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## I. Care and Maintenance

This product is factory finished. Please handle with extreme care. Protect all exposed surfaces from contact with caustics, corrosives, solvents, abrasions, impacts, wet packing material etc.

**FAILURE TO DO SO WILL NULLIFY THE WARRANTY.** Before **ANY CLEANING**, review the Care & Maintenance Instructions (go to [www.fleetwoodusa.com](http://www.fleetwoodusa.com) for more information).

**Contact the local dealer with any questions or concerns.** Fleetwood strongly recommends that all products be cleaned after installation and totally protected from construction debris and equipment.

## II. Tools, Materials, and Requirements

**Tools Required:** Tape measure, Level, Shims, Nails, Screws, Sealant, Caulk Gun, Backer Rod, 5/32 Allen Wrench, Scissors or Utility Knife, Drill Bit, Drive Bit and Powered Drill.

### Sealant Requirements

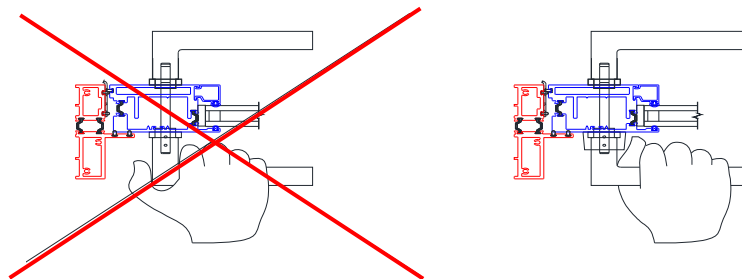
1. The sealant referred to within this document for seals associated with the assembly of the product should conform to **AAMA 800-16**. It is recommended that all other sealants should also conform to **AAMA 802-16** but may be a sealant recommended and approved by the sealant manufacturer that is compatible with the door framing, finish and surrounding materials.
2. The size of all sealant beads must meet or exceed the sealant manufacturers' minimum size requirements.
3. Some exterior wall finishes require additional sealing between the perimeter of the door frame and adjacent finish wall material. The Owner / General Contractor is responsible for identifying the need for any additional sealant which will be applied by others. Such sealant shall be elastomeric material, and compatible with the door framing, finish and surrounding materials.

### Anchor Requirements

Frame may be either direct mounted to the opening, mounted onto a continuous wood spacer, anchored to a min. 18 ga. 33 ksi metal stud or anchored to a min. 2x4 no. 3 southern pine wood buck. When anchored to a 2x buck or metal stud, no. 12 screws shall be used. When direct mounted or mounted with spacer to block/concrete, 1/4" concrete screws shall be used. Proper material shall be used between all dissimilar materials (block/concrete & aluminum).

### Operation Warning

Door is to be operated within the glass side of the handle (Figure 1).



**Figure 1:**  
Incorrect vs. Correct Door Handle Operation

### III. Structure Verification

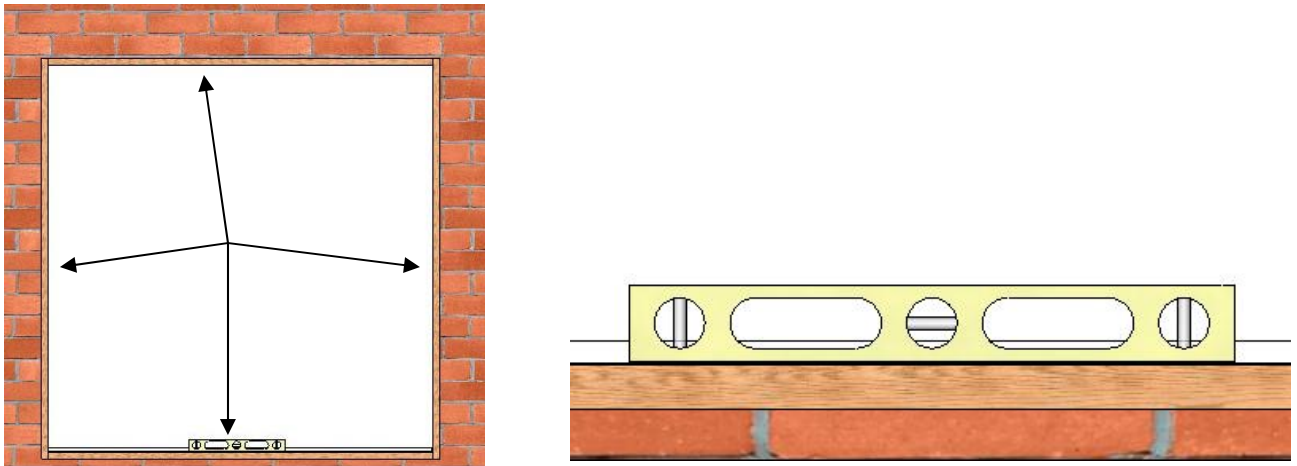
**Note:** Sillpan Substitution- If the factory provided pan is not desired, the product warranty will remain intact if the substitute panning system emulates the essential design of the factory pan.

#### 1. Opening Verification

- Check the measurements of the opening and verify that the door will fit into the opening. Measure all four sides of the opening to make sure it is 1/2" larger than the product in width and 1/2" in height.
- Verify the opening is plumb and level.
- Remove the product from the packaging and lay it in front of the opening. Check width and height dimensions.

#### 2. Pre-Fit and Leveling

- Place sillpan into the opening and determine any leveling that must be done prior to installation (Figure 2).
- Shim as necessary to stabilize the entire depth and length of the sillpan. No unsupported width of more than 8" is allowed. Shim(s) should be load bearing, non-porous, non-absorbent and inorganic.
- If more than 1/8" shim height is required, it is recommended to use a self-leveling product like "Rock Hard" (or equal) to achieve a level and stable surface.

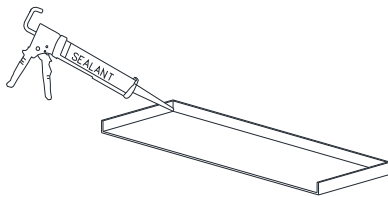


**Figure 2:**  
Use level to determine if the opening is plumb and level

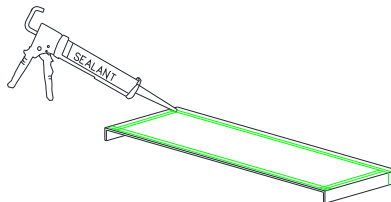
#### IV. Sillpan<sup>1</sup> Installation (Skip if 1/2" Sill)

**Note:** For splicing and multiple piece Sillpans see Appendix A.

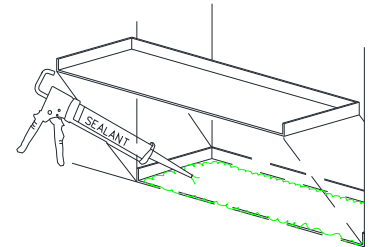
1. Apply bituminous paint to raw masonry or concrete at the sill to eliminate electrolytic and chemical reactions. It is recommended a PVC liner be placed to ensure separation of the metal frame with the substrate. In balcony situations flash the sill with aluminum or galvanized brake metal (Sillpan is provided).
2. Apply sealant in all corners and seams of the sillpan (Figure 3).
3. With bottom side of sillpan up, apply a 3/8" bead of compatible sealant 1/2" in from interior leg. Sealant bead to run across the bottom as well as up each vertical leg of the sillpan. Also apply sealant beads near the sides and across the front (Figure 4).
4. Secure the sillpan to the floor with glue. Position sillpan as necessary to allow for proper installation of frame assembly (Figure 5).



**Figure 3:**  
Seal corners and seams



**Figure 4:**  
Seal underside of Sillpan



**Figure 5:**  
Set pan in full bed of sealant

<sup>1</sup> Sillpan refers to a factory provided aluminum pan (or equivalent).

**V. Frame Installation**

**Note:** Glass from transom and sidelight should be removed before continuing. Glass to be re-installed after frame installation.

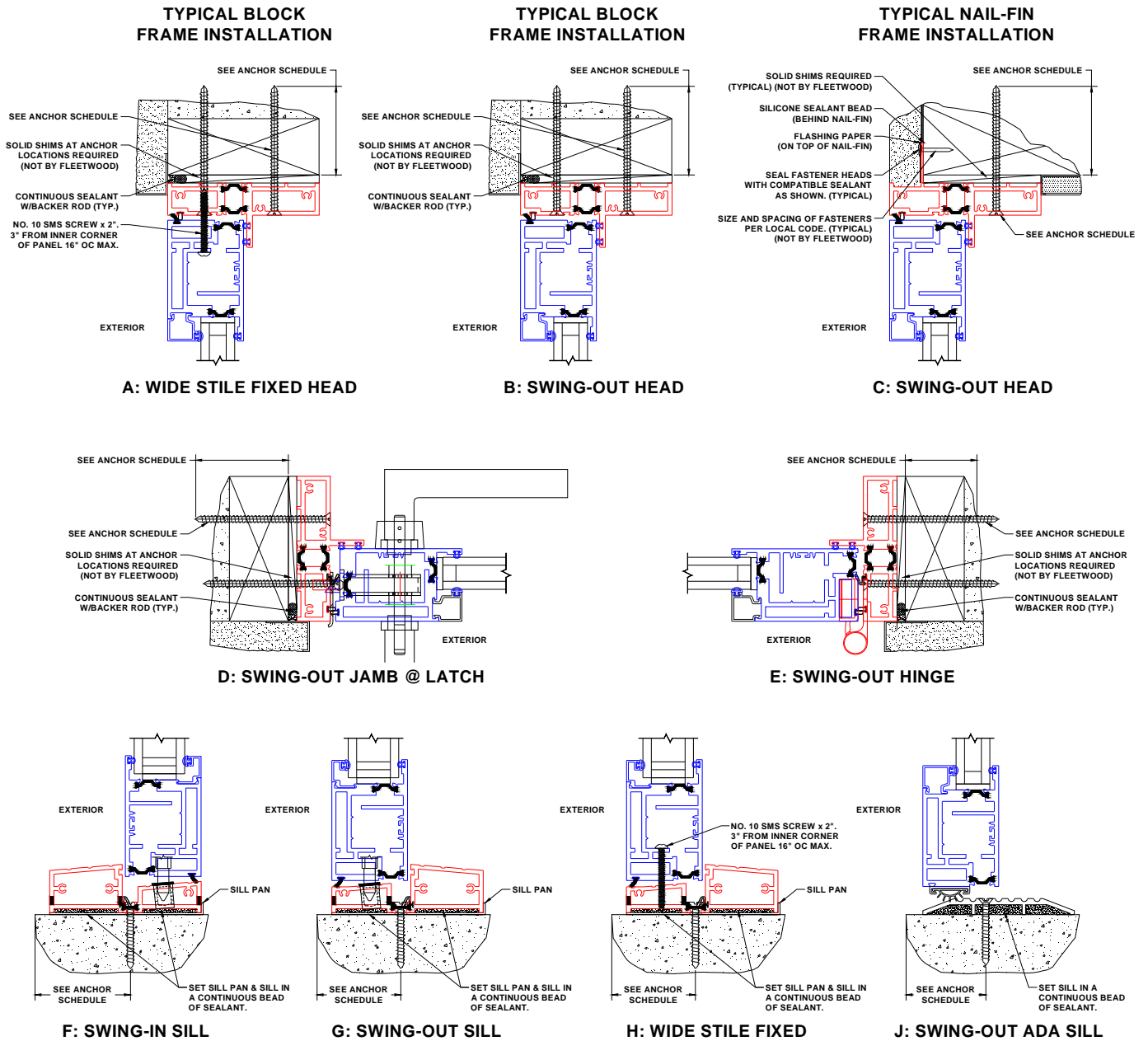
**Nail-fin and Block Frames**

1. Seal frame and vent joints completely with compatible sealant. Apply a heavy bead of sealant to the interior side of the mounting flange (nail-on) where the door frame jamb and sill join (Figure 6C). Sealant must cover the entire joint (from the flange to the inside leg of the door) and extend 1-1/2" up the jamb and along the sill.
2. Apply compatible sealant to the underside of the frame sill, and the screw holes in the sill. Apply the sealant as far to the outside of the opening as possible.
3. For Nail-fin frames immediately prior to installing the frame, apply a continuous 1/2" bead of compatible sealant to the backside (interior) of the mounting flange (nail-fin) at the jambs and head.
4. Insert the door into the opening and set the sill in a full bed of sealant. Cross-measure and adjust as necessary to achieve a plumb square and level condition, as well as an even reveal around the framed opening. Shim with non-porous, non-absorbent, inorganic shims where needed. Seal all fastener heads with compatible sealant. Only drill holes through Sill as required for design load.
5. Anchor Location, Sealant and Wall Condition (Figure 6)
  - Frame installation anchors furnished by installer, not by Fleetwood. Stainless steel screws are recommended. Fleetwood recommends countersinking all frame anchors.
  - a. Secure the jamb to the trimmer with the screws
  - b. Seal all fastener heads during installation with sealant.
  - c. If required for design pressure, fasten head, jambs, and sill with screws from Table I.
6. To complete the installation, apply backer rod and a complete bed of sealant to the entire exterior and interior joint between the frame and the building structure. Tool the sealant to eliminate bubbles, voids and / or breaks and ensure a completely watertight seal.
7. The installer is responsible for the integrity of all framing joints after installation and must therefore **water** test all joints to guarantee a completely sealed product. Apply joint sealer and/or sealant necessary to ensure watertight joints. Retest as necessary.

| SUBSTRATE          | ANCHOR TYPE      | EMBEDMENT (In.) | EDGE DISTANCE (In.) | HEAD / SILL O.C. DISTANCE (In.) | JAMB O.C. DISTANCE (In.) | CORNER DISTANCE (In.) | CONTRATED AREA (Qty.) |
|--------------------|------------------|-----------------|---------------------|---------------------------------|--------------------------|-----------------------|-----------------------|
| Wood               | #12 Wood Anchor  | 1.5             | .0.75               | 14                              | 16                       | 6                     | 6                     |
| Concrete / Masonry | 3/16" ITW Tapcon | 1.25            | 2.5                 | 14                              | 16                       | 6                     | 6                     |

**Table 1:**  
Recommended Frame Anchor for 15 PSF

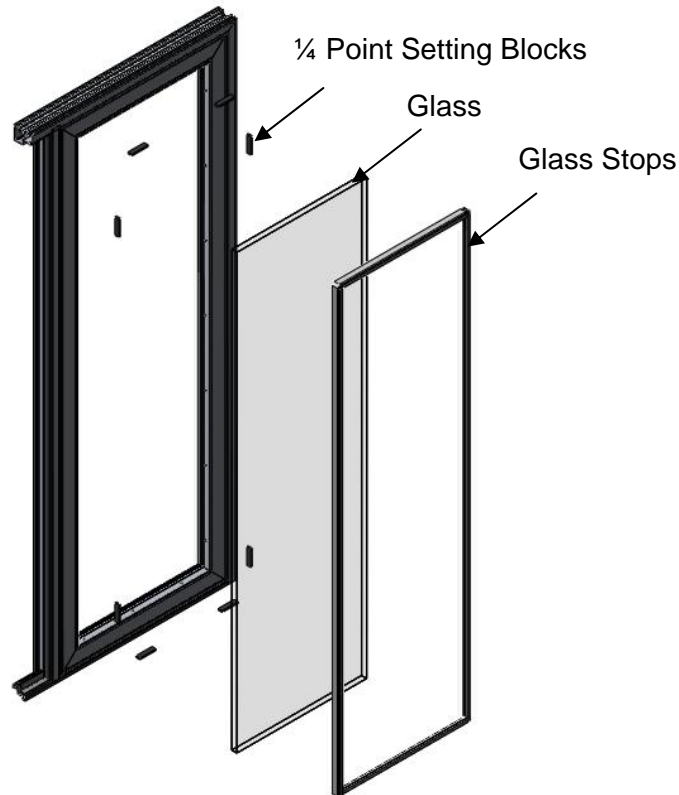
Fleetwood recommends countersink all frame anchors



**Figure 6:**  
Anchor Location and Sealant Installation

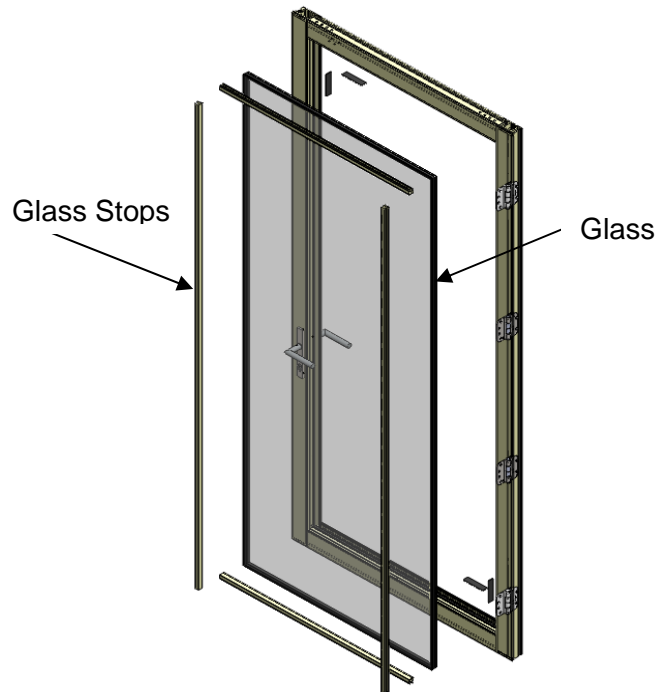
## VI. Panel Mounting and Glazing Instructions

1. Remove precut glass stops from the frame, making sure to note the location from which each has been removed. Each stop is hand cut for a specific location of the frame and must be returned to the same location after the glazing process.
2. Fixed -Wide Stile:
  - Prior to installing the glass fasten the inner panel to outer frame with # 10 x 2" fasteners (Figure 6A, 6H).
  - Apply a 3" bead of compatible sealant from each corner on inner flange of panel frame.
  - Install glass setting blocks (total 8 pcs per panel) at  $\frac{1}{4}$  points into each jamb, head and sill for all four corners (Figure 7).
  - Install glass to panel frame then install glass stops (Figure 7).



**Figure 7:**  
Panel Glazing Wide Stile Frame

3. Door: Install panel(s)
  - Apply a 3" bead of compatible sealant in each corner on inner flange of panel frame.
  - Install glass setting blocks (total 4 pcs per panel) at ¼ points into jamb, head and sill for hinged lower corner and opposite upper corner.
  - Install glass to vent then install glass stops (Figure 8).
  - Install the door panels to outer frame (Figure 8).
  - See Appendix B for hardware adjustment.
  - When TDL bars exist and additional protection from water is needed, apply a cap bead of sealant to horizontal TDL bars.

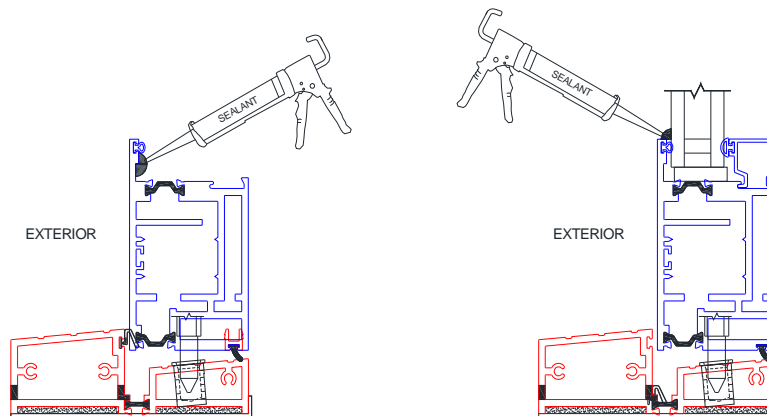


**Figure 8:**  
Panel Glazing Illustration

### Alternate Glazing Procedure

**Note:** Applies to inside glazed or outside glazed products, where additional water sealant is required.

1. Before glazing, apply a continuous bead of sealant to the fixed leg of the frame (Figure 9).
2. After glazing, apply a continuous bead of sealant to the fixed frame leg and glass.



**Figure 9:**  
Inside Glazing Sealant Locations



## VII. Flashing after Installation

The flashing paper referred to in this document is Moistop or other code compliant flashing material that conforms to **Federal Specification UU-B-790a, Type 1, Grade A, Style 4**. The strips of flashing paper are to be no less than 9 inches wide (or wider as required by local codes). Flashing paper must be applied with galvanized nails or corrosion resistant staples. Flashing paper shall be applied in a weatherboard fashion around the full perimeter of the framed opening.

1. Once satisfied that the frame is water tight, and immediately prior to application of the flashing paper at the head and jambs, apply a continuous bead of sealant to the exposed mounting flange (nail-fin) at the top (head) and sides (jambs) of the installed frame. Also, apply sealant at corners of the frame, the full length of the seams where the nail fin flashing is mounted.
2. At each jamb, embed the flashing paper into the sealant onto mounting flange and fasten into place. The flashing paper should be cut sufficiently long enough to extend at least 3 in. past the weep-screed or diado flashing and at least 6 inches above the head of the window (Figure 10).
3. Finally, at the head, embed the flashing into the sealant on the mounting flange and fasten into place. The flashing paper should be cut sufficiently long enough to extend past the flashing paper at each jamb by at least 3 in (Figure 11).
4. Weather resistant building paper should be applied in a weatherboard fashion to complete the installation (Figure 12).

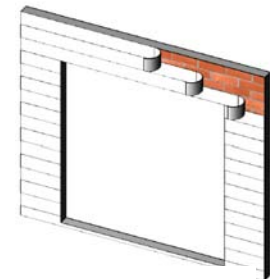
**Note:** Where weather resistant building paper, insulating board, or other materials by other trades may constitute the primary weather barrier behind the exterior wall finish (i.e. stucco, masonry, siding, etc.), the owner / General Contractor are responsible to ensure that the weather barrier is continuous by effectively sealing the material to the window frame.



**Figure 10:**  
Jamb flashing



**Figure 11:**  
Head Flashing



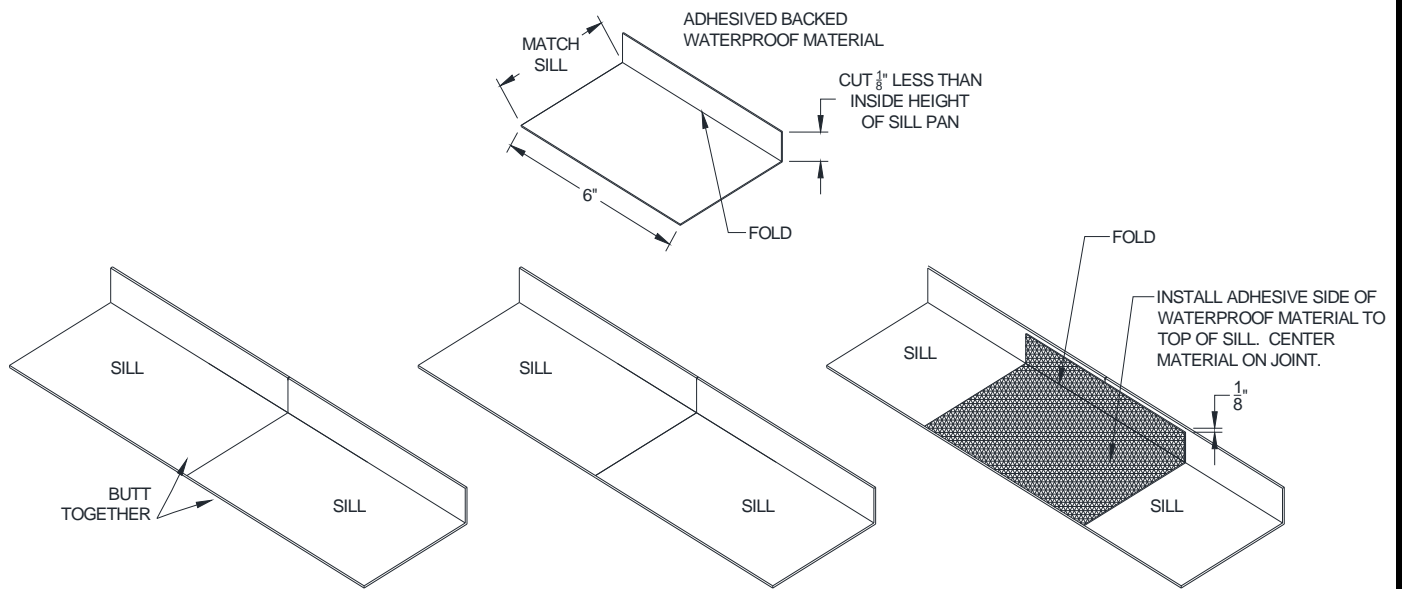
**Figure 12:**  
Building Flashing

**Appendix A: Joining Sillpans**

**Note:** Multiple piece sillpans are required on products with net frame widths greater than 14 feet (168 inches) and corner units. Welding required, when there are multiple sillpan pieces.

1. Butt sillpan sections together, do not overlap.
2. Weld at exterior surfaces of sillpans to join sections together.
3. Cut a piece of adhesive backed waterproof material to fit the joint as specified in Figure A1.

**Caution:** Select waterproofing material that is compatible for your application. Waterproofing material must have an adhesive backing and be capable of withstanding the temperature ranges for your region.



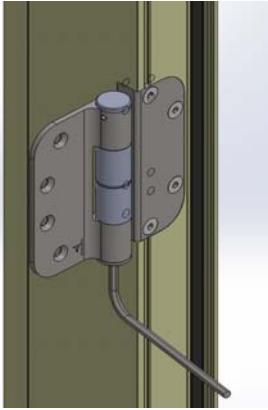
**Figure A1:**  
Multiple Piece Sillpan Joining

**Appendix B: Hinge Adjustment**

**No power tools, Hand tools only.**

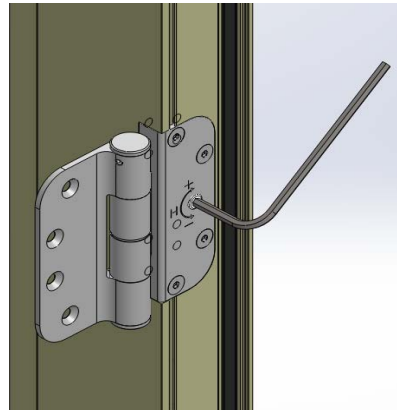
Required Tools: 5/32 Hex-L Key

1. It is recommended that vertical (Figure B1) and horizontal (Figure B2) adjustments be performed with the door in the opened position.
2. Adjust the door according to the images below.
3. Close the panel(s) to check the gaps and make adjustments as needed.



**Figure B1:**  
Vertical Hinge Adjustment

The maximum torque: 32 in-lbs (512 in-ounces)



**Figure B2:**  
Horizontal Hinge Adjustment

The maximum torque: 12 in-lbs (192 in-ounces)

**Note:** If hinge replacement is necessary, back up plates (inside frame) have been permanently attached. Hinges can be removed and remounted.

**Appendix C: Stucco Surround Application (Optional)**

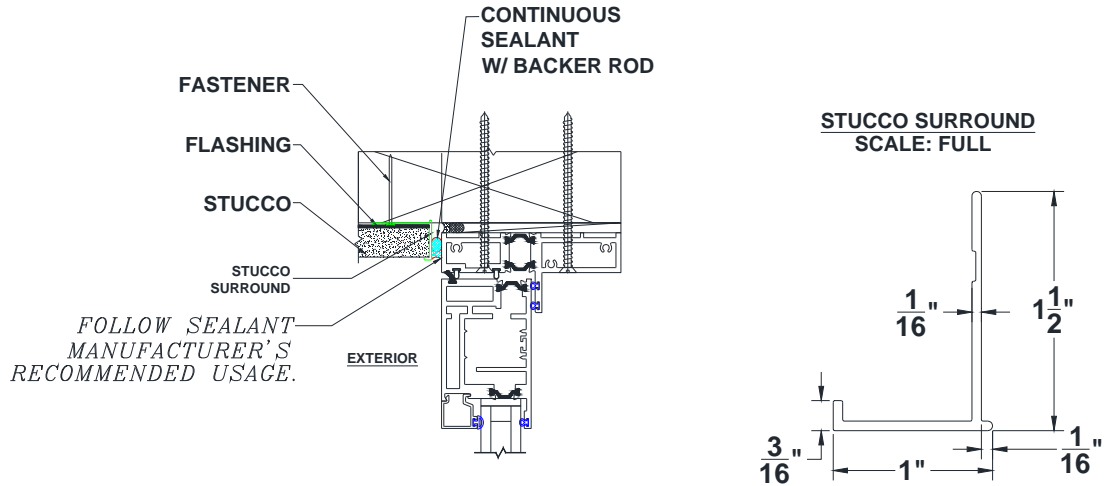
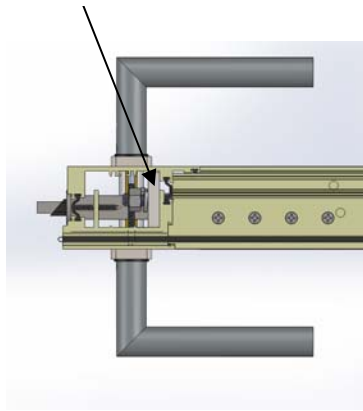


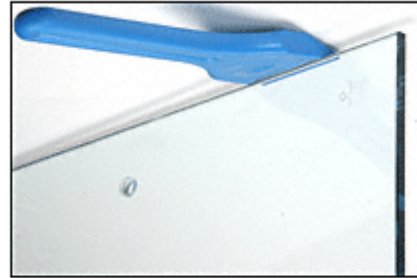
Figure C1: Stucco Surround Detail and Extrusion

## Appendix D: Panel Squaring Instructions

Corner Key Nut



**Figure D1:**  
Corner Key Nut Detail



**Figure D2:**  
Plate Glass Lifter

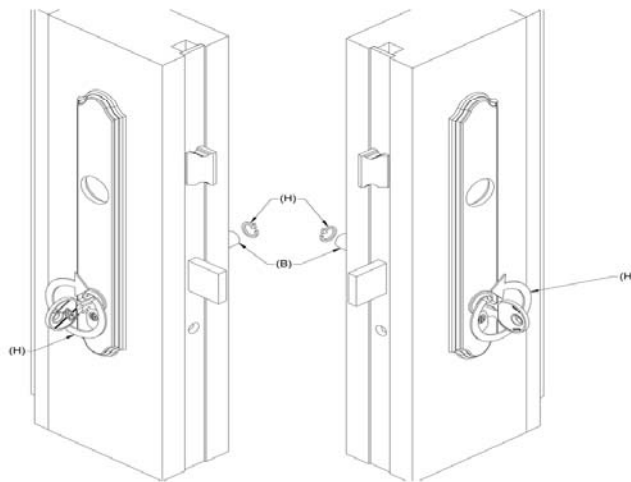
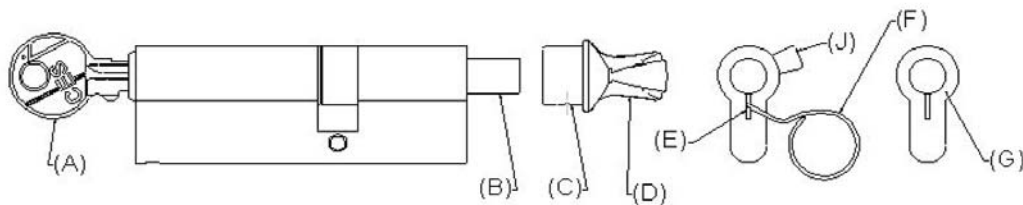
Required Tools: 9/16" wrench, pliers, tape measure, shim, plate glass lifting tool.

1. If panel hits the sill due to the weight of glass/panel.
  - a. Make sure the frame is squared before any adjustment to panel.
  - b. Adjust the hinges to bring the upper corner toward the hinge jamb, and the lower corner away from the hinge jamb. See "Appendix A: Hinge adjustment".
  - c. If the problem is solved, stop here.
  - d. Lay panel on table and check distance of both diagonals. If they are not the same, the panel is not square.
  - e. Remove thermal barrier (T shape bar).
  - f. Loosen nuts at 4 corners (2 turns), use plate glass lifting tool and add additional shim(s) to the top of the panel opposite of the hinge, between the glass and vent top rail.
  - g. Check diagonal distances, gap of panel to frame.
  - h. Tighten corner key nuts.
  
2. If panel hits the head.
  - a. Make adjustment while panel is hanging on frame.
  - b. Adjust the hinges to bring the upper corner toward the hinge jamb, the lower corner away from the hinge jamb.
  - c. If the problem is solved, stop here.
  - d. Remove silicon/ foam at the end (top) of vertical stile.
  - e. Loosen nuts at 2 top corners (2 turns), use plate glass lifting tool and remove/replace with thinner shim(s) to the top of the panel opposite of the hinge, between the glass and vent top rail.
  - f. Check diagonal distances, gap of panel to frame.
  - g. Tighten corner key nuts.

**Appendix E: Cylinder Installation/Removal\***

1. Loosen setscrew (C) on knob using the Allen wrench provided.
2. Remove knob (D) from body of cylinder (B).
3. The drive tab (J) must be aligned with the cylinder to install the cylinder into the lock mechanism. If the tab cannot be rotated to this position, push the pin (E) down with the ring wrench (F) included to disengage the stops and turn the cylinder shaft (B) until the drive tab (J) is aligned with the cylinder (G).
4. Holding in this position, insert the cylinder body into door so the tab on the cylinder is inside of the lock.
5. Rotate the shaft (B) that the thumb turn attaches to so that the top of the post moves toward the edge of the door or insert the key (A) into the cylinder and rotate so the top of the key moves towards the edge of the door (H). This will extend the deadbolt. If the post or key is rotated the wrong direction, it will rotate approximately 120 degrees and lock up where it cannot be rotated in either direction. If this happens, push the pin (E) down with the ring wrench (F) included to disengage the stops and turn the key (A) in the opposite direction until the deadbolt extends.
6. Fix knob (D) horizontally on cylinder shaft (B) with setscrew hole (C) downwards.
7. Tighten setscrew (C). Install cylinder screw.

TO REMOVE CYLINDER: Loosen and remove cylinder screw and repeat steps 1-4 above.



**Figure E1:**  
Cylinder Component Details

\*www.us.hoppe.com