

Modern Sliding Door

Frame Assembly and Installation Instructions

ABSTRACT: Please read these instructions in their entirety before beginning to install your Marvin Door product. 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 the latest version of 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.

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

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).



KEYS TO A GOOD INSTALLATION:

- SQUARE the door in relation to the sill.
- A GOOD INSTALLATION has a FLAT sill that is also LEVEL.
- The BEST INSTALLATION has a FLAT and LEVEL sill and a SQUARE and PLUMB opening.

Correcting an out of square opening requires shimming beneath the sill and/or at the corners. These instructions assume an opening is constructed for the BEST installation with a flat and level sill and a square opening.

Table of Contents

Related Resources	3
Hazards and Warnings.....	4
Parts Included	7
Rough Opening Prep-Flashing Details	9
Sill Support Installation	10
FRAME ASSEMBLY.....	13
Injecting Sealant	22
FRAME INSTALLATION	25
PANEL INSTALLATION.....	34
Using the Sill Weatherstrip Jig	35
Install Panel Bumpers	57
Screen Component Installation	58
Adjusting Panels	60
Final Steps	63
Technical Specifications	64

Related Resources

Scan the QR codes or click on the links below for additional resources regarding the Modern Sliding Door and to ensure you are always using the most up to date information.

Modern Sliding Door Site Prep



<https://www.marvin.com/f/1019562/x/e4722098cf/modern-sliding-door-site-prep-19916719.pdf>

Modern Sliding Door Mulling



https://www.marvin.com/f/1019562/x/297a33a08a/modern-sliding-door-mulling_19916730.pdfwww.adobe.com

Modern Sliding Door Screen Installation



https://www.marvin.com/f/1019562/x/a3cda7cef1/modern-sliding-screen-installation_19916728.pdf

Modern Sliding Door Tech Specs page: Access to other support documentation such as replacement parts, ADM, and other.



<https://www.marvin.com/support/technical-specifications/modern-sliding-door>

Hazards and Warnings

WARNING!

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

WARNING!

This product can expose you to chemicals including titanium dioxide, which is known to the state of California to cause cancer. For more information, go to 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.

WARNING!

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

CAUTION!

Wear gloves and protective clothing when handling the frame components. Some high-density fiberglass surfaces are not coated and can leave splinters in bare skin.

WARNING!

NOTE: Panel operation force is affected by panel size. Keep this in mind when having to open or close large panels at one time.

NOTE: Numbers listed in parentheses () are metric equivalents in millimeters rounded to the nearest whole number.

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.

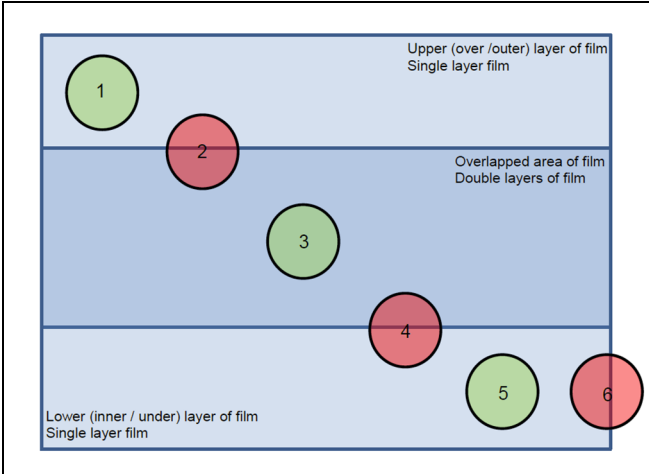


Figure 1 Do not put suction cups on seams or edges

1	Recommended: Suction cup completely on upper layer
2	NOT RECOMMENDED: Suction cup partially on overlap area, partially on upper layer
3	Recommended: Suction cup completely on overlap
4	NOT RECOMMENDED: Suction cup partially on overlap and partially on lower layer.
5	Recommended: Suction cup completely on lower layer
6	NOT RECOMMENDED: Suction cup over any edge of protected area

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.

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.
- 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.

Parts Included

Each door is shipped with panels, frame components, weatherstrips etc. Frames are sent knocked down (KD) for assembly in the field. Some frame components are sent with parts pre-installed as noted in the configuration specific sections in, [FRAME ASSEMBLY on page 13](#).

Some supplies are sent with your door. Refer to the picklist in the Installation and Hardware Accessories box for details specific to your door.

Fasteners are sent in color coded packages noted below in [Figure 2](#) and throughout the illustrations that follow. Not every door will include every screw package.

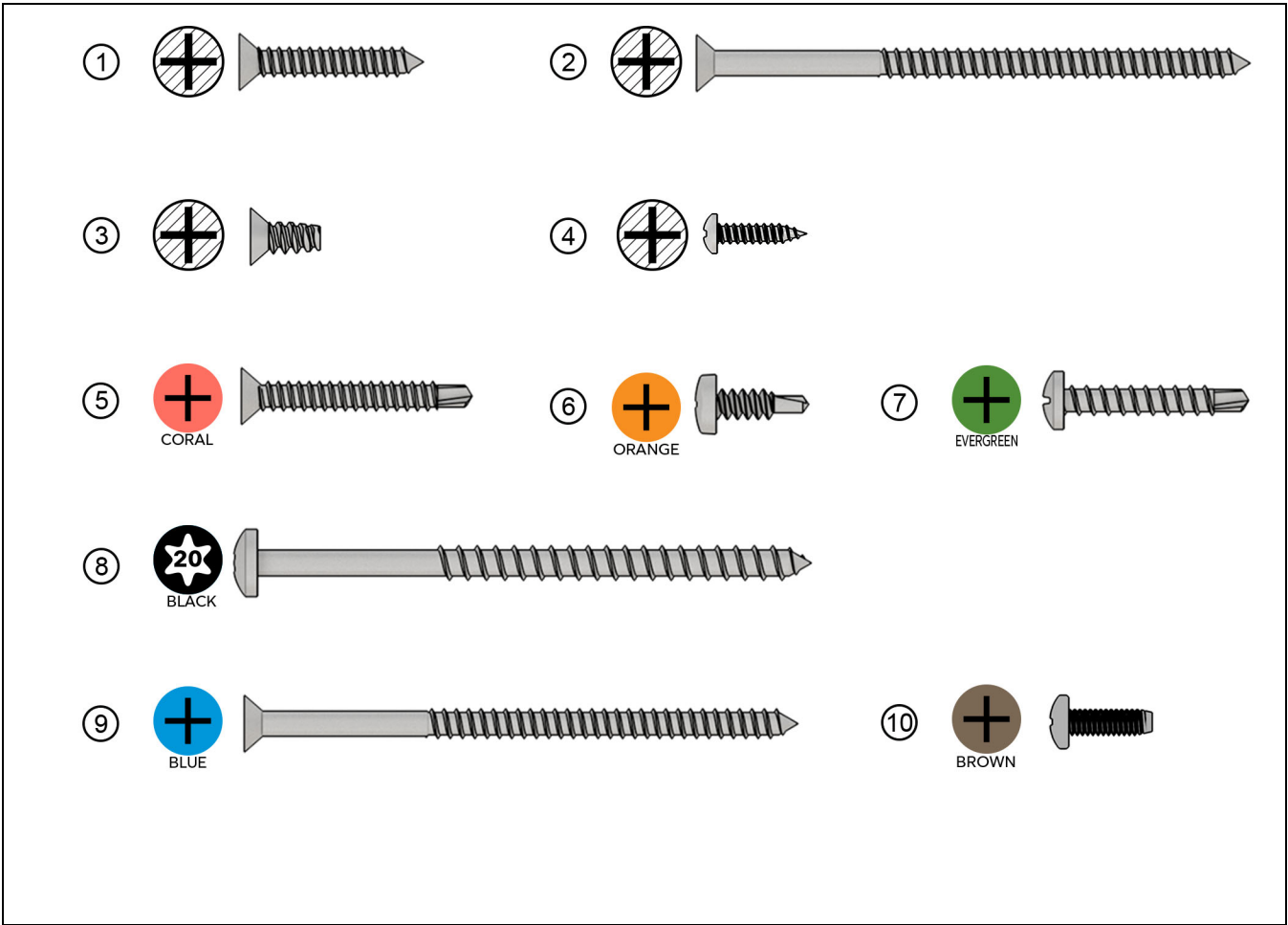


Figure 2 Images to scale.

1	Phillips head, no package	Various
2	#8x3 2/3 thread Phillips head	Hardware through frame and into RO: Retainer, Strike Plate, Stationary lock bar.
3	#8 x 3/8" Phillips flat head screw, stainless steel	Corner keys: jamb to sill, head jamb to jamb
4	#4 x 1/2" Phillips pan head	Corner keys: head jamb to jamb
5	#8 x 1 1/4" self drilling Phillips flat head screw, coral package	Mulling: fastening locking jamb strike through frame into mull pin
6	#8x7/16" self drilling Phillips pan head, orange package	Mulling: fastening frames to standard aluminum mull pin.
7	#8 x 1" self drilling Phillips pan head screw, evergreen package	Mulling: fastening the non locking jamb retainer through frame and into aluminum mull pin.
8	#10 x 3" T-20 Torx 2/3 thread pan head screw, black package	Installation: through pre-drilled holes in frame.

Additional Supplies Needed

NOTE: The following supplies are NOT supplied by Marvin.

- Screws to fasten sill to rough opening.
(Length depends on substrate but must penetrate at least 1 1/4").
Recommended fastener size is a minimum #8 and maximum 1/4" diameter (fastener head height should be no more than 1/4" in height and not interfere with sill installation).
- Story poles (if necessary)
- Low expansion, low compression foam
- Flashing
- Sill Pan
- Weather resistive barrier
- Flat or horseshoe shims
- Wood blocking for setting covers

- Rags/paper towel
- Sealant

NOTE: Two precut nozzles are sent with sealant and each are used at different steps in the instructions. Corresponding images will have a "small" icon or a "large" icon as shown below.



Figure 3 Sealant nozzle icons

Tools Needed

- Safety glasses
- Putty knife
- Flat bar
- Square
- #1 Phillips screwdriver
- #2 Phillips screwdriver
- Power drill/driver
- T20 Torx and #2 Phillips bits for power drill/driver
- 5mm Hex wrench (provided)
- 1/8" drill bit
- 3/16" drill bit
- 3/32" drill bit
- Gloves
- Suction cups for handling panels
- Utility knife
- Level (laser level helpful)
- Rubber mallet
- Tape Measure
- Quick support rod (optional for setting panels)

Rough Opening Prep-Flashing Details

1. Before you begin the installation process make sure you have prepared your opening properly in weather-board fashion. The panning should extend up the sides of the rough opening at least 6" (152) and have an upturned leg on the interior of at least 1/2" (13) in height. Wrap the weather resistive barrier around to the interior and seal any seams. See Figure 4 and Figure 5.

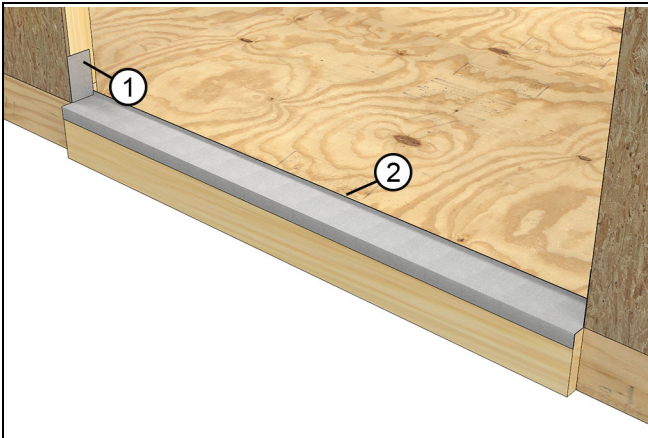


Figure 4

1	Panning extends up the sides by at least 6" (152)
2	Interior leg at least 1/2" (13)

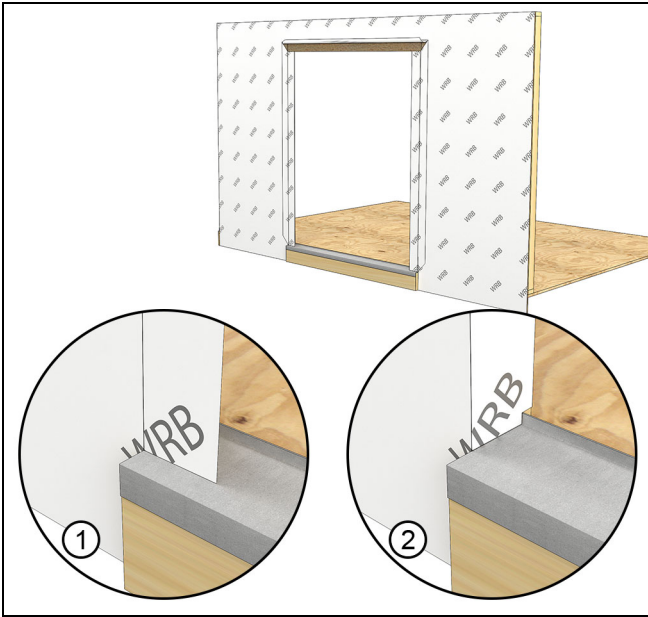


Figure 5

1	Install Panning then WRB
2	WRB wraps over top of panning sides
3	Seal any seams

Sill Support Installation

1. Determine the exterior plane of your door installation. You will fasten the aluminum sill support 6 15/32" from the nail fin plane (in some instances, the exterior sheathing plane). Snap a line or use a laser level for reference while installing the sill support. If you are installing in a recessed opening measure back from the exterior plane of the door by 7 9/16". See Figure 6 and Figure 7.

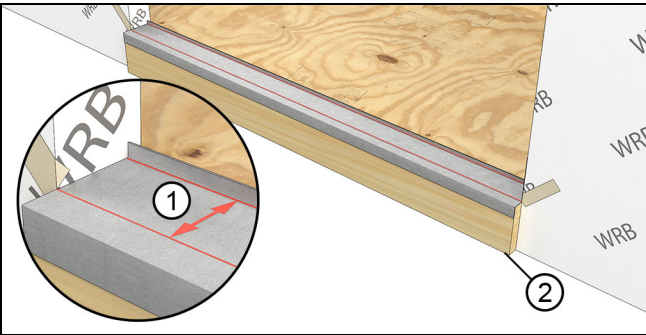


Figure 6

1	6 15/32"
2	Sill nosing support

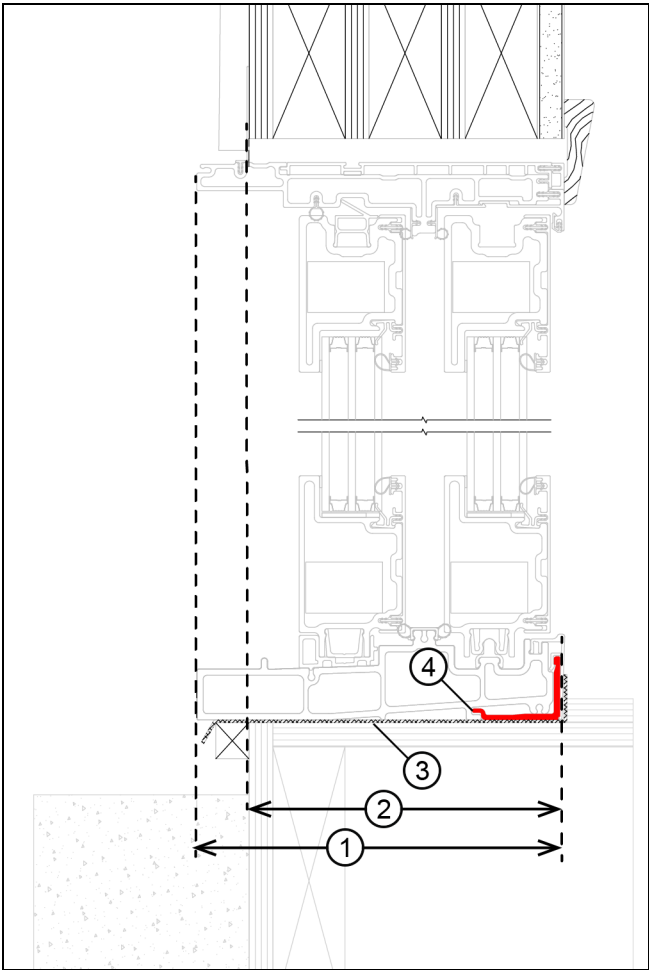


Figure 7

1	Frame exterior plane to sill support interior: 7 9/16"
2	Nailing fin plane to sill support interior: 6 15/32"
3	Panning
4	Sill Support

2. Center the sill support on the rough opening sill oriented with the upturned leg to the interior. Align the interior edge of the sill support on your mark/laser line. See Figure 8.

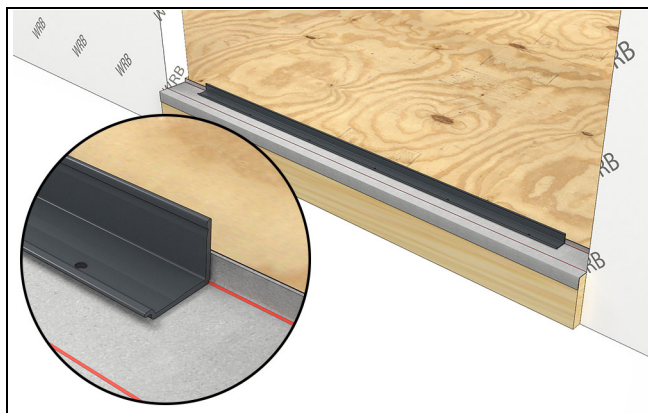


Figure 8

3. Level the sill support and shim if necessary. Use the thin plastic shims provided. Place the shims beneath the sill support installation holes. See Figure 9.

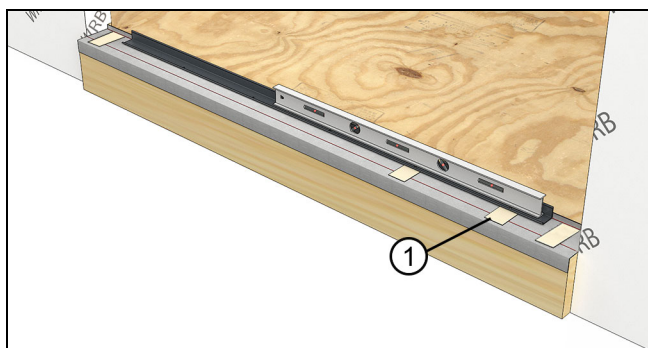


Figure 9

1	Thin shims
---	------------

4. Depending on your construction, use the appropriate fastener to fasten the sill support to the sill. Follow manufacturers instructions for proper application. See Figure 10.

IMPORTANT

Fasteners must penetrate at least 1 1/4" into the sill substrate. Recommended fastener size is a minimum #8 and maximum 1/4" (6) diameter. The fastener heads should be no more than 1/4" (6) in height so that it does not interfere with sill installation. Seal fasteners where they penetrate the panning.

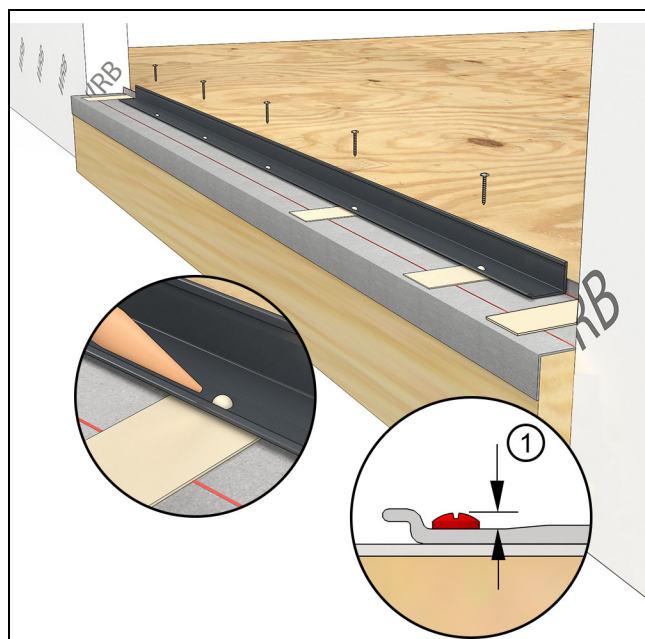


Figure 10

1	<1/4"
---	-------



Hint

Step 5 through Step 7 are necessary to ensure that your sill will engage with the sill support and to mark locations for sealant prior to installing the assembled frame.

5. Temporarily install the sill frame member centered in the rough opening. Tap the sill into the sill support with a rubber mallet. See Figure 11.



Figure 11

6. Mark the exterior of the sill. Be sure to also mark the ends of the sill. You will use these lines as reference to apply sealant prior to installing the frame. [See Figure 12.](#)

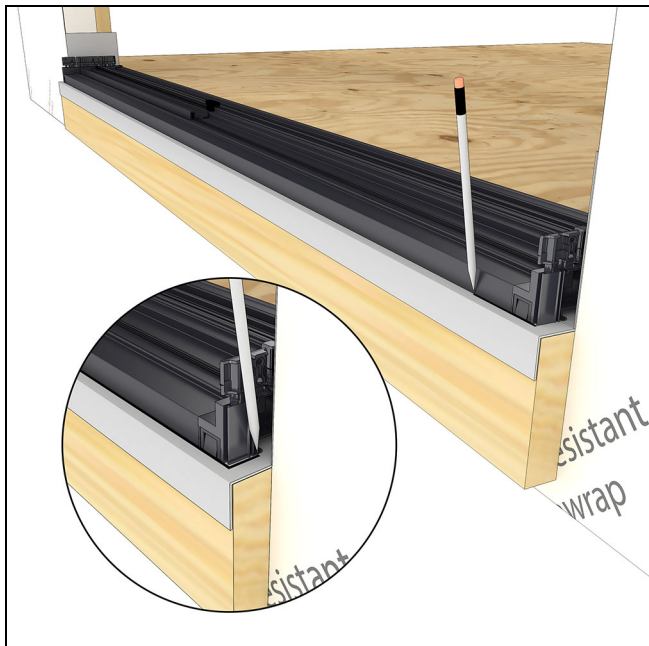


Figure 12

7. Remove the sill from the sill support. Tap on the sill with a rubber mallet to release it from the sill support. [See Figure 13.](#)

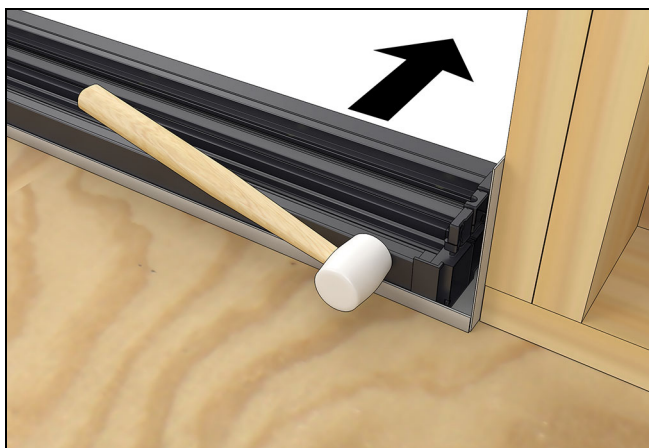


Figure 13 Interior view

8. Proceed to [FRAME ASSEMBLY on page 13](#) once your sill support is properly installed.

FRAME ASSEMBLY

This following sections feature exploded views of the frame assembly for each configuration. The section views on the left illustrate parts that are factory applied with field installed parts indicated by dotted lines. Use these details as a reference along with the step by step instructions found in the section, [Assemble the Frame on page 19](#).

- [OX or XO Assembly Details on page 14](#)
- [OOX or XOO Assembly Details on page 15](#)
- [OX-O or O-XO Assembly Details on page 16](#)
- [OXXO Assembly Details on page 17](#)
- [O Assembly Details on page 18](#)

NOTE: All frame weatherstrip is factory applied.

OX or XO Assembly Details

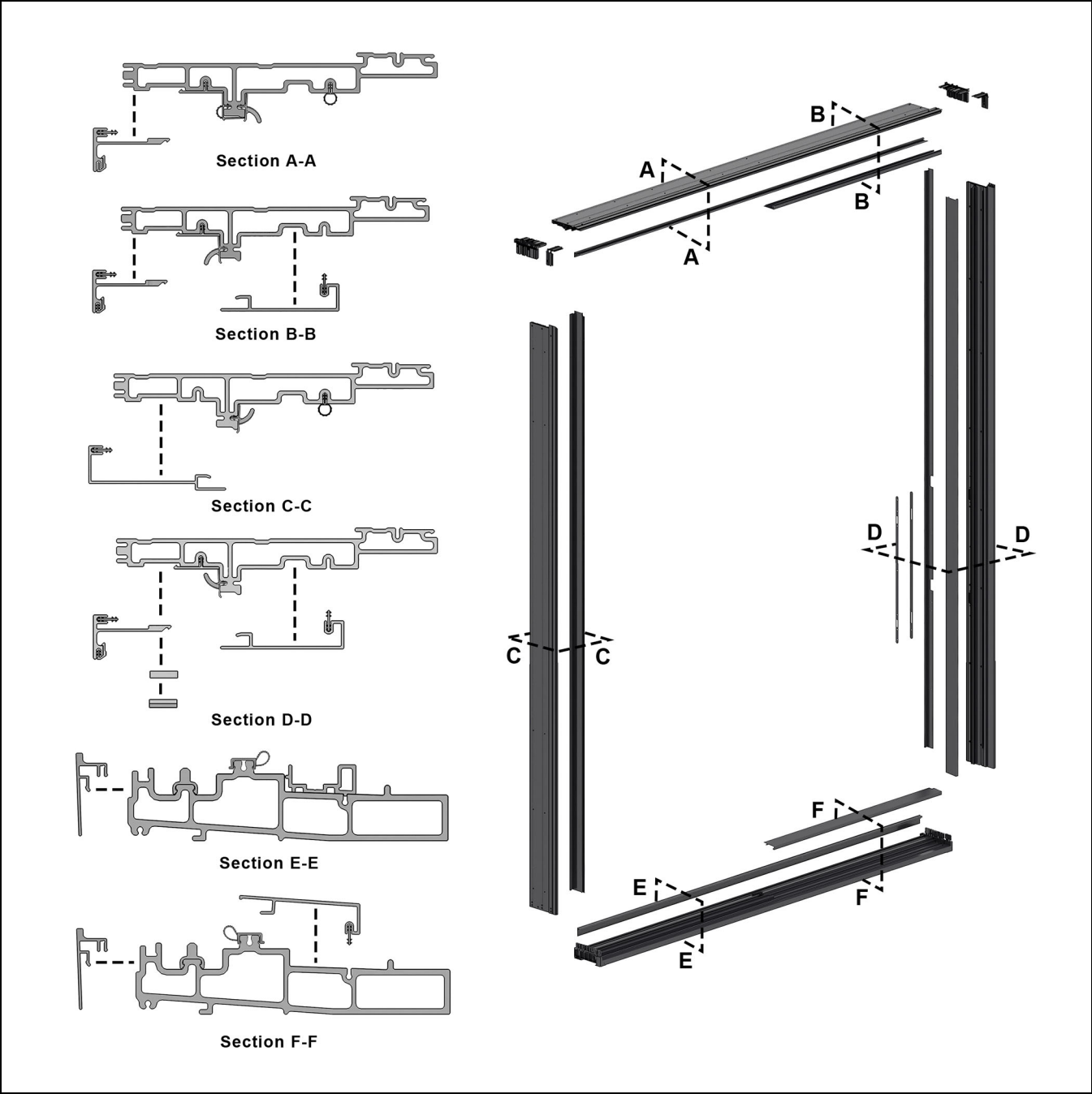


Figure 14 OX shown (similar for XO configurations). See [Assemble the Frame on page 19](#) for step by step instructions.

A-A	Head Jamb with two piece corner keys and interior frame retainer field applied.
B-B	Head Jamb with Interior frame retainer and exterior cover field applied.
C-C	Stationary jamb with factory applied weatherstrip. Interior cover field applied.
D-D	Locking jamb with interior frame retainer, strike backer, and strike field applied.
E-E	Sill with one piece corner key factory installed. Sill liner field applied.
F-F	Sill with one piece corner key factory installed. Interior sill cover field applied.

NOTE: All weatherstrip is factory applied on frame components.

OOX or XOO Assembly Details

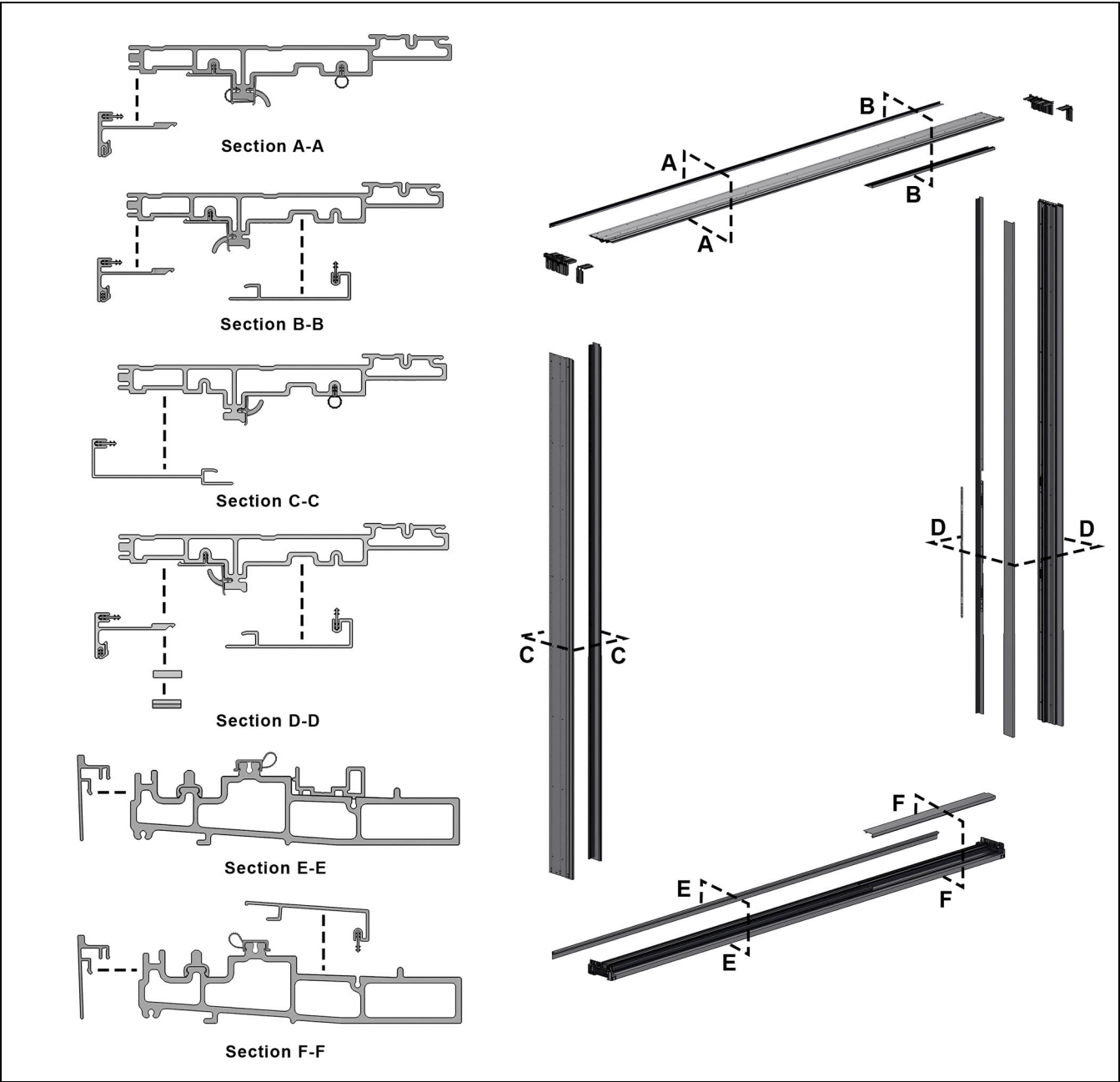


Figure 15 OOX shown. See [Assemble the Frame on page 19](#) for step by step instructions.

A-A	Head Jamb with two piece corner keys and interior frame retainer field applied.
B-B	Head Jamb with exterior cover field applied.
C-C	Stationary jamb with interior covers field applied.
D-D	Locking jamb with interior frame retainer, locking hardware, and exterior covers field applied.
E-E	Sill with one piece corner key factory installed. Sill liner field applied.
F-F	Sill with one piece corner key factory. Exterior cover field applied.

NOTE: All weatherstrip is factory applied on frame components.

OX-O or O-XO Assembly Details

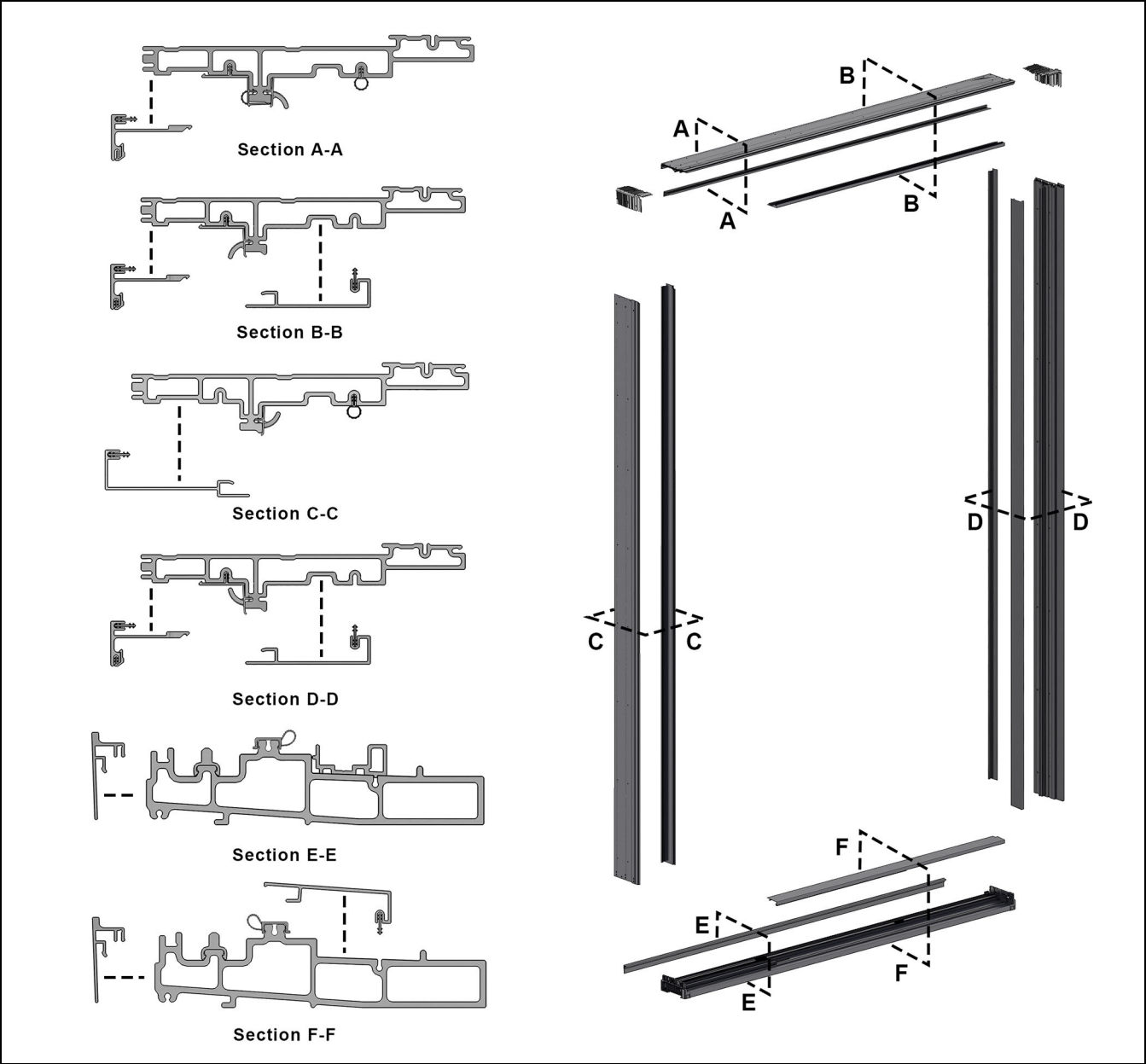


Figure 16 OX-O shown. See [Assemble the Frame on page 19](#) for step by step instructions.

A-A	Head Jamb with two piece corner keys field applied.
B-B	Head Jamb with interior frame retainer and exterior cover field applied.
C-C	Jamb with interior covers field applied.
D-D	Sill with one piece corner key factory installed. Sill liner and frame covers field applied.
E-E	Sill with one piece corner key factory applied and interior sill cover field applied.

NOTE: All weatherstrip is factory applied on frame components.

OXXO Assembly Details

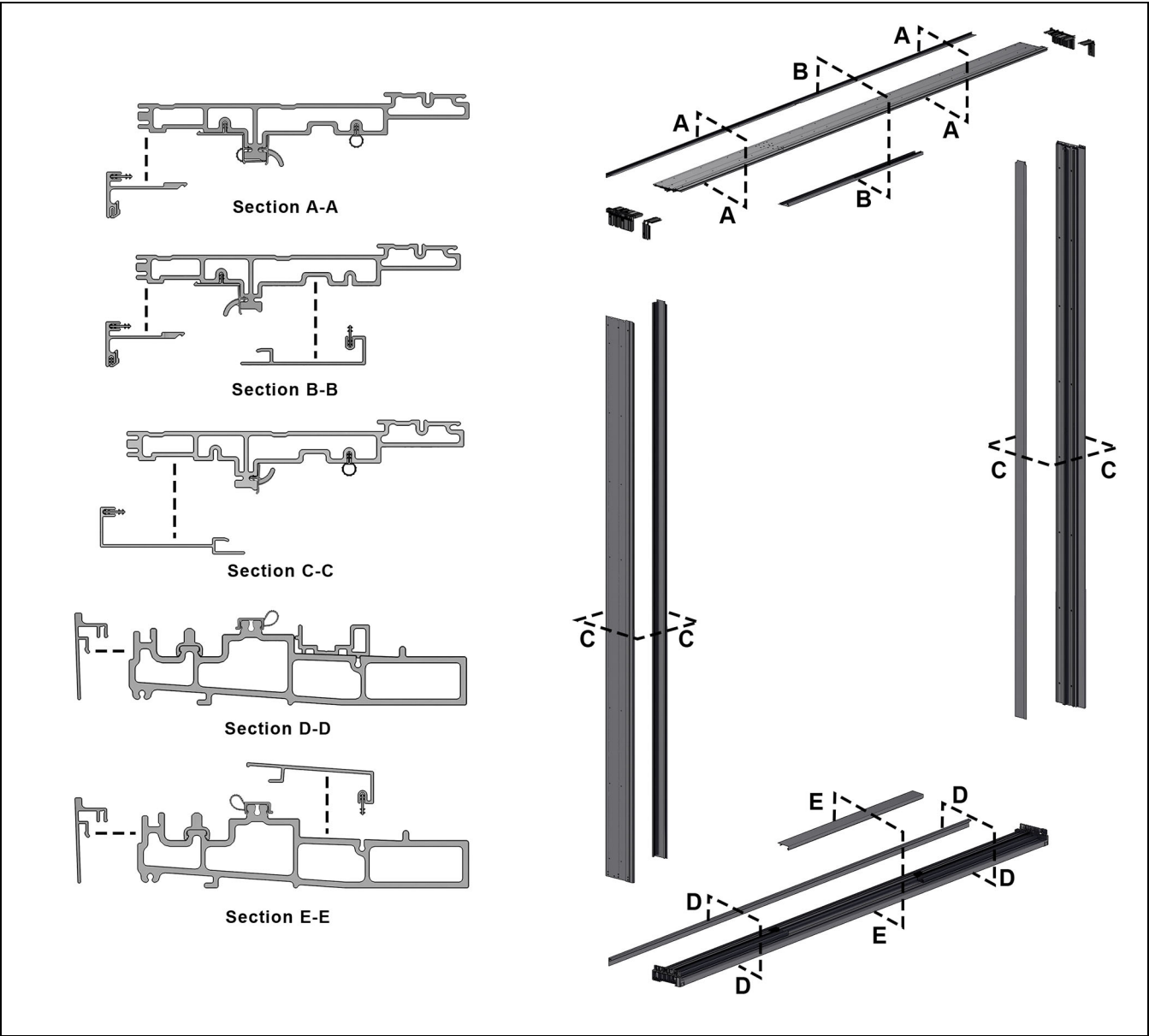


Figure 17 See [Assemble the Frame on page 19](#) for step by step instructions.

A-A	Head Jambs with two piece corner keys and interior sill liner field applied.
B-B	Head Jambs with two piece corner keys, Interior frame retainer, and sill liner field applied.
C-C	Stationary jambs with stationary covers field applied.
D-D	Sill with one piece corner key factory installed. Sill liner field applied.
E-E	Sill with one piece corner key factory installed. Sill liner and interior sill cover field applied.

NOTE: All weatherstrip is factory applied on frame components.

O Assembly Details

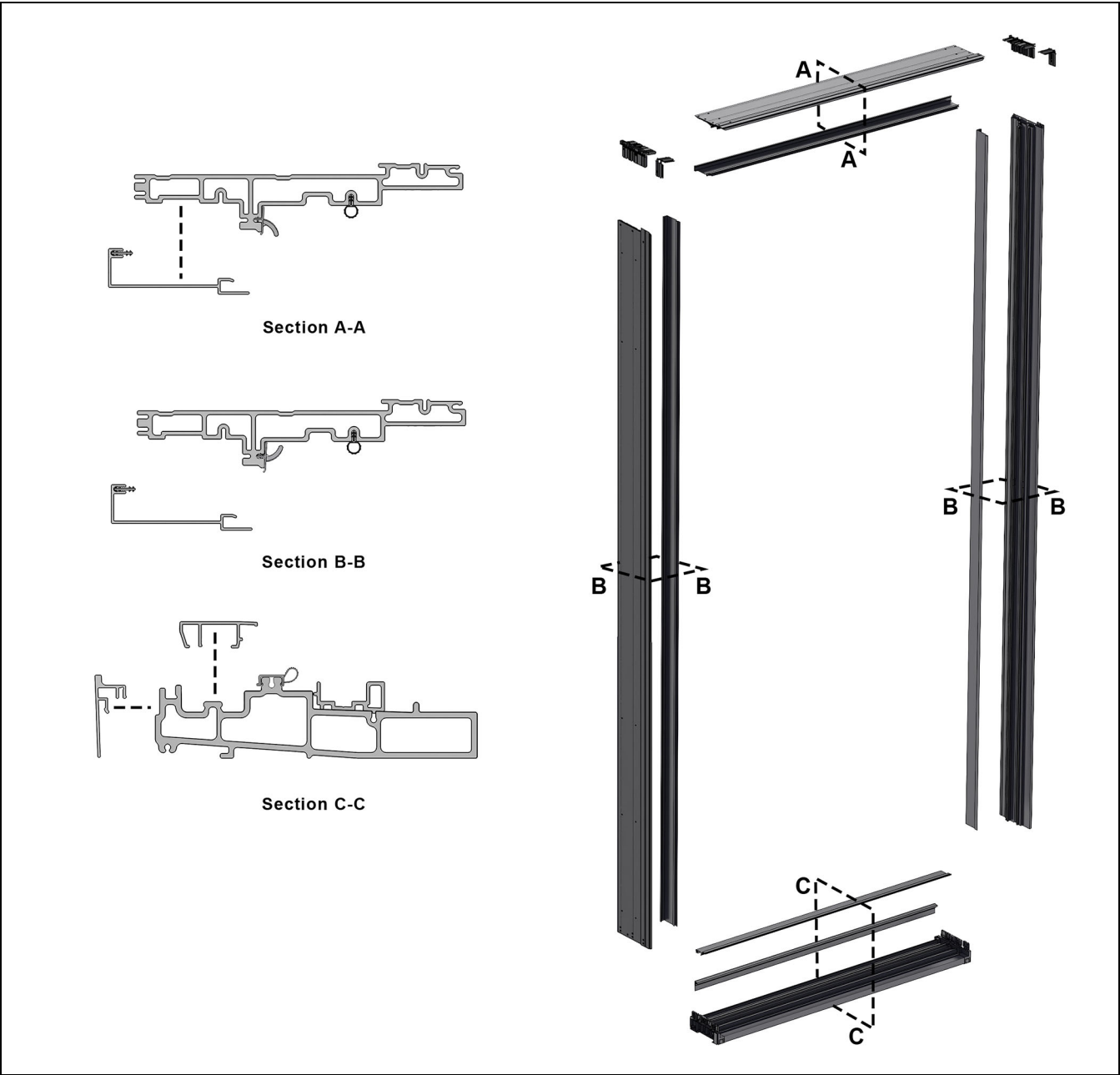


Figure 18 O. See [Assemble the Frame on page 19](#) for step by step instructions.

A-A	Head Jamb with interior cover and two piece corner keys field applied.
B-B	Jamb with interior cover field applied.
C-C	Sill with one piece corner key factory installed. Sill liner and frame covers field applied.

NOTE: All weatherstrip is factory applied on frame components.

Assemble the Frame

⚠ CAUTION!

Wear gloves and protective clothing when handling the frame components. Some high-density fiberglass surfaces are not coated and can leave splinters in bare skin.

IMPORTANT

If your door is wider than 192"(4877), your head jamb will be spliced. Use caution when handling spliced components to avoid stressing spliced sections. **You will need to inject sealant in the splice.** Refer to [step 1 on page 22](#) for details.

NOTE: All fasteners and sealant for frame assembly are provided. Fasteners and head jamb corner keys are found in the hardware box.

1. Layout all the components on a flat and clean surface. Orient the parts so once they are assembled the **interior** side is up. [See Figure 19.](#)

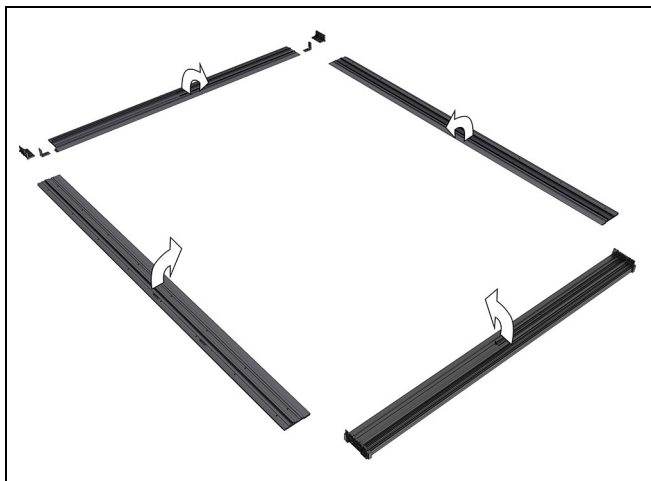


Figure 19

2. Slide the jambs over the sill corner keys (attached to the sill from the factory). [See Figure 20](#)



Tip

It may be necessary to seat the components with a rubber mallet.

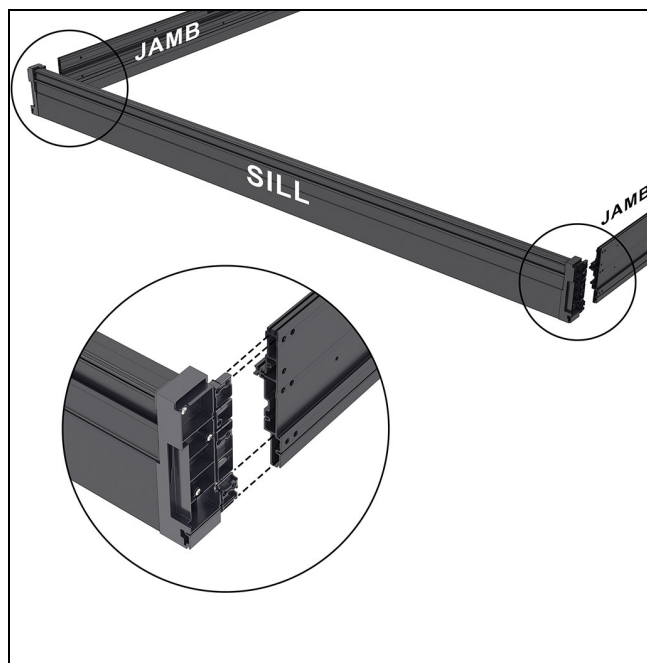


Figure 20

IMPORTANT

Hand Tools Only: do not use power tools to fasten the frame components together.

3. Fasten the jamb to the sill corner keys with three (3) # 8 x 3/8" flat head screws using a #2 hand screwdriver at the locations noted in [Figure 21.](#)

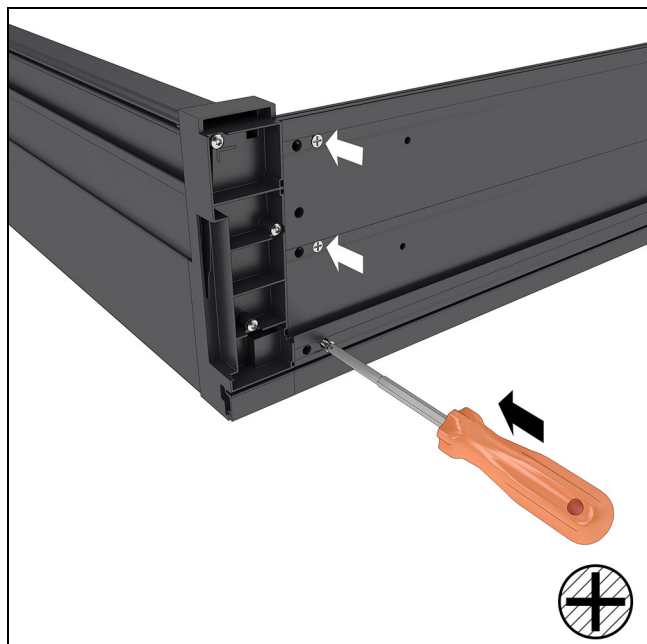


Figure 21

4. Slide the two piece corner keys into the head jamb.
[See Figure 22.](#)

IMPORTANT

Take care to make sure the fingers of the corner keys are aligned in the hollows of the jamb. The jamb member should be perpendicular to the sill before inserting the corner keys.

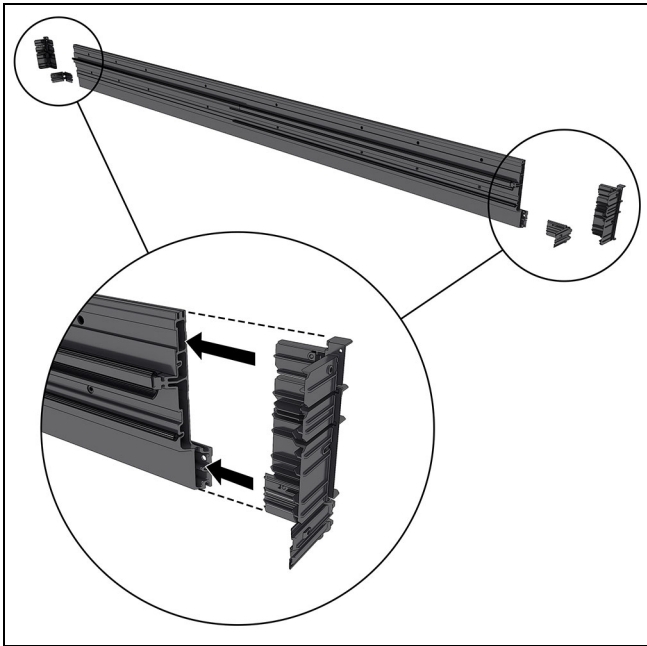


Figure 22

5. Slide the jambs over the head jamb corner keys until the exterior miters are tight. [See Figure 23.](#)

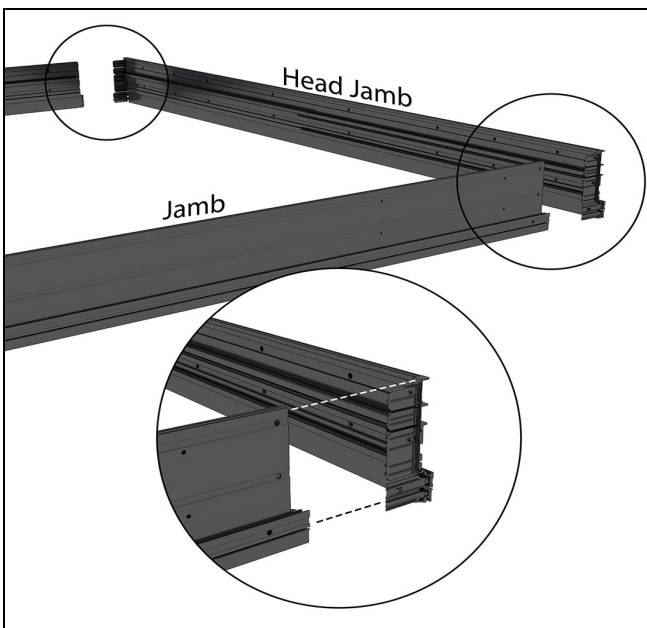


Figure 23

6. Fasten the head jamb to the corner keys with three (3) # 8 x 3/8" flat head screws at the locations noted in [Figure 24.](#)

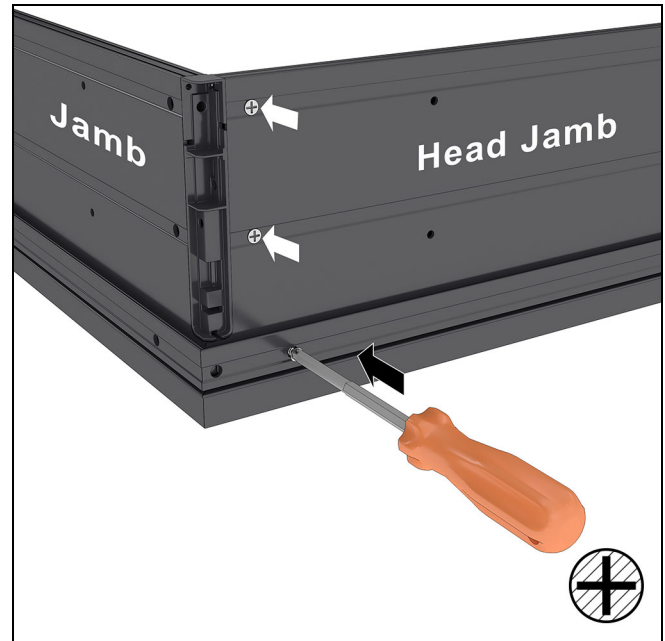


Figure 24

7. Fasten the jamb to the head jamb corner keys with three (3) # 8 x 3/8" flat head screws at the locations noted in [Figure 25](#).



Figure 25

8. Use a #1 Phillips head hand screwdriver to drive two (2) #4 x 1/2" screws into the corner key in the areas noted in [Figure 26](#).

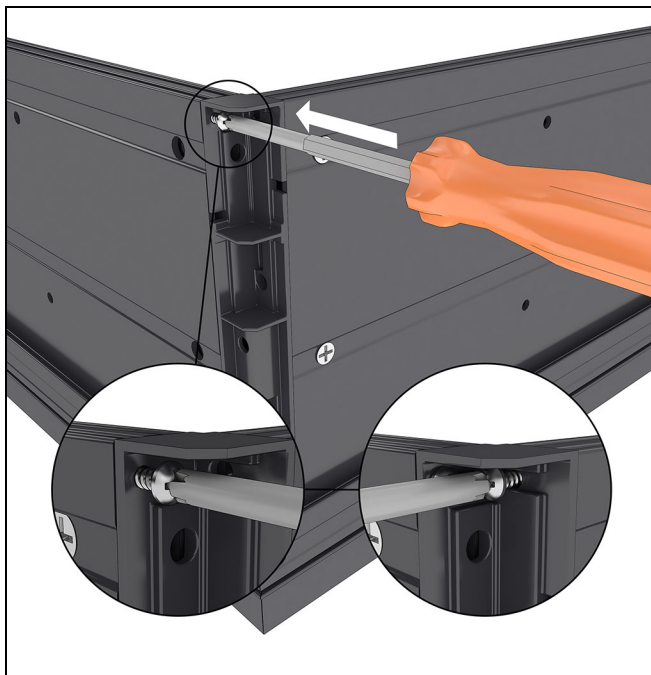


Figure 26

9. Proceed to the next section, [Injecting Sealant on page 22](#).

Injecting Sealant

⚠ CAUTION!

For best frame corner results, once the corners have been injected and **before the sealant cures**, the frame should be installed and shimmed in the rough opening. The rough opening provides the ideal fixturing and corner visibility while the sealant cures.



Hint

It is best practice when injecting sealant in the corner keys and head jamb splice, to use a little more than necessary to be sure the hollow is filled. It is better to over-fill and clean up any excess than under-fill the hollow.

1. Spliced Head Jambs: Inject the head jamb splice in the two places noted in [Figure 27](#). Starting at the exterior, inject sealant using the large nozzle until you see squeeze out in the corresponding port noted by white arrows.

NOTE: Not all head jambs are spliced.

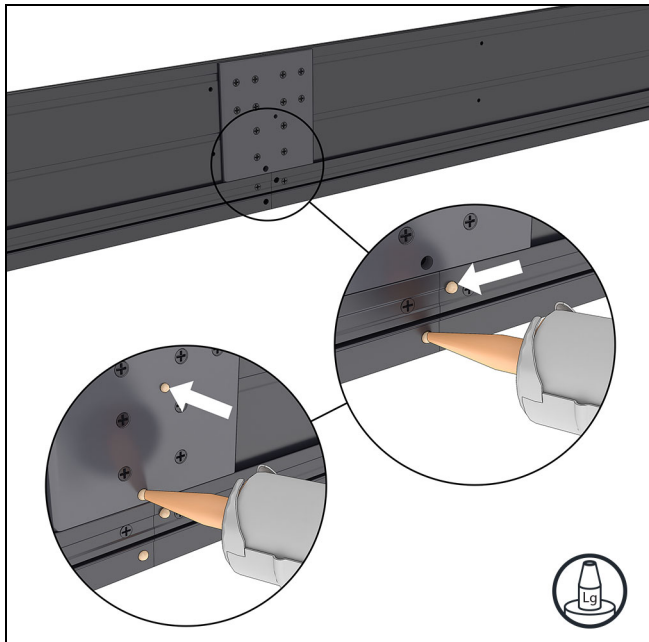


Figure 27

2. Inject the sill corner keys with sealant (provided). There are four injection holes and four squeeze out holes. Start at the exterior-most injection hole and inject sealant until you see squeeze-out in the corresponding port (indicated with white arrows in [Figure 28](#) through [Figure 31](#)). Work your way to the interior.



Figure 28

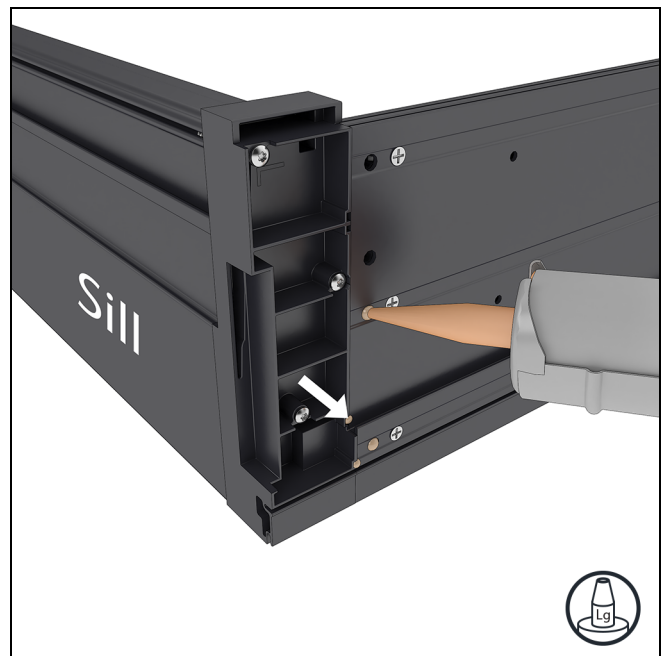


Figure 29

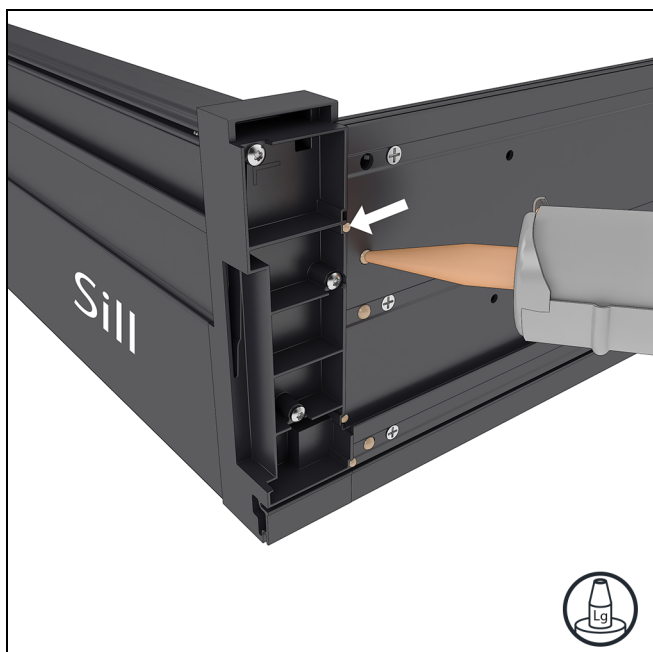


Figure 30

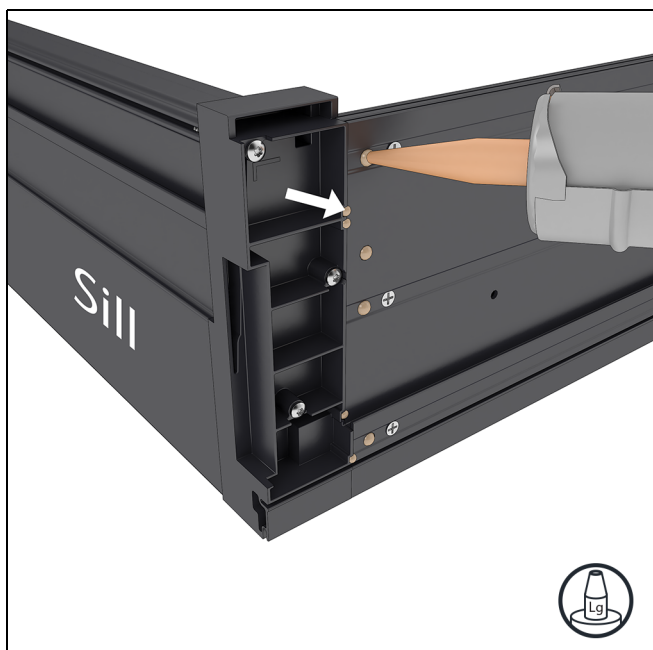


Figure 31

3. Inject the **head jamb** corner keys with sealant (provided). There are four injection holes and three squeeze out holes. Start at the exterior-most injection hole and inject sealant until you see squeeze-out in the corresponding port. Work your way to the interior. See [Figure 32](#) through [Figure 35](#).

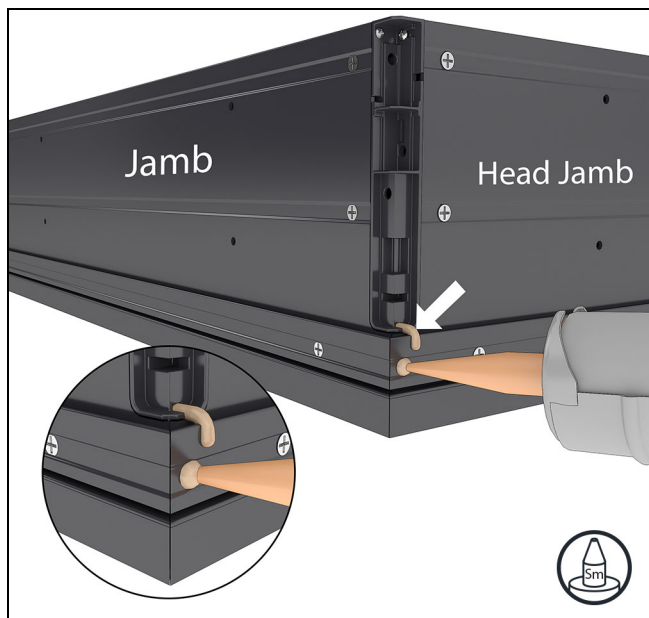


Figure 32 Start sealing at the exterior

NOTE: Additional sealant will exit the first squeeze out hole, see [Figure 33](#).

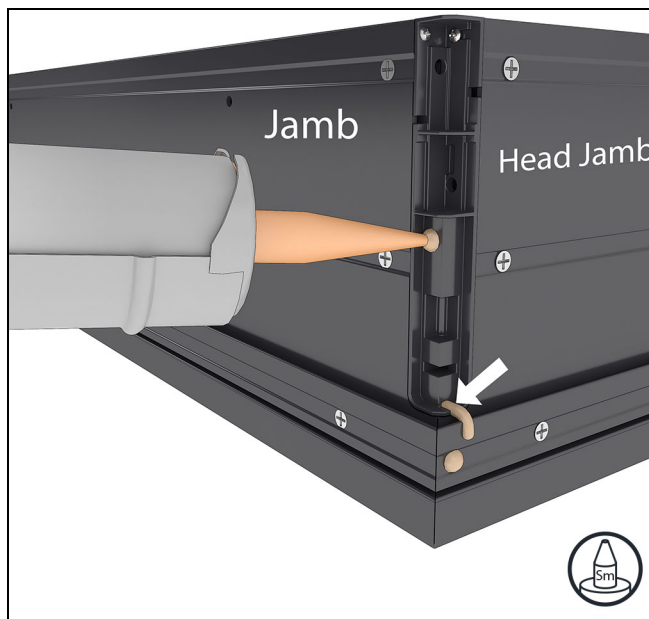


Figure 33

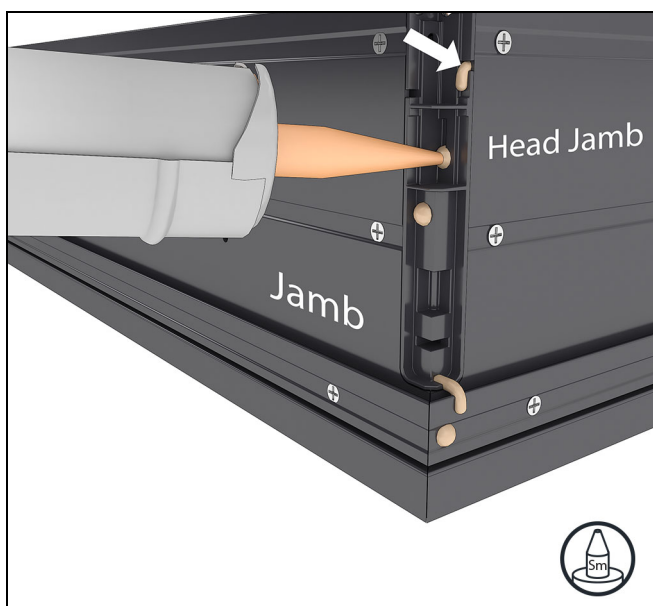


Figure 34

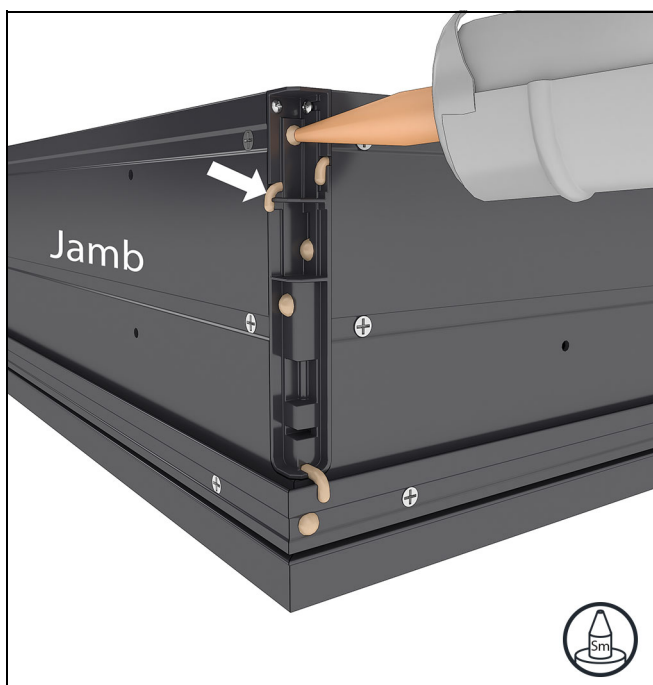


Figure 35

4. Proceed to the next section, [FRAME INSTALLATION](#) on page 25.

FRAME INSTALLATION

IMPORTANT

It is extremely important to start with a flat level sill. If you have not remedied an out of level sill, do so now.

IMPORTANT

Nailing fin only is NOT an approved fastening method. Jamb fastening is required with the screws provided.



Seek Assistance

You will need more than one person to install the frame.

Set the Frame in the Opening

1. Apply a 3/8" (10) bead of sealant about 1" (25) inside of the line you marked earlier. [See Figure 36.](#)

Refer to [Sill Support Installation on page 10](#) for more details.

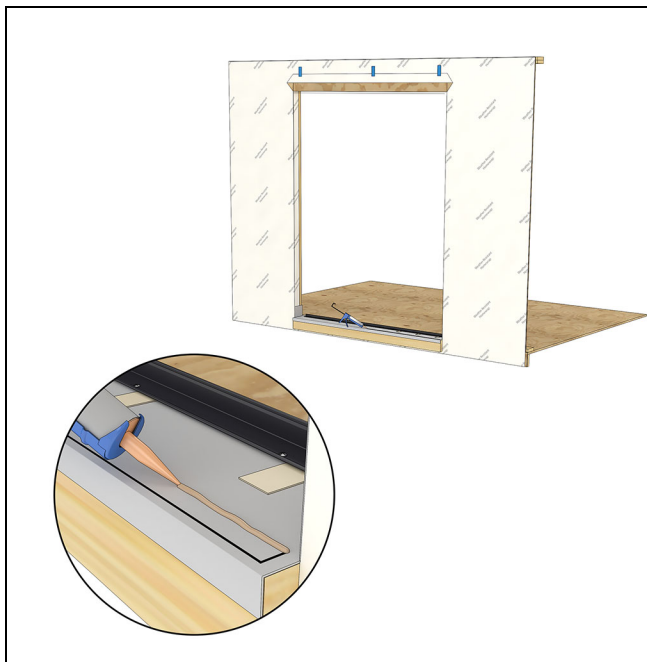


Figure 36

2. Insert a "story pole" between the top of the sill and the head jamb track. Refer to field calculations for the proper length of story pole (frame height minus 2 5/8"). [See Figure 37.](#)

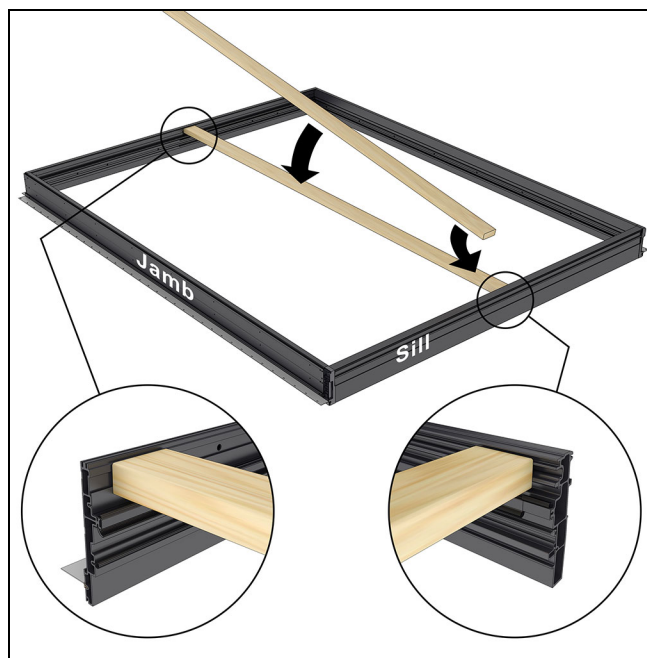


Figure 37

3. Stand the frame upright next to the rough opening and slide into the opening. [See Figure 38.](#)



Figure 38

4. Verify that the sill is flat and level. [See Figure 39.](#)



Figure 39

NOTE: Make sure the nailing fin is perpendicular to the frame and not stuck between the frame and the rough opening.

5. Use a rubber mallet to engage the sill into the sill support bracket completely. [See Figure 40.](#)

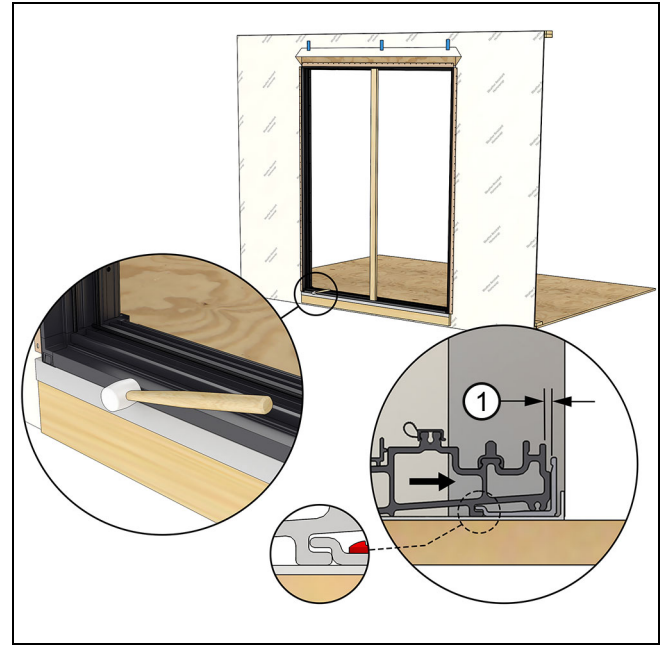


Figure 40

1	1/8" gap between sill and support
---	-----------------------------------

IMPORTANT

If your sill isn't properly engaged with the sill support bracket, your sill liner won't seat completely. One visual indicator is the gap between the sill and the support should be about 1/8" (3) evenly along the sill.

6. Install the interior sill liner. Set with a rubber mallet. [See Figure 41.](#)

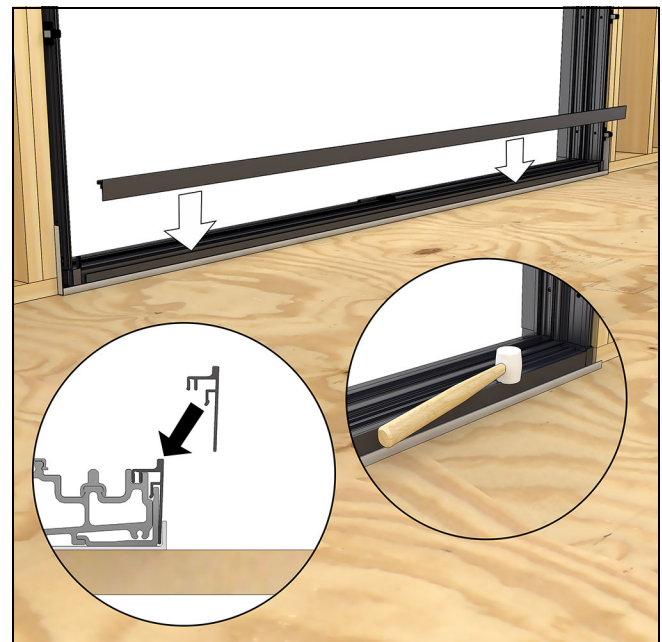


Figure 41

Fastening the Frame-An Overview

The following steps are intended to give a general overview of the alignment/shimming/fastening order. Keep this sequence in mind when reading through the details of the specific fastening sections that follow.

1. Align, shim, and anchor the four side jamb corners.
2. Align, shim, and anchor the ends of the head jamb, and halfway in between the four corners.
3. Align, shim, and anchor between the previous installation locations.

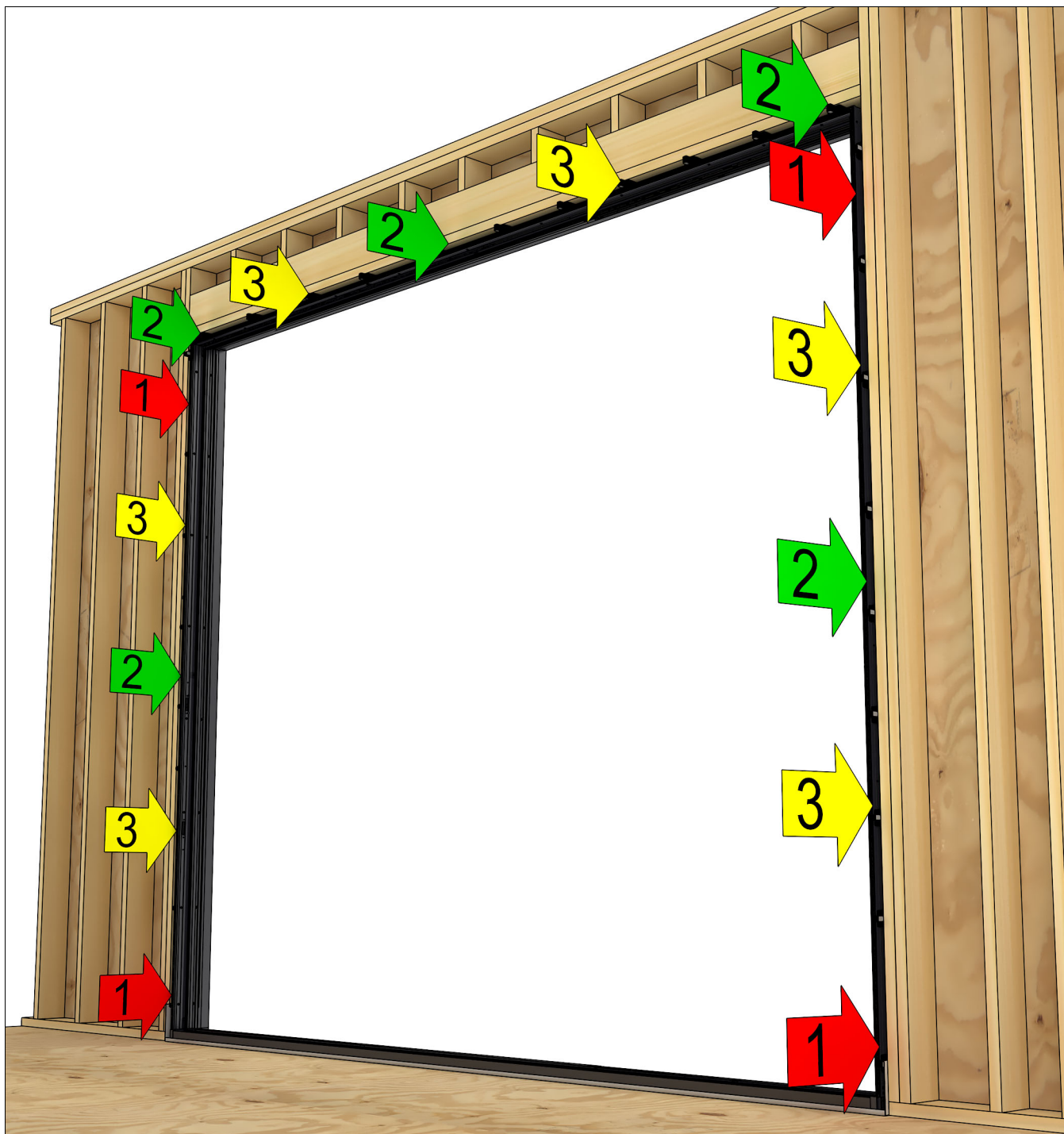


Figure 42

Fasten the Frame

1. Center the frame in the rough opening and shim both lower corners, just above the corner keys. Install T20 Torx installation screws (included) into the pre-drilled holes in the frame and into the rough opening. See [Figure 43](#) and [Figure 44](#).

NOTE: It is recommended that you pre-drill into the RO framing with a 1/8" drill bit prior to fastening.



Figure 43

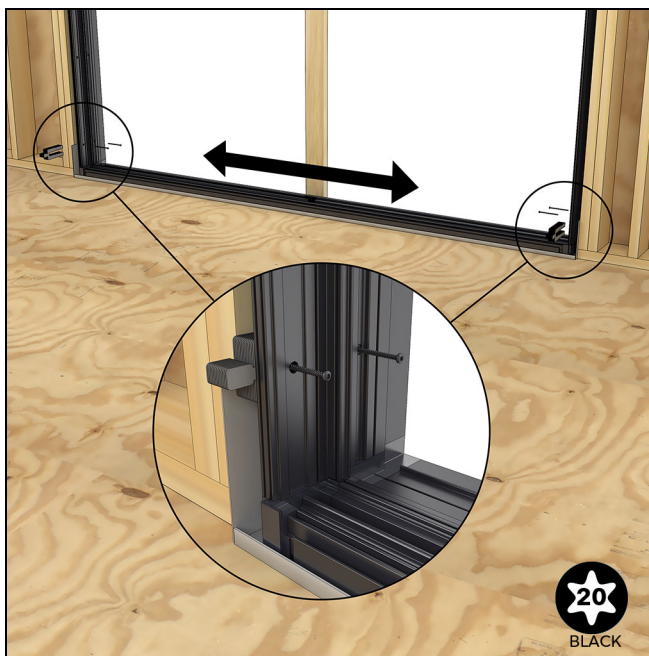


Figure 44

IMPORTANT

Make sure shims are long enough to support both screws. Flat or horseshoe shims are recommended, avoid using tapered shims.

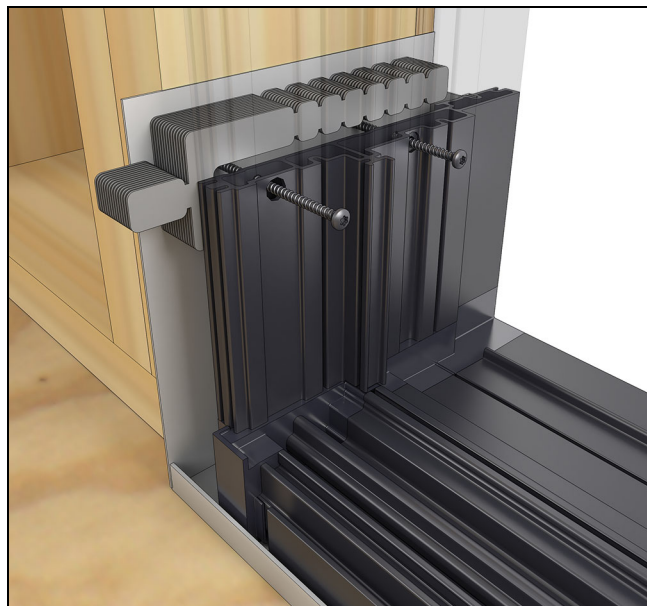


Figure 45

2. Use a laser level and speed square to plumb the jamb. Move the jamb left to right until square. See [Figure 46](#).

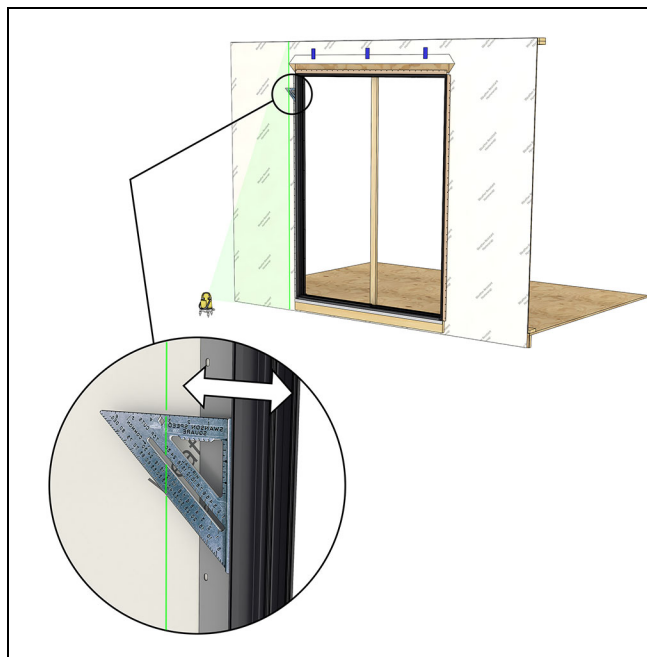


Figure 46

3. Apply shims and adjust, then fasten near the top with a #10 x 3" Torx (T20) screws provided. See Figure 47.

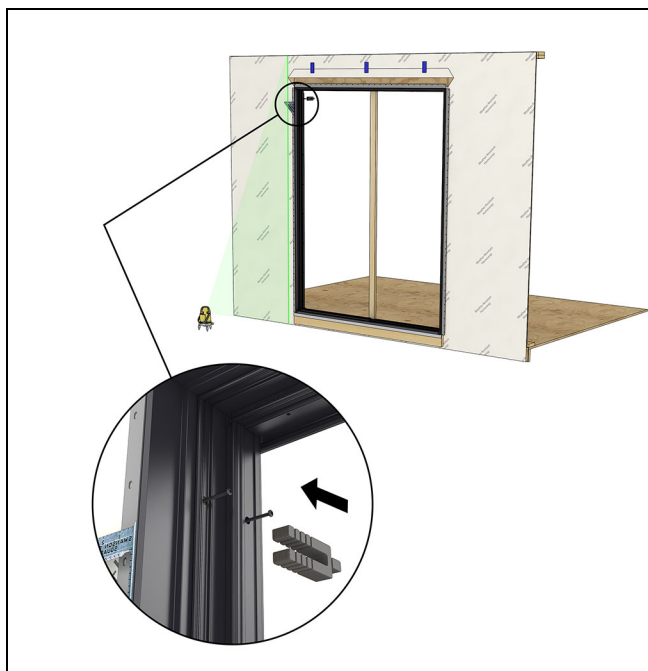


Figure 47

4. Verify you have a square frame by measuring diagonals. 1/8" or less difference between the two measurements is ideal.

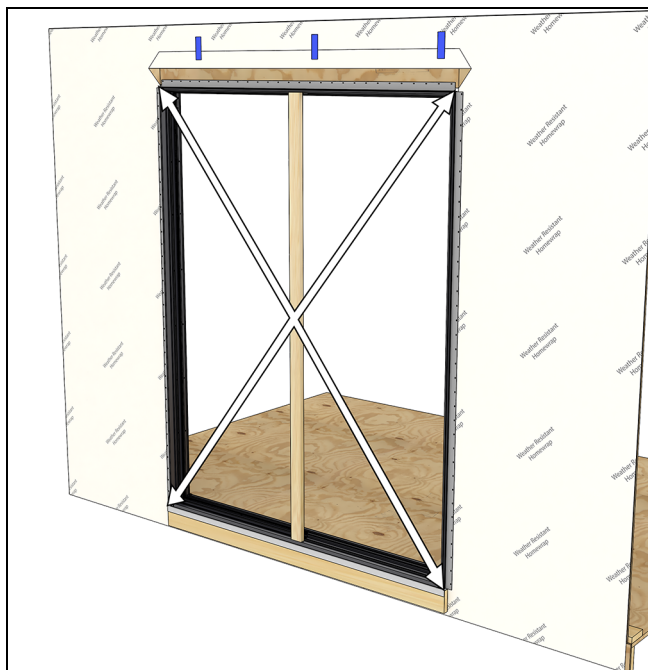


Figure 48

5. **Plumb and true the frame** so that it is aligned on the same plane. Move to the operator or opposite side and apply shims and adjust, then fasten through the operator (or opposite) jamb side near the top with a #10

x 3" (76) Torx (T20) screw provided. See Figure 49 and Figure 50.

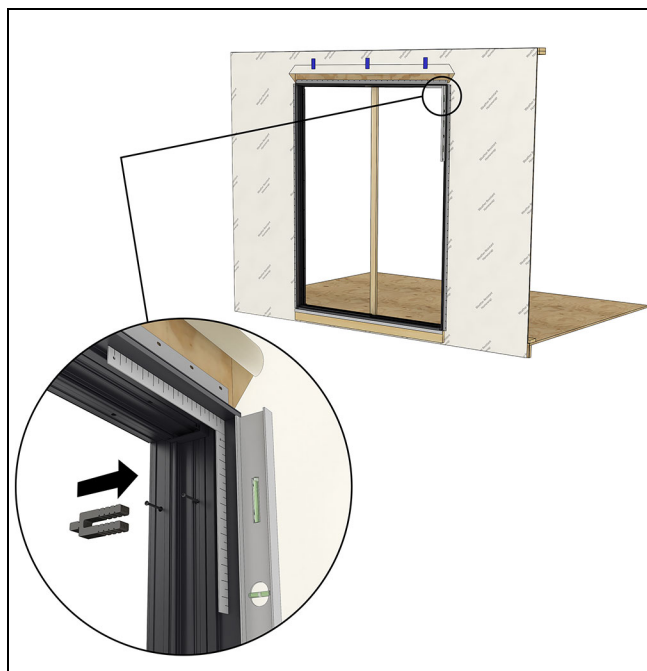


Figure 49



Figure 50 Make sure the entire frame is on the same plane and not twisted.

NOTE: Check to make sure the center of the head jamb is plumb (in/out) and on the same plane as the rest of the frame.

6. With all four corners fastened at the jambs, level the head jamb using a speed square and a laser level on a tall tripod. Set your laser line about 2" (51) below the underside of the head jamb. Start at one corner and

mark the position of the laser line on your speed square. Verify that the position of the laser line is the same distance at the opposite corner. See Figure 51.

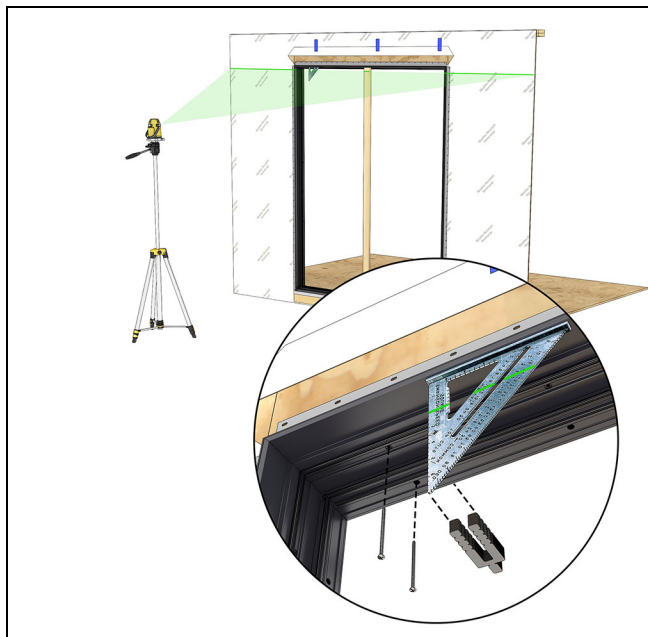


Figure 51

7. Move the speed square along the head jamb. At each fastener location, note the position of the laser line compared to the mark on your speed square. (Check both interior and exterior) Starting at the center, shim and fasten with #10 x 3" (76) screws at each location until the laser line is aligned with the mark on your speed square. Complete the shimming and fastening process across the length of the head jamb. See Figure 52

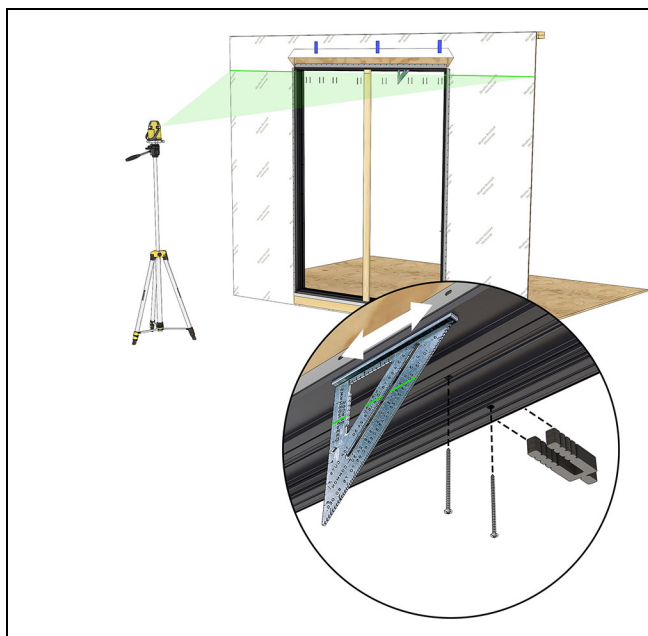


Figure 52



Hint

An alternative technique for leveling the head jamb is using a plumb story pole so that it stays in light contact with the sill and head jamb. Repeat this process the entire width while shimming and fastening the head jamb across the entire width. See [step 2 on page 25](#) for proper length of story pole. It is important to note that any inconsistencies in the sill (humped or slumping) will be transferred to the head jamb using this technique. A flat and level sill is necessary to obtain a proper installation.

8. Once the head jamb is fastened, remove the story pole. See Figure 53.

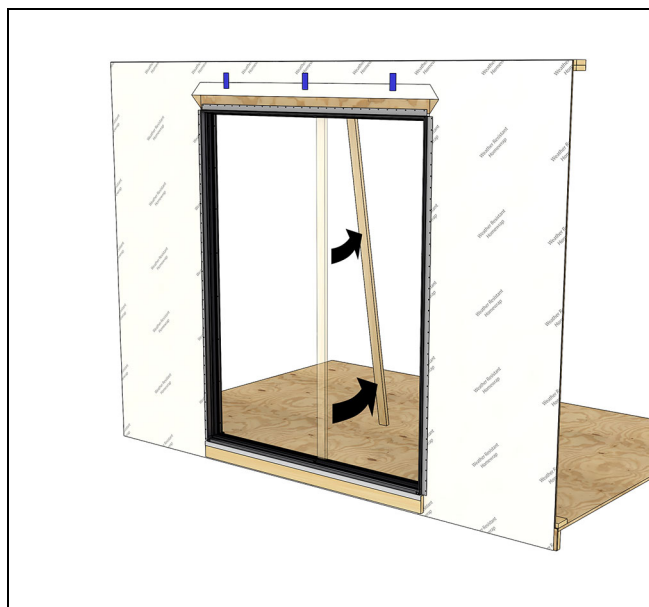


Figure 53

9. Complete fastening and shimming through additional fastener holes in the jamb.

10. On OX, XO, OOX, XOO, O-XO, or OX-O configurations, install the jamb frame retainer on the interior locking jamb. The notched end of the retainer should be at the top. See Figure 54 and Figure 55. Seat the retainer with a rubber mallet and wood block. Hit the block closer to the outer edge of the face to prevent denting of the retainer.



Hint

On an OX-O, the retainer will go on the left side as seen from the **interior**. On an O-XO, the retainer will go on the right side as seen from the **interior**.

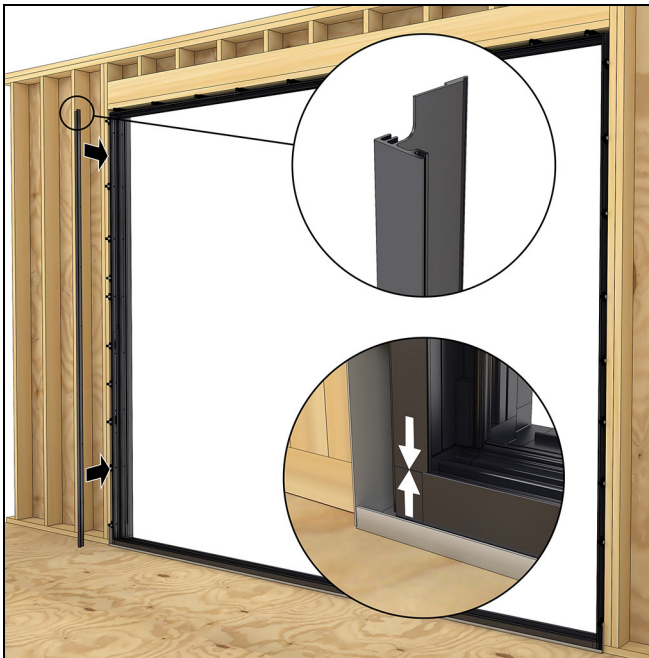


Figure 54 Note the notch in the top of the retainer.



Figure 55



Hint

Pay special attention to make sure the frame retainer goes under the vinyl liner. See the bottom inset in Figure 55.

11. O-XO or OX-O configurations, skip to [step 13 on page 32](#).

12. On OX, XO, OOX, or XOO, configurations, install the strikes. Pre-drill with a 3/16" drill bit through the holes in the jamb retainer, then shim and fasten with #8 x 3" Phillips head screws. See Figure 56, Figure 57, and Figure 57.



Hint

Orient the strike so that the bump on the strike is above the middle fastener hole. Another way to know the strike is in the right orientation is to note the gap between the mortise and the fastener hole above, is greater than the fastener hole below the mortise.

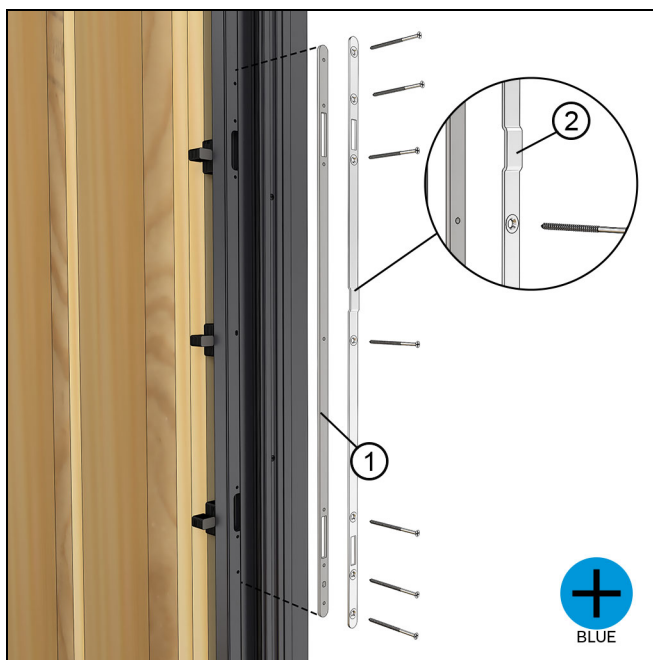


Figure 56

1	Spacer
2	Note bump is above middle fastener hole when oriented correctly.



Figure 57

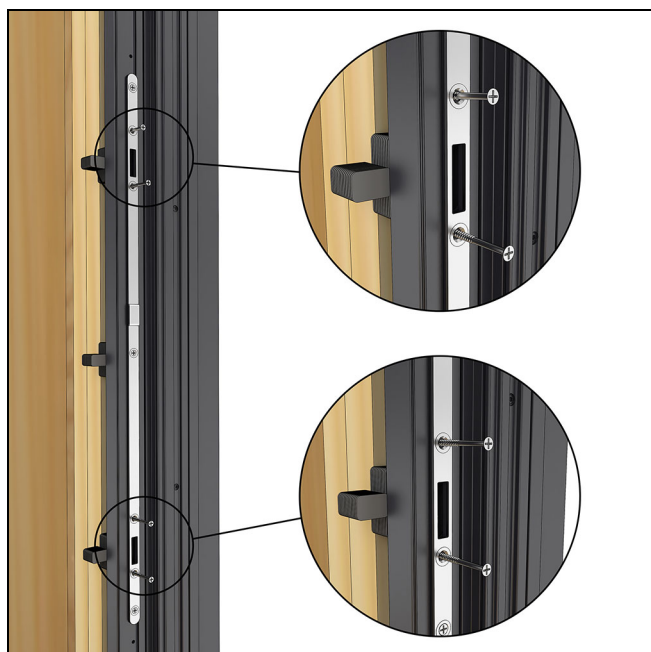


Figure 58

13. On OX-O or O-XO configurations, install the jamb frame retainer on the interior with the fabricated notch oriented to the top, at the non locking jamb. Then pre-drill with a 3/16" bit into the RO through the pre-drilled holes in the retainer and fasten with #10 x 3" panhead screws provided. [See Figure 59.](#)

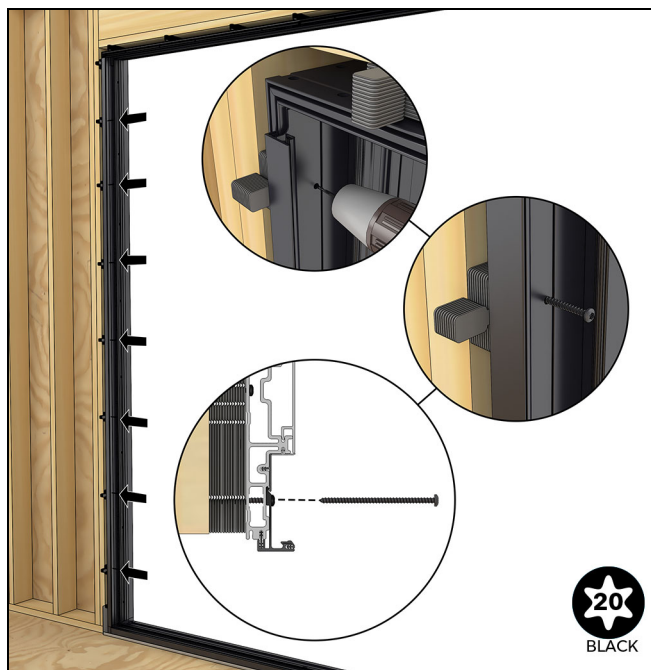


Figure 59 OX-O shown

14. On OOX or XOO configurations, install the lock bar strike and backer plate at the rout in the head jamb. Shim and fasten with the 3" stainless steel screws provided. Do not over-tighten. Tighten screws until snug only. [See Figure 60.](#)

Tip

Note the embossed writing on the backer plate should be facing down.

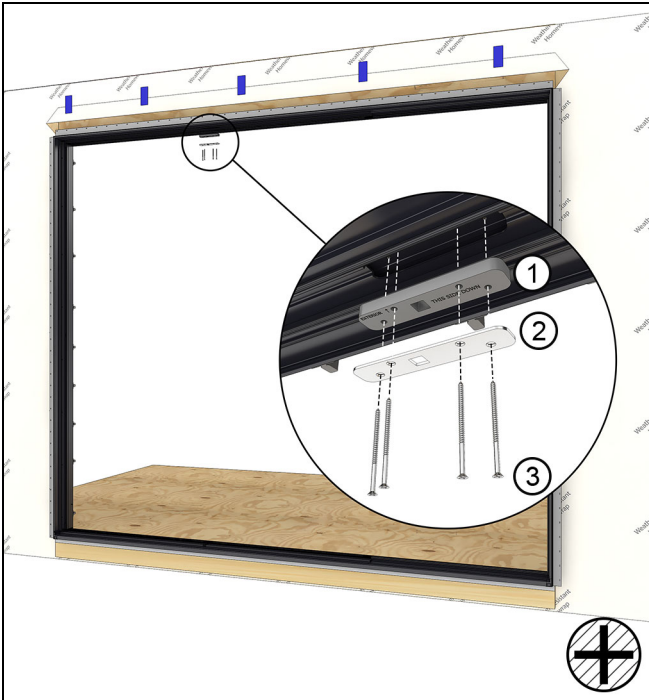


Figure 60

1	Backer plate
2	Strike
3	3" stainless steel screws

15. On all configurations, install jamb covers on your stationary jambs and seat with a rubber mallet. [See Figure 61.](#)

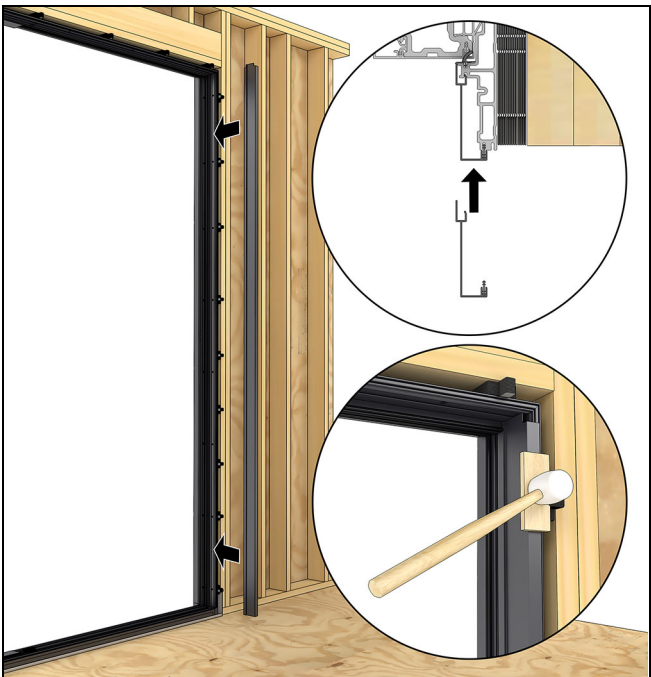


Figure 61 OX, XO, OXO shown

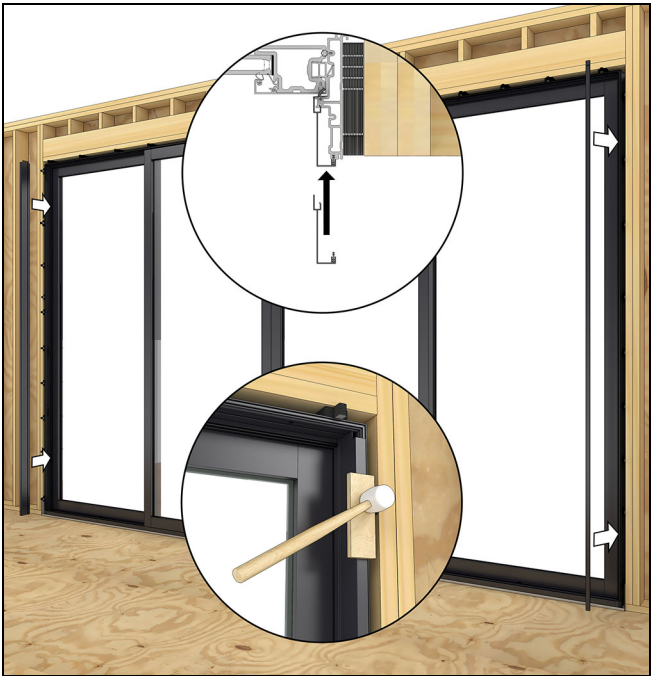


Figure 62 OXXO shown

Hint

All interior vertical jamb covers, retainers, and strikes should be installed at this point.

16. Proceed to the next section, [P ANEL INSTALLATION](#) on page 34.

PANEL INSTALLATION

WARNING!

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

All panels come with factory applied parts and ready to install in the frame.

Identifying Panels

Each panel is labeled with a letter that will help identify where it fits in the frame. You will find that information on a yellow label on the panel or packaging. Before you continue, it's a good idea to note this letter designation somewhere easily seen on the panel. Use the table below and the following figures as reference to each panel location per configuration.

Letter	Description
A	Primary Operator
C	Stationary (Interlock)
E	Inactive Operator
H	Stationary (Exterior track)
N	Stationary (One wide unit)
Q	Stationary (Interior track)



Figure 63 Note: label may be in a different location on the panel.

1	Panel ID location on sticker
---	------------------------------

Panel Configurations

Along with panel identification, each panel in an operating configuration has a handing designation as well. "L" (LEFT) or "R" (RIGHT) is added to the designation. In the table below the "S" refers to the position of the panel as seen from the exterior.

Configuration	S1	S2	S3	S4
O	N			
OX	CL	AL		
XO	AR	CR		
OX-O (OXO LH)	CL	AL	QR	
O-XO (OXO RH)	QL	AR	CR	
OOX	HL	CL	AL	
XOO	AR	CR	HR	
OXXO LH	CL	AL	ER	CR
OXXO RH	CL	EL	AR	CR

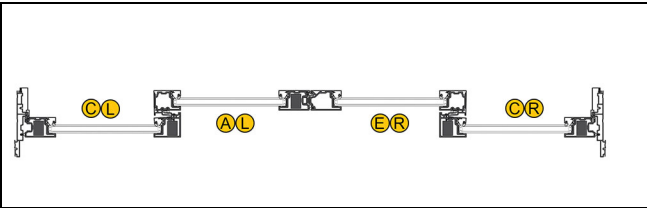


Figure 64 Sample OXXO LH Configuration

Common Steps for Panel Installation

The following steps are general guidelines for installing panels on the Modern Sliding door. Refer to the configuration specific sections for more detail and order of installation.

1. Install your exterior track stationary panels first, then install the interior track stationary panels (OXO only).
2. Always install operator panels after stationary panels.
3. Install panels that sit on the exterior track, from the exterior.
4. Install panels that sit on the interior track, from the interior.

5. Install the frame retainer.

Each configuration has a section detailing specific steps for panel installation:

- [OX or XO Panel Installation on page 36](#)
- [OX-O or O-XO Panel Installation on page 40](#)
- [OOX or XOO Panel Installation on page 46](#)
- [OXXO Panel Installation on page 51](#)

IMPORTANT

Once the exterior stationary panels are installed, removal may require additional replacement parts to replace the panel.

Using the Sill Weatherstrip Jig

A jig is provided to avoid tearing the sill weatherstrip during panel installation.

1. Before installing any panel, install the sill weatherstrip jig over the sill weatherstrip. Fit the leading edge of the jig under the weatherstrip bulb, then rotate so the back edge snaps onto the opposite leg of the weatherstrip. Note the orientation of the jig in relation to the sill weatherstrip for interior and exterior panels in [Figure 66](#) and [Figure 65](#).

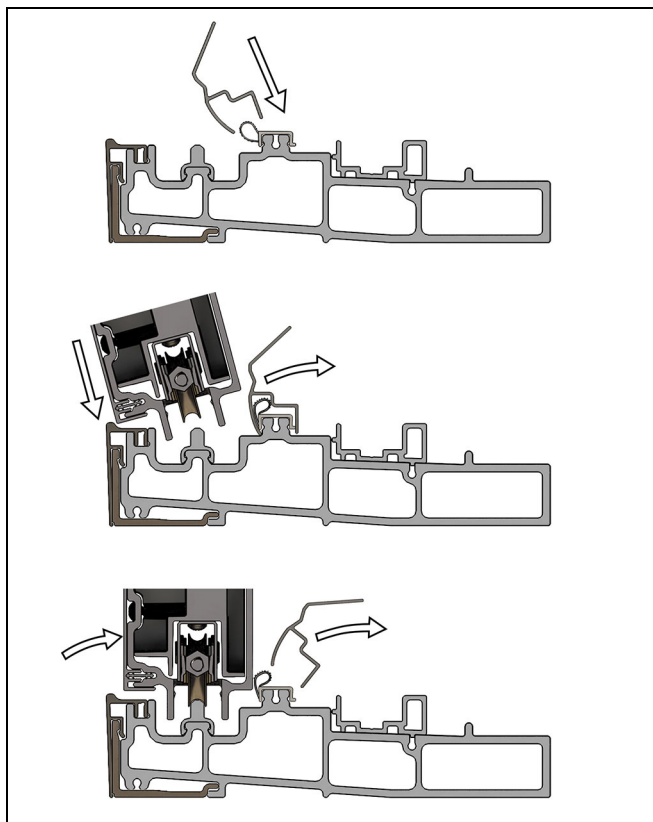


Figure 65 Interior panels

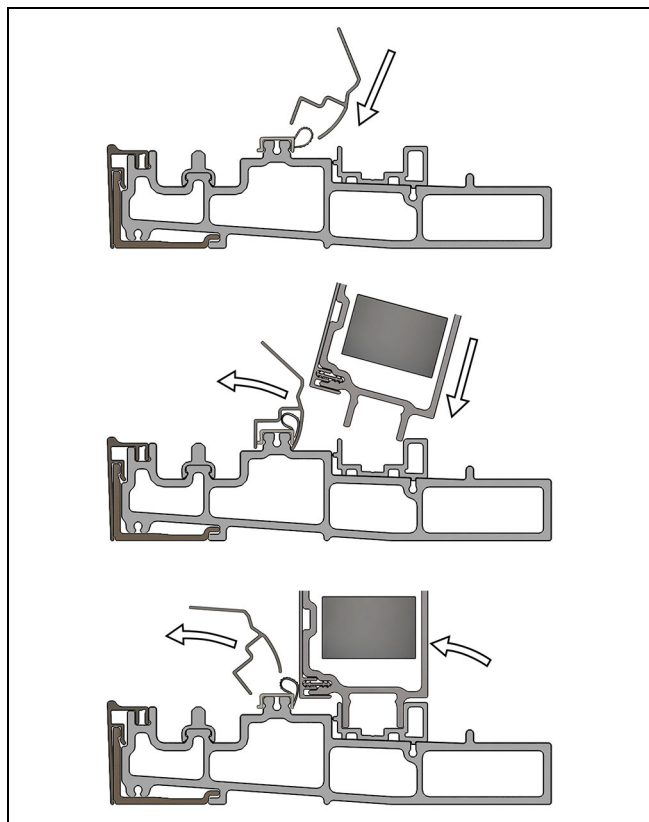


Figure 66 Exterior panels

OX or XO Panel Installation

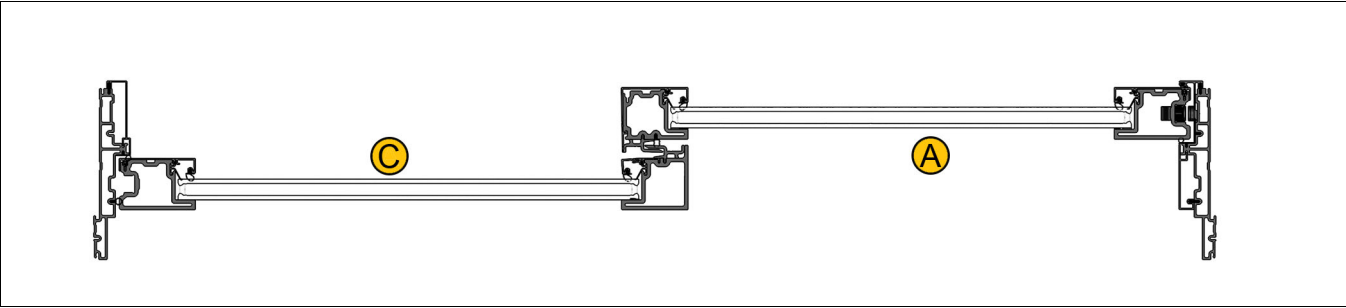


Figure 67 OX LH configuration shown

1C	Stationary Panel (LH)
2A	Primary operator

NOTE: Use the sill weatherstrip jig before installing panels. Refer to [Using the Sill Weatherstrip Jig on page 35](#) for details.

1. From the exterior, install your (C) stationary panel. Set the panel on the exterior track a few inches from the jamb and tip into place. Press the top in to engage the panel retainers in the frame. When fully seated you will hear an audible, "click". See [Figure 68](#), [Figure 69](#), and [Figure 70](#).



Figure 68 Exterior view

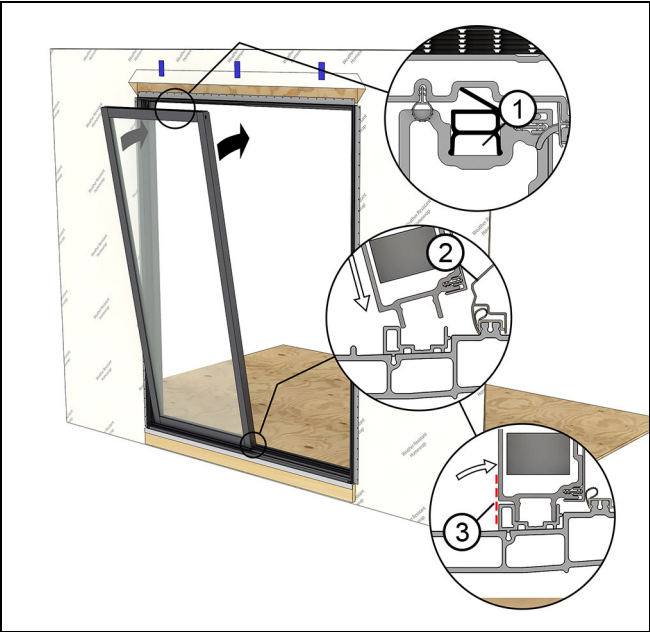


Figure 69

1	Panel retainer
2	Sill weatherstrip jig
3	Align edge of panel with front of sill bump

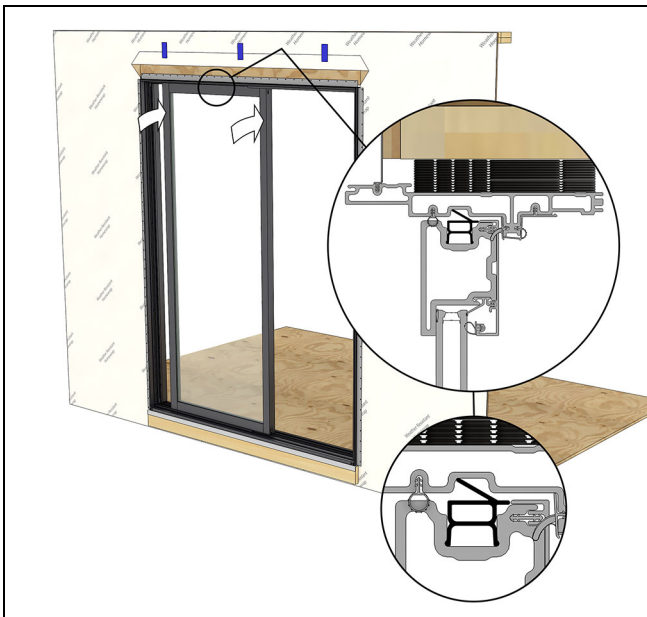


Figure 70

2. Slide the panel over to the jamb. Press on the stile to make sure the panel retainer is still engaged. See [Figure 71](#).

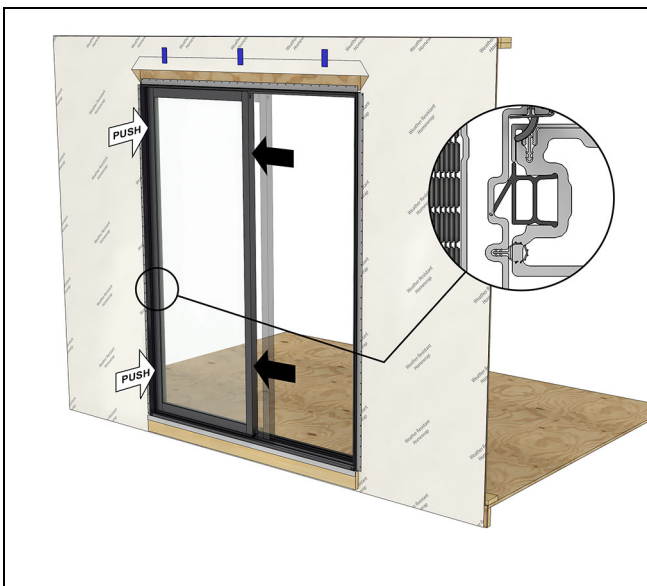


Figure 71

3. Remove the sill weatherstrip jig and move it in front of where the operator panel will go.

4. Install the (A) operator panel. Set the panel on the roller track, tip it up into the frame and then slide over to engage in the stationary panel interlock. See [Figure 72](#) and [Figure 73](#).

NOTE: Lock the panel for safety until the frame retainer is installed in the next step.

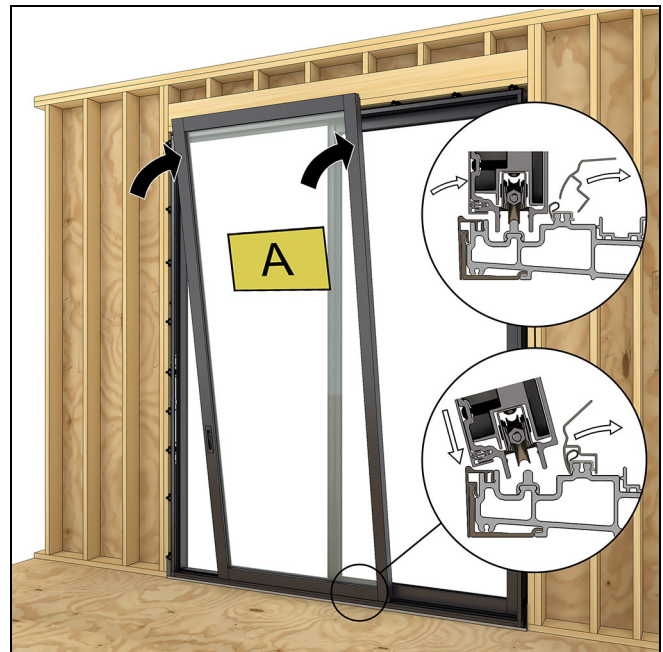


Figure 72



Figure 73

5. Install the head jamb frame retainer. With the panel closed and locked, slide the frame retainer above the operator panel and seat the barb into the frame with a wood block and rubber mallet. See Figure 74.

IMPORTANT

Make sure the end of the panel retainer engages with the hooked end of the frame liner as shown in Figure 74 with white arrows.

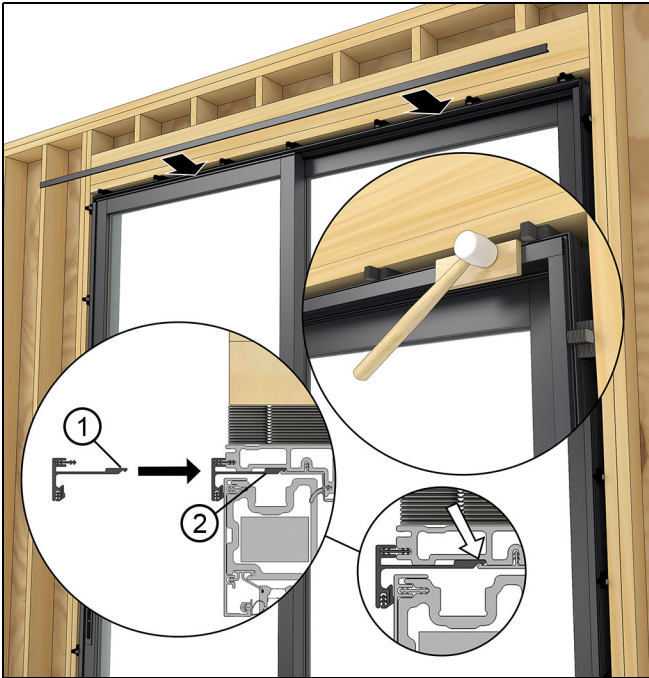


Figure 74

1	Frame retainer
2	Frame liner

6. Fully open the operator panel. At each of the pre-drilled holes in the frame retainer, shim, pre-drill with a 3/16" drill bit, and fasten with #10 x 3" color matched screws into the RO. See Figure 75.



Figure 75

IMPORTANT

Avoid bowing the head jamb and do not over-shim.

7. Install the exterior covers. Start at the head jamb, then sill, and then jambs. Push hooked edge of the cover into the frame then rotate to engage the barbed end into the side of the frame. If necessary, seat the cover with a rubber mallet and block of wood, taking care to hit on the edge and not on the face of the cover to avoid damage. See Figure 76 through Figure 79.

 Tip

You may need to guide the flexible barb into the kerf with a stiff putty knife or flat bar.

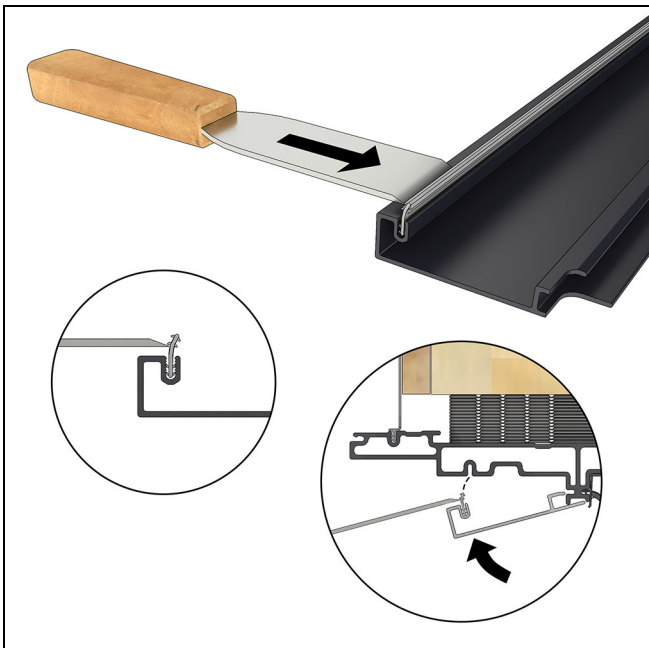


Figure 76 Use a flat bar to guide the flexible bar into the kerf.



Figure 78 detail of sill cover

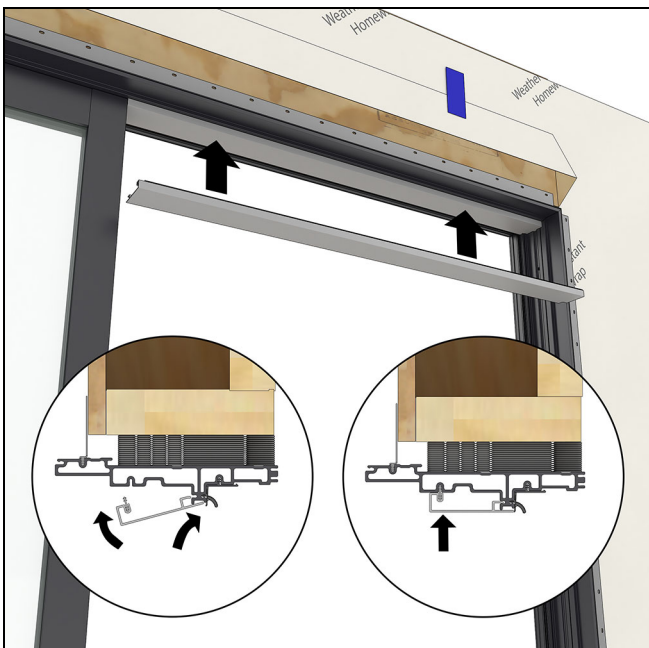


Figure 77 detail of head jamb cover

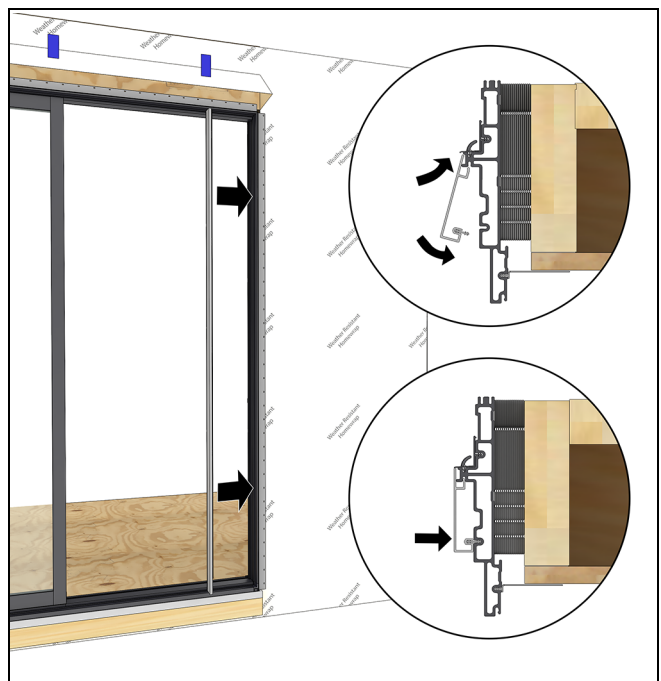


Figure 79 detail of jamb cover

8. Proceed to the next section, [Install Panel Bumpers on page 57](#). If you need to adjust your panels for proper operation, see [Adjusting Panels on page 60](#).

OX-O or O-XO Panel Installation

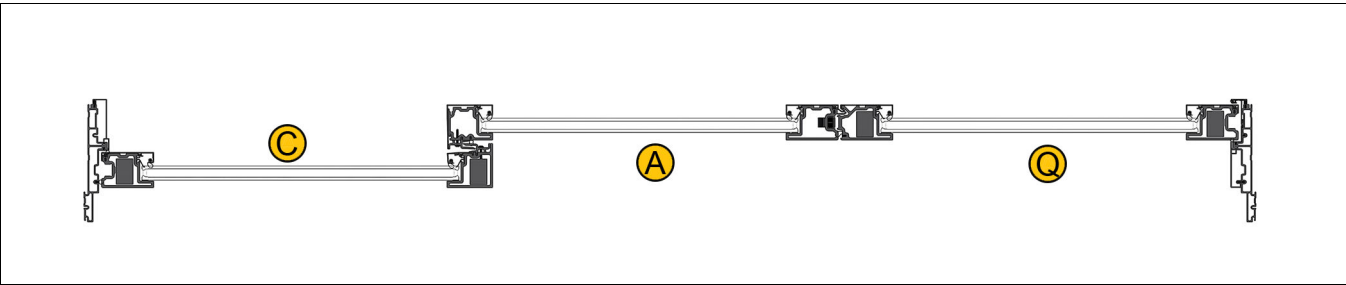


Figure 80 OX-O shown

1C	Stationary Panel (LH)
2A	Primary Operator Panel
3Q	Stationary Panel

NOTE: Use the sill weatherstrip jig before installing panels. Refer to [Using the Sill Weatherstrip Jig on page 35](#) for details.

1. Install your (C) stationary panel from the exterior. Set the panel on the exterior track a few inches from the jamb and tip into place. Press the top in to engage the panel retainers in the frame. When fully seated you will hear an audible, "click". [See Figure 81.](#)

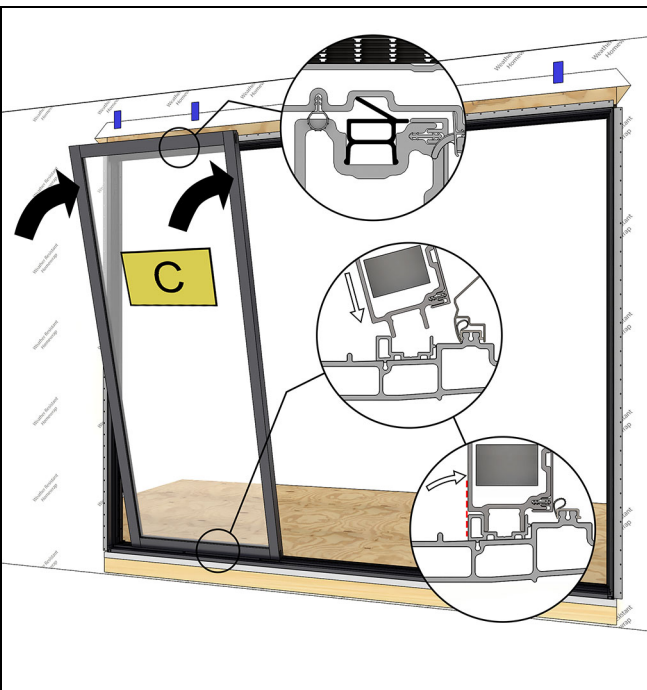


Figure 81 Exterior view shown.

2. Slide the panel over to the jamb. Press on the stile to make sure the panel retainer is still engaged. Check for an even reveal, approximately 5/32" (4). [See Figure 82.](#)

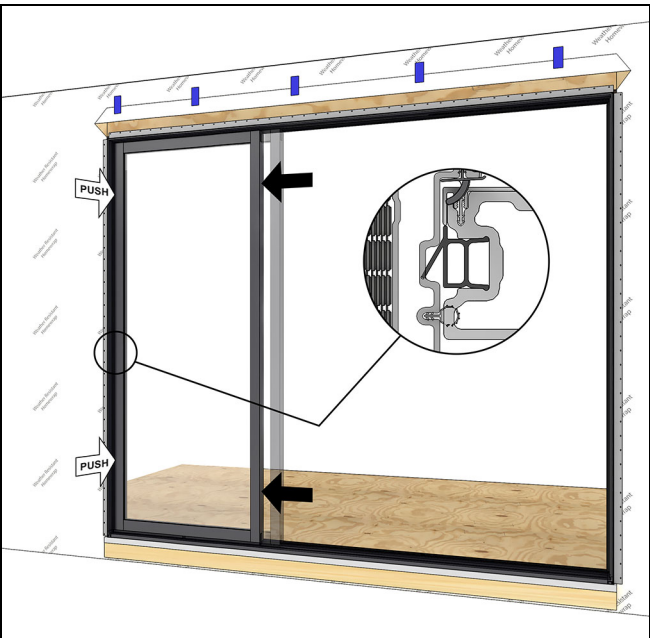


Figure 82

NOTE: Before proceeding, make sure the interior jamb frame retainer is installed.

NOTE: For doors with a screen, the (Q) stationary panel has the strike, flush bolt, and astragal base installed from the factory.

3. From the interior, install the (Q) stationary panel on the interior track. Set the panel on the roller track, tip up into the frame and then slide all the way to the jamb. [See Figure 83](#) and [Figure 84.](#)

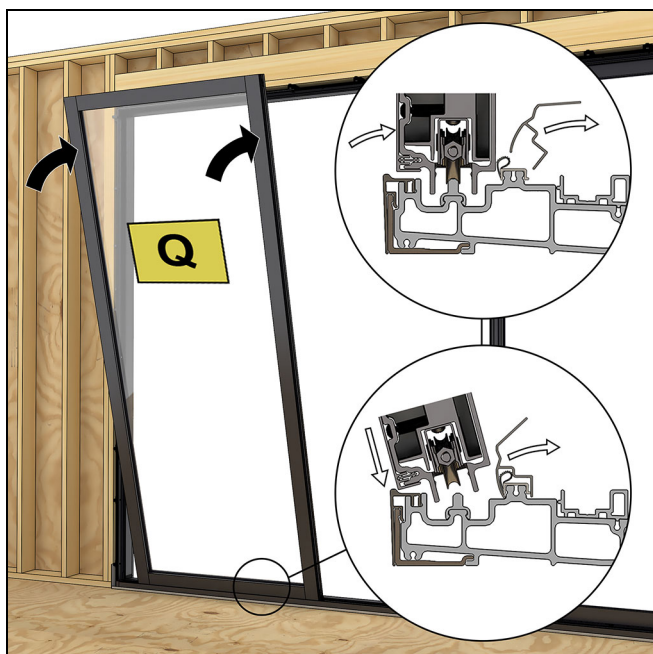


Figure 83 Interior view shown

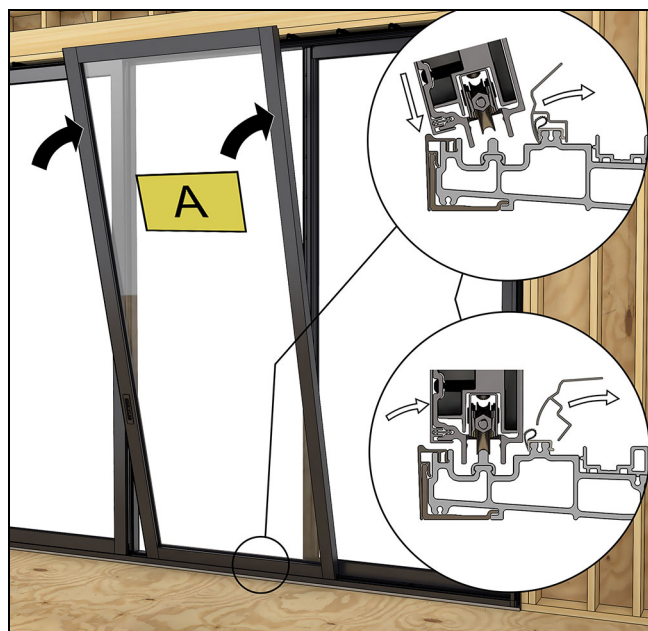


Figure 85



Figure 84

4. Install the (A) operator panel from the interior. Set the panel on the roller track, tip up into the frame and then slide over to engage with the (C) stationary panel interlock. Lock the panel for safety until the frame retainers are installed. See [Figure 85](#) and [Figure 86](#).

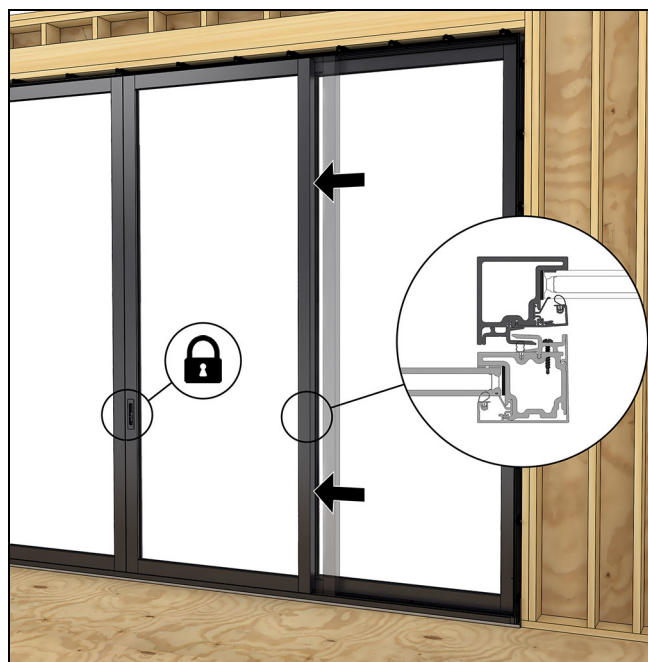


Figure 86

5. Install the head jamb frame retainer over the top of the panels between the panels and head jamb and seat the barb into the frame with a wood block and rubber mallet. See [Figure 87](#).

IMPORTANT

Make sure the end of the panel retainer engages with the hooked end of the frame liner as shown in [Figure 87](#) with white arrows.

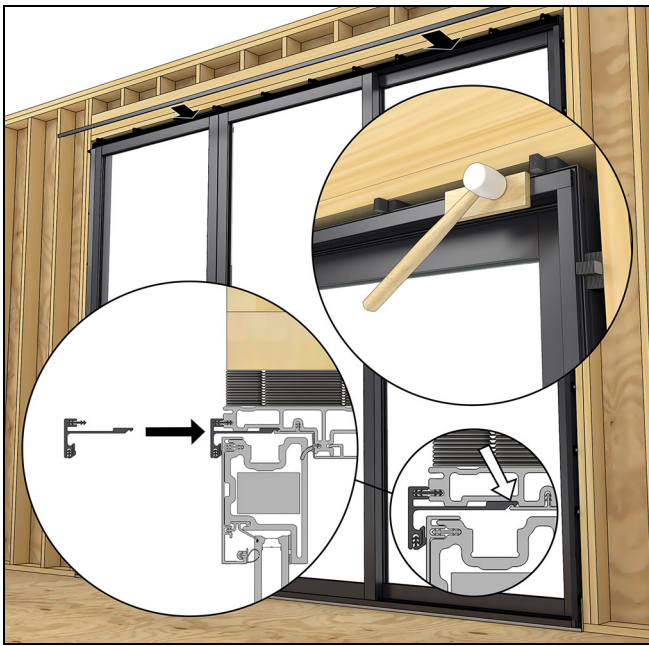


Figure 87

1	
---	--

6. Open the (A) operator panel, then shim, predrill with a 3/16" drill bit and drive the #10 x 3" color matched screws into the RO through the pre-drilled holes in the frame retainer. [See Figure 88.](#)

IMPORTANT

Avoid bowing the head jamb and do not over-shim.



Figure 88

1	
---	--

7. Slide the (Q) panel over to reveal screw holes in the retainer, then shim, predrill with a 3/16" drill bit and drive the #10 x 3" color matched screws into the RO. [See Figure 89.](#)

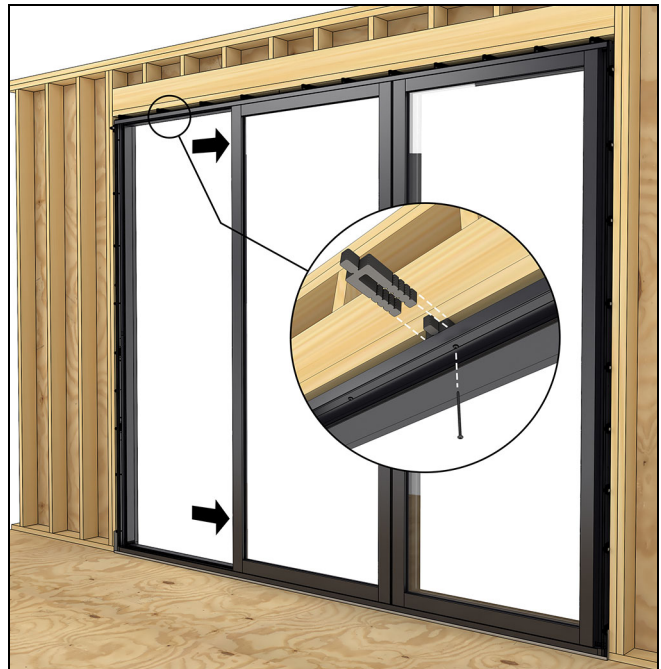


Figure 89

1	
---	--

NOTE: There are no rollers under the Q panel so greater force will be needed to slide the panel.

8. Slide the (Q) panel back over to the jamb. See Figure 90.



Figure 90

9. Remove the shoot bolt cover and screws, engage the shoot bolt then reinstall the cover. See Figure 91.



Figure 91

10. Close and lock the operator panel. See Figure 92.



Figure 92

11. Install the exterior covers. Start at the head jamb, then sill, and then jambs. Push hooked edge of the cover into the frame then rotate to engage the barbed end into the side of the frame. If necessary, seat the cover with a rubber mallet and block of wood, taking care to hit on the edge and not on the face of the cover to avoid damage. See Figure 93 through Figure 96.



Tip

You may need to guide the flexible barb into the kerf with a stiff putty knife or flat bar.

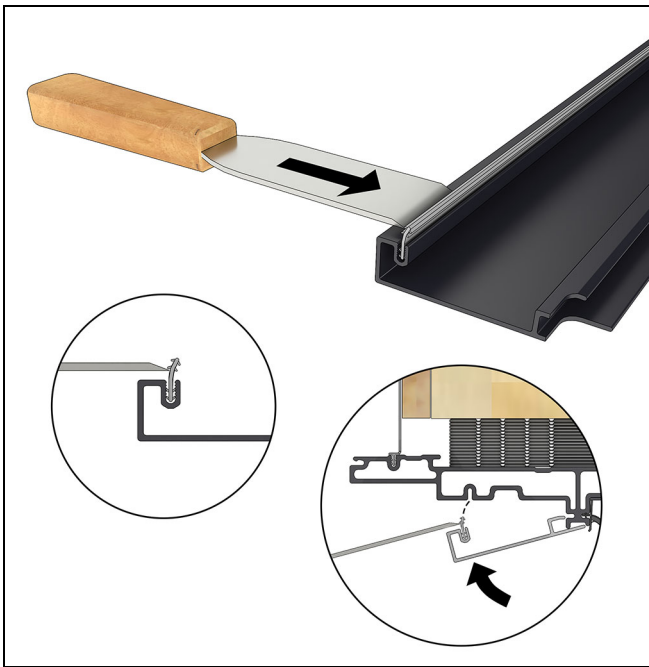


Figure 93

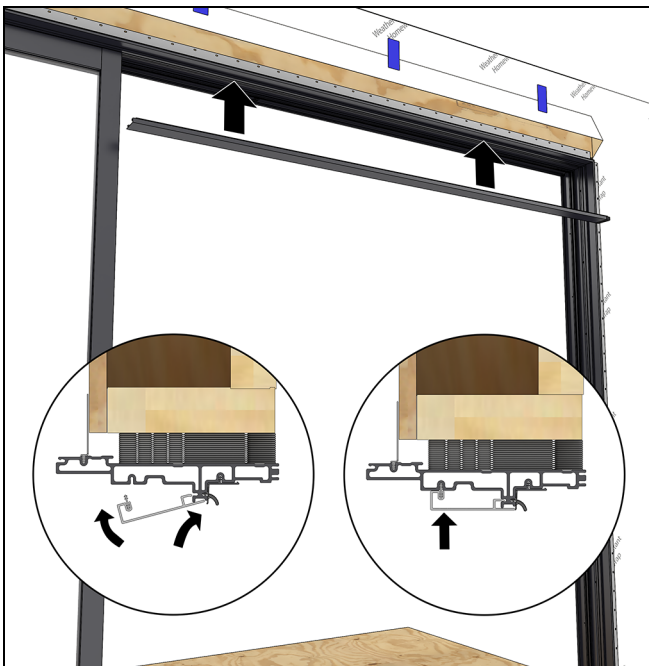


Figure 94 detail of head jamb cover

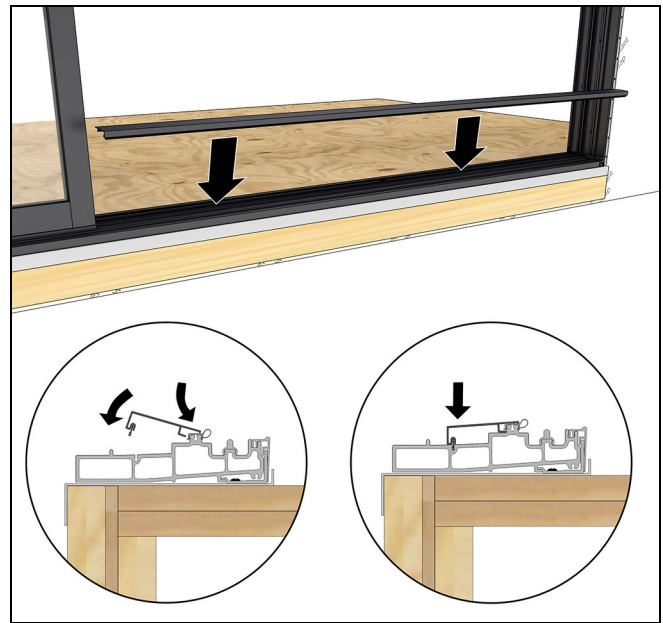


Figure 95 detail of sill cover

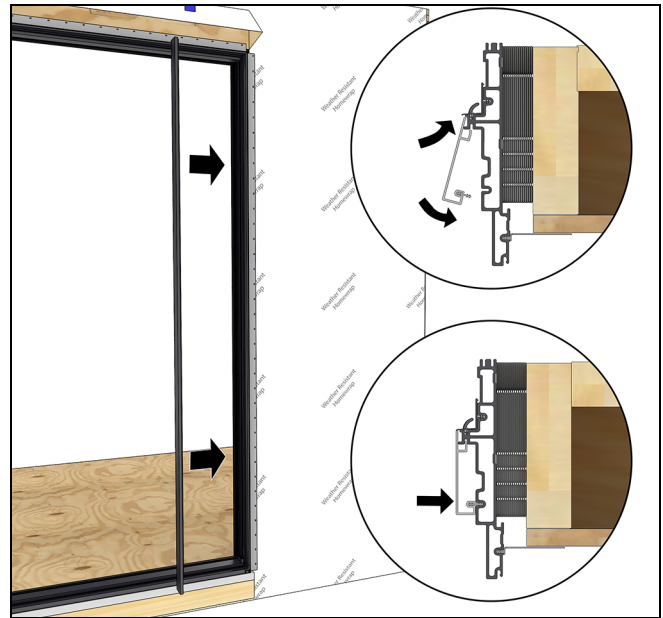


Figure 96 detail of jamb cover

12. If you have a screen, install the screen stop astragal on the (Q) stationary panel exterior. Snap the astragal on the base as shown. Seat in place with a rubber mallet and block. [See Figure 97.](#)



Figure 97

13. Panel installation is complete, skip to the section, [Install Panel Bumpers on page 57](#). If you need to adjust your panels for proper operation, see [Adjusting Panels on page 60](#).

OOX or XOO Panel Installation

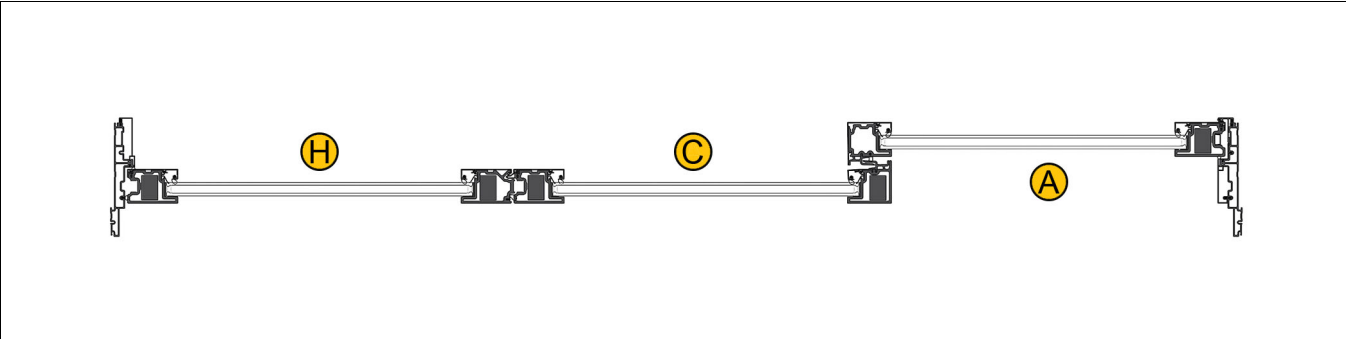


Figure 98 OOX shown

1H	Stationary Panel (LH)
2C	Stationary Panel
3A	Operator

NOTE: Use the sill weatherstrip jig before installing panels. Refer to [Using the Sill Weatherstrip Jig on page 35](#) for details.

NOTE: The (C) stationary panel has the interior astragal base installed at the factory.

1. Install your (H) stationary panel from the exterior. Set the panel on the exterior track a few inches from the jamb and tip into place. Press the top in to engage the panel retainers in the frame. When fully seated you will hear an audible, "click". See [Figure 99](#).

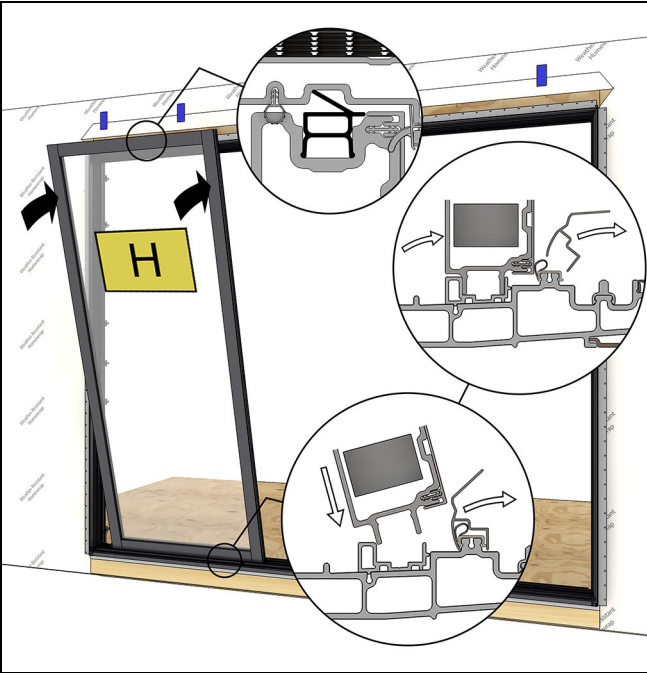


Figure 99

2. Slide the panel over to the jamb. Press on the stile to make sure the panel retainer is still engaged. See [Figure 100](#).

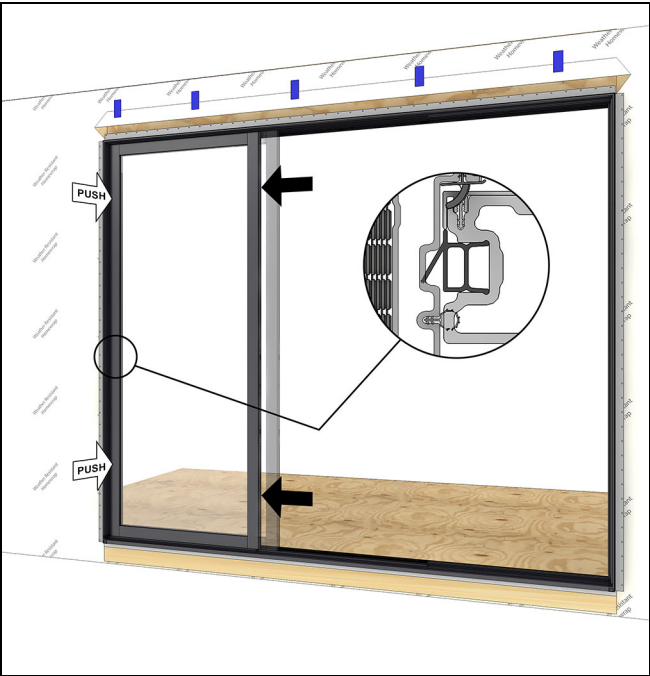


Figure 100

3. Remove the rubber stile plugs and fill the holes with sealant (CSL 343 or equivalent silicone sealant). See [Figure 101](#).

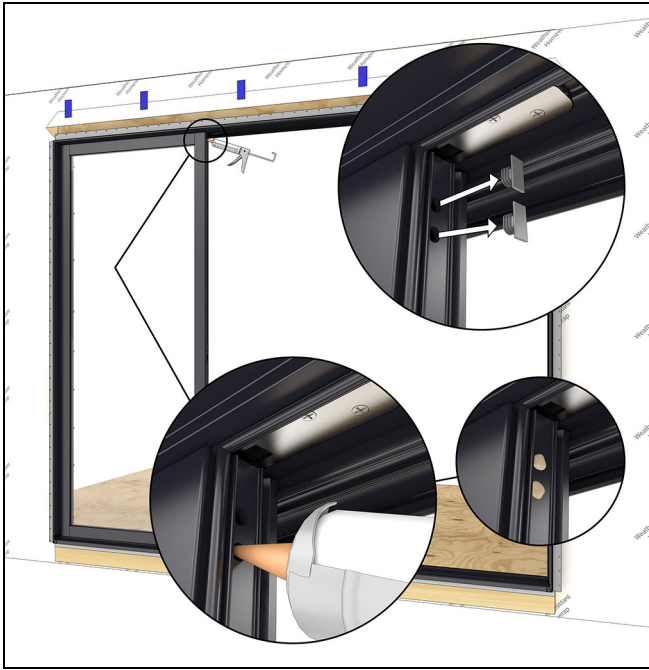


Figure 101

4. Slide the lock bar into the strike plate until it bottoms out in the head jamb. Pre-drill into the stile with a 1/8" (3) drill bit, then fasten with a #10 x 4 1/2" (114) screw in the top hole and a #10 x 1" (25) screw in the bottom hole (both screws provided). [See Figure 102.](#)

IMPORTANT

Do not pre-drill the bottom hole with a drill bit longer than 2.5" to avoid damage to the glass.

IMPORTANT

Installing the long and short screw in the correct location is extremely important. You will break the glass if not done correctly.

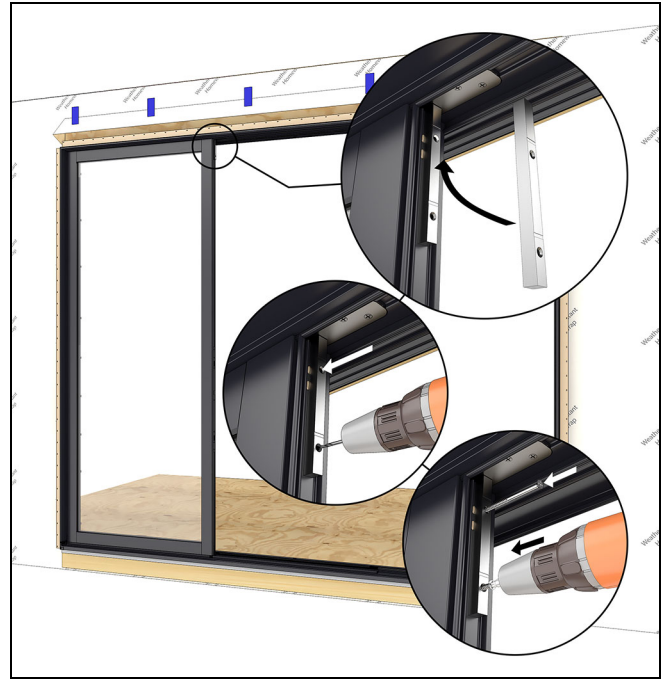


Figure 102



Tip

Make sure the lock bar fits in the strike plate. If not, you will have to adjust the frame or panel to obtain proper fit.

5. Install the foam block against the sill weatherstrip with adhesive side toward the panel. [See Figure 103.](#)

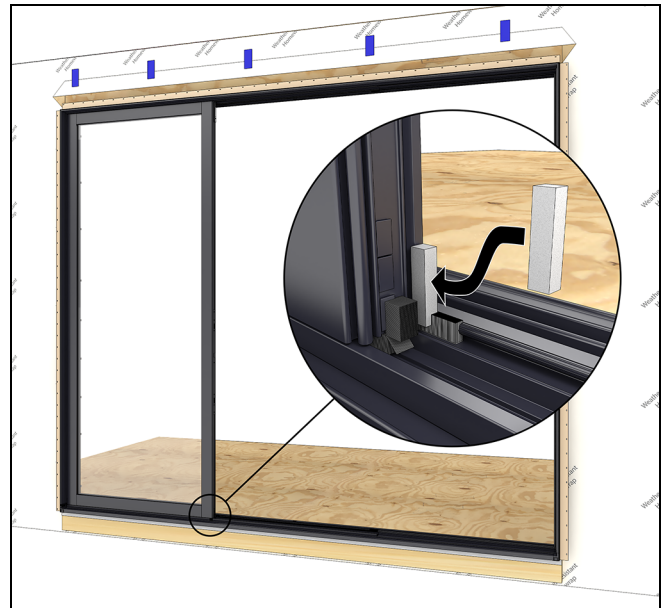


Figure 103

6. From the exterior, install the (C) stationary panel. Engage the panel retainers at the head jamb. You will hear an audible "click". [See Figure 104.](#)

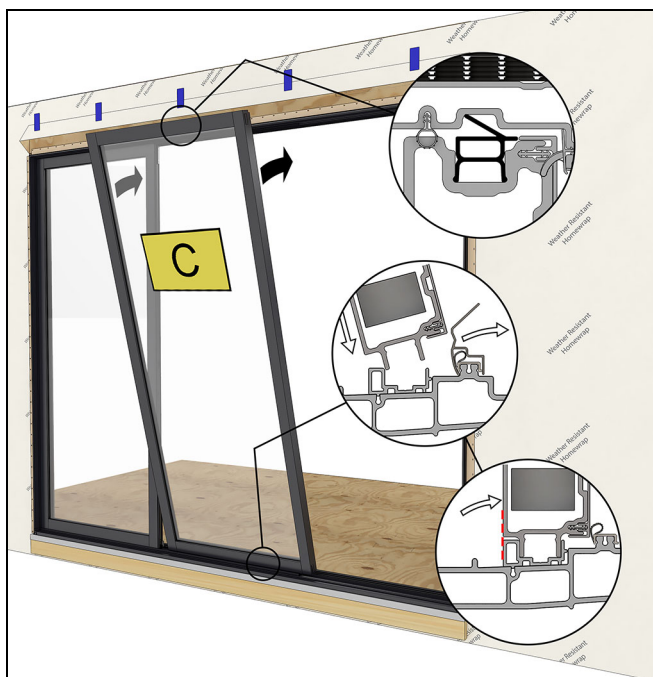


Figure 104

7. Push the panel over to mate up with the (H) panel.
See Figure 105.

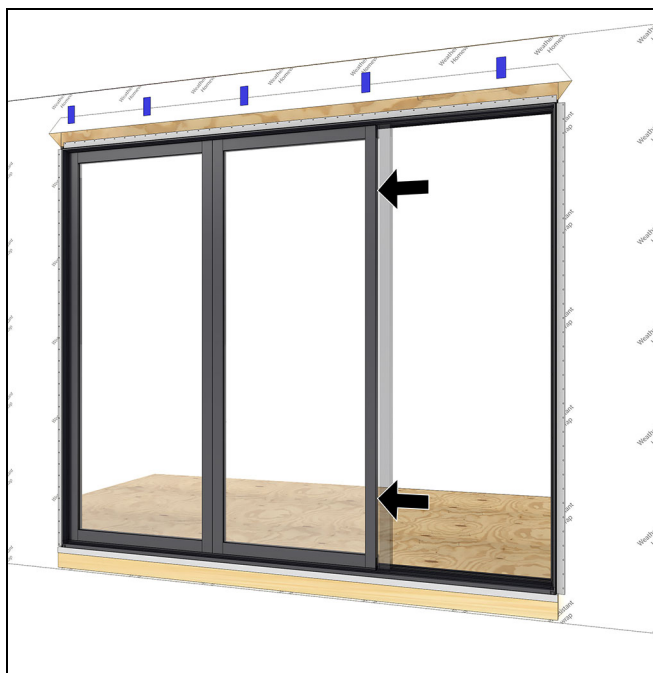


Figure 105

8. Install the (A) operator panel from the interior. Set the panel on the roller track and tip up into the frame.
See Figure 106.

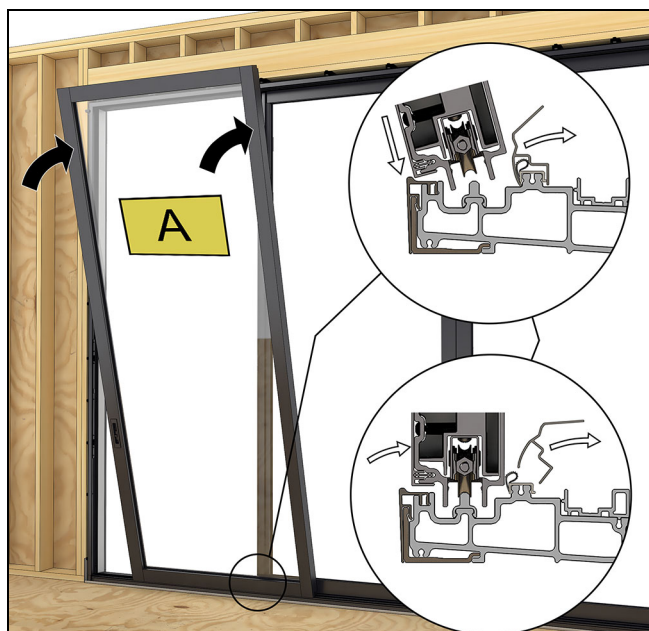


Figure 106

9. Slide the operator panel over to engage with the stationary panel interlock and lock the panel for safety.
See Figure 107.

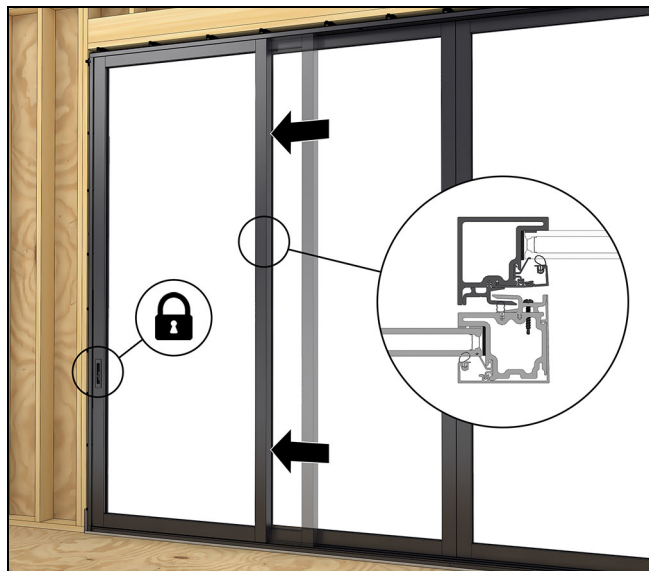


Figure 107

10. Install the head jamb frame retainer. Slide the frame retainer above the operator panel and seat the barb into the frame with a wood block and mallet. See Figure 108.

IMPORTANT

Make sure the end of the panel retainer engages with the hooked end of the frame liner as shown in Figure 108 with white arrows.

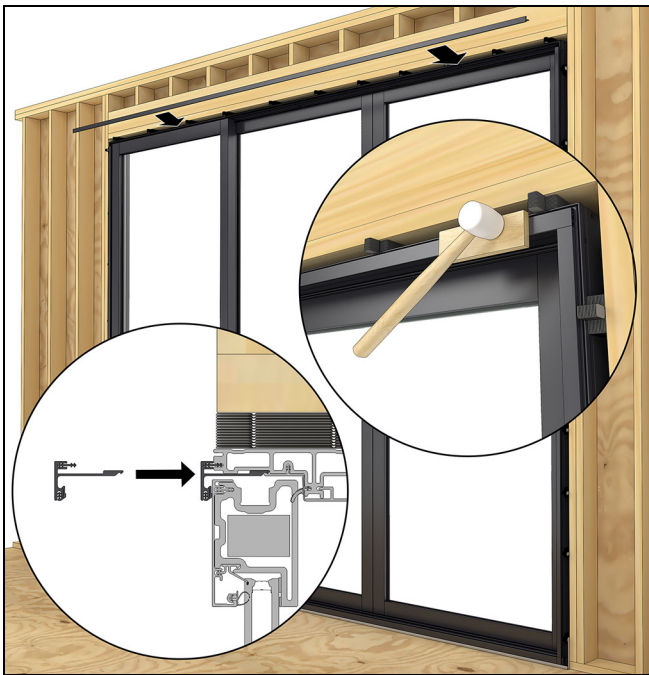


Figure 108

11. Open the operator panel, then shim, predrill with a 3/16" bit and drive the #10 x 3" color matched screws into the RO through the pre-drilled holes in the head jamb frame retainer. [See Figure 109.](#)

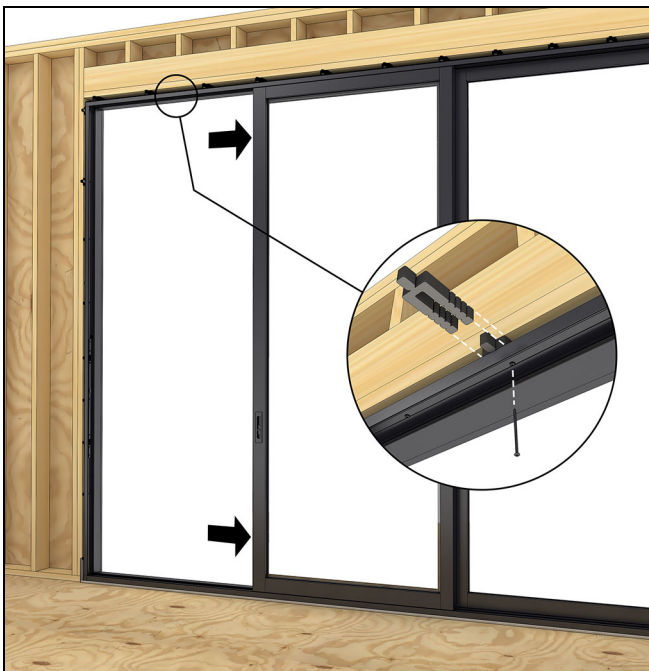


Figure 109

IMPORTANT

Avoid bowing the head jamb and do not over-shim.

12. Install the interior astragal on the (C) stationary panel. Use a rubber mallet and block to seat the astragal. [See Figure 110.](#)



Figure 110

13. Install the exterior covers. Start at the head jamb, then sill, and then jambs. Push hooked edge of the cover into the frame then rotate to engage the barbed end into the side of the frame. If necessary, seat the cover with a rubber mallet and block of wood, taking care to hit on the edge and not on the face of the cover to avoid damage. [See Figure 111](#) through [Figure 114.](#)



Tip

You may need to guide the flexible barb into the kerf with a stiff putty knife or flat bar.

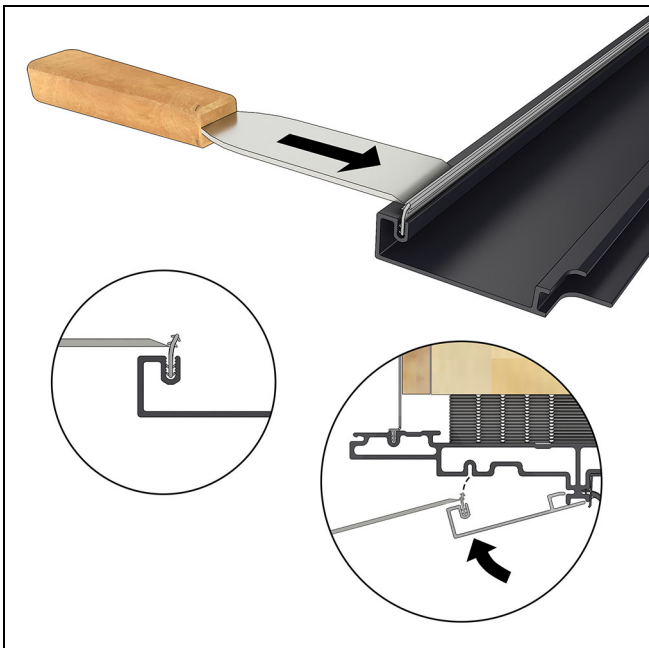


Figure 111 Use a flat bar to guide the flexible bar into the kerf.

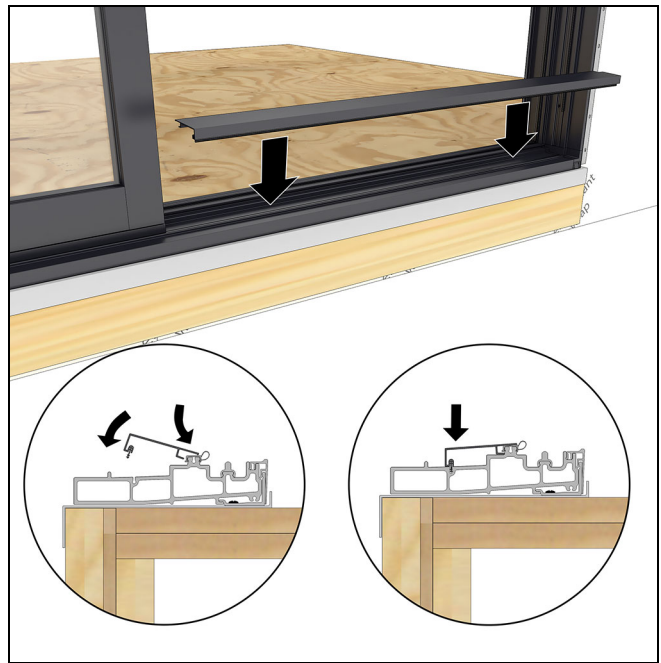


Figure 113

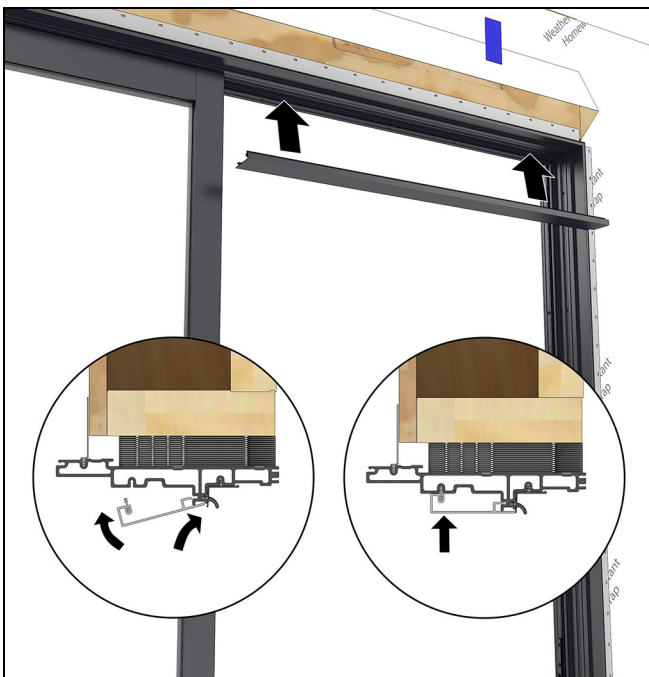


Figure 112

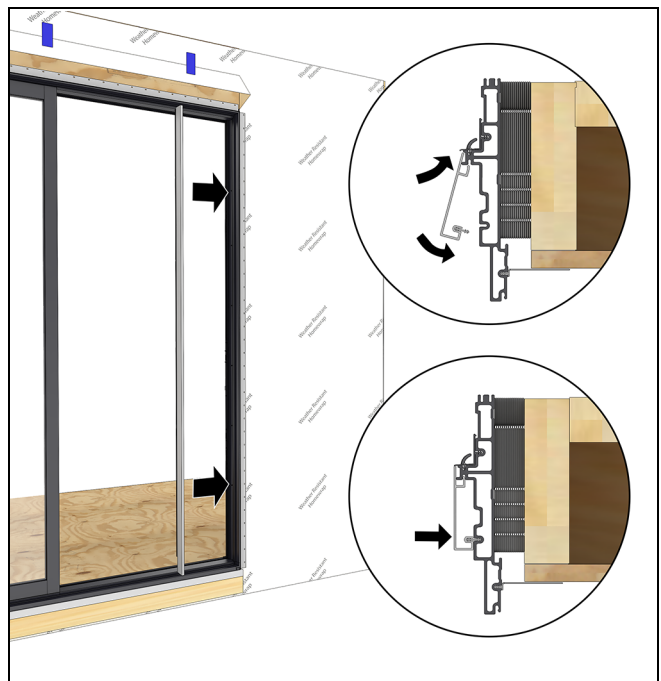


Figure 114

14. Panel installation is complete. Skip to the section, [Install Panel Bumpers on page 57](#). If you need to adjust your panels for proper operation, see [Adjusting Panels on page 60](#).

OXXO Panel Installation

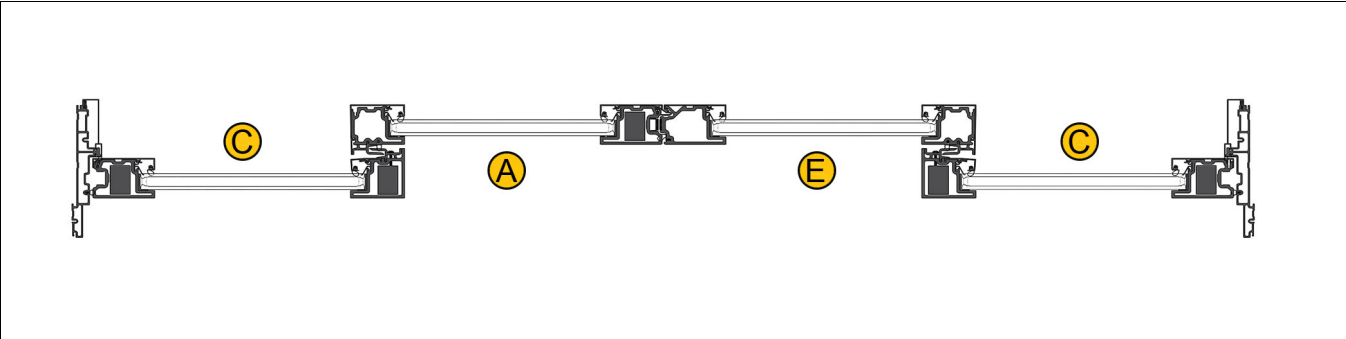


Figure 115 OXXO-LH shown

1C	Stationary Panel (LH)
2A	Operator Panel- Primary/Active (with lock and handle hardware)
3E	Operator Panel- Inactive (with locking strikes and flushbolt lock)
4C	Stationary Panel (RH)

NOTE: Use the sill weatherstrip jig before installing panels. Refer to [Using the Sill Weatherstrip Jig on page 35](#) for details.

1. Install both your (C) stationary panels from the exterior. Set the panels on the exterior track a few inches from the jamb and tip into place. Press the top in to engage the panel retainers in the frame. When fully seated you will hear an audible, "click". See [Figure 116](#).

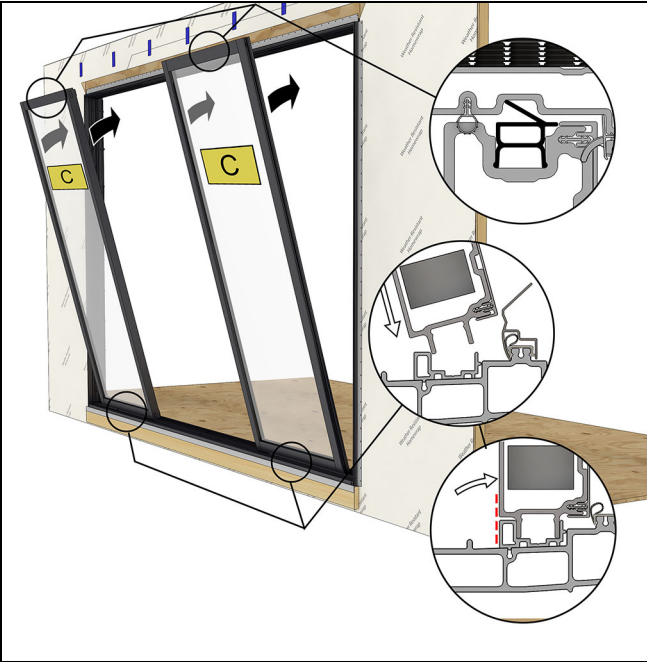


Figure 116

2. Slide the panel over to the jamb. Press on the stile to make sure the panel retainer is still engaged.

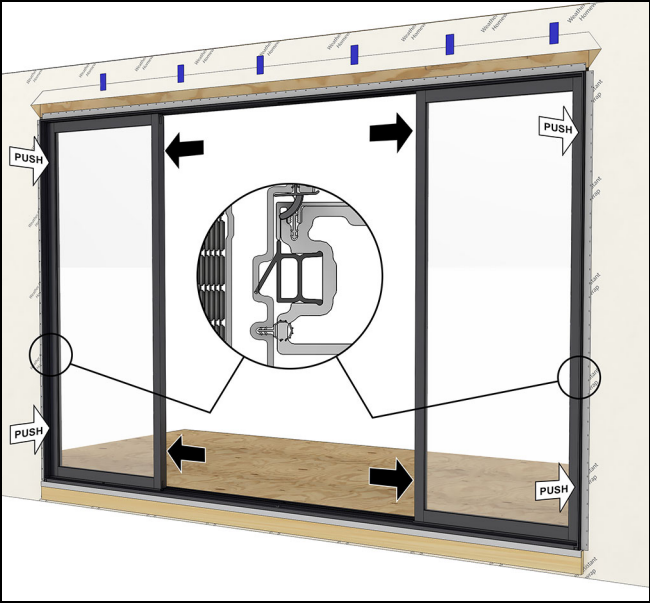


Figure 117

3. Install the (E) operator panel. Overlap the stationary panel by a few inches and tip into place. See [Figure 118](#).

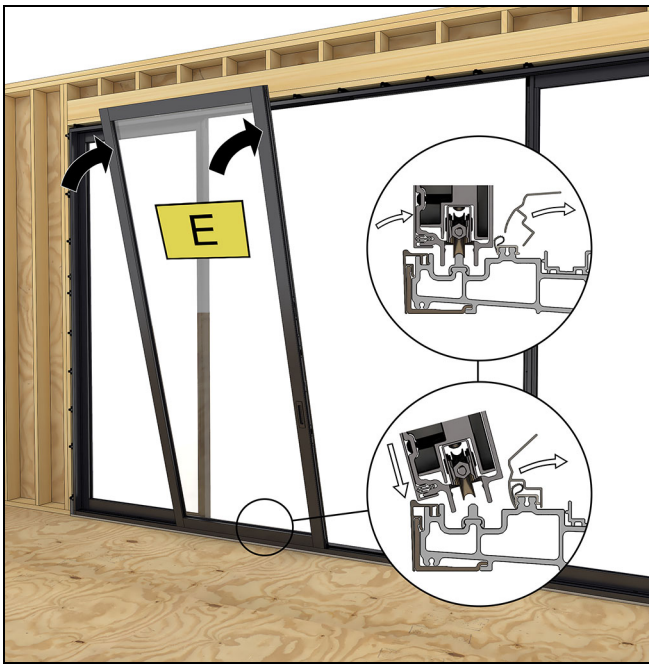


Figure 118

4. Engage the interlock with the C panel and operate the flush bolt at the head jamb on the (E) panel. See Figure 119 and Figure 120.



Figure 120

5. Install the (A) operator panel. Overlap the stationary panel by a few inches and tip into place. See Figure 121.

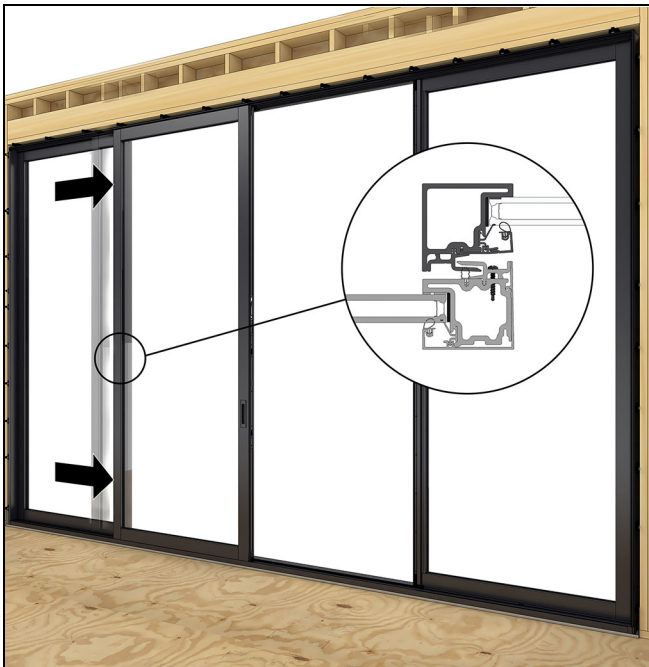


Figure 119

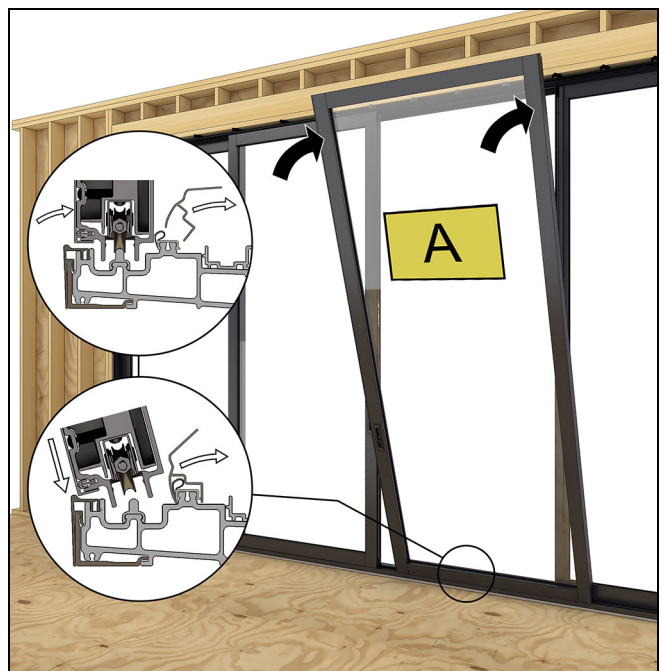


Figure 121

6. Slide and close the A panel to engage the interlock with the stationary panel and lock the panel into the strike on the (E) panel for safety. See Figure 122.

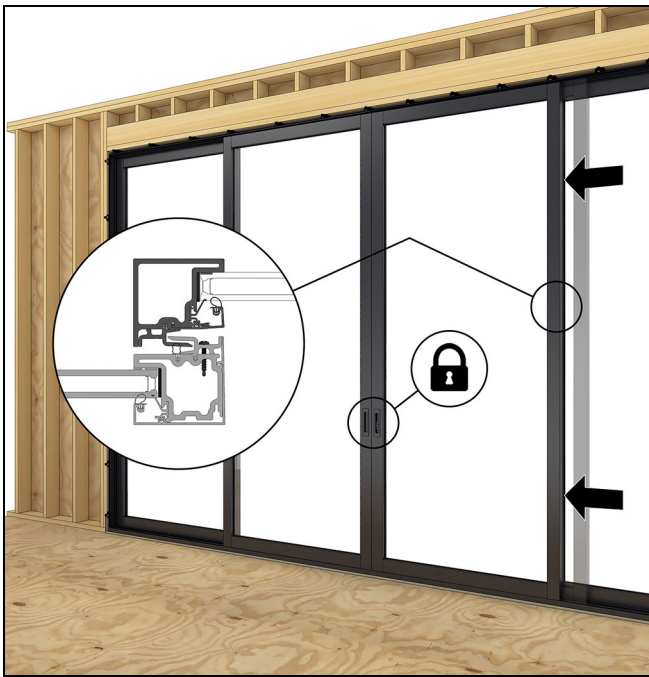


Figure 122

7. Install the head jamb frame retainer. Insert the retainer over the top of both panels and press the barb into the frame kerf. Seat with a wood block and mallet.

NOTE: The retainer must go in straight. Pay attention to the flush bolt strike plate.

IMPORTANT

Make sure the end of the panel retainer engages with the hooked end of the frame liner as shown in [Figure 123](#) with white arrows.

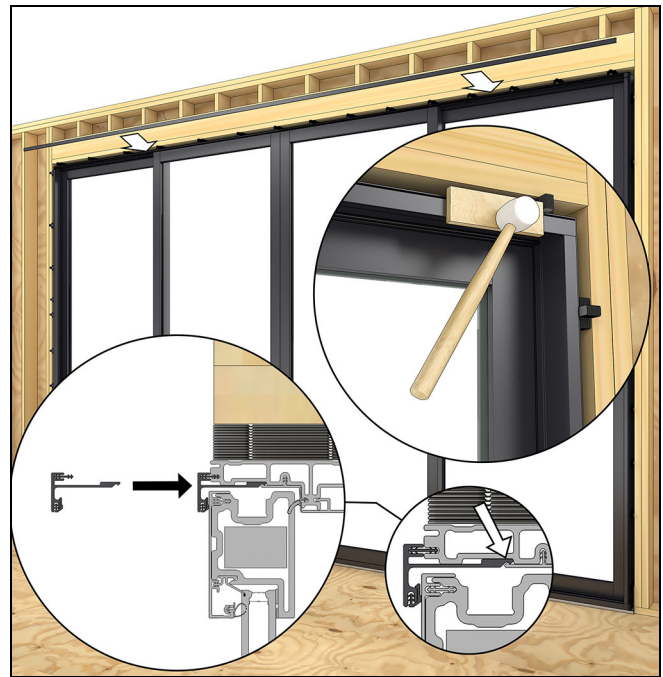


Figure 123

8. Unlock and open the (A) operator panel to access screw holes in the frame retainer. Shim, predrill with a 3/16" drill bit and drive #10 x 3" color matched screws into the rough opening. Be sure to shim near each screw location. [See Figure 124.](#)

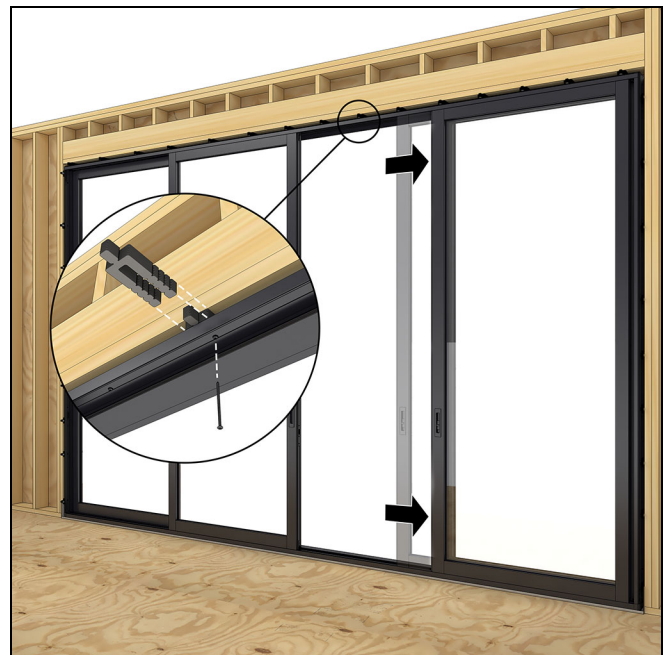


Figure 124

IMPORTANT

Do not over-shim. Take care not to bow the head jamb.

9. Disengage the flush bolt on the (E) operator panel and open to reveal the screw holes in the frame retainer. Shim, predrill with a 3/16" drill bit and drive 10 x 3" color matched screws into the rough opening. Be sure to shim near each screw location. See Figure 125.



Figure 125

10. Close the (E) panel and re-engage the flush bolt to lock.

11. Install the exterior covers. Start with the head jamb, first, then the sill. Push the hooked edge of the cover into the frame then rotate to engage the barbed end into the side of the frame. If necessary, seat the cover with a rubber mallet and block of wood, taking care to hit on the edge and not on the face of the cover to avoid damage. See Figure 126 through Figure 128.



Tip

You may need to guide the flexible barb into the kerf with a stiff putty knife or flat bar.

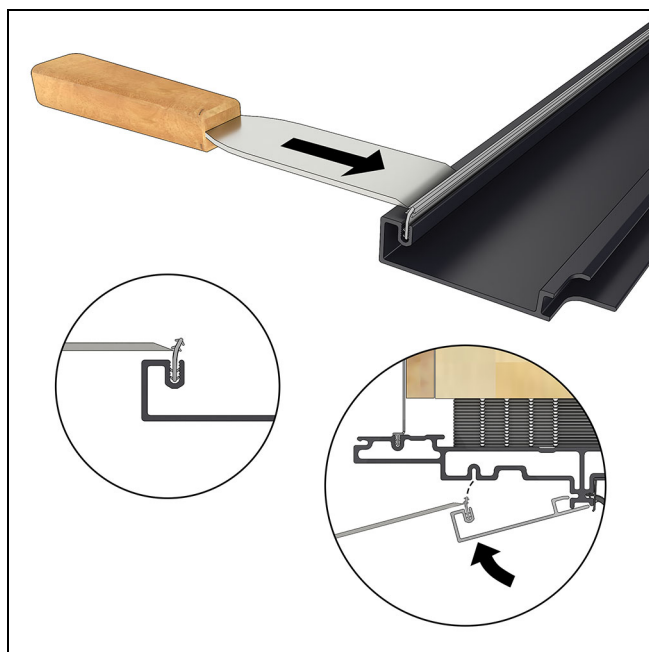


Figure 126 Use a flat bar to guide the flexible barb into the kerf.

IMPORTANT

Take care not to scratch the panels with the edge of the exterior covers.

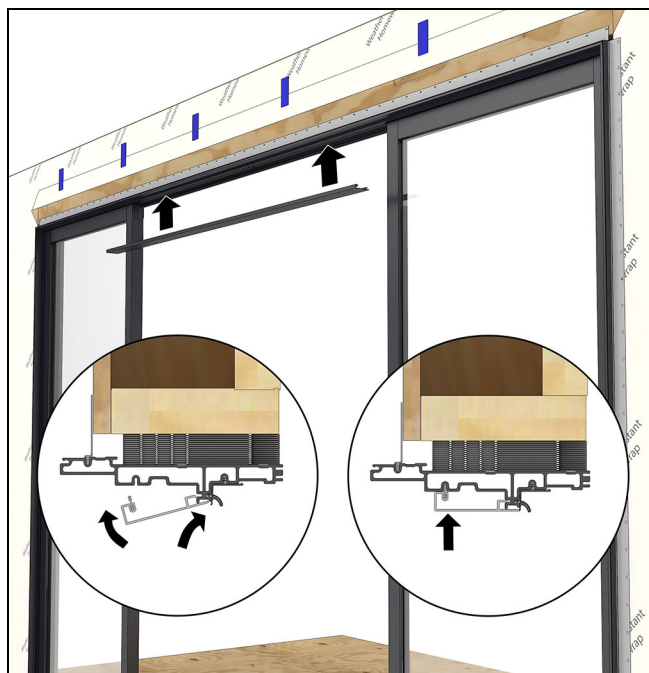


Figure 127 detail of head jamb cover

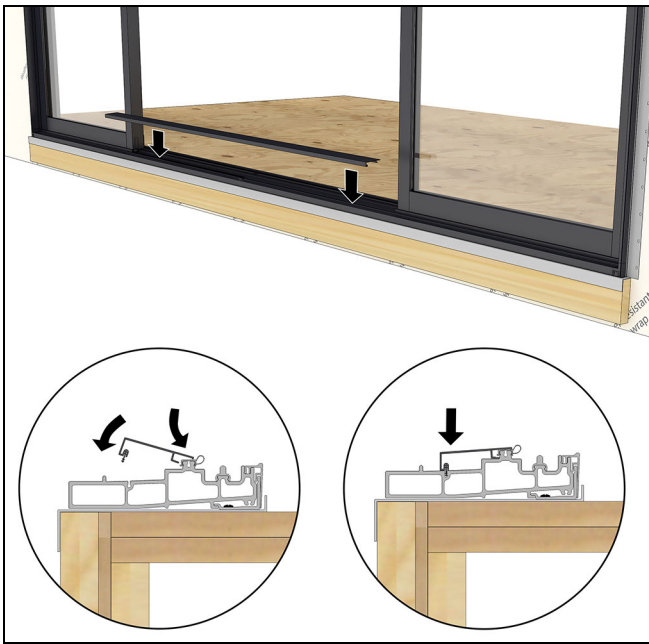


Figure 128 detail of sill cover

12. Panel installation is complete. Skip to the section, [Install Panel Bumpers on page 57](#). If you need to adjust your panels for proper operation, see [Adjusting Panels on page 60](#).

O (Unit) Panel Installation

NOTE: Use the sill weatherstrip jig before installing panels. Refer to [Using the Sill Weatherstrip Jig on page 35](#) for details.

1. From the exterior, set the panel in place on the sill leveling block. Then tip up to engage in the panel retainers on the head jamb and both jambs. See [Figure 129](#).

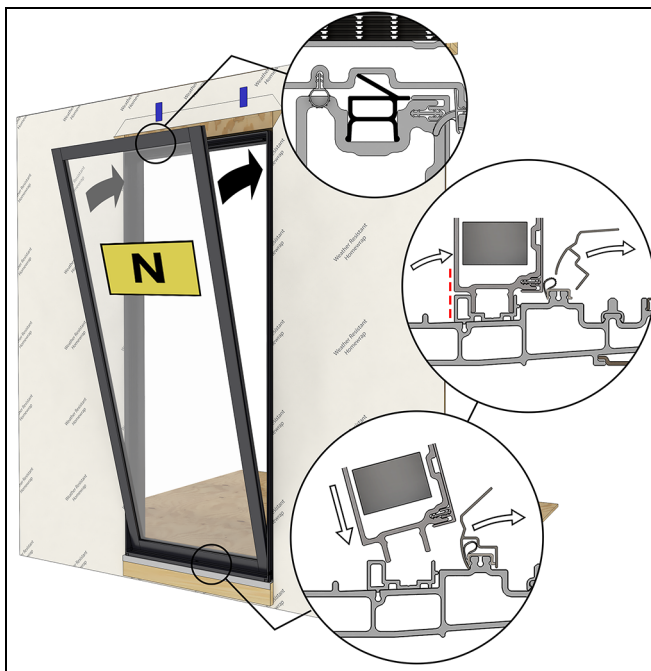


Figure 129



Hint

You will be overcoming the friction force of the panel retainers and the weatherstrip at the jambs and head jamb, so you will meet resistance until the panel snaps into place.

2. Set the panel onto the panel retainers with a rubber mallet. Start at the bottom. See [Figure 130](#).

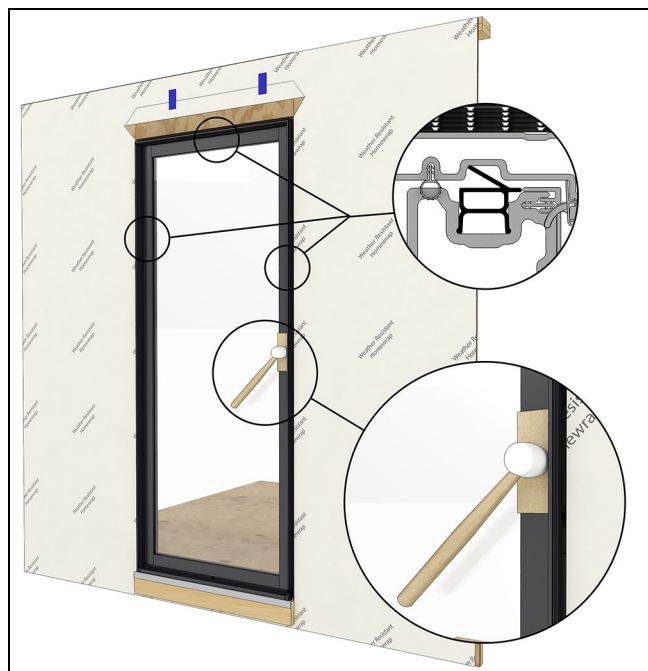


Figure 130

3. Proceed to [Final Steps on page 63](#).

Install Panel Bumpers

1. On OOX or XOO configurations insert the panel bumpers into the prefabricated holes in the interior astragal. See Figure 131.

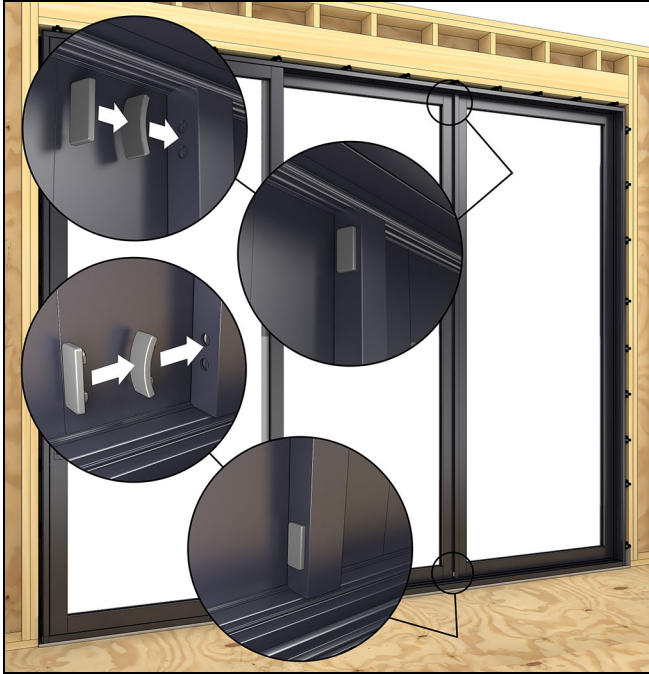


Figure 131

2. On OX, XO, OXO, or OXXO, insert panel bumpers into the panel adjustment holes at the top and bottom of the active panels (A and E). See Figure 132



Figure 132

3. If your door has a screen, proceed to [Screen Component Installation on page 58](#), otherwise see [Final Steps on page 63](#).

Screen Component Installation

1. Install the screen track with #7 x 1/2" self-drilling flat head screws. [See Figure 133.](#)



Figure 133

NOTE: On larger four panel OXXO configurations, the screen track may be spliced.

NOTE: On OXO units, the screen track will come in two pieces (one on each side of the screen stop astragal).

2. On OX or XO configurations, insert foam bumpers at the end of the screen track as shown. [See Figure 135.](#)



Figure 134

3. On OXXO configurations, insert foam bumpers at each end of the screen track as shown. [See Figure 135.](#)

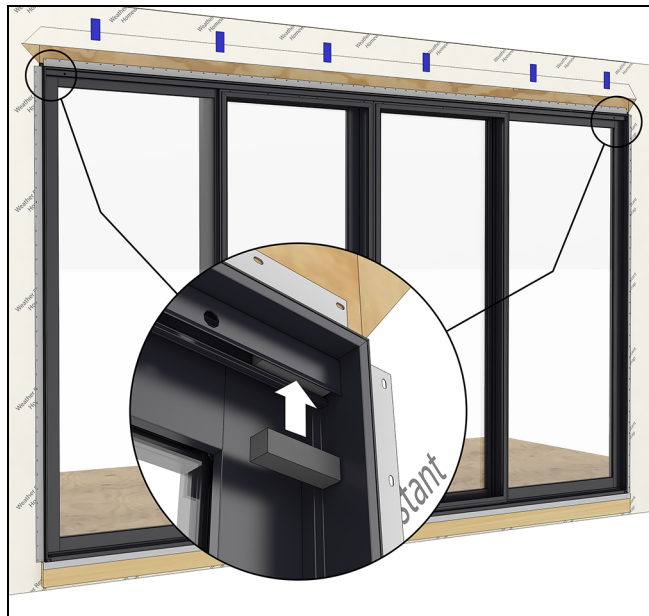


Figure 135

4. On OXXO configurations, install the sill screen strike in the recess of the sill. Pre-drill with a 5/32" drill bit and fasten with two #4 x 1/2" black painted self drilling screws. [See Figure 136.](#)

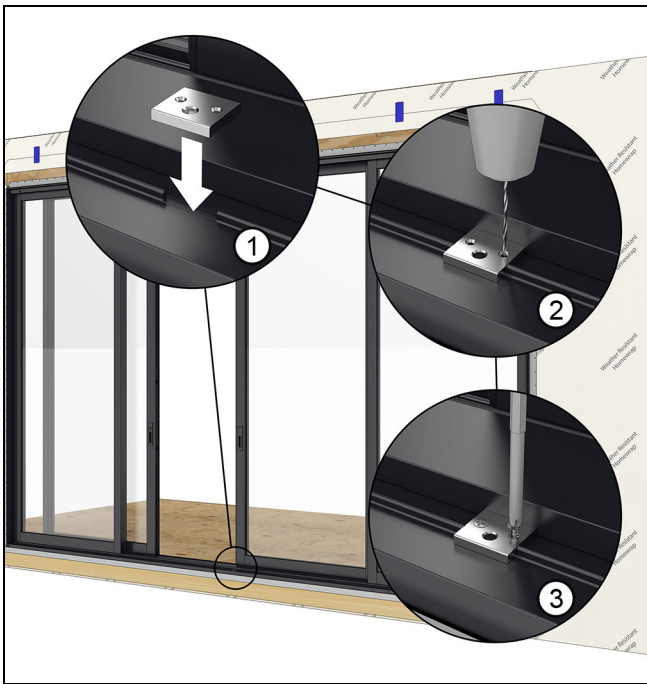


Figure 136

1	OXXO Sill screen strike
2	5/32" drill bit
3	#4 x 1/2" black painted self drilling screws

Adjusting Panels

1. Move the operator panel toward the locking jamb until there is a slight gap. Check for an even reveal/gap between the panel and the jamb. [See Figure 137.](#)

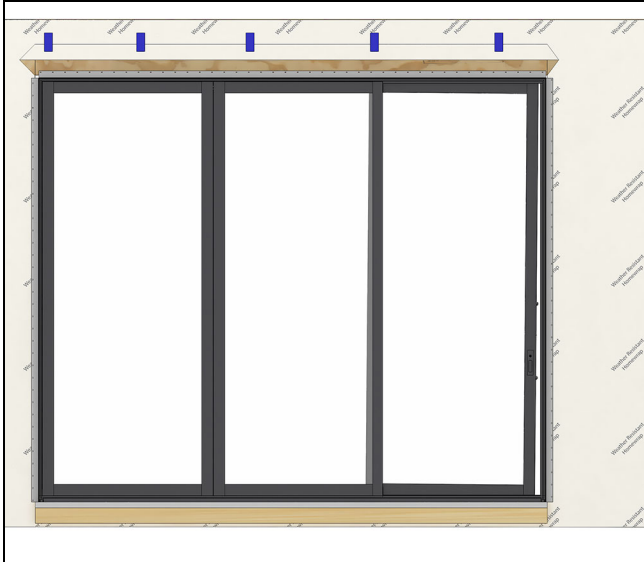


Figure 137

2. Place a block of wood on the sill and pry the panel up to relieve the weight off the rollers. [See Figure 138.](#)



Figure 138

3. Remove the locking stile roller adjustment hole cover. [See Figure 139.](#)



Figure 139

1 operator stile roller hole cover

4. On inactive panels meeting stile side, pry the lower plug and dust cover down to reveal the adjustment hole. [See Figure 140.](#)

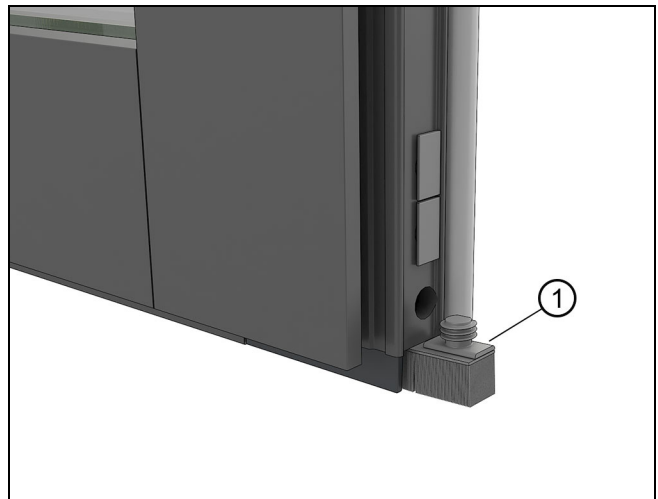


Figure 140

5. Insert a 5mm hex wrench into the adjustment hole(s) and raise or lower the rollers accordingly. Rotate the adjustment screw clockwise to raise the panels. [See Figure 141](#) and [Figure 142.](#)

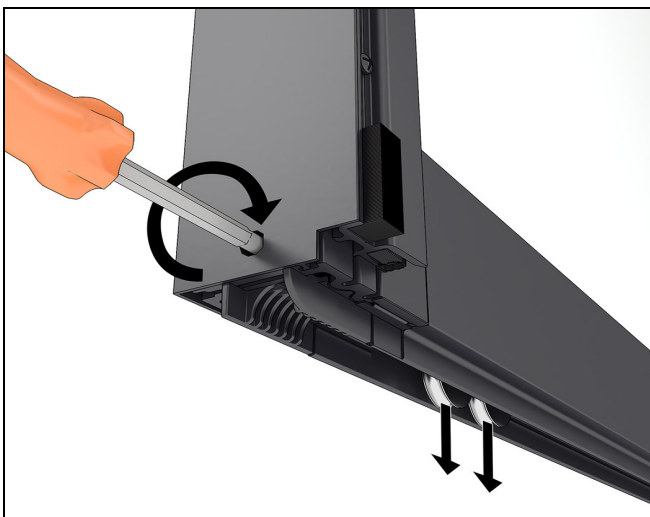


Figure 141

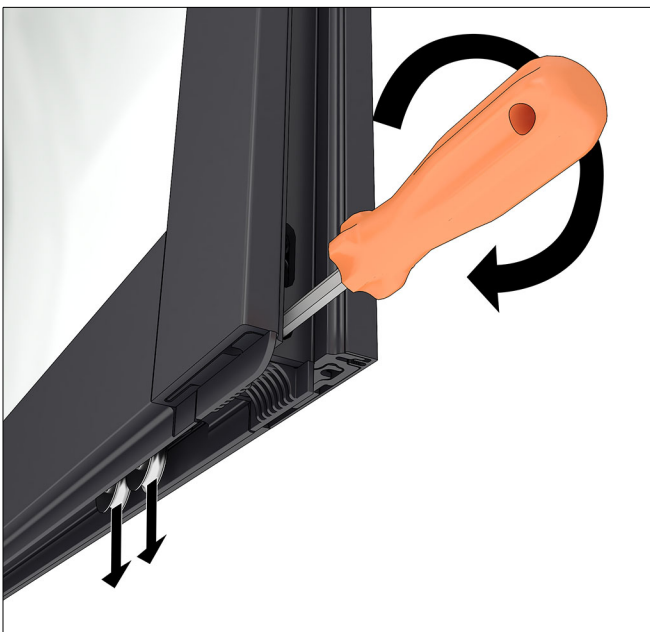


Figure 142

6. Recheck for an even reveal and repeat the previous steps if necessary. [See Figure 143.](#)

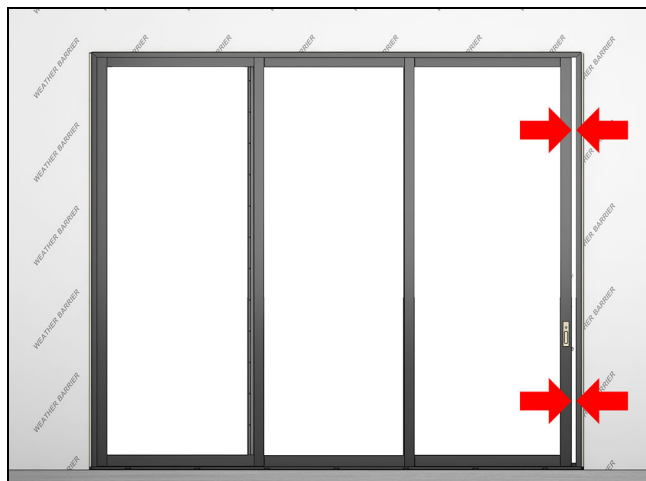


Figure 143

7. With the primary panel open slightly, move the secondary panel until you can see daylight through the glass between the stiles. Check for an even reveal and adjust the rollers on the secondary panel. Repeat as necessary for every secondary panel. [See Figure 144.](#)

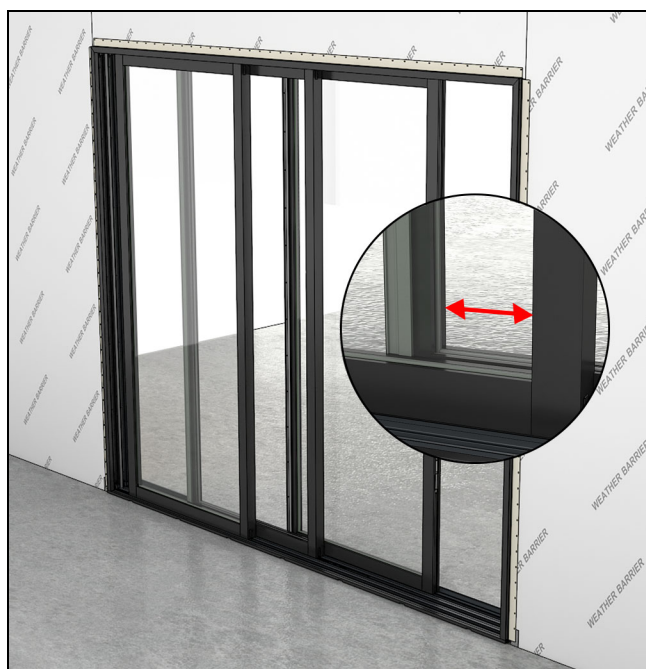


Figure 144

8. Lock the primary panel and make sure the interlocks between the primary and secondary panel engage properly. [See Figure 145.](#)



Figure 145 Interior View: Close and lock primary panel

9. Reinsert hole plugs after you are done adjusting panels.

Final Steps

1. Remove the label from in front of the weep doors then, apply a bead of sealant at the exterior face of the sill. Do not seal in front of the sill weeps. [See Figure 146](#)

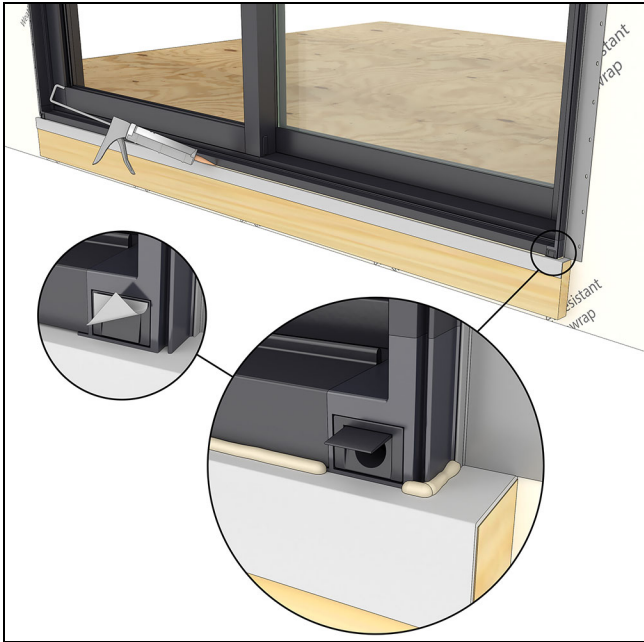


Figure 146

Technical Specifications

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

- Rough Opening Width: 1/4"-1 1/2" (6-38) wider than unit frame outside measurement.
- Rough Opening Height: 1/4"-1 1/2" (6-38) taller than unit frame outside measurement.
- Masonry Opening Width: 1/4"-1/2" (6-13) wider than unit frame outside measurement.
- Masonry Opening Height: 1/8"-1/4" (3-6) taller than unit frame outside measurement.

ATTENTION

Architectural Detail Manual Specifications:
Rough Opening: Width up to 1 1/2" (38); Height up to 3/4" (19)

Masonry Opening: Width 1/4"

- The panning must drain water to the exterior of the cladding OR the exterior surface of a concealed weather resistive barrier.

! CAUTION!

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

- The panning system used in these instructions is one component in a structure's overall water management system. It should be used in conjunction with an appropriate drainage plane compatible with the exterior wall cladding.
- Flashing materials must comply with ASTM E2112, and be compatible with all materials used in installation including panning systems, air barriers and building papers, sheathing, and the window unit.
- Properly flash and/or seal all windows at the exterior perimeter.

IMPORTANT

Flashing material must not contain asphalt and must be compatible with flexible PVC (vinyl) if nailing fin is used as a backing material.

IMPORTANT

Sealants used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, window or door exterior surface, and flashing/water management materials.

- Optional foams used for installation must be low expansion only. Foam and foam application must comply with ASTM E2112.
- Shims are required at every fastener location.
- 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.
- The frame must not come into direct contact with chemically treated wood products.