



511 WINDOW INSTALLATION MANUAL

VPI QUALITY WINDOWS
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Legend:

	Caution
	Quality
	Safety
RO	Rough Opening
WRB	Water Resistant Barrier
PVC	Polyvinyl Chloride

Always read the Vinyl Window and Door Limited Warranty before purchasing or installing Vinyl Windows and Doors manufactured by VPI Quality Windows. By installing this product, you are acknowledging that this Limited Warranty is part of the terms of the sale. Failure to comply with all VPI Quality Windows and maintenance instructions may void your VPI Quality Windows warranty. See Limited Warranty for complete details at <http://www.vpiwindows.com/>

Part 1) PREFACE

1.1) Installation Instructions for Typical Construction

A) These instructions were developed and tested for use with typical construction in a wall system designed to manage water. **These instructions are not to be used with any other construction method.** Building designs, construction methods, building materials, and site conditions are unique to your project and may require an installation method different from these instructions and additional care. Determining the appropriate installation method is the responsibility of the installer, general contractor, envelope engineer and/or architect. VPI Quality Windows shall not be responsible for site conditions or any variations to these installation instructions.

B)  Please follow the latest version of ASTM E 2112 Standard Practices for Installation.

1.2) Handling and Storage

A) Provide full support under the framework while storing, moving and installing the product.

B)  DO NOT lift the product by the head member only or pull from the jamb members.

C)  DO NOT store in direct sunlight or in containers without adequate ventilation. Allow sufficient spacing between products for ventilation.

D)  DO NOT lean windows more than 10 degrees or in precarious angles. Keep stored in a vertical position if possible.

E) Damage caused to the any part of the window or its components from poor storage practices shall not be covered under the limited warranty.

F)  **Due to the size and weight, a minimum of two people are required for installation.**

Part 2) TOOLS AND MATERIALS

2.1) You will need to supply

A) Shims/Spacers

B) Project approved sealants and backer rod compatible with uPVC

C) #8 Pan head corrosion resistant screws or other approved fasteners long enough to penetrate 1" of structural framing

2.2) Tools required

A) Tape measure

B) 2,4 and 6 foot Level

C) Square

D) Hammer

E) Flat pry bar

F) Sealant gun

G) Drill

H) Adjusta Wrench (Truth Part # 31887) (Hinge Adjustments)

I) #2 Phillips bit drive

Part 3) ROUGH OPENING PREPARATION

3.1) Confirm the opening is plumb and level.

A) Ensure the sill of the rough opening does not slope toward the interior.

B)  It is critical the sill is level and supported without any interferences that will cause the window frame to twist, bow or tilt.

3.2) Confirm the window will fit the opening.

A) Measure all four sides of the finished rough opening to make sure there is a minimum of 1/2" clearance in width and height. Windows that will be installed with straps require 1" clearance in width and height. The finished rough opening includes materials such as WRB, flashing, shims and any other materials that may impede the opening. Measure the width at the top, bottom, and center. Measure the height at the far left side, the far right side, and in the center. The finished RO must be a minimum of 1/2" wider and taller than the net window frame size.

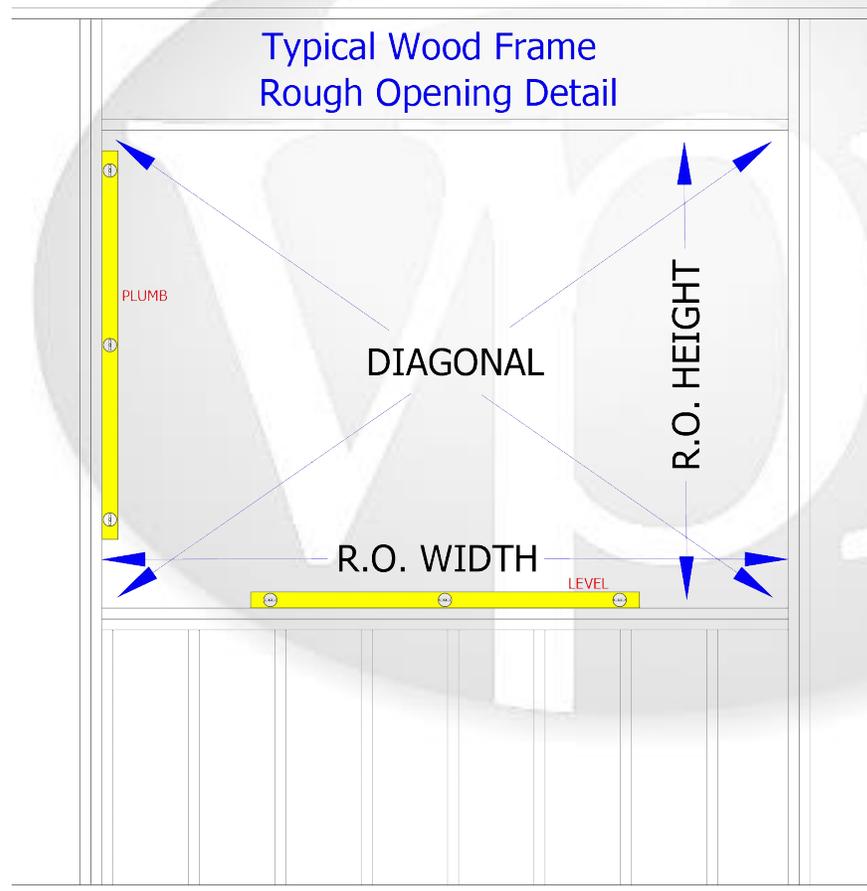


Figure 1 Rough Opening View

3.3) Sill Conditions

A) The weight bearing surface that the sill sits on must be flat and level to 1/16" to be considered fully supported. (See Figure 2)

- B) Window's sill must be fully supported for 1 1/2" along the sill's weight bearing surface, starting from the inside edge of the frame. (See Figure 3)
- C) Sills that do not initially meet the previously stated sill conditions must be shimmed to provide a flat level surface within 1/16". (See 5.3.A for sill shimming requirements)

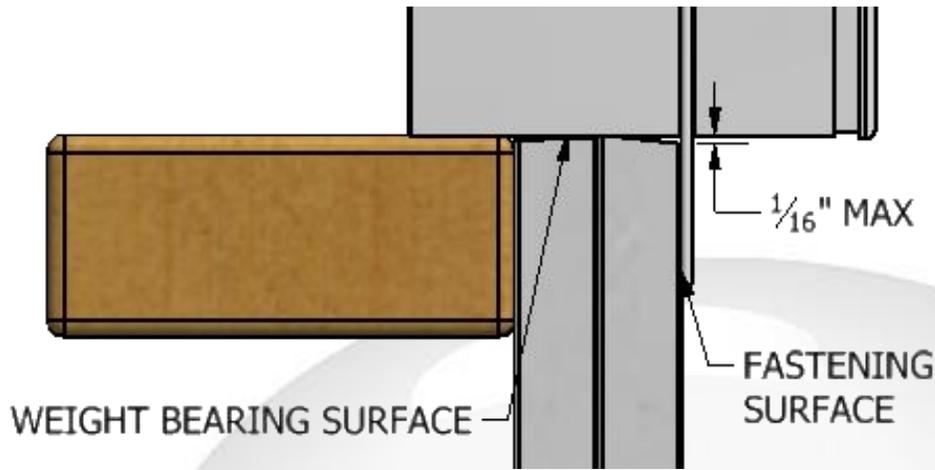


Figure 2 Acceptable Condition (flatness)

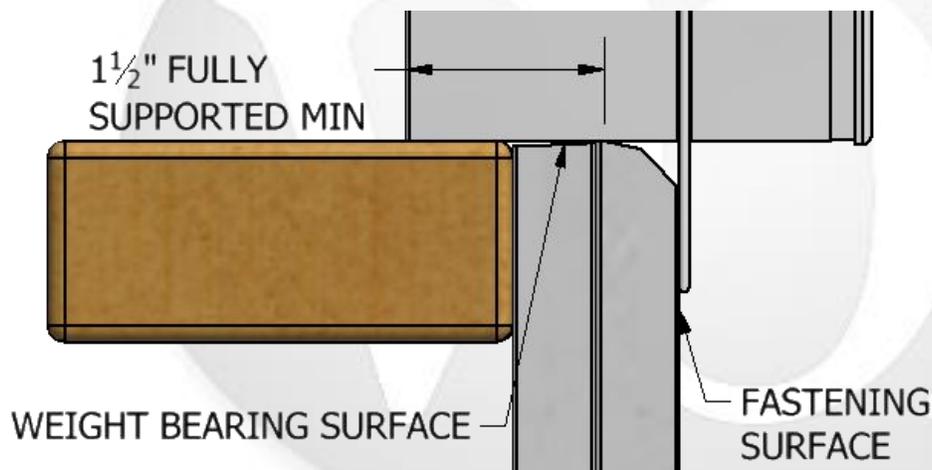


Figure 3 Acceptable Condition (minimum supported area)

- D) Enough of the nail fin must lay flush to the fastening surface so it can be secured. If window does not have a nail fin, the same sill conditions apply.

3.4) Sill-Pans

A) Sill-Pans must not interfere with proper sill support and fastening of the window unit or cause distortion to the window sill. It is the responsibility of the installer and/or general contractor to ensure that no distortion, warping or bowing is caused to the unit due to fastening over uneven surfaces. VPI requires all units be installed in a flat vertical plane.

B)  Ensure all waterproofing materials are designed for use with PVC products and installed correctly.

- C)  VPI Quality Windows does not endorse or discourage the use of any brand of flashing or sealant materials. Following the flashing manufacturer's recommendations, apply flashing to the sills and surrounding wall surface starting with the bottom, sides and top, creating a shingle effect.

Part 4) UNIT PREPARATION

- 4.1) **Remove shipping protection.**
 - A) Unscrew the 2x4 and inspect the frame and panels for damage.
 - B)  DO NOT install damaged units.
- 4.2) **Rotate straps. (When applicable)**
 - A) Rotate straps to the desired installation prior to inserting the unit into the rough opening.
 - B)  DO NOT bend or twist straps.

Part 5) INSTALL AND FASTEN

- 5.1)  **Two or more people will be required for the following steps.**
- 5.2) **Shim thickness and material**
 - A) Wedge shaped shims are not recommended for use under the sill unless used as part of an engineered sill pan system. Shims must be constructed from high impact non-deteriorating and corrosion resistant material such as PVC or similar plastic.
- 5.3) **Sill shimming**
 - A) Sill shimming should only be used when the water proofing details require it or the sill is uneven or not level within 1/16". Fully supported sills without shims are preferred. However if you choose to use shims, we require the sill to be fully supported with no gaps exceeding two inches and shims within 1/2" from any welded corners. (See Figure 4)

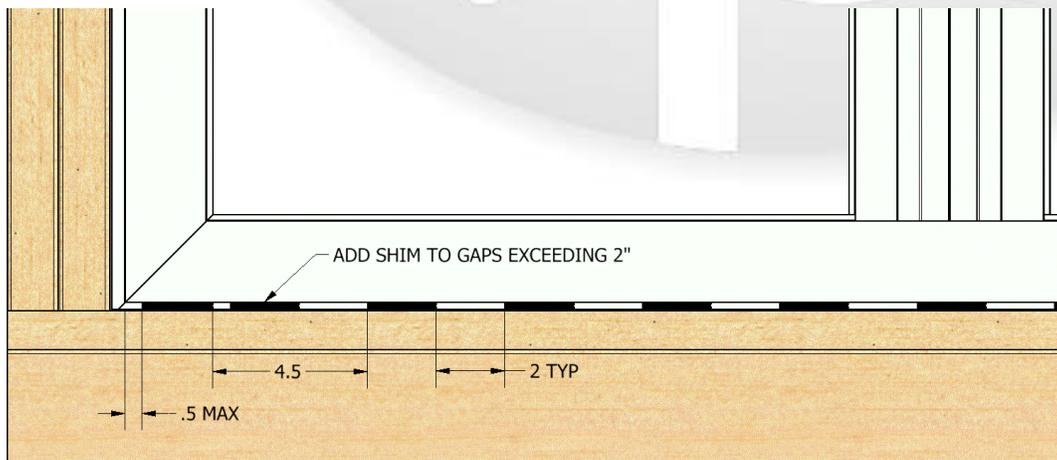


Figure 4 Sill View

5.4) Insert the window

A) Insert the window by placing the sill of the window on the sill of the RO and then tilt the top into position. Center the window between the sides of the opening to allow equal clearance for shimming. Temporarily fasten a few straps if provided or pre-punched nail fin holes to hold the window in place while shimming it plumb, level and square.

5.5) Jamb shimming

A) Shims should be installed on both frame jambs and where structural horizontal members intersect the perimeter frame, and at locking hardware points.

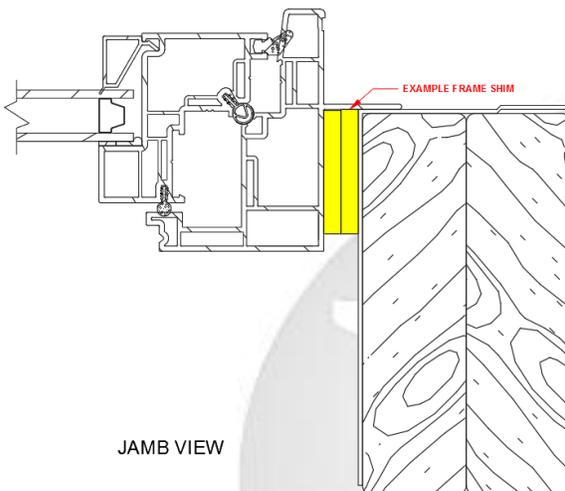


Figure 5

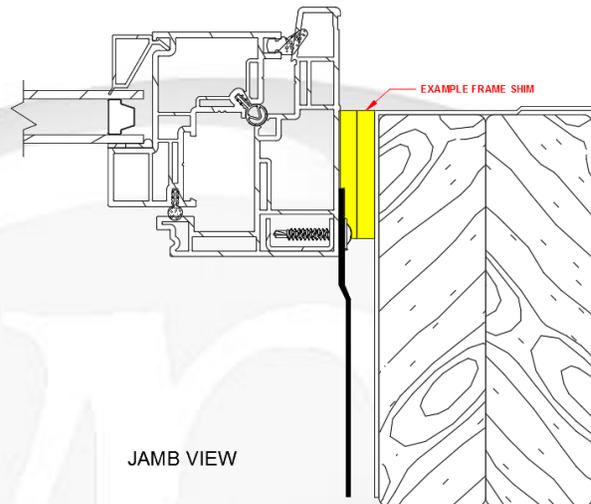


Figure 6

B)  Additional shims may be required for support and squaring at the top of the jambs. It is the installers' responsibility to address any rough opening framing issues during installation.

5.6)  Do not shim head

A) Shimming the head will not allow for normal building movement and will cause failures that are not warrantable.

5.7) Plumb and square the window

A) Insert shims between the window and rough opening. Keep shims back 1/4" from interior face of window if interior seal is specified. The window must be plumb, level and square to avoid having unnecessary adjustments to the sash panel.

B)  Shims must be verified before fastening.

5.8) Frame Squaring

A) **Frame Squaring** is essential. To do this properly one must first take corner to corner dimensions (D1 & D2) then determine if both dimensions are within the allowed 1/8" of tolerance. If not then split the difference and that is the overall adjustment that needs to be made.

B) **Level & Plumb** Use a level to check the sill and jamb to determine if the frame is level and plumb.

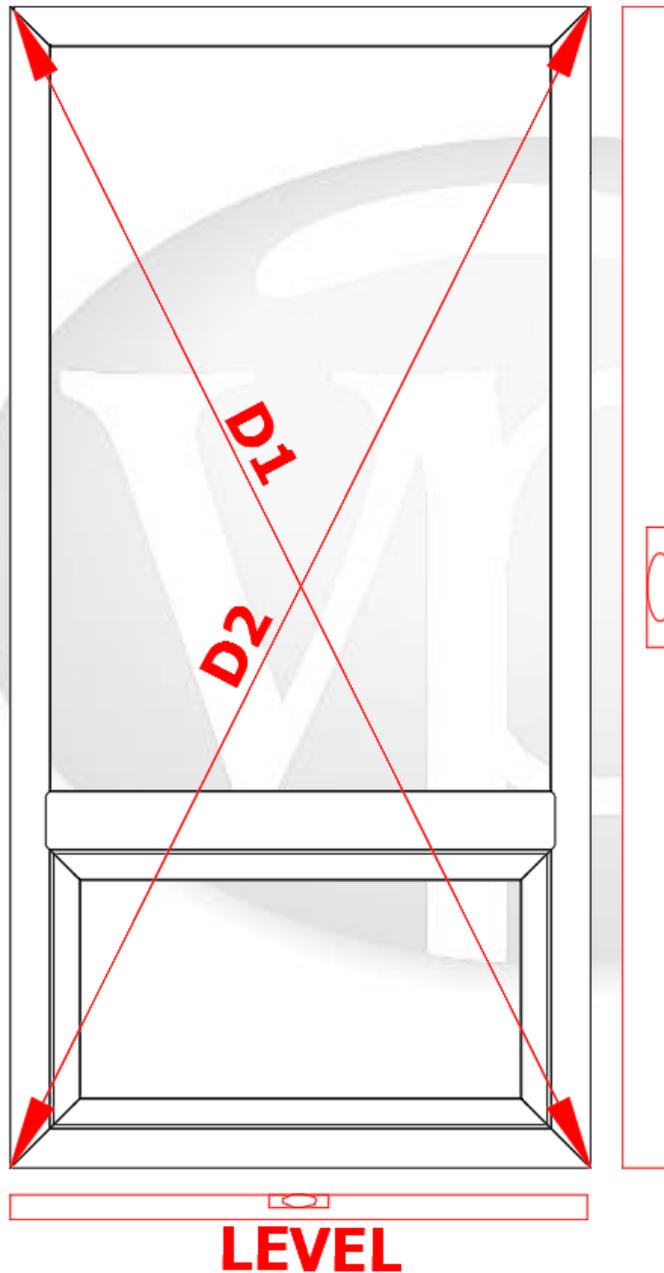


Figure 7 Frame Squaring View

5.9) Fastening the window to the opening

- A) For straps - use specified fasteners into every hole of every strap. Shims are required behind the strap to prevent the strap from twisting the frame and support for each screw.

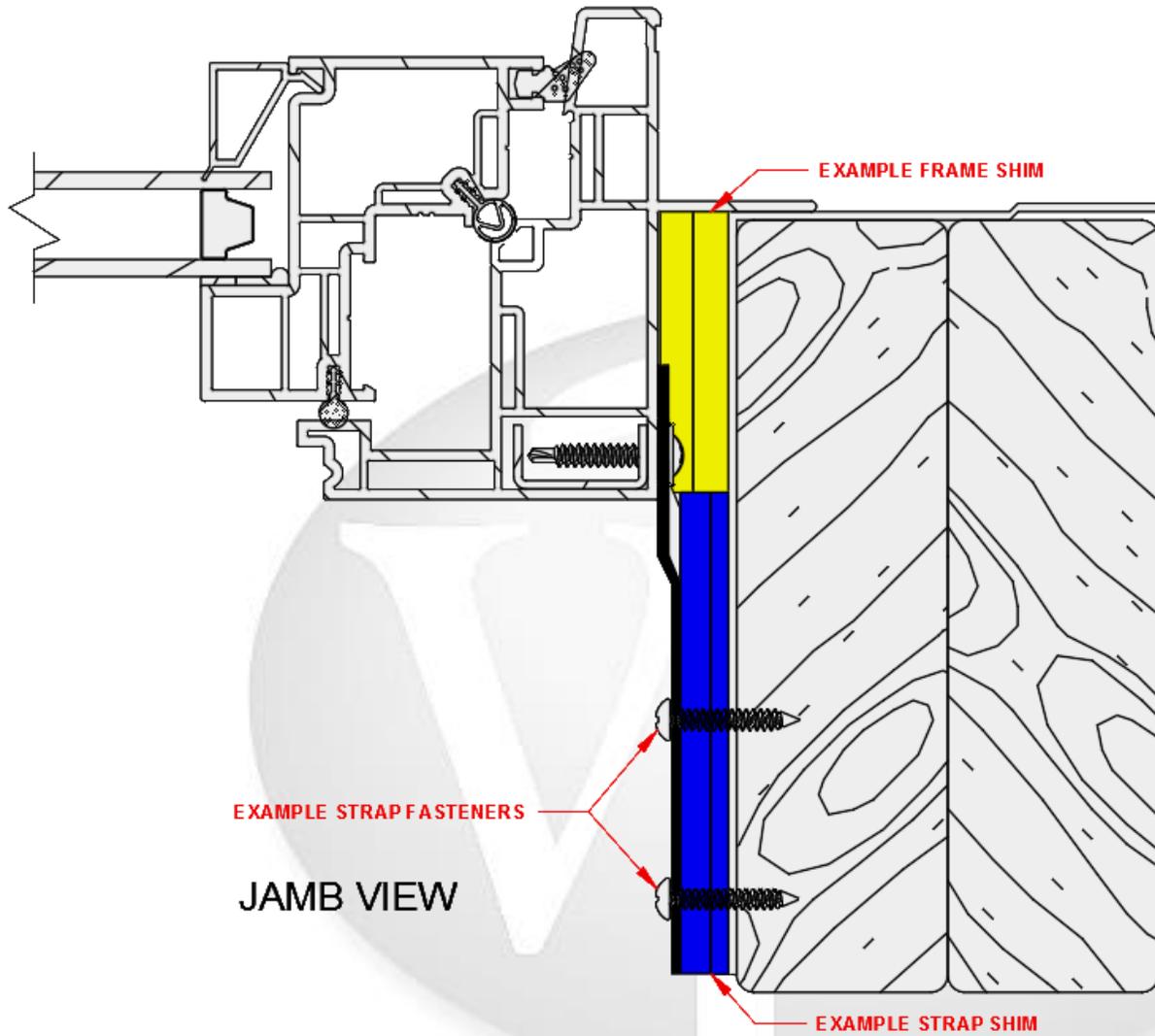


Figure 8

- B) For nail fin – use specified fasteners.
1. Head must be fastened, beginning 4” – 8” from welded corners, then every 12” on center using fender washers lapped over nailing flange a minimum of 3/8”, leaving a minimum of 3/8” gap between shaft of fastener and edge of nailing flange.
 2. Fastener size is #8 and must penetrate structural framing a minimum of 1” in depth and must be constructed of corrosion resistant material such as stainless steel, galvanized or other coating.
 3. Place fasteners in every hole of the nail flange along jamb and sill beginning 4”-8” from welded corners. (See Illustration below.)

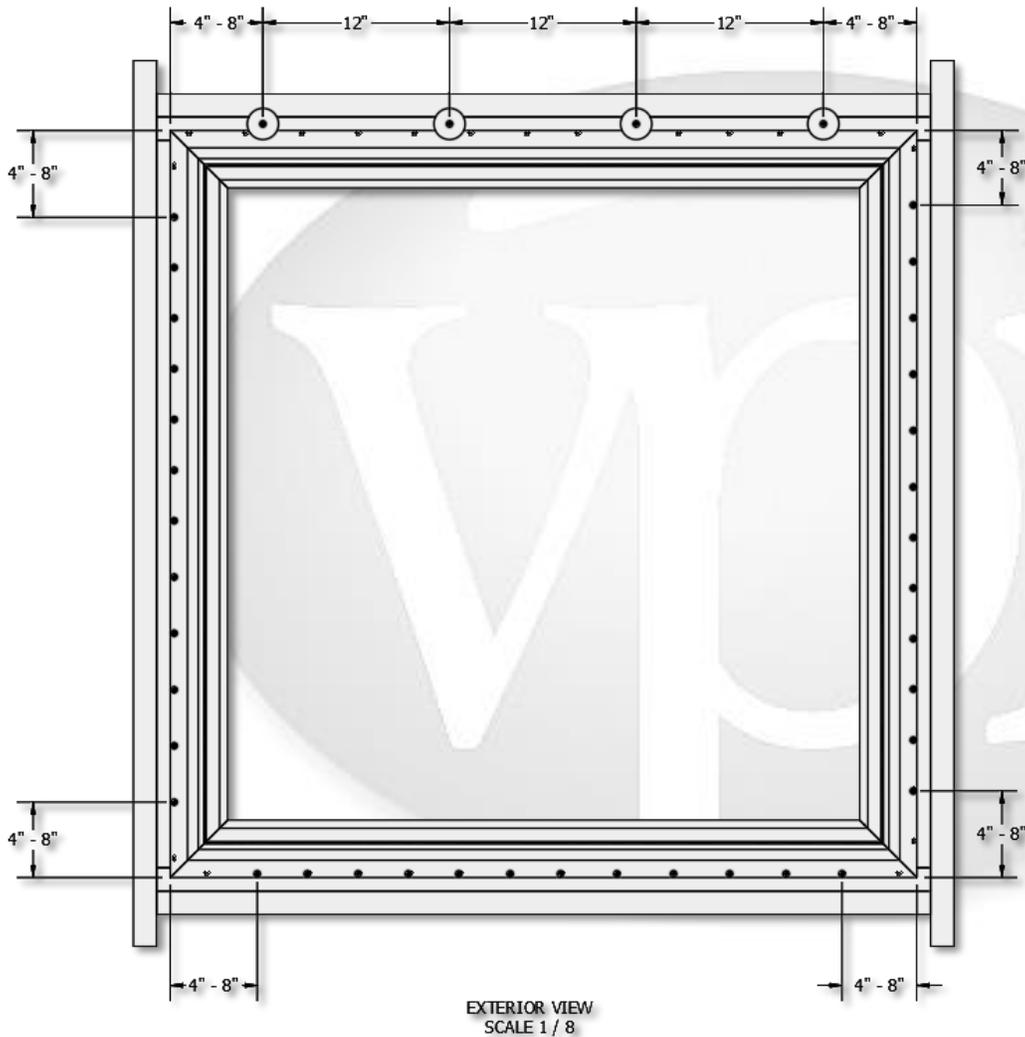


Figure 9

- ❖ **NOTE:** When straps are present only at T-Bar / frame intersections it is required to use the nail fin for fastening. When nail fin and straps are both present it is not required to use the nail fin for fastening.

- C)  **All fasteners** must have a rounded head and be constructed from or coated with corrosion resistant material such as, but not limited to, stainless or galvanized steel. Screws must penetrate a minimum of 1” into structural framing.

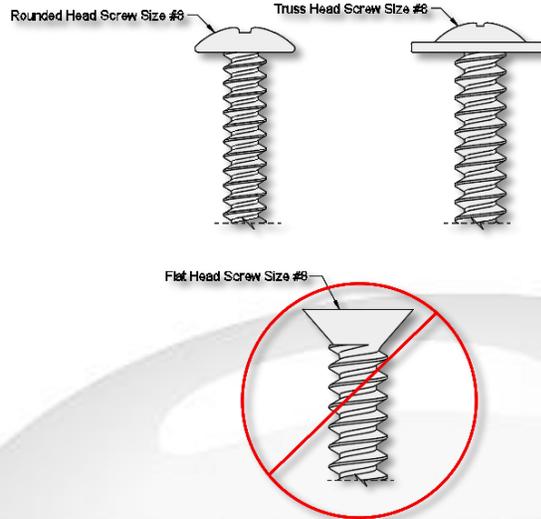


Figure 10

- D)  Vinyl windows and doors require shimming and fastening to support the frame from twisting and moving. Shim behind straps to avoid frame roll.

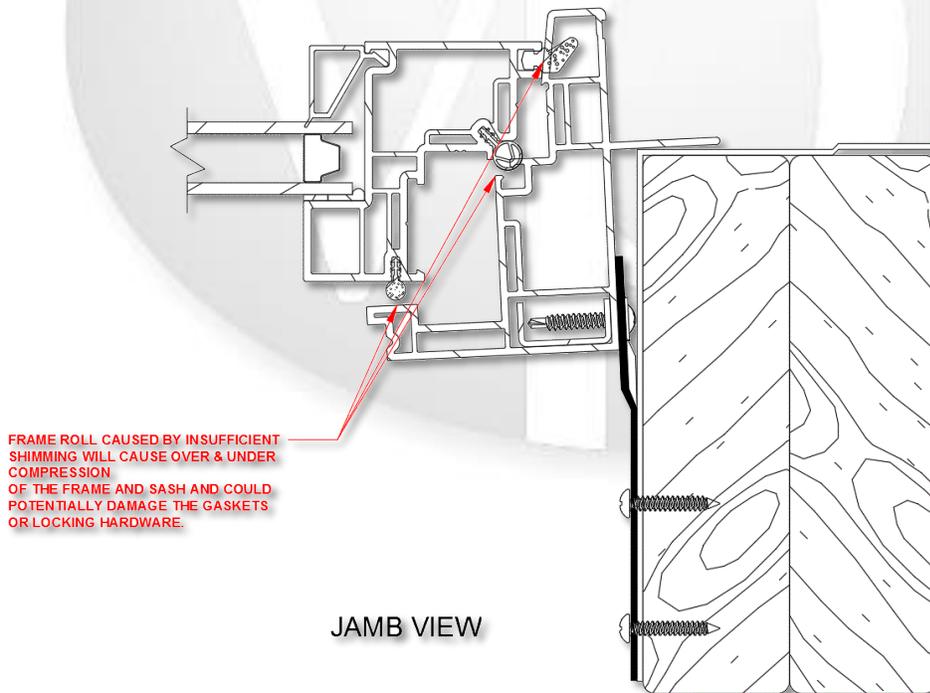


Figure 11

- E)  **DO NOT** over tighten as this may distort or twist the frame.

5.10) Verify frame gasket is compressed.

A) This can simply be done by inserting a business card between the sash and the frame when closed and locked. The card should be held firmly by the compression. If the card falls out, this indicates a lack of compression, if the card fails to slide between the sash and frame, this is a sign of over compression and may be caused by frame roll. The affected area of compression loss or gain will need to be shimmed behind the frame in order to correct the frame roll. Refer to Sections 5.4 & 5.5 for any remedial work that may need to be done to correct frame roll.

B)  This must be done before finalizing the install, check both interior and exterior.

Part 6) FINAL ADJUSTMENT

6.1) Adjustment can be made by using an Adjusta Wrench (Truth Part No. 31887).



Figure 12

6.2) Verify the reveal is consistent on the operable panel to the frame. (See Below)

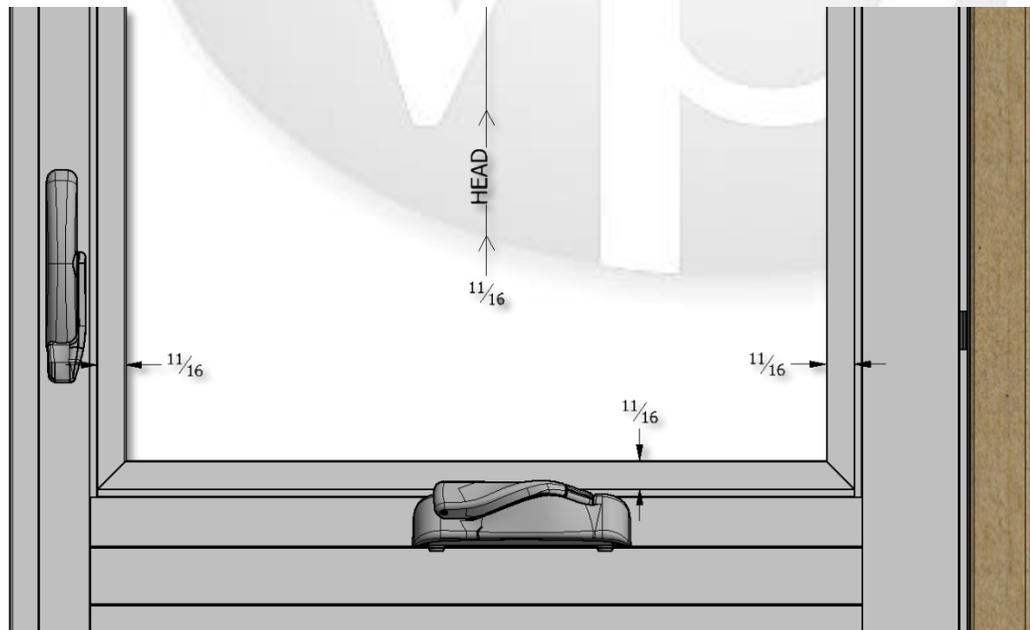


Figure 13 Reveal View

6.3) Adjusting the operable panel

A) Make adjustments by first fully opening the operable panel. Slip the adjustment wrench (Truth Part No. 31887) onto the base of the stud, found between the support arm and the track of the lower hinge. Swinging the wrench away from the lock side of the window will decrease the amount of sash drag.

B) The maximum sash drag adjustment is reached when the stud flats are parallel to the track.

(NOTE: Turning the stud flats beyond parallel WILL NOT increase sash drag correction.)

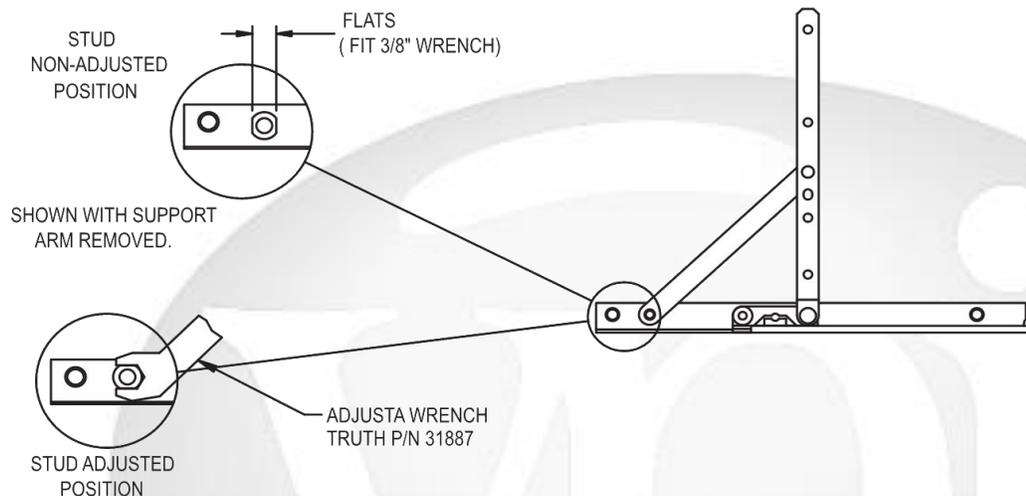


Figure 14

C) For severe sash drag, a similar procedure can be used on the upper hinge. Upper hinge adjustment is made by swinging the wrench toward the lock side of the window. Maximum adjustment is obtained when the stud flats are parallel to the track.

(NOTE: Maximum adjustment may cause binding as the window is closed. Please use caution.)

6.4) Operate the sash panel and verify the sash freely opens, closes and locks properly.

A)  Verify all locking points on the window are engaging before finalizing the installation.

B)  It is the responsibility of the installer to verify the window operates and locks correctly; adjustments are required by the installation company to finalize the install. Follow ASTM E 2112 Standard Practices for Installation. Please contact VPI for any assistance or training with our product @ 1-800-634-1478