



# INSTALLATION INSTRUCTIONS

## RESIDENTIAL ENTRY DOORS

INSTRUCTIONS COMPATIBLE WITH ALL  
MADERO ENTRY DOOR SYSTEMS

These instructions were developed to assist door installers who have knowledge of carpentry principles and who know how to safely utilize power tools. If these instructions are closely followed, the door system will have long life with good resistance to water infiltration.

### **⚠ CAUTION**

*Lifting hazard. Single person lift could cause injury. Use assistance and proper lifting technique.*

### **NOTICE**

*Transport and store unit in upright position only – same position as installed in home.*

**NOTE:** Composite jambs require more fasteners than wooden jambs. Failure to apply fasteners per instructions will void warranty. See Page 12 for details.

**NOTE:** Madero is not responsible for any damage that occurs during handling, installation and construction. Once door unit is installed, use of protective materials during construction phase is recommended.



## BEFORE REMOVING YOUR OLD DOOR:

- Verify you have all required parts and materials required for installation.
  - Tools and Materials Needed (See Page 2).
- Please follow the instructions carefully for proper installation. For questions concerning the installation of this product, please contact Madero - 1-800-667-6977
- For products being removed, ensure that these products are properly disposed of or recycled in accordance with local jurisdiction requirements.
- Reference local, national and international building codes to ensure compliance in your specific application. It is the installer's responsibility to ensure code compliance.

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# MATERIALS AND TOOLS NEEDED

## MATERIALS NEEDED (NOT INCLUDED)

### GENERAL

- Shims - Composite Recommended
- Exterior Rated Sealant - AAMA 800 Approved
- Exterior Rated Screws 2-1/2" - 3" Long (#8, #9 or #10)
- Insulation- Fiberglass Batt or Closed Cell Spray Foam
- Masonry String (Minimum 20')

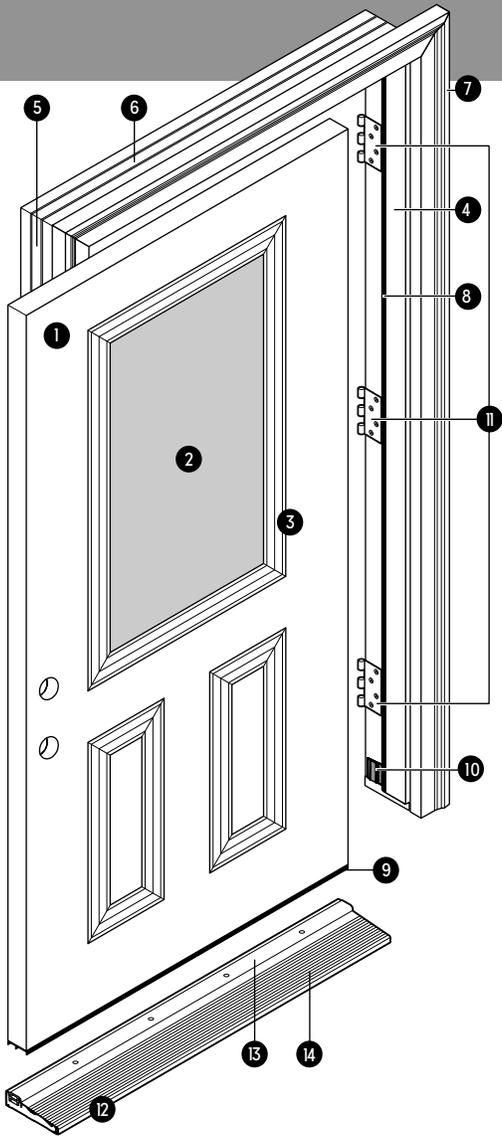
### FLASHING MATERIALS

- Head of Unit - Drip Cap, Flexible WRB (Weather Resistive Barrier) Flashing
- Sill - Flexible WRB Flashing or Rigid Sill Pan

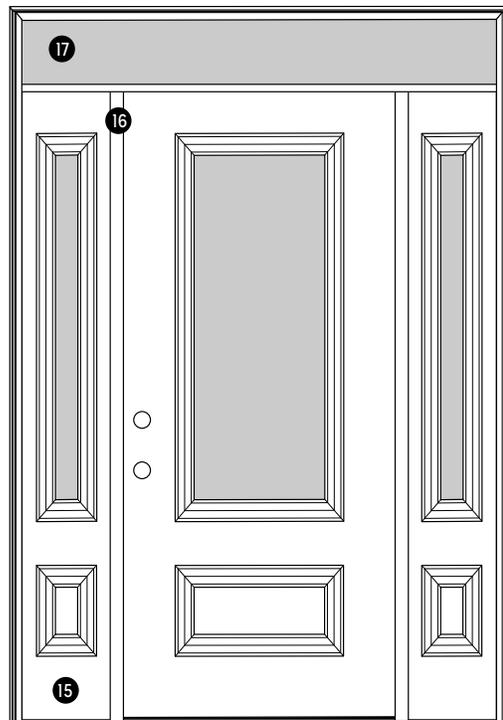
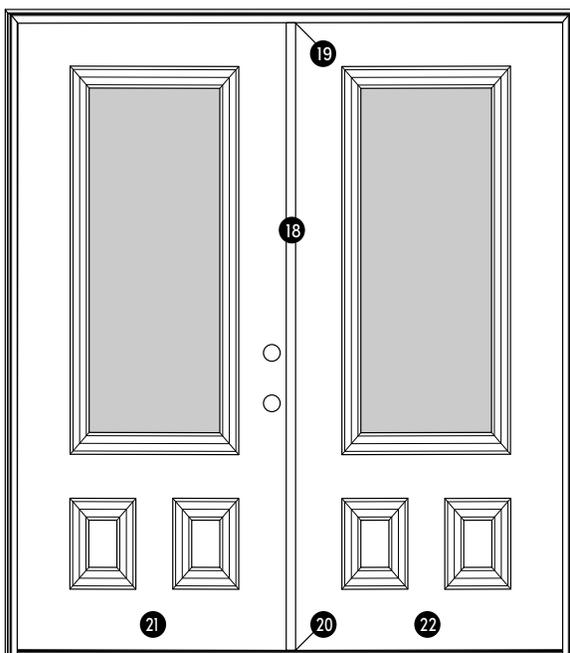
## TOOLS NEEDED (NOT INCLUDED)

- |   |  |  |  |
|---|--|--|--|
| <input type="checkbox"/> Measuring Tape | <input type="checkbox"/> Level - 2' and 6' | <input type="checkbox"/> Putty Knife                                 | <input type="checkbox"/> Power Drill with Driver and Drill Bit |
| <input type="checkbox"/> Pencil         | <input type="checkbox"/> Small Pry Bar     | <input type="checkbox"/> Utility Knife                               | <input type="checkbox"/> Safety Glasses and Gloves             |
| <input type="checkbox"/> Square         | <input type="checkbox"/> Step Ladder       | <input type="checkbox"/> Screwdriver - #2 & #3 Phillips and Flathead |  |
| <input type="checkbox"/> Hammer         | <input type="checkbox"/> Caulk Gun         |  |  |

# ANATOMY OF AN ENTRY DOOR



- 1 Door Panel
- 2 Glass
- 3 Lite Frame
- 4 Hinge Jamb
- 5 Lock Jamb
- 6 Head Jamb
- 7 Brickmould
- 8 Weatherstrip (Weather Seal)
- 9 Door Bottom Sweep (Bottom Seal)
- 10 Corner Seal Pad
- 11 Hinges
- 12 Sill
- 13 Threshold Cap (on sill)
- 14 Approach (aluminum part of sill)
- 15 Sidelite
- 16 Mull (Post/Jamb)
- 17 Transom
- 18 Astragal
- 19 Head Bolt (on astragal)
- 20 Shoe Bolt (on astragal)
- 21 Primary (Active) Door Panel
- 22 Secondary (Inactive) Door Panel



# 1 VERIFY DIMENSIONS

**STOP** DO NOT REMOVE OLD DOOR AT THIS TIME. *Verify fit of new door prior to removing old door.*

- Rough opening requirement is 1" wider and 1/2" taller than pre-hung unit.
- Verify jamb depth is adequate for wall thickness, including drywall.

# 2 UNPACK UNIT

- Remove packaging surrounding unit
- Remove installation packet attached to outside of jamb.
- Remove plastic transportation handles from jambs.
- If installing a double door or sidelite unit, wait until Step 9-2 to remove lock plug.
- If installing a single door, remove lock plug before placing into opening.

## CAUTION

*Free swinging door can cause injury. Secure or remove door during installation.*

- Cover door sill to protect against damage or scratches during installation or during long periods between building construction and occupancy.

**NOTE:** Sill finish can be damaged by wet cement or contact with cement powder.

# 3 PREPARE ROUGH OPENING

- Area where sill will rest must be level and sound. Remove and replace any material showing signs of rot on existing opening if needed.

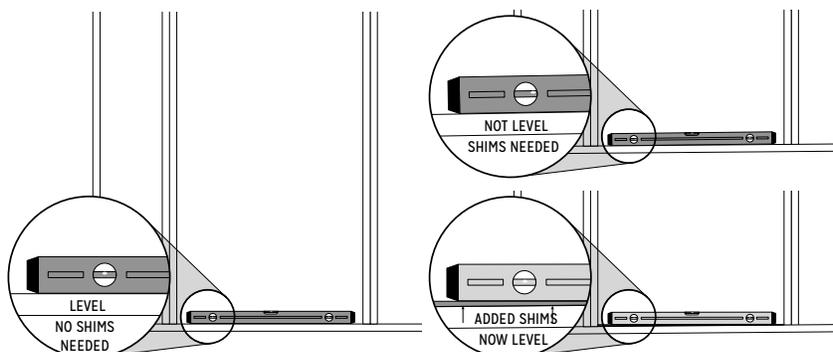
**NOTE:** Height of substrate under sill may need to be increased now to allow door unit to swing open freely without impeding door's travel (carpet, throw rug, replacement floor allowance, etc.).

Minor adjustments to substrate can be made by using shims.

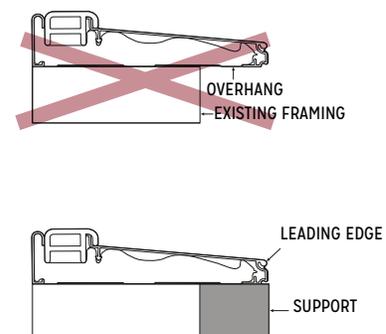
Any adjustments greater than 1/8" should be supported by a full width and depth piece of plywood or other similar material (Fig. 3-A).

- If there is an overhang on exterior stoop, build out structure for support under sill. Leading edge of sill cannot be unsupported (Fig. 3-B).

## ROUGH OPENING



**FIG. 3-B  
SILL SUPPORT**



# 3

# PREPARE ROUGH OPENING (CONTINUED)

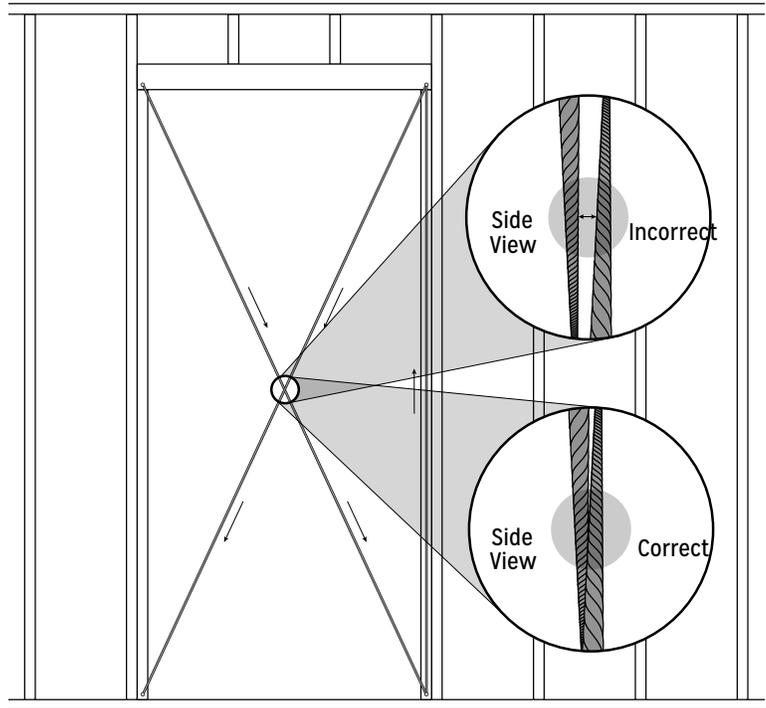
## Step 3-1 Check for Plumb

- Framing walls around rough opening must be in same plane, verify by performing "string" test.
- Attach a string diagonally across opening, creating an X pattern. Strings should just gently touch each other where they cross in center (Fig. 3-C).
- If strings do not touch, adjust framing until strings gently touch each other.
- If strings are touching and interfering with each other (check tension by pulling one string away from the other), reverse stringing order or flip string over itself until strings do not touch and adjust framing until strings gently touch each other.
- Fix any problems now.

## Step 3-2 Add Full Depth Blocking

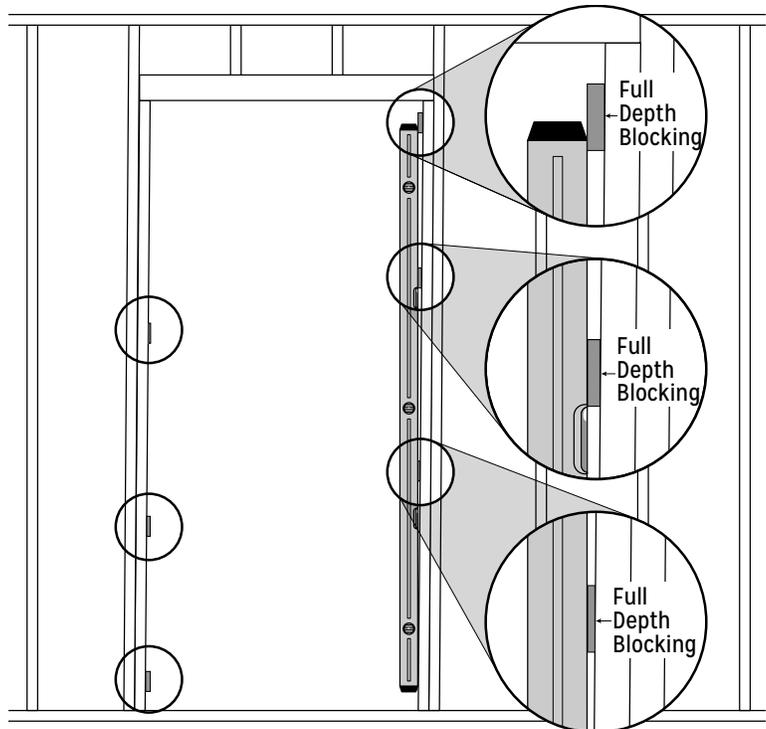
- Once rough opening is verified, it should be narrowed down in width. This allows door to be supported requiring minimal shimming.
- Prior to shimming along trim/jack stud, use a level to verify it is plumb along its height. Apply full depth blocking (such as plywood) to reduce space to approximately 1/16" on each side of door unit (1/8" overall). This provides a very sound reference surface for jambs to contact and will reduce overall amount of shimming required once door is placed into opening (Fig. 3-D).

Fig. 3-C



**NOTE:** This procedure should also be performed on jambs during installation to ensure both jambs are in the same plane. This is necessary for proper function of door unit.

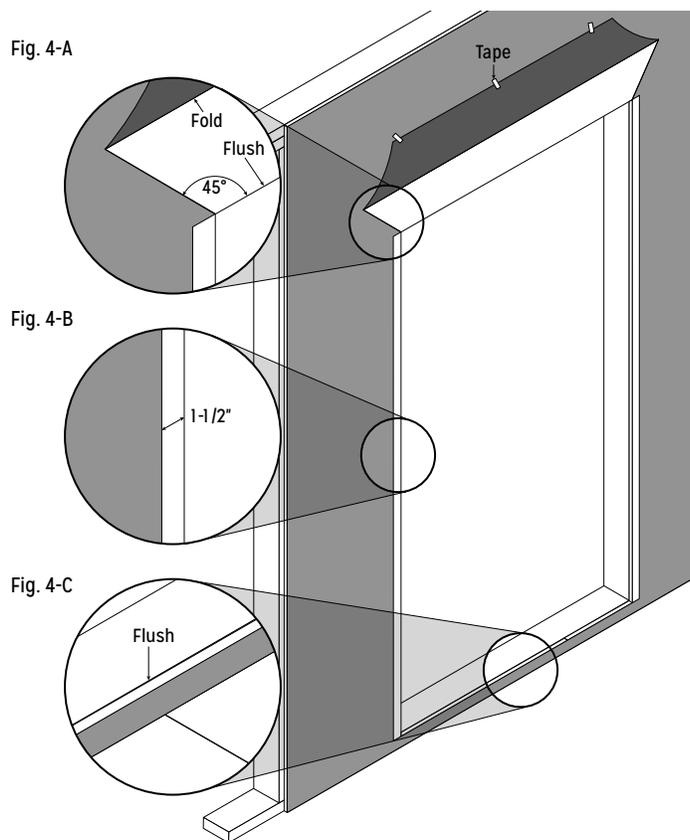
Fig. 3-D



# 4 PREPARE ROUGH OPENING FOR FLASHING

## Step 4-1 Prepare Opening for Flashing

- Using a utility knife, cut back house wrap 1-1/2" on left and right of frame opening (Fig. 4-B), leaving house wrap flush at top and bottom (Fig. 4-C) of opening.
- Using a utility knife, cut a 45° angled cut in house wrap starting from corners of opening. Pull house wrap upward and tape (Fig. 4-A). Head jamb flashing will not be completed at this step but does need to be prepared. This flap will be flashed later in Step 13.



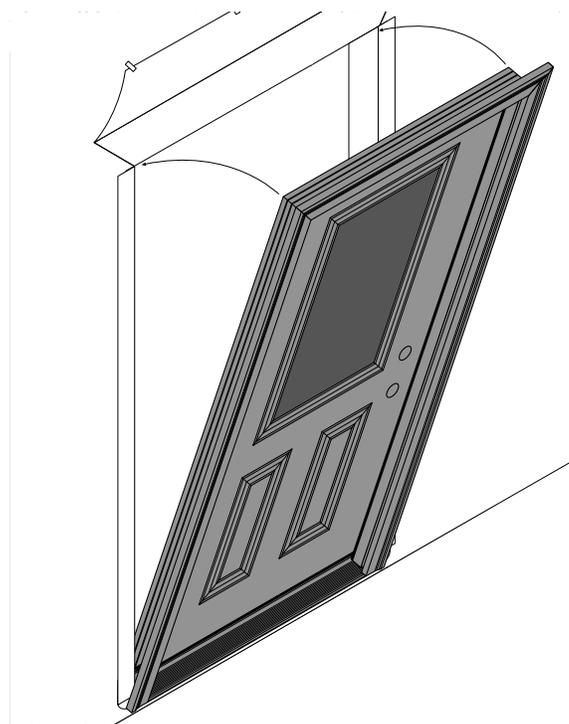
# 5 DRY FITTING

- Dry fit unit in opening to ensure there are no sizing issues before you proceed. This can be done with or without brickmould attached (Fig. 5-A).

## NOTICE

Store unit in upright position, same as it will be installed in home, after dry fitting.

Fig. 5-A



# 6 FLASH ROUGH OPENING

**NOTE:** Install EITHER rigid sill pan OR flexible sill flashing.

## Step 6-1 Adding a Water Resistant Seal to Sill

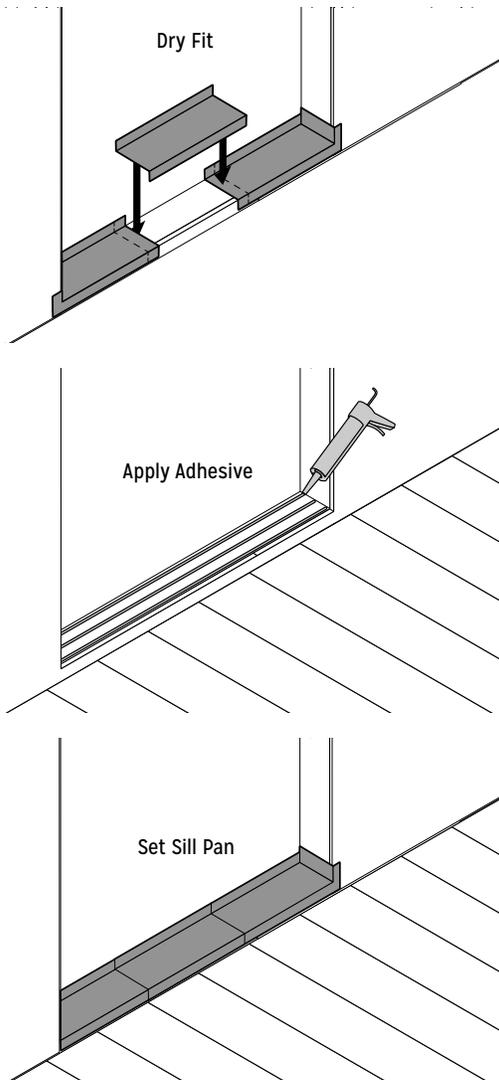
- Now that opening has been properly prepared, rough opening needs to be flashed to prevent water and air infiltration. This needs to be performed along all edges of opening starting at bottom and working up, ensuring all materials are “shingled” or overlapped. This will ensure no moisture can be trapped.
- Sill pan detail can be completed with a rigid sill pan (Fig. 6-A) or flexible sill flashing (Fig. 6-B) method. It is important for this flashing detail to extend up vertical framing to allow for overlap as vertical framing is performed.

### Rigid Sill Pan ← or → Flexible Sill Flashing

#### Installation of Rigid Sill Pan

- Follow sill pan manufacturer’s installation instructions.
- If a rigid sill pan is being used, caulk along front, back and middle of sub-floor before setting pan in place (Fig. 6-A).

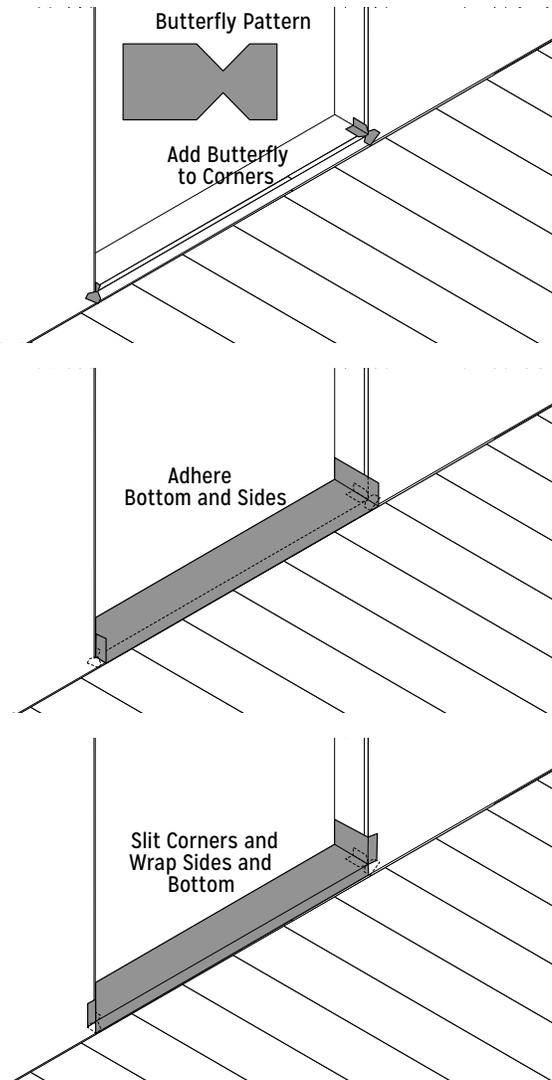
Fig. 6-A



#### Installation of Flexible Sill Flashing

- Follow sill flashing manufacturer’s installation instructions.
- If flexible sill flashing will be used as a WRB (water resistant barrier), ensure sill area is applied first and then address corners working up on framing (Fig. 6-B).

Fig. 6-B



# 7 SEAL SILL AREA

**NOTE:** Install EITHER rigid sill pan OR flexible sill flashing.

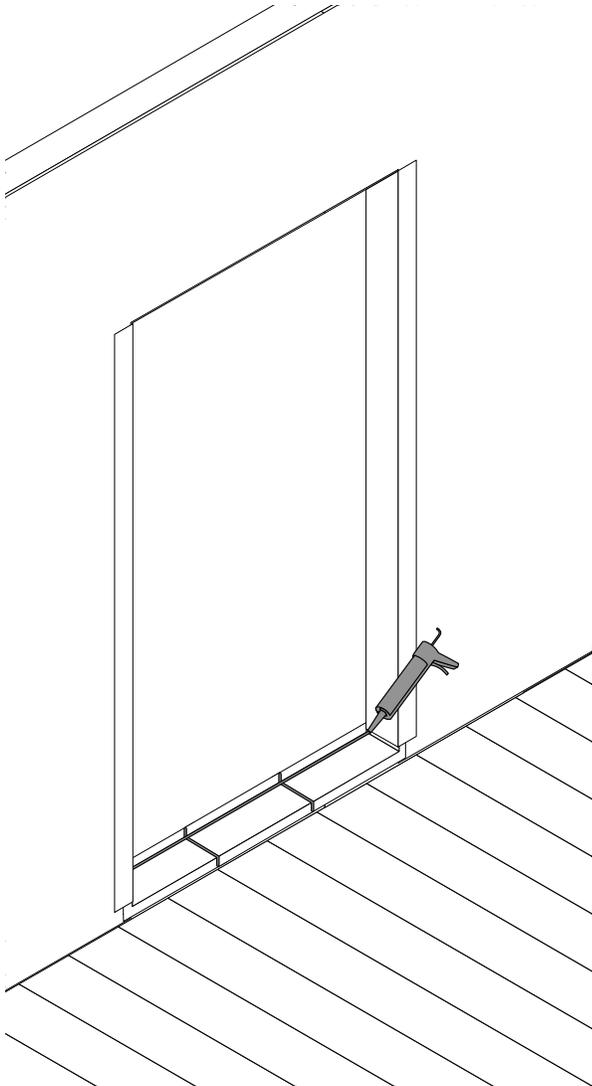
- Apply sealant to area where sill meets floor.

**Rigid Sill Pan** ← or → **Flexible Sill Flashing**

## Sealing of Rigid Sill Pan

- Follow sill pan manufacturer's installation instructions.
- Apply caulk only to area on interior side on pan tub area as well as pan seams. Do not apply additional beads of sealant as this would trap moisture as opposed to allowing it to drain out (Fig. 7-A).

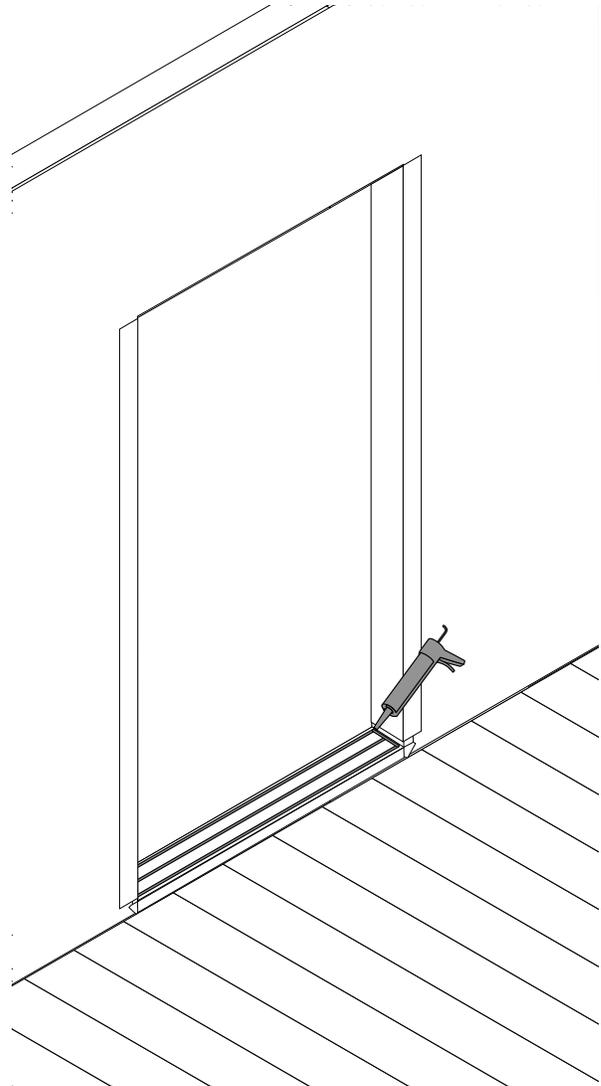
Fig. 7-A



## Sealing of Flexible Sill Flashing

- Follow sill flashing manufacturer's installation instructions.
- Sealant should be applied heavily along front, middle and back areas where sill rests.
- Place 3 large beads of sealant across opening, starting on interior where sill will rest - at 3/4", then 2-1/2" and 4-3/4".
- Place 1 large bead of sealant on each side, front to back (Fig. 7-B).

Fig. 7-B



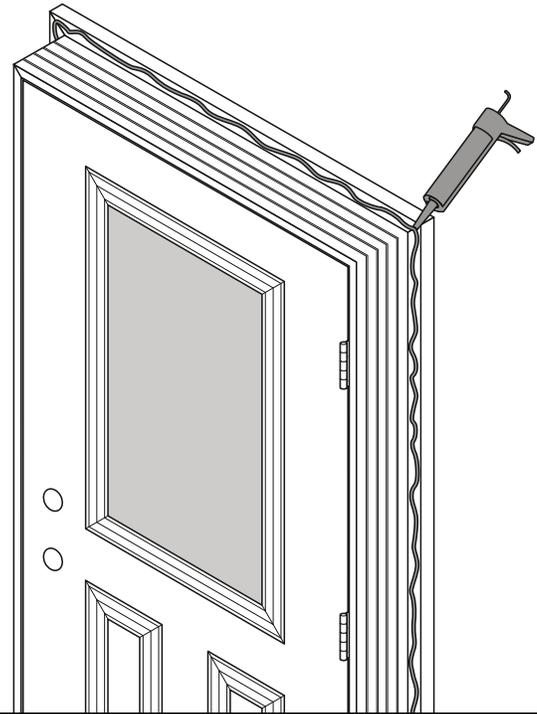
## 8 APPLY BRICKMOULD SEALANT

- If brickmould is attached from factory, apply a generous bead along backside in order to create a gasket-type seal when door is pushed into opening (Fig. 8-A). If brickmould is detached, this sealant can be applied at time of attachment.

### **CAUTION**

*Lifting hazard. Single person lift could cause injury. Use assistance and proper lifting techniques.*

Fig. 8-A



## 9 SET AND SHIM DOOR UNIT

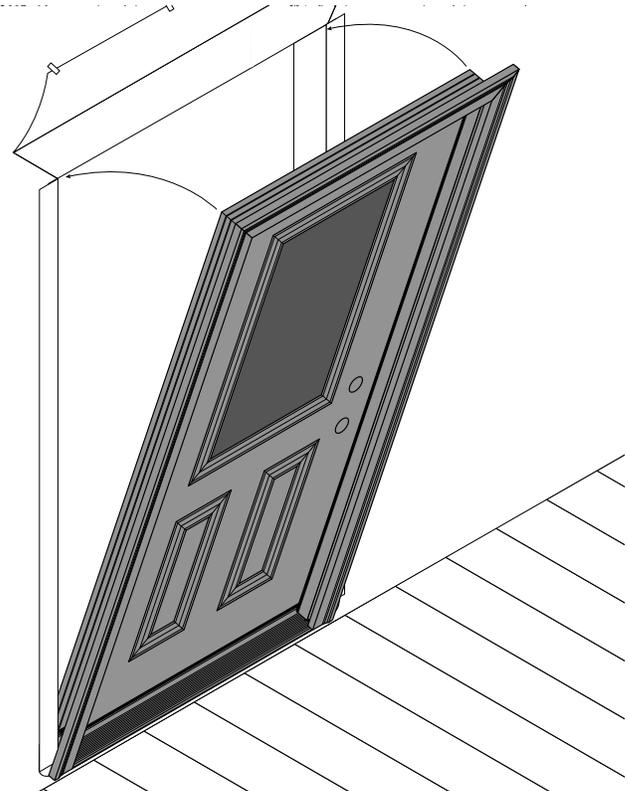
### Step 9-1 Set Door Unit Into Opening

- Lift door up and tilt head back away from house. Set sill into caulking first and lean door upright into opening, ensuring door is centered within opening (Fig. 9-A).

### **CAUTION**

*Lifting hazard. Single person lift could cause injury. Use assistance and proper lifting techniques.*

Fig. 9-A



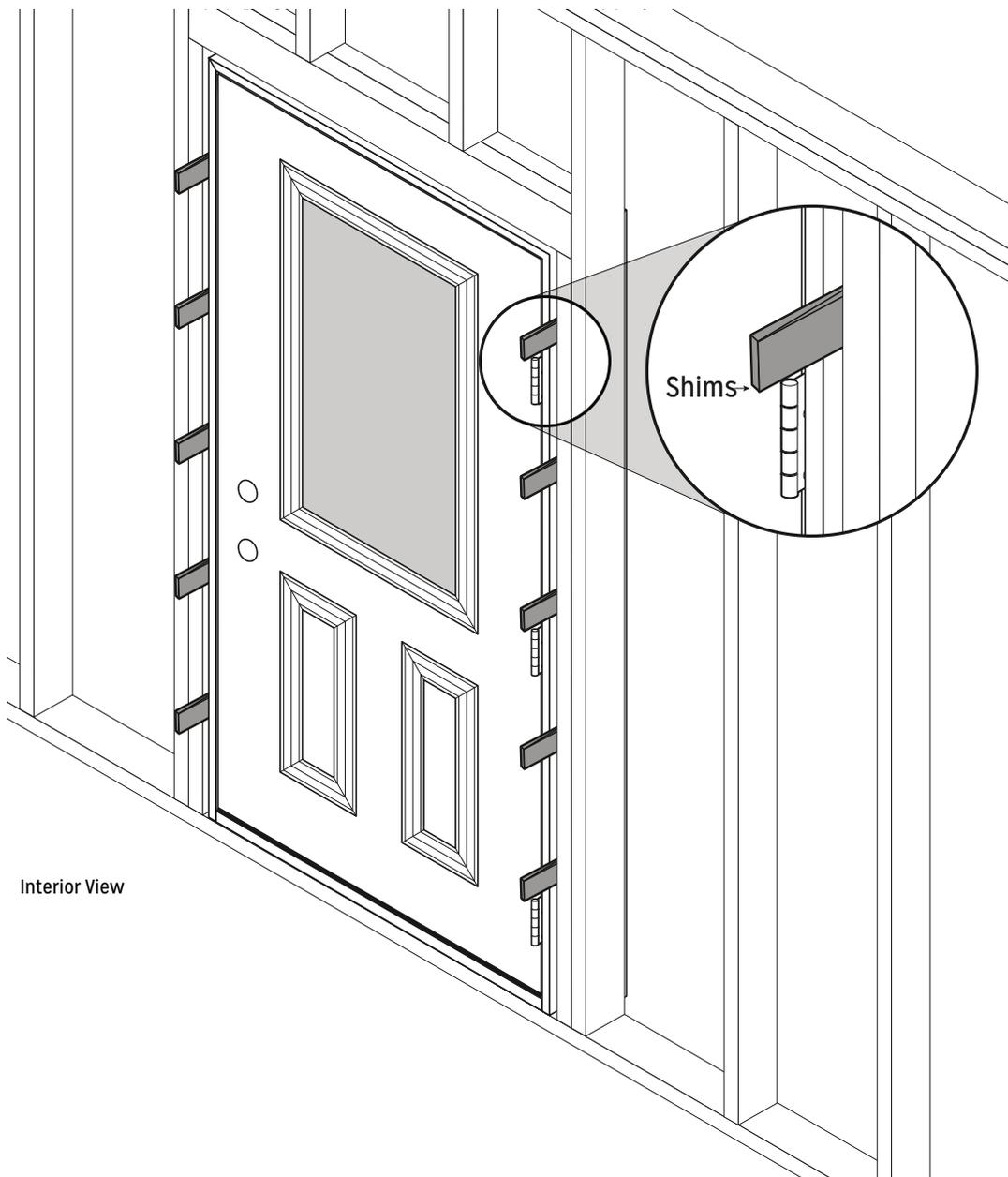
Exterior View

**Step 9-2 Shimming Door Unit**

- Center door unit and begin shimming to hold it in place. Inside edge of jamb should be flush with interior wall surface.
- You can now remove lock plug on sidelite units.
- Apply additional shims along vertical jambs while adjusting jamb frame in or out to allow door to rest flush inside rabbeted frame portion. This will ensure proper contact with weatherstrip.
- Use shims behind vertical jambs to close or open door margins (space between door slab and jamb frame) as needed. On double doors ensure gap between doors is equal (Fig. 9-B).

**NOTE:** Place shims above where screws will be located. See Step 10 for detailed information.

Fig. 9-B



# SCREW AND SHIM PLACEMENT REQUIREMENT

**NOTE:** Fasteners must be driven through jamb frame and into studs and not through brickmould.

- Use a minimum 2-1/2" screw length for fastening (Fig. 9-C).

## Vertical Jamb Fastener Quantity Required:

Unit Height	Minimum Number Of Fasteners Per Jamb	Hinge Side Placement	Fig
6'8", 7'	5 (Each Side)	3 Hinge Areas + In Between Hinges	9-D
8'	7 (Each Side)	4 Hinge Areas + In Between Hinges	9-E

## Fastener Location:

**Single and Double Doors:** Place non-hinge screws behind weatherstrip. To remove weatherstrip, pull weatherstrip out of groove.

**Sidelite Units:** Place screws through thick portion of sidelite jambs. Screws should not be fastened through any other area of jamb. Plug holes (See Step 12-3).

**Lock and Deadbolt Area:** On single doors it is recommended to reinforce this area with longer screws (2-1/2" - 3") through strike plates into studs.

**NOTE:** One hole for a screw in each hinge intentionally left open for fastening during installation. Matching finish screws provided in door packaging.

Fig. 9-C

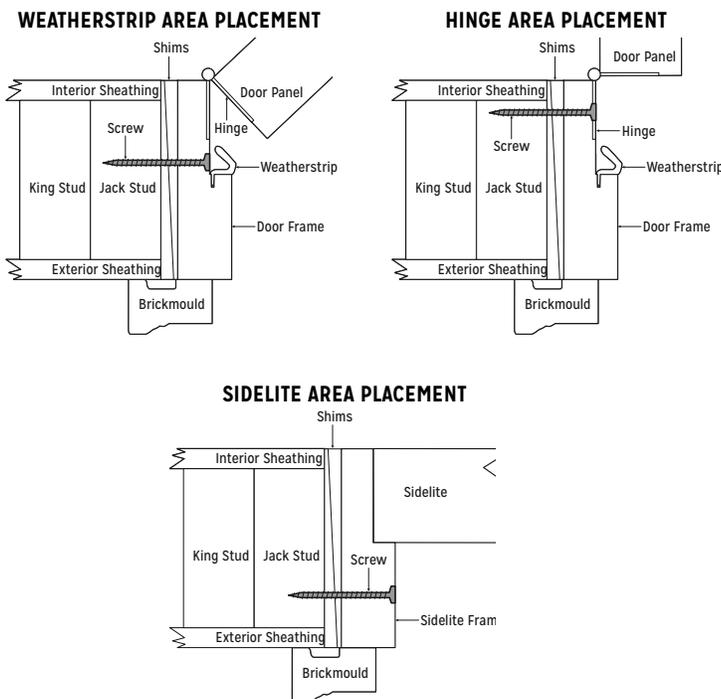


Fig. 9-D

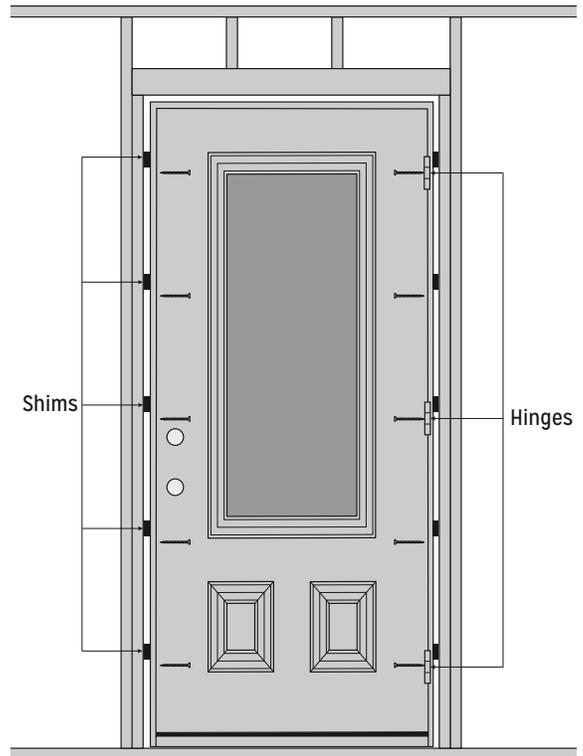
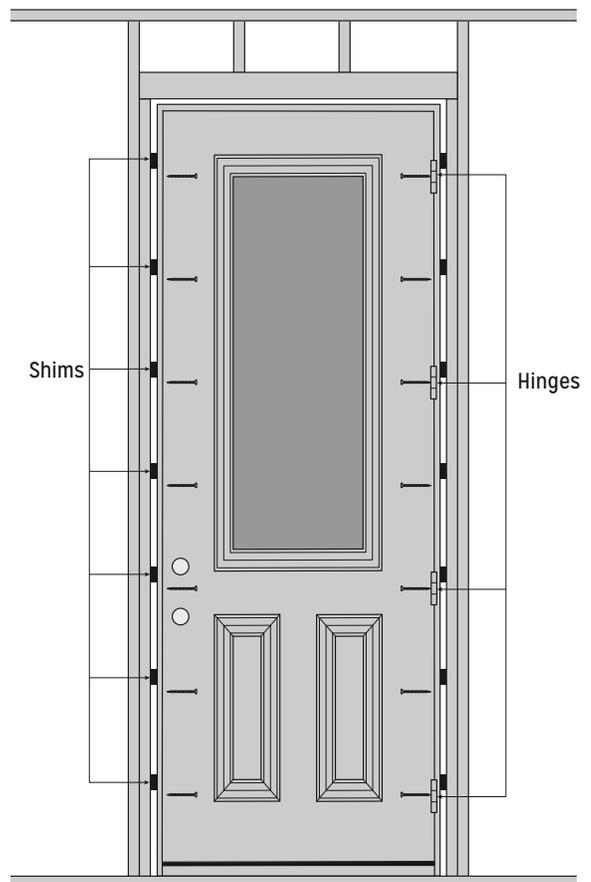


Fig. 9-E



# 10 SECURE DOOR UNIT

- It is important to use shims in pairs with largest ends opposing each other. This allows them to overlap and provide even support over entire depth of jamb (Fig. 10-A).
- Screwing below shims is recommended (Fig. 10-B). This will avoid splitting shims and allow greater adjustment. Avoid applying screws through shims.
- Make adjustments to frame so that door slab sits flush with jamb edge on interior and makes even contact with weatherstrip (Figs. 10-C and 10-D).

**NOTE:** Always check with local authorities having jurisdiction for any specific installation requirements that may apply. Composite jambs require more fasteners than wood jambs. Failure to properly fasten will void warranty, please follow Page 12 Screw and Shim Placement Requirement to ensure proper performance.

- Once door is positioned and shimmed, begin inserting screws, fastening on hinge side first. See Fig. 9-C and Fig. 9-D for placement. Ensure that it remains plumb in both directions when screws are driven. Don't overtighten screws as this could cause jambs to bow. Use additional shims to keep door unit aligned as required.

**NOTE:** Open and close door as adjustments are made to ensure functionality.

- Move to latch side. Make any additional adjustments to frame so that door slab sits flush with jamb edge on interior and makes even contact with weatherstrip (Figs. 10-C and 10-D). Use additional shims to keep door unit aligned as required.

**NOTE:** If adjustments are needed, refer to string test (Step 3) and attach string points to jamb corners.

Fig. 10-A

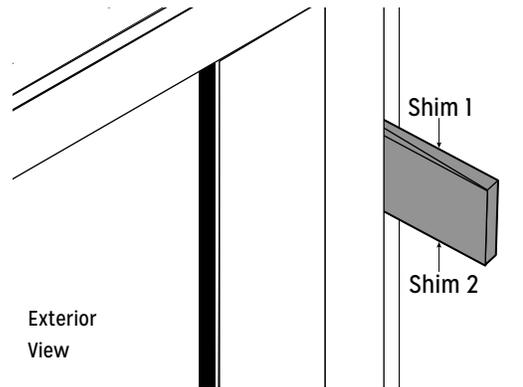
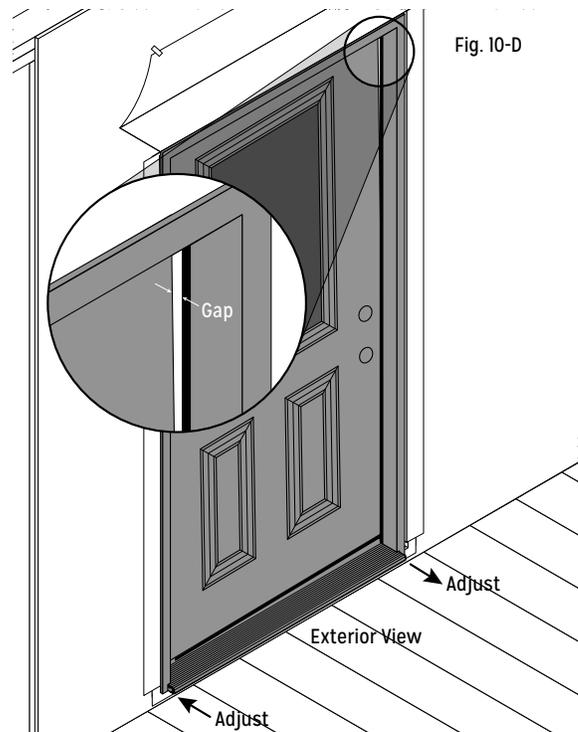
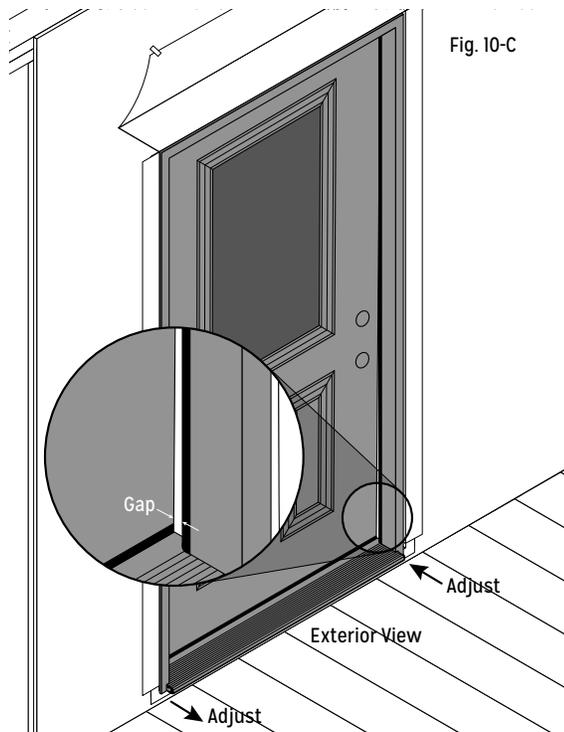
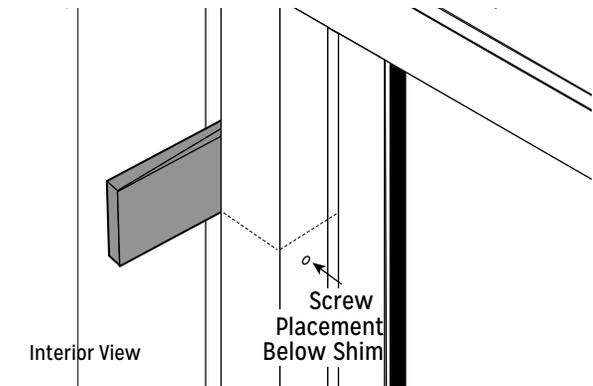


Fig. 10-B



# 10

# SECURE DOOR UNIT (CONTINUED)

**NOTE:** Fasteners must be driven through jamb frame and into studs and not through brickmould.

- Use a minimum 2-1/2" screw length for fastening.

**Head Jamb Fastening:**

**Single Doors:** Not recommended

**Double Doors:** Place 1 screw in middle of head jamb where it will be hidden by weatherstrip (Fig. 10-E).

**Sidelited Units:** Place 1 screw next to each mull where it will be hidden by weatherstrip (Fig. 10-F).

**Additional attachments required for other unit types:**

**Transoms:** See Step 15 for instructions.

Fig. 10-E

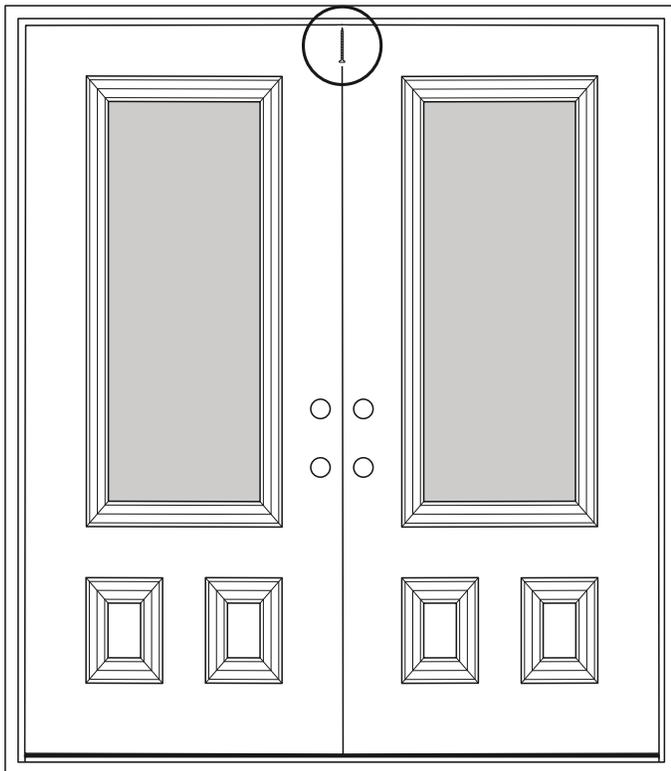
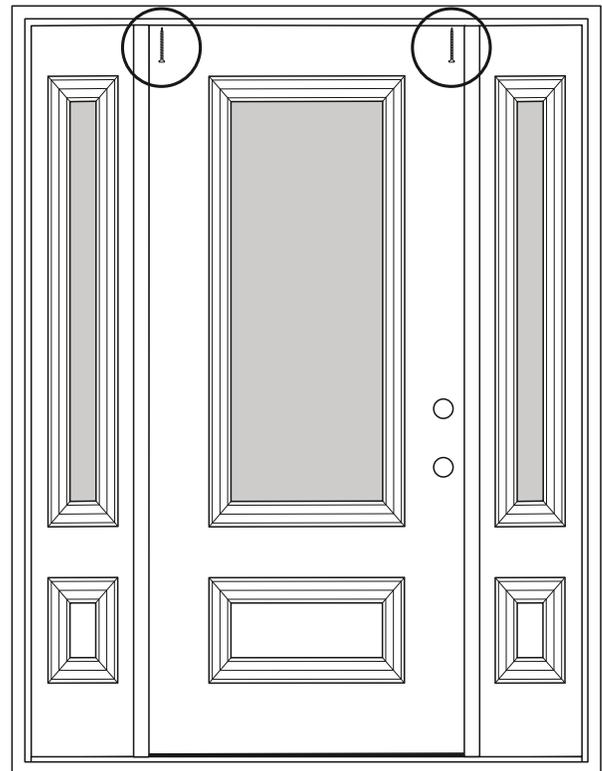


Fig. 10-F



# 11 INSULATE UNIT

- Areas between jamb frame and rough opening should be insulated to ensure highest performance of overall unit.
- Shims should be trimmed before adding insulation. Use a utility knife to score shims and snap them off flush with jambs.

## Traditional Fiberglass Batt Insulation:

- Small pieces of loose strands should be inserted into area using a putty knife or similar tool. Avoid compressing insulation as this will reduce its effectiveness.

## Low Expansion Spray Foam:

- Apply in layers starting at exterior and work toward interior, ensuring there are no large voids in insulation. Caution needs to be exercised to ensure foam has sufficient space to expand and will not force jambs out of alignment.

### NOTICE

Foam insulation may remove finish. Avoid contact with finished areas of doors. Follow manufacturer's installation instructions.

# 12 INSTALL TRIM/CASING

## Step 12-1 Exterior Trim

- **Brickmould (when not attached):** Using 16 gauge exterior-rated brad (2" minimum) nails, apply fasteners every 12"-16" through brickmould and into jamb edge and rough opening framing. Start fasteners no more than 3" away from ends. Ensure brad nails are inserted through miters 90° to seam (Figs. 12-A and 12-B).
- **Mull Casing (when not attached):** Using 16 gauge exterior-rated brad nails, apply fasteners every 12"-16" through mull casing into jamb edge. Start fasteners no more than 3" away from ends.

**NOTE:** All exterior trim will need to be caulked/sealed at seams (See Step 11).

## Step 12-2 Interior Casing

- **Perimeter Casing:** Using minimum 18 gauge brad nails (1-1/4" minimum), apply fasteners every 16"- 20" through casing and into jamb edge and rough opening framing.
- **Interior Lattice (only boxed or transom units):** Using minimum 18 gauge brad nails, apply fasteners every 16"- 20" through casing and into jamb edge.

## Step 12-3 Nail Hole Puttying

- Use supplied putty to fill nail holes. Putty is color-matched for stained doors and doors painted black. For doors painted other colors, use touch-up paint over white putty.

**NOTE:** Use minimum amount of putty and avoid smearing. Wipe area around putty application to remove any excess and residual oils. Paint/stain touch-up (also supplied on pre-finished units) can be applied over top of putty if needed/desired.

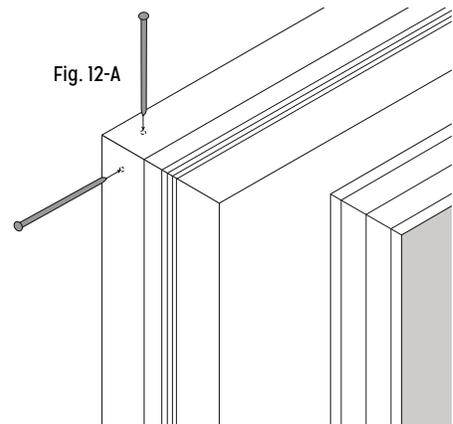


Fig. 12-A

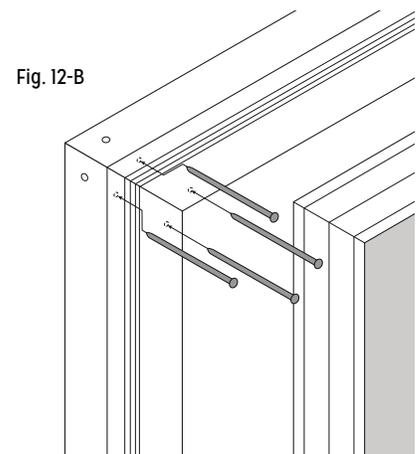


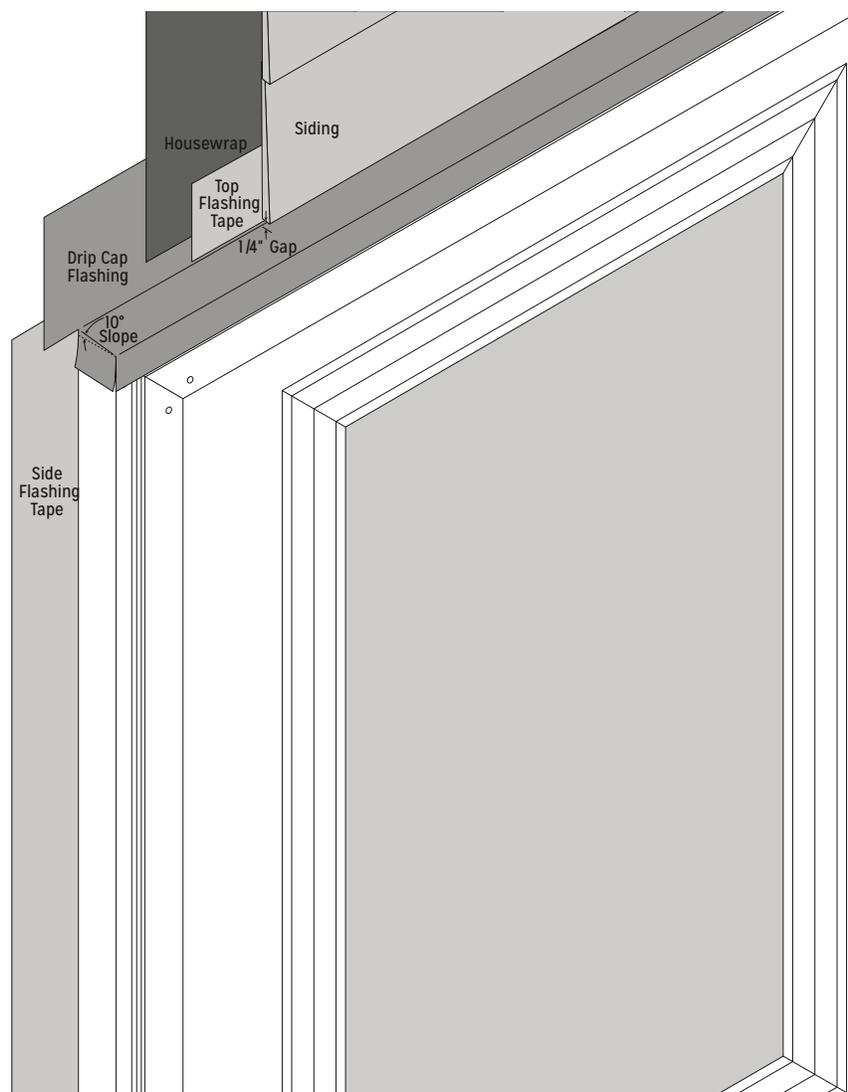
Fig. 12-B

# 13 COMPLETE HEAD FLASHING

## Step 13-1 Exterior Casing

- Once unit and trim are installed, head jamb flashing can be completed. Cut a metal drip edge 1" longer than length of head brickmould, if needed.
- Apply sealant to backside and bottom of drip edge.
- Pull house wrap flap up so that drip edge can be seated on head brickmould.
- House wrap should then be "shingled" over drip edge to ensure water cannot get behind it.
- Flashing tape should be applied horizontally over wrap and drip edge to hold everything together. Diagonal pieces on each corner complete this flashing detail (Fig. 13-A).

Fig. 13-A

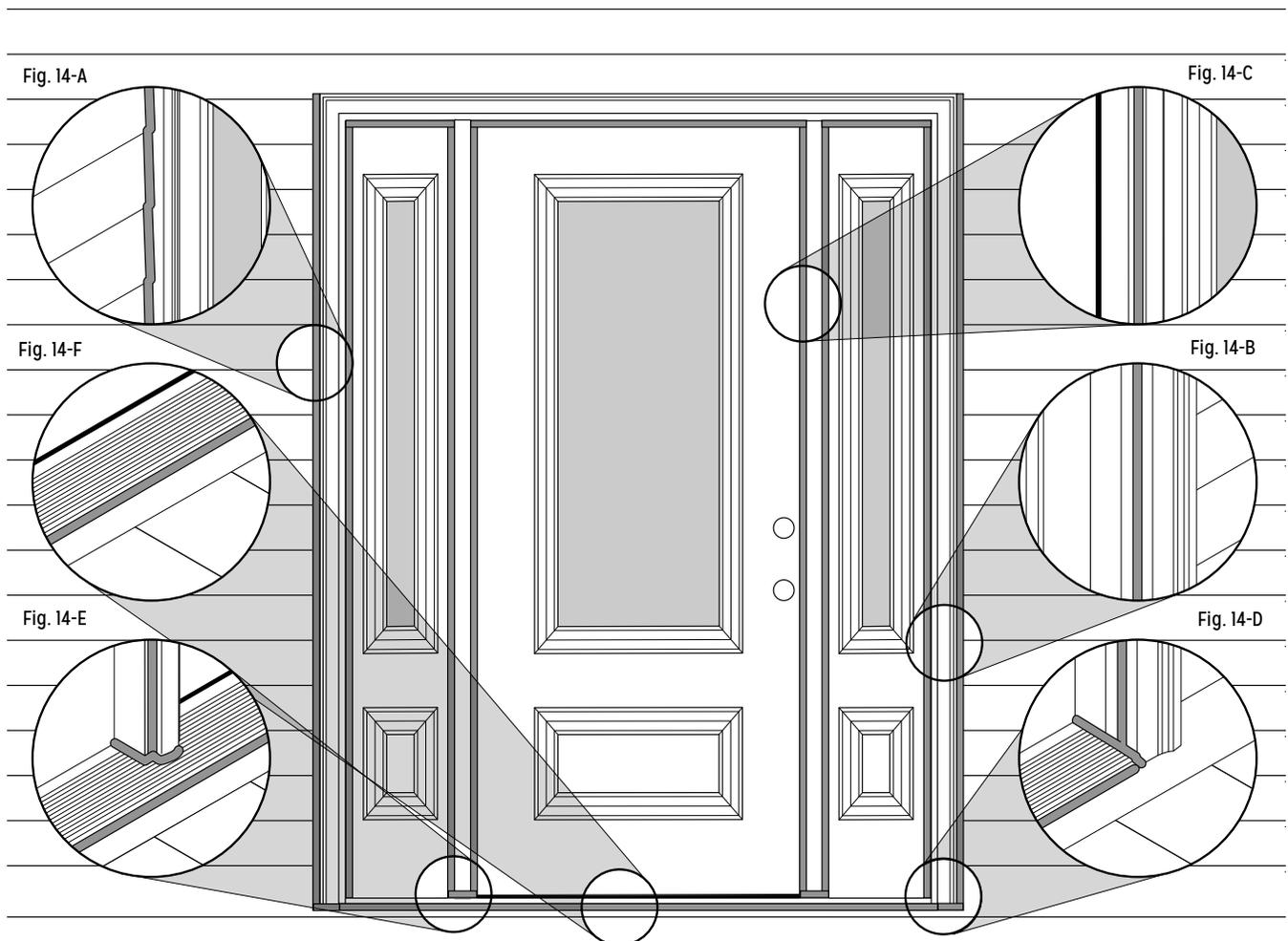


**Step 14-1 Caulking Exterior Trim**

- **Brickmould:** Apply exterior-rated sealant around perimeter where brickmould meets flashing material and house sheathing (Fig. 14-A).
- Apply sealant where interior of brickmould meets jamb edge (Fig. 14-B).
- **Mull Casing:** Apply sealant where mull casing meets jamb edge or mull (Fig. 14-C).

**Step 14-2 Caulking Sill Areas**

- **Sill Approach (applies to inswing and outswing):** Apply sealant at intersection of sloped aluminum face and bottom of jamb. Continue this bead of sealant up to adjustable threshold. These same areas should be sealed on sidelite and double door units (both sides) (Fig. 14-D).
- **Sill at Mull Post:** Caulk around mull post up to adjustable threshold (all sides) (Fig. 14-E).
- **Sill Leading Edge/Sill Nosing:** When not using a sloped sill pan, 1 bead of sealant should be applied just under sill nose where it meets with structure to prevent driving wind and rain (Fig. 14-F).

**Sealant Application Detail**

**Step 14-3 Sill Adjustment and Corner Pad Installation**

- **Inswing Sill:** Composite threshold should be adjusted to ensure proper sealing with bottom sweep. To test, put a 20# bond sheet of paper between door sweep and threshold, close door and pull. The correct adjustment will have slight tension, but if paper tears, tension is too high (Fig. 14-G).
- **Threshold Height Adjustment:** Use a putty knife to remove rubber covers. This will expose the screw which can be loosened to raise and tightened to lower (Fig. 14-H) and (Fig. 14-I).
- Replace screw cover.

Fig. 14-H

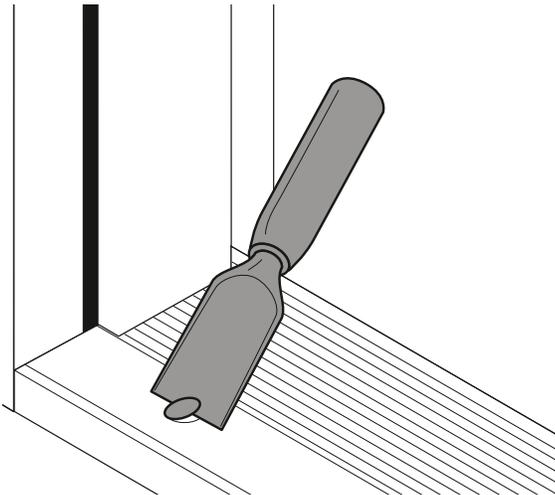


Fig. 14-G

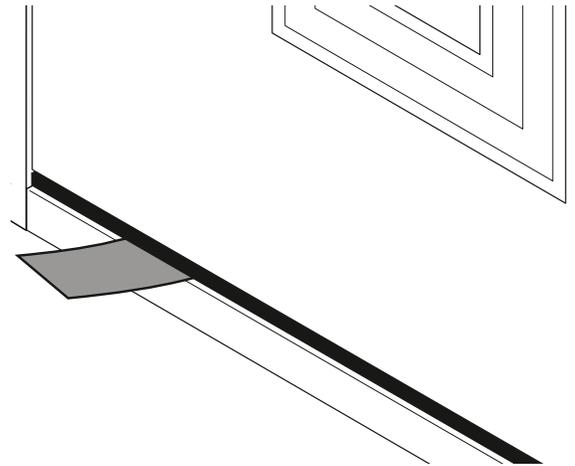
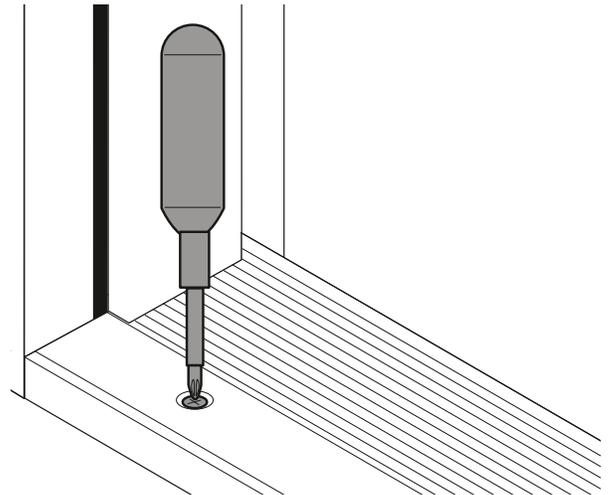
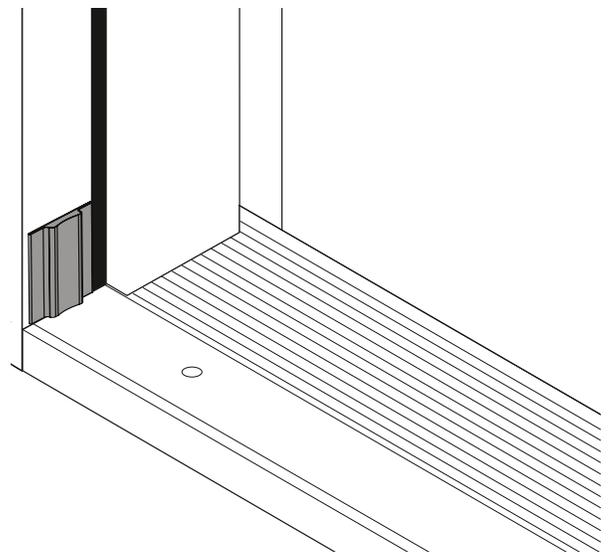


Fig. 14-I



- **Corner Seal Pad:** Remove paper backing, tuck the raised fin of the corner pad behind the weatherstrip and apply the pad to the jamb against the cap of the threshold. Repeat for other side (Fig 14-J).

Fig. 14-J



**Double Door Astragal Details (Fig. 15-A)**

- Reference instructions included with Astragal Field Pack.

**NOTE:** Head weatherstrip is field-modified to effectively seal active door at top corner.

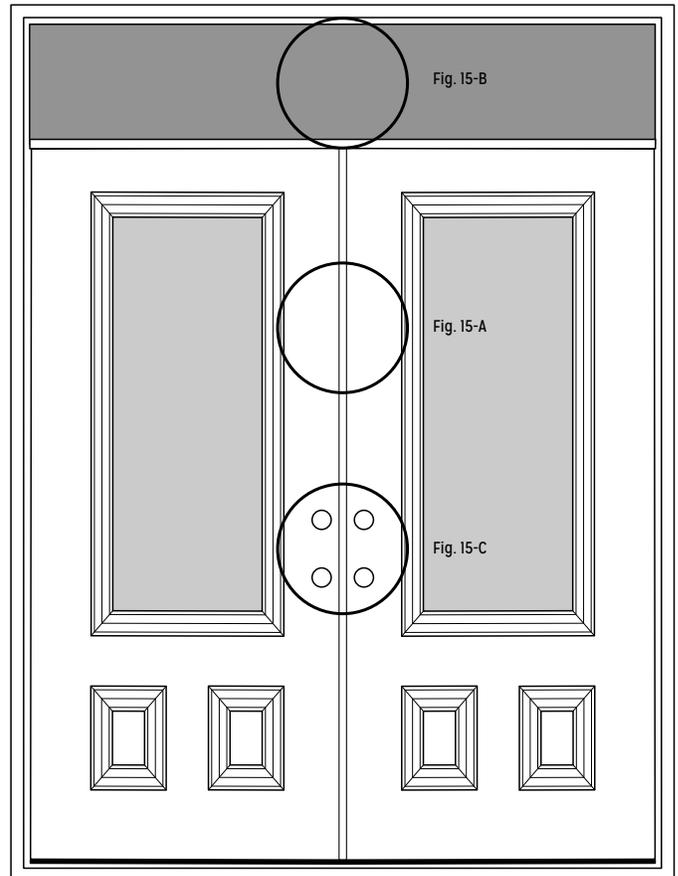
**Transom Installation (Fig. 15-B)**

- Match up door unit and transom to ensure width and depth match one another. If they are not exact, shimming or sanding may be necessary.
- Before mating transom to door unit, apply 2 beads of sealant along entire width between each unit. Place one near exterior and another toward interior. Be sure to account for squeeze out by placing bead back away from jamb edges.
- Press transom onto head jamb and use clamps to align units properly.
- From exterior (on an inswing): Use 2" screws to fasten down through transom into head jamb locating screw in between exterior edge of jamb and glass pane. Place screws 8" on center across entire width of unit, starting no more than 2" from each end.

See Step 12 for brickmould, mull casing and lattice attachment instructions.

**Multi-Point Lock Handle Set Installation (Fig. 15-C)**

- Reference instructions included in hardware box.



# IMPORTANT HOMEOWNER INFORMATION



## **MADERO WARRANTY INFORMATION**

Scan the QR code to download the warranty info, or find it under Technical Specs at [www.madero.ca/brochures](http://www.madero.ca/brochures)



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