

MILGARD®

AX450
Stacking
**Installation
Instructions**

MOVING GLASS WALLS



Things to Know Before You Start

INSTALLATION PREPARATION

Multi-slide doors are custom manufactured specific to each application. Prior to installation it is important that you carefully review and understand the installation instructions and any drawings supplied. MILGARD fenestration products should only be installed by experienced and qualified installation professionals. Failure to follow these instructions may result in poor performance; including, but not limited to operation, security, and weatherproofing failures which may void MILGARD warranties.

PRODUCT HANDLING AND STORAGE

This is a finished product that must be protected before, during, and after installation to prevent damage to the glass, frame, finish, and hardware.

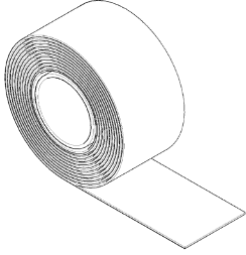
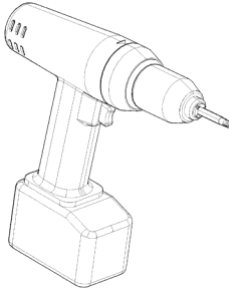
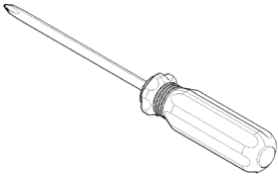
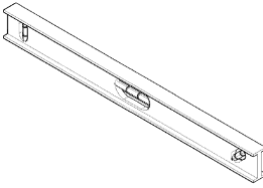

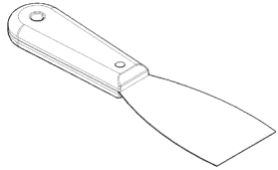
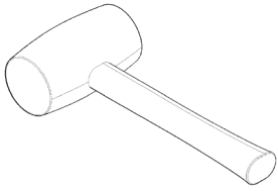
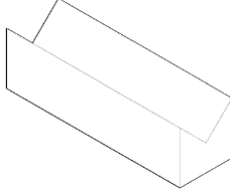
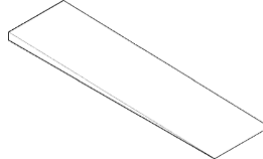
Door panels should be stored in a dry location that is protected from the elements. Wet packaging can cause damage to product finishes. If the packaging becomes wet immediately replace it with dry packaging. Door panels should be stored and transported upside down and should not be dropped or dragged from the delivery truck to avoid damage to the bottom rails.

COMPONENTS

The components supplied will vary depending on the configuration you are installing. Before proceeding with the installation, inspect the components to become familiar with them and confirm that there is no damage that will affect the appearance or performance of the installed product. Damaged or missing parts should be reported to your supplier immediately.

Things to Know Before You Start

OTHER TOOLS AND PRODUCTS NECESSARY FOR INSTALLATION





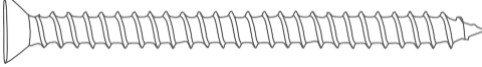
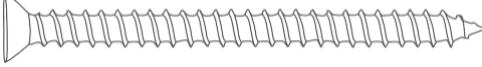

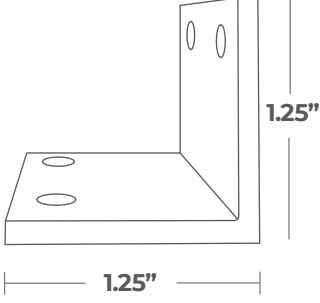
 <p>FLASHING MEMBRANE</p>	 <p>SEALANT Compatible with flashing membrane</p>	 <p>IMPACT DRIVER With #2 Phillips bit</p> <p>DRILL With 6" long 9/64" drill bit</p> <p>HAMMER DRILL With 1/4" bit (only required for masonry installation)</p>	
 <p>#2 PHILLIPS SCREWDRIVER</p>	 <p>LEVELS OF VARIOUS SIZE/LASER LEVEL</p>	 <p>PRY BAR</p>	 <p>PUTTY KNIFE</p>
 <p>DEAD BLOW RUBBER MALLET</p>	 <p>PLASTIC BLOCK</p>	 <p>SHIMS*</p>	

*Except in circumstances where a particular shim type is specified by applicable building codes – either wedge shims or horseshoe shims may be used. Shimming must be even across the door unit. Each shim must be long enough to cover the full width of the door frame from front to back.

Things to Know Before You Start

OTHER TOOLS AND PRODUCTS NECESSARY FOR INSTALLATION





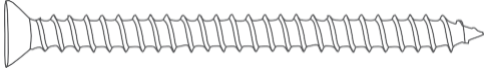
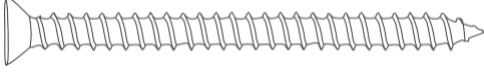

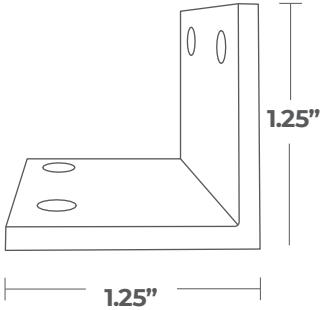
2XO/O2X-VOLUME PROGRAM

	<p>F5104SSS - Jamb Assembly Fastener #12 x 1" Pan Head Phillips SMS Type A 18.8SS</p>	<p>Qty: 10</p>
	<p>F5000SSS - Fixed Anchor 1 #8 x ½" Self Drilling Pan Phillips Tek 410SS</p>	<p>Qty: 4</p>
	<p>F5011SSS - Fixed Anchor 2 #8-18 x 1-¼" Phillips Oval Head Tek 410SSS</p>	<p>Qty: 4</p>
	<p>F5008SSS - Fix Panel Security Screw #8 x ¾" Flat Head Phillips Tek 410SS</p>	<p>Qty: 4</p>
	<p>F5014SSS - Head and Sill Anchor #10 x 2-½" Flat Head Phillips SMS 18.8SS</p>	<p>Qty: 40</p>
	<p>F5014SSS - Strike Security Screw #10 x 2-½" Flat Head Phillips SMS 18.8SS</p>	<p>Qty: 1</p>
	<p>F458 - Anchor Plug #10 - #12 x 1-½" Fluted Plug Anchor Plastic</p>	<p>Qty: 2 x (Frame width/16)</p>
	<p>H623 - Fixed Anchor Plate (Black Only)</p>	<p>Qty: 1</p>

Things to Know Before You Start

OTHER TOOLS AND PRODUCTS NECESSARY FOR INSTALLATION

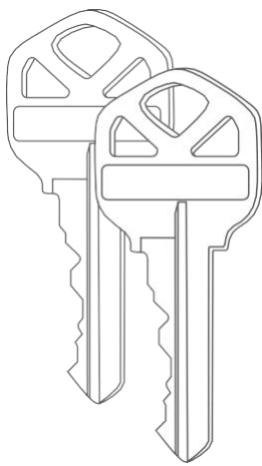
3XO/O3X-VOLUME PROGRAM

	<p>F5104SSS - Jamb Assembly Fastener #12 x 1" Pan Head Phillips SMS Type A 18.8SS</p>	<p>Qty: 10</p>
	<p>F5000SSS - Fixed Anchor 1 #8 x 1/2" Self Drilling Pan Phillips Tek 410SS</p>	<p>Qty: 4</p>
	<p>F5011SSS - Fixed Anchor 2 #8-18 x 1-1/4" Phillips Oval Head Tek 410SSS</p>	<p>Qty: 4</p>
	<p>F5008SSS - Fix Panel Security Screw #8 x 3/4" Flat Head Phillips Tek 410SS</p>	<p>Qty: 4</p>
	<p>F5014SSS - Head and Sill Anchor #10 x 2-1/2" Flat Head Phillips SMS 18.8SS</p>	<p>Qty: 50</p>
	<p>F5014SSS - Strike Security Screw #10 x 2-1/2" Flat Head Phillips SMS 18.8SS</p>	<p>Qty: 1</p>
	<p>F458 - Anchor Plug #10 - #12 x 1-1/2" Fluted Plug Anchor Plastic</p>	<p>Qty: 3 x (Frame width/16)</p>
	<p>H623 - Fixed Anchor Plate (Black Only)</p>	<p>Qty: 1</p>

HANDLE OPTIONS

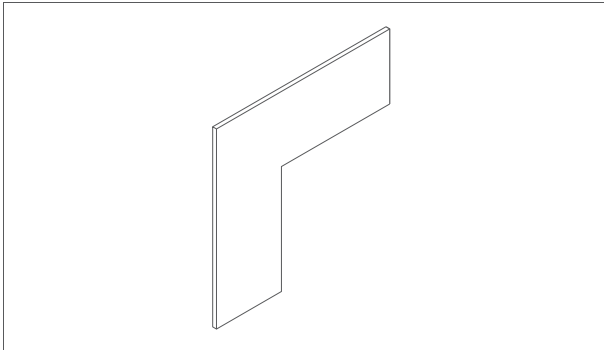
	<p>H444.3SS - Flush(Handle) Strike Plate</p>	<p>Qty: 1</p>
	<p>H446.1 - Premium Handle</p>	<p>Qty: 1</p>
	<p>H444.6SSS - Premium Handle Strike Plate</p>	<p>Qty: 1</p>

KEY OPTIONS

	<p>Note: When the keyed lock option is selected for either the flush handle or premium handle set, the key location is as follows:</p>	
	<p>Flush Handle: Two keys are provided. Both keys will be bubble wrapped and inserted into the flush handle recess and secured with Tessa Tape.</p>	<p>Qty: 2</p>
	<p>Premium Handle set: Two keys are provided. Both keys are placed in the box which contains the premium handle set.</p>	<p>Qty: 2</p>

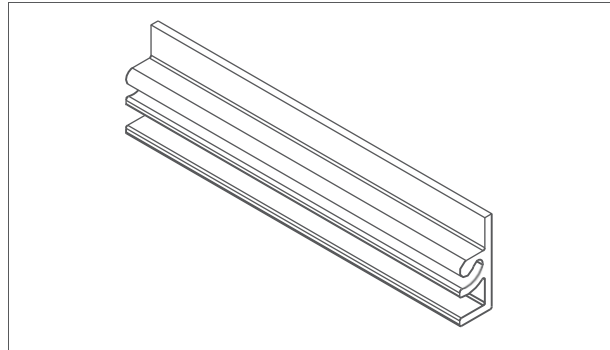
STUCCO KEY OPTIONS - 2XO/O2X & 3XO/O3X

	<p>F5088SSS - Secure Head to Jamb #8 x 3/4" Pan Head Phillips SMS 18.8SS</p>	<p>Qty: 2</p>
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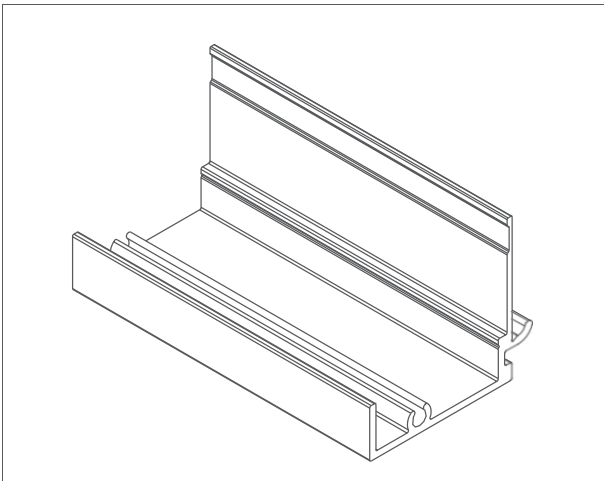
**H231M Continuous/
California Corner**

Qty: 2



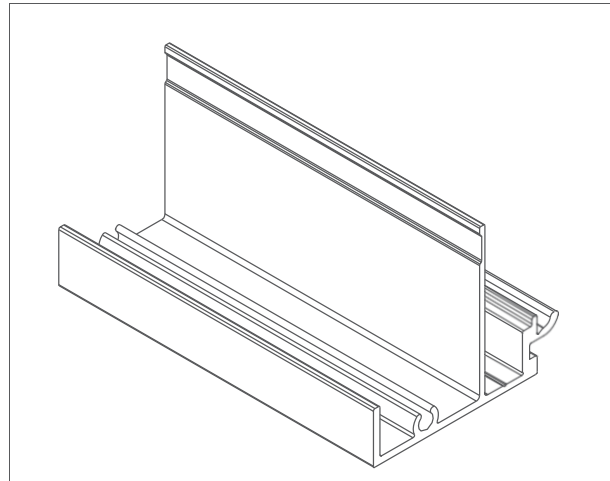
**E670 - Sheet Rock Return
(2 - Jamb, 1 - head)**

Qty: 3



**E671 - 13/8" Stucco Return
(2 - Jamb, 1 - head)**

Qty: 3



**E673 - 1" Stucco Return
(2 - Jamb, 1 - head)**

Qty: 3

WEATHER PROOFING

Rough opening must be waterproofed in accordance with AAMA Installation Masters standards, flashing and sealant manufacturer instructions and meet all local building codes.

FRAME INSTALLATION COMPONENTS

Each door will have a Head Track Assembly, a Threshold Track Assembly, and a Locking/Fixed Jamb Assembly.

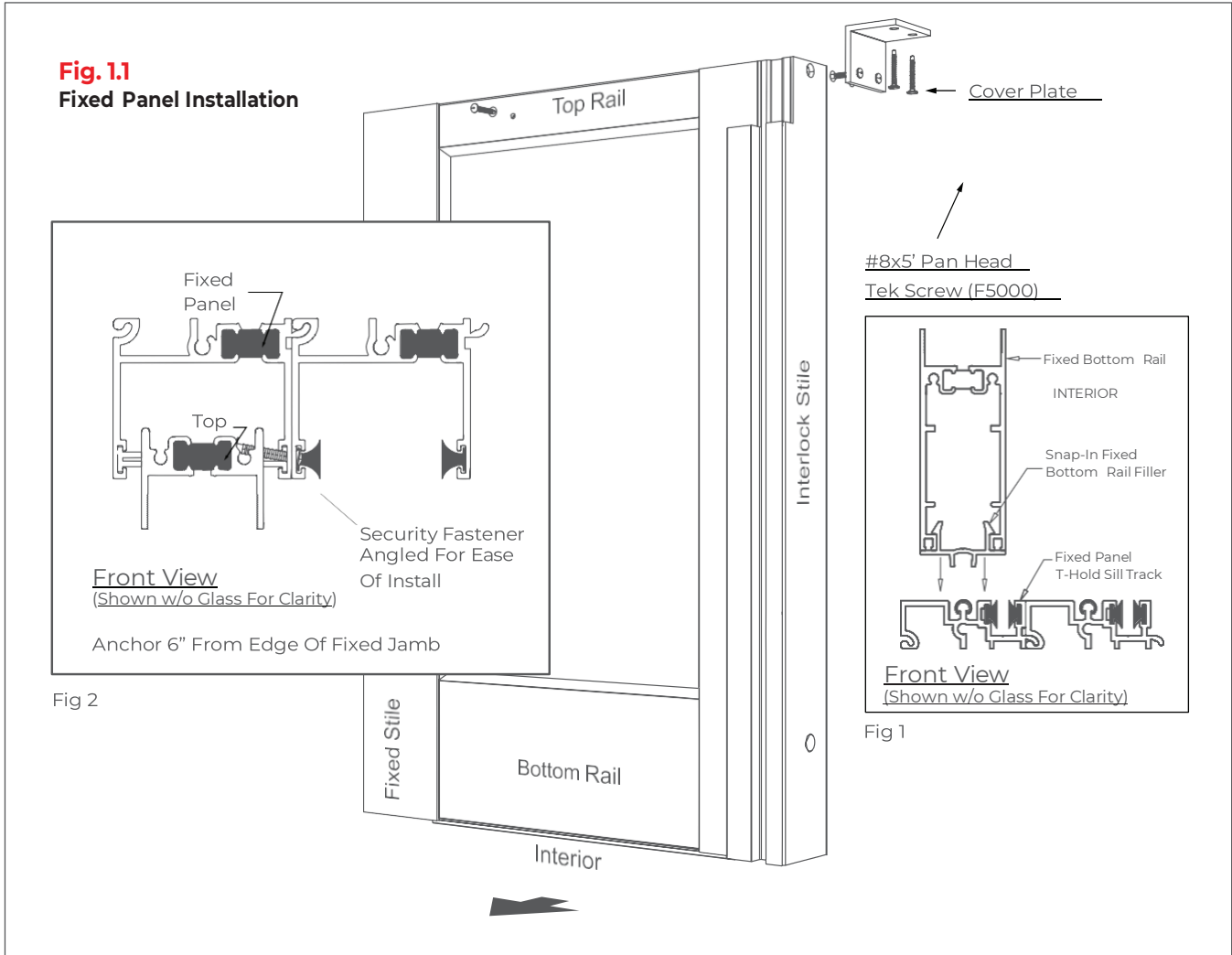
Step 1 - Frame Installation

1. Refer to the drawings supplied and inspect the rough opening carefully to ensure it has been prepared correctly to accept the configuration and size you are installing.
2. If the floor condition is wood, it must be protected with an appropriate flashing or waterproofing material prior to door frame installation.
3. Check the floor to see that it is flat and level. If the floor varies more than .0625" (1/16") per foot or a total of .25" (1/4") over the entire width of the opening, it must be corrected before proceeding with installation.
4. Determine the top inside of the threshold assembly by holes in the weather strip channel. Position the threshold on the floor in the approximate location and make sure the inside edge of the threshold is properly aligned with the structure.
5. Using a quality sealant, butter the corner connection and fit both sections together using the angle clips as a guide. Measure for a true 90-degree angle and verify reveals at both jambs. Fastened together at angle clips and using #8 x 1/2" flat head screws at pre-drilled locations.
6. Inspect the threshold assembly where it meets the surface of the floor. Check for, and mark, any gaps that will need to be filled or shimmed prior to final anchoring. The final installation must result in the threshold being level and supported continuously for proper operation.
7. Once you are satisfied that the threshold assembly is in the correct location, carefully inspect the header above to confirm that the head assembly can be installed directly above it at the proper height. Mark the inside edge full length, and across each end sufficient to locate the inside corners. There are installation holes in the weather-stripped channel of each additional track that align with the countersunk holes. Beginning with the holes in the inside track, mark the floor through each hole. Remove the threshold assembly from the opening.
8. If the floor condition is concrete, drill .25" (1/4") installation holes at each marked location approximately 2" deep and insert one of the green plastic anchor plugs supplied. NOTE: If you choose to drill the installation holes through the threshold assembly in lieu of drilling them after it is removed, it is important to vacuum all of the debris from the weather-stripped channel to avoid contamination of the weather-stripping and roller assemblies.
9. If the floor is wood with flashing or waterproofing, apply a generous amount of the appropriate sealant at each mark where the installation screws will penetrate the flashing.

10. Apply a .50" (1/2") wide by .50" (1/2") high bed of sealant on the floor along the exterior side of the mark, from jamb to jamb and from the inside corners across the end to the outside edge of where the threshold assembly will be. Also run a full bead of sealant at the 90-degree corner point from inside the track to the outside. Inspect the sealant carefully to ensure that a complete water barrier has been accomplished across the full width of the opening.
11. Using the marks on the floor set the threshold assembly back in place. Shim as required and proceed with anchoring. Use #10 X 2.5" flathead countersunk screws, finished to match the frame color, to anchor the inside track, and #10 X 2.5" zinc plated flathead screws in the weather-stripped channels.
12. Using a quality sealant, butter the corner connection and fit both sections together using the angle clips as a guide. Measure for a true 90-degree angle. Fasten together at angle clips using #8 x 1/5 pan head screws at predrilled locations.
13. Inspect the opening header to confirm that it is ready to receive the door head assembly and that there is sufficient backing for anchoring. Based on the net frame height shown on the shop drawings, determine if additional material needs to be added to the header to minimize shimming.
14. Using a plumb bob, project a sufficient number of points onto the structure above to locate the head assembly directly above the threshold assembly. Carefully raise the head assembly into position and temporarily anchor using #10 X 2.5" flat head screws, finished to match the frame color, through the predrilled holes, sufficient to hold it safely.
15. Seal the pre-drilled hole/s in the threshold end plates using Dow Corning 795 silicone, or equal. Raise or lower the head to align the holes in the jamb with the holes in the end plates and anchor using #12 X 3/4" and #12 X 1 1/4" flat head countersunk screws. Shim the lock jambs as required to ensure they will be plumb and anchor to the structure through the additional holes using #10 X 2.5" flat head screws finished to match the frame color.
16. Complete the jamb assembly by placing the jamb filler into the jamb and with a non-marring mallet and lightly tap it into place.
17. Complete the anchoring of the head assembly to ensure that it is flat, level and parallel with the threshold.

Step 2 - Panel Installation

1. Locate and remove the black foam blocks from the head channels. The blocks are approximately 1" X 1" X 1.75", and there will be one in each channel. Set them aside temporarily, they will be reinstalled when the panel installation is complete.
2. Each panel will be marked with the unit number, and a panel letter, lettered from left to right as viewed from the outside.
3. Locate the lead panel. If you are installing a door that is bi-parting, there will be two lead panels. The active panel, the one that contains the lock mechanism, will be installed first on the left side of the extreme inside track. If the door has only one lead panel, it will be installed on the extreme inside track on the appropriate side depending on the configuration of the door you are installing. From the outside of the building, with the bottom rail vinyl to the outside, lean the top of the panel in and insert it into the extreme interior head track and lower it onto the threshold. Using a medium size Phillips screwdriver through the middle hole at the bottom of each stile adjust the rollers to achieve a dimension of approximately .375" (3/8") from the bottom of the stile to the top surface of the threshold. Roll the panel towards the lock jamb to view the vertical gap between the panel and jamb. Make final roller adjustments so the gap is consistent from top to bottom.
4. Locate the lettered panel that is to be installed directly adjacent to the lead panel. From the outside of the building, with a portion of the panel overlapping the interlocker of the lead panel, insert the top into the next head track and lower onto the threshold. Repeat the same process with the remaining panels. Temporarily adjust the rollers on the active panels so that they roll freely.
5. If the door has fixed panels, they will go in last. Position the adjacent rolling panel to allow the fixed panel to overlap it when the jamb stile of the fixed panel is within a few inches of the fixed jamb. Insert the top of the fixed panel into the outside head channel and swing the bottom in until the panel is vertical and lower on the surface of the threshold. The fins protruding from the bottom of the fixed panel will align the panel (see fig1). Lift the interlock side of the panel slightly to avoid scratching the threshold and slide it all the way into the fixed jamb. After completing all door adjustments, install a #8 X .75" self-tapping screw into the head and through the top rail of the panel as indicated on Page 5 (see fig 2). The self-tapping screw should penetrate the head through the weather-strip channel and angle upward to penetrate the top rail of the panel. Position this anchor point approximately 6" from the edge of the fixed jamb. It may prove beneficial to drill 1/8" hole into the weatherstrip channel prior to running the self-tapping screw into the top rail of the panel. See Fig. 1.1.



6. Make final adjustments to the panel rollers to achieve the optimum alignment throughout the entire door.
7. Adjust the strike plate on the lock jamb by loosening the two machine screws and moving it up or down until the lock engages fully when actuated. Once the strike plate is adjusted, anchor it to the structure using a #10 X 2.5" flat head screw through the counter sunk center hole provided. To remove excessive slack, open the sliding panel and adjust the lock using the slotted adjusting screw in the center of the lock.
8. With the door in the fully closed position, from the exterior of the building, reinstall the black foam blocks (from instruction #15) up into the head channels against the small rubber bumper to close the head channel gap above the panel.
9. If the door is being installed with a Premium Handle set, the panel bumper included in the hardware kit will need to be added to the lead panel to prevent the handle set from contacting the second operating panel. Locate the predrilled 7/32" X 3/8" deep hole on the exterior of the bottom rail. Match panel bumper set pin to this hole. Locate and drill 1/8" X 1" deep hole for the attachment screw. Run set screw into this hole. Insert black bump stop into the aluminum housing. Should the panel be received without the predrilled location hole, simply cut out the template provided with installation instructions and use to properly locate the required holes. See Fig. 2.1 & 2.2.

NOTE: Hole locations are critical in avoiding damage to glass and hardware.

Fig. 2.1
Panel Bumper
Installation

These drawings are for
identification purposes only.
Do not use for production runs.

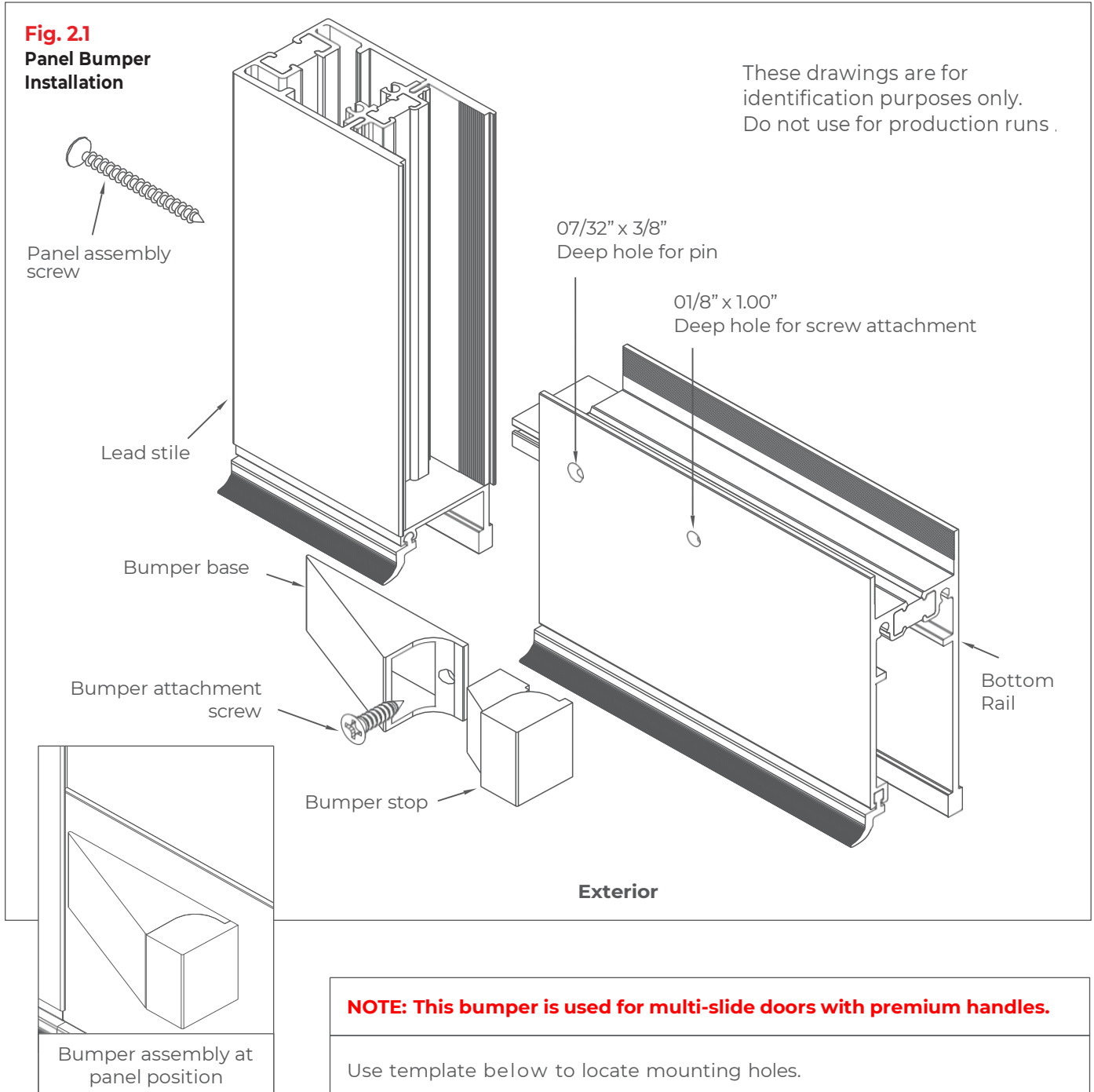
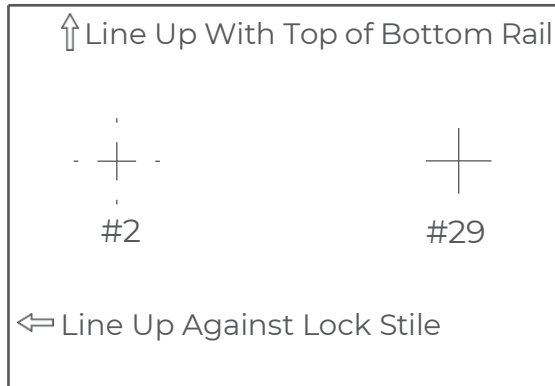
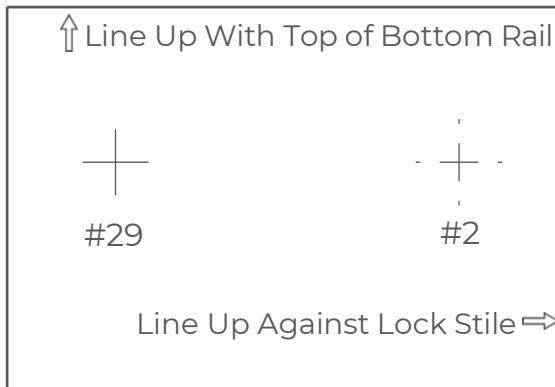


Fig. 2.2
Panel Bumper
Installation
Templates



XO CONFIGURATION



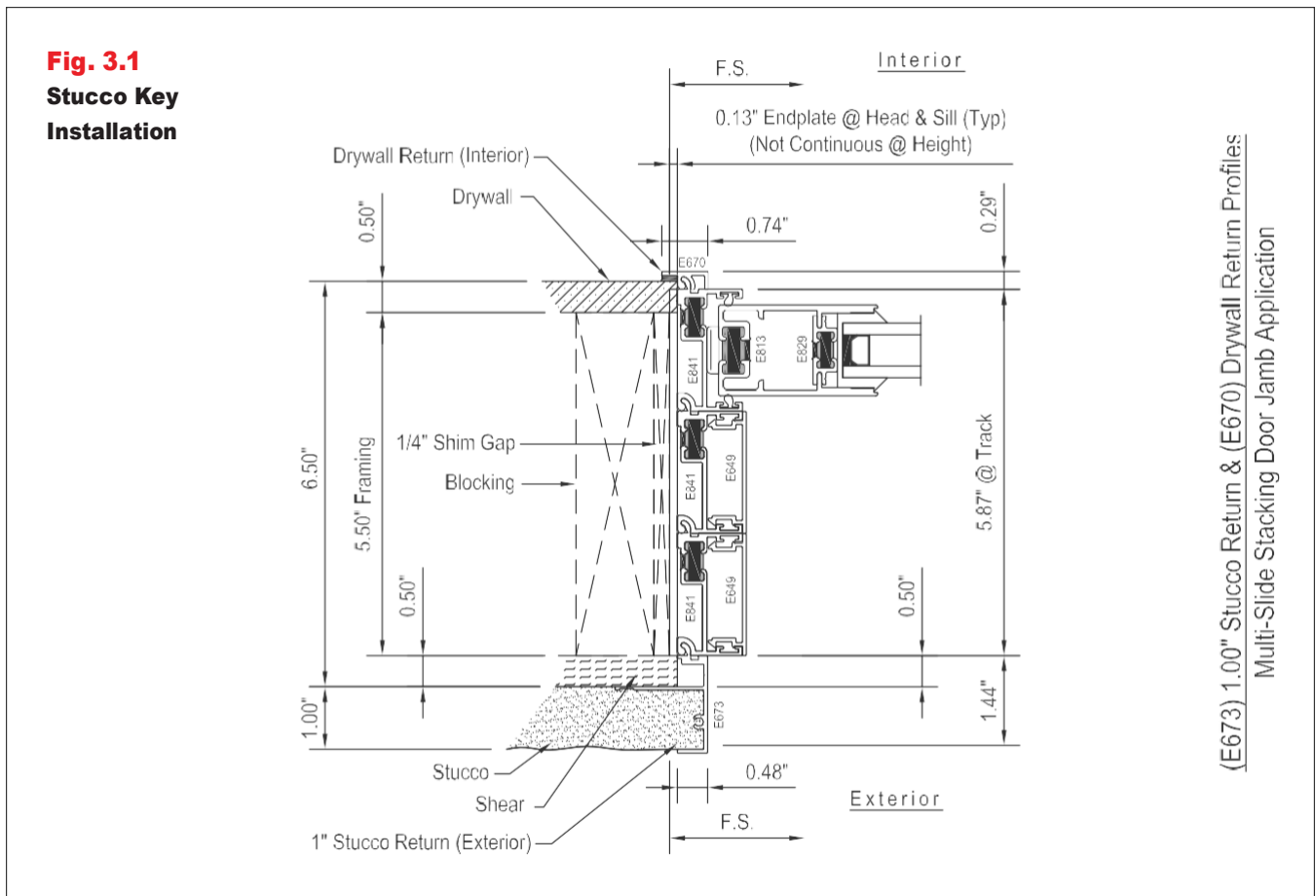
OX CONFIGURATION

10. Seal the bottom of the fixed panel to the threshold on the exterior side. Seal the interior side of the threshold to the floor from jamb to jamb. Seal the exterior of the door frame at the head and jambs. Do not seal the exterior of the threshold. The weep slots on the exterior of the threshold must remain open.

Step 3 – Stucco Key Installation

1. If you have selected the optional stucco return kit, please see instructions for important information regarding the purpose of this kit and its intended use. See Fig. 3.1.

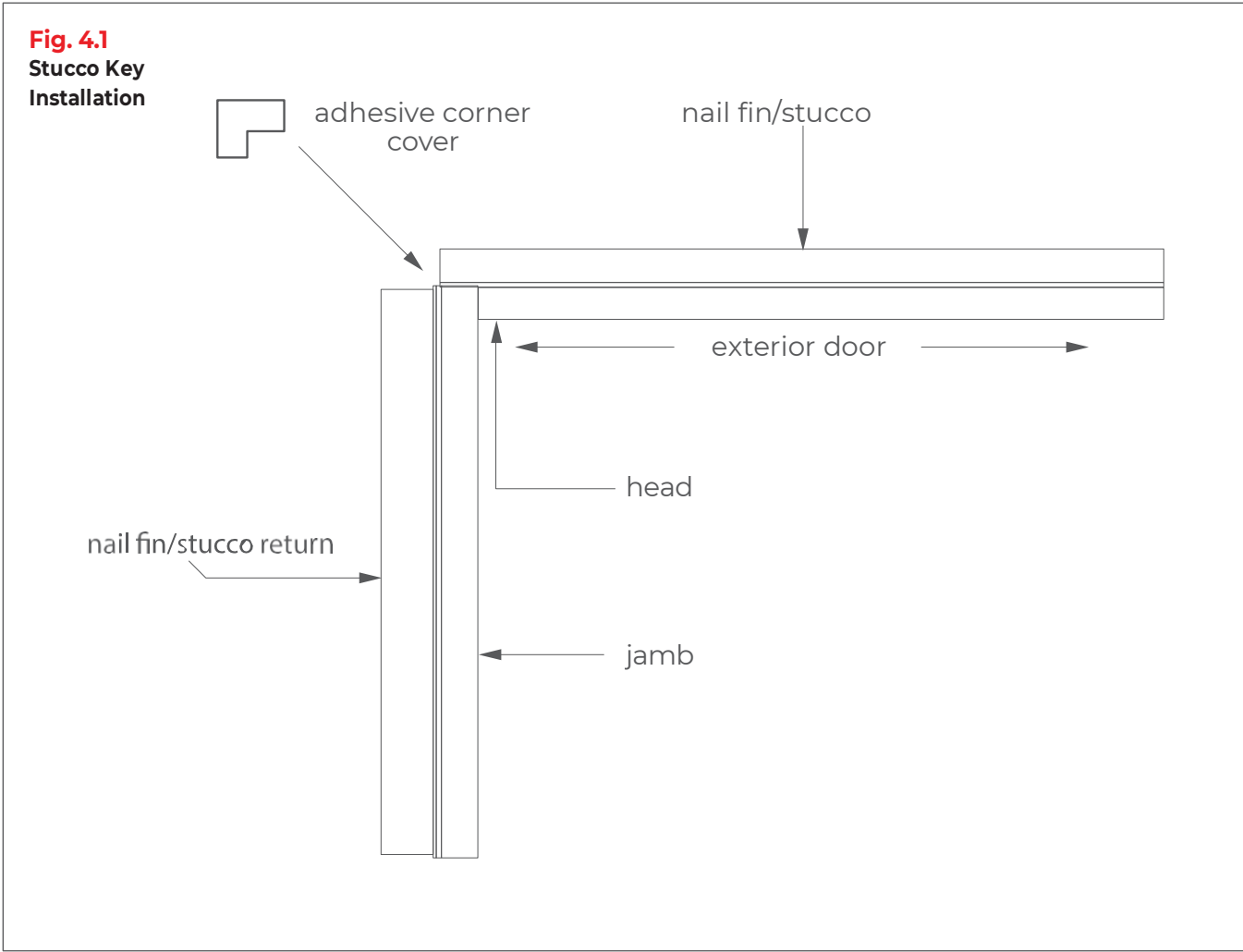
NOTE: Depending on the exterior wall finish, you may need to install a 1" or a 1-3/8" stucco return.



2. The intended use of this kit is to provide a stucco return to both aid in installation process and to create a solid return for stucco applications when a 2x6 wall substrate is used. This return is designed to work only with 3 panel Western 600 Series multi-slide doors.
3. The stucco return will be factory applied and sealed to the individual frame parts (head and Jamb only) It is the responsibility of the installer to assemble the frame and apply the supplied corner pieces to the nail fin prior to fitment in the opening.

CAUTION: It is critical to note that the stucco return should not be considered the primary anchoring point for the perimeter frame of the door. The frame must be anchored through the jambs per the instructions contained herein. A quality flashing material, preferably a 9" wide .25 mil moldable membrane should be applied to the studs in weatherboard fashion and a liberal amount of caulking applied to the back of the nail fin prior to standing the door frame in the opening. Additional fasteners must be used to secure the nail fin to the stud face. Corrosion resistant fasteners should be used to secure the frame to the stud face and placed every 12-16 inches around the perimeter of the frame. Be certain not to apply a fastener within 3" in either direction of the top corners per AAMA 2400 Method B installation standards.

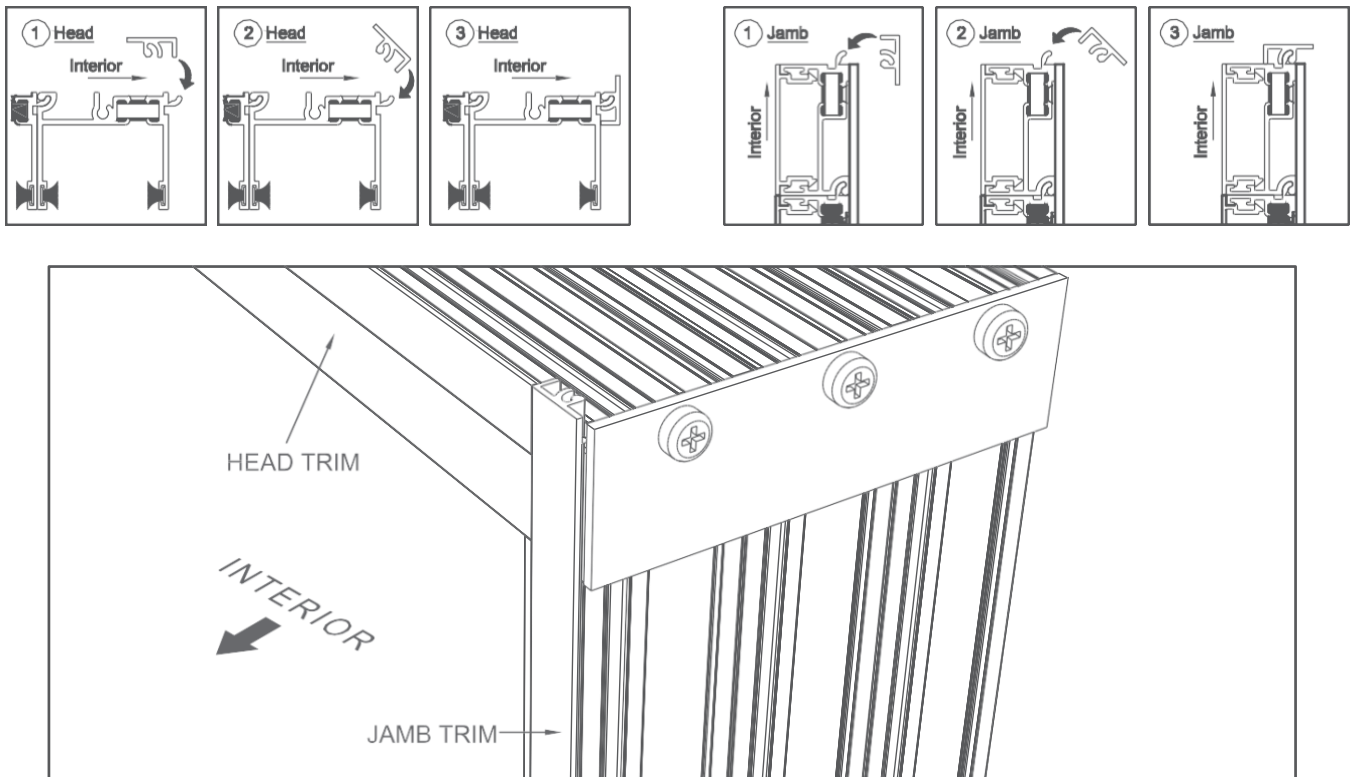
NOTE: Seal the back side of the applied corner sections at the top of each jamb extending a minimum of 3" in each direction to ensure a weather tight seal. See Fig. 4.1.



Step 4 – Dry Wall Return Installation

1. The optional sheet rock returns ship loose and are designed to be applied once the door installation is complete. The installer is responsible for the application of the sheet rock return. The returns are design to engage the frame by slipping the return over the accessory tab at the interior frame perimeter. The head piece should be applied first and then the jambs. The jambs are cut long and run through at the head. It may be advisable to apply a thin bead of silicone caulk to the accessory tab prior to engaging the sheet rock return to eliminate movement once cured. See Fig. 5.1.
2. Apply a thin bead of silicone to the accessory tabs of the door frame shown in figures 1-3 prior to attaching the return to the frame.
3. Apply the vertical sections first as the vertical sections run through to the top of the head frame section. You may find it helpful to make sure that the accessory tab and the groove in the sheet rock return are properly aligned before attempting to roll on the returns.
4. Apply a couple of strips of adhesive painter's tape to secure the sheet rock return to the frame in the correct orientation to keep it in place.
5. Repeat step 3 for the sheetrock return that gets applied to the head of the door frame.
6. Leave the tape on until the silicone has set up.

Fig. 5.1
Dry Wall Return Installation



The door installation is complete!

AX450 MOVING GLASS WALLS

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WINDOWS and DOORS

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