

# Ultimate Sliding French G2 and USD 3" Stile Doors

## Installation Instructions

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**These instructions are relevant for the following products ordered February 2024 to present:**

- Ultimate Sliding Door 2.25
- Ultimate Sliding Door (USD) 3" Stile Door
- Ultimate Sliding Door IZ3 (USD 2.25 IZ3)
- Ultimate Sliding French Door 2.25
- Ultimate Sliding French Door G2 (USFD G2)
- Ultimate Sliding French Door G2 IZ3 (USFD 2.25 G2 IZ3)

**ABSTRACT:** These instructions are relevant for product ordered from February 26, 2024 to present. These installation instructions demonstrate the installation of a Marvin door in new wood frame construction using an industry approved water management system. For installation using other construction methods, such as remodeling, replacement, and recessed openings refer to ASTM E2112, "Standard Practice for Installation of Exterior Windows, Doors and Skylights," for installation suggestions. The same information for ASTM E2112 can be found on the ASTM website, [www.astm.org](http://www.astm.org). Regional standard practices, environmental conditions, and codes may vary and supersede the procedures contained within. The responsibility for compliance is yours: the installer, inspector, and owner(s).

The door is certified using the following installation methods:

- Through jamb with supplemental structural brackets above the stationary panel
- Structural brackets only around the perimeter

## **IMPORTANT**

Nail fin only is NOT a certified installation method. However, nail fin can be used in conjunction with through jamb or bracket installations.

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## **IMPORTANT**

Unfactored superimposed load (live, wind, or snow) deflection over the entire length of the unsupported span cannot be greater than 1/8" (3) after natural sag of the beam and permanent loads are in place.

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## **IMPORTANT**

Illustrations within this instruction show a USFD G2 door with 4 3/4" stiles. Procedures are the same for the USD 3" stile doors.

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The English language version of this instruction is the official version and shall take precedence over any translation.

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## Hazard Notations

### **WARNING!**

Always practice safety! Wear the appropriate eye, ear, and hand protection, especially when working with power tools.

### **WARNING!**

**Do NOT lift or move without proper equipment. Read, understand, and follow all lift equipment manufacturers' instructions and safety information.**

### **WARNING!**

Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to [www.P65Warnings.ca.gov/wood](http://www.P65Warnings.ca.gov/wood).

### **WARNING!**

This product can expose you to chemicals including titanium oxide, which is known to the state of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### **WARNING!**

This product can expose you to chemicals including methanol, which is known to the state of California to cause birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### **WARNING!**

Older homes may contain lead-based paint, which may be disturbed when replacing windows or performing renovations. Consult state or local authorities for safe handling, disposal, or abatement requirements. For information, go to [www.epa.gov/lead](http://www.epa.gov/lead).

*NOTE: Please consult with local waste management authorities regarding proper disposal and/or recycling of all waste materials generated during installation, including any product being replaced, packaging materials, and other waste.*

## Installer and Builder Information

- Always provide a copy of these instructions for the current homeowner.
- Plan sizing of rough opening and clearance from exterior finishing systems to allow for normal materials shrinkage or shifting (e.g. wood structure with brick veneer; allow adequate clearance at the sill). Failure to do so can void the Marvin warranty coverage.
- Refer to the Technical Installation Specifications section for technical specifications regarding the installation of this product. These installation requirements as well as the details in the section must be followed to achieve the advertised performance grade (PG) rating of this product.
- It is the responsibility of the builder, installer, and subcontractors to protect the interior and exterior of windows or doors from contact with harsh chemical washes, construction material contamination and moisture. Damage to glazing, hardware, weather strip and cladding/wood can occur. Protect with painters tape and/or protective sheathing as required. Follow all guidelines regarding material use, preparation, personal safety and disposal.
- Refer to the enclosed painting and staining instructions for exterior and interior finish instructions.
- Contact your Marvin supplier if you have any questions regarding product and materials used in manufacturing or questions on replacement parts.
- Please refer to the PDF version of this instruction for further information regarding best practices installer and builder information, code, and other legal requirements. The PDF version is the official document of record.

# Protective Film

Some products feature a clear protective film adhered to the glass surfaces to protect them from construction debris, dust, dirt, stucco, etc. When construction is complete, simply peel the film off and dispose of it with other construction debris.

## IMPORTANT

Do not use a razor blade to remove the protective film. Do not use a pressure washer to clean debris from the film. The film should be removed within nine months (typical) of application.

The use of high absorption coatings and tints, Neat+® coated glass, LoE-189® and other exposed Low-E coatings could affect adhesion and reduce the amount of time allowed to remove the film. Please refer to the [manufacturer's website](#) and [bulletin](#) for more information on the physical properties and usage of the protective film.

## IMPORTANT

**DO NOT** place suction cups over seams in the protective film.

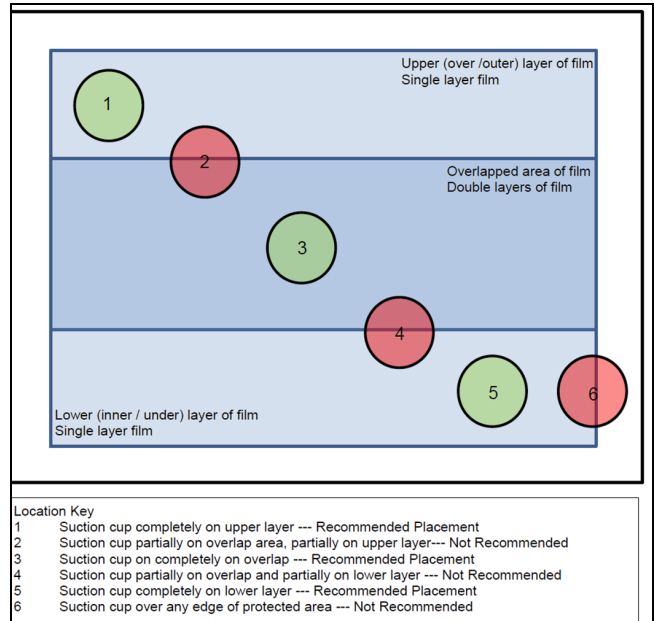


Figure 1 Do not put suction cups on seams or edges

# After Market Products

Alterations to Marvin products including window films, insulating or reflective interior window treatments or additional glazings can cause excessive heat buildup and/or condensation. They may lead to premature failures not covered under warranty by Marvin Windows and Doors.

Before purchasing or applying any product that may affect the installation or performance of Marvin windows or doors, contact the manufacturer of after-market product/glazings that are not supplied by Marvin and request written product use, associated warranties and damage coverage. Provide this information and warranties to the end user and/or building owner for future reference.

## Parts Included

- Structural brackets and 7/8" screws (2 each)
- Color matched screws for keepers, frame alignment bolts, and panel alignment guide fastening into the rough opening
- Panel roller adjustment jig
- Panel roller adjustment hex wrench (5mm)
- Sill panel bumper
- Sill weatherstrip jig
- Screen adjustment hole caps
- Interior sill liner
- Handle sets (follow instructions sent with the handle)
- Sill flange support (for OXXO doors)

## Tools and Supplies Needed

### IMPORTANT

Color matched fasteners for hardware components such as keepers, panel guides, and frame alignment bolts are included with the door. You will need to supply the installation screws for the pre-drilled holes in the jamb and head jamb as well as the screws for the sill installation flange.

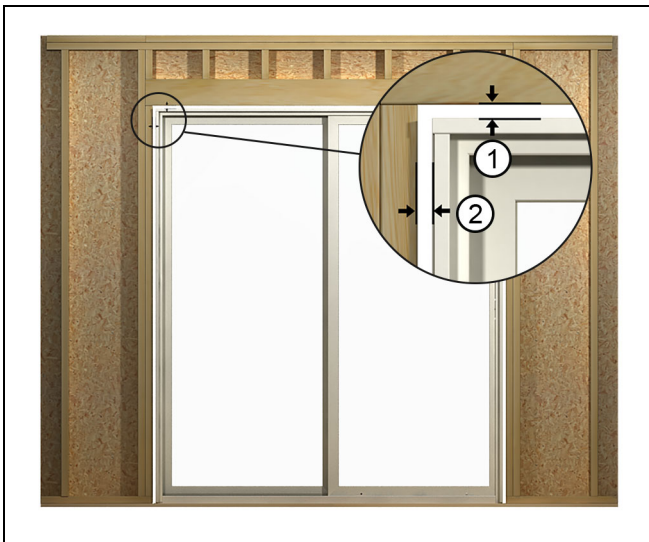
- Safety equipment including but not limited to safety glasses and gloves.
- #1 Phillips head screwdriver
- Level/Laser level
- Power drill/driver
- Hammer
- Rubber mallet
- Tape measure
- 2" Roofing nails
- #10 x 1 1/2" minimum screws or concrete anchors (dependent on sub-floor type) for fastening through the sill installation flange.
- #8 x 3" Installation screws
- Sealant: ASTM C920, Class 25 NS
- Caulking gun
- Optional: #8 x 3" trim head screws OR masonry brackets (in place of structural brackets)
- Flashing materials

## *Rough and Masonry Opening Requirements*

### IMPORTANT

These steps are crucial to obtain a trouble-free installation. If these conditions are not met, the installer must take corrective actions to alter the opening(s) before proceeding. For typical wood frame construction it is also essential that the wall sheathing be a solid surface to ensure that the unit can be secured firmly to the wall.

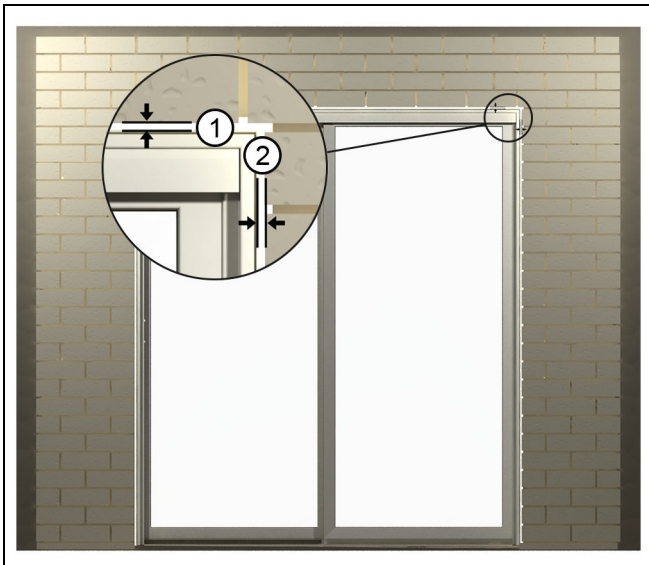
1. Rough openings (RO) should be 1/2" (13) higher and 1" (25) wider than the outside measurement of the frame (1/2" on each side of the frame) or casing.



**Figure 2 Rough Opening Clearance**

1	1/2" RO Height
2	1/2" RO Width (on each side)

**2.** Masonry openings (MO) should be 1/4" (6) higher and 1/2" (13) wider than the outside measurement of the frame (1/2" on each side of the frame) or casing.



**Figure 3 Masonry opening clearance**

1	1/4" MO height
2	1/4" MO width (on each side)

**3.** Check the bottom surface of the opening to ensure it is flat, level, and free from debris. Proper operation of the door requires a sill that is flat and level.



**Figure 4 Start with a clean flat sill**

*NOTE: For doors not on grade and in standard wood frame construction with brick veneer, make sure there is at least 1/2" between the bottom of the door sill (or eventual placement of the door) and the brick immediately beneath the sill to avoid "brick bind".*

## Rough Opening Preparation-Method A1 (WRB Before Installation)

The following section demonstrates best practice for a rough opening preparation for using a weather resistive barrier as an A1 (WRB before Installation). Refer to ASTM E2112 for the other situations not covered in this document.

1. When trimming away the air barrier at openings, first cut horizontally across the entire width of the rough opening at the head jamb and sill. Then cut vertically in the center of the opening from sill to head jamb. Finally cut the head jamb corners diagonally away from the opening. The complete cut should be in a “I” fashion. DO NOT cut air barrier diagonally from corner to corner in an “X” fashion. See Figure 5.



Figure 5

2. Wrap barrier at the sides to the interior and tack in place. Do not tack barrier at head jamb. Fold the head jamb flap up and tack in place or tuck beneath. This will allow the top flap to fit over the head jamb flashing after installation of the door. See Figure 6.



Figure 6



## Preparing the Door for Installation

### IMPORTANT

Inspect the door for any damage or missing parts. Contact your Marvin representative if there are any problems. If possible, provide the original order number and description of the door.

1. Remove the protective packaging from the unit and dispose/recycle properly. Inspect the unit for any hidden damage and report immediately to your sales representative. Provide the customer service number or glass part number etched on one of the top corners of the glass.

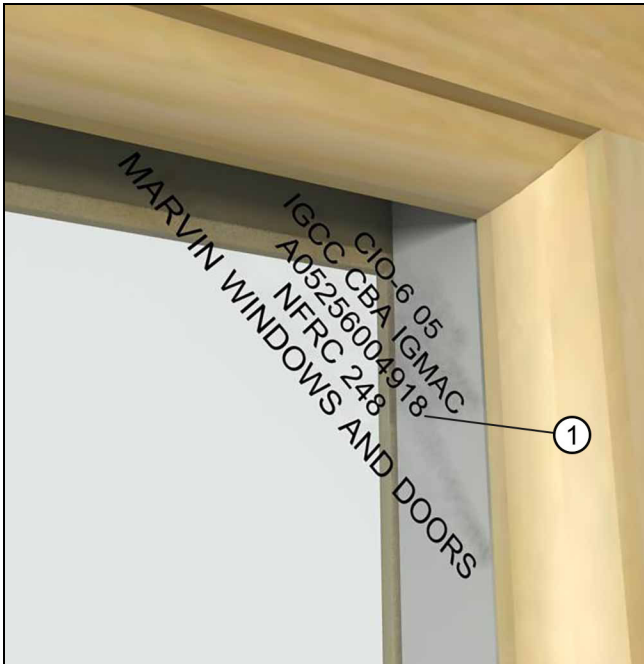


Figure 7

1	Customer Service Number
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**NOTE:** 3 and 4 wide configurations will have the operator panel(s) sent loose.

2. Remove the shipping screw in the top of the frame, holding the operator panel in place. A decal and tab will mark its approximate location.

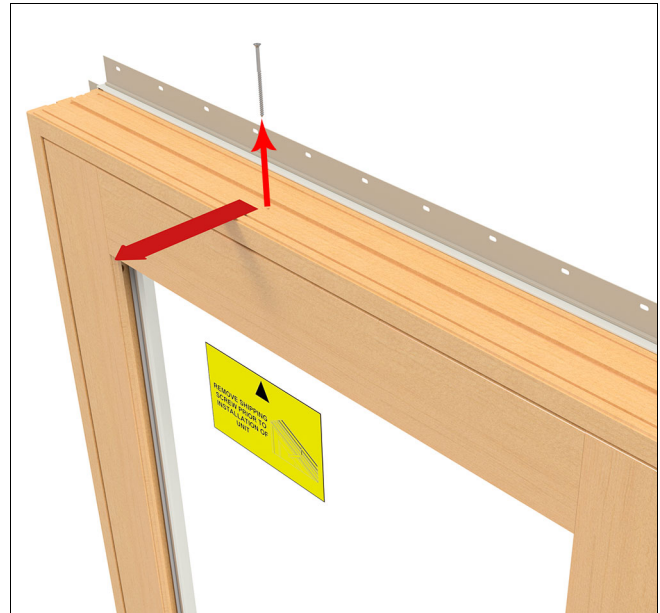


Figure 8 Remove shipping screw from operator panel.

3. Remove the sill shipping block that holds the operator panel(s) in place.

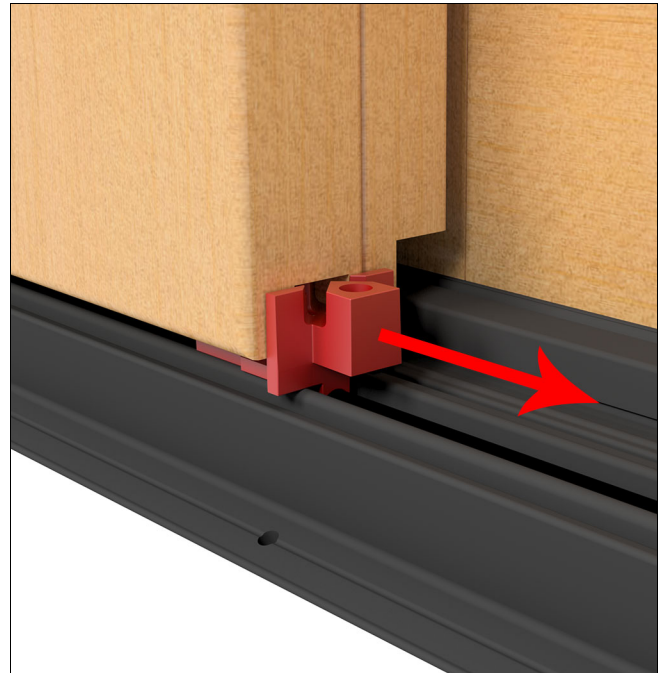
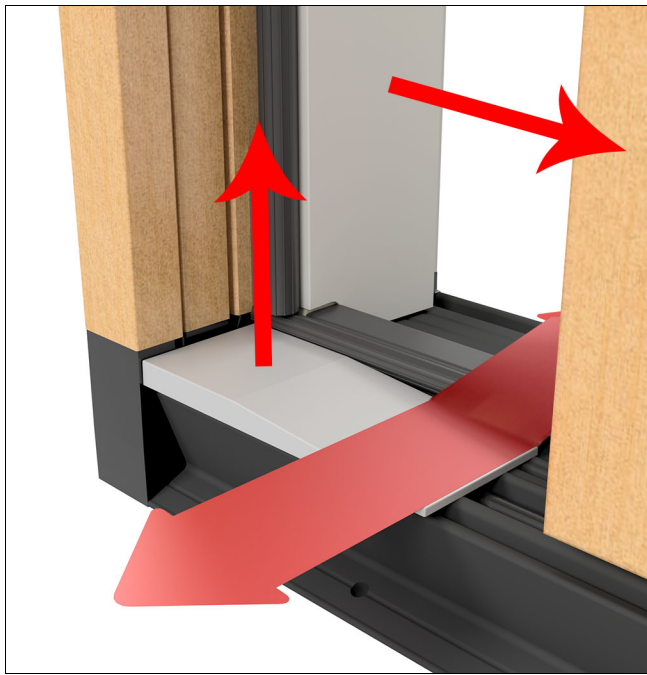


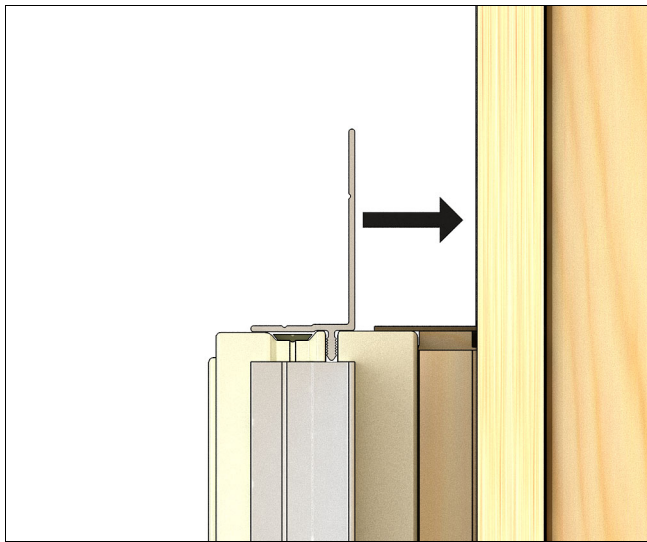
Figure 9 Operator panel sill shipping block

4. Open the panel and remove the sill shipping block at the locking stile, that holds the operator panel(s) in place.



**Figure 10 Operator Panel Locking Stile Shipping Block**

5. Position the factory applied nailing fin in the upright position.

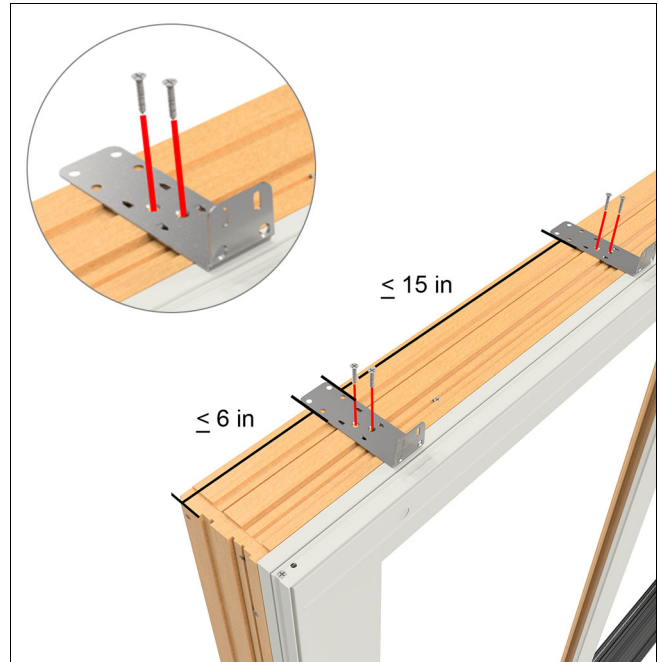


**Figure 11**

6. On all units, apply structural brackets to the head jamb above the stationary panels once you are ready to place it in the opening permanently. Place the brackets 6" (152) from each corner and a maximum of 15" (381) apart over the stationary panel. Fasten with #8 x 7/8" screws to attach the structural bracket to the unit. See Figure 12.

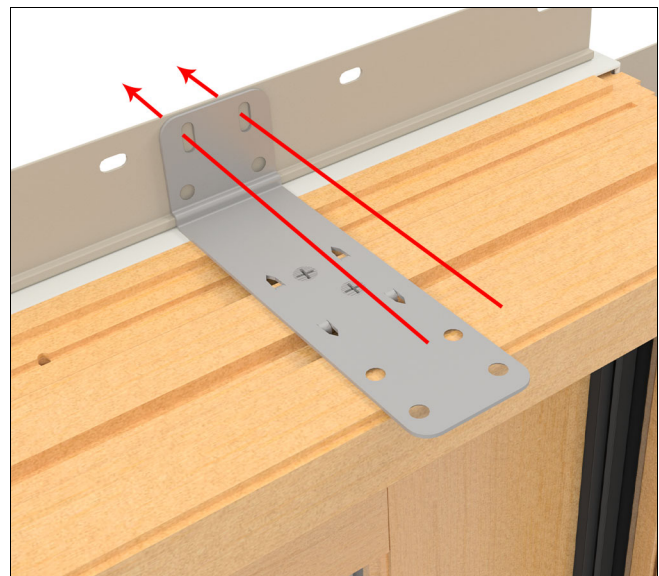
 **Hint**

Do not install brackets past the edge of a stationary panel if the 15" spacing goes past the operator panel.



**Figure 12**

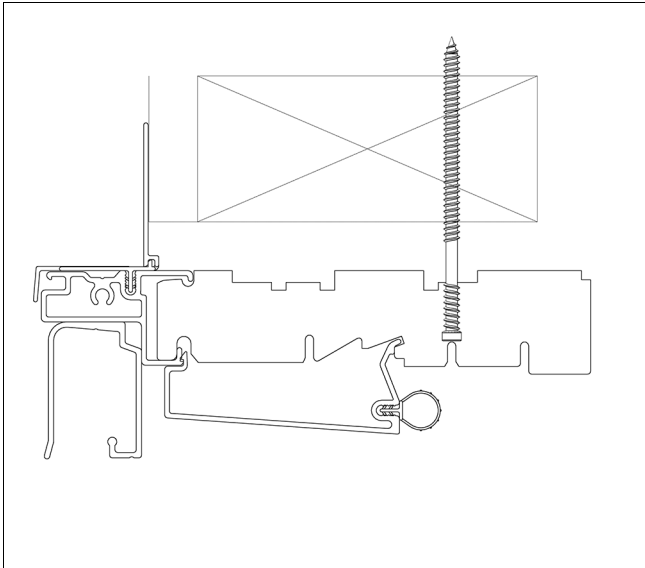
7. From the interior drill through the bracket and the nail fin. This will show you where to fasten the bracket to the RO later. See Figure 13.



**Figure 13**

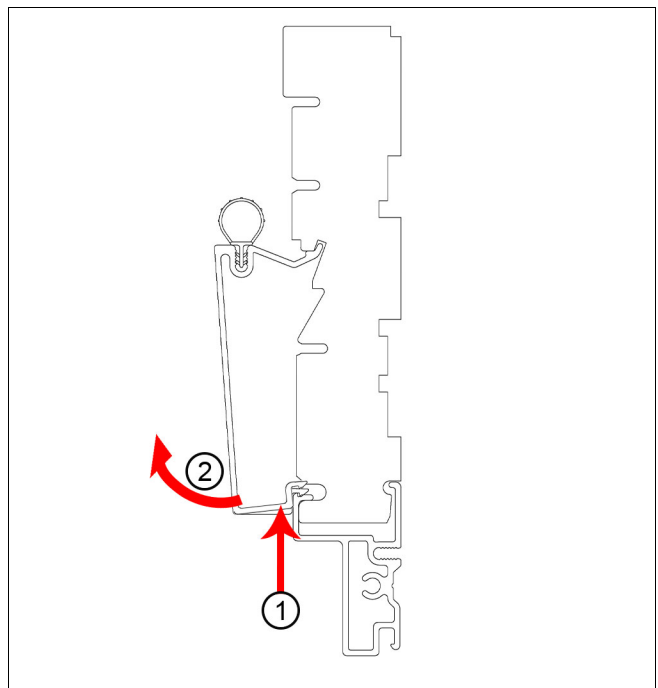
 **Hint**

In a remodel situation and/or working with doors with clad casing (flat or brick mould casing) you will be unable to fasten the vertical leg to the rough opening. There are two acceptable workarounds. You can either use #10x3" trim head screws through the head jamb and into the RO, or apply masonry brackets (without up-turned leg) instead of the structural brackets. See Figure 14.



**Figure 14**

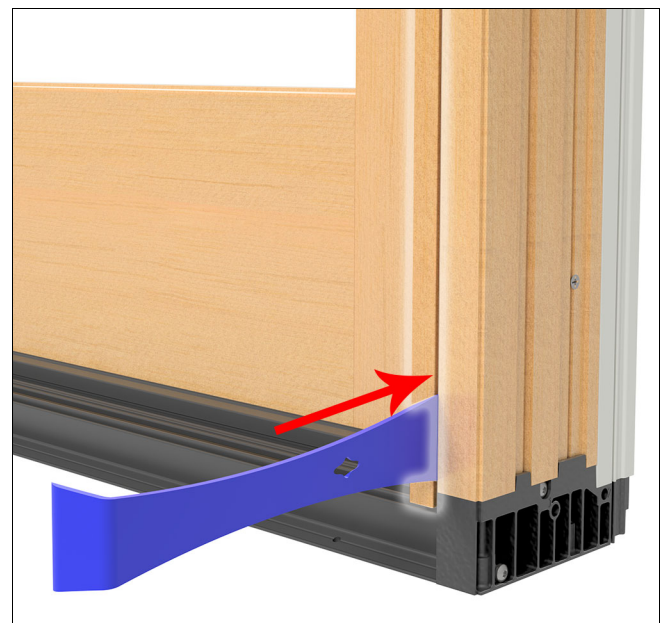
8. Remove any exterior side jamb parting stops. Starting at the top of the stop, use a hammer and wood block to disengage the stop from the jamb snap feature. Push the parting stop in and rotate it out. See Figure 15.



**Figure 15 Exterior clad parting stop**

1	Push in
2	Rotate out

9. Remove interior wood stationary side parting stops with a pry bar. Start at the bottom and work your way to the top. Slide the top out from behind the panel bumper. Take care to not rip the weatherstrip.



**Figure 16 Remove interior side jamb parting stop.**

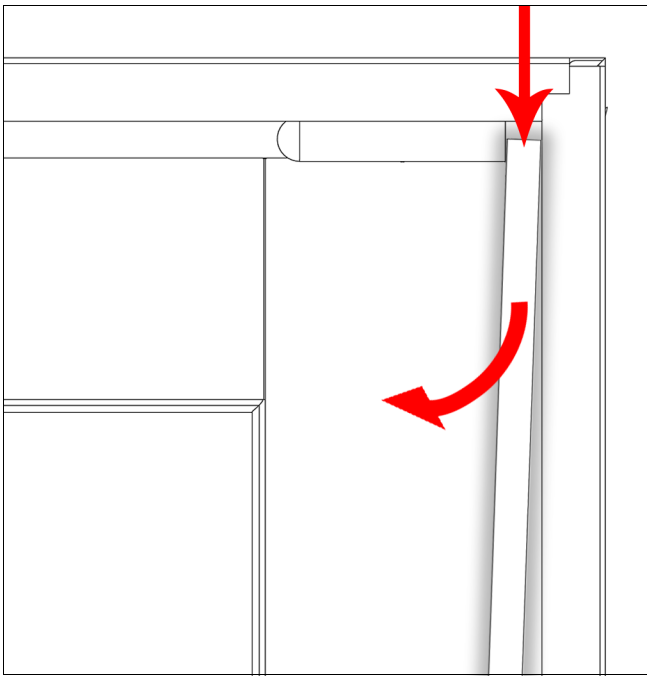


Figure 17

## Installing the Frame



### Seek Assistance

Some large doors and/or assemblies are very heavy. Avoid injury by getting help to lift and position the unit into the rough opening.

**NOTE:** If you are field applying the interior jamb extension or mulling transom units, refer to the appropriate instructions at this time.

### IMPORTANT

You may want to remove the operator panel before installing the door. Configurations greater than two panels will be shipped with the operator panel loose.

### ATTENTION

This door is certified using the screw through the jamb method and brackets at the head jamb. Nailing fin only is **not** a certified installation method.



### Hint

If possible, you may want to dry fit the door frame in the opening to ensure the door fits and there is no interference.

### IMPORTANT

Verify that the sill is flat and level!

1. Apply a 3/8" (10) bead of sealant on the subfloor at the interior edge of the door opening.

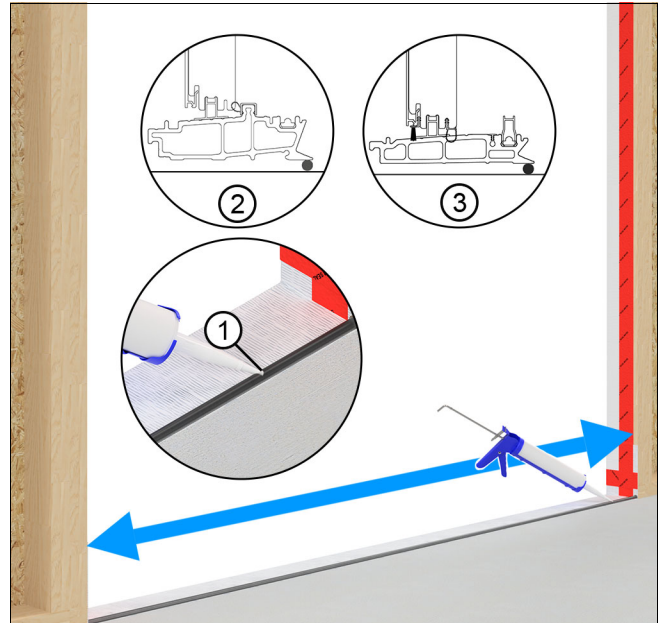


Figure 18

1	Sealant
2	Performance sill
3	Accessibility sill

2. Tip the door into the opening and center it in the opening.

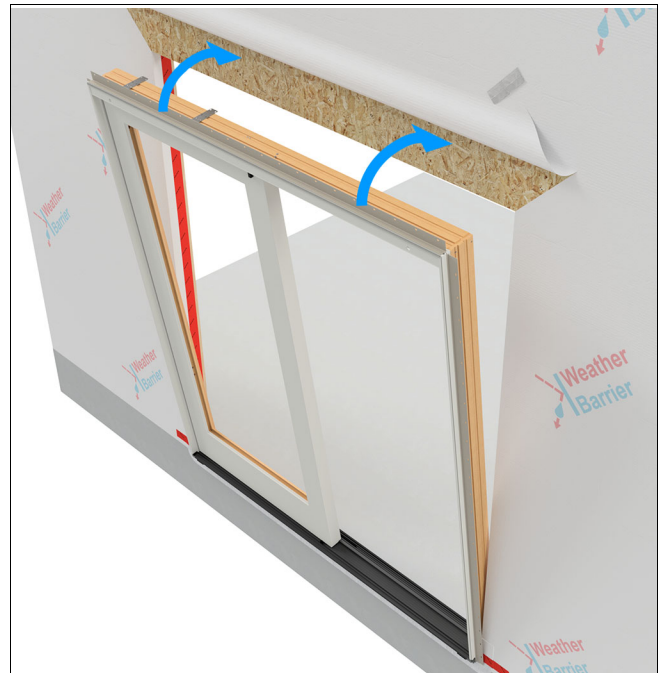


Figure 19

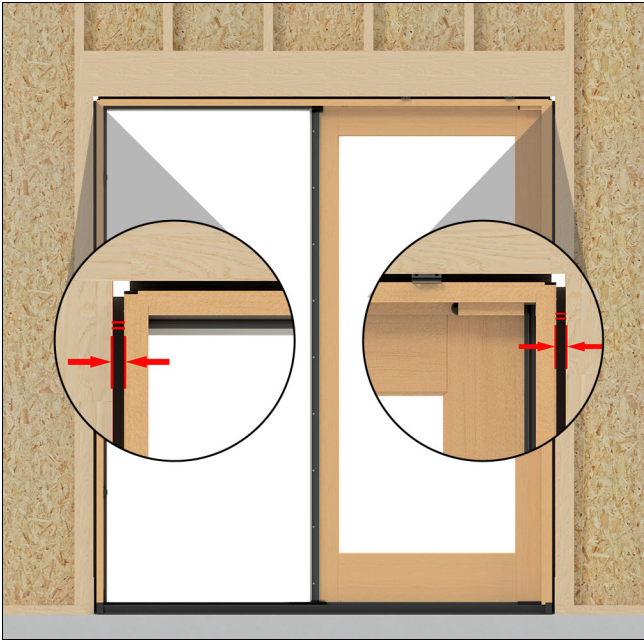


Figure 20 Center the door in the opening

3. Temporarily nail the upper corners of the nailing fin with a 2" (51) roofing nail. Do not drive the nail all the way in. See Figure 21.



Figure 21

4. Apply a continuous bead of sealant 3/4" (19) from the top and sides of the door opening behind the nailing fin. See Figure 22.



Figure 22

5. At the interior, fasten the sill with #8 x 1 1/2" screws into the pre-drilled holes in the sill flange. Use the appropriate fastener for your subfloor. (Concrete floors use masonry screws). See Figure 23.

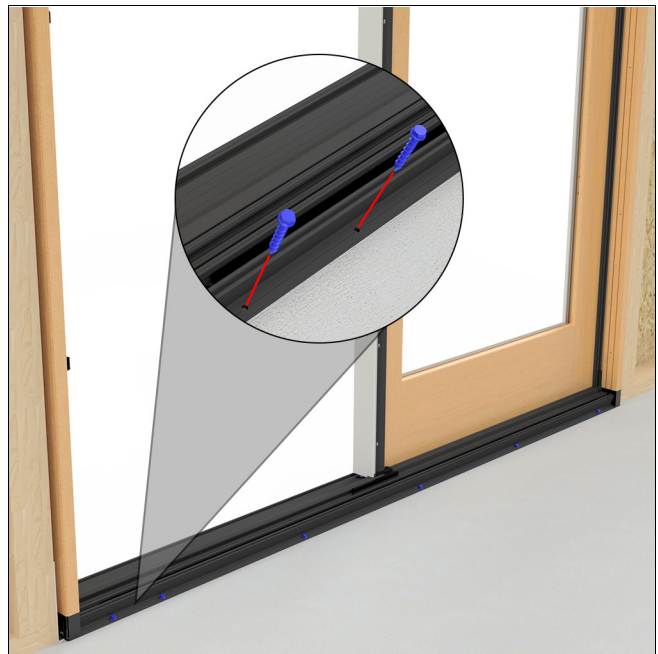


Figure 23

 **Tip**

Use a laser level to verify the sill is straight along the same plane. Some larger configurations tend to bow in the middle.

6. On OXXO units, install the zinc die-cast sill reinforcement block at the center of the sill. The holes in the block will correspond to the pre-drilled holes in the installation flange. Fasten with the appropriate #8 x 1 1/2" fastener into the sub-floor.

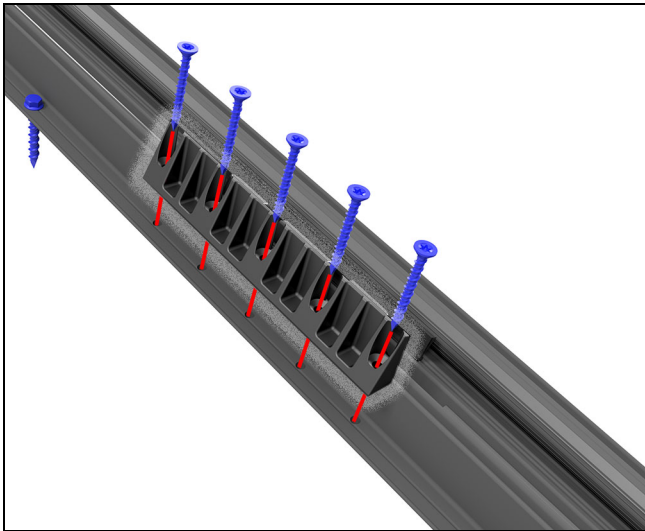


Figure 24

7. Ensure the jambs are straight and plumb (inside to out).



Figure 25

8. Once plumb, shim and fasten the top and bottom of the side jambs with #10 x 3" screws through the pre-drilled screw holes.

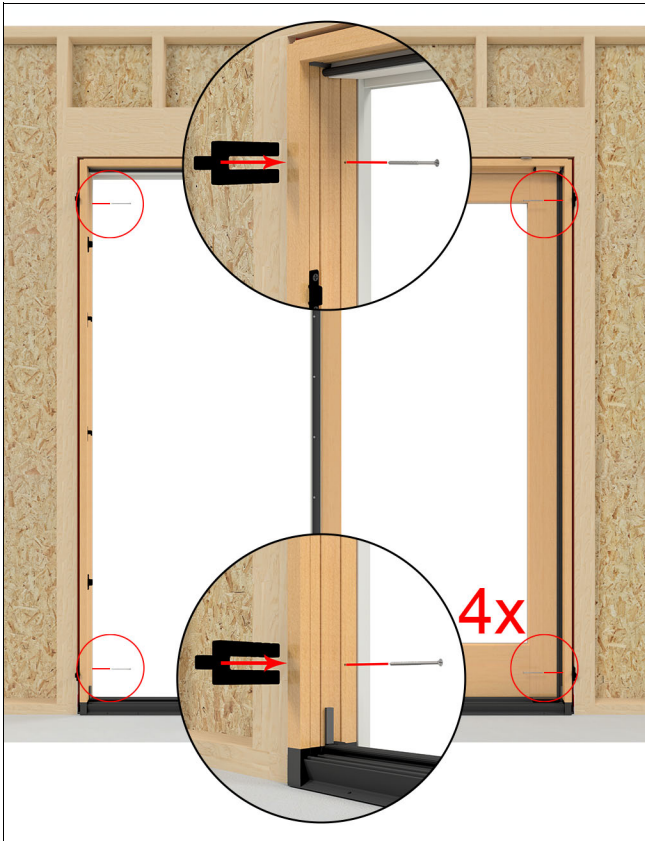


Figure 26

9. Check the diagonal measurements for the entire frame. Adjust the shims and screws as necessary to obtain a square frame.

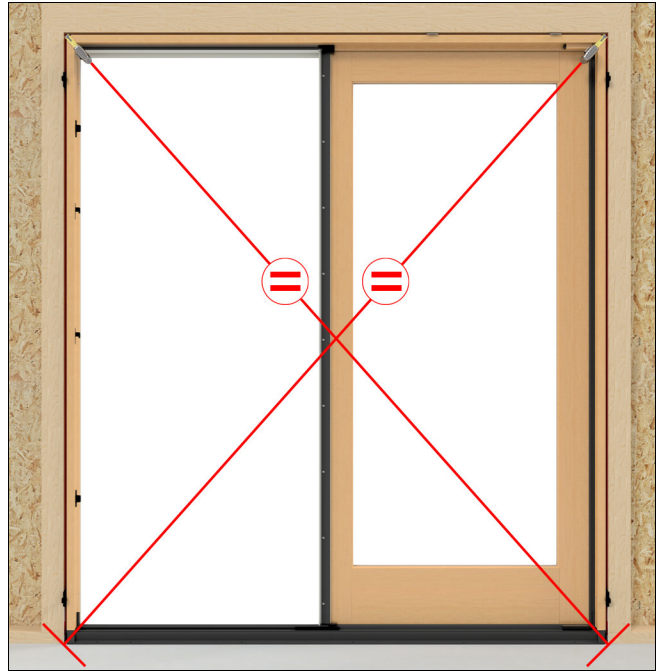


Figure 27

10. If the frame is square, install shims and fasteners in the rest of the pre-drilled side and head jamb installation holes. (Spaced approximately 15" apart).

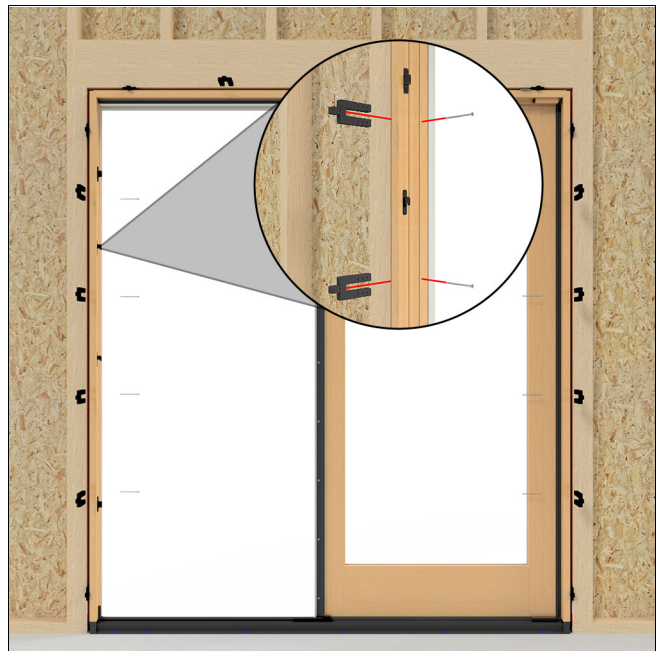
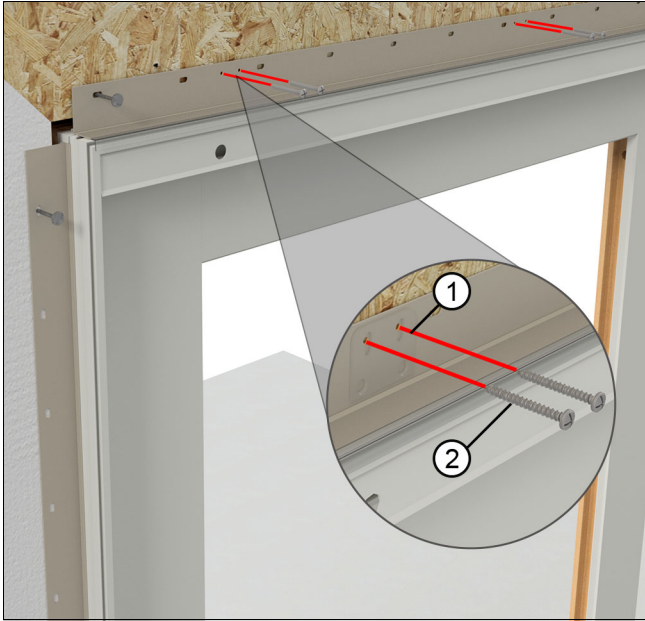


Figure 28



**11.** Attach the head jamb structural brackets to the rough opening framing. Use #8 x 1 1/2" screws. Be sure to shim at every bracket location, being careful not to bow the head jamb.

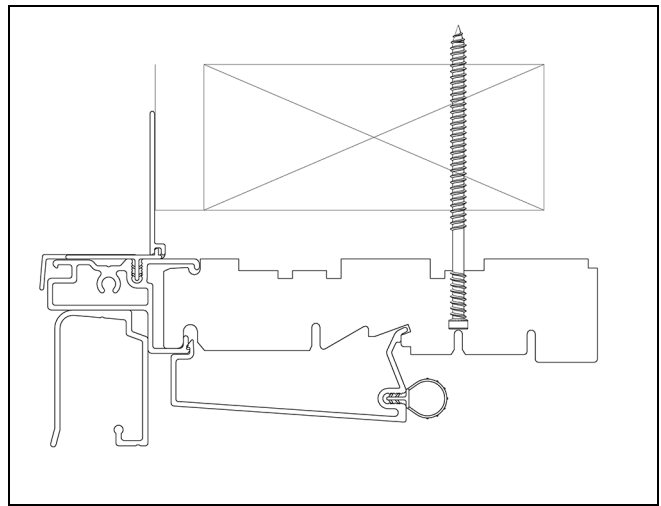


**Figure 29** Fasten head jamb brackets to RO

1	Bracket (behind the nail fin shown for reference)
2	#8 x 1 1/2" screws

 **Hint**

If you are using trim head screws or masonry brackets instead of the structural brackets sent with the door, fasten them to the RO at this time. Space the trim head screws 6" from the corner and 12" on center (over the stationary panel). **It is very important that the head is countersunk to the bottom of the kerf.**



**Figure 30**

**12.** Install the barbed stationary wood side cover (with weatherstrip). Slip it past the head jamb stop and pound the part into place with a rubber mallet.

 **Tip**

You might have to slip the weatherstrip in behind the cover with a plastic card or putty knife, taking care not to damage it.



**Figure 31**

**13.** Install the exterior clad parting stop on the opposite jamb. Engage the weather strip side into the frame first. Tap the cover into the snap feature with a rubber mallet.

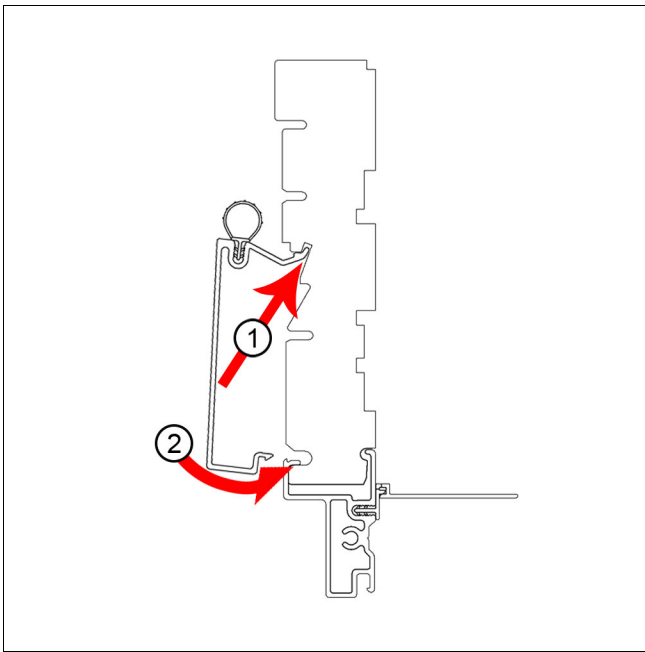


Figure 32

**NOTE:** For 2 panel doors skip ahead to [step 7 on page 21](#).

**14.** On 3 and 4 panel doors, install the operator panel(s). Refer to the section, [Installing the Operator Panel\(s\) on page 19](#).

### Sill Weather Strip on KD or Panels Shipped Separate

For doors with accessibility sills or doors sent with panels shipped separate, the sill weather strip will be shipped taped to the panel. The weather strip(s) run the full width of the panel.

**1.** On active and inactive operator panels as well as interior stationary panels, insert the barbed side of the sill weatherstrip into the bottom of the panel. Rotate the other side to the clad side of the panel and then remove the adhesive backing. Press the weather strip onto the cladding. [See Figure 33](#).

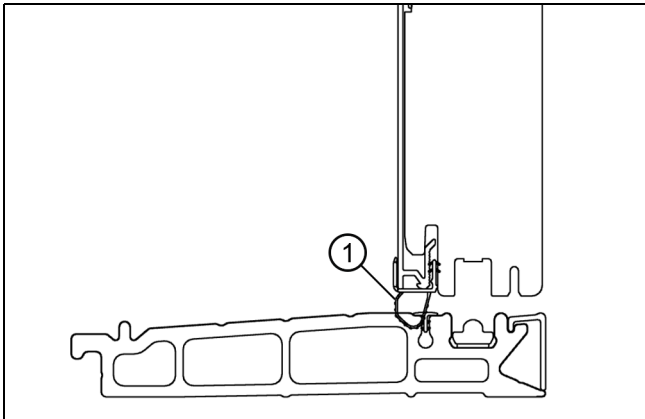


Figure 33

1	Sill weatherstrip
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**2.** On exterior stationary panels, insert the barbed side of the bulb weatherstrip into the kerf on the interior side

of the panel. On the exterior side of the panel, insert the barb on the pile weatherstrip into the kerf on the bottom of the panel. [See Figure 34](#).

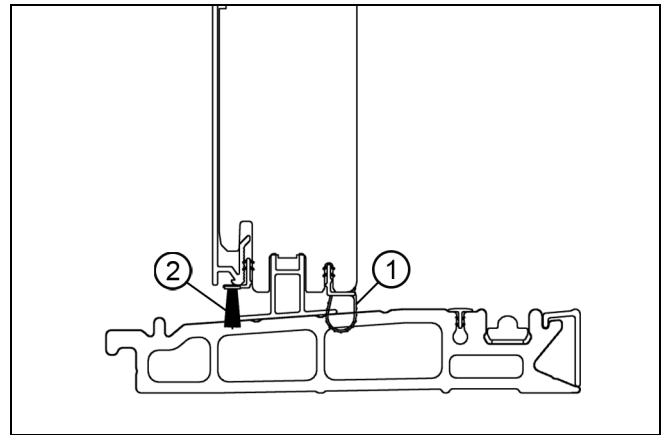


Figure 34

1	Interior bulb weatherstrip
2	Exterior pile weatherstrip

## Installing the Operator Panel(s)

**NOTE:** 2 panel configurations will have the operator panels installed from the factory.

**1. On doors with accessibility sills:** install a dust block on the exterior of the operator panel sill weatherstrip and underneath the interlock. Locate the block so that the edge lines up with the seam in the cladding as shown in [Figure 35](#).



Figure 35

1	Align the dust block with the cladding seam
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**2. On doors with a performance sill,** install the 8" weather strip jig over the sill weatherstrip. Locate the jig against the stationary panel. Install the leading edge of the jig under the weather strip bulb, then rotate the jig so the back edge snaps onto the exterior leg of the weather strip. See [Figure 36](#) and [Figure 37](#).

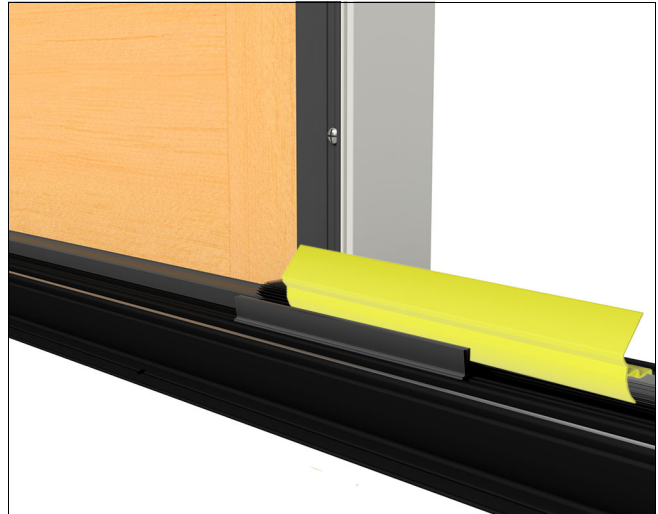


Figure 36

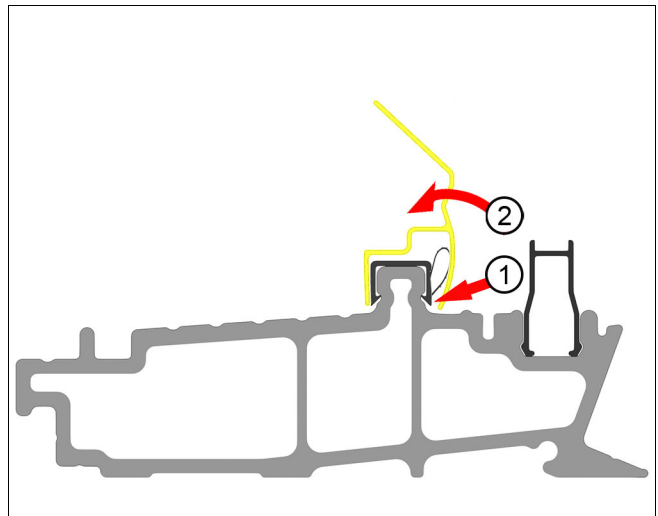


Figure 37



### Seek Assistance

It is highly advised that you get help from another person to remove/replace door panels.

3. Set the panel on the track making sure the rollers are seated properly. A good visual indicator is that the groove in the end of the panel should be centered over the track. See [Figure 38](#).

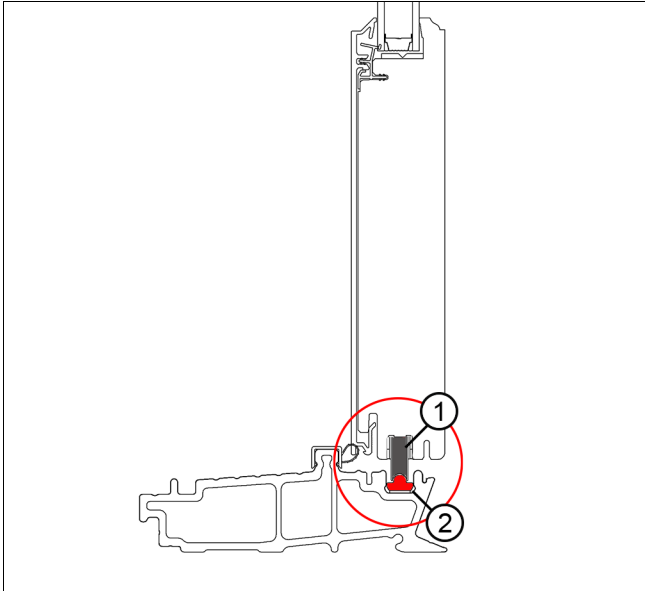


Figure 38

1	Roller (and groove in panel)
2	Roller track

4. While holding the operator panel in place (tipped to the interior) insert the guide track in the groove in the top of the panel as shown. See [Figure 39](#) and [Figure 40](#).



Figure 39

1	Guide track
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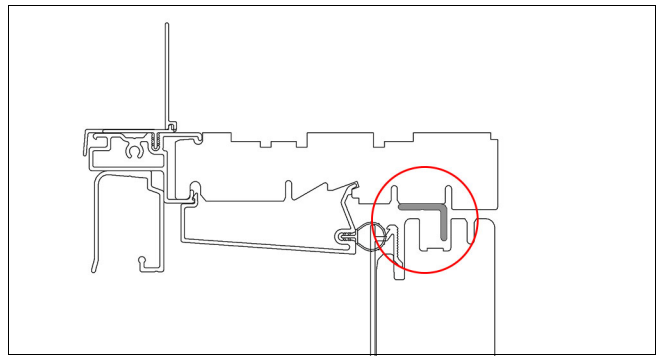


Figure 40

5. While depressing the panel guide fin, tip the panel in place. When the fin clears the head jamb, release it into the head jamb groove. See [Figure 41](#).

 **Tip**

Use a plastic card or flexible putty knife to depress the panel guide fin.

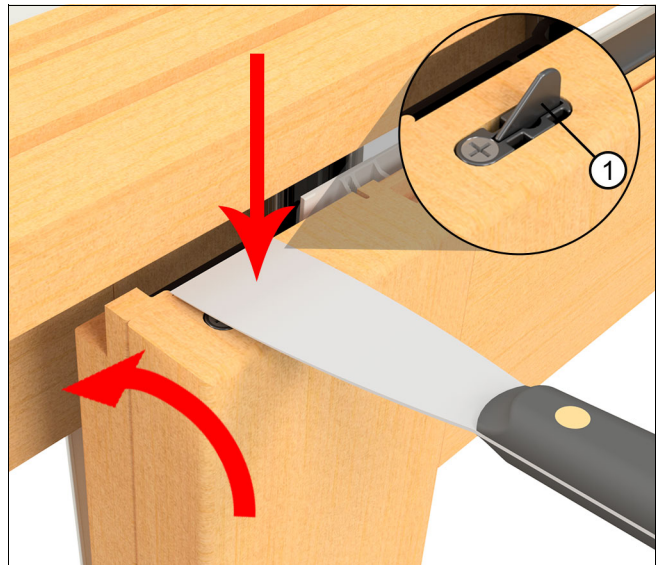


Figure 41

6. While holding the operator panel in place, align the guide track holes with the pre-drilled holes in the head jamb.

7. Fasten the track to the head jamb with #8 x 3" screws into the rough opening. Shim at every screw location. Do not bow the head jamb. Fasten through all holes in the panel guide. See Figure 42.

### IMPORTANT

On two panel doors you will replace the temporary screws holding the operator panel guide in place with 3" installation screws.

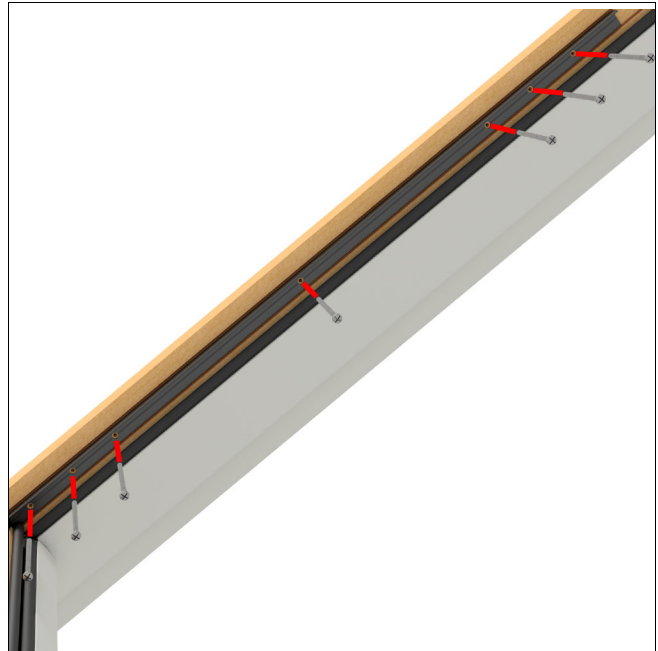


Figure 42

## Panel and Keeper Adjustment

### IMPORTANT

Adjustment of the panel and keepers should not be relied upon to counteract a humped or sagging sill.

**1. Panel Adjustment:** Slide the panel close to the locking jamb or meeting stiles. Observe the vertical gap between the panel and the jamb (or meeting stiles). The gap should be equal along the panel. Also, observe the horizontal gap at the top of the panel. See Figure 43.

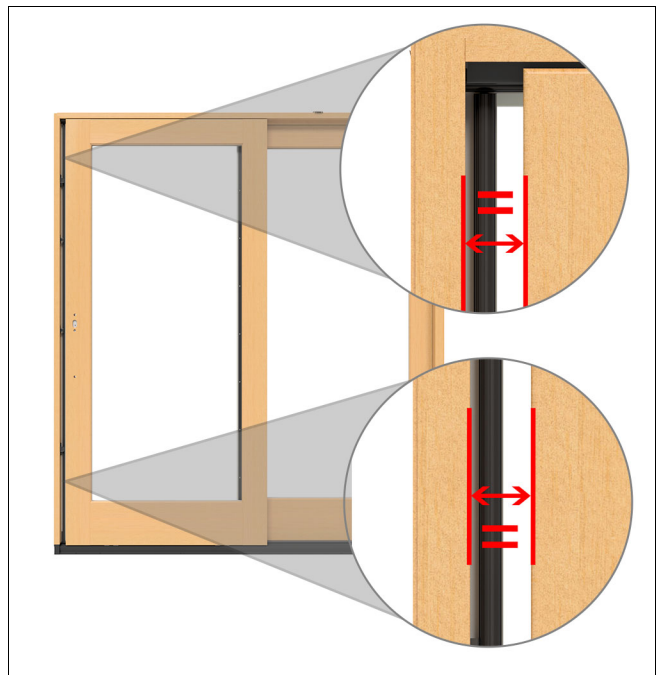


Figure 43 OX configuration shown. Consistent reveal along the locking stile of operating panel.

2. Adjust the panel height to obtain even reveals. Insert the plastic roller adjustment guide in the end of the panel. This will guide the Allen wrench into the adjustment screw. Turn the Allen wrench clockwise to raise the roller and counterclockwise to lower the panel. See Figure 44.

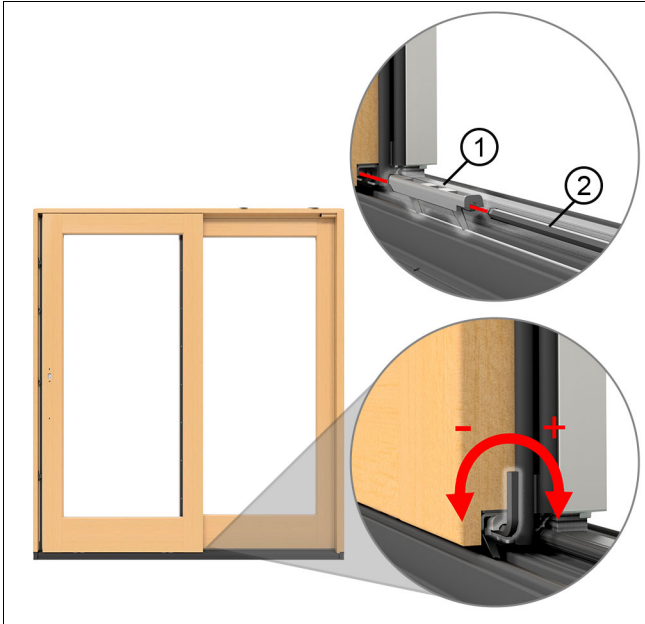


Figure 44

1	Roller adjustment guide
2	5mm Allen wrench

*NOTE: Rollers are set at neutral from the factory. Adjustment from neutral is about 1/8" up or down. The expected gap between the top of the panel and the frame should be about 1/8". See Figure 45.*

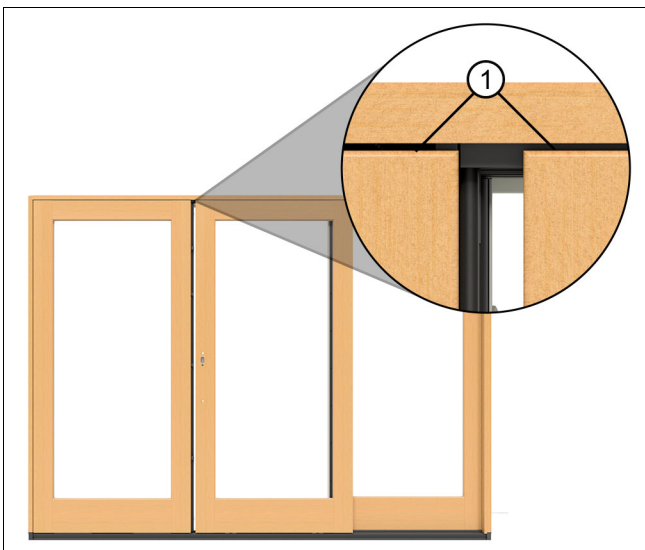


Figure 45 OXO configuration shown.

1	1/8" gap at the top of panels is expected
---	-------------------------------------------

**3. Keeper Adjustment:** With the panel properly aligned, check to make sure it locks correctly. There are two plastic shims behind the keepers and panel guides that will allow some adjustment to move the hardware in and subsequently make the panel close tighter when locked. See [Figure 46](#).

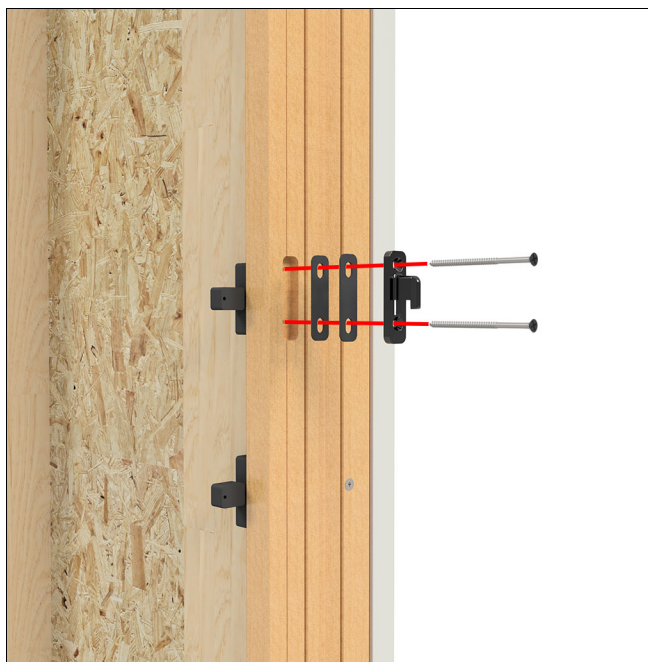


Figure 46

**4. Install the handle set.** Refer to the instructions sent with the handle for details.

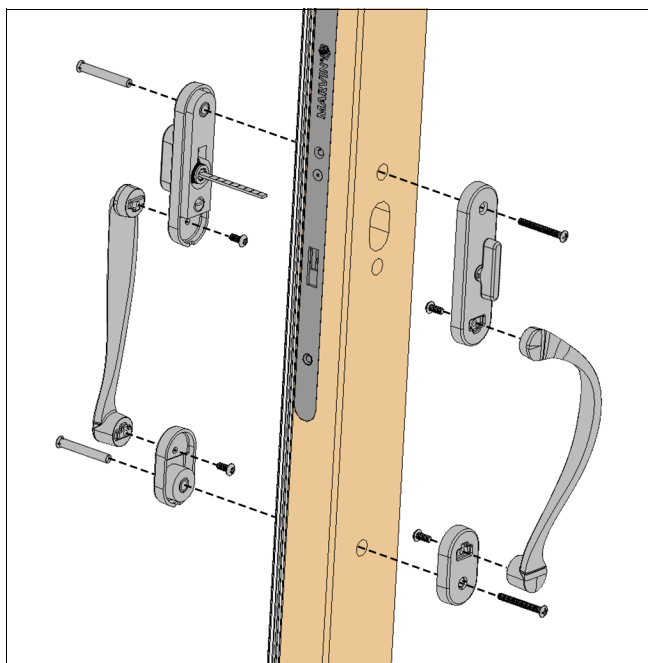


Figure 47

## Final Installation Steps

1. Once the operator panel is adjusted properly, remove the temporary screws from the adjustment bolts and the keepers. Replace these with #8 x 3" installation screws into the rough opening. Be sure to shim properly so that you do not bow the jamb. [See Figure 48.](#)



Figure 48

2. If using nailing fin, fasten to the sheathing at every other nail hole. [See Figure 49.](#)

**NOTE:** Nailing fin alone is not an approved fastener method for certified installations to the advertised DP ratings.



Figure 49

3. Locate and remove the tape backer on the interior sill liner. Press down and fully seat the sill liner. [See Figure 50.](#)

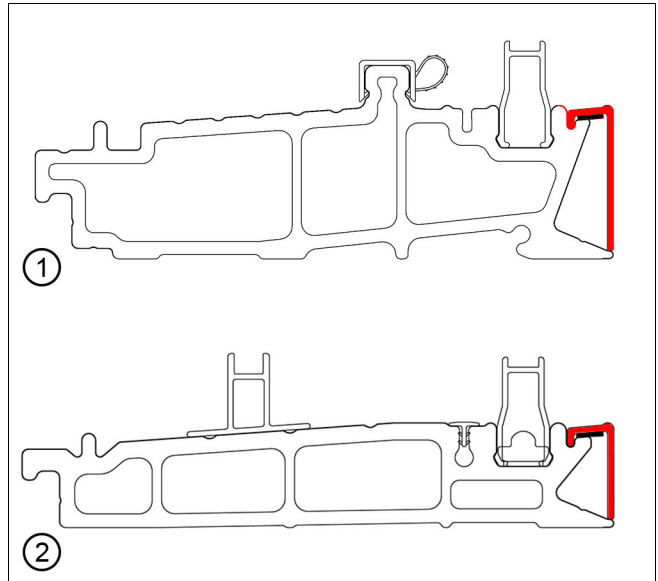


Figure 50

1	Performance sill
2	Accessibility sill



**4. Install the Screen Track:** On OXXO configurations, the screen track will come in two parts (butt together). OXO configurations also come in two parts separated by the mull post. Install with #7 x 3/8" self tapping screws provided. See Figure 51.

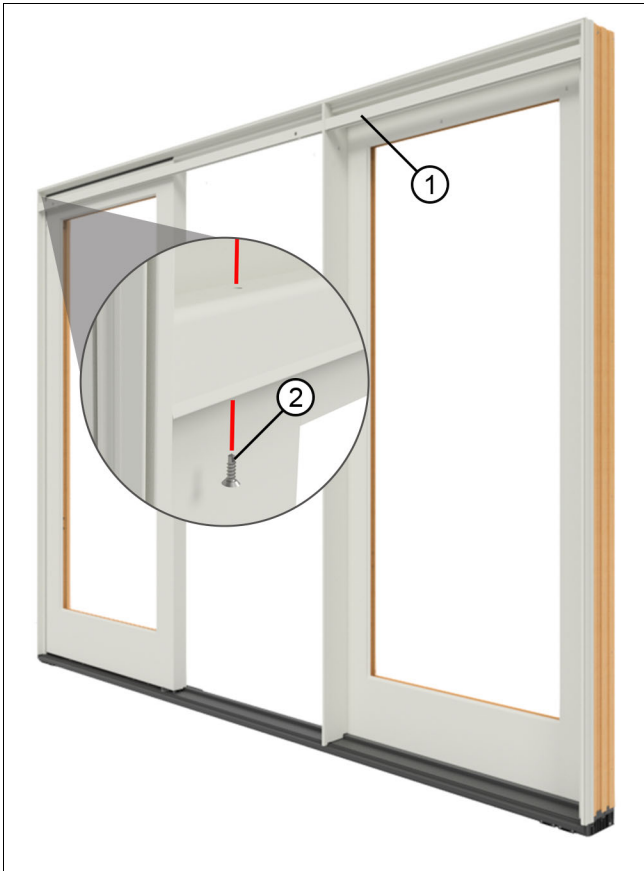


Figure 51

1	Separate screen track on stationary side
2	Pre-drilled hole in screen track
3	#7 x 3/8" self tapping screws

**5. Install the sill stop.** On performance sills, fit the barbed stop into the groove in the sill, tight against the interior jamb stop. See Figure 52. On accessibility sills, the bumper is taped in place. See Figure 53.

## **WARNING!**

Sill stop installation is optional on units with a flush pull handle. If sill stop is omitted, a pinch point can occur at panel intersections during operation. Do not keep fingers in the exterior flush pull when bypassing the adjacent panel.

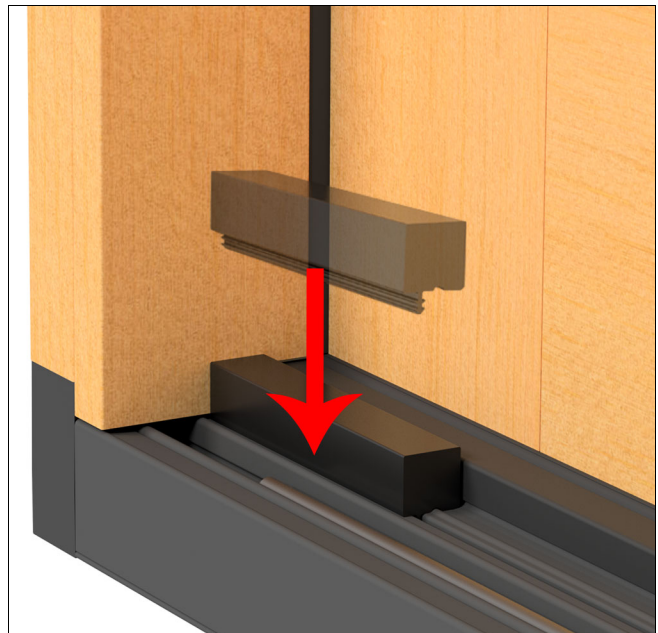


Figure 52 Performance sill

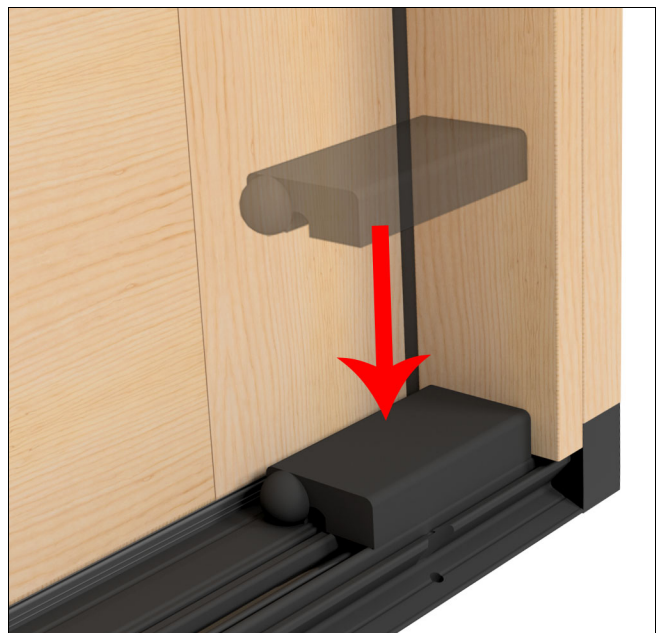


Figure 53 Accessibility sill

## Flashing the Installation-Method A1 (Flashing After Installation)

### IMPORTANT

Nailing fin is not designed to be a weatherproof flashing.

**NOTE:** For units with an integral nail fin/rigid head flash proceed to [step 3 on page 26](#).

1. On units that use nailing fin, apply a 2" x 4" strip of flashing material at 45 degrees to the corner, bridging the gap between the nailing fin. Do this at all 4 corners. See [Figure 54](#).

**NOTE:** If your unit came with nailing fin corner gaskets, apply them according to the instructions sent with the packaging.

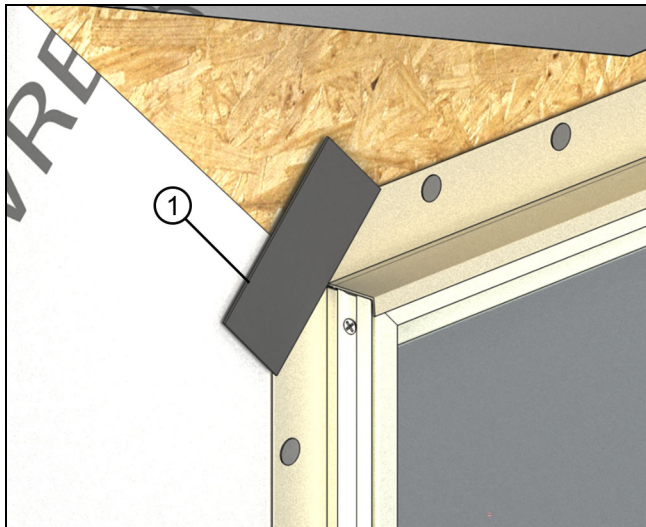


Figure 54

1	2" x 4" strip of flashing material
---	------------------------------------

**2. Required on wood units/optional on clad units:** Install a rigid head flash at the head jamb. Be sure to apply a bead of sealant along the back sides of both vertical and horizontal surfaces of the cap that come in contact with the door, door casing, and/or sheathing. When an integral vinyl drip cap is installed, cut the vinyl drip off before using a rigid head flash. See [Figure 55](#).

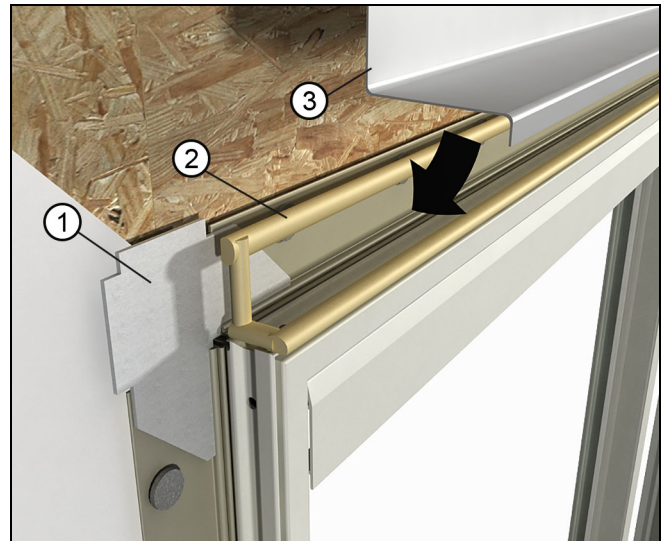


Figure 55

1	Corner gasket/flashing material
2	Sealant
3	Rigid head flash

3. Lap vertical strips of flashing onto the unit or casing and out over the weather resistive barrier. Make small cuts at the head jamb to allow the flashing to fold back onto the exterior. See [Figure 56](#).

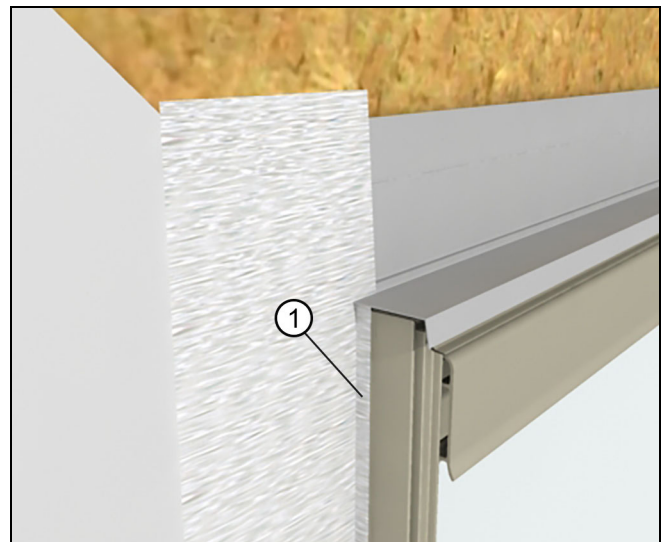


Figure 56

1	Lap onto unit (or casing if applicable)
---	-----------------------------------------

4. Install a layer of flashing over the vertical leg of the rigid head flash and lapped onto the horizontal leg. The flashing should extend past the jamb flashing installed earlier. See [Figure 57](#).

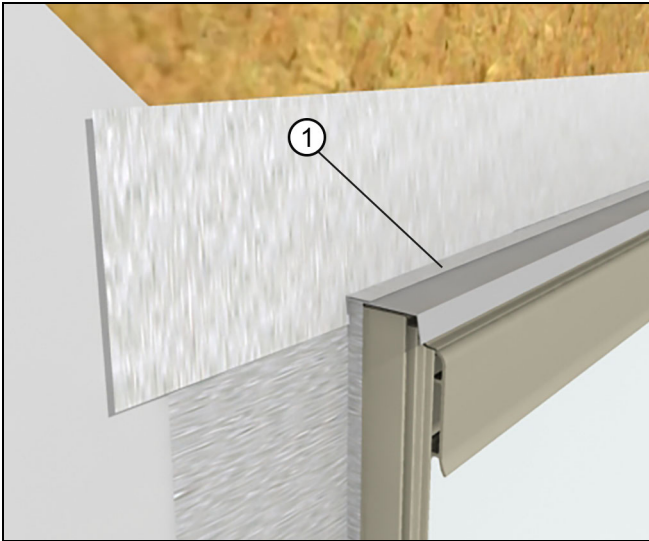


Figure 57

1	Lap head jamb flashing onto rigid head flash
---	----------------------------------------------

5. Fold the head jamb air barrier down over the head jamb flashing. Apply seam seal tape over the diagonal cut in the air barrier. Make sure the tape laps onto the unit or casing. Cut 3" (76) strips of tape and install every 12" (305) along the head jamb. Tape and seal any seams and fasteners directly above the unit. [See Figure 58.](#)

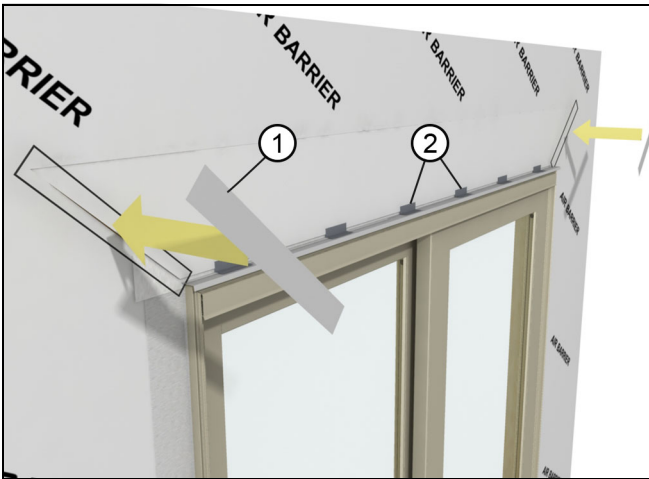


Figure 58

1	Seam seal tape over diagonal cuts, lap onto unit
2	3" seam seal every 12" along head jamb

## Insulating and Sealing the Installation-Nailing Fin

We recommend two ways of insulating and sealing the rough opening cavity. Both follow the principle that stopping air intrusion will aid in managing water intrusion into the RO.

**1. Loose Fill Fiberglass Insulation.** Insulate the RO cavity with loose fill fiberglass insulation. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 59.

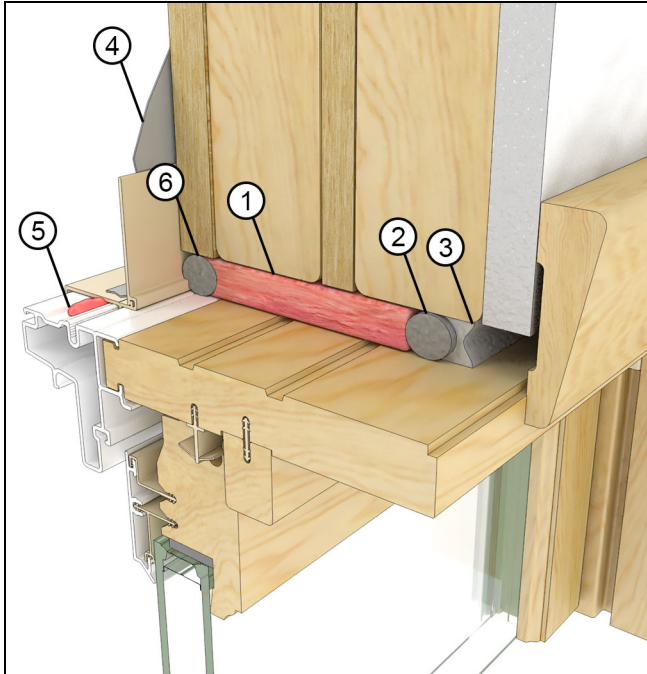


Figure 59

1	Loose fill fiberglass insulation
2	Backer rod
3	Continuous air seal (sealant)
4	Flashing
5	Sealant underneath drip
6	Backer rod

**2. Low Expansion Foam.** Install a backer rod at the exterior plane of the RO. Apply a low expansion/low compression closed cell foam in the cavity. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 60.

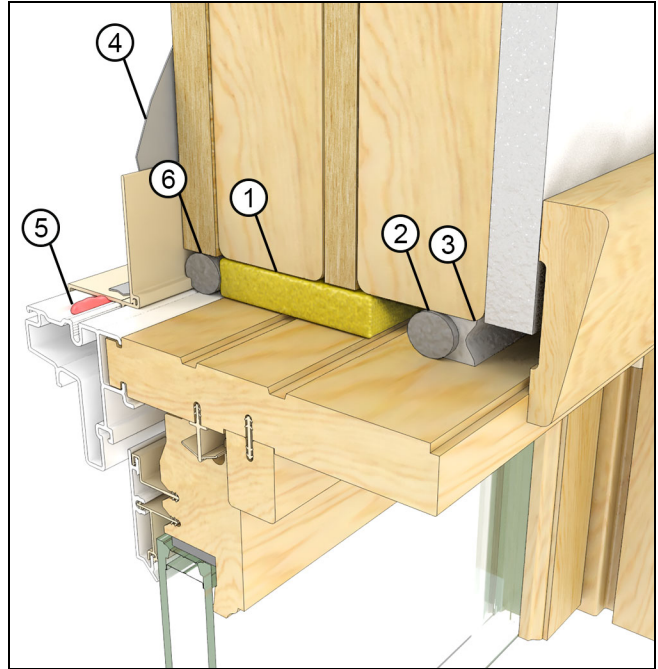


Figure 60

1	Low expansion foam
2	Backer rod
3	Continuous air seal (sealant)
4	Flashing
5	Sealant underneath drip cap
6	Backer rod

## Insulating and Sealing the Installation-Casing

We recommend two ways of insulating and sealing the rough opening cavity. Both follow the principle that stopping air intrusion will aid in managing water intrusion into the RO.

**1. Loose Fill Fiberglass Insulation.** Insulate the RO cavity with loose fill fiberglass insulation. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 59.

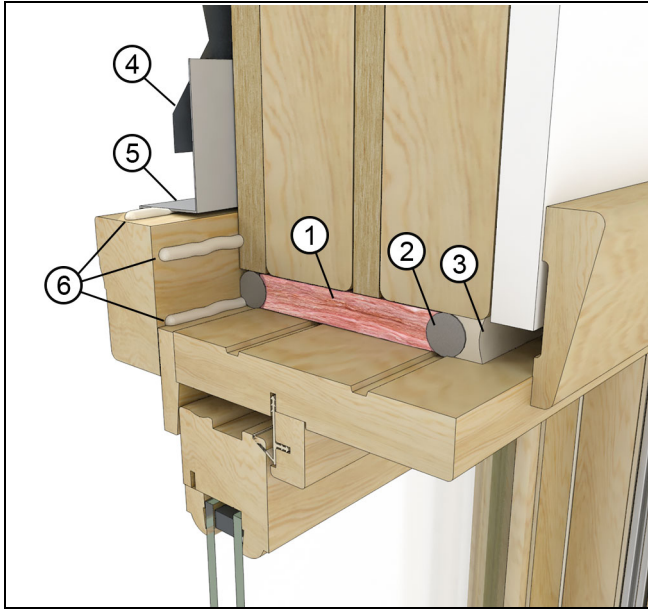


Figure 61

1	Loose fill fiberglass insulation
2	Backer rod
3	Continuous air seal (sealant)
4	Flashing
5	Rigid head flash
6	Sealant

**2. Low Expansion Foam.** Install a backer rod at the exterior plane of the RO. Apply a low expansion/low compression closed cell foam in the cavity. Install a backer rod and sealant at the interior plane of the RO to create a continuous air seal. See Figure 60.

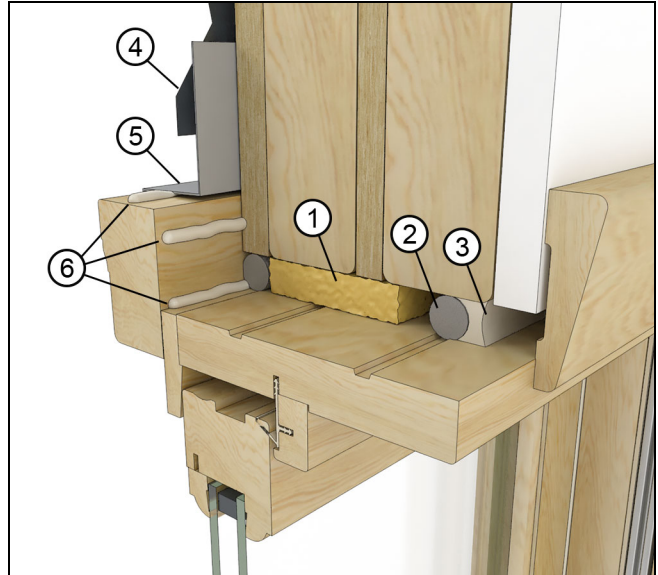


Figure 62

1	Low expansion foam
2	Backer rod
3	Continuous air seal (sealant)
4	Flashing
5	Rigid head flash
6	Sealant

## Exterior Sealing Procedures

1. For ALL applications: Once the exterior finish such as siding or brick veneer is installed, apply bead of sealant between the finish and the frame exterior or casing along the sides. Apply additional beads approximately 1"- 2" (25-51) at the ends on top of the drip cap. Use a backer rod when necessary. See [Figure 63](#) and [Figure 64](#).

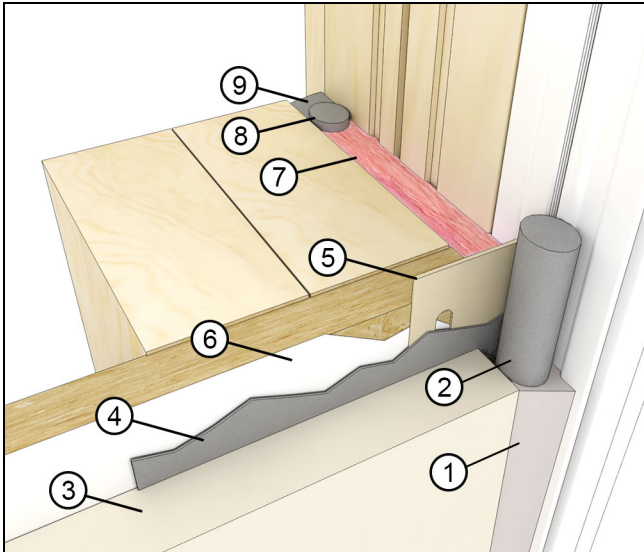


Figure 63

1	Exterior sealant
2	Backer rod
3	Exterior cladding/finish
4	Flashing
5	Nailing Fin
6	Weather resistive barrier
7	Insulation
8	Backer rod
9	Interior air seal



Figure 64 Apply sealant between unit and exterior finish at head jamb.

## ! CAUTION!

Perimeter sealant must be Grade NS Class 25 per ASTM C920 and compatible with the window product and the finished exterior(s) of the building. Using improper sealant could result in sealant failure causing air and water infiltration.

# Technical Installation Specifications

The following details are specified for proper installation and for the unit to meet the advertised performance grade (PG) rating.

- Rough Opening Width: 1/4" - 1" (6-25)
- Rough Opening Height: 1/4" - 1/2" (6-13) higher than window/door frame outside measurement.
- Masonry Opening Width: 1/4" - 1/2" (6-13) higher than window/door frame outside measurement.
- Masonry Opening Height: 1/8" - 1/4" (3-6) higher than window/door frame outside measurement.
- Sealants used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, window exterior surface, and flashing/water management materials.
- Flashing materials must comply with ASTM E2112-01, section 5.13 and be compatible with all materials used in installation including panning systems, air barriers and building papers, sheathing, and the window unit. **Flashing material must not contain asphalt and must be compatible with flexible PVC (vinyl) when used in conjunction with nailing fin.**

**NOTE: Architectural Detail Manual Specifications**  
*Rough Opening: Width 1" (25); Height 1/2" (13). Masonry Opening: Width 1/2" (13); Height 1/4" (6).*

- If using less than a nominal 2" x buck in masonry openings; the rough opening must be no more than 1/2"(13) wider and 1/4" (6) taller than the outside measurement of the frame. Installation methods are limited to Jamb Screw method using 3/16" concrete screws
- Marvin recommends the use of sloped sills on all concrete openings (either pre-cast or poured).
- **Regarding recessed masonry openings:** the window frame must not come in direct contact with masonry/concrete/concrete block. Construct framing from treated lumber or plywood and fasten to the masonry opening jambs, header, and sill. This framing must be designed (and anchored to the opening) properly to withstand certified and advertised DP ratings for your particular unit.
- For installations in typical wood frame construction (with sheathing and building paper or air barrier material) where a continuous air barrier system is used, refer to ASTM E2112 or reference the "Continuous Air Barrier Systems" section for details on preparing the rough opening and sealing the installation.
- For installations in concrete block, or masonry construction, etc., follow local codes for sealing and water management details.
- Optional foams used for installation must be low expansion only. Foam and foam application must comply with ASTM E2212.
- Shims are required between the window frame and framing members at all locking points and at every point of attachment (excluding nailing fin and brick mould casing) as well as at all points detailed within these instructions.
- For units with flat casing install with installation brackets, structural masonry brackets, or jamb screws.
- Do not use chemically treated products for shim material. Fasteners penetrating chemically treated lumber must be a minimum of 0.90 oz/ft2 zinc hot dipped galvanized or stainless steel type 304 or 316.
- Clad window frames must not come into direct contact with chemically treated wood products

## IMPORTANT

Flashing material must not contain asphalt and must be compatible with flexible PVC (vinyl) such as that found in Marvin vinyl nailing fin.

## ⚠ CAUTION!

Be aware that the use of sill pans and other barriers will decrease the rough opening height clearance. Adjust opening dimensions accordingly.

- Properly flash and/or seal all windows at the exterior perimeter.