

KOLBE[®]

WINDOWS & DOORS

FORGENT[®] SERIES
All Glastra[®] & Wood Glastra[®]
Double Hung & Studio Windows
INSTALLATION INSTRUCTIONS

**READ AND COMPLETELY UNDERSTAND
THESE INSTRUCTIONS
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.

Installer: DO NOT DISCARD Please leave the Installation Guide with the home owner to file for future reference. If you have any questions about this or any of our products, please call your local Kolbe dealer.

NOTICE

Proper installation and periodic home maintenance of Kolbe windows & doors is essential for upholding and sustaining the quality of our products. 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.

NOTICE

Some codes require the use of pressure-treated lumber to line the 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.

NOTICE

Before applying sealant or adhesive pads, ensure 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.

⚠ 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.

⚠ WARNING

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

INTRODUCTION

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.

- Due to the exterior film's low surface tension and dirt-repellent properties, it is essential to use appropriate sealants when sealing the perimeter of window frames to the surrounding structure. Approved options include Dow Corning 758 and Dow Corning 795 silicone sealants.

RECYCLING

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

ITEMS REQUIRED BY INSTALLER

- Steel Toe Footwear
- Hard Hat
- Sealant
- Rubber Mallet
- 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
- Tapcon screws or Drill Hammer for applying grommets (screw sleeves) into concrete.
- Closed cell foam backer rod in 1/2" (13mm) diameter and 1" (25mm) diameter

- Shims
- Square
- Flashing tape
- Fiberglass Insulation
- Putty knife

For installation **Technique #1:**

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

For installation **Technique #2:**

- Kolbe installation clips
- #8 x 3/4" (19mm) pan head screws
- #8 x 1-1/2" (38mm) pan head screws or 8d common nails

For installation **Technique #3:**

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

PRELIMINARY PREPARATION

1. **Unpacking:** Remove and properly dispose of all shipping and packaging materials. These materials may include the protective shipping film and covers on the exterior of the frame, cardboard wrapping, skid plates, factory bracing, or factory applied ridged or strap handles attached to the frame.
2. **Positioning:** Place the window(s) on a clean, flat work surface with the exterior side facing up.
3. **Assessment:** Ensure the unit is undamaged. Take note of its size dimensions for reference.
4. **Hardware Check:** Verify that all necessary hardware, including screws, brackets, and handles, is present.

PREPARE ROUGH OPENING

Before installation, inspect window rough openings to ensure they meet proper size requirements per window. Ensure it is plumb, square, and level for a precise fit.

1. **IMPORTANT** The material/lumber quality and fasteners must be structurally adequate for design load requirements.
2. Typically, the rough opening is to be sized 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. Remedy and discrepancies.
4. Ensure individual construction members are not twisted.
5. The sill plate beneath the unit must be perfectly level for proper unit operation.
6. Installing brick, stone, marble, or concrete directly up against the window sill may cause the window to not operate. Ensure a minimum of 3/8" expansion gap exists between the window frame and these types of exteriors.

⚠ 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.

SELECT INSTALLATION TECHNIQUE: NOTES & INSTRUCTION ON NAIL FIN, CLIP & THRU FRAME FASTENING

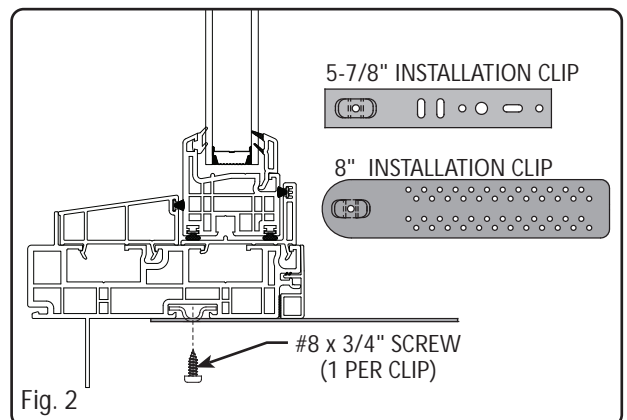
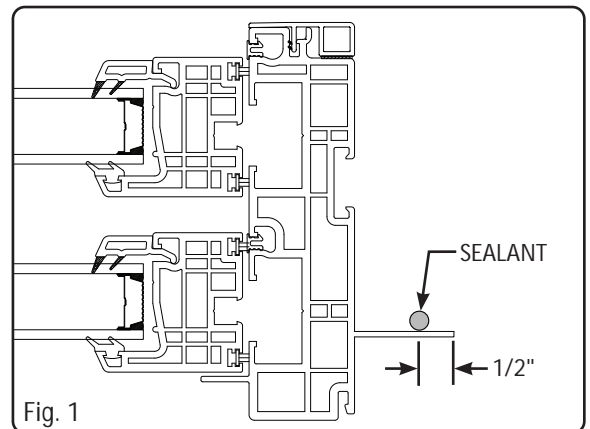
Kolbe provides general installation techniques that may not suit all performance needs.

Technique #1, Through Nail Fin Fastening (Fig. 1): During nail through the nail fin installation, you will fasten the window by driving 1-1/2" galvanized roofing nails into every pre-punched hole in the nailing fin. Make sure nail fins lie flat as possible.

(Fig 1). For sealant on nailing Fin, apply a 3/16" (5mm) bead of sealant to the nail fin as shown. Silicone is required at the head and jambs. No sealant required at the sill.

Technique #2 Installation Clips (Fig. 2): When using the installation clip method the installation clips are not factory applied and are installed in the field. Attach the installation clips to the frame now. The installation clips are installed by turning the clip catches into the frame. Use one #8 x 3/4" screw per clip. On standard performance units, the clips are to be placed 6" from each corner and 16" on center. On impact rated units the clips are placed 6" in from each corner and 12" on center.

Technique #3, Screwing Through the Frame: If chosen during ordering, the frame will come pre-drilled from the factory at the head and sides. The sill will need to be pre-drilled during installation. Shims are required to be placed at the same locations as the fasteners to prevent bowing of the frame. Use #8 x 2-1/2" screws spaced 6" from each corner and 16" on center (spacing for impact rated units is 6" from each corner and 12" on center) to attach the unit to the opening.



SEALANT AND FLASHING

- Kolbe recommends following ASTM E 2112 guidelines for sealing and flashing exterior windows.
- Maintain a gap of at least 1/4" (6mm) on each side, head, and sill between the window frame and the rough opening structure. Creating an overall 1/2" (12mm) taller and 1/2" (12mm) wider than the window frame.
- Create a proper seal between the window and the building framing and exterior.
- For additional details not shown in the following instructions, see our pamphlets *Sealant Information* and *Flashing Information*. These publications are available from your Kolbe window and door supplier or visit www.kolbewindows.com to download a copy.
- The guidelines in this instruction are intended for utilizing a surface barrier system. If employing a membrane drainage system, please refer to our *Sealant and Flashing Instructions* for appropriate sealing methods.

⚠ CAUTION

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

INSTRUCTIONS FOR ALL INSTALLATION TECHNIQUES

Exterior Installation:

From the outside, set the unit on the sill and tilt it into the rough opening. Ensure nailing fin is pressed evenly against the exterior sheathing. Center the window from side to side making the space between the frame and the rough opening the same.

Shimming Process (Fig 3):

Place shims along the top, bottom, and side jambs, 4" (102mm) from each corner or end, and then every 8" (203mm) on center thereafter (Fig. 3).

Proper shimming is crucial for maintaining even margins/reveals, parallel jambs, a level unit, and ensuring the unit operates correctly. Avoid warping the side jambs and refrain from excessive shimming.

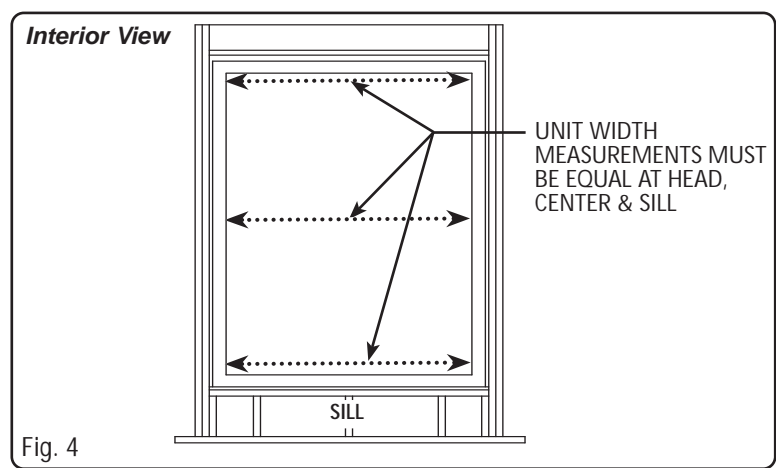
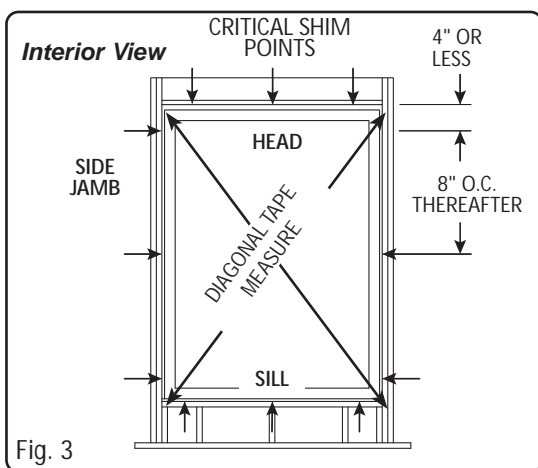
Measuring and Adjusting (Fig's 3 & 4):

Measure diagonally from the upper left interior corner of the frame down to the lower right interior corner. Perform the same measurement for the other two corners. Ensure the two diagonal measurements are within 1/16" (2mm) of each other (Fig. 3).

Next, measure the width between the side jambs at the head, checkrail, and sill—ensure these three widths match.

The margins around the perimeter are to be even on all sides (Fig. 4). Adjust the shims as needed.

Follow either **Technique #1**, **Technique #2** or **Technique #3** for permanent fastening in the following steps.



Technique #1: Through the Nail Fin (Fig. 5):

Fasten the window in place by driving 1-1/2" galvanized roofing nails into every pre-punched hole (approximately every 4") in the nailing fin. Ensure the nail fins are positioned as flat as possible against the surface.

Technique #2: Kolbe Installation Clips (Fig. 6):

1. Verify Alignment

- Double-check that the sill is straight and level.
- Ensure the side jambs are plumb and the head jamb is level.

2. Insert shims on both sides of each installation clip to prevent the frame from bowing or warping.

3. Secure the Installation Clips

- Begin at an interior upper corner.
- Bend the installation clip to fit snugly against the rough opening frame.
- Fasten the clip using #8 x 1-1/2" (38 mm) Phillips pan head screws.

4. Continue Around the Frame

- Work your way around the entire perimeter.
- As you go, ensure the jambs remain straight and the window unit stays square.

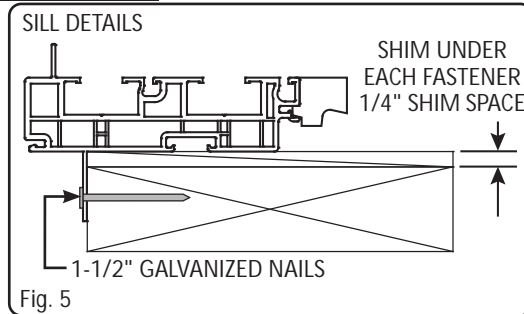


Fig. 5

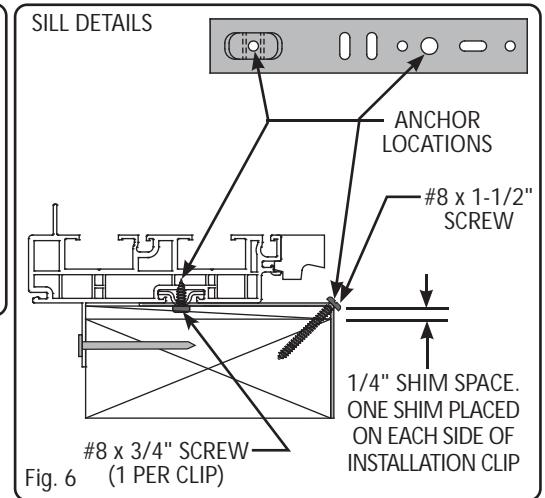


Fig. 6

Technique #3: Screw Through the Frame:

Ensure the sill is straight and level. Plumb side jambs and level the head jamb. Remove the head insert (Fig. 7), then the sill riser (Fig. 9) and finally the sash stops on the side jambs (Fig. 10) from the frame prior to starting screw through the frame installation.

NOTE: The installation process for studio windows is identical to that of operating windows.

However, studio windows use the same insert found at the head (Fig. 8) of an operating double-hung window on all four sides (head, sill, and both jambs).

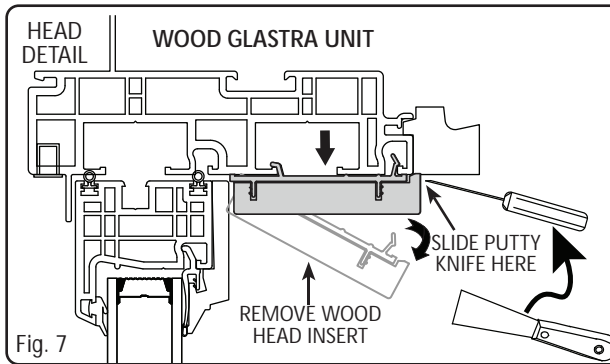


Fig. 7

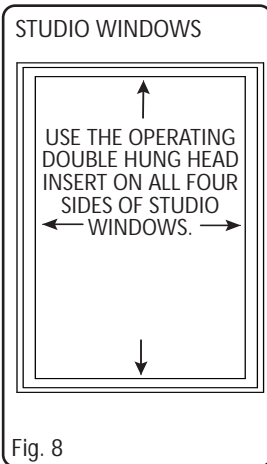
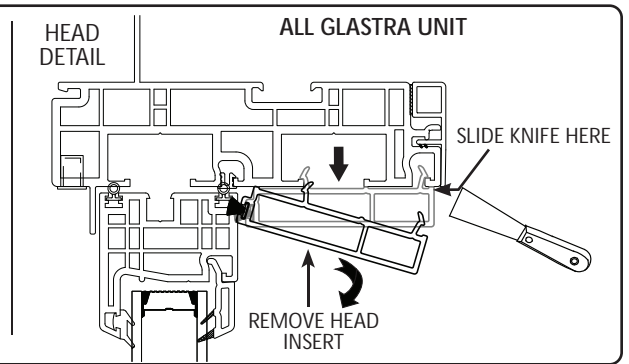


Fig. 8

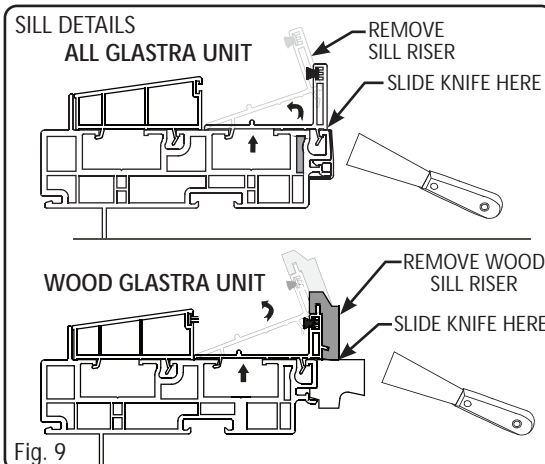


Fig. 9

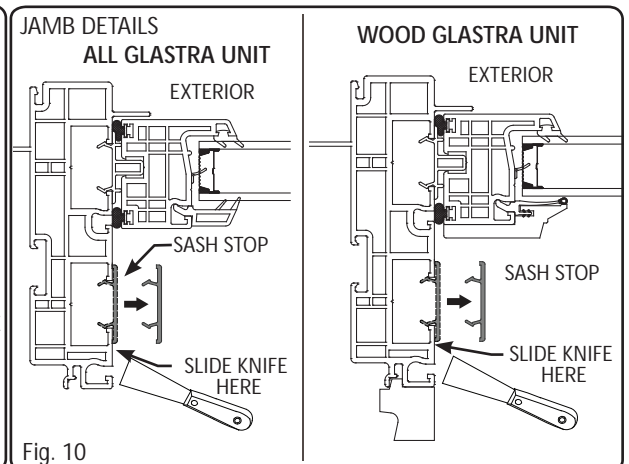
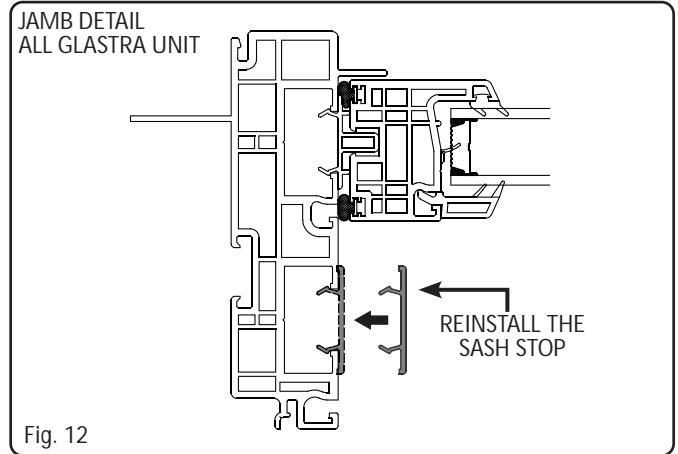
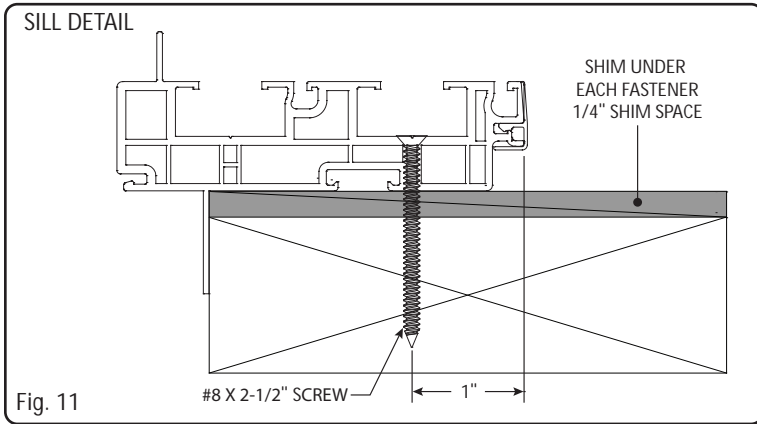


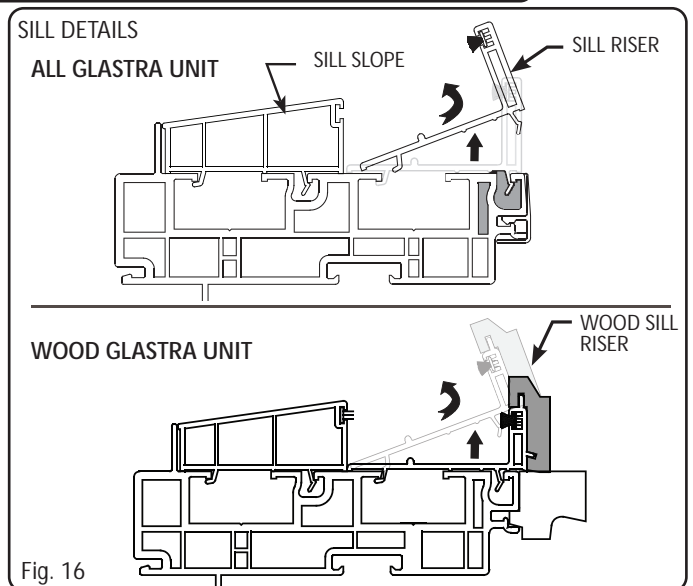
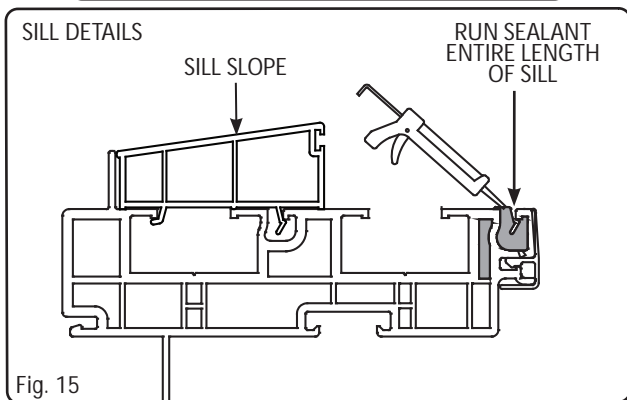
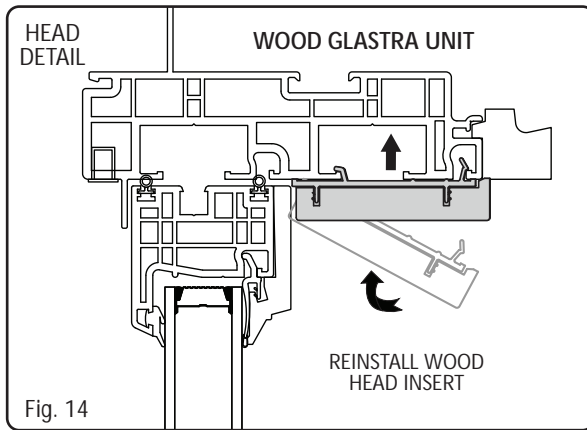
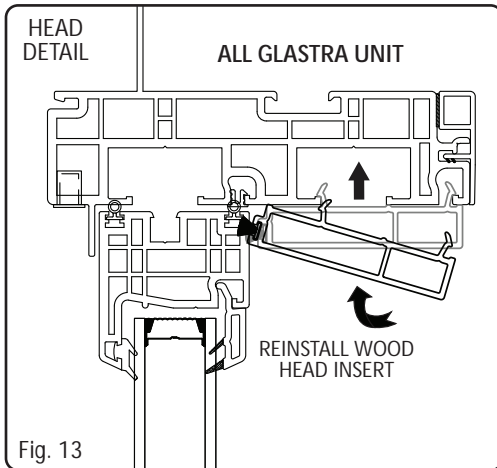
Fig. 10

(Fig. 11) **Sill:** Mark screw locations 6" in from corners and 16" on center thereafter on the sill. Insert a shim at each marked screw location to support the frame and maintain alignment. Confirm that the window unit remains level before drilling. Using a 9/64" (4mm) drill bit, create pilot holes through the sill, shim, and into the rough opening at each marked location. Secure the frame using #8 x 2-1/2" (64mm) Phillips flat head screws through the pilot holes. Apply sealant to the heads of the screws installed in the sill to prevent water infiltration.

Head and Jamb: Pre-drilled holes are located at the head and jambs. Secure the head and jambs with #8 x 2-1/2" (64mm) PH screws.

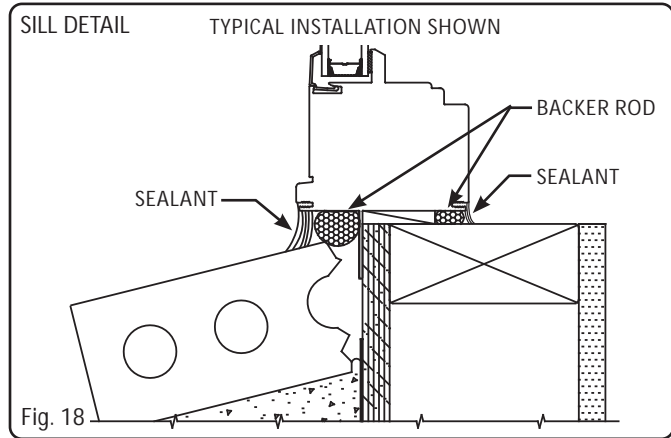
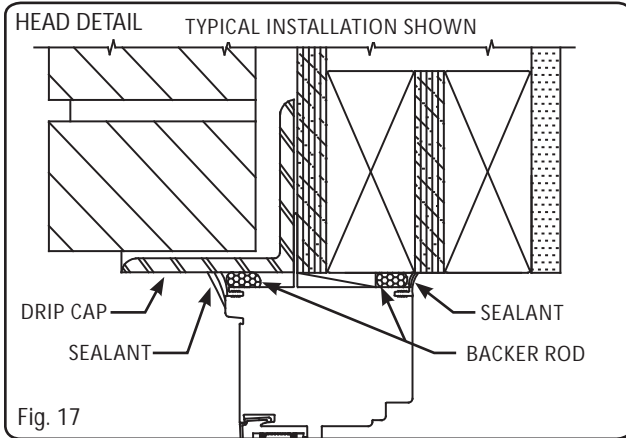


Re-install the sash stops (Fig. 12) on the side jambs, and then re-install the head insert (Fig's 13 & 14) at the head. Next, run a bead of sealant along the entire length of the sill (Fig. 15) and replace the sill riser (Fig. 16) at the sill.



COMPLETING THE EXTERIOR

(Fig's 17 & 18) Install backer rod and sealant 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.

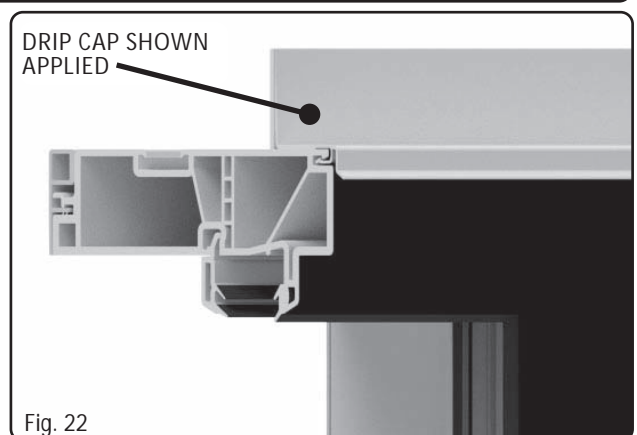
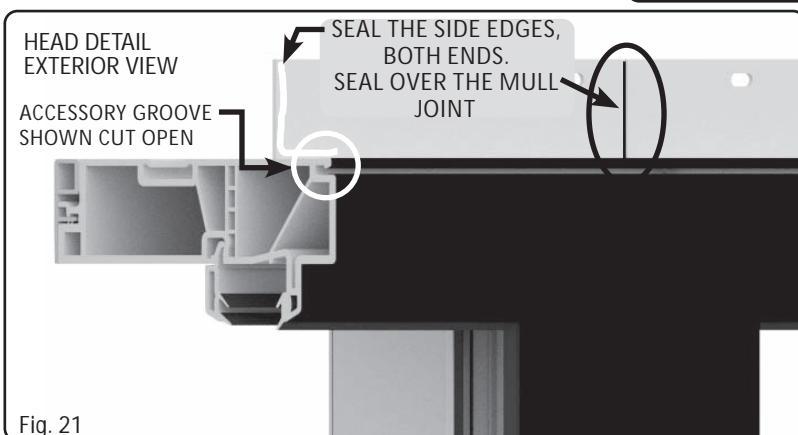
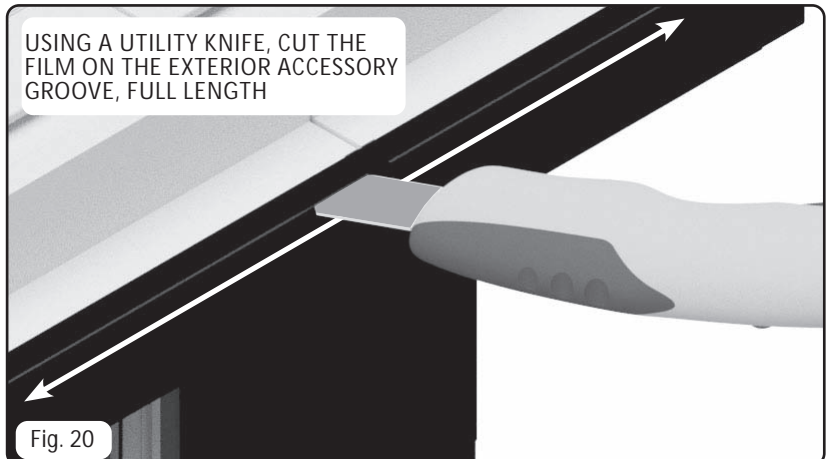
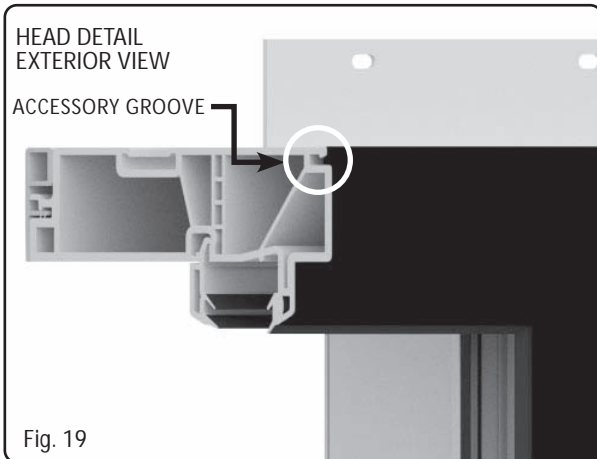


DRIP CAP APPLICATION

A drip cap must be installed to direct water away from the window and lessen the chance of water seepage. The drip cap will be the full length of the width of the unit.

Before applying, follow the next steps:

1. Cut out the exterior film from the exterior accessory groove (Fig's 19 -22).
2. Seal over the mull joint/gap when mulling units (Fig. 21).
3. Seal the side edges of the drip cap to the window (Fig. 21).
4. Run a bead of silicone sealant between the back of the drip cap and the exterior sheathing (Fig. 21).



INTERIOR FINISHING

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.

In light of the exterior film's low surface tension and dirt repellent characteristics, it is important that proper sealants are chosen and used for sealing the perimeter of the window and door frames to the surrounding building structures. Sealants that have been approved are Dow Corning 758 silicone sealant and Dow Corning 795 silicone sealant.

⚠ CAUTION

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

MAINTENANCE TIPS / PROCEDURES

Regularly check your Kolbe products for any gaps, cracks, or damage in the exterior sealants or finishes. Immediately caulk any cracks with a quality sealant to maintain the paint finish and prevent water and air infiltration. Refer to our Forgent Maintenance Guide for more details.

CLEANING

Clean panels and frames quarterly with mild soap and water, then rinse. For high salt spray areas, clean monthly. Use standard glass cleaner for the glass, avoiding drips on the frame and weatherstrip.

⚠ CAUTION

Do not pressure wash!

⚠ CAUTION

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

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.

SASH TILT-IN/REMOVAL

Removing the Bottom Sash (Fig's 23):

1. Move the lock lever to the right, past the center point, until it stops automatically to unlock the bottom sash.
2. Slide the bottom sash upward about three inches.
3. Tilt the sash inward until it forms a 90-degree angle with the window side jamb.
4. Lift one side of the sash to expose the pivot pin.
5. Once both pivot pins clear the jamb, swing the sash out to remove it.

Removing the Top Sash (Fig's 24):

1. Lower the top sash until you can comfortably reach the tilt latches.
2. Place one hand on each end of the sash, directly over the tilt latches.
3. Slide both finger tabs toward the center to unlock the sash.
4. While holding the latches open, pull the top of the sash toward you and tilt it to a 90-degree angle with the side jamb.
5. Lift one side of the sash to release the pivot pins.
6. Once the pins are clear, swing the sash out. The process is similar to removing the bottom sash.

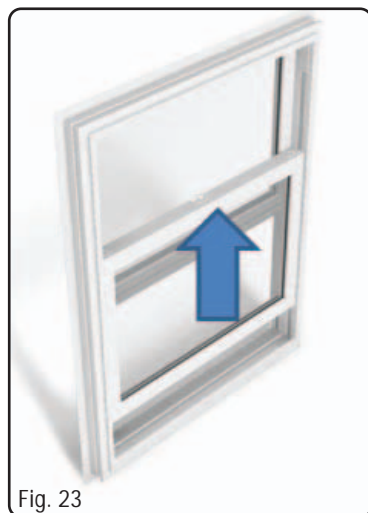


Fig. 23



Fig. 24

SASH INSTALLATION

Installing the Top Sash (Fig's 25, 26 & 27):

1. Position the Sash:
With the interior side of the top sash facing the floor, grasp the sash on both sides.
2. Insert the Sash into the Opening:
Tilt one side of the sash higher than the other. Place the sash into the sash opening, aligning the pivot pins above the clutches in the clutch/balance tracks.
3. Engage the First Pivot Pin:
Insert the lower pivot pin into the cam on its side.
4. Level the Sash:
Rotate the higher side of the sash downward until the sash is level and the second pivot pin sits into the opposite cam.
5. Snap Pivot Pins into Place:
Press both pivot pins down into the cams to engage the clutches.

Tip: If you're right-handed, it may be easier to insert the left pivot pin first, then lower the right pivot pin into position.

⚠ CAUTION

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



Fig. 25

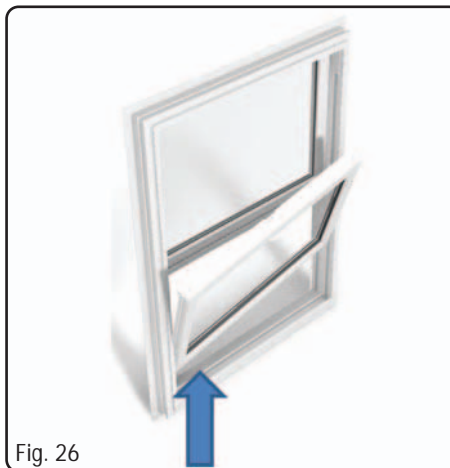


Fig. 26

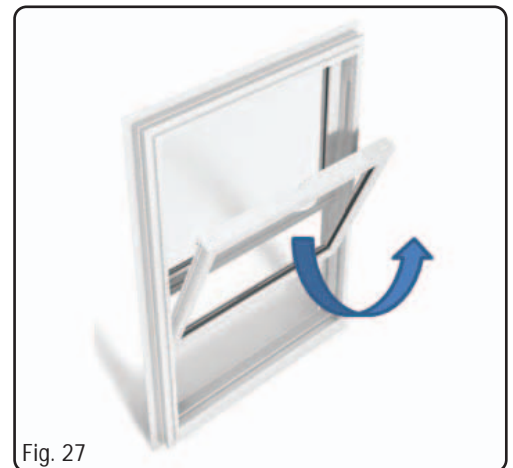


Fig. 27

Tilting the Sash Back into Operating Position (Fig. 25):

6. Retract the Tilt Latches:
To avoid damaging the frame, retract the tilt latches before tilting the sash back. Place one hand at each end of the top sash, directly over the tilt latches. Slide both finger tabs toward the center to retract the latches.
7. Rotate the Sash into Place:
While holding the latches retracted, rotate the top of the sash toward the exterior until it is aligned in the operating position on the jamb.
8. Secure the Sash:
Release the finger tabs to allow the latches to snap into place.
9. Slide the Sash Up (Fig. 26):
Move the sash to the top of the frame to complete installation.

Installing the Bottom Sash (Fig. 27):

1. Grasp the bottom sash with one hand at each end, placing your hands directly over the tilt latches.
2. Slide both tilt latch finger tabs inward toward the center to retract the latches.
3. While keeping the latches retracted, tilt the top edge of the sash outward toward the exterior.
4. Carefully rotate the sash until it rests securely in the operating position on the jamb.
5. Release the finger tabs to allow the tilt latches to engage and lock into place.
6. Slide the sash down to the bottom of the window frame.

Contact your Kolbe window and 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.