

KOLBE®

WINDOWS & DOORS

GARDEN-AIRE SLIDING PATIO DOOR

INSTALLATION INSTRUCTIONS

For 4-wide units

READ THESE INSTRUCTIONS COMPLETELY BEFORE
STARTING 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 for more information.

www.kolbewindows.com

NOTICE

Failure to assemble our products according to these instructions will void any warranty, written or implied.

⚠ WARNING

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

⚠ CAUTION

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.

NOTICE

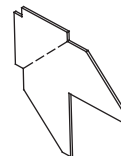
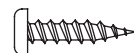
Read these instructions completely before starting frame assembly.

ITEM REQUIRED BY INSTALLER

- Hearing protection device
- Sealant
- Square
- Phillips head screwdriver or bit
- Putty knife
- Power drill
- Safety glasses/goggles
- Caulk gun
- Tape measure
- Standard screwdriver or bit
- 3/32" (2mm), 7/64" (3mm), 9/64" (4mm) and 3/16" (5mm) drill bits

ITEMS SUPPLIED BY KOLBE

- Head Jamb - 45° angle on each end w/ corner keys installed
- Side Jambs - 45° angle at top end
- Sill
- #8 x 2-1/4" Phillips Oval Head WS ZYel screws (Qty-6) for attaching head jamb to side jambs
- #8 x 1-3/4" Phillips Flat Head SMS 18-8SS screw (Qty-8) 6- for attaching side jamb to sill assembly 2- for securing head & side brickmould(wood units only)
- #7 x 5/8" Phillips Flat Head SMS Self Sealing screws (Qty-2) for attaching head nosing to side nosing (**Extruded units only**)
- #8 x 3/4" Phillips Pan Head SMS 18-8SS screws (Qty-2) for attaching sill nosing to side jamb nosing
- Nailing Fin foam corner (Qty-2) (**Clad & Extruded units only**)



Screws are shown to scale

INTRODUCTION

These instructions are for frame assembly of standard and K-Force (impact) rated sliding patio door units. For simplicity, only extruded aluminum units are shown in pictures throughout the instructions.

PRELIMINARY PREPARATION

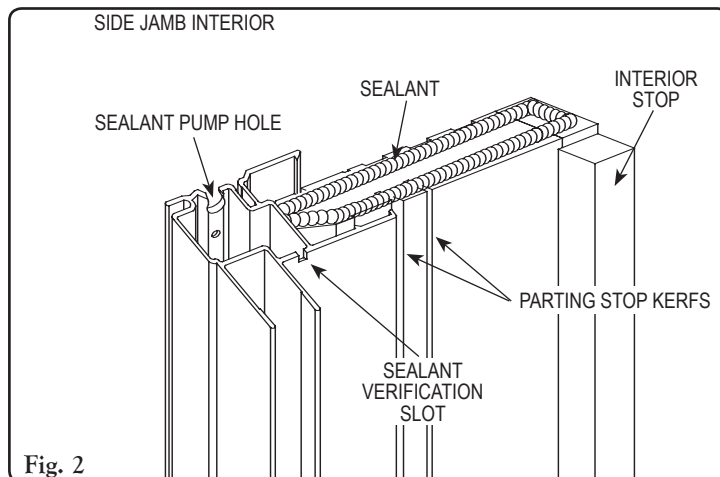
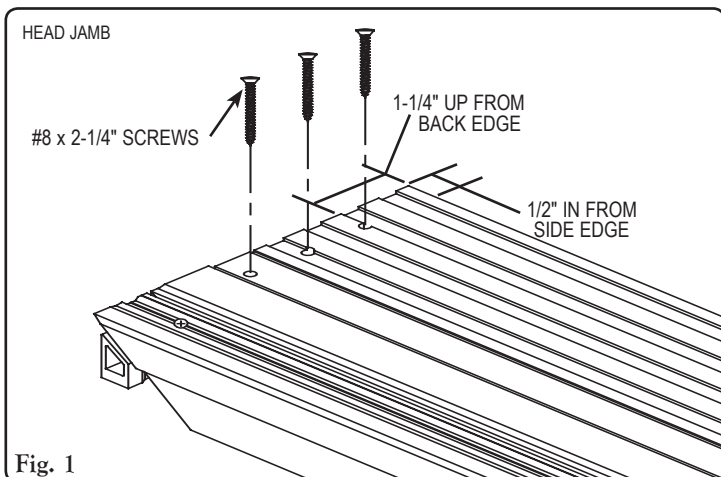
Remove any shipping packaging and check to make sure the unit is not damaged and the parts are the correct size. Check the items supplied by Kolbe section to make sure you have all the needed parts.

FRAME ASSEMBLY

Attach Head Jamb to Side Jambs

See Fig. 1, next page. Take the head jamb and on each end mark clearance hole locations, 1/2" in from the side edge, towards the center of the unit, and space the holes evenly starting 1-1/4" (19mm) up from the back edge on the wood portion. Using a 3/16" (5mm) drill bit pre-drill holes at each marked screw location on each end. *For wood units only: Also pre-drill one 3/16" hole on each end of the head jamb brickmould. Place the hole 1" (26mm) in from each end and centered on the brickmould.*

Dry fit the head jamb and side jambs. Drill 3/32" (2mm) pilot holes through the clearance holes in the head jamb and down into each side jambs.

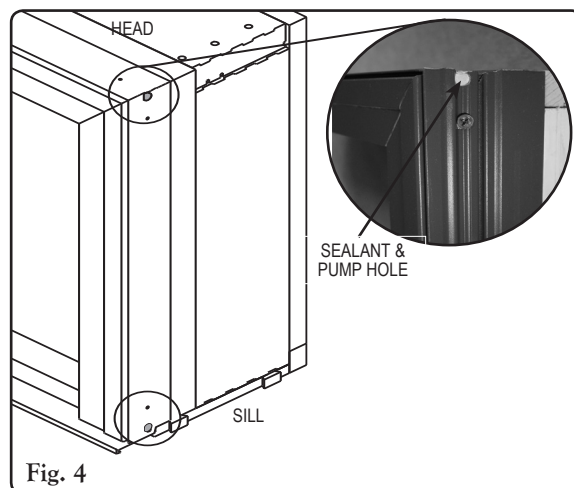
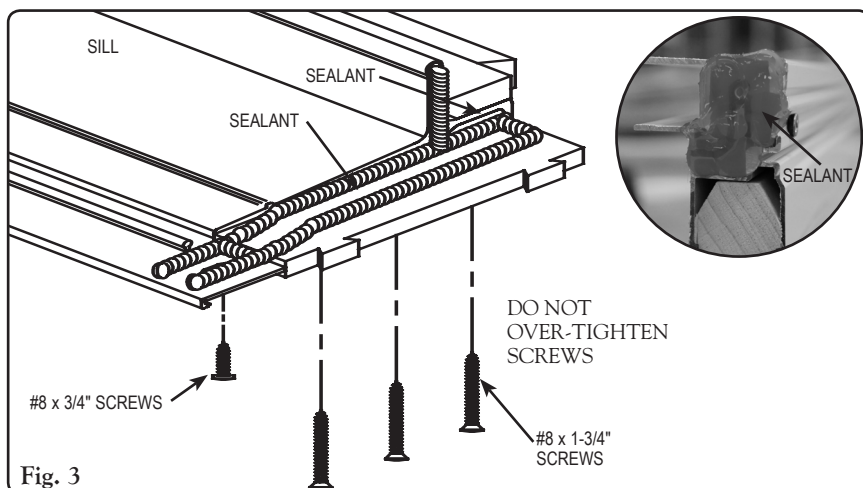


See Fig. 2. Apply a 3/16" (5mm) bead of sealant to the top of each side jamb assembly. Attach the head jamb to the side jambs by fastening through the clearance holes in the head jamb and into the side jamb, using three #8 x 2-1/4" (57mm) screws (provided) on each end. **For extruded units only:** Use one #7 x 5/8" (16mm) flat head screw (provided) through the side nosing into the corner key on each side of the unit. **For wood units only:** Secure the head brickmould to the side brickmould using one #8 x 2-1/4" (57mm) screw (provided) on each side. **For clad units only:** Tuck side jamb clad under head jamb clad, fold head cladding tabs down 90° and staple to side jamb using 3/4" (19mm) brad nail (provided by other).

Attach Sill to Side Jambs

See Fig. 3. Dry fit each side jamb to the sill, aligning the edge of the side jamb with the end of the sill assembly. Drill 3/32" (2mm) pilot holes through the pre-drilled holes in the sill end keys and into the side jamb for each side. Run a 3/16" (5mm) bead of sealant on each end of the sill as shown in figure 3. Apply sealant to the end of side jamb around the sill end key as shown in figure 3 inset.

Dab sealant on the screw holes. Butt and align each side jamb assembly, with the end key in place, onto the sill assembly. Fasten through the holes in the sill and into the side jamb, using three #8 x 1-3/4" (44mm) screws on each end. Using #8 x 3/4" (19mm) screws, fasten through the sill assembly and up into the side nosing on each side. Do not over-tighten screws.



See Fig. 4. On the exterior of the frame, there is a sealant pump hole at the top of the side jamb on the jamb nosing, and a sealant verification slot on the opposite side of the frame, near the screen track. Pump color matching or clear sealant through the hole, into the corner key, until it squeezes out the verification slot. Wipe off any excess sealant squeeze-out. Apply one nailing fin foam corner to the nail fin on each side where the side jamb and head jamb nail fin meet at the top of the unit.

The frame is now assembled and ready for installation. Instructions for installing the unit into the rough opening start on the next page. Visit www.kolbewindows.com for more information.

GARDEN-AIRE SLIDING PATIO DOOR INSTALLATION INSTRUCTIONS for 4-wide units

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 codes require the use of pressure treated lumber to line rough openings. Corrosion resistant materials, such as stainless steel or hot-dip galvanized steel, must be used for fasteners and anchors having direct contact with pressure treated lumber.

⚠ WARNING

For safety a minimum of 3 people are needed for installation

⚠ WARNING

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

⚠ CAUTION

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. Use a dab of sealant behind any exterior-facing screws or nails.

ITEM REQUIRED BY INSTALLER

- Hearing protection device
- Sealant
- Level
- Hammer
- Phillips head screwdriver
- Standard screwdriver
- Fiberglass insulation
- Power drill and 3/32" (2mm), 7/64" (3mm), 9/64" (4mm) and 3/16" (5mm) drill bits
- Closed cell foam backer rod in 1/2" (13mm) diameter and 1" (25mm) diameter
- 4d finishing nails or 3/16" x 1-1/2" (5mm x 38mm) staples for panel bumper
- Safety glasses/goggles
- Caulk gun
- Square
- Shims
- Tape measure
- Flashing tape
- Putty knife

- 3/4" (19mm) brad nails for rollform cladding

For temporary nailing through the nailing fin:

- 1-1/2" (38mm) or longer galvanized roofing nails

For installation technique 1:

- Kolbe installation clips
- #8 x 3/4" (19mm) flat head screws
- #8 x 1-3/4" (44mm) flat head screws or 8d common nails

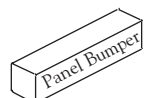
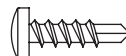
For installation technique 2:

- #10 x 2-1/2" (64mm) flat head screws
- #8 x 3" (76mm) flat head screws

ITEMS PROVIDED BY KOLBE

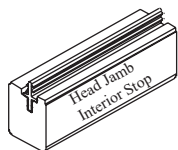
- Head Jamb - 45° angle on both ends (Qty-1)
- Side Jamb - 45° angle on top (Qty-2)
- Sill (Qty-1)
- #10 x 1-3/4" Phillips Flat Head screw (Qty-8) for securing wood sash retainer bracket to head jamb
- #9x 3" Phillips Flat Head (Qty-18)
12 for meeting stile frame bracket
4 for strike plates & 2 point flush bolt lock
- #9x 2" Phillips Flat Head (Qty-12) for panel retainer bracket
- #8 x 3" Phillips Flat Head screw (Qty-30)
22 for securing interior still stop to subfloor
8 for attaching stationary panel to side jamb (4/panel)*

- #8 x 1-3/4" Phillips Pan Head (Qty-10)
10 for attaching sill filler to stationary panel
- #8 x 1-1/4" Phillips Pan Head (Qty-10)
10 for attaching stat panel head bracket to the head jamb
- #8 x 3/4" Phillips Flat Head screw (Qty-20) for securing aluminum sash retainer bracket to head jamb
- #8 x 5/8" Phillips Pan Head (Qty-10) for attaching stationary sill filler to sill (5 for each panel)
- #6 x 1-1/2" Phillips Pan Head SMS (Qty-14) for attaching active panel parting stop base to head jamb
- Panel Adjustment Caps (Qty-4)
- Panel Bumper (Qty-2) Length: 4-3/4"

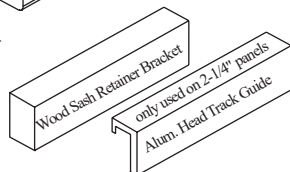


* only used for Heritage & Classic units

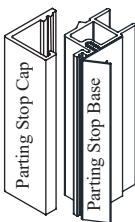
- Head Jamb Interior Stop



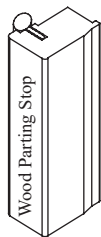
- Wood Sash Retainer Bracket or Aluminum Head Track Guide



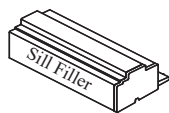
- 2pc Active Panel Head Parting Stop



- Wood Stationary Panel Parting Stop



- Sill Fillers (Qty-2)
(1 left & 1 right)



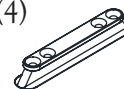
- Parting Stop Foam Plug (Qty-2)
Length: 1-3/4"



- Panel Retainer Bracket (4)
2 for head, 2 for sill



- Meeting Stile Frame Bracket (4)

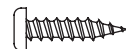


Components for Optional Screen

- #6 x 1-1/4" Phillips Flat Head TEK 410SS (Qty-10)
For securing screen astragal to screen



- #6 x 5/8" Phillips Pan Head SMS 18-8SS (Qty-2)
for securing L bracket to top or bottom of screen track



- L Bracket for Screen (Qty-2)



- Screen Astragal



- Modular Screen Astragal

INTRODUCTION

These instructions are for standard and impact rated units. 4-wide units have fixed/active/active/fixed operation (center panels move). The units will typically be installed in either wood or concrete/masonry walls and the rough opening must be lined with a 1-1/2" (38mm) thick wood buck. Contact your Kolbe window & door supplier for information on other wall conditions. Visit www.kolbewindows.com for additional information. For simplicity, only extruded aluminum units are shown in pictures throughout the instructions.

PRELIMINARY PREPARATION

Remove any 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 to be sure you have all the necessary parts.

PREPARE ROUGH OPENING:

1. The material/lumber quality and the fasteners must be structurally adequate for design load requirements.
2. Typically, the rough opening should be 1/2" (13mm) wider and 1/2" (13mm) higher than the outside measurement of the door frame. Masonry openings should be 1/2" (13mm) wider and 1/4" (6mm) 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 floor beneath the unit must be solid and level for proper unit operation.

⚠ CAUTION

When installing this unit on a concrete floor, first install a sub-floor to ensure a level surface. The sub-floor should be caulked and fastened to the concrete. Use a caulk rated for adhesion to concrete. When installing into a wall with rigid exterior foam insulation panels, place solid blocking material behind the brickmould to provide proper support when fastening the unit into the opening.

STATIONARY PANEL PREPARATION

The stationary panel sill fillers are shipped wrapped with the sill. A four-wide unit requires two sill fillers - one for each stationary panel. Both sill fillers are the same size. There is a left and a right sill filler.

Determine which stationary panel and sill filler is a right and which is a left

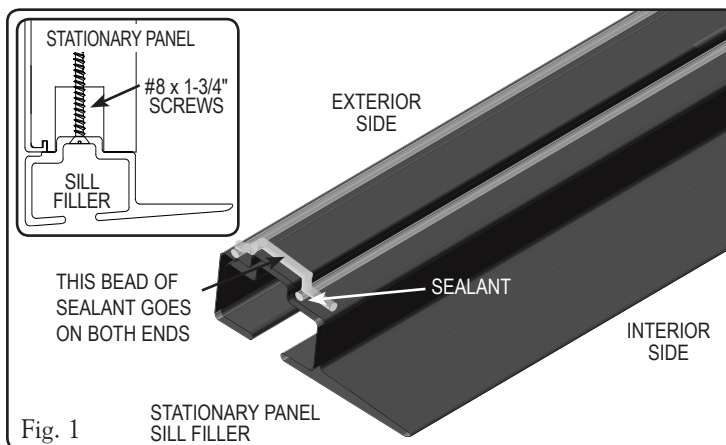
Dust block placement on the sill filler will determine if it is a left or a right. When the sill filler is installed in the stationary panel, the dust block should be on the same side of the panel as the interlock. Dry fit the sill filler into the bottom of the stationary panel now. Repeat for other stationary panel.

Attach sill filler to stationary panel

See Fig. 1. Apply a 3/16" (5mm) diameter bead of sealant on the top of the stationary panel sill filler along the entire length as shown in figure 1. Properly insert the stationary panel sill filler into the stationary panel bottom and secure it with the provided #8 x 1-3/4" (32mm) Phillips pan head screws through the pre-drilled holes. Repeat for other stationary panel.

Set the stationary panels aside until stationary panel installation.

If you have a Heritage (wood) or Classic (rollform clad) unit go to the Stationary Panel Installation section now.



SELECT INSTALLATION TECHNIQUE

These techniques are general guidelines only, and may not be appropriate for all performance requirements. Use the Installation Anchor Calculator on our website to help determine whether to use **Technique #1 - Installation Clips** or **Technique #2 - Screwing Through the Frame**. Kolbe recommends using installation clips for units with exterior trim, and units in high wind pressure locations.

If using installation clips, fasten the clips to the frame head and sides now. Use two #8 x 3/4" (19mm) flat head screws (provided by other) per clip and follow the spacing determined by the Installation Anchor Calculator. For more information, see the instructions provided with your Kolbe installation clips.

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 Figure 2, 3 or 4 based on your unit configuration for proper sealant placement. Sealant is not shown as continuous for illustration purposes only.

Units with Nail Fin only or Heritage (wood) Units with Brickmould:

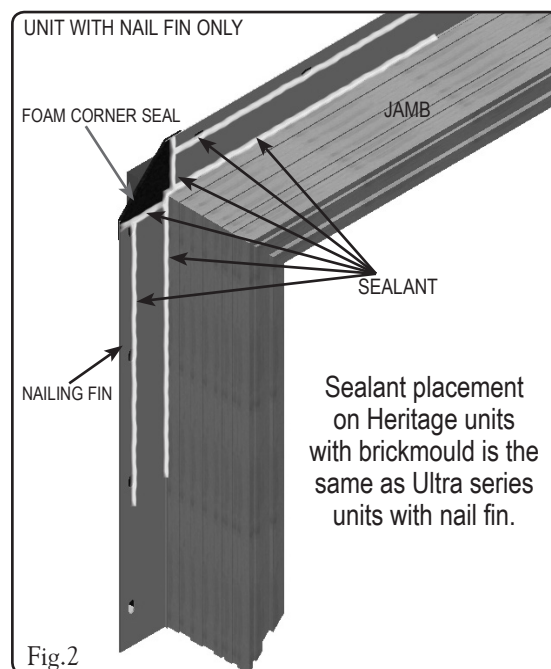
See Fig. 2. Apply two 3/16" (5mm) continuous beads of sealant around the perimeter on the backside of the nail fin as shown in Fig. 2. Also, apply sealant to the edges of the foam corner seal.

Units with Brickmould only:

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

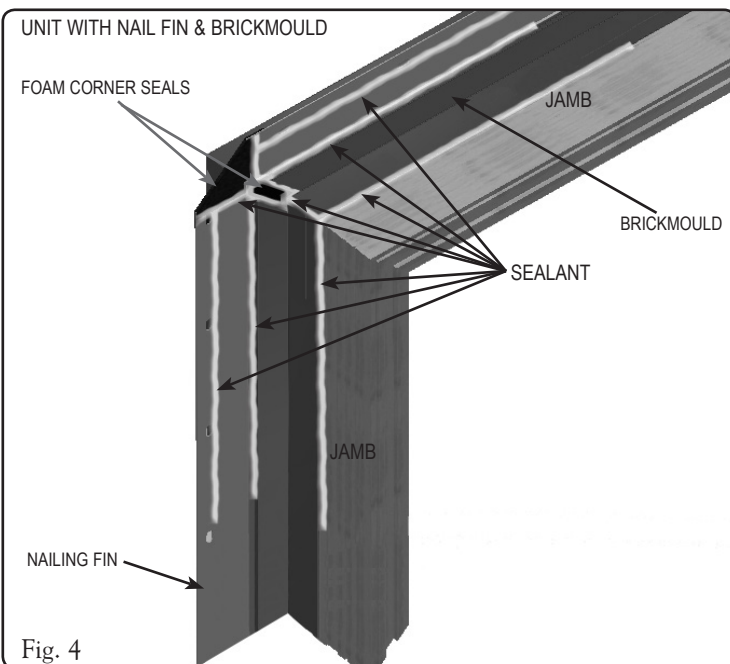
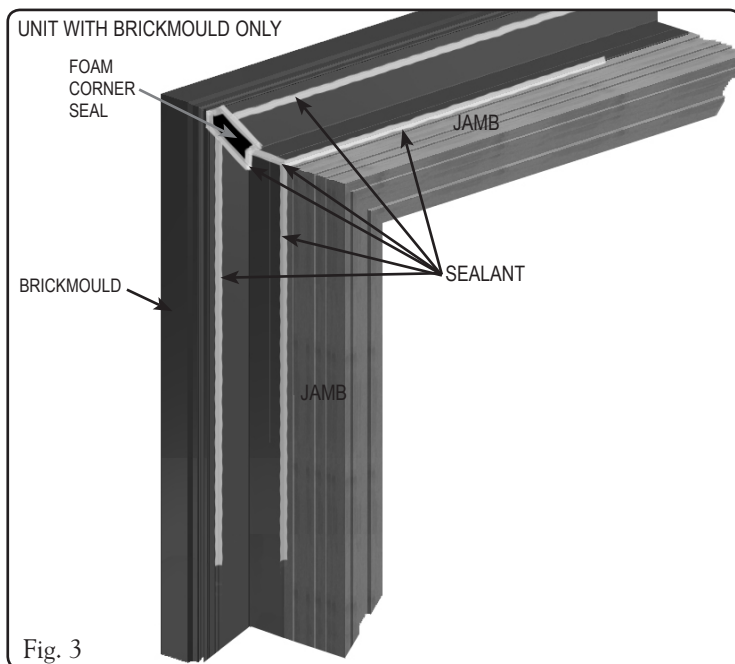
Units with Nail Fin & Brickmould:

See Fig. 4, next page. Apply three 3/16" (5mm) continuous beads of sealant around the perimeter on the backside of the brickmould and nail fin as shown in Fig. 4. Also, apply sealant to the edges of the foam corner seals.



⚠ IMPORTANT

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



Install Sill Pan (if applicable)

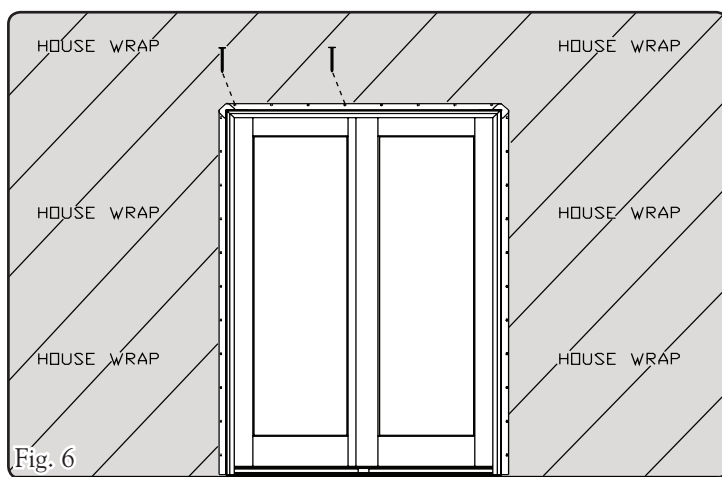
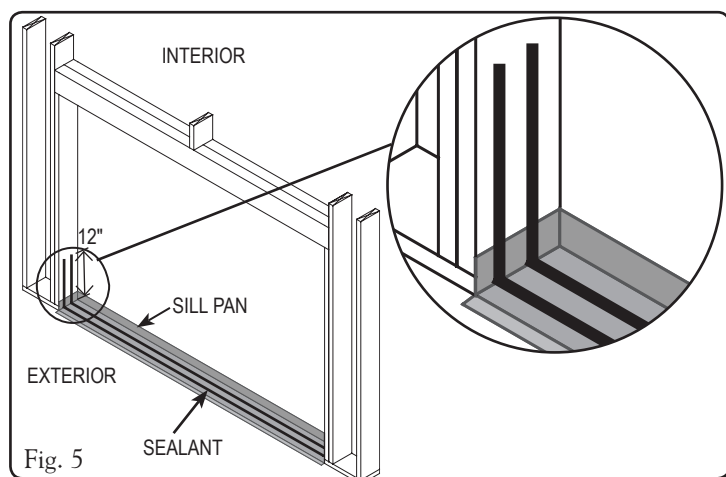
Where applicable, Kolbe recommends the use of a sill pan when installing windows and doors. Follow ASTM E 2112 standards when making and installing the sill pan.

When using a sill pan the following must be met:

- The sill pan flashing must be integrated with the water resistant barrier and other flashing materials.
- Sill pan flashing shall not be sloped toward the interior
- The height of the rear upturned leg (back dam) of the sill pan must be appropriate for the product being installed on.

Apply sealant at sill

See Fig. 5. Run two 3/8" (10mm) beads of sealant across the width of the sub-floor (or sill pan if applicable) and up each side a minimum of 12" allowing the sealant to pool in the corners. Run the first bead 1-3/8" (35mm) in from the exterior face of the wall and the second head 2" in from the first bead.



INSTALL UNIT IN OPENING USING INSTALLATION CLIPS (RECOMMENDED METHOD)

If using screw through the frame installation, skip to the Install unit in opening by screwing through the frame section now.

Place unit in rough opening

From the exterior, tilt the unit, sill first into the rough opening. Center the unit and press the brickmould or nailing fin against the sheathing.

Temporary fastening for units with Nailing Fin (units without nailing fin, skip to checking for square section)

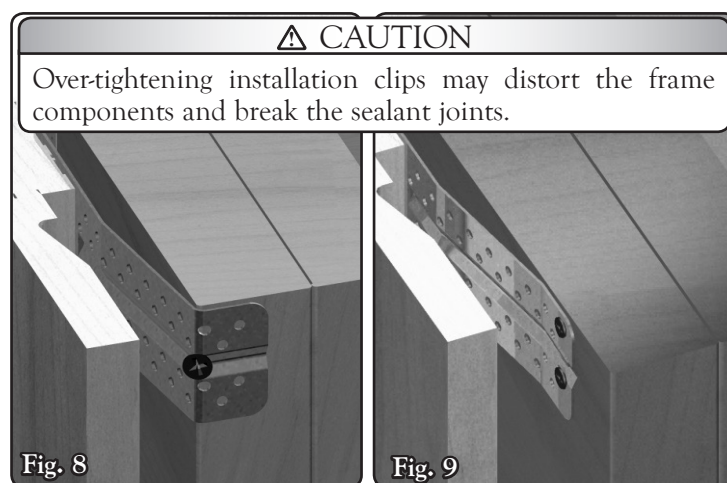
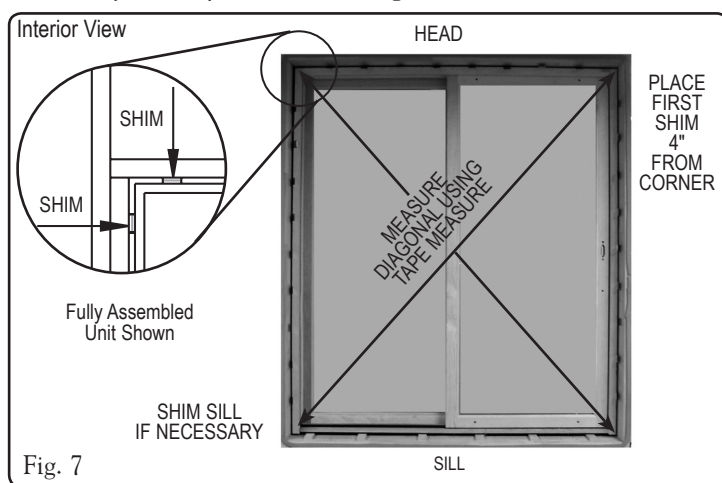
See Fig. 6, previous page. Tack the unit in place using one 1-1/2" (38mm) or longer galvanized roofing nails (provided by other) in the first pre-punched hole from each corner/end of the nailing fin to tack unit in place. Plumb, level and square unit in opening (see checking for square), then use 1-1/2" roofing nails in every third hole (approximately 10-1/2" (267mm) on center) along the head and sides. Do not drive the nail head in too far, as doing so could compress and warp the nailing fin.

Checking for square

See Fig. 7. To check that the unit is square, measure both diagonals from the interior, the measurements must be within 1/16" (2mm) of each other. The height of the frame at the center must be the same as the height at each end. The margins around the door should be even. Add shims if necessary to square the unit in the opening.

Shimming

See Fig. 7. At a minimum shims should be placed along the head and side jambs at 4" (102mm) from the corners/ends and every 12" (203mm) between. When using installation clips one shim should be placed above each installation clip between the frame and rough opening. Shimming ensures correct margins, parallel jambs, a level unit, and proper operation. Do not bow the jambs by over shimming.



See Fig. 8 or 9. Place a shim between the frame and rough opening above each installation clip to prevent bowing. Starting with an interior upper corner, hammer bend the clip(s) as shown in Fig. 7 or do a face mount as shown in Fig. 8 around the rough opening frame and fasten with one # 8 x 1-3/4" (44mm) SMS (provided by other) or two 8d common nails (provided by other) at a 20° angle through the pre-punched holes at the hammer-bend within 1/8" of buck corner or two #8 1-1/4" (32mm) SMS (provided by other) for face mounted clips. Continue around the perimeter, making sure the jambs are straight and the unit is square.

INSTALL UNIT IN OPENING BY SCREWING THROUGH THE FRAME (ALTERNATE METHOD)

Place unit in rough opening

From the exterior, tilt the unit, sill first into the rough opening. Center the unit and press the brickmould or nailing fin against the sheathing.

Temporary fastening for units with Nailing Fin (units without nailing fin, skip to checking for square section)

See Fig. 6, previous page. Tack the unit in place using one 1-1/2" (38mm) or longer galvanized roofing nails (provided by other) in the first pre-punched hole from each corner/end of the nailing fin to tack unit in place. Plumb, level and square unit in opening, then use 1-1/2" roofing nails in every third hole (approximately 10-1/2" (267mm) on center) along the head and sides. Do not drive the nail head in too far, as doing so could compress and warp the nailing fin.

Checking for square

See Fig. 7, above. To check that the unit is square, measure both diagonals from the interior, the measurements must be within 1/16" (2mm) of each other. The height of the frame at the center must be the same as the height at each end. The margins around the door should be even. Add shims if necessary to square the unit in the opening.

Shimming

See Fig. 7, above. At a minimum shims should be placed along the head and side jambs at 4" (102mm) from the corners/ends and every 12" (203mm) between. When using screw through the frame installation one shim should be placed behind each marked screw location between the frame and rough opening. Shimming ensures correct margins, parallel jambs, a level unit, and proper operation. Do not bow the jambs by over shimming.

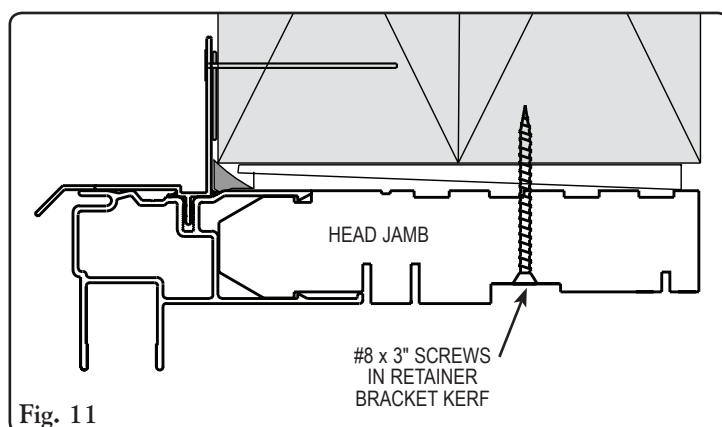
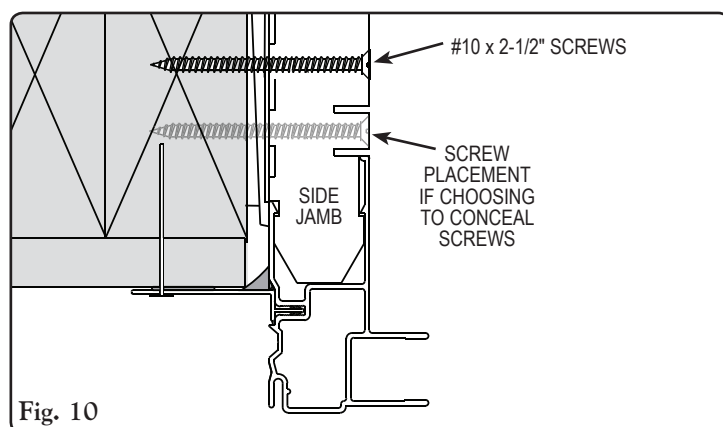
Securing the side jambs

See Fig. 10. The side jambs must be screwed through the frame in back of the parting stop, towards the interior of the unit. From the interior edge of the parting stop kerf on each side jamb, measure $\frac{3}{8}$ " (10mm) towards the interior and 8" (203mm) from the top and bottom corners to mark screw locations. Mark additional locations at the spacing required by the *Installation Anchor Calculator*.

Install shims between the unit and the rough opening framing behind each marked hole location. Double-check the unit to ensure the sill is straight and level. Plumb the side jambs and level the head jamb.

Continuing on the side jambs, drill pilot holes through the side jambs and into the shims and rough opening using a $\frac{9}{64}$ " (4mm) drill bit. Squeeze sealant into the holes and insert #10 x 2-1/2" (64mm) flat head screws (provided by other). Snug the head of each screw flush with the side jamb. The screw heads must be flush with the side jamb for proper active panel installation and performance.

If you would like the screw heads concealed you will be required to place the screws between the parting stop kerfs. The screw heads must be flush with the side jamb for proper application of the wood parting stop.



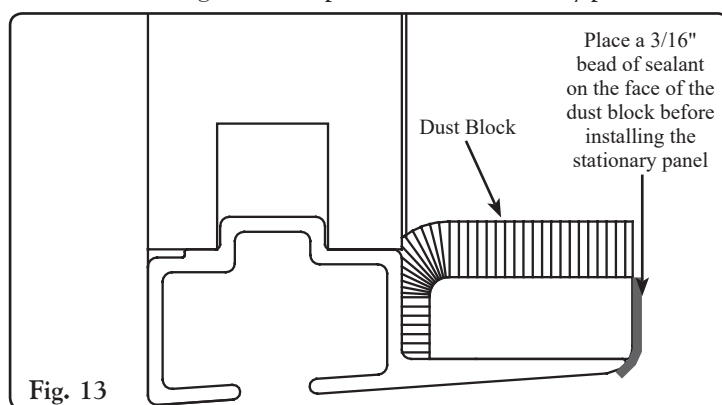
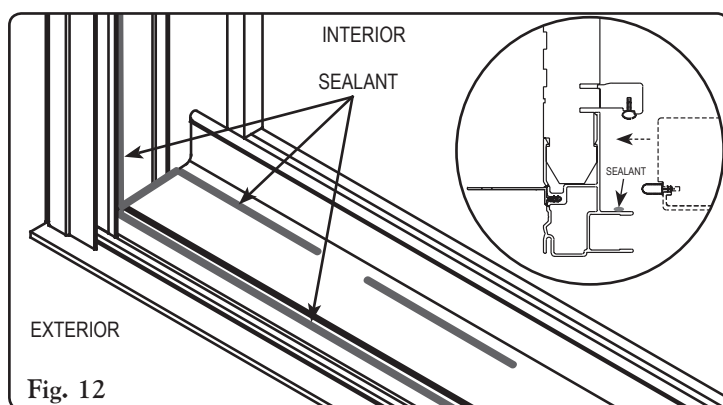
Securing the head

See fig. 11. Install #8 x 3" (78mm) Flat Head screws (provided by other) in the retainer bracket kerf 4" in from each end and 12" on center. The longer screws will penetrate into the shims and rough opening framing and properly secure the unit. Check to make sure the head is still level after being secured in the opening. Screw tightness may need to be adjusted.

STATIONARY PANEL INSTALLATION

Place sealant on sill and side jamb

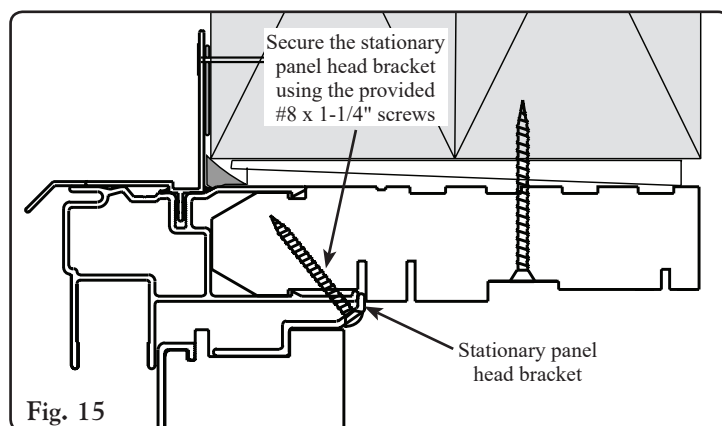
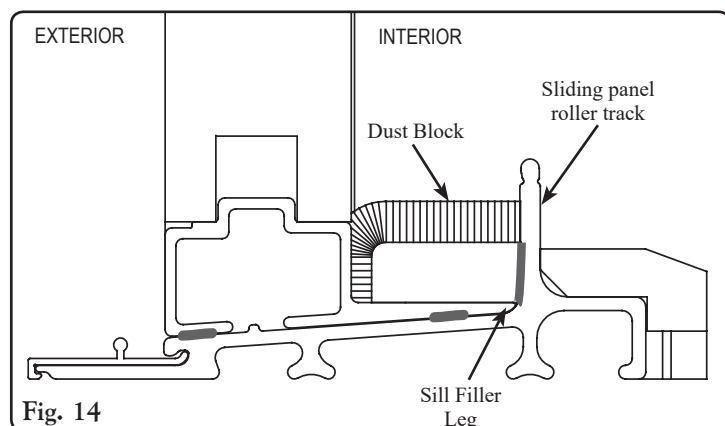
See Fig. 12. On the sill, apply $\frac{3}{16}$ " (5mm) diameter beads of sealant as wide as the width of the stationary panel as shown in figure 12 below. The bead towards the interior should have a 2" (51mm) void in the middle of it. In addition, on the side jamb run a bead of sealant on the back of the screen channel from the sill to the head jamb as shown in figure 12. Repeat for each stationary panel.



See Fig. 11. Apply a $\frac{3}{16}$ " (5mm) bead of sealant to the face of the dust block before installing the panel. Repeat sealant application on sill and dust block for other stationary panel.

Install stationary panel(s) in frame

See Fig. 14. To install the stationary panel, work from the interior. Place the panel so the interior leg of the sill filler is against the sliding panel roller track. The vinyl interlock should be at the center of the unit. Tilt the head of the panel into place, allowing it to rest against the screen channel. Slide the panel snug up against the side jamb. Apply pressure to the interior face of the panel to ensure the proper adherence of the sealant. There is enough sealant when you see squeeze out along the edges, especially the exterior and interlock edges. Smooth the sealant edge to create a good seal. Clean up excess sealant. The stationary panel can be held securely in place by wedging a 2 x 4 (51mm x 102mm) between the side of the panel and the side jamb. Be careful not to damage the panel or the frame.



See Fig. 15. Drill 3/32" (2mm) diameter pilot holes into the head jamb assembly at each head bracket hole location. Secure the stationary panel head bracket with the provided #8 x 1-1/4" (32mm) Phillips pan head screws, through the bracket into the pilot holes in the head jamb.

Install the provided #8 x 3" (78mm) Phillips Flat Head screws through the outside of the frame and into the stationary panel. Place the screws evenly spaced on center down the side jambs. (Use 3 screws for a 6-6 or 6-8 unit height and 4 screws for a 8-0 unit height).

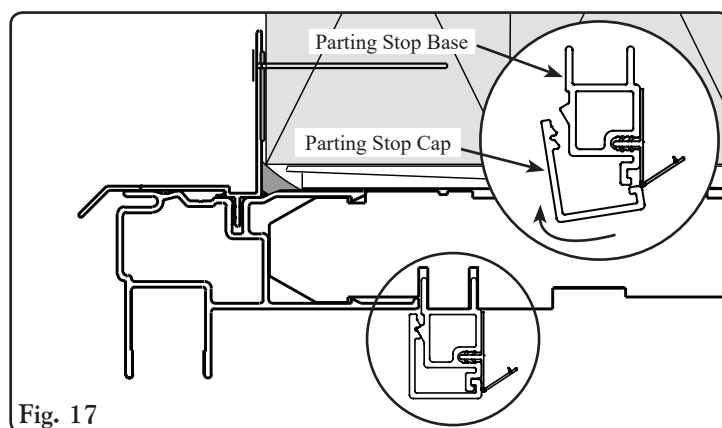
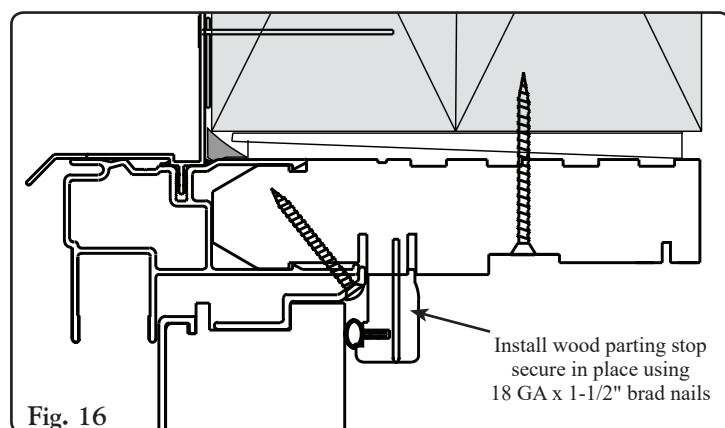
See Fig. 18, next page, apply the wood head parting stop using 18 GA x 1-1/2" brad nails (provided by other). Repeat for side jamb wood parting stops.

See Fig. 16. Apply the wood head parting stop using 18 GA x 1-1/2" brad nails (provided by other). Repeat for side jamb parting stops.

Apply sealant to the pre-drilled holes in the stationary panel sill filler. Using the provided #8 x 5/8" (44mm) Phillips pan head screws, fasten the sill filler to the sill. Remove the 2 x 4.

Both stationary panels must be installed before installing either active panel.

If you have a Heritage (wood) unit go back to the select installation technique section now.



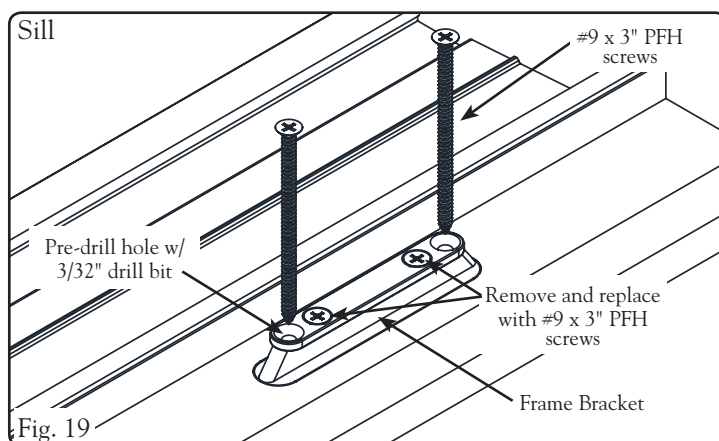
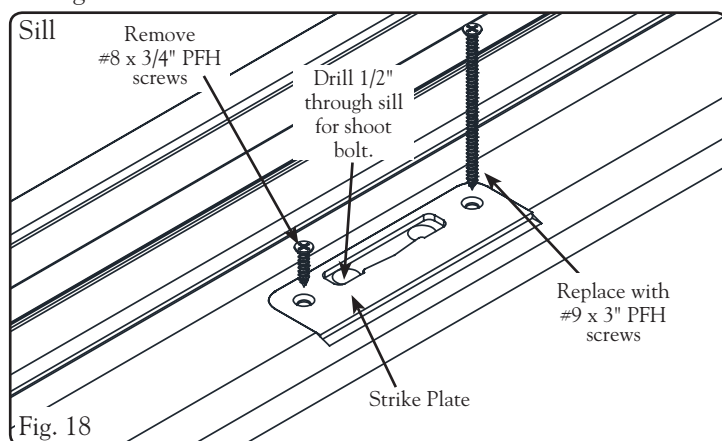
FRAME PREPARATION FOR ACTIVE PANEL

See Fig. 17. On the head between the wood parting stops on each end, run a bead of sealant in the parting stop kerfs. Place the parting stop base (weatherstrip side faces the interior) into the kerfs. Secure the parting stop base using the provided #6 x 1" (26mm) pan head screws to screw through the pre-drilled holes and into the head jamb. Attach the parting stop cap by snapping it onto the parting stop base as shown in fig. 17.

Place the parting stop foam plug in the gap between the wood parting stop and metal parting stop above the interlock on the stationary panel. Repeat for other side.

UNITS WITH 2-1/4" PANELS ONLY

See Fig. 18. At the sill you will need to replace the shipping screws on the sill strike plate if your unit has one (the strike plate is used on 4 panel center open units only). Make sure the sill is level and shim under the strike if required to make the sill level. Remove the temporary shipping screws from the sill strike plate and replace with the provided #9 x 3" PFH screws. Drill 1/2" through hole at sill for shoot bolt.



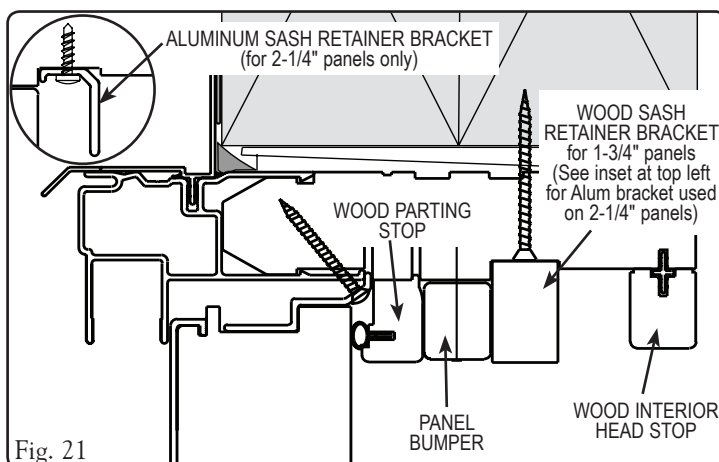
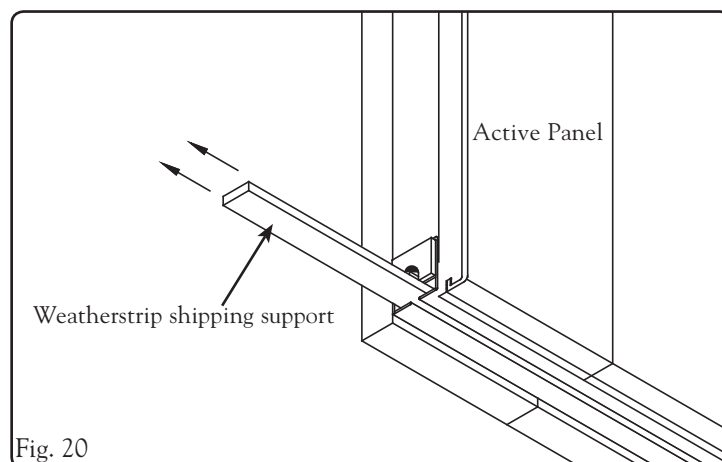
See Fig. 19. There is also a sill meeting stile frame bracket applied at the sill. Remove the temporary shipping screws and replace with provided #9 x 3" screws. In the empty holes at each end of the bracket, you will need to use a 3/32" drill bit to pre-drill into the frame. When done pre-drilling the holes, install the provided #9 x 3" PFH screws into those holes.

ACTIVE PANEL INSTALLATION

See Fig. 20. Remove the bottom rail weatherstrip shipping support from the active panel by sliding it out from the end of the panel.

Make sure the glazing bead side of the active panel faces the interior of the building. Center the active panel in front of the stationary panel with the interlock towards the side jamb. Tilt the active panel slightly and rest the rollers, located in the base, on the sill roller track. Place the sash retainer bracket in the groove at the top of the active panel. Tilt the head of the panel into place, allowing it to rest against the head parting stop. Slide the panel over to the active side. The vinyl interlock will now be at the center of the unit. Repeat for other active panel.

See Fig. 21. Position the sash retainer bracket in the groove on the head jamb. Slide the sash retainer bracket over so it is flush against the side jamb (there will be a gap on one side). Install the provided #10 x 1-3/4" (44mm) PFH screws into the



pre-drilled holes for the wood sash retainer bracket or the #8 x 3/4" PPH screws into the pre-punched holes for the aluminum sash retainer bracket (aluminum sash retainer bracket is only used with units that have 2-1/4" panels). Fully open the active panels and install screws in the sash retainer bracket in the center of the unit.

See Fig. 21, previous page. Install the wood interior head stop by pressing it into the groove closest to the interior of the unit. Complete the panel installation by inserting the panel bumper between the head parting stop and the sash retainer bracket. Place one end of the panel bumper against the stationary side jamb. Secure the panel bumper in place using two 1-1/2" brad nails (provided by other).

4-wide units require two panel bumpers, one against each side jamb.

UNITS WITH 2-1/4" PANELS ONLY

See Fig. 22. Install the head frame meeting stile brackets. To do this, close the panel all the way. Slide the head frame meeting stile bracket into the pre-routed head jamb. The bracket has 4 holes, only two are visible. Only the visible screw holes will be used. Pre-drill the holes using a 3/32" drill bit. Install #9 x 3" PFH screws into the visible holes.

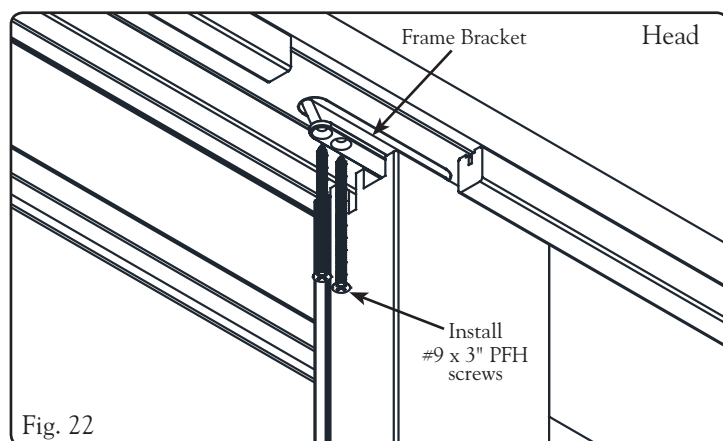


Fig. 22

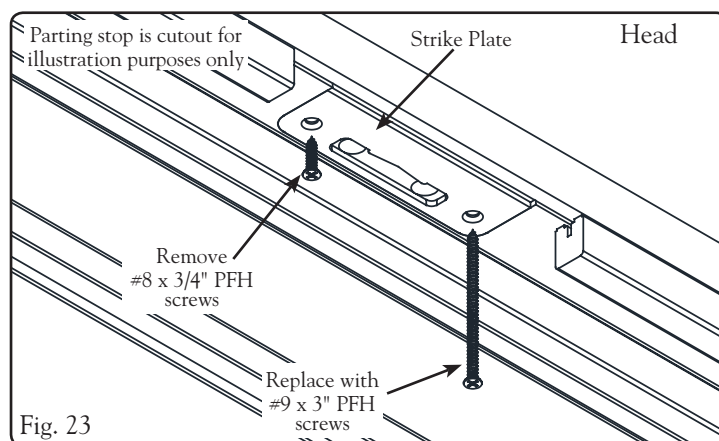


Fig. 23

See Fig. 23. On the strike plate at the head, remove the temporary shipping screws, pre-drill the holes using a 3/32" drill bit. Shim between the head jamb and rough opening as required to maintain a level head jamb. Install the provided #9 x 3" PFH screws into the pre-drilled holes.

ADJUSTMENTS

See Fig. 24. The panel rollers may need to be adjusted for the unit to function properly. Slide the active panel open slightly, just enough to see the weatherstrip and side stop. Check for a consistent margin. To adjust the margin, remove the panel adjustment caps on the bottom panel rail. Insert a standard head screwdriver (2-1/4" panels use phillips head) into the hole and turn. This will raise or lower one corner of the panel. Plug the holes in the active panel with the panel adjustment caps.

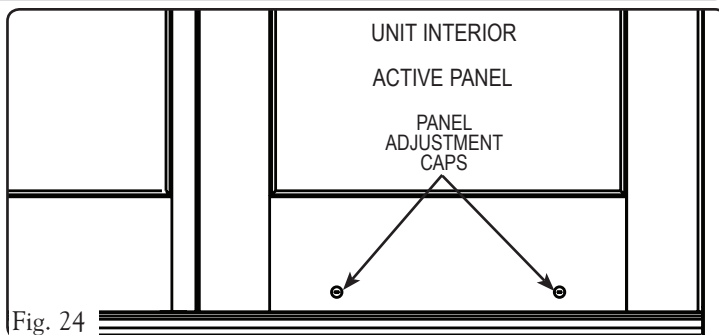


Fig. 24

UNITS WITH 2-1/4" PANELS ONLY

Install the meeting stile panel brackets. The head and sill meeting stile brackets are different so be sure to select to correct one for each application.

Head application: See Fig. 25, center the panel bracket on the frame bracket, pre-drill the center hole with the slot with a 1/8" drill bit. Install a #9 x 2" screw into the adjustable center slot. Realign the panel bracket if it moves while tightening the screw. Check panel operation for no binding between the frame and panel bracket. Pre-drill and install #9 x 2" screws in the remaining two holes.

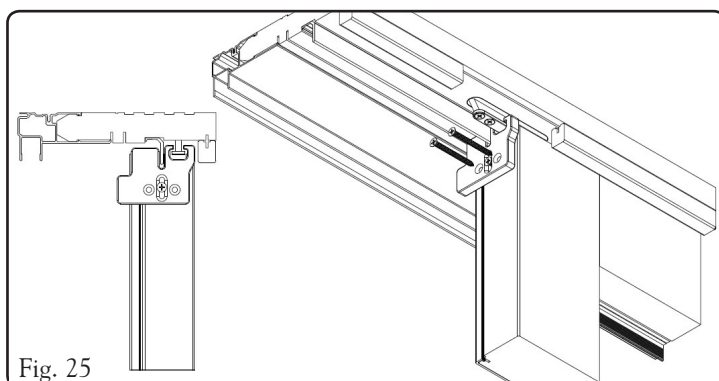


Fig. 25

Sill application: See Fig. 26, center the panel bracket on the frame bracket, pre-drill the center hole with the slot with a 1/8" drill bit. Install a #9 x 2" screw into the adjustable center slot. Realign the panel bracket if it moves while tightening the screw. Check panel operation for no binding between the frame and panel bracket. Pre-drill and install #9 x 2" screws in the remaining two holes.

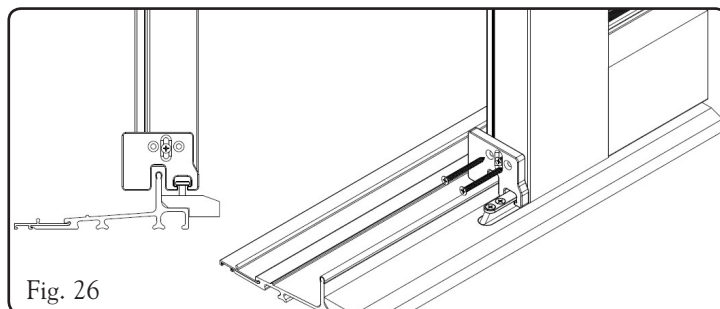


Fig. 26

SECURING THE SILL

See Fig. 27. Short screws were installed in the sill to secure it for shipping. Remove these screws. Drill 3/16" (5mm) clearance holes through the existing holes in the oak interior sill stop and into the fiberglass sill, stopping short of the underlying floor. Then drill 7/64" (3mm) pilot holes through the clearance holes into the underlying floor. When anchoring into concrete, drill pilot holes the appropriate size for the fasteners (not supplied) used. Apply sealant to each screw hole to prevent penetration of water that may get on the sill. Install the provided #8 x 3" (76mm) Phillips flat head stainless steel screws into each hole.

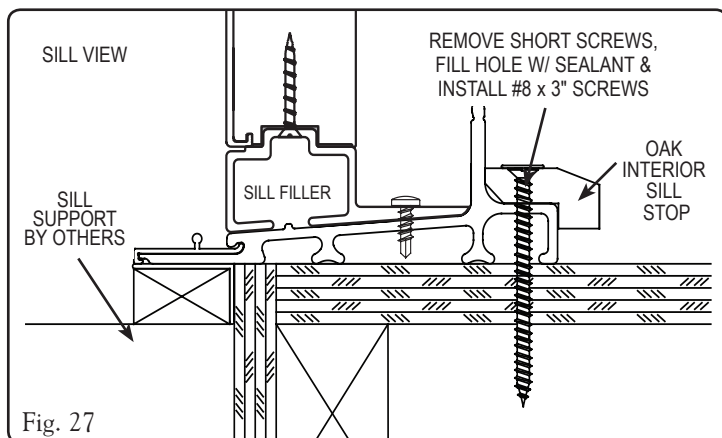


Fig. 27

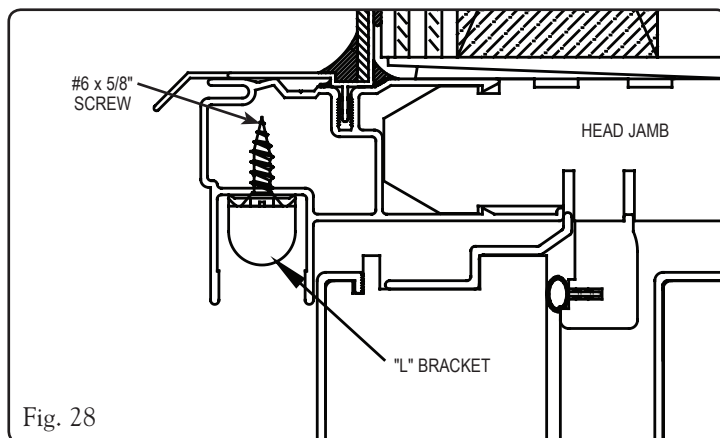


Fig. 28

SCREEN DOOR BRACKET INSTALLATION

See Fig. 28. The L-shaped bracket must be fastened through the head screen track. Position the bracket at the center of the head track. Drill a 3/32" (2mm) pilot hole through the bracket, up into the head track. Fasten the bracket with the provided #6 x 5/8" (16mm) screw.

COMPLETE THE EXTERIOR

See Fig. 29. A drip cap must be installed to direct water away from the door and lessen the chance of water seepage. Kolbe nailing fins have a built-in drip cap at the head; no additional drip cap is required. Units with brickmould and units without nailing fins need to have a drip cap applied. Seal the side edges of the drip cap to the door. Seal between the drip cap and the exterior sheathing. When using building paper or similar membrane to cover the exterior sheathing, also seal the material to the drip cap.

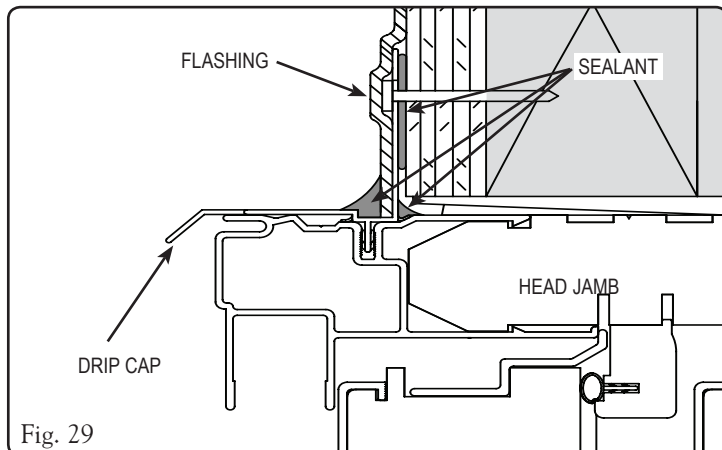


Fig. 29

Apply a 3/16" (5mm) diameter bead of sealant at the point of contact between the sill trim nosing and the edge of the brickmould. Smooth the sealant edge to create a good seal. Secure a support block underneath the sill if needed.

⚠ CAUTION

A 1/4" (6mm) minimum gap between the door perimeter and framing material is required when the exterior facing is brick, stone, marble or concrete. This allows for movement or settling of the structure, which could effect unit operation. Span the gap with an appropriate sealant joint.

INSULATION & INTERIOR CASING/TRIM

Kolbe recommends installing fiberglass insulation in the gap between the door frame and the rough opening. Using a putty knife, loosely fill the entire depth of the gap with insulation. Apply interior casing and secure with finishing nails.

⚠ CAUTION

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

INTERIOR FINISHING

On bare wood interiors, use a top quality stain, sealer, and/or polyurethane varnish. On factory primed interiors, apply a quality top coat system. A separate and more detailed painting and finishing guide titled Preserving the Natural Beauty of Your Kolbe Windows and Doors is available.

⚠ CAUTION

Avoid getting finishing products on any vinyl components and weatherstripping.

HARDWARE INSTALLATION

Install the single or multi point lock, optional foot bolt/secondary security lock and screen according to their directions.

MAINTENANCE TIPS & PROCEDURES

Inspect your Kolbe products periodically/yearly to see if the exterior sealants and/or finishes have any gaps, cracks, or signs of damage and deterioration. Caulk any cracks immediately with a high quality sealant to maintain the seal integrity and prevent air and water infiltration.

CLEANING

A yearly cleaning with a mild soap and sweet water (tap) solution is recommended for the panel and frames, then rinse. Clean glass with standard glass cleaner, keeping it from running onto the panel and frame and weatherstrip.

⚠ CAUTION

Do not pressure wash!

HARDWARE

Check all the 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 that require re-glazing or replacement should be referred to your Kolbe distributor.

⚠ CAUTION

Kolbe's standard insulating glass has a LoE coating on surface 2. It does not match clear glass or other LoE products. Do-it-yourself re-glazing or replacing without Kolbe's permission 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 & Door supplier or visit us at 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.

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