# Casement Replacement Window Installation Instructions



Installer – Please leave this booklet for the homeowner after the install is completed.

# **A** CAUTION - IMPORTANT **A**

Lead-based paint may be present in older homes, and the removal of windows & doors may cause this paint to be disturbed. To decrease this risk, disposal/recycling of previously installed windows/doors must follow local regulations. In order to further minimize exposure to lead-based paint dust, please consult www.epa.gov-/lead for more information.

**IMPORTANT**: Please read completely before you begin.

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### Customer may need to supply replacements for the following:

- Interior Casing Mouldings
- Inside Stop Mouldings
- Outside Stop Mouldings

IMPORTANT: Thoroughly read and follow these instructions. Failure to install as recommended will void any warranty, expressed or implied. Before installation, check building codes for the area in which the windows are being installed, to ensure proper compliance. The installation instructions that follow are based on typical frame construction. Specific applications may differ. Weathershield Mfg., Inc. recommends that you consult a qualified installation professional. Weathershield Mfg., Inc. is not responsible for installation.

These replacement windows must be installed from the interior.

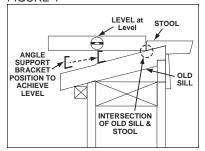
### **Components**

Each Replacement Unit ships with the following standard components:

| Qty.  | Description  |  |
|-------|--|--|
| 1     | Window Unit Complete With Sash, Frame and Operating Hardware |  |
| 32    | Installation Shims   |  |
| 8     | #8 x 2-1/2" Phillips Bugle Head, Screws                      |  |
| 10    | Wood Hole Plugs  |  |
| 4     | #8 x 1/2" Phillips Pan Head, TEK SS410, Full Thread, Screws  |  |
| 1     | Sill Angle Bracket   |  |
| 1     | Installation Instruction Booklet                             |  |
| 1 Pkg | 18' of 1/2" Backer Rod                                       |  |
|       | Optional Contents  |  |
| 1 Set | Pre-Cut, Color-Matched Aluminum Trim Extenders               |  |

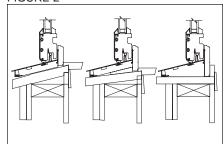
The sill angle support bracket is provided with some units. It helps support the window and fills the gap between the unit's sill and the old window sill (FIGURE 1).

FIGURE 1



Other units may have sills sloped to fit your specific opening. Sloped sill units do not require the angle support bracket (FIGURE 2).

FIGURE 2



### **General**

Installing your new Replacement Window requires removing existing window parts, test fitting and installing your new unit.

Typical wood window components are shown on the following page in **(FIGURE 1)**. Refer to this diagram for terms used in these instructions.

Completely read the installation instructions before starting any procedure.

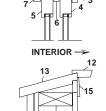
⚠ IMPORTANT: Wear full protective clothing including gloves, and safety glasses.

Optional factory-applied finishes should be handled with extra care to prevent damage.

# **Typical Wood Window Components**

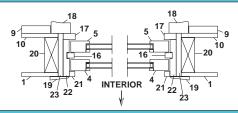
### FIGURE 1

# Side View



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### **Top View**



- 1. Drywall
- 2. Interior Top Casing
- 3. Head Inside Stop
- 4. Bottom Sash
- 5. Top Sash
- 6. Head Parting Stop
- 7. Head Outside Stop
- 8. Head Brick Mould
- 9. Exterior Siding
- 10. Sheathing
- 11. Header
- 12. Stool

- 13. Sill
- 14. Rough Sill
- 15. Interior Apron
- 16. Side Parting Stop
- 17. Side Outside Stop
- 18. Side Brick Mould
- 19. Interior Side Casing
- 20. Trimmer Stud
- 21. Side Inside Stop
- 22. Side Jamb
- 23. Shim Space
- 24. Head Jamb

# **Safety Alert Symbol**



Recognize this symbol. This is the Safety-Alert symbol. When you see this symbol be alert to the potential for personal injury or product damage.



### **DANGER**

Falling from window opening may result in serious injury or death. DO NOT leave openings unattended when children are present.



### **CUT HAZARD**



\*Non-safety Glass.
\*May cause serious
injuries if broken.
\*Do not install where
tempered safety glass
is required.

# **WARNING**

Weight of window and accessories will vary. Use a reasonable number of people with sufficient strength to lift, carry and install window unit(s) and accessories. Always consider site conditions and use appropriate techniques when installing.





Screen will not stop children, any one or anything from falling out window.

Keep children and objects away from open window.

### **Synthetic Stucco**

Serious concerns have been raised about excessive moisture problems in homes and other buildings that have Exterior Insulation Finish Systems, commonly referred to as EIFS or Synthetic Stucco.

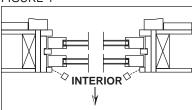
Many experts agree that a certain amount of water or moisture can be expected to enter almost any building exterior system. The building system should allow such water and moisture to escape or "weep" to the exterior, so no damage occurs. However, some EIFS systems may not allow water or moisture that penetrates the wall system to "weep" to the exterior. This can cause excessive moisture to accumulate within the wall system, which can cause serious damage to wall and other building components. It has been reported that so-called "barrier" EIFS systems are particularly prone to this problem.

Moisture problems in any type of building structure can be reduced by proper design and construction with appropriate moisture control considerations, taking into account prevailing climate conditions. Examples of moisture control considerations include flashing and/or sealing of all building exterior penetration points, use of appropriate materials and construction techniques, adherence to applicable building codes, and general attention to proper design and workmanship of the entire building system, including allowances for management of moisture within the wall system.

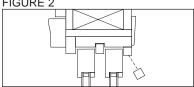
Determination of proper building design, components and construction, including moisture management, are the responsibility of the design architect, the contractors, and the manufacturer of the exterior wall finish products. Questions and concerns about moisture management issues should be taken up with these professionals. The window manufacturer is not responsible for problems or damages caused by deficiencies in building design, construction or maintenance, failure to install our products properly, or use of our products in systems that do not allow for proper management of moisture within the wall system.

### Sash Removal

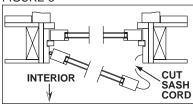
### FIGURE 1



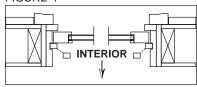
### FIGURE 2



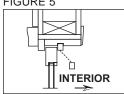
### FIGURE 3



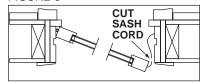
### FIGURE 4



### FIGURE 5



### FIGURE 6



### WARNING

Improper use of hand and power tools could result in personal injury and/or product damage. Follow equipment manufacturers' instructions for safe operation. Always wear safety glasses.

- 1. Unlock and raise bottom sash. Prop. sash open with a block of wood.
- 2. Use a pry bar or stiff putty knife to pry side (FIGURE 1) and head (FIGURE 2) inside stop mouldings away from jambs. Handle carefully as these mouldings can be reused.

# DANGER

Move sash slowly and carefully to prevent glass

from shattering. Wear full protective clothing including gloves and safety glasses.

- 3. Lower bottom sash and prop it up so its bottom edge rests above the stool (Item 12, FIGURE 1, Page iv).
- 4. Rotate one side of bottom sash inward (FIGURE 3). Cut sash cord.
- 5. Work sash toward interior and remove cord from opposite side.
- Safely discard bottom sash.

NOTE: If top sash is stationary, remove the support blocks at the bottom of the top sash. If sash is "painted-in", insert a putty knife between sash and the side and head parting stops. Work knife around all sides to break paint seal.

- 7. Lower the top sash and prop its bottom edge slightly above the stool.
- 8. Use a pry bar or stiff putty knife to pry side parting stops (FIGURE 4) and head parting stop (FIGURE 5) away from side and head jambs. Remove all pieces. The parting stops will not be reused.
- 9. Rotate one side of sash inward. Cut sash cord (FIGURE 6).
- 10. Work sash toward interior and remove cord from opposite side.
- 11. Safely discard top sash.

# **Opening Preparation**

FIGURE 1



- 1. Cut sash cords and remove sash weights from both side jambs (FIGURE 1).
- 2. Remove screws and pry out sash rope pulleys (FIGURE 2).
- 3. Remove sash ropes.
- Install fiberglass insulation in the sash weight and pulley rope cavities (FIGURE 3). Do not over pack insulation.
- Examine opening. Remove any objects that would interfere with new window's fit.
- 6. Clean all loose dirt and paint from opening.

FIGURE 2

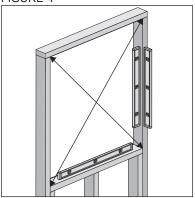


FIGURE 3



# **Opening Preparation (cont.)**

### FIGURE 4



OF HEIGHT

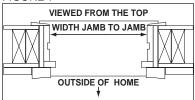
HEIGHT

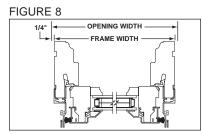
HEIGHT

FIGURE 6

FIGURE 7

FIGURE 5



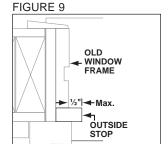


- 7. Check opening for the following:
  - · Rotted components
  - Missing or broken stops
     Fix any of these conditions before proceeding.
- 8. Check opening for level, plumb, and square (FIGURE 4). Use a level to check the sill, head and side jambs. Measure the opening diagonally from corner to corner to check for square. Measurements must be within 1/4" of each other. Fix any of these conditions before proceeding.
- Measure the height (FIGURE 5) and width (FIGURE 7) of the opening. Do not include the outside stops. Compare these measurements to the height (FIGURE 6) and frame width (FIGURE 8) of the new window.

The replacement window must be able to fit in the opening and be held from falling through by the outside stops on the sides and head.

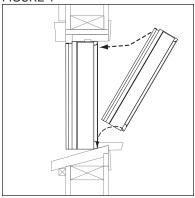
Make necessary adjustments to the opening so this support is provided to the new window.

IMPORTANT: The outside stops (blind stops) cannot exceed 1/2" in depth from the outer edge of the stop to the old window frame (FIGURE 9). Check stops around entire opening making adjustments to reach the 1/2" maximum depth.

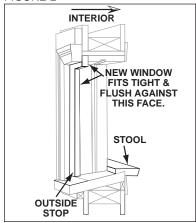


# **Window Installation**

### FIGURE 1



### FIGURE 2



### FIGURE 3



### **Check Replacement Window Fit**

NOTE: Remove all packing. Make sure sash is fully seated in frame and locked. Clean all loose material and dirt from opening. Remove any objects that would damage new unit or interfere with proper fit and sash operation.

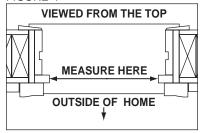
 Insert new window unit into opening to check fit (FIGURE 1). Unit must fit within the side and head outside stops (FIGURE 2) and sit flush against the stop's face.

It may be necessary to chisel a relief area at the bottom of the side outside stops to provide space for the unit to rotate into a vertical position (FIGURE 3).

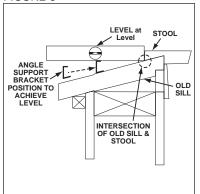
Remove window unit after checking fit. Make adjustments to the opening/stops to obtain a good fit. A shim space is needed on sides and top; none required at the sill.

# Window Installation (cont.)

### FIGURE 4



### FIGURE 5



### **Prepare The Opening**

- Measure inside width of the opening between the side outside stops (FIGURE 4). Cut the aluminum angle support bracket to this length.
- Using a level and the angle support bracket, find the location on the old sill that will provide a level plane between the intersection of the stool and old sill and the top of the angle support bracket (FIGURE 5).
   Mark this location across the sill's width.
- If attachment holes are not pre-drilled in the angle support bracket, hold bracket at the level location and pre-drill holes for the attachment screws. Space holes evenly along length of angle support bracket.

If bracket is pre-drilled, skip to Step 4.

 Attach bracket securely to the old sill using the included #8 x 1/2" Phillips pan head, screws (FIGURE 6).

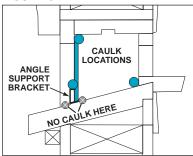


# Window Installation (cont.)

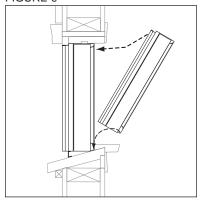
### FIGURE 7



### FIGURE 8



### FIGURE 9



 Insulate space between angle support bracket and stool with fiberglass insulation (FIGURE 7). Do not over pack insulation.

⚠ IMPORTANT: All surfaces to be caulked must be clean and free of loose material so caulk adheres to a solid surface

- Use a high-quality, neutral cure, exterior, silicone sealant (compatible with aluminum, the old sill, and jambs). Lay a continuous generous caulk bead along the interior side of the head and side outside stops (FIGURE 8).
- Also caulk the top of the angle support bracket and the exterior side of the stool (FIGURE 8).
- From the interior, lift the window into the opening. Bottom inside edge rests tight against the stool and sits on sill caulking. Outside bottom edge rests on angle support bracket (FIGURE 9). Outside edges of side frame and head must butt tightly against caulk bead applied to outside stops.

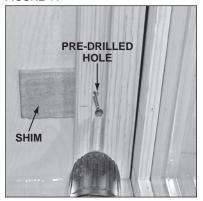
Be sure to center window side-to-side in the opening. Centering window is critical for fitting interior and exterior trim.

- Push window firmly toward the outside to bring it fully against the side and head outside stops and to seat it in the caulk beads.
- While holding unit in place, check unit for plumb and level on interior or exterior (FIGURE 10).



# Window Installation (cont.)

FIGURE 11



- 11. Using shims provided, shim at head (FIGURE 11) and side jambs (FIGURE 12) so unit is level and plumb. Place shims between side jambs and head and the old window frame. Locate shims at the pre-drilled fastening holes.
- 12. When unit is level and plumb, secure in opening with the #8 x 2-1/2" Phillips bugle head screws provided. Install screws through the pre-drilled holes (one on each side) in the head jamb (FIGURE 11) and three on each side jamb (FIGURE 12).

FIGURE 12



# Window Installation (cont.)



- 13. Loosely insulate between the new window jambs and the old window frame with fiberglass insulation (FIGURE 13). Low expansion foam insulation, specifically rated for window and door application, may be used instead of fiberglass.
- Use appropriate length finish nails and reinstall the head and side inside stops (FIGURES 14, 14A, & 15).
- **NOTE:** If any inside stops or the casing mouldings were damaged during removal, install new pieces.
- Install wood hole plugs (provided) in each pre-drilled screw hole in head and side jambs (FIGURE 16).

FIGURE 14





FIGURE 15

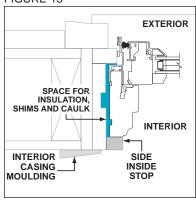
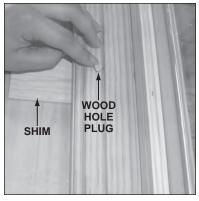
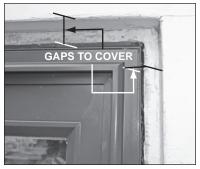


FIGURE 16



# **Optional Exterior Trim Application**

### FIGURE 1



Gaps (FIGURE 1) between the window, and the siding or brickmould can be covered with optional color-matched aluminum trim.

Aluminum trim will be factory pre-cut to nominal length. Each piece will be too long so it can be adjusted to fit each window opening.

Trim will be notched at the ends (FIGURE 2) so it can run past the window cladding and reach out to the existing siding or casing mouldings.

FIGURE 2

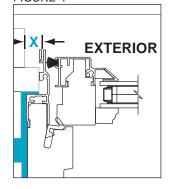
### FIGURE 3



The head piece must be applied with a notch at each end. The side pieces are cut flat at the top and notched at the bottom. The sill piece is cut flat on both ends.

(FIGURE 3) shows the length measuring locations.

Trim width is determined by distance measured from the exterior accessory groove to the existing casing moulding or siding and the sill. The X in (FIGURE 4) shows a typical width measurement.



# **Optional Exterior Trim Application (cont.)**

### FIGURE 5

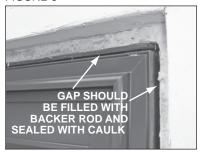


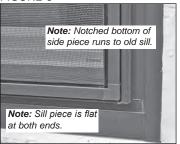
FIGURE 6



FIGURE 7



FIGURE 8



### Proceed as follows:

1. Fill gap between new window frame and old with backer rod and then seal with a bead of caulk (FIGURE 5).

### ↑ IMPORTANT: Head notched piece must be cut to final length by removing an equal amount from each end.

2. Measure and cut head piece to length and width. Use a table saw properly equipped with an aluminum cutting blade, a hack saw, or tin snips.

1 Follow all procedures for safe table saw operation. Wear safety glasses and hearing protection.

CAUTION

Cut edges can be sharp. Wear gloves and handle carefully to prevent injury.

- 3. After trim is cut to size, remove sharp or rough edges.
- 4. Install head piece (FIGURE 6). Trim is applied by inserting short leg into window's accessory groove (FIGURE 7).
- 5. Measure, cut and install side pieces. Side trim runs from bottom of head piece to old sill and is flat at the top and notched at the bottom (FIGURES 7 & 8).
- 6. Measure, cut, and install sill piece. Sill trim fits between the two side pieces and is cut flat at both ends (FIGURE 8).
- 7. Use a padded wood block and hammer to ensure all trim pieces are fully seated in the accessory groove.
- 8. Complete the trim installation by caulking any remaining gaps between the trim and siding or brickmould (FIGURE 9).

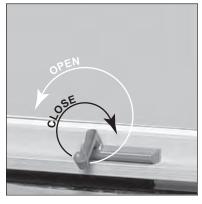


# **Window Operation**

### FIGURE 1



### FIGURE 2



- 1. Sash is locked when lock lever is pulled down against the stop (FIGURE 1).
- 2. Sash is unlocked when lock lever is lifted all the way up.

**NOTE:** Following instructions are for a lefthinged casement (as viewed from the outside).

While standing inside and facing window -

- To open sash move lock lever to unlock position, turn crank handle in a counter-clockwise direction (FIGURE 2).
- To close sash turn crank handle clockwise until sash is fully shut. Lock window by moving lock lever fully downward.

NOTE: A right-hinged casement (as viewed from the outside) would function opposite – to open – turn handle counterclockwise to close – turn handle clockwise.

**NOTE:** A single-arm operator unit's crank handle functions opposite of the above descriptions.

# **Screen Removal and Reinstall**



FIGURE 2



FIGURE 3



- NOTE: To provide clearance for taking out the screen, remove sash crank handle by pulling it off its shaft (FIGURE 1).
- Lift screen straight up from the bottom as in (FIGURE 2). Apply only enough pressure to compress tension springs in the top (FIGURE 3).
- While holding screen up, pull bottom edge of screen inward to clear window crank housing. Bring screen inside.
- 1. Orient screen so screen tabs are to the inside and at the bottom (FIGURE 2).
- 2. Insert tension springs into screen channel at top of window frame (FIGURE 3).
- 3. Apply enough upward pressure to compress tension springs.
- While continuing to hold upward pressure, slide bottom of screen outward so it clears window crank housing and lines up with lower screen channel.
- 5. Release upward pressure allowing screen to settle into the screen channel.
- 6. Install sash crank handle.

# **Sash Removal**

FIGURE 1



FIGURE 2 - Split-Arm Operator

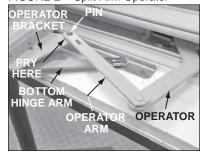
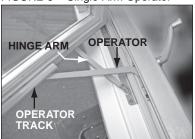


FIGURE 3 – Single-Arm Operator

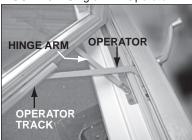


- 1. Remove screen.
- Unlock and open sash so hinges are exposed. Sash is opened or closed by either a split-arm operator (FIGURE 2) or a single-arm operator (FIGURE 3).
- 3. On a split-arm operator, use a standard screwdriver to release the operator arm by prying between the operator arm and the operator bracket (FIGURE 2). The operator arm lifts up off the pin on the operator bracket (FIGURE 4. Use the crank handle to close the operator to get it out of the way.

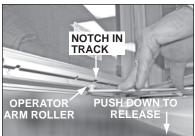


# Sash Removal (Cont.)

FIGURE 5 – Single-Arm Operator



### FIGURE 6



### FIGURE 7



FIGURE 8



4 On a single or

4. On a single-arm operator, open sash until operator is in the mid point of the operator track. There is a notch in the underside of the operator track that will allow the roller on the end of the operator arm to be released from the track by pushing down on the operator (FIGURES 6 & 7). Use the crank handle to close the operator to get it out of the way.

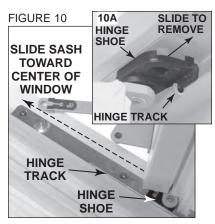
# Remaining sash removal instructions apply to both operator types.

5. Release hinge arms from the sill and head jambs. Insert a standard screwdriver into the slot in the retaining clip on the bottom hinge arm and slide clip away from the track pin (FIGURES 8 & 9). Pull sill arm up to release. Hold on to the sash and release the top hinge arm by sliding retaining clip away from the track pin and pulling the upper arm DOWN off the track pin.

FIGURE 9



# Sash Removal (Cont.)



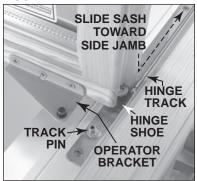
- 6. With both upper and lower hinge arms and lower operator arm released, carefully slide the sash along the hinge track toward the center of the window until the hinge shoes are free of the tracks (FIGURES 10 & 10A).
- The sash is now released, and can be turned and brought into the building (FIGURE 11).

FIGURE 11



# **Sash Reinstall**

### FIGURE 1



### FIGURE 2



FIGURE 3



# The following instructions apply to both operator types.

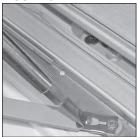
- Orient sash so operator bracket is to the inside, at the bottom, and closest to the side jamb. Carefully lift sash through opening. Rest the bottom hinge shoe near the hinge track pin (FIGURE 1). Start the top hinge shoe into the top hinge track (FIGURE 2). Start the bottom shoe into the bottom hinge track (FIGURE 3). Slide the sash toward the side jamb so both hinge shoes slide along with the sash.
- Place hole in the top hinge arm under the top track pin. Push up to seat arm on pin. Place a standard screwdriver into the slot on the retaining clip and slide toward track pin until it snaps into place.
- 3. Place hole in the <u>bottom hinge arm on top</u> of the bottom track pin (FIGURE 4). Push down to seat arm on pin. Place a screwdriver into the slot on the retaining clip and slide toward track pin until it snaps into place (FIGURE 5). Test top and bottom arms to make sure they are securely attached to their respective track pins.

Leave window partly open for the next steps.

FIGURE 4



FIGURE 5



# Sash Reinstall (Cont.)

FIGURE 6



FIGURE 7



FIGURE 8



- 4. For the split-arm operator, use the crank handle to open the operator. Align the operator arm above the pin on the operator bracket. Push down on the operator arm to snap the arm onto the pin (FIGURE 6). Once the top and bottom hinge arms and the bottom operator arm are secured, the sash can be closed and locked.
- 5. For the single-arm operator, use the crank handle to open the operator. Align the roller at the end of the operator arm with the arrow embossed on the top of the operator track at the track's midpoint. This arrow will help align the roller with the notch in the underside of the track (FIGURE 7). Use the crank handle or manually adjust sash position to line up notch. Once notch and roller are aligned push down slightly on operator arm and slip roller under the track. Then lift up on arm to seat roller into guides on track (FIGURE 8).

Once the top and bottom hinge arms and the bottom operator arm are secured, the sash can be closed and locked.

Reinstall screen.

# **Recommended Finishing Instructions**

### **MARNING**

Always follow chemical manufacturers' safety instructions when using chemicals to avoid injury or illness.

Vinyl and aluminum may be cleaned with mild soap and water. Hard to remove stains and mineral deposits may be removed with mineral spirits. Factoryapplied painted surfaces can be cleaned with mild household detergents and water.

- Do NOT clean any surface with gasoline, diesel fuel, solvent based, or petroleum based products.
- Do NOT use abrasive materials or strong acidic solutions against vinyl, aluminum, glass, or factory-applied finishes.
- **Do NOT** scrape or use tools that might damage the surface.
- Do NOT paint vinyl or aluminum surfaces.
- $\bullet$  Do NOT use mastic-type tapes such as Duct Tape  $^{\hbox{\scriptsize (R)}}$  .

NOTE: If masking tape is used on any surface to aid in painting or staining, remove tape as soon as possible after use. Tape must be removed within 24 hours of application.

For long term use, such as stucco applications; use tape that will release, even when exposed to high temperatures for an extended period of time. (Examples include 3M #2080 and #2090 tapes.)

### For Bare Wood Surfaces

For best results, wood should be sealed immediately upon installation or upon receipt, especially if unit is being stored for ANY length of time.

- Remove all construction and adhesive label residue with mineral spirits before finishing.
- Lightly sand surfaces being finished with 180 grit or finer sandpaper. Be careful not to scratch the glass.
- 3. After sanding, clean-off sanding dust

using lacquer thinner applied to a cloth so the cloth is slightly damp. Let surface dry completely.

### -If a painted surface is desired:

- If a wood unit is delivered with factory-applied primer paint, it may be painted without repriming, providing the finish paint coat is applied within six (6) months of unit installation.
- If a factory-primed wood unit requires repriming contact your customer service representative for help in selecting a primer compatible with the factory applied material.
- Factory-applied AccentialsTM color system finishes in standard, designer or custom colors do not require additional painting. For "touch up" paint specifications contact your customer service representative.
- An unprimed wood unit requires priming. Use only oil-based primer. Use compatible oil or water-based finish coats. Refer to the primer and paint manufacturers' instructions.
- When priming bare wood or repriming, cover all exposed wood surfaces.
   Priming all exposed surfaces helps prevent end splitting, warping and/or checking.
- Once primed, apply two (2) coats of paint (again on all exposed sides) to each item.

Continued on next page.

# Recommended Finishing Instructions (cont.)

-If a stained surface is desired:

CAUTION If no sealer is applied over stain, the wood will weather very rapidly and defects will occur. Apply at least two (2) coats of sealer.

- Use only oil-based stain. A gel stain is easier to apply as it does not easily run or drip. The clear top coats may be oil or water-based. Apply at least two top coats of sealer or varnish.
- A pre-stain wood conditioner, applied before staining, will help softer woods like pine absorb stain more evenly. Apply both wood conditioner and desired stain according to the manufacturers' instructions.
- Apply one (1) coat of sealer to the stained surface and let dry. Using a spar (marine) varnish as a sealer provides extra protection against sunlight and moisture. Let sealer dry completely.
- Before applying the next finish coat, make sure the previous coat is completely dry. Then lightly sand previous finish coat with 180 grit or finer sandpaper. Clean off all sanding dust and wipe

- surfaces with a tack cloth.
- Apply next coat of desired finish to surface and let dry. Apply only one coat at a time.
- 5. For any additional coats of finish, repeat steps 3 and 4.
- -For a clear (natural) finish: Follow Steps 1, 2, and 3 under "Bare Wood" and Steps 2, 3, 4, and 5 under "stained surface".

⚠ IMPORTANT: Remove sash for finishing. Apply your choice of sealer (paint or varnish) to all exposed wood components. Do not get sealer on weather strip, vinyl, or into mechanical components (sash lock, tilt latches or sash glide bearing). Ensure bottom and top of sash are also sealed (FIGURE 1).

WARNING Sealer (paint or varnish) applied to sash MUST DRY COMPLETELY before reinstalling sash. If not dry, sash may stick in jamb liners. Also weatherstrip and jamb liners may be damaged.

