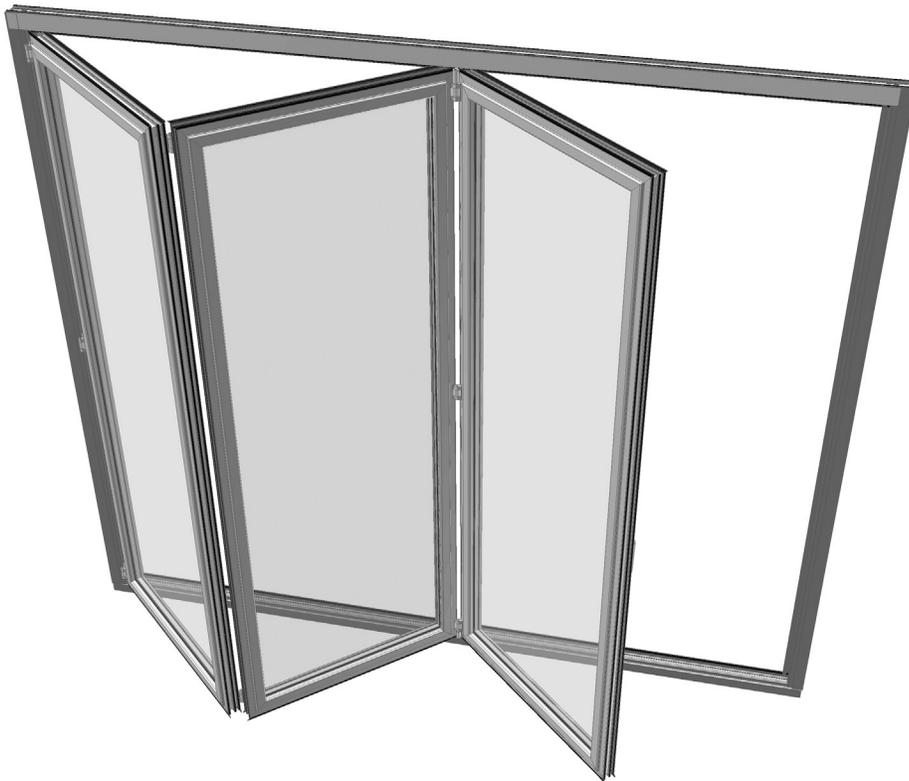


C.R. LAURENCE CO., INC.

Installation Instructions S55 MONTEREY BI-FOLDING GLASS WALL SYSTEM



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11M0190_REV_A

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Monterey Bi-Folding Glass Wall System

Thank you for choosing the Monterey Bi-Folding Glass Wall System by C.R. Laurence. We have made every effort to assure the utmost quality in materials and craftsmanship. If this is your first time installing our Bi-Folding doors, please take time to **read this entire Installation Guide before proceeding.**

STEP 1: CONFIRM YOUR SHIPMENT

Carefully open the shipping container and look for any damaged parts.

All Monterey System orders come completely fabricated and assembled, ready for glazing. Compensating Channels and Flush Sills are supplied approximately 3" oversize for field cutting to match actual job conditions.

A packing list and configuration drawing is included in the shipment for your reference. All parts are labeled with corresponding numbers for easy identification. If you notice damaged or missing parts call C.R. Laurence immediately at (800) 421-6144 and ask for the Technical Sales Department. Please refer to the order number shown on the packing list.

STEP 2: CHECK ROUGH OPENING

Verify that the rough opening is square and plumb as possible. Compensating Channels for use at head and Jambs are supplied with your order to assist in problematic openings. We recommend installation of Compensating Channels to a maximum of 1/4" (6 mm) out of plumb or level. If opening is out more than this, these Channels should be shimmed to be within this maximum.

STEP 3: VERIFY FLOOR AND HEADER CONDITION

The floor and header surface of the rough opening should be clean and in good condition. The Monterey Bi-Folding Glass Wall System mounts directly to the rough opening header and must be able to support the system's weight and firmly hold the fasteners in place for the lifetime of the installation.

For Flush Sill configurations it is necessary to cut a groove in the floor to accept the underside of the Flush Sill. Raised Sill configurations come standard with a Sub-Sill that is attached directly to the Sill of the rough opening. In both cases the Sill must be installed perfectly level to ensure proper operation, and in the case of exterior applications, to ensure proper water drainage.

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STEP 4: INSTALLING THE COMPENSATING FRAME

Every Monterey Bi-Folding Glass Wall System comes with either a Raised or Flush Sill. Systems with a Raised Sill include Compensating Channels at the Head and both Jamb, along with a Sub-Sill. Flush Sill Systems include Compensating Channels at the Head and Jamb only. Compensating Channels are designed to correct for minor misalignment in the rough opening, and are shipped "long" for field cutting to match the rough opening. Compensating Channels can be installed a maximum of 1/4" (6 mm) out of level or plumb. If rough opening is out greater than this, channels must be securely shimmed or rough opening must be corrected to within maximum outage.

Determine whether you have a Raised or Flush Sill system. If Raised continue on with Step 4a; if Flush skip to Step 4b.

Step 4a: If you are using the Raised Sill start with the Sub-Sill, measure for and cut it to length allowing for End Dams (FIG. 1). Securely attach the End Dams and Sub-Sill to the rough opening substrate using the appropriate fasteners and shims. The recommended spacing is 2" from each end and a maximum of 12" on center. Fasteners should be installed in a zigzag pattern toward the outer sides of the channel. Be sure to install with weep holes to the exterior. Seal as required. (FIG. 2)

Note: Unlike the Compensating Channels, the Sub-Sill should be installed level for optimum water drainage performance. Shim as required.

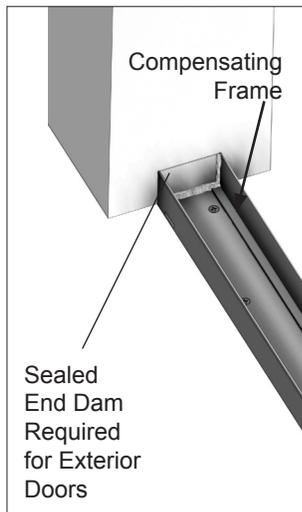


FIG. 1

Next, measure and cut the Jamb Compensating Channels to length, fitting snug between the Head Compensating Channel and Sub-Sill, and install. The recommended spacing is 2" from each end and a maximum of 12" on center. Fasteners should be installed in a zigzag pattern toward the outer sides of the channel. (FIG. 3)

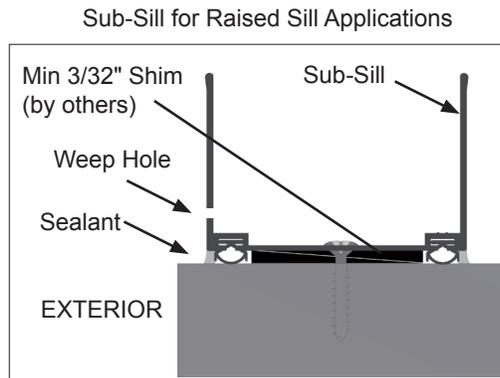


FIG. 2



FIG. 3

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STEP 4: INSTALLING THE COMPENSATING FRAME (continued)

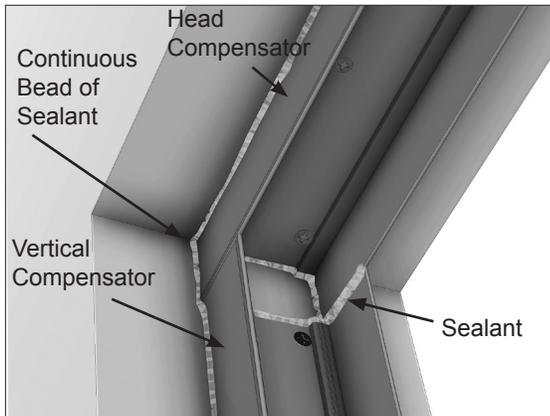


FIG. 4



FIG. 5

All butted joints of the Compensating Channels and Sub-Sill should also be sealed from inside the channels prior to installing the main framing sections. A continuous bead of sealant should also be applied along the edge of the Compensating Frame and the rough opening. (FIG. 4 and 5). You are now ready to move on to Step 5.

Step 4b:

If you are using a Flush Sill, it is installed first and should span the complete opening, wall-to-wall. A 1-3/8" x 13/16" (35 mm x 21 mm) groove in the floor is required. Mount the Sill using methods appropriate for the floor material. If the recessed groove is wider than recommended, then shimming will be necessary to ensure that the Sill does not move. It is critical that the Flush Sill is level, securely installed, and cannot move in any direction. **IMPORTANT:** The large Sill flange side is opposite the folding direction of the system. Do not overtighten the fasteners. Overtightening can cause the Guide pocket to collapse. (FIG. 6) Check for free travel of Guide by sliding the length of the channel adjusting fasteners as needed. (FIG. 6).

Note: If Flush Sill is used in exterior applications where water penetration is an issue, drainage system by others must be incorporated into the Flush Sill and/or a 'trench' drain must be used in front of the Sill. (FIG. 7)

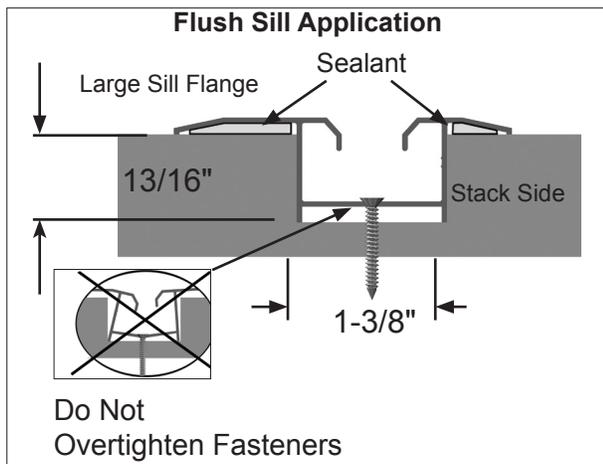


FIG. 6

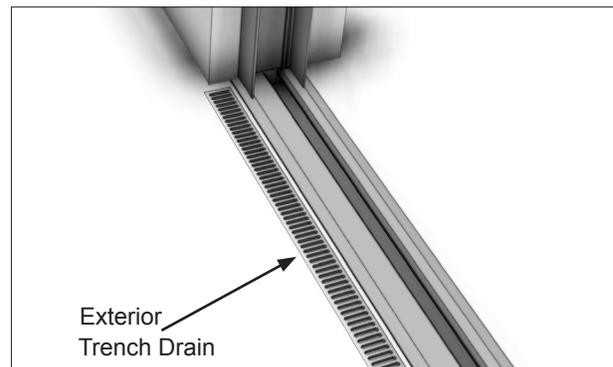


FIG. 7

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STEP 4: INSTALLING THE COMPENSATING FRAME (continued)

After the Flush Sill is in place, align the Head Compensating Channel with the Flush Sill. Establish a plumb line from the top shoulder edge of the Flush Sill to the vertical leg of the Head Compensating Channel. (FIG. 8 and 9)

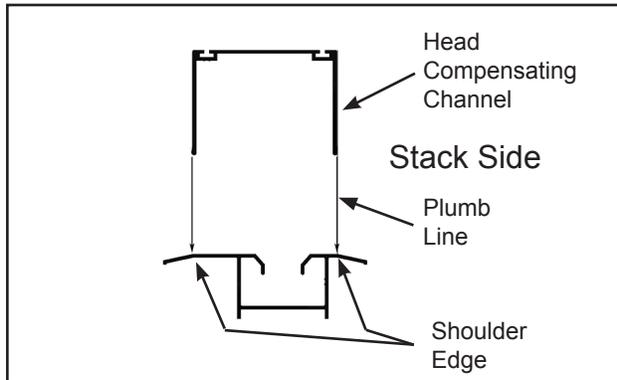


FIG.8

Use the CRL PLS5 Laser Tool for quick and accurate installation. Install the Head Compensating Channel using adequate fasteners as described previously. Next, measure from top of Flush Sill to the underside of Head Channel to determine cut length of the Jamb Compensating Channels. Jamb is to fit snugly between Head and Sill. Cut and install as described in Step 4a. (See Fig. 10)

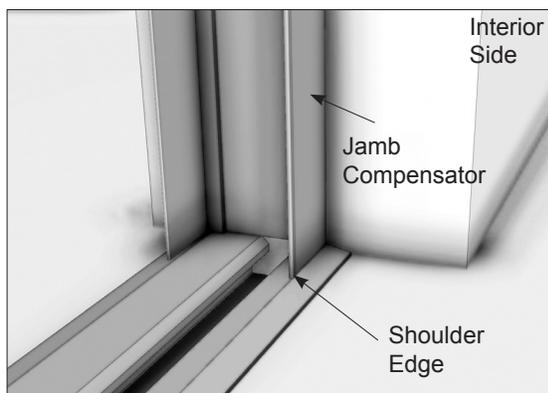


FIG. 10 The Jamb Compensator must align with the shoulder edges of the Flush Sill.

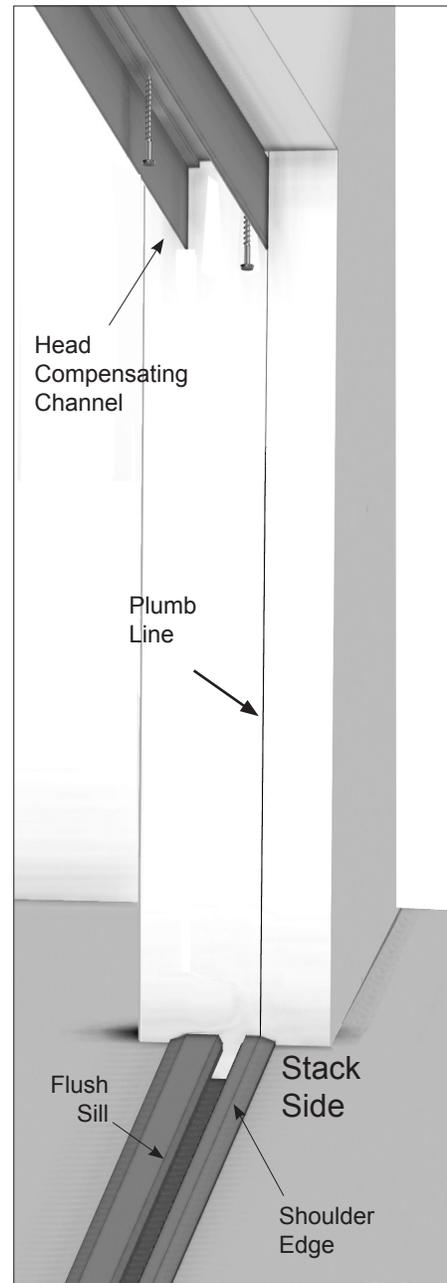


FIG.9

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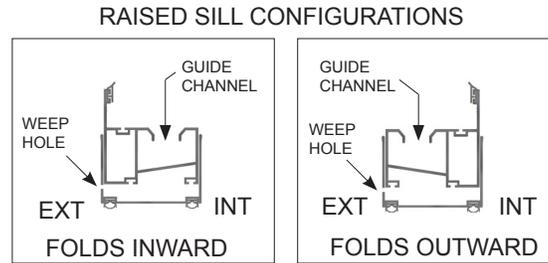
Monterey Bi-Folding Glass Wall System

STEP 5: INSTALLING THE MAIN FRAME

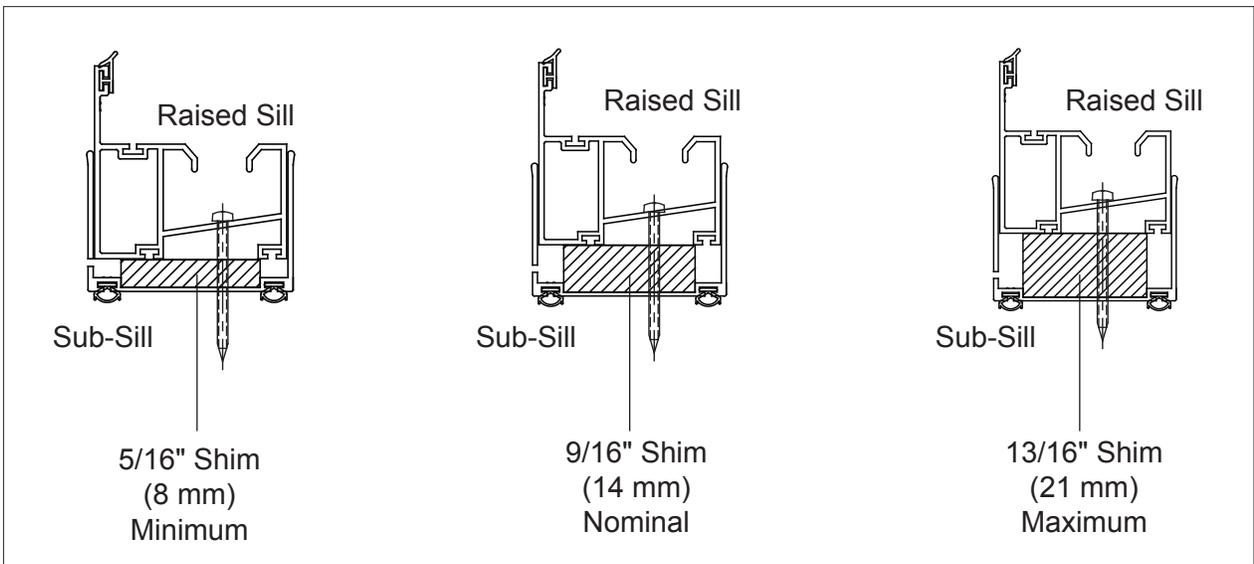
Once the Compensating Channels are cut and installed, you are ready to install the prefabricated Main Frame. If you have a Flush Sill system proceed to Step 6. If you have a Raised Sill start with Step 5.

Step 5:

Determine the proper orientation of your installation's Raised Sill from FIG. 11. The Guide Channel of the Sill is always located towards the stack side of the system, either inwards or outwards. (FIG. 11)



Place the Raised Sill into the Sub-Sill, center from side-to-side and shim to the proper level. The job drawing is based on nominal 9/16" shims, allowing you to adjust your Raised Sill placement by +/- 1/4" (6 mm) to correct for actual rough opening height deviations. Stay within the maximum and minimum shim heights. (FIG. 12)



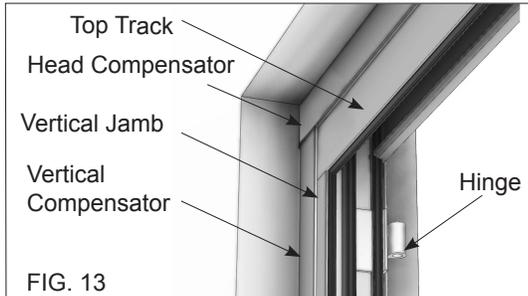
Shims should be inserted along the length of the Sub-Sill at fastener locations avoiding weep holes. Gaps between the blocks and Sub-Sill walls will avoid creating dams throughout the length of the sill.

After Raised Sill is positioned and leveled, secure it with proper fasteners that go through the Sub-Sill and into the structure below. Start fastener spacing approximately 2" in from the ends and approximately 24" on center.

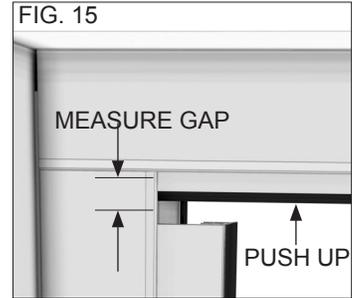
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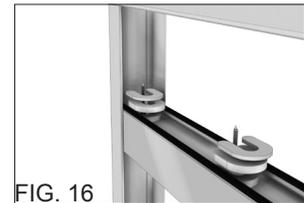
STEP 6: INSTALLING THE MAIN FRAME (Continued)



After the Sill (Raised or Flush) is secured, insert the Main Frame Top Track into the Top Compensating Channel. Next, insert the Main Frame Jamb into the Jamb Compensating Channels directly on top of Sill and with the Top Track resting squarely on top.

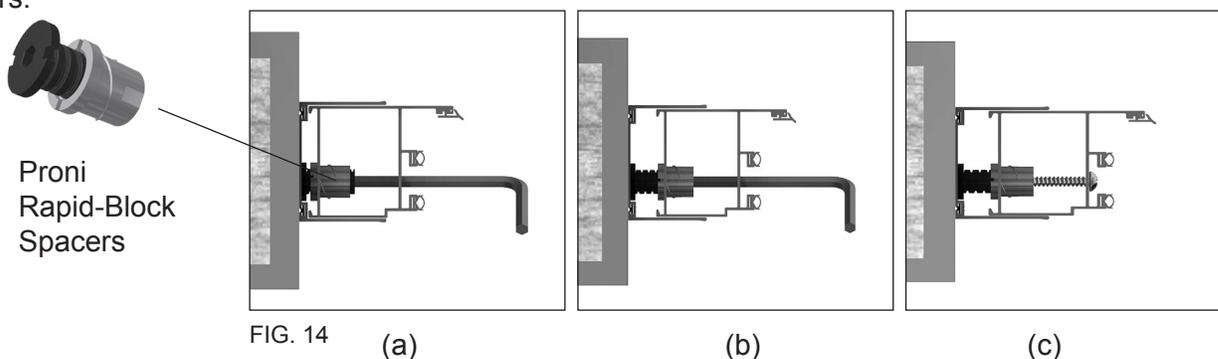


Make sure that you have the Hinged portion of the Jamb in the correct orientation; Hinges go to the stack side of the opening (FIG. 13) The Main Frame Jamb is supplied with Proni Rapid-Block Adjustable Spacers pre-installed for easy leveling and plumbing of the system. Simply insert a 6 mm Allen wrench and turn clockwise to increase the width of the spacer and counter-clockwise to decrease. (FIG. 14) These blocks accept a #10 fastener. Transfer the location of these fasteners to the Compensating Channels and structure using a pilot drill or center-punch. Do not install the fasteners at this time.



Stack CRL's PHS Horse Shoe Shims over fasteners before attaching the Top Track.

The Main Frame Top Track must be shimmed to ensure that it rests squarely on the top of the Jamb. To determine the height of the shims required above the Top Track, simply push the track fully into the Top Compensating Channel and measure the gap from the bottom of the track to the top of the Jamb and add 7/16". (FIG. 15) If gap slopes from one Jamb to the other, care should be taken to determine the height of the shims as you move across the opening. Pilot drill through the Top Track and Compensating Channel into the structure above to locate fastener holes. Starting 4" in from the end, fasteners should be spaced 6" on center through the stack area and then can increase to 12" on center for the remainder. Use appropriate fasteners to carry the load. Fastener head size cannot exceed 1/2" (12.7 mm) width and 3/16" (4.8 mm) height in order to avoid damage to Top Track and Rollers.



Remove the Main Frame Jamb and Top Track. Complete preparation of structural Header and Jamb as needed. Position the appropriate shims at each fastener location on the backside of the Top Track (FIG.16) and reposition in the Top Compensating Channel. Check the clear opening height against the job drawings, adjust as needed, and secure with proper fasteners.

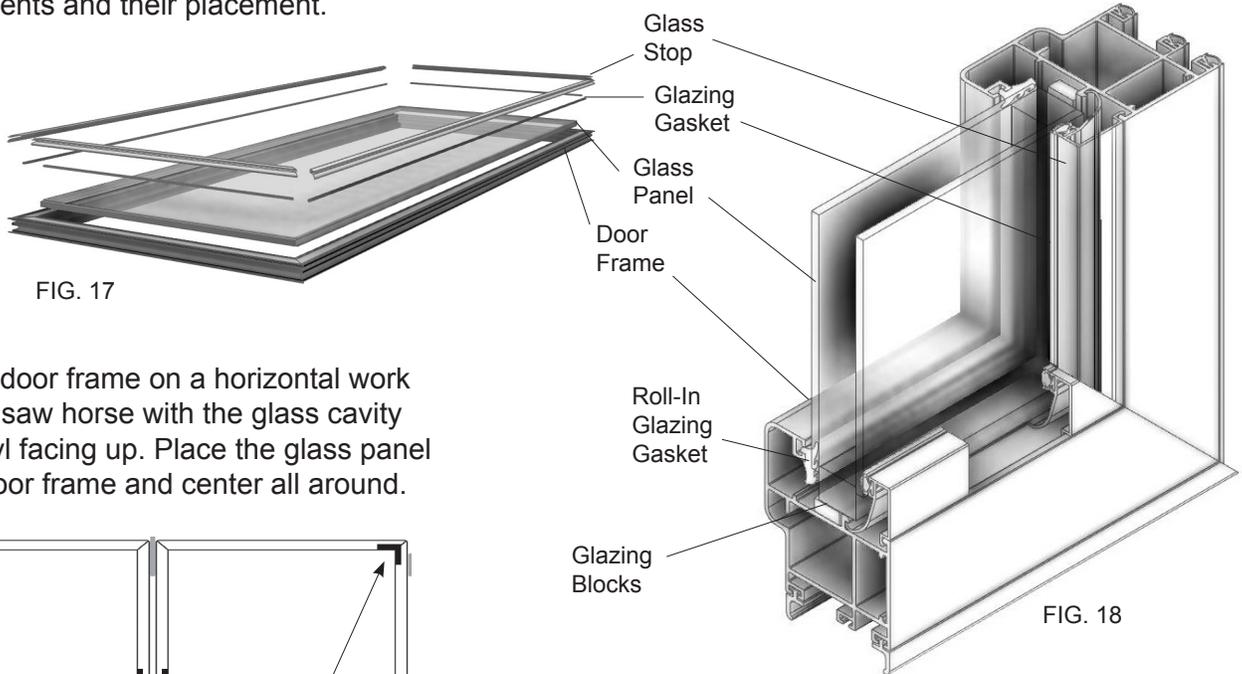
Reposition the Jamb inside the Jamb Compensating Channels. Use caution not to damage the finished surface of the Top Track and Sill. Refer to job drawings to find the inside clear opening width dimension, adjust spacers equally on both Jamb until proper opening width is achieved and Jamb is centered between the Jamb Compensating Channels. Secure using proper fasteners.

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STEP 7: GLAZING THE DOORS (Optional)

Your Monterey Door System has been engineered for a specific size glass panel. Review your shop drawings to determine the specific dimensions. See Figure 17 and Figure 18 for the glazing components and their placement.



Lay the door frame on a horizontal work table or saw horse with the glass cavity and vinyl facing up. Place the glass panel in the door frame and center all around.

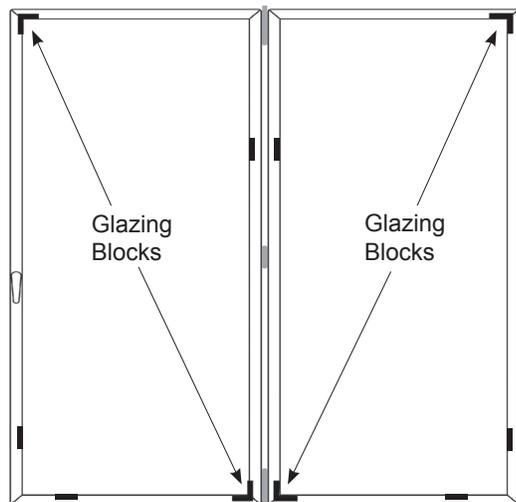


FIG. 19

Using supplied glazing blocks, add additional blocks at present-day locations to ensure that the glass does not shift inside the frame. (FIG. 19)

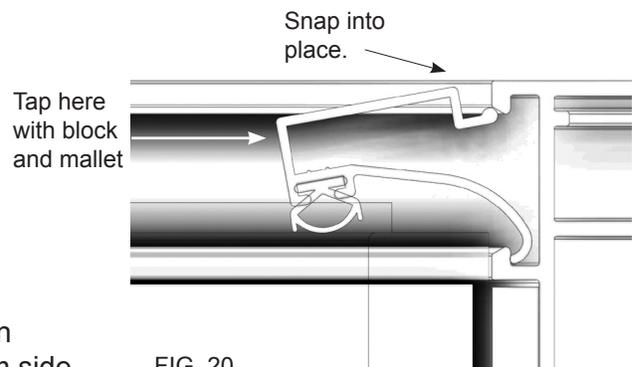


FIG. 20

Starting with the top and bottom, install the snap-in glass stops on all four sides by hooking the bottom side first and then rolling the top into the slot until it snaps into place. A small rubber mallet and wood block will help with this task. Gently but firmly tap around the entire perimeter assuring that it is completely connected to the panel frame. (FIG. 20)

Carefully flip panel over to install the supplied roll-in glazing on the exterior side. Starting at the top corner of the panel frame, roll in a continuous length of gasket around the perimeter. (FIG. 21)

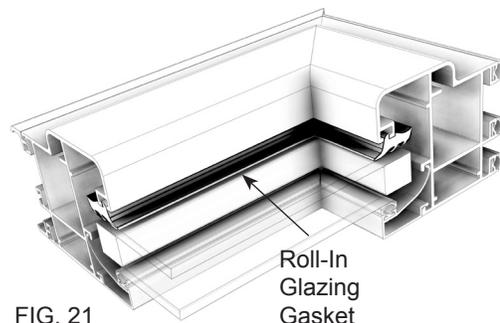


FIG. 21

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STEP 8: HANGING THE PANELS



FIG. 22

Refer to the Shop Drawing for door/panel-type, location, and orientation. Attach Hinged-Jamb panels first. (FIG. 22)

Carefully lift the first panel into position. Align Hinges and, starting with the top Hinge Pin, partially insert all three as illustrated. (FIG. 23)

Test swing the panel to ensure proper alignment. Binding indicates an out-of-square frame and must be corrected before proceeding.

Position the first panel at 45 degrees and place support blocks under the lead edge. Position the leading edge of the next panel in line with the Top and Bottom Tracks and partially insert the Hinge Pins. (FIG. 24)

Continue to position the next panel at 45 degrees to the opening and in-line with the tracks. Partially insert the Hinge Pin in the mid-height Hinge.



FIG. 23



FIG. 24

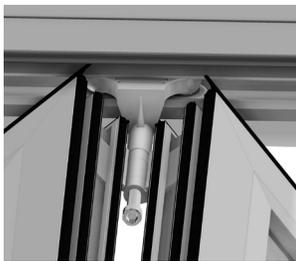


FIG. 25

Toward one end of the top track you will find a roller access slot. Insert Roller and slide into position over the top Hinge of the two panels. (FIG. 25)

Secure Roller assembly through Hinge using the bolt supplied with the Roller. Hinge should be in contact with bottom edge of Roller Assembly when installing Roller Bolt. DO NOT use bolt to raise the weight of the panels. Damage to threads can occur. Roller is secure when there is no gap between the Hinge and Roller. Do not over-tighten as damage to nylon washers will occur.

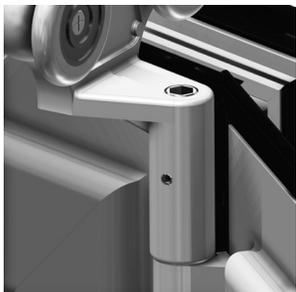


FIG. 26



Lock Roller Bolt in place by securing with small set screw through side of Roller and larger set screw located directly above the bolt. (FIG. 26).

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STEP 8: HANGING THE PANELS (Continued)

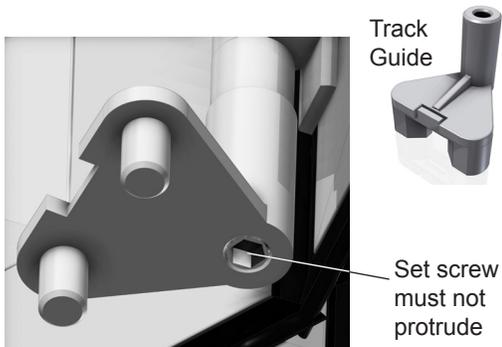


FIG. 27

IMPORTANT: The set screw located at the bottom of the Track Guide must be flush or inside the threaded hole at all times. If it is allowed to protrude beyond the Guide's base surface, damage to the track may occur. (FIG. 27)

The purpose of the set screw is to prevent the Hex Head Hinge Pin from spinning loose.

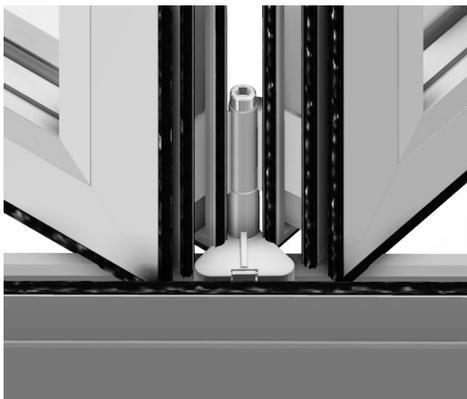


FIG. 28

Attach the Track Guide to the Bottom Hinge Assembly using the supplied Hex Head Hinge Pin. The Guide should be fully mated to the Hinge Barrel with no gap. It may be necessary to loosen the set screw at the bottom in order to allow clearance to the Hex Bolt. Do not over-tighten as damage to nylon washers will occur. (FIG. 28) Snug the bottom set screw up to the Hex Bolt to prevent it from turning during operation.

Repeat these procedures until all panels are installed. Then completely open and close the panels, checking that all function properly. Once satisfied with operation, drive all the Hinge Pins the rest of the way in until flush with tops of Hinges.

If your order includes an operable 3-Point Keyed Latch Lock with Lever Handles, use the following installation procedure.



FIG. 29

Insert the square actuator rod through the lock mechanism. Rotate fastener cover on Lever Handle to expose mounting holes. Position over Actuator Rod and secure using supplied sheet metal screws. (FIG. 29) Repeat for Handle on opposite side of door. Rotate fastener covers back to conceal the fasteners. Test to make sure that the Latch is engaging the Strike, then use the key to test the 3-point function of the Lock. If the lock bolts are not properly engaging the Strikes, check your clear opening width as compared to the Job Drawing, and adjust your Strike Jamb as needed until lock functions properly.

JOB SITE ESSENTIALS

HELPFUL TOOLS AND SUPPLIES FOR INSTALLING YOUR MONTEREY BI-FOLDING GLASS WALL SYSTEM



SP295
CRL Dry Lubricant.



RTV408
Industrial Construction Silicone.



SB565
1/2" x 1/2" x 2"
Neoprene Setting Blocks.



CRL10
Plastic Cleaner and Polish.



CSB10X144ATX
10" 144-Tooth Carbide Blade.
Also available in 12".



PBS06
1/16" Rigid Plastic
Bearing Shimstrips.



UB123
Unibit 3 Piece Step Drill Set.



1973
Aerosol Glass Cleaner



PHS4, PHS6, PHS8
CRL Plastic Horse Shoe Shims
1/16", 1/8", and 1/4"



406065
Electronic Level Accurate.



13609
Metric Long-Arm and
Ball End 9-Piece Allen
Wrench Set.



LXP03
Makita® 18 Volt
Cordless Lithium Ion
1/2" Hammer-Driver/Drill.

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