



RESIDENTIAL INSTALLATION INSTRUCTIONS FOR TEUTONIC™ WINDOWS

RECOMMENDATIONS FOR COMMON INSTALLATION OF TILT TURN,
TURN, TILT AND FIXED WINDOWS.

Installer: DO NOT DISCARD Please leave the Installation Guide with the home owner to file for future reference.

Please read and follow the Installation Instructions completely before installing. If you have any questions about this or any of our products, please call your local Kolbe & Kolbe dealer.

Proper Installation

Proper installation and maintenance of this product is essential to its performance. The following instructions are to be used as guidelines only. Kolbe recommends consulting a local Kolbe supplier or an experienced contractor, architect, or structural engineer since every installation is different. Installation of this product is the sole responsibility of the architect, contractor, building owner, or consumer and Kolbe has no responsibility in this regard.

- CAUTION: Lead-based paint may be present in older homes, and the removal of windows 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.
- 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.

Job Site Tools for door Installation

- Steel Toe Footwear
- Hard Hat
- Harness and Tie offs (per site regulations)
- Safety Glasses
- Cordless or Pneumatic Reversible Driver
- P2 Phillips Head Bits (6 inches long)
- Cordless or Pneumatic Caulk Gun
- Level
- Tape Measure
- Construction Pencils
- Tap Con screws or Drill Hammer for applying grommets (screw sleeves) into concrete.
- Heat Gun

STEP #1: 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 window frame.
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.

STEP #2: 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: Before applying sealant, make sure the area to be sealed is clean, dry, and frost-free. Use color-matching or transparent sealant.

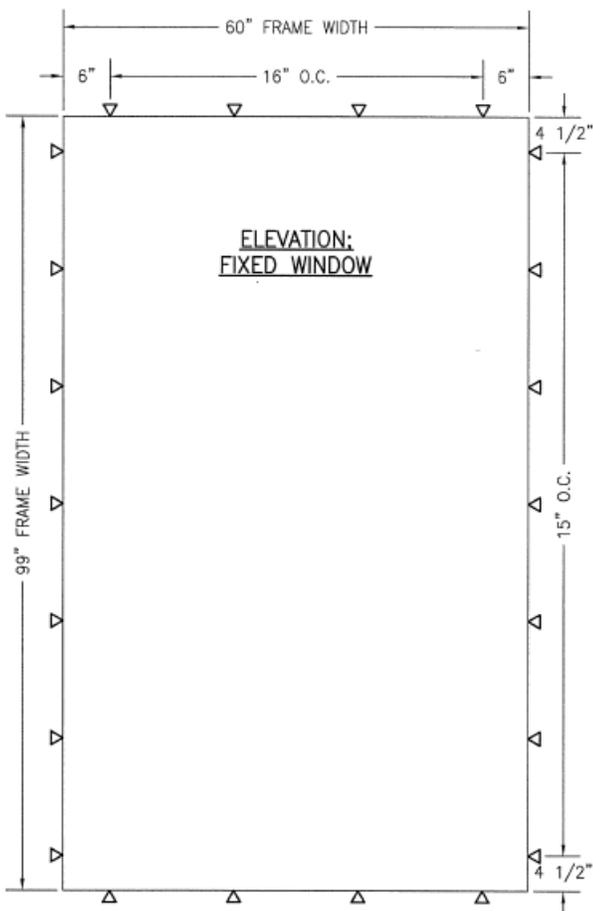
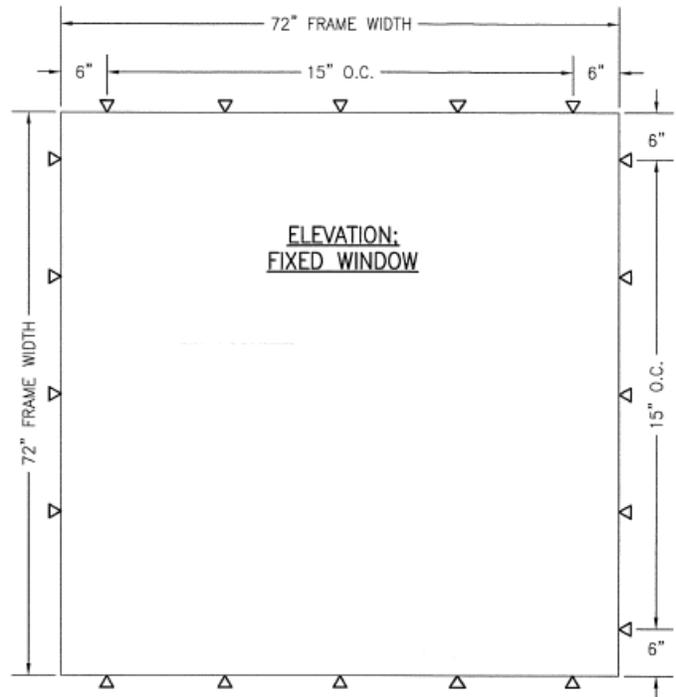
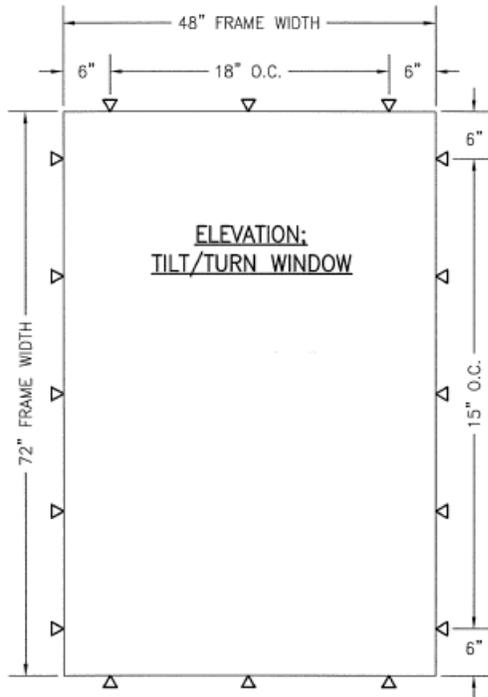
STEP #3: SELECT YOUR INSTALLATION TECHNIQUE

These techniques are general guidelines only, and may not be appropriate for all performance requirements. Kolbe recommends two installation types.

1. Installation clip method
 - a. Installation clips are not factory applied and are installed in the field. If using installation clips, the installation clips are installed by turning the clip catches into the frame. Attach the clips to the frame with one #8x1" self drilling screw. The clips are to be placed as shown on page 3. Fixed units that have one length greater than 72" in the width or height requires the clip spacing of the larger 60" x 99" fixed unit. For mullied units see clip locations on page 4. Additional clips are needed on assemblies with mullions.
2. Screw through frame method
 - a. From the factory when choosing drill for installation the frame head, sill and jambs will have 3/8" pilot holes drilled into the frame at the spacing as shown below on page 3. Shims are required to be placed at the same locations as the fasteners to prevent bowing of the frame. Use a #10 x 2" screw to attach the unit to the opening. For mullied units see fastener locations on page 4. Additional fasteners are needed on assemblies with mullions.

NOTE ON MULLIONS:

For mullied units additional anchor locations are needed. See details starting on page 4.



STEP #4: 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" (6mm) 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.

See Fig 1. For Sealant on Nailing Fin.

Apply a 3/16" (5mm) bead of sealant to the nail fin. Silicone is required at the head and jambs. No sealant required at the sill.

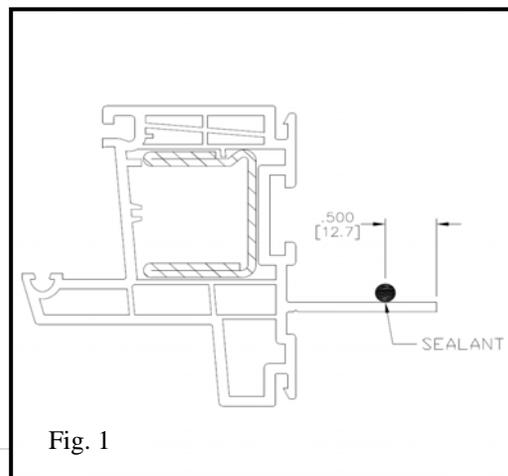


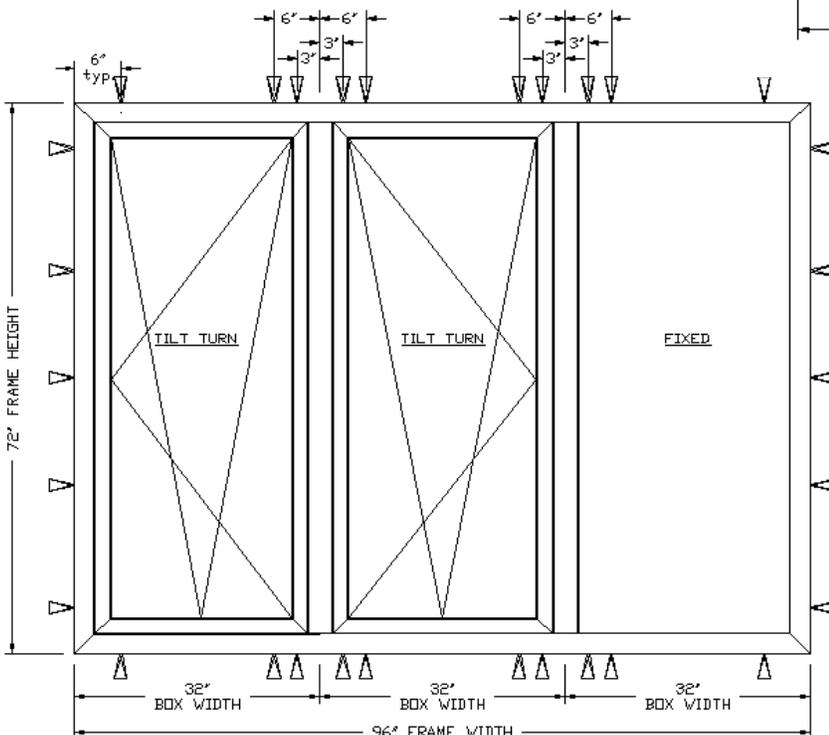
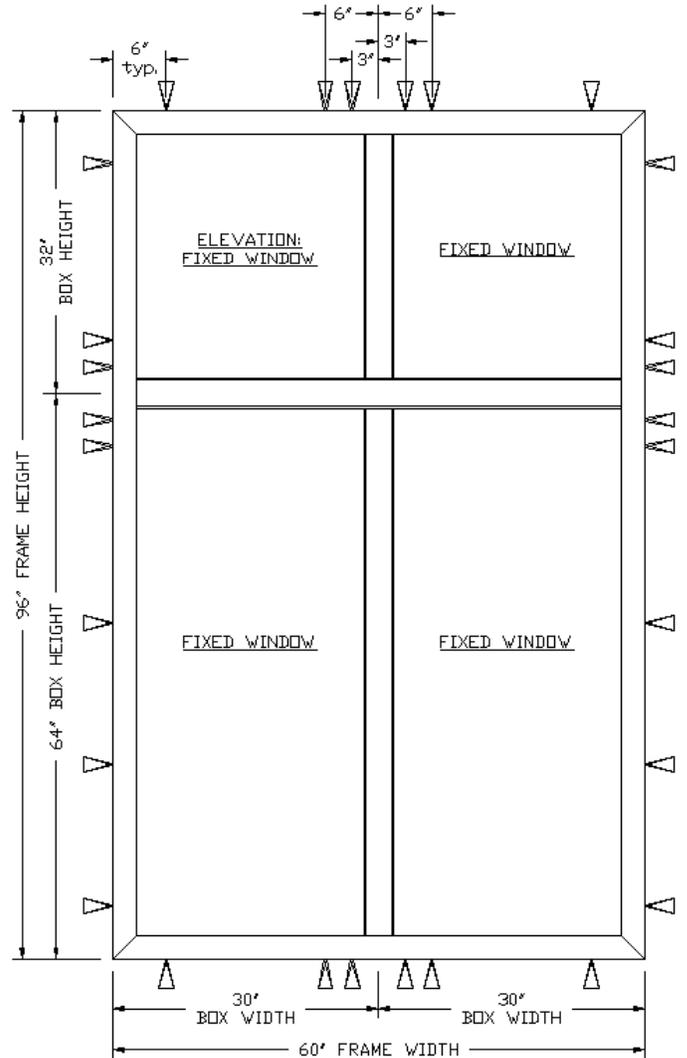
Fig. 1

MULLION FASTENER & CLIP LOCATIONS

On mullion assemblies both techniques of either installation clips or screw through the frame methods can be used. On post mullion or clip mullion combinations additional anchors are required at each end of the mullions to help transfer the load.

Fasteners or clips are to be placed 3" from the center of the mullion and 6" as well (4 anchors at each mullion end). Perimeter fastener locations are 6" from the corners and 16" o.c.

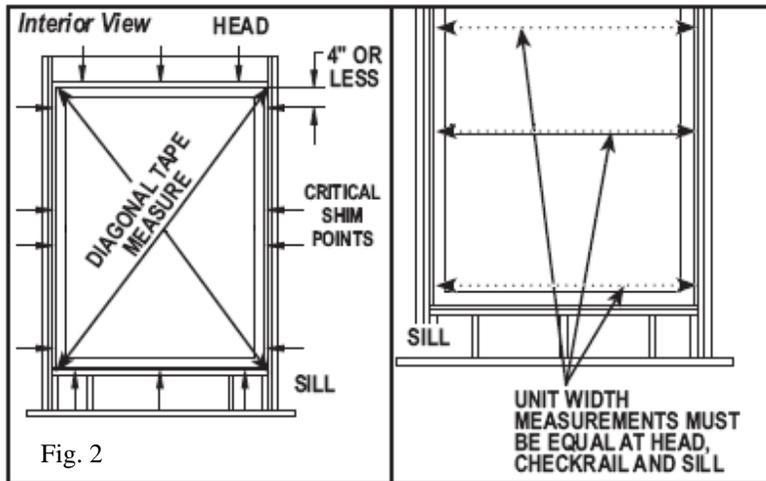
Shimming is required around each installation clip and shims are also required at each screw location. This ensures that the frame does not bow at the sealed mullion joints.



STEP #5: GENERAL INSTRUCTIONS FOR TWO INSTALLATION TECHNIQUES

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

See Fig. 2. Shim along the head, sill, and side. If a mull is used shim between the frame and the rough opening directly on the mull posts. Shimming will ensure correct margins, parallel jambs, a level unit, and proper operation. Do not bow the side jambs. Do not over shim.



Measure the distance from the interior upper left frame corner diagonally down to the lower right frame corner, and then measure the other two corners. These measurements must be within 1/16" (2mm) of each other. In addition, the height of the frame at the center must be the same as the height at each end. The margins around the window should be even on all sides.

Technique #1: Kolbe Installation Clips

See Fig. 3. Double-check to ensure the sill is straight and level. Plumb the side jambs and level the head jamb. Shim on both sides of every installation clip to prevent the frame from bowing. Starting with an interior upper corner, bend clips to the rough opening frame and fasten using #10 x 2" (51mm) Phillips pan head screws; 1/4" x 3" wedge anchors or 1/2" x 3" tapcons. Continue around the perimeter, making sure the jambs are straight and the unit is square.

Technique #2: Screw Through the Frame

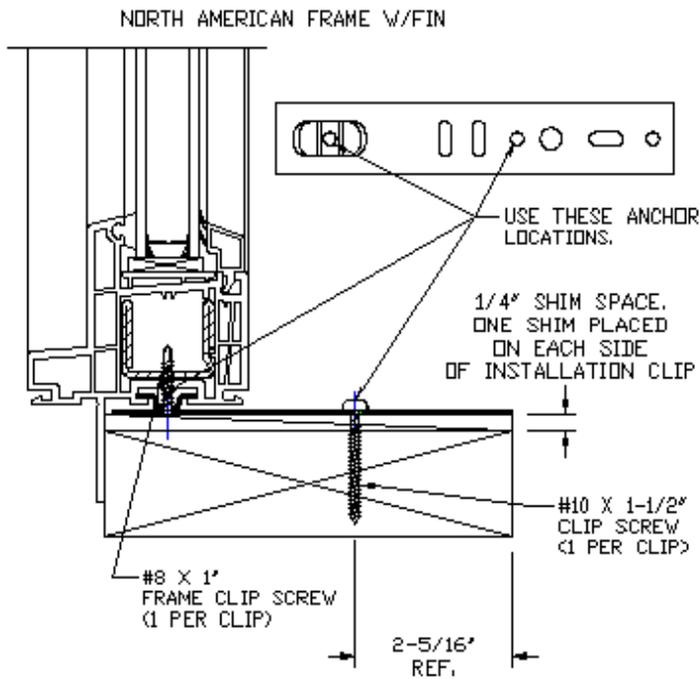
Double-check to ensure the sill is straight and level, and plumb the side jambs. Level the exterior head jamb. Adjust the shims if necessary. Follow the recommended fastener spacing and also shimming underneath each fastener. Check to ensure the unit is still level. Drill a 9/64" (4mm) diameter hole at each screw location in the head, sill and jamb. Using a #10 x 2 (51mm) Phillips pan head screw or 1/2" x 2-1/2" (64mm) tapcon, fasten through the head, sill, jambs, shims, and into the rough opening framing. When all fasteners are installed apply silicone and insert the 3/8" plugs into each fastener location to seal out water.

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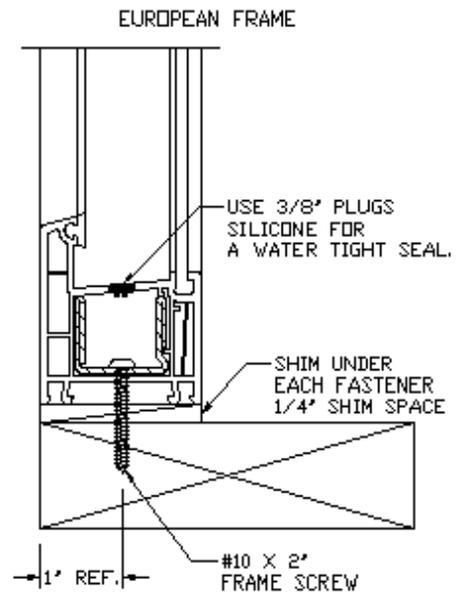
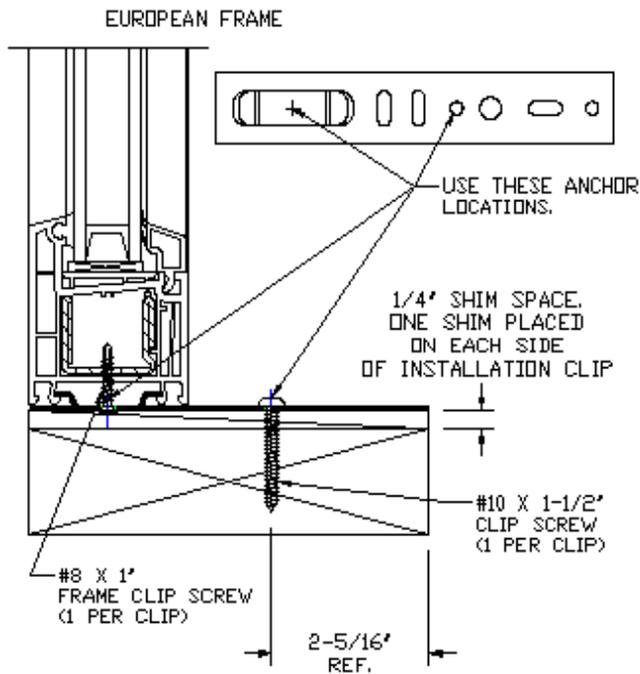
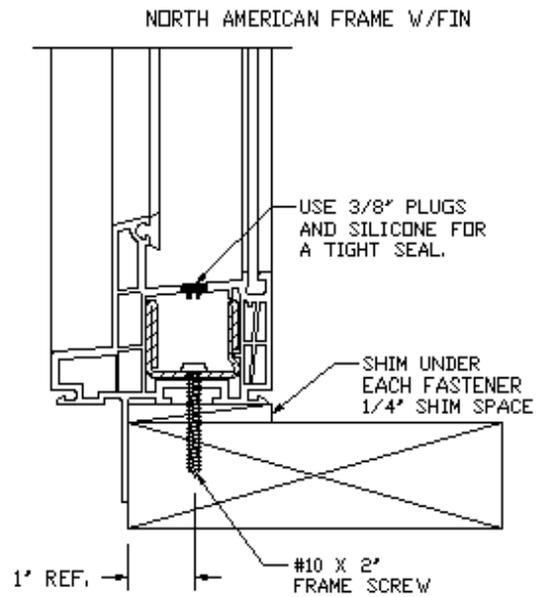
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INSTALLATION CLIP DETAILS

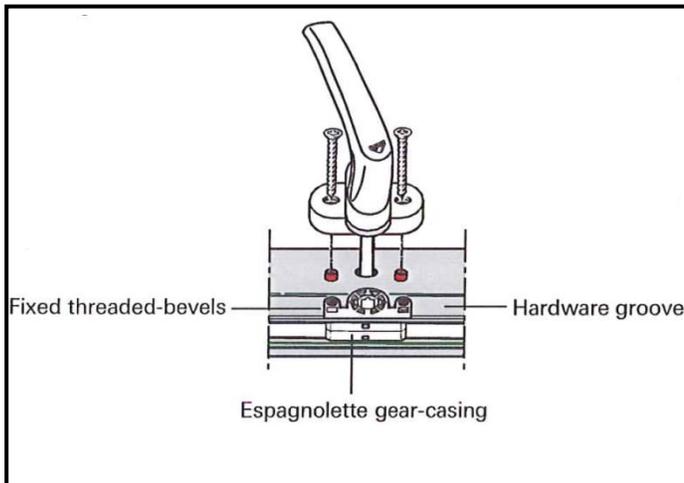


SCREW THROUGH FRAME DETAILS



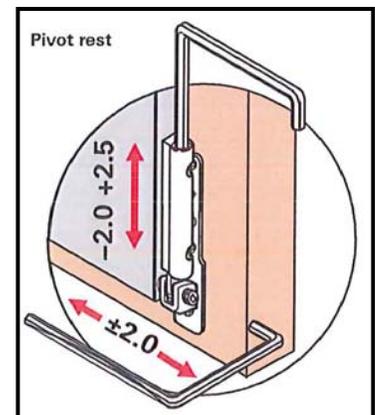
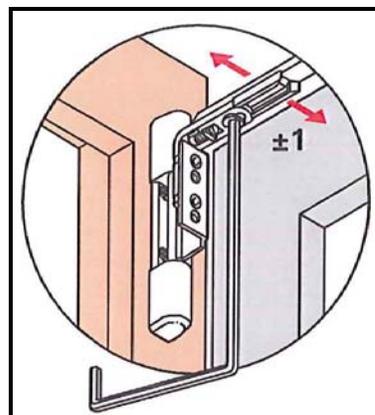
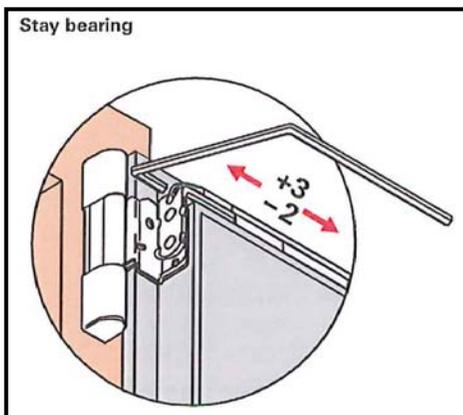
STEP #6: INSTALL INTERIOR HANDLE ON OPERATING UNITS

See figure below. Install the window handle into the three holes prepped in the sash having the handle pointing towards the floor. Turn the handle 90 degrees as this will unlock the sash. Turn the cover to allow access to the screw locations on the handle. Install the two M5 x 50mm flat head machine screws provided by Kolbe. The screws thread into the espagnolette gear casing and fasten with a phillips screw driver.



STEP #7: ADJUSTING HINGES

See figures below. After the window is installed test the window function. If adjustments are needed open the window and adjust the top stay bearing with an Allen wrench or the bottom pivot rest as needed.



STEP #8: COMPLETE THE EXTERIOR

See Fig. 5. Install backer rod and silicone around the interior and exterior perimeter of the frame. Both components are required to seal the window to the self adhering flashing when no nailing fin is required. Also a drip cap must be installed to direct water away from the window and lessen the chance of water seepage. Seal the side edges of the drip cap to the window. Seal between the drip cap and the exterior sheathing.

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STEP #9: 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. Caulk any cracks immediately with a high quality sealant to maintain the seal integrity and to prevent air and water infiltration.

CLEANING

A yearly cleaning with a mild unscented soap and sweet water (tap) solution is recommended for the panel and frames; rinse well. Clean glass with standard glass cleaner, keeping it from running onto the panel and weather-strip.

CAUTION: Do not pressure wash. Do not use any kind of abrasive. Abrasives can cause permanent damage to the PVC and finish.

HARDWARE

Check all fasteners, making sure all hardware is properly secured. All operating components can be greased or oiled once a year. Security strikers made of steel require continuous greasing in order to avoid unnecessary abrasion.

**THANK YOU
FOR PURCHASING KOLBE PRODUCTS.**