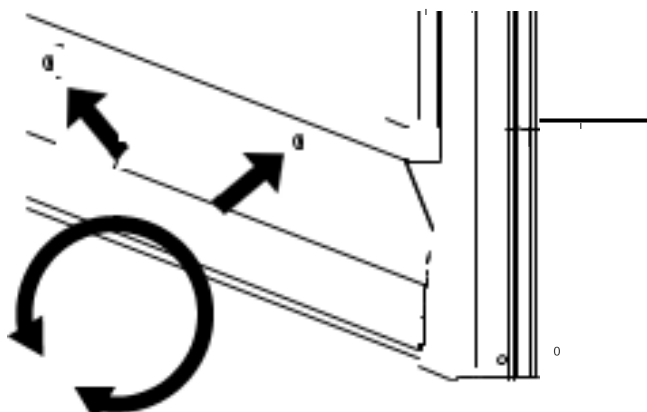
Special note: Be sure to have the active panel near the closed position before installing to ensure the interlocks will meet when the door is closed. Be sure that the panel is square to the frame.

Adjust Rollers

**** Lift operable panel so the weight is not on the rollers when adjusting****

If you do not take the weight off before adjusting you may strip out adjustment screws.

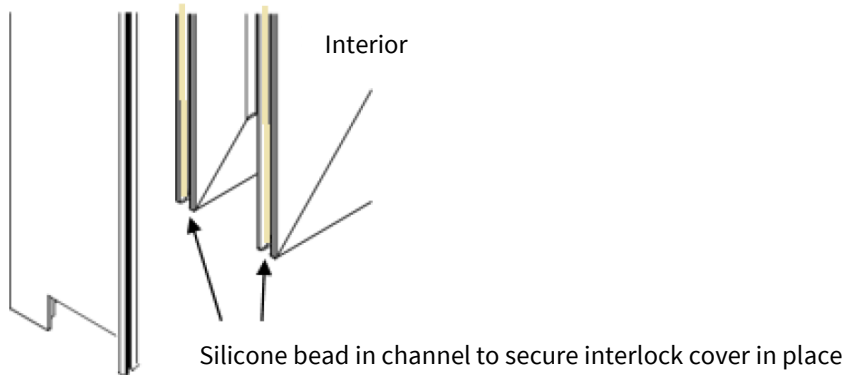
Using a #2 Phillips screwdriver, turn adjustment screws left or right until panel is level and glides smoothly across the track, ensuring the panel is level. Close door to within ¼" of lock jamb. Use visual margin to assure panel is adjusted straight with frame.



Handle Installation

Attach active weather-strip carrier

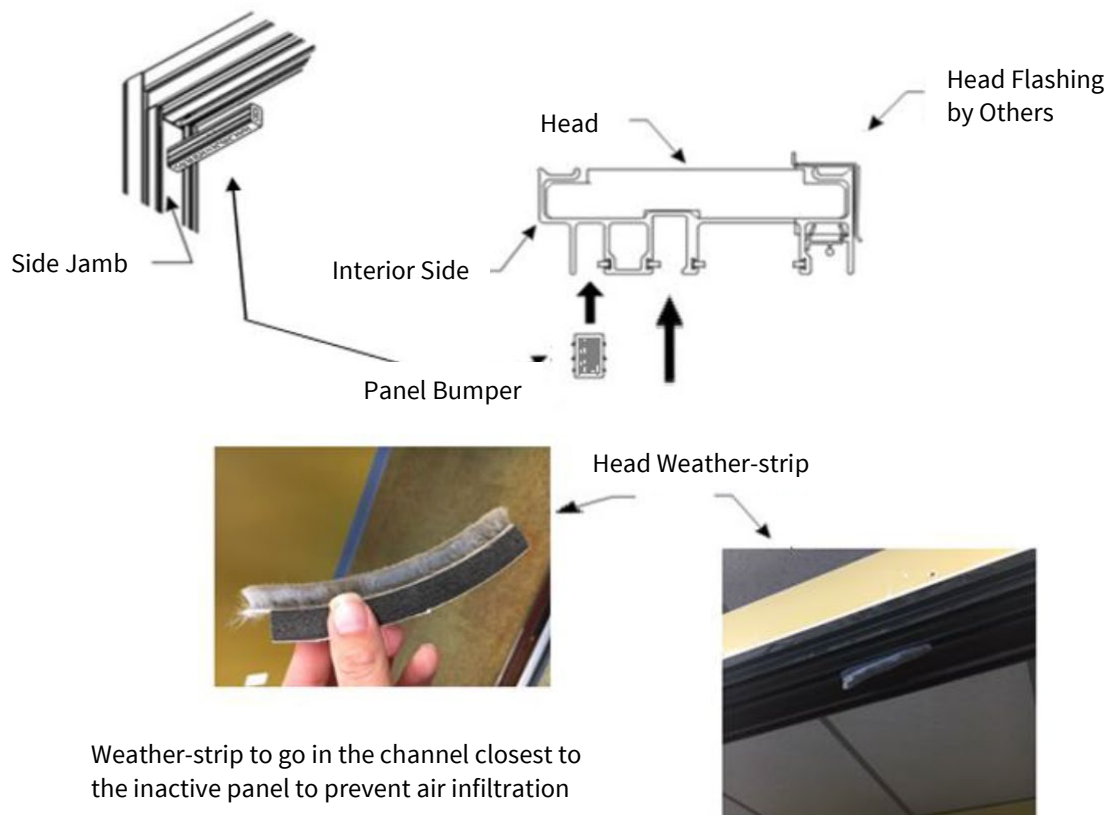
Align active interlock 1/8" above bottom edge of active panel. Top straight edge of bottom panel may need to be trimmed 1/8". Starting at bottom, insert barbs into stile grooves. Working your way up, tap in place with a hammer and wood block or rubber mallet. Carefully inspect interior edge of interlock. Tap as necessary to obtain a tight fit along door edge.



Insert head stop bumper (rubber) and head weather-stripping

Insert head stop bumper into innermost channel in head jamb, butting end of bumper against stationary side jamb. Seat stop bumper flush with head jamb.

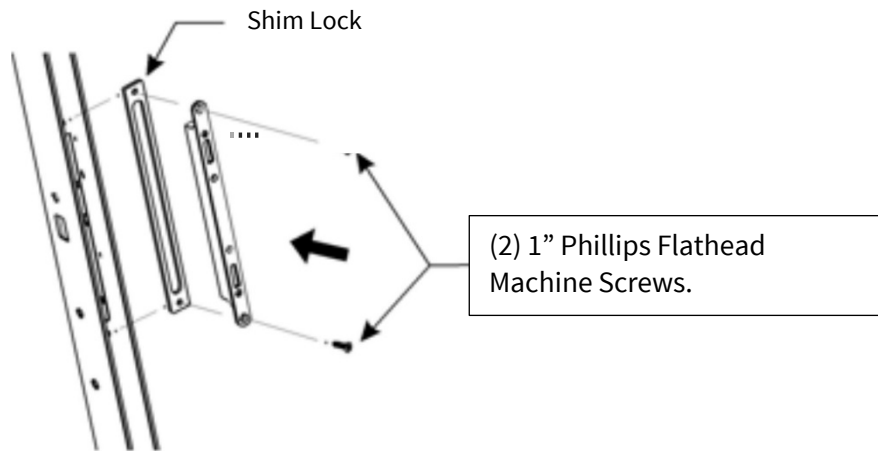
Special note; ·If needed, the bumper can be cut down from its original 6" length, to 4 1/2", allowing for a wider entrance



Handle Installation

Install Mortise Lock

Install mortise lock and spacer through pre-fabricated holes in active door edge.

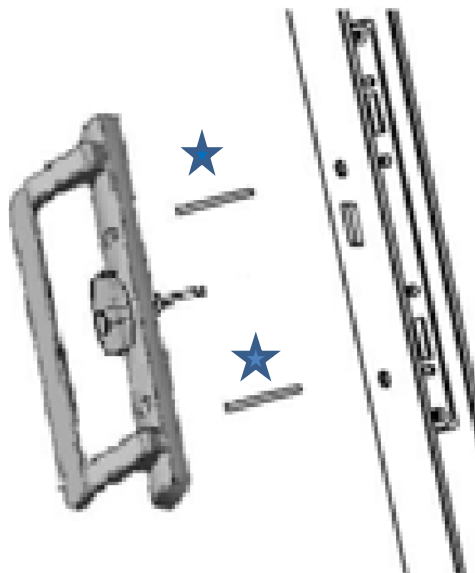


Align Exterior Handle

(See instructions in handle box, these may be different with handles)

- Assemble handle to escutcheon plate according to the hand of the door with 2 machine screws. The curve of the handles should slope toward the center of the door. Tighten securely to prevent loosening during operation.
- The tailpiece will require positioning prior to assembly on the door. Rotate the tailpiece until it reaches a horizontal position.
- Place exterior handle on door aligning with the holes in the panel.

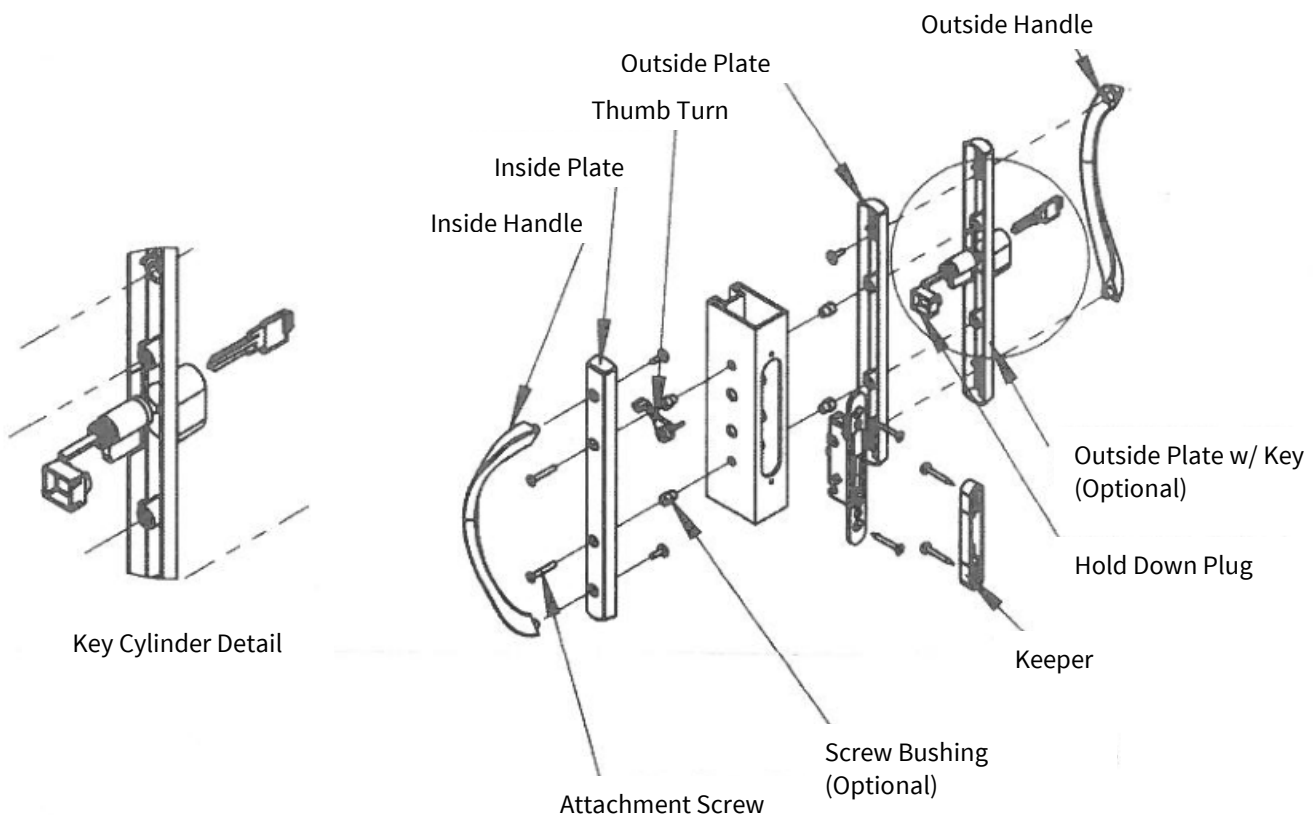
Handle Set will have two cylinders that allow the screws to thread through the mortise, so when tightening the interior/exterior handles together it does not collapse or crimp the fiberglass frame.



Align Interior Handle

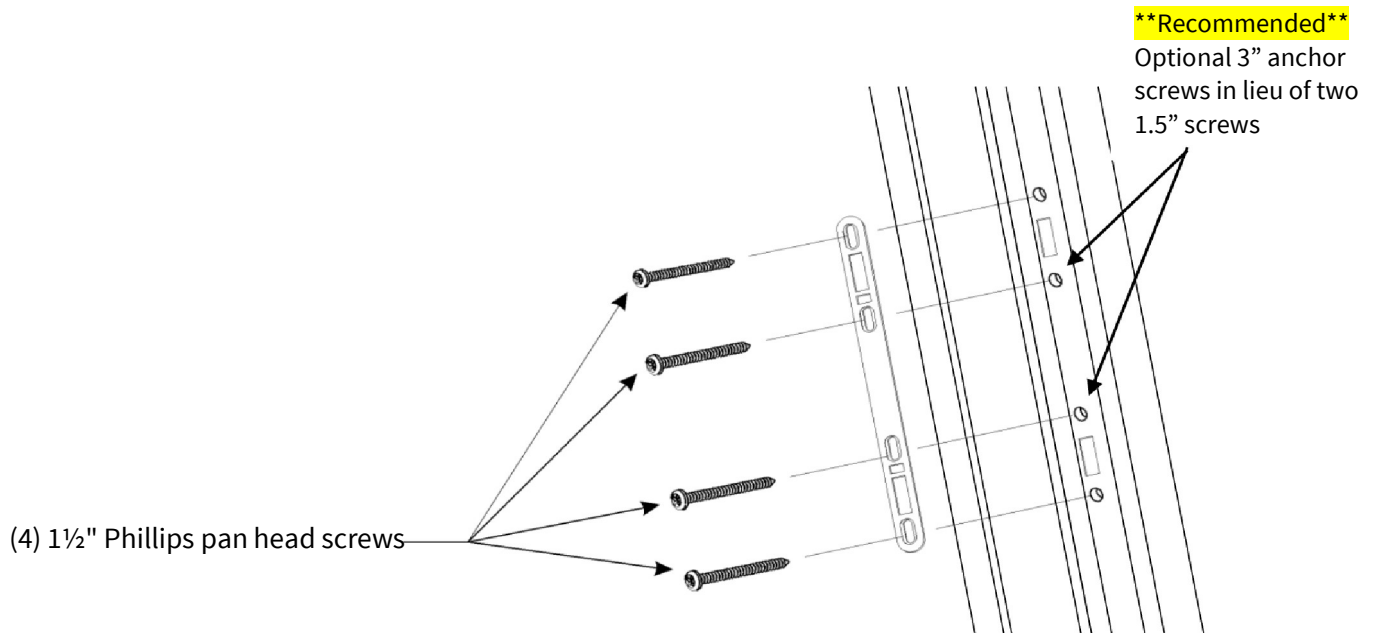
1. Assemble handle to escutcheon plate according to the hand of the door, with 2 machine screws. The curve of the handle should slope toward the center of the door. Tighten with a hand-held screwdriver securely to prevent loosening during operation.
2. If desired, the thumb knob can be changed to different positions when in the locked and unlocked positions. To do this, remove the screw in the stem of the thumb turn. Next, rotate the adaptor so the desired threaded hole in the adaptor lines up with a hole in the thumb turn stem.
3. Turn the thumb knob to align it with the tailpiece Phillips pan head. Place interior handle over latch aligning holes in panel.
4. Fasten handles together with the (2) colored screws using and screw bushings and cylinders with a hand-held screwdriver and, do not tighten the mounting screws completely
5. Completely close the active door. Rotate the key to both locked and unlocked positions. In each case the key should be removable, indicating the lock is installed properly. If it does not operate properly rotate the tailpiece in the opposite direction and reinstall. Tighten the mounting screws to complete the installation.

*****Special note: use caution to prevent over-tightening screws*****



Install keeper

Align keeper to pre-drilled holes in active jamb and fasten with (4) 1½" Phillips pan head screws. Close door and adjust keeper for proper latch engagement. Latch throw can be adjusted by the slotted adjustment screw on the face of mortise lock.



Three- & Four-panel Installation

To install a 3- **OR** 4-panel unit follow all the steps to assemble a double unit. Install all fixed panels before installing each active panel.

Three-panel Unit

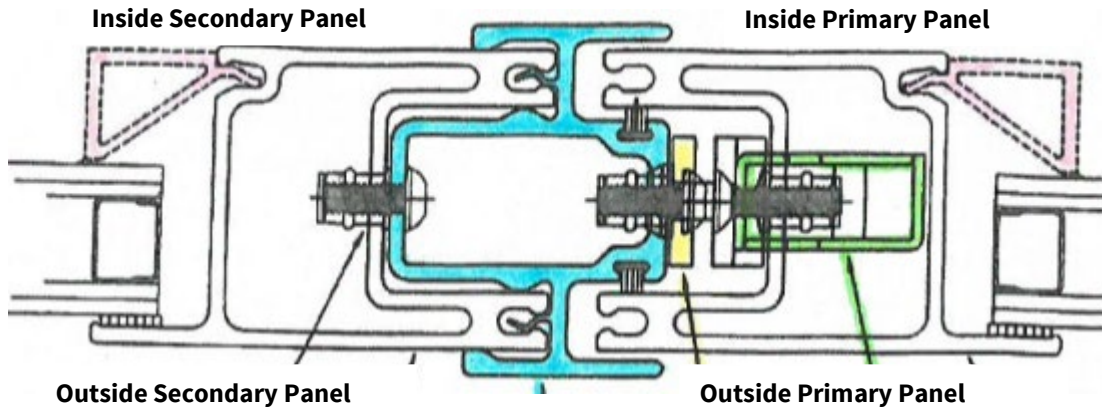
The astragal will be installed between the two inactive panels. Install the astragal so the bottom is even with the bottom of the panel. Use a rubber mallet or wood block to tap the astragal onto panel rail, making sure tips are properly aligned with slots. Work from top to bottom towards the center making sure the astragal stays centered.

Four-panel Unit

The astragal (profile 664) will be installed to the left side active pane! (looking from the outside). The bottom of the astragal is notched from the factory to go over the sill track. Install the astragal so the bottom is even with the bottom of the panel. The head end should be just below the head track to allow for smooth operation. Use a rubber mallet or wood block to tap the astragal onto the panel rail making sure tips are properly aligned with slots. Work from top and bottom towards the center making sure the astragal stays centered. Pre-drilled holes located in the center of the astragal with # 10 x ¾" panhead screws.

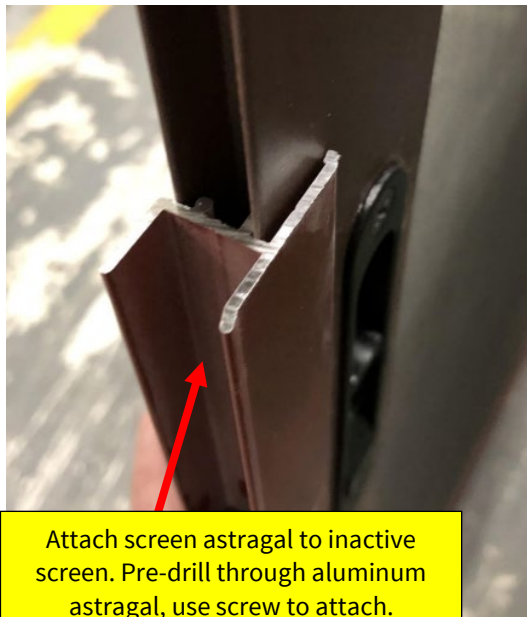
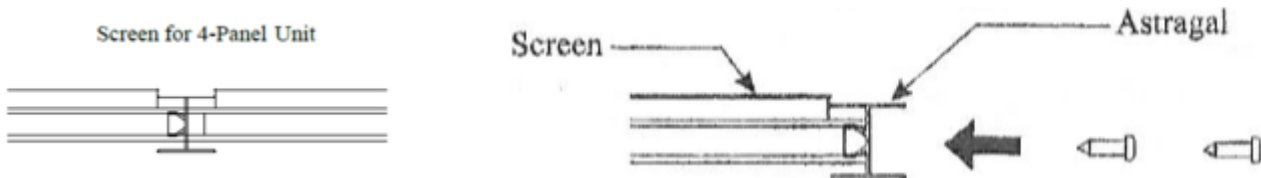
4 Panel OXXO Frame Astragal

Attach astragal to Secondary

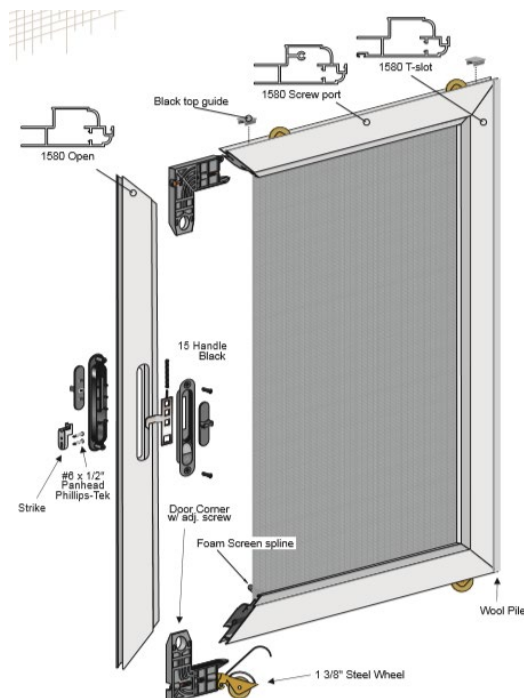


4 Panel OXXO Screen Astragal

Insert the screen astragal on the inactive screen. Using a 3/32" drill bit, drill a hole through the astragal, six inches down from the top and another hole six inches from the bottom; then screw two of #6 x 3/4" TEK screws into the screen through the holes in the astragal.



Attach screen astragal to inactive screen. Pre-drill through aluminum astragal, use screw to attach.

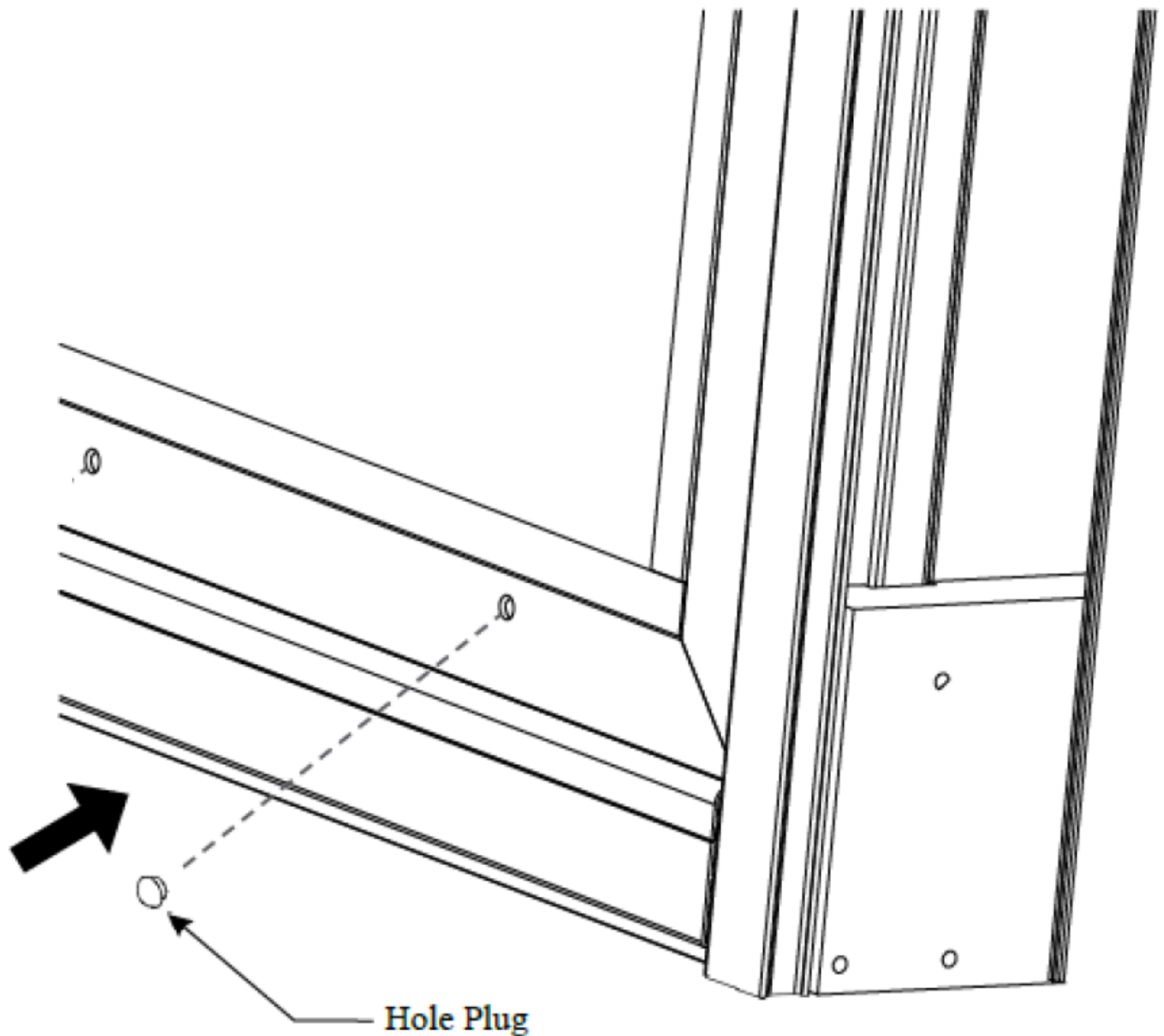


Sliding Door Screen

Refer to the instructions on the screen hardware bag attached to the screen handle. There is also an instruction label attached to the screen with partial instructions.

Insert Adjustment Hole Plugs

Two plugs are supplied for each operable panel. Insert the plugs into the roller adjustment holes.

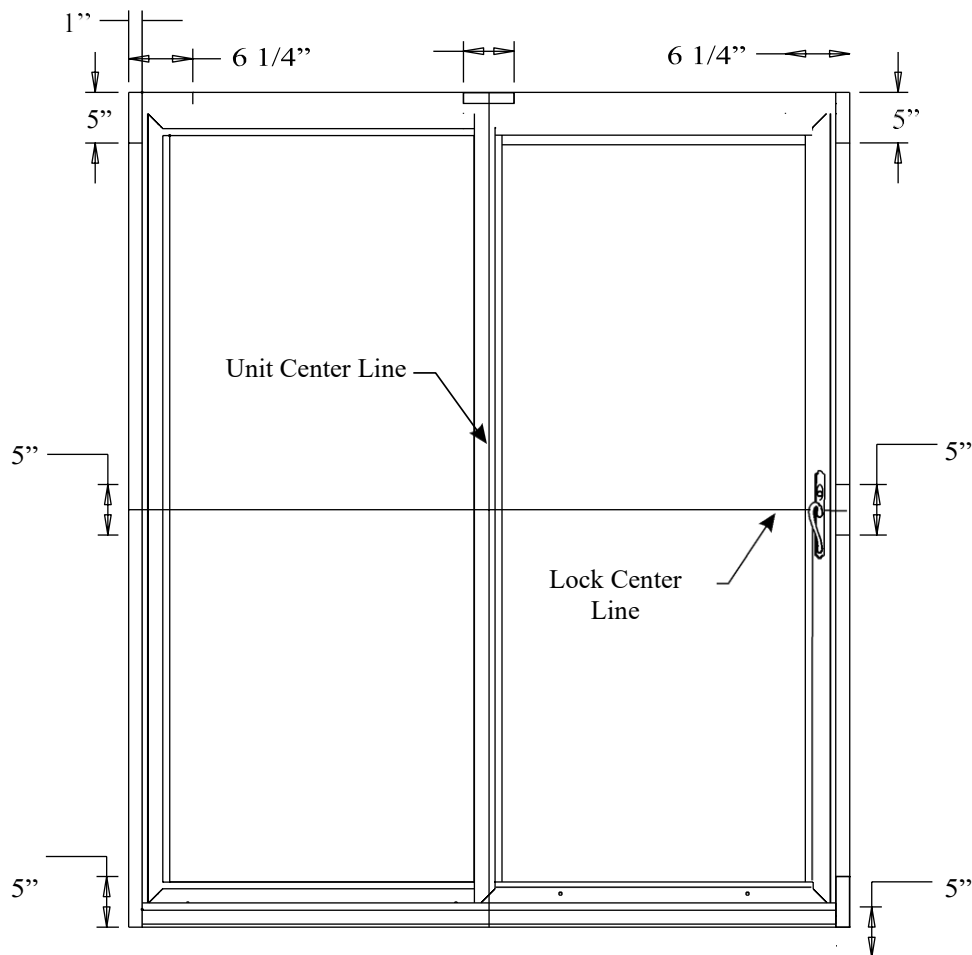


Additional Information

Interior casing attachment

Interior casing may be attached to the frame in either of the following ways. An air nailer can be used to fasten the interior casing to the frame using 0.050" x 1½" wire brad nails through the casing and fiberglass frame. For maximum holding power, ensure that nails are installed through anchor blocks located within frame profiles. Locations are shown below for standard panel units.

For manual application, we suggest using 4d-1½" finish nails. They can be used to secure interior casing to the frame. Pre-drilled pilot holes (1/16" dia.) are recommended to avoid splitting casing or frame. Ensure that nails are installed through anchor blocks for maximum holding power.



Triple-Unit Information

The intention of this section is to clarify the differences between a triple-mulled and triple-continuous Sliding Patio Door System.

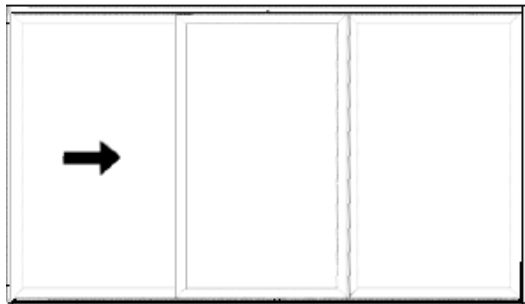
Handing configurations for a **Mulled Triple**:

(fixed, left hand active, fixed) OXO Left Hand (fixed, right hand active, fixed) OXO Right Hand

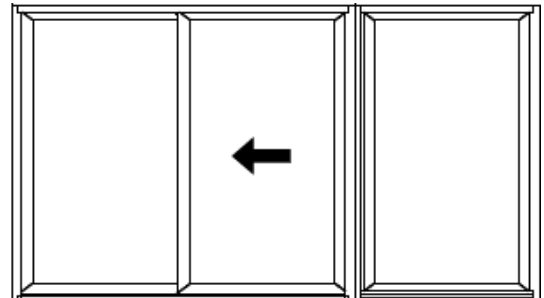
Handing configurations for a **Continuous Triple**: (left hand active, fixed, fixed) XOO

(fixed, fixed, right hand active) OOX

Please note that the overall width of a mulled unit is different than that of a continuous unit. Another significant difference between a mulled triple and a continuous triple is the packaging. A triple continuous unit will be shipped in two Uni-boxes and a long frame box. In comparison, a mulled unit will ship in just two unit boxes.



Triple continuous patio door XOO shown

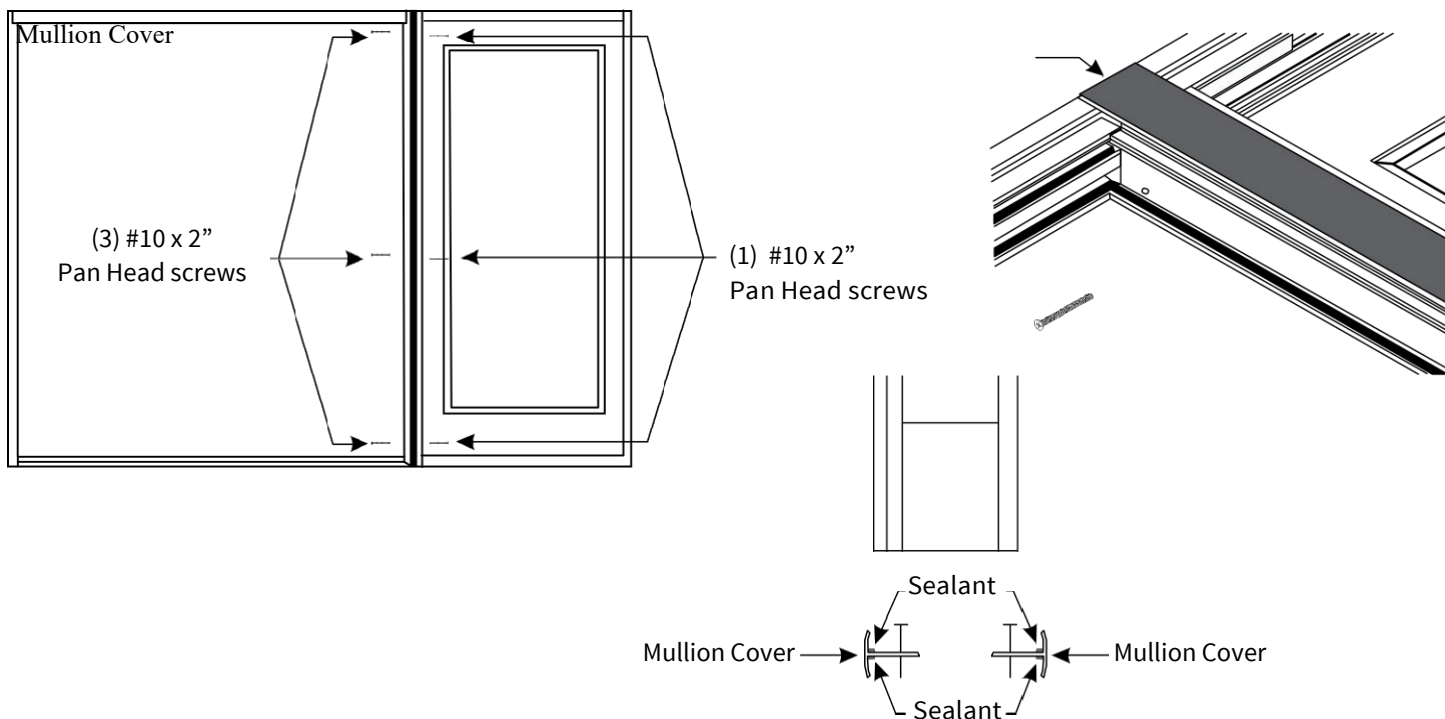


Triple mulled patio door XOX shown

Mulled Units

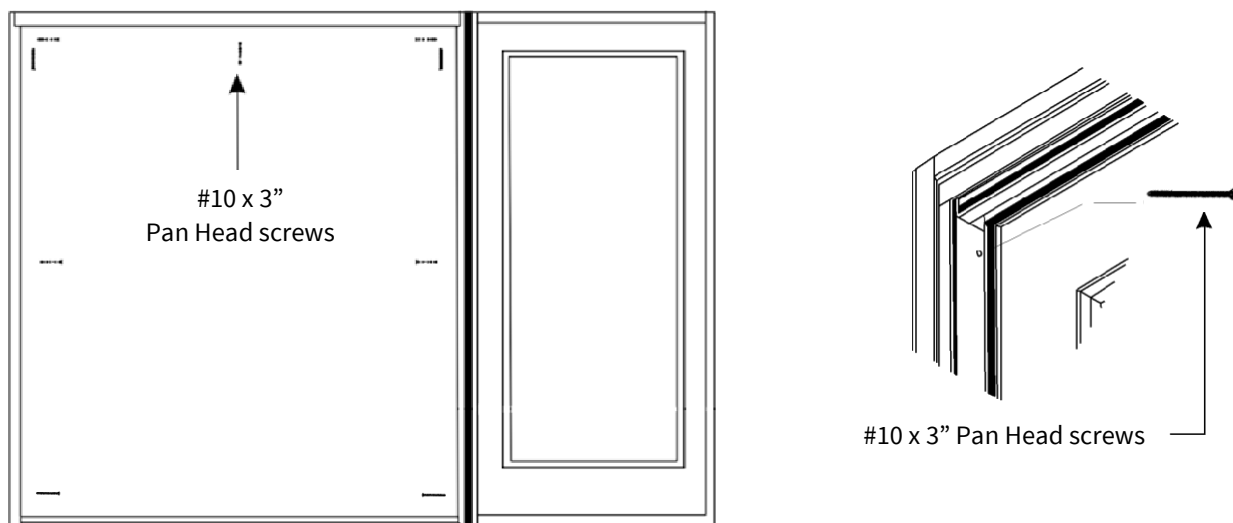
Attach M.E.U. to Two-Panel System (OXO Doors)

Run a bead of sealant on the mullion covers and then staple the covers to the sidelight. Staple into the substrate and not the fiberglass. A $\frac{3}{4}$ " staple is recommended. Staple the two mullion covers to the M.E.U. Align M.E.U. with the two-panel system. Using (6) #10 x 2" pan head screws, fasten M.E.U. and the two-panel systems together through pre-drilled holes in frames. Use backer rod or low expansion foam to fill in any cavity between the two frames being mulled together.



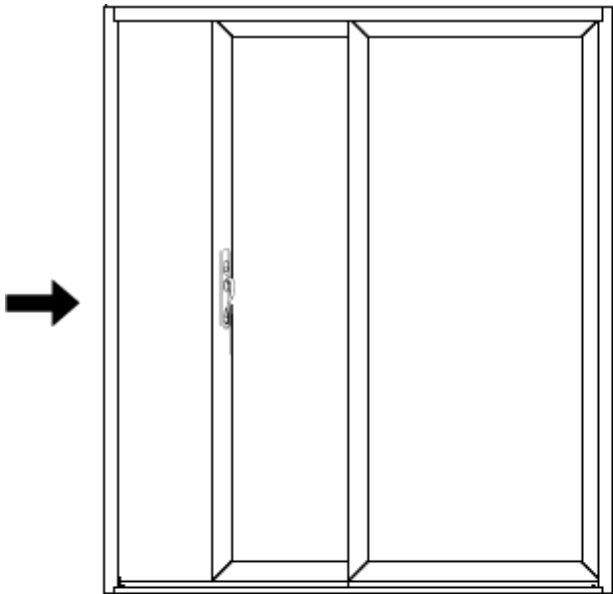
Install System

Turn to page 9 and follow installation steps. Note that some of the details on page 9 are tailored to the double patio system and may vary slightly. The attachment points for the mulled triple are shown below.

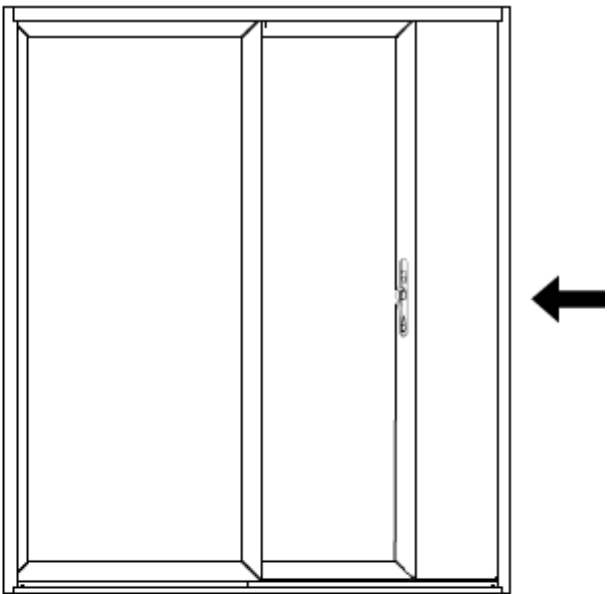


Door Handing Guide (Doors are handed as viewed from the exterior)

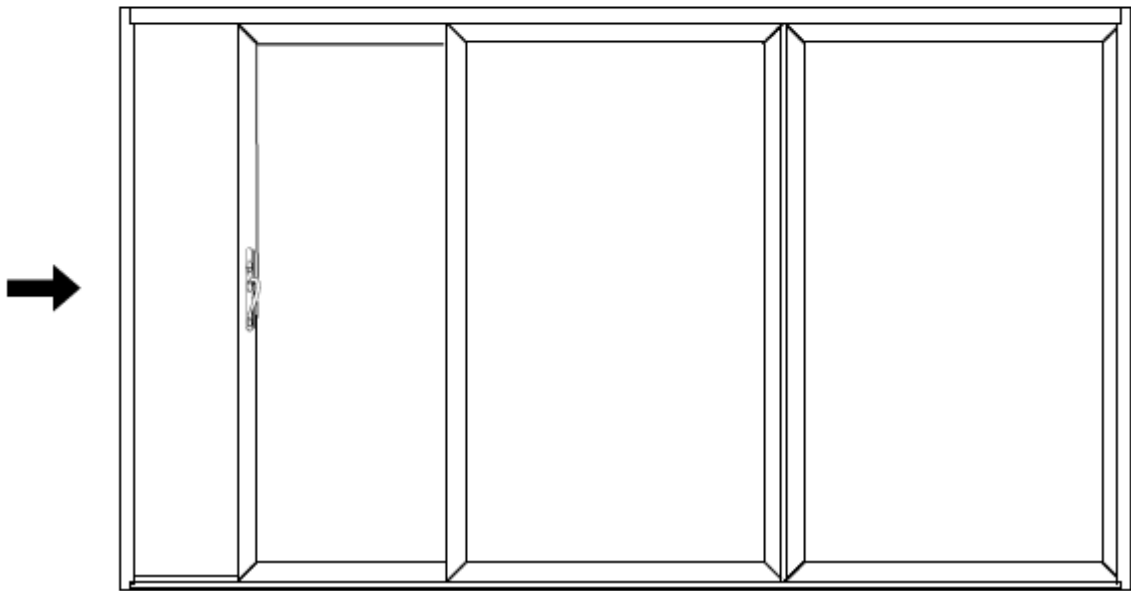
All quad units are left-handed.



Left hand door (XO)



Right hand door (OX)

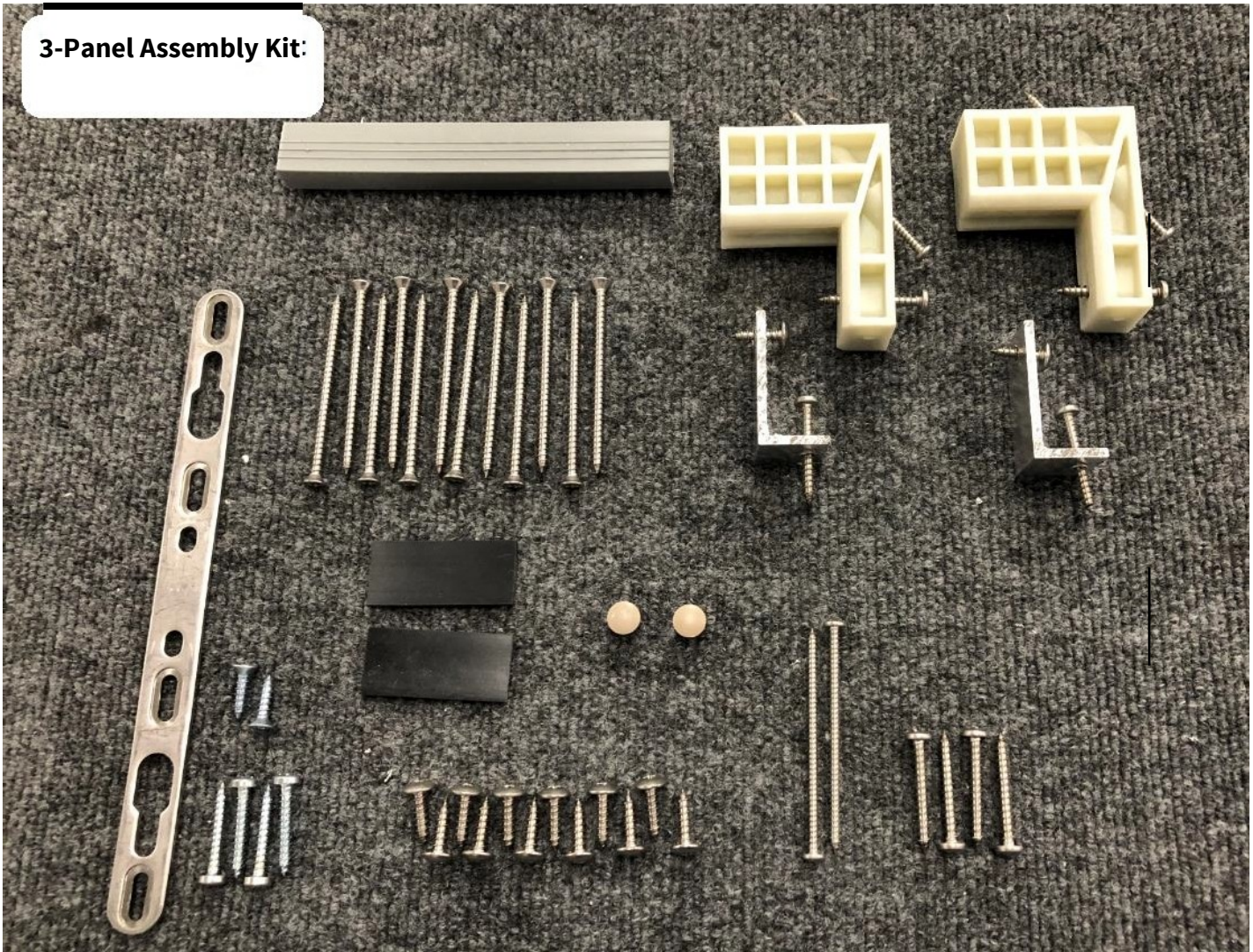


Left hand door (XOO) Shown. (OOX) Opposite

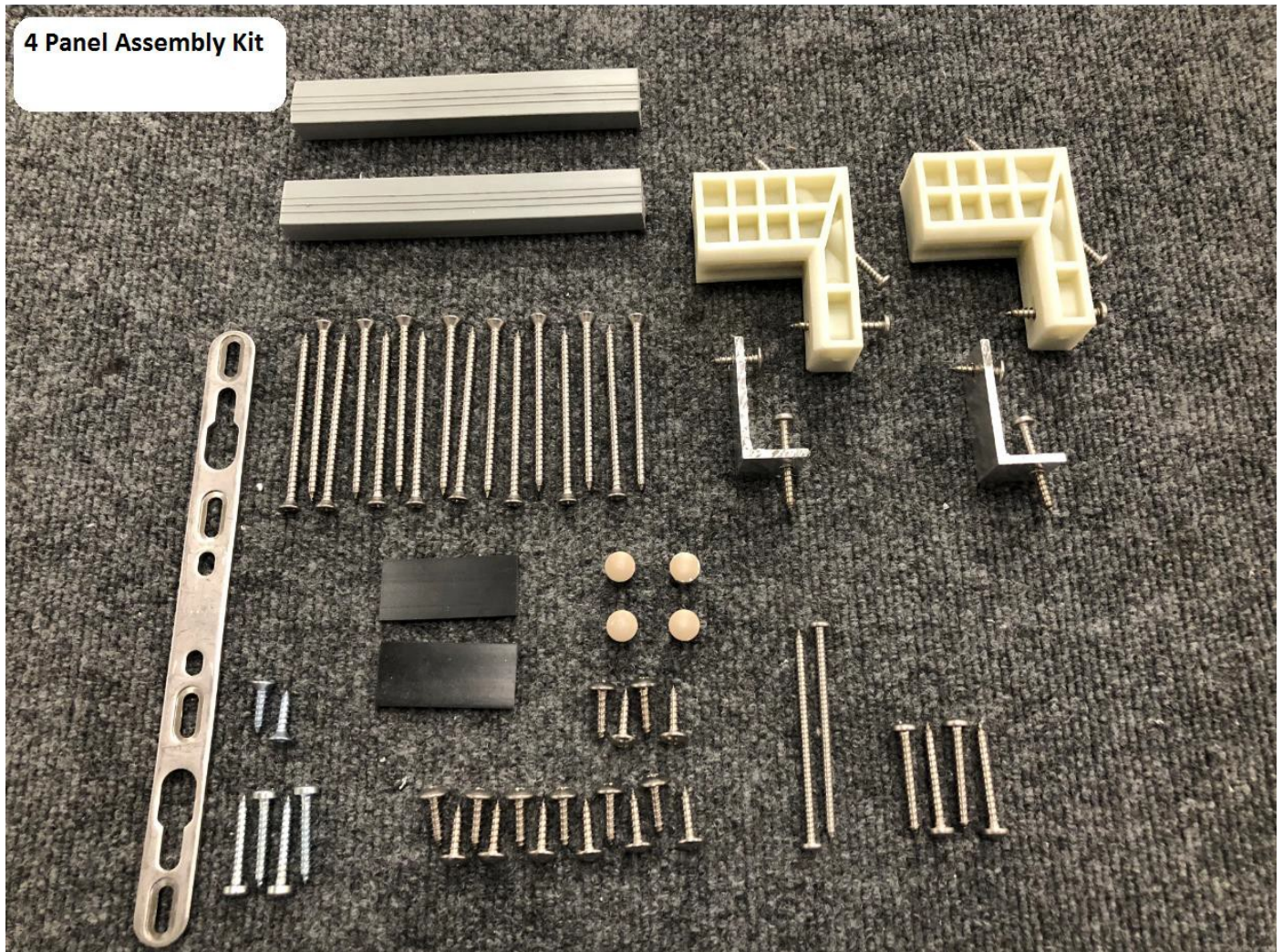
Fit & Finish



3-Panel Assembly Kit:



Fit & Finish



Fit & Finish

All Sliding Patio Doors must be installed according to the Installation Guide of Alpen High Performance Products (the manufacturer) as well as ASTM Standards. The Manufacturer's Installation Guide is supplied with the Sliding Patio Doors upon Delivery. These guidelines for installation include critical details for fit and finish listed below:

- **Sealant Application:** Seal all joints between jambs and moldings. Apply sealant to bottom ends of sills before attaching them to the threshold. Run continuous beads of sealant along entire length of bottom frame sill. Apply ¼" bead of sealant to bottom of sill along inactive door riser.
- **Installing Active Panel:** Be sure that the panel is square to the frame. This is accomplished by adjusting the rollers on the bottom of the active sash before installing the active weather strip carrier. Also test the operation of the handle lock and make sure the lock engages the keeper properly.
- **Operating Handle Lock:** The keeper on the frame can be adjusted for proper latch engagement/alignment. It is also critical that the rollers in the active sash get adjusted properly to assure the active sash rolls smooth and the lock and mortise align correctly (square.) Take a measurement from the top of the threshold to the top of the engaged lock and correlate that to the keeper on the frame side to make sure the lock and keeper align correctly.
- **Attaching Weather Strip Carriers:** Make sure the active panel weather strip carrier is centered along the active sash panel. Please trim the active panel weather strip carrier ⅛" at the top of the carrier using a square and sharp razor blade. This will allow smoother operation of the active panel. Alpen High Performance Products also suggests securing the weather strip carriers with silicone once the unit operates/locks correctly to prevent the PVC piece from warping in intense sun and variable climate changes.

Fit & Finish

Double SPD's

Install frame according to Manufacturer Installation Instructions (plumb/level/square). Apply ¼" clear silicone to sill of inactive door riser

Insert top of stationary panel into the exterior channel of the door frame. Rotate the bottom of the panel in until the panel rests on the frame riser groove.

Slide stationary slab tight against the side frame jamb. Remove the top and bottom screw in the inactive panel.



Attach stationary panel with corner anchors to top and bottom of the stationary panel. Use #10 x 2 ½" Phillips pan head screws supplied with the door. Pre-drill pilot holes as necessary to secure screws through fiberglass framing.

Install active panel from interior. Push upwards as far as possible into the head jamb. Rotate bottom into place until roller engage onto the sill roller track.

Using #2 Phillips screwdriver, turn adjustment screws in rollers left or right until active panel is level and glides smoothly. Close door to within ¼" of the vertical lock jamb. Use visual margin to assure panel is straight / level with the vertical lock jamb. Once active panel is level, adjust the keeper on the vertical lock jamb to meet the lock mortise on the active panel.

Apply Active Weather Strip Carrier. The Active Weather Strip Carrier may need trimmed 1/16" to 1/8" in order to fit properly and not rub/catch on the Header/Sill of the Door.

Fit & Finish

Triple SPD's

Install frame according to Manufacturer Installation Instructions (plumb/level/square.)

An interior and exterior astragal will be supplied for joining the second fixed panel in the position desired (XOO, OXO, and OOX).

Install all fixed panels before installing each active panel.

Follow Installation Directions for installing double sliding patio door.

Make sure astragals are centered and that clear silicone is used on the back side to assure proper adhesion and water tight seal. Apply ¼" clear silicone to sill of inactive/fixed door riser.

Insert top of fixed panel into the exterior channel of the door frame. Rotate the bottom of the fixed panel in until the panel rests onto the frame riser groove of the sill.

Slide stationary slab tight against the side frame jamb. Remove the top and bottom screw in the inactive panel.

Attach stationary panel with corner anchors to top and bottom of the stationary panel. Use #10 x 2 ½" Phillips pan head screws supplied with the door. Pre-Drill pilot holes as necessary to secure screws through fiberglass framing.

Install active panel from interior. Push upwards as far as possible into the head jamb. Rotate bottom into place until roller engages onto the sill roller track. Using #2 Phillips screwdriver, turn adjustment screws in rollers left or right until active panel is level and glides smoothly. Close door to within ¼" of the vertical lock jamb. Use visual margin to assure panel is straight and level with the vertical lock jamb. Once active panel is level, adjust the keeper on the vertical lock jamb to meet the lock mortise on the active panel.

Apply active weather strip carrier. The active weather strip carrier may need trimmed 1/16" to ⅛" at the top in order to fit properly and not rub/catch on the header/sill of the door

Fit & Finish

Quad SPD's

Install Frame according to Manufacturer Installation Instructions (plumb/level/square.) Install both fixed panels before installing each active panel.

Follow installation directions for installing Double Sliding Patio Door. Apply ¼" Clear silicone to sill of inactive/fixed door riser.

Insert top of fixed panel into the exterior channel of the door frame. Rotate the bottom of the fixed panel in until the panel rests on the frame riser groove at the sill.

Slide each stationary slab tight against the side frame jamb. Remove the top and bottom screw in the inactive panel.

Attach stationary panel with corner anchors to top and bottom of the stationary panel. Use #10 x 2 ½" Phillips pan head screws supplied with the door. Pre-drill pilot holes as necessary to secure screws through fiberglass framing.

Install active panels from interior. Push upwards as far as possible into the head jamb. Rotate bottom into place until roller engage onto the sill roller track. Be sure the active panel is square to the frame.

Using #2 Phillips screwdriver, turn adjustment screws in rollers left or right until active panel is level and glides smoothly.

Close both active panels to within ¼" of each other. Use visual margin to assure panels are straight /level with each other. The reveal between both active panels needs to be equal to assure both active panels close together square.

Once active panels are level, attach the center floating astragal to the left side active panel (outside, looking in.) Center the floating astragal on the left active panel so that the keeper meets the mortise lock on the right active panel. Adjust keeper as necessary to catch the lock.

Apply active weather strip carriers. These weather strip carriers may need trimmed 1/16" to ⅛" to fit properly and not rub/catch on the header/sill of the door.

To Secure Quad SPD Floating Astragal:

Test operation/lock, mark the correct position of the astragal with a pencil making sure the SPD Locks and operates smoothly.

Remove astragal. Verify correct floating astragal position was marked before removing. Assure the active panels lock/close/operate correctly. Active operable door panels must be level with even reveal. Apply bead of clear silicone to the active stile grooves (left side active panel, outside looking in). Line up pencil mark on floating astragal and left side active panel. Attach the astragal and test operation/lock.

Or

Leave floating astragal attached to the left side active panel (outside, looking in). Make sure unit locks/closes/operates correctly. Active panels must be level with an even reveal. Pre-drill 1/8" hole, 6" from top and bottom of floating astragal into the fiberglass active panel frame. Secure floating astragal to the active panel with #8 1½" or #8 2" Pan Head screws.

Do not over-tighten floating astragal to the frame and collapse the astragal!

Additional Information: Fit & Finish

Weatherproof, finish and maintain system

- Apply backer rod where applicable to both the exterior and interior perimeters.
- Apply sealant over backer rod in a continuous manner around exterior side. Seal front bottom edge of sill (discontinuous), seal all joints between jambs and moldings.
- Seal joints between exterior hardware trim and door face to prevent air and water infiltration.
- Apply sealant over backer rod in a continuous manner around exterior side.
- Remove labels on the glass.
- Apply sealant over backer rod in a continuous manner around interior and exterior head and jamb perimeters to seal properly



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