Once there is an even 1/8" gap across the top of the door slab and the weatherstripping is evenly compressed along the height of the door slab, proceed with the installation.

Shim at points D, E and F on the perimeter of the frame (Figure 6), until there is an even 1/8" gap on both sides of the operating door slab.

Drive the supplied 2 1/2" installation screws, three on each exterior jamb of a fixed panel, through the exterior (stop) section part of the jamb, through the shims and into the studs. Note: If the door is factory-finished use the **"Factory-Finished Door System"** information for fastening through exterior jambs.

For units with two non-operable panels: Typically long security screws are used to install the dead bolt strike plate.

For units with only one non-operable panel attached on the latch side of the door: The second set of supplied screws are installed through the thin (rabbet) section of the jamb using the vacant hinge screw holes (Figure 7). Typically long security screws are used to install the dead bolt strike plate.

For units with only one non-operable panel attached on the hinge side of the door: The second set of supplied 2 1/2" screws are installed through the thin (rabbet) section of the jamb under the weatherstripping through the shim and into the stud approximately 8" from the top and bottom of the jamb (Figure 8). Shim just above and below the dead bolt hole and drive the supplied 2 1/2" installation screws through the dead bolt strike plate.

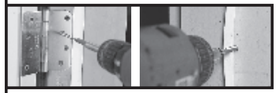


Figure 7 and 8: *The second set of supplied screws is installed in the vacant hinge holes or under the weatherstripping.*

✔ **When shims are properly installed, the frame should not move or twist at all when the screws are tightened and counter-sunk, thus maintaining the 1/8" gap. If there is any movement, loosen the screws and shim tighter to maintain the 1/8" gap, then re-tighten screws.**

Factory-Finished Door System: Because the inside of the jamb is not accessible, a 1/8" hole must be drilled through the factory-finished exterior jamb, 1/4" deep at all points where the door system is shimmed (three on each exterior side of a non-operable panel). Drive the supplied 2 1/2" installation screws, through the drilled hole in the exterior thick (stop) section of the jamb, through the shims and into the studs. Use the supplied caps to cover the holes in the exterior jamb.

STEP FOUR: *Install Dead Bolt & Strike Plates*

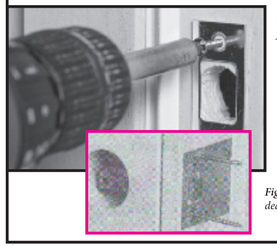


Figure 9 (left): *Screws fasten the latch plate to the door slab.*

Install the dead bolt strike plate at the correct location, per the manufacturer installation detail (Figure 9)

Figure 10 (left): *Screws should connect the dead bolt plate to the stud.*

STEP FIVE: *Insulate*

Score shims with a utility knife and snap the shims along the score. Trim any excess with the utility knife. Insulate around the top and sides of the door unit in the cavity between the jamb and the wall studs with fiberglass blanket insulation (Figure 11). Install the interior and/or exterior trim around the door.

+ **The use of expandable type foam is not recommended as it may cause the door jambs to warp; this may leave the door inoperable or push the brickmould away from the jamb.**

Figure 11 (left): *Insulate between the jambs and the wall studs all around the door.*

STEP SIX A: *Caulk Doorway*

+ **Caulk all four exterior corners and all around the brick or siding in the following sequence:**

- **caulk the sill on both latch and hinge sides from the edge of the sill crown along the edge where the sill and jamb or brick mould meet (Figure 12).**
- **caulk the front sill edge where the sill and the sub-floor meet (Figure 13).**
- **caulk the top corners where the header and jambs meet, starting at the weatherstripping and working to the face of the brick mould (Figure 14).**
- **caulk the perimeter where the exterior trim meets the brick or siding trim (Figure 15).**

Figures 12 and 13: *Caulk the sill crown and the front of the sill.*

Figures 14 and 15: *Caulk the jambs and the exterior trim.*

If the door is center-hinged or has a sidelight, caulk around the mullions where the mullions contact the sill and header.

STEP SIX B: *Adjust Sill*

Some door units are supplied with adjustable sills, and these may be raised or lowered to form a tight seal with the fixed sweep on the bottom of the door. This adjustment requires a screwdriver with appropriate screw bit. To increase the height of the sill cap, turn the sill screws counter-clockwise. To decrease the height of the sill cap, turn the sill screws clockwise (Figure 16 next page).

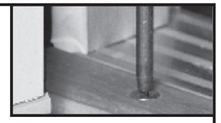
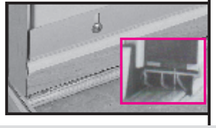


Figure 16 (right): *Raise or lower the sill by adjusting the sill screws. Some sills may have covers over the adjusting screws. These covers must be removed prior to making any adjustments.*

STEP SIX C: *Adjust Sweep*

Figure 17 (right): *U-channel sweeps are adjustable to form a tight seal with the sill.*

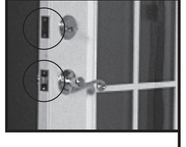
Some door units are supplied with a U-channel adjustable sweep and these may be raised or lowered to form a tight seal with the fixed sill. To adjust the sweep, loosen the screws that hold the sweep far enough to create an airtight seal with the sill. Once the sweep is positioned properly, tighten the screws by hand, taking care not to over-tighten (Figure 17).



STEP SEVEN: *Install the Latch & Dead Bolt*

Figure 18 (right): *The latch and dead bolt are installed per the hardware manufacturer installation detail.*

Note: *Units intended for installation in high velocity windstorm region requires specific grade of latching hardware.*



Steps to Test Threshold Seal

1. Close door on a piece of paper placed over the threshold.
2. Pull paper between the sweep of the door and the threshold.
3. If the threshold is properly adjusted, you should feel some tension, but if the paper tears, the door's seal is too tight. If there is no tension on the paper, the door's seal is too loose.

How to properly adjust the threshold seal if it is too tight.

1. Adjust rail by tightening all screws (turn clockwise) 1/2 turn.
2. Repeat seal test. If paper does not slide beneath door with a feeling of tension, repeat step. Re-test seal.
3. Continue testing threshold until it is properly adjusted.

How to properly adjust the threshold seal if it is too loose.

(WARNING: Do not increase height by more than 1/4")

1. Adjust rail by loosening all screws (turn counter-clockwise) 1/2 turn.
2. Repeat seal test. If paper does not slide beneath door with a feeling of tension, repeat step. Re-test seal.
3. Continue testing threshold until it is properly adjusted.

Fargo Glass and Paint Co.

SIDE-HINGED DOOR UNIT INSTALLATION INSTRUCTIONS

Some dwelling designs/conditions may require special installation steps.
Consult your architect, design professional and/or product manufacturer for additional guidance.

Required Tools & Materials

- Safety Glasses
- Gloves
- Claw Hammer
- Measuring Tape
- 24" to 48" Construction Level
- 24" Framing Square
- Power Screw Gun with various screw bits
- Corner Seals
- Screw Driver with various screw bits
- Wedge Shaped Shims
- Caulking Gun
- Paint Grade Exterior Caulk (latex, silicone, or butyl)
- 2 1/2" Wood Screws
- Fiberglass Blanket Insulation
- Latch Edge Filler Plate (not required for all models)
- Finish Nails suitable for attaching interior and exterior trim

+ **CRITICAL POINT: Although all steps are critical, this symbol identifies procedures requiring extra attention**

✔ **CHECK YOUR WORK: This symbol identifies when the work should be checked for correctness before continuing with installation**

PLEASE NOTE: Failure to install this unit in accordance with architect, design professional or product manufacturers instructions will have a direct effect on the units performance and/or long term wear. Installer shall be experienced in performing work required and shall be specialized in installation work similar to that required for this project. Warranty claims are subject to site inspections by a qualified manufacturer's representation to establish probable cause and proposed corrective action.

STEP ONE: *Prepare Rough Opening*

A clean, level, solid sub-floor area is essential to successful installation.

1

Ensure that the following conditions are met:

+ *CLEAN, CLEAR WORK AREA*
  - The rough opening (RO) is ideally 1" wider and 1/2" taller than the outside frame dimensions of the door unit. Units intended for installation in high velocity wind storm markets require less clearance between unit and RO (1/4" sides & top)
  - The RO is plumb, square and level
  - The old door frame has been completely removed in retro-fit installation
  - The sub-floor area is clean, dry and level
  - The existing sub-floor area is at least 6" deep for 4-9/16" frames and at least 8" deep for 6-9/16" frames
+ **Because a solid, level sub-floor is absolutely essential for proper door unit installation, do not proceed with the installation until the sub-floor is both solid and level**

STEP TWO: *Caulk the Sub-Floor*

Caulk is applied in three parallel lines running the width of the sill.

2

+ **Variations in threshold design may require that the caulk lines be applied directly to the bottom of the door unit to ensure a necessary weather-seal. Inspect the bottom of door unit to confirm it features a flat surface before caulking the sub-floor area.**

  Apply three 1/4" lines of caulk along the length of the sub-floor, the first line starting approximately 1" from the inside edge. The lines should be about 1" apart.

STEP THREE A: *Shim and Fasten*

For Single Doors

3A

+ **Stand on the inside of the door and center the door in the opening. Shim tightly at the bottom corners of the door unit (Points A in Figure 1 below)**

  This will keep the door centered and the frame tight against the sill. Shim the top of the door on the latch side (Point B in Figure 1below). Install shims until there is a consistent 1/8" gap between the top of the door slab and the frame header.

  Shim the hinge-side of the frame (Point C in Figure 1 below). This will hold the door tight in its position relative to the frame. The door should operate freely with nothing but shims holding it in place.

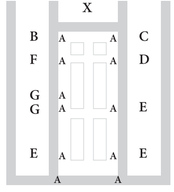


Figure 1 (left): *Install the shims in the correct locations and in the correct sequence.*
Note: *Units intended for installation in high velocity windstorm regions may require additional points of attachment.*
Caution: *Do not open door panel greater than 30 degrees until 2 1/2" screws have been installed. (Points D, E, F, and G in Figure 1).*

✔ From the outside and with the door closed, ensure that the frame is in a straight vertical plane (not twisted). To do this, check that the weather-stripping on the latch side is evenly compressed along the entire height of the door slab without any pinching or gaps (See image below).

+ **Ensure that there is an even gap across the top of the door slab.**

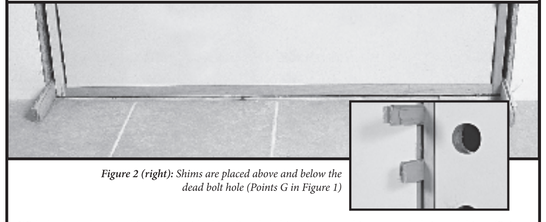
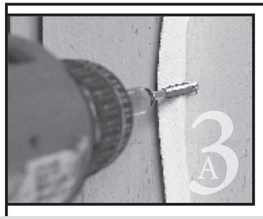


Figure 2 (right): *Shims are placed above and below the dead bolt hole (Points G in Figure 1)*

With the door closed and from the inside shim directly behind the vacant hinge screw hole in each hinge (Points D and E in Figure 1) until there is a consistent 1/8" gap between the hinge-side jamb and the door slab edge along the entire height of the door. Gap between the latch-side jamb and the door slab edge should be 1/8" at the top and bottom of the door **only**. Drive one of the 2 1/2" screws supplied through the vacant hole in each hinge, through the jamb, shims and into the stud or rough buck.

✔ **When the shims are properly installed, the frame should not move or twist at all when the screws are tightened and counter-sunk thereby maintaining the 1/8" gap. If there is any movement, loosen the screws and shim tighter to maintain the 1/8" gap, then re-tighten the screws.**



3A

Figure 3 (left): *Install screws underneath the weatherstripping.*

Shim behind the latch-side jamb (Points F in Figure 1) approximately 8" from the top and bottom of the frame. Install shims until there is an even 1/8" gap between the jamb and the edge of the door slab along the door. Shim behind the latch-side jamb (Point G in Figure 1) just above and below the dead bolt hole, maintaining the 1/8" gap (Figure 2). Pull the weatherstripping away from the jamb (Points F on Figure 1) and screw 2 1/2" installation screws (by others) through the jamb and shims into the stud (Figure 3).

STEP THREE B: *Shim and Fasten*

Double doors with concealed top and bottom flush bolts.

For Double Doors

3B

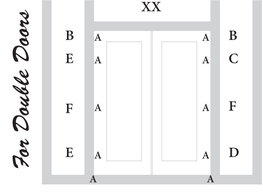


Figure 4 (left): *Install the shims in the correct locations and in the correct sequence.*
Note: *Units intended for installation in high velocity windstorm regions may require additional points of attachment.*
Caution: *Do not open door panel greater than 30 degrees until 2 1/2" screws have been installed. (Points C, D, E, and F in Figure 4).*

+ **Stand on the inside of the door and center the door in the opening. Shim tightly at the bottom of the unit (Points A in Figure 4).**

This will keep the door centered and the frame tight against the sill. Shim the top of the frame (at Point B in Figure 4). Install shims until there is a 1/8" gap between the top of the door slabs and the frame header. This will hold the door tight in its position relative to the frame. The door should operate freely with nothing but shims holding it in place.

Figure 5: *Correct sagging until the flush bolt slides freely into the pre-drilled hole (not typical of most units) in the head/threshold.*

Door panels with glass inserts may sag toward the center. This is normal. To correct sagging, align the flush bolts on the fixed door with clearance in the header and sill. Most units do not have pre-drilled holes in the header and sill. Holes must be drilled. Slide top flush bolt up against header and bottom bolt down against threshold to mark. Mark where bolts make contact with header and sill with pencil. Drill holes on marks to receive bolts (1 1/2" deep minimum). Once holes are drilled, close panel and engage bolts making sure they extend far enough to secure unit. If there is a gap between the threshold and weatherstrip, block around the foot bolt, the hole is not deep enough (the weatherstrip must touch the threshold to properly seal the unit). Shim tightly behind the vacant hinge screw hole in the bottom hinge (Point C in Figure 4) until the lower flush bolt slides freely into the clearance hole in the sill. Secure the door by driving a 2 1/2" installation screw supplied, through the hinge and jamb and into the stud. If the flush bolt does not slide freely, loosen the screw, shim more tightly and then tighten the screw.

3B

Shim behind the vacant hinge screw hole in the top hinge (Point D in Figure 4) to align the top flush bolt with the clearance hole in the header (Figure 5). Secure with the 2 1/2" installation screw supplied, through the hinge jamb and into the stud.

✔ **From the outside and with the door closed, ensure that the frame is in a straight vertical plane (not twisted). To do this, check that the weatherstripping on the astragal side is evenly compressed along the entire height of the door slab without any pinching or gaps.**

Standing on the inside, shim behind each of the vacant hinge screw holes in both the top and bottom hinge on the operating door (Points E in Figure 4) until there is a consistent 1/8" gap along the entire height of the door between the operating door and the passive door. There should also be a 1/8" gap between the top of each door slab and the header. When shims are properly installed, the frame should not move or twist when the screws are tightened and counter-sunk, this maintaining the 1/8" gap. If there is any movement, loosen the screws and shim tighter to maintain the 1/8" gap, then retighten the screws.

Install two 2 1/2" screws along the head jamb of double door systems for additional reinforcement. Screws should be installed above center of each panel. (Figure 5).

Using the supplied 2 1/2" installation screws, drive a screw through the vacant holes in both the top and bottom hinge on the operating door (Points E in Figure 4), through the jambs and into the stud.

Shim behind the vacant hinge screw holes in each of the center hinges (Points F in Figure 4) and secure using the supplied 2 1/2" installation screws.

STEP THREE C: *Shim and Fasten*

For Doors with Sidelights

3C

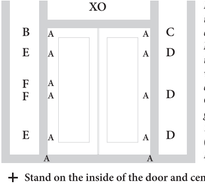


Figure 6 (left): *Install the shims in the correct locations and in the correct sequence.*
Note: *Units intended for installation in high velocity windstorm regions may require additional points of attachment.*
Caution: *Do not open door panel greater than 30 degrees until 2 1/2" screws have been installed. (Points B, C, D, E, and F in Figure 6).*

+ **Stand on the inside of the door and center the door in the opening. Shim tightly at the bottom corners of the door unit (Points A in Figure 6)**

This will keep the door centered and the frame tight against the sill. Shim the top of the door on the latch side (Point B in Figure 6). Install shims until there is a consistent 1/8" gap between the top of the door slab and the frame header.

Shim the hinge-side of the frame (Point C in Figure 6). This will hold the door tight in its position relative to the frame. The door should operate freely with nothing but shims holding it in place.

✔ **From the outside and with the door closed, ensure that the frame is in a straight vertical plane (not twisted). To do this, check that the weather-stripping on the latch side is evenly compressed along the entire height of the door slab without any pinching or gaps.**