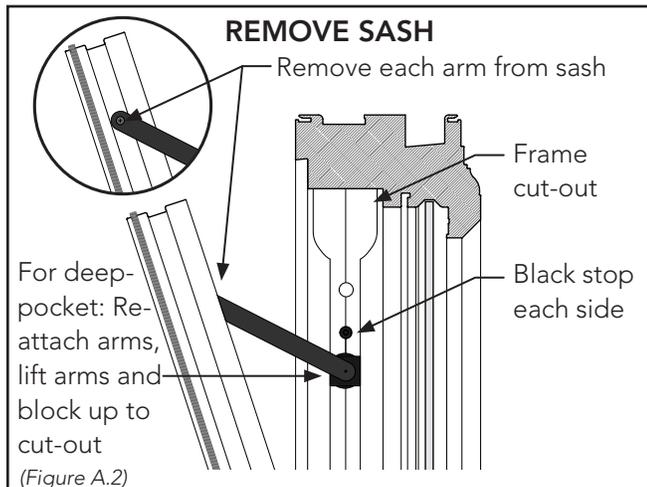


# A. INSPECT AND PREPARE VINYL WINDOW UNIT (CONT.)



Screen and sash must be removed before installation. The sash must be removed first in order to remove screen. Screen and sash will be re-installed AFTER frame installation. Refer to following steps.

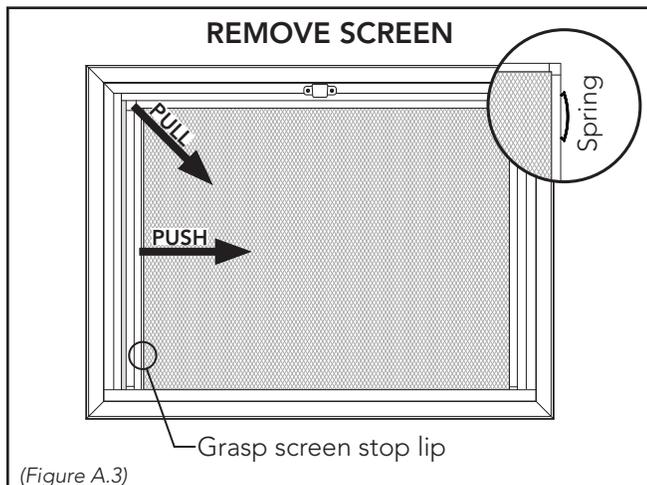
3

## Prepare Window - Sash Removal (Fig. A.2) Standard Ceiling Application:

- Open sash, use a Phillips screwdriver to disconnect arms from sash.
- Carefully lay sash horizontal to frame.
- Lift sash pivot pins from shoe turnbuckle. Sash may need lifted with one side ahead of other to gain proper clearance.

## Deep-Pocket Ceiling Application:

- Open sash, use a Phillips screwdriver to disconnect arms from sash.
- Carefully lay sash horizontal to frame.
- Remove black stop from each frame side.
- Slide each arm and block up to frame cutout and remove.
- Re-connect arms to sash. This step is required for installation with limited access.
- Lift sash pivot pins from shoe turnbuckle. Sash may need lifted with one side ahead of other to gain proper clearance.

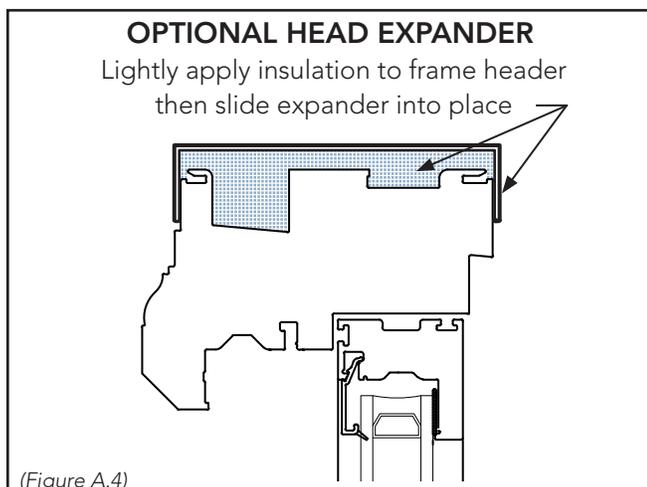


4

## Remove the screen (Figure A.3):

- From the interior, grasp screen stop lip to pull screen towards the right side, compressing the (2) screen springs.
- Holding screen compressed, pull top left corner then bottom left corner to the interior to free from exterior track.

**\* Reminder: DO NOT re-install sash or screen until after frame is installed.**



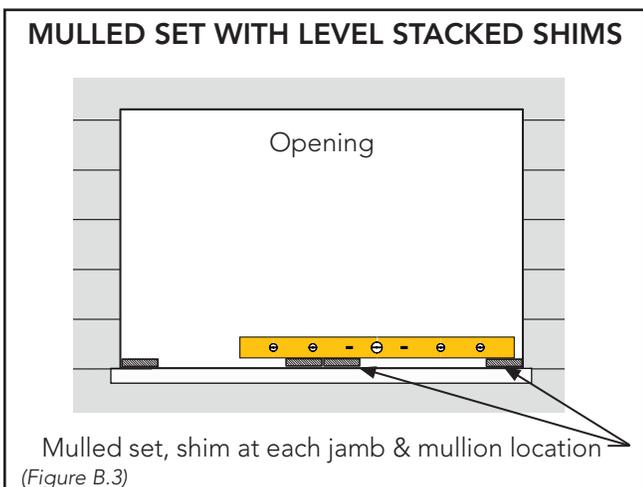
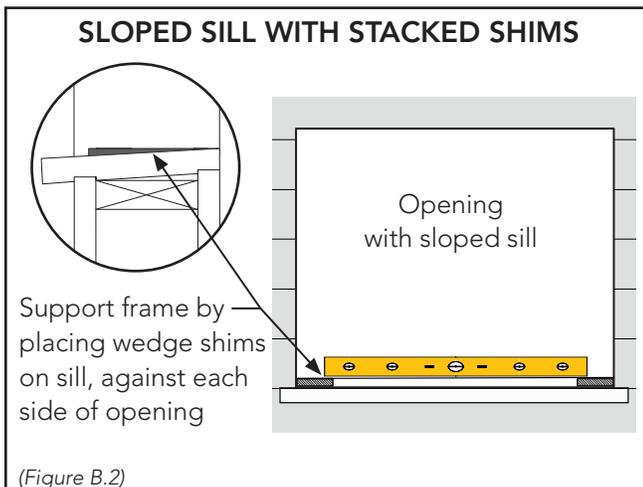
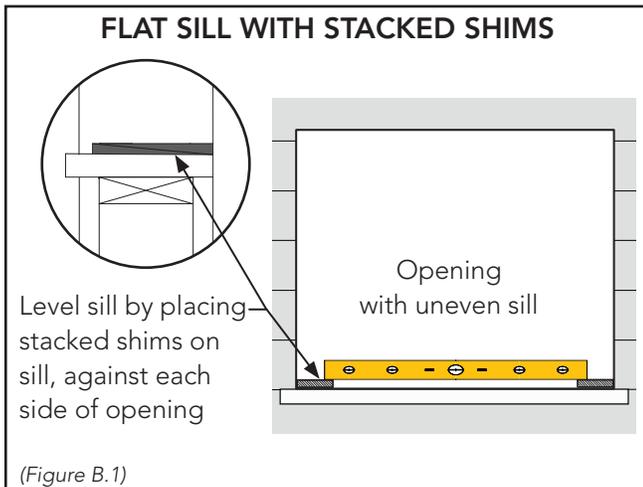
5

If optional head expander is to be used, lightly place batt insulation between frame header and the expander. Allow for compression without distorting header frame. Slide head expander in place. (Figure A.4)

6

If optional stucco flange is to be used in a true stucco application against stucco, refer to Section H - Stucco Flange Vinyl Accessory Installation, page 13. Stucco flange must be field installed and prepped before window unit is set in opening.

## B. PREP OPENING



1

Clean opening of all dirt, debris and obstructions.

2

Check for overall square of opening by measuring diagonally from corner to corner, each side.

3

Fill all voids or open cavities, found after removal of old window, with AAMA approved low-expanding window insulation foam that complies with ASTM C 1620.

4

Check sill for level, flat, and for proper structural support of opening to ensure a proper installation and seal of window unit. If sill requires levelling, refer to Step 5. If sill is sloped, refer to Step 6. If sill is found to be flat and level, go to Section C.

5

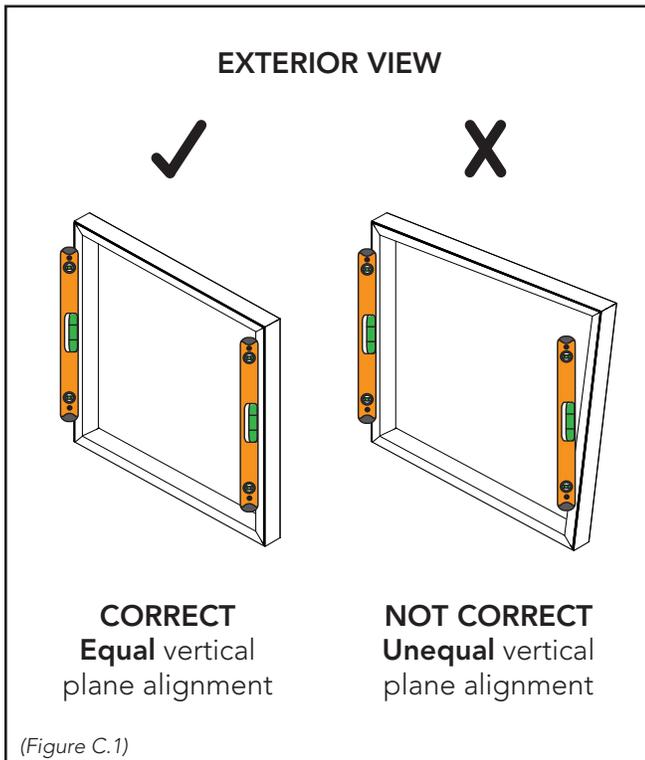
To level sill, place stacked shims on sill, against each side of opening. Be careful shims **DO NOT** tilt sill toward inside of home. For mulled sets, place stacked shims under all side jamb locations. (Figure B.1 & B.2)

**NOTE:** If foam wrap is used under sill, shim thickness **MUST** be increased to prevent foam wrap from crowning the sill.

6

To level a sloped sill, place wedge shims on sill, against each side of opening. Wedge shims are critical to provide full support of frame bottom. Be careful shims **DO NOT** tilt sill toward inside of home. For mulled sets, place stacked shims under all side jamb locations. (Figure B.2 & B.3)

# C. INSTALLATION



Frame alignment is critical for the success of the installation and sash operation. **Frame alignment will need to be CONTINUOUSLY monitored throughout installation.**

**1**

Check the plane of the window unit. Each vertical jamb side frame should be equal and parallel to the other. See illustration for equal and unequal plane. (Figure C.1)

**2**

Set window frame directly onto shimmed sill. Center unit in the opening.

**3**

Install (1) #8 x 2" Phillips pan head screw into each top factory prepped jamb screw location to hold in place. **DO NOT OVER TIGHTEN screw causing frame to pull!** (Figure C.2)

**4**

Use top screws to adjust frame alignment in order to establish an even sash to frame margin along top of sash. (Figure C.2)

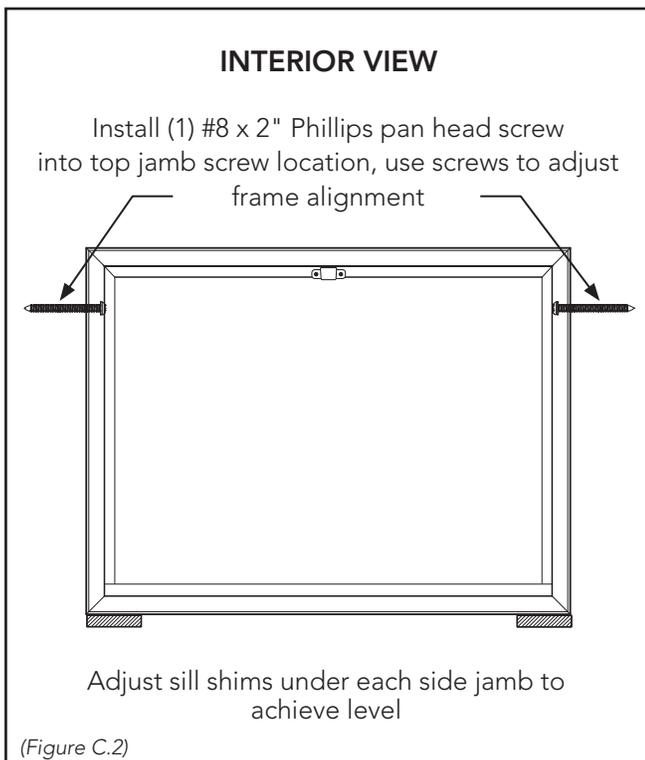
**5**

Use sill shims to adjust sill for level as needed. For mulled units, be sure shims are placed directly under mull location for support. (Figure C.2)

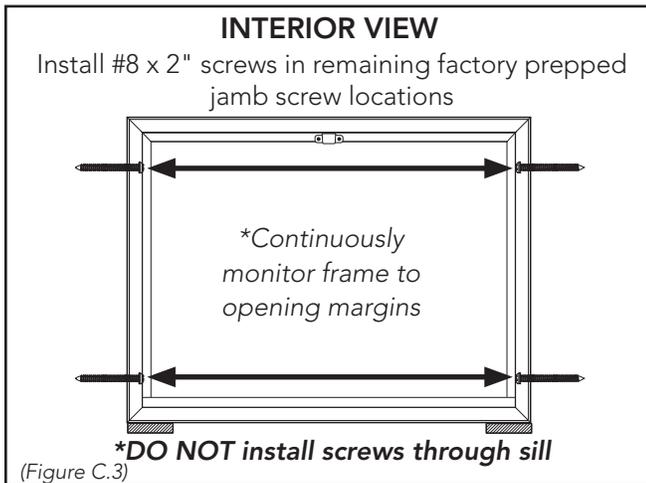
**REMINDER:** If foam wrap is used under sill, shim thickness **MUST** be increased to prevent sill from crowning.



**IMPORTANT!** Shims can be installed prior to installation of screws. It is critical to monitor margins through this installation method.



## C. INSTALLATION (CONTINUED)



6

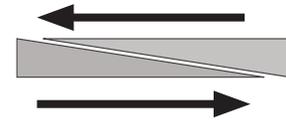
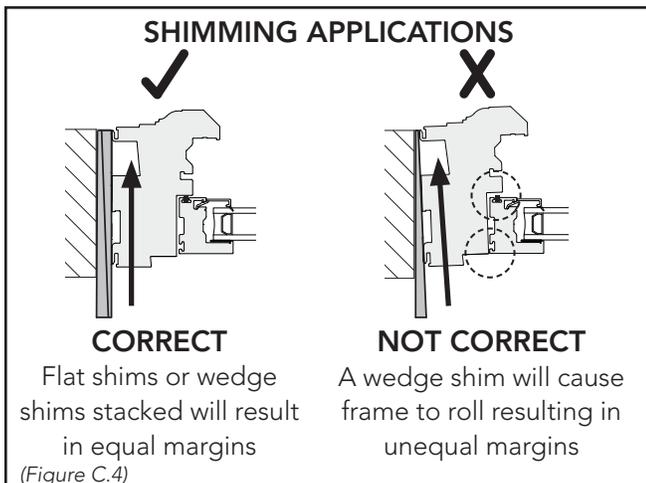
Install (2 - 4) #8 x 2" Phillips pan head screws. Place screw in each remaining factory prepped screw location. Install bottom screws first if unit is prepped in the middle. **DO NOT over tighten screws! DO NOT install screws through sill!** If spacing between screws is greater than 24", additional screws may need added to stabilize frame. Pre-drill a  $\frac{1}{8}$ " hole through wall of frame, then pre-drill a  $\frac{3}{8}$ " hole to open first wall for hole plugs (installed in later step). Recommended maximum spacing between jamb screws is 24". (Figure C.3)

7

Adjust jamb screws as required to achieve straight frame alignment, uniform top and bottom.

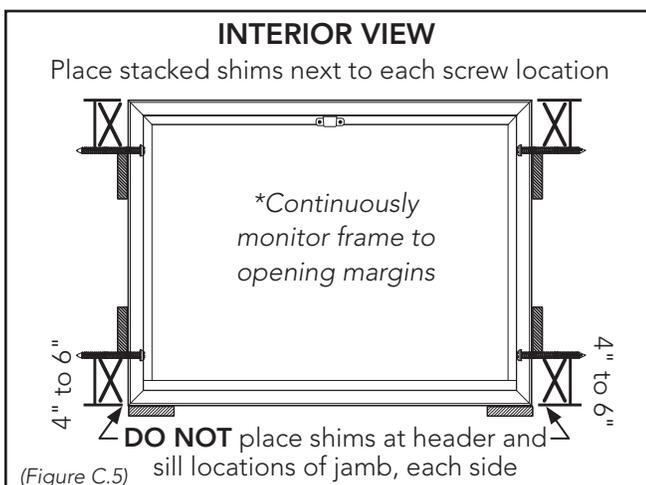


**IMPORTANT! CORRECT** shimming application; stack wedge shaped shims contrasting and plane to plane. See diagram below. **DO NOT** use a single wedge shim. This will cause frame to roll, resulting in unequal margins. (Figure C.4)



8

Place shims next to each screw location. Be sure top shims are located 4" to 6" from top of unit and bottom shims are 4" to 6" from bottom of unit. If spacing between shims is greater than 12", additional shims may be needed to maintain margins and stabilize frame. Use shims to adjust margins as needed. **DO NOT over shim. Over shimming may change the margins and jeopardize operational performance.** (Figure C.5)



**NOTE:** Allow for vinyl expansion, **DO NOT** place shims at top header and bottom sill locations of jamb sides. Shimming in these locations will cause frame distortion.

**NOTE:** A screw and shim location(s) may be added to header to improve margin.

9

Final check on frame alignment. Adjust shims and screws as needed to achieve and maintain equal and straight alignment, all sides.

## C. INSTALLATION (CONTINUED)

### RE-INSTALL SCREEN AND SASH

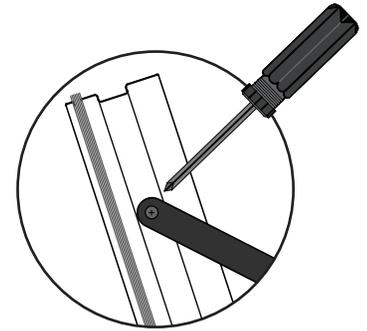
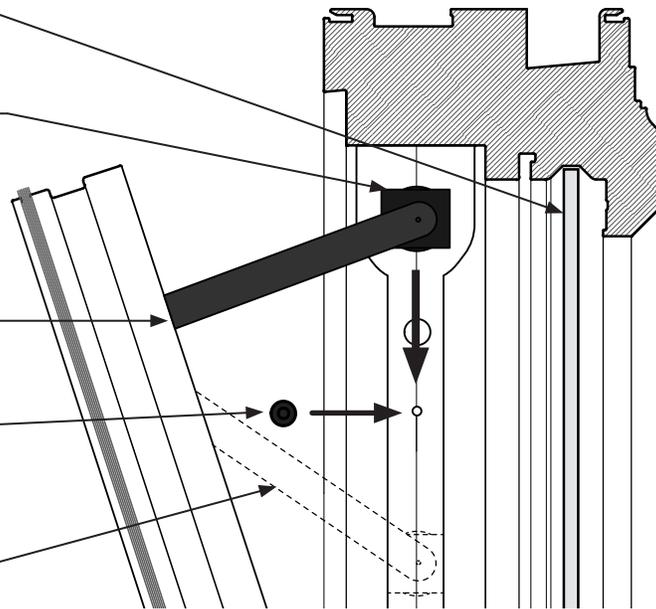
FIRST, re-install screen

For deep pocket, re-insert each arm and block into frame cut out - roller visible at top and bottom of block, as shown

Arm (re-installation position)

For deep-pocket, if installation application allows, re-install black stops

Arm (operating position, shown dotted)



For most applications, re-attach arms to sash

(Figure C.6)

10

**Re-install screen** (Be sure screen is oriented with screen stop lip to the interior side.)

- From the interior, insert the right side of screen into exterior track of frame.
- Use screen stop lip to push screen to the right, compressing springs.
- With spring compressed, slightly twist and insert top and bottom left side of screen.

11

**Re-install sash (Standard Ceiling Applications)** (Figure C.6)

- Hold sash in horizontal position and insert pins into each shoe located in bottom of frame.
- Tilt sash up to re-attach arms with factory screws.

**Re-install sash (Deep-Pocket Ceiling Application)** (Figure C.6)

- Hold sash in horizontal position and insert pins into each shoe located in bottom of frame.
- Tilt sash up to re-insert each arm with block into the frame cut-out.
- Tilt sash up until arm blocks are located below black stop locations. Re-install black stops each side if installation application allows.

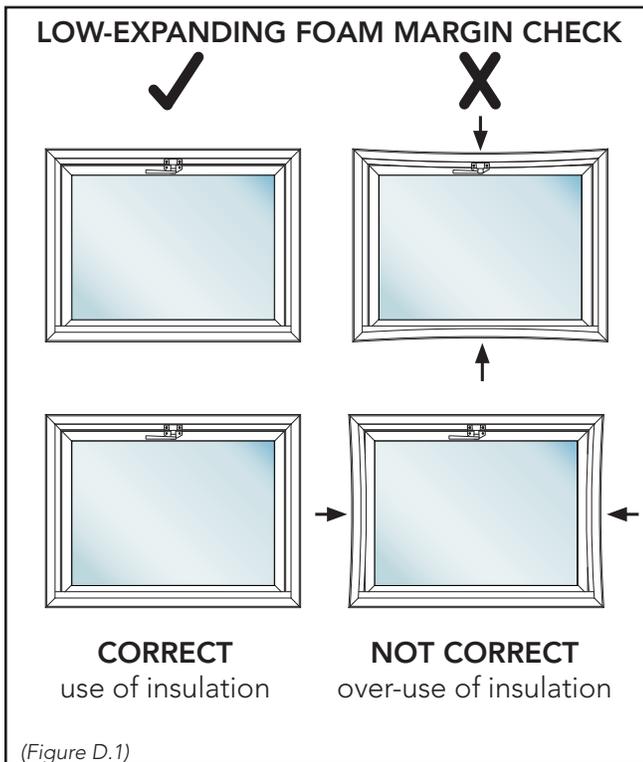


**IMPORTANT!** Deep-pocket (well) applications or applications with limited access may not have the accessibility to re-install black stops. Black stops will keep arms from sliding up and over center, preventing sash from closing. If black stops are not re-installed, the sash arms must be manually pushed down to close sash with each operational use.

12

**Check sash for proper operation.** For sash operation issues, refer to the Troubleshooting Section.

## D. INSULATE AND FINAL ADJUSTMENTS



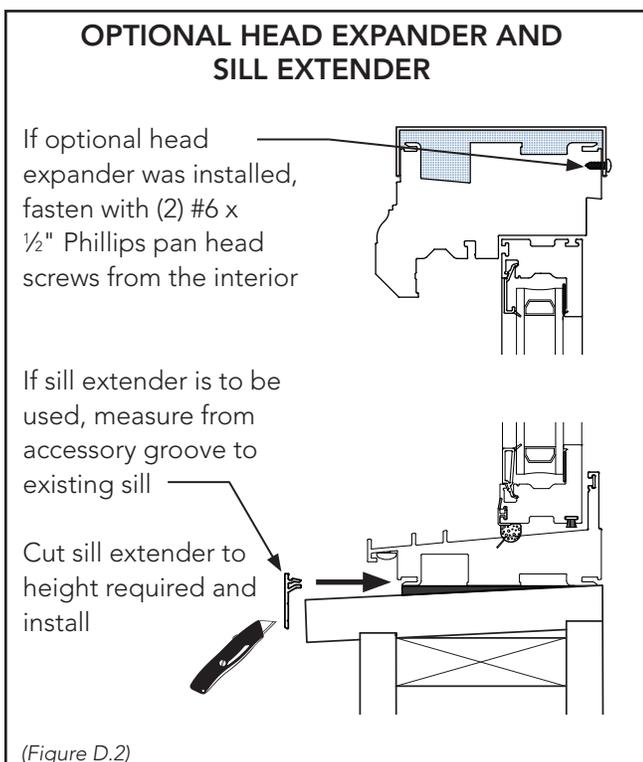
**1** Install hole plugs into all jamb screw locations.

**2** Close and lock sash.



**Sash must operate properly before application of foam insulation.**

**3** From the interior, insulate by using an AAMA approved ASTM C-1620 low-expanding foam to fill all cavities between frame and opening. Check and maintain all margins during insulating. **Over use of low-expanding foam may cause frame to bow; jeopardizing operation of window.** (Figure D.1)



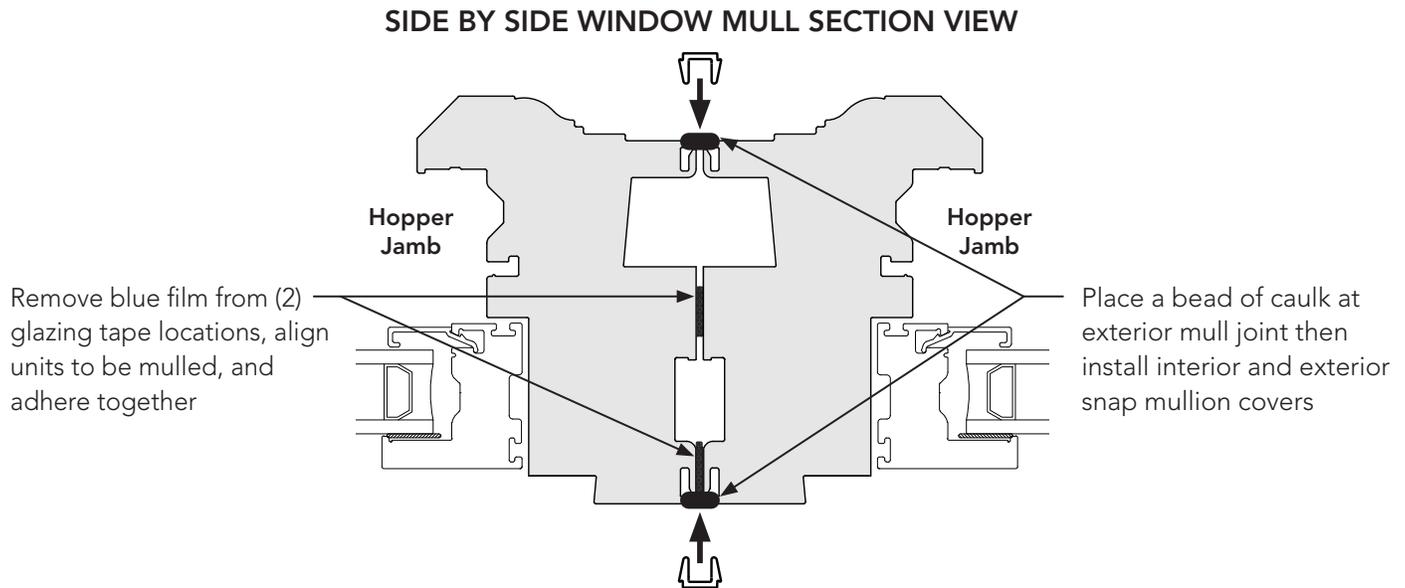
**4** Use a high quality exterior sealant to caulk the exterior unit to wall joint to ensure water tightness. Use backer rod if needed.

**5** If optional head expander was installed, fasten in place with (2) #6 x ½" Phillips pan head screws (included) from interior side. (Figure D.2)

**6** If sill extender is to be used, measure distance from the sill accessory groove to the existing sill. Cut sill extender to height required and install. **DO NOT** install until foam has cured. (Figure D.2)

**7** If MasterFit™ Trim is ordered, **DO NOT** nail trim to jamb extension. For installation tips, call Customer Service. Refer to QR code on back for measuring assistance.

## F. FIELD MULLING WINDOW UNITS



(Figure F.1)



Field mulling will be required if factory mullied unit size exceeds a specific shipping size parameter. A multiple window unit may ship partially mullied, requiring field mulling to complete the assembly. Units must be mullied together before setting into the opening.



Full and partially mullied sets will arrive from factory with stacking plates located on all mull joints for shipping. Stacking plates can be removed for installation.

1

One window unit will receive glazing tape factory applied. Remove backing from tape, align units to be mullied (side-by-side), and adhere together. Be sure glazing tape adheres to frame. (Figure F.1)

2

Carefully lay mullied set on a level and well supported surface so the INTERIOR side is face up. Be sure exterior is fully protected from damage. Install INTERIOR snap mullion cover using a rubber mallet to tap into place. Tap each end into place then work towards the center. (Figure F.1)

3

Carefully flip mullied set over so EXTERIOR side is face up. Measure and trim the EXTERIOR snap mullion cover to length just below accessory groove. This will prevent header mullion cover (installed in following section) from lifting at joint.

4

On EXTERIOR side, place bead of sealant for full length of horizontal or vertical exterior accessory groove at mull joint. Install the EXTERIOR mullion cover just below groove using a rubber mallet to tap into place.

5

If application allows, install stacking plates at all exterior mullied joints. Please scan the QR code on back of this instruction to view the "Vinyl Window Stacking Plate Installation Instruction".

6

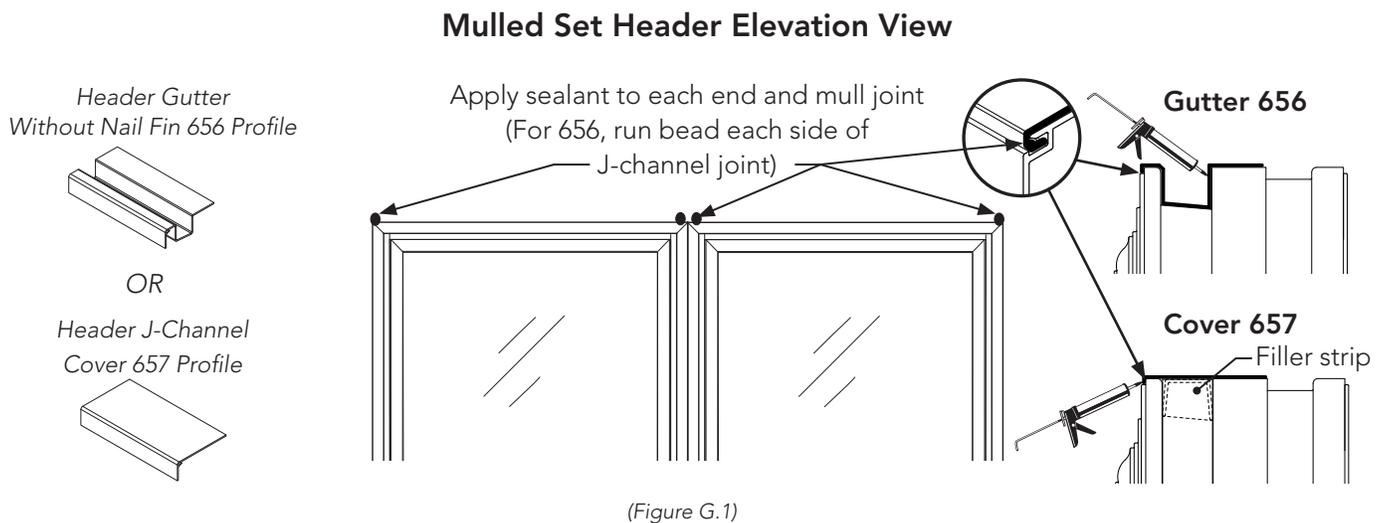
For ALL side-by side mullied sets, continue to the following section for installation of the header mullion cover. Units with a stack mull will not receive a header cover, in this case, proceed to main installation instruction.

# G. INSTALL HEADER MULLION COVER/GUTTER

## IMPORTANT INFORMATION BEFORE YOU BEGIN!

The 656 and 657 header cover is intended to provide extra protection at mull joint location(s) for side-by-side mulled window units. Windows must be mulled together with header cover applied before window unit is set into opening.

**NOTE:** Window units ordered with a Stucco Flange, factory installed or shipped loose, will not receive the header mullion cover shown below. Install as instructed in this document.



*Recommendation: If head expander is to be used, cut the expander in half. Only use the interior half, as needed. Discard exterior half. This will allow the flat header cover to be installed as instructed.*

1

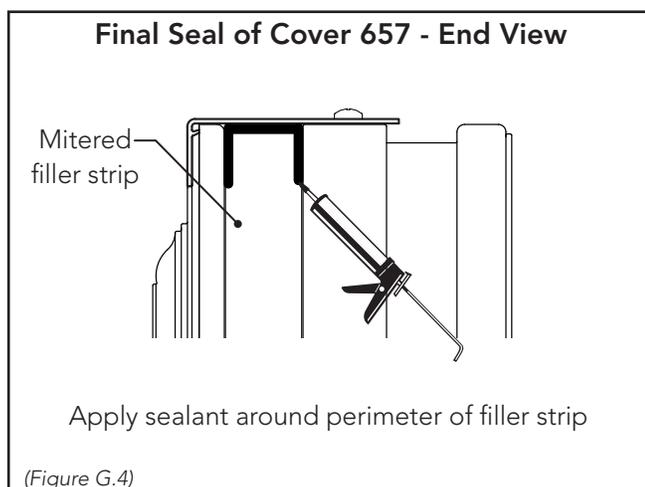
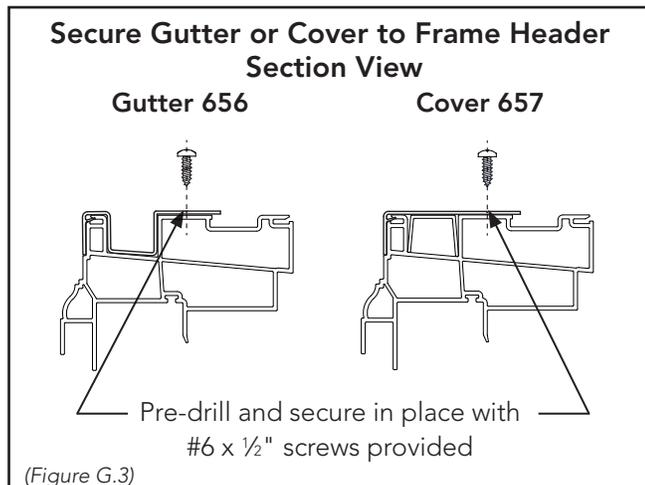
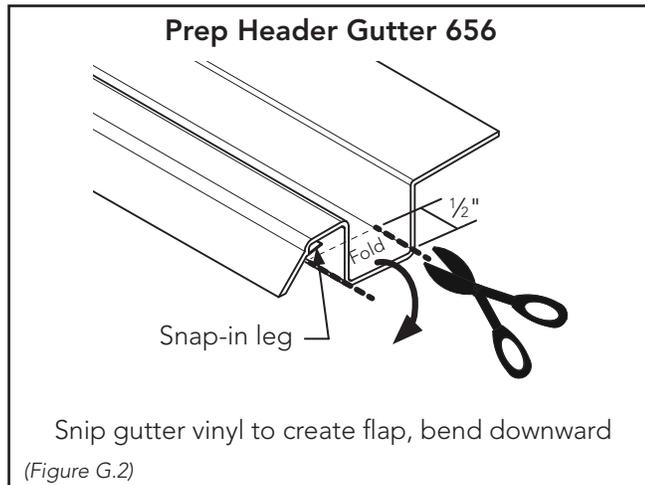
**Check to BE SURE front accessory groove is CLEAR of any obstructions, i.e. extra vinyl in welds.** The previously installed exterior mullion cover must be located just below groove to prevent header cover from lifting at mull joint. Trim or remove any excess material as required.

2

Apply a bead of silicone or sealant along each end of the mulled set header frame and along mulled joint(s). (Figure G.1)

- **Header Gutter without Nail Fin 656**, apply bead of silicone along frame width and into the front accessory groove as shown in Figure G.1 section details. Repeat on mull joint - run bead of silicone along each side of the J-channel joint.
- **Header J-Channel Cover 657**, apply bead of silicone along frame width and into the front accessory groove as shown in Figure G.1 section details. Repeat on mull joint(s).

## G. INSTALL HEADER MULLION COVER/GUTTER (CONT.)



3

**For Header Gutter without Nail Fin 656,** snip each side of the vinyl J-channel gutter approximately  $\frac{1}{2}$ " to create a flap. Bend flap downward and against jamb side frame J-channel, as shown. (Figure G.2)

4

For header gutter or cover option, a small section of the snap-in leg, located on underside of vinyl extrusion (refer to Figure G.2), must be removed at mull location(s). Locate, mark, and cut approximately a  $\frac{1}{2}$ " of the snap-in leg at window mull joint(s) to allow gutter/cover to lay flat against frame.

5

Place gutter or cover onto frame header. Snap accessory leg into front accessory groove. Align gutter or cover miter with frame miter, each end. Use a soft mallet to tap into position and ensure the gutter or cover is properly seated into bead of silicone. Be sure header gutter 656 is fully seated into the frame's integral J-channel. Re-check for proper end-to-end alignment. Remove any excess sealant from each end.

6

Pre-drill and secure gutter or cover in place with screws provided along vinyl score line. Place (1) #6 x  $\frac{1}{2}$ " Phillips pan head screw (Pack #: S-HS-600S-01) 2" to 3" from each end and every 18" for width of mulled set, as shown. BE SURE to avoid placing screw at mull location(s). Screws are intended to hold gutter or cover in position during installation. (Figure G.3)

7

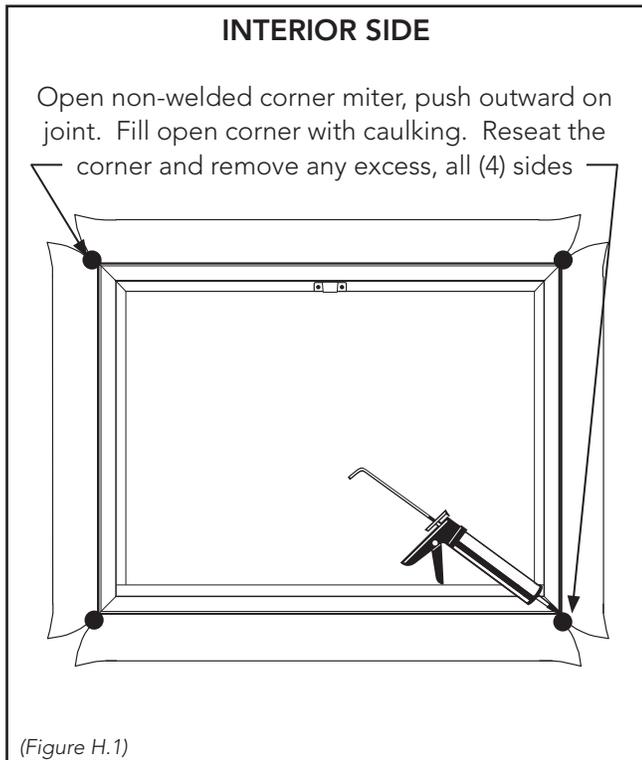
**For Header J-Channel Cover 657,** apply a bead of sealant across width and approximately  $\frac{1}{2}$ " down each side of mitered filler strip for a complete seal, as shown. (Figure G.4)

**NOTE:** If the decision was made to not install or remove the side filler strips, fill the end of the J-channel cavity with silicone or sealant, each end of the mulled set for a complete seal.



Mulled set is ready for installation into opening.

# H. STUCCO FLANGE VINYL ACCESSORY INSTALLATION



For field mulled window units ordered with a stucco flange vinyl accessory, follow the steps in this section. Stucco flange must be installed and prepped on field mulled units before installing into the opening.

For single window units with factory installed stucco flange, follow steps 4 - 6 ONLY.

**1** Snap stucco flange accessory in place, all (4) sides.

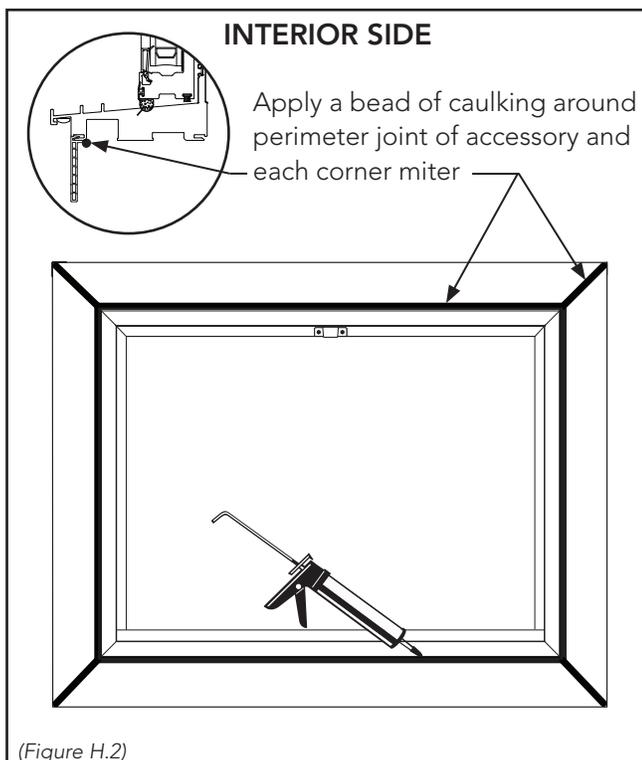
**2** Open the non-welded corner miter by pushing outward on joint. Fill the open corner with caulking. Reseat the corner and remove any excess. Repeat on all (4) sides. (Figure H.1)

**3** Apply a bead a caulking along interior side of each closed corner miter to seal. (Figure H.2)

**4** Apply a beads of caulking around entire perimeter joint, where the vinyl accessory meets the frame for a complete seal. (Figure H.2)

**5** Apply a generous amount of caulking to the interior side of the stucco flange. Cover as needed to create a complete seal.

**6** After the installation of the window unit is fully complete, apply a bead of caulking to the exterior edge of the stucco flange, where the flange meets the existing finished stucco face.





## TROUBLESHOOTING & TIPS

PROBLEM	CAUSE	SOLUTION
Water leaking at top	<ol style="list-style-type: none"> <li>1. Top sash rail is bowed downward.</li> <li>2. Sash is bowed outward.</li> <li>3. Header mullion cover not added or removed.</li> </ol>	<ol style="list-style-type: none"> <li>1. New sash is needed.</li> <li>2. Install an additional snubber at top center to pull sash inward. <i>(Please order through Customer Service.)</i></li> <li>3. Refer to Section G.</li> </ol>
Sill bows upward	<ol style="list-style-type: none"> <li>1. No shims below jambs. Critical on mulled units.</li> <li>2. Over insulating or over shimming below sill.</li> <li>3. Installing sill extender before foam below sill has cured.</li> <li>4. Insufficiently shimming under jambs when foam wrap is used under sill.</li> <li>5. Exterior trim is tight against window, not allowing for vinyl expansion in the heat.</li> <li>6. Shims placed at top header and bottom sill locations, not allowing for vinyl expansion in the heat.</li> </ol>	<ol style="list-style-type: none"> <li>1. Add shims to window sill per this instruction.</li> <li>2. Remove foam. Re-square and level window unit. Refer to this instruction for proper insulation procedure.</li> <li>3. Remove sill extender and foam below sill. Re-foam and let cure completely before re-installation of sill extender.</li> <li>4. Re-shim window unit per this instruction.</li> <li>5. Refer to "Installing Exterior Veneers to Windows" QR code at end of this instruction.</li> <li>6. Remove shims at top header or bottom sill locations. Shim per this instruction.</li> </ol>
Header bows downward	<ol style="list-style-type: none"> <li>1. Excessive foam or over insulating above header.</li> <li>2. Shims placed at header location, not allowing for vinyl expansion in the heat.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove foam above header. Re-foam per this instruction.</li> <li>2. Remove shims at top header. Shim per this instruction.</li> <li>3. It may be necessary to pre-drill and add a screw to correct bowed header.</li> </ol>
Frame racked or out of square	Improper or no shims below the jambs.	Re-shim window unit per this instruction.
Sash alignment is restricted	Outside corners of sash have an excess weld build-up.	Remove the excess weld on corners and from both sides of the bulb seal until a square corner is achieved.
Window leaks water at accessory corners	<ol style="list-style-type: none"> <li>1. Improper or no caulking on backside corners of accessory.</li> <li>2. Improper or no caulking at accessory to frame joint.</li> </ol>	<ol style="list-style-type: none"> <li>1. Caulk accessory per this instruction.</li> <li>2. Caulk accessory per this instruction.</li> </ol>
Condensation is present on inside or outside glass of window	Various normal conditions/reasons.	Refer to "Condensation, Humidity and Dew Point Temperature" QR code below for a detailed explanation of normal condensation conditions.