



Oldcastle BuildingEnvelope®

FG-3000 STOREFRONT
INSTALLATION AND GLAZING MANUAL

*Note: Installation and Glazing Manuals are product specific. **FOR REVIEW ONLY!***

FG-3000 STOREFRONT INSTALLATION MANUAL

TABLE OF CONTENTS

General Information Page 2 – 4

Outside Glaze

 Non ThermalPage 5 – 11

Inside Glaze Screw Spline

 Non ThermalPage 12– 17

Stack System Outside Glaze Page 18 – 23

FG-3000 Parts ListPage 24– 27

Infill Thickness Options Chart Page 28

FG-3000 STOREFRONT INSTALLATION MANUAL

GENERAL INFORMATION

The Oldcastle BuildingEnvelope® (2 x 4 1/2) system represents the latest in product development technology complemented by dealer on-the-job input and experience. Proper use of these systems will assure optimum results in erection and long term performance

Oldcastle BuildingEnvelope® does not control the application nor selection of its product configurations, sealant or glazing materials and assumes no responsibility thereof. It is the responsibility of the owner, architect and installer to make these selections in strict compliance with applicable laws and building codes.

PROTECTION AND STORAGE:

Handle the material carefully. Do not drop from the truck. Stack with adequate separation so that the material will not rub together. Store material off the ground. Protect against the elements and other construction hazards by using a well ventilated covering. Remove material from package if it is wet or is located in a damp area.

CHECK MATERIAL:

Check all material upon arrival for quality and to assure against shipping damage. Any visible damage must be noted on the freight bill at the time of receipt. If a claim is required, then the receiving party must process a claim with the freight company.

Completely check construction which will receive your materials against contract documents. Notify the general contractor by letter of any discrepancies before proceeding with the work. Failure to do so constitutes acceptance of work by other trades.

Check shop drawings and installation instructions to become familiar with the project. The shop drawings take precedence and include specific details for the project. The installation instructions are of a general nature and cover the most common conditions. Due to varying job conditions, all sealants used should be approved by the sealant manufacture, to insure they will function for conditions shown on instructions and shop drawings. They must be compatible with all surfaces in which adhesion is required, including other sealant surfaces. Use primers where directed by manufacturer of sealants. Be sure to properly store sealants at recommended temperatures and check sealant for remainder of shelf life before using.

FIELD CONDITIONS:

- Do not install wall if there is a walk way with a downslope towards an entrance or a storefront
- All materials to be installed plumb, level, and true. Aluminum to be placed in direct contact with the masonry or incompatible materials, should be isolated with a heavy coat of zinc-chromate or bituminous paint.
- After sealant is set and a representative amount of the wall has been glazed (250 square feet or more), run a water hose to check installation. On large jobs, hose test should be repeated during glazing operation. Test should be conducted in accordance with AAMA 501.2 specifications.
- Coordinate protection of installed materials with general contractors and other trades.

GENERAL INFORMATION CONT.

CLEANING MATERIALS:

Cement, plaster, terrazzo, alkaline and acid based materials used to clean masonry are very harmful to finishes and should be removed with water and a mild soap immediately or permanent staining will occur. A spot test is recommended before any cleaning agent is used.

EXPANSION JOINTS:

Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or differences in metal temperature between the time of fabrication and time of installation. For example, a 12 foot unrestrained length of aluminum extrusion can expand or contract 3/32 of an inch over a 50° F change. Any movement potential should be accounted for at the time of the installation.

THERMAL IMPROVEMENT SUGGESTIONS:

To maintain or improve your wall installation, the following items should be considered:

- A. Blinds or drapes prevent warm air from washing the window.
- B. Warm air ventilators too far from the window will not adequately wash the window with air to prevent condensation.
- C. In extreme conditions, the fan of the heating system should not cycle on and off but should run continuously.
- D. Some heating systems have a water injection feature that can raise humidity levels. The higher the humidity level the more likely condensation or frost will form. Raising the temperature and reducing the humidity will usually solve the problem.
- E. On rare occasions, an extremely cold storm may cause frost to appear on the glass or framing. A space heater and electric fan blowing along the plane of the window wall can reduce or eliminate this temporary condition.

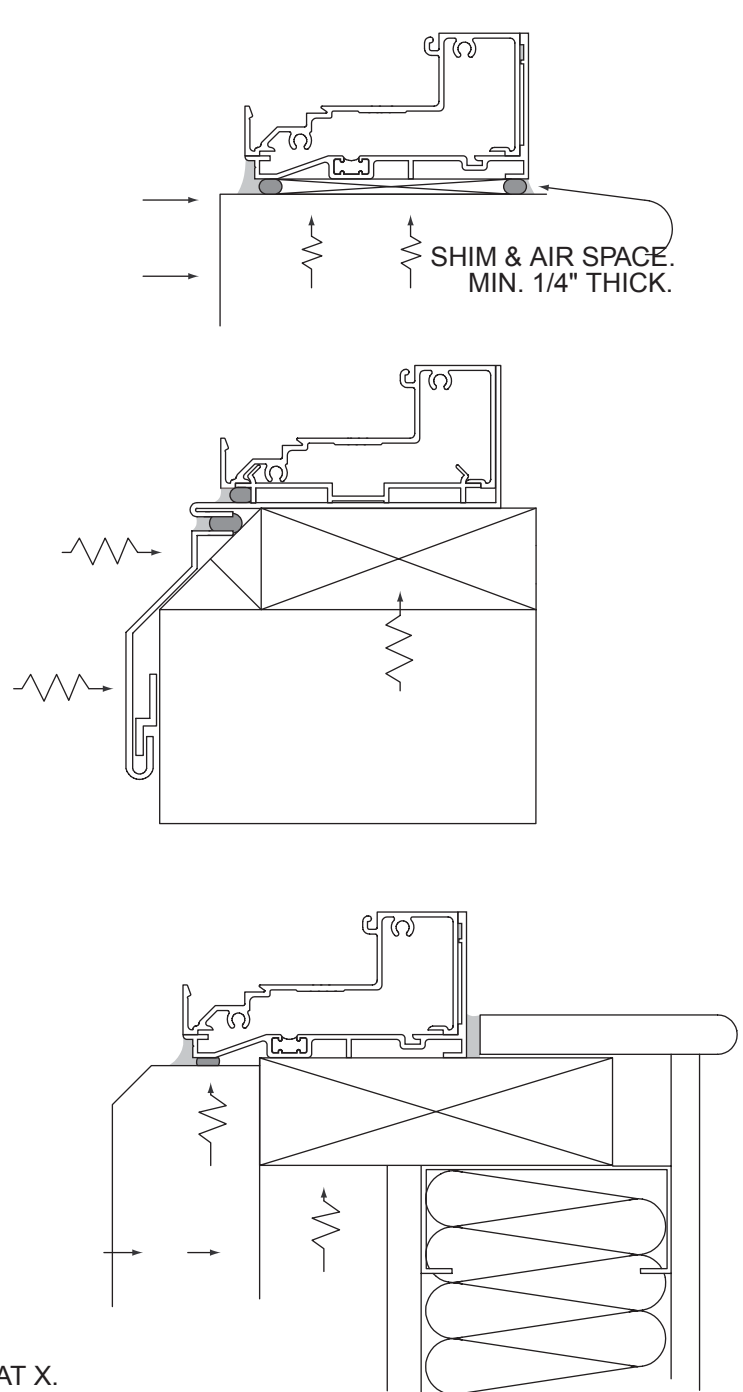
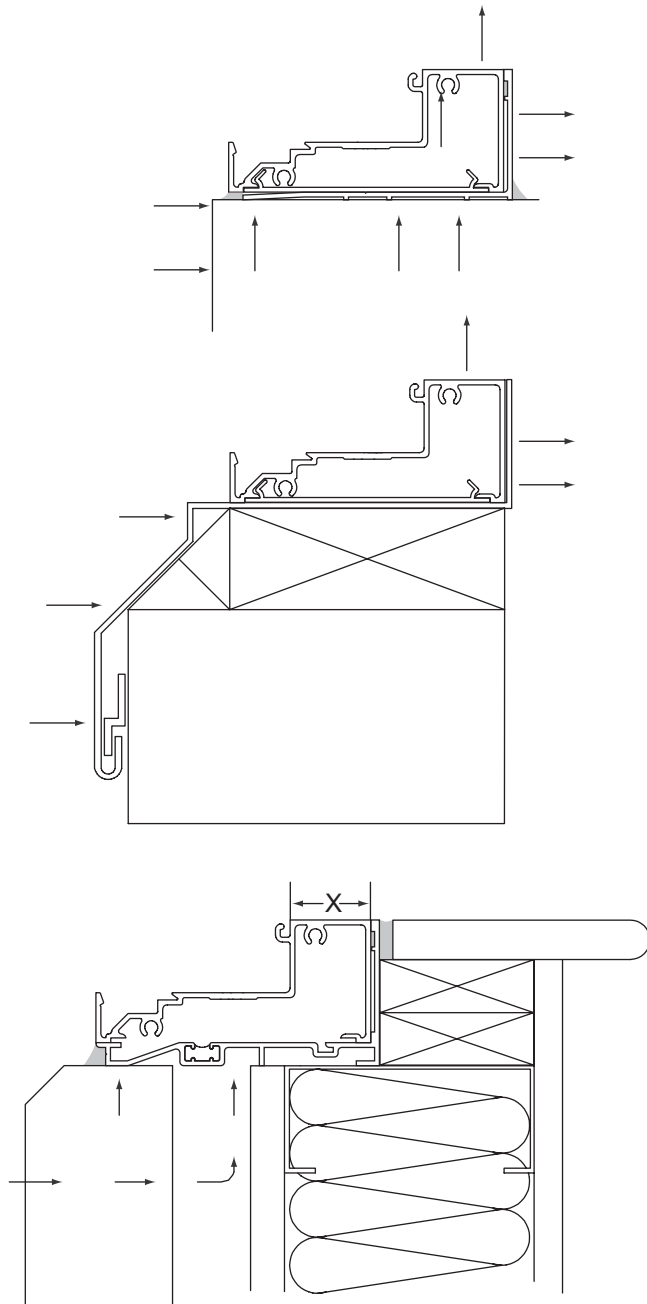
FG-3000 STOREFRONT INSTALLATION MANUAL

GENERAL INFORMATION CONT.

TO DERIVE THE GREATEST BENEFIT FROM YOUR STOREFRONT INSTALLATION, WE RECOMMEND YOU REVIEW THE FOLLOWING.

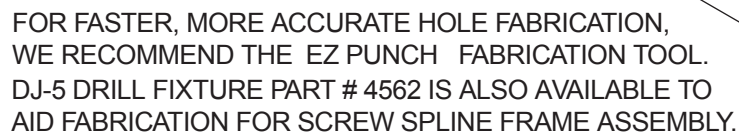
NOT RECOMMENDED

PREFERRED



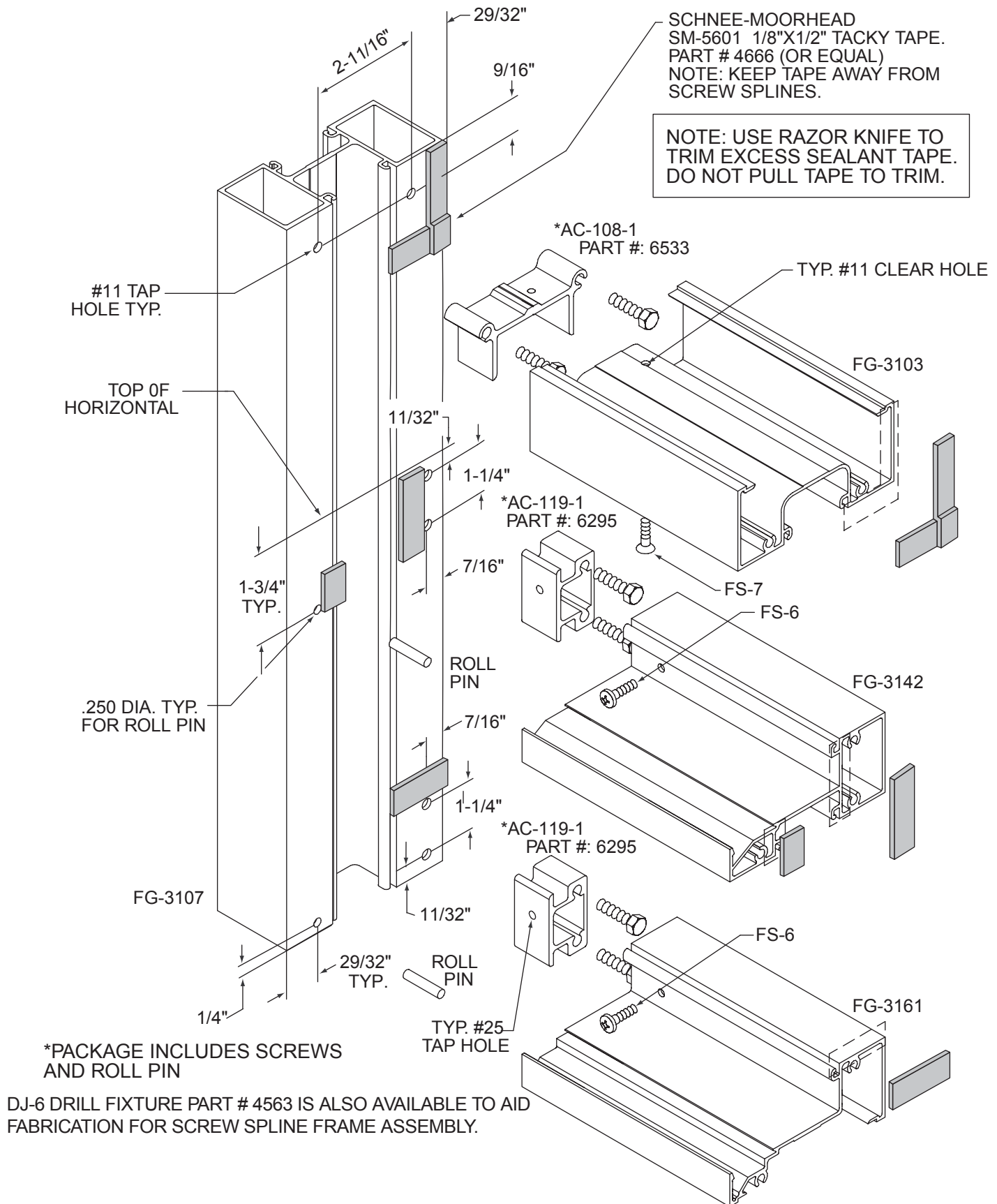
NOT ENOUGH METAL EXPOSED TO INTERIOR AT X.

OUTSIDE GLAZE SCREW SPLINE FRAME ASSEMBLY



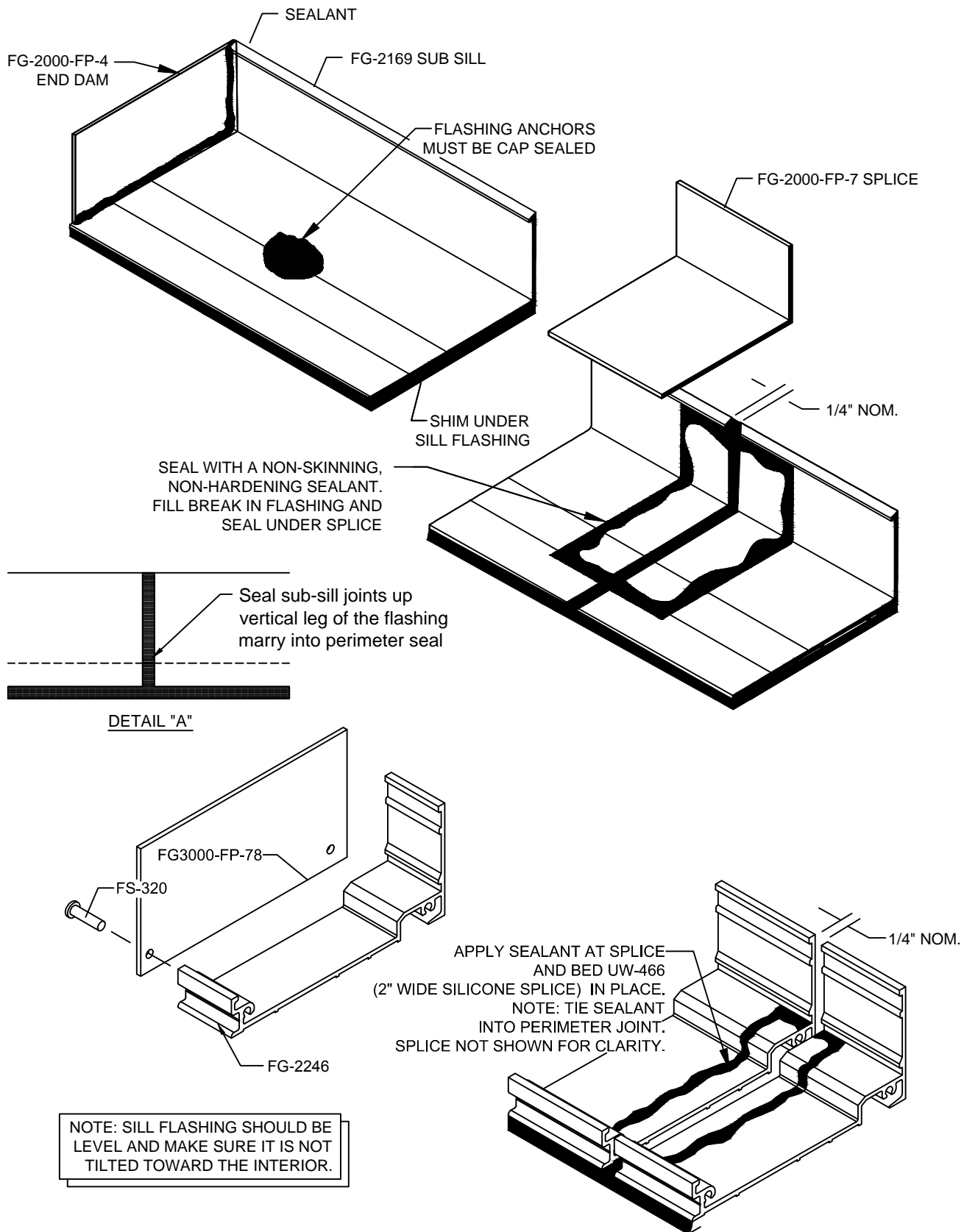
FG-3000 STOREFRONT INSTALLATION MANUAL

OUTSIDE GLAZE SHEAR BLOCK FRAME ASSEMBLY



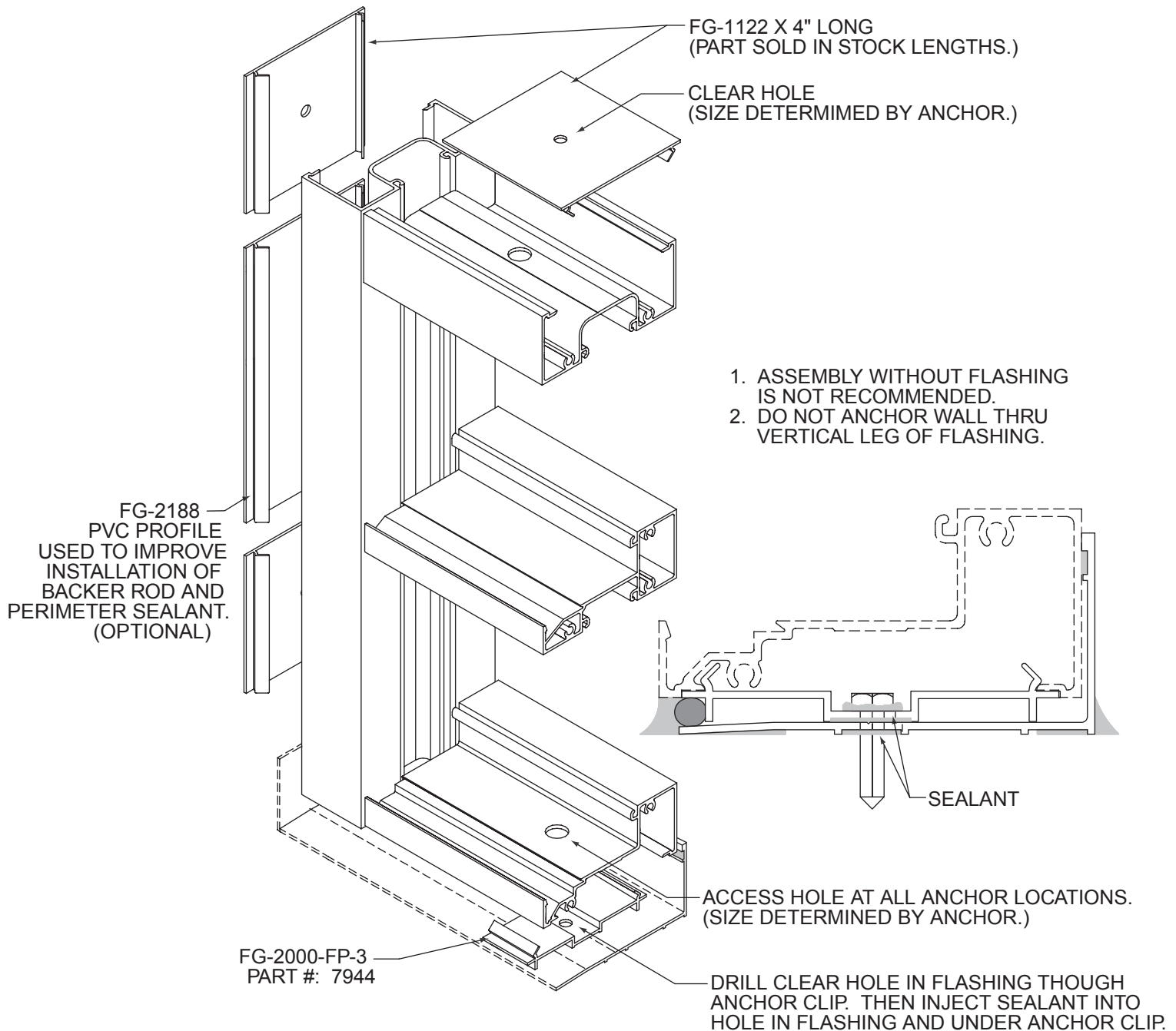
FG-3000 STOREFRONT INSTALLATION MANUAL

OUTSIDE GLAZE SILL FLASHING INSTALLATION



FG-3000 STOREFRONT INSTALLATION MANUAL

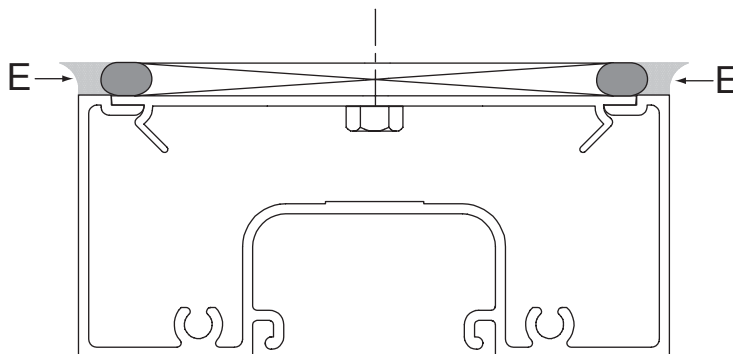
OUTSIDE GLAZE FRAME INSTALLATION



ANCHOR SIZE AND FREQUENCY SHOULD BE DETERMINED BY STRUCTURAL REQUIREMENTS. SILL ANCHOR FG-2000-FP-3 AND HEAD ANCHOR FG-2122 SHOULD BE LOCATED SO THAT THE ANCHOR IS NOT MORE THAN 4" FROM EACH SIDE OF THE MULLION.

FG-3000 STOREFRONT INSTALLATION MANUAL

OUTSIDE GLAZE SILL FLASHING INSTALLATION AND PERIMETER SEAL

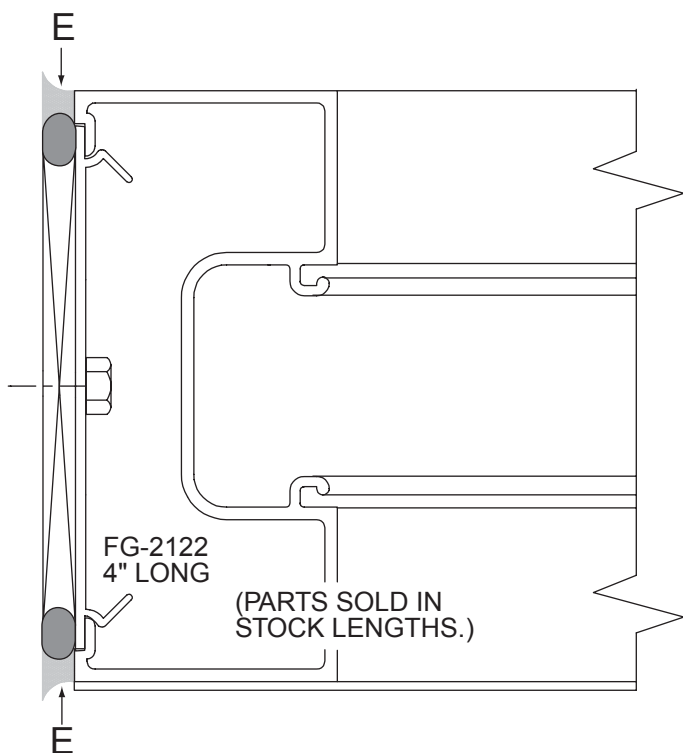


APPLY SEALANT ALONG LENGTH OF SUB SILL
AT AREAS A & B.

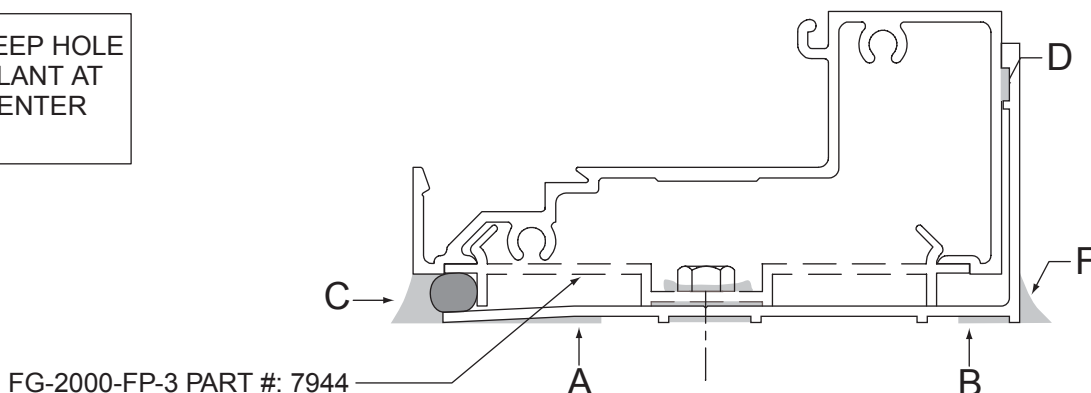
LAY FLASHING ON SLAB AND SHIM ONLY AT LOW
AREAS. RESEAL AT SHIM AREAS.

SPACE BETWEEN SILL AND FLASHING (C) TO BE
CONTINUOUSLY SEALED EXCEPT FOR 1/2"-3/4"
SPACE UNDER VERTICAL MULLIONS FOR WEEPAGE.
PRIOR TO INSTALLING FRAME, APPLY SEALANT
CONTINUOUSLY ALONG SILL FLASHING (D).
THIS WILL PROVIDE CONTINUOUS SEAL
BETWEEN SILL AND SILL FLASHING.

THE QUALITY OF THE INSIDE AND OUTSIDE
PERIMETER SEALS (C AND E) MAY BE IMPROVED
BY USING FG-2188 RIGID PVC FILLER.
THE PART MAY BE USED IN FULL LENGTHS OR CUT
INTO PIECES. ITS PURPOSE IS TO PROVIDE
SUPPORT FOR THE BACKER ROD REGARDLESS
OF JOINT OR SIZE. PERIMETER SEAL (F) IS FOR
COSMETIC PURPOSES AND IS OPTIONAL.

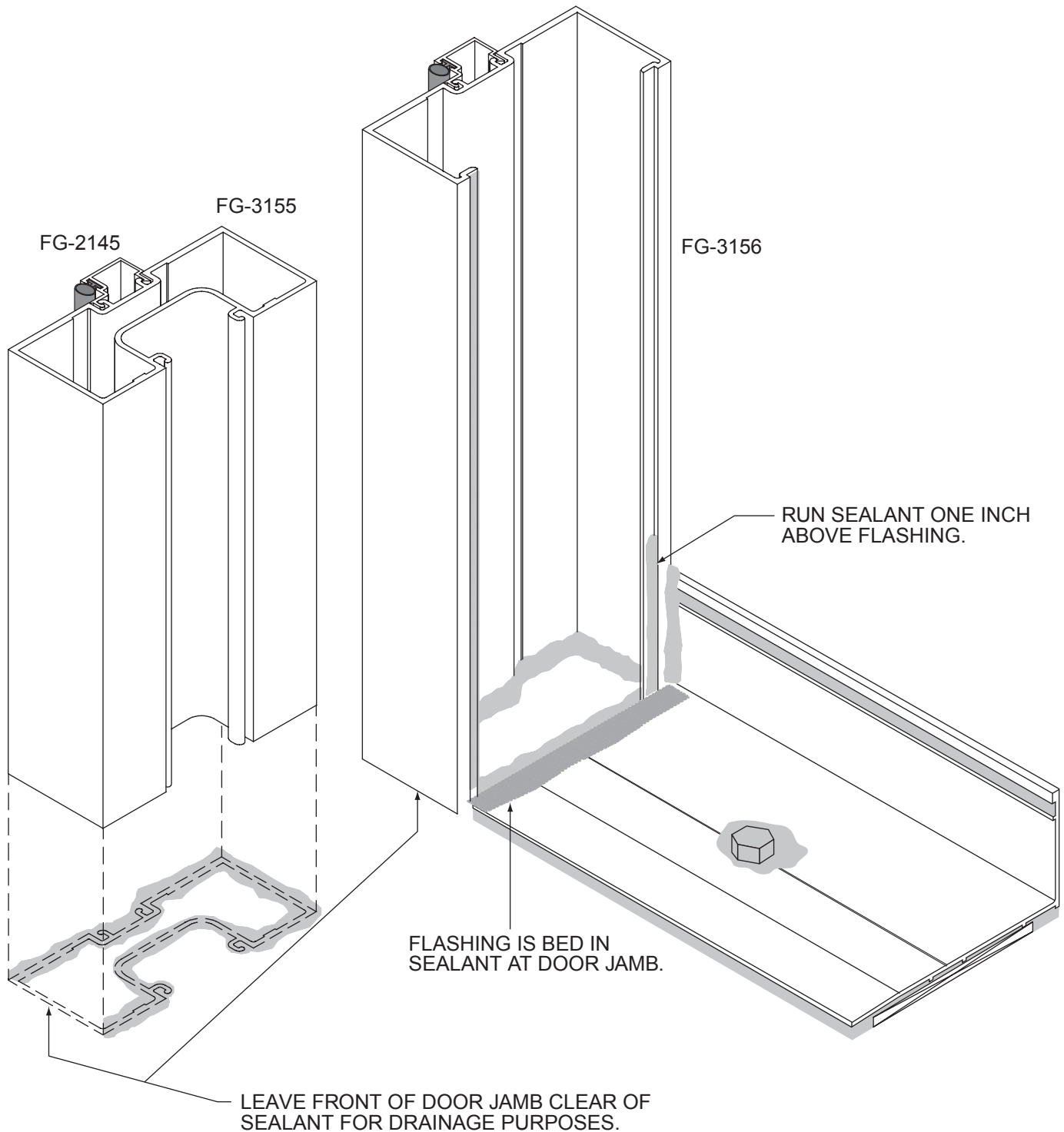


NOTE: 1/2" - 3/4" WEEP HOLE
REQUIRED IN SEALANT AT
FLASHING (C) AT CENTER
LINE OF MULLION.



FG-3000 STOREFRONT INSTALLATION MANUAL

OUTSIDE GLAZE SEALANT PROCEDURE FOR DOOR FRAME AT FLASHING



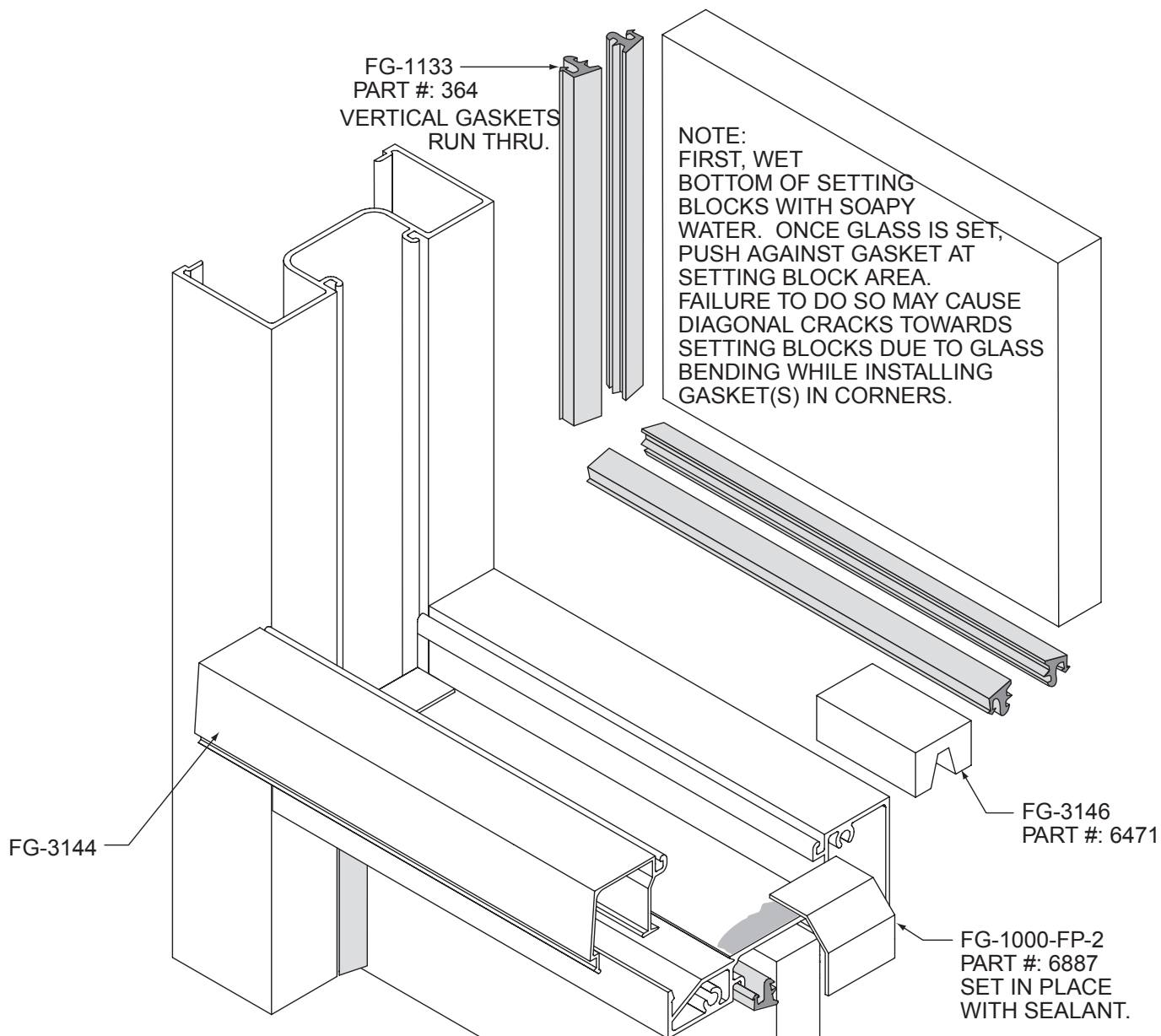
*USE SHEAR BLOCKS AS SHOWN ON PAGE 6 TO SECURE TO TUBULAR FRAME.

DOOR FRAME IS ANCHORED BY FASTENERS THROUGH THRESHOLD AND THROUGH DOOR FRAME HEADER.

DO NOT FABRICATE 2 PIECE DOOR FRAMES WITH POUR & DEBRIDGE PROFILES.

FG-3000 STOREFRONT INSTALLATION MANUAL

OUTSIDE GLAZE GLAZING PROCEDURE



GLAZING INSTALLATION INSTRUCTIONS

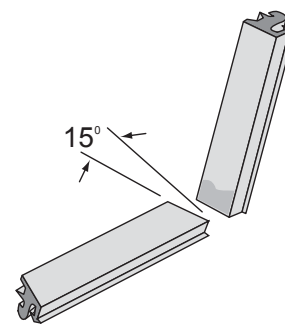
GLASS SIZE
7/8" OVER DAY LIGHT OPENING

SETTING BLOCK
SET AT 1/4 POINT OR 1/8 POINT OF HORIZONTAL LENGTH
DEPENDING ON LITE SIZE.

WATER DIVERTERS
GLAZE FROM BOTTOM TO TOP. INSTALL WATER DIVERTERS IN
HORIZONTAL ABOVE, AFTER LITE BELOW IS IN POSITION.

GLAZING GASKET
GASKET MAY BE INSTALLED ON ONE OR BOTH SIDES
SIMULTANEOUSLY. PROVIDE 3/8" ADDITIONAL GASKET
FOR EACH FOOT OF DAYLIGHT OPENING TO PROVIDE
ADEQUATE COMPRESSION FOR THE GLAZING INFILL.

NOTE: CLEAN GASKET WITH ISOPROPYL ALCOHOL PRIOR TO
SEALING CORNERS.



MITER HORIZONTAL GASKET
TO FIT VERTICAL GASKET.

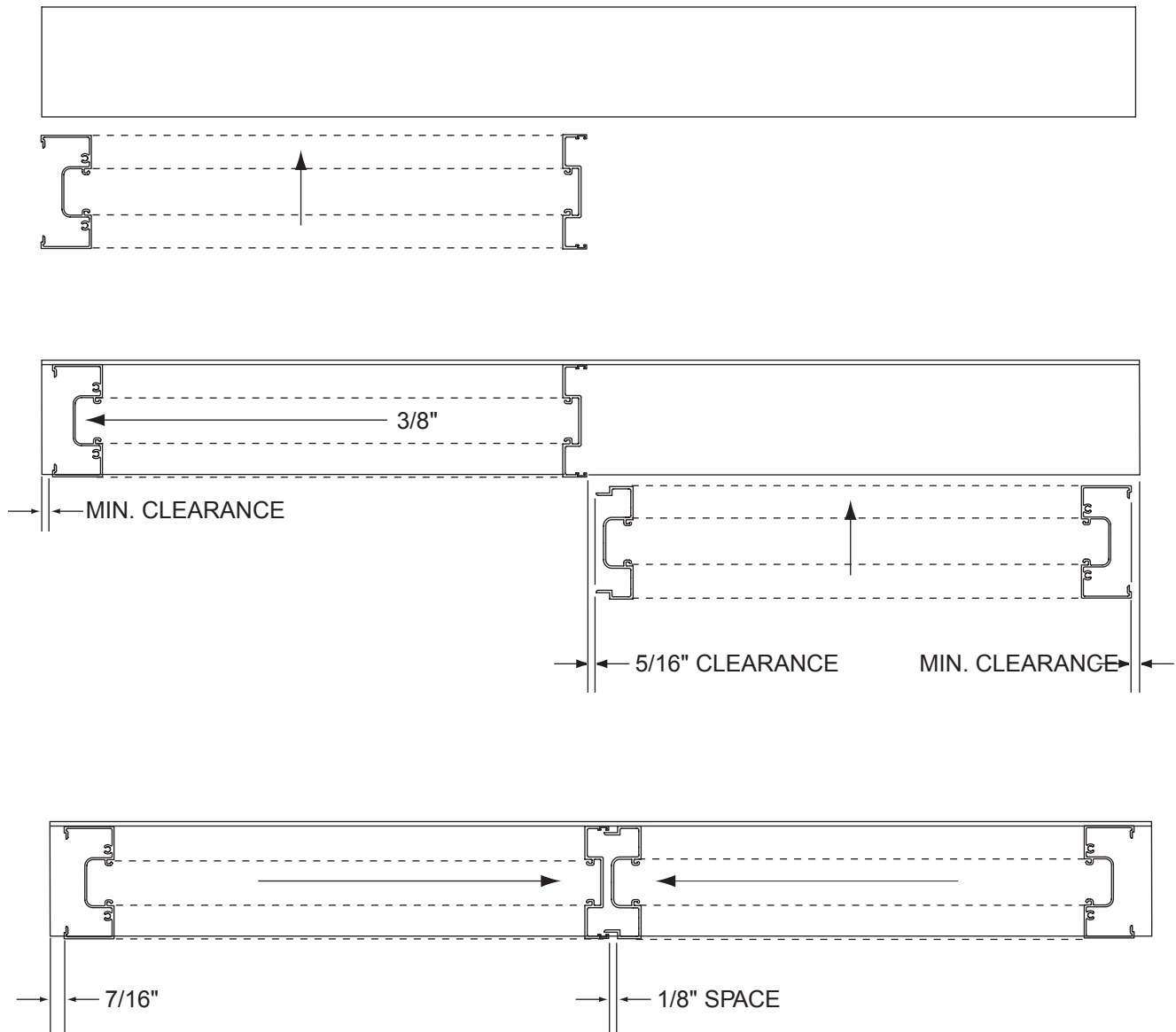
FG-3000 STOREFRONT INSTALLATION MANUAL

INSIDE GLAZE SCREW SPLINE FRAME ASSEMBLY

Most of the extrusions in this system are the same, only the sill and its anchors are different. Note that the tapes used for sealing the horizontals to mullions are located in a different manner.

The sill is designed so that sill anchors may be cap sealed before the frame is installed. The frame is installed over the the sill with twist-in anchors. This prevents any additional screws from penetrating the sill and causing leaks under the sill.

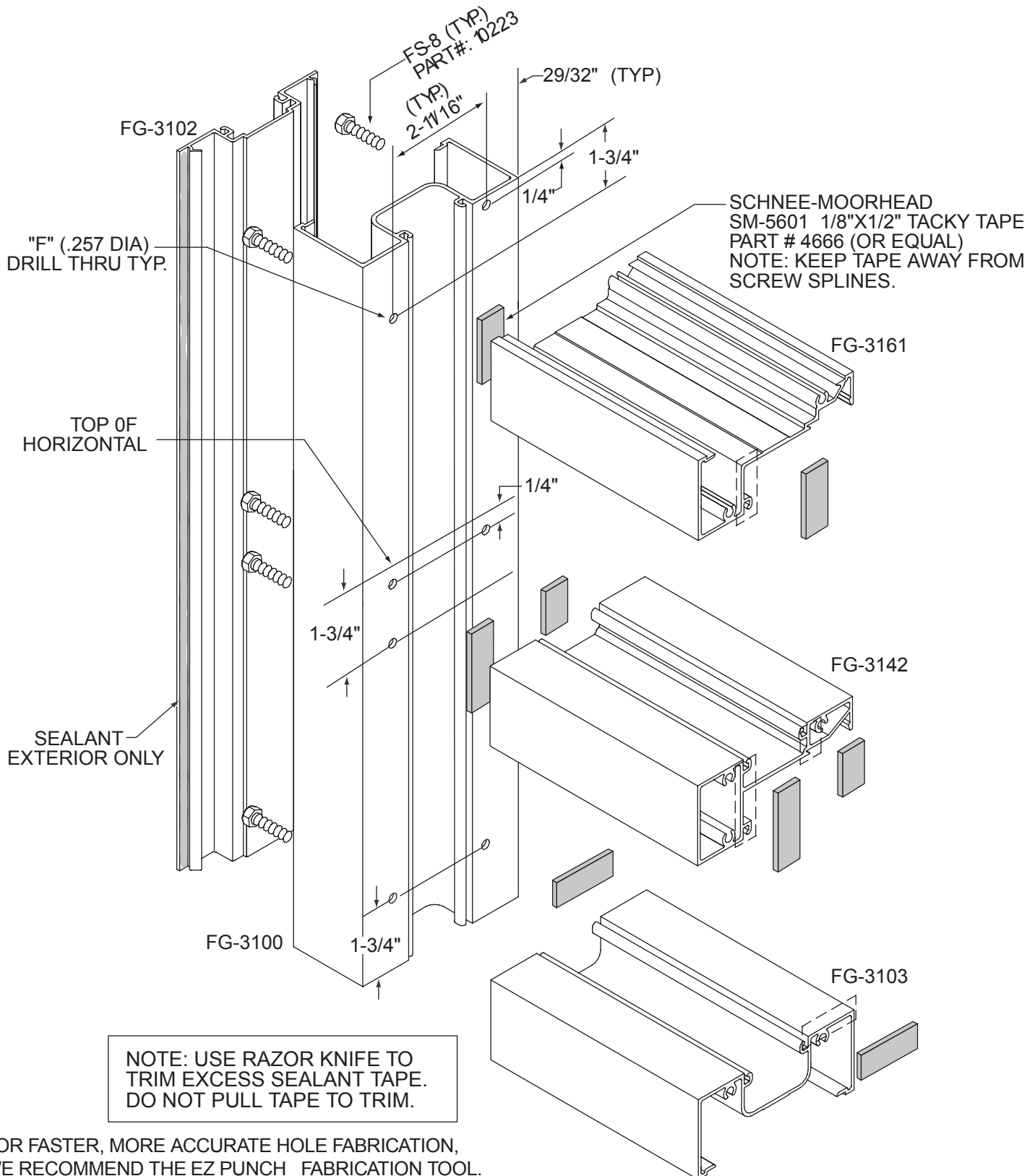
Multiple units require the use of split mullions. A minimum of 7/16" clearance between the jamb and sill end dam must be provided. This will allow a minimum of 3/8" clearance to move first unit sideways so the second unit with the same clearance will clear the interlocking legs of the expansion mull. Adjust frame locations before running perimeter seals. OBE recommends using FG-2188 vinyl filler to improve the perimeter seal.



OBE does not recommend the shear block or stack method of assembly for inside glazing.

FG-3000 STOREFRONT INSTALLATION MANUAL

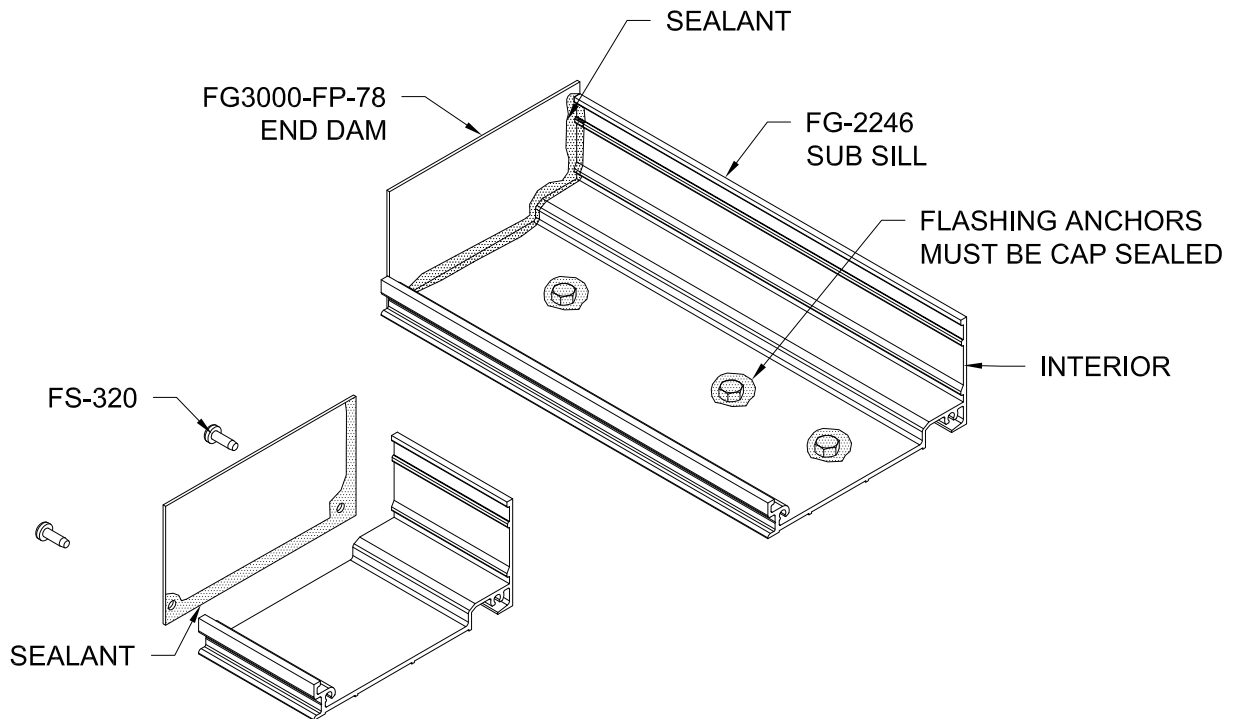
INSIDE GLAZE SCREW SPLINE FRAME ASSEMBLY



FOR FASTER, MORE ACCURATE HOLE FABRICATION,
WE RECOMMEND THE EZ PUNCH FABRICATION TOOL.
DJ-5 DRILL FIXTURE PART # 4562 IS ALSO AVAILABLE TO
AID FABRICATION FOR SCREW SPLINE FRAME ASSEMBLY.

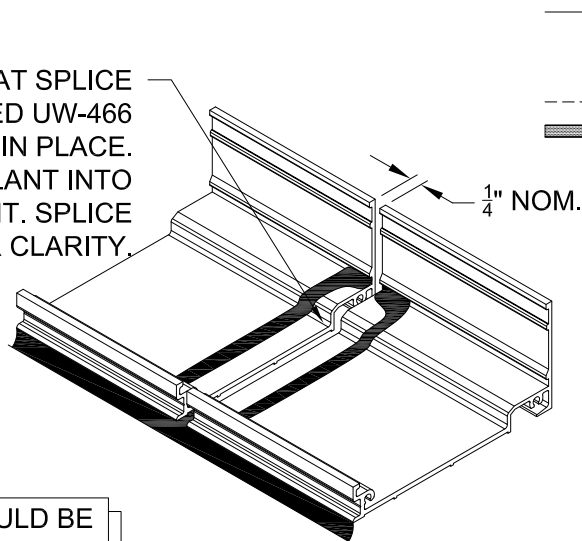
FG-3000 STOREFRONT INSTALLATION MANUAL

INSIDE GLAZE SILL FLASHING INSTALLATION



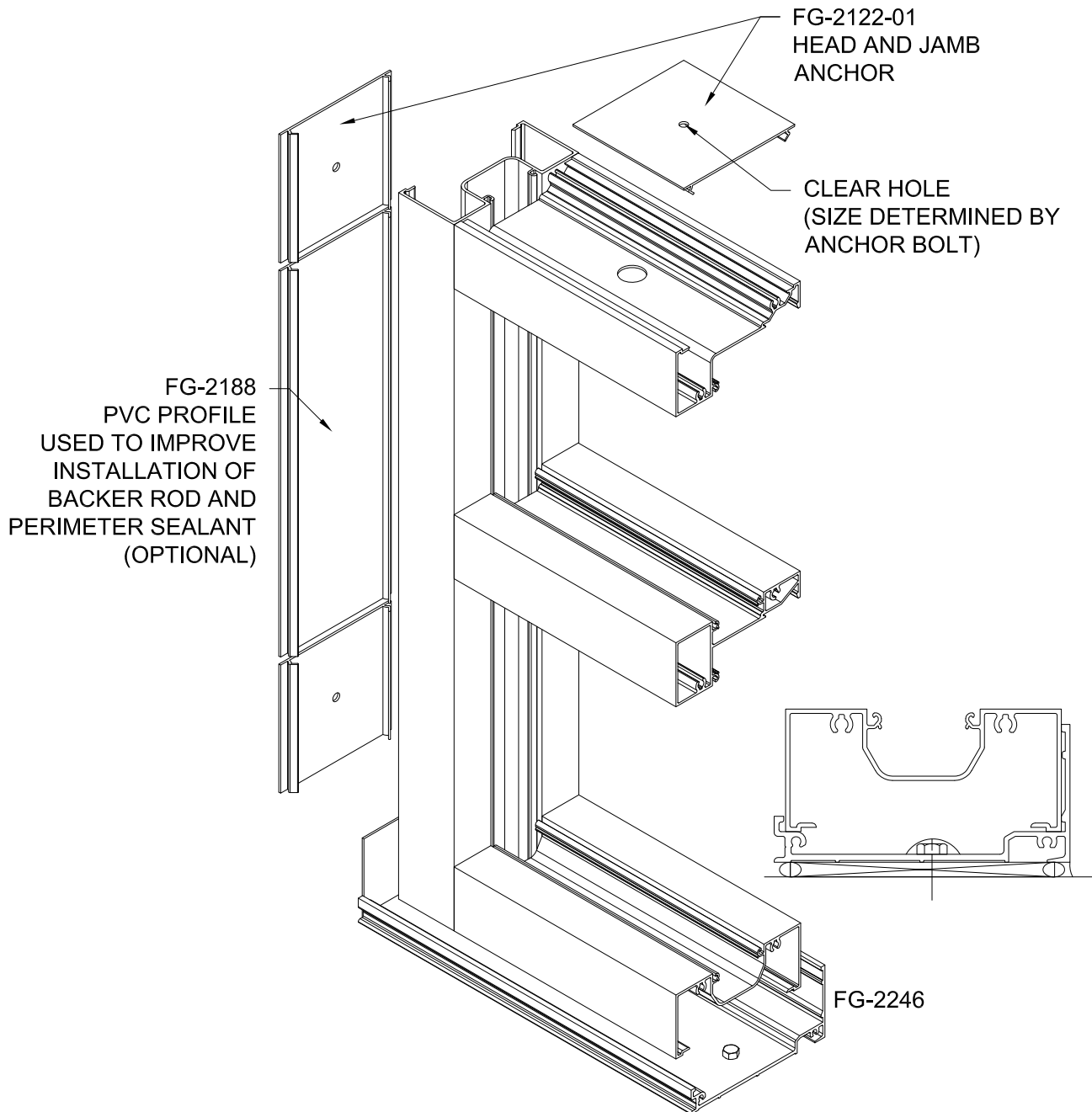
SEAL SILL RECEPTOR SPLICE JOINTS
UP VERTICAL LEG OF RECEPTOR AND
MARRY INTO PERIMETER SEAL.

APPLY SEALANT AT SPLICE
AND BED UW-466
(2" WIDE SILICONE SPLICE) IN PLACE.
NOTE: TIE SEALANT INTO
PERIMETER JOINT. SPLICE
NOT SHOWN FOR CLARITY.



NOTE: SILL FLASHING SHOULD BE
LEVEL AND MAKE SURE IT IS NOT
TILTED TOWARDS THE INTERIOR.

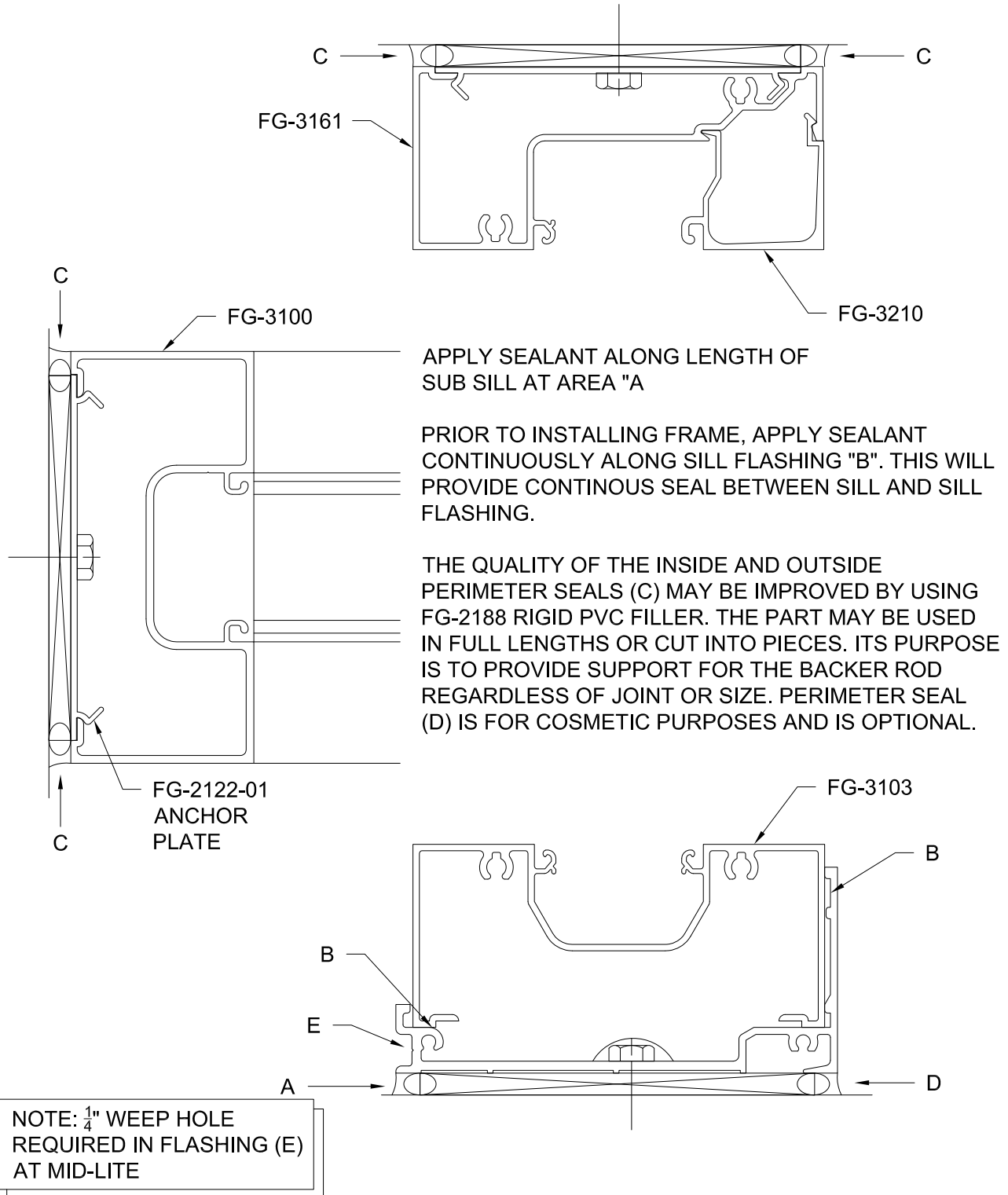
INSIDE GLAZE FRAME INSTALLATION



ANCHOR SIZE AND FREQUENCY SHOULD BE DETERMINED BY STRUCTURAL REQUIREMENTS. HEAD ANCHOR FG-2122 AND ANCHOR BOLT THROUGH SILL FLASHING SHOULD BE LOCATED SO THAT THE ANCHOR SCREW IS NOT MORE THAN 4" FROM EACH SIDE OF MULLION.

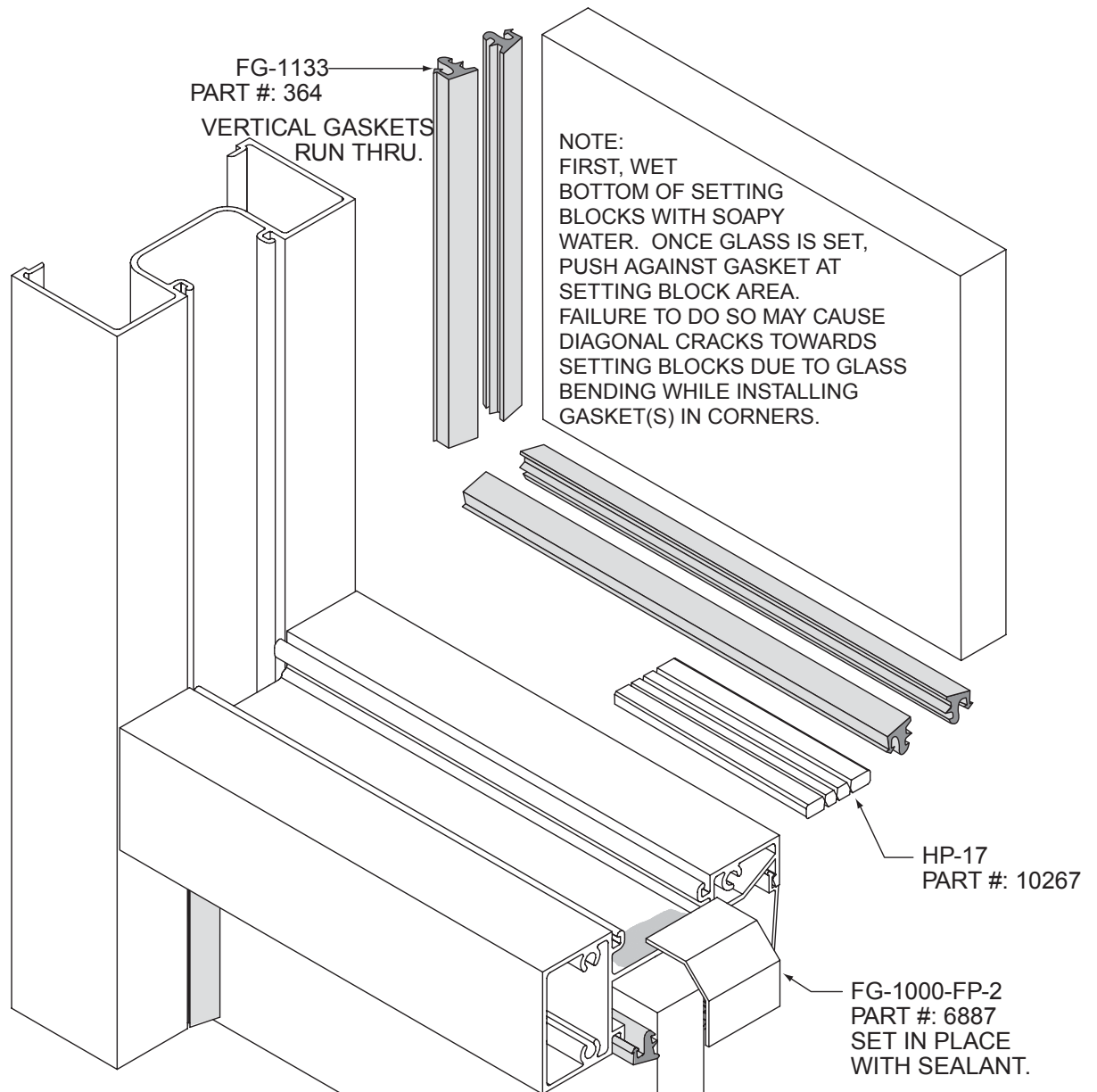
FG-3000 STOREFRONT INSTALLATION MANUAL

INSIDE GLAZE, NON THERMAL SILL FLASHING INSTALLATION AND PERIMETER SEAL



FG-3000 STOREFRONT INSTALLATION MANUAL

INSIDE GLAZE GLAZING PROCEDURE



GLAZING INSTALLATION INSTRUCTIONS

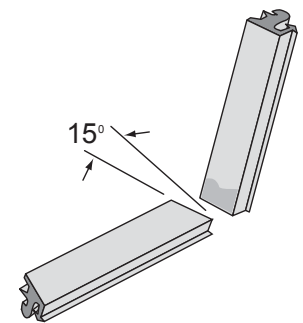
GLASS SIZE
7/8" OVER DAY LIGHT OPENING

SETTING BLOCK
SET AT 1/4 POINT OR 1/8 POINT OF HORIZONTAL LENGTH
DEPENDING ON LITE SIZE.

WATER DIVERTERS
GLAZE FROM BOTTOM TO TOP. INSTALL WATER DIVERTERS IN
HORIZONTAL ABOVE, AFTER LITE BELOW IS IN POSITION.

GLAZING GASKET
GASKET MAY BE INSTALLED ON ONE OR BOTH SIDES
SIMULTANEOUSLY. PROVIDE 3/8" ADDITIONAL GASKET
FOR EACH FOOT OF DAYLIGHT OPENING TO PROVIDE
ADEQUATE COMPRESSION FOR THE GLAZING INFILL.

NOTE: CLEAN GASKET WITH ISOPROPYL ALCOHOL PRIOR TO
SEALING CORNERS.



MITER HORIZONTAL GASKET
TO FIT VERTICAL GASKET.

FG-3000 STOREFRONT INSTALLATION MANUAL

STACK SYSTEM FRAME ASSEMBLY AND INSTALLATION

The assembly and sealant procedures are a part of the installation sequence because of the stacking method.

HEAD CAN:

Anchor screws should be within 4" of each side of the intended mullion location. Head anchors AC-121-1 should be used if the height x width x design load is 500 lbs. or more for one bay at the top of the mullion. Normally one anchor screw at the middle of the lite or 24" O.C. is adequate for securing the header. For unusual conditions, consult the OBE engineering department.

SILL CAN:

Shim can a minimum 1/4" . Anchor sill can 24" O.C. and no more than 4" on each side of intended mullion locations. Be sure weeps are located under center line of mullion. Sill both sides of can.

HORIZONTAL HEAD AND SILL INSERT:

Members are cut 1/16" less than daylight opening to allow for incremental expansion.

JAMB MEMBERS:

Remember all horizontals are cut 1/16" short. Do not over shim between jamb and structure.

MULLIONS

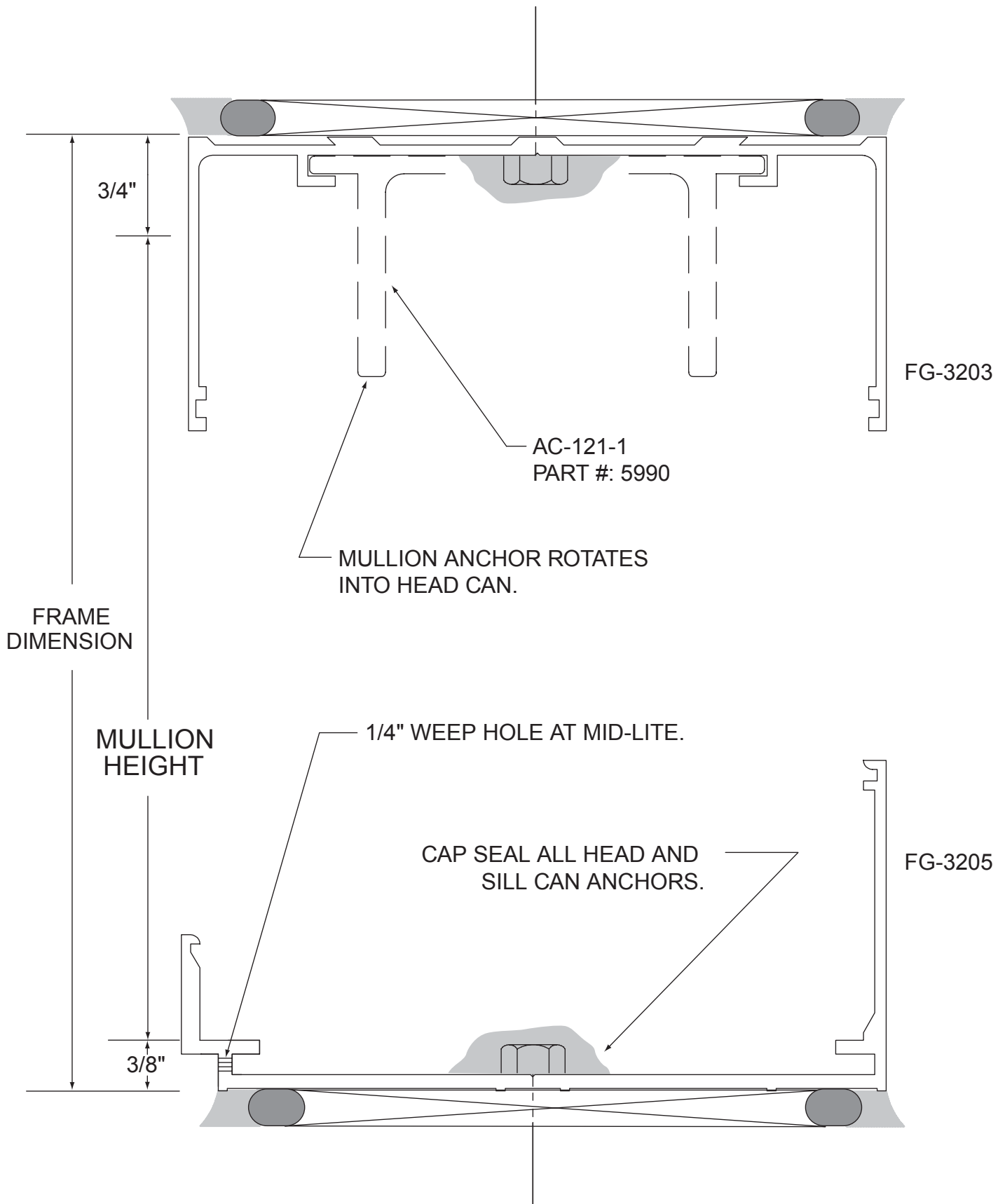
Cut mullion length outside frame dimension 1-1/4" . Install mullions by sliding top end over anchor and rotating bottom into position.

RECOMMENDATION:

Prior to glazing, fill sill cavity with water to assure that end dams and anchors are sealed. Then, run interior sill bead.

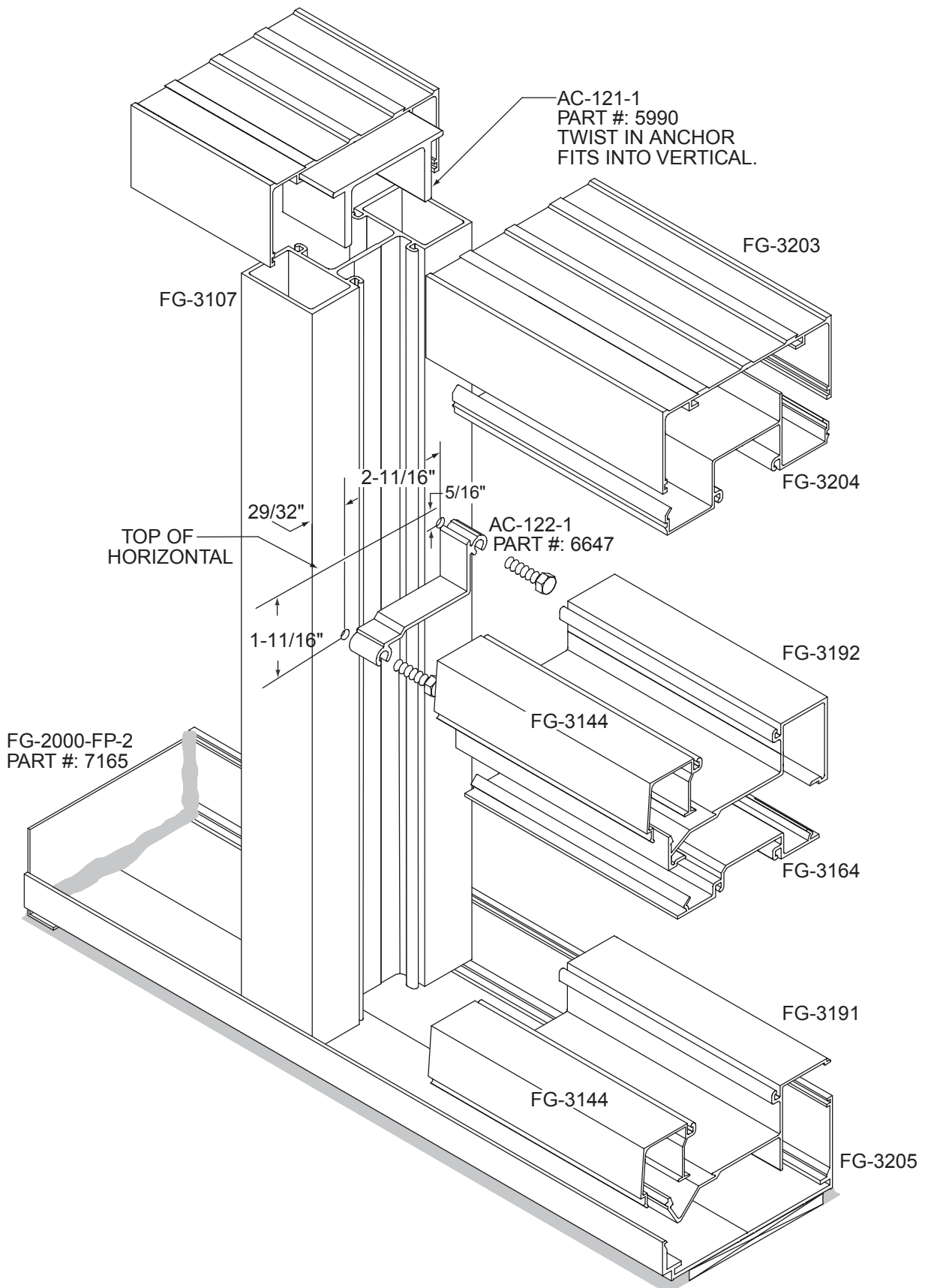
FG-3000 STOREFRONT INSTALLATION MANUAL

STACK SYSTEM ANCHORING



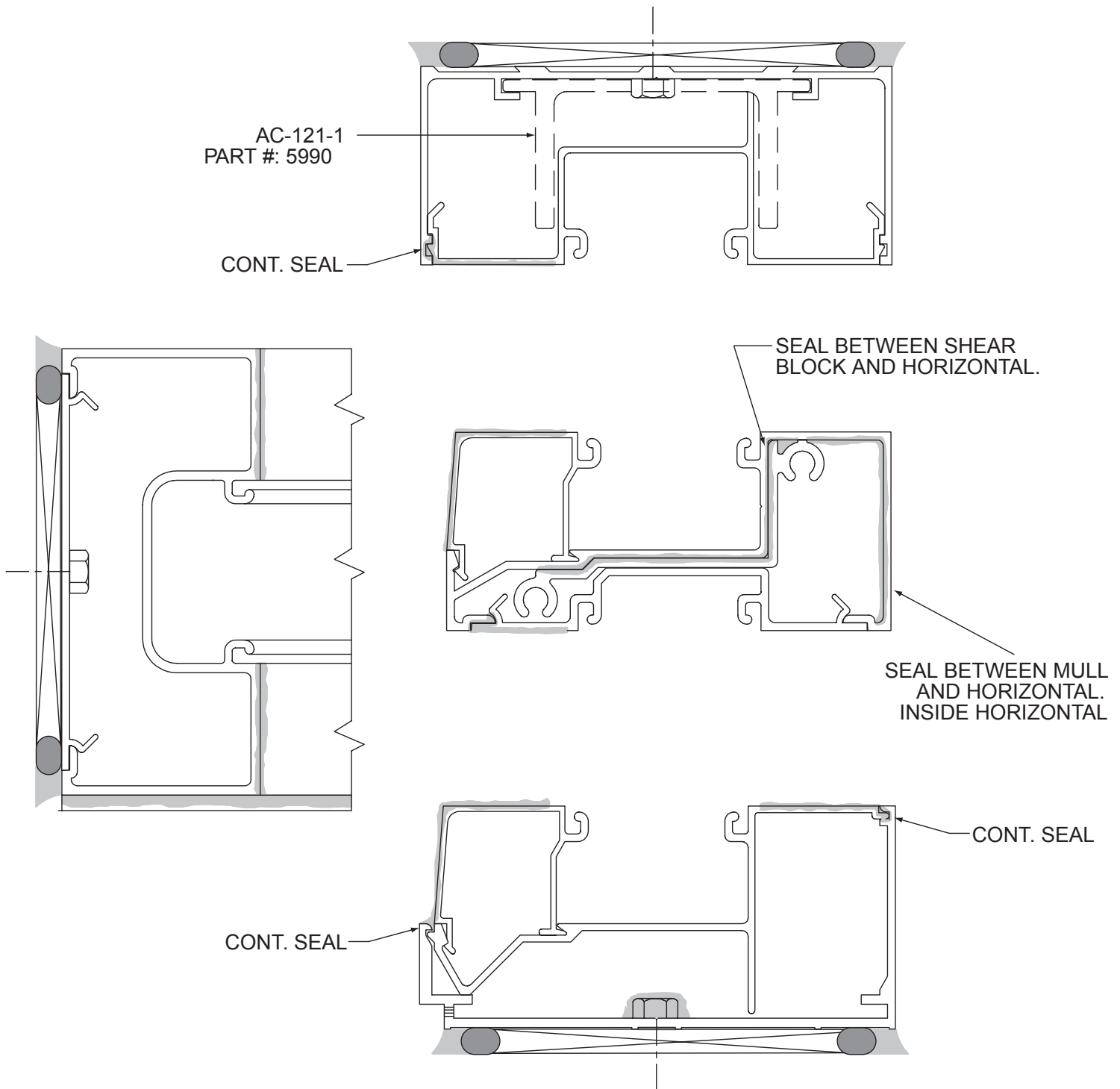
FG-3000 STOREFRONT INSTALLATION MANUAL

STACK SYSTEM FRAME ASSEMBLY AND INSTALLATION



FG-3000 STOREFRONT INSTALLATION MANUAL

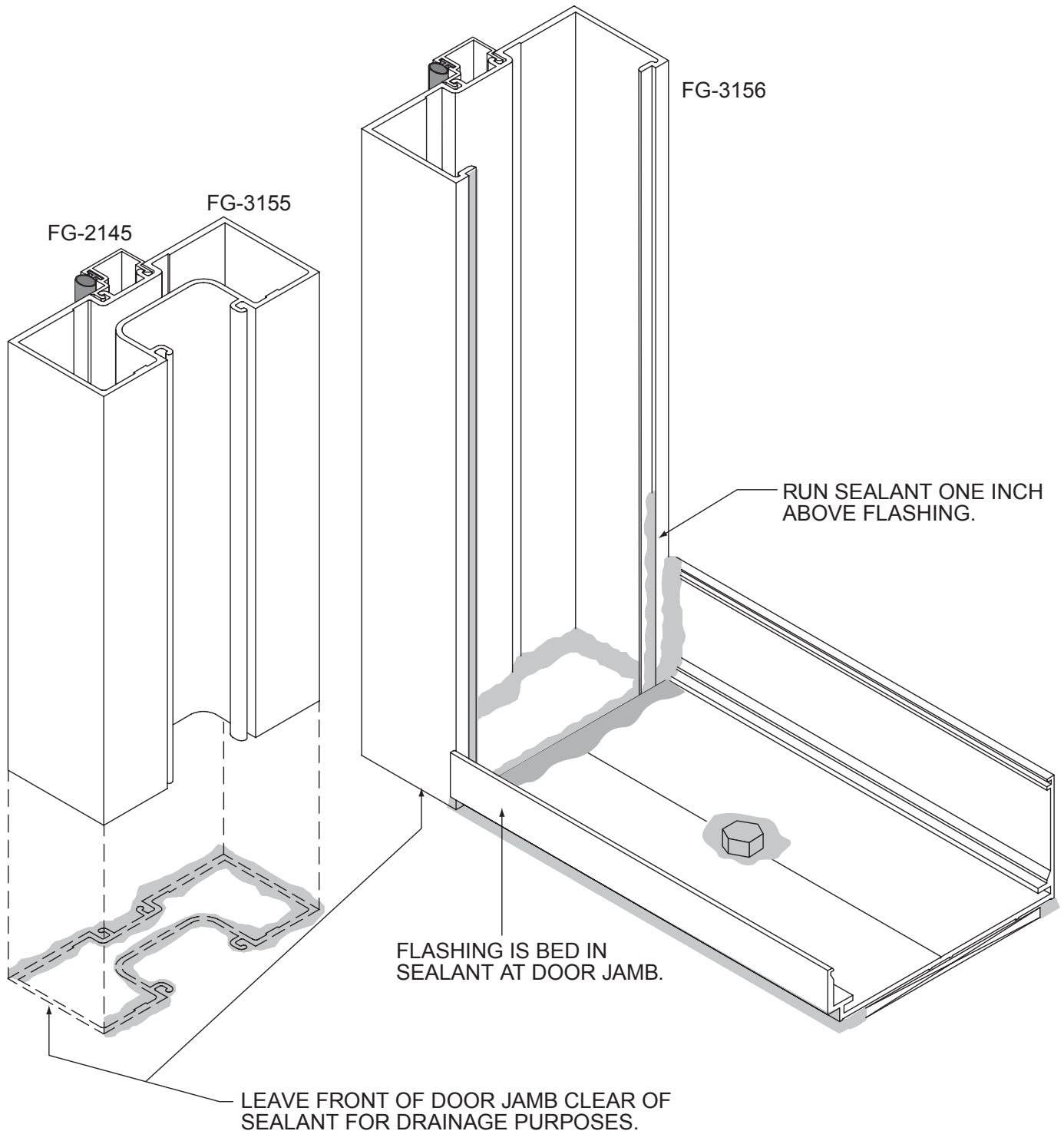
STACK SYSTEM FRAME SEALANT PROCEDURE



NOTE: THE NATURE OF THE STACK SYSTEM REQUIRES CARE WHEN APPLYING SEALANTS AS SHOWN TO ASSURE PERFORMANCE LEVELS SHOWN IN THE TEST REPORT.

FG-3000 STOREFRONT INSTALLATION MANUAL

STACK SYSTEM SEALANT PROCEDURE FOR DOOR FRAME AT FLASHING



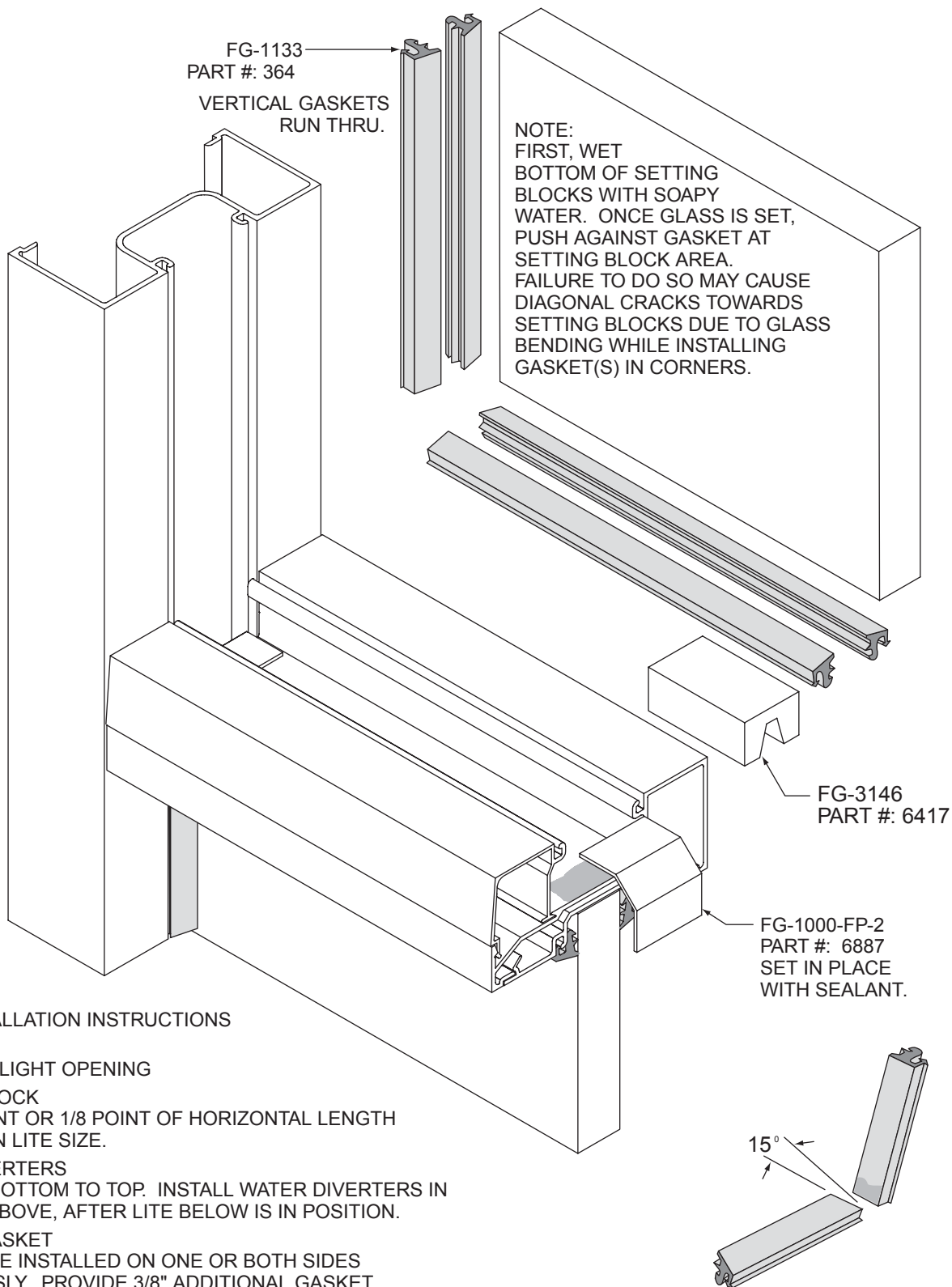
*USE SHEAR BLOCKS AS SHOWN ON PAGE 44 TO SECURE TO TUBULAR FRAM

DOOR FRAME IS ANCHORED BY FASTENERS THROUGH THRESHOLD
AND THROUGH DOOR FRAME HEADER.

DO NOT FABRICATE 2 PIECE DOOR FRAMES WITH POUR & DEBRIDGE PROFILE

FG-3000 STOREFRONT INSTALLATION MANUAL

STACK SYSTEM GLAZING PROCEDURE



GLAZING INSTALLATION INSTRUCTIONS

GLASS SIZE
7/8" OVER DAY LIGHT OPENING

SETTING BLOCK
SET AT 1/4 POINT OR 1/8 POINT OF HORIZONTAL LENGTH
DEPENDING ON LITE SIZE.

WATER DIVERTERS
GLAZE FROM BOTTOM TO TOP. INSTALL WATER DIVERTERS IN
HORIZONTAL ABOVE, AFTER LITE BELOW IS IN POSITION.

GLAZING GASKET
GASKET MAY BE INSTALLED ON ONE OR BOTH SIDES
SIMULTANEOUSLY. PROVIDE 3/8" ADDITIONAL GASKET
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ADEQUATE COMPRESSION FOR THE GLAZING INFILL.











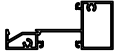


NOTE: CLEAN GASKET WITH ISOPROPYL ALCOHOL PRIOR TO
SEALING CORNERS.

MITER HORIZONTAL GASKET
TO FIT VERTICAL GASKET.




FG-3000 STOREFRONT INSTALLATION MANUAL

PARTS LIST


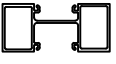
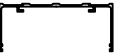






FG-3000 2" x 4-1/2" Screw Spline System

 FG-3100	Open Back Mullion
 FG-3101	Open Back Heavy Mullion
 FG-3102	Mullion Filler
 FG-3103	Jamb / Outside Glaze Head / Inside Glaze Sill
 FG-3108	Expansion Mullion Half
 FG-3109	Expansion Mullion Half
 FG-3180	Adjustable Mullion Half
 FG-3181	Adjustable Mullion Half
 FG-3135	Mullion for Steel Reinforcement
 FG-3164	Mullion Filler for Steel Reinforcement
 FG-3142	Intermediate Horizontal
 FG-3161	Outside Glaze Sill / Inside Glaze Head
 FG-3144	Glass Stop (Outside Glaze)

FG-3000 2" x 4-1/2" Screw Spline System

 FG-3210	Glass Stop (Inside Glaze)
 FG-2169	Sub-Sill (Outside Glaze Only)
 FG-2246	Sub-Sill (Inside/Outside Glaze)


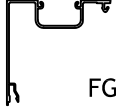
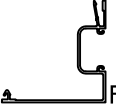
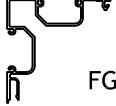






FG-3000 2" x 4-1/2" Stack System

 FG-3100	Jamb
 FG-3107	Mullion
 FG-3203	Head Receptor
 FG-3204	Head Insert
 FG-3191	Sill Insert
 FG-3205	Sill Receptor
 FG-3192	Horizontal
 FG-3164	Horizontal Filler
 FG-3144	Glass Stop

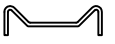




FG-3000 STOREFRONT INSTALLATION MANUAL

PARTS LIST




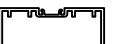

FG-3000 2 x 4-1/2" Auxiliary Extrusions

	Open Back Flat Filler
FG-2122	
	90° Corner (Self Mating for 180° Post)
FG-3110	
	90° Split Corner
FG-3111	
	90° Corner w/ FG-2112 3-Way Post w/ FG-3111
FG-3201	
	Corner Post Self Mating
FG-2112	
	135° / 45° Corner use FG-3141 Filler
FG-2138	
	Deep Pocket Filler for FG-2138
FG-3141	
	4-1/2" Head Receptor (V-11 not included)
MO-243	
	Head Receptor Face (V-11 not included)
MO-244	
	Head Receptor (V-11 not included)
FG-2139	

FG-3000 2 x 4-1/2" Auxiliary Extrusions

	Steel Reinforcement for FG-3135 and FG-3164 Only
RS-1	
	Snap-In Pocket Filler
FG-3126	
	Pocket Reducer for 1/4" Glass
FG-3194	
	Pocket Reducer for 7/16" Glass
FG-3236	
	Pocket Reducer for 5/8" Glass
FG-3237	




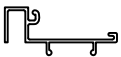







FG-3000 Door Frame Components

	Tubular Door Jamb
FG-3155	
	Open Back Door Jamb
FG-3156	
	Tubular Double Door Jamb
FG-3168	
	Tubular Door Header for OHCC
FG-3160	
	Door Header for Open Back Frames
FG-3163	

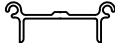
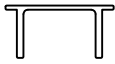
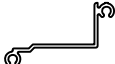




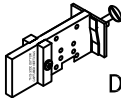
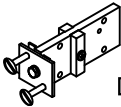

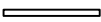
FG-3000 STOREFRONT INSTALLATION MANUAL

PARTS LIST

FG-3000 Door Frame Components

 FG-3196	Door Header for OHCC
 FG-1129	Snap-In Filler for FG-3196
 FG-1184	Snap-In Filler for FG-3196 with weathering
 FG-3157	Door Transom Glazing Adaptor
 FG-3158	Door Transom Glazing Adaptor Stop
 FG-2145	1/2" x 1-1/16" Snap-In Door Stop
 FG-2120	1/2" x 1-5/8" Snap-In Door Stop
 DS-1	1/2" x 1-5/8" Door Stop (Use SC-1 Clips)
 DS-108	3/4" x 1-5/8" Door Stop (Use SC-1 Clips)
 DS-104	1-3/16" x 1-5/8" Door Stop (Use SC-1 Clips)
 FG-1123	Slide-In Pocket Filler













FG-3000 Accessories

 AC-108-1	Shear Block for FG-3103 Header
 AC-121-1	Mullion Anchor for FG-3190 and FG-3203
 AC-122-1	Shear Block for FG-3192 Horizontal
 FG2000-FP-3	Sill Anchor for FG-3161
 AC-119-1	Shear Block for FG-3142 and FG-3161
 FG-3218	Vinyl Pocket Filler for Window Applications 12'-0" S/L
 FG-2188	Vinyl Filler for Caulk stop 12'-0" S/L
 DJ-5	Drill Fixture for Screw Spline Assembly FG-3103, FG-3142 & FG-3161
 DJ-6	Drill Fixture for Shear Block Assembly AC-119-1 & AC-108-1
 SC-1	Spring Clip for DS-1, DS-104 and DS-108
 UW-466	Silicone Splice for FG-2246






FG-3000 STOREFRONT INSTALLATION MANUAL

PARTS LIST

FG-3000 ACCESSORIES

 FG-1133	1" Glazing Gasket (3/16" Face Clearance)
 FG-1134	Light Gasket (1/8" Face Clearance)
 FG-5125	Heavy Gasket (1/4" Face Clearance)
 FG-3129	Heavy Gasket (3/8" Face Clearance)
 V-11	Gasket for Head Receptor and Expansion Mullions
 FG-3146	Setting Block for FG-3142, FG-3161, FG-3191 & FG-3192
 HP-17	Setting Block for FG-3142 Inside Glazed
 SM-5601	Joint Sealant Tape 1/8" x 1/2"
 FG1000-FP-2	Water Diverter for Center Set Outside Glazed & all Front Set or Back Set
 FG2000-FP-4	End Dam for FG-2169
 FG3000-FP-78	End Dam for FG-2246
 FG2000-FP-7	Splice for FG-2169

FG-3000 Fasteners

 FS-6	#10 X 3/4" P.P.H. Attachment of Sill and Horizontal to Shear Blocks
 FS-7	#10 X 3/4" P.F.H. Attachment of Head to Shear Block
 FS-8	#14 X 1" H.H.S.T.S. Screw Spline Assembly Screw
 FS-9	#14 X 1-1/2" H.H.S.T.S. Assembly Screw for Shear Blocks
 FS-320	#10 x 1/2" Drive Screw Attachment of FG3000-FP-78 End Dam

FG-3000 STOREFRONT INSTALLATION MANUAL

INFILL THICKNESS OPTIONS

Glass Size	Adaptor	Gaskets
1/4"	FG-3194	FG-1133 Both Sides
5/16"	FG-3236	FG-5125 Both Sides
3/8"	FG-3236	FG-1133 & FG-5125
7/16"	FG-3236	FG-1133 Both Sides
1/2"	FG-3237	FG-5125 Both Sides
9/16"	FG-3237	FG-1133 & FG-5125
5/8"	FG-3237	FG-1133 Both Sides
11/16"	FG-3237	FG-1133 & FG-1134
3/4"	FG-3237	FG-1134 Both Sides
13/16"	N/A	Not Available
7/8"	None	FG-5125 Both Sides
15/16"	None	FG-1133 & FG-5125
1"	None	FG-1133 Both Sides
1-1/16"	None	FG-1133 & FG-1134
1-1/8"	None	FG-1134 Both Sides