

## **! IMPORTANT! READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION.**

Thank you for purchasing your new replacement windows from Simonton Windows & Doors. The following instructions will help remove the old windows and replace them with windows designed to enhance the beauty of any home while making it more energy efficient.

Refer to the local building codes and practices for additional installation requirements.

Simonton Windows & Doors accepts no responsibility for air or water leakage above, under or around the window unit.

### **Recommended Tools & Accessories**

not supplied by Simonton Windows & Doors

- Hammer
- Tape Measure
- Flat-Head Screwdriver
- Phillips-Head Screwdriver
- Screw Gun or Drill
- Drill Bit -  $\frac{1}{8}$  inch
- Utility Knife
- Putty Knife or Flat Bar
- Caulking Gun
- Level
- Framing Square
- Pliers
- Snips

### **Additional Materials Needed**

- Replacement Window(s)
- Spray foam insulation material conforming to ASTM 812-04 regulations and designed for use with windows or fiberglass batt insulation
- Shims
- Four  $1\frac{1}{2}$  inch Drywall Screws
- Sealant
- Optional Flashing Material
- Optional Corrosion Resistant Nails or Pan Head Screws with a length to penetrate the framing at least  $1\frac{1}{2}$  inches with a minimum  $\frac{3}{8}$ -inch head size

Attention: Before beginning work, please refer to local codes and compliance needs. **While working with windows or tools, your safety is the most important step of all. Please use adequate safety precautions and protective wear when performing these steps.** Care should be taken when removing old window products and preparing for the new installation. Testing for lead paint in the home may be necessary. Each state may have its own lead program and regulations. For more information, contact the National Lead Information Center (NLIC) at 800-424-LEAD or visit [epa.gov/lead](http://epa.gov/lead).

### **Step 1:**

Determine which installation method best fits your project:

#### **Option 1:**

Insert Windows Arriving Preinstalled in the Frame

#### **Option 2:**

Insert Windows Arriving Separately from the Frame

### **Step 2:**

Set aside the instructions that do not apply to your application.

### **Step 3:**

Verify you have all the tools and materials necessary to complete the installation by referring to the guide to the left.

### **Step 4:**

Follow the step-by-step instructions for the application you have chosen.

## Installation of Projection Window

- Prior to removing the existing window, always check the following measurements to ensure the new unit will fit the opening (Figure 1):
  - Existing Opening
  - Replacement projection window
- Remove Existing Window and Interior Casing:
  - Most commonly the existing jambs and header will be left in place.
  - Prep area by making sure that all wood in the opening is secure and free of decay. Replace wood and add fasteners as needed.
  - With a sloped sill you have two options for installation.
  - You can remove the existing sloped sill and use the best fitting 2x "X" that matches your wall thickness to create a flat sill.
  - If you choose not to replace the sloped sill, add a wedge shim to the sill to fill void between the flat surface of projection window bottom and top surface of sill.
- Cap and Seal the New or Existing Sill: It is virtually impossible to seal after frame is installed.
  - Use coil stock to cap the sill.
  - Then seal capping with quality caulking.
- Inserting the New Projection Window:
  - Insert projection window into the opening from exterior of structure.
  - Bring the interior edge of frame (head, seat, and jambs) flush with interior sheathing of structure. Bring flush with wall.
  - Use a straight edge or level to ensure that projection window frame is even on all four sides with the interior wall surface.
  - Shim as needed to make frame square with opening in wall (Figure 2).
- Securing Projection Window:
  - You will need to use four three-inch screws on each jamb to secure projection window to frame of structure. (Three-inch screws are supplied.)
  - Fasten the screws in as close as possible to the back side of real-wood mullion mounted on jamb boards. Make sure that you hit the stud with screw and not the sheathing or masonry surface of wall (Figure 3).
  - You will have two pieces of installation trim (3/4" finish trim) shipped "loose" with the new projection window, one for each side of frame.
  - While holding installation trim against jamb mullion and jamb board, use 1-1/4" finish nails to fasten the installation trim. This will cover the head of the installation screws.
  - Most commonly, the installation trim are pieces of molding that match the interior window stops of frame.
  - When the projection window's jamb boards are greater than approximately 10" wide, you will receive a different type of installation trim. This is because in order to properly screw the installation screws into opening, you will be required to reach further back on jamb board away from jamb mullion. This "oversize" installation trim will be a beveled piece of real wood. It will be at least three inches wide to allow installer to cover the installation holes when they are set further back away from jamb mullion.

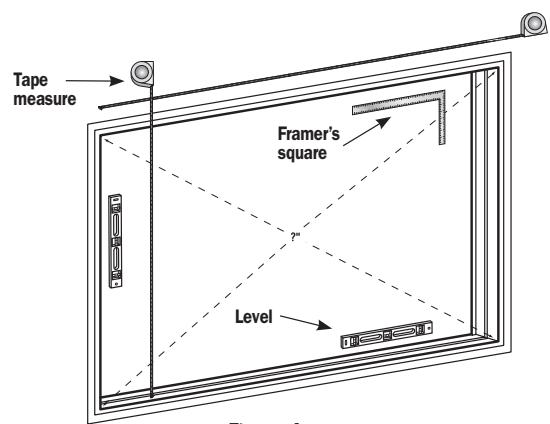


Figure 1

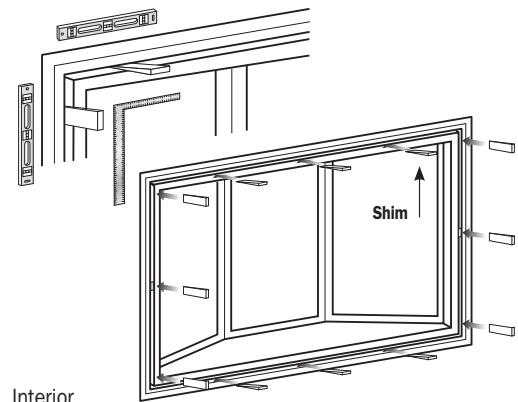


Figure 2

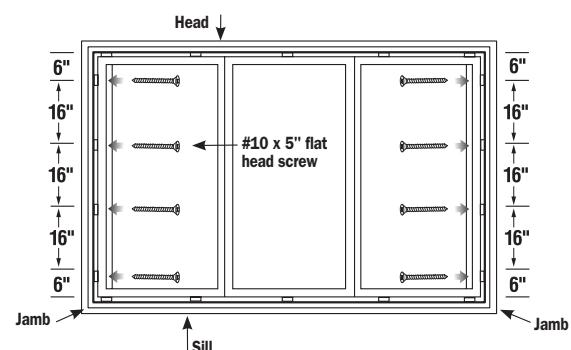


Figure 3

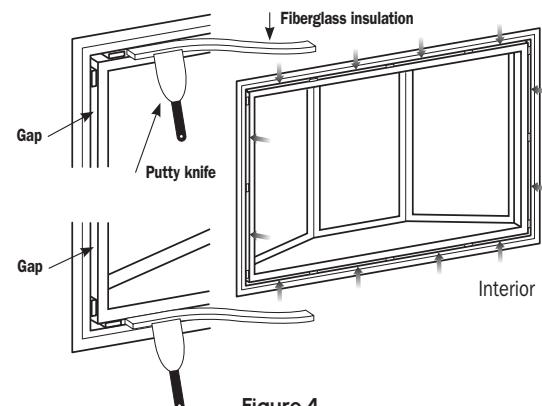
- If installer has chosen not to use supplied fasteners, then we recommend that you use four hardened finished nails on each side of the jamb. Use shims on each side of the nail to protect veneer from hammer damage. Make sure to set all nails with a nail punch.

6. Insulate Around Projection Window Frame

- Using fiberglass insulation completely insulate between projection window frame and opening in structure (**Figure 4**).

7. Installing Standard (Non-mitered) Interior Casing

- If you ordered non-mitered interior casing you will need to measure and cut your casing.
- You should start with bottom face board.
- When cutting interior casing on job site, installer should allow a 1/4" reveal when measuring if the frame has edge banding applied to plywood edge. If there is no edge banding on unit installer should place interior casing flush with top surface of seat board.
- Fasten bottom piece of interior casing to the seat with finish air nail gun. If using hammer make sure to pre-drill the holes.
- Measure and cut both pieces of casing for the sides. Match the miter used to cut bottom piece. Then use same method to fasten these pieces to the side jambs.
- Measure, cut and fasten the top casing to head board.



**Figure 4**

## Completing Exterior Installation of Projection Window

1. Install Hanger Support System and/or Underpinning

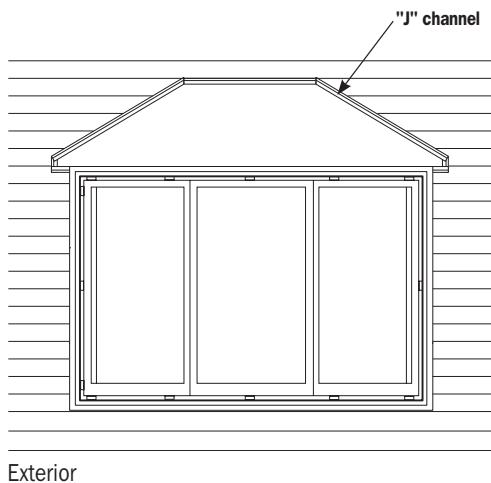
- Follow installation instructions included with hanger support kit. If no hanger is used underpinning must be properly installed. We also recommend underpinning of center windows >60".

2. Finishing the Top of Bay or Bow

- Installer must apply a waterproof barrier over the entire top of projection window frame.
- The top of the projection window should be insulated with six-inch fiberglass insulation and capped off (fascia extension) to overhang or roofed.
- If pre-fabricated roof was ordered from manufacturer please refer to installation instructions included with roof.

3. Cap and Seal any Opening Around Exterior of Projection Window

- Installer should properly cap (coil stock, J-Channel, etc.) and seal (with high-grade exterior sealant) any gap between projection window's exterior frame and the sheathing of structure, including sill (**Figure 5**).
- Remove any excess sealant and clean the exterior unit as needed.



**Figure 5**

## ATTENTION: INSERT WINDOW INSTALLERS

We have made some changes to the profiles on our projection window frames. Overall install is the same but we wanted to include this instruction to answer any questions and make sure everyone is on the same page!

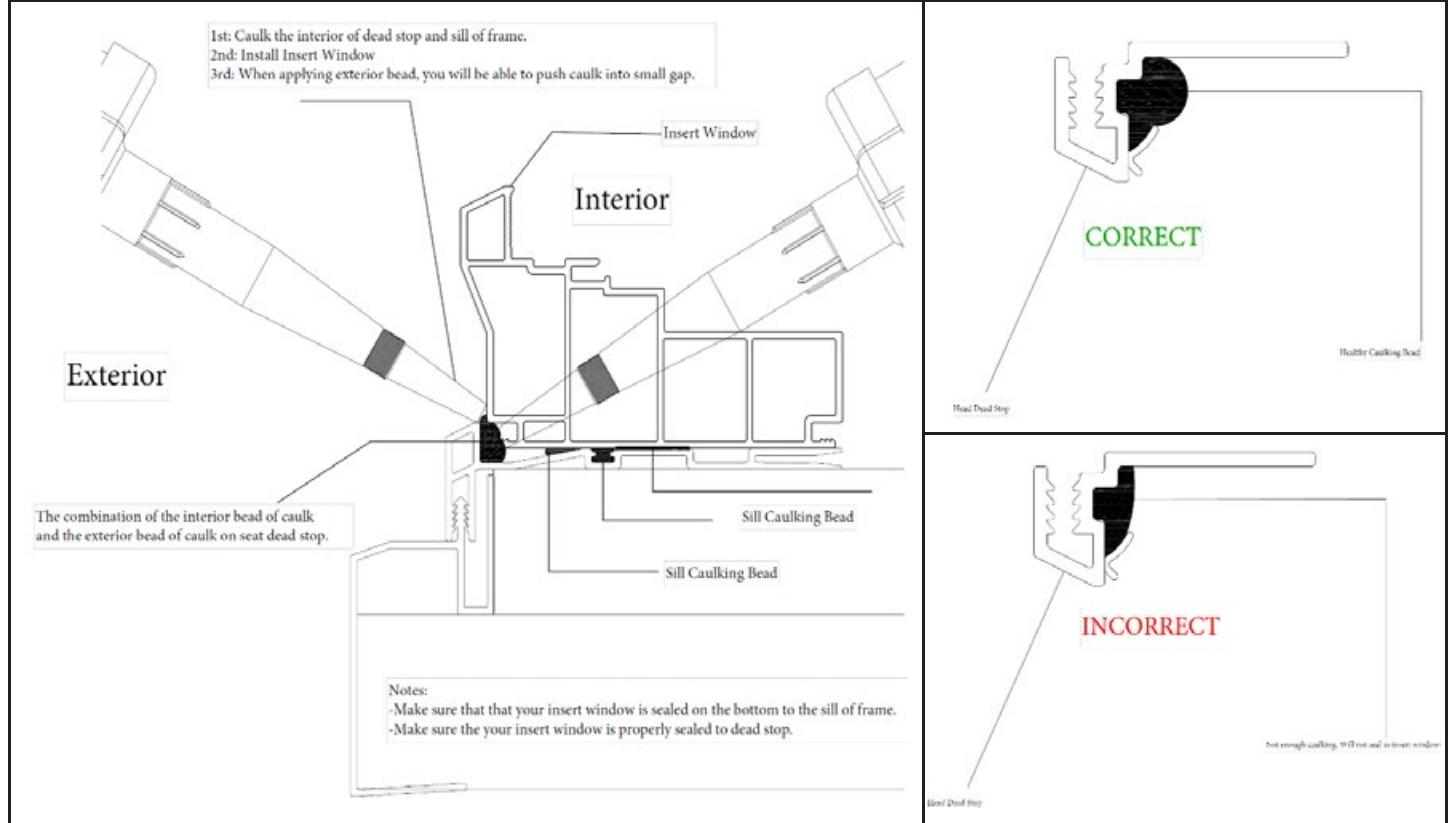
Our new dead stop profiles now have a soft vinyl flange added to them. The flange is intended to work as a caulking dam to redirect the interior caulking to the inside and around the insert window.

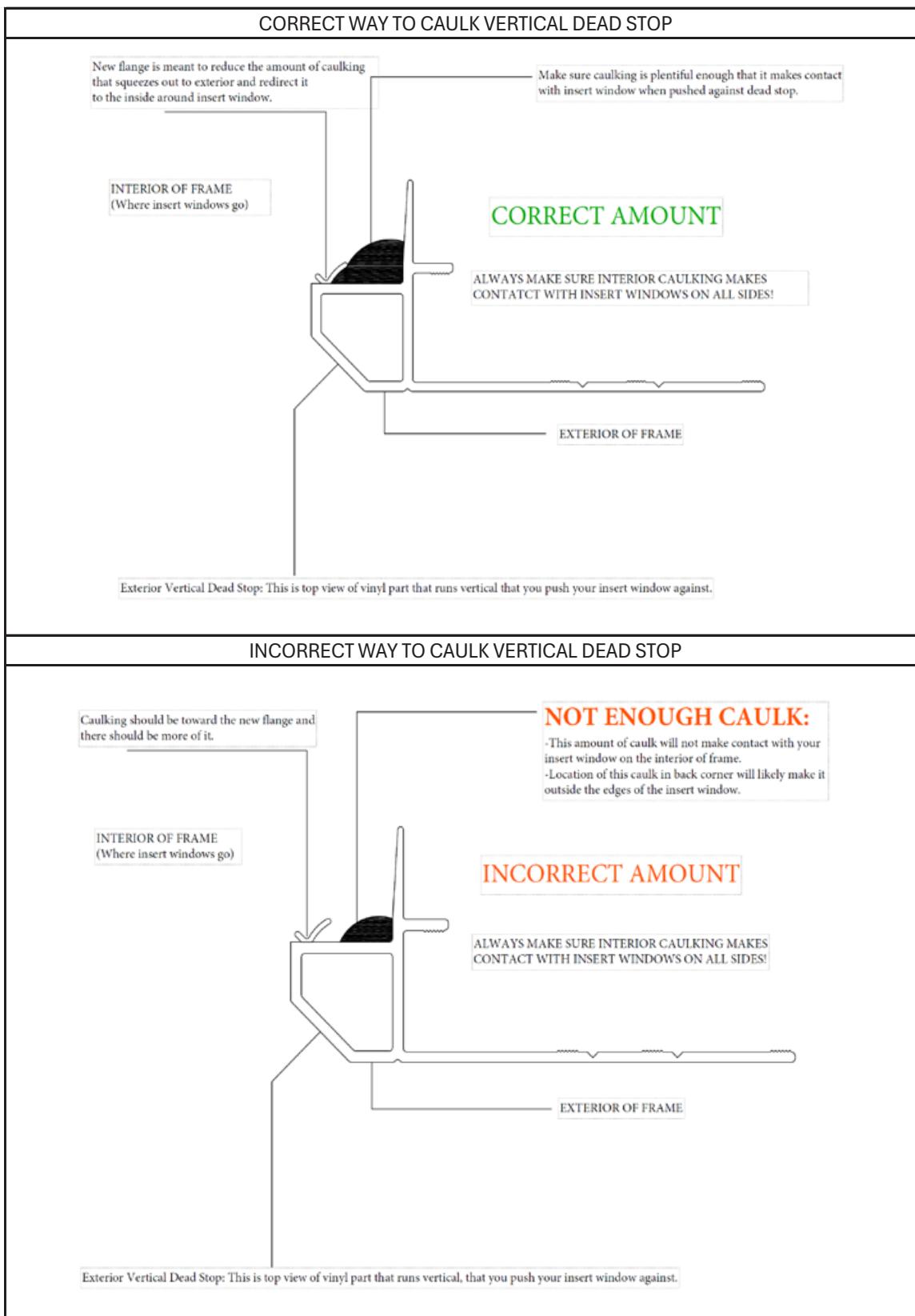
What you need to know:

- Follow the normal insert window install procedures. GENERALLY, install has not changed from normal.
- When caulking the two sides and top dead stop make sure to use plenty of caulk and apply that caulk in the gap between the new flange and interior leg of vertical dead stops. (SEE FIGURES BELOW AND ON THE NEXT PAGE)
- The bottom dead stop does not have the flange on it at the seat. You will see a small gap left between insert window and dead stop on bottom exterior. This gap is intentional so that when you apply the exterior caulking bead it pushes into the gap and combines with the interior bead you apply before installing insert window.
- At this time, we do still require both the interior caulking and the exterior cap bead of caulk when installing insert windows.
- Sealing the interior connection/contact of the insert window and dead stops on projection window frame is most important. The exterior bead of caulk will degrade due to exposure but the interior bead of caulk will not.

Timing of change and notes:

All colors will eventually be changed to this new design. It will take time for each color to be implemented. Any time we switch a color over we will include this flyer with the units for around 30 days.





## Insert Window Preparation

1. Clip or shave any excess vinyl on exterior corners of insert windows caused by the welding process, if any.
2. We suggest removing all operating sashes before installing insert windows, if applicable.
3. Remove installation screw covers if applicable.
4. Make sure that all jamb adjusters are in their closed position.
5. Fill all exterior accessory tracks and top interior accessory track, if applicable. (**Figure A1**)
6. Foam wrap the sides and top of insert window. We recommend that the foam wrap specifications be no greater than .25" thick x 2.25" wide.
7. The foam wrap should be lined up with the interior of insert window, leaving the exterior side walls of insert window bare. (**Figure A2**)
8. The foam wrap needs to stop at or before the frames vertical dead stop stapling flange and Q-Lon V Gasket.
9. Leave 3" or greater un-wrapped at the bottom of the insert window on each side. (**Figure A2**)
10. Be sure to stuff any "left over" gaps that exist between insert window and wooden frame with fiberglass insulation.
11. Make sure to clean and remove any debris from front surface and bottom of insert window before installing.

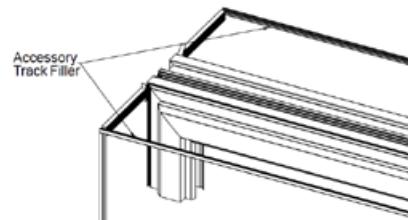


Figure A1

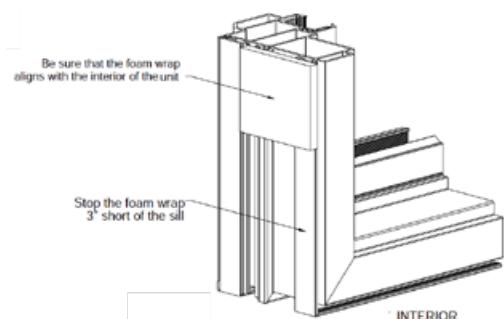


Figure A2

## Projection Window Frame Preparation:

1. Remove plastic wrap from projection window frame leaving card board V-board intact and taped to unit.
2. Inspect projection window frame for any defects and check openings to make sure windows will fit properly when installed. Putting window frames into each subsequent opening is a good test for fit.
3. Lay a protective surface (cardboard) across seat of frame to protect against damage during the insert window installation process.

## Frame Opening Preparation:

1. Before applying any caulk make sure that all dead stop surfaces and the seat cap are clean and free of debris.
2. Starting at top of opening (head dead stop), apply a moderate (3/16") bead of caulk across the head dead stop using the bottom/outside edge as a guide. (**Figure C1**)
3. Take care not to be overly excessive when applying the caulk because you want to minimize the amount of caulking squeezed out onto exterior unit when insert window is pushed into opening. The same care should be given to all dead stop surfaces that are caulked.

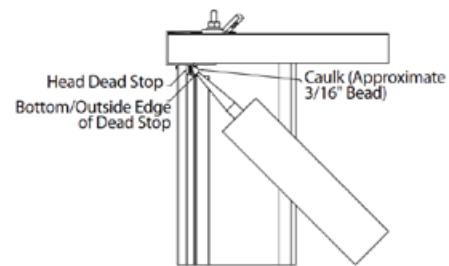


Figure C1

4. Lay each bead of caulk near the edge of profile to assure that you are making a good contact with the insert window when set in place. Any gaps or zigzags found after application should be fixed before inserting windows. The same care should be given to all dead stop surfaces that are caulked.
5. Starting at one of the 2 vertical dead stops, run a moderate (3/16") bead of caulk down the dead stop using the outside edge as a guide. Then repeat process for remaining vertical dead stop on other side of frame opening. (**Figure C2**)
6. When applying the vertical beads of caulk, make sure to stop at bottom of profile before covering interior weep hole. Take care that you do not build up an excessive amount of caulk immediately above this area so that none squeezes into this opening during insert installation. (**Figure C4**)
7. The last dead stop surface that will need sealed is located on the seat cap. Apply a moderate (3/16") bead of caulk across the seat dead stop using the top/outside edge as a guide (**Figure C3**)
  - When applying caulk to the seat dead stop make sure to stay in between the interior weep holes. Take care that you do not build up an excessive amount of caulk immediately beside this area to minimize the amount that may squeeze into this opening during insert installation. (**Figure C4**)
8. Apply two beads of caulking (left to right) onto the seat cap in places where the insert window frame will make solid contact when put in place. In addition, apply 2 beads of caulking on each side of the opening (front to back) while paying special attention to filling behind Q-Lon V Gasket. (**Figure C4**)
  - The first line of caulking, closest to the exterior of unit, will most commonly be applied in or near the optional accessory groove found extruded into seat cap. You may also install your own accessory gasket into this groove in lieu of caulking.
  - The second bead is commonly applied in or near the large groove closest to the interior of unit.
  - The base (bottom) of the Q-Lon V Gasket needs caulked to assure that no water can find its way underneath it once the insert window is installed. Spot caulk a light amount onto front of Q-Lon V Gasket at base (looking from the inside) and a small amount of caulk on the inside of V groove.
9. Check bottom corners of opening where the interior weep holes are located to make sure that no caulking or obstruction is present before installing insert window. (**Figure C4**)
  - If caulking is obstructing the interior weep holes it is important to take a towel and/or putty knife and clean this area out.

### Putting Insert Window into Frame Opening:

1. After completing sections A-D, we are now ready to install the insert window into the frame opening.
2. Start by angling the top of the insert window back and placing the interior bottom of insert window down onto seat cap. (**Figure D1**)
3. Once in place, install the rest of window into the opening by pushing the top of insert window in toward the dead stops.

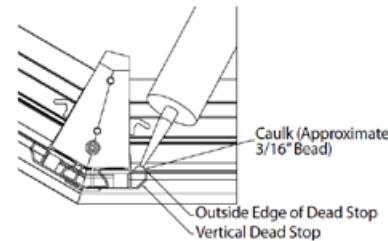


Figure C2

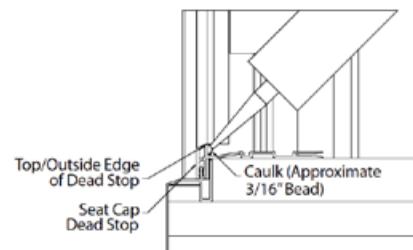


Figure C3

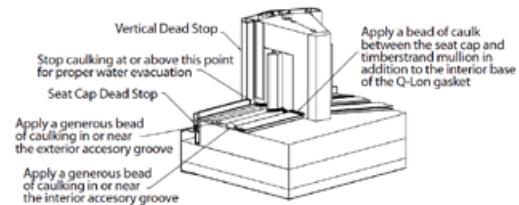


Figure C4



Figure D1

## Fastening Insert Window Into Frame:

1. Tips on fastening insert window into frame:
  - Having 2 installers for this process can make things more efficient but is not necessary.
  - Do not clean caulking off exterior of window at this time. Complete section F "Interior Finishing" as window stop installation will cause extra squeezing out of sealant onto exterior surface.
2. Starting at the sill, align the insert window so that it is square with the opening. Ideally, there will be an equal gap (1/8") on each interior side between the insert window and the mullion. Check exterior of insert window to make sure that the frames dead stops are not "overhanging" or blocking the operable sashes.
3. On either bottom side of insert window, push insert window tightly against dead stops and down onto seat cap. **(Figure E4)**
4. Holding in place tightly, install the first installation screw into proper installation screw hole. **Do not completely tighten installation screw at this time.**
5. After completing the previous steps, repeat this process for the remaining corners/installation holes of window.
6. Before completely tightening all installation screws, make sure the insert windows are square to ensure that sashes will operate freely.
7. If jamb adjusters are available, use them to square the center of insert window so that it equals the same reveal as top and bottom. If no jamb adjustors are available we recommend that you shim the interior sides of insert window to square the center.
8. Before moving on to next section check exterior of opening for gaps or cracks to ensure good contact between insert window & dead stop surfaces.

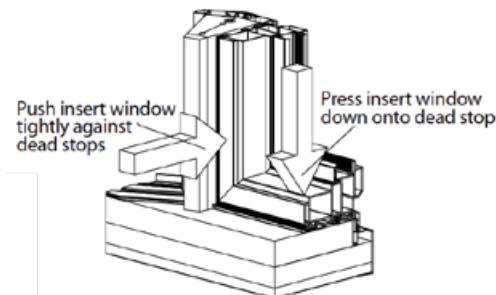


Figure E4

## Interior Finishing:

1. You will notice numbers written on the mullions which denote the opening you are installing and the corresponding bundle of window stops to be installed in that opening. Window stop bundles are most commonly packed on top of the projection window.
2. Each window stop is custom fit to each opening for premium finish. Try to keep these in order as you install each opening.
3. You will find the bundle of window stops located on the top of unit or sometimes on seat. When you open the bundle you will see that they are labeled "#T", "#L", "#R", and "#B". The labeling corresponds to which opening it is (**#1, 2, 3, 4, or 5**) and whether it is the top (T), left (L), right (R) or bottom (B) piece of window stop.

### Troubleshooting: What to do if you have a large gap (>1/8") on the exterior?

Small gaps or cracks between the insert window and the dead stop are fairly common with this type of installation. That is why it should be sealed well from the inside, see section C "Frame Opening Preparation" and section G "Exterior Finishing". Common gaps or cracks ( $\leq 1/16"$ ) pose no issue to the function of the window system, but gaps or cracks ( $>1/8"$ ) should be addressed if found. Solution: Re-install installation screws and/or insert windows as needed while keeping proper amounts of pressure on window. When redriving installation screws into hole, angle them so that they pull insert window toward exterior of unit.

4. Starting at sill (bottom), take the window stop trim labeled with a #B and insert it between the Timberstrand® mullions with mitered ends facing up. Push the window stop tightly against insert window before brad nailing it. (**Figure F1**)
5. Brad nail head should follow the wood grain, as to prevent wood splitting or cracking. We recommend using 16 or 18 gauge 1-1/4" brads with a finish nailer.
6. Make sure that the window stop is held flat against insert window and seat when nailing to prevent piece from rolling and/or creating gaps.
7. Repeat this process for the remaining pieces of window stop by installing the left (L) and right (R) pieces of window stop next and finishing with top piece (T) of window stop last.
8. Check all pieces for any gaps or inconsistencies. If any gaps or loose spots are present add extra brads as needed. If two pieces of window stop do not line up, use a wood block and hammer to knock the window stop into place.
9. **Important Tip:** Make sure to apply plenty of inward pressure to the window stops and insert window because it is an extra measure to assure that the insert window is tightly pressed against dead stop.
10. You will see a loose piece of installation trim taped to each jamb mullion and jamb board. Leave these taped to unit as they are used to cover installation screw holes in the jamb of projection window frame when installing the finished window into structure.

## Exterior Finishing:

1. Check the exterior of openings to make sure that you have a solid contact between the insert window exterior surface and the dead stops. Again, any visible gap over 1/8" should be addressed. Ideally, you will have 0" up to 1/16" of gap/crack all the way around the insert window.
2. Clean/smooth any excess caulking that squeezed out onto exterior of projection window. Take care to get as much of this caulking off unit as possible to leave a nicely finished product that does not attract extra grime or dirt.
3. Please note that if enough caulking squeezed out due to over application: smoothing, cleaning, and spot caulking exterior may be all that's necessary to finish window.
4. It is recommended to have cleaning rags and putty knife, on-hand, for easy cleaning.
5. After proper cleaning, apply a "light" bead of caulk along the entire perimeter of opening where insert window is pushed against dead stops. (**Figure G1-G2**)
6. This bead of caulk should be very light and is meant to make contact on both the exterior surface(s) of insert window and the side wall(s) of dead stop(s), essentially filling any crack or inconsistency between the two and creating an aesthetically pleasing finish.

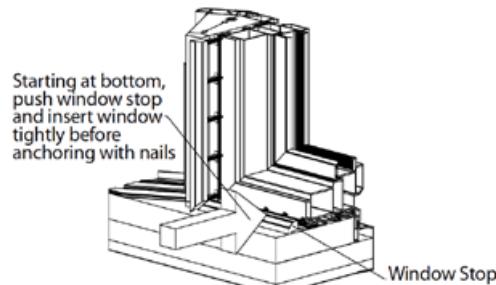


Figure F1

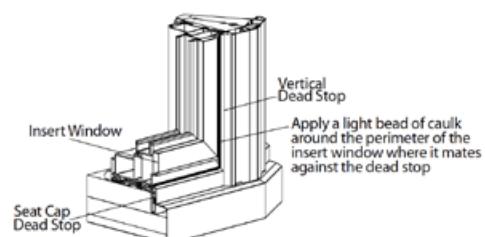


Figure G1

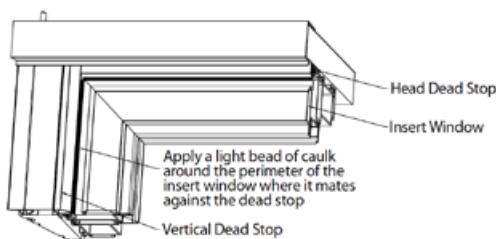


Figure G2

## Final Preparation:

1. Install any installation screw hole covers.
2. Re-install sash into insert window frame, if applicable.
3. Operate any windows with operating sash to assure that they are working properly.
4. Casement windows may need to have sash adjusted in plant and again in field depending on how square projection window is after final installation.
5. Hung windows may need slight adjustments to jamb adjustors to assure that there is no drag in sashes.

## Projection Window Inspection:

1. After all insert windows have been installed use an air gun or brush to clean off interior of projection window.
2. Check over the interior of window for any damage caused during insert window installation.
3. If there are light scratches you will need to lightly sand with 150-220 grit sand paper. Be careful not to sand through plywood veneer.
4. If you see a dent or have a deep scratch we recommend that you put water onto damaged area and let the grain absorb it. Once the water has dried the grain should rise slightly and you can lightly sand to fix. This process may have to be repeated a few times to correct problem. Do not sand through veneer.
5. If dents or deep scratches are still visible after this watering process you can fill this area with matching wood filler, let it dry, and lightly sand until filler is blended into veneer. Again make sure not to sand through veneer.
6. If any vinyl is scratched or damaged during insert window process you can sometimes repair by wet sanding and applying an acetone based solvent to regain some sheen.
7. When sanding vinyl you must sand very lightly with 220+ grit sandpaper and make sure that surface and/or sandpaper is wet.
8. Make sure to follow the contour or direction that vinyl profile is directed toward.
9. After sanding the surface of vinyl will be dulled. Use acetone wiping in the same direction as profile was sanded to regain some sheen to material. Sometimes it is necessary to sand/acetone along whole runs of a profile to make it match in sheen.
10. Check over exterior connection of insert windows to dead stops once again for any excessive gaps or caulking that may need removed.