
Installation Instructions

ElementShield Aluminum SERIES 150

SLIDING GLASS DOORS

Page	2-9:	<i>Installation Instructions, Figures 1, 2, & 3</i>
Page	10-12:	<i>Figures A-1, A-2, & A-3: Installation types</i>
Page	13-16:	<i>Figures B1, B2, B3, & B4: SGD Configurations</i>
Page	17-18:	<i>Figures C1 & C2: Panel Marks</i>
Page	19:	<i>Figure D: Fixed Panel Attachment, Figure E: Pocket Hook Details</i>
Page	20-21:	<i>Figures F & G: Pile pad and baffle installation</i>
Page	22:	<i>Figure H: Door Stop Location</i>
Page	23-24:	<i>Dummy Handle Installation</i>

NOTE: Read instructions completely before attempting any installation.

These instructions are provided as a general guide in the installation of our ElementShield Aluminum Series 150 Sliding Glass Doors. Applicable approval documents (such as but not limited to Miami-Dade County NOA Product Approvals, State of Florida Approvals, TDI Approvals, etc.) should be used in conjunction with these instructions. Only experienced installers familiar with these or similar products should attempt to install these units. Incorrect installations could void the warranty.

Technical support is available by contacting CGI at 1-866-846-5335.

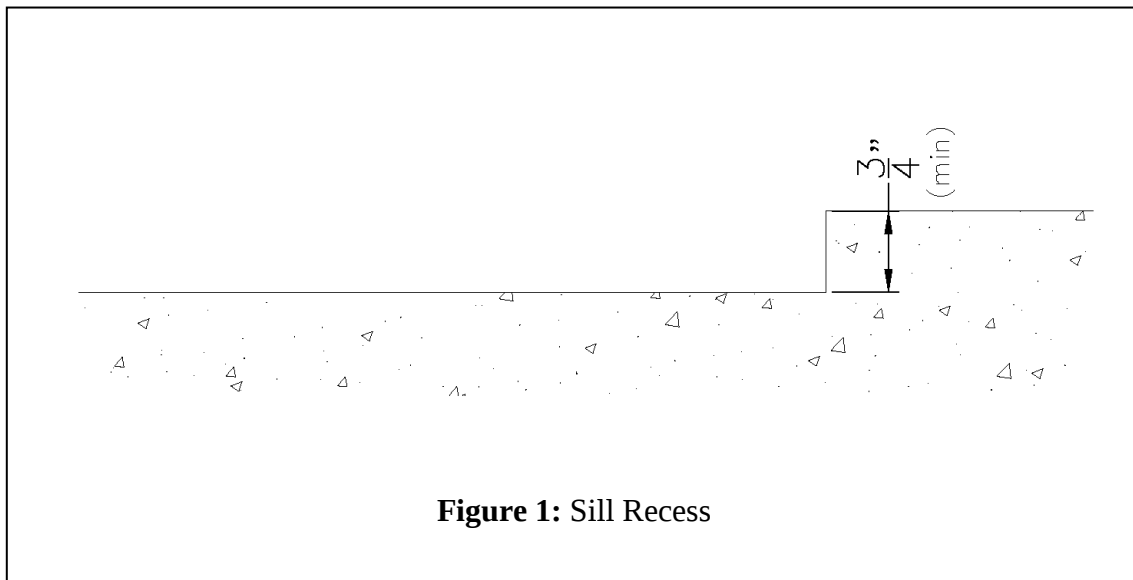


element**SHIELD**TM
ALUMINUM

Verify the opening is correctly built

This part is written assuming installation is going into a concrete structure. If installation is being performed on a wood framed structure, then references to masonry or concrete will actually mean the primary wood structure.

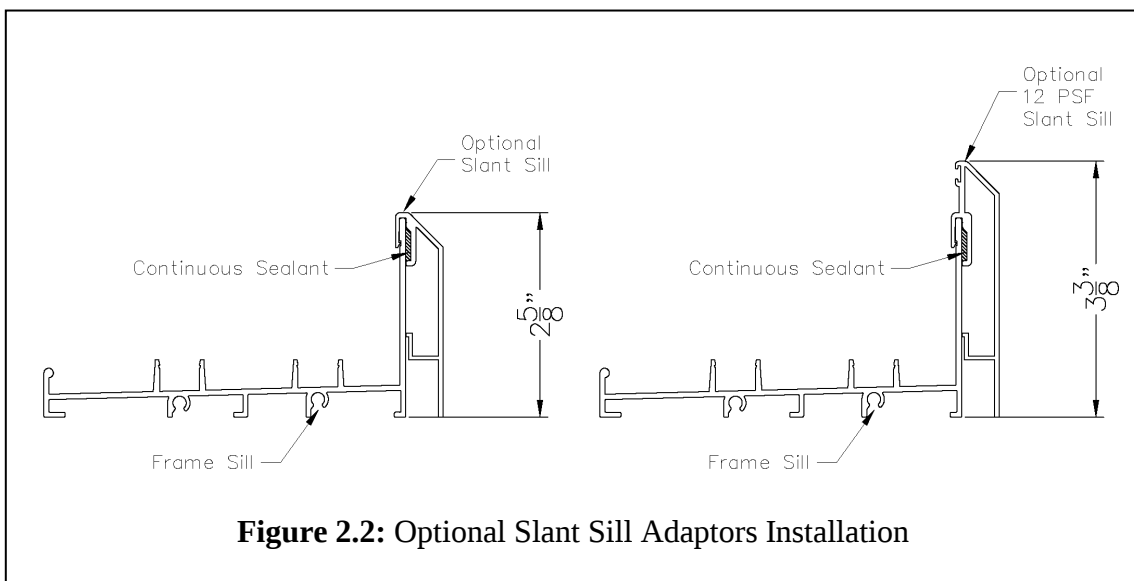
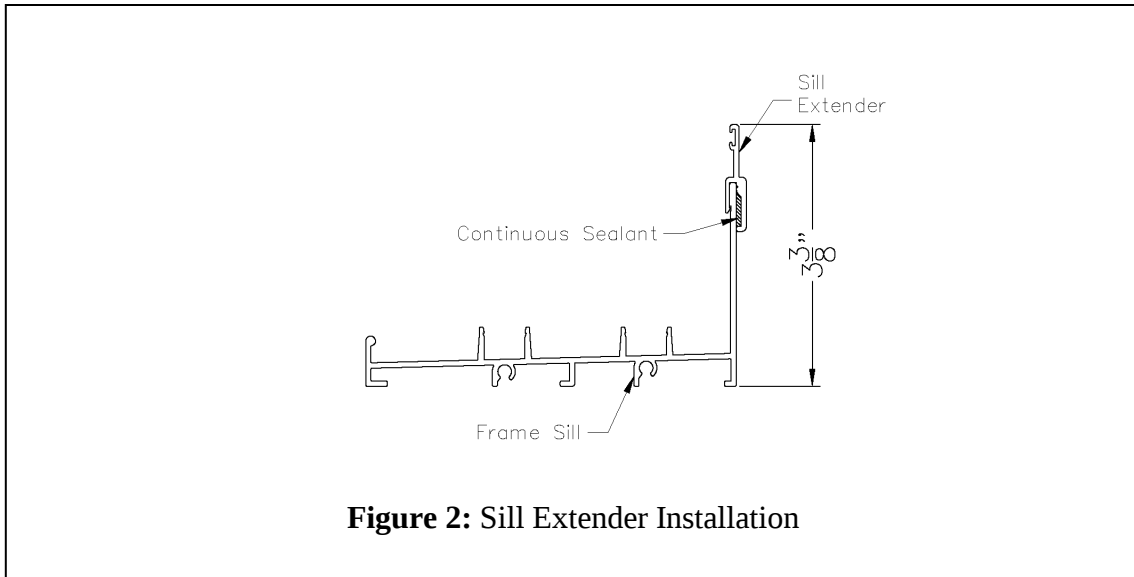
- If pressure treated wood bucks are required (at top and sides only), make sure they are:
 - the correct size – custom 1x or 2x minimum 4 5/8” deep for 2-track system OR custom 1x or 2x minimum 5 3/4” deep for 3-track system.
 - that they run continuous to ends
 - that they abut each other at the joints
 - that they are set in bed of sealant (sealant should spill out on sides) and are fully sealed to each other (at joint) and to the adjacent masonry structure
- CGI always suggests that a recess (minimum 3/4”) be used at the sill (see *Figure 1* below). The recess is usually located on the same plane as the inside face of the concrete blocks.
- Check that the opening is plumb and level. Use a large level (6 feet long if possible).
- Check the diagonal dimensions of the opening and make sure they are within 1/4” of each other.
- Measure opening width at top, middle, and bottom of opening. If installing with wood bucks, measure between bucks. If installing directly to concrete, measure concrete opening. Make sure size is correct, if not, the opening may need to be corrected.
- Measure opening height at three different points of the opening (at both end and center). If installing with wood bucks, measure between the underside of wood at top and concrete at bottom. If installing directly to concrete, measure concrete opening. Make sure size is correct, if not, the opening may need to be corrected.
- Chip out any concrete that protrudes from the mounting surface and may interfere with the installation. This very often occurs at the corners.



Building the frame (on 2, 3, 4, and 6 panel doors)

- Refer to *Figures B.1, B.2, B.3, and B.4* at the back of these instructions in order to make sure you assemble the frame jambs in the correct position.
- Note that when assembling a pocket door, the pocket hook does not attach to the head or sill. These instructions are based on a non-pocket door frame assembly.
- Clean the ends of jambs with IPA Alcohol, where the header and sill attach, so all grease and debris can be removed.
- Clean the cut ends of the header and sill member as well.
- Apply a generous amount of sealant (such as low modulus 100% clear silicone rubber) to the end of a header or sill. Also apply sealant at cut edge of the jamb legs that attach at this corner. Secure corner using supplied assembly screws (2 or 3 per corner). Repeat this step for the other three corners. **IT IS CRITICAL THAT THE SILL BE SEALED CORRECTLY.** If this is not accomplished on this step, the frame could leak and corrective work can become more difficult.
- Make sure that the sill is not rotated and is properly centered on the jamb, otherwise, the sill may retain unnecessary water. Check the header member as well.

- It is recommended that after all four corners are sealed and attached, the sill member be resealed again from the bottom of the frame.
- Verify that the size of the assembled frame is correct.
- Install sill extender if required as shown in *Figure 2*, or optional slant sill adaptors as shown in *Figure 2.2*. Install in continuous bead of silicone sealant and seal to jambs at end.



Installation of frame

- *For installations that require vertical mullions within an opening, refer to this section plus the mullion installation instructions that follow this section.*
- *For doors that are very wide, the head and sill members may be split in two. If this is the case, the installer will need to seal the joint between the parts in the field.*

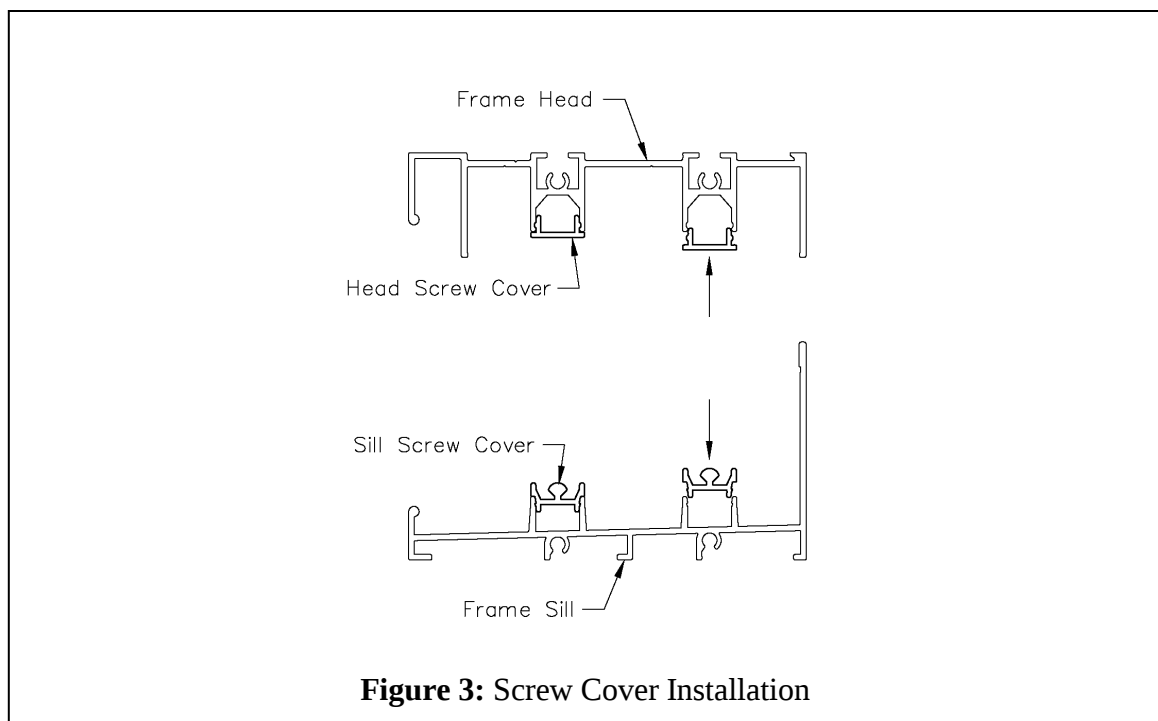
- Position the frame in the opening to make sure that it fits inside. Mark where the sill will be located on the bottom.
- CGI suggests mounting the sill on a bed of high strength grout (refer to product approval documents for grout specifications). Sweep the area where the sill will be mounted and place the grout material on the floor at this point.
- Insert the frame in the opening by positioning the sill on the grout first. Center on all sides using temporary shims at each corner. Make sure frame is plumb and straight. Level the sill at this point. Check diagonal dimension of frame. The diagonal dimension should not vary by more than 1/8".

Note: Use a level that is at least 6 feet long if possible. Do not install with a 2 foot level.

- Secure the frame in the opening using the required installation screws.
- If installing a pocket door, install the pocket hook at this time. Note that the hook may need to be notched at the bottom to clear the recess (no notch required if no recess is present). Refer to *Figure E* of the pocket condition.
 - The hook is notched at the ends to straddle the head and sill members. The pocket is not symmetrical; there is a notch for the head and a different one for the sill.
 - To insert the hook, the hook must be inserted at an angle, straddled over the head and sill and then positioned straight up and down.
 - Make sure the hook is properly located with respect to horizontal dimensional placement; refer to *Figures B3 or B4* for dimension points.
 - Secure as needed with correct installation screws.
- Seal the pocket hook to the sill and head member watertight.
- Seal all sill installation screws. It is suggested that you begin to insert the sill screw and stop when the screw is about 1/2" to 1" away from the frame. Apply clear silicone sealant to the hole and underside of screw and then tighten completely. This allows the screw to be set in a bed of sealant. Any

excess silicone should be spread over the head of the screw, making sure the edges are fully sealed.

- Make sure all screw heads are flat and not protruding away from the frame.
- Check the frame to ensure it is plumb and level as you secure the frame. Make sure the frame members are not bowed at any point. When frame installation is complete, recheck the diagonal dimension and make sure they are within 1/8".
- If this door is extremely large or being installed into a very high wind load required opening, it is possible that extra installation screws may be required. If extra screws are required, they must be drilled in the field by the installer. Refer to the product approval documents to determine if any are needed.
- Covers must be installed after frame has been installed, but prior to installation of panels. Note: In order to clearly see the installation screws, installation of screw covers may need to be delayed until job is inspected; consult your building inspector.
- Install screw covers at head and sill as shown in Figure 3. You will need a piece of wood and hammer or mallet to snap the screw covers to the frame.



- CGI suggests protecting the frame, primarily the sill, to avoid damage during construction.

Installation of frames to mullions rather than walls

Sometimes doors are installed to a mullion on one side (or to mullions on both sides), rather than the walls of a building. The installation process is the same, except the concrete screws should be replaced with a #14 x 1 1/2" long Philips Flat Head S/S Sheet Metal Screws.

CGI offers a 2 x 6 tube mullion with end clips. This mullion is under a stand alone approval document.

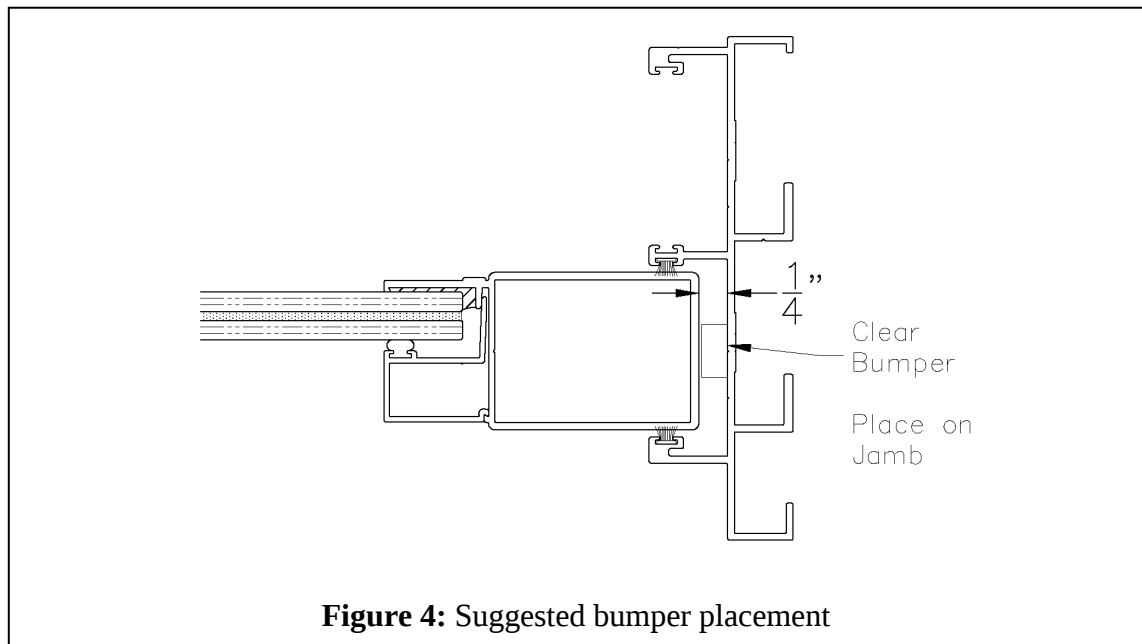
Installation of panels

- Locate the panels that will be required for the opening mark you are installing. Each panel has a specific letter panel mark type (such as A or E). The same type of panel may be used on more than one door type, so make sure you find the correct one. Refer to *Figures C.1 & C.2* at the back of these instructions for panel marks.
- Clean the frame of all debris and remove any remaining protective materials that were installed. Remove any protective covering on the panel.
- Adjust the rollers on any moving panel to the uppermost retracted position.
- Install the panels beginning with those that are used on the inner track first and then work your way outside to the outer track. Installation must be done from the outside.
- Make sure all the panels fit correctly and the interlocks engage correctly.
- When panels approach the jambs or interlocks, the visible gap from the top to the bottom, should be consistent. If this is not happening, then either the rollers are not properly adjusted or the frame is not correctly installed. A level should be used to determine which is wrong.

Installation of miscellaneous frame components

- Install the handles on the panels.
- Install the keepers on any jambs or astragals that will accept a lockable panel. There is a set of pre-drilled markings on each jamb or astragal. Use these marking to attach the keeper.

- Hint on keeper attachment and security: For added security, any keeper that is attached a jamb can have the supplied screws replaced with longer screws that will attach through the jamb into the building structure. While this is not required, it is strongly suggested as it will provide added strength to the locking system.
- Adjust all keepers and make sure that all the panels operate and lock correctly.
- Operable and fixed panels must be 1/4" away from jamb for proper positioning. CGI provides 1/4" clear bumpers that should be placed at the center of jamb as shown in Figure 4.

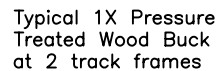


- Secure the fixed panels to the jamb (refer to *Figure D*). These panels do not have rollers. Note that the fixed panels should penetrate in the jamb pocket at least 1/2". Fixed panels located on the exterior track require a clip that will fit in the frame jamb and attach to the panel. Installers will need to drill the panel stile through the hole in the fixed clip. For fixed panels located on the interior track, installers need to drill the jamb leg from the inside at the "v" groove that exists on the extrusion. One screw is required at the top and one at the bottom with a distance no more than 18" from the ends, and a third screw at midspan. Screws required are #8 x 3/4" Flat Head Self Drilling Stainless Steel screws mounted on a 2 part nylon cover cap.
- Snap jamb covers into place at the proper locations. For proper placement of covers, see *Figures B*.

- Install 3/4" long self adhesive pad (CGI-174) on the sill at the jamb side as shown in *Figure F*. The sill should be cleaned with alcohol before applying the pad.
- Install the anti-lift block/pile (CGI-176) at the frame head at interlock and astragal locations as shown in *Figure G*. The weather-strip pile must properly fit over the interlock before being attached to the head with the provided tek screw. Make sure screw is only accessible from the inside.
- Install the 2 1/8" long self adhesive pad (CGI-175) on the sill at the interlocks and astragals as shown in *Figure F*. This pad should be located at the same location as the anti-lift pile. The sill should be cleaned with alcohol before applying the pad.
- Install the door stop with the supplied screws. Refer to *Figure H*.
 - Door stops are required so that panels do not run past other panels or interfere with handles, which could cause injuries to fingers. The door stops are typically located at the top of the panel. Be sure that the door stop does not allow panels to run past and that it leaves ample room between interlock and handles.
 - For pocket configurations or 3-track configurations, the door stop will need to attach to both sides of the interior panels. This will act as a catch for other panels. As each panel moves, the door stop will catch the other panel and push it along the track.

Fasteners required for installation

Door attachment to structure	Based on installation type used. Refer to figures A.1, A.2, A.3 and A.4 these instructions for the minimum screw size recommended in installations type A, B, C, or D. Also, refer to approval documents.
Door to mullion screws	#14 x 1 1/2" Flat Head SMS (standard point) or #14 x 1 1/2" Self Drilling Flat Head Tek screws or #14 x 1 1/2" Flat Head B Point SMS



Typ. Wood Buck Note:
Wood bucks must be fully bed in sealant, sustain loads imposed by glazing system and transfer those loads to the building's structure.

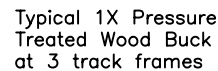
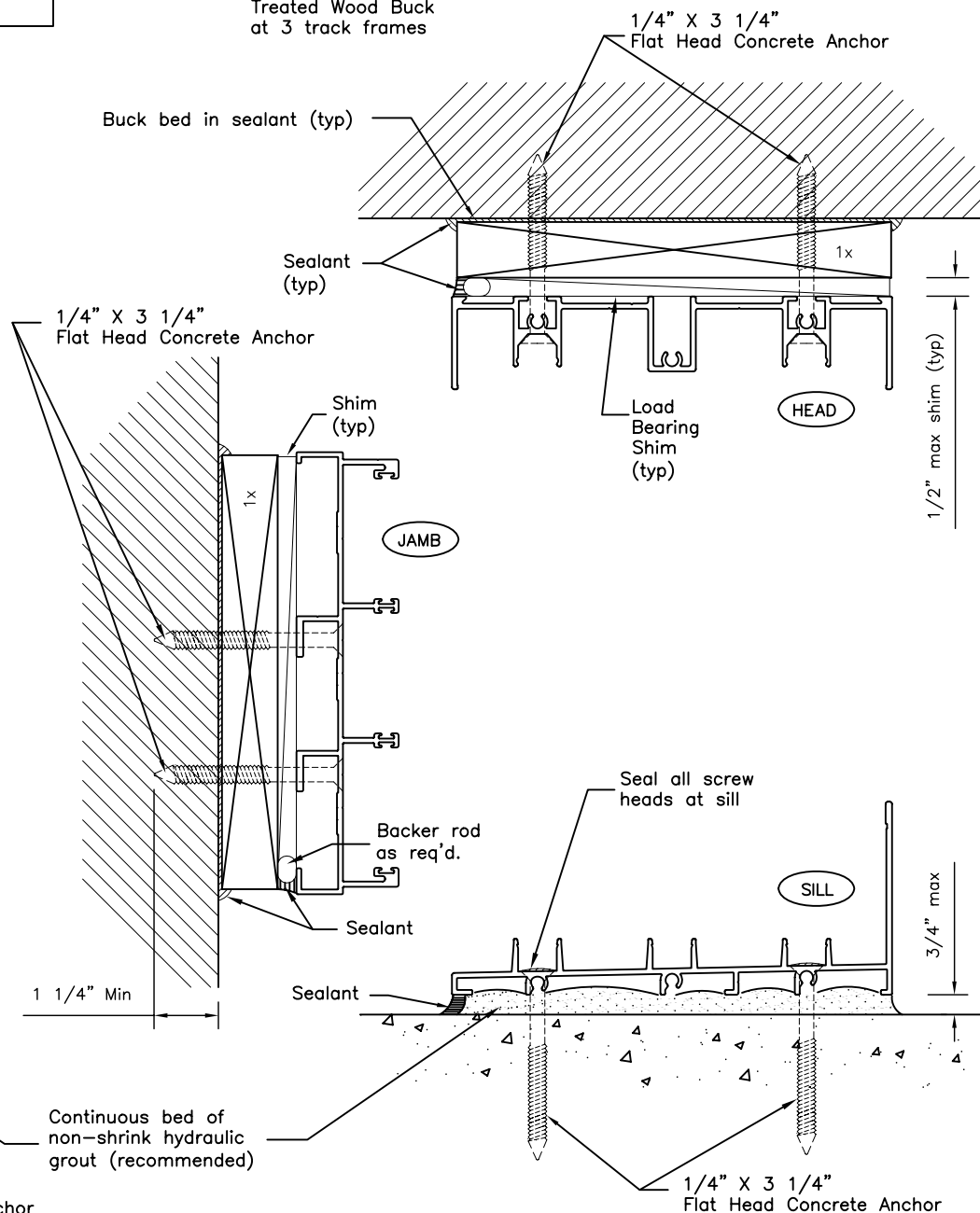
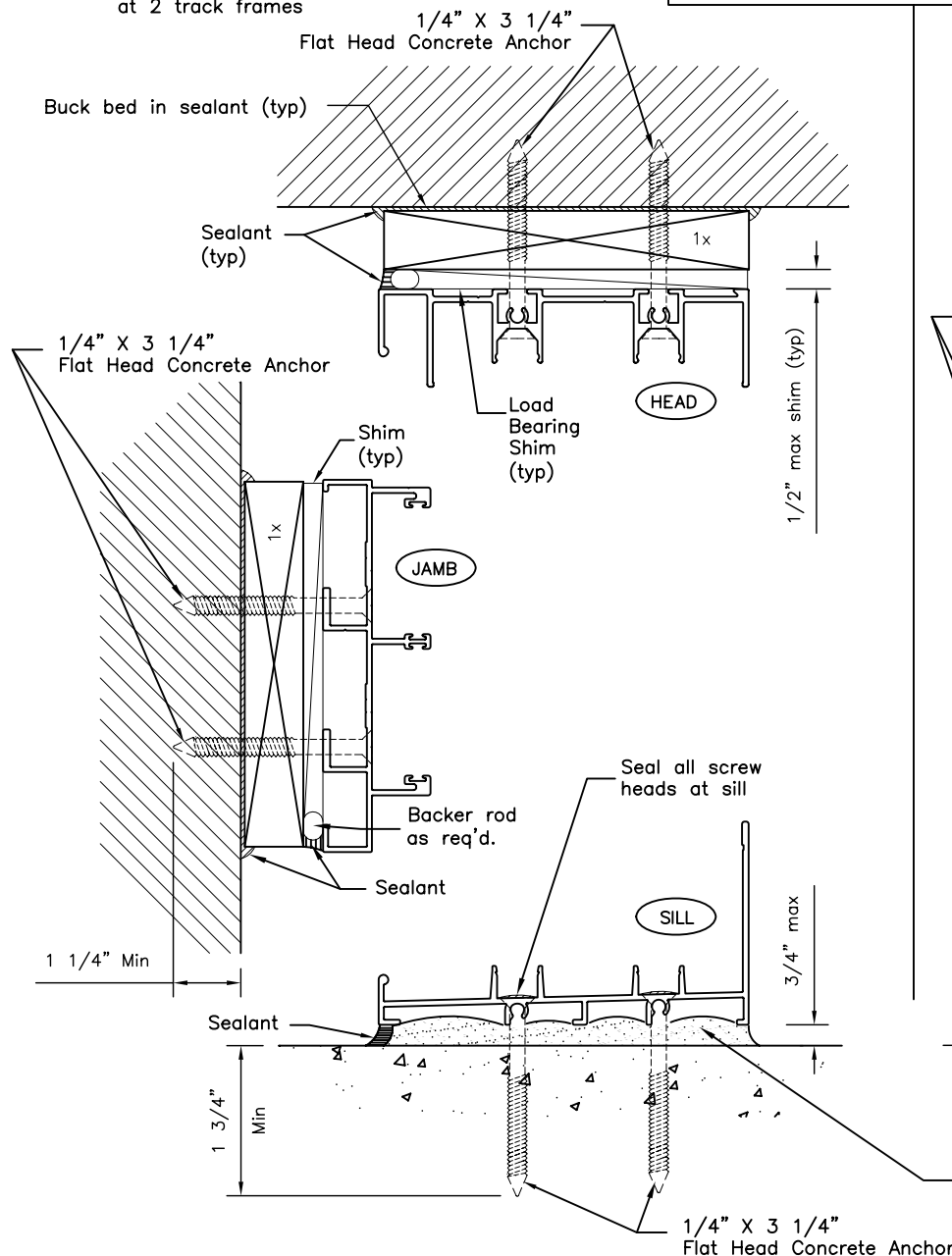
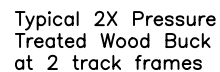


FIGURE A.1
Type I Installation

- using 1x wood bucks





Typ. Wood Buck Note:
Wood bucks must be fully bed in sealant, sustain loads imposed by glazing system and transfer those loads to the building's structure.

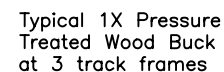


FIGURE A.2
Type II Installation

- using 2x wood bucks

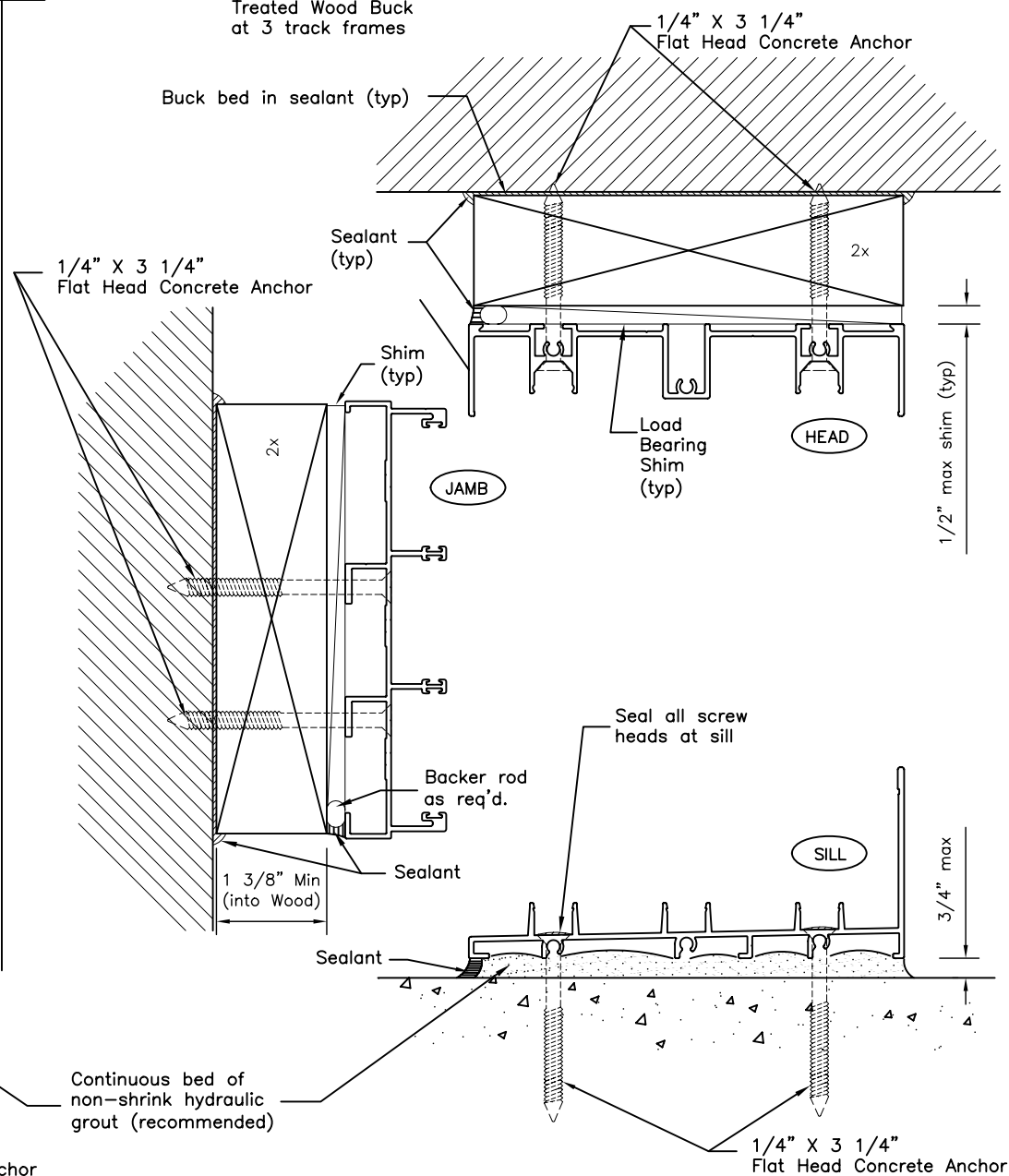
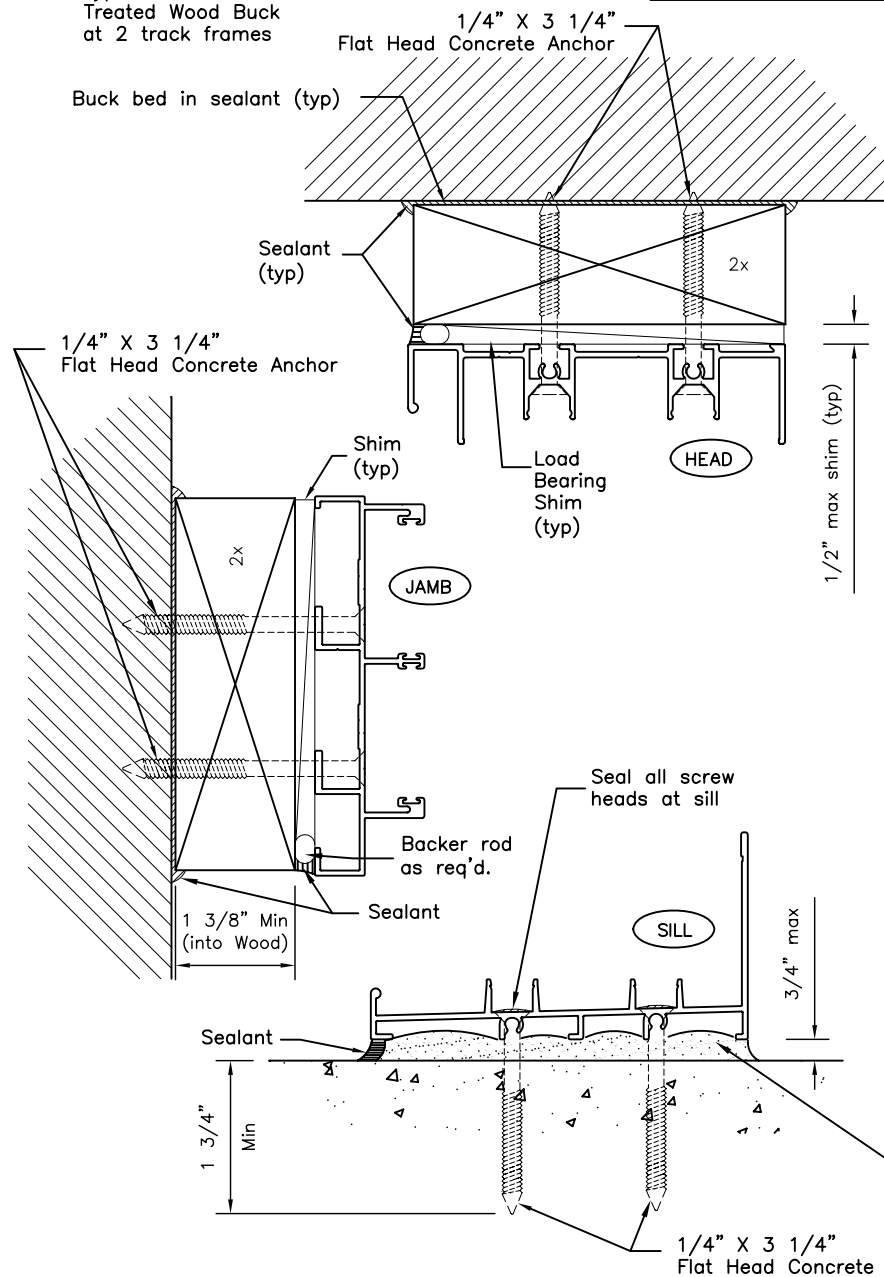


FIGURE A.3
Type III Installation
—directly into opening

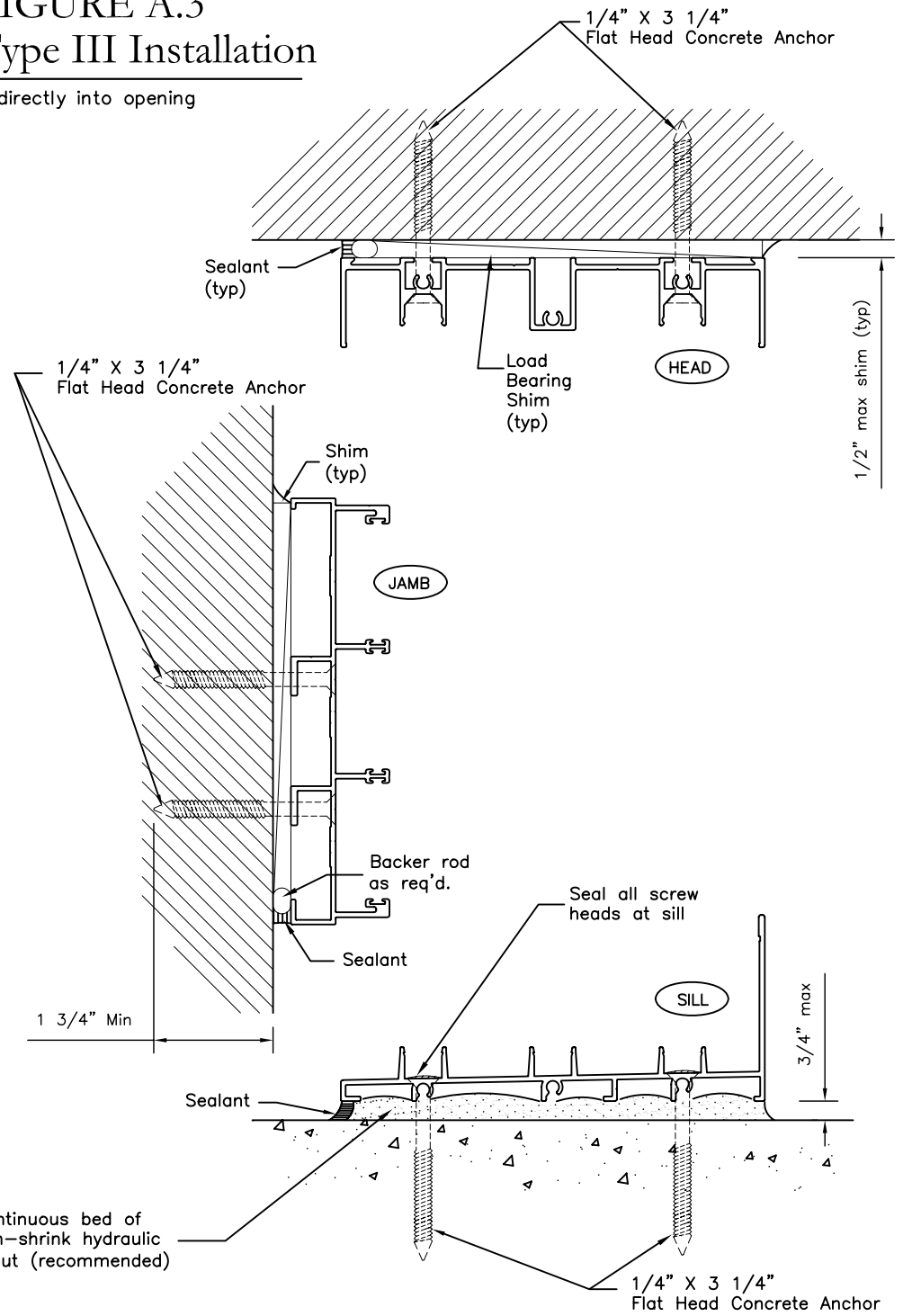
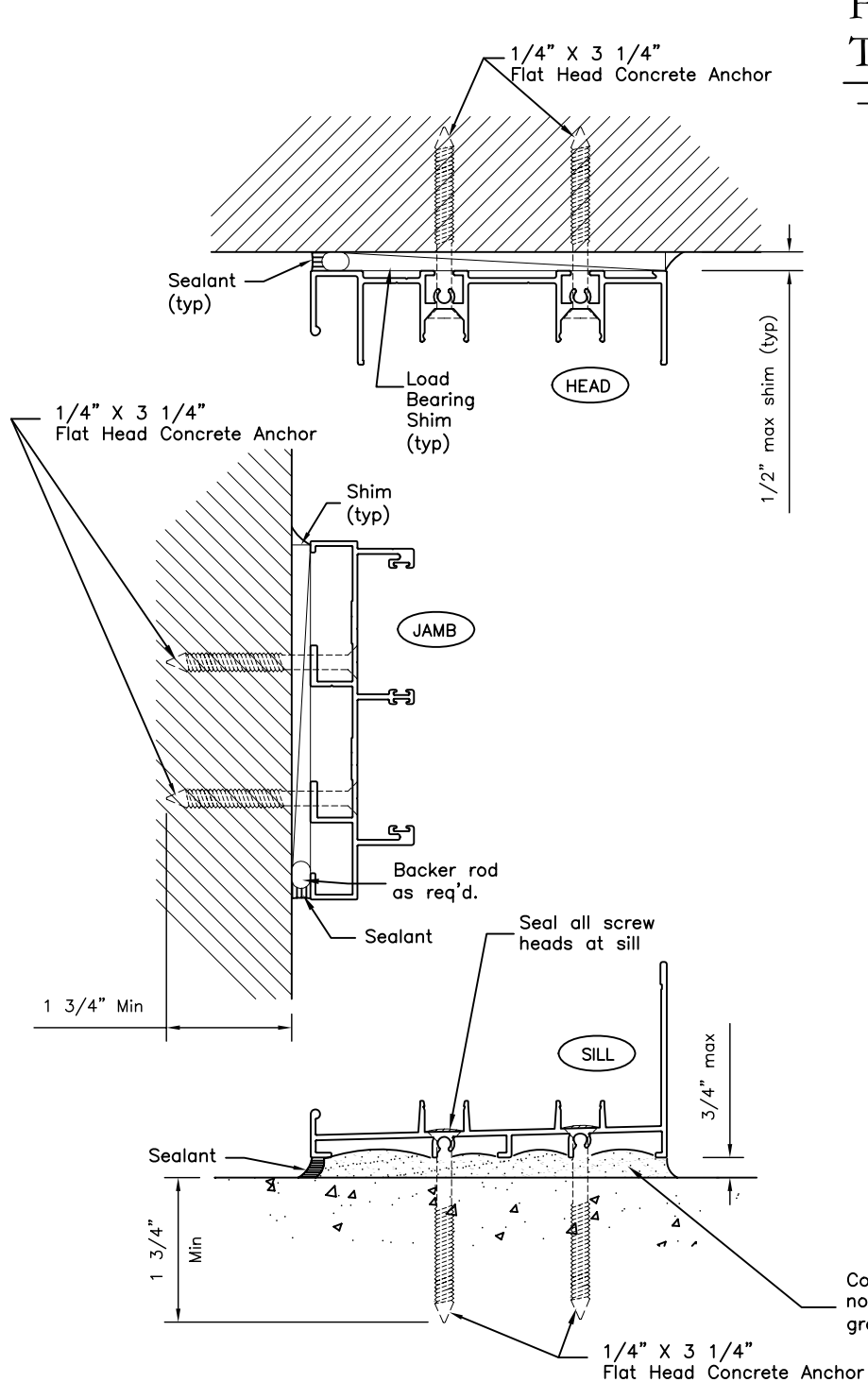
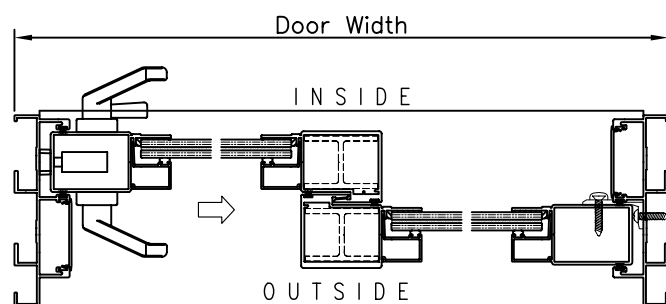
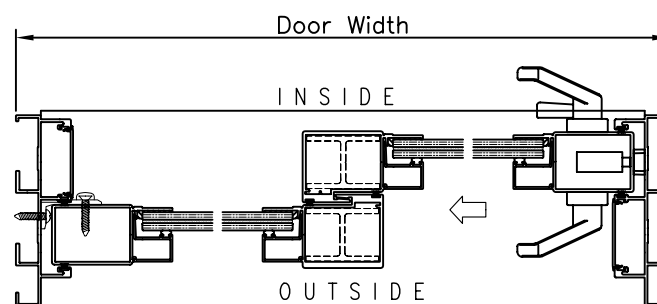


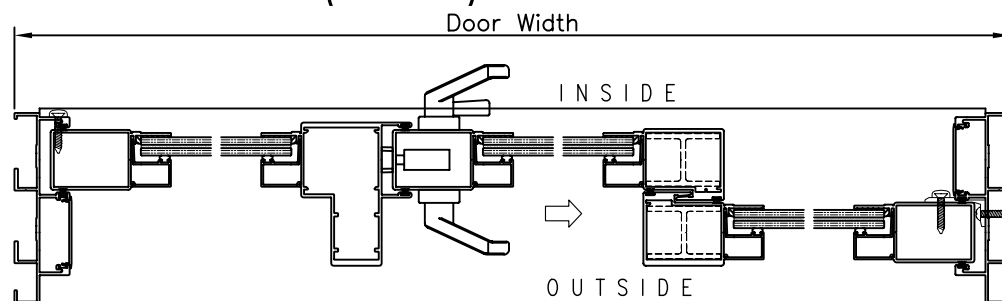
Figure B.1
2-track configurations



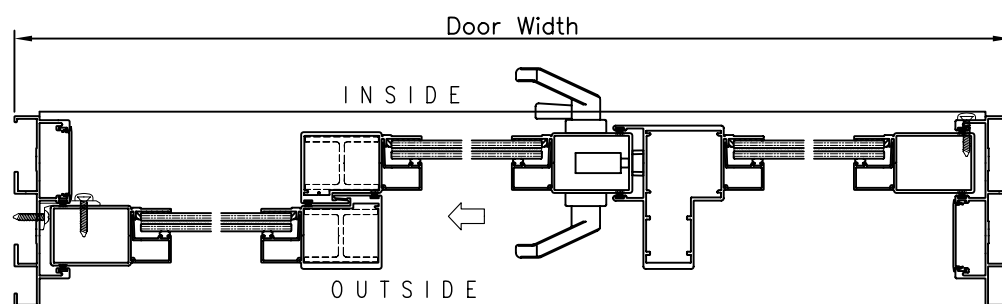
"XO" or "XX" (similar)



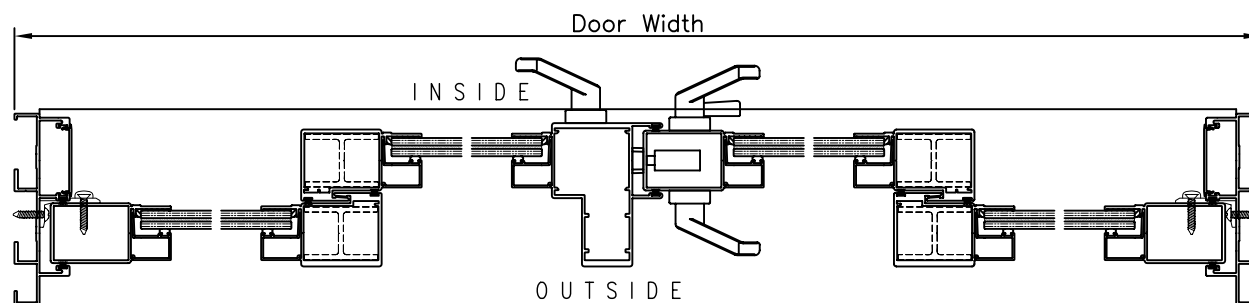
"OX"



"OXO"

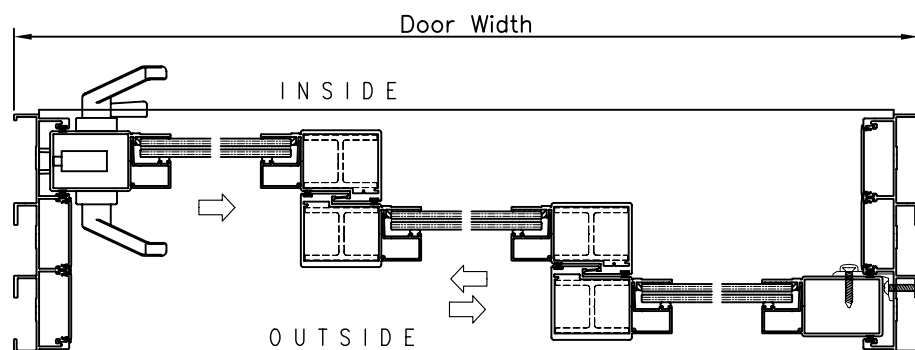


"OXO-R"

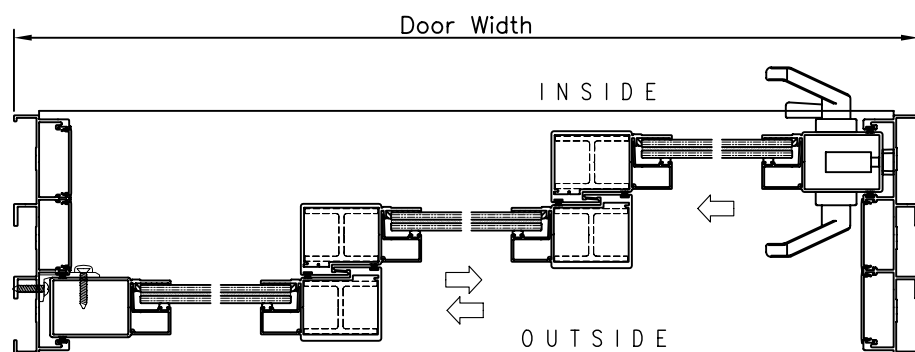


"OXXO"

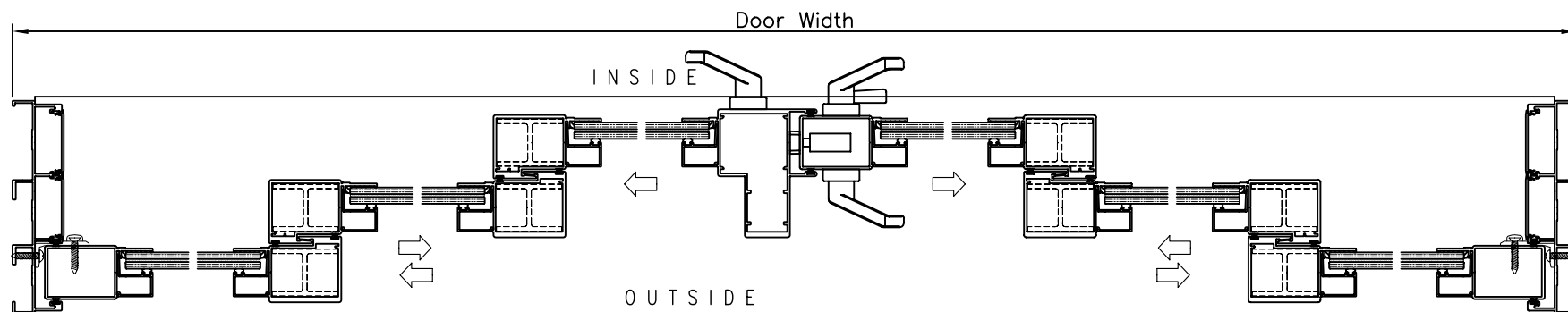
Figure B.2
3-track configurations



"XXO" or "XXX" (similar)



"OXX" or "XXXR" (similar)



"OXXXXO" or "XXXXXX" (similar)

Figure B.3
Pocket 2-track configurations

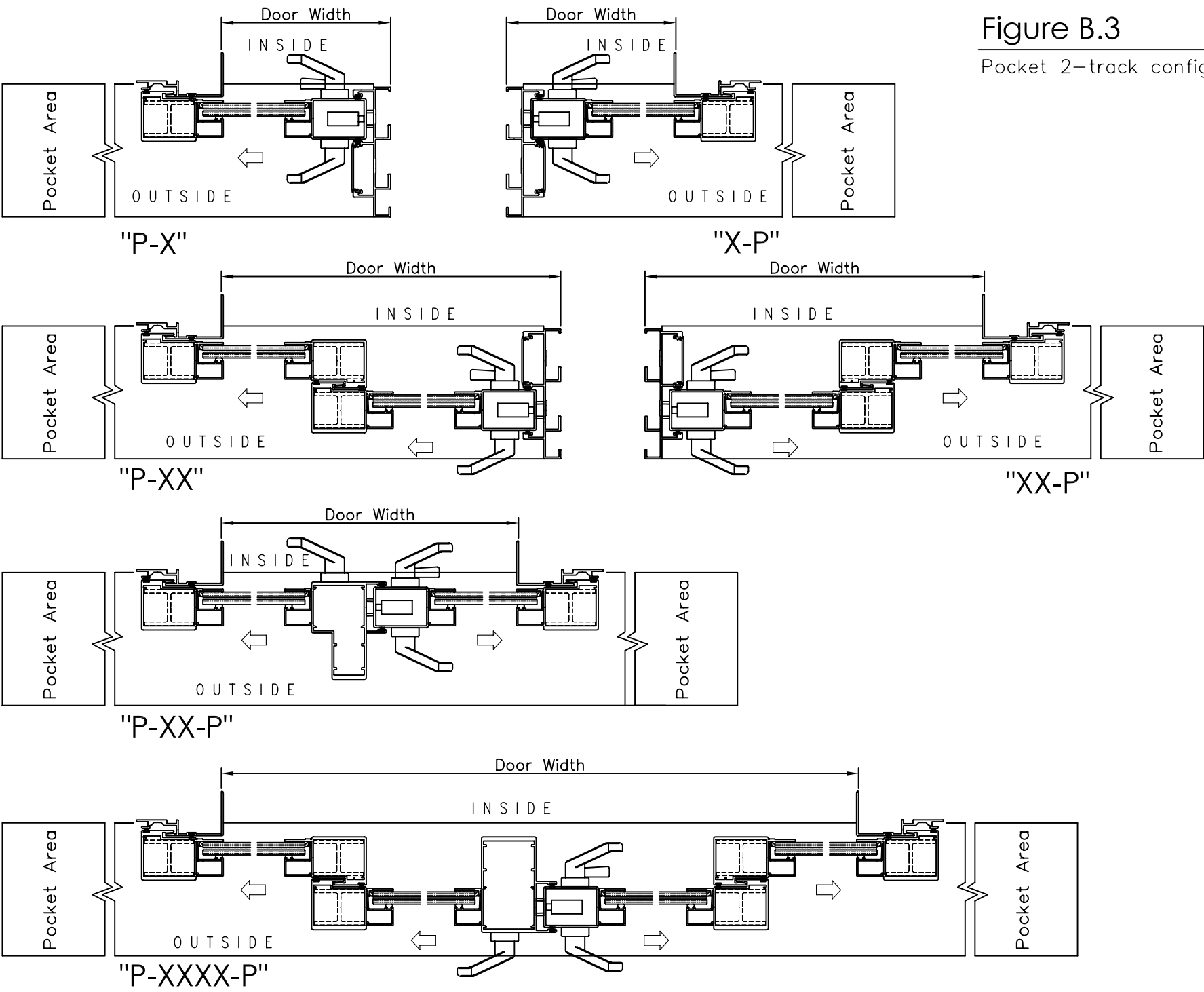
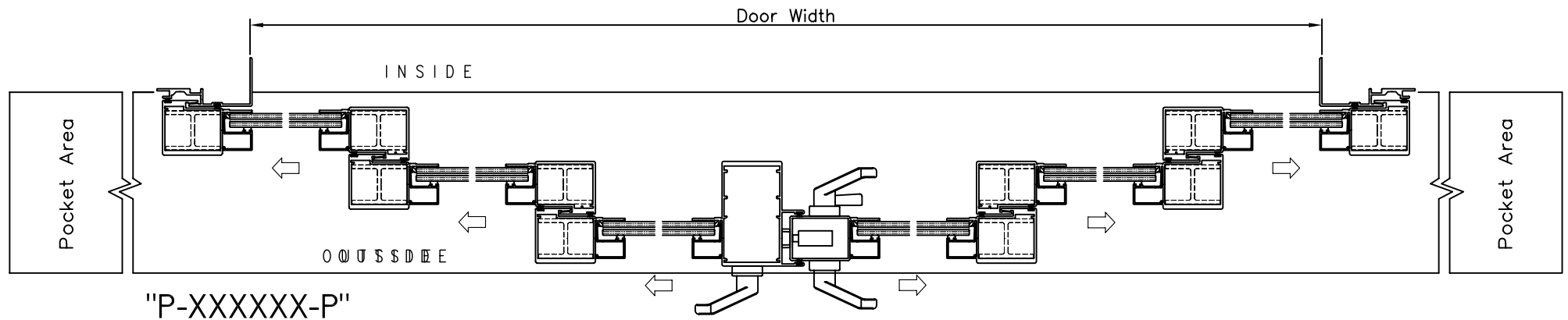
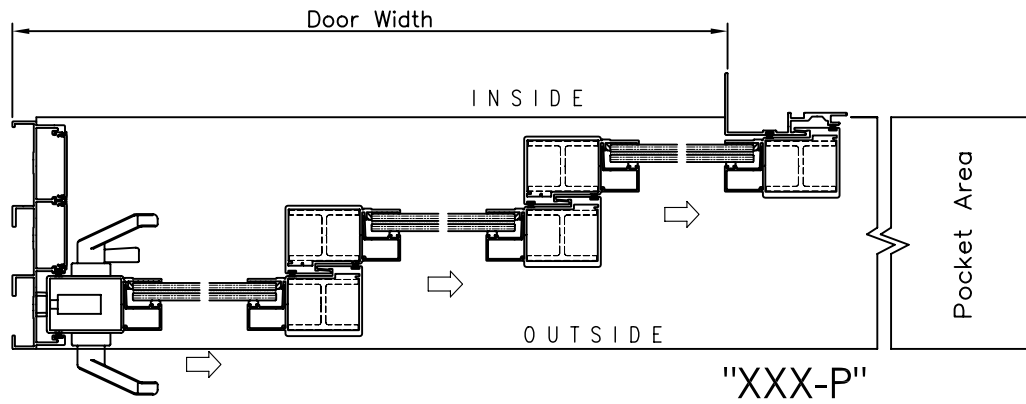
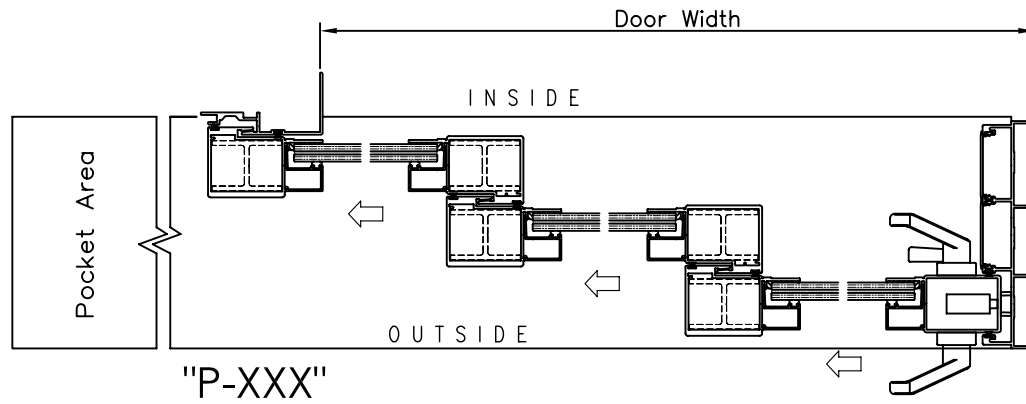
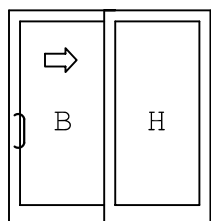
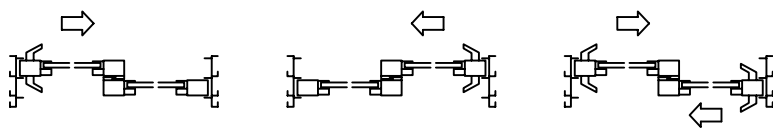


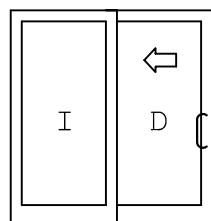
Figure B.4

Pocket 3-track configurations

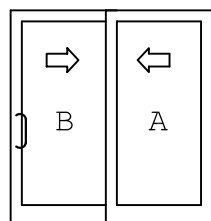




XO



OX

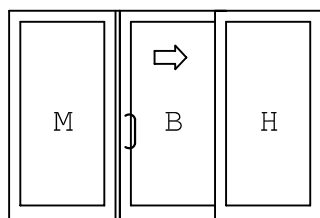
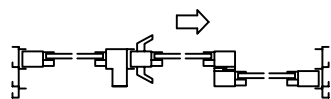


XX

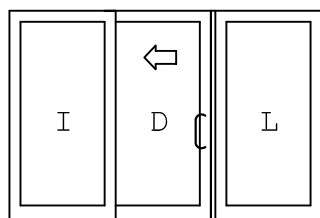
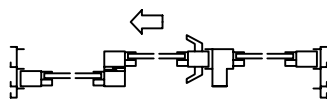
Figure C.1

Panel marks

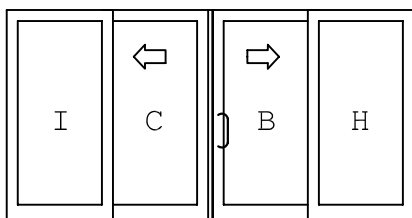
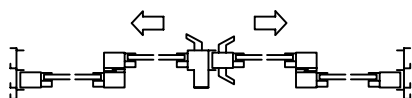
All elevations
are viewed from
outside



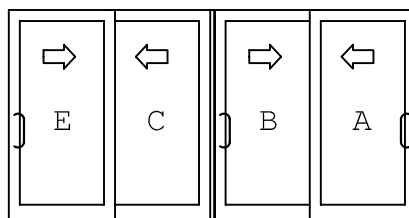
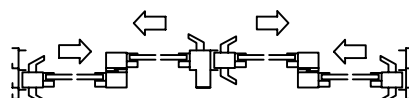
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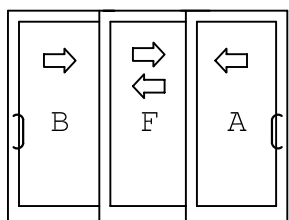
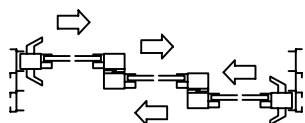
OXO-R



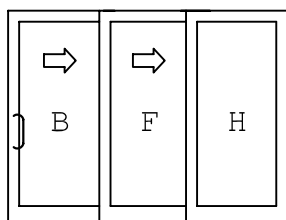
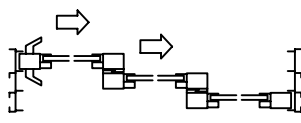
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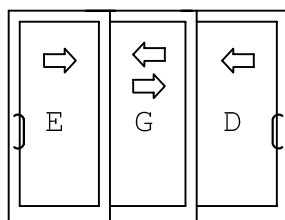
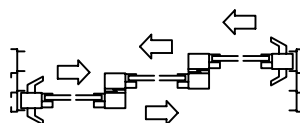
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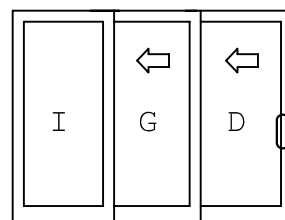
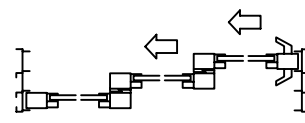
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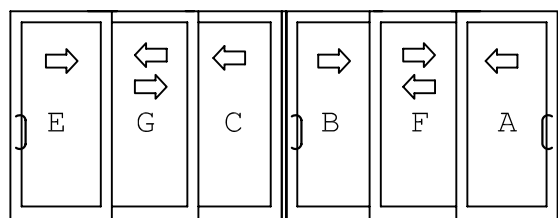
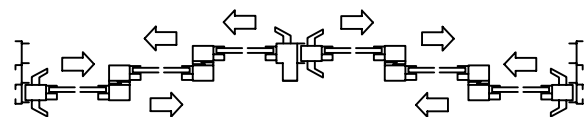
XXO



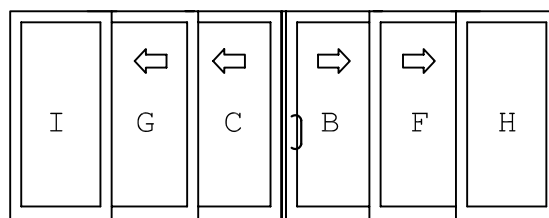
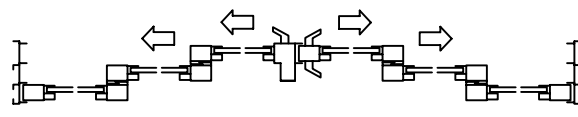
XXXR



OXX



XXXXXX



OXXXXO

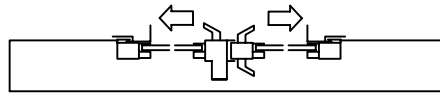
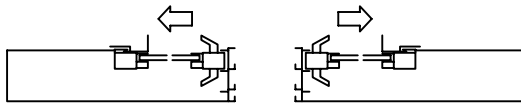
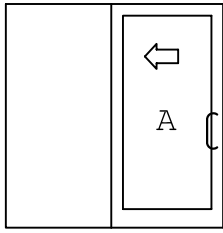
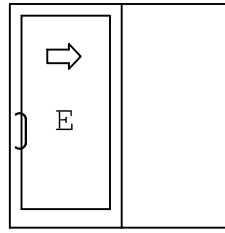


Figure C.2

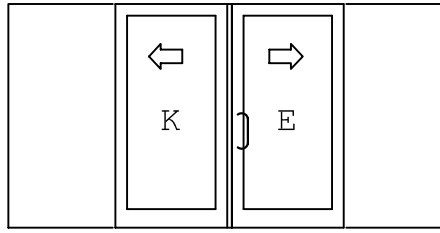
Panel marks



P-X

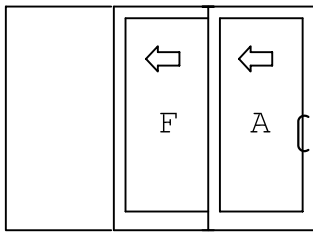
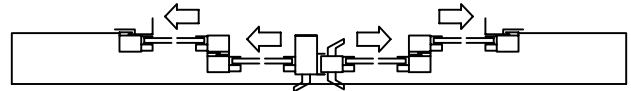
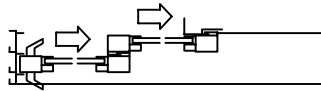
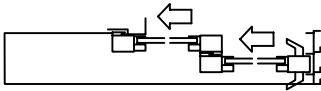


X-P

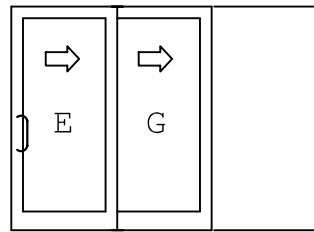


P-XX-P

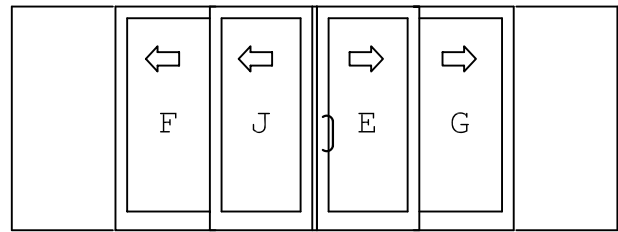
All elevations
are viewed from
outside



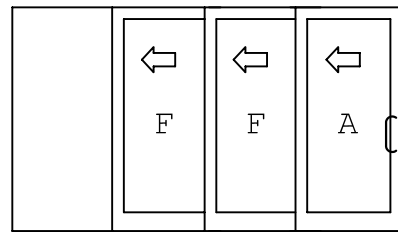
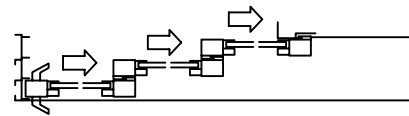
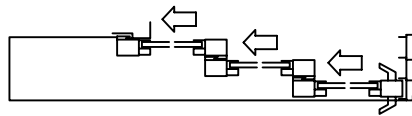
P-XX



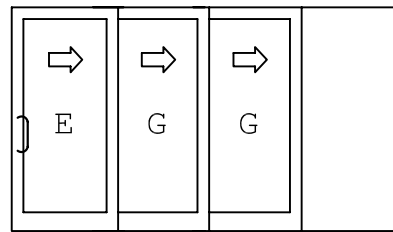
XX-P



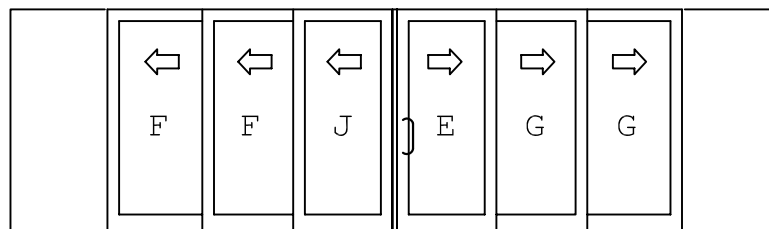
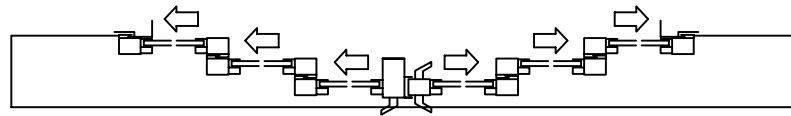
P-XXXX-P



P-XXX



XXX-P



P-XXXXXX-P

Figure D

Fixed panel attachment to jambs

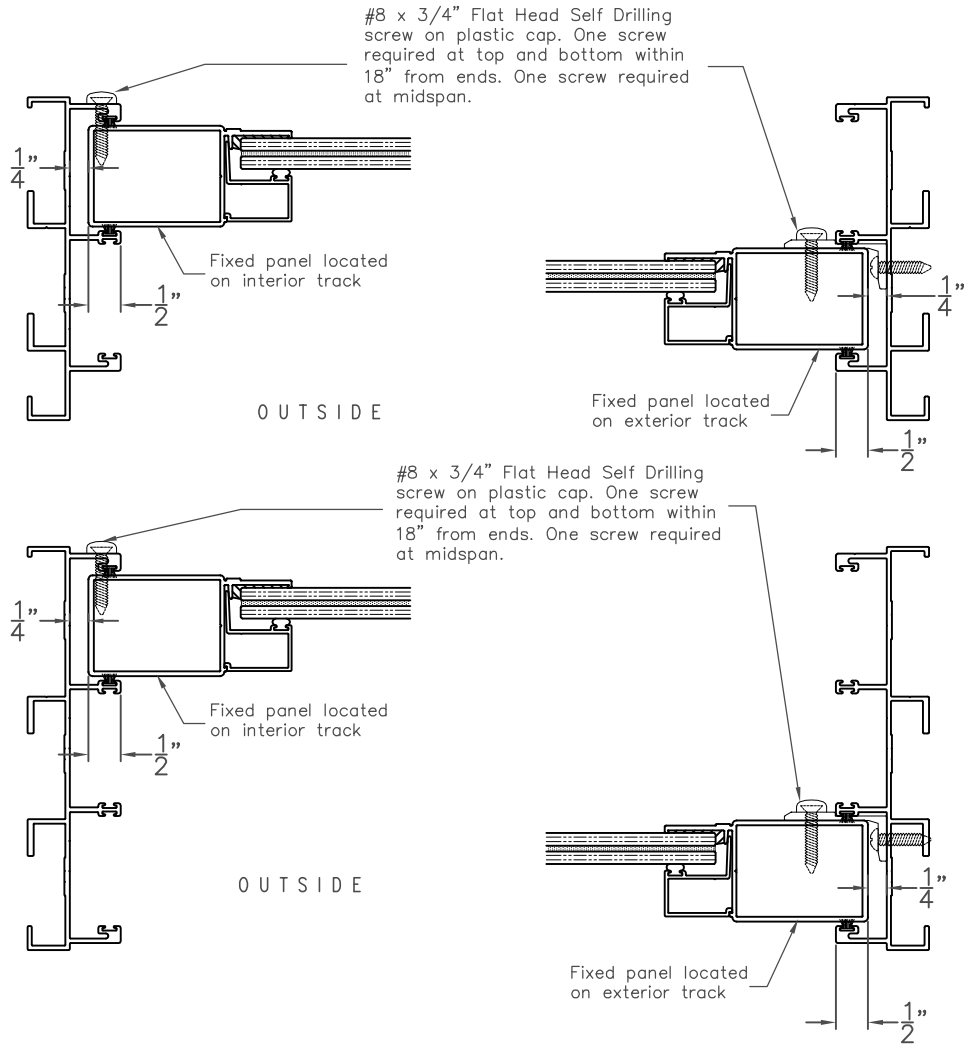
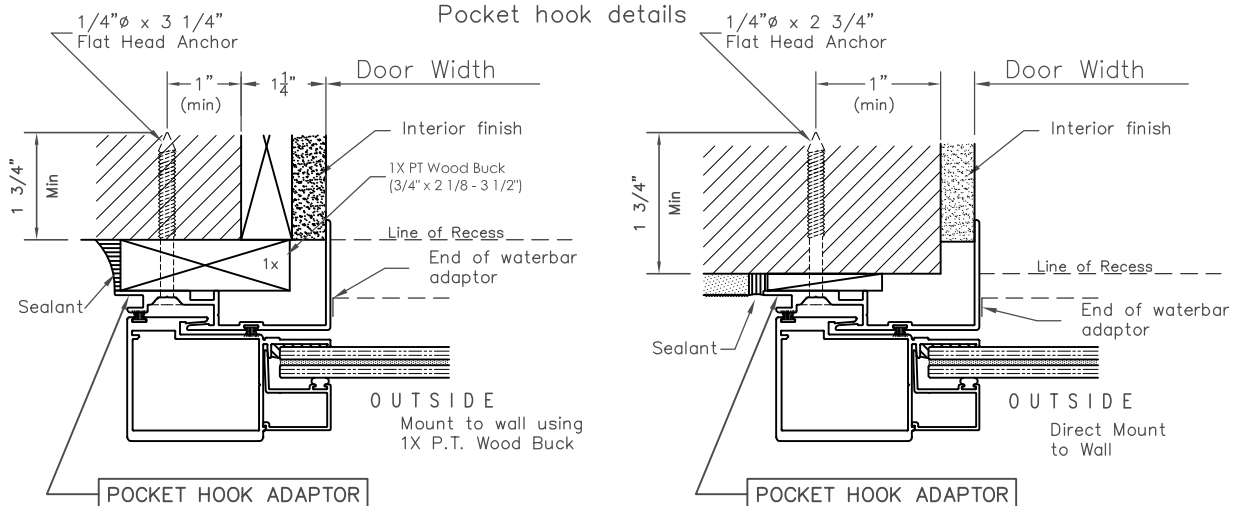


Figure E

Pocket hook details



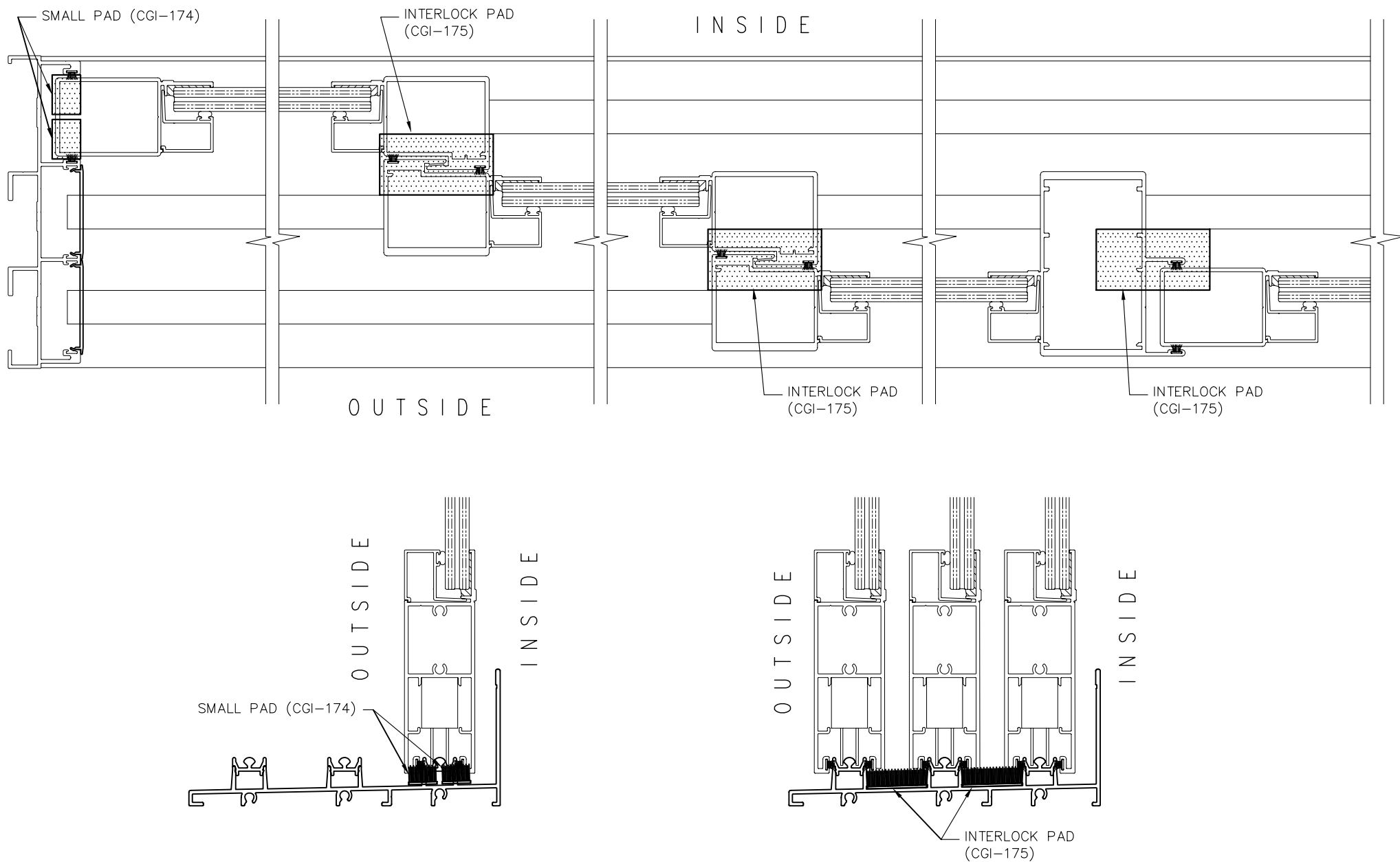


Figure F

Weatherstrip Pad Installation

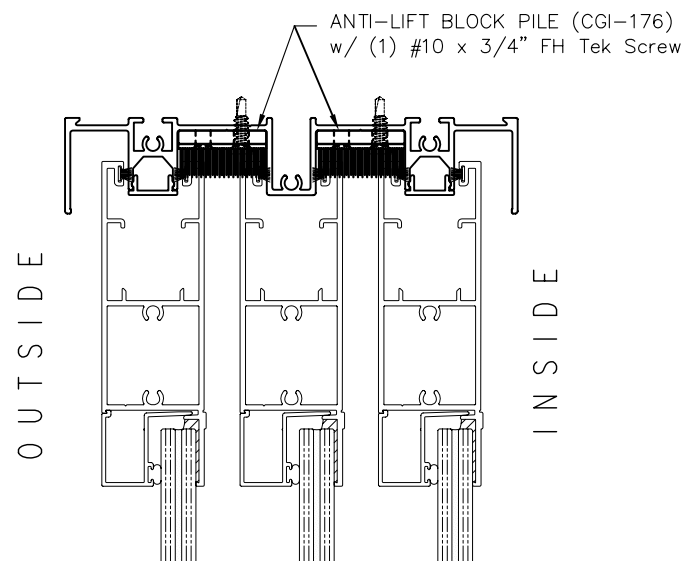


Figure G

Anti-lift block installation

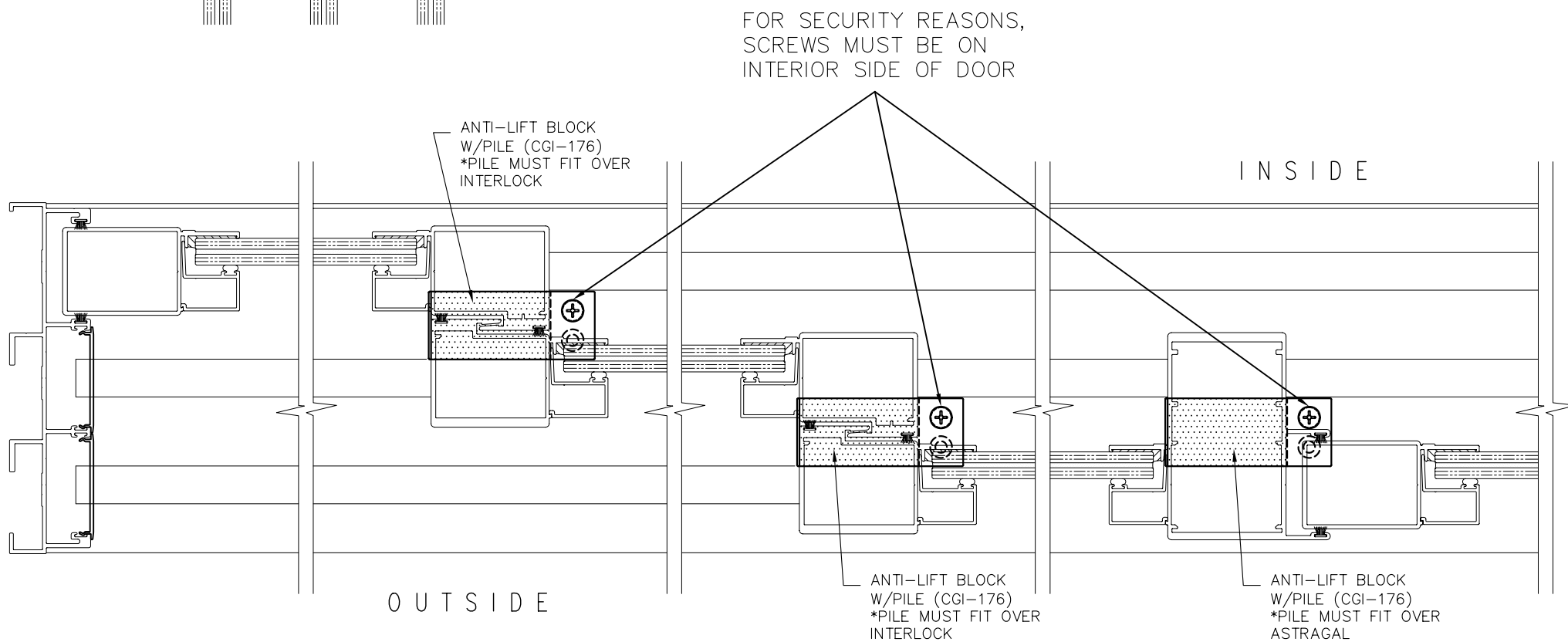
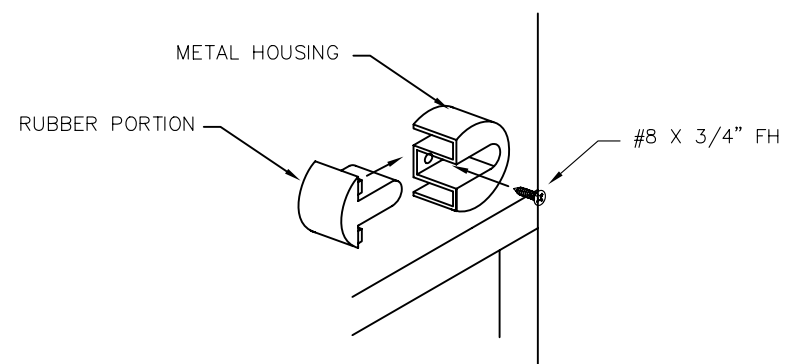
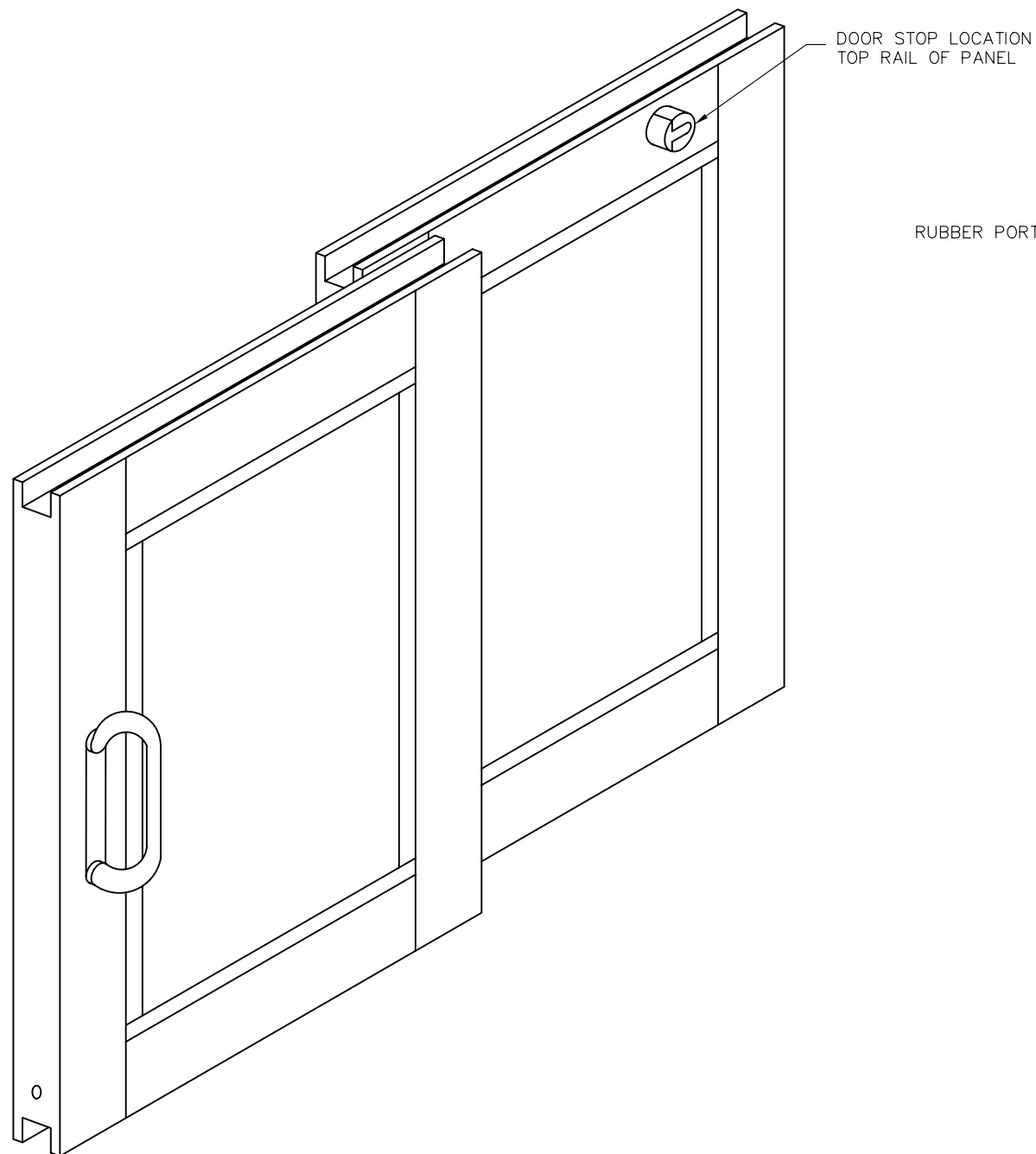


Figure H

Door Stop Location

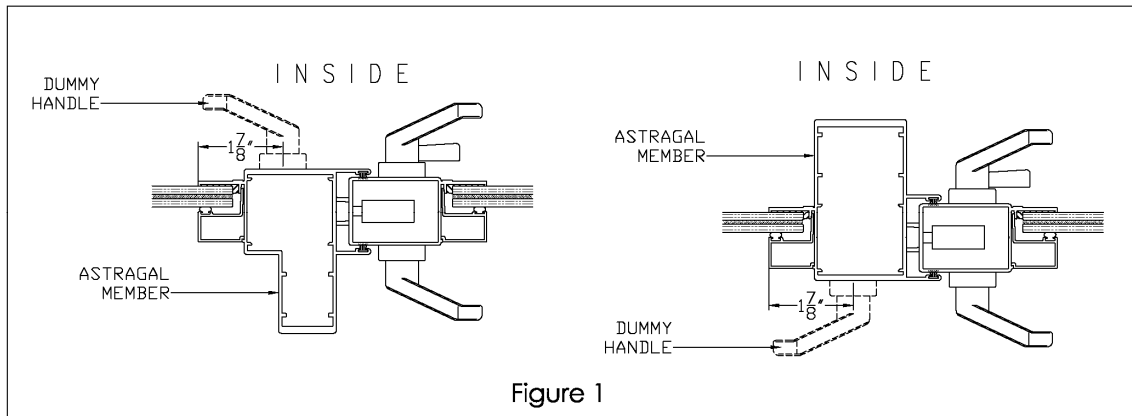


- 1) Drill $\varnothing 5/16$ pilot hole for bumper housing at door stop location.
- 2) Insert metal housing so that rubber portion faces opposing panel.
- 3) Fasten metal housing to panel with #8 x 3/4" FH Self Drilling Screw.
- 4) Attach rubber portion to metal housing.

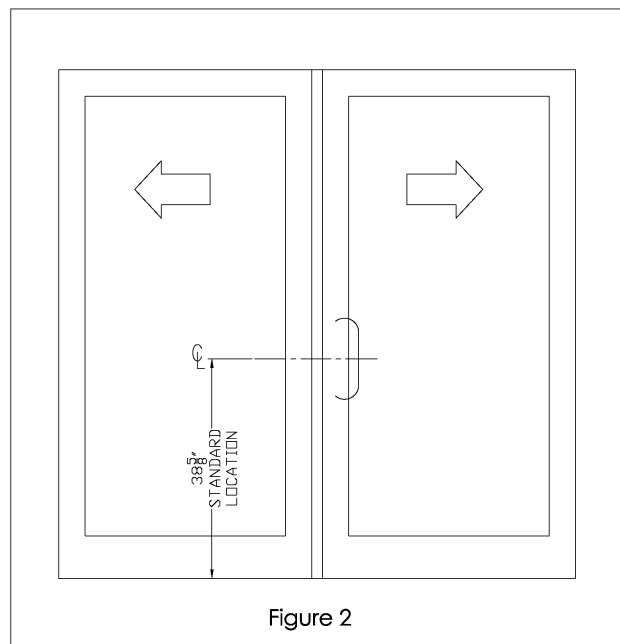
CGI ElementShield Aluminum 150 SGD

Dummy Handle Retrofit - Hole Location

- Locate astragal member and the approximate location of dummy handle as shown in Figure 1.



- Shut both panels and mark the center line of handles on astragal member. Standard dimension is $38\frac{5}{8}$ " from the bottom of panel as shown in Figure 2.



- Measure approximately $1\frac{7}{8}$ " from the edge of glass and mark as shown in Figure 3.
- Drill $\frac{7}{16}$ " holes as shown in Figure 3.

Dummy Handle Installation

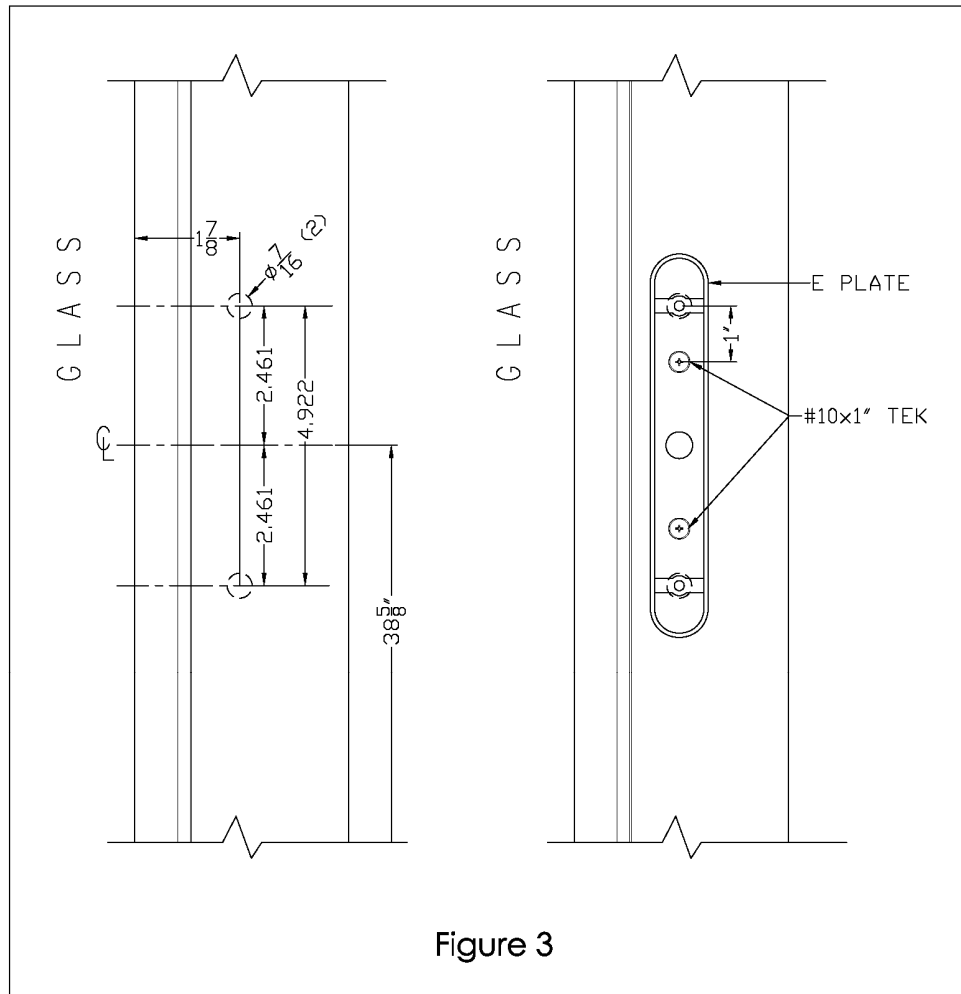


Figure 3

- Insert E plate of dummy handle into two holes as shown in Figure 3. Holes will be fabricated at the factory or fabricated according to the previous retro-fit instructions.
- Attach E plate to astragal with (2) 10 x 1" pan head self drilling screws. Locate screws approximately 1" from holes.
- Attach handle with provided screws.