

# KOLBE<sup>TM</sup>

WINDOWS & DOORS

## XL STERLING DOUBLE HUNG & SINGLE HUNG

### INSTALLATION INSTRUCTIONS

READ THESE INSTRUCTIONS COMPLETELY BEFORE  
ATTEMPTING ANY INSTALLATION

#### CAUTION

Lead-based paint may be present in older homes, and the removal of windows & doors may cause this paint to be disturbed. In order to minimize exposure to lead-based paint dust, please consult [www.epa.gov/lead](http://www.epa.gov/lead) for more information.

**NOTICE**

Failure to install and maintain our product according to these instructions will void any warranty, written or implied. The installer is responsible for consulting the contractor, structural engineer, architect, or consumer, for proper installation according to local codes and/or ordinances.

**⚠ CAUTION**

Some installation situations could be different from those shown in instructions. These instructions may not cover all situations.

**⚠ WARNING**

Proper Eye and Hearing Protection must always be worn when installing, removing or performing adjustments to Kolbe window and door products.

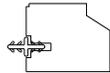
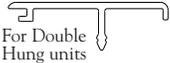
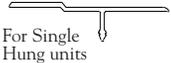
**⚠ WARNING**

Improper use of hand/power tools could result in personal injury and/or product damage. Follow manufacturer's instructions for safe operation of equipment.

**ITEMS REQUIRED BY INSTALLER**

- Hearing protection device
  - Sealant
  - Level
  - Hammer
  - Tape measure
  - Phillips head screwdriver
  - Flashing tape
  - Putty knife
  - Safety glasses/goggles
  - Caulk gun
  - Square
  - Shims
  - Flat head screwdriver
  - Power drill
  - Fiberglass insulation
  - Rubber Mallet
  - Closed cell foam backer rod in 1/2" (13mm) diameter and 1" (25mm) diameter
- For temporary nailing through the nailing fin only:
- 1-1/2" (38mm) or longer galvanized roofing nails
- Screw through the frame installation (only certified method):
- 9/64" (4mm) drill bit
  - #10 x 2-1/2" (64mm) phillips flat head screws

**ITEMS PROVIDED BY KOLBE (SENT LOOSE)**

- Top Sash
- Bottom Sash
- Wood Side Interior Stops (qty - 2) 
- Jambliner Inboard Flange (qty - 2)  
- Black Pile Weatherstrip (qty - 2) 
- Checkrail end seal pad (qty - 2) 
- Jambliner Cover (qty - 2) 
- Head Parting Stop (qty - 1) 
- Checking Gauge (qty - 1) 
- 8 x 1-1/4" Screws  (for bottom sash stile reinforcement plate)(qty - varies)
- #7x 3/4" Screws  (for L-brackets on head parting stop (qty - varies))

**INTRODUCTION**

These instructions are for installing XL Sterling double hung units into a wood or concrete/masonry wall. The rough opening must be lined with a 1-1/2" (38) thick wood buck. Contact your Kolbe window and door supplier for information on installing units into other wall conditions. Please visit our website at [www.kolbewindows.com](http://www.kolbewindows.com) for additional literature and information.

**PRELIMINARY PREPARATION**

Remove the shipping packaging, skid plates or factory applied bracing. Make sure the unit is not damaged and the dimensions are appropriate for the rough opening. Check that you have all necessary hardware.

**⚠ CAUTION**

Do not remove the jamb strap or the sash installation spacer at this time. The sash installation spacer is critical to proper operation and performance of the unit; be sure it is in place and the sash is installed during final shimming and fastening.

Before applying sealant or adhesive pads, make sure the area to be sealed is clean, dry, and frost-free. Use color-matching or transparent sealant. Photos show contrasting sealant for clarity and demonstration only.

**PREPARE ROUGH OPENING:**

1. The material/lumber quality and fasteners must be structurally adequate for design load requirements.
2. Typically, the rough opening should be sized 1/2" (13) wider and 9/16" (14) higher than the outside measurement of the window frame. Masonry openings should typically be sized 1/2" (13) wider and 9/16" (14) higher than the nosing/exterior casing.
3. The rough opening must be plumb, square, level and in plane.
4. Individual construction members should not be twisted.
5. The sill plate beneath the unit must be level for proper unit operation.

A brick, stone, marble or concrete face installed up against the window sill could cause the unit to become inoperable.

**⚠ CAUTION**

When installing into a wall with exterior rigid foam insulation panels, place solid blocking material behind the brick-mould to provide proper support when fastening the unit.

**SEALANT AND FLASHING**

Kolbe recommends following ASTM E 2112 guidelines for sealing and flashing exterior windows. Maintain a gap of at least 1/4" (6) between the window frame and the rough opening structure. Create a proper seal between the window and the building exterior. For more details, see our pamphlets *Sealant Information* and *Flashing Information*. These publications are available from your Kolbe window and door supplier or visit our website to download a copy.

*These instructions are for use with a surface barrier system. If using a membrane drainage system, please see our Sealant and Flashing Instructions for the proper sealing techniques.*

See Fig. 1, 2 or 3 based on your unit configuration for proper sealant placement. Sealant is not shown as continuous for illustration purposes only.

**Units with Nail Fin only:**

See Fig. 1. Apply two 3/16" (5mm) continuous tooled beads of sealant around the perimeter on the backside of the nail fin as shown in Fig. 1. Also, apply sealant to the edges of the foam corner seal.

**Units with Brickmould only:**

See Fig. 2. Apply two 3/16" (5mm) continuous tooled beads of sealant around the perimeter on the backside of the brickmould as shown in Fig. 2. Also, apply sealant to the edges of the foam corner seal.

**Units with Nail Fin & Brickmould:**

See Fig. 3. Apply three 3/16" (5mm) continuous tooled beads of sealant around the perimeter on the backside of the brickmould and nail fin as shown in Fig. 3. Also, apply sealant to the edges of the foam corner seals.

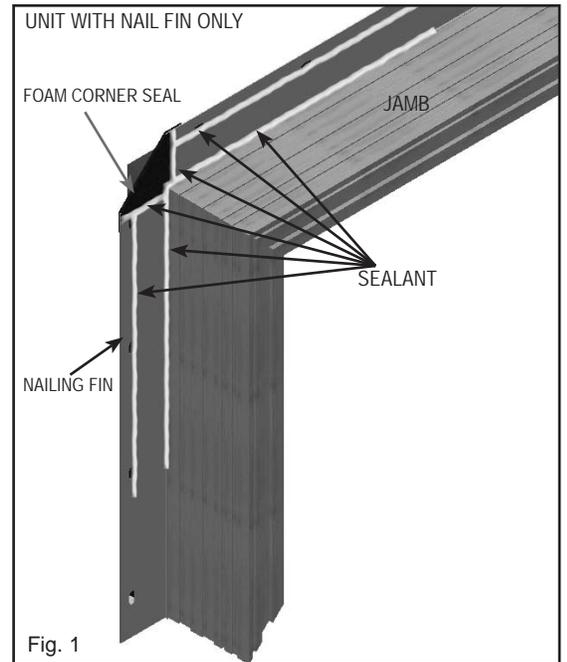


Fig. 1

**⚠ IMPORTANT**

Be sure all points where the casing meets the side jamb(s) and sill nosing are sealed on the backside of the unit.

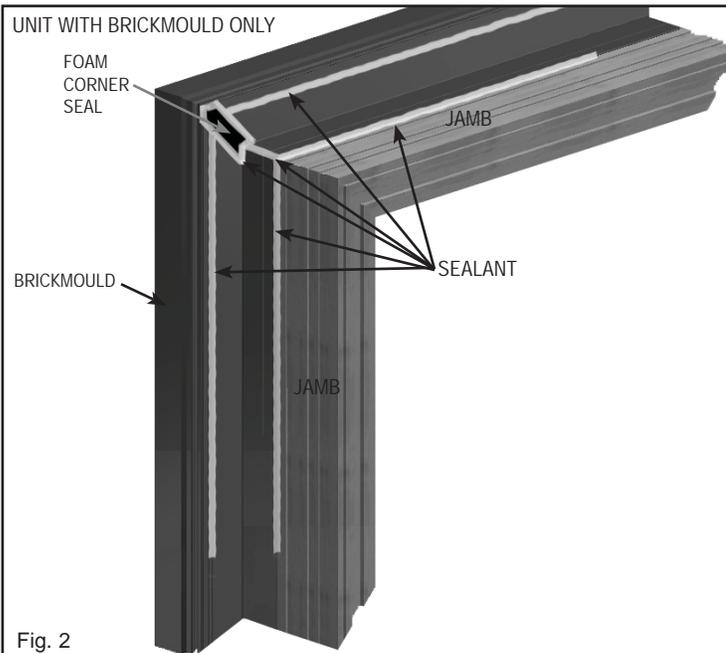


Fig. 2

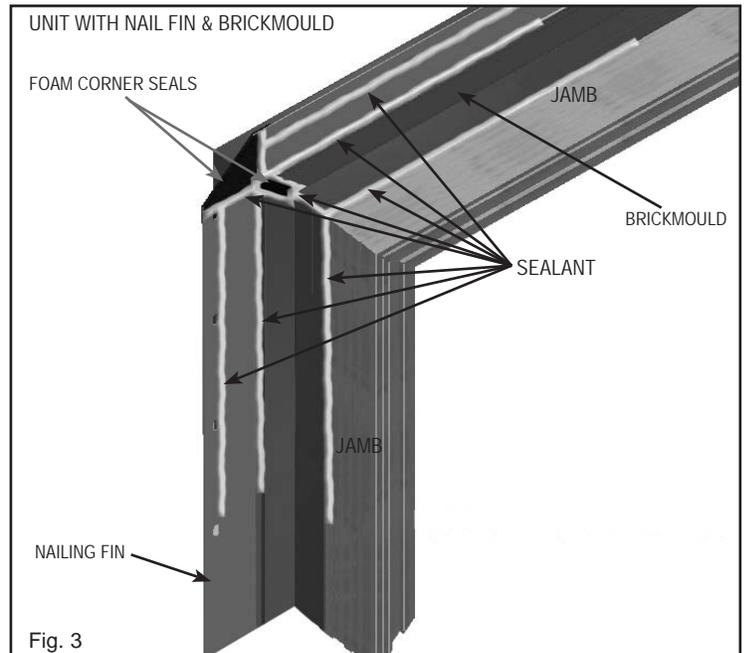


Fig. 3

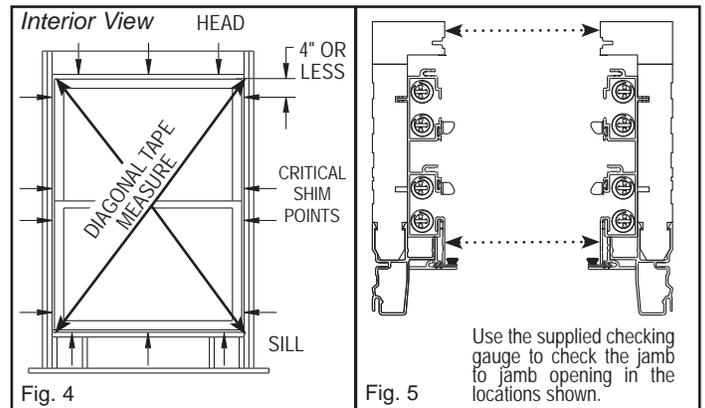
## INSTALLATION USING SCREW THROUGH THE FRAME

From the exterior, carefully tilt unit, sill first, into the rough opening. Press the brickmould (or the nailing fin) evenly against the exterior sheathing. Center the unit, equalizing the frame to rough opening gap.

See Fig. 4. Shim along the head, sill, and side jambs at 4" (102mm) from the corners/ends, and every 8" (203mm) on center between. Shim between the side jamb and the rough opening directly at the check-rail. Shimming will ensure correct margins, parallel jambs, a level unit, and proper operation. Do not bow the side jambs. Do not over shim.

See Fig. 4. Measure the distance from the upper left frame interior corner diagonally down to the lower right frame interior corner. Repeat on the remaining two frame corners. The resulting two measurements must be within 1/16" (2mm) of each other.

See Fig. 5. A 6 foot level should be used to check the side jambs for plumb. It is critical that the jamb to jamb opening is correct. **Use the supplied checking gauge to check the jamb to jamb opening.** Place the checking gauge between the sash opening width. Keep the gauge parallel and slide the gauge from the sill up to the head jamb, the gauge should move without binding, if the gauge does bind use the level to determine where the jamb is not plumb. Adjust the jambs shims as needed until the jamb to jamb opening is correct. If too much play is experienced, shim that area. The gauge should also be used to check the correct opening at the basic extension jamb area.



### CAUTION

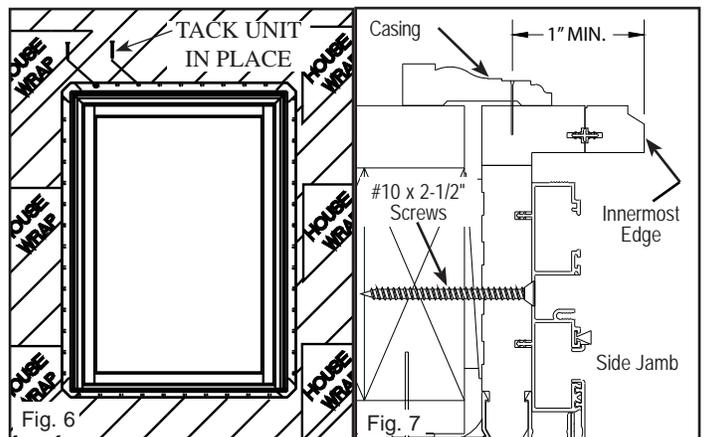
Sash operation and/or removal may be difficult if the check-rail is not shimmed properly.

### Temporary Fastening by Nailing Through the Nailing Fin

See Fig. 6. When nailing through the nailing fin to temporarily tack the unit in place, use 1-1/2" (38mm) or longer galvanized roofing nails. Double-check to ensure the sill is level and straight. Plumb exterior side jambs and level exterior head jamb. Adjust shims if necessary. Nail in the first pre-punched hole from each corner/end, then in every other hole along the head, sill and sides. The head of the fastener should not compress the nailing fin, causing it to warp. Again, make sure unit is square.

### Screwing Through The Frame

Double-check to ensure the sill is straight and level. Plumb side jambs and level exterior head jamb if not already done.



The screws at the side jambs need to be spaced a maximum of 9-1/4" (235mm) from each corner and on center. The shims/screws at the head jamb need to be spaced a maximum of 12" (305mm) from each corner and on center. (To determine spacing specific to your unit size, follow the recommended spacing from the *Installation Anchor Calculator*, which can be found on [www.kolbewindows.com](http://www.kolbewindows.com)) Measure out and mark each screw location at the head and sides. Place a shim between the frame and rough opening at each screw location. Be sure there is a screw and shim at the check-rail on each side, place an extra screw if needed. Check that the unit is still level. See Fig. 7 above, drill a 9/64" (4) diameter pilot hole through the vinyl jambliner, side jamb frame, shim, and into the rough opening at each marked location on the side jamb. Also, drill pilot holes through the head jamb frame, shim and into the rough opening at each marked location in the head jamb. Fasten through these holes and into the rough opening with #10 x 2-1/2" (64) phillips flat head screws.

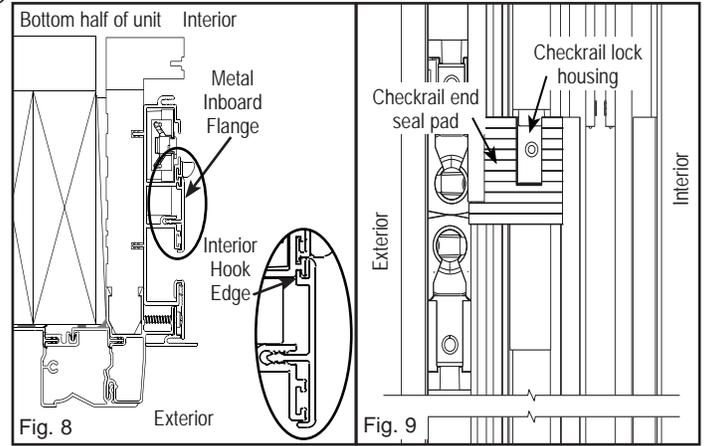
**Install metal jambliner inboard flange (Double Hung units only!)**

For single hung units, skip this step.

See Fig. 8. Install the metal inboard flange. Place the angled end at the sill, slide the interior hook edge into the interior kerf, then make sure the barb on the exterior edge of the cover is properly seated in the exterior kerf. Gently tap into place using a rubber mallet, making sure not to damage the finish. Repeat for other side.

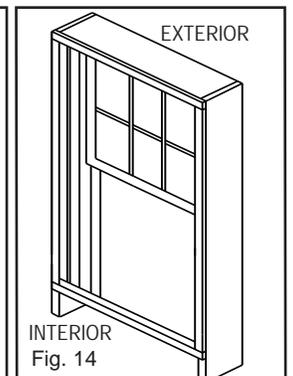
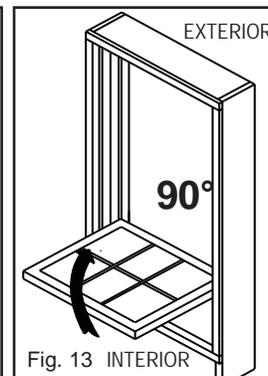
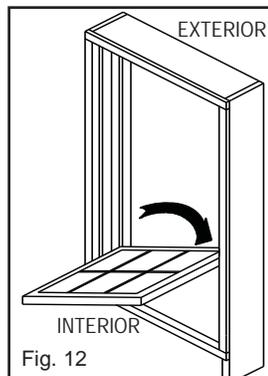
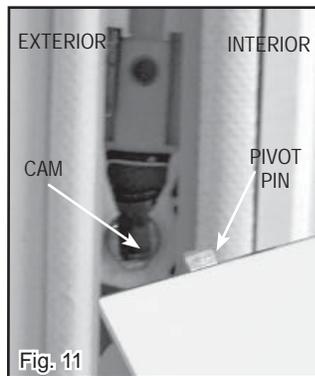
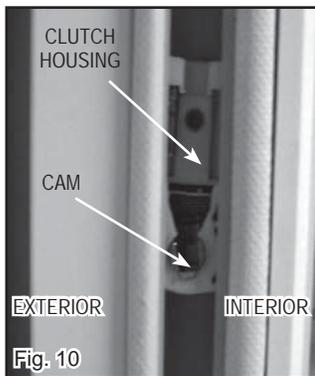
**Apply Checkrail End Seal Pads**

See Fig. 9. Apply the provided checkrail end seal pads to the checkrail lock housing on each side jamb now. The checkrail lock housing is located at the center of the side jamb on each side. The tab that sticks out goes to the exterior.



**Install the top sash**

See Figs. 10-14. With the top sash interior facing towards the floor, grasp the sash on each side. With one side higher than the other, place the sash into the sash opening, positioning the pivot pins above the clutches in the clutch/balance tracks. Place the pivot pin of the lower side into the cam, then rotate the higher side of the sash down so the sash is level and the second pivot pin sits into the other cam. Snap the pivot pins down into the cams to engage the clutches. (If you're right-handed, it may be easiest to place the left pivot pin into the clutch/balance track first, then lower the right pivot pin down into position.)



To avoid marring the frame when tilting the sash into place, retract the latches. On the top sash, place a hand at each end, on top of the sash over the tilt latches. Slide both finger tabs toward center to retract the latches. While retracting the tilt latches rotate the top of the sash towards the exterior until it is in operating position on the jambliner. Release the finger tabs, allowing the latches to snap into place. Slide the sash to the top of the frame.

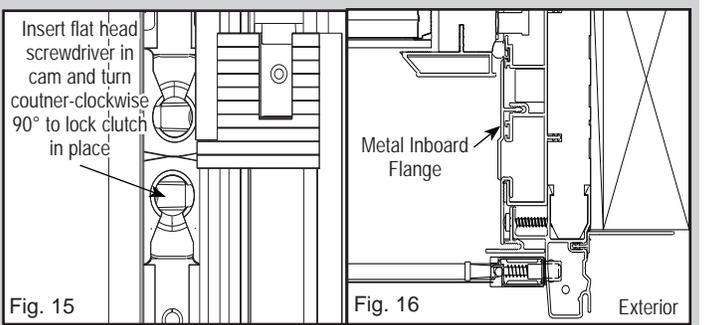
**CAUTION**

The pivot pins must be seated all the way down in the cams of the clutches to avoid damaging the clutches.

**For Single Hung Units Only**

See Fig. 15. With the top sash installed and in the closed position, slide the second set of clutches all the way up until they bump the clutch of the top sash. Lock the clutch in place by inserting a flat head screwdriver into the cam and turning it counter-clockwise 90° to lock clutch in place.

See Fig. 16. Install the metal inboard flange. Place the angled end at the sill and gently tap into place using a rubber mallet, making sure not to damage the finish. Repeat for other side.

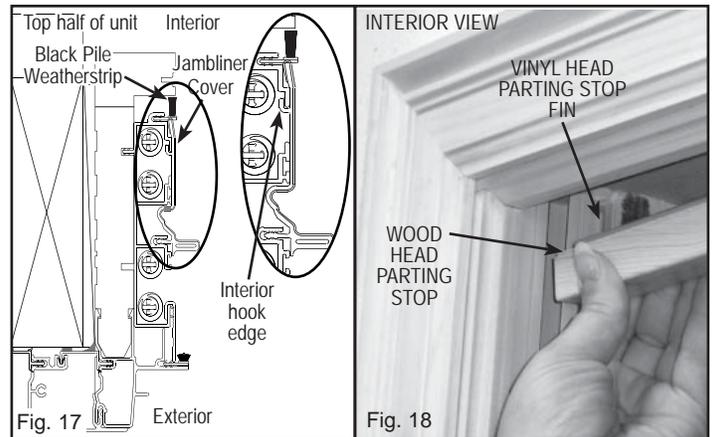


**Install the jambliner cover**

Each end of the jambliner cover will have a notch, the larger notch goes at the top of the unit. Position the top of the jambliner cover at the top of the unit. See Fig. 17, slide the hook edge of the jambliner cover onto the interior lip of the jambliner, then insert the barb toward the exterior of the jambliner cover into the exterior kerf. Gently tap the jambliner cover into place using a rubber mallet along the entire length. Repeat for other side. (Make sure the interior jambliner covers are properly placed otherwise the sash could rub on them and impede operation.)

**Install the head parting stop**

See Fig. 18, install the head parting stop, centering it side-to-side and L-brackets to the exterior. Gently use a rubber mallet if needed. Install screws through L-brackets into the head jamb.



**Install the black pile weatherstrip**

Install the provided black pile weatherstrip into the jambliner at the interior. See Fig. 17.

**Install the bottom sash**

Remove the temporarily attached stile reinforcement plates and set aside (see Fig. 19, below). With the bottom sash interior facing towards the floor, grasp the sash on each side. See Figs. 10-14 previous page, with one side higher than the other, place the sash into the sash opening, positioning the pivot pins above the clutches in the clutch/balance tracks. Place the pivot pin of the lower side into the cam, then rotate the higher side of the sash down so the sash is level and the second pivot pin sits into the other cam. Snap the pivot pins down into the cams to engage the clutches. (If you're right-handed, it may be easiest to place the left pivot pin into the clutch/balance track first, then lower the right pivot pin down into position.)

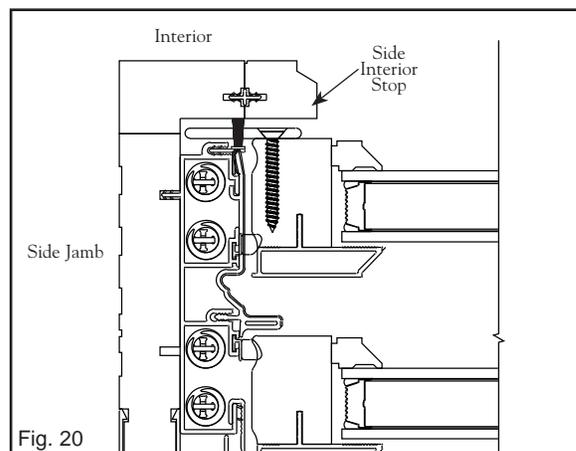
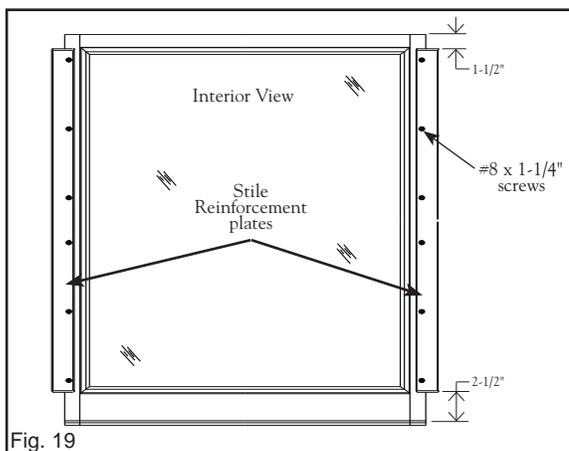
Retract the latches by pressing and holding the lock button down and moving the lock lever all the way to the right. Continue to hold the lever in the full right position to keep the latches retracted and rotate the top of the sash towards the exterior until it is in operating position on the jambliner. Release the lock lever, allowing the latches to snap into place. Slide the sash down to the sill. Move the lock lever to the full left position to lock the sash. The lock button will automatically retract.

**Install bottom sash stile reinforcement plates**

See Fig. 19. Install the stile reinforcement plates on the bottom sash. Line the pre-drilled holes of the support plate up with the pre-drilled holes on the sash. The top of the support plate should be 1-1/4" down from the top of the sash and the bottom of the support plate should be 2-1/2" up from the bottom of the sash. Secure in place using the supplied #8x1-1/4" screws.

**Install interior stops**

See Fig. 20. Install the interior stop on the side jamb. Gently tap into place using a rubber mallet, making sure not to cause damage. Repeat for other side.

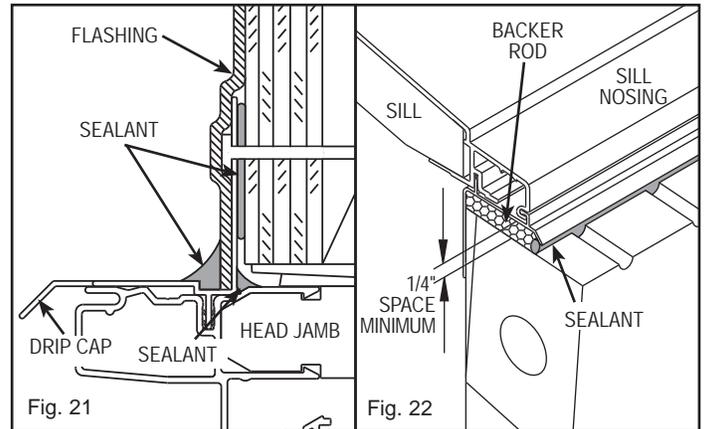


## COMPLETING THE EXTERIOR

A drip cap must be installed/applied to direct water away from the window. See Fig. 21. If a drip cap has not been applied, apply now. Seal the side edges of the drip cap to the window. Seal between the drip cap and the exterior sheathing. When using building paper to cover the exterior sheathing, also seal the paper to the drip cap.

### ⚠ CAUTION

See Fig. 22. A 1/4" (6) (minimum) gap between the window perimeter and framing material is required when using brick, stone, marble or concrete as an exterior facing. This allows for movement or settling of the structure, which could effect unit operation. Span the gap with an appropriate sealant joint, using backer rod the length of the sill, if necessary.



## INSULATION

Kolbe recommends installing fiberglass insulation in the void created by the outer perimeter of the window frame and rough opening members. Using a putty knife, loosely fill the entire depth of the gap with insulation. **Foam insulation may be used, but it must be a low expanding type foam. Use of any foam other than low expanding foam will void the warranty.**

### ⚠ CAUTION

Over-packed insulation can lessen the insulating effectiveness and distort the frame, resulting in poor sash operation.

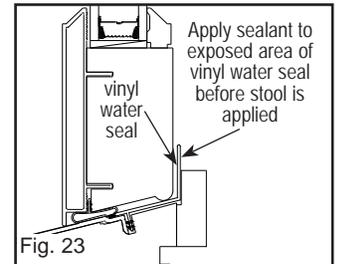
## INTERIOR CASING/TRIM

Apply the interior casing. See Fig. 7, page 3. Impact Performance units have a steel reinforcing plate behind the sill extension jamb and require pre-drilling holes before installing fasteners along the sill. Along the head and sides, install fasteners at least 1" (25) away from the innermost edge of the extension jamb. On the sill, install fasteners at least 1-1/2" (38) away from the innermost edge of the sill extension jamb. Fasteners installed too close to the innermost edges on the sides can puncture the jambliner, penetrate the balance cavity, and interfere with operation. At the head, fasteners installed too close to the innermost edges on the head can penetrate through the head extension jamb. At the sill, fasteners installed too close to the innermost edges can penetrate the sash.

### ⚠ CAUTION

Installing fasteners closer than the minimum spacing will damage the unit.

See Fig. 23. If or when the stool extension jamb is custom (applied in field) and the top of the vinyl water seal is exposed, sealant must be applied to the exposed area before the stool is attached.



## EXTERIOR & INTERIOR FINISHING

**Exterior:** Fill any voids created by fasteners used in securing the primed unit to the building structure. Use exterior wood filler. Sand filler flush and scuff remaining primed wood surfaces prior to applying exterior top coat. Primed wood units must remain dry and finishing should be done immediately. See our *Prefinish Recommendations/Instructions* for more information.

### ⚠ CAUTION

To maintain the K-Kron II finish warranty, any surface penetration of the finish film of the K-Kron II surface must be sealed with a color-matched or clear sealant. See the finish warranty for details.

**Interior:** Finish bare wood interiors including edges of sash immediately using a top quality stain, sealer, and/or polyurethane varnish. On factory primed interiors, apply a quality top coat system. Units that are interior primed or have an interior white pre-finish will come standard with a white vinyl jambliner closure. If additional finishing is desired, wipe the closure down with alcohol and paint with a latex top coat. **Do not use oil based paints over water based paints!** See our *Prefinish Recommendations/Instructions* for more information.

### ⚠ CAUTION

Avoid getting finishing products on any hardware, vinyl components and weatherstripping.

## CLEANING

A quarterly cleaning with a mild soap and sweet water (tap water) solution is recommended for the sash and frames (all extrusions on Ultra Series products); then rinse. **(Cleaning on units installed in high salt spray areas require a monthly cleaning and rinse.)** Clean glass with standard glass cleaner, keeping it from running down the sash onto the frame and weatherstrip.

**⚠ CAUTION**

Do not pressure wash.

## HARDWARE

Check all fasteners, making sure all hardware is properly secured. The hardware and locks can be lubricated with a Teflon® or Teflon®/silicone spray.

## INSULATING GLASS

Broken or fogged IG units, requiring re-glazing or replacement, should be referred to your Kolbe window and door supplier.

**⚠ CAUTION**

Kolbe's standard H°K insulating glass has a LoE<sup>2</sup> coating on surface 2. It does not match clear glass or other LoE<sup>2</sup> products. Do-it-yourself re-glazing or replacing without permission from Kolbe windows and doors will void the product warranty.

## RECYCLING

Care must be taken to properly recycle or dispose of old materials. Any recyclable materials should be separated from non-recyclable or hazardous materials. Please consult with local or state authorities regarding proper disposal of non-recyclable or hazardous materials.

Contact your Kolbe window and door supplier or visit us at [www.kolbewindows.com](http://www.kolbewindows.com) for further information.

THANK YOU FOR PURCHASING KOLBE PRODUCTS

*Kolbe & Kolbe Millwork Co., Inc. reserves the right to change specifications without notice.*