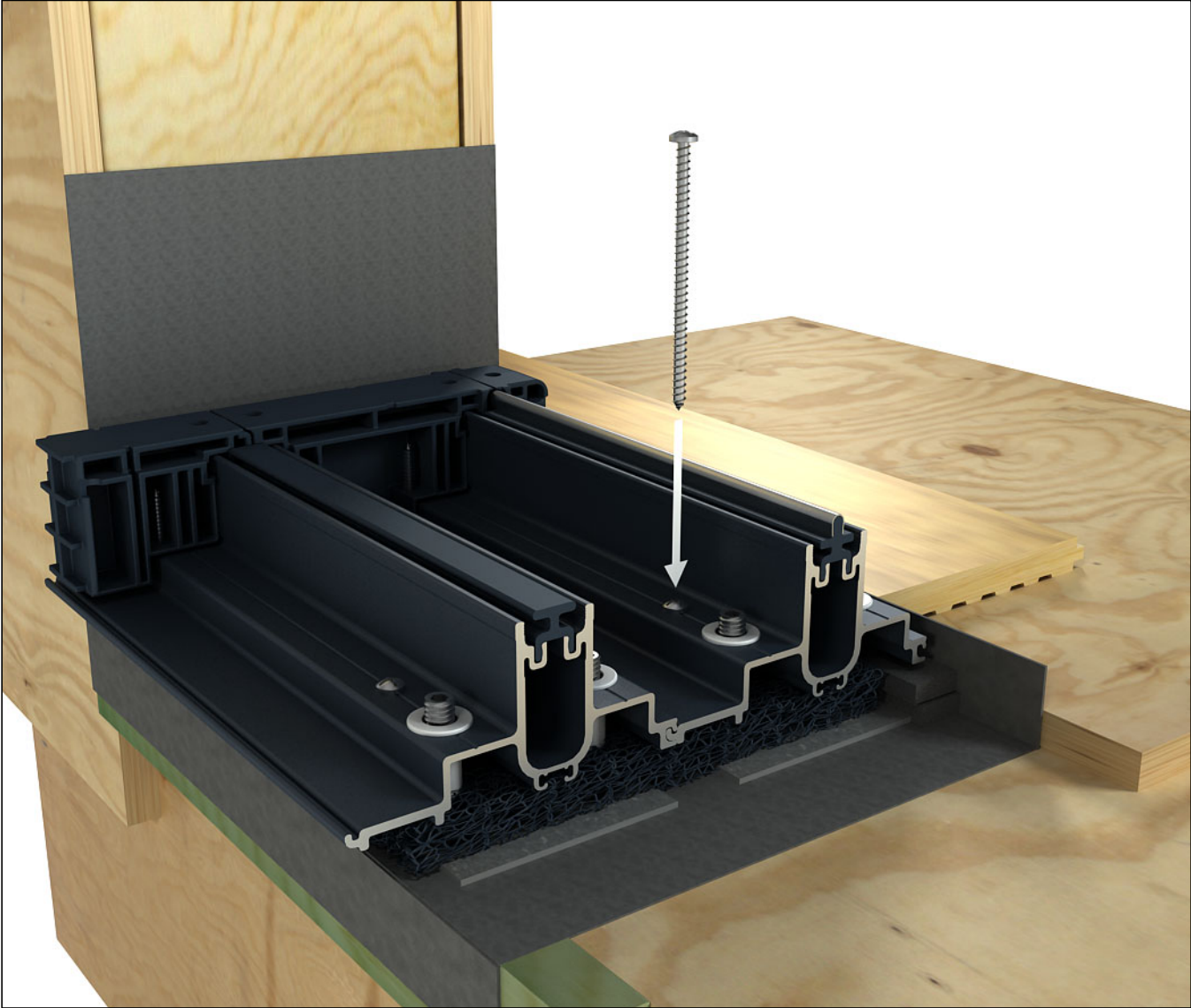


Marvin Ultimate Lift and Slide Door System

Installation Guide for Units with Performance Sill



Safety, Installation and Care Guidelines for the Ultimate Lift and Slide Door

- Ultimate Lift and Slide door panels (approximately 7 lbs/sq. ft.) can be very heavy and awkward to handle, use appropriate assistance and safety procedures.
- Use industry best practice methods to flash and seal all doors at the exterior perimeter.
- Sealants used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, door 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 door unit.
- It is the responsibility of the builder, installer and subcontractors to protect the interior and exterior of the Ultimate Lift and Slide 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 dealer if you have any questions regarding product and materials used in manufacturing or questions on replacement parts.

Aftermarket Products

- Alterations to Marvin door products including films, insulating or reflective interior door treatments or additional glazings can cause excessive heat buildup and/or condensation. They may lead to premature failures not covered under warranty by Marvin.
- Before purchasing or applying any product that may affect the installation or performance of Marvin products contact the manufacturer of aftermarket 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.

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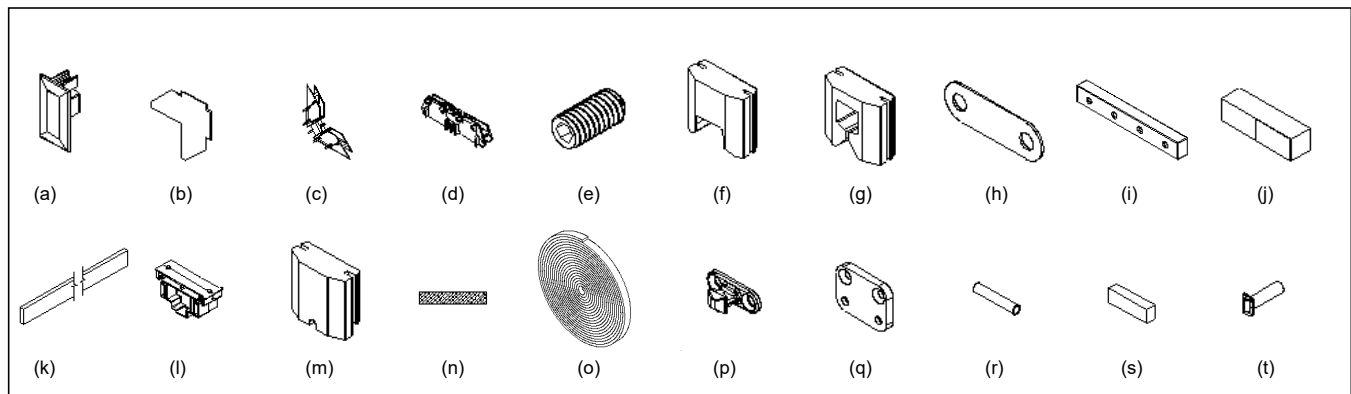
You Will Need to Supply	
Laser level or equivalent	Step ladder(s)
Hammer	Power Driver w/bits
Concrete drill w/bits	Allen wrench - 1/4" and 5/32"
Sealant w/gun	Glass suction cups (2 – 4)
Sill Installation screws	1 1/2" finish nails
Spray foam insulation (regular or low expansion)	
Additional story poles	1" x 3" metal plates
#8x1 1/2" pan head screws for pocket interlock, if applicable	
#8x3" pan head screws for pocket interlock, if applicable	
Pincher tool	

ATTENTION

Specifications and technical data are subject to change without notice.

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

Ultimate Lift and Slide Assembly Kit *(May include extra components for unusual sizes)*



ID.	Description	Part Number	Usage
(a)	Header Guide End Cap	02102119	Quantity based on 1 per open end header guide
(b)	Nailing Fin Corner Gasket	11869519	Quantity based on 1 sheet per stacked unit (clad only)
(c)	Corner Key, Head Jamb	02102282	Quantity based on 1 per corner (clad)
(d)	Frame Splice Key	02102122	Quantity based on 1 per splice (clad)
(e)	Jamb Shim Screw	02102120	Quantity based on 1 per tapped hole in jamb
(f)	Foam Seal Header Stationary	10500088	Quantity based on 1 per stationary jamb
(g)	Foam Seal Header Guide	10500087	Quantity based on 1 per locking jamb
(h)	Locking Bolt Shim	02102127	Quantity based on 2 shims per locking bolt
(i)	Sill Splice Key	02102114	Quantity based on 2 per sill splice
(j)	XX Meeting Stile Foam	10500057	Quantity based on 2 per bi - parting unit
(k)	Sill Cover Splice Gasket	10500473	Quantity based on 2 per sill splice
(l)	Sill End Caps, Middle	11872780	Quantity based on unit configuration
(m)	Foam Seal	10500078	1 foam seal per side jamb
(n)	Reticulated Foam	10501578	Quantity based on unit configuration
(o)	Sill Pan Gasket	10501579	Quantity based on unit configuration
(p)	Locking Bolt	02102244	Quantity based on 1 per pre - drilled rout
(q)	Stationary Bracket	02102124	Quantity based on unit height (stacked units only)
(r)	3/8" ID Flexible Tubing	10501101	Quantity based on unit configuration (2 11/16" long)
(s)	Sill Roller Track Gasket	N/A	Quantity based on unit configuration
(t)	Drainage Outlet Assembly	N/A	4 per sill assembly
	#8x1/2" FH Self Tapping Screw	02100325	Quantity based on 8 screws per sill splice
	#7x2" A/TF, 2/3 Thread Screw	11800720	Quantity based on wood BMC (1/corner), pocket cover (1/pre - drilled hole)
	#8x1" AB, Full Thread Screw	11800645	Quantity based on 2 per frame cladding splice
	#8x1 1/2" A/TF, 2/3 Thread	11881120	Quantity based on 1 per jamb corner and 2 per stationary bracket
	#8x1 1/4" A/TF, 2/3 Thread	11808114	Quantity based on 8 per head jamb splice bracket
	#8x3" A/TF, 2/3 Thread	11800830	Quantity based on 1 per jamb corner, wood BMC
	#10 X 3" Screw (SS)	11801017	Quantity based on 2 per locking bolt
	#10x1" AB, Full Thread	02050526	Quantity based on when header guide is spliced
	#10x3" 2/3 TH Wood Screw	02100427	Quantity based on 1 per jamb shim screw
	#8x3/4" AB, PH, Full Thread	11808340	Quantity based on 1 per pre-drilled hole in part stop (clad)
	5/16" x 18 UNC Set Screw	02100331	Quantity based on unit configuration
	Story Pole	N/A	Used to set height of head jamb (1/order)

Performance Sill System

The Marvin Ultimate Lift and Slide Performance Sill System features an integrated leveling system and is designed to be installed in both stacked and pocket configurations.

NOTE: If the sill is over 23 1/2' (7.163 meters), field assembly of the performance sill is required. If your unit is 23 1/2' (7.163 meters) or less proceed to "Install Sill into the Opening" on page 6.

Performance Sill Field Assembly

1. Lay out the performance sill in the correct configuration on a flat surface next to the opening. All sill tracks must be in correct sequence, ensure that all drainage routs and thermal break cuts line up with adjacent sill tracks. The sill must be spliced together prior to connecting in parallel. Apply a sill splice gasket and install two die cast sill splice keys to each splice using the provided #8x1/2" screws. See figure 1.

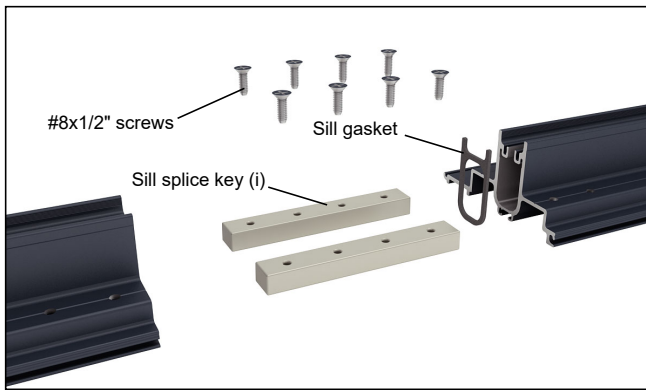


Figure 1

2. Starting with the interior track, connect the tracks together. See figure 2.



Figure 2

3. After the track has been assembled install the middle end caps with the supplied #8x1" screws. See figure 3.

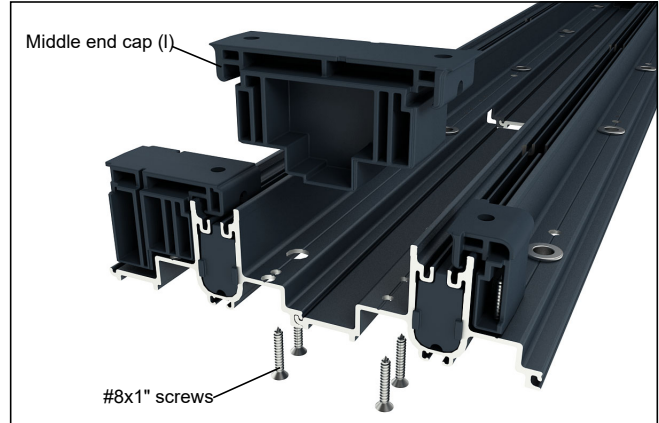


Figure 3

4. Temporarily assemble middle sill cover short sections to aid in sill installation (do not place over anchor or leveling holes). This will help stabilize the assembled sill while you move it into position. See figure 4.

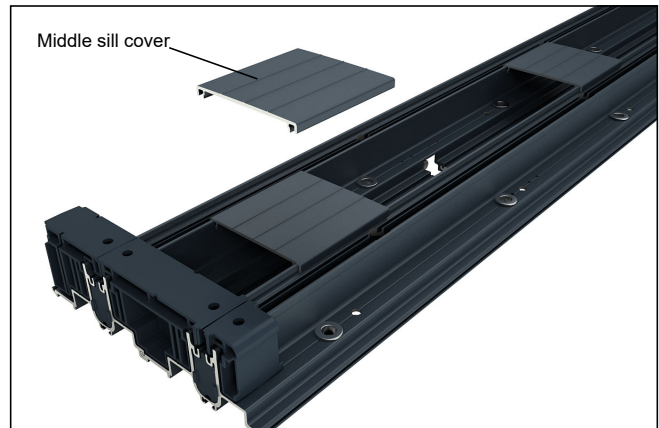


Figure 4

5. Turn the sill over to access the sill drainage system. Install supplied 3/8" flexible tubing between the lower drainage system sections (do not install drainage outlets at this time). See figure 5.

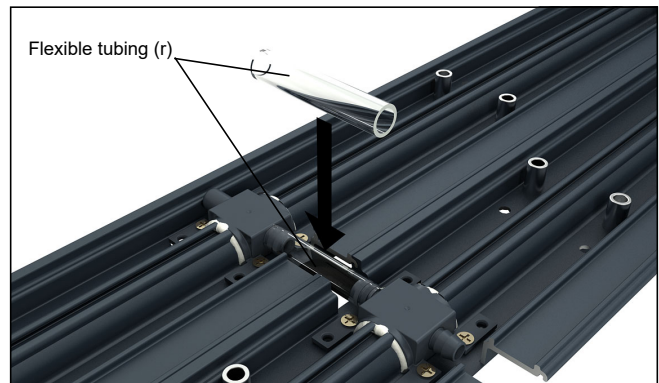


Figure 5

6. Turn over the sill to its upright position. Inject sealant into the end caps. See figure 6. Tool excess sealant smooth.

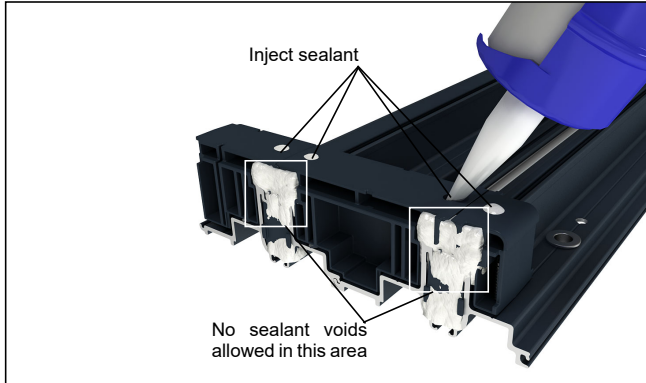


Figure 6

7. Press roller track(s) onto the sill track. See figure 7.

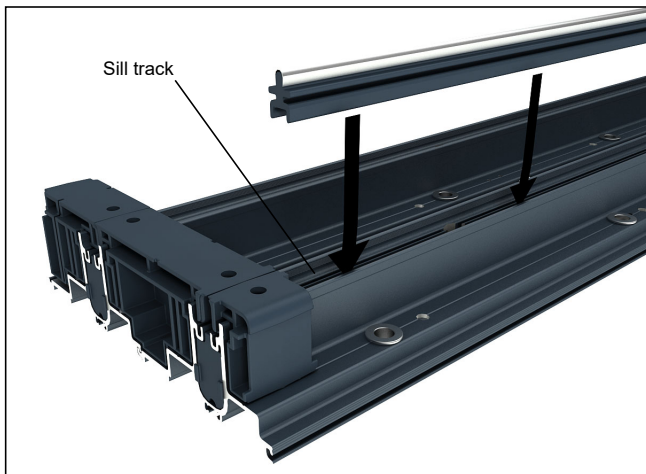


Figure 7

8. Place a 3/8" x 3/4" (10 x 19) bead of sealant flush with the end of the track filler and press into place. See figure 8.

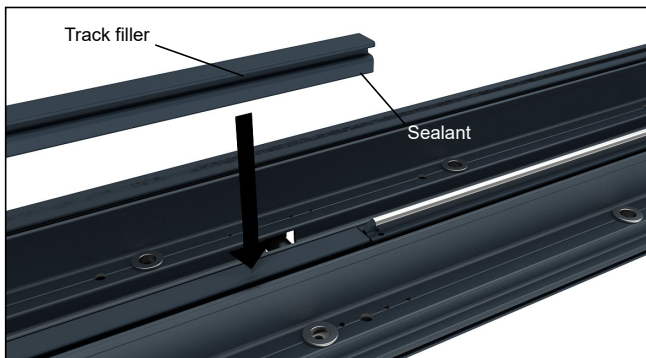


Figure 8

Install Sill into the Opening

IMPORTANT

Prior to installing the sill be sure that the opening has been properly panned and integrated with the structure's water management system.

1. Position sill at the specified location in the opening.

NOTE: For pocket systems the exterior track must be positioned 2 11/16" (66) from the interior surface of the exterior wall. See figure 9.

NOTE: For stacked units, the interior surface will be flush with the interior surface of the jamb.

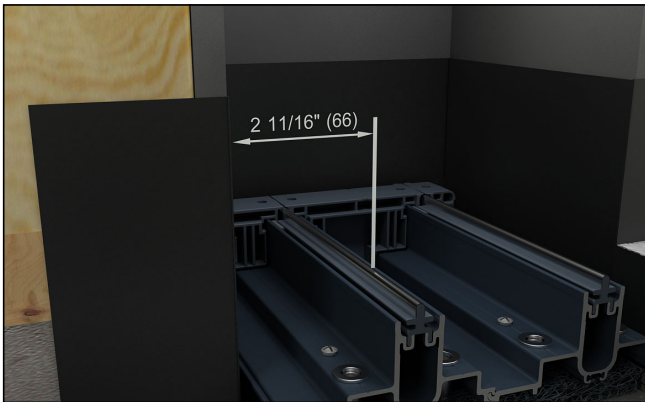


Figure 9

NOTE: For systems with side jamb(s), place the sill 1/2" (13) away from the side jamb RO. See figure 10.

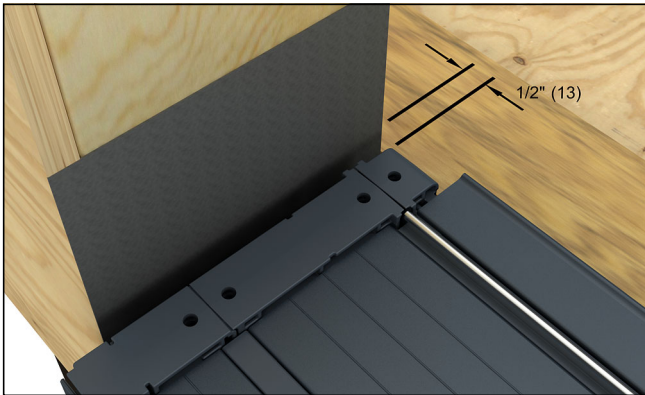


Figure 10

2. Once the sill has been positioned in the specified location, use powdered marking chalk to mark the location of the leveling screws on the panning. See figure 11.

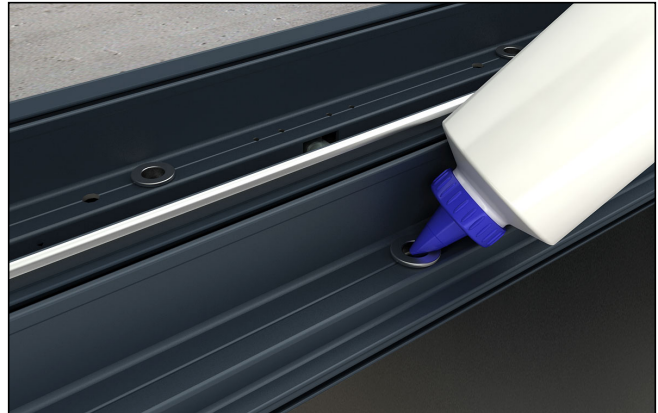


Figure 11

3. Mark the location of each end of the sill on the panning. Scribe a line the entire length on the interior side of the sill. See figure 12. Estimate the amount of shim space that will be under the sill (note this for the sill pan gasket installation later).

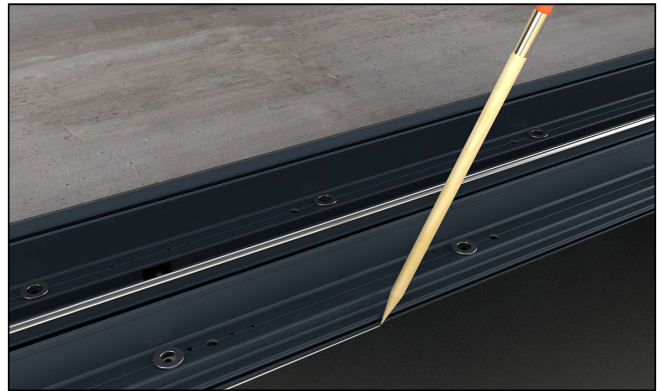


Figure 12

4. Remove the sill from the opening. Install the leveling screws provided into the rivet nuts with a 5/32" allen wrench. See figure 13.

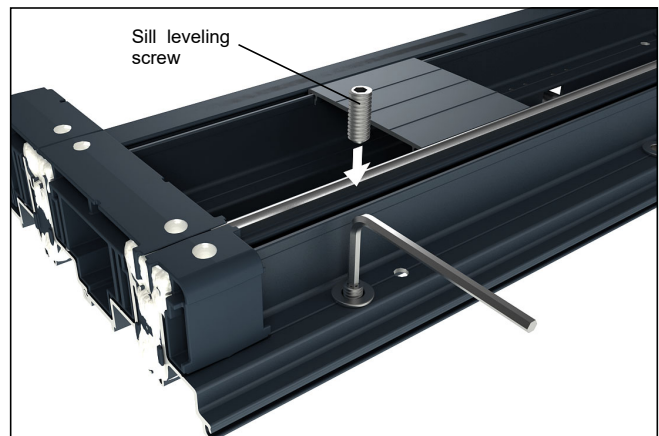


Figure 13

5. Install the sill pan gasket the entire length of the opening covering the scribed line with 1/8" (3) of the gasket to the interior of the scribed line. If shim space is less than 3/16" (4) use one layer, if more than 3/16" (4) use two layers. Shim space should not exceed 3/8" (10). See figure 14.

6. Place 1x3" (25-76) galvanized/stainless steel metal plates over each pair of chalk marks. See figure 14. If not using a self sealing sill pan material, place a bed of sealant (compatible with sill pan) over the location of each anchor screw.

NOTE: The galvanized plates need to be positioned directly under the leveling screws and out of the way of the anchoring screws. See figure 14.

7. Install reticulated foam, one row for each row of track, across the entire length of the opening. Stay 3" from each end to allow for spray foam. See figure 14.

8. Place the sill back into the opening and position as specified. Begin to install anchor screws to secure the sill and compress the foam. See figure 14. After installing a few anchor screws, place a level on the sill and begin the sill leveling process, adjusting the leveling screws and anchor screws, making sure that the sill is level within 1/32" (1) across the entire length of the sill.

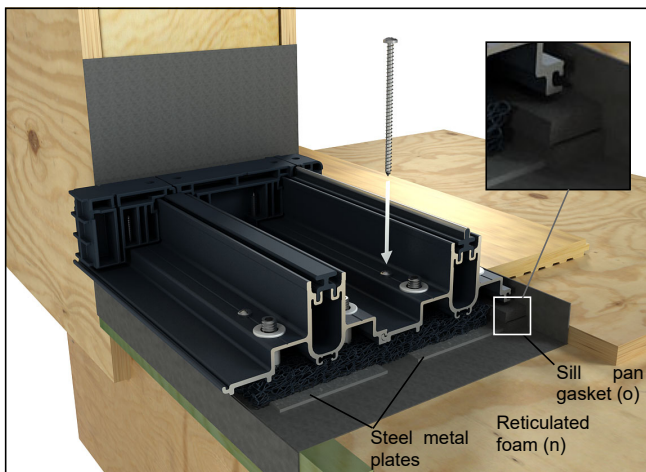


Figure 14

NOTE: The reticulated foam and sill pan gasket will compress to help create a weather tight seal. See figure 14.

Frame Assembly for Pocket Units

NOTE: For units with multiple head jamb sections, assemble the head jamb sections at the splice using supplied screws, brackets, and keys. Apply 3/16" (5) bead of sealant on all wood joints prior to assembly. For clad units, notch a 1/8" (3) deep groove at the head jamb for proper sealant flow prior to injecting sealant into clad splice key. See figure 15.

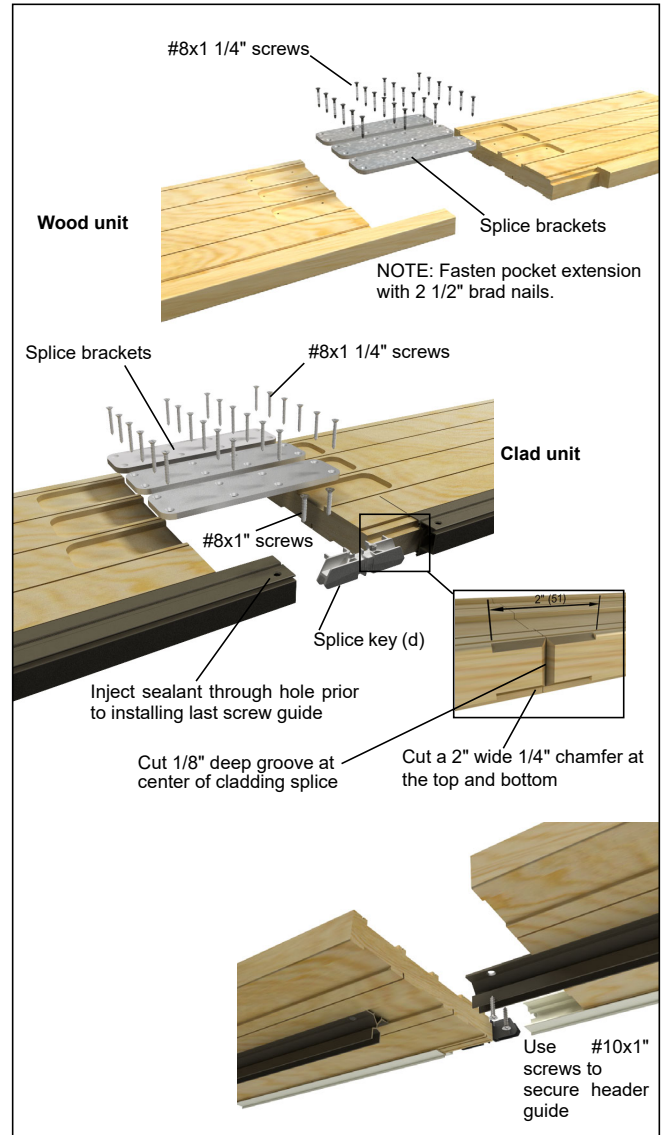


Figure 15

1. Place head jamb and side jamb, interior side down, on a clean flat surface to the interior side of the opening in the correct configuration. Install adjustable shim screws into the head jamb and side jamb with 1/4" (6) Allen wrench. See figure 16.

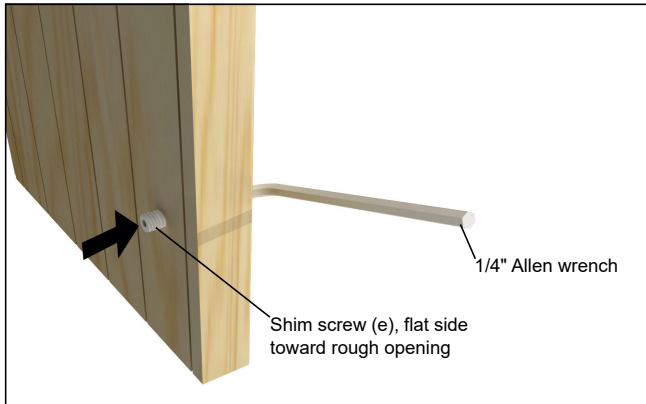


Figure 16

2. Run a 3/16" (5) bead of sealant on all wood joints prior to assembly. Assemble the corner and fasten with the supplied screws through all of the pre-drilled holes. See figure 17 for clad and wood.
3. On clad units, before installing the screw into the clad corner joint, inject sealant into the screw hole until you can see squeeze out. See figure 17.

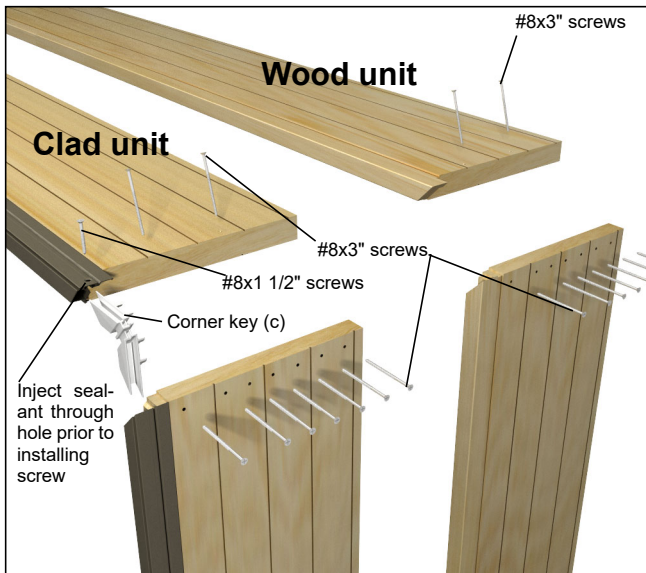


Figure 17

Frame Assembly for Stacked Units

NOTE: Assemble to the interior of the opening. The BMC will need to be applied after the unit has been installed.

NOTE: For units with multiple head jamb sections assemble the head jamb sections at the splices with the supplied screws, brackets, and keys. Apply 3/16" (5) bead of sealant on all wood joints prior to assembly. For clad units, notch a 1/8" (3) deep groove at the head jamb for proper sealant flow prior to injecting sealant into clad splice key. See figure 18.

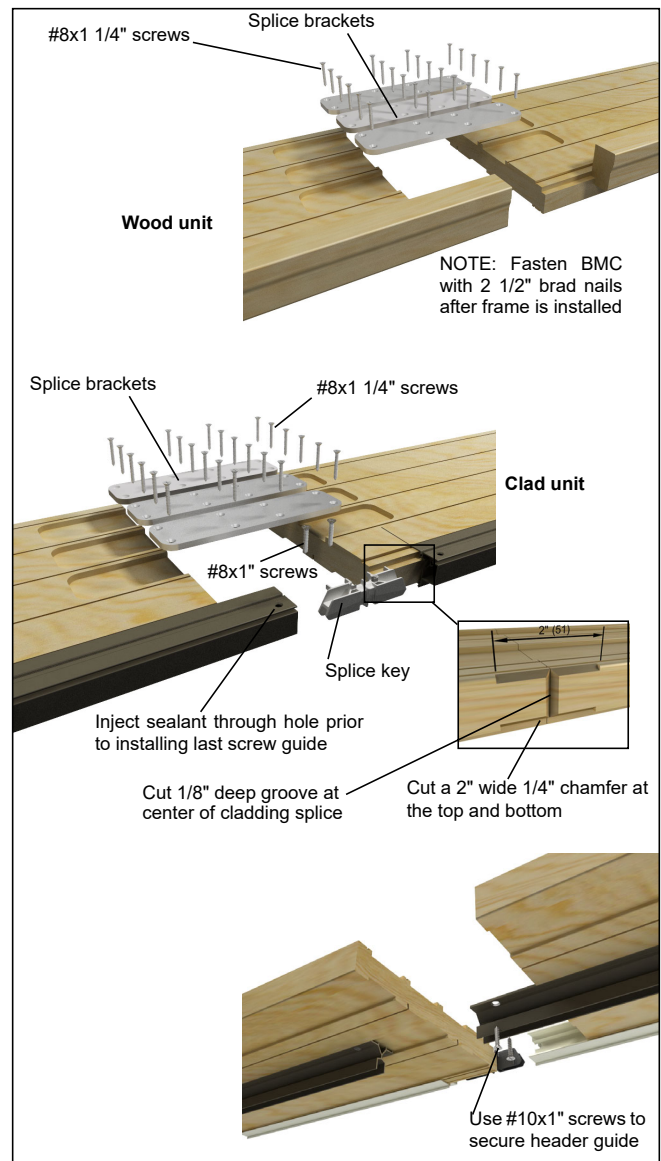


Figure 18

1. Place Install adjustable shim screws into the head jamb and side jamb with 1/4" Allen wrench. See figure 19.

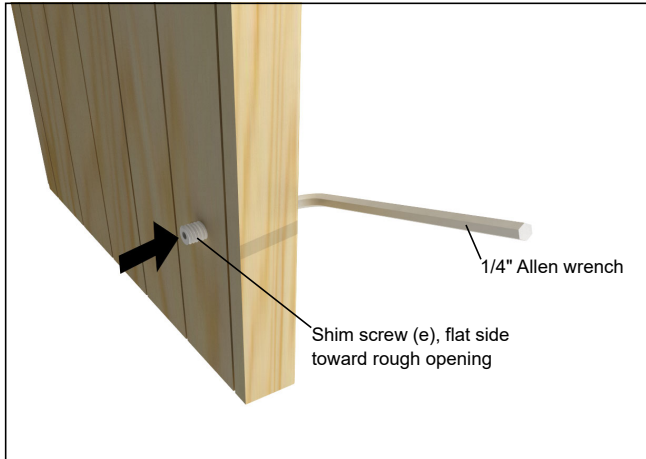


Figure 19

2. Run a 3/16" (5) bead of sealant on all wood joints prior to assembly. Assemble the corner and fasten with the supplied screws through all of the pre-drilled holes. See figure 20 for clad and wood.
3. On clad units, before installing screw into the clad corner joint, inject sealant into the screw hole until you can see squeeze out. See figure 20.

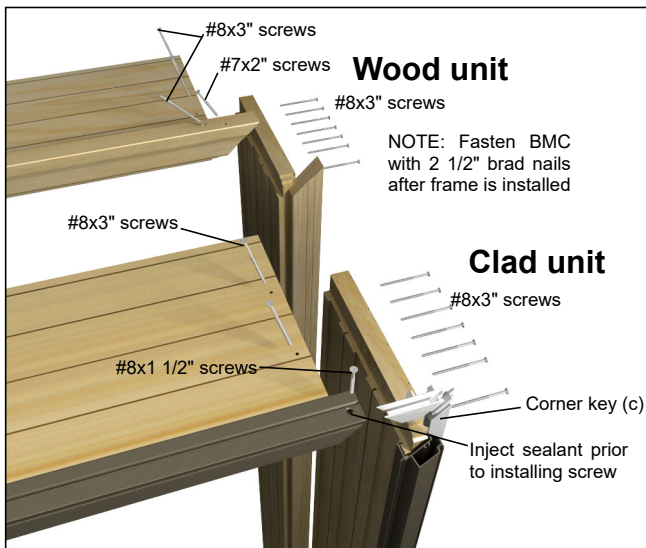


Figure 20

Frame and/or Head Jamb Installation

The necessary precautions must be considered and applied to safely support the frame within the opening during installation.

Pocket Units without Side Jamb

1. Raise and position header guide directly over bottom sill track using laser to align. See figure 21.



Figure 21

2. Support the head jamb in position with the story pole(s) at the center and appropriate intervals thereafter. See figure 22.
3. Adjust head jamb shim screws so that the header guide bottom edge is just touching the story pole and fasten with installation screws. See figure 24.



Hint

Additional story poles of greater width can be cut to sit over two or more sill tracks to assist in ease of installation.

Units with Side Jamb(s)

NOTE: If installing the sill into an open faced slot, it may be necessary to cut the legs of the side jambs off at the top of the subfloor or slightly below in order to fit the frame into the opening. This will not affect the performance of the unit.

1. Raise and position the frame assembly within the opening on top of the sill end caps. Support the head jamb in position with the story pole(s) at the center and appropriate intervals thereafter. See figure 22.

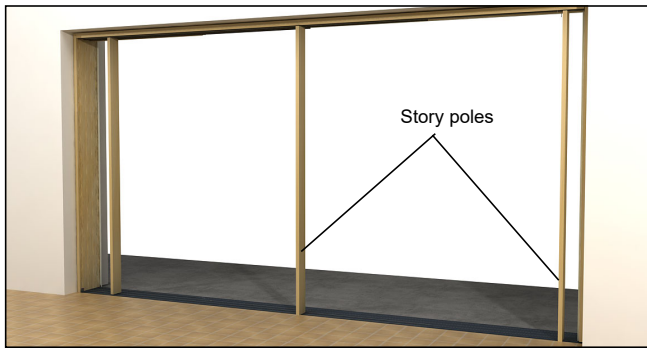


Figure 22

2. Adjust bottom jamb shim screw using a 1/4" Allen wrench until the back side of the jamb is flush with the end of the sill track. Anchor bottom of the jamb in place with an installation screw. See figure 23.

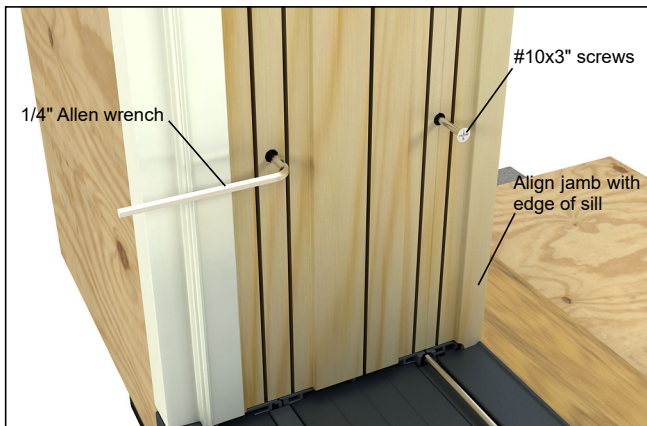


Figure 23

3. Position header guide directly over bottom sill track using laser to align. Plumb and true the side jambs, adjusting shim screws as needed, and anchor the top corner. See figure 24. For stacked units follow the same procedure for the other side jamb.
4. Adjust head jamb shim screws so that the header guide bottom edge is just touching the story pole and fasten with installation screws. See figure 24.

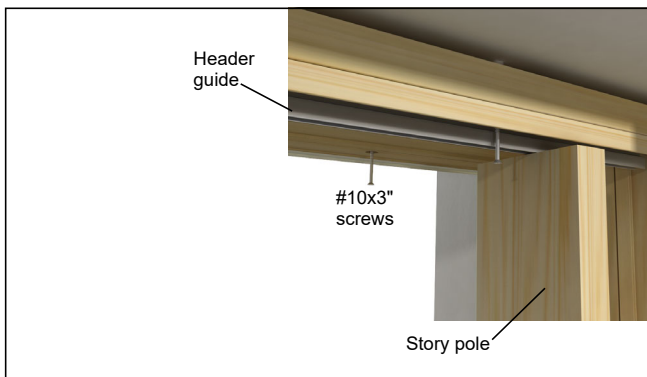


Figure 24

5. Install all remaining installation screws in side jambs.

Final alignment procedures and sealing the Performance Sill System

1. Temporarily install the operator panels see "Installation of the Panels" on page 13 in order to ensure that the reveals are correct and that the panels are operating smoothly. For stacked units do not install the stationary panel at this time.
2. After all the final adjustments to the sill, head jamb, side jamb(s) and the panels are operating smoothly, remove the operator panels and set aside for later installation.
3. Seal all rivet nuts, anchor screws/holes and any other screw holes on the interior most side of the sill prior to installing the interior sill cover. See figure 25.

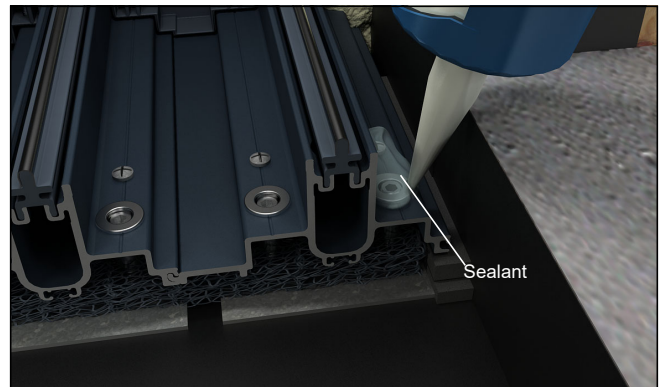


Figure 25

4. Install sill cover splice gaskets on sill covers at all joints. One splice gasket to each side of the joint on the middle sill covers and one splice gasket to each splice for interior and exterior sill covers. See figure 26.

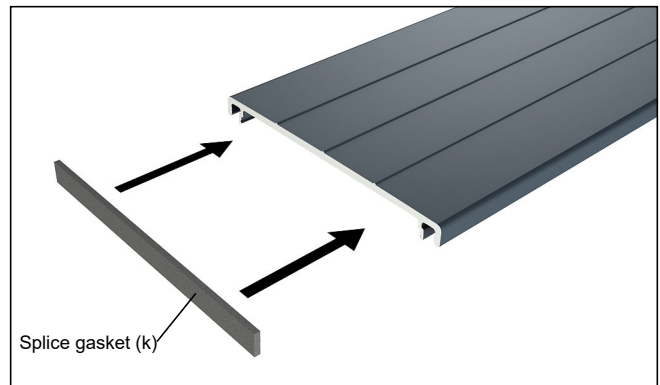


Figure 26

5. Install weatherstrip onto the exterior sill cover for pocket units. Weatherstrip is only for inside the pocket and should not run the full length of the sill cover. See figure 27.

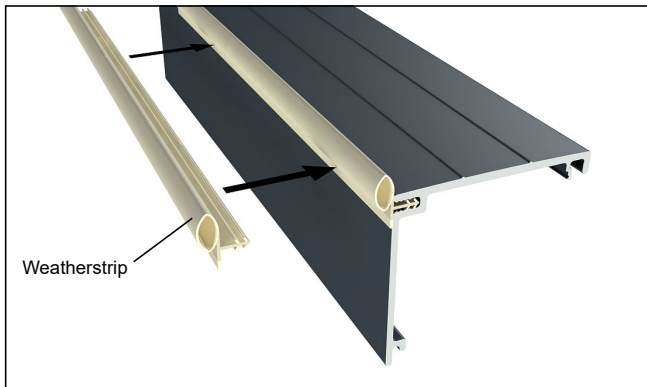


Figure 27

6. At the end of each roller track (adjacent to end caps), place a bead of sealant at each side. Place a bead of sealant within the locking profile at the end of all sill covers (next to end caps). See figure 28.

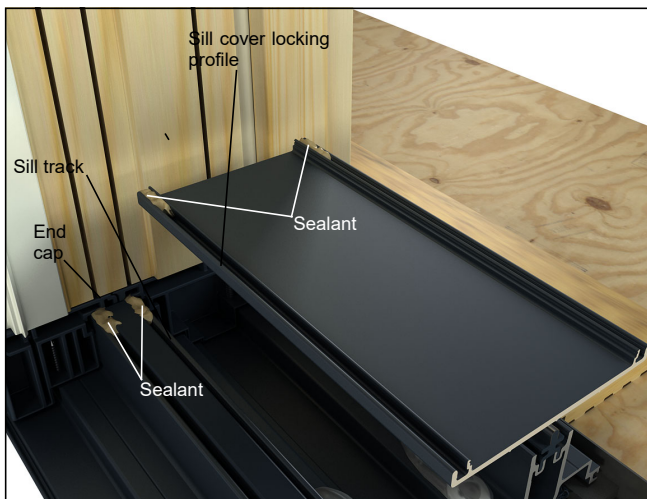


Figure 28

7. Install all sill covers onto sill using a rubber mallet. Middle sill covers must align with thermal breaks in sill and note that the exterior sill cover may have to be slid into place from the exterior side under the jamb. See figure 29.

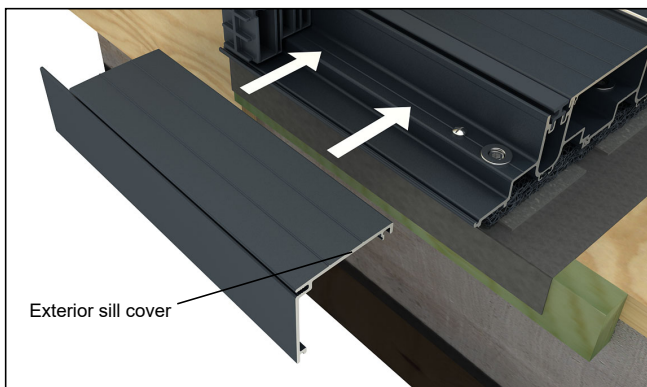


Figure 29

8. At the jambs, apply spray foam at the jamb/sill joint within the RO. Within the pocket, apply spray foam at the end of the sill. See figure 30.

NOTE: The spray foam should completely encapsulate the end of the sill.



Figure 30

9. Inject sealant into holes in roller track next to the beveled ends. See figure 31.

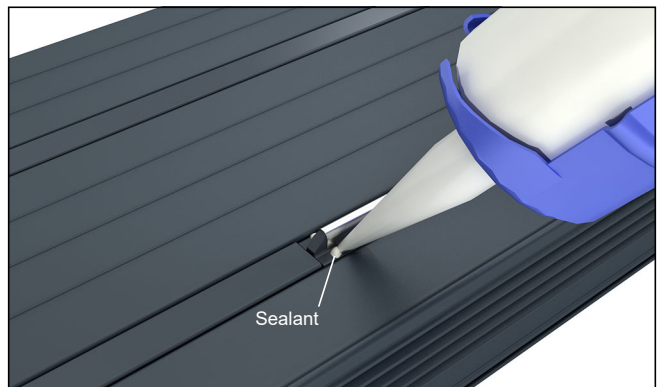


Figure 31

10. Place sill roller track gaskets over the holes so that the foam on the bottom of the panel will seal against the roller track gaskets. See figure 32.

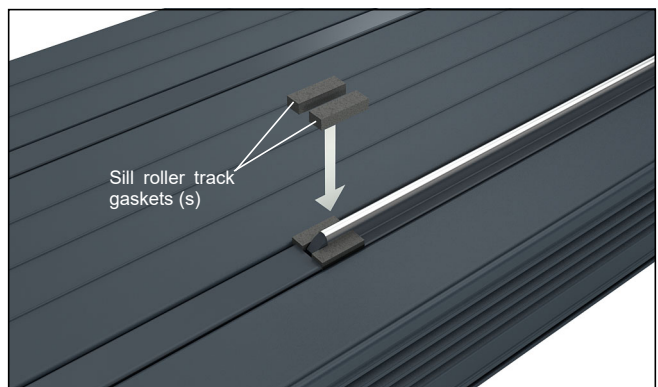


Figure 32

- Remove adhesive backer from foam gasket. Install drainage outlet assembly in the exterior of the sill. See figure 33.

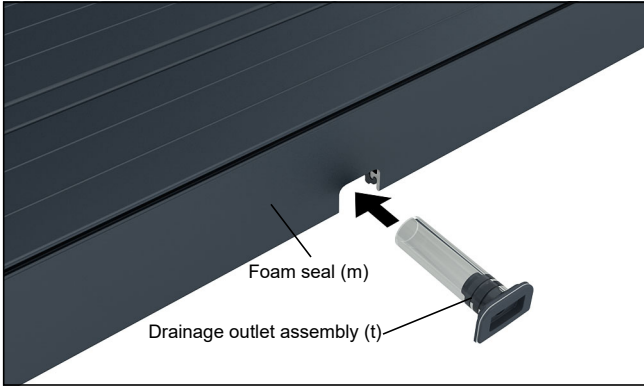


Figure 33

- For pocket configurations, apply sealant to the sill cover and end caps. Seal all the way from the interior lip of the interior sill cover to the pocket weather strip. See figure 34.

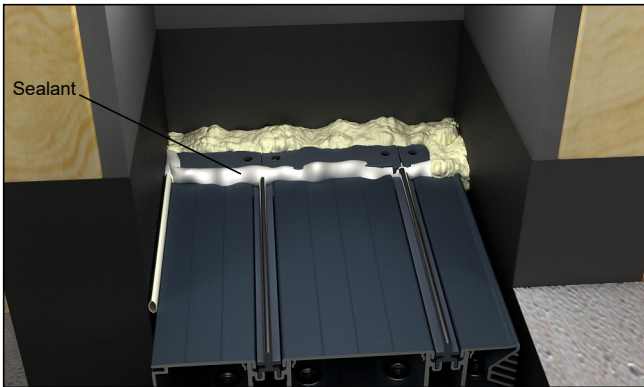


Figure 34

- For sill/jamb joints, apply sealant between the sill cover and the jamb from the interior to the exterior. See figure 35.

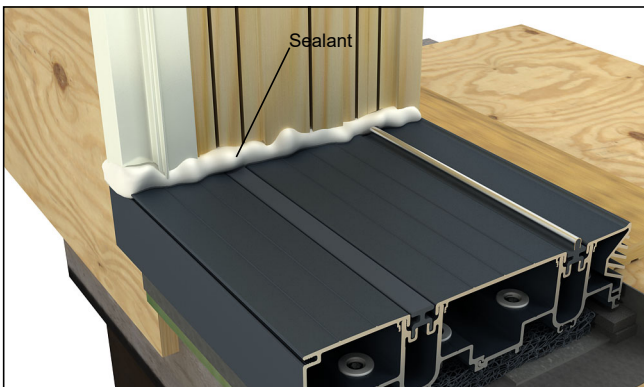


Figure 35

- At sill/jamb joints, apply foam seal into wet sealant at bottom of the jamb fitting notch over interior most sill track. Notch at back of foam seal must be completely filled with sealant. See figure 36.

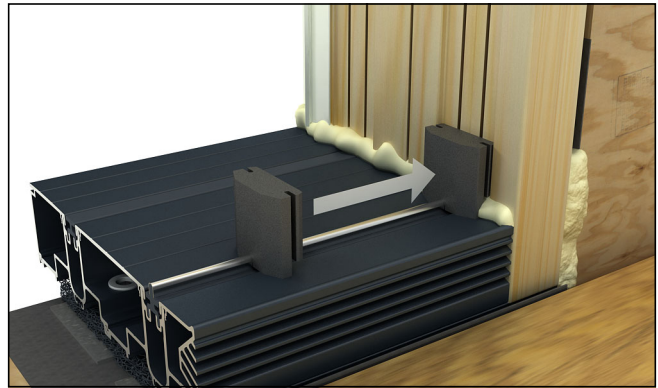


Figure 36

Installation of Pocket Interlock Base

- Place interlock base into position on exterior wall frame member with the gasket to the bottom. Push up on the interlock base until it is tight up against the head jamb and flush with exterior edge of the rough opening framing member. Drill pilot holes in the center of the narrow slot at the top, center and bottom of the interlock base with a 1/8" drill bit. See figure 37. Insert #8x1 1/2" pan head screws and loosely tighten.



Figure 37

- Check the interlock base for plumb and adjust location to conform to exterior frame width specification provided in the field calculations. See figure 38. After alignment tighten interlock base screws.

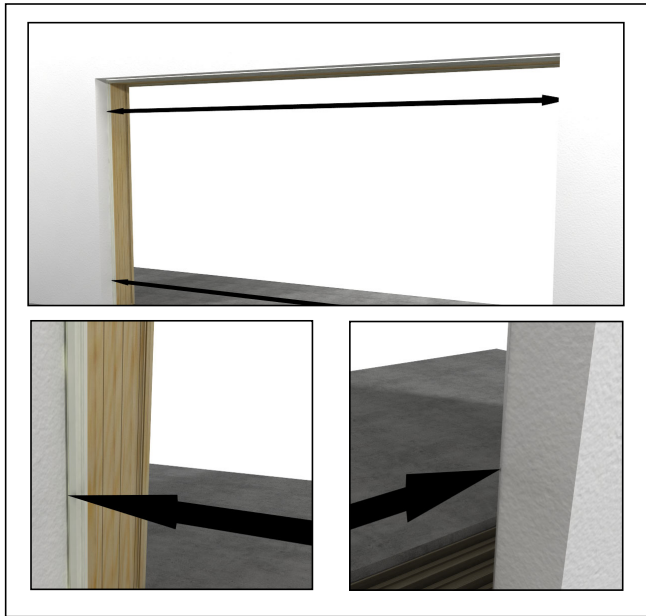


Figure 38

Installation of Pocket Interlock

1. Adjust all of the pocket interlock set screws to the same reveal. See figure 39.

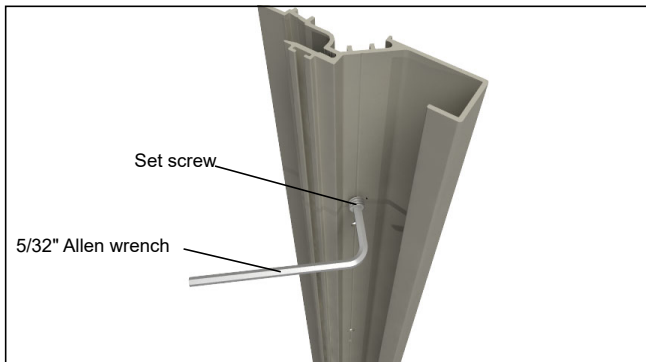


Figure 39

2. Install the pocket interlock with the stepped side up over the top of the interlock base. Slide the interlock up tight against the head jamb and it must be seated against the sill. If not seated against the sill, adjust the head jamb. See figure 40. Fasten in several locations to hold in place while adjusting set screws.



Figure 40

3. Adjust interlock set screws until the interlock is plumb, true and parallel to the track and head jamb. Secure using #8x3 inch pan head screws. See figure 41.



Figure 41

Installation of the Panels

1. From the field calculations and drawings, determine which panel goes on which sill track. The panels are set in the same manner as any conventional sliding door system, stationary or pocket to the exterior (first) and primary to the interior (last).
2. install stationary bracket onto the stationary panel with #8 x 1 1/2 inch screws.
3. For pocket door systems proceed to step 5. For stacked units install stationary jamb keeper guide over the stationary jamb adjustable shim screws and secure with the connecting barb. See figure 42. Install foam seal header stationary.

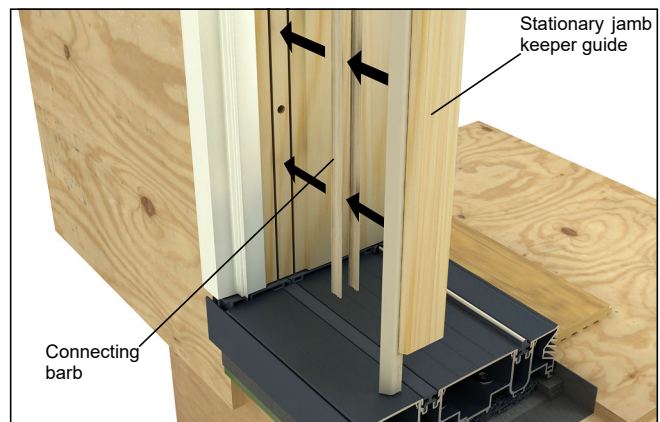


Figure 42

4. Install stationary panel from the exterior. Tilt top into place and slide the bottom of the panel onto the sill. Slide stationary panel back tight against the side jamb and fasten stationary bracket to jamb with #8x1 1/2 inch screws. See figure 43.

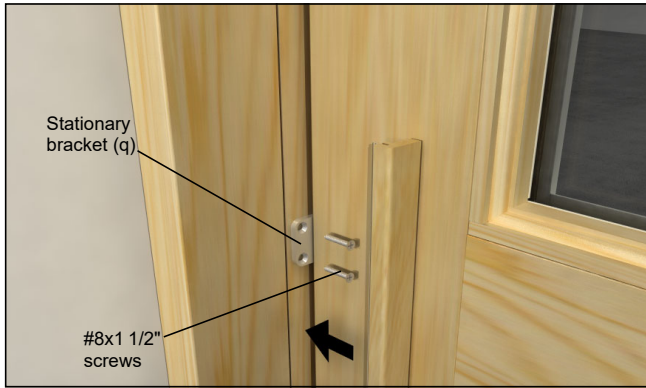


Figure 43

5. Adjust and secure head and sill stationary retainers to engage with head jamb and sill. See figure 44.



Figure 44

6. Install operator panel top rail weather strip prior to installing the panels. For biparting configurations install meeting stile foam on bottom of astragal assembly. See figure 45.

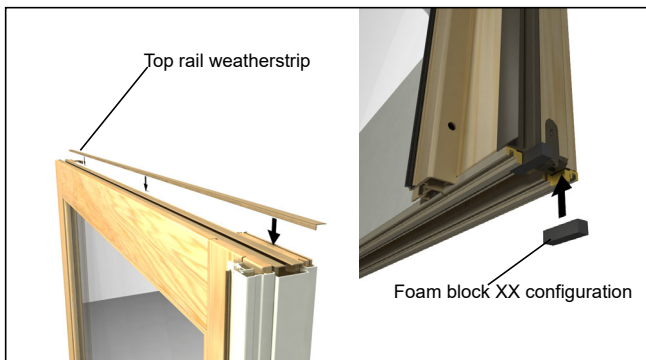


Figure 45

7. For pocket units install the panel that engages with the pocket interlock first. Tilt top into place and slide bottom of panel onto center of track. Engage operating hardware and test door panel to see if the rollers are on the track. Install pocket cover with #7x2" screws. See figure 46.

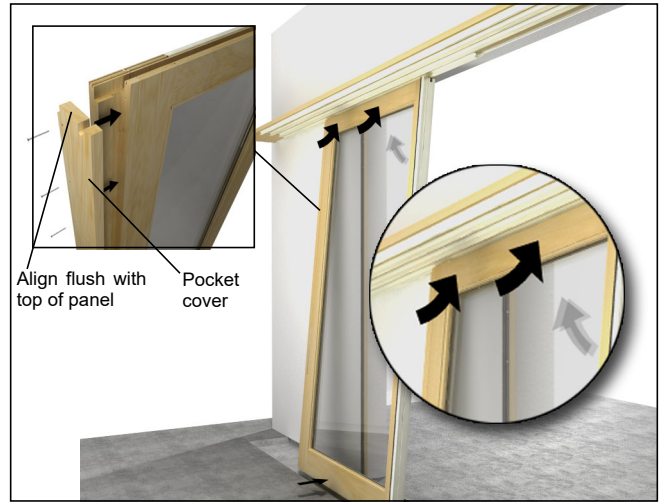


Figure 46

8. Test operation of the panel to see that it is engaging with the pocket interlock properly. If adjustments are necessary remove stile edge cover and header guide with insert. Slide panel back into the pocket to adjust the interlock. See figure 47.

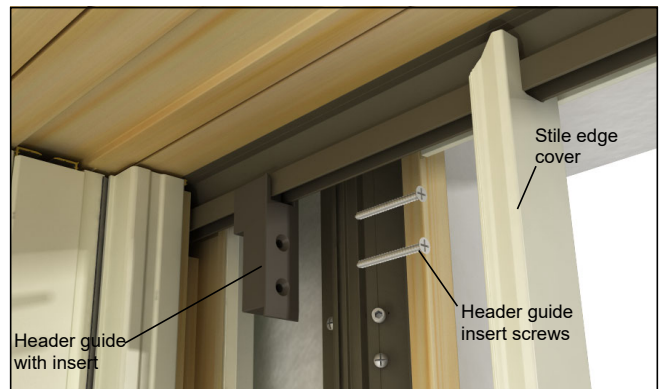


Figure 47

9. All operating panels are installed from the interior. Slide the top of the panel in over the header guide, center the bottom of the panel over the sill track and set down. Engage operating hardware and test door panel to see if the rollers are on the track. If not repeat procedure. Each door should interlock the next panel in the proper sequence. See figure 48.



Figure 48

10. Once all of the panels are installed operate the doors to ensure smooth movement and correct positioning of the pocket interlocks, head jamb, and side jambs. Install header guide end caps. See figure 49.

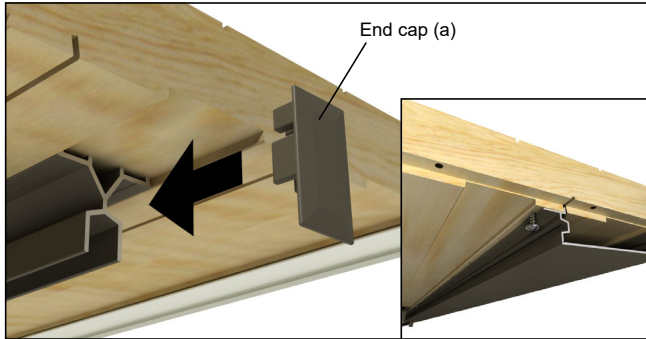


Figure 49

11. Install head jamb exterior stops by pressing or tapping them into place with a rubber mallet. Secure clad stops into place with #8x3/4" truss head screws in pre drilled holes. Install the wood stops with connecting barbs and 1 1/2" finishing nails through groove in part stop. See figure 50.

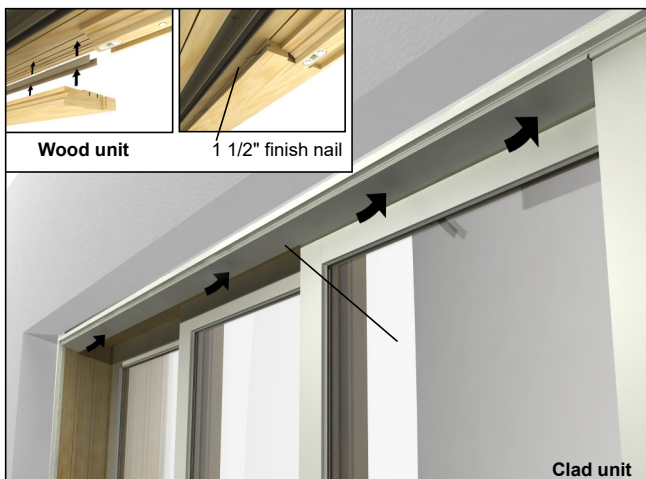


Figure 50

12. Install side jamb exterior stops by pressing or tapping them into place with a rubber mallet. Secure clad stops into place with #8x3/4" truss head screws in pre drilled holes and wood stops with finish nails. Blind nail through groove in part stop. See figure 51.

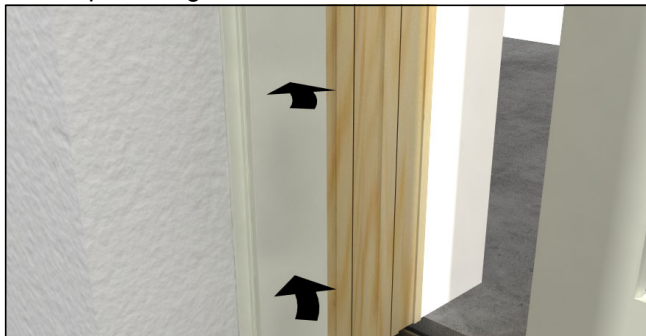


Figure 51

13. Install locking jamb keeper guide over the side jamb adjustable shim screws and secure with the connecting barb. See figure 52. Position and fasten locking bolts with #10x3" screws. Adjust locking bolts with shims provided if necessary.



Figure 52

14. Install foam seal at the header(s) as shown. See figure 53.

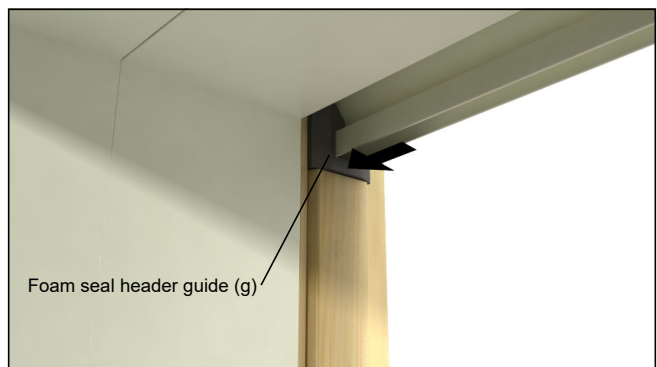


Figure 53

System Sealing and Caulking

Weatherproofing and integrating the jambs and interlocks to the building can be addressed in most cases by using backer rod and sealant in recessed openings. Weatherproofing such as a butyl flashing material may be appropriate for doors installed with a nailing fin.

Your Marvin Ultimate Lift and Slide system is now installed. Minor adjustments of the system are limited to the sill, shim screws located in the head and/or side jambs. The opening trim and perimeter insulation must allow for minor adjustments that may be necessary in the future. A compressible insulation material should fill the perimeter space between the frame and rough opening. The interior or exterior trim, such as a "J" channel, should be installed 1/4" - 3/8" (6 -10) from the jamb. The joints between the exterior trim and top guide track/side jambs should be sealed properly to allow for minor adjustments.