KOLBE®

WINDOWS & DOORS

CASEMENT, XL CASEMENT PUSH-OUT CASEMENT, AWNING, PICTURE WINDOW, DIRECT SET, & TRANSOM

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 for more information.

www.kolbewindows.com

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KOLBE WINDOWS & DOORS

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INSTALLATION INSTRUCTIONS

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.

⚠ WARNING

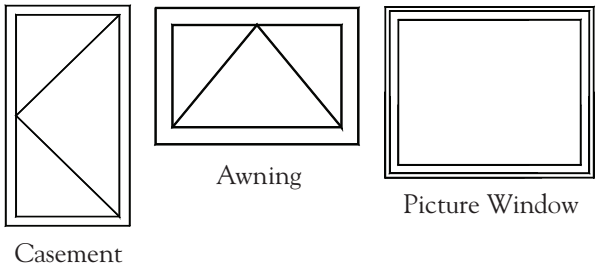
Proper Eye and Hearing Protection must always be worn when installing, removing or performing adjustments to Kolbe window and door products.

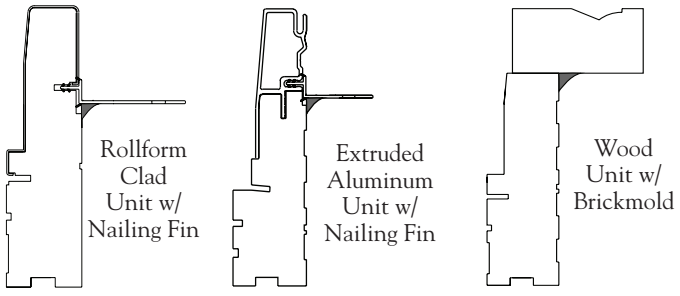
⚠ WARNING

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

NOTICE

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.





Exterior Trim may vary from picture

INTRODUCTION

These instructions are for installing Casement, Awning, Picture windows and Push-out Casements into a wood or concrete/masonry wall. The rough opening must be lined with a 1-1/2" (38mm) 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 for additional literature and information. For simplicity, extruded aluminum units are shown in pictures throughout the instructions.

ITEMS REQUIRED BY INSTALLER

- 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
- Putty knife
- 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

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:

- 9/64" (4mm) drill bit
- #10 x 2-1/2" (64mm) flat head screws

PRELIMINARY PREPARATION

Remove the shipping packaging, skid plates or factory applied bracing. Place window exterior side up on a clean, flat work surface. Make sure the unit is not damaged and the dimensions are appropriate for the rough opening. Check that you have all necessary hardware.

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 1/2" (13) 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 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.

⚠ 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.

SELECT INSTALLATION TECHNIQUE

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 (technique #1) or to screw through the frame (technique #2). Kolbe recommends using installation clips for studio units, units with exterior trim and in high wind pressure locations. 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. For more detailed information, follow the instructions provided with your Kolbe installation clips.

See Fig. 1. Fasten the installation clips to the frame head, sides and sill now using two #8 x 3/4" (19mm) flat head screws per clip.

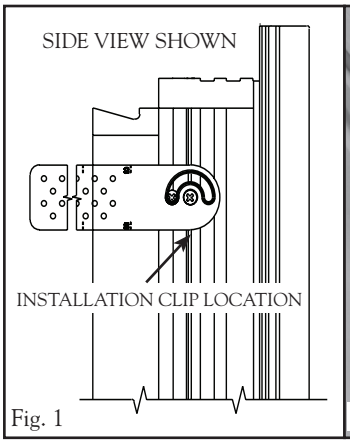


Fig. 1



Fig. 2

SEALANT AND FLASHING

Kolbe recommends following ASTM E 2112 guidelines for sealing and flashing exterior windows. 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 at www.kolbewindows.com to download a copy.

⚠ 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.

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

See Fig. 2. Apply a 3/16" (5mm) continuous tooled bead of sealant around the perimeter of the unit on the interior (backside) of the window where the jambs and the nailing fin or brickmould form a 90 degree angle as shown in Fig. 2. Apply a second bead of sealant 3/8" (10mm) in from the outside edge of the nailing fin or brickmould around the perimeter of the unit.

INSTRUCTIONS FOR BOTH TECHNIQUES

From the exterior, carefully tilt unit in rough opening, sill first. Press the brickmould or the nailing fin evenly against the exterior sheathing. Center unit in the rough opening.

See Fig. 3. Shim along the head, sill, and side jambs at 4" (102) from the corners/ends, and every 8" (203) on center between. Do not over shim!

See Fig. 3 & 4. Measure the frame diagonally as shown in **fig. 3.** The measurements must be within 1/16" (2mm) of each other. Take three separate measurements between the side jambs as shown in **fig. 4.** These measurements should be the same. Adjust the shims if necessary until the window is square and level.

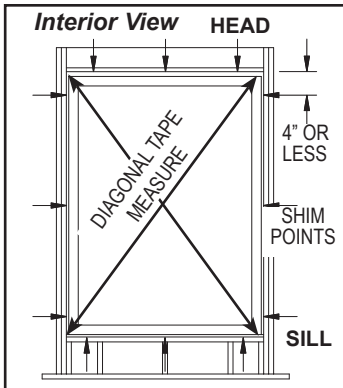


Fig. 3

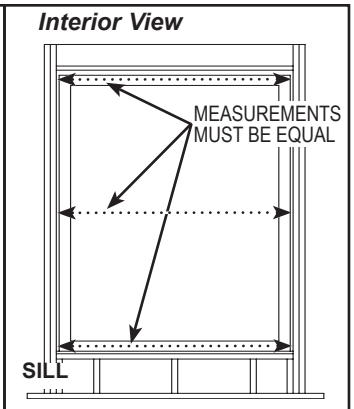


Fig. 4

Temporarily fasten window in opening

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

Heritage Units Only!
See Fig. 5, next page. On primed brickmould units only, you may fasten through the upper corners of brickmould to temporarily tack the unit in place. Use 10d finish nails. Double-check the unit to ensure the sill is level and straight. Plumb the exterior side jambs and level the exterior head jamb. Adjust the shims if necessary. Again, make sure the unit is square.

⚠ CAUTION

Nailing through the brickmould is for primed wood units only. Nailing through the brickmould is NOT recommended for units with factory pre-finished K-Kron II exteriors, and will void the finish warranty.

Classic or Ultra Units Only!

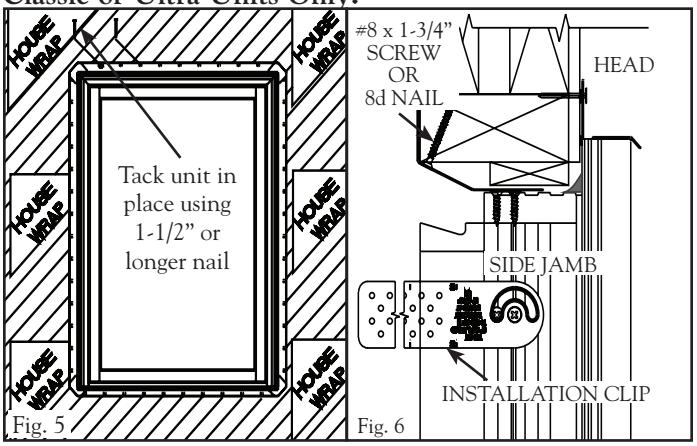


Fig. 5 Fig. 6

See Fig. 5. 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.

⚠ CAUTION

Over-tightening installation clips may distort the frame components and break the sealant joints.

Technique #1: Kolbe Installation Clips

See Fig. 6. 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 one #8 x 1-3/4" (44mm) flat head screw or two 8d common nails. Continue around unit, making sure the jambs are straight and the unit is square.

Technique #2: Screw Through The Frame

Remove the screen, the head interior stop, the sill operator cover, and the side interior stops. For units ordered with the stops shipped loose, skip to the paragraph starting with "See Fig. 9...". To avoid damaging the interior stops, remove the head interior stop first.

See Fig. 7. Open the sash and work from the exterior. Place a piece of scrap or shim wood against the head jamb to avoid scratching or denting the surface. Insert the short edge of a small pry bar between the weatherstrip and the interior head stop. Starting at one end, gently pry up the head interior stop. Once the entire length of the stop is loosened, angle the pry bar under the stop to pop it out of its kerf. Remove the stop and store in a safe place until it is re-applied, **see Fig. 8.** Repeat steps above to remove the operator cover from the sill and the side interior stops from the side jambs.

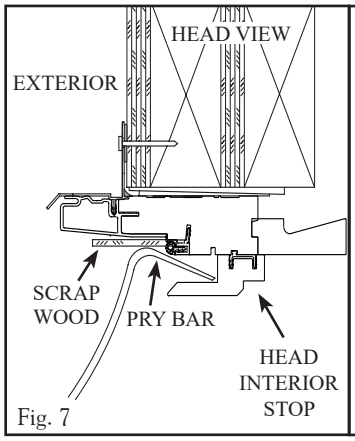


Fig. 7

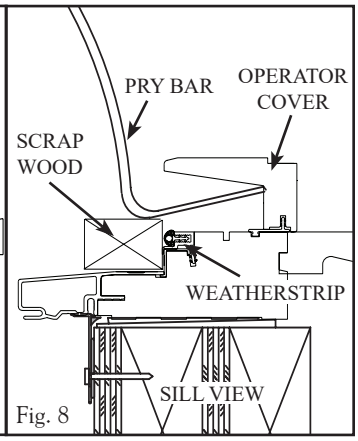


Fig. 8

See Fig. 9. Mark the screw locations, following the recommended spacing from the Installation Anchor Calculator, and shim underneath each one. If a screw location falls in the operator area on the sill, install a screw on both sides of the operator instead. Drill 9/64" (4mm) diameter lead holes in the head jamb, both side jambs, and in the sill. Use #10 x 2-1/2" (64mm) flat head screws to fasten through the jambs, shims, and into the rough opening framing.

Replace both side interior stops first, then replace the head interior stop. Last, replace the operator cover to the sill.

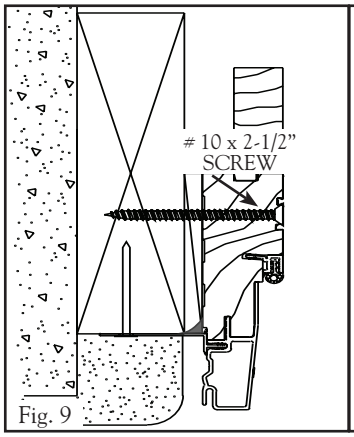


Fig. 9

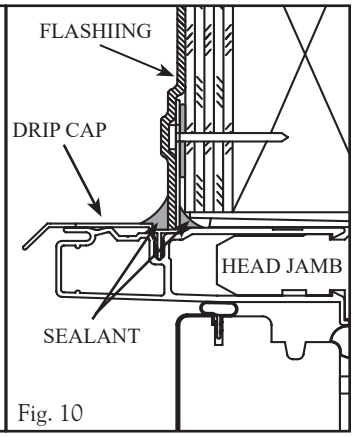


Fig. 10

COMPLETING THE EXTERIOR

See Fig. 10. A drip cap must be installed to direct water away from the window and lessen the chance of water seepage. 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. 11. A 1/4" (6mm) (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.

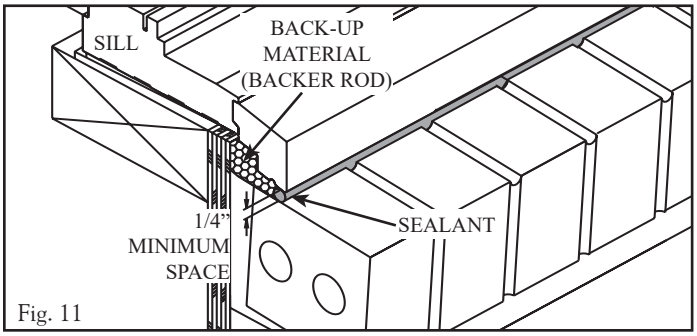


Fig. 11

HINGE ADJUSTMENTS

Friction Hinge (Standard Push-Out Casements)

See Fig. 12. To obtain an equal margin around the window between the sash and frame; open the sash to expose the hinges located at the top and bottom of the window. There is a cam stud located on each hinge that can be adjusted. Pry up on the support arm to remove it from the cam stud, once the support arm is removed use a 3/8" open end wrench and turn the base of the cam stud left or right, this will move the sash side to side in the frame. Re-attach the support arm and close the window to check the margin between the sash and frame around the window. If the margin is not equal all the way around, repeat the steps above on the top and/or bottom hinges until you are satisfied with the margin.

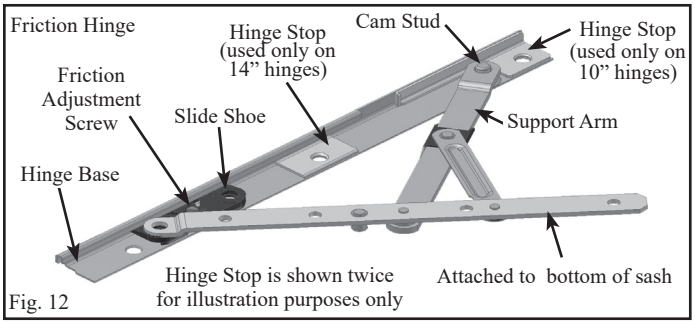


Fig. 12

⚠ IMPORTANT

Hinge friction adjustments should be done immediately upon installation. The hinges do not have any tension applied at the factory and may operate too freely until friction is applied.

See Fig. 12. There is a friction adjustment screw located on the slide shoe that is attached to the hinge base. Open the window until the friction screw is exposed. Using a small flathead screwdriver, turn the friction adjustment screw left (tighten) or right (un-tighten) until desired friction is achieved when opening and closing the sash. Close window when finished with adjustments.

Adjustable Hinge (Standard Casements & Awnings)

See Fig. 13. To obtain an equal margin around the window between the sash and frame; open the sash to expose the hinges located at the top and bottom of the window. There is a cam stud located on each hinge that can be adjusted. Use a 7/64" Allen wrench and turn the cam stud left or right, this will move the sash side to side in the frame. Close the sash and check the margin between the sash and frame around the window. If the margin is not equal all the way around, repeat the steps above on the top and/or bottom hinges until you are satisfied with the margin. Close window when finished with adjustments.

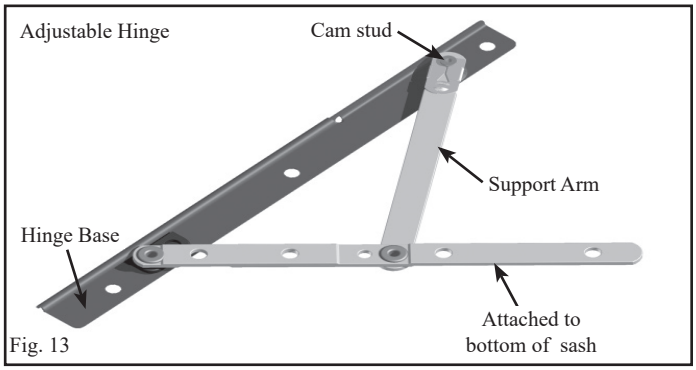


Fig. 13

Tri-Euro or Concealed Euro hinges (Impact and/or Radius Push-Out Casements, Casements, & Awnings)

See Fig. 14 & 15. An impact or radius unit may have a Tri-Euro hinge or a Concealed Euro hinge depending on what type of hinge was ordered. The Tri-Euro hinges cannot be adjusted. The Concealed Euro hinges can be adjusted vertically. The Tri-Euro and Concealed Euro hinges are located on the left or right side jamb connecting the frame and sash.

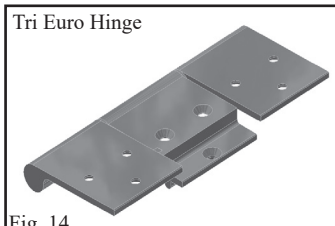


Fig. 14

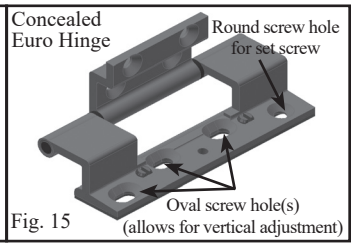


Fig. 15

See Fig. 15. To do a vertical adjustment locate where the Concealed Euro hinges are located on the side jamb. Loosen the three screws that are screwed into the side jamb of the frame slightly so you can move the hinge(s) up and down vertically (all hinges must be loosened). Place the hinge(s) where you would like them positioned and then re-tighten the screws. Check sash for proper alignment. Repeat until the sash is aligned in the frame to your satisfaction. When finished with adjustments, the margins should be equal around the perimeter of the window between the frame and sash. Double check each hinge to make sure all screws have been re-tightened, pre-drill the empty round hole with a 3/32" drill bit, install the supplied set screw and close the window.

Sash Lift Adjustment (units w/2 bar hinge only)
See Fig. 16 & 17. The sash lift is only used on impact units that have the 2 bar adjustable hinge. If the margins are not equal at the top and bottom, you will need to adjust the sash lift. To do this, open the sash all the way. Remove the two screws securing the sash lift in place then, remove it to reveal the sash base. The base will remain in place. Adjustments can be made in 1/32" increments. Move sash lift up or down until equal margins are achieved. Make sure open end of screw box is facing the interior of the sash and re-install the screws to secure in place.

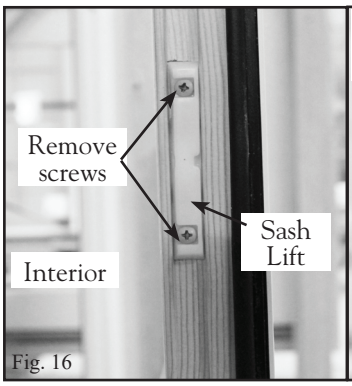


Fig. 16

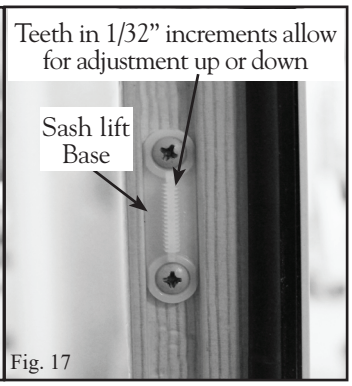


Fig. 17

Friction Adjuster (used only when Tri-Euro or Concealed Euro hinges are used on Push-Out Casements)
See Fig. 18. To adjust the friction adjusters at the top and bottom of the sash when using Tri-Euro and Concealed Euro hinges; open the sash so the friction adjusters are visible. At the top and bottom (only bottom if radius unit) of the sash where the friction adjuster is attached to the sash there is a small screw that can be used to adjust the friction when opening and closing the sash. Using a small flat head screwdriver, adjust this screw left (tighten) or right (un-tighten) until desired friction is achieved when opening and closing the sash.

⚠ IMPORTANT

Hinge friction adjustments should be done immediately upon installation. The hinges do not have any tension applied at the factory and may operate too freely until friction is applied.

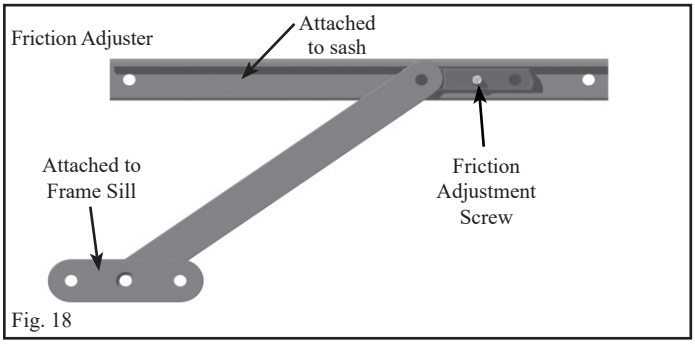


Fig. 18

NOTE: Ultra casement radius push out units will come packaged with additional instructions regarding screw replacement on the friction adjuster.

INSULATION & INTERIOR CASING/TRIM

⚠ CAUTION

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

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. Apply the interior casing. ***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.***

EXTERIOR AND INTERIOR FINISHING

Exterior: Fill any voids created by fasteners used in securing the primed unit to the building structure using an exterior wood filler. Sand filler flush and scuff remaining primed wood surfaces prior to applying exterior top coat. Primed wood and metal must remain dry and finishing should be completed immediately. See our ***Pre-finish 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 immediately using a top quality stain, sealer, and/or polyurethane varnish. On factory primed interiors, apply a quality top coat system. See our ***Pre-finish Recommendations/Instructions*** for more information.

⚠ CAUTION

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

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. 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 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 & door supplier.

⚠ CAUTION

Kolbe's standard H°K insulating glass has a LoE² coating on surface 2. It does not match clear glass or other LoE² products. Do-it-yourself re-glazing or replacing without permission from Kolbe windows & 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 for further information.

THANK YOU
FOR PURCHASING KOLBE PRODUCTS.

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