

Elevate/Infinity Outswing French Door Installation Instructions



ABSTRACT: Please read these instructions in their entirety before beginning to install your Elevate and Infinity Outswing French Door product. These installation instructions demonstrate the installation of a Elevate and Infinity Outswing French Door in new wood frame construction using an industry approved water management system. For installation using other construction methods, such as remodeling, replacement, and recessed openings refer to ASTM E2112-01, “Standard Practice for Installation of Exterior Windows, Doors and Skylights,” for installation suggestions. For product specific issues, service instructions and other field service guides, refer to the Integrity Service Manual, visit our website at www.marvin.com or contact your Marvin or Infinity representative. The same information for ASTM E2112 can be found on the ASTM website, www.astm.org. Regional standard practices, environmental conditions, and codes may vary and supersede the procedures contained within. The responsibility for compliance is yours: the installer, inspector, and owner(s).

Table of Contents

Installer and Builder Information.....	2	Installation - Fastening the Frame.....	8
Hazard Notations.....	3	Installation - Additional Fastening Requirements.....	9
After Market Products.....	3	Installation - Making Adjustments and Shimming.....	10
Technical Installation Specifications.....	3	Flashing and Sealing the Installation.....	11
Rough and Masonry Opening Requirements.....	4	Handle Operation-Locking and Unlocking the Door.....	13
Rough Opening Preparation.....	5	Hinge Adjustment Procedures.....	14
Preparing the Unit for Installation.....	6		
Installation - Positioning the Door in the Opening.....	7		



**WARNING**

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

**WARNING**

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

**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**

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

You Will Need to Supply

Safety glasses	4'-6' (1219-1829) Level	Hearing protection
Square	Hammer	Flat screwdriver
Tape measure	Interior trim	Wood shims
2" (51) roofing nails	1/8"(3) drill bit	Silicone sealant
Field applied drip cap		Fiberglass insulation
Drill / Driver with #2 Phillips bit		Construction adhesive
#8 x 2 1/2"(63) wood screws (optional)		

Installation Kits Description	Quantities/ Configuration		
	XX	X	O
Nailing fin corner gaskets and instructions	1	1	1
#8 x 2 1/2" Phillips flat head screw (color matched for hinges)	1/hinge	1/hinge	-
#8 x 2 1/2" Phillips flat head screw (stainless steel for jamb strike)	-	1	-
#8 x 2 1/2" Phillips flat head screw (beige for head jamb strike)	2	-	-
3/16" x 2 3/4" flat head masonry screw (blue for fastening sill liner to subsill)	1	-	-
Hole plug	1	-	-

Installer and Builder Information

Always provide a copy of these instructions for the current or future building owner.

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 sill). Failure to do so can void the Marvin/Infinity warranty coverage.





Refer to the **Technical Installation Specifications section** for technical specifications regarding the installation of this product. These installation specifications as well as the details in this section must be followed to achieve proper installation and performance.

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.

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

Hazard Notations

Please familiarize yourself with the following hazard notations used throughout this instruction:

Caution	Warning	Seek Assistance	Tips/Hints
			
Mistakes or misuse could cause damage to the window or result in faulty installation and unit performance.	Mistakes or misuse could result in personal injury and/or severe damage to unit, equipment, and/or structure.	Help from another individual is necessary to perform this task safely and correctly.	Information on alternative procedures, definitions, helpful hints

After Market Products

Alterations to Marvin or Infinity Window and Door 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 Integrity or Infinity.

Before purchasing or applying any product that may affect the installation or performance of Integrity or Infinity products contact the manufacturer of after market product/glazings that are not supplied by Marvin or Infinity 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.

Technical Installation Specifications

The following details are specified for proper installation and for the unit to meet the advertised design pressure (DP) rating.

Rough Opening Width: 1/4"-1" (6-25) wider than door frame outside measurement.

Rough Opening Height: 1/4"-1/2" (6-13) higher than door frame outside measurement.

Masonry Opening Width: 1/4"-1/2" (6-13) wider than door frame outside measurement.

Masonry Opening Height: 1/8"-1/4" (3-6) higher than door frame outside measurement.

Architectural Detail Manual Specifications:

- Rough Opening: Width 1" (25); Height 1/2" (13)
- Masonry Opening: Width 1/2" (13); Height 1/4" (6)

All doors must be properly flashed and/or sealed at the exterior perimeter. Sealant used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, window exterior surface, and flashing/water management materials. Construction adhesive must be APA rated AGFG-01 SPEC.

Flashing materials must meet ASTM E2112-01, section 5.13 and be compatible with all material used in installation including panning systems, air barriers and building papers, sheathing, and the window unit. **Flashing materials must not contain asphalt and must be compatible with flexible PVC (vinyl).**

The following materials were used to develop these instructions: Weather Resistant Barrier: DuPont™ Tyvek® HomeWrap or Grade D building paper. Flashing materials: DuPont™ FlexWrap or DuPont™ Straight Flash, DuPont™ Tyvek® Tape. Sealant: OSI® Quad Pro-Series®; solvent release butyl rubber sealant or DAP DynaFlex230®. Other materials may be used but must be compatible with one another. Refer to each product's technical specifications for compatibility and usage.

Units installed with nailing fin must be fastened to the sheathing with 2" (51) galvanized roofing nails spaced no more than 4" (102) from each corner and spaced no more than 8" (203) on center around the entire perimeter.

Optional foams used for installation must be low expansion only. Foam and foam application must comply with ASTM E2112-01, section 5.9.2. Fasteners penetrating pressure treated lumber must be a minimum of 0.090 oz/ft² zinc hot dipped galvanized or stainless steel type 304 or 316.

Shim 4"-6" (102-152) from each corner on jambs and head jambs. Install additional shims at 15" (381) on center and at all locking points. Always shim at meeting stiles.

Rough and Masonry Opening Requirements

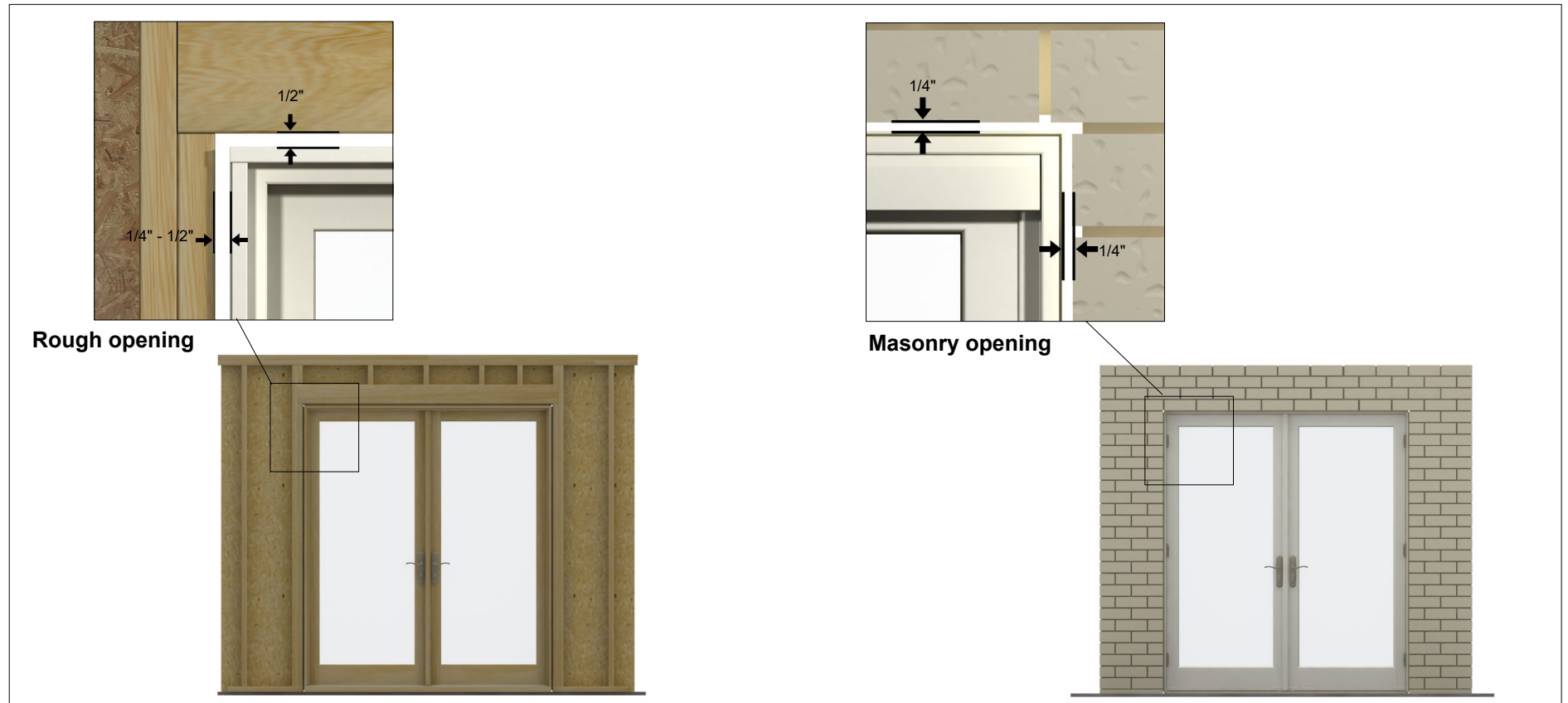


Figure 1 Typical rough and masonry openings.

1. **Rough opening (RO)** should be 1"(25) wider than the outside measurement of the frame and 1/2"(13) wider than the outside measurement of the frame and 1/4"(6) higher than the outside measurement of the frame. When framing rough opening care should be taken to ensure the sill plate is level and the opening is square, straight and plumb.

2. Check the bottom surface of the opening to ensure it is flat, and level.

NOTE: For doors not on grade and in standard wood frame construction with brick veneer, make sure there is at least 1/2"(13) between the bottom of door sill (or eventual placement of the door) and the top row of brick to avoid "brick bind".

IMPORTANT

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

Rough Opening Preparation

The following section demonstrates best practice for a rough opening preparation for both air barrier and building paper scenarios. Refer to ASTM E2112-1 for the other situations not covered in this document.

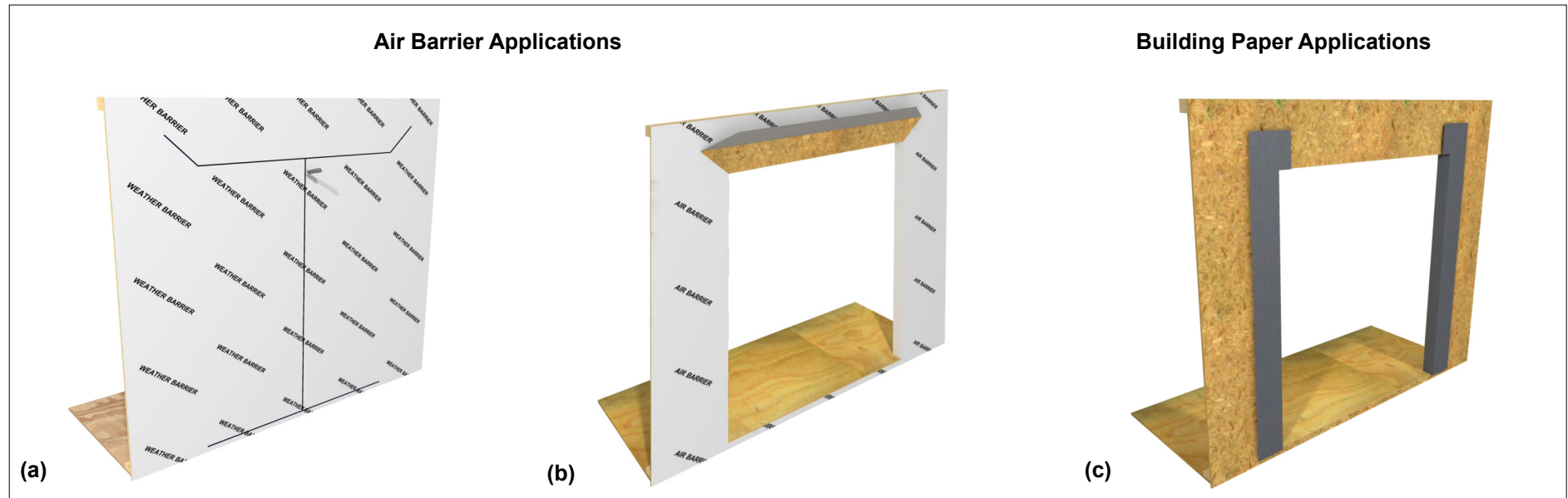


Figure 2 Rough Opening Preparation for construction methods using a continuous air barrier system or building paper.

Air Barrier Applications

1. When trimming away the air barrier at openings, first cut horizontally across the entire width of the rough opening at the head jamb and sill. Then cut vertically in the center of the opening from sill to head jamb. Finally cut the head jamb corners diagonally away from the opening. The complete cut should be in a “I” fashion. **DO NOT cut air barrier diagonally from corner to corner in an “X” fashion.** See figure 2a.
2. Wrap barrier at the sides to the interior and tack in place. Do not tack barrier at head jamb. Fold the head jamb flap up and tack in place or tuck beneath. This will allow the top flap to fit over the head jamb flashing after installation of the door. See figure 2b.

Building Paper Applications

1. Cut two 13” (330) pieces of Grade “D” building paper 8 1/2”(216) longer than the rough opening height. (Adjust material width for wall thickness. Add 9”(229) to the wall thickness to determine width.)
2. Position the pieces in place overlapping the rough opening by as much as the jamb depth. The wrap should extend above the rough opening by 8 1/2”(216). Tack in place around the edge of the rough opening. Use a utility knife to cut the paper even at the head jamb. Fold to the interior and tack in place. See figure 2c.

Preparing the Unit for Installation

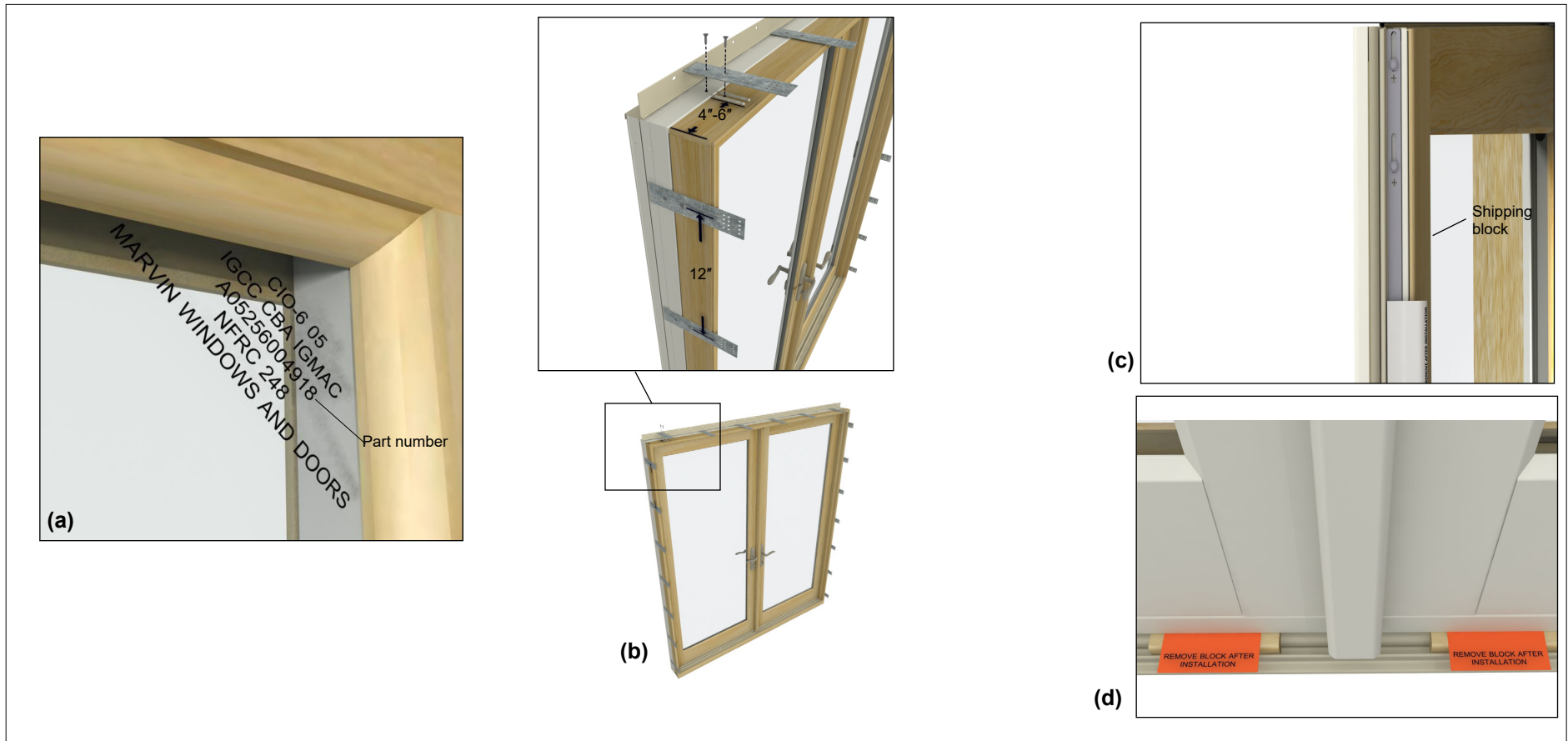


Figure 3 Preparing the unit for installation.

1. Inspect the door for any damage or missing parts. Contact your Marvin or Infinity representative if there are any problems. If possible, provide the original order number and description of door. See figure 3a.
2. If you are installing your door with structural brackets, apply to the door frame now. Follow instructions included with the brackets. See figure 3b. Place brackets 6" (152) maximum from the ends of the jambs and head jamb. Space additional brackets every 12" (305) maximum (including side-lites) around the perimeter.



Impact Products

Follow instructions included with installation clips (if used).

NOTE: The locations of the shipping blocks. Do not remove the shipping blocks until the unit is fastened and square in the opening. See figure 3c and figure 3d.

Installation - Positioning the Door in the Opening

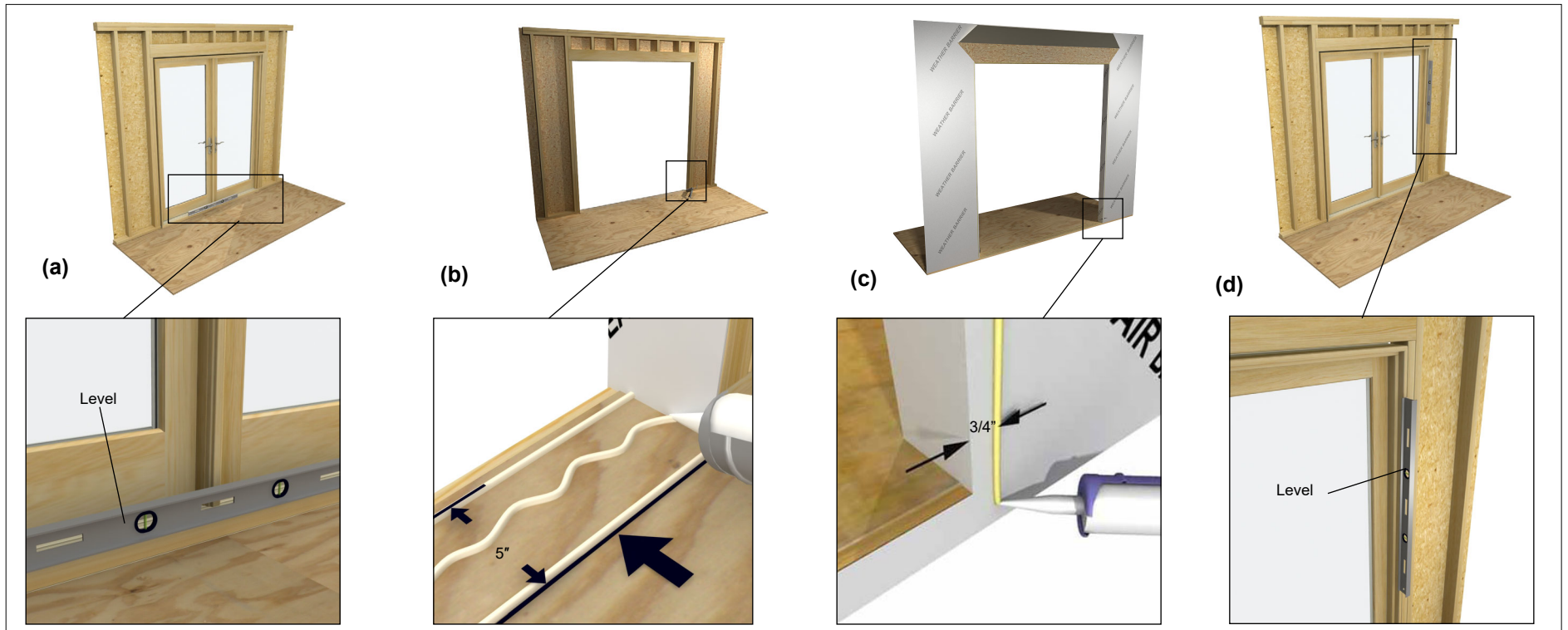


Figure 4 Preparing the unit for installation.



Seek Assistance

It is highly recommend that you get help from another person(s) when installing the door. These doors are heavy and it will be hard to position or install with just one person.

1. With help, move the door into position and center in the opening. Make sure the door fits in the opening properly and check to make sure the sill is level. If out of level also check for any objects between the sill and opening that may have caused this condition. If the

door fits properly in the opening and the sill is flat and level, mark the subfloor near the interior sill of the unit. See figure 4a.

2. When the door fit properly in the opening and the sill is flat and level, from the interior, mark the subfloor near the sill of the unit. See figure 4b. Remove the door from the opening and apply a bead of sealant near the line marked in the previous step. Apply a second bead 5"(127) from the first. Then lay another bead down the center in slight wobble pattern. See figure 4b.

3. Apply a continuous bead of sealant 3/4"(19) from the top and sides of the door opening. See figure 4c.

4. With help, move the door back into position and center in the opening, making sure to maintain proper rough opening clearances. Use a level to check that the door is plumb. See figure 4d.

Installation - Fastening the Frame

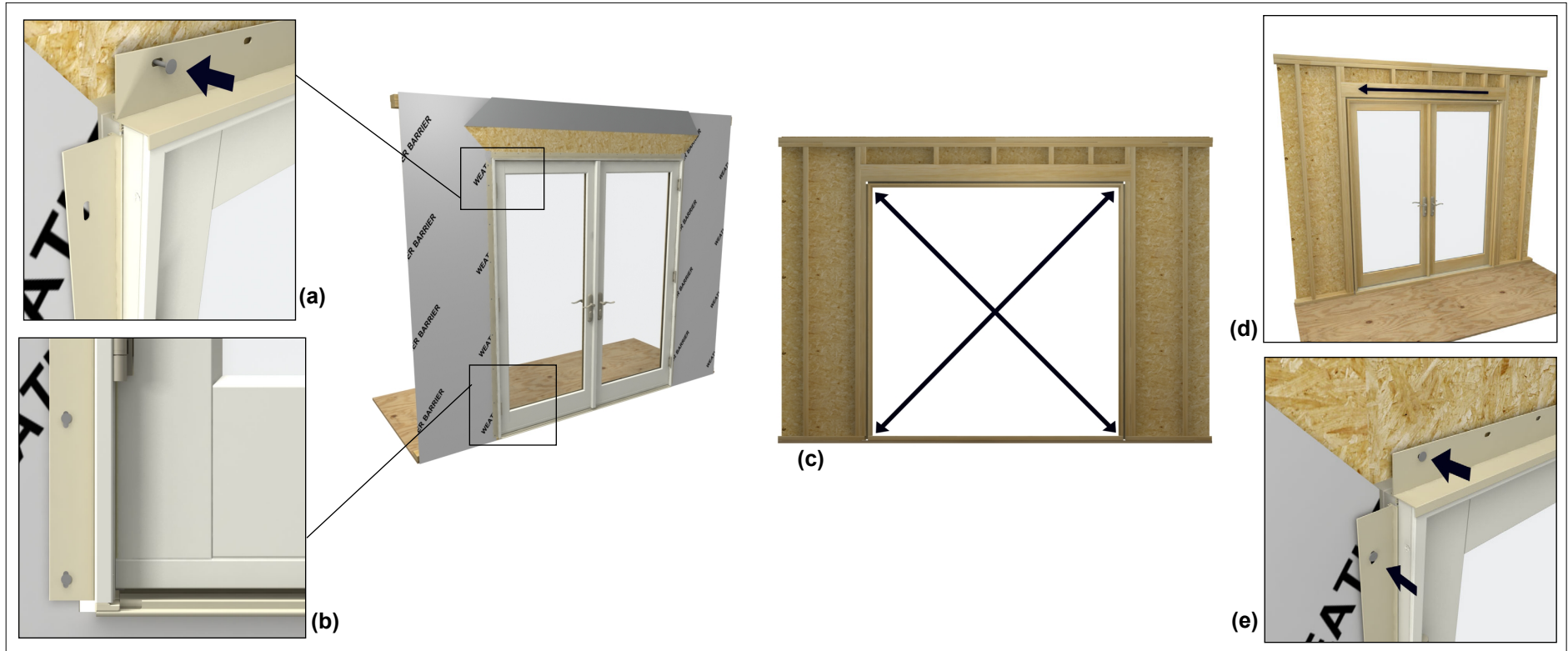


Figure 5 Fastening the Frame

NOTE: Illustrations above and steps below detail use of nailing fin as the primary method of installation. If you are installing your door using structural brackets or jamb screw follow the steps by attaching the door to the opening at the locations noted.

1. When the unit is centered and plumb in the opening, temporarily tack the top corners with a 2" (51) roofing nail using the pre-punched holes in the nailing fin. See figure 5a. Leave the nail head sticking out so that you can easily remove it if necessary and allow for adjustments later. (This will also hold the unit in place unit you can fasten the bottom.)
2. Fasten both bottom corners of the unit with 2"(51) roofing nails. See figure 5b.
3. With the bottom corners fastened, measure the diagonals of the door from corner to corner. See figure 5c. When the diagonals are equal, the frame is square in the opening.
4. Adjust the door by moving the top left or right to achieve squareness. You may need to remove the nails from the top corners and refasten. See figure 5d.
5. Once square, fasten the top corners completely. See figure 5e.



Seek Assistance

Check the Ultrex jambs and head jambs with a straight edge or level to make sure they are not bowed in or out. To correct a bowed jamb or head jamb, simply push the Ultrex frame until straight and tack the nailing fin in a few locations.

Installation - Additional Fastening Requirements

NOTE: On X and XX configurations fasten through strike plates and hinges into the rough opening framing with screws provided in the installation package. The supplied fasteners attach to structural members of the opening. Hinges and latch strikes need to be solidly fastened. Be sure to shim near each fastener location. Pre-drill at all fastener locations with 1/8" (3) drill bit.

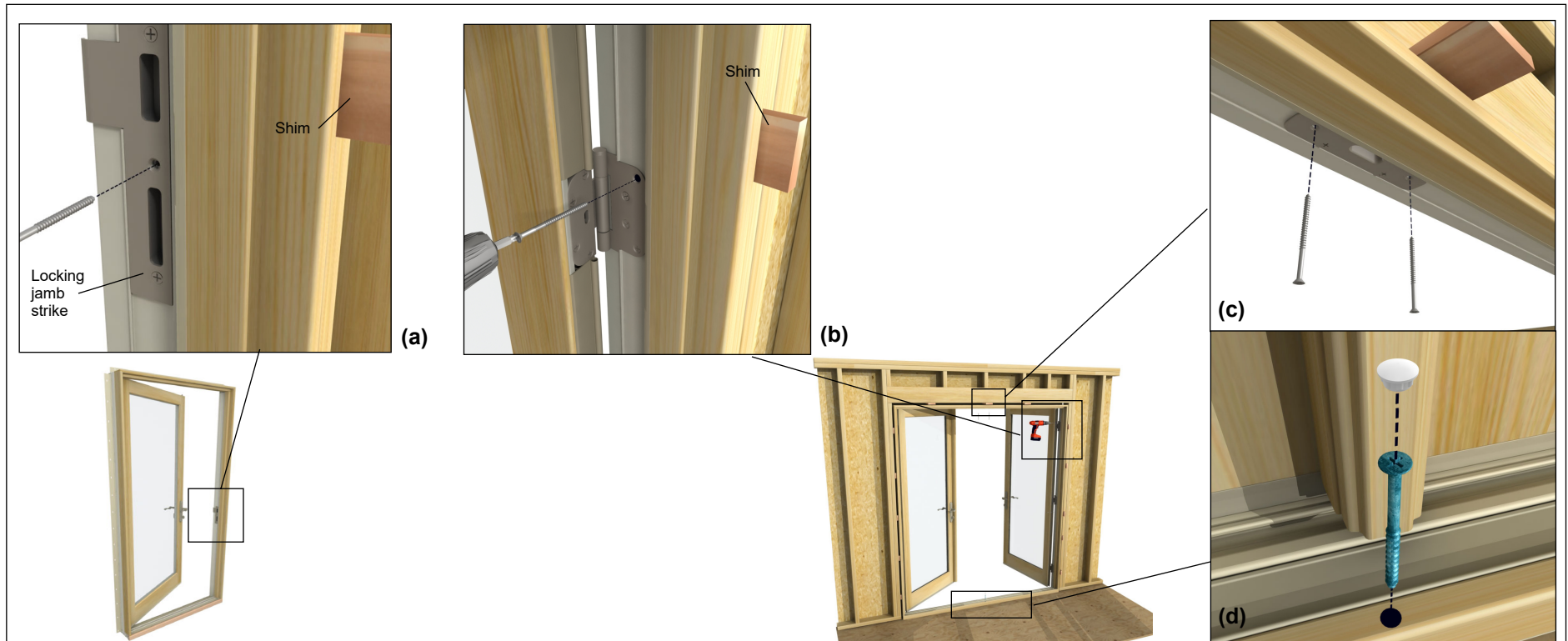


Figure 6 Additional Fastening



WARNING

On X and XX units, the unit is locked. Please refer to Handle Operation section for more details.

1. Open doors and remove shipping blocks.
2. On X configurations, replace the center screw on the locking jamb with a #8 X 2 1/2" (64) stainless steel screw. See figure 6a.

3. On X and XX configurations, replace the top screw on each hinge with a #8 X 2 1/2" (64) color matched screw. See figure 6b.



Impact Products

On Impact products, replace the top and bottom screws on each hinge.

4. On XX configurations fasten the head jamb strike plate with two #8 X 2 1/2" (64) beige screws. See figure 6c.
5. On XX configurations fasten the sill to the subsill by driving the 3/16" (5) X 2 3/4" (70) masonry screw (blue) through the pre-drilled hole in the sill liner. Cover with hole plug provided. See figure 6d.

Installation - Making Adjustments and Shimming

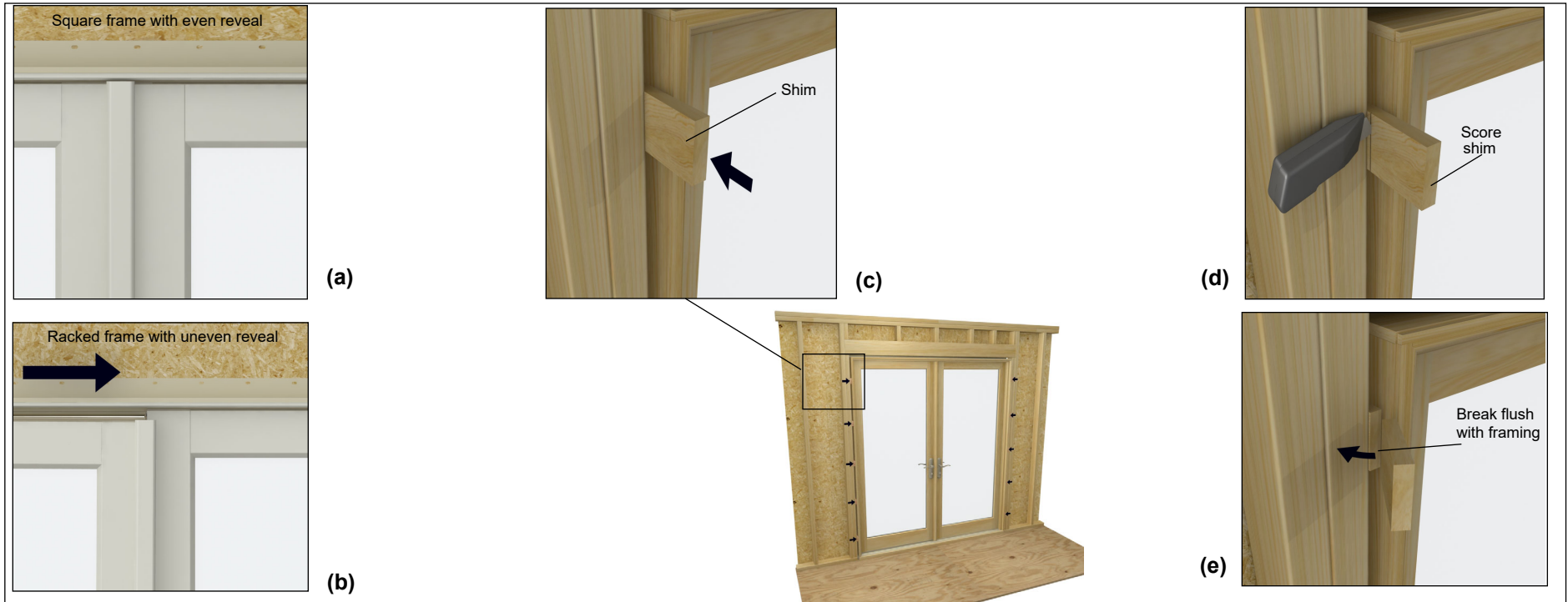


Figure 7 Final adjustments

1. Check the panel(s) for proper alignment. You may need to adjust one or more fasteners. Panel should be flush and align along the head jamb. There should also be an even reveal between the panel and frame. See figure 7a and figure 7b.



Tip

On multiple operator panel unit, check to make sure top corners of the panel locking stiles are aligned and flush with each other. On a single margin along the panel top and head jamb are even. If one panel is higher/lower (on multiple panels) or the operating panel margin is not even between the panel and head jamb (on single panel units) move the top of the frame left to right until the panel(s) align.

2. Shim between the door frame and rough opening at top and bottom corners. Shims

should be snug but not bow the jambs. Check diagonals for square. You may need to reposition the frame, refasten and shim.

3. When the panels are aligned correctly and the frame is square and plumb in the opening, continue fastening around the perimeter every 8"(203). See figure 7c. Place shims every 15"-18"(381-451) on center and at hinge and strike locations.

4. Operate the door and check for proper panel alignment and squareness one last time. When complete, score and break the shims off flush with interior. See figure 7d and figure 7e.

Flashing and Sealing the Installation

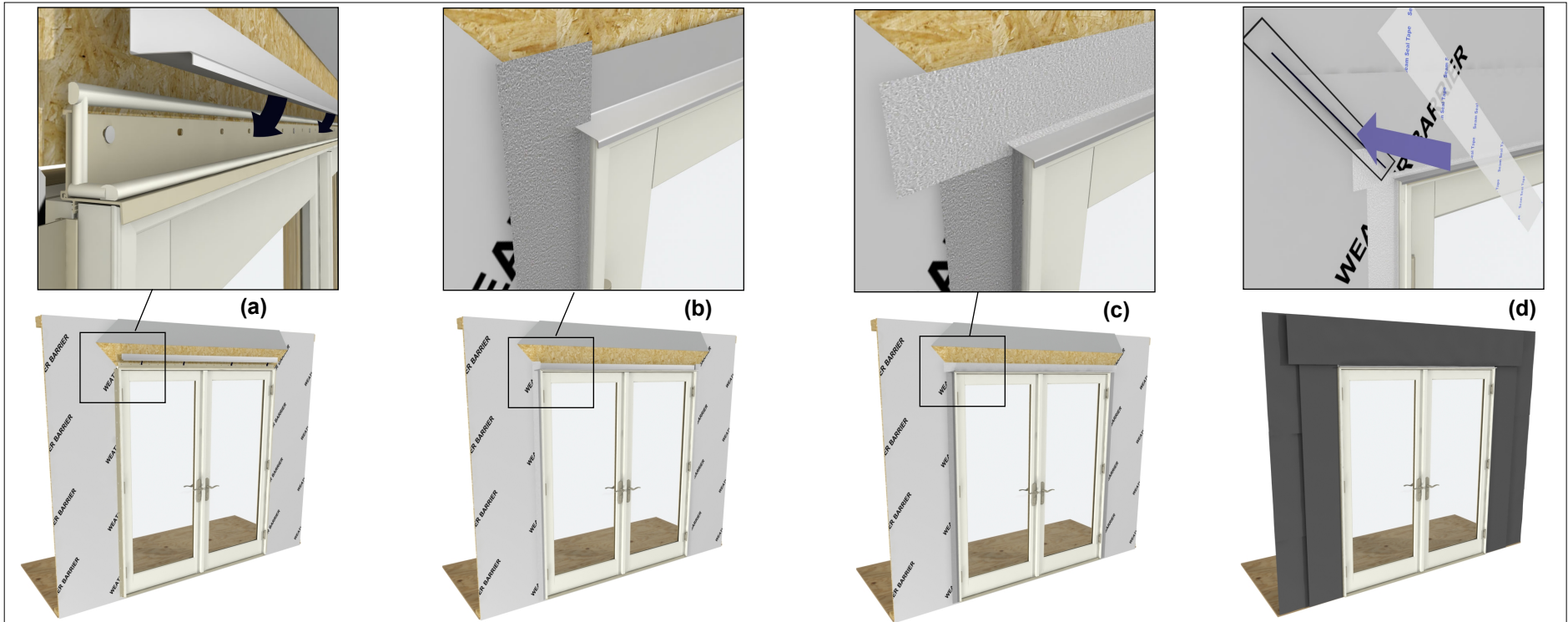


Figure 8 Flashing the Installation



Tip

Illustrations above detail those used in air barrier applications but also pertain to those used for construction scenarios that use building paper.

1. Apply nailing fin corner gaskets to each corner of the nailing fin. Follow instructions on back of gasket. Install a drip cap at the head jamb. Be sure to apply a bead of sealant along the back sides of both vertical and horizontal surfaces of the cap that come in contact with the door and/or sheathing. See figure 8a.
2. Lap vertical strips of flashing onto the unit and out over the weather resistive barrier. Make small cuts at the head jamb to allow the flashing to fold back onto the exterior. See figure 8b.
3. Install a layer of flashing over the vertical leg of the drip cap and lapped onto the horizontal leg. The flashing should extend past the jamb flashing installed earlier. See figure 8c.
4. For **Air Barrier Applications**, fold the head jamb air barrier down over the head jamb flashing. Apply seam seal tape over the diagonal cut in the air barrier. Make sure the tape laps onto the unit of casing. Cut 3"(76) strips of tape and install every 12"(305) along the head jamb. Tape and seal any seams and fasteners directly above the unit. See figure 8d.
5. For **Building Paper Applications**, install double ply layers of building paper starting at the bottom. One continuous course should extend over the head jamb flashing and beyond the side pieces (installed prior to door installation). See figure 8e.

Insulating and Sealing the Installation-continued

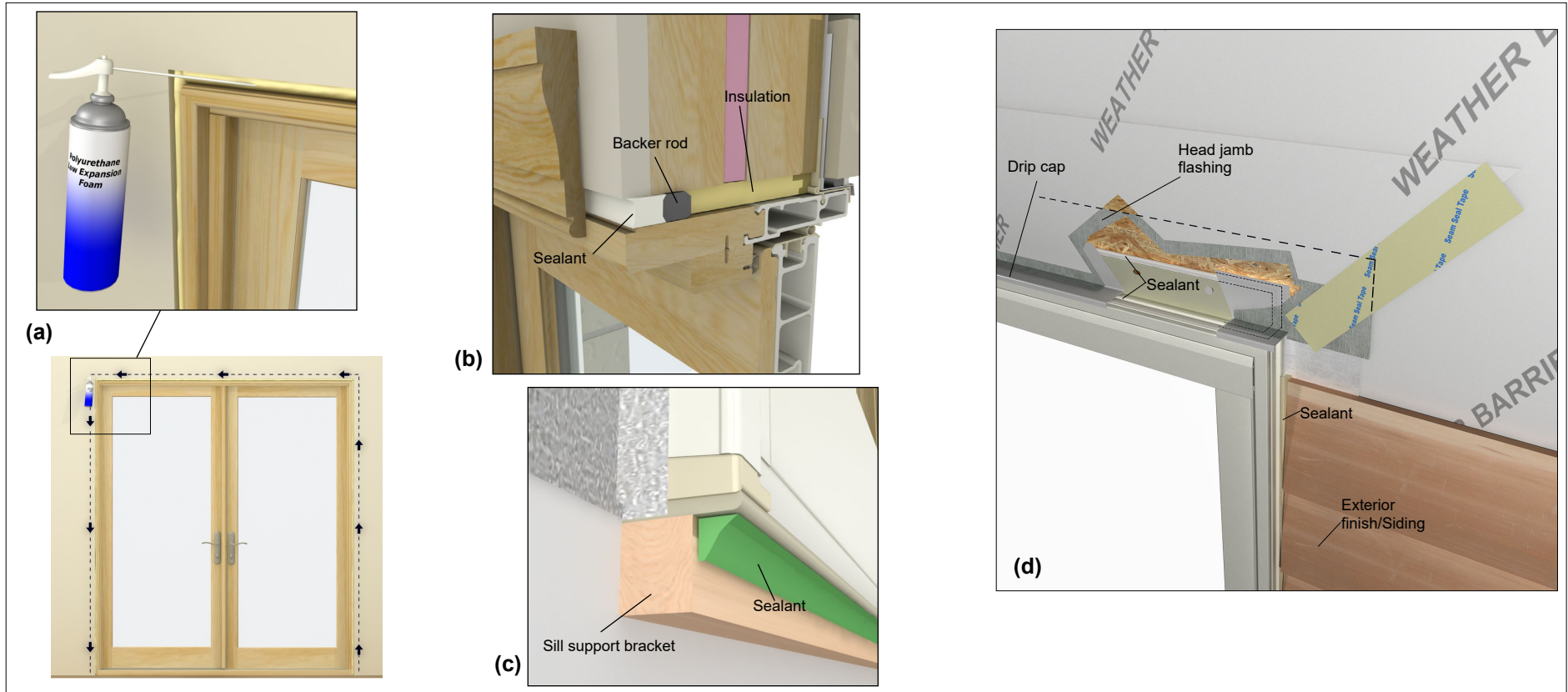


Figure 9 Sealing the installation.

1. From the interior apply a 1" - 2"(25-51) thick bead of low expansion foam insulation on the back side of the exterior casing. See figure 9a. **Don't apply too much as it is possible to bow the jambs.**

NOTE: Local code or preference may dictate the use of loosely packed fiberglass insulation instead of low expansion foam.

2. To integrate the unit with the structure's interior air barrier, apply a bead of sealant between the jamb and interior finish prior to

trim installation. See figure 9b. The installation is now ready for interior trim application.

3. For doors not at grade, support the sill by installing a block of wood beneath the sill and attached to the outside of the structure. Apply a generous amount of sealant along the underside of the sill where it meets the sill support block as shown in figure 9c.

4. Install handle set, follow the instructions included with handle. **For ALL applications:** Once the exterior finish such as siding or brick veneer is installed, apply bead of sealant between the finish and the door exterior casing along the sides and approximately 1"-2"(25-51) in from the ends at the head jamb. Use a backer rod when necessary. See figure 9d.

Handle Operation-Locking and Unlocking the Door

NOTE: The door handle performs two separate functions. rotating the handle upward, engages the multi-point lock (at the top, bottom and side jamb). Rotating the handle in a downward motion releases the latch and also the multi-point lock if engaged. The thumb turn is used to lock the handle to prevent it from being rotated down. The thumb turn does not engage the multi-point lock.

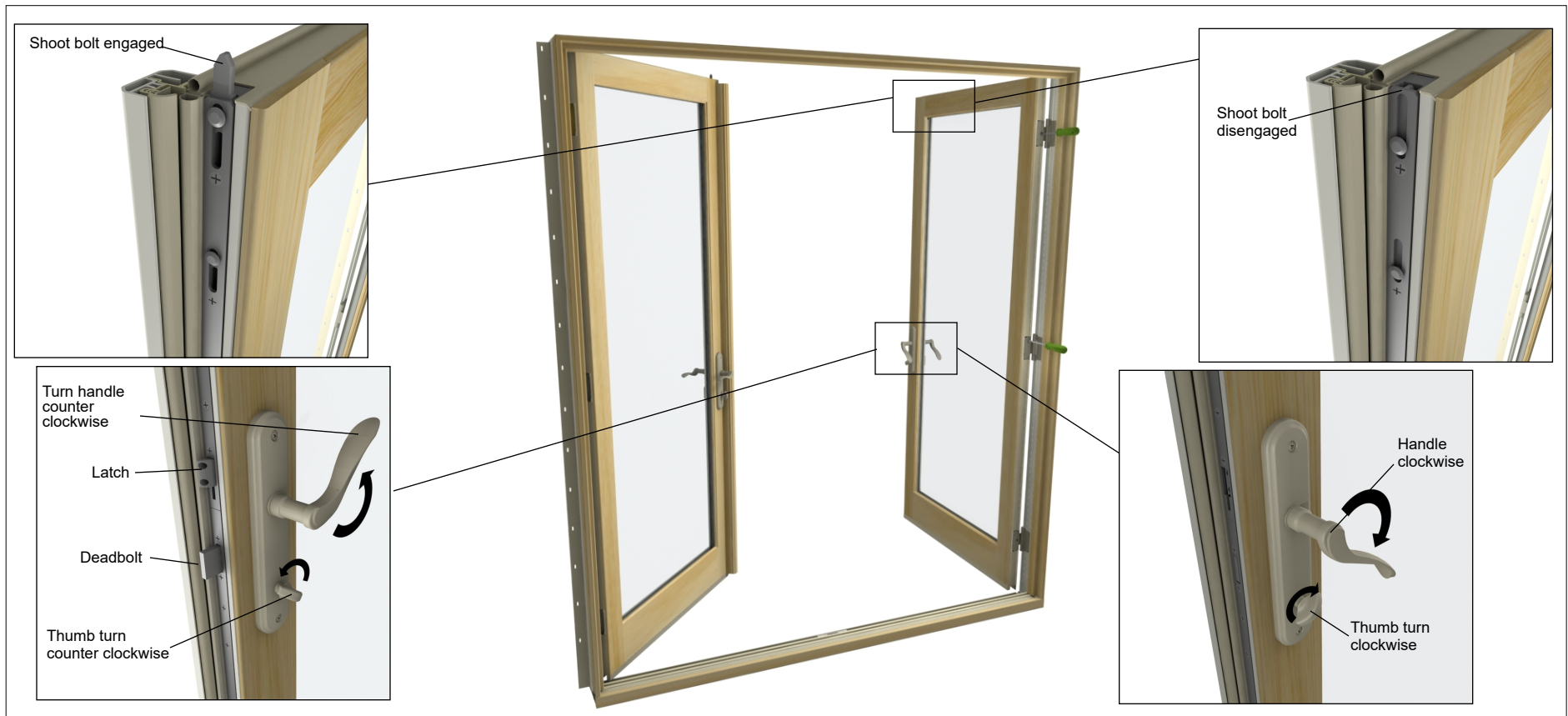


Figure 10 Turn handle and thumb turn counterclockwise to lock; clockwise to unlock.

Locking the Door

1. Close door so it latches.
2. Rotate handle up to engage the shoot bolts and deadbolt on the multi-point lock.
3. Turn thumb turn clockwise 1/4 turn to lock the handle.

4. Verify that the handle cannot be rotated down to ensure door is properly locked.

2. Rotate the handle down to disengage the multi-point lock and latch mechanism.

Unlocking the Door

1. Turn the thumb turn 1/4 turn counterclockwise.

Hinge Adjustment Procedures

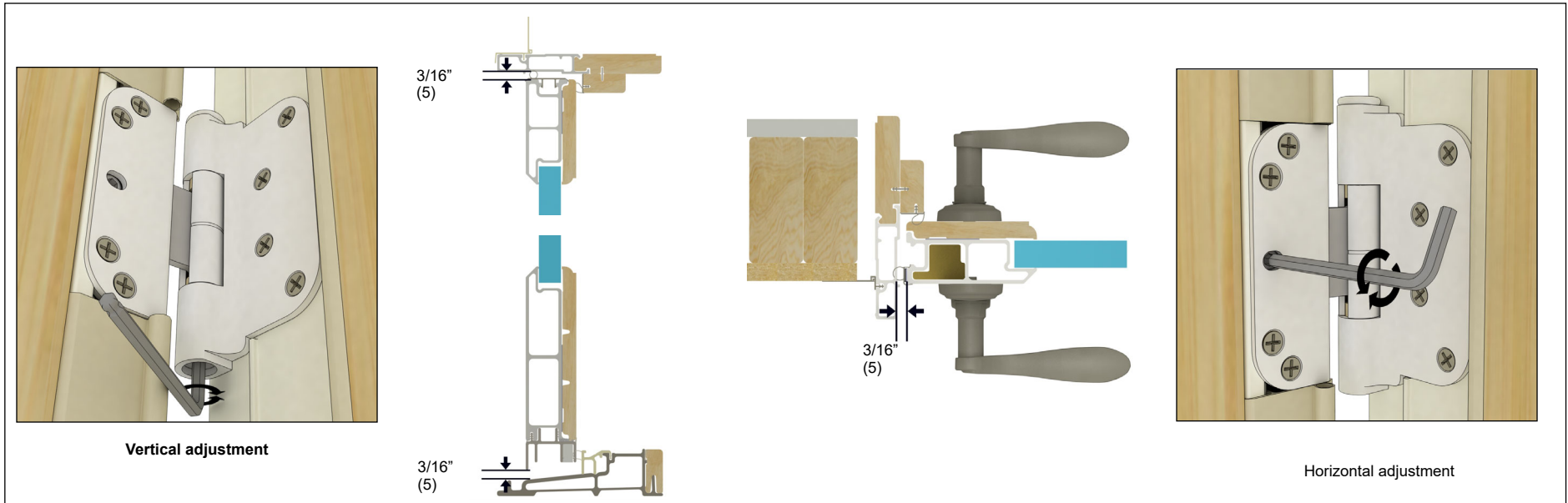


Figure 11 Hinge adjustment

NOTE: Should you find it necessary to make minor adjustments to your Marvin or Infinity Outswing French door after it has been permanently installed, the adjustable hinge system will allow you to do this. During installation, adjustment of door frame shims should be done to correct any alignment or operation problems.

1. Adjustments should only be made when panel misalignment is visible or it causes poor operation of the door/lock. Make any adjustments in small increments (one rotation per hinge), starting with the bottom hinge and working up to the top hinge. Repeat the process as necessary adjusting one rotation at a time. Check results, readjust or proceed as required. Each hinge has a vertical and horizontal adjustment screw

IMPORTANT

Adjustable hinges are not intended to compensate for an improperly installed unit.

2. Check panel clearance at the sill. The panel should have a minimum of 3/16" (5) clearance at the bottom. The vertical adjustment screw should be adjusted equal amounts starting with the bottom hinge. Check index mark on hinge leaf to determine amount and direction of panel movement.

3. Check panel alignment with locking jamb, the panel should have 3/16" (5) clearance along the jamb on one panel configurations and 1/8" clearance on two panel configurations. Rotate the horizontal adjustment screw clockwise to decrease, counterclockwise to increase jamb to panel clearance.
4. After panel alignment is corrected, recheck latch and deadbolt operation.