

YSD 400 Sliding Door System



Installation Manual

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INSTALLATION NOTES

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used, be especially careful about striking the boxes when lifting or moving.
2. Store in a dry, limited access area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials may permanently discolor or stain aluminum finishes and paints.
3. All materials should be checked for quantity and quality upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies, and tools necessary for the installation.
4. Carefully check the openings and surrounding conditions that will receive your material. If the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.
5. Collect your shop drawings, materials, packing list, and this installation manual. Carefully review parts location and the sequence of installation, including glazing and sealing. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.
6. Any material substitutions must be of equal or greater quality.
7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain that sealants have been installed in strict accordance with the manufacturer's recommendations and specifications.
8. Consult sealant manufacture for proper sealant and backer rod selection.
9. Remember to isolate, in a approved manner, all aluminum from uncured masonry or other incompatible materials.
10. System-to-structure fasteners are not supplied by YKK AP. Fasteners called out on shop drawings are to indicate minimum sizes for design loading.
11. If any questions arise concerning YKK AP products or their installation, contact YKK AP Technical Center for clarification before proceeding.

INSTALLATION NOTES

12. YKK AP sliding door installation is typically completed before drywall, flooring and other products have been completely installed. Take the extra time to wrap and protect the installed material.

13. YKK AP Model YSD 400 sliding doors are prefinished and prefabricated, sometimes preassembled, and must be protected against damage.

14. Concrete, mortar, plaster, muriatic acid and other alkaline and acid based construction and cleaning materials may be very harmful to finishes and should be removed with water and mild soap immediately or permanent damage or staining of the finishes will occur. A spot test is recommended before any cleaning agent is used. Abrasive type cleaners must never be used.

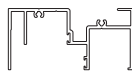
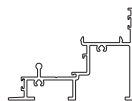
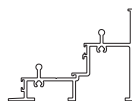
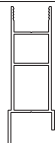
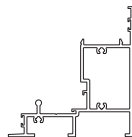
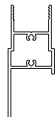
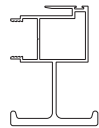
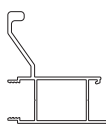
15. All work must start from, and be referenced to benchmarks, offset lines and/or column centerlines established by the architectural drawings and the general contractor.

16. All doors must be installed plumb, square, level, and true, and in accordance with approved shop drawings and these installation instructions.

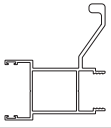
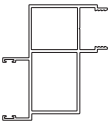
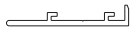
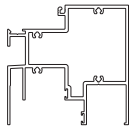
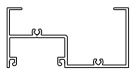
17. Glass and glazing building codes governing the design and use of products vary widely. YKK AP America Inc. does not control the selection of products, product configurations, operating hardware and function, or glazing materials, and YKK AP assumes no responsibility for these design considerations. It is the responsibility of the design professional, owner, architect, specifier, general contractor, and the installer to make these selections in strict accordance with all applicable codes.

18. Check our website, www.ykkap.com, for the latest installation manual update prior to commencing work.

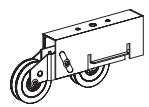
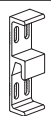
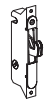
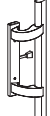
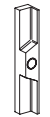
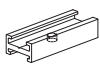
YSD 400 FRAMING MEMBERS

	Head	E9-6001		Panel Bottom Rail OX, XO, OXO & OXXO Units (Exterior), XX Units (Interior)	E9-6010
	Sill For OX, XO, OXO & OXXO Units	E9-6002		Panel Bottom Rail OX, XO, OXO & OXXO Units (Interior)	E9-6011
	Sill For XX Units	E9-6003		Panel Bottom Rail XX Units (Exterior), OX, XO, OXO & OXXO High Sill Units (Exterior)	E9-6012
	Sill (HS) For OX, XO, OXO & OXXO High Sill Units	E9-6030		Panel Bottom Rail OX, XO, OXO & OXXO High Sill Units (Interior)	E9-6033
	Fixed Jamb For OX, XO, OXO & OXXO Units	E9-6004		Sliding Panel Stile	E9-6013
	Lock Jamb For OX, XO, & XX Units	E9-6005		Fixed Panel Stile	E9-6014
	Sill Trim	E9-6006		Interlock Stile	E9-6015
	Threshold Cover	E9-6007		Interlock Stile	E9-6016
	Threshold Cover For High Sill	E9-6034		Receptor	E9-6017
	Panel Top Rail All Units (Exterior)	E9-6008		Receptor Stop	E9-6018
	Panel Top Rail All Units (Interior)	E9-6009		Latch Meeting Stile For OXXO Units	E9-6019

YSD 400 FRAMING MEMBERS

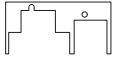
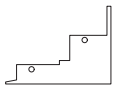
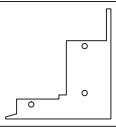
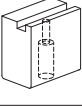
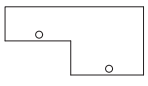
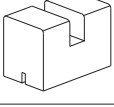
	Lock Meeting Stile For OXXO Units	E9-6020		Transom Jamb Glazing Pocket	E9-6025
	Mullion Stile For OXO Units	E9-6021		Optional Sill Anchor L = F.W. – 1 1/2"	E9-6035
	Transom Bar For OX, XO, & XX Units Only	E9-6022		Screen Attachment Angle	E9-6027
	Transom Glass Stop	E9-6023		Vertical Screen Track	E9-6028
	Transom Frame Head	E9-6024		Horizontal Screen Track	E9-6029

YSD 400 ACCESSORIES

	Track Cover Stainless Steel	E1-1601*		Ball Bearing Roller	E1-1616*
	Keeper	E1-1602*		Mortise Lock	E1-1607*
	Keeper Shim	E1-1603*		Interior Pull Handle	E1-1608
	Attachment Angle For Fixed Panels	E1-1604		Exterior Pull Handle	E1-1609
	Sill Block For High Sill At Fixed Panel	E1-1617		Bumper Back Plate For XX Units	E1-1610*
	Bottom Rail Block	E1-1605*		Keeper Back Plate	E1-1611*

* Parts assembled to door/frame at the factory.

YSD 400 ACCESSORIES

	Head End Gasket	E2-0701*		Sill Joint Plug For OXO Units	E2-0722*
	Sill End Gasket	E2-0702*		Sill Joint Plug For OXO Units	E2-0721*
	Sill End Gasket For High Sill	E2-0720*		Head Bumper	E2-0708*
	Transom Head End Gasket	E2-0713*		Sill Bumper	E2-0709*
	Transom Bar End Gasket	E2-0714*		Top & Bottom Rail Bumper	E2-0710*
	Glazing Gasket For Transom	E2-0052		Interlock Stile Spacer For OXO Units	E2-0717*
	Glazing Gasket For Panels, 1" Glazing	E2-0703		Weatherseal	E2-0711*
	Glazing Gasket For Panels, 1/4" Glazing	E2-0716		Weatherseal	E2-0723*
	Glazing Gasket For Panels, 3/8" Glazing	E2-0718		Push-In Spacer For Optional Sill Anchor	E2-0359
	Setting Block	E2-0704		Sliding Guide	E3-1161*
	Jamb Bumper	E2-0705*		Anti-Lift Block	E3-1162*
	Dust Plug	E2-0706*		Screw Cap For PC-1016	K-6519
	Sill Block	E2-0707*		Screw Cap For PM-2508	K3-3004

* Parts assembled to door/frame at the factory.

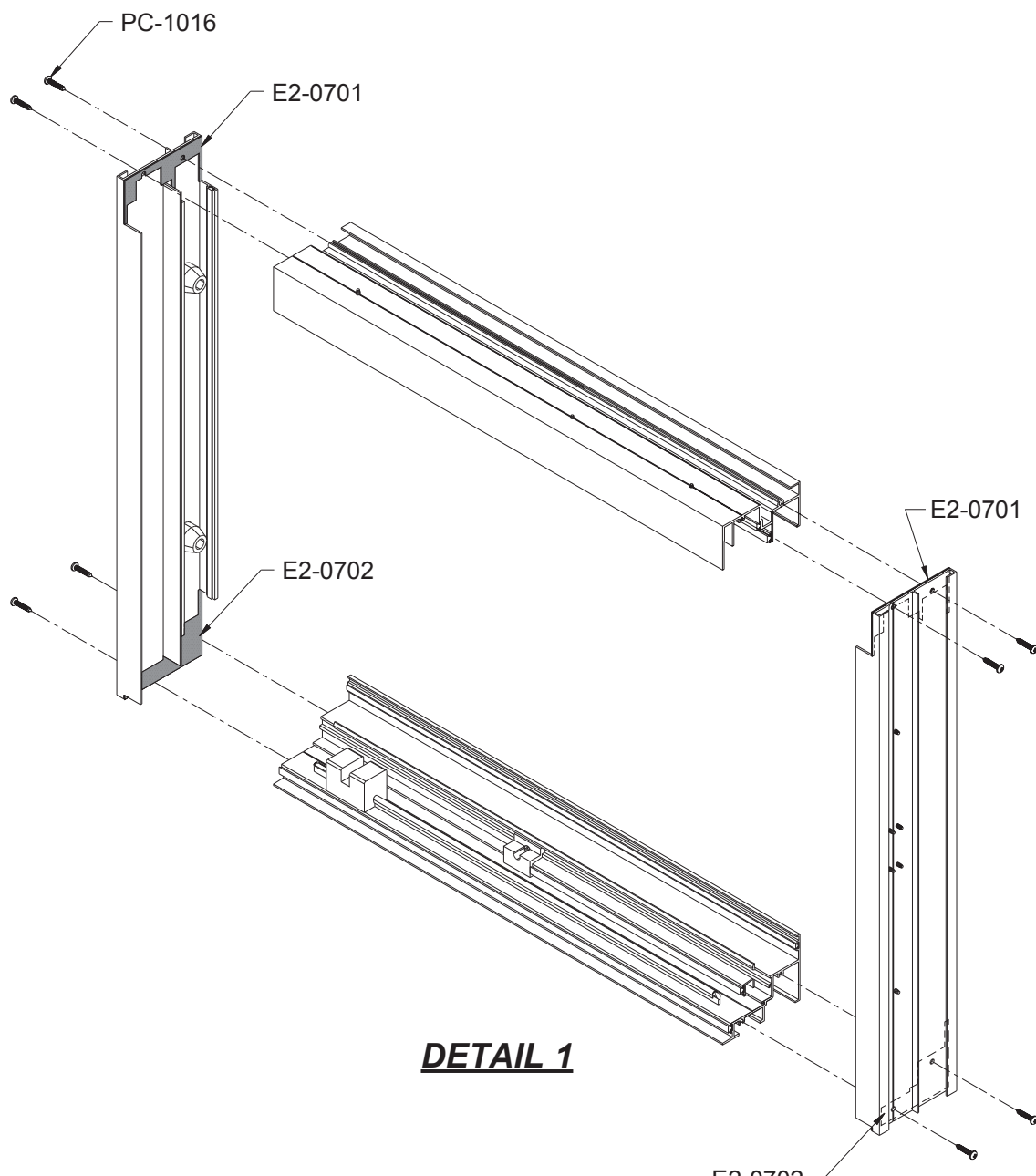
YSD 400 FASTENERS

 #8-32 x 2-1/4" Oval Head MS Screw for Handle	VM-0836	 1/4"-20 x 1/2" PHMS, Stainless Steel For Sliding Panel Assembly	PM-2508-SS
 #10 x 1" Type AB PHSMS, Stainless Steel For Frame & Door Assembly	PC-1016-SS	 #8x1/2" FHSMS Type AB Zinc Plated Steel, For Vert. Attachment of Screen Track To Angle	FC-0808
 #10-24 x 3/4" Type F PHSMS, Stainless Steel For E1-1604 Attachment	PF-1012-SS	 #8x3/8" PHSMS Type AB Zinc Plated Steel For Screen Track Installation	PC-0806

STEP 1 ASSEMBLE FRAME

- Lay out members and locate fasteners.
- Peel off the adhesive paper from head & sill end gaskets E2-0701 & E2-0702.
- Line up the head & sill members and assemble the frame with two PC-1016 fasteners at each joint.

See **Detail 1**.



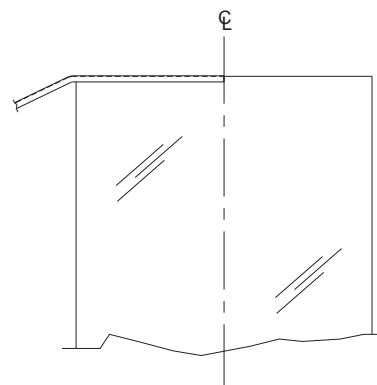
STEP 2 INSTALL GASKETS

- Locate the roll of gasket supplied with the sliding door package.
- Add up the total perimeter for each lite of glass:
 $(2 \times \text{Width}) + (2 \times \text{Height})$
 Ex.: A unit 34" wide by 76" tall would have 220" total.
- Cut the gasket to the length determined above for each lite.
- Begin by installing the gasket at the center of the top of each lite plus 6".

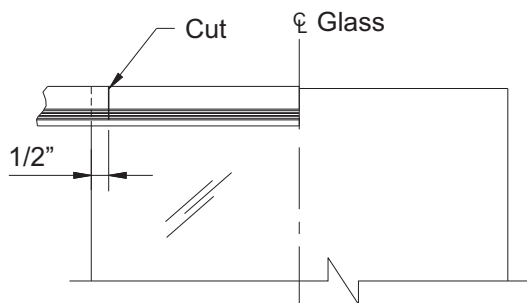
See **Detail 2**.

- Slit the gasket 1/2" away from the corner as shown in **Detail 3**.

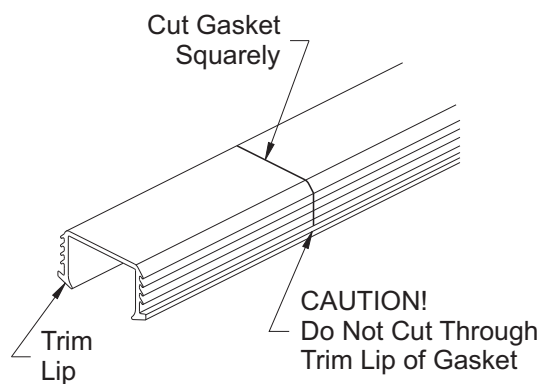
Caution: Do not cut through the trim lip of the gasket.



DETAIL 2



DETAIL 3

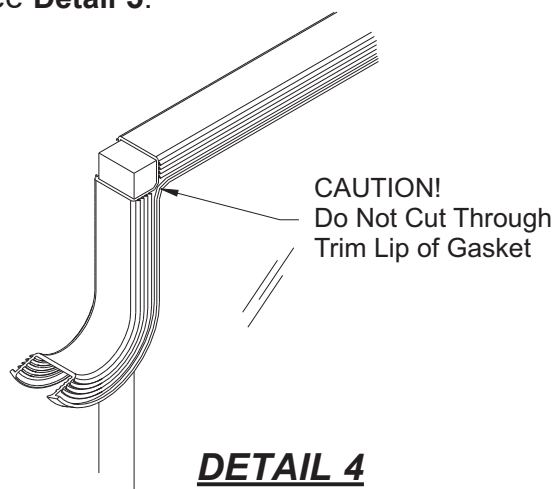


- Wrap the gasket around the corner and install the gasket around the glass moving down the side of the lite.

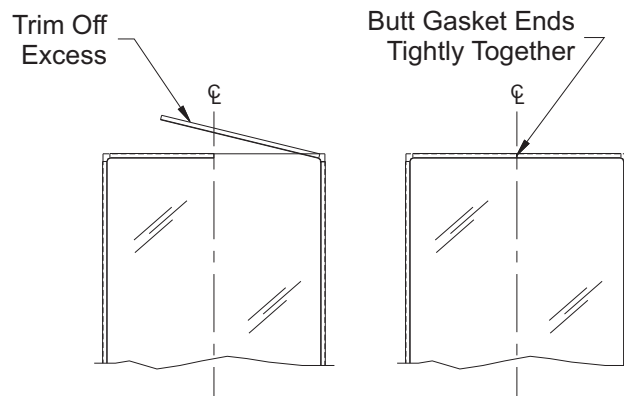
See **Detail 4**.

- Cut the gasket 1/2" away from the next corner.
- Proceed around the lite repeating the steps called out above.
- Trim off the excess gasket at the end and butt the ends of the gasket tight against each other.

See **Detail 5**.



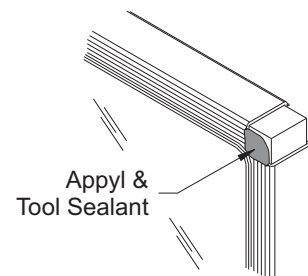
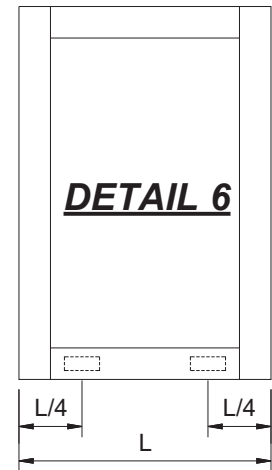
DETAIL 4



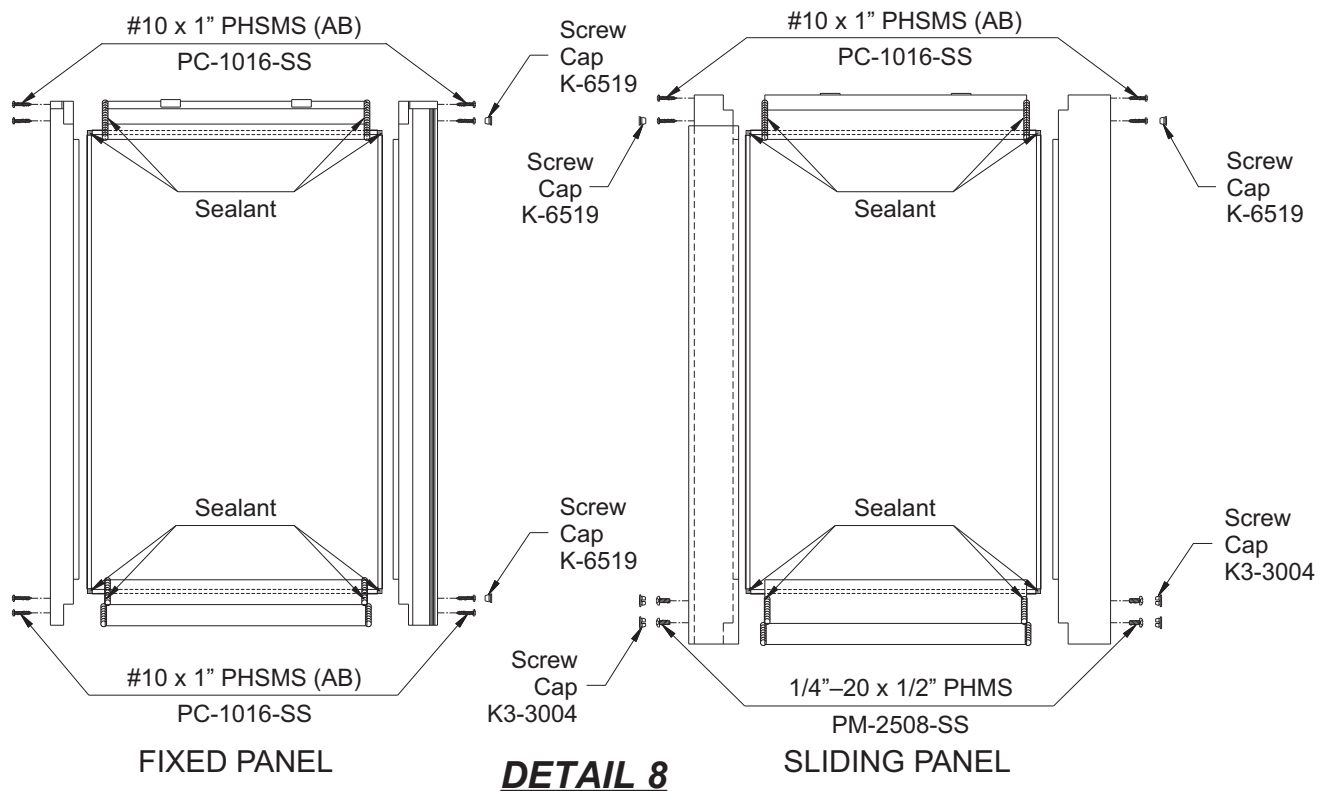
DETAIL 5

STEP 3 ASSEMBLE PANELS

- Refer to the shop drawings to determine which stiles and rails are required and locate the appropriate rails and stiles.
 - Install setting blocks E2-0704 at quarter points of each bottom rail.
See **Detail 6**.
 - Just prior to assembling the panels, apply and tool sealant to the glass corners behind the gasket on both sides.
See **Detail 7**.
 - Center the top and bottom rails on the lite of glass.
 - Use a rubber mallet to install the rails around the glass.
 - Apply sealant to the ends of the top and bottom rails.
 - Center the stiles and use a rubber mallet to install the stiles onto the glass.
 - Screw the panels together:
 - Sliding Panels:
 - Use two PM-2508 fasteners at each bottom corner
 - Use two PC-1016 at each top corner.
 - Fixed Panels:
 - Use two PC-1016 fasteners at each corner.
- See **Detail 8**.



DETAIL 7

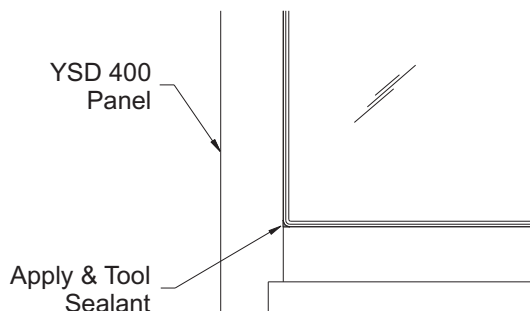


DETAIL 8

STEP 3 (Continued) ASSEMBLE PANELS

-Apply and tool sealant to the joint between the marine gasket and panel corners. Seal at each corner and on both sides of the panel.

See **Detail 9**.



DETAIL 9

-Install screw caps into panels:

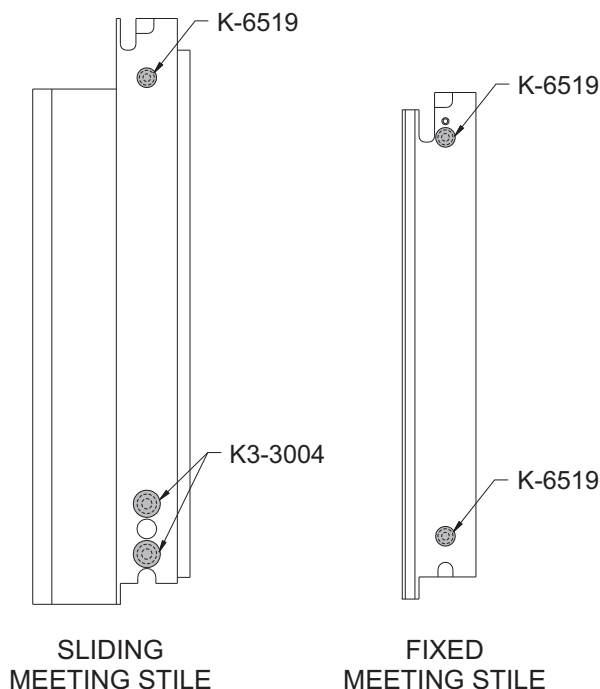
Sliding Panels:

- Install screw cap, K-6519, into the hole at the top of the stile.
- Each stile has (3) holes at the bottom. Install screw caps, K3-3004, into the top and bottom hole of each stile.

Fixed Panels:

- Each stile has (2) holes at the top. Install screw cap, K-6519, into the bottom hole.
- Do not install screw cap, K-6519, into the hole at the bottom of the stile at this time. The threshold cover must be installed first; see **Step 6 on Page-11**.

See **Detail 10**.

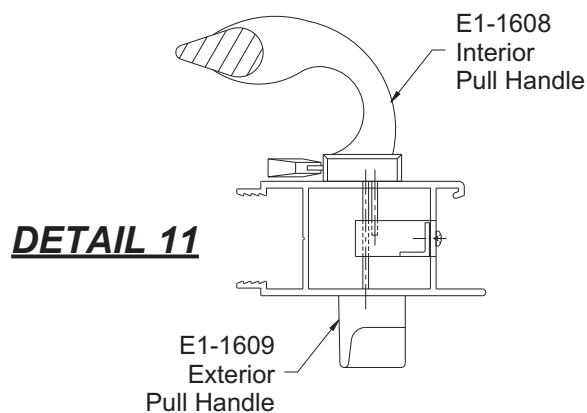


DETAIL 10

-Install pull handles:

- Line up holes of interior pull handle, E1-1608, and exterior pull handle, E1-1609, with the holes in the sliding panel stile (holes are pre-drilled from the factory).
- Attach the pull handles to the sliding panel using (2) VM-0836 fasteners.
- Check to ensure that the lock operates correctly.

See **Detail 11**.

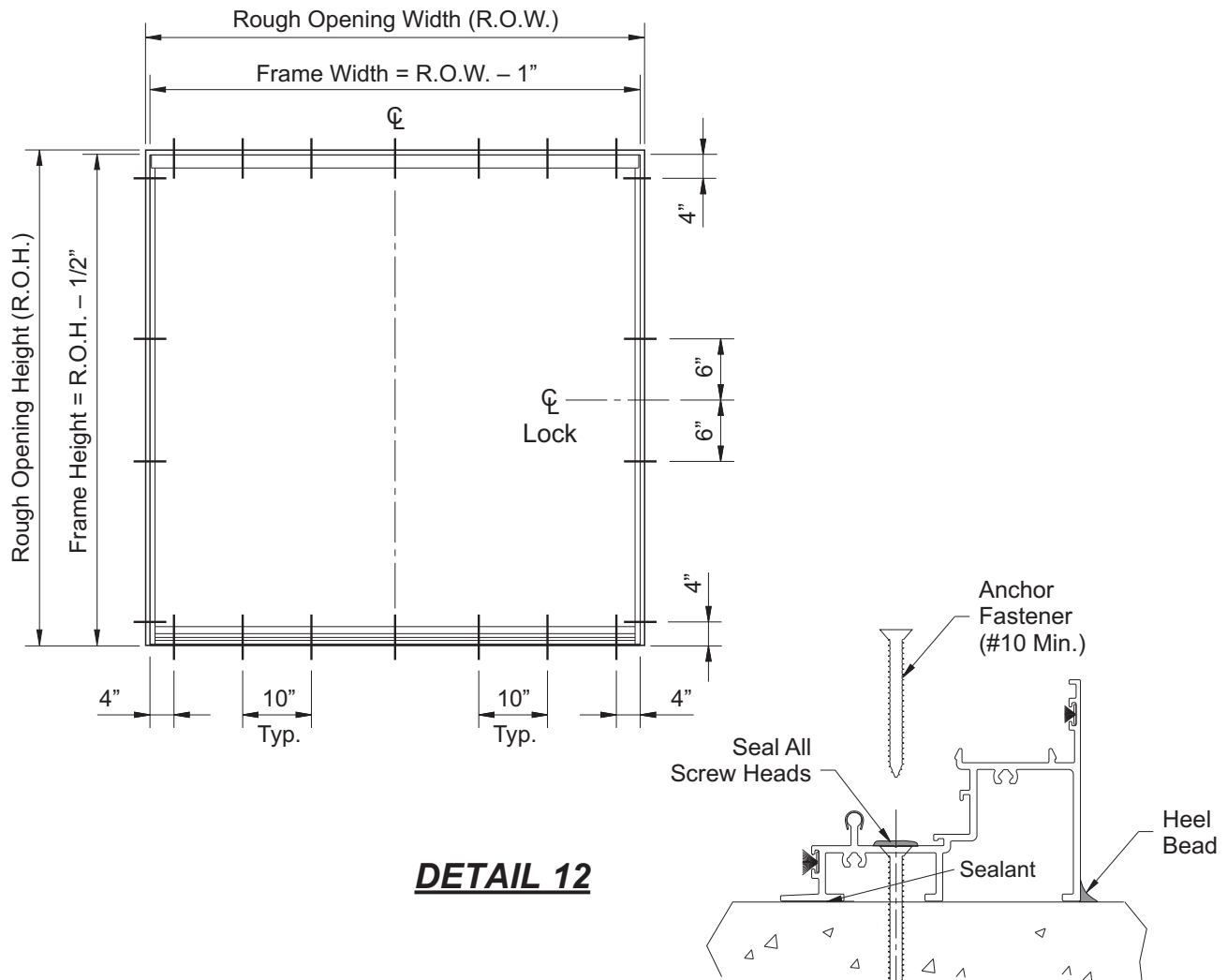


DETAIL 11

STEP 4
INSTALL FRAME

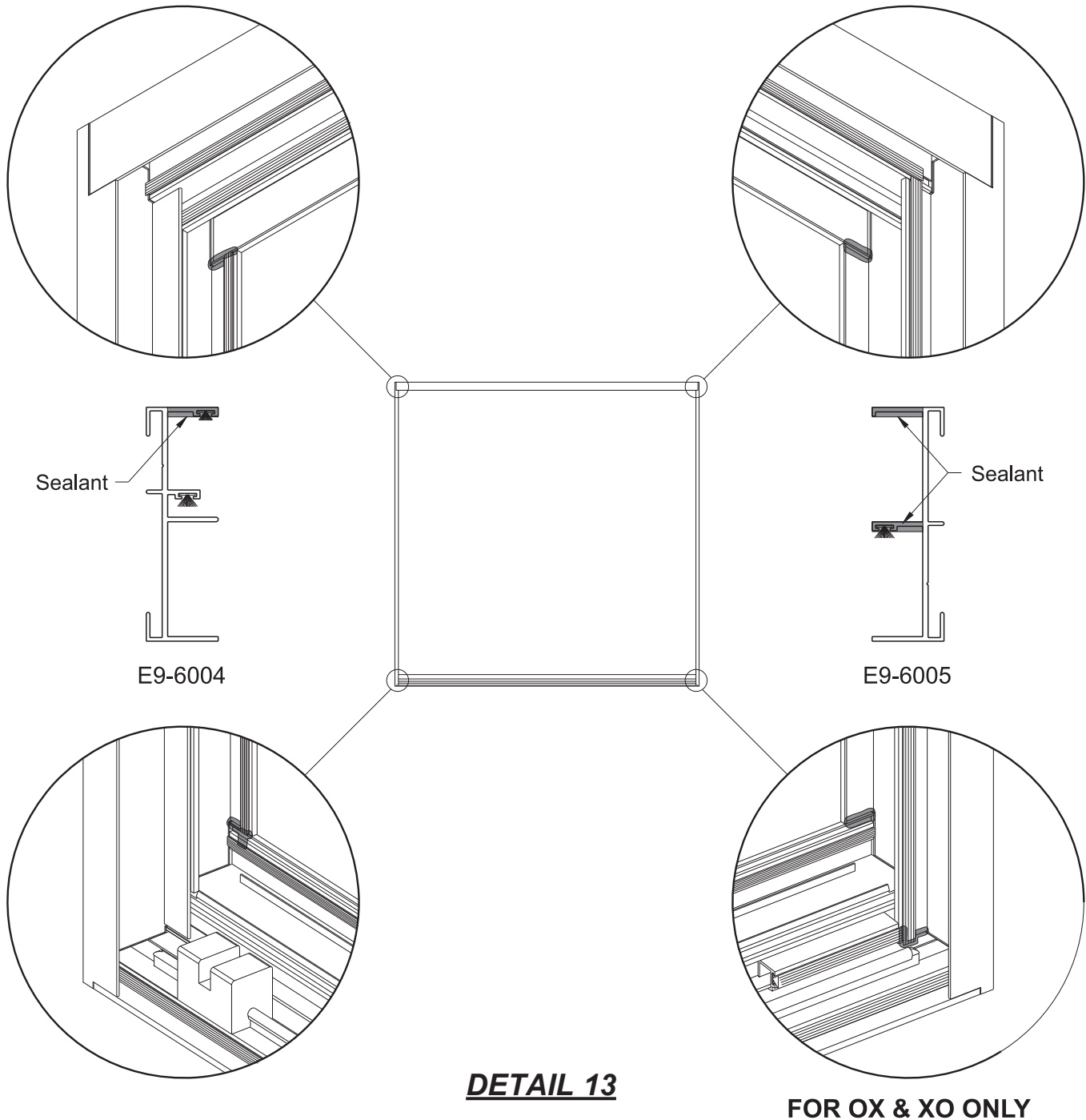
- Run a bead of sealant along the structure where the exterior leg of the sill will be.
- Set the sliding door frame into the prepared opening. The sill surface must be flat and level.
- Shim the jambs so that the frame will be plumb, square, level, and true.
- Secure the frame to the opening using the size and type of fasteners called out on the shop drawings (#10 minimum). Locate fasteners in the head and sill at 4" from each corner, at the center of the frame, and then 10" on center.
- Locate fasteners in the jambs at 4" from each corner and then 6" above and 6" below the lock. Locate fasteners at the same location in the opposite jamb.
- Seal all screw heads.
- Apply perimeter sealant around the exterior of the frame.
- Apply a heel bead at the sill on the interior side.

See **Detail 12**.



STEP 5
APPLY INTERNAL SEALANT

-Prior to installing the sliding door panels, the interior door frame corners must be sealed.
Apply and tool sealant to the door frame corners as shown below.
See **Detail 13**.

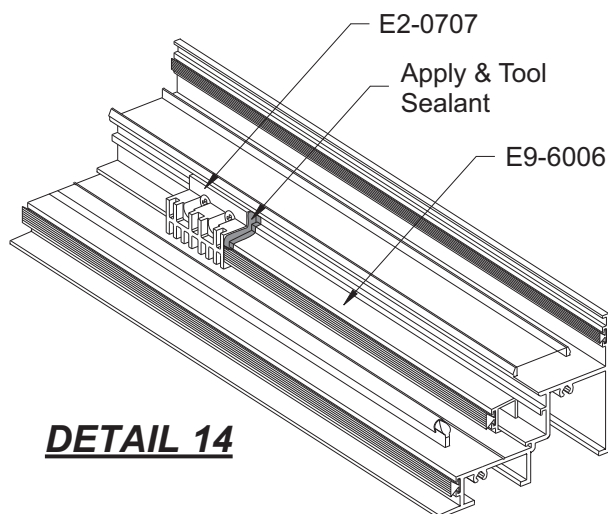


STEP 5 (Continued) APPLY INTERNAL SEALANT

For All Units:

-Apply and tool sealant to the joint where the end of the sill trim, E9-6006, meets the sill block, E2-0707.

See **Detail 14**.



DETAIL 14

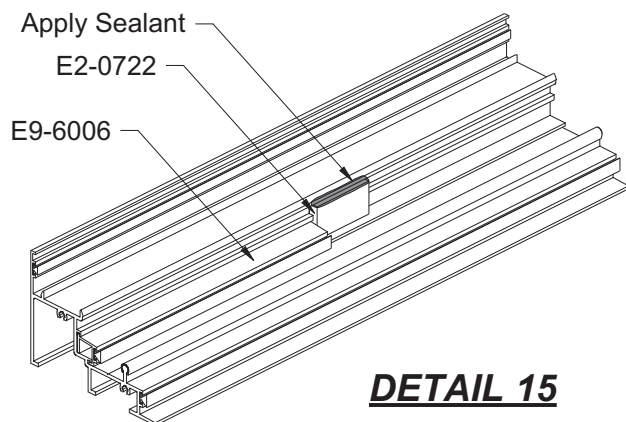
For OXO Units Only:

-Just prior to installing the fixed panel with the mullion stile, apply sealant to the top of the sill joint plug, E2-0722.

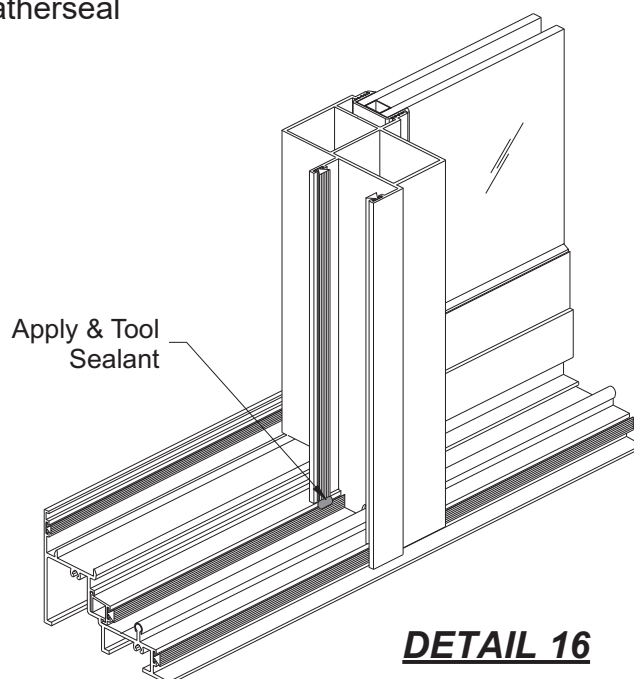
See **Detail 15**.

-Once the fixed panel with the mullion stile is installed, apply and tool sealant where the sill trim pile weatherseal meets the mullion interior pile weatherseal.

See **Detail 16**.



DETAIL 15



DETAIL 16

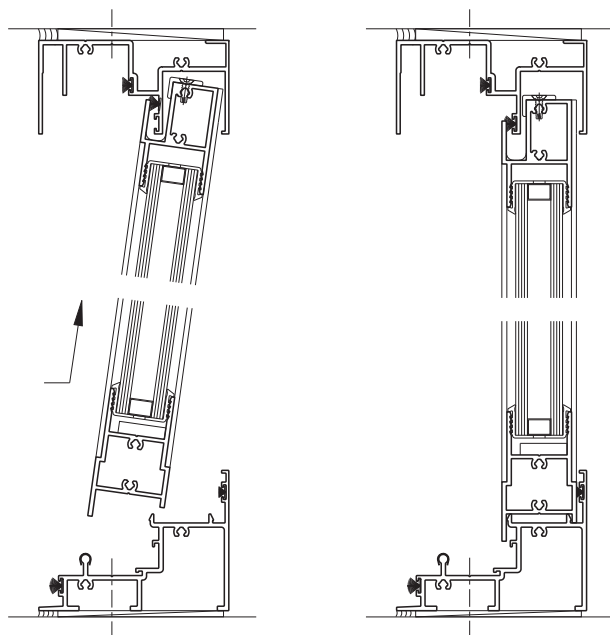
**STEP 6
INSTALL PANELS**

-Set the interior panel(s) into the frame and move it over tight against the jamb.

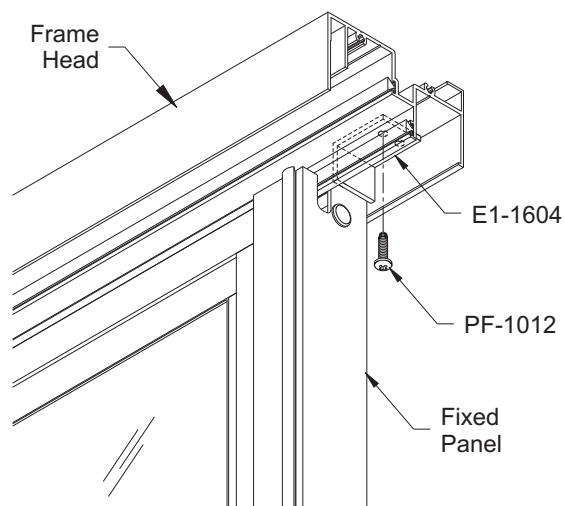
See **Detail 17**.

-For fixed panels position the attachment angle, E1-1604, up tight against the frame and fixed panel, and secure it with a PF-1012 fastener.

See **Detail 18**.



DETAIL 17



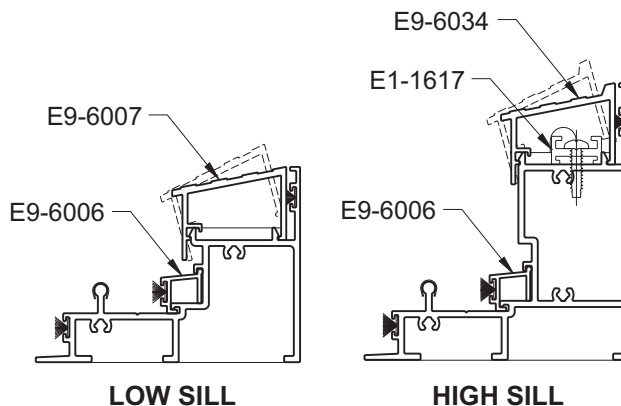
DETAIL 18

-For low sill frames install the threshold cover, E9-6007, into the sliding panel side of the track as shown.

-For high sill frames install sill block, E1-1617, tight against the fixed panel with a PF-1012 fastener prior to snapping on the threshold cover E9-6034.

See **Detail 19**.

Note: XX units do not require threshold covers.



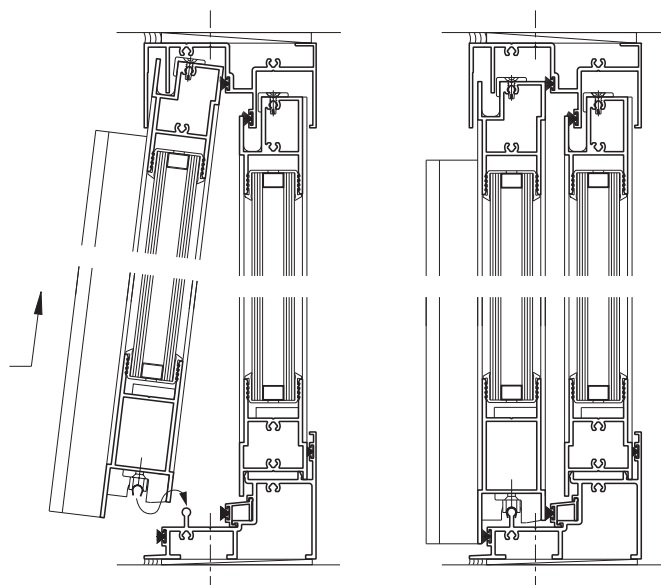
DETAIL 19

STEP 6 (Continued) INSTALL PANELS

- Remove the one anti-lift block from the fixed side of the sliding door.
- Lift the sliding panel(s) up into the frame on the fixed panel side in order to clear the anti-lift blocks.
- Carefully lower the panel(s) down onto the roller track. Make sure that the rollers are properly aligned with the roller track.
- Slide the sliding panel to the closed position and replace the anti-lift block previously removed.

Caution: Do not allow the rollers to contact the floor before installing the sliding panels.
Damage to the rollers may occur.

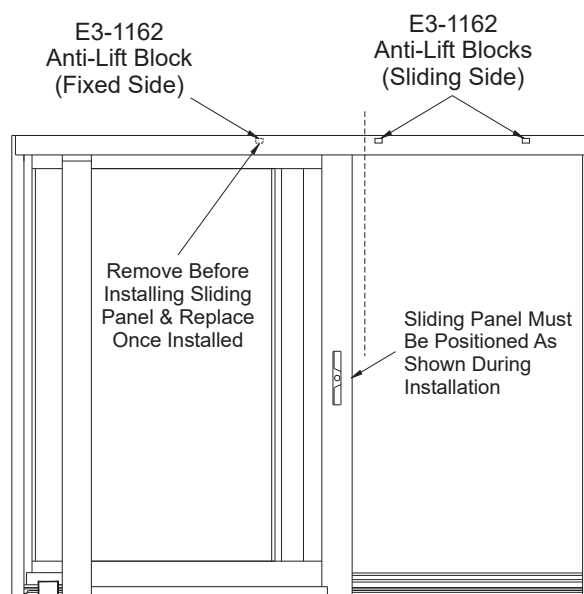
See **Details 20 & 21.**



DETAIL 20

DETAIL 21

OX Shown
Others Similar



STEP 6 (Continued)
INSTALL PANELS

-Adjust the rollers of the sliding panel(s) so that the door is level and rolls freely.

Note: For XX units adjust the rollers for both panels.

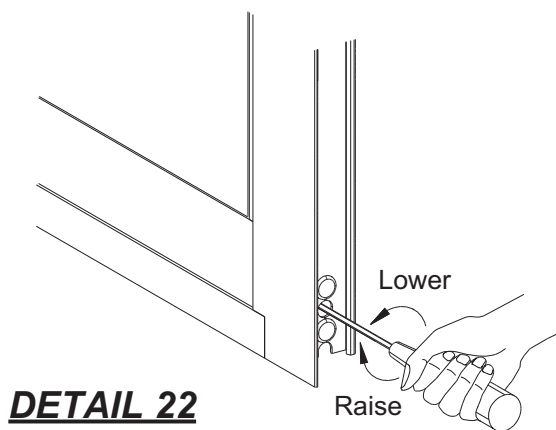
See **Detail 22**.

-Loosen the lock keeper fasteners.

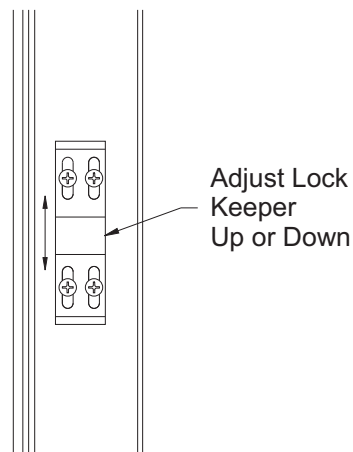
-Adjust the lock keeper on the frame so that the lock engages correctly.

-Tighten the lock keeper fasteners.

See **Detail 23**.

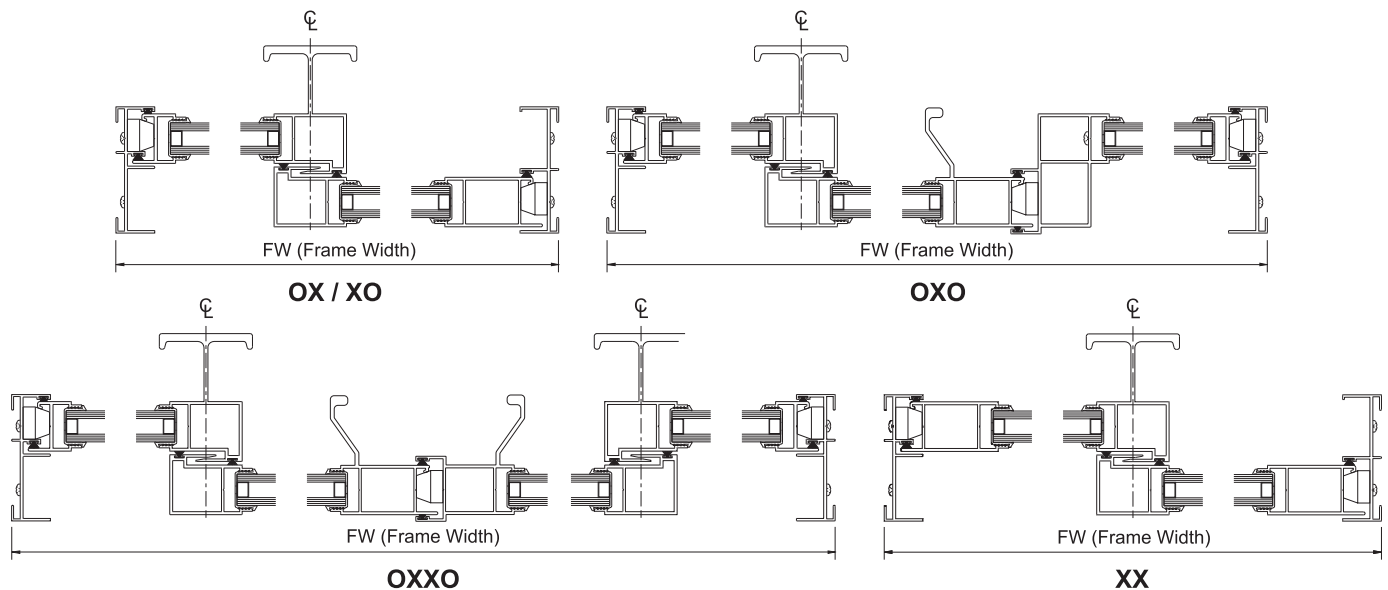


DETAIL 22



DETAIL 23

CALCULATING GLASS SIZES



PANEL GLASS HEIGHT

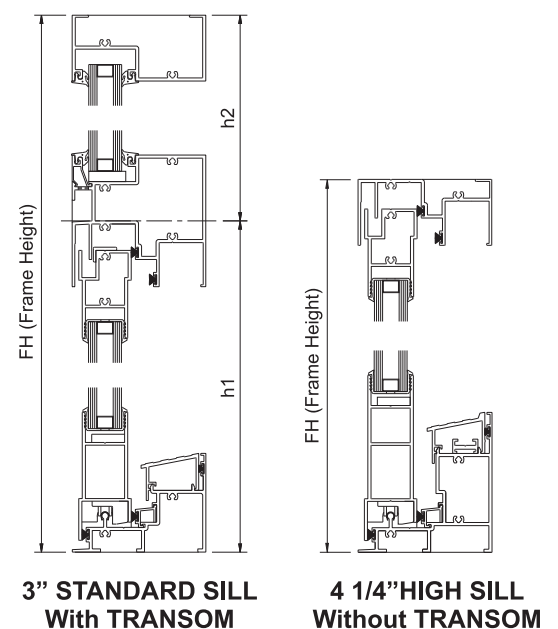
CONFIGURATION	WITHOUT TRANSOM		WITH TRANSOM	
	3" LOW SILL	4 1/4" HIGH SILL	3" LOW SILL	4 1/4" HIGH SILL
OX / XO	FH – 6 13/16"	FH – 7 15/16"	h1 – 6 13/16"	h1 – 7 15/16"
OXO	FH – 6 13/16"	FH – 7 15/16"		
OXXO	FH – 6 13/16"	FH – 7 15/16"		
XX	FH – 7 15/16"		h1 – 7 15/16"	

PANEL GLASS WIDTH

CONFIGURATION	GLASS WIDTH
OX / XO	(FW – 7 1/4") / 2
OXO	(FW – 10 3/4") / 3
OXXO	(FW – 12 3/4") / 4
XX	(FW – 9") / 2

TRANSOM GLASS SIZES

GLASS WIDTH	FW – 3 5/8"
GLASS HEIGHT	h2 – 3"



STEP 7 INSTALL SCREENS

Install the horizontal screen attachment angles first:

Center the angle horizontally at the frame width for the OX, XO, or OXXO door. For OXO door, align the end of the base angle 1/2" from the edge of the fixed jamb where the sliding panel opens to (as illustrated on **Detail 24V** at the far right.) Using the pilot holes on the angle base, drill Ø0.161" tap holes into the horizontal framing.

Install the vertical screen attachment next:

-Align the edge of the E9-6027 angle flush with the jambs using the proper orientation as shown in **Detail 24V**. For OXO mullion, the edge of the angle should be installed 25/32" from the edge of the mullion. Center the vertical angle between the installed horizontal angles.

Using the pilot holes on the angle base, drill Ø0.161" tap holes into the vertical framing.

-Fasten the angle to the framing using PC-0806 screws.



SCREEN INSTALLATION

STEP 7 (Continued)
INSTALL SCREENS**Install the screen tracks:**

-Slide on the screen tracks onto the base angles to determine where to drill the tap holes.

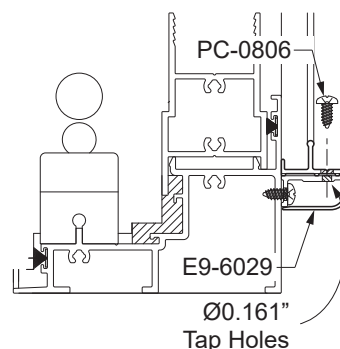
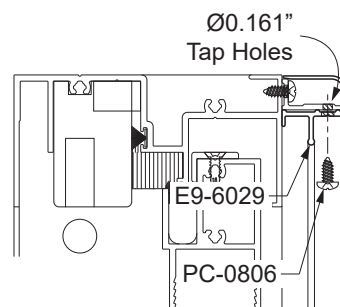
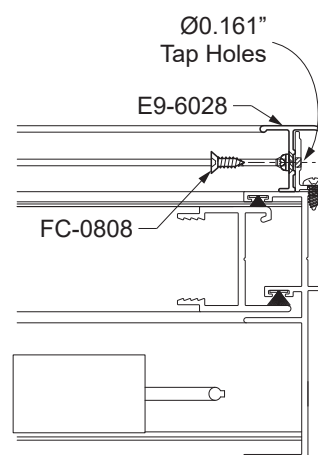
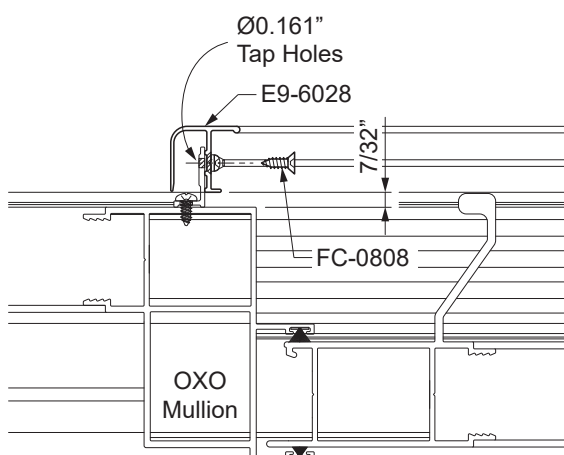
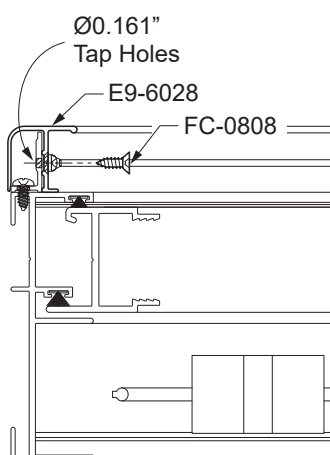
Note: For OXO mullion, allow about 7/32" distance from the back of the mullion to ensure alignment all around as shown in **Detail 25V**.

-Using the fabricated holes in the track as pilot holes, drill Ø0.161" tap holes into the base angles.

-At the head and sill, fasten the screen track to the base angle with PC-0806 screws. See **Detail 25H**.

-At the verticals, fasten the screen track to the base angle with FC-0808 screws. See **Detail 25V**.

-Lift and set the screen panel into place. Operate screen panel to ensure proper operation.

**DETAIL 25H****DETAIL 25V**



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