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## Three & Four Panel Patio Door Assembly & Installation

### STANDARD PROCESS

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- Assembly & Installation of a three or four panel patio door
- Less than one hour per door

**This document is a supplement to the standard AAMA installation guidelines and does not cover standard installation/flashing techniques.**

**AAMA Installation instructions must be followed.**





# Tools Needed

- Gloves
- Eye Protection
- Bead Hammer (or)
- Rubber Mallet
- Vinyl Snips (or)
- Shears
- Drill & Drivers
- Tape Measure
- Wax (or)
- Silicone
- Windex
- Cotton Rag



# STEP #1 – Door Assessment

- Using the longest available level, check the doorway header for level
- Do not install glass if the header is sagging
- Using a tape measure, measure the diagonals to check the door frame to ensure it is square (the corner-to-corner diagonal distance should be the same as the opposite diagonal distance)
- If the doorframe is not square, it may need to be shimmed or adjusted to a proper fit
- Do not install glass into a doorframe that is not perfectly square

Check the header with a level before installing glass



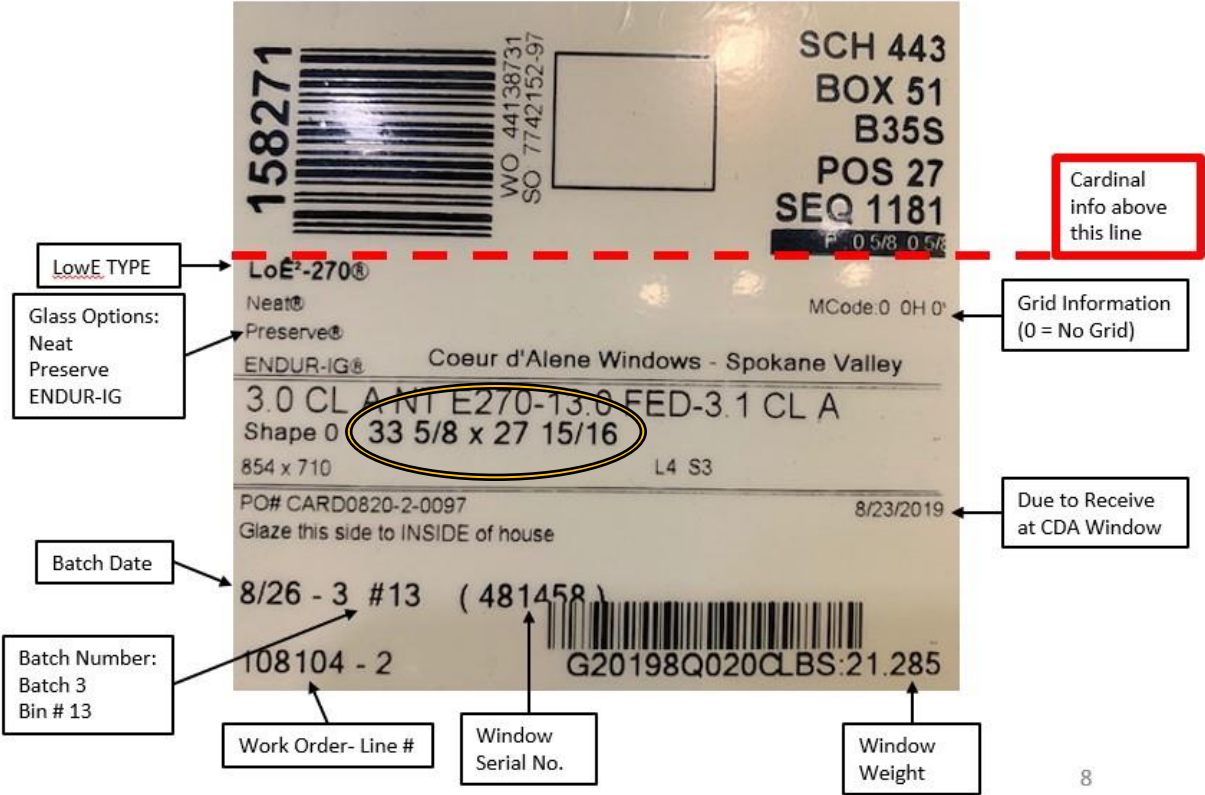
# STEP #2 – Fixed Glass Prep

- Locate the correct glass by looking at the glass label and matching the dimensions of the glass with the inner dimensions of each frame
- Remove the foam wrapping from the outer edge of the glass, and ensure the face of the glass around the edge is clean and free from debris (cleaning with Windex and a rag may be necessary)
- Follow the directions on the glass label to determine glass orientation (which side should face the interior, etc.)
- Most fixed glass units should be installed with the label facing the interior side
- Lastly, inspect the glass for any type of damage
- **DO NOT INSTALL DAMAGED GLASS**



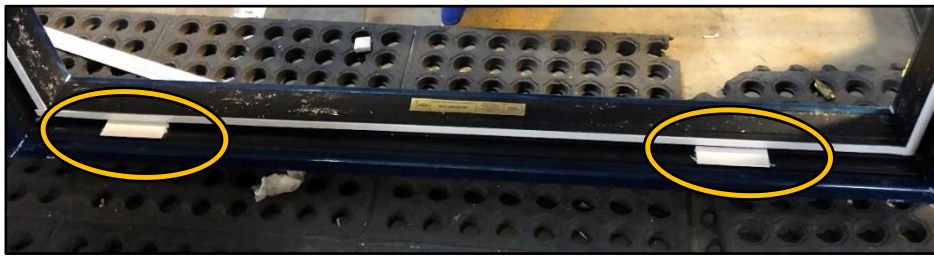
Remove the foam from the perimeter but do not remove the protective coating on the glass

# Anatomy of a Glass Label

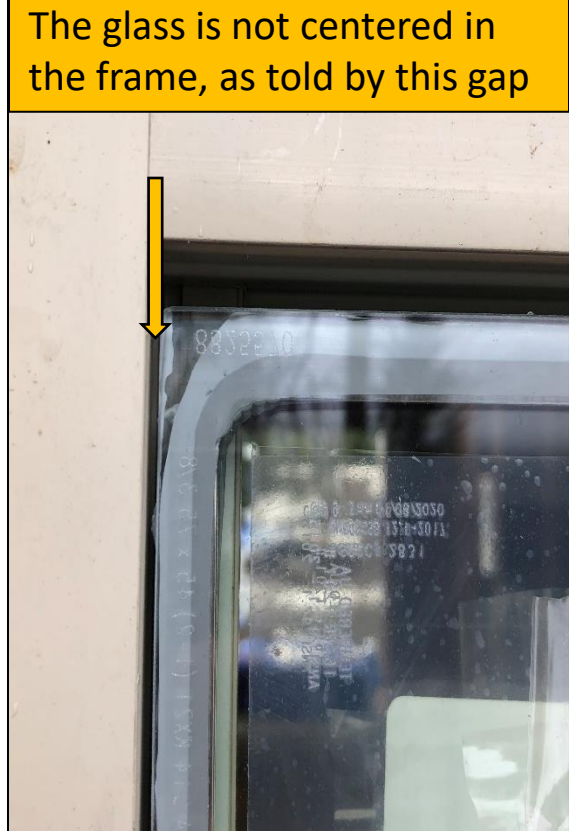


# STEP #3 – Test Fit

- Place the settings blocks on the inside of the frame on the bottom side (one on each side with roughly even space between, or for larger glass, every two feet)
- Before removing the blue adhesive backing on the tape, test fit the fixed glass
- Insert the glass as it should be into the door frame
- There should be a 1/8" (+- 1/16") gap between the edge of the glass and the edge of the door frame on each side



If the glass will not fit with setting blocks, or if the gap is too narrow on top, forego the setting blocks



The glass is not centered in the frame, as told by this gap

# STEP #4 – Install Fixed Glass

- Once the glass is ready to install, remove the blue tape backing
- Start with sitting/placing the glass on the setting blocks (or lower frame piece) with the glass leaning towards the outside, gently lean the glass into place, ensuring it is sitting in the frame with a 1/8" gap on each side (as noted in step #3).
- Once the glass is centered in the frame, gently press the edges of the glass into the adhesive tape

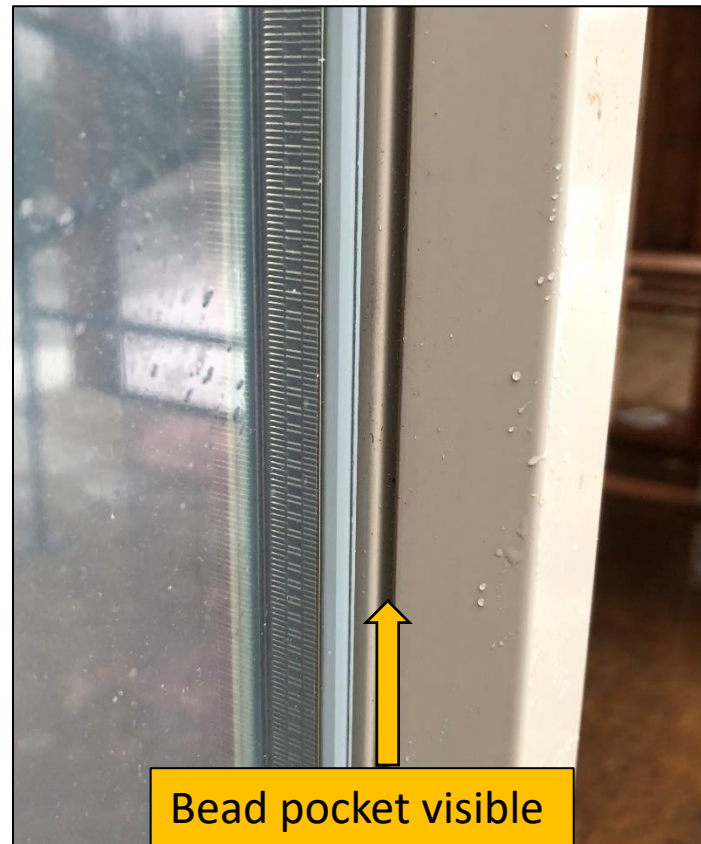


Lean the glass into place while ensuring an 1/8" gap on each side



# STEP #4 Cont. – Install Fixed Glass

- After the glass is adhered to the frame, the bead pocket (on the exterior side) should be visible on every edge of the frame
- The gap between the edge of the glass and the edge of the vinyl frame should be  $1/8''$  ( $\pm 1/16''$ ) on each side



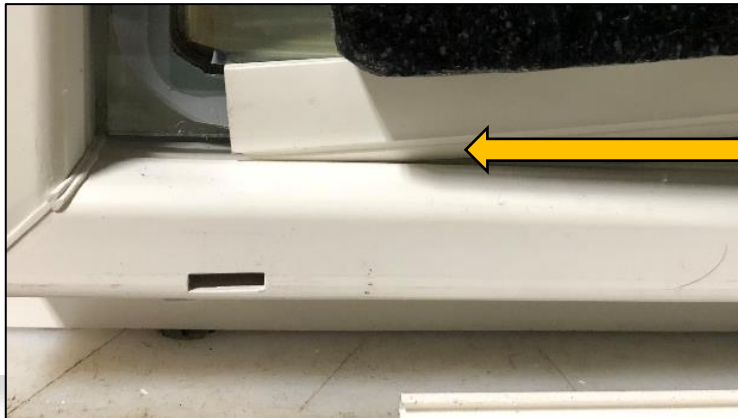


# STEP #5 – Bead Installation

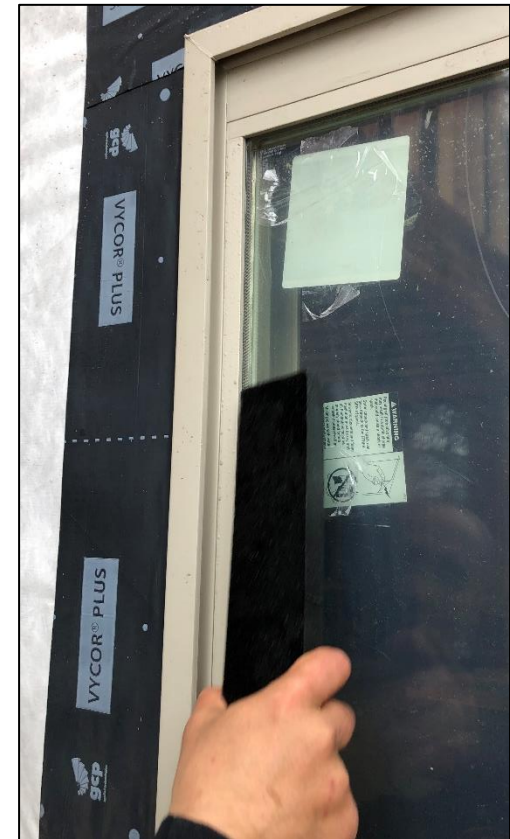
**\*\*Four Panel Doors: The bead is located in the square shipping box that came with the door\*\***

**\*\*Three Panel Doors: The bead is located at the end of the unit, taped to the inside of the main frame\*\***

- After the glass is affixed to the frame, the bead may be installed
- The bead is shaped so that the thinner edge may be snapped into the bead pocket (see step #4 for bead pocket location) with a rubber mallet (or other soft-surfaced item)
- The horizontal bead pieces should be installed at the top and bottom of the frame **FIRST**
- The vertical bead pieces should be installed **AFTER** the horizontal bead pieces
- See the rest of Step #5 for details on obtaining the proper fit and general installation information

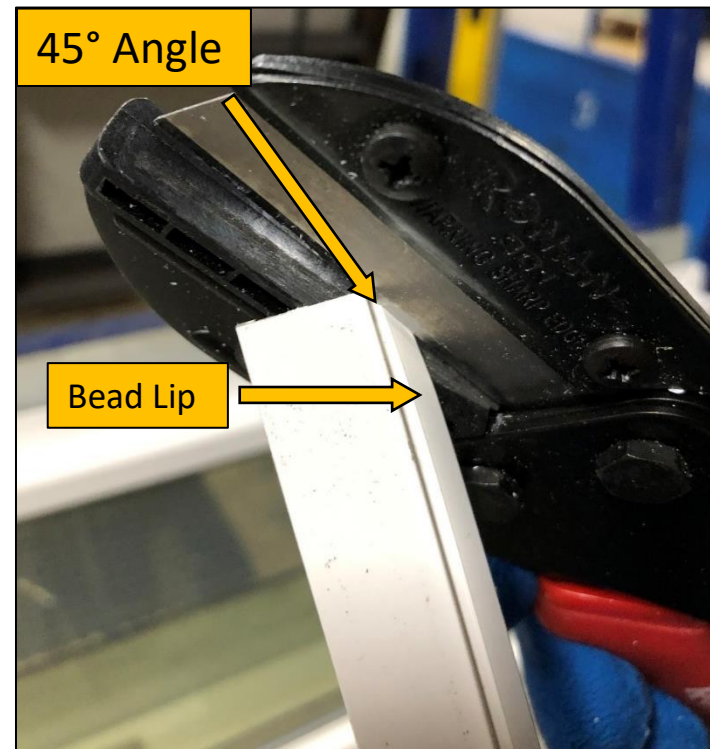


Bead lip facing  
the bead pocket



# STEP #5.1 – Bead Installation

- To prep the bead for installation, cut the bead lip corners at a 45° angle with the vinyl snips; this makes installation easier
- Also, inspect the bead for damage like scratches, cuts, marks, etc.
- Do not install damaged bead



# STEP #5.2 – Bead Installation

- To install the bead, lay one end of the bead lip into the bead pocket
- Using a bead hammer or rubber mallet, tap the bead, keeping the bead hammer flush against the glass, until the bead pops into the bead pocket
- ***Sometimes, it may be necessary to hold the bead at an angle to get it started***



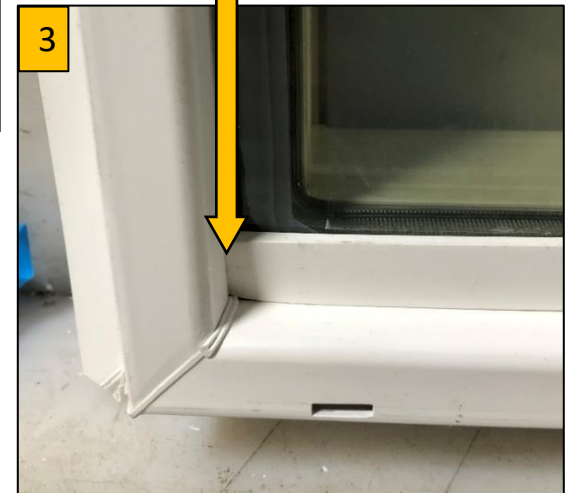
Angling the bead makes the bead lip slip into the pocket with less force

# STEP #5.3 Cont. – Bead Installation

- Snap 4"-8" of bead into the bead pocket; If a gap exists between the end of the bead and the edge of the main frame, it will need to be eliminated
- Tap the other end of the bead (not placed into bead pocket yet) until the gap is gone



The tolerance for the gap between the end of the bead and edge of the mainframe is 0"



# STEP #5.4 Cont. – Bead Installation

- At this point, when the bead is laid flat against the glass (picture #1), the bead stick will be longer than what it needs to be to fit into the bead pocket
- Using the vinyl snips and a steady eye, flip over and trim away the end of the bead until it is the correct length
- ***It is also imperative that small increments are trimmed away, so it is not trimmed too short***



The cut should be exactly 90°; Otherwise it will not fit flush against the main frame or adjacent bead



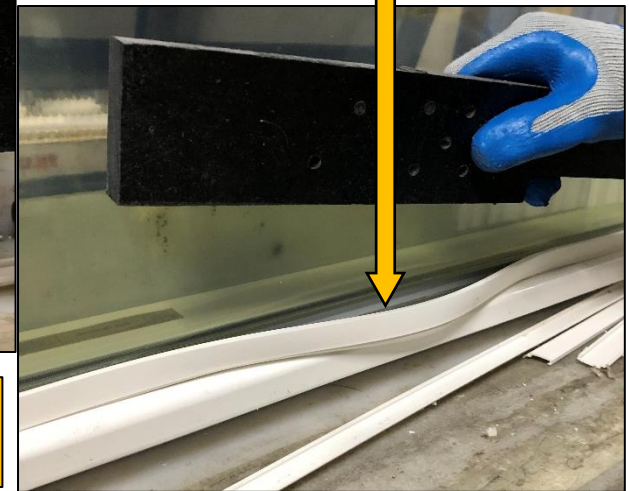
# STEP #5.5 Cont. – Bead Installation

- Once trimmed to length, using the bead hammer, tap the remaining end of the bead into the bead pocket (picture #1)
- Once both ends are inserted into the bead pocket, work the bead from the outer edge towards the middle, tapping it down into the bead pocket
- At the middle, a curve should be present (as shown); hold the curved bead flush to the glass with one hand while tapping it into place with the bead hammer



Both ends should be inserted into the pocket first

The bead should look like this once both ends are popped into place



# STEP #5.6 Cont. – Bead Installation

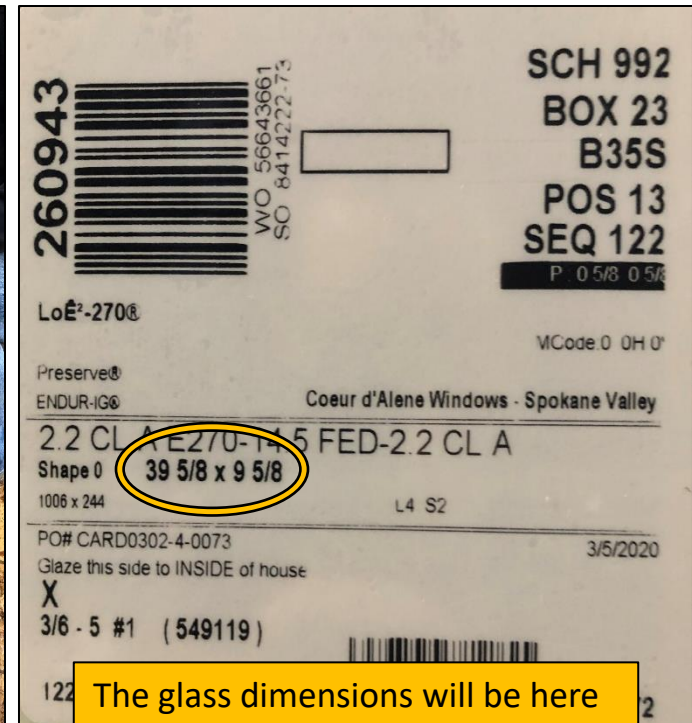
- Repeat all the procedures in Step #5 (5.1-5.6) for each side of frame until all 4 bead pieces have been installed
- Horizontal bead pieces should be installed first, followed by the remaining two vertical pieces
- Caution should be used with the bead hammer; striking the bead or frame too swiftly could crack the frame



# STEP #6 – Install All Fixed Glass

- Repeat Steps #2 through 5.6 to install all fixed glass
- Measure each frame and compare the measurements to those on the glass label to ensure the proper glass is being installed into the proper location
- Remember to inspect all glass before installation
- ***Installing damaged glass will void the warranty***

***\*\*Patio doors may be very tall; For larger pieces it is recommended that two people handle the glass while moving or installing\*\****





# STEP #7 – Locate Door Slider

- The door sash (also called slider) should be ready to install
- Once the correct slider has been located, remove all dust, dirt and debris with a mild detergent and cotton rag
- The slider should be completely clean before installation
- ***For tall patio doors, sliders may be very heavy and may require two people***

For both three and four panel doors, the slider(s) should be installed at a position where they are half-way overlapping the fixed glass (here)



# STEP #8 – Install All Slider(s)

- Larger sliders may require two people, one on each side, to install
- Holding the slider by the frame in the correct orientation (as noted on the label), fit the upper frame piece of the slider into the upper part of the door frame track
- Once the slider fits into the upper track, push the sash outwards until the lower part of the sash is directly above the slider rail
- Rest the sash gently down onto the metal slider rail (the sash wheels will roll on the rail)



Once in this position, push upwards until the sash frame is sitting completely inside the track



# STEP #9 – Sash Adjustment

- Once the slider is in place and operates freely, it will need to be adjusted
- Using the **bottom** screw located on the lower part of the sash frame, adjust the slider up or down
- Turning clockwise will raise the slider (counter-clockwise will lower the slider)
- Several adjustments will need to be made to ensure the sash is level and operates with minimal effort

A good starting point is three full rotations clockwise, then follow with minor adjustments



Rotating the screws will raise or lower the sash wheel on that side

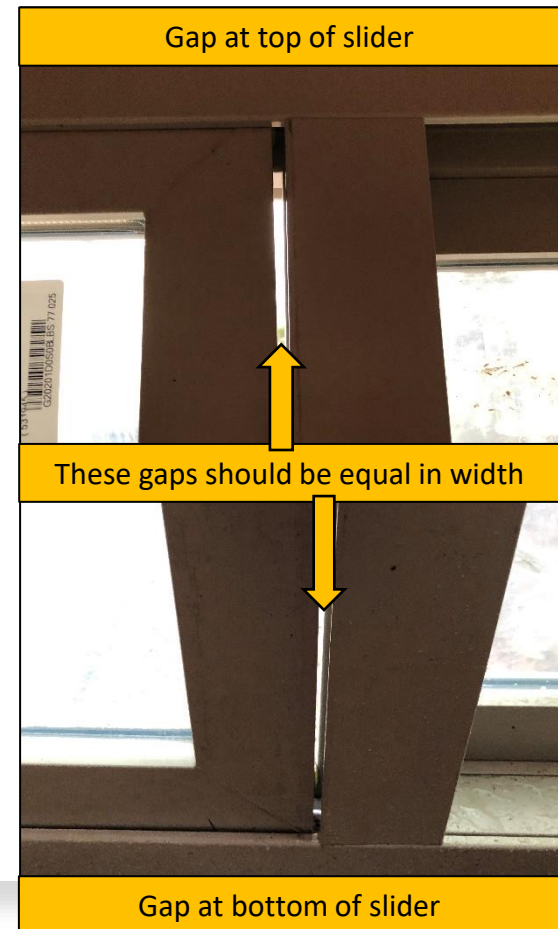
# STEP #9.1 – Sash Adjustment

**\*\*For four-panel patio doors, repeat this step for all sliders, squaring them to their respective door frames and each other\*\***

- Once the sash is operating freely with minimal effort, slide the sash to an almost closed position so a small gap is showing between the sash frame and the door main frame (as shown)
- Measure the gap at the top and also at the bottom of the slider
- The measurements should be equal; If they are not, adjust the sash using the adjustment screws until the gap is equal at the top and bottom
- Adjusting the screw on the opposite side of the sash (opposite of the gap) will do the following; ***Clockwise rotation will narrow the gap at the top of the slider and counter-clockwise will expand the gap at the top of the door***



Rotating the screws will raise or lower the sash wheel on that side

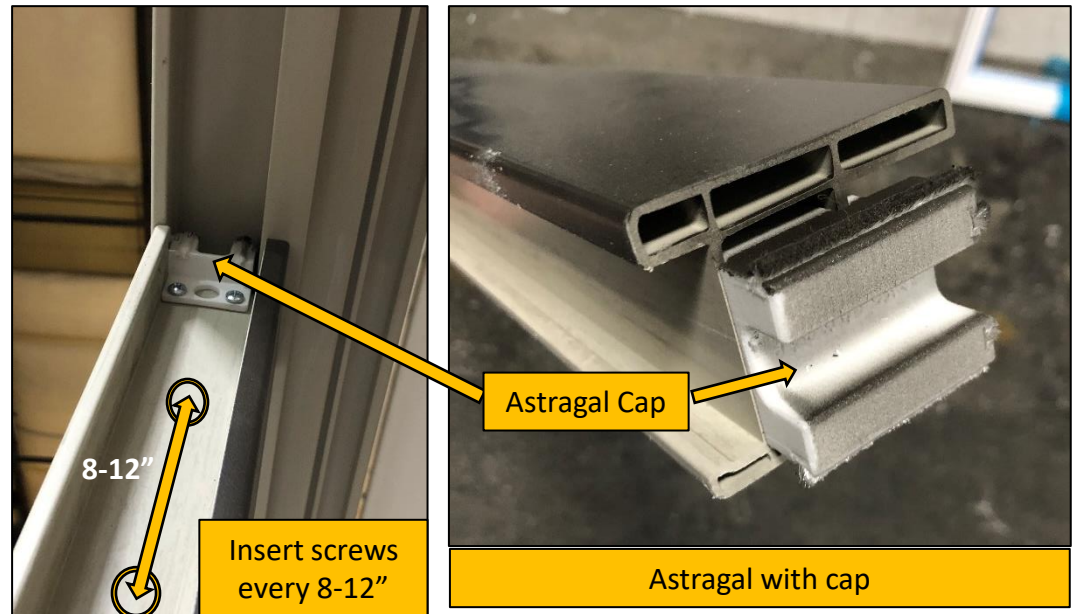


# STEP #10 – Astragal Installation

**\*\*Step #10 - For Four-Panel (Double Sash) Patio Doors ONLY\*\***

**\*\*The astragal is located in the square box that was shipped with the door & glass\*\***

- If the patio door is a four panel (has two sliders), an astragal will need to be installed on to the LEFT sash (looking from the interior side)
- First test fit the astragal, ensuring the length is correct and that it sits flush against the sash frame (keeper exposed, facing away from sash)
- The top and bottom ends of the astragal should fit snug, but not tight, against the upper and lower door frame, respectively, inside the slider track
- Using the screws provided (x6), screw the astragal onto the right side of the left sash, ensuring the lock keeper is orientated correctly



If the astragal is too long, it may be cut to length with a sharp chop saw at 90° (remove the cap first)

# STEP #11 – Lock Keeper Adjustment

- Once the patio door has all components completely assembled, has been squared to the frame, and operates smoothly, close the slider(s) and test the locking mechanism
- If the lock does not completely latch, adjustments to the keeper will be necessary
- To adjust the keeper, back out (but do not remove) the keeper screws so they are snug
- The keeper should be relatively loose; Adjust up or down based on where the lock was making contact with the keeper
- It may take multiple attempts to get the keeper into the correct position (depending on conditions & training)
- Once the keeper is in the correct location, tighten/install all the provided screws



Lock Keeper

# STEP #12 – Lubrication

- To improve functionality of the patio door, spray wax into the locking mechanism
- To reduce the effort needed to slide the door, spray wax onto the slider tracks, both top and bottom



Apply wax or silicone to these locations

# Quality Control

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- Things to remember:
- The assembling of the slider into the track should be easy, and should not have to be “forced”; If something is too tight, there is a problem
- This procedure should be used in conjunction with the AAMA Window & Door Installation Standards
- Incorrect Installation of the Patio Door will result in the Warranty being void
- Refer to The Coeur d’Alene Window Company’s Customer Service Department for any questions, concerns, or information relating to this procedure
- Incorrect header installation will lead to improper door operation after time due to header sagging (the roof should be installed and loaded prior to door installation to prevent header movement)





## Term Definitions

- Hardware – A piece of the final product that may or may not be removed prior to painting  
May be a handle, lock, screws, bolts, nuts, track, knob
- Five-Foot Rule – A blemish should be repaired/fixed if it is visible at a distance of five feet
- Astragal – The vertical piece of vinyl with a lock keeper and also a cap on each end that allows two patio doors to slide together and lock in place
- Lock Keeper – The plastic/metal receiver, opposite the slider locking mechanism, that the locking teeth attach to
- Door Sash – Synonymous with Slider (i.e., the actual door itself that slides back and forth)
- Frame – The vinyl pieces that compose a square/rectangle shape in which the glass is encompassed in
- Setting Blocks – The small pieces of vinyl that fit into the inside of the door frame (on the bottom only) that allows the glass to sit on
- Bead – The vinyl strips, approximately ¼” thick by 1” wide, that fit into a groove in the frame and hold the glass in place and give a neat appearance
- Bead Pocket – The groove in the vinyl frame that the bead lip gets inserted into
- Slider/Sash Rail – The metal rail on the bottom of the patio door frame that the slider/sash wheels roll on
- Slider/Sash Track – The track, groove, rail, or area on the patio door frame where the sash slides on and through