ABSTRACT: Please read these instructions in their entirety before beginning to install your Marvin window product. These installation instructions demonstrate the installation of a Marvin wood window 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. Information for ASTM E2112 can be found on the ASTM website, www.astm.org.

For product specific issues visit our website at www.marvin.com, or contact your Marvin representative. When special circumstances arise, this document may not cover these instances- contact manufacturer at www.marvin.com or your Marvin representative.

Regional standard practices, environmental conditions, and codes may vary and supersede the procedures contained within. The responsibility for compliance is yours: the installer, inspector, and owner(s).

The procedures within these instructions are consistent with those used in testing to achieve the advertised DP rating.

The English language version of this Installation Instruction is the official version and shall take precedence over any translation.
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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 sill). Failure to do so can void the Marvin warranty coverage.

• Refer to the Technical Installation Specifications section regarding the installation of this product. These installation requirements as well as the details in this section must be followed to achieve the advertised design press (DP) rating of this product.

• It is the responsibility of the builder, installer and subcontractors to protect the interior and exterior of windows or doors from contact with harsh chemical washes, construction material contamination and moisture. Damage to glazing, hardware, weather strip and cladding/wood can occur. Protect with painters tape and/or protective sheathing as required. Follow all guidelines regarding material use, preparation, personal safety and disposal.

• Refer to the enclosed painting and staining instructions on the last page for exterior and interior finish instructions.

• Contact your Marvin supplier if you have any questions regarding product and materials used in manufacturing or questions on replacement parts.

• Please refer to the PDF version of this instruction for further information regarding best practices, installer and builder information, code, and other legal requirements. The PDF version is the official document of record.

• Attention to detail on the clearance provisions are critical to the performance and operation of the unit.

IMPORTANT

Please consult with local authorities to properly dispose and/or recycle all packaging, materials, and waste.

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

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

WARNING!
Drilling, sawing, sanding, or machining wood products generates wood dust, a substance know to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. California Health and Safety Code section 25249.6.

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

You Will Need to Supply

- Insulation
- Tape measure
- Perimeter sealant
- Sill pan flashing
- Backing material (foam backing rod)
- Low expansion foam insulation
- Flashing materials
- Weather Resistant Barrier
- Safety Glasses
- Hearing protection
- Level
- Square
- Hammer
- Wood shims
- 2” Roofing nails

Materials Used

The following materials were used to develop these instructions:

- Panning Material: DuPont™ FlexWrap NF®, Zip System™ Stretch Tape.
- Flashing Materials: DuPont™ Flashing Tape (butyl) or Zip System™ Flashing Tape.
- Insulation: Dow™ Great Stuff Pro™ foam insulation, loose fill fiberglass insulation.
- Foam should be minimal expanding, low compression, closed cell foam and compliant with ASTM E2112-07, sec. 5.9.2.
- Sealant: OSI® Quad Pro-Series®; solvent release butyl rubber sealant or DAP DynaFlex230™.
- Sealant must be compliant with ASTM C920 Grade NS Class 25.
- Other Materials: DuPont™ Seam Seal Tape®, beveled siding product, and various fasteners noted within.
Rough and Masonry Opening Requirements

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

![Figure 1](image1.png)

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2. On shapes such as polygons, round tops, and octagons, make sure there is proper bracing. See Figure 2.

![Figure 2](image2.png)

3. Masonry openings (MO) should be 1/2" (13) wider (1/4" on each side) than the outside measurement of the frame and casing and 1/4" (6) higher than the outside measurement of the frame or casing. See Figure 3.

![Figure 3](image3.png)

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NOTE: On standard wood frame construction with brick veneer, make sure there is at least 1/2" (13) between bottom of window sill (or eventual placement of the window) and the top row of brick to avoid “brick bind”. See Figure 4.

![Figure 4](image4.png)

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Technical Specifications

- Technical Specifications
- 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 cladding.
- Flashing materials must comply with ASTM E2112-01, section 5.13 and be compatible with all materials used in installation including panning systems, air barriers and building papers, sheathing, and the window unit.
- Properly flash and/or seal all windows at the exterior, perimeter.
- Sealants used for installation must be Grade NS Class 25 per ASTM C920 and compatible with the building exterior, window exterior surface, and flashing/water management materials.
- Optional foams used for installation must be low expansion only. Foam and foam application must comply with ASTM E2112-01, SEC 5.9.2
- For units with flat casing install with installation brackets, structural masonry brackets, or jamb screws.
- Shims 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 the check rails and meeting stiles.
- 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 window frame must not come into direct contact with chemically treated wood products.

⚠️ CAUTION!

If the previous conditions are not met, the installer must take corrective actions to alter the opening(s) before proceeding. It is also essential that the sheathing behind the wall be a solid surface to ensure that the unit can be secured firmly to the wall.

Rough Opening Prep

**NOTE: This does not apply to self-adhering WRB sheathing systems.**

1. Make horizontal cuts to the Weather Resistive Barrier (WRB) across the top and bottom of the Rough Opening. See Figure 5.

![Figure 5](image-url)
2. Trim up from the bottom corners about 2" (51) and then make an additional horizontal cut about 3 1/2" (89) wide. See Figure 6.

3. Make a vertical cut down the center of the RO. Then make 45 degree cuts away from the corners of the top of the RO. See Figure 7.

4. Flip top flap up and tack in place temporarily. Tack the side flaps away until sill flashing is installed. See Figure 8.

5. OPTIONAL: Add a continuous “Sill Wedge” out of cedar siding or similar water resistant material to create a positive drainage slope. Glue to the RO sill with two beads of sealant or adhesive and screw in place. See Figure 9.
Type III Sill Pan Flash

1. Apply self sealing flexible membrane to the sill. See Figure 10.

2. Wrap side flaps to the interior and staple in place about 1 1/2"(38) from the interior edge of the opening. Cut the excess off near the staple so that a 1" - 1 1/2" (25-38) strip of bare wood is exposed. Tape this edge with seam seal tape. See Figure 11.

3. Apply seam seal tape over the corners. Place plastic or composite shims at the ends and in the middle of the RO to counter the slope of the sill wedge and support the unit. Fasten with adhesive or finish nails. If using finish nails, place adhesive under shim where nail will penetrate. See Figure 12.
Remove Packaging

1. Remove exterior plastic wrap and cardboard protectors.

2. Remove shipping clips by pulling upward to release them. See Figure 13.

3. Rotate handle to 135° to unlock, then push center button to allow handle to rotate to 180° for tilting. See Figure 14.

4. Tilt the sash out, then remove shipping tube assembly and tilt sash back into frame with center button depressed and handle rotated to 180°. See Figure 15.

5. Raise bottom sash and remove foam blocks from sill. See Figure 16.

6. Inspect unit for any hidden damage and report immediately to your Marvin representative. Provide the customer service number etched on one of the top corners of the glass. See Figure 17.
**Installation Prep**

1. Starting in 3/4"(19) from the side, apply bead of sealant 1/2"-3/4"(13-19) across the top of the RO stopping 3/4"(19) in from the end. Apply sealant down both sides of the window opening in the same manner. See Figure 18.

![Figure 18](image18.png)

2. Place a bead of sealant 1/4"-3/8" (6-10) from interior edge of the RO sill. See Figure 19.

![Figure 19](image19.png)

**Nailing Fin Installation**

1. Center the window in the opening. Level at the sill and plumb the frame (interior/exterior). Shim under the jambs to bring to level if necessary. See Figure 20.

![Figure 20](image20.png)

2. Once square, fasten the lower corner of the nailing fin and recheck for square. If necessary remove the nails and adjust shims until the unit is square. See Figure 21.

![Figure 21](image21.png)

**CAUTION!**

Proper shimming is extremely important. Under-shimming or over-shimming will result in bowed jambs and or head jamb. Both conditions can contribute to improper window operation.
3. From the interior, square the frame in the opening by installing shims between the jamb and framing. Shim 4"-6" (102-152) from the head jamb and sill. Measure the diagonals and adjust shims until the unit is square in the opening. See Figure 22.

![Figure 22](image)

4. Once level, tack the jamb nailing fin with 2" (51) roofing nails within 4" (102) from the head jamb (or fasten top brackets if applicable, follow instructions sent with brackets). See Figure 23.

![Figure 23](image)

5. Measure at head jamb, center of unit, and sill to make sure all dimensions are equal. If they are not, you will have to adjust the shims accordingly. See Figure 24.

![Figure 24](image)

6. On operating units make sure it is operable. If not, make adjustments to the shims.

**Tip**

On operating units, one way to make sure that the unit is installed square is to check the reveal (gap) between the operating sash and the frame. An even reveal around the entire sash generally means a square unit and will ensure smooth operation.

7. Complete fastening of the nailing fin around the perimeter of the unit with 2" (51) roofing nails 4" (102) from each corner and spaced every 6"-8" (152-203) on center.
Through Jamb Installation

Operator units larger than CN4040 and CW Performance Grade require through jamb installation. For sash removal instructions, please refer to page 22.

NOTE: For units installed with installation screws through the jams, be sure to shim at each fastening location to avoid bowing/distorting jams.

1. Remove the interior wood covers using a flat blade screwdriver, carefully pry the wood cover loose from provided recess on top side of jamb receiver assembly. See Figure 25.

2. Once the cover is released, carefully pull down on it to remove it from end of header parting stop. See Figure 26.

3. Using a pliers, remove jamb receiver assembly. See Figure 27.

4. Using screwdriver, pry behind aluminum/vinyl mid cover assembly to release it from frame. See Figure 28.

5. Install jamb receiver assembly onto jamb, making sure that it is properly aligned with alignment hole in jamb and pressed firmly against jamb. See Figure 29.
6. Ensure unit is centered in opening, level, and plumb. There are pre-marked installation holes. Properly shim unit behind pre-marked installation holes and behind jamb receiver assembly.

7. Secure frame to opening using #8 X 3” screws through pre-marked installation holes and through center of jamb receiver assembly. See Figure 30.

8. Units with performance brackets, fasten with screws in the center of brackets. See Figure 31.

9. For Commercial Performance (CW) and operating windows wider the FS 59 1/4” (CN 54) or taller than FS 119 1/2” (CN 56): Install #8 x 3” screw at center through head jamb. See Figure 32.

10. Replace aluminum/vinyl mid cover and press it firmly on the jamb ensuring that it is fully seated along its entire length.

11. Replace wood jamb cover and press firmly in place, being sure that it properly seated behind wood jamb liners. Install the top sash and then the bottom sash.

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**Optional Jamb Jack Installation**

GRK Top Star™ jamb jack fasteners can be used with the jamb receiver of these windows.

1. Remove bottom sash. (For sash removal instructions, please refer to page 22.) Lower top sash (no need to remove). Using a 5/16” drill, drill out center of jamb receiver and jamb wood. See Figure 33.
2. Using GRK’s Top Star™ Crown and T-15 Star bit system, install Top Star™ fastener into jamb/jamb receiver. Using Torx bit, adjust jamb position as needed. See Figure 34.

3. Install bottom sash

Other Installation Methods

ATTENTION

For units installed with masonry clips or installation brackets. Bend bracket around framing member and attach with the #8 x 1 5/8" screws. Angle screws approximately 15° away from the window. Always shim above or below brackets.

NOTE: Depending on construction method or wall type, you may need to modify the clip/bracket to fit the opening. Fastening holes should be no more than 1/4" from the bend in the bracket. If necessary, drill two 5/32" (3) holes in the bracket. See Figure 35.

Interior and mullion trim: Install mullion trim after interior trim or casing is applied. Be sure to use nails and staples that are no longer than 3/4" (19). Place fasteners at least 1" (25) from the edge of interior jamb liner.

1. ON UNITS WITH FLAT CASING: must be installed using installation brackets, masonry clips or screw through jamb. For more details on structural fastening, refer to the structural installation instructions found online at www.marvin.com or contact your Marvin representative. See Figure 36.

NOTE: ON SPACE MULL ASSEMBLIES: must be anchored with #8 sheet metal screws or structural masonry brackets within 4" (102) of each side of the space mull on both ends of the mull. When using screws, make sure there is 1 1/4" (32) or more penetration into the framing material.

NOTE: On units with optional aluminum nail fin: manually fold out nail fin until it is perpendicular with the frame. Take care during handling and installation not to damage the corner gasket. After unit is secured in the opening for supplied drip cap to “L” shape and install per unit flashing instructions.
Single Hung Units- Installing Shipped Separate Sash

1. Remove exterior single hung covers with flat screw driver. See Figure 37.

2. Pull down and lock clutches. See Figure 38.

3. Ensure that clutches are level with one another prior to installing top sash. See Figure 39.

4. Install top sash and raise it to its fullest extent. See Figure 40.

5. Snap the exterior single hung covers into place. For ease of installation, slide the top of the exterior single hung cover behind the top sash.

6. Install the bottom sash.

Round Top Installation

1. All Round Top picture and transom units are installed with screw through jamb only. Operator units with a frame size of CN4040 (45 1/4" (1149) x 87 1/2" (2222)) or less can be installed with nailing fin method. Remove packaging and shipping clip (Reference package removal on page 8).

Round Top Installation
2. Remove the interior wood cover using a flat blade screwdriver, carefully pry wood cover loose from provided recess on top side of jamb receiver. See Figure 42.

![Figure 42](image)

3. Once cover is released, carefully pull down on it to remove it from the head jamb parting stop. See Figure 43.

![Figure 43](image)

4. Using a pliers, remove jamb receiver. See Figure 44.

![Figure 44](image)

5. Using a screwdriver, pry behind aluminum/vinyl mid-cover assembly to release it from frame. See Figure 45.

![Figure 45](image)

6. Install jamb receiver assembly onto jamb, making sure that it is properly aligned with alignment hole in jamb and pressed firmly against jamb. See Figure 46.

![Figure 46](image)

7. Remove the head jamb stop. See Figure 47.

![Figure 47](image)
8. Center the window in the opening. Jambs need to be straight and level. Apply #8 X 3" screws until snug through the pre-marked holes, do not over tighten, to permanently secure the unit to the framing members. See Figure 48.

Figure 48

9. On Round Top CW units: Apply #8 X 3" screws through the head jamb. See Figure 49.

Figure 49

10. Operator units that have performance brackets require a screw through center of each lower jamb bracket(s). See Figure 50.

Figure 50

11. Take diagonal measurements to ensure that the frame is square. See Figure 51.

Figure 51

12. Shim and secure at the apex of the unit frame. See Figure 52.

Figure 52

13. Replace the wood cover and press firmly in place, properly seating the cover behind the wood jamb liners. Re-install top and then bottom sash (see page 22).
**Flashing Application**

NOTE: Applied nailing fin is not designed to be a weatherproof flashing.

NOTE: Follow the flashing tape manufacturers’ recommended instructions for attaching to the building materials under the WRB. For example, priming wet or frozen wood, application temperature, etc

1. On windows that use nailing fin, apply nailing fin corner gaskets. Follow instructions on the back of the gasket. See Figure 53.

2. If using the factory applied vinyl drip cap, make sure it extends about 1/8” (3) beyond the edge of the window on each side.

3. Apply a bead of sealant beneath the vinyl drip cap along the top of the head jamb as shown in Figure 54.

4. For windows that do not have a factory applied vinyl drip cap, it is recommended that a rigid head flash be installed now. See Figure 55. Seal both horizontal and vertical legs of the rigid head flash.

5. Installing an optional “Skirt” in applications with exposure to wind driven rain/climate- use flashing material or a 12” (305) strip of WRB and attach to the sill of the window with seam seal tape or flashing tape. See Figure 56.

6. Lap vertical strips of adhesive flashing tape onto the unit and out over the WRB. Make small diagonal cuts at the head jamb to allow the membrane to fold back onto the exterior. See Figure 57.
7. On Round Top units flash the head jamb using a flexible membrane. See Figure 58.

8. Install another layer of adhesive membrane lapping onto head jamb of unit and over sheathing. Membrane flashing at head jamb should extend and cover flashing membrane previously installed at jambs. See Figure 59.

9. This step does not apply to self adhered WRB sheathing. Tape the top edge of the head jamb flashing with seam seal tape. See Figure 60.

10. Seal the ends of the vinyl drip cap or rigid head flash, by injecting sealant at each end. See Figure 61.

11. This step does not apply to self adhered WRB sheathing. Fold head jamb WRB down over the head jamb flashing. Apply seam tape over the diagonal cut in WRB. Make sure the seam tape laps onto the unit or casing. Use seam tape to seal any seams and fasteners directly above the unit. See Figure 62.
**Interior Insulating and Sealing**

We recommend two ways of insulating the interior RO cavity:

- The first method uses a combination of one bead of low expansion/low compression/closed cell foam at the exterior plane of the RO in conjunction with loose fill fiberglass insulation.

- The second method uses two beads of low expansion foam (one at the exterior plane of the RO and another at the interior plane of the RO).

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<td>Low expansion foam</td>
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<td>Loose fill fiberglass insulation</td>
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Exterior Sealing

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

1. For ALL applications: Once the exterior finish such as siding or brick veneer is installed, apply bead of sealant between the finish and the frame exterior or casing along the sides. Apply additional beads approximately 1"- 2" (25-51) at the ends on top of the drip cap. Use a backer rod when necessary. See Figure 65.

![Figure 65](image)

1. Sealant
2. Backer rod

Sash Removal

Bottom Sash Removal

1. Rotate lock handle to 135° position to unlock. See Figure 66.

![Figure 66](image)

2. Raise sash to a comfortable position. Hold button in center of lock handle down while rotating handle to 180° position. See Figure 67.

![Figure 67](image)

3. While holding handle in 180° position, tilt sash inward so that it is perpendicular to frame (90° angle). Release lock handle and pull upward on one side of sash to rotate it out of the frame. Once one side of sash is released, repeat for other side. Remove sash while being careful not to damage interior surfaces of frame or sash. See Figure 68.
Top Sash Removal

1. Lower top sash to a comfortable position. Retract both latches simultaneously and tilt sash inward so that it is perpendicular to frame (90° angle). See Figure 69.

2. Release latches and pull upward on one side of sash to rotate it out of the frame. Once one side of sash is released, repeat for other side. See Figure 70.

3. Remove sash while being careful not to damage interior surfaces of frame or sash. See Figure 71.

Non-Tilt Sash Removal

1. Remove bottom sash. Rotate lock handle to 135° position to unlock. See Figure 72.

2. If the window has performance brackets, raise sash so that performance brackets are visible beneath bottom sash. See Figure 73.
3. Install tilt tool into both wood jamb covers. Cover wood jamb covers and liners with painters tape or similar material near tilt tools to protect frame. See Figure 74.

4. Raise sash so that latch bolts ride up onto tilt tools and tilt sash inward so that it is perpendicular to frame (90° angle). See Figure 75.

5. Remove sash while being careful not to damage interior surfaces of frame or sash. If unit has performance brackets, lower top sash so that performance brackets are visible above top sash.

6. Retract both latches simultaneously and tilt sash inward slightly. See Figure 76.

7. If unit has performance brackets for bottom sash also, top sash will now need to raised to clear lower frame brackets while it is partially tilted in.

8. Retract both latches simultaneously and tilt sash inward so that it is perpendicular to frame (90° angle). Release latches and pull upward on one side of sash to rotate it out of the frame.

Hardware Removal

1. Unlock handle at 135°. See Figure 77.

2. Remove both screws with a Phillips screwdriver. See Figure 78.

3. Lift lock off of sash, finish as desired. See Figure 79.
**Lift Lock Operation**

1. To unlock, lift up on the Lift Lock handle. See Figure 80.

2. When sash is in unlocked and in lifted position, reach around top of check rail and slide manual tilt latches toward middle of sash. To tilt, gently pull top of sash from window jamb. See Figure 81.

**Lift Lock Removal/Replacement**

1. When sash is in unlocked and in lifted position, reach around top of check rail and slide manual tilt latches toward middle of sash. To tilt, gently pull top of sash from window jamb. See Figure 82.
2. Remove escutcheon by placing a flat screwdriver in notch at the bottom between the escutcheon and plastic housing. Use a turning motion to release the escutcheon. See Figure 83.

3. Remove the screws from the housing. See Figure 84.

4. Place a putty knife between weather strip and latch. Gently pull Lift Lock at slight angle out of sash route. See Figure 85.

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**Sash Shipped Separate - Stationary Windows**

Large picture units and all IZ3 units require screws that go through the sash and into the exterior aluminum covers of the window. Sash shipped separate units will have pre-drilled holes for sash installation, these do not take the place of jamb installation screw.

1. Place the bottom of the sash into the frame and tip into place until sash is seated against the exterior stop. See Figure 86.
2. Fasten sash to frame with supplied #9 x 3" screws in each pre-drilled hole. Place the bottom of the sash into the frame and tip into place until sash is seated against the exterior stop. See Figure 87.

3. After the sash has been secured to the frame, install the jamb and head jamb stops by placing the barbed side of the stop into kerf. *Note: Stops are shipped loose with the sash.* See Figure 88.