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KOLBE™

WINDOWS & DOORS

ULTRA TRADITIONAL
SINGLE HUNG, DOUBLE HUNG, SLIDER, TRIPLE SLIDER, AND STUDIO WINDOWS

INSTALLATION INSTRUCTIONS

READ THESE INSTRUCTIONS COMPLETELY BEFORE ATTEMPTING ANY INSTALLATION

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KOLBE WINDOWS & DOORS

ULTRA
SINGLE HUNG, DOUBLE HUNG, SLIDER, TRIPLE SLIDER AND STUDIO WINDOWS
INSTALLATION INSTRUCTIONS

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.

⚠ Recognize this symbol. When this symbol appears, be aware of possible injury or product damage.

⚠ **WARNING:** *REMEMBER SAFETY FIRST*
Proper Eye and Hearing Protection must always be worn when installing, removing or performing adjustments to Kolbe window and door products.

(Numbers in parenthesis are metric equivalents.)

ITEMS REQUIRED BEFORE STARTING

- Hearing protection device
- Safety glasses/goggles
- Sealant
- Caulk gun
- Level
- Square
- Hammer
- Shims
- Tape measure
- Flat head screwdriver
- Phillips head screwdriver
- Power drill
- Flashing tape
- Fiberglass insulation
- Closed cell foam backer rod in 1/2" (13) diameter and 1" (25) diameter
- Optional: Jamb spreader

For temporary nailing through the nailing fin only:
- 1-1/2" (38) or longer galvanized roofing nails

For installation technique 1:
- Kolbe installation clips
- #8 x 3/4" (19) phillips flat head screws
- #8 x 1-3/4" (44) phillips flat head screws

For installation technique 2:
- 9/64" (4) drill bit
- Putty knife
- #10 x 2-1/2" (64) phillips flat head screws

INTRODUCTION

These instructions are for wood or concrete/masonry walls. 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.kolbe-kolbe.com/download_installinfo.shtml for additional literature and information.

Kolbe single hung, double hung, and fixed studio windows are available as Standard Performance, Modified Performance, High Performance and units. Slider and triple slider windows are available as Standard Performance units only. To achieve these performance ratings, modifications are made during manufacturing. There are minor differences in installation of High Performance double hung units by screwing through the frame; they are noted under the instructions for using that technique.

STEP #1: 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. The masonry opening should typically be sized 1/2" (13) wider and 9/16" (14) higher than the clad nosing/exterior casing.
3. The 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.

⚠ **CAUTION:** When installing into a wall with exterior rigid foam insulation panels, place solid blocking material behind the brickmould to provide proper support when fastening the unit.

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

STEP #2: PRELIMINARY WINDOW 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 tape until the unit is properly installed into the opening.

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. Photo shows contrasting sealant for clarity and demonstration only.

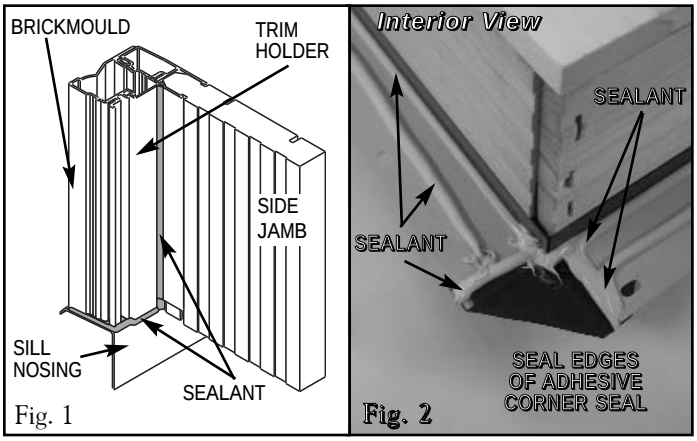


Fig. 1 Fig. 2

STEP #3: SEALANT AND FLASHING

Kolbe recommends following ASTM E 2112-01 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.

Units with factory-applied brickmould have a trim holder installed, and may also have a nailing fin installed. Units with field-applied brickmould and units with no casing have a nailing fin installed.

See Fig. 1 and 2. Apply a 3/16" (5) bead of sealant around the perimeter of the head and side, into the valley created by the trim holder or nailing fin, overlapping the frame. Also apply a 3/16" (5) bead of sealant to the ends of the side trim holder or nailing fin, over the seams on the back surface, and at the point of contact to the sill and sill nosing. Units with nailing fins installed require the sealant application to continue around and follow the entire length of the sill.

See Fig. 2. Apply a second 3/16" (5) bead of sealant approximately 3/8" (10) away from the outermost edge of the side and head nailing fin or trim holder. Apply sealant to the edges of the adhesive corner seal to completely seal it to the nailing fin.

STEP #3A: SELECT THE INSTALLATION TECHNIQUE THAT APPLIES TO YOUR SITUATION

These techniques are general guidelines only, and may not be appropriate for all performance requirements. See the *Installation Anchor Calculator* on our website to help determine whether to use installation clips or to screw through the frame. Kolbe Window and Door recommends using installation clips for studio units, units with exterior trim, and in high wind pressure locations. Single hung and triple slider units must be installed using installation clips. Screwing through the frame may be required with some mullion situations.

As an option, installation clips are available factory-applied to meet a DP 20 (Design Pressure 20 psi) rating. Additional installation clips must be field applied if a higher DP rating is required. Follow the spacing determined by the *Installation Anchor Calculator*. On single and double hung units clips along the sill are optional; they are required on studio units. Fasten the clips to the frame head and sides using two #8 x 3/4" (19) phillips flat head screws per clip. For more detailed information, follow the instructions provided with your Kolbe installation clips.

STEP #3: GENERAL INSTRUCTIONS FOR BOTH INSTALLATION TECHNIQUES

From the exterior, carefully tilt the unit, sill first, into the opening. Press the brickmould or nailing fin evenly against the exterior sheathing. Center the unit, equalizing the frame to rough opening gap. Before shimming, remove the jamb tape.

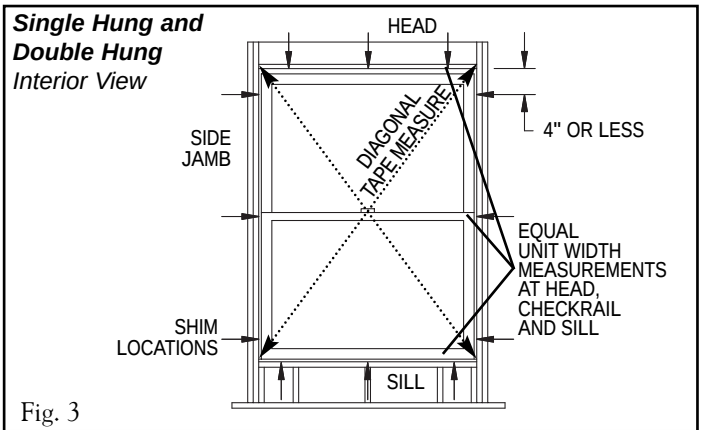


Fig. 3

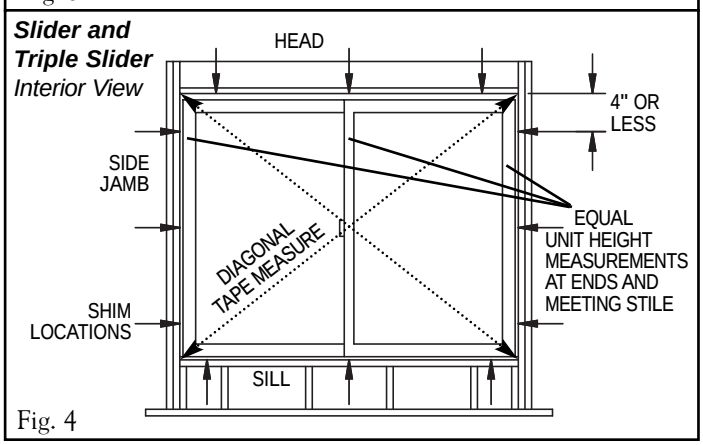


Fig. 4

See Figs. 3 and 4. Shim along the head, sill, and side jambs, starting 4"(102) from corner/ends, and every 8"(203) to 10"(254) on center in between. Shim to keep the window sill up off the rough opening sill. Shimming will ensure correct margins, parallel jambs, a level unit, and proper operation. Do not bow the side jambs. Do not over shim.

When installing single hung and double hung units, shim between the side jamb and rough opening 4" (102) above and 4" (102) below the checkrail (where both sash overlap each other). On sliders, additional shims must be used at the center of the head and sill to support the meeting stile. On triple sliders, additional shims are required at both meeting stiles. When installing slider and triple slider units, shims are required at both ends of the sill.

⚠ **CAUTION:** Sash operation and /or removal may be difficult if the checkrail or meeting stile has not been shimmed properly.

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" (2) of each other. For single hung or double hung units, make sure the width of the frame at the center of the unit is the same as the width at the head and sill. For slider or triple slider units, make sure the height of the frame at the center of the unit is the same as the height at each end. Adjust the shims if necessary.

Temporary Fastening by Nailing Through the Nailing Fin

In addition, you must follow Technique #1 or Technique #2 for permanent fastening.

See Fig. 5. When nailing through the nailing fin to temporarily tack the unit in place, use 1-1/2" (38) or longer galvanized roofing nails. Double-check to ensure the sill is level and straight. Plumb the exterior side jambs and level the exterior head jamb. Adjust the shims if necessary. Nail in the first pre-punched hole from each corner/end, then every third hole (10-1/2" (267) on center) along the head, sides, and sill. The head of the fastener should not compress the nailing fin, causing it to warp. Again, make sure unit is square.

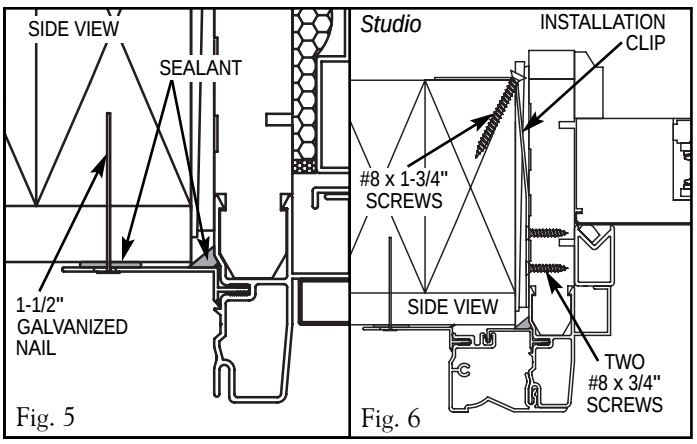


Fig. 5 Fig. 6

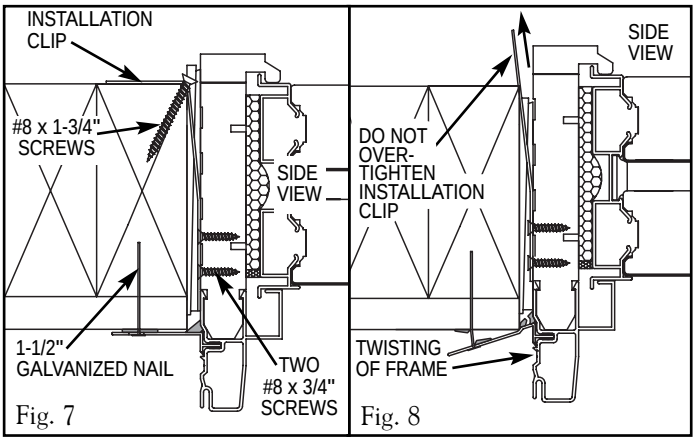


Fig. 7 Fig. 8

Technique #1: Kolbe Installation Clips

See Figs. 6 and 7. Double-check to ensure the sill is straight and level. Plumb the exterior side jambs and level the exterior head jamb. Shim on both sides of every installation clip to prevent the frame from bowing. Starting with an interior upper corner, bend clips around the rough opening frame and fasten using #8 x 1-3/4" (44) phillips flat head screws. Continue around the perimeter, making sure the jambs are straight and the unit is square.

⚠ **CAUTION: See Fig. 8**. Over-tightening installation clips may distort the frame components and break the sealant joints.

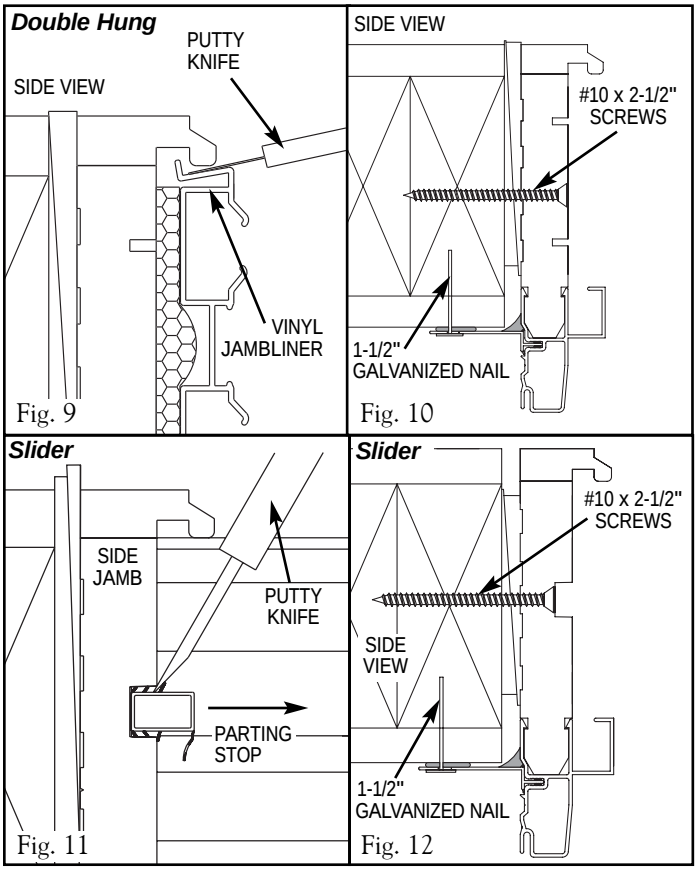
Technique #2: Screw Through The Frame

Double-check to ensure the sill is straight and level. Plumb side jambs and level exterior head jamb. Remove both sash (see page 5).

Double Hung Units Only

See Fig. 9. Remove the vinyl jambliner. Starting at the bottom of the jambliner, place a putty knife in between the interior edge of the jambliner and the extension jamb. Push towards the jambliner, angling the blade away. Do not pry up against the interior extension jamb; this may mar the wood. Using your other hand, pull out the base of the liner. Continue up the length of jamb.

Following the recommended spacing from the *Installation Anchor Calculator*, mark each screw location and shim



underneath. **See Fig. 10.** Check that the unit is still level. Drill a 9/64"(4) diameter pilot hole through the jamb, shim and into the rough opening at each marked location. Fasten through the holes and into the rough opening with #10 x 2-1/2"(64) phillips flat head screws.

Replace the jambliner. Starting with the top end of the jambliner squeeze both sides of the liner together, allowing the center to bow. Place an end into its original location. Working your way down, replace the remainder of the liner. Replace the sash.

Slider Units Only

See Fig. 11. Remove the side jamb parting stops. Starting at the bottom of the parting stop, place a putty knife in between the interior edge of the parting stop and the jamb. Push towards the parting stop, angling the blade away. Do not pry up against the interior extension jamb; doing so may mar the wood. Using your other hand, grasp one end and pull outward. Remove the vinyl head track in the same way, except push toward the jambliner .

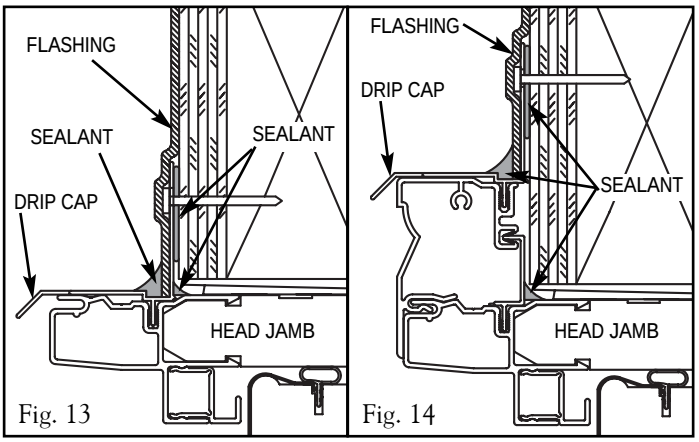
Following the recommended spacing from the *Installation Anchor Calculator*, mark each screw location. In the head and side jambs, mark the locations in the kerf previously occupied by the parting stop. Shim underneath each screw location. **See Fig. 12.** Check that the unit is still level. Drill a 9/64"(4) diameter pilot hole through the jamb, shim and into the rough opening at each marked location. Fasten through the holes and into the rough opening with #10 x 2-1/2"(64) phillips flat head screws.

Replace the vinyl head track. Squeeze both sides of the track together, allowing the center to bow. Place one end into its original location and working your way across, replace the remainder of the track. Then replace the side parting stops. Replace the sash.

STEP #5: COMPLETING THE EXTERIOR

A drip cap must be installed to direct water away from the window and lessen the chance of water seepage. **See Figs. 13 and 14.** 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. 15.** 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.



STEP #6: INSULATION AND INTERIOR CASING/TRIM

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.

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

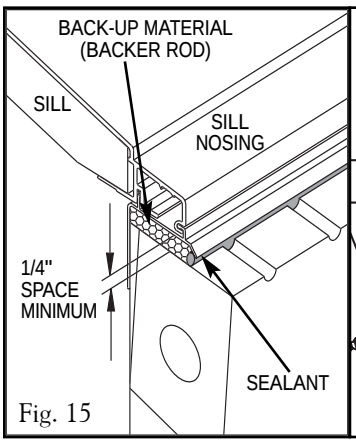


Fig. 15

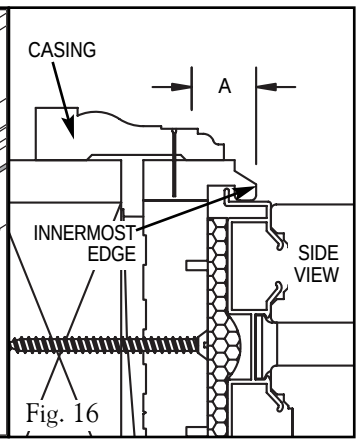


Fig. 16

Apply the interior casing. **See Fig. 16.** The spacing for "A" in Fig. 17 varies. Along the head and sides, install fasteners at least 3/4" (19) away from the innermost edge of the extension jamb. On the sill, install fasteners at least 1" (25) 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.

STEP #7: EXTERIOR AND INTERIOR FINISHING INSTRUCTIONS

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 completed within 30 days. Finish bare wood interiors immediately using a top quality stain, sealer, and/or polyurethane varnish. On factory primed interiors, apply a quality top coat system. See our painting and finishing guide, *Preserving the Natural Beauty of Your Kolbe Windows and Doors*, for more information.

⚠ **CAUTION:** Avoid getting finishing products on any hardware, vinyl components, and weatherstripping.

STEP #8: MAINTENANCE TIPS AND 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. Any cracks must be caulked immediately with a high quality sealant, to maintain the seal integrity of the paint finish and to prevent infiltration of water and air.

CLEANING

A yearly cleaning with a mild soap and sweet water (tap) solution is recommended for the sash and frames; then 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 reglazing or replacement, should be referred to your Kolbe Window and Door supplier.

⚠ **CAUTION:** Kolbe's standard H°K insulating glass has a LoE^2 coating on surface 2. It does not match clear glass or other LoE^2 products. Do-it-yourself reglazing or replacing without permission from Kolbe Windows and Doors will void the product warranty.

SINGLE HUNG AND DOUBLE HUNG SASH TILT-IN/REMOVAL

Both sash on double hung units can tilt-in and be removed. On single hung units, only the bottom sash can tilt-in and be removed.

Kolbe's jambliner provides an excellent seal between the sash and the jambs. However, because of the tightness of this seal, sash removal may be difficult, especially on larger units. The jambliner must be compressed while the top of the sash is pulled toward the interior at the same time. To do this, we strongly recommend using a jamb spreader. Also, using a jamb spreader will help avoid a pinch hazard - getting your fingers caught between the sash and the jambliner - and the sash will be easier to tilt-in. Contact your Kolbe Window and Door supplier for more information on a jamb spreader.

⚠ **CAUTION:** Be careful not to pinch your fingers between the sash and jambliner.

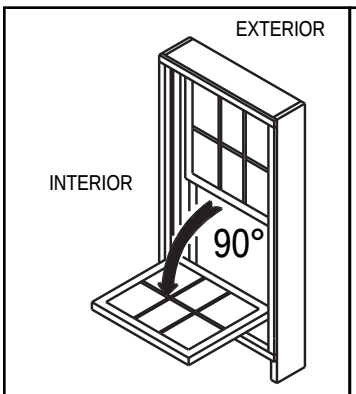


Fig. 17

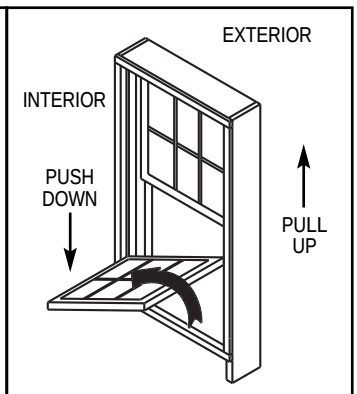


Fig. 18

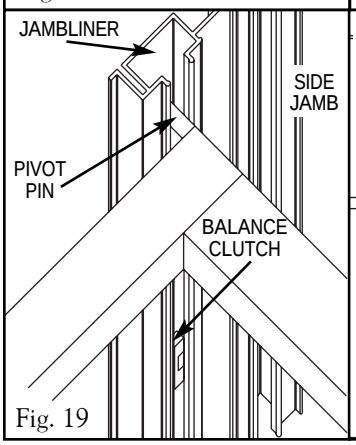


Fig. 19

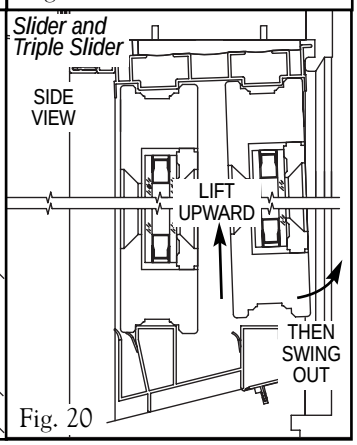


Fig. 20

Slide the bottom sash up about three inches. Place both hands, one at each end, on the top of the sash. Using the sides of each hand, push sideways on the vinyl jambliner. While continuing to apply pressure to compress the liner, pull the top of the sash towards you.

See Figs. 17. To completely remove the lower sash, tilt the sash down to a 90° angle to the window side jamb. **See Fig. 18 and 19.** Lift one side of the sash upward. You should see the pivot pin, located on the side of the sash. When the pivot pins have cleared the jambliner, swing the sash out.

For the top sash on Standard Performance double hung units, slide the upper sash down to within a couple of inches of the sill, then remove it in the same way. On a High Performance double hung unit, a sash retaining bracket is attached to the bottom edge of the top sash, on both sides. Remove all four #7 x 1" (25) phillips flat head screws and slide the bracket down to the sill. You can now remove the top sash without having to remove the bracket from the jambliner. On all single hung units, the top sash cannot be removed.

SINGLE HUNG AND DOUBLE HUNG SASH INSTALLATION

With the top sash interior facing towards the floor, grasp the sash on each side. **See Fig. 18.** 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. **See Fig. 19.** 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.)

⚠ **CAUTION:** The pivot pins must be seated all the way down in the cams of the clutches to avoid damaging the clutches and to allow the sash to rotate.

Rotate the top of the sash towards the exterior until it is in operating position on the jambliner. The jambliner may need to be compressed in order to allow the sash to swing into place. Slide the sash down. You may hear a soft click - the clutch engaging. Move the sash to the top of the opening. Install the bottom sash the same way.

SLIDER SASH AND TRIPLE SLIDER FLANKER SASH REMOVAL

See Fig. 20. Slide the inner sash to the center. With one hand on each side of the sash, near its base, lift upward. Push up to compress the head liner while pulling the bottom of the sash towards you. When the base of the sash clears the sill track, pull out. Remove the outer sash the same way.

SLIDER SASH AND TRIPLE SLIDER FLANKER SASH INSTALLATION

The outer sash has a vinyl weatherstrip on the interior face of the meeting stile. Place the top of the outer sash up against the vinyl head track. Push up on the sash enough to allow the base of the sash to be swung into place on the sill track. Repeat steps for remaining sash.

For further information, contact your Kolbe Window and Door supplier or visit us on the internet at www.kolbe-kolbe.com. To hot link to the *Installation Anchor Calculator*, all of the pamphlets referenced here, and installation instructions for each of our products, go to www.kolbe-kolbe.com/download_installinfo.shtml.

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