

### PRIOR TO INSTALLATION

#### DO NOT STORE WINDOWS STACKED UPON EACH OTHER IF THEY WILL BE EXPOSED TO SUNLIGHT

- Remove or cut ventilation holes in shipping wrap if windows are not installed immediately.
- Do not lift window by head or sill, only by holding both jambs.
- Do not drill into or through the window sill.
- Make sure opening is clean and dry prior to installation.
- The rough opening must be plumb, level, square and  $\frac{1}{2}$ " larger than the window size in width and height, not including the nailing fins.

### Preparing / Flashing the Opening:

1. Attach weather resistant house wrap to house sheathing according to manufacturer's instructions.
2. First, make an "I-Cut" in the house wrap. Start with a horizontal cut across the bottom and the top of the window frame. Then, cut two 45° slits at least 8" from the corner of the header to create a flap above the rough opening to expose sheathing or framing members and to allow head flashing installation. For radius windows, cut from the center straight down to the sill. (Figure A)
3. Flip head flap up and temporarily secure with house wrap tape. (Figure B)

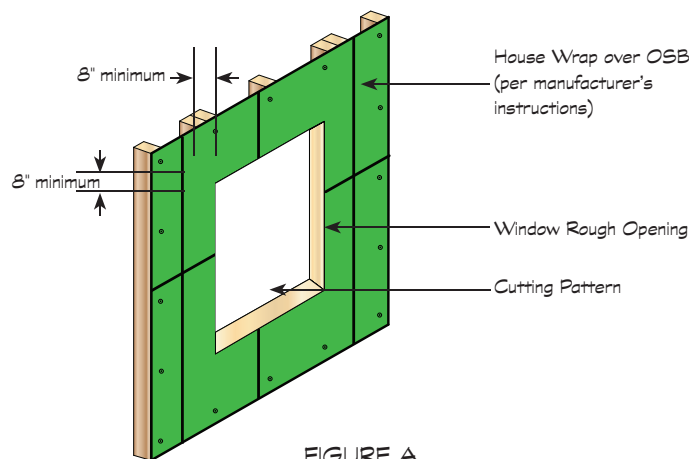


FIGURE A

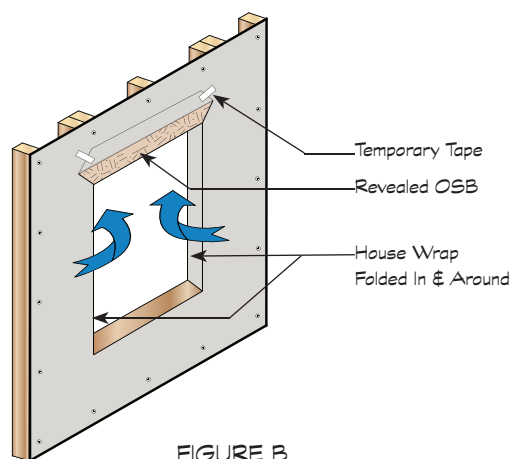


FIGURE B

4. Fold side pieces through the opening into the inside of the structure, and secure with house wrap fasteners. House wrap should cover interior face of framing stud. (Figure C)
5. Install exterior sill flashing prior to setting the window in the opening. The flashing must meet a minimum water resistance of 24 hours in accordance with ASTM-D779. Cut self-adhesive flexible flashing, approved for use on wood and vinyl, (7" wide for 2" x 4" construction, 9" wide for 2" x 6" construction) at least 12" longer than the width of the rough opening. (Figure D)

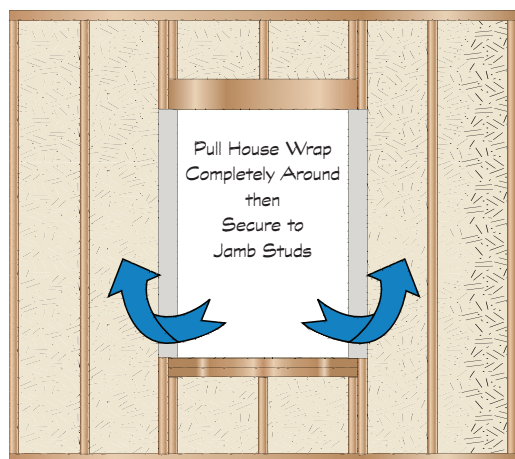


FIGURE C

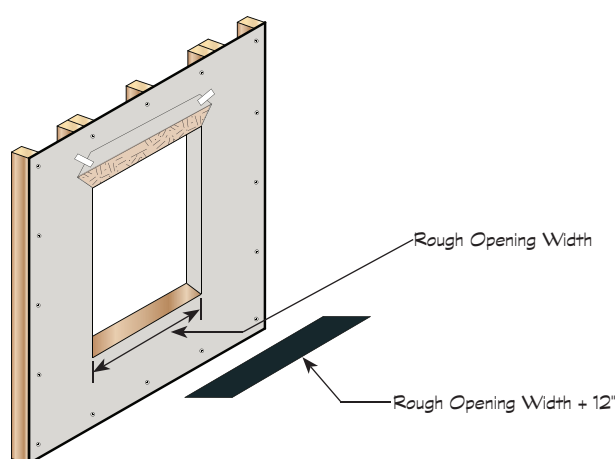


FIGURE D

6. Window flashing must be applied in accordance with manufacturer's recommendations, starting first at the sill, extending a minimum of 6" beyond the inside edge of the rough opening. (Figure E)

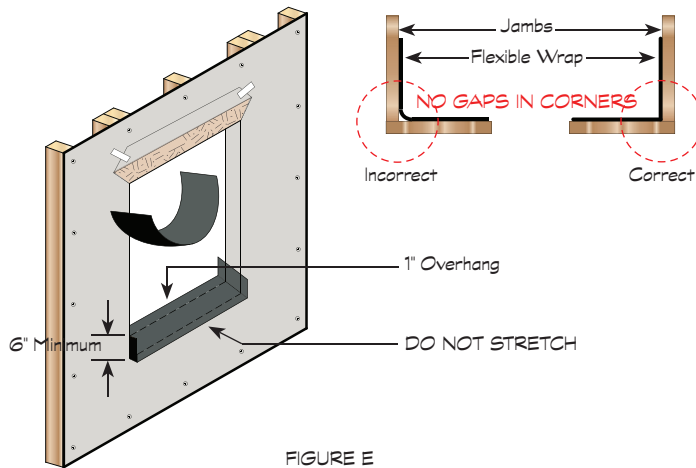


FIGURE E

#### Shimming / Setting the Window:

7. Close and lock the sash in order to keep the window square during installation.
8. Place window unit into opening to assure it will fit properly prior to proceeding to Step 9. If it fits properly, proceed to Step 9.
9. The window sill must be supported in a straight and level position, with shims at all locations where the jamb, meeting stiles/rails, and pull stiles/rails meet the sill. Multiple window units should have a shim under each mullion, intermediate jamb and the meeting stiles of horizontal sliders. (Figure F)
10. Apply a  $\frac{3}{8}$ " continuous bead of silicone caulking to the sheathing or house wrap making sure the bead is no more than  $\frac{1}{4}$ " from the edge of the rough opening, so that it is covered by the nailing fin when the window is installed. (Figure G)
11. Apply a second  $\frac{3}{8}$ " continuous bead of silicone caulking to the interior surface of the nailing fin, covering the holes in the fin, to seal the window's fin to the house wrap. If the window has factory applied casing, the silicone bead should still be applied so that it covers the installation holes. (Figure H)
12. Set window on the shims and adjust side clearance to center the window in the opening. Shim both sides of window as needed to assure window is plumb and margins are equal.

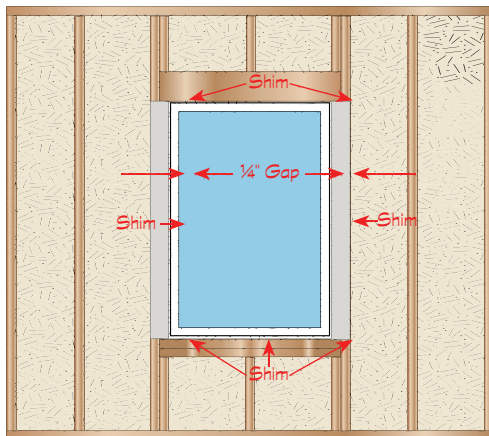


FIGURE F

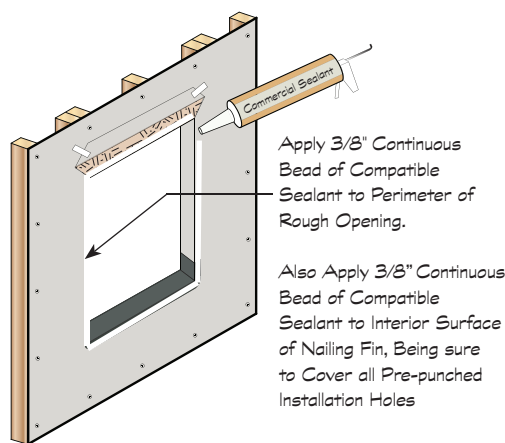


FIGURE G

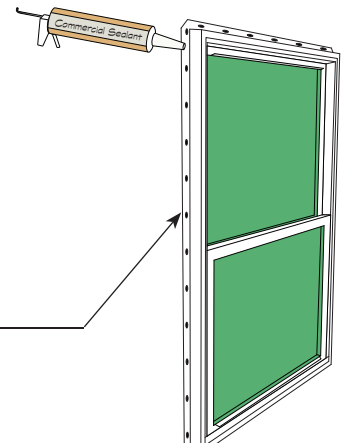


FIGURE H

13. Fasten one upper corner of the nailing fin to keep the window in place. Check the sill with a level and adjust the shims as required to assure the sill is level. Do not force shims into place, as this may bow the window frame. (Figure I)
14. Measure window diagonally from bottom left corner to top right corner and from bottom, right corner to top left corner. Both measurements will be equal if the frame is square. If they are not equal, the frame is not square and will need to be reset to ensure it is square. The weather-stripping clearance between the sash and frame should be equal. The meeting stile/rail and lock stile/rail should align evenly, with parallel sight lines. The window locks should engage smoothly.

#### **Securing the Window:**

15. Use stainless or galvanized steel fasteners, such as roofing nails or non-corrosive screws, long enough to penetrate wall studs a minimum of 1".
16. Fasten the entire perimeter of the nailing fin to the sheathing using every other slotted hole on single windows. Multiple windows, twins, & triples should be nailed in every slotted hole.
17. Fasten the fin snug but **DO NOT OVERDRIVE** the nails or screws. Fasteners should be just tight enough to hold the window but not stop the movement of the framing underneath during expansion and contraction. Make sure the head and sill are **NOT** crowned up or down, and the jambs are not bowed in or out.

#### **Flashing the Window:**

18. Use self-adhesive flexible flashing, a minimum of 4" wide, approved for use on vinyl, wood & other substances, such as house wrap. This flashing material must meet a minimum water resistance of 24 hours in accordance with ASTM-D779.
19. Sill flashing should already be applied prior to window installation and extend beyond the sides of the window nailing fin at least 2".
20. Now apply jamb flashing over the jamb nailing fin, continuing over and beyond the sill flashing, at least 2". (Figure J)

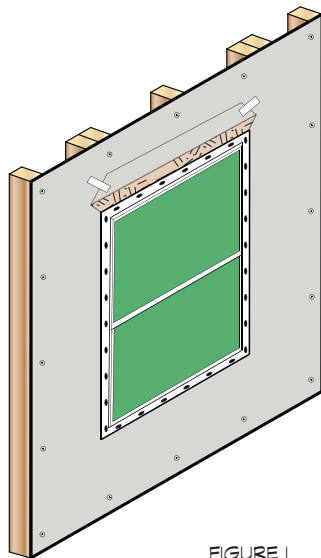


FIGURE I

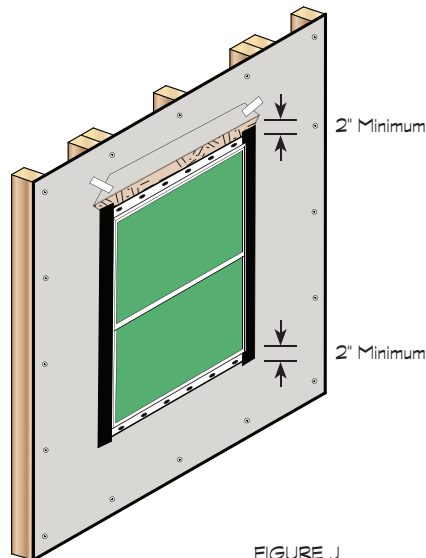


FIGURE J

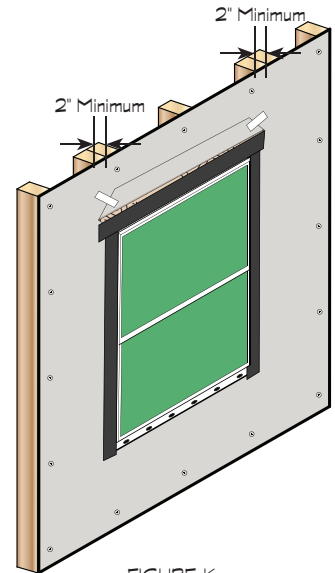


FIGURE K

21. Apply head flashing similarly extending 2" past either side of the jamb flashing, to complete the window flashing detail. (Figure K)
22. Remove tape from flap previously cut on house wrap, and secure to wall. (Figure L)
23. Install batt insulation or minimal-expanding foam between the window and rough opening. Do not overfill insulation, as this may bow the frame.
24. If the exterior finish is brick, stone or stucco, make sure to leave a 1/4" gap around the entire window, and fill cavity with backerrod to allow for the expansion of materials. Apply a 1/4" caulk bead to the exterior perimeter of the window.
25. Once installation is complete, exterior wall treatment can be completed.

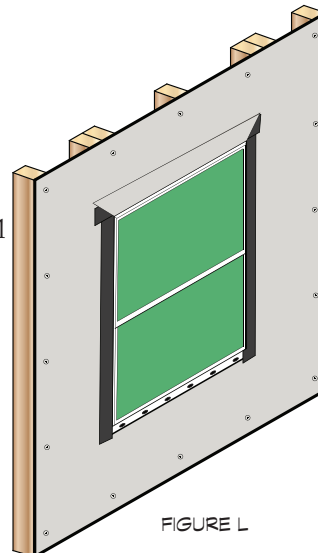


FIGURE L