INSTALLATION INSTRUCTIONS

Westchester Double Hung Products

SIERRA PACIFIC WINDOWS

INTRODUCTION

This document will provide the necessary steps for installing Sierra Pacific Windows' (SPW) Westchester Windows using recommended nail fin install methods. This instruction applies to Westchester Double Hung, Single Hung, Picture, and Transom windows being installed using the integral nailing fins in new wood frame construction. Refer to ASTM E2112-01, Standard Practice for Installation of Exterior Windows, Doors and Skylights for installation suggestions in other construction applications.

NOTICE

Installation requirements may vary in particular locations and in other types of construction. Proper installation is essential and Sierra Pacific Windows recommends consultation with a Certified InstallationMaster® Installer, or other qualified, registered building professional before installation of any Sierra Pacific product. Proper installation of Sierra Pacific products is the responsibility of the installer. Sierra Pacific is not responsible for the design, conditions, or performance of building construction beyond the perimeters of the window and door units, or for proper integration of the window and door units with the weather-barrier systems of the building.

⚠ IMPORTANT

- The Westchester product is engineered and designed with a fully thermally broken extruded vinyl sill with integral nail fin along with integral extruded aluminum nail fins on the head and sides of the frame. On all Westchester products, the integral nail fin is the definite water plane of the product. Proper integration of the weather barrier systems of the building must be made from the nail fin (water plane) location to the interior of the opening. **Any perimeter sealing of the Westchester window to the exterior façade (outside the water plane) should be avoided unless proper water management systems (e.g.- sill pans, discontinuous sealant at the sill, etc.) have been incorporated into your installation design. Sierra Pacific Windows is not responsible for the design and proper integration of the fenestration product with the weather barrier systems of the building.**

⚠ IMPORTANT NOTIFICATIONS

- **Please read these instructions in their entirety prior to beginning the installation process.** Failure to follow these instructions will void the warranty. Please contact SPW for any clarification.
- Sierra Pacific Windows (SPW) is not responsible for site measurements or the structural requirements for the installation of the Westchester Double Hung product.
- Wood buck, framing, fasteners, sealant and all wall system materials are provided by others.
- Sill must be flat, level and capable of supporting the weight of the unit. Opening must allow a maximum of ¼" shim space at sill, jambs and head. Make any necessary adjustments to ensure the opening is level, plumb and square.
- Confirm with the manufacturer of such building materials as sealants, flashings, foam and weather barriers that they are compatible with one another.
- Units are shipped with shipping tubes and sash unlocked. Shipping blocks must be removed and sash be in the closed and locked position during installation. **Instructions for operating the Westchester unit are attached to the side of the unit or scan the QR code on the sash to watch a short instructional video.**

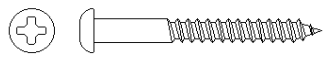
TOOLS REQUIRED

- Framing square
- 2’ and 4’ level
- Tape measure
- Caulking gun
- Ladders (as needed)
- Screw gun with Phillips head driver
- Utility knife

MATERIALS NEEDED

- 1/4” Non-compressible shims (supplied by others)
- 1/4” Wood shims (supplied by others)
- Silicone or Polyurethane sealant for window installation (supplied by others)
- Sill Pan (optional and supplied by others)
- Self-adhering 9” flashing (supplied by others)
- Batt insulation or low-expanding foam (supplied by others)

FASTENERS

A 

#8 x 1-1/4” PPH Screw (supplied by others)
(fasten unit to opening)

⚠ SAFETY PRECAUTIONS

- Always wear necessary protective gear such as safety glasses, gloves, ear plugs, clothing, etc.
- Be certain to do a pre-installation site inspection to ensure the work area is accessible and safe for performing installation of the window.
- Use all power tools in accordance with manufacturers’ instructions.

1 PRE-INSTALLATION INSPECTION

To ensure successful installation of your new WESTCHESTER windows, please review the following steps to complete a pre-installation inspection.

1.1 Ensure the area is accessible and safe for maneuvering.

1.2 Verify correct rough opening measurements. Measure per the specifications and **ensure the opening is plumb, level and square**. Verify that width and height dimensions are correct. Rough opening should be 1/2” larger than overall frame width and height. Sill plate must be flat and level. Make sure opening is dry, clean, and free of dirt and debris.

1.3 Ensure you have all necessary tools and adequate materials as noted on page 3 of this instruction.

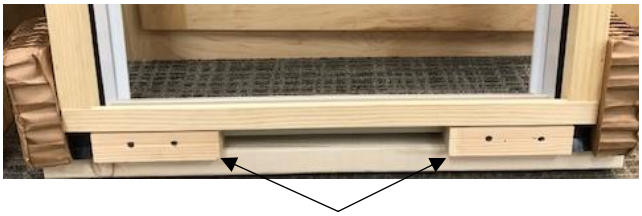
1.4 Use adequate assistance when installing windows and doors. Some units may be heavy and awkward to handle.

1.5 Always wear necessary protective gear such as safety glasses, gloves, hearing protections, clothes, etc.

⚠ IMPORTANT

- When unpackaging and preparing the Westchester window for installation, **DO NOT REMOVE THE WOOD SUPPORT BLOCKS LOCATED UNDER THE SILL.** The Westchester window is designed with these wood support blocks to allow for shimming along length of the sill, as well as to provide additional fastening locations for through frame installation.

Shown as packaged.



Shown as unpackaged.

2 INTEGRAL NAIL FIN INSTALLATION

NOTE: *This instruction covers the installation of Westchester window units with integral nail fin in new construction/full tear out rough openings or masonry openings with the use of a wood buck.*

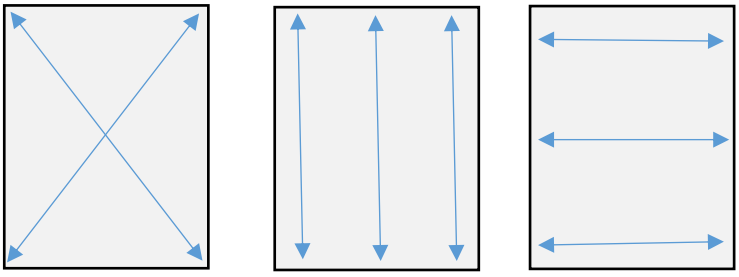
NOTE: *The flashing method shown in this instruction is AAMA InstallationMasters® A1 flashing method in which the building exterior is already wrapped with a weather resistive barrier (WRB). Other approved flashing methods may be used depending on specific construction practices or project requirements. Consult a certified AAMA InstallationMaster® Installer or SPW for any clarification.*

NOTE: *The recommended type and width of flashing referenced in this instruction is a 9" self-adhering flashing tape. Alternatively, a minimum 4" flashing tape may be used when using self-adhesive flashing tape. When using self-adhering flashing at the sill, you must use a width of flashing tape wide enough to cover the sill plate to at least the depth of the window plus 2" which will lap onto the face of the water barrier drainage plane.*

2.1 Prepare the rough opening by checking the measurements and squareness of the opening. SPW recommends that the rough opening width and height be 1/2" larger than the window frame width and height, allowing for the use of 1/4" shims to be used. Width and height measurements should be taken in three locations, **Left/Middle/Right** and **Top/Middle/Bottom**.

2.2 Check the squareness by taking diagonal measurements of the rough opening. The diagonal measurements should not exceed each other by 1/2" (see Figure 1).

Figure 1



2.3 Using a sharp utility knife, begin by making a modified "I" cut (also referred to as an inverted "Y" cut) in the WRB. Fold the WRB to the interior of the opening and attach (staple) in place (see Figure 2).

Figure 2

2.4 Cut the WRB at the head of the rough opening, creating a flap, by measuring 9" up and 9" over (when using 9" wide flashing) to mark where the 45 degree diagonal cut will be made. Once the cut is made on each side, fold the WRB flap up and temporarily tape in place (see Figure 3). This will allow for the installation of the unit and head flashing.

Figure 3

2.5 Prepare and cut flashing for the opening. To save time and develop an efficient installation process, the flashing materials can be cut in advance, using the rough opening dimensions and the formulas shown in the table below (see Figure 4).

Sill Flashing	= RO_W + (2 x Flashing Width)
Jamb Flashing	= RO_H + (2 x Flashing Width) – 1”
Head Flashing	= RO_W + (2 x Flashing Width) + 2”
Legend	
RO = Rough Opening RO_H = Rough Opening Vertical Height RO_W = Rough Opening Horizontal Width	

Figure 4

2.6 Cut and apply 9” wide self-adhesive flashing to the face of the sill extending the flashing 9” past each side of the rough opening (see Figure 5). Use a J-roller to ensure proper adhesion of flashing to the sheathing.

When using 9” wide flashing: ***Cut Length = Rough Opening (R.O.) Width + 18”.***

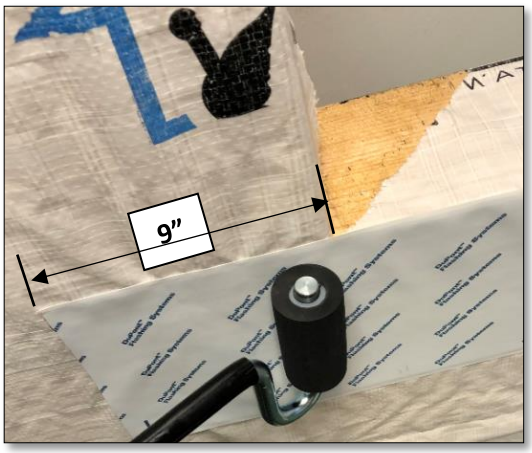


Figure 5

2.7 Apply additional 9” wide flexible self-adhesive flashing, cut to length to the sill width and to extend 6” up each side jamb (***Cut Length = R.O. Width + 12”***) (see Figure 6). Using a straight edge, or similar tool, ensure the flashing tape is pressed tight into each corner of the rough opening. **Do not leave any rounded gaps in the corners.** Use a J-roller to ensure full surface adhesion of the flashing tape.

Alternatively, a rigid sill pan may be installed (see Sill Pan Installation Instruction Supplement [S1] at the end of this instruction).

Figure 6

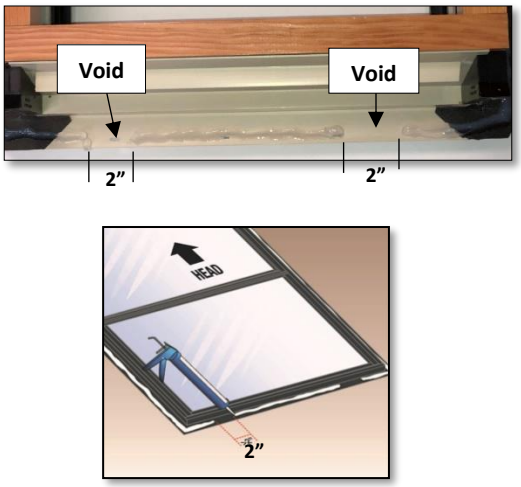
NOTE: *If using flexible self-adhering flashing tape, such as FlexWrap, you can flash the sill using one continuous piece of flashing tape, wrapped 6" up each side (see Figure 7).*

Figure 7

2.8 Using silicone sealant, apply a continuous 3/8" nominal bead of sealant to the interior surface of the nail fin on sides and head of the unit only (see Figure 8). Apply a discontinuous 3/8" nominal bead of sealant to the interior surface of the sill nail fin leaving 2" voids within 4" of each jamb (see Figure 9). Sealant should be located in line with any pre-punched holes in the nail fin.

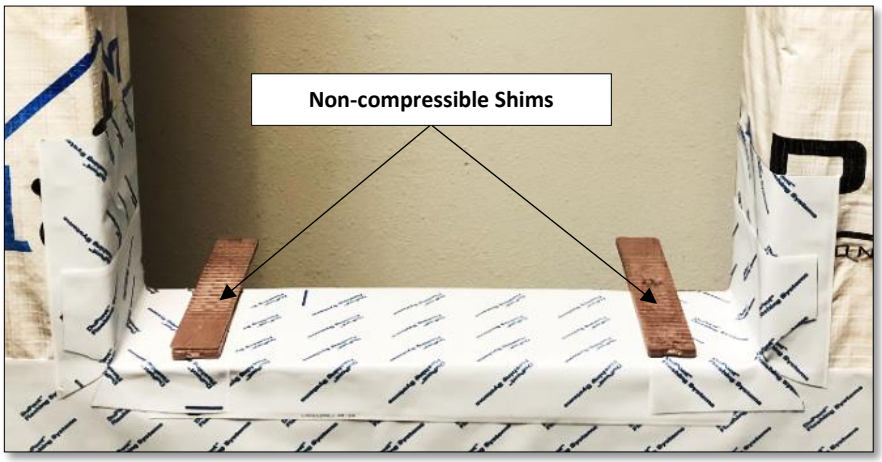
Figure 8

Figure 9



2.9 Prior to placing the unit into the opening, place a 1/4" non-compressible shim at each corner of the bottom sill and on either side of any mullions (see Figure 10). Use additional shims under the sill support block as necessary to achieve a level unit.

Figure 10



2.10 From the exterior, place the unit on the shims and tilt into the opening until the nail fins are pushed tight against the opening (see Figure 11). Using a #8 x 1-1/4" PPH Screws (labeled A), fasten the unit to the framing material through one of the top corner pre-punched installation holes in the nail fin. This will hold the unit in place until the unit is adjusted to level, square, and plumb.

Note: *A minimum 1" embedment into the rough opening structure required to meet unit's tested structural performance rating. Depending on application and rough opening conditions, longer fasteners may be necessary to meet this requirement.*

Figure 11

⚠ IMPORTANT – PROPER SHIMMING OF WESTCHESTER DOUBLE HUNG

Proper shimming of the Westchester Double Hung is integral in the long term performance of the unit. Shimming at the sill and sides is required to prevent sagging, deflection, distortion, and rotation of the frame throughout the life of the product. It is very important to shim the middle (Meeting Rail) location of the unit, in line with the Westchester jamb jack system, to obtain equal frame width reveals (see Figure 12).

Key points when shimming:

1. Wedge or flat shims are acceptable for shimming.
2. Wedge shims must always be used in pairs, stacked in opposite directions, to avoid twisting.
3. Shims used at the sill **MUST** be non-compressible plastic or composite shims.
4. Wood shims may be used at the jambs.
5. Shims must be used at all anchor points when fastening through the frame.

Wedge shims used at Meeting Rail.

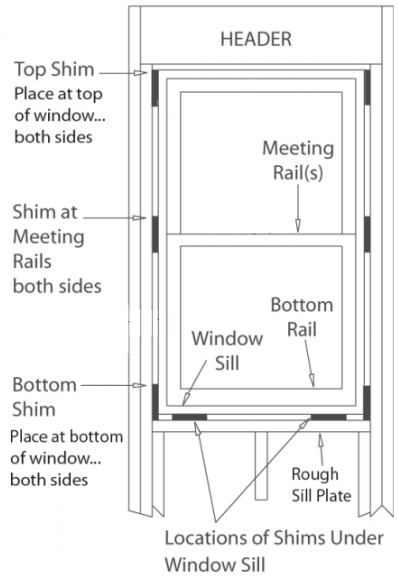


Figure 12 Locations of Shims Under Window Sill

2.11 Once unit is set level, square, and plumb, continue fastening in the nail fin across the top first, using #8 x 1-1/4" PPH Screws (labeled A) in every other pre-punched nail hole. Check operation of the window and confirm reveals (sight lines) around the sash are equal.

IMPORTANT: Begin with fastening at each corner and then every other nail hole thereafter. Do Not over fasten fin. Fastening should be just tight enough to hold the window, but not impede movement of the structure underneath during expansion and contraction. Once fastened, apply silicone sealant to fastener heads and tool in place. Also ensure that any empty nail fin holes are covered with sealant as well.

⚠ IMPORTANT – FASTENING WESTCHESTER PICTURE UNITS

The installation of any Westchester Picture unit or Operating/Picture combination requires additional fastening through the head jamb into the rough opening, along with fastening through the nail fins. This is required to meet the standard DP35 rating.

1. **Remove the interior head stop.**
2. **Insert one #6 x 2-3/4" screw (supplied by others) through each stationary head clip (see Figure 13) into the rough opening.**
3. **Re-apply the interior head stop.**

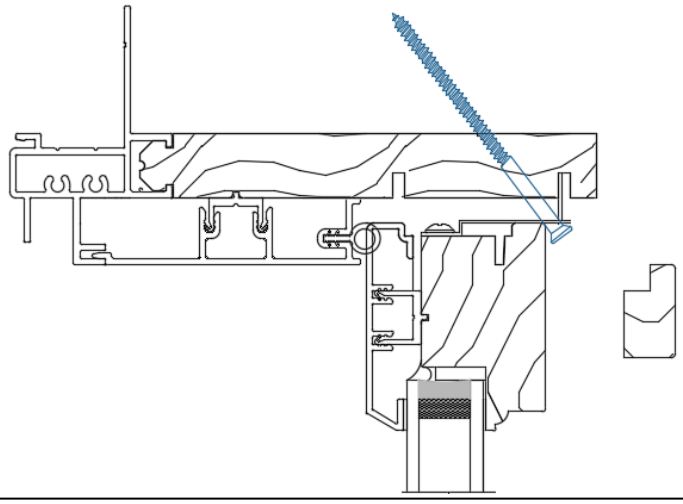


Figure 13

2.12 After the unit is installed, cut and apply 9" wide self-adhesive flashing over the left and right side jamb nail fins, placed approximately 1/2" above the sill flashing and 8-1/2" above the R.O. head (see Figure 14). Use a J-roller to ensure proper adhesion of flashing to the sheathing.

When using 9" wide flashing: ***Cut Length = Rough Opening (R.O.) Height - 17"***

Figure 14

2.13 Cut and apply 9” wide self-adhesive flashing over the head jamb nail fin, extending approximately 1” past the left and right side jamb flashing, already in place (see Figure 15). Use a J-roller to ensure proper adhesion of flashing to the sheathing.

When using 9” wide flashing: ***Cut Length = Rough Opening (R.O.) Width + 20”***

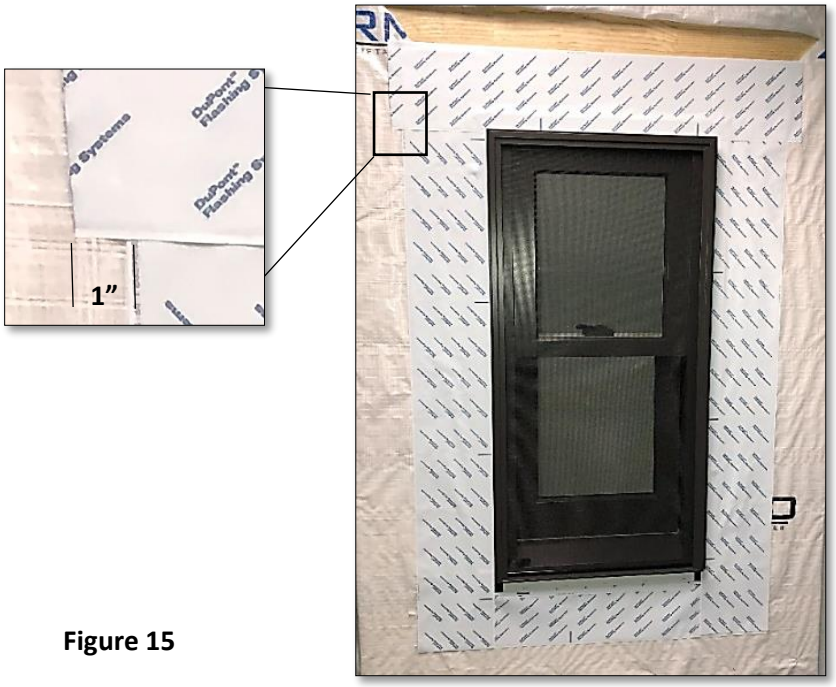


Figure 15

2.14 Remove previously applied tape holding the flap of the WRB at the head. Allow the flap to lay flat over the head flashing. Apply new sheathing tape or 4” self-adhering flashing over the WRB flap and the entire diagonal cut made in the WRB (see Figure 16).

Figure 16

2.15 Finish the install on the interior by trimming back any exposed shims and installing batt insulation or low expansion foam between the window and R.O. **DO NOT over pack with batt insulation or use high density expanding foam as it may adversely affect unit operation.**

2.16 Check window again for proper, smooth operation and locking.

⚠ IMPORTANT

- The Westchester product is engineered and designed with a fully thermally broken extruded vinyl sill with integral nail fin along with integral extruded aluminum nail fins on the head and sides of the frame. On all Westchester products, the integral nail fin is the definite water plane of the product. Proper integration of the weather barrier systems of the building must be made from the nail fin (water plane) location to the interior of the opening. **Any sealing of the Westchester product from the nail fin (water plane) to the exterior should be avoided unless proper water management systems (e.g.- sill pans, discontinuous sealant at the sill, etc.) have been incorporated into your installation design. Sierra Pacific Windows is not responsible for the design and proper integration of the fenestration product with the weather barrier systems of the building.**

For units installed in recessed and stucco applications it may be standard practice to apply a perimeter bead of sealant between the window unit and any exterior stucco returns, masonry (brick), or other exterior trims (i.e.- J-channels). When finishing the exterior of the Westchester double hung unit, any continuous perimeter sealing to the exterior cladding (outside of the nailing fin), **MUST be limited to the jambs and head only**. Alternately, a continuous bead of sealant may be used at the jambs and head, but with a discontinuous bead of sealant at along the sill (bottom) of the unit (see Figure 17 and 18).

Failure to incorporate proper water management systems, such as a discontinuous seal, in the exterior finishing of this installation may result in any residual water (exterior of the nailing fin) to become trapped between the unit and the exterior perimeter seal.

Stucco Exterior Sill Detail

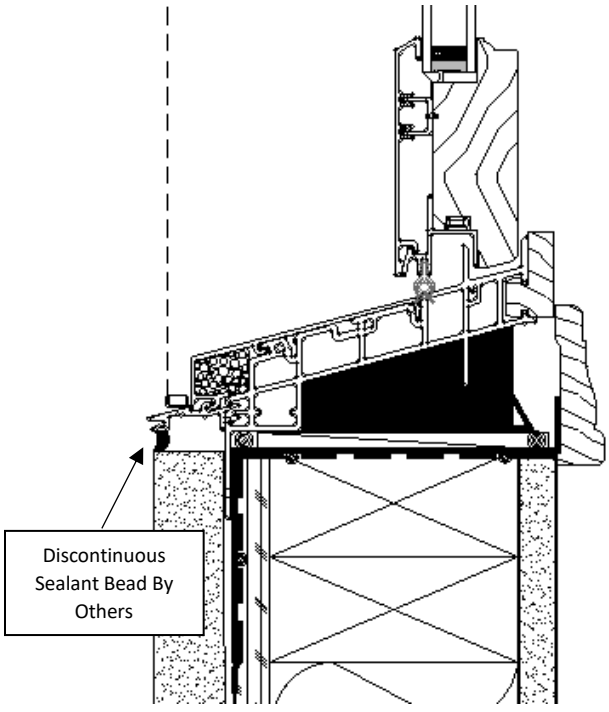


Figure 17

Masonry/Brick Exterior Sill Detail

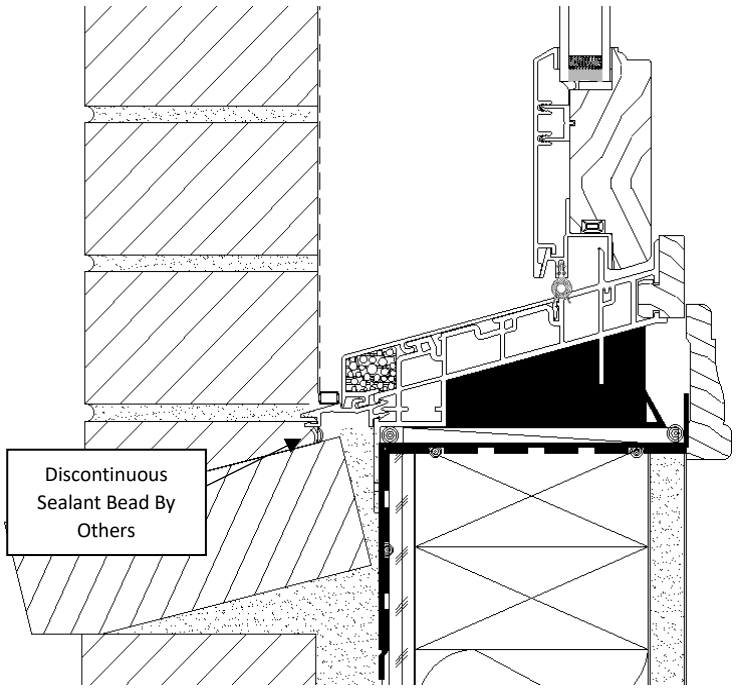
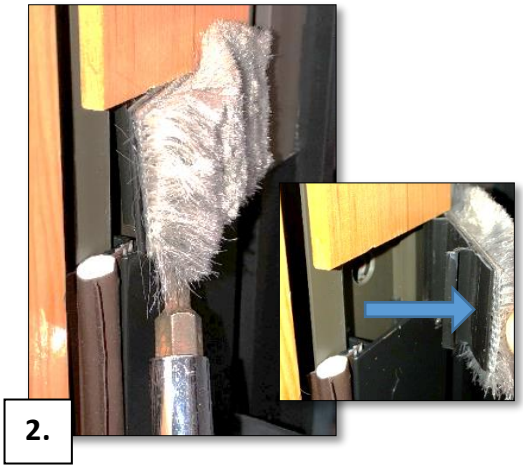


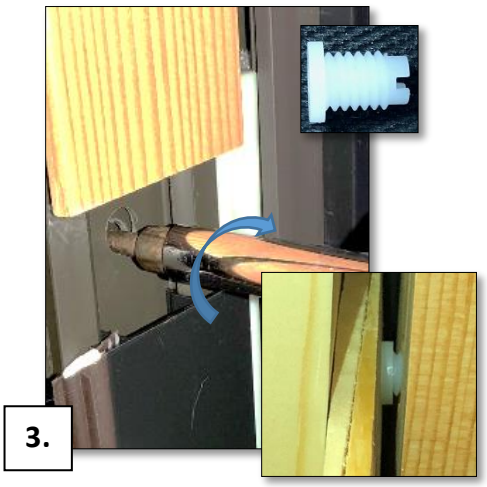
Figure 18

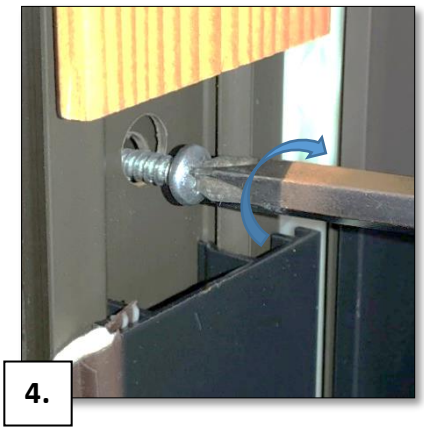
ADJUSTING JAMB REVEALS USING JAMB JACK SYSTEM

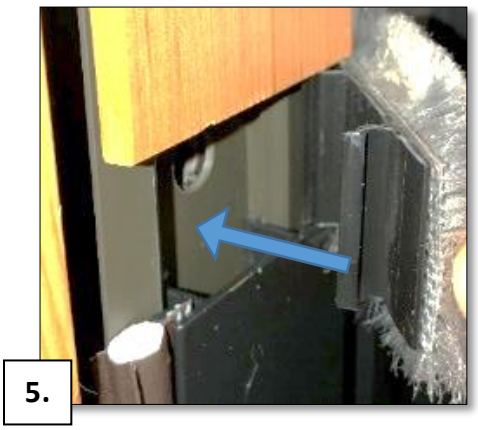
If needed, the Westchester double hung window comes standard with a jamb jack system, located at the middle of both side jambs of the unit behind the transition dust block, to assist in straightening of the jambs in the rough opening after installation. **Note: the jamb jack system is NOT to be used as a substitute to proper shimming of the unit to level and square.**

1. Tilt in the bottom and top sash to gain access to the transition dust block. On larger units, be sure to support the sash when tilted in or remove them completely. **Refer to the operation instruction pamphlet attached to the unit or scan the QR code on the sash with the camera on your Smart Phone to watch a short instructional video.**
2. Using a putty knife or flat head screw driver, remove the transition dust block to gain access to the jamb jack.
3. Insert a flat head screw driver into the slot on the jamb jack, and turn clockwise to extend the jamb jack out from the jamb.
4. Once extended, insert a screw through the installed jamb jack and into the rough opening framing until jamb is square. Use a screw long enough to ensure a minimum 1" embedment through the shims and into the rough opening framing.
5. Re-install the transition dust block.
6. Tilt in the top sash followed by the bottom sash.









S1 SILL PAN INSTALLATION INSTRUCTION SUPPLEMENT

NOTE: Following the sealant instructions is strongly advised. Anything other than a discontinuous bead of sealant (as shown) at the front of the sill pan could allow water to become trapped, resulting in potential water damage. This action will void the manufacturer's warranty.

NOTE: When setting a window or door into the sill pan, it is recommended that the unit be set onto 1/4" plastic (non-compressible) shims. This will allow for any water caught by the sill pan to drain to the exterior. Space shims 1" to 2" in from each end of the sill pan, and 12" O.C. thereafter as needed.