






INSTALLATION INSTRUCTIONS

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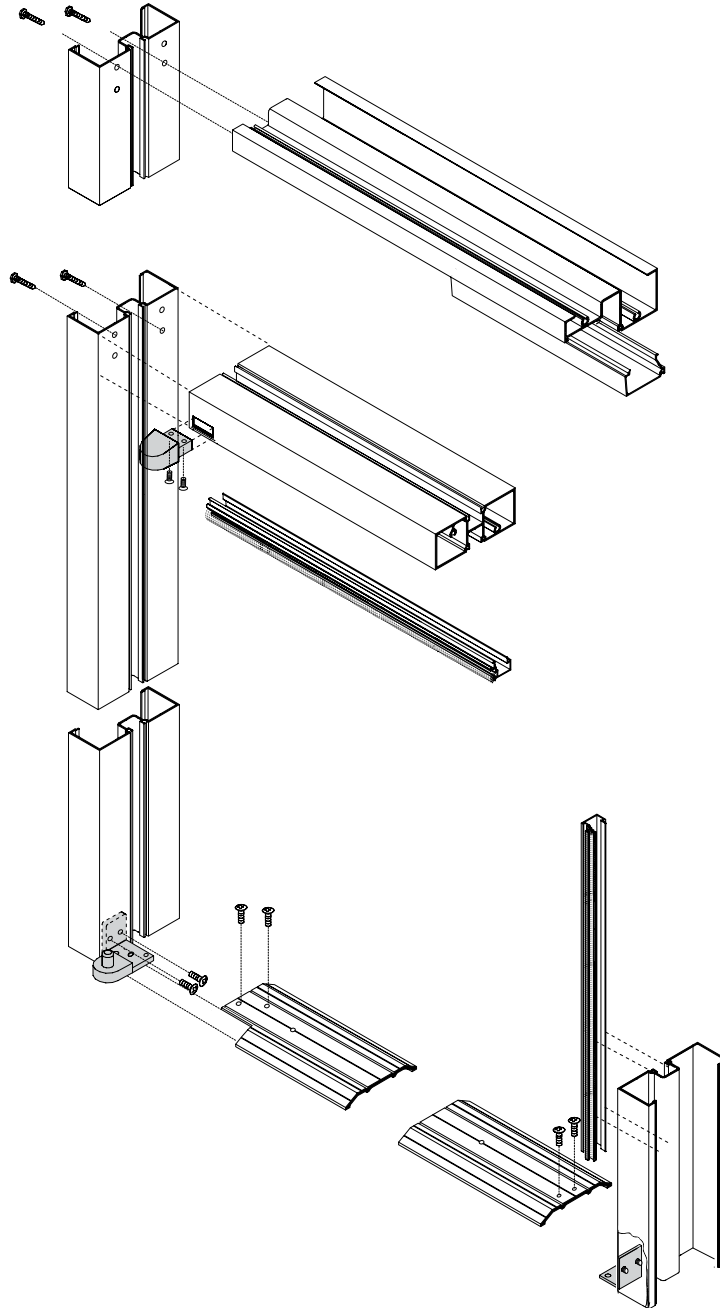
FL200 • FL300

FRAMES and ENTRANCE DOORS

213-380-500

INSTALLATION INSTRUCTIONS

Frames and Entrance Doors



These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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C.O.C. = CONCEALED OVERHEAD CLOSER

INSTALLATION INSTRUCTIONS **- General Notes -**

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of it's products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS - General Notes -

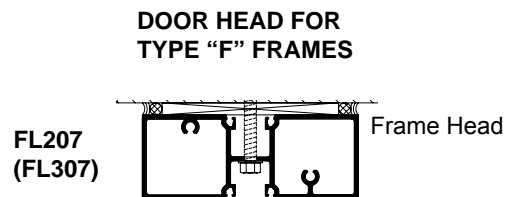
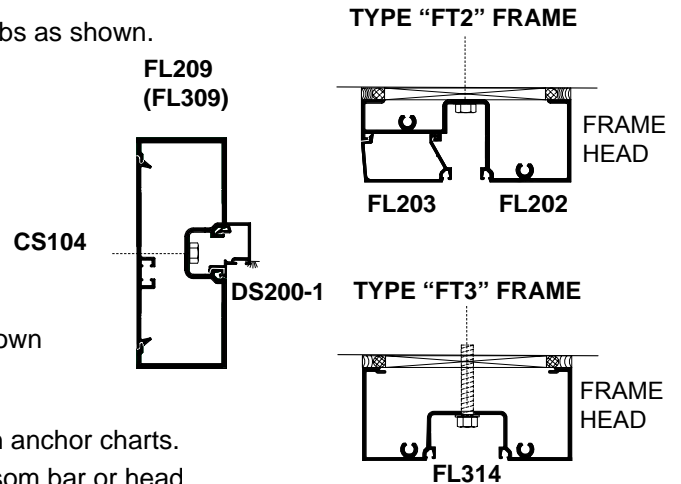
- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be kept dry. **(See 13.A.2)**
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.

ASSEMBLY:

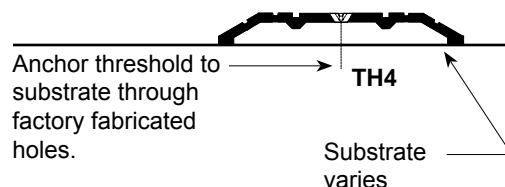
1. Verify opening size. Allow for 1/4" minimum sealant space at jambs and frame head.
2. Cut top of stock jamb to reduce frame transom height when required. Use drill jig for proper hole locations.
3. Attach threshold clips to jambs using AS20 screws.
4. Assemble head and transom bar (if applicable) to jambs as shown.

INSTALLATION:

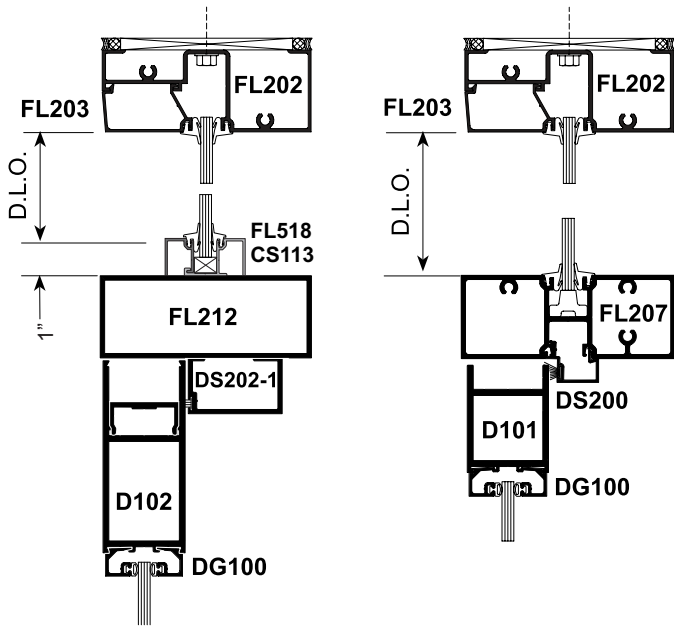
1. Drill anchor holes in wall jamb and frame head as shown on shop drawings or anchor charts.
2. Set frame plumb and square into opening.
3. Anchor frame to substrate with fasteners as shown in anchor charts.
4. Install door stop with weathering into jambs and transom bar or head.
5. Position setting blocks in door header at quarter or eighth points as required and glaze transom. Glazing sash is required vertically at Series FL300 transom. **See details on Pages 7-12.**
6. Install sash glass stops.
7. Install NG1 glazing gaskets in transom area.



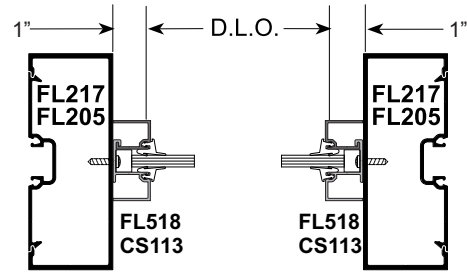
*See pages 8, 10, 11, for C.O.C. headers and transom bars.



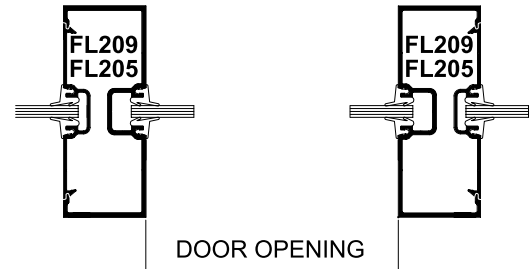
TYPE "FT2" FRAME



**FL200 Transom Bar
Offset Hung Doors**
Glass Height = D.L.O. + 5/8"

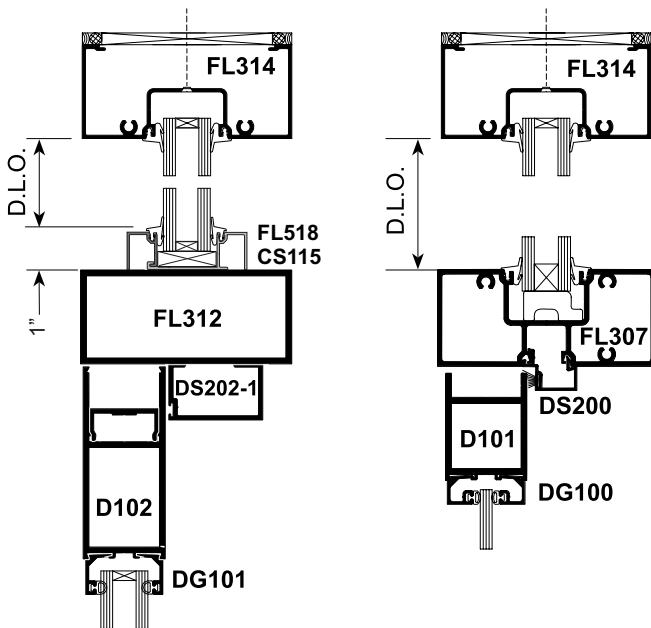


FL200 Center Pivot
Glass Width = Door Opening minus (-3/4")

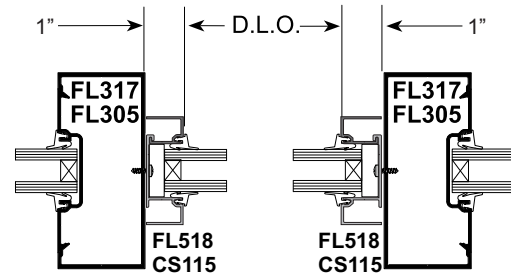


FL200 Offset Hung
Glass Width = Door Opening + 5/8"

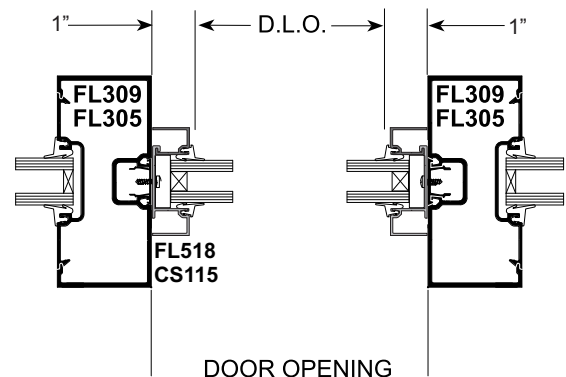
TYPE "FT3" FRAME



**FL300 Transom Bar
Offset Hung Doors**
Glass Height = D.L.O. + 7/8"



FL300 Center Pivot
Glass Width = Door Opening minus (-1")



FL300 Offset Hung
Glass Width = Door Opening minus (-1")

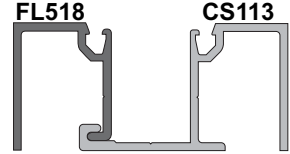
FRAME FOR OFFSET PIVOTED DOOR WITH SURFACE CLOSER

Series FL200 shown
Series FL300 (similar)

AS16
#14 X 1"
H.H.S.T.S.

FL209
(FL309)

NOTE: Vertical and horizontal
transom sash required for
Series FL300.



FL202

FL203

NOTE: For FL300
system, use
FL314 header

FL207
(FL307)

DH101
Top pivot
frame portion

DS200-1
Snap-in door stop
with weathering at
head & jamba

DG101

AS3
#12-24 X 1/2"
FHMS

TH4

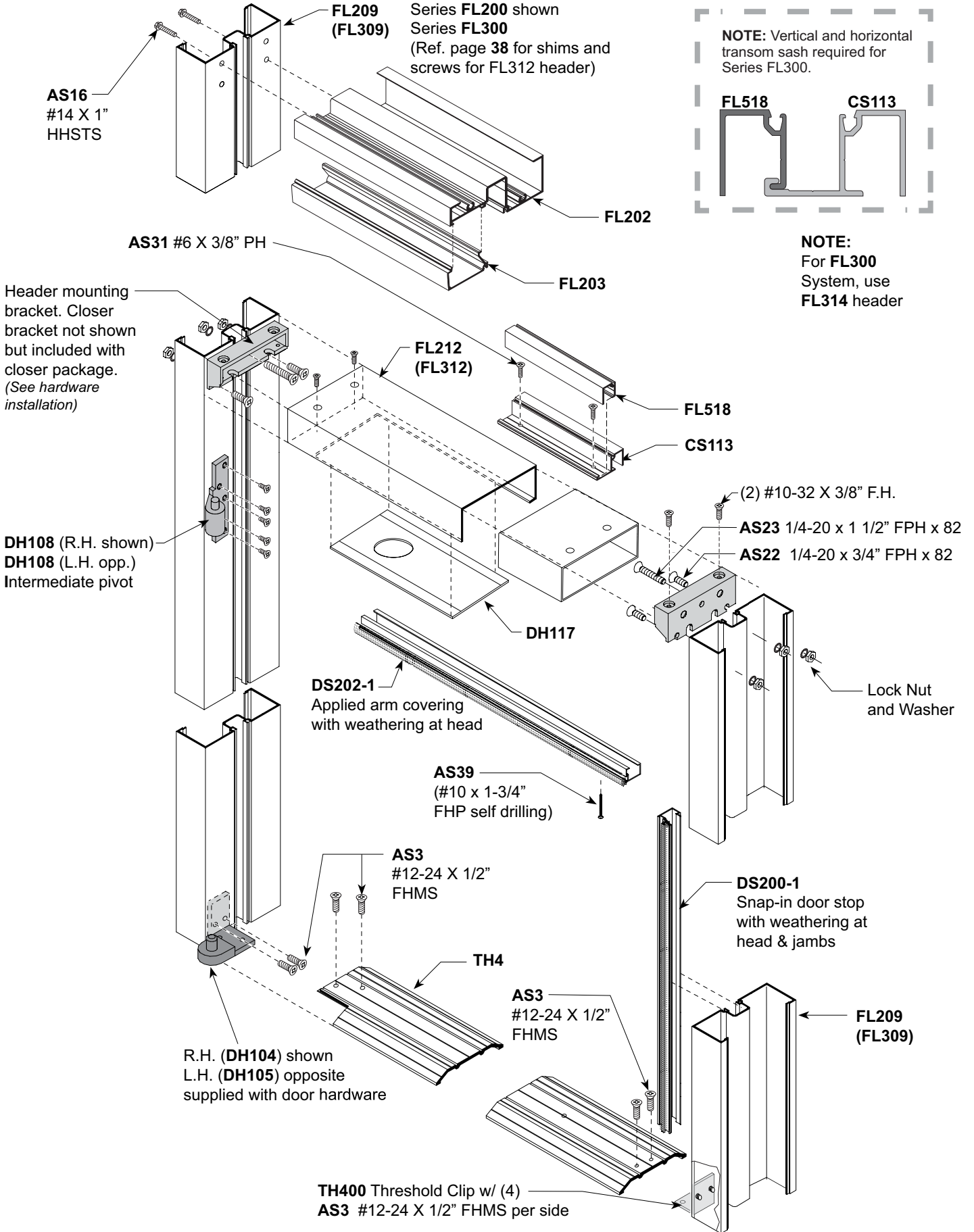
AS3
#12-24 X 1/2"
FHMS

FL209
(FL309)

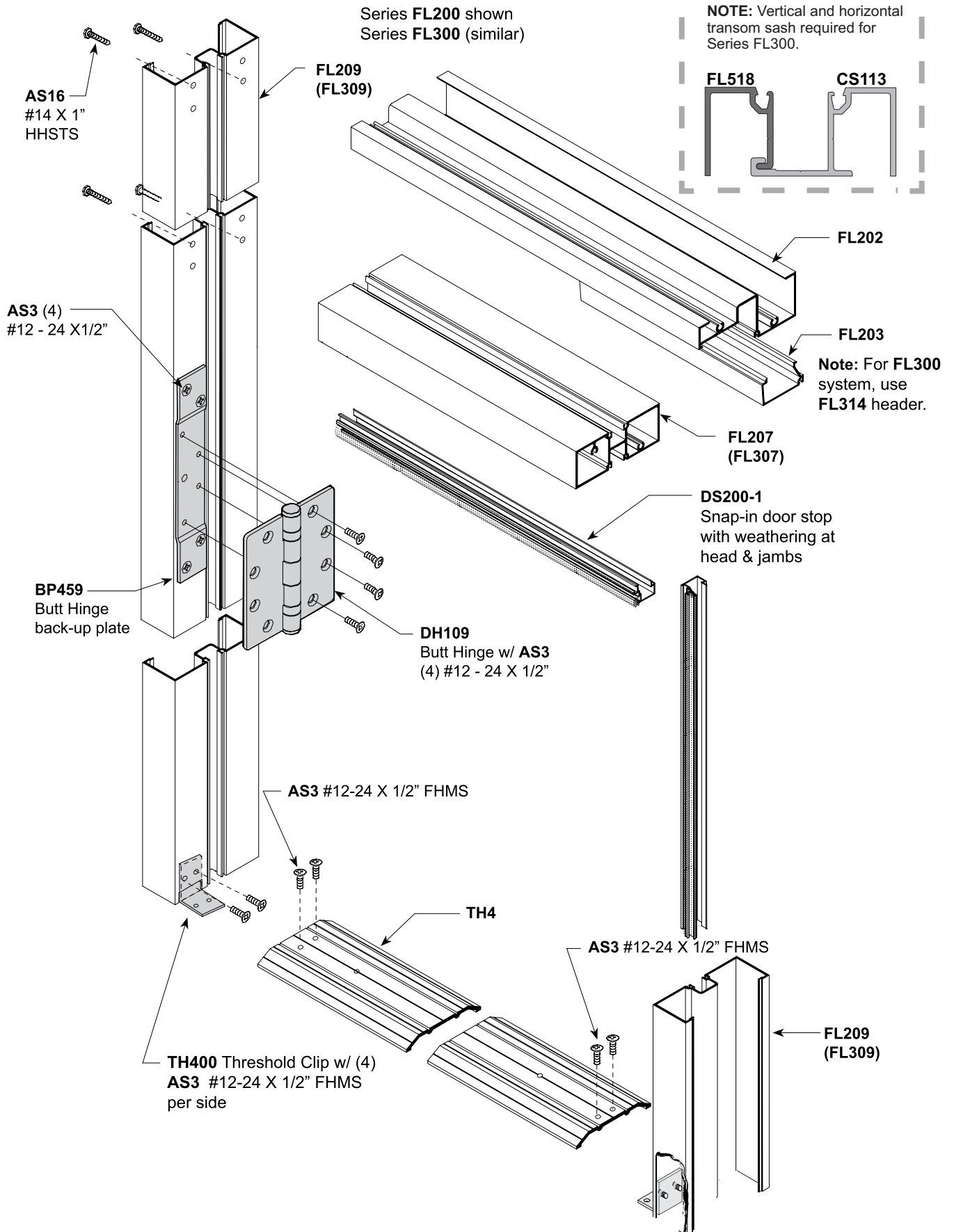
R.H. (DH104) shown
L.H. (DH105) opposite
supplied with door
hardware

TH400 Threshold Clip w/ (4)
AS3 #12-24 X 1/2" FHMS
per side

FRAME FOR OFFSET PIVOTED DOOR WITH C.O.C. AND OFFSET ARM

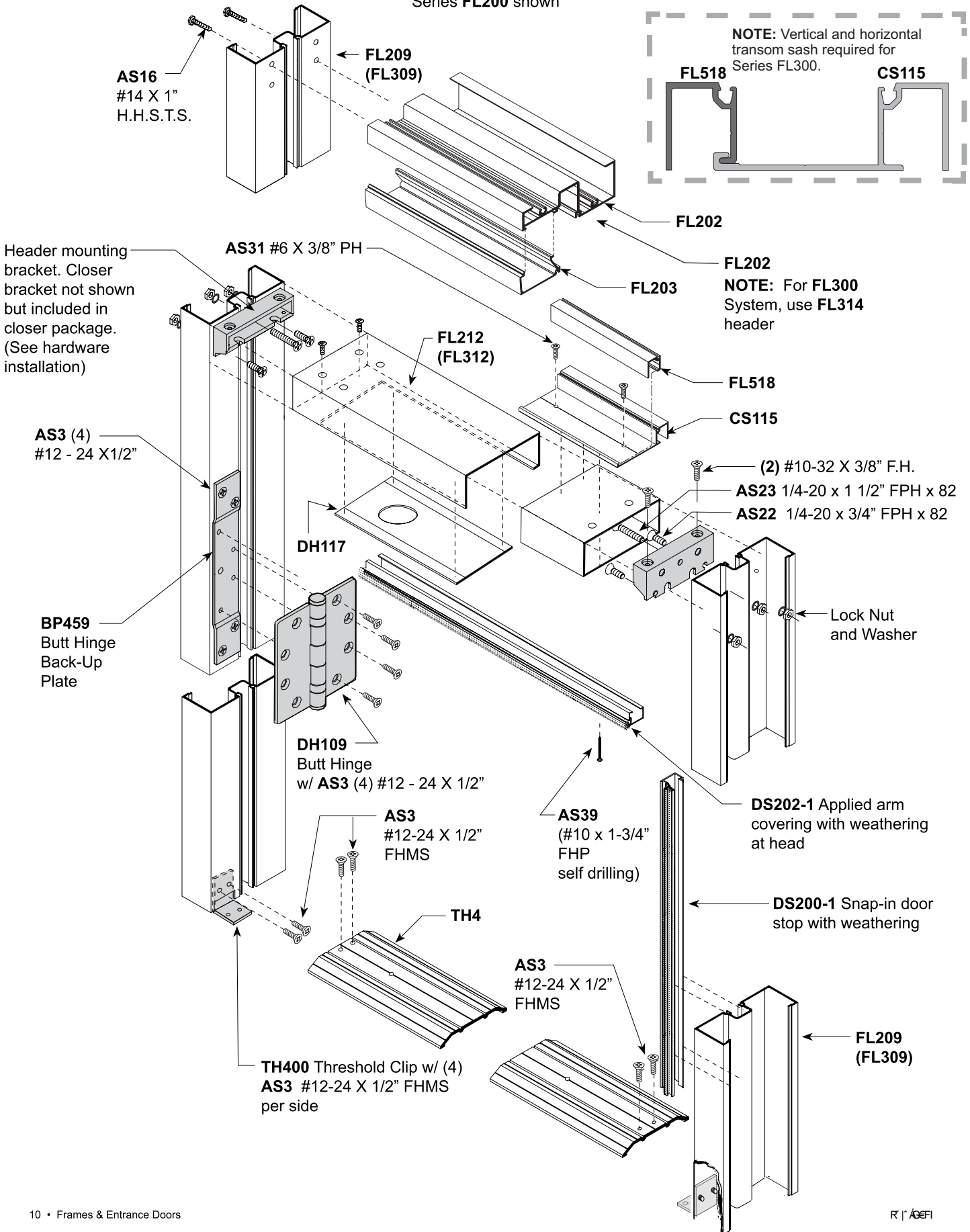


OPEN BACK FRAME AND TRANSOM FOR BUTT HUNG DOOR WITH SURFACE CLOSER



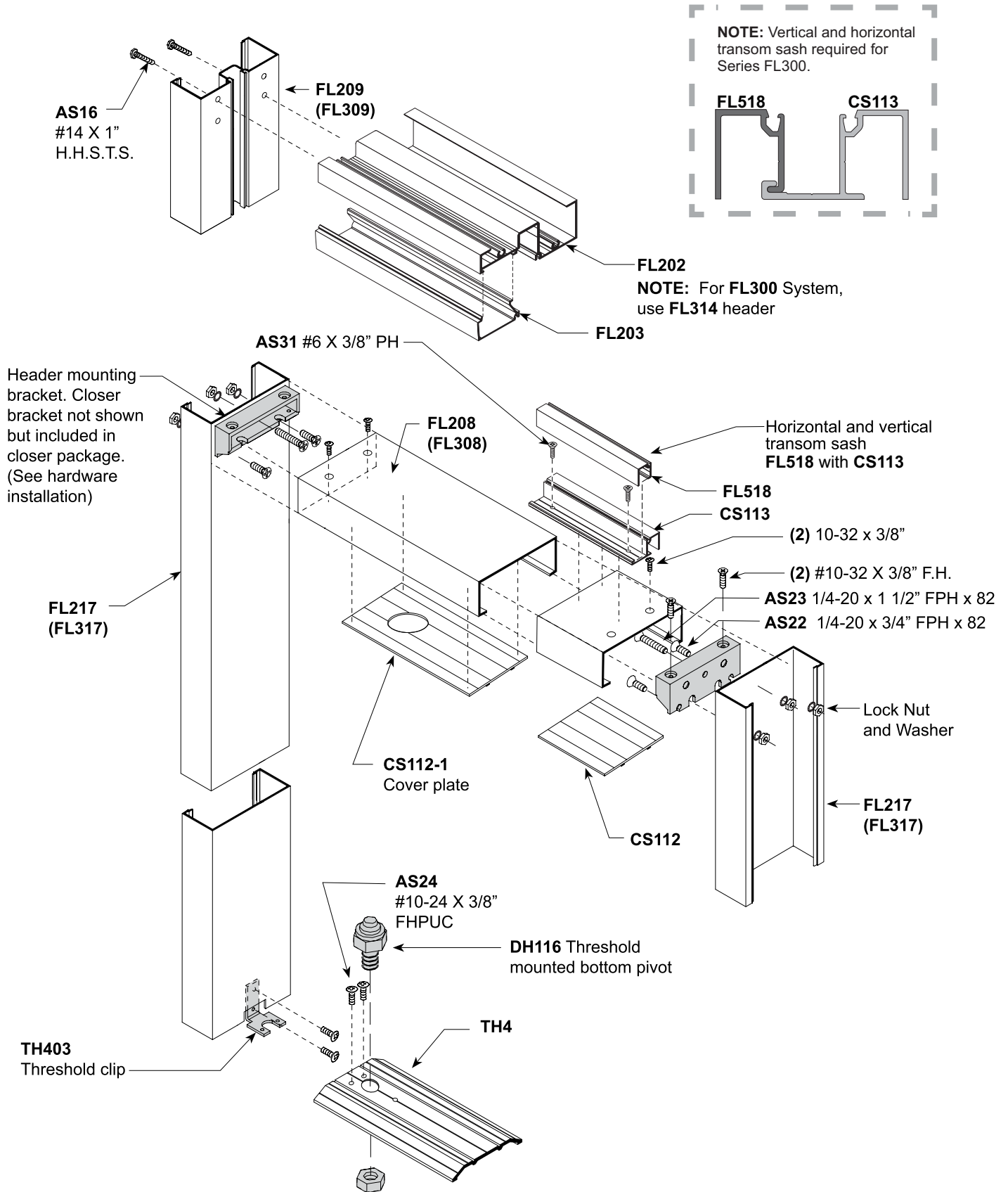
FRAME FOR OFFSET BUTT HUNG DOOR WITH C.O.C. AND OFFSET ARM

Series FL200 shown

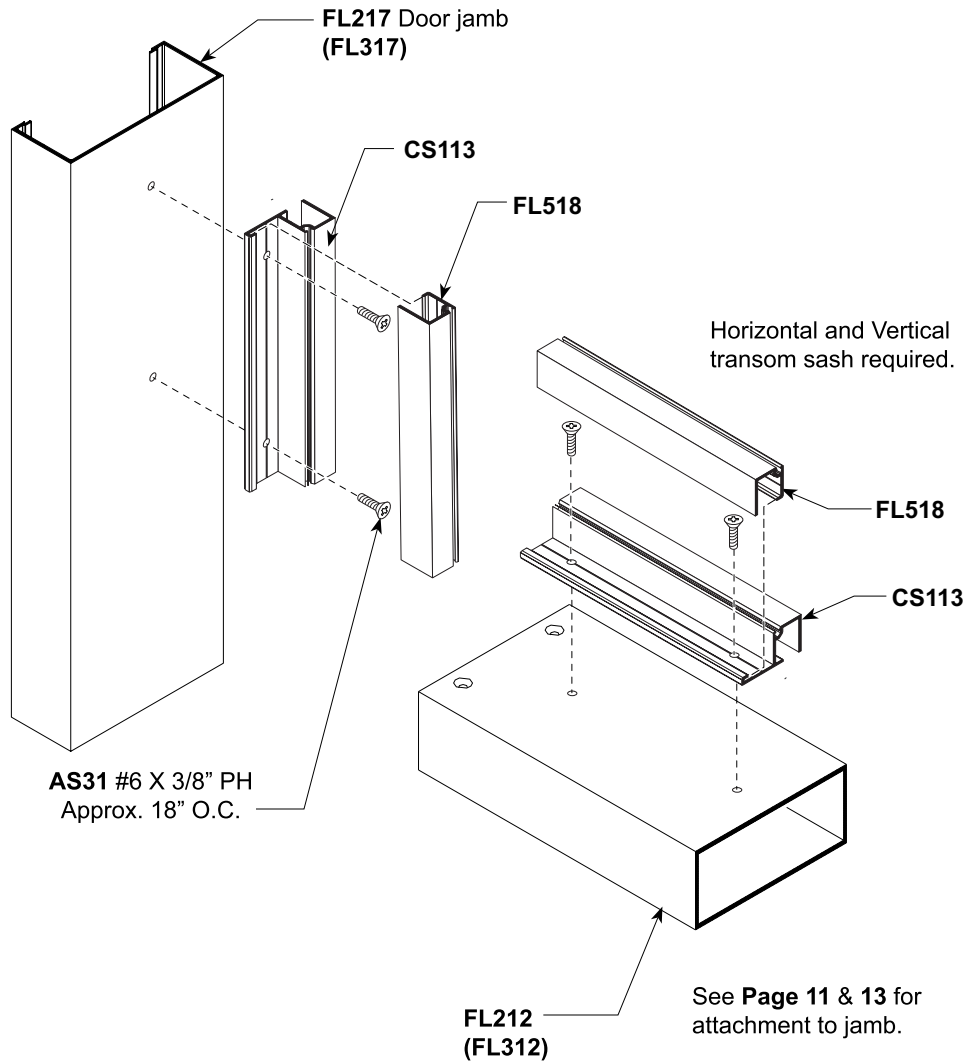
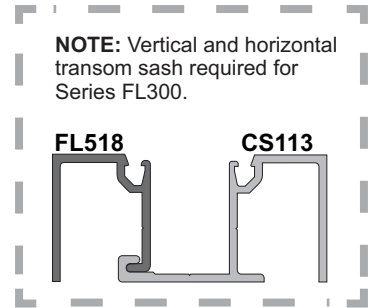


FRAME FOR CENTER PIVOTED DOOR WITH C.O.C.

Series FL200 shown

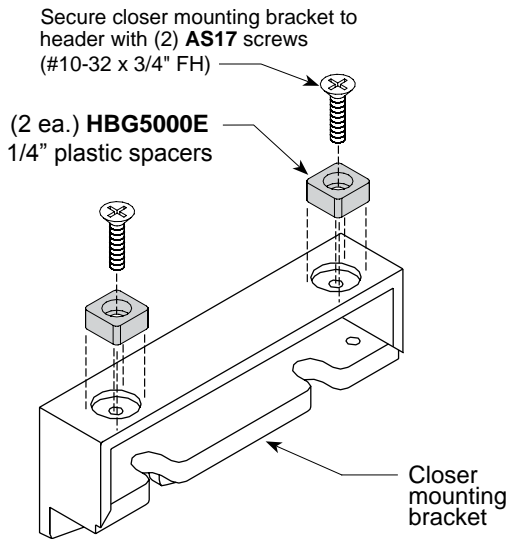


FRAMES FOR CENTER HUNG DOORS WITH TUBULAR HEADER

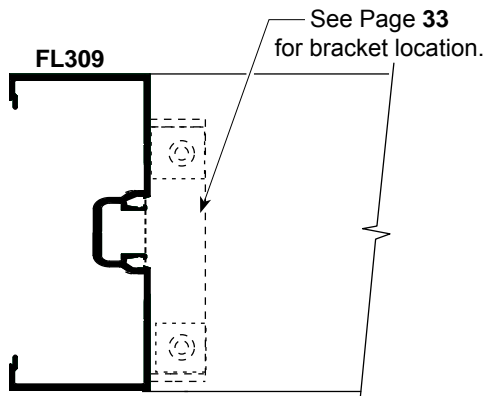
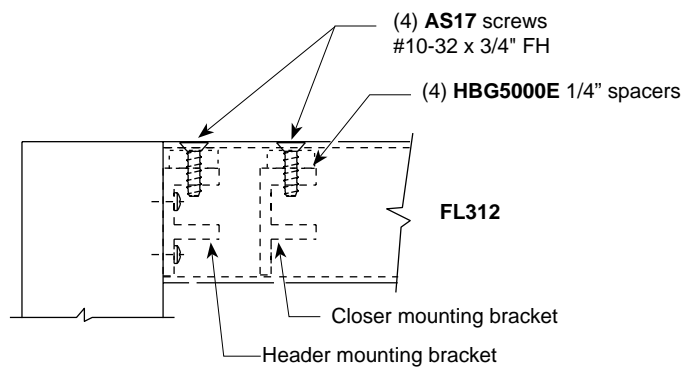
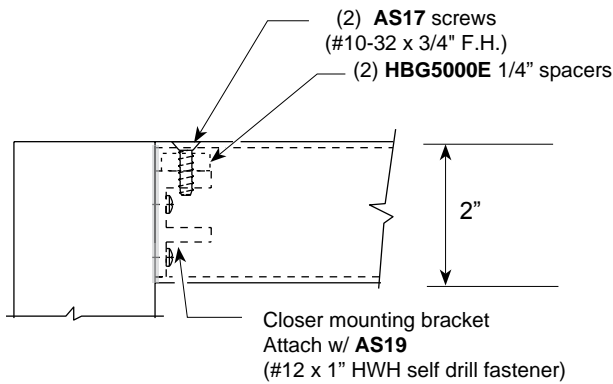
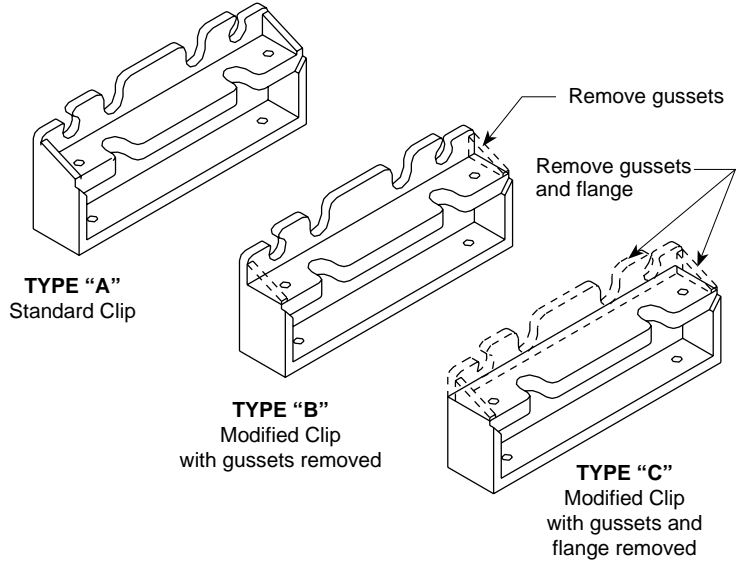


HEADER FOR C.O.C. WITH OFFSET ARM FOR FL300 SERIES

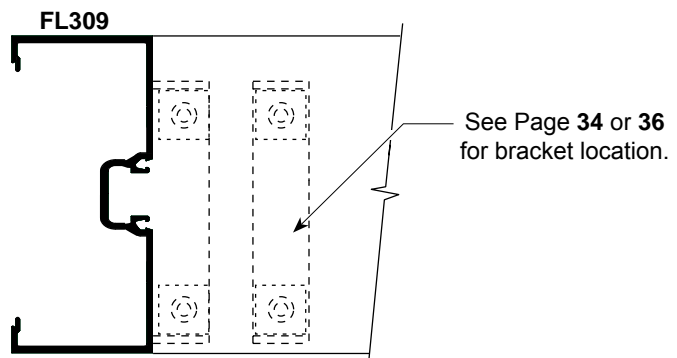
To mount closer into 2" high headers, **HBG5000E** 1/4" plastic spacers are required.
For balance of header installation, see pages 33 through 39.



CLIPS SHOWN INVERTED TO VIEW BOTTOM AT WORK AREA

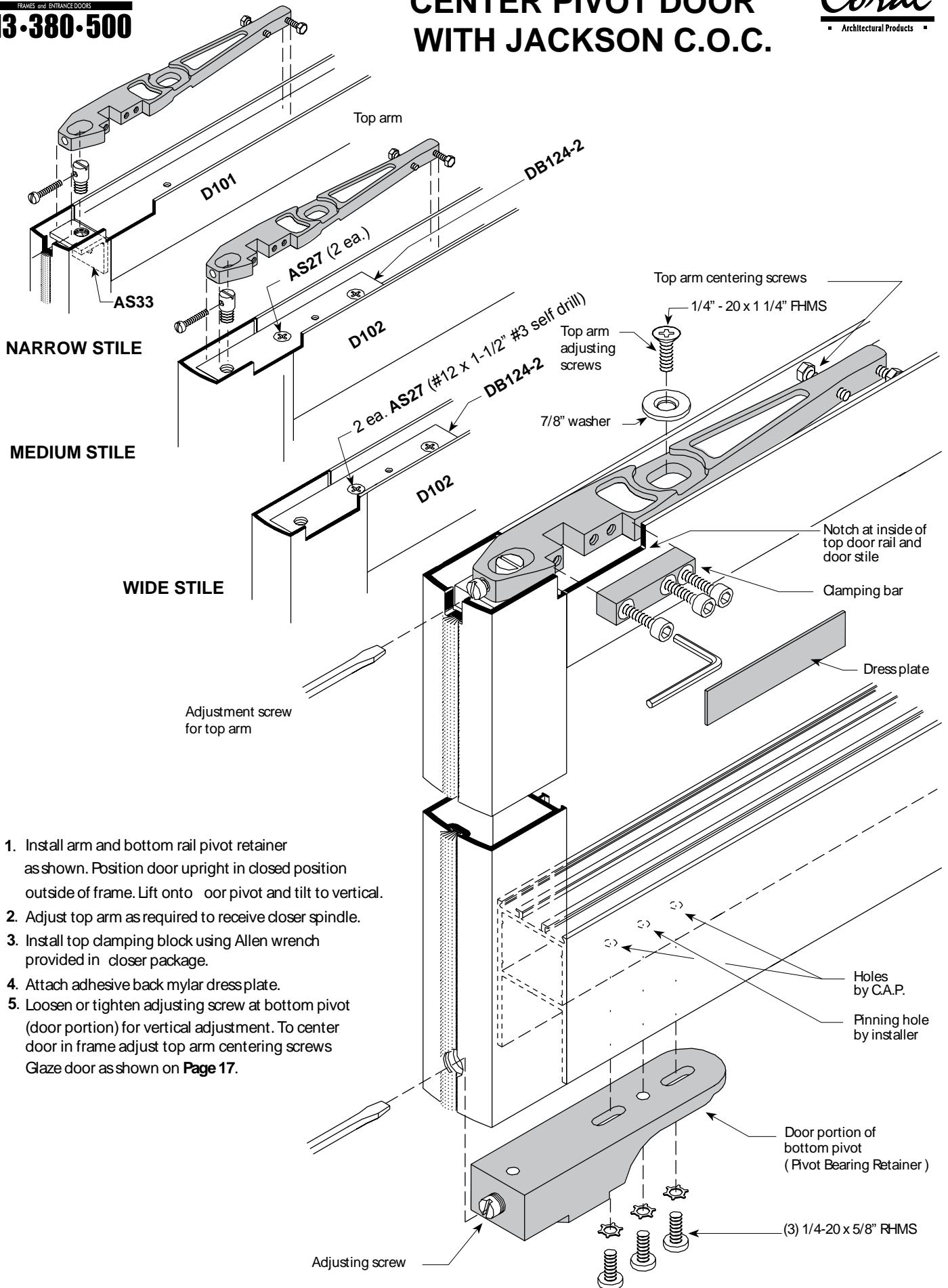


90° swing
for offset pivot door



105° swing
for offset pivot or
butt hung door

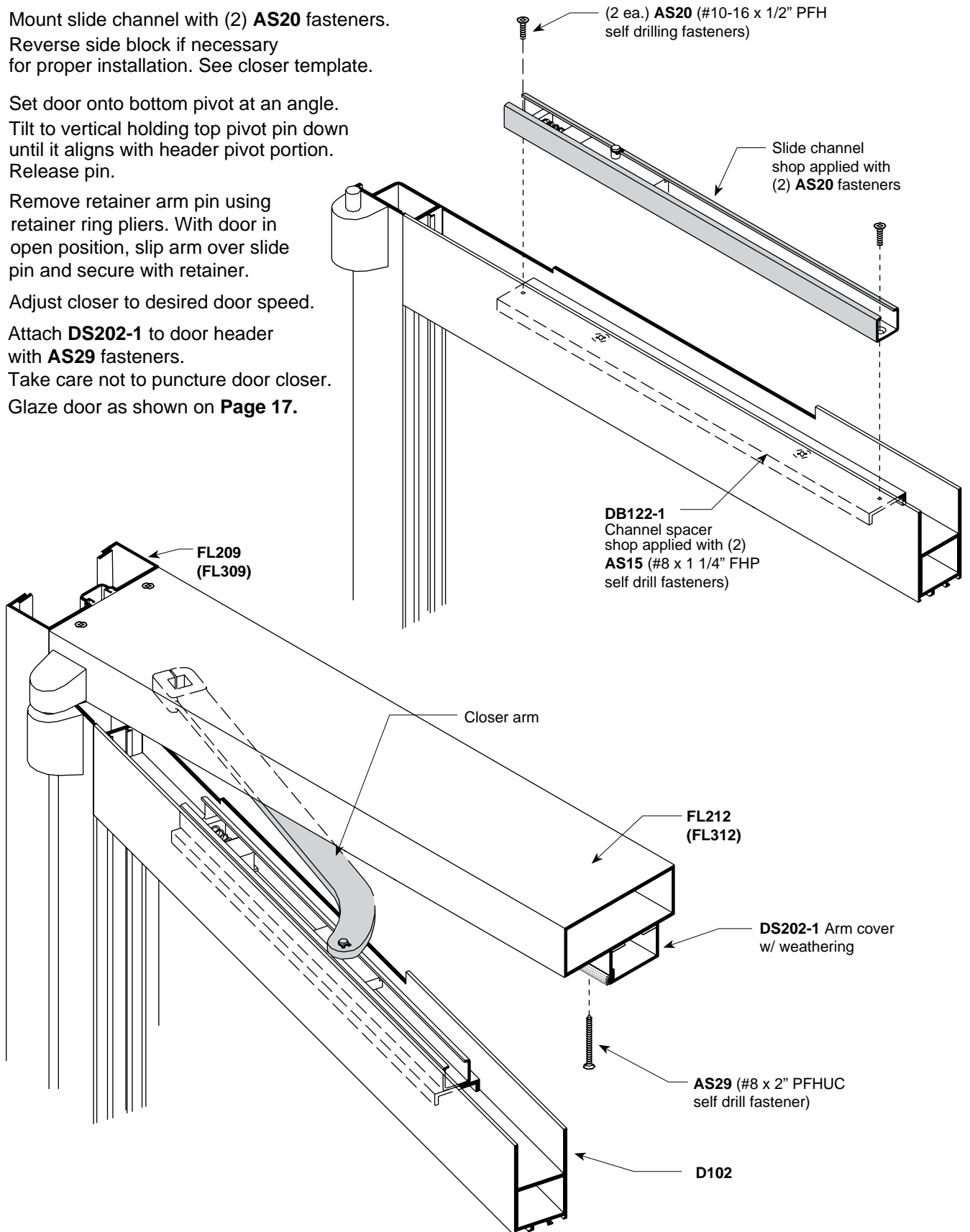
CENTER PIVOT DOOR WITH JACKSON C.O.C.



1. Install arm and bottom rail pivot retainer as shown. Position door upright in closed position outside of frame. Lift onto door pivot and tilt to vertical.
2. Adjust top arm as required to receive closer spindle.
3. Install top damping block using Allen wrench provided in closer package.
4. Attach adhesive back mylar dress plate.
5. Loosen or tighten adjusting screw at bottom pivot (door portion) for vertical adjustment. To center door in frame adjust top arm centering screws. Glaze door as shown on **Page 17**.

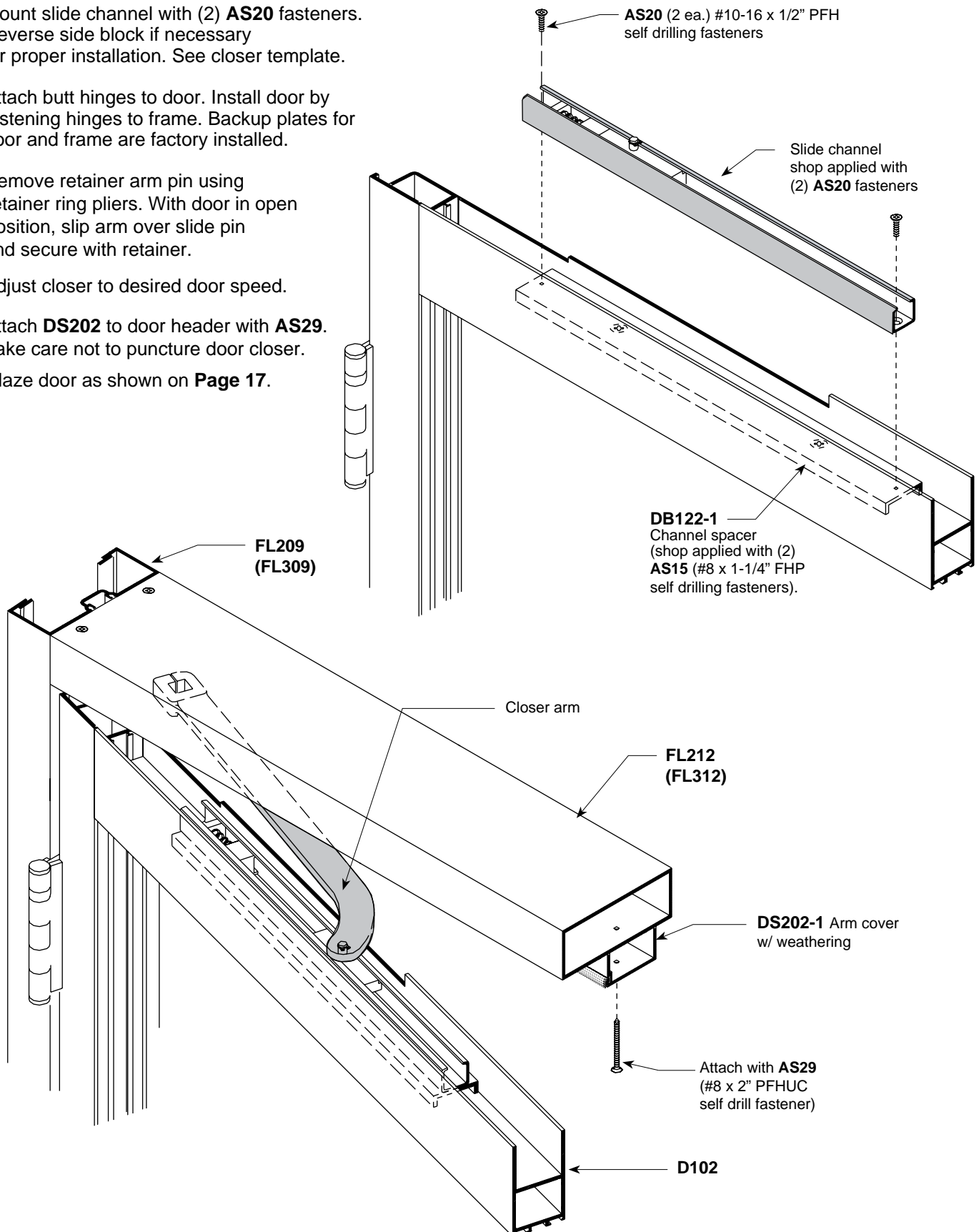
For layout see **Page 37**, also reference **Pages 33** and **34**.

1. Mount slide channel with (2) **AS20** fasteners. Reverse side block if necessary for proper installation. See closer template.
2. Set door onto bottom pivot at an angle. Tilt to vertical holding top pivot pin down until it aligns with header pivot portion. Release pin.
3. Remove retainer arm pin using retainer ring pliers. With door in open position, slip arm over slide pin and secure with retainer.
4. Adjust closer to desired door speed.
5. Attach **DS202-1** to door header with **AS29** fasteners. Take care not to puncture door closer.
6. Glaze door as shown on **Page 17**.

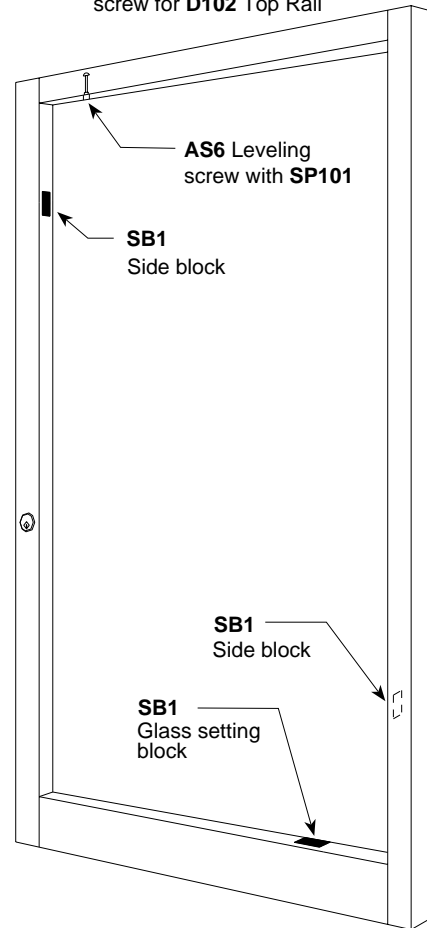


For layout see **Pages 36 and 37.**

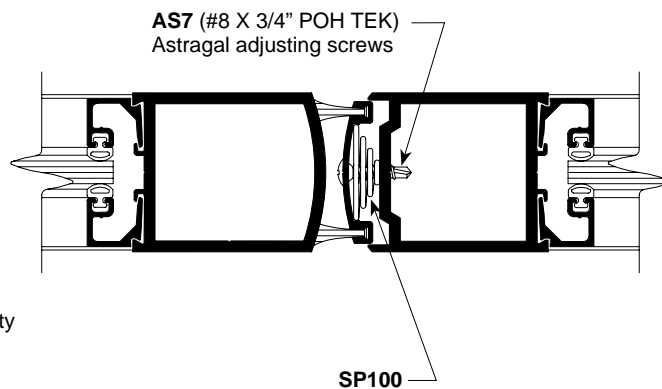
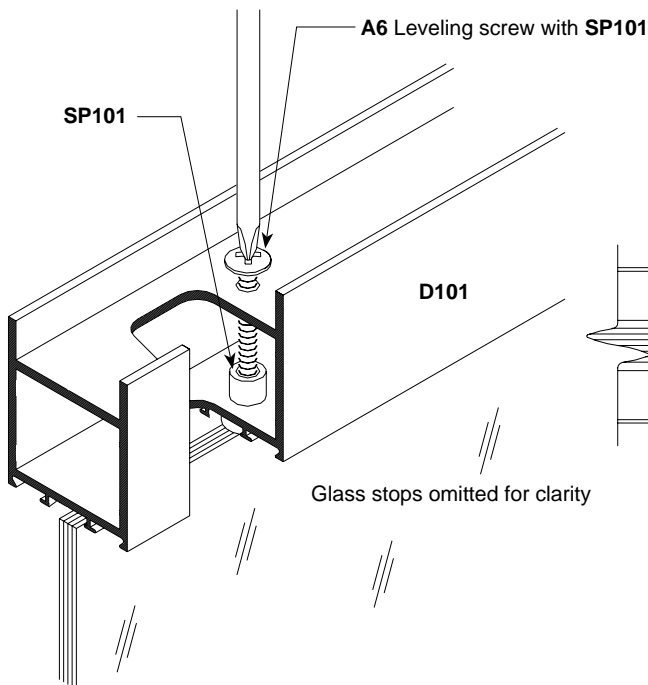
1. Mount slide channel with (2) **AS20** fasteners. Reverse side block if necessary for proper installation. See closer template.
2. Attach butt hinges to door. Install door by fastening hinges to frame. Backup plates for door and frame are factory installed.
3. Remove retainer arm pin using retainer ring pliers. With door in open position, slip arm over slide pin and secure with retainer.
4. Adjust closer to desired door speed.
5. Attach **DS202** to door header with **AS29**. Take care not to puncture door closer.
6. Glaze door as shown on **Page 17.**



NOTE: Use AS9 Leveling screw for D102 Top Rail



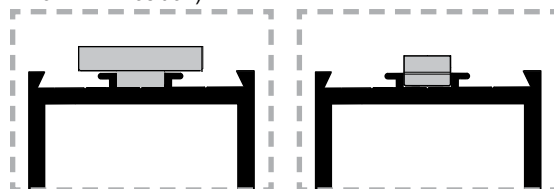
1. Raise leveling screw to maximum retracted position.
2. Install vertical glass stops on one side of door only.
3. Center glass in opening resting on setting blocks.
4. Snap-in remaining glass stops.
5. Turn leveling screw to obtain a uniform clearance between top rail and header.
6. Adjust astragal screws for proper clearance between meeting stiles

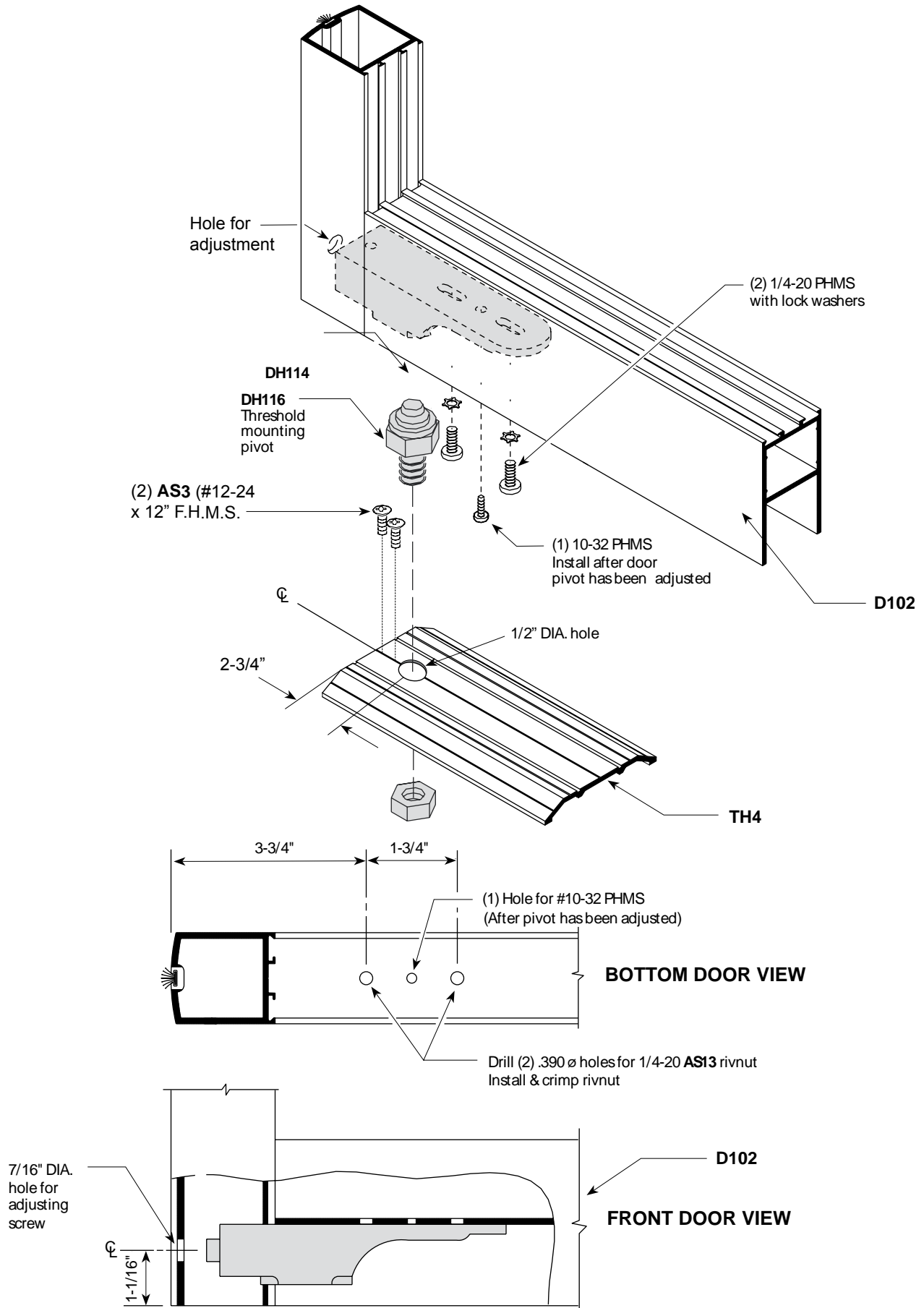


SB1 Side Block (Inverted for Clarity) & Setting Block

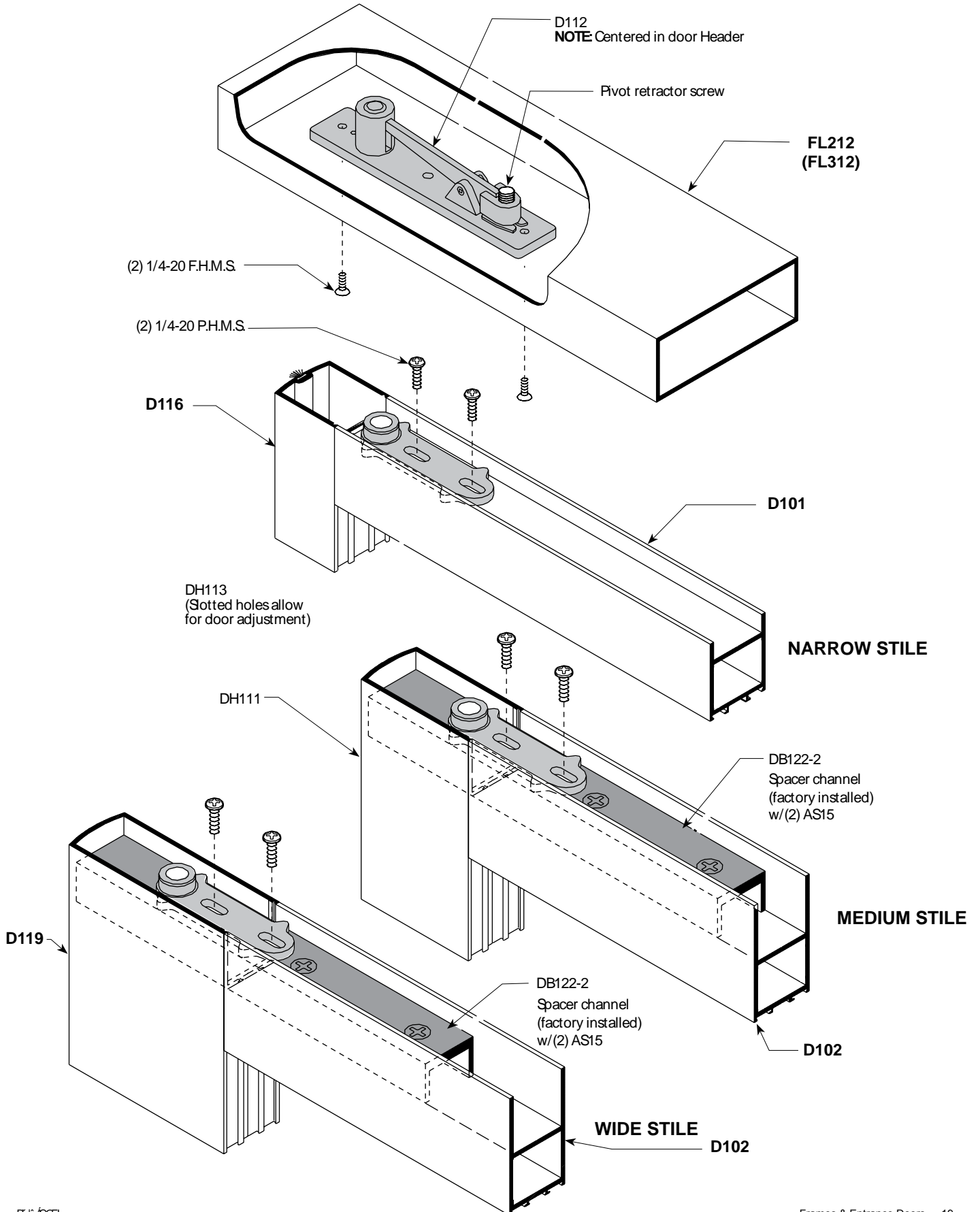
For 1" Glass (Rotate 90° From 1/4" Position)

For 1/4" Glass



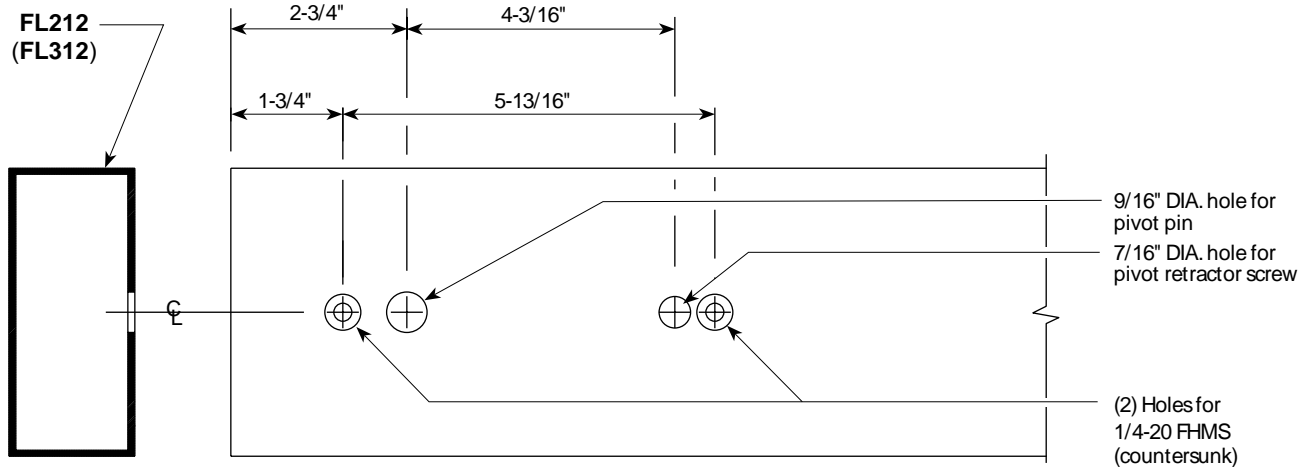


CENTER PIVOT - TOP PORTION FOR SURFACE CLOSER OR FLOOR CLOSER

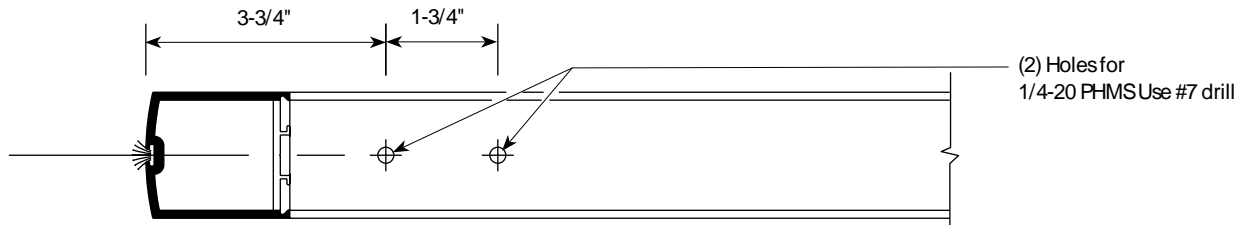


CENTER PIVOT - BOTTOM RAIL FOR MEDIUM & WIDE STILE DOORS

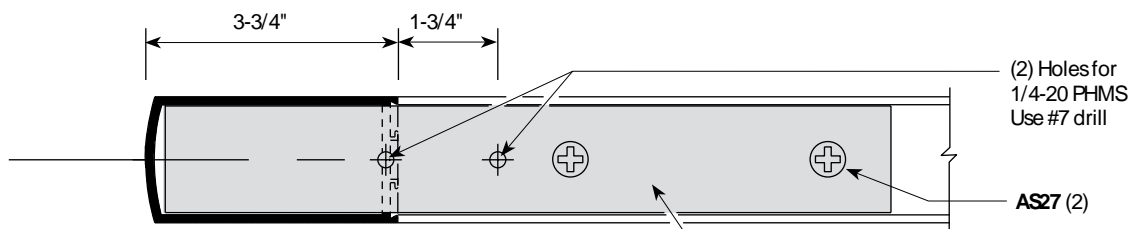
Reference **Page 18** for isometric views



BOTTOM VIEW OF DOOR HEADER

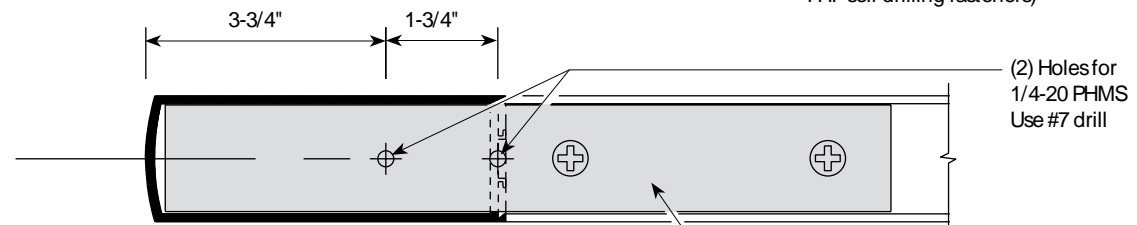


TOP VIEW OF NARROW STILE



TOP VIEW OF MEDIUM STILE

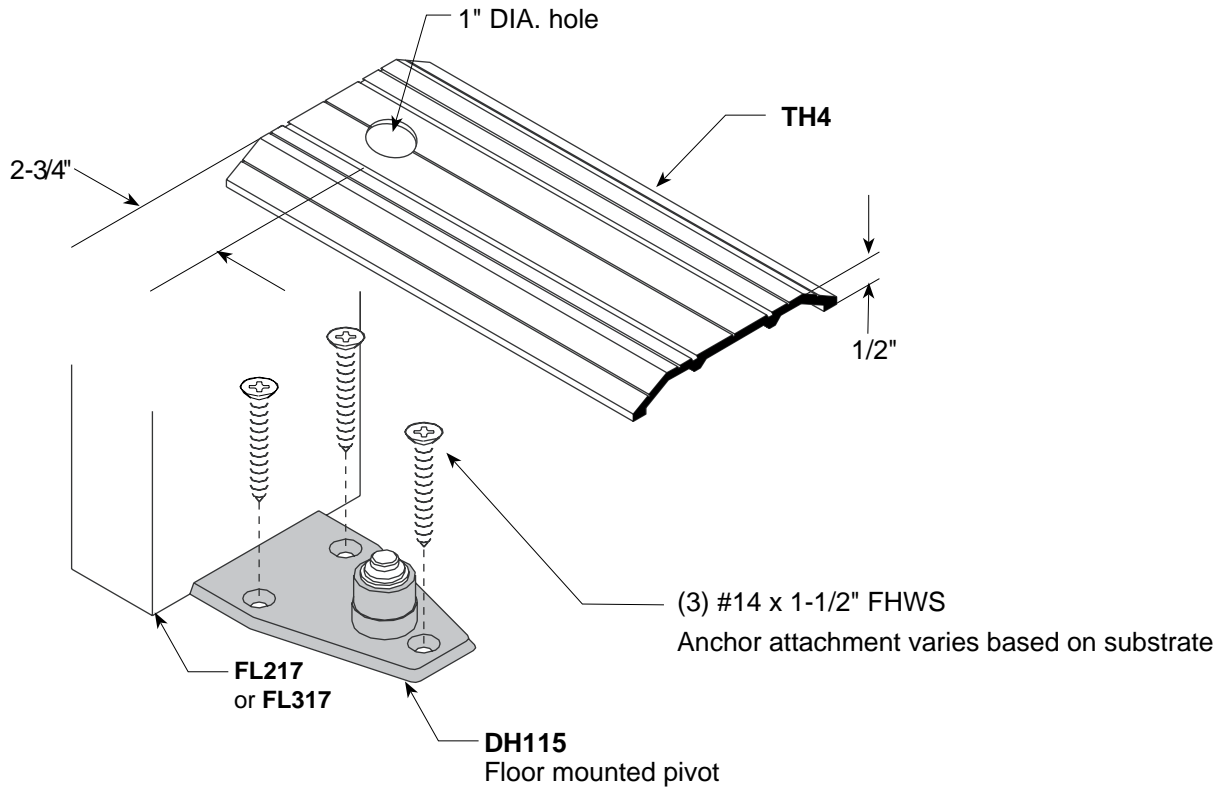
DB124-2
 Shim Channel
 (Factory Installed)
 with (2) **AS27** (#12 x 1-1/2" #3 FH-IP self drilling fasteners)



TOP VIEW OF WIDE STILE

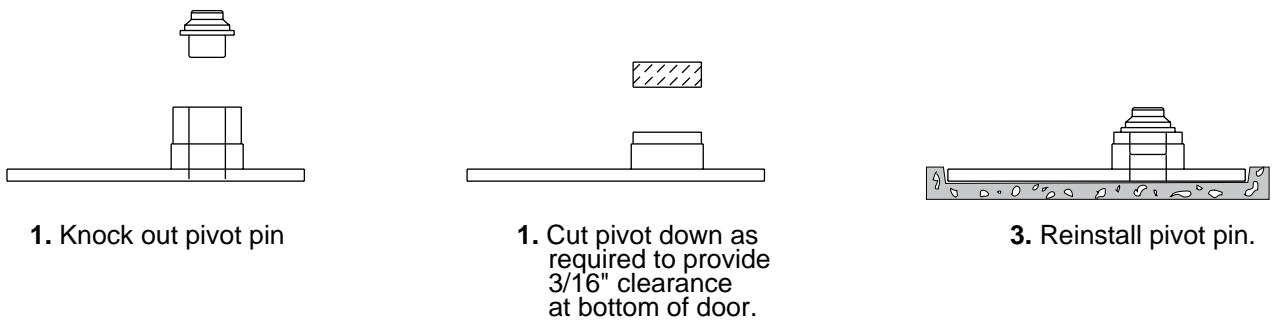
DB124-2
 Shim Channel
 (Factory Installed)
 with (2) **AS27**

CENTER PIVOT - BOTTOM PORTION



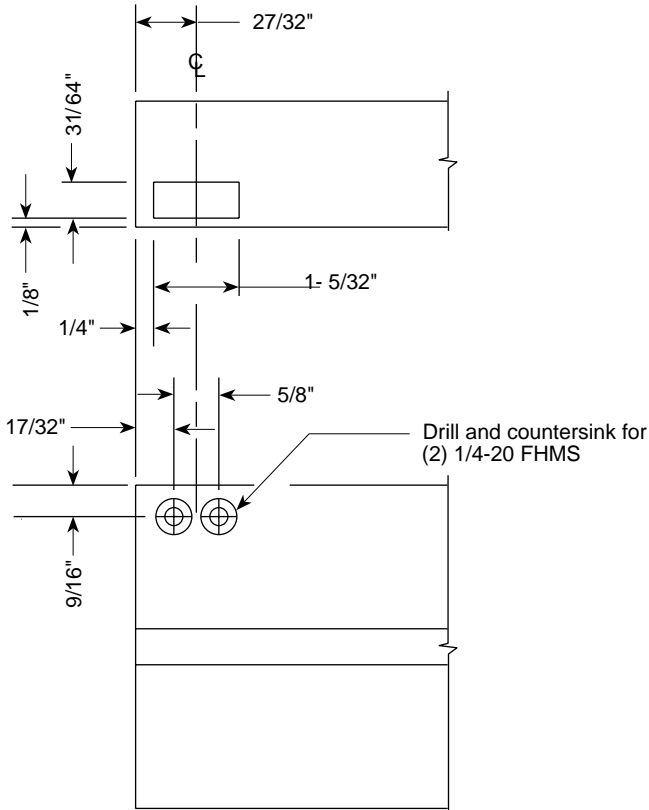
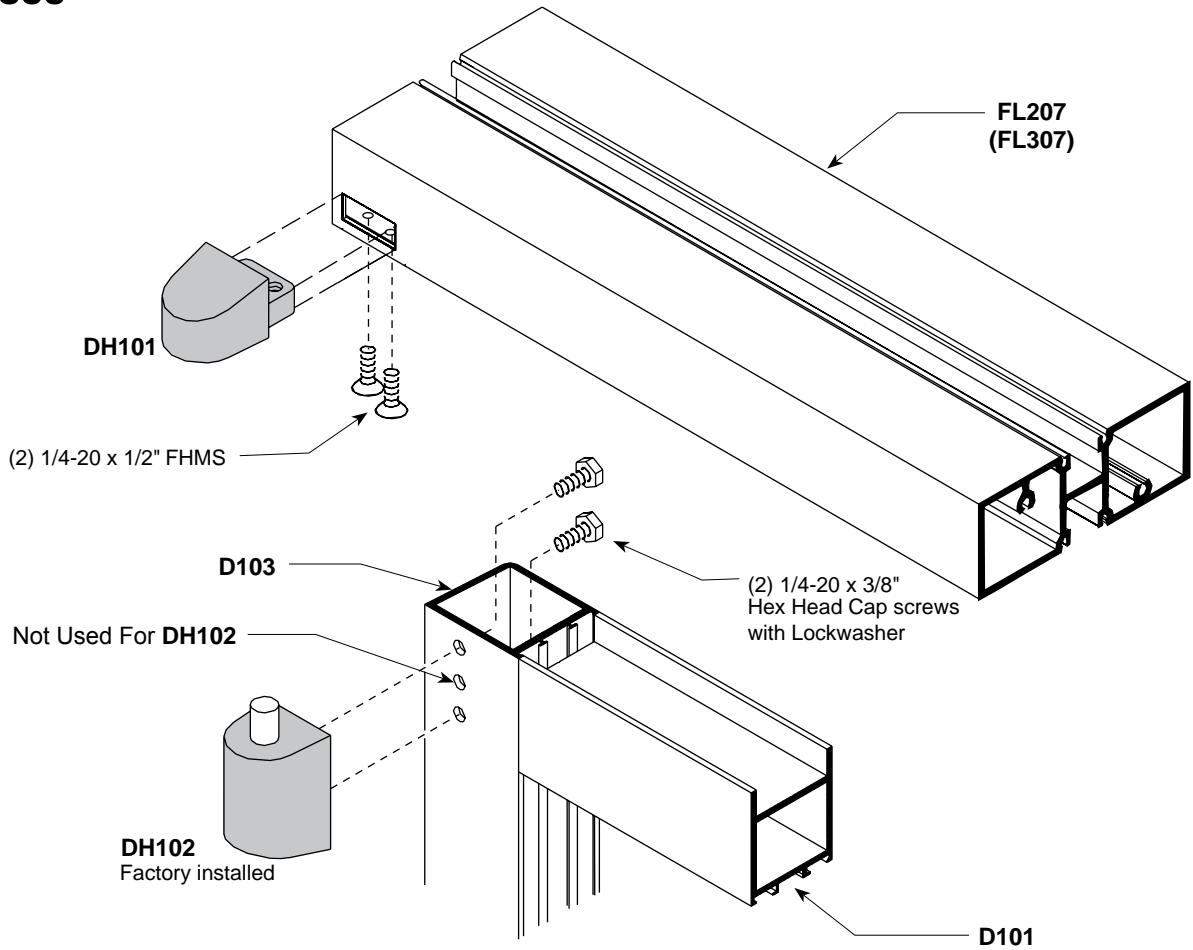
Note: Door jamb must be anchored to structure near bottom.
TH400 clip may be modified for attachment.

For conditions where lower threshold or no threshold is used, floor mounted pivot should be cut down as shown:

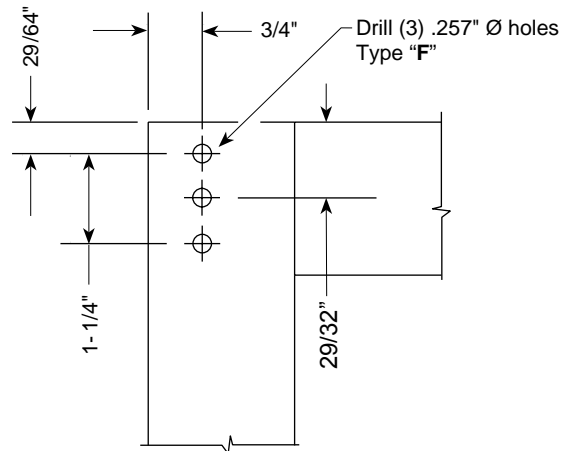


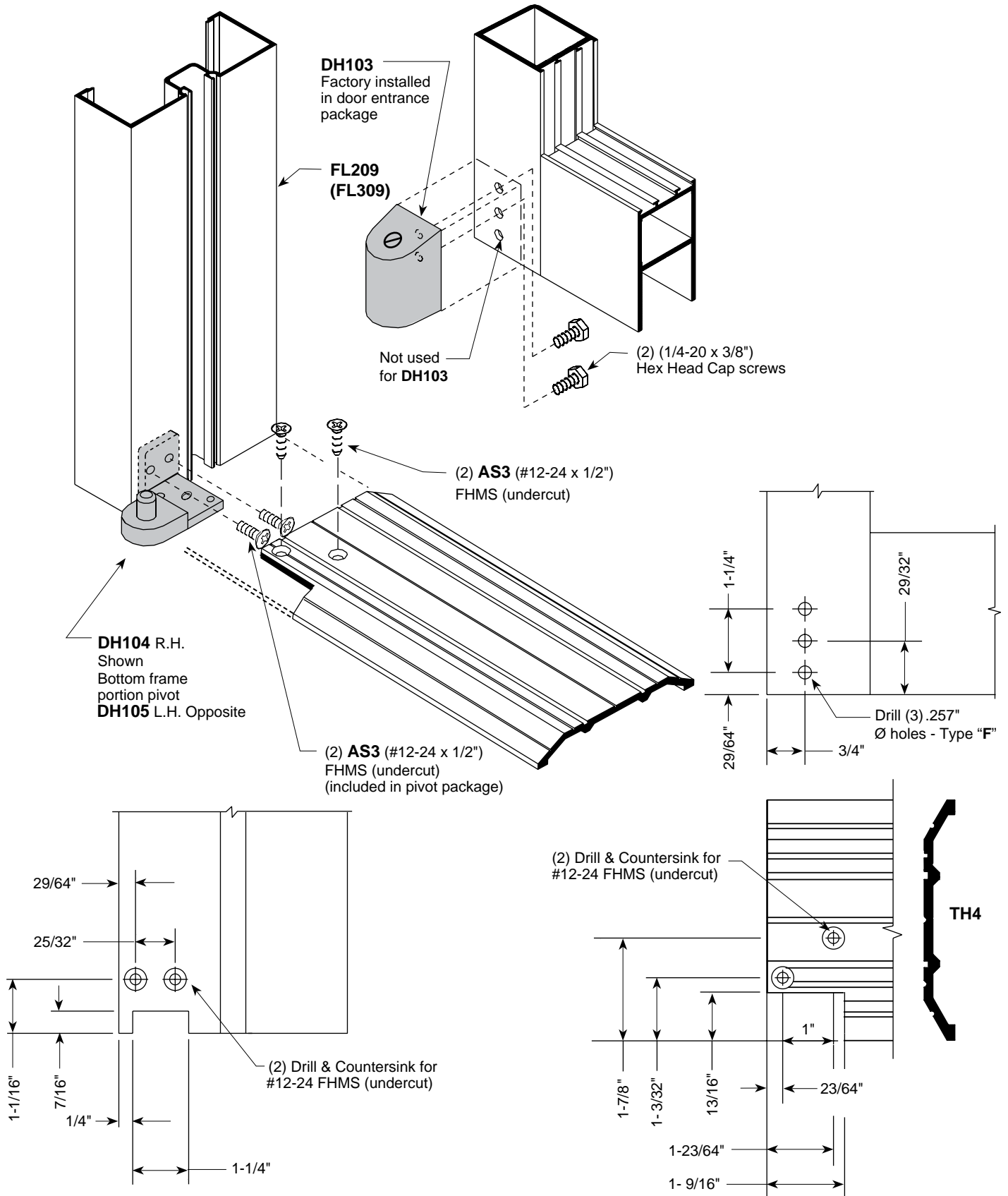
Bottom door clearance should be 3/16". Recess floorplate into floor to achieve 3/16" clearance for applications w/o threshold

OFFSET PIVOT - TOP PORTION

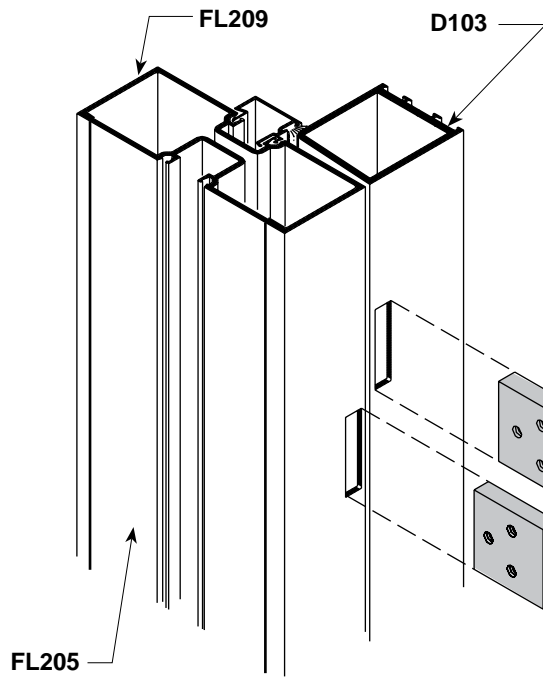


CROSS SECTION





SLOT TYPE OFFSET PIVOT - TOP PORTION



DETAIL A

DOES NOT REQUIRE BACK-UP PLATE

PROCEDURE A

Hang door on top and bottom pivots. With door in closed position, slide intermediate pivot (assembled together) into frame and pivot (assembled together) into frame and door slots. Open door to secure pivot with fasteners provided. See **Detail A**

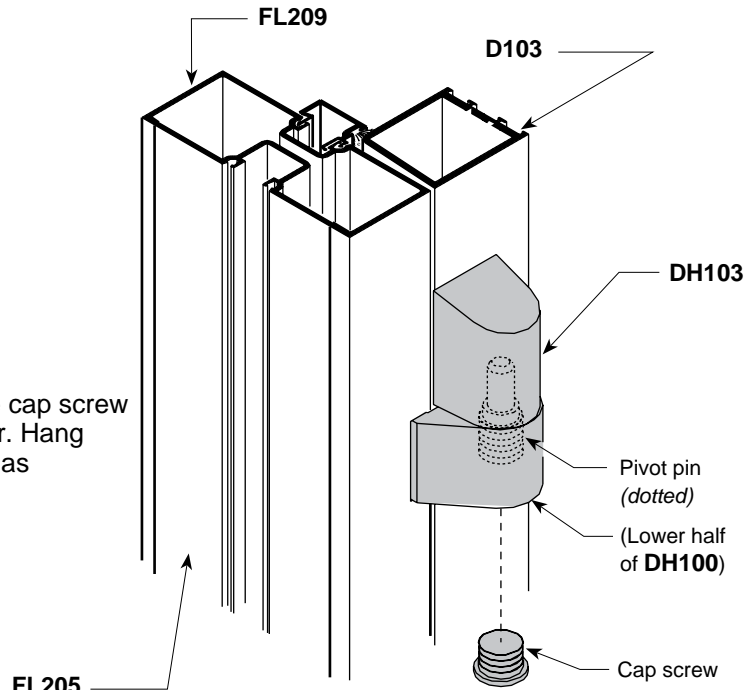


DH100 (R.H. Shown)
 Intermediate pivot
DH99 (Opposite)

**ALTERNATE INTERMEDIATE
 DOOR AND FRAME PIVOT**

PROCEDURE B

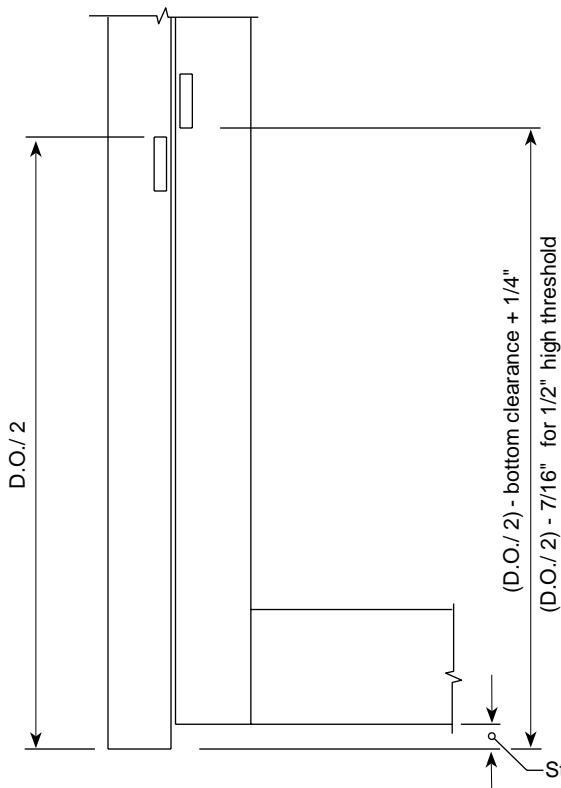
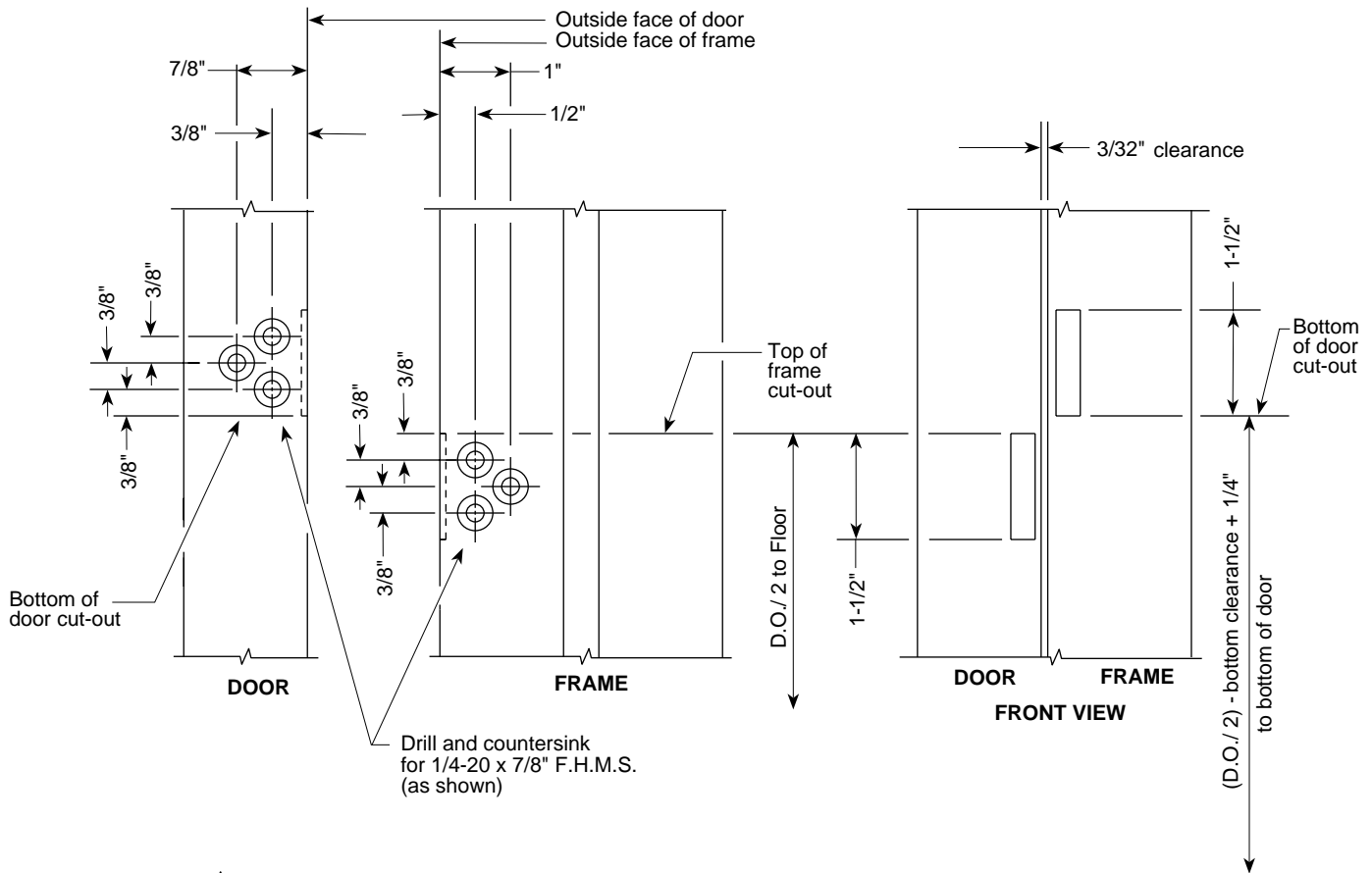
Install pivot leaves on frame and door. Remove cap screw from jamb portion of pivot and lower pin to clear. Hang door on top and bottom pivots. Raise pivot pin, as required and replace cap screw. See **Detail B**



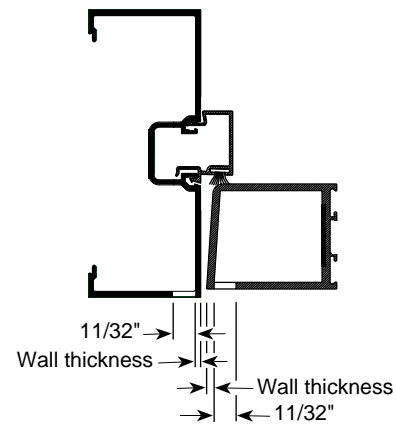
DETAIL B



To remove existing doors with intermediate pivots, remove cap screw and lower pivot pin to clear.

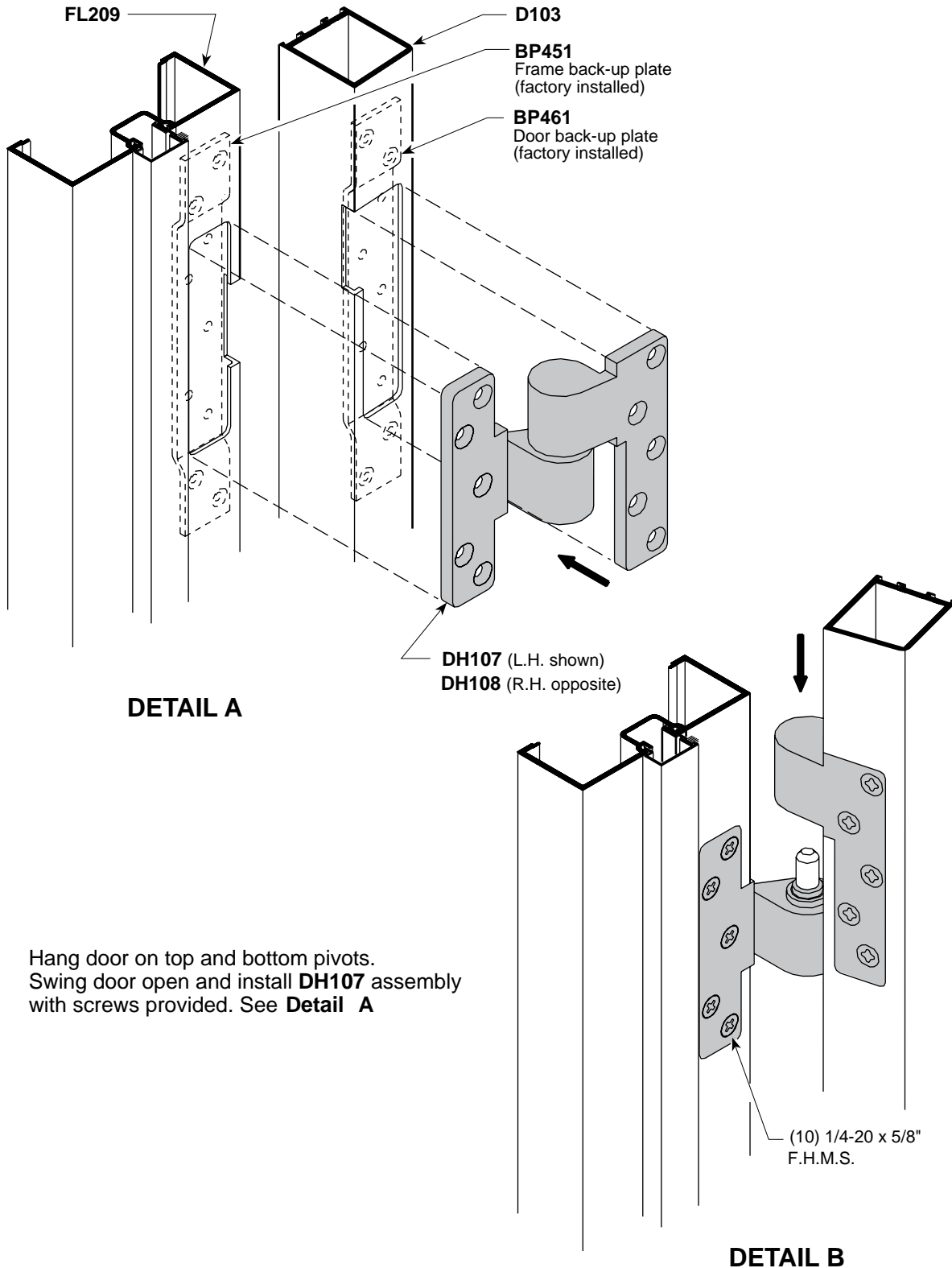


**PIVOT LOCATION
FOR STANDARD AND SPECIAL SIZE DOORS**

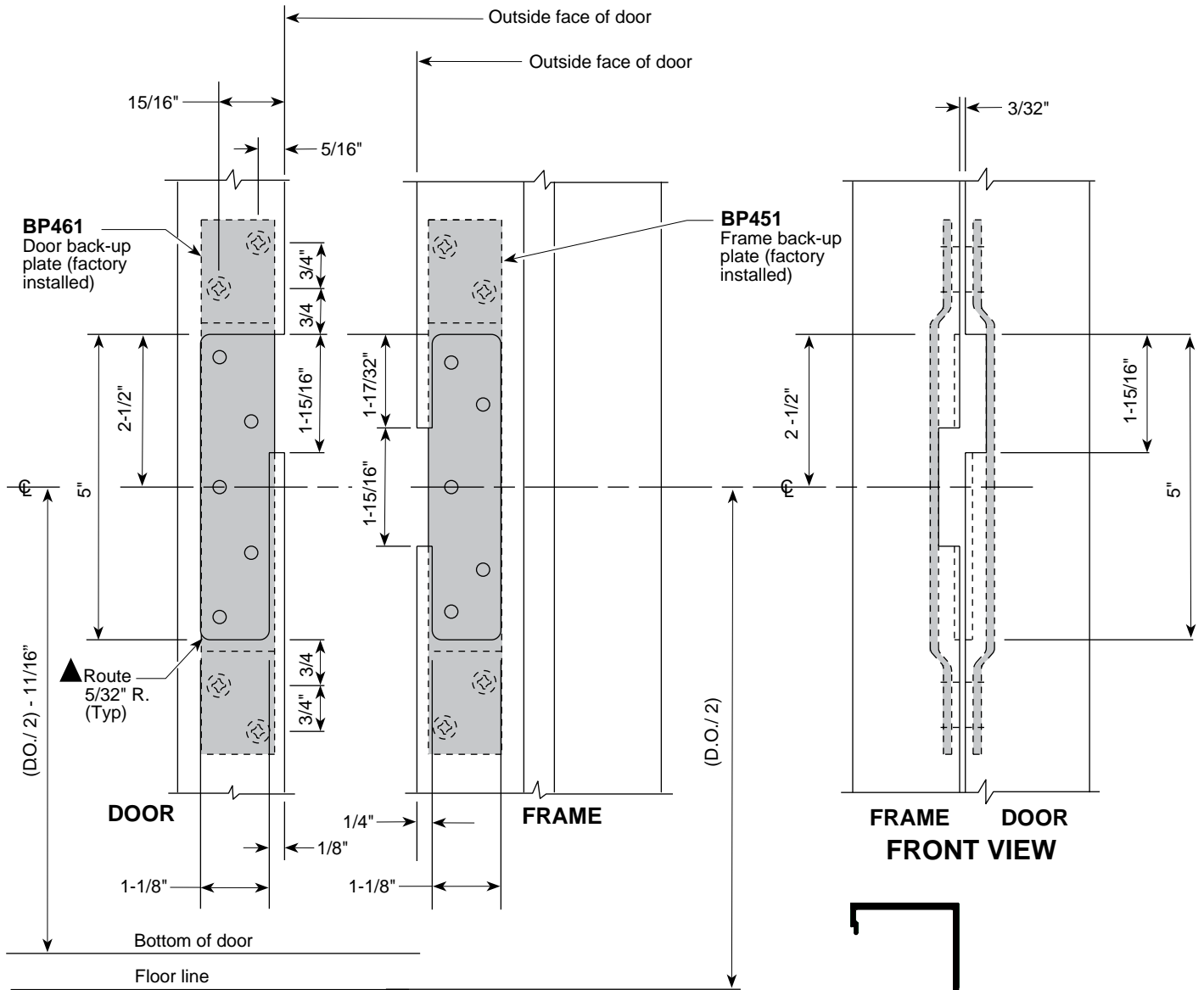


CROSS SECTION OF DOOR AND FRAME

DOOR AND FRAME PREPARATION INTERMEDIATE OFFSET PIVOT

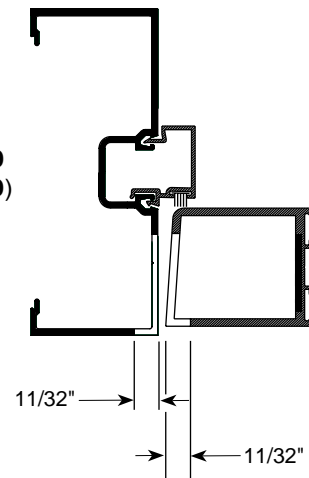


Hang door on top and bottom pivots.
 Swing door open and install **DH107** assembly
 with screws provided. See **Detail A**



**DOOR AND FRAME
SHOWN AT 180° OPEN CONDITION**

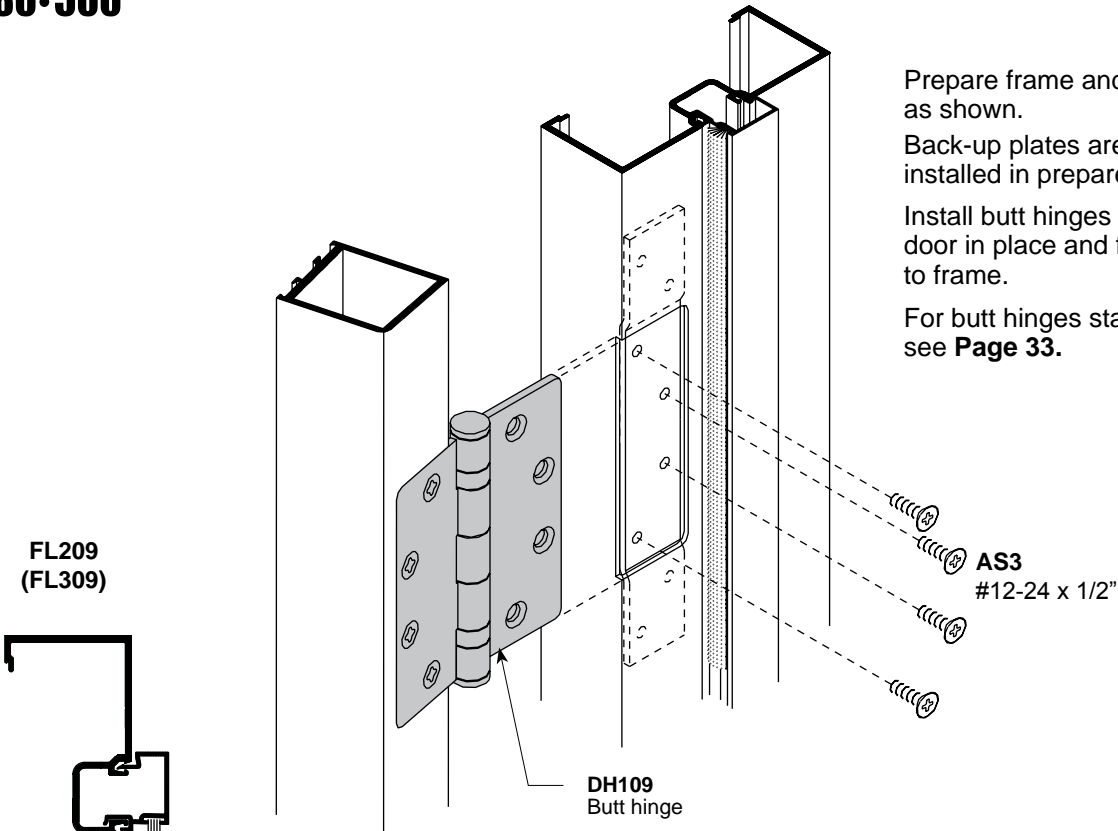
▲ Rixon and Dor-o-matic pivot leaves have square corners



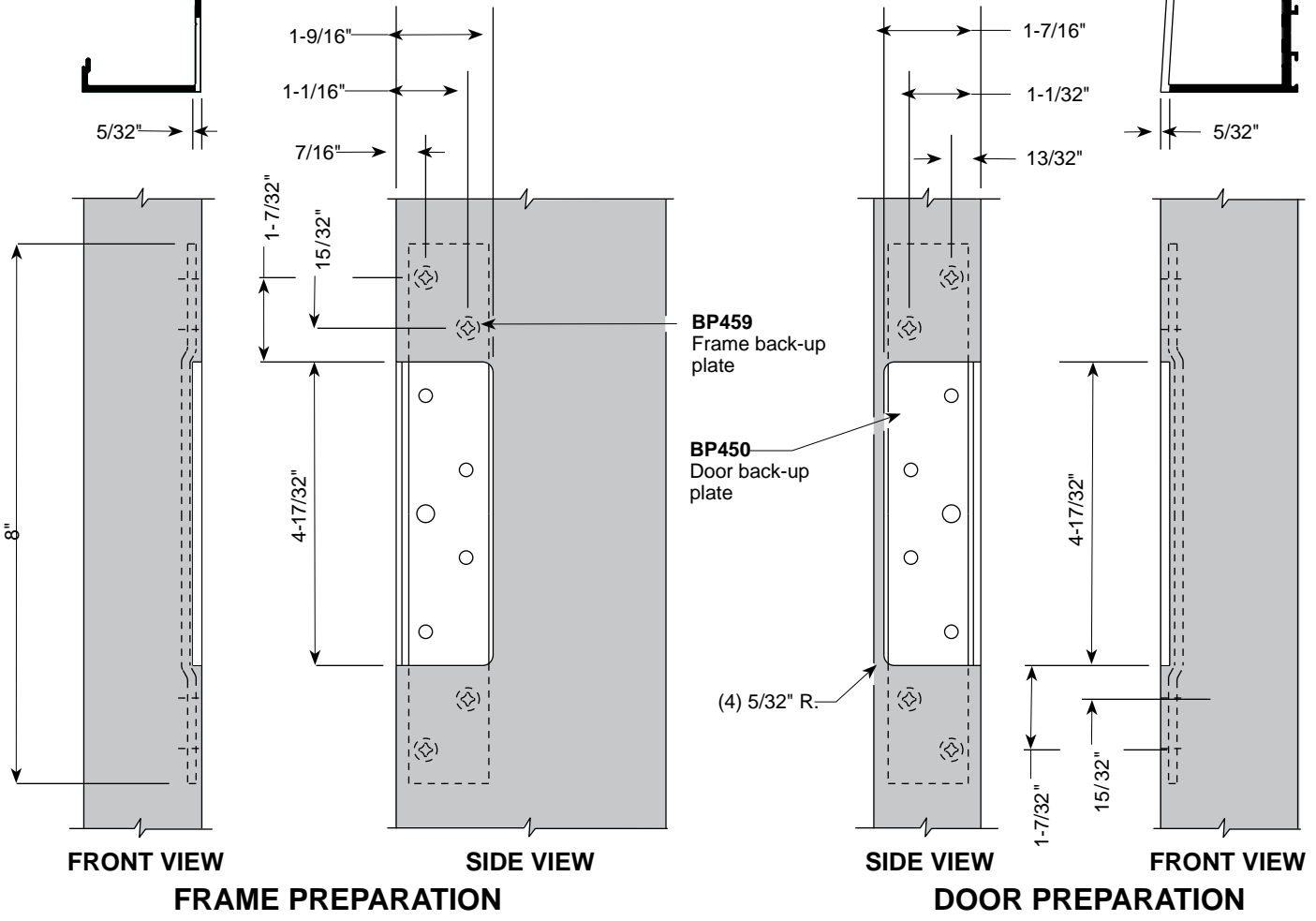
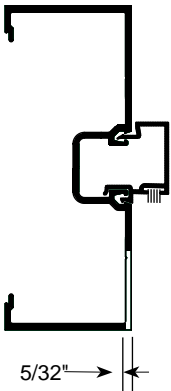
**CROSS SECTION
DOOR AND FRAME**

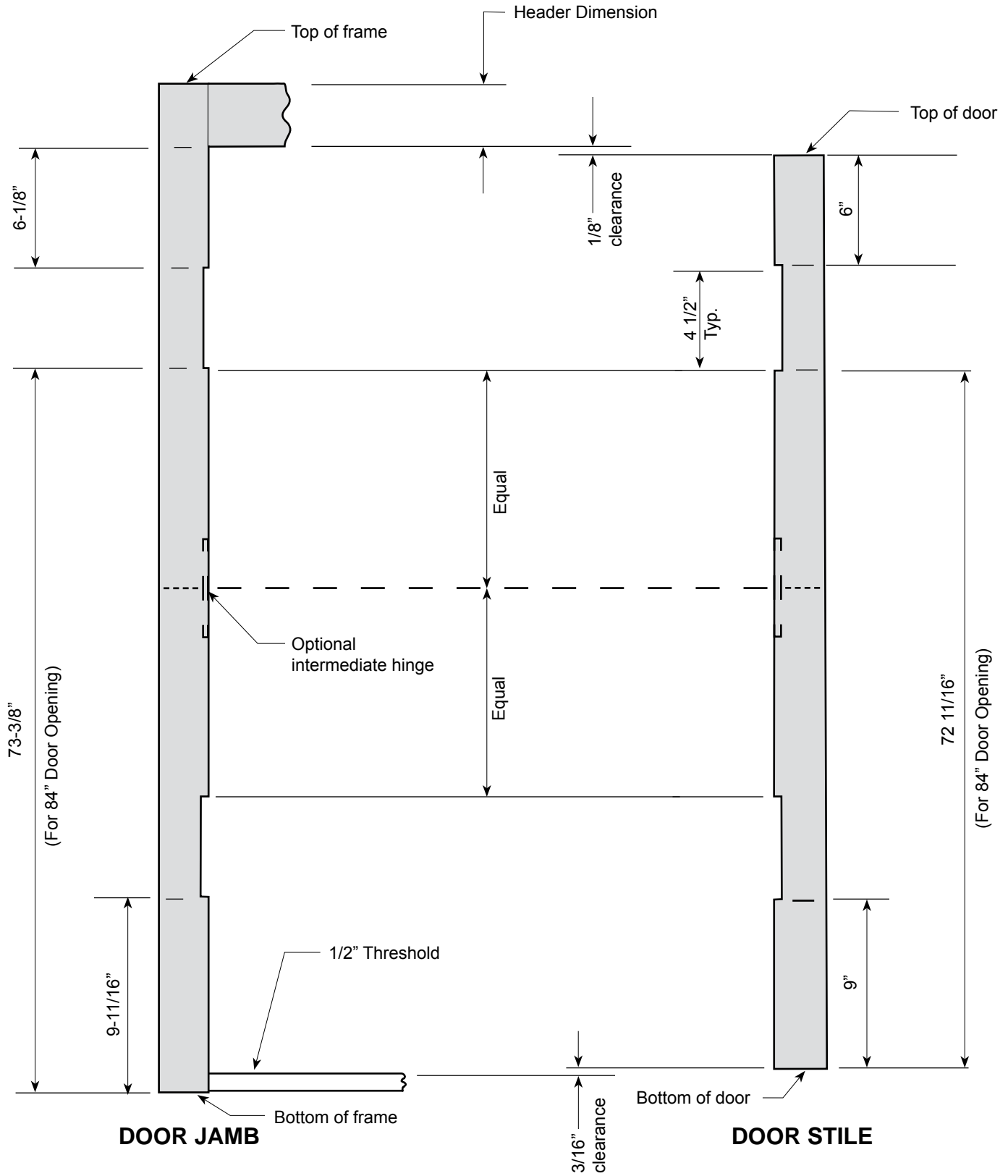
BUTT HINGE

Prepare frame and door for hinges, as shown.
 Back-up plates are factory installed in prepared doors and frames.
 Install butt hinges in door. Set door in place and fasten hinges to frame.
 For butt hinges standard location, see **Page 33**.

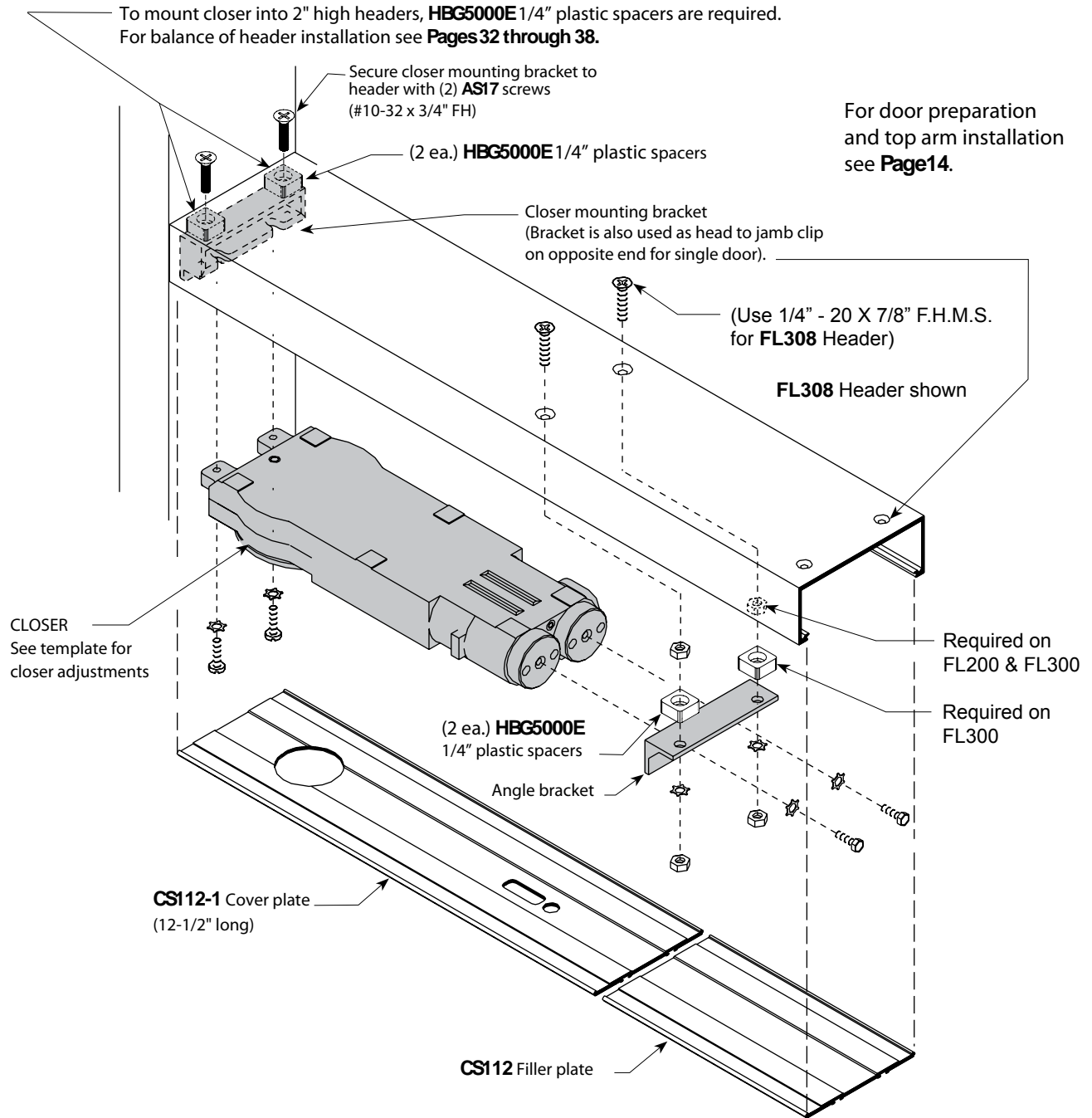


**FL209
 (FL309)**





C.O.C. FOR CENTER PIVOTED DOOR



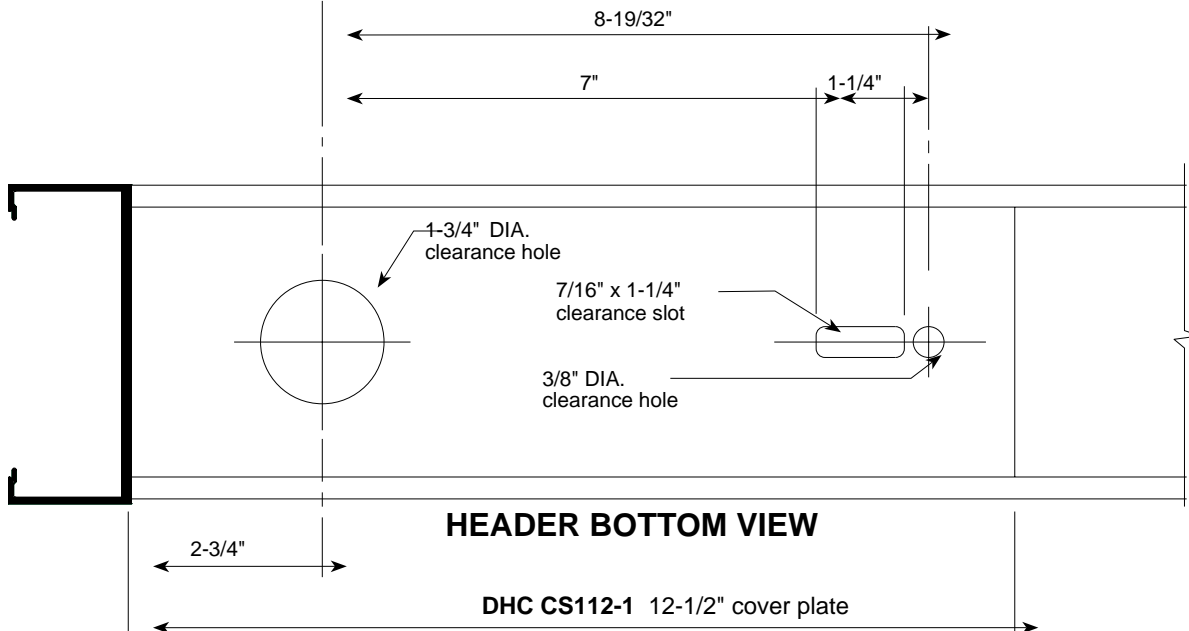
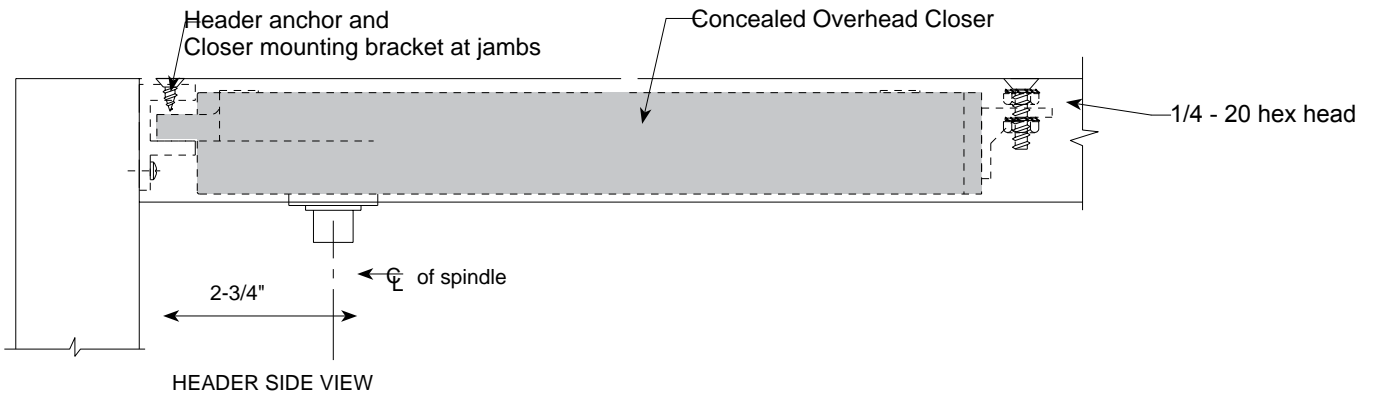
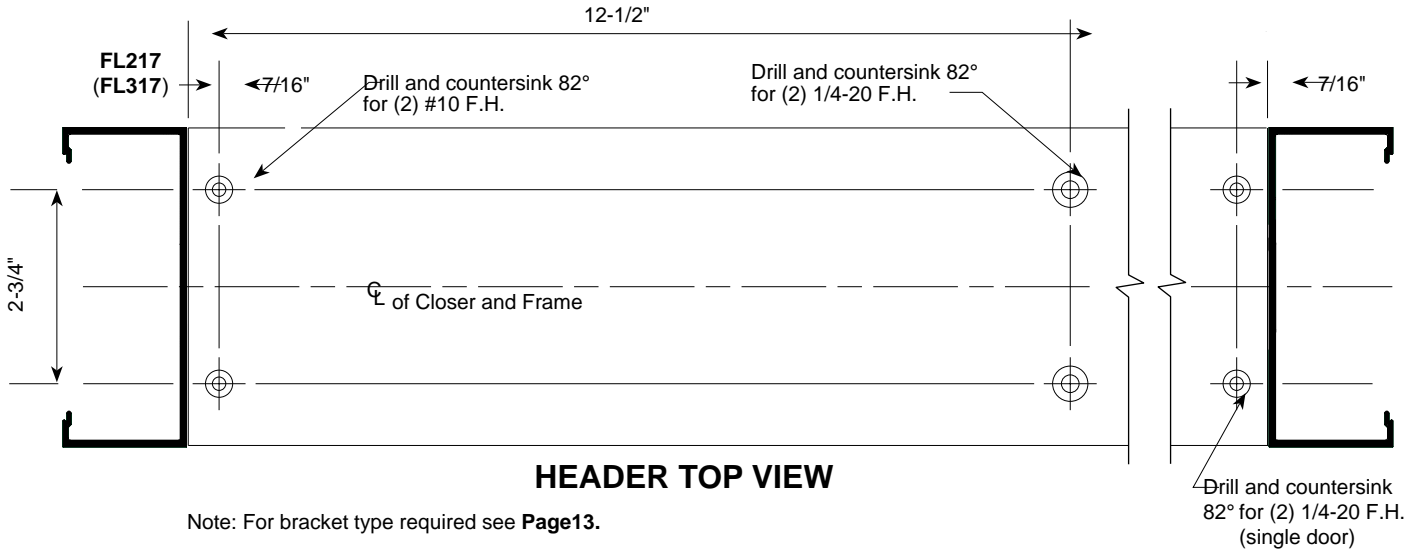
Closer mounting bracket is already installed (See FRAME UNITS installation instructions).

1. Mount angle bracket to closer with (2) 1/4-20 hex head M.S. and (2) washers.
2. Install (2) 1/4-20 x 5/8" Fillister Head M.S. into lugs of closer. Do not tighten screws.
4. Insert closer lugs into mounting bracket at an angle and raise closer opposite end to align mounting screws with angle bracket holes. Secure bracket to mounting screws using (2) nuts and washers.
5. Tighten Fillister Head screws.
6. Snap in filler plate.

Header Preparation

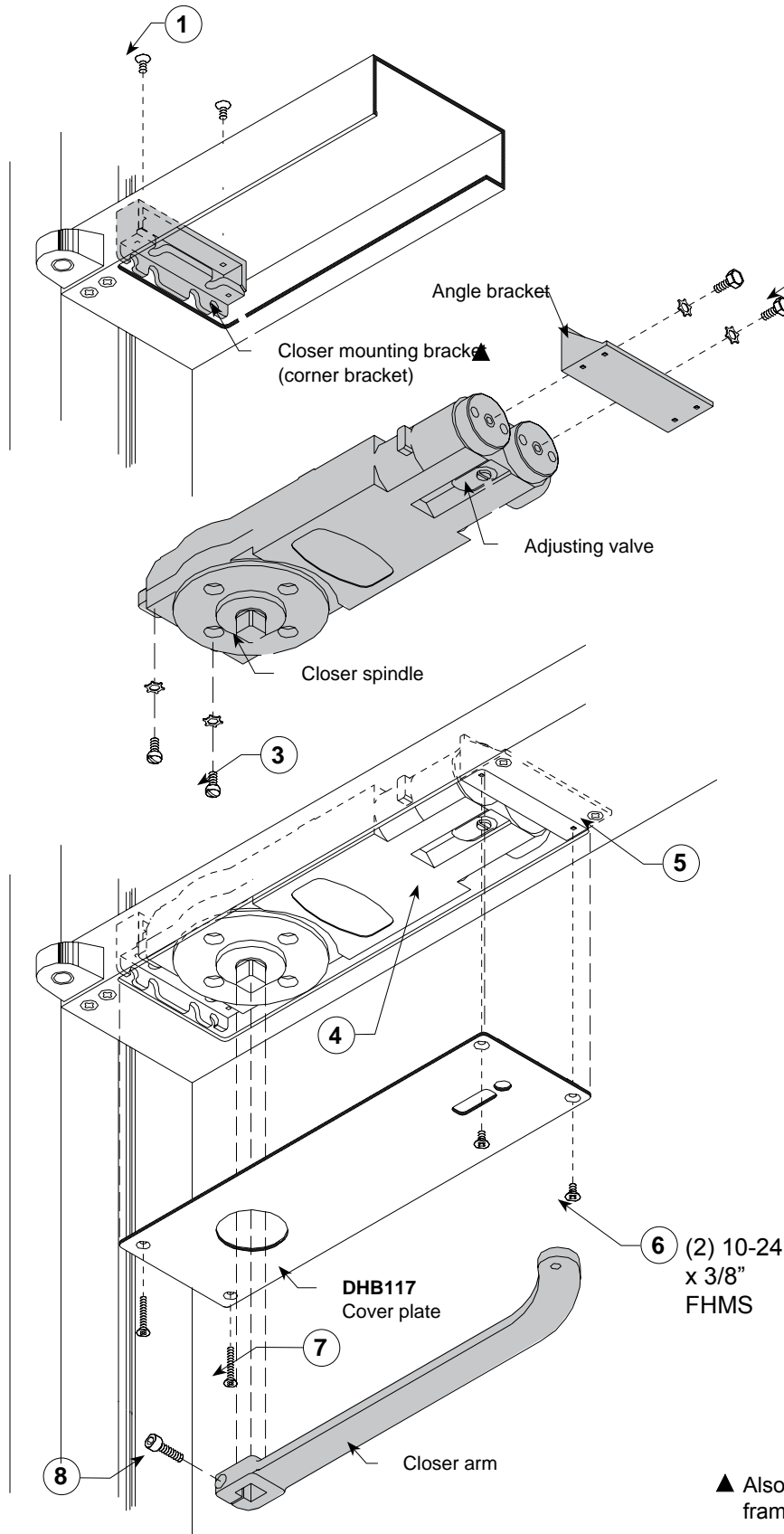
FL212 1-3/4" X 4-1/2" Header shown

FL312 2" x 4-1/2" Header similar



C.O.C. FOR OFFSET PIVOTED DOOR WITH TUBULAR HEADER

For door preparation and slide channel installation see **Page 15**.



1. Mount corner clip into header with (2) **AS17 10-32 x 3/4"** FHMS. See **Page 38** for clip location.
2. Mount angle bracket to closer with (2) **1/4-20 x 1/2"** Hex Head M.S. and washers.
3. Install (2) **1/4-20 x 1/2"** Fillister Head M.S. with washers into lugs of closer. Do not tighten screws.
4. Set closer onto header and align angle bracket holes with holes in header. Closer lugs shall rest on corner bracket.
5. Fasten angle bracket to header with (2) **10-24 x 3/8"** FHMS. Tighten Fillister Head screws.
6. Install cover plate and secure to angle with (2) **10-24 x 3/8"** FHMS.
7. Attach cover plate to closer at hinge side with (2) **#8-32 x 1"** FHMS fasteners included with cover plate.
8. Mount arm on spindle and secure with **1/4-20 x 7/8"** Socket Head Cap Screw.

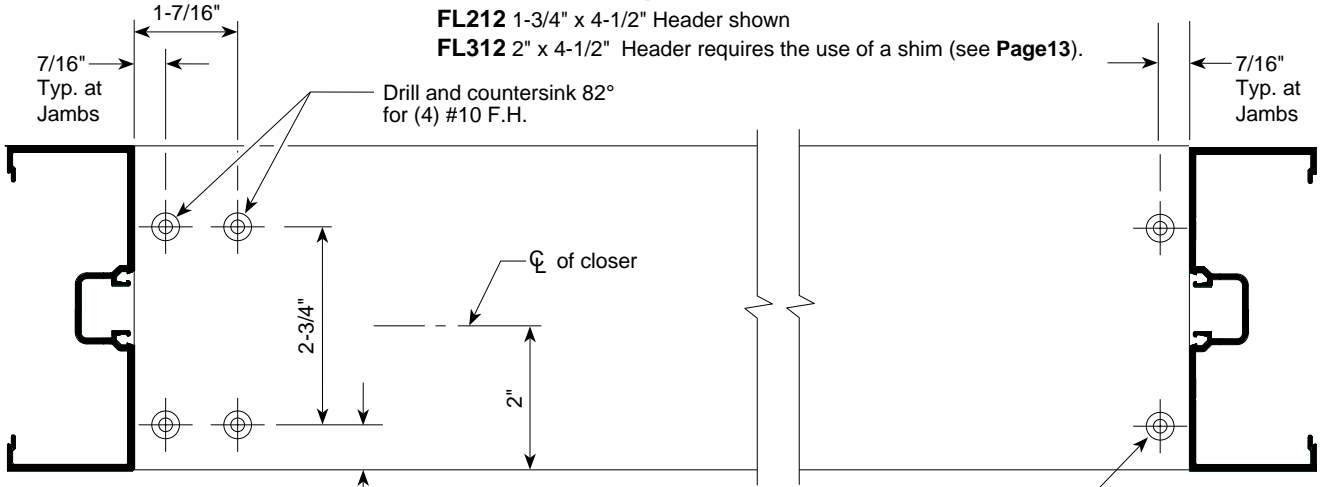
▲ Also used as head to jamb clip on frame for single door.

C.O.C. FOR OFFSET PIVOTED DOOR WITH 90° SWING

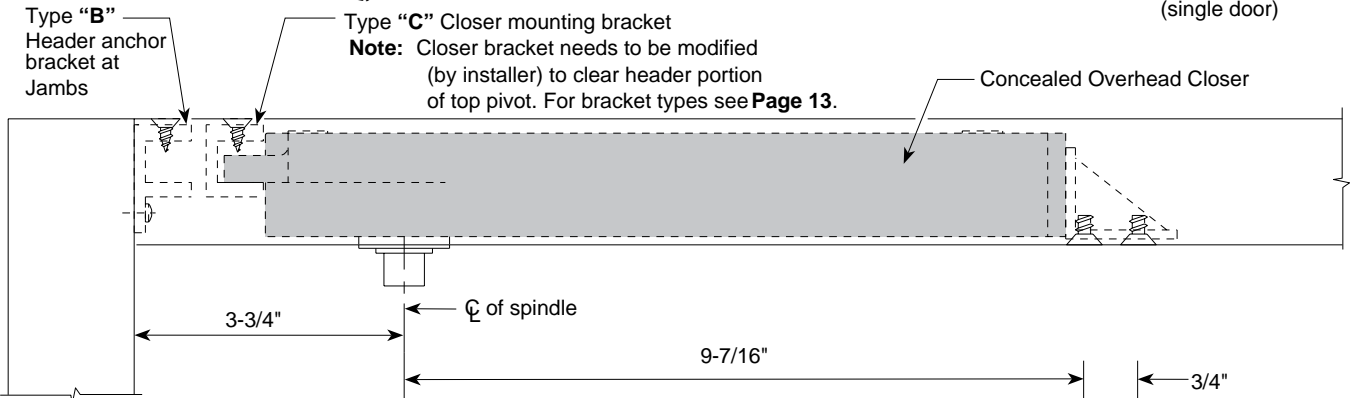
Header Preparation

FL212 1-3/4" x 4-1/2" Header shown

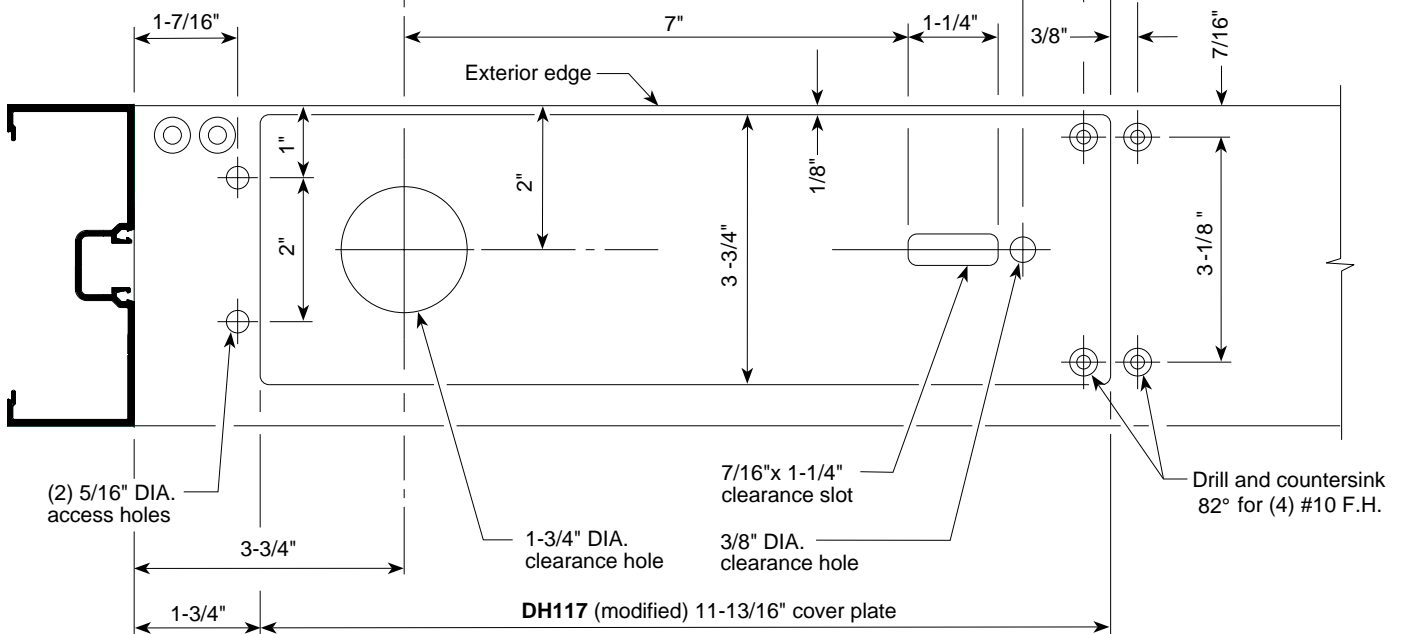
FL312 2" x 4-1/2" Header requires the use of a shim (see Page 13).



HEADER TOP VIEW



HEADER SIDE VIEW



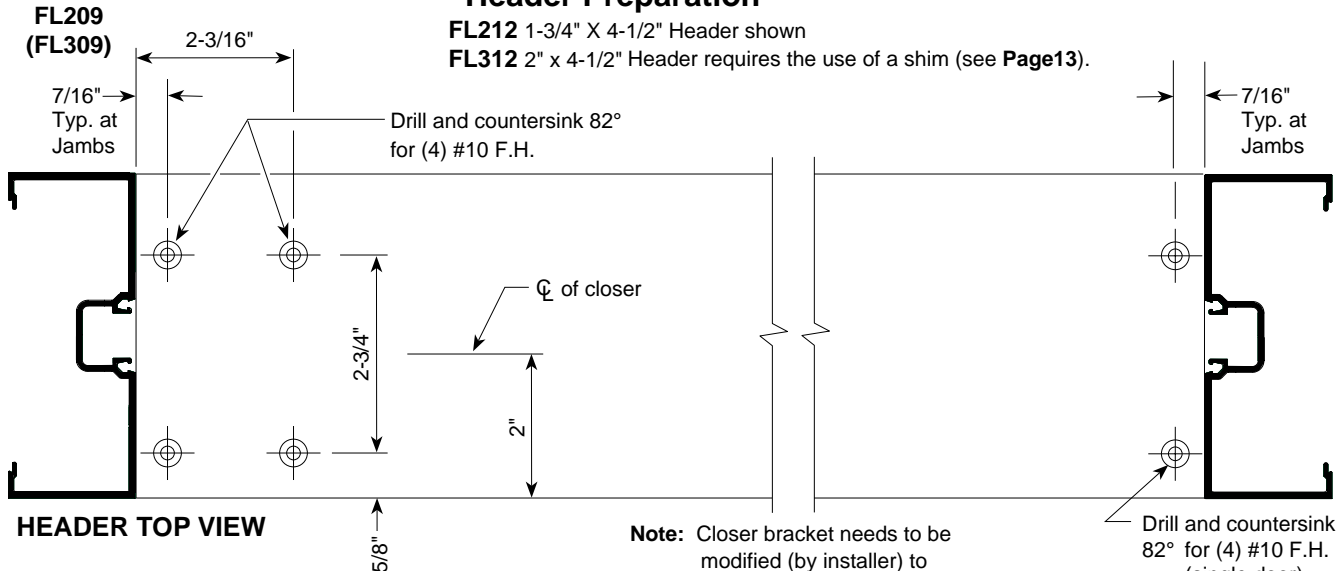
HEADER BOTTOM VIEW

C.O.C. FOR OFFSET PIVOTED DOOR WITH 105° SWING

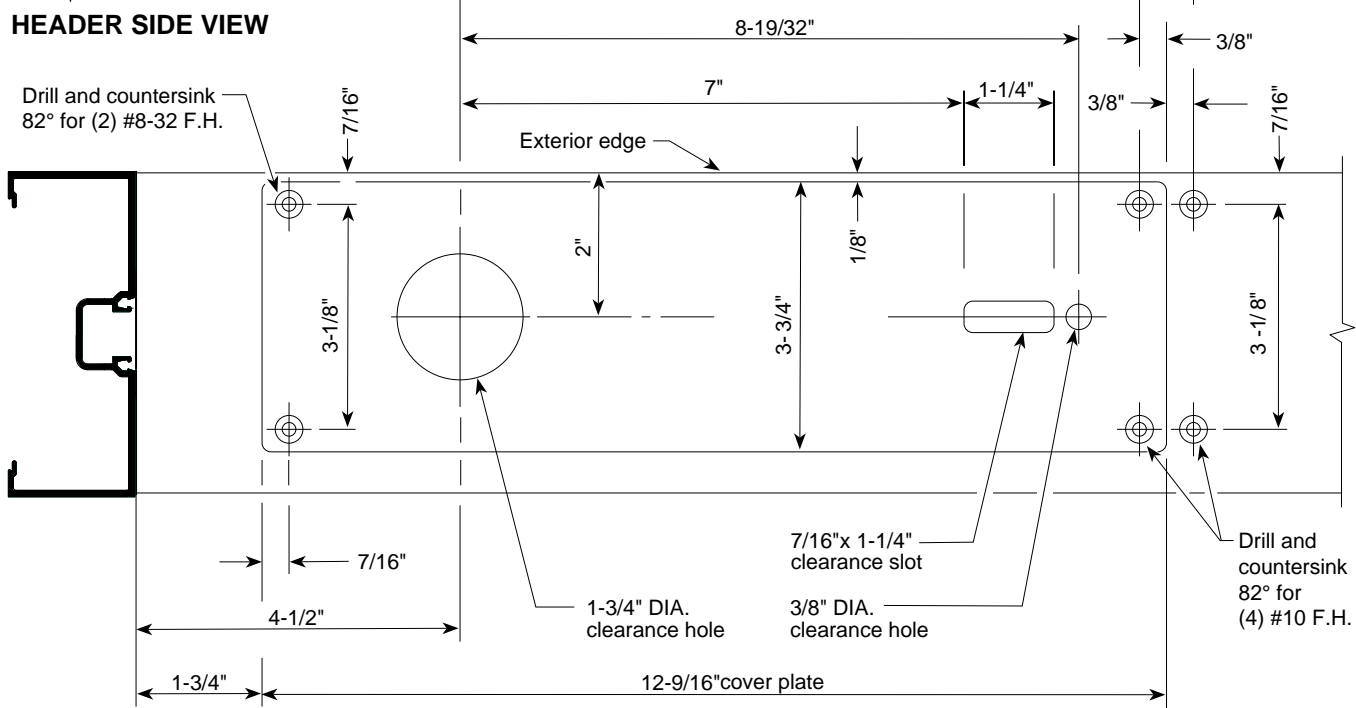
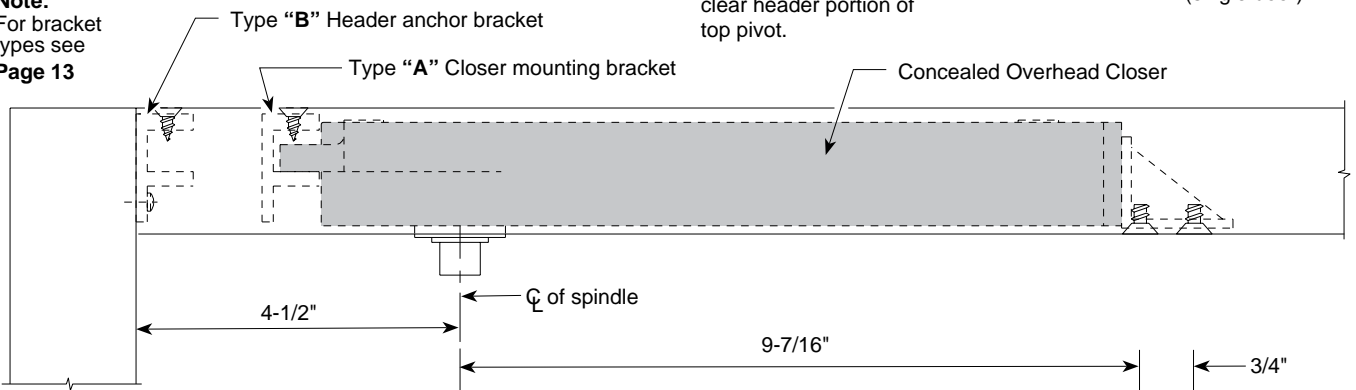
Header Preparation

FL212 1-3/4" X 4-1/2" Header shown

FL312 2" x 4-1/2" Header requires the use of a shim (see Page13).

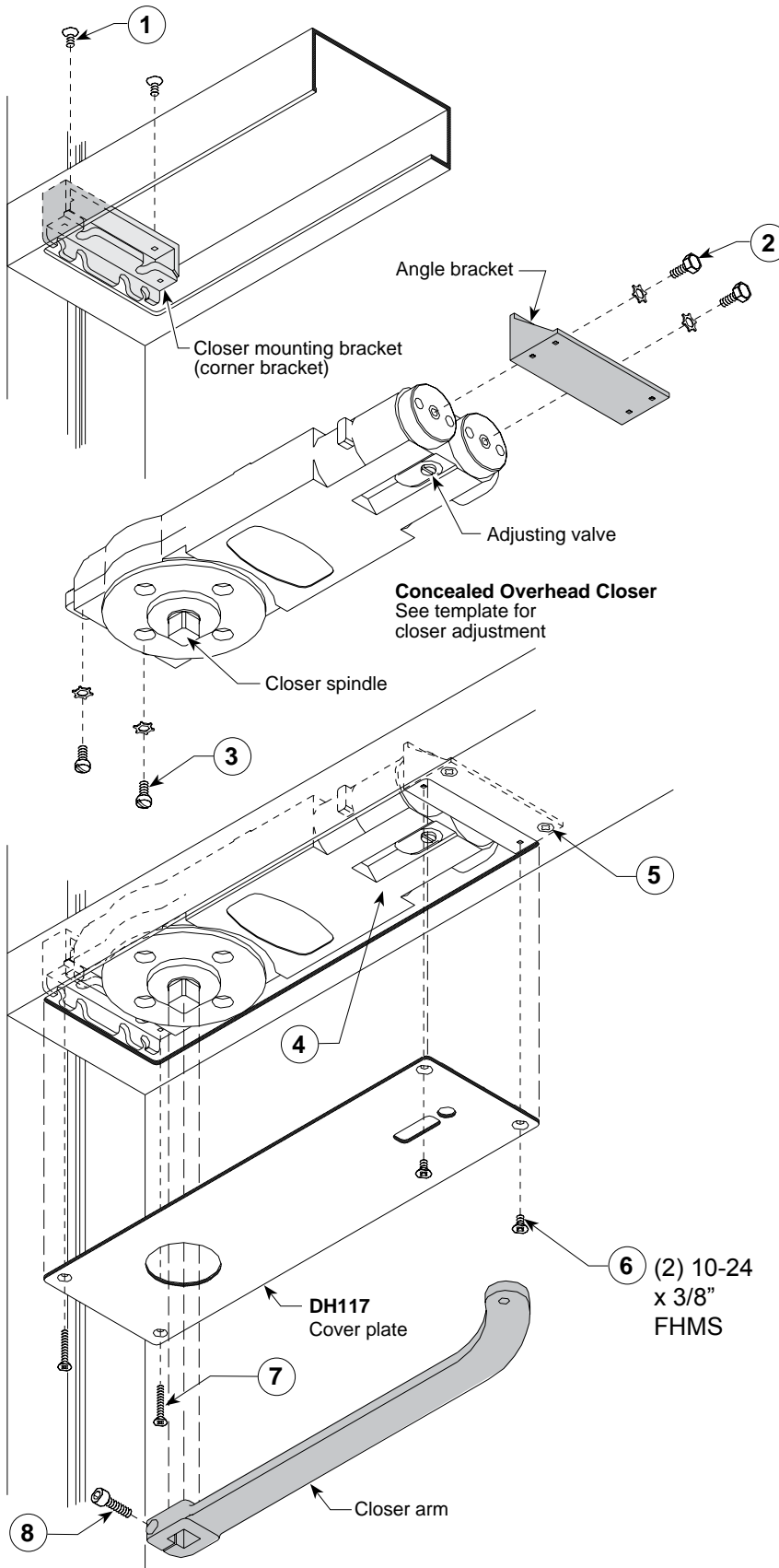


Note: For bracket types see Page 13



C.O.C. FOR BUTT HUNG DOOR WITH 105° SWING

For door preparation and slide channel installation see **Page 16** and **38** for locations.



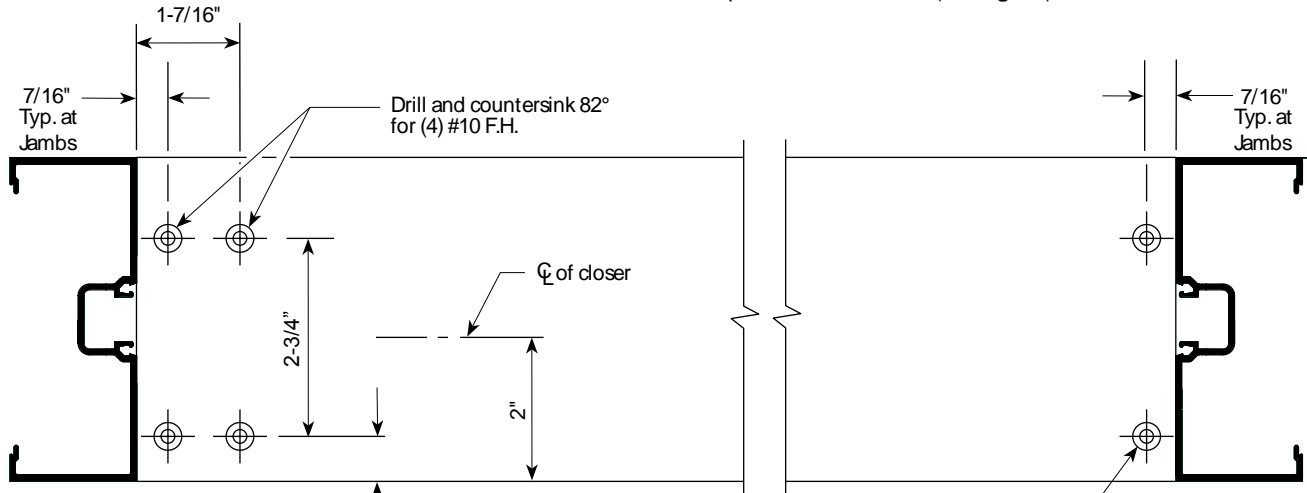
1. Mount corner bracket into header with (2) 10-32 x 3/8" FHMS. **See Pages 38** for bracket location.
2. Mount angle bracket to closer with (2) 1/4-20 x 1/2" Hex Head M.S. and washers.
3. Install (2) 1/4-20 x 1/2" Fillister Head M.S. with washers into lugs of closer. Do not tighten screws.
4. Set closer onto header and align angle bracket holes with holes in header. Closer lugs shall rest on corner bracket.
5. Fasten angle bracket to header with (2) 10-24 x 3/8" FHMS Tighten Fillister Head screws.
6. Install cover plate and secure to angle with (2) 10-24 x 3/8" FHMS.
7. Attach cover plate to closer at hinge side with (2) 8-32 x 1" FHMS fasteners included with cover plate.
8. Mount arm on spindle and secure with 1/4-20 x 7/8" Socket Head Cap Screw.

OVERHEAD CONCEALED CLOSER FOR BUTT HUNG DOOR WITH 105° SWING

Header Preparation

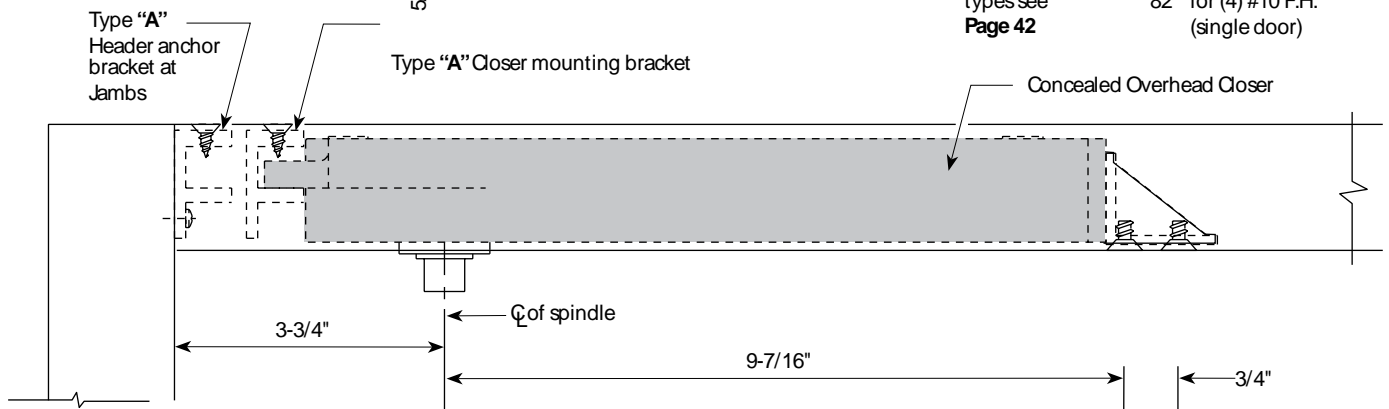
FL212 1 3/4" X 4-1/2" Header shown

FL312 2" x 4-1/2" Header requires the use of a shim (see Page 13).

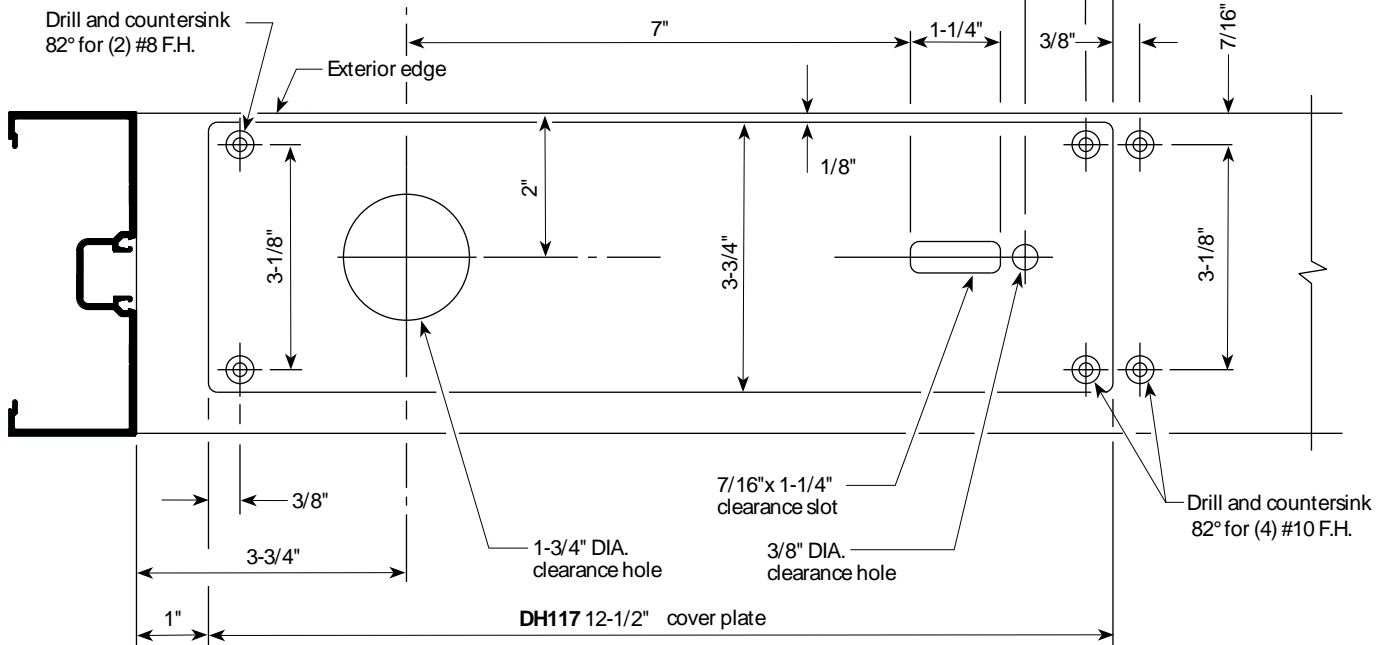


HEADER TOP VIEW

Note: For bracket types see Page 42
Drill and countersink 82° for (4) #10 F.H. (single door)

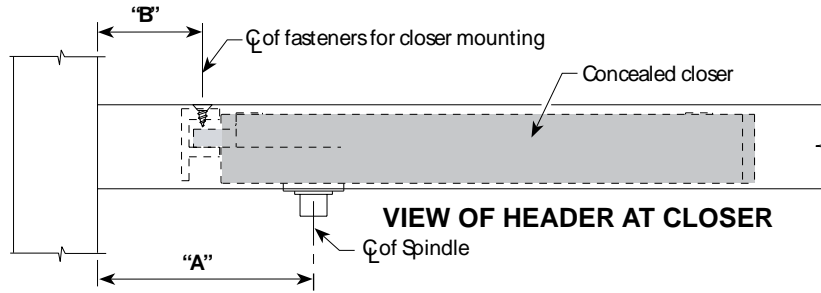


HEADER SIDE VIEW



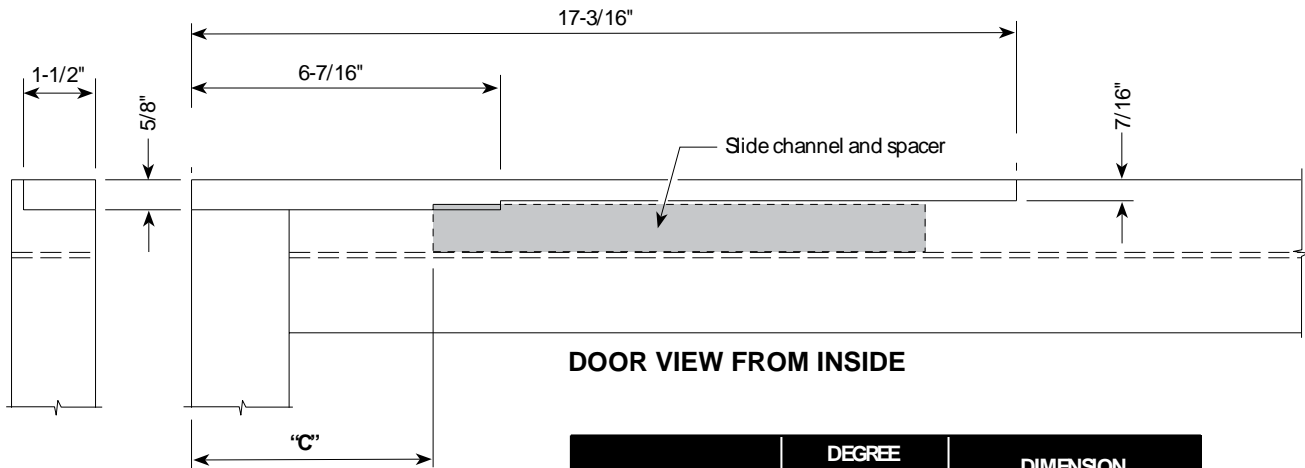
HEADER BOTTOM VIEW

C.O.C. Closer Location in Header



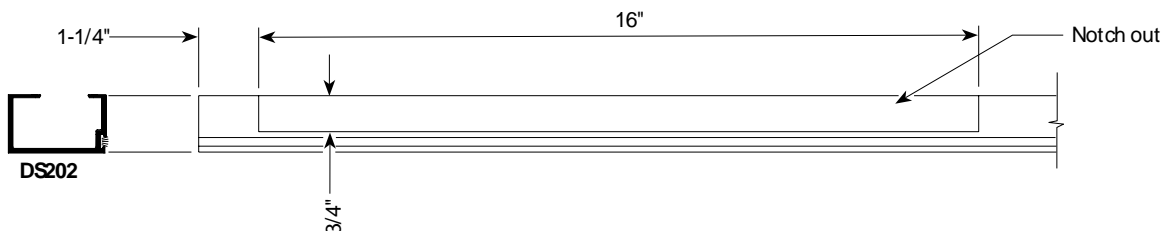
DOOR TYPE	DEGREE HOLD OPEN	DIMENSION "A"	DIMENSION "B"	REFERENCE PAGE
CENTER PIVOT	90° OR 105°	2-3/4"	7/16"	35
OFFSET PIVOT	105°	4-1/2"	2-3/16"	38
	90°	3-3/4"	1-7/16"	37
BUTT HINGES	105°	3-3/4"	1-7/16"	41

SLIDE CHANNEL LOCATION IN TOP RAIL FOR OFFSET ARM



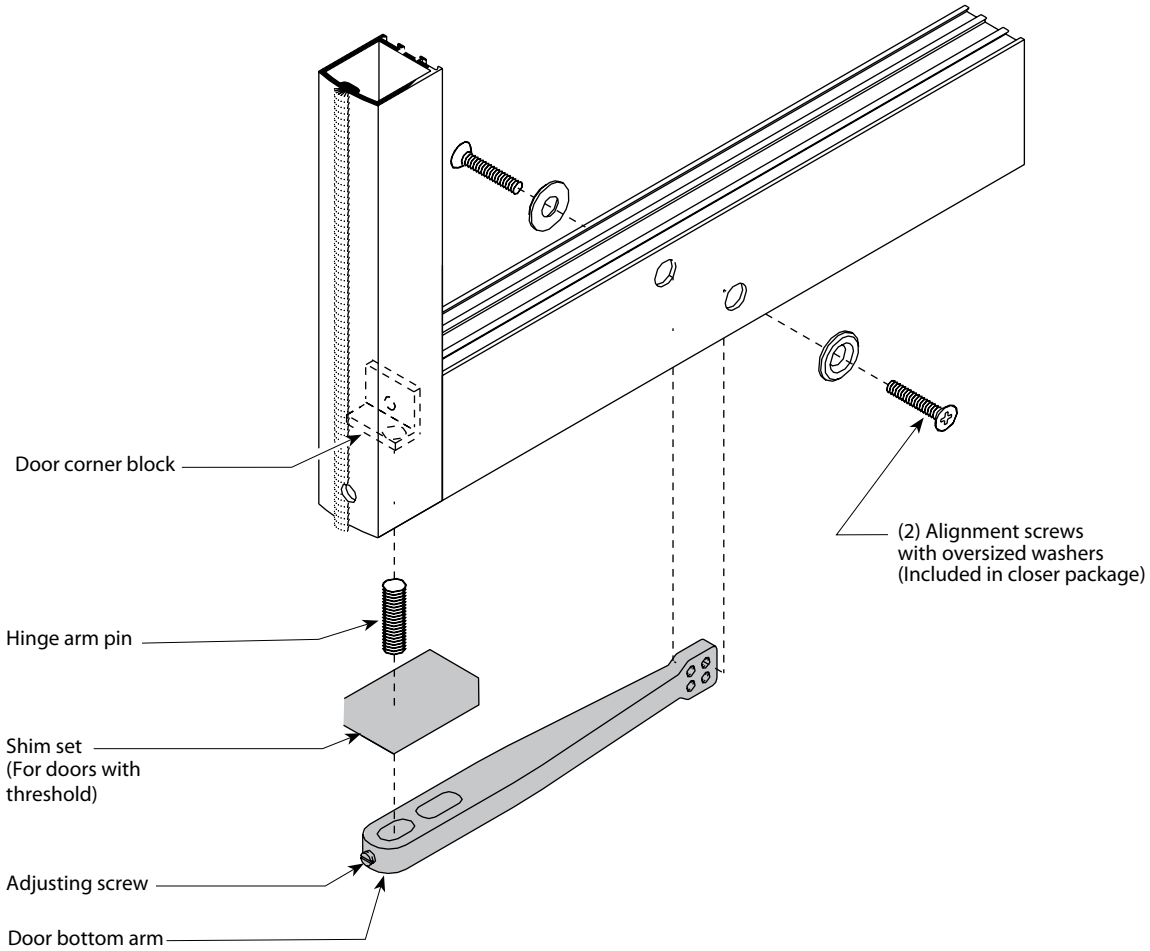
DOOR TYPE	DEGREE HOLD OPEN	DIMENSION "C"
OFFSET PIVOT	90°	4-15/16"
	105°	4-11/16"
BUTT HINGES	105°	3-7/8"

OFF-SET ARM COVER CHANNEL LEFT HAND SHOWN RIGHT HAND OPPOSITE

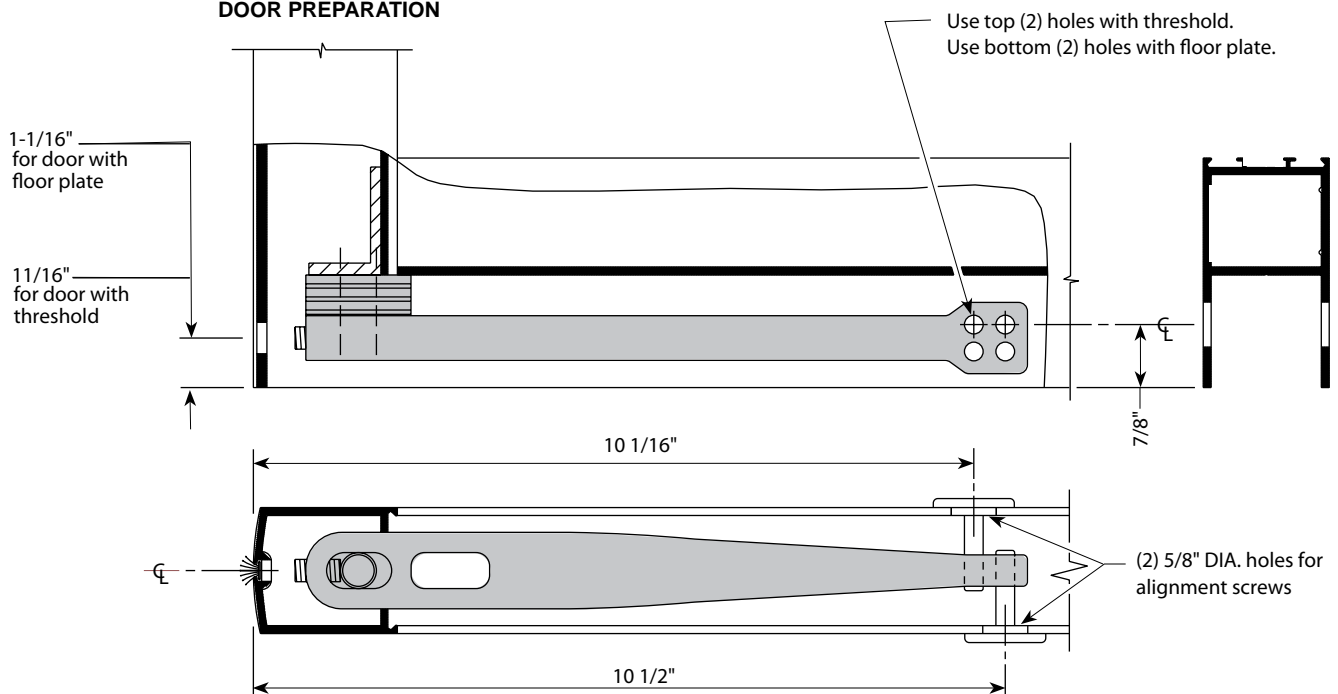


CENTER PIVOTED DOOR - FLOOR CLOSER

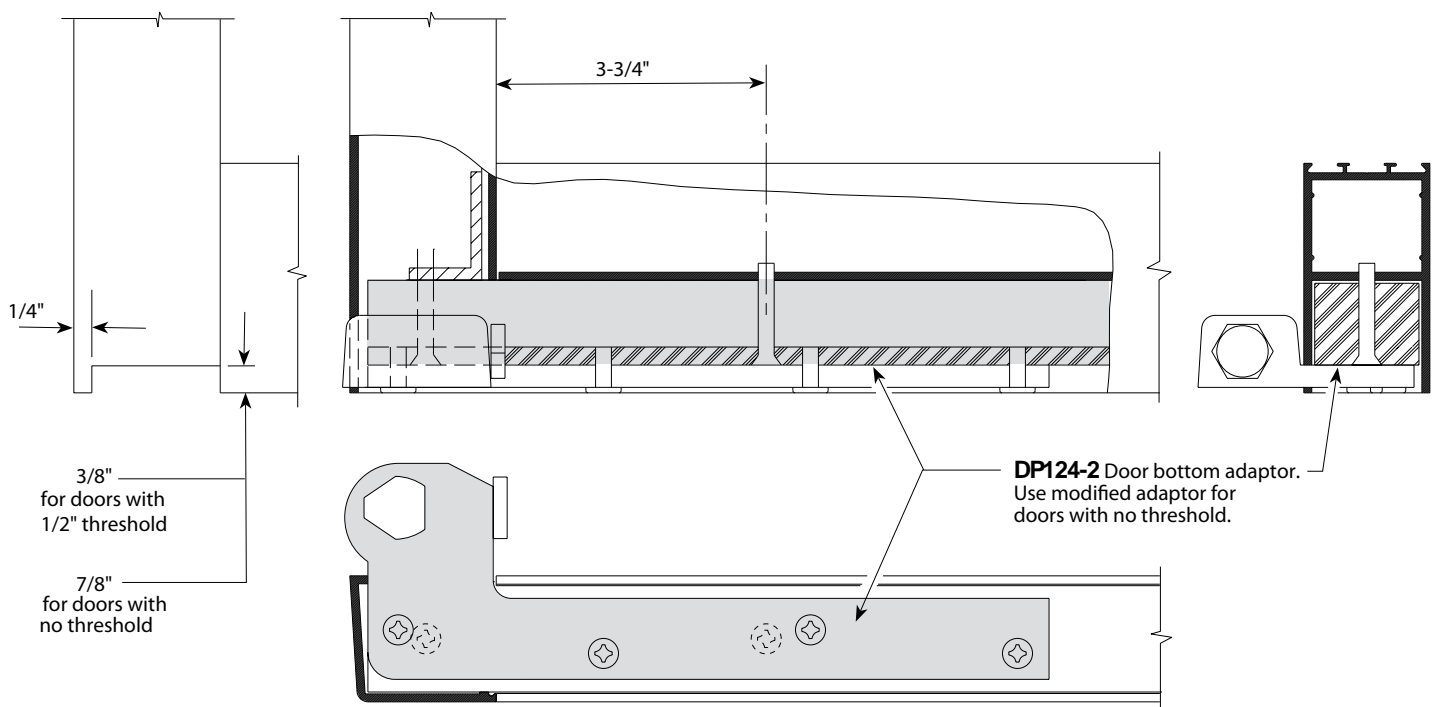
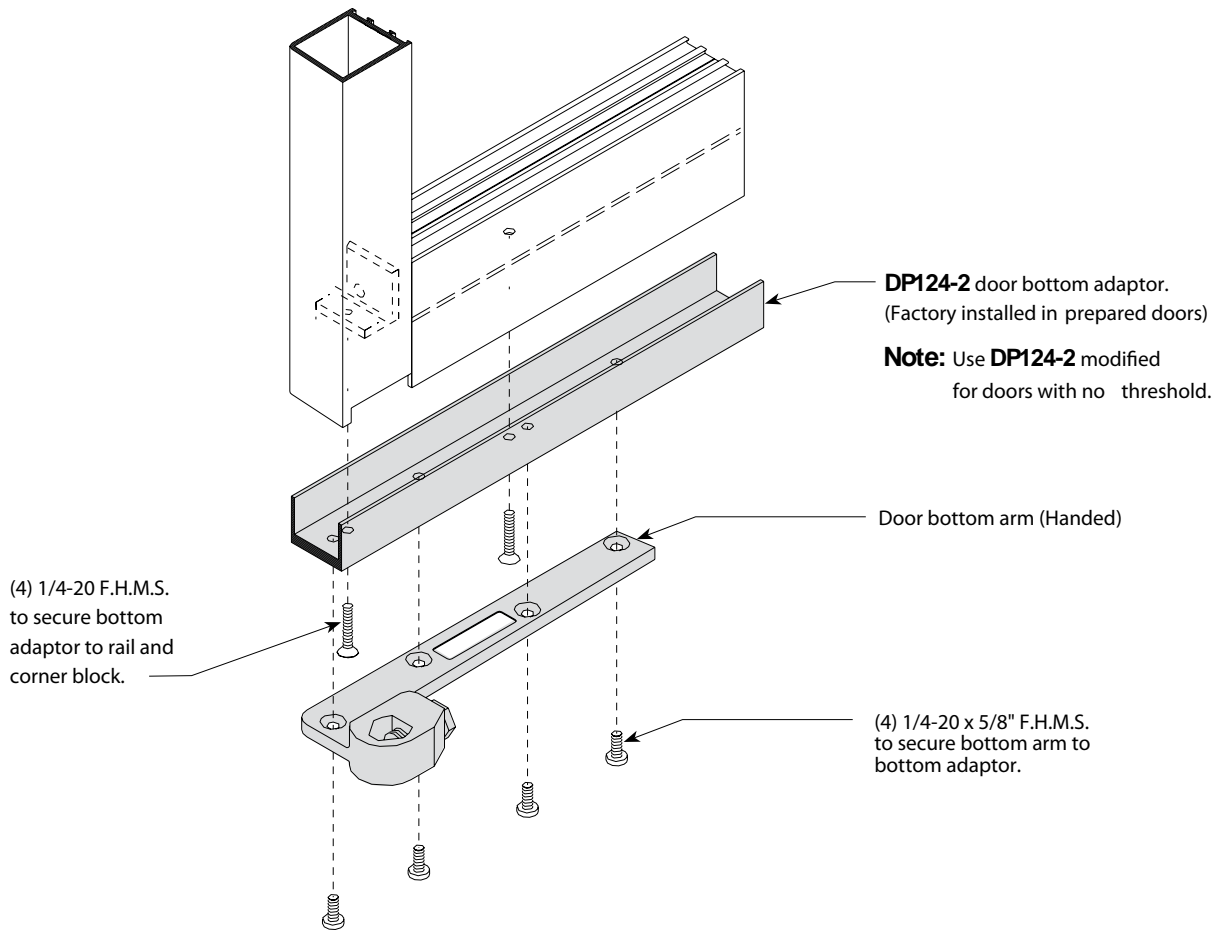
BOTTOM ARM FOR RIXON OR DOR-O-MATIC FLOOR CLOSER



DOOR PREPARATION

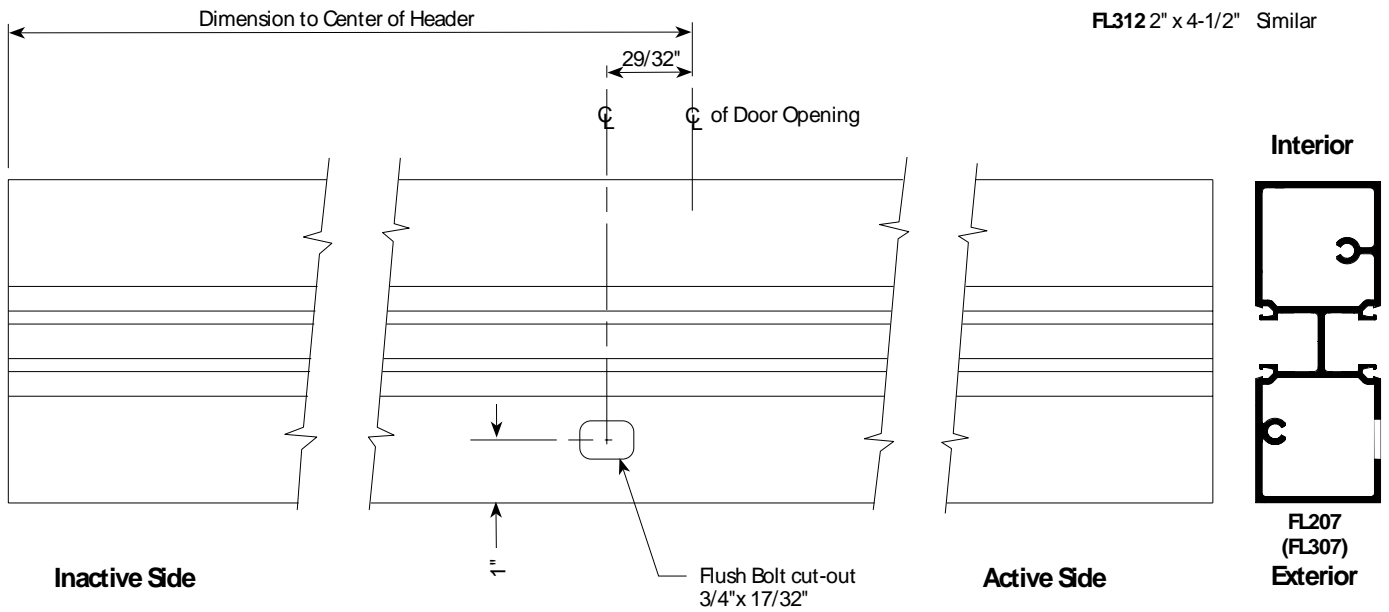


OFFSET PIVOTED DOOR - FLOOR CLOSER ARM FOR RIXON FLOOR CLOSER (DOR-O-MATIC) SIMILAR

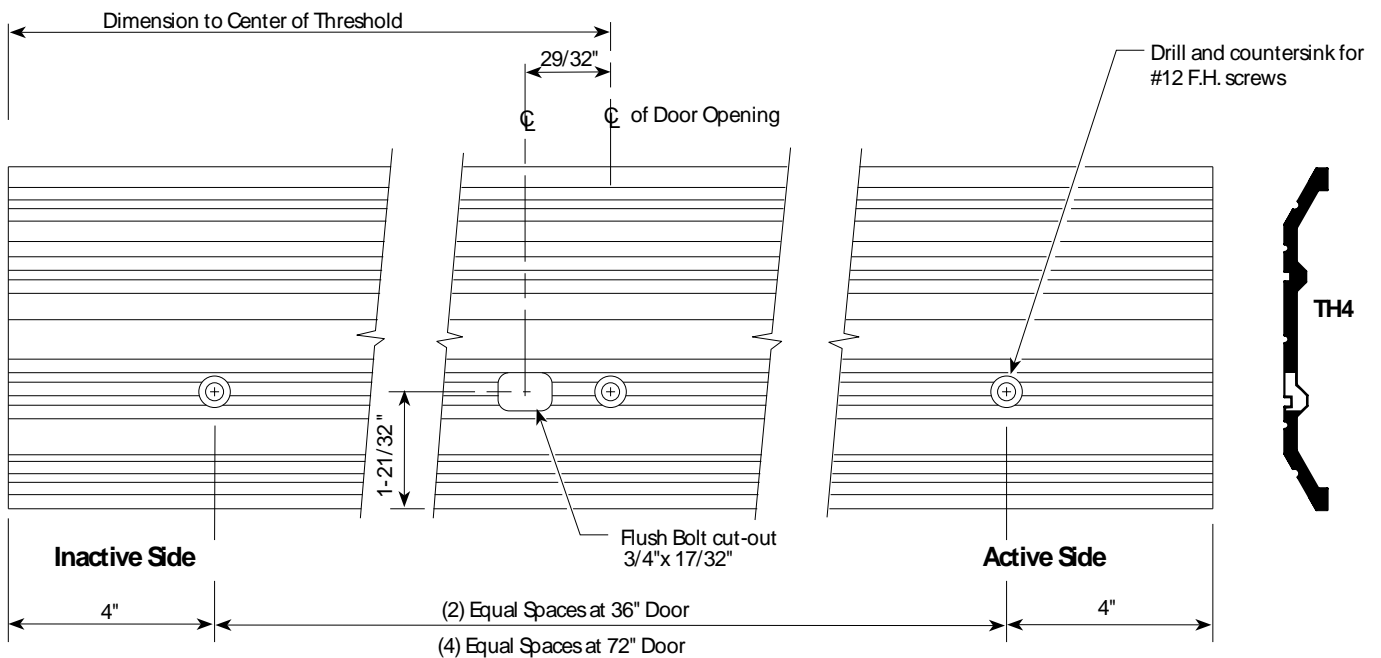


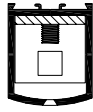
HEADER FABRICATION

FL207 1-3/4" X 4-1/2" Header shown
 FL312 2" x 4-1/2" Similar



**THRESHOLD FABRICATION
 (END FABRICATION NOT SHOWN)**

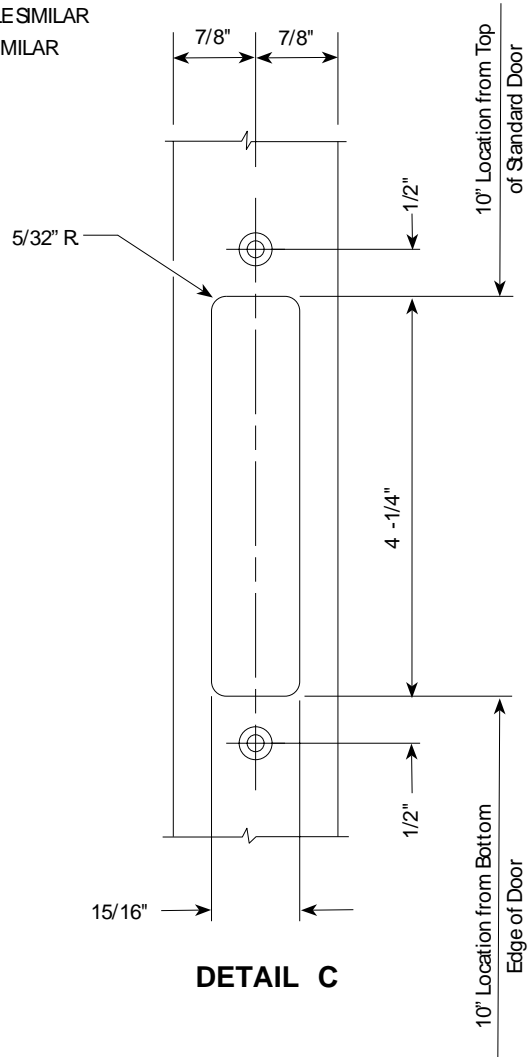
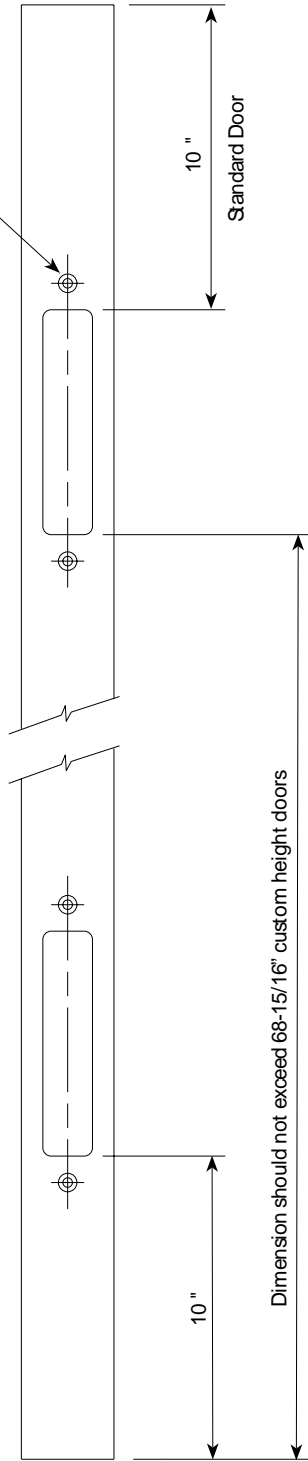




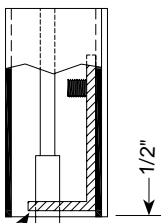
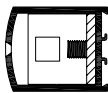
D104 NARROW STILE SHOWN
D111 MEDIUM STILE SIMILAR
D119 WIDE STILE SIMILAR

Drill and countersink for #8 F.H. screw 4 places.

Use combination Corner Plate/Flush Bolt guides: **BP213** Narrow Stile
BP380 Medium Stile
BP500 Wide Stile



DETAIL B



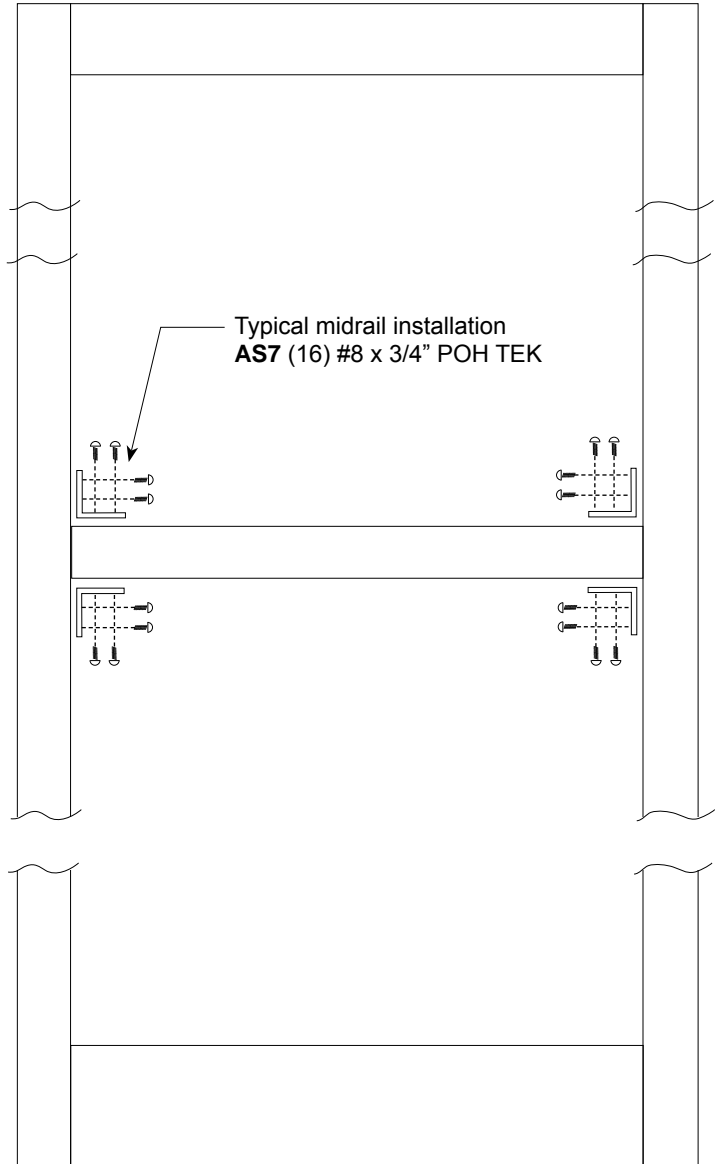
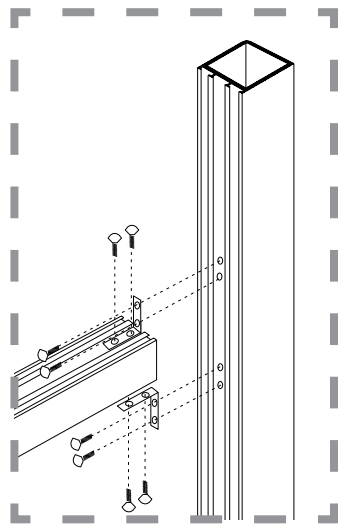
Rod guide
Latching Rod

DETAIL A

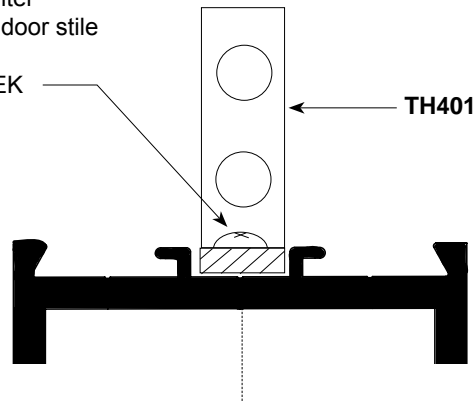
Note: Top flush bolt cut-out location for door opening height of 84" or less should be 10" from top of door stile. See **DETAIL A**

1. Insert flush bolts through cut in nose of door stile and push latching rod through corner plate hole.
2. Attach top and bottom flush bolts with (2) # 8 F. H. screws each.
3. Place each lever in the lock position.
4. Adjust flush bolt rods to extend 1/2" beyond ends of door stile. See **DETAIL B**
5. Flip levers to retract both flush bolts.

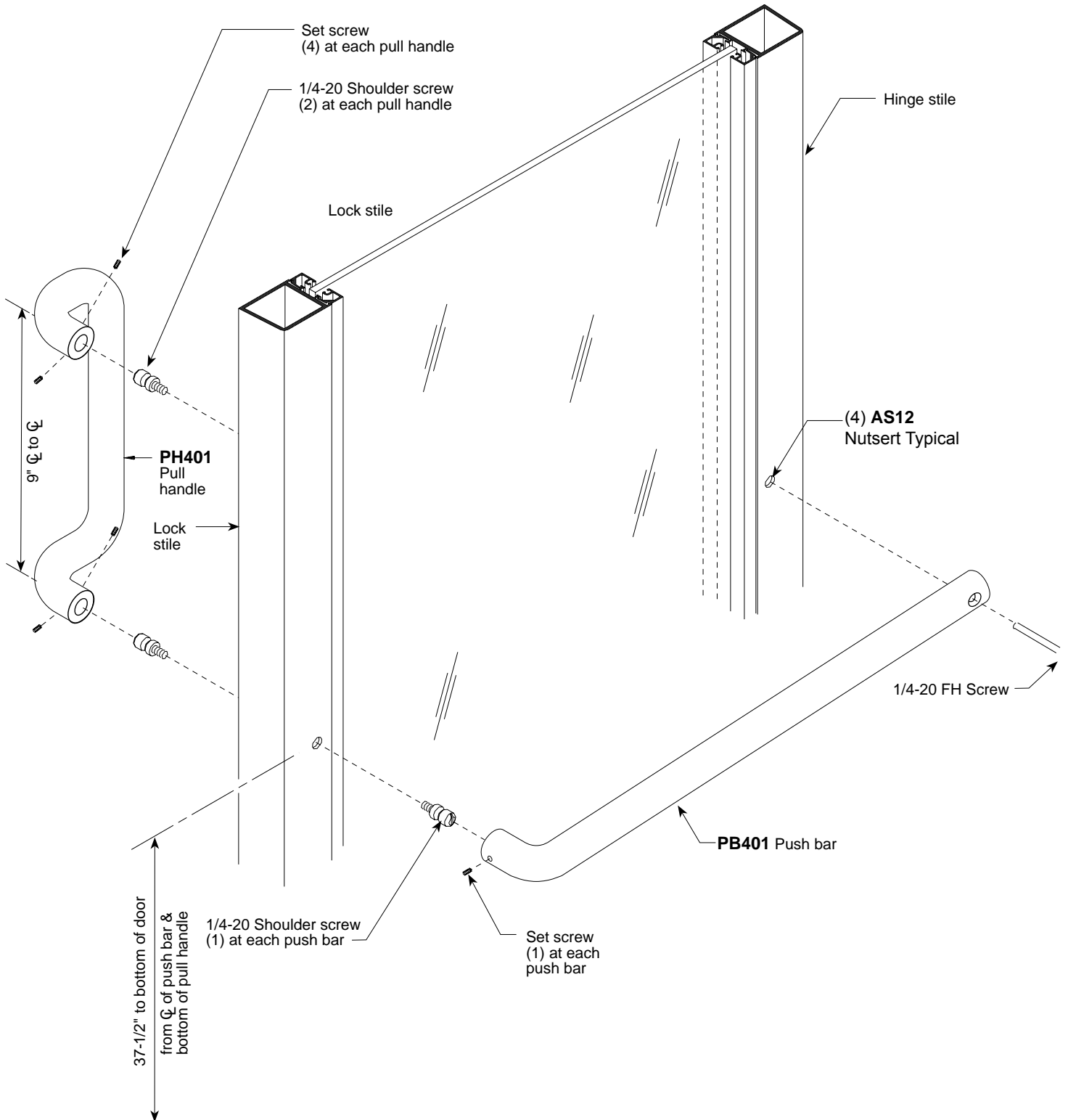
MUNTIN OR MIDRAIL INSTALLATION WITH TH401 BRACKET



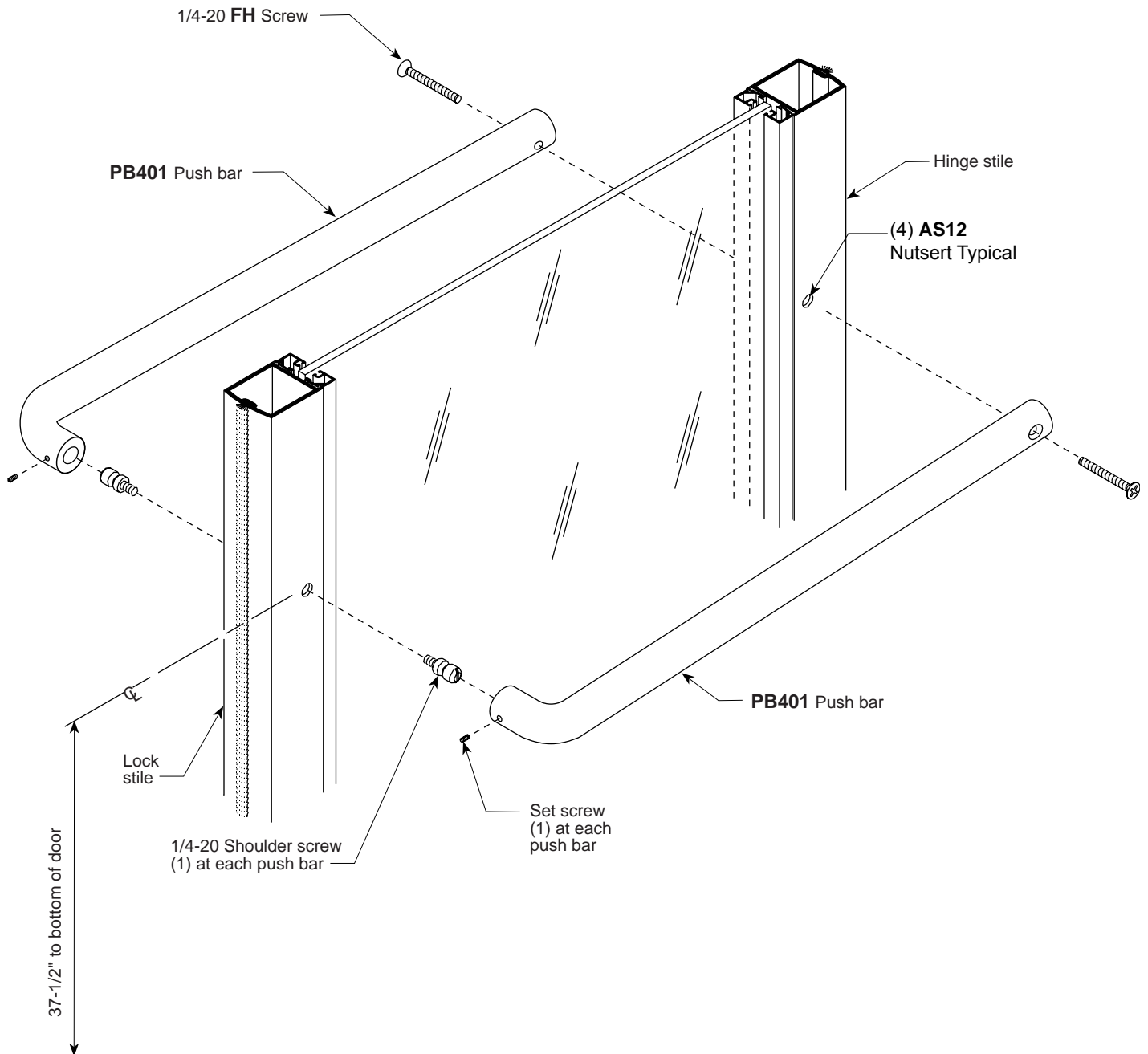
Position bracket in center channel and attach to door stile and mid rail with AS7 #8 x 3/4" POH TEK



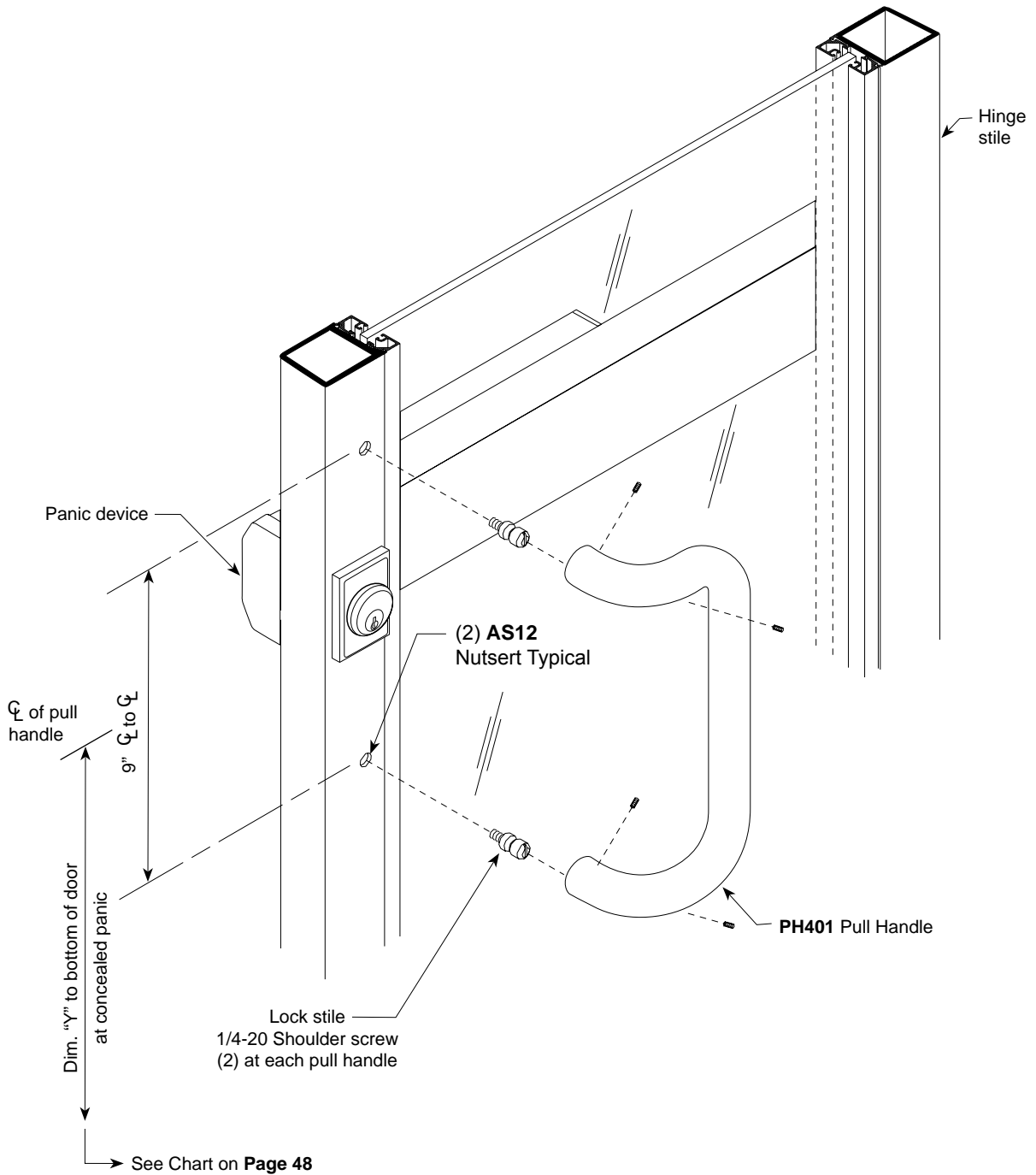
OFFSET HUNG DOOR HARDWARE SET DH400 (OPTIONAL)



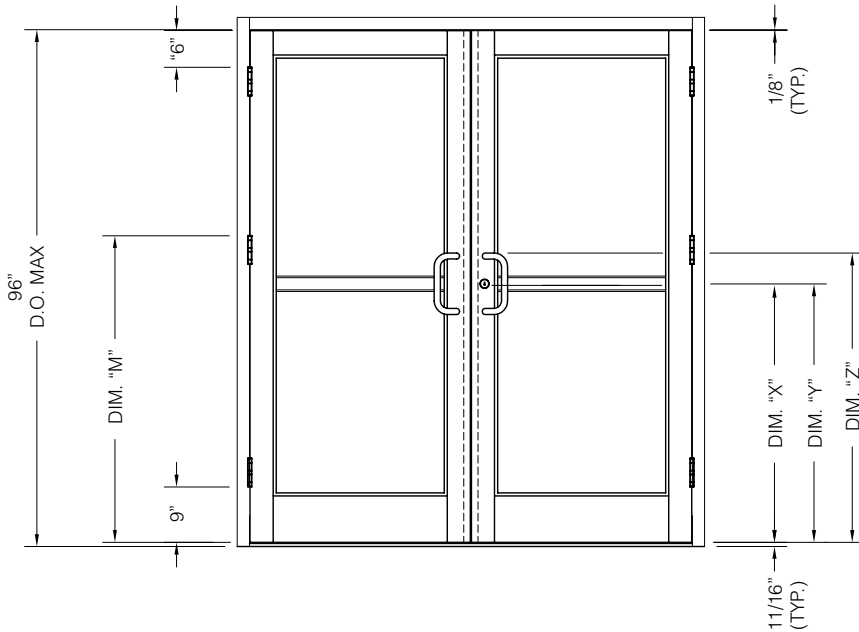
CENTER HUNG DOOR HARDWARE SET DH401 (OPTIONAL)



PULL HARDWARE SET FOR PANIC DOOR
DH40P (STANDARD FOR PANIC DOORS)



STANDARD HARDWARE LOCATIONS



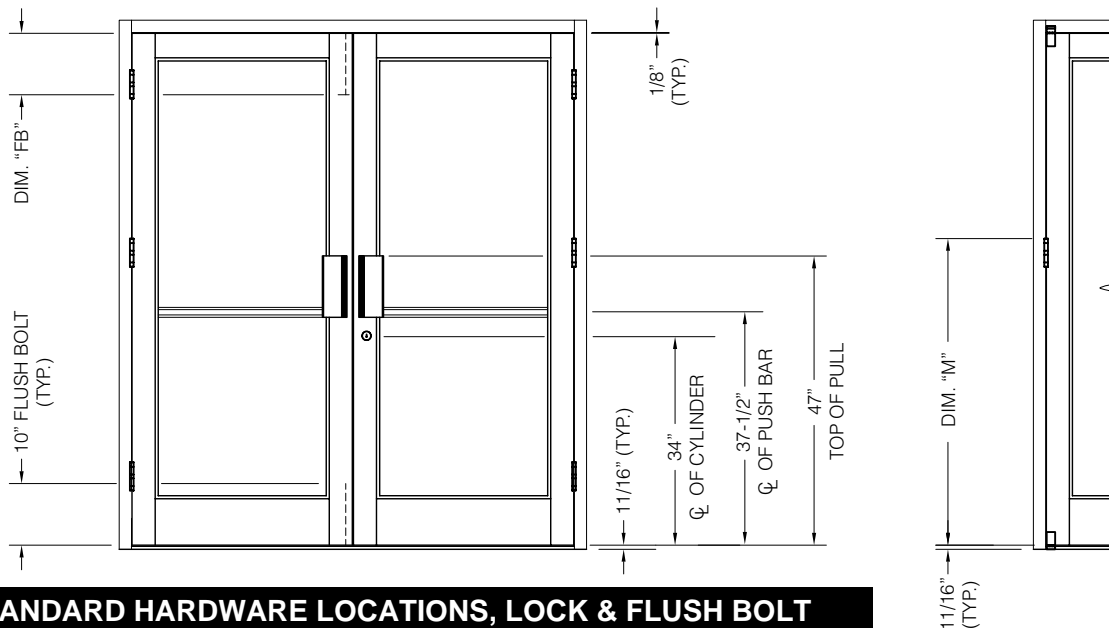
INTERMEDIATE HINGE & PIVOT LOCATION

D.O. HEIGHT	DIM. "M"	
	BUTT HUNG	OFFSET PIVOT
84"	45-11/32"	44-3/32"
96"	51-11/32"	50-3/32"

Note: All doors exceeding 87" in height or 42" in width require an intermediate hinge or pivot.

HARDWARE LOCATIONS FOR PANIC DOORS

MANUFACTURER	PANIC DEVICE	DIM "X" CL OF CYLINDER	DIM "Y" CL OF PANIC	DIM "Z" TOP OF PULL
FIRST CHOICE	3190 C.V.R.	39 - 5/32"	41 - 3/32"	44 - 5/32"
FIRST CHOICE	3692 C.V.R.	41 - 9/16"	40 - 5/8"	46 - 9/16"
FIRST CHOICE	3792 RIM	41 - 9/16"	41 - 5/16"	46 - 9/16"
JACKSON	2086 C.V.R.	37 - 7/8"	38 - 5/32"	42 - 7/8"
JACKSON	2095 RIM	38 - 13/32"	38 - 5/32"	43 - 13/32"



STANDARD HARDWARE LOCATIONS, LOCK & FLUSH BOLT

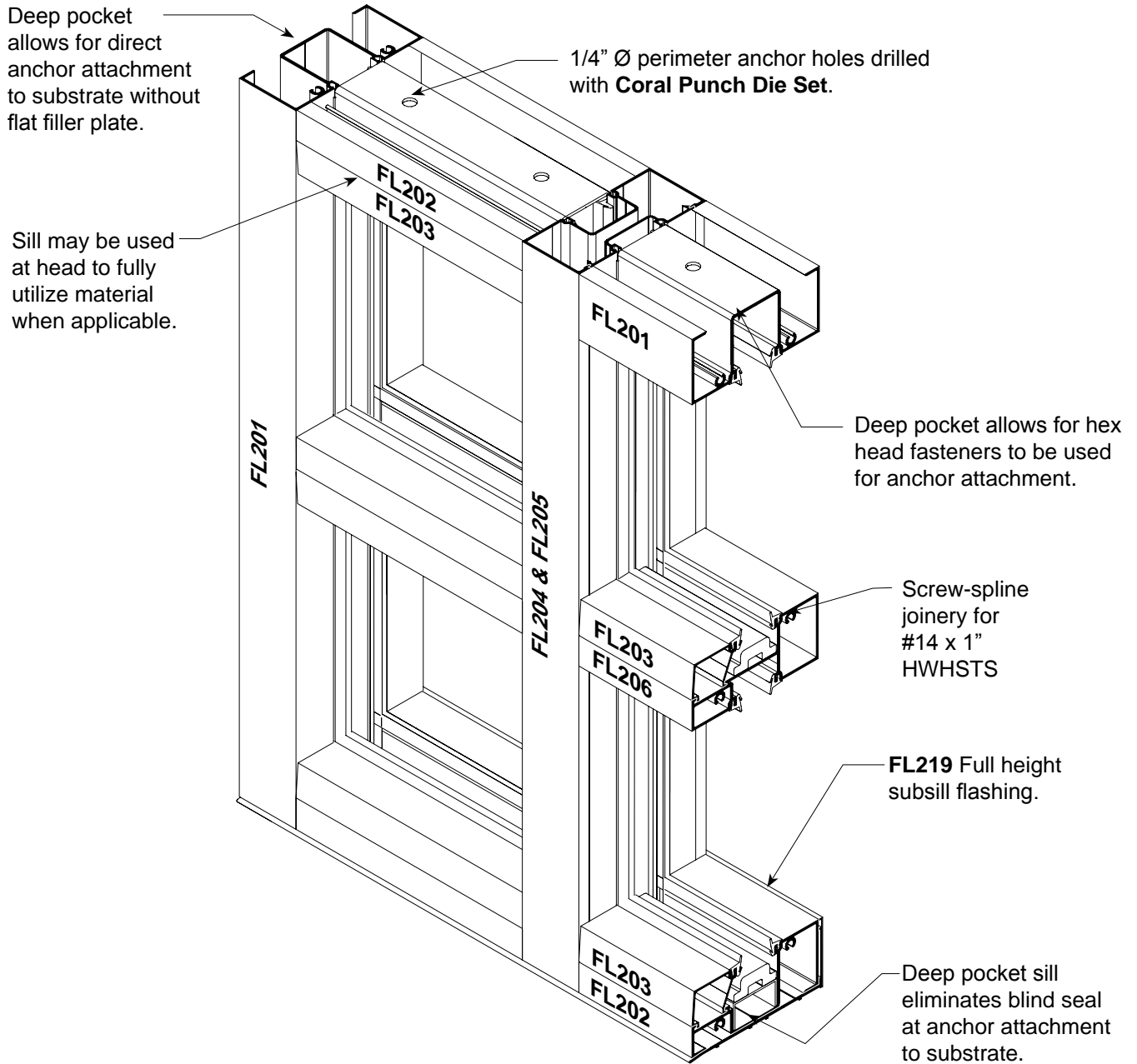
DESCRIPTION	DIM. "FB"
TOP FLUSH BOLT (FOR 96" DOOR)	22"
TOP FLUSH BOLT (FOR 84" DOOR)	10"
BOTTOM FLUSH BOLT (FOR 84" / 96" DOOR)	10"

FL200

STOREFRONT SYSTEM

INSTALLATION INSTRUCTIONS

1-3/4" x 4-1/2" for 1/4" Glass



These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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Frame Fabrication.....	5-11
Frame Assembly.....	12-14
Frame Installation.....	15-18
Glazing.....	19-22
Entrance Door Frame Installation.....	23
Preparation of Door Frame.....	24
Installation of Door Frame.....	25
Door Preparation and Glazing.....	26-27
Special Conditions.....	28-29
Expansion Mullions.....	30

INSTALLATION INSTRUCTIONS - General Notes -

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of it's products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS - General Notes -

- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
1. Cardboard wrapped or paper interleaved material must be kept dry.
 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 3. Check arriving materials for quantity and keep record of where various materials are stored.
- B. JOB SITE
1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 2. Cardboard wrapped or paper interleaved material must be keep dry. (**See 13.A.2**)
 3. Keep record of where various materials are stored.
 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.

FRAME FABRICATION

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 5/8" allowing 1/8" for subsill and a 1/4" minimum caulk joint at the head and sill.

STEP 2.

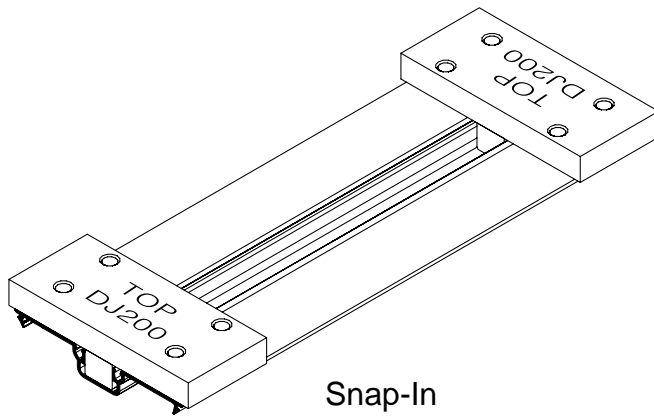
Cut members to size.

- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

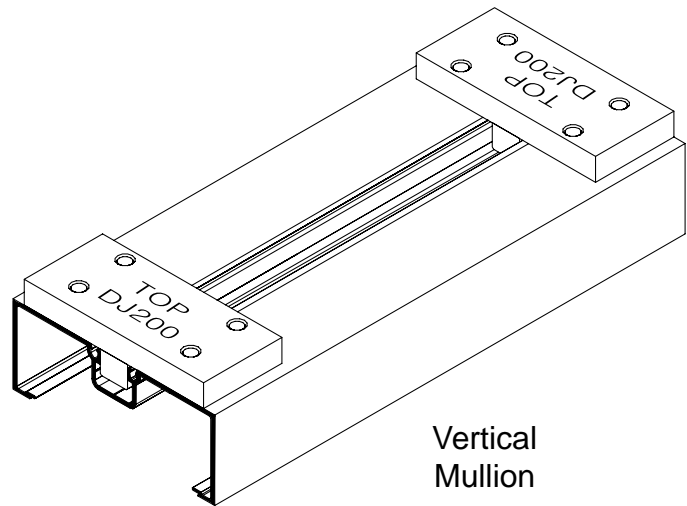
FRAME FABRICATION

STEP 3.

Mark location for horizontals on vertical extrusions and drill holes for screw spline. Reference **STEP 4** for correct orientation of drill jig.



Snap-In
Filler



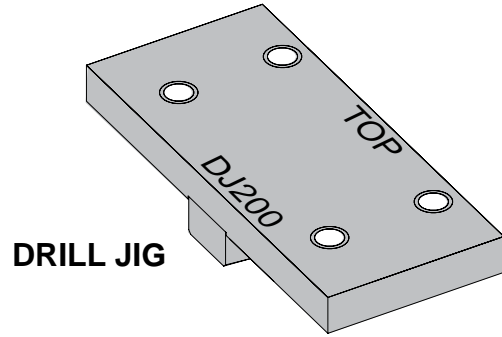
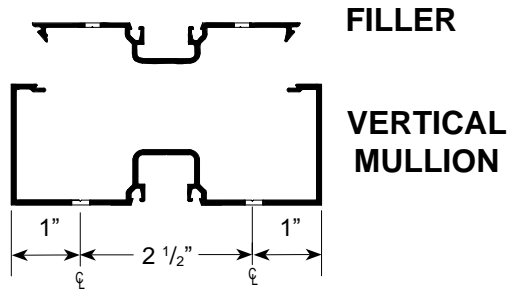
Vertical
Mullion

FRAME FABRICATION

STEP 4.

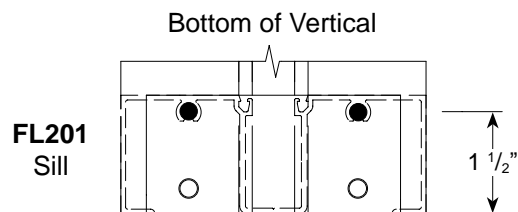
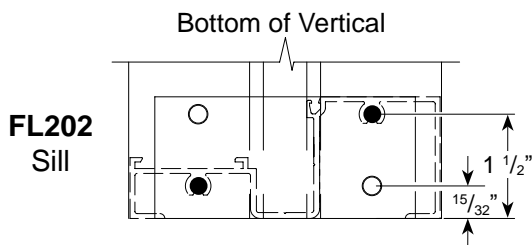
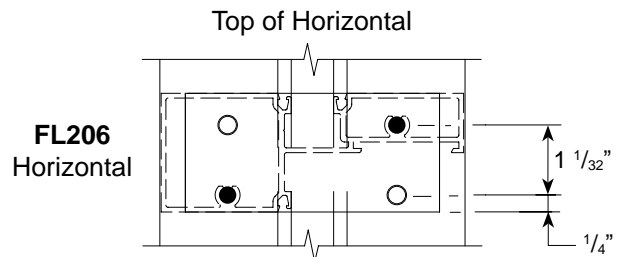
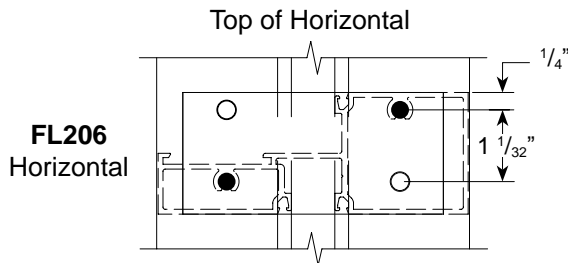
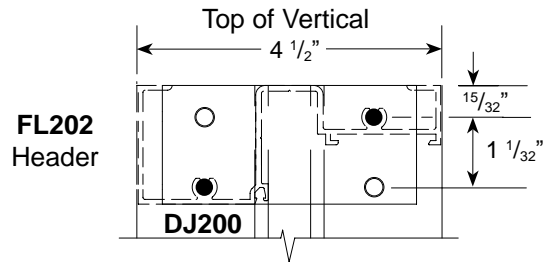
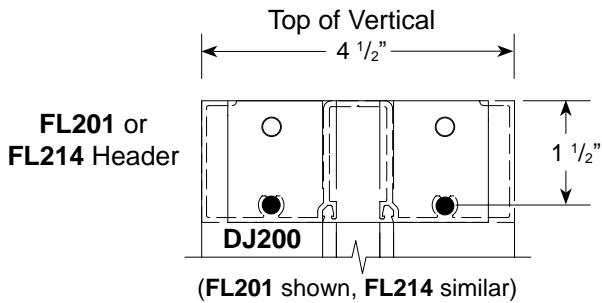
Drill or punch holes in verticals for attaching horizontals.

Use Letter "F" (.257 Ø) Drill



EXTERIOR GLAZING

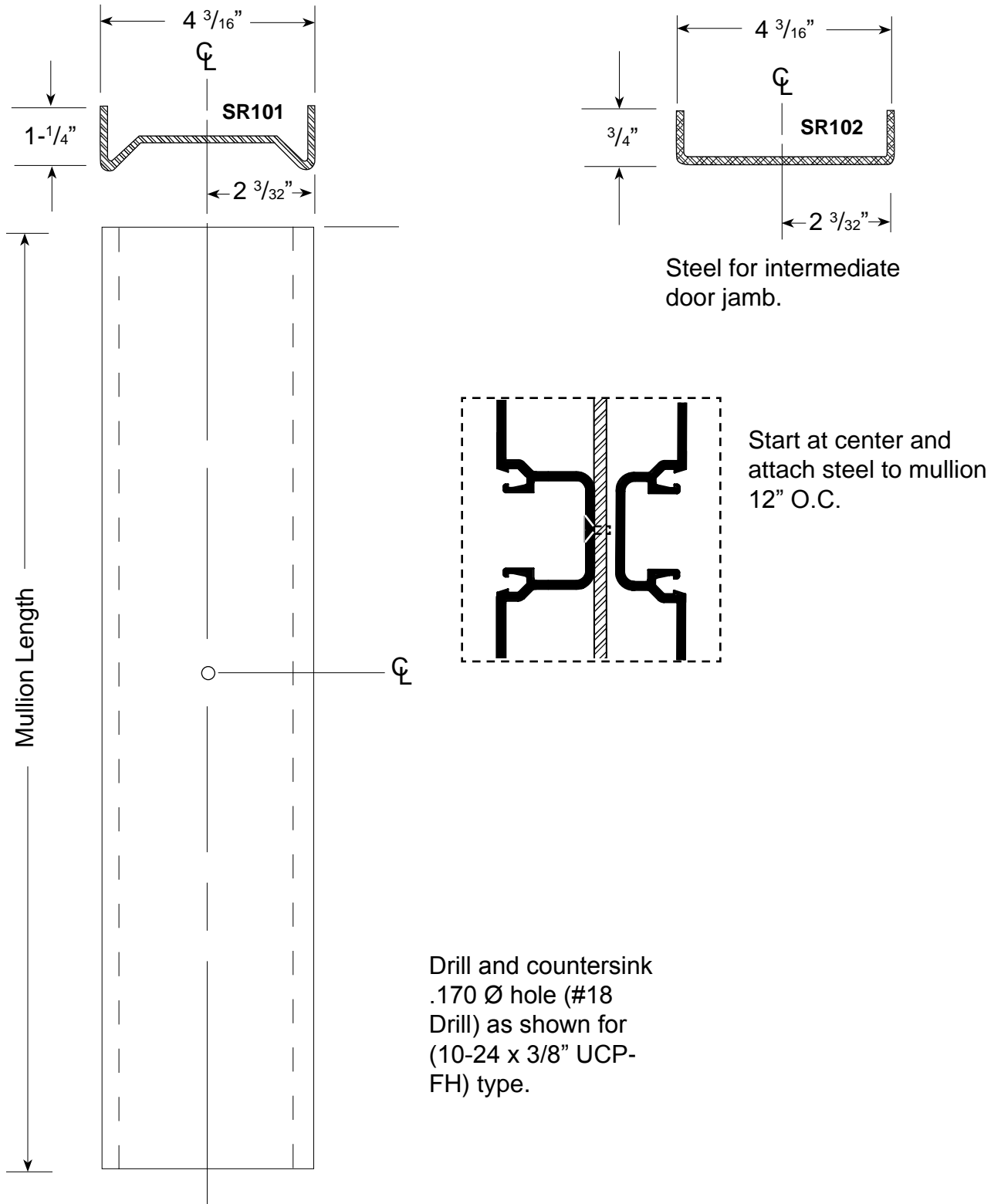
INTERIOR GLAZING



FRAME FABRICATION

STEP 5.

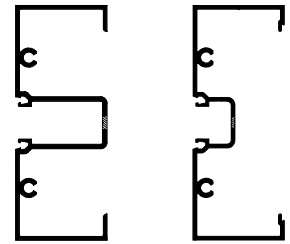
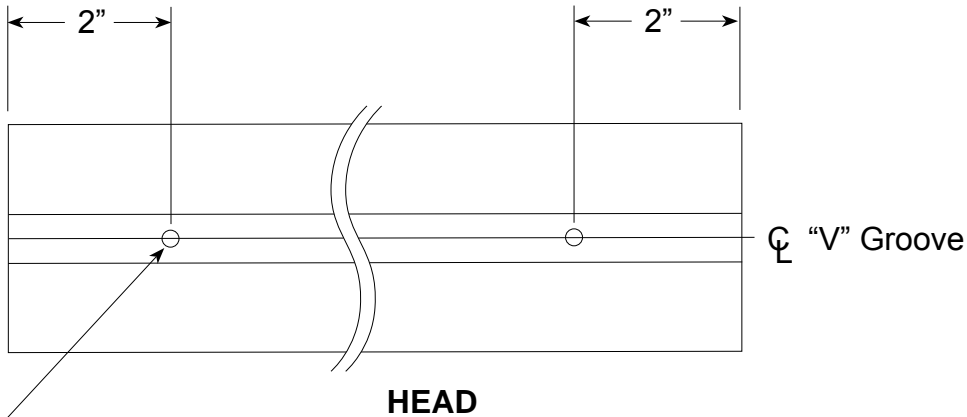
Fabricate steel reinforcement where required.



FRAME FABRICATION

STEP 6.

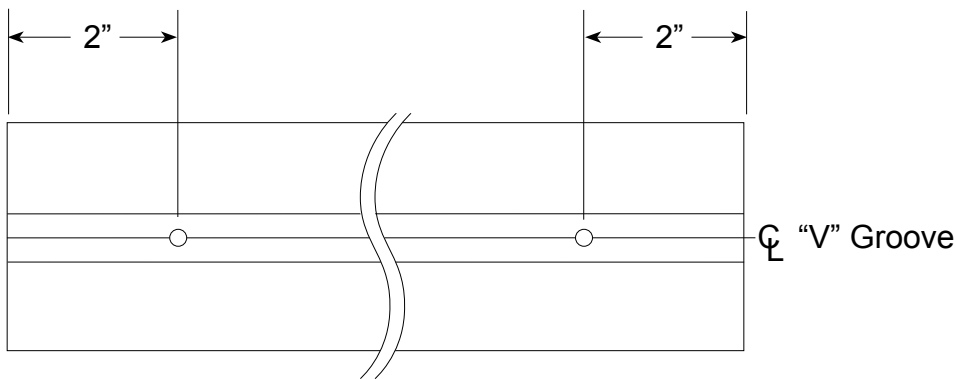
Fabricate head and sill anchor holes. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end. Each additional fastener hole is located at required minimum spacing between fasteners based on substrate as shown in **Anchor Charts**.



FL201 or FL214
Shallow
Pocket

Clear hole for 1/4" Ø fastener **FL201**
Drill 1/2" clear access hole for 1/4" Ø fastener **FL214**.

Note: **CS104** flat filler plate must be used for attaching **FL214** to substrate. See **Page 17**.



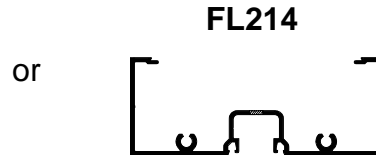
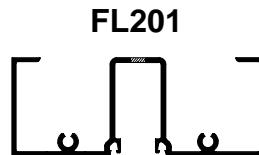
FL202

SILL

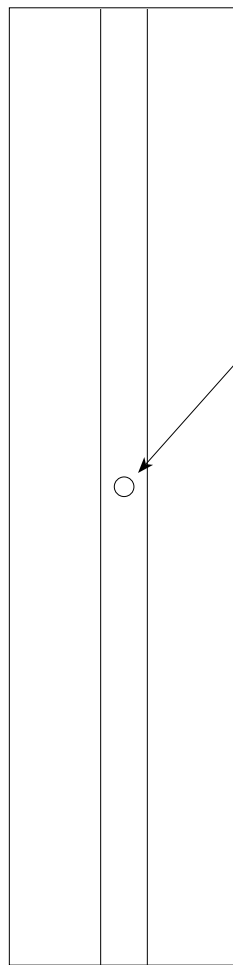
FRAME FABRICATION

STEP 7.

Fabricate wall jamb for anchor holes when required. (Reference Anchor Charts).



Note: CS104 flat filler plate must be used for attaching FL214 to substrate.



Clear hole for 1/4" Ø fastener at **FL201**
Drill 1/2" Ø access hole for **FL214**.

Note:
Do not locate anchor hole at intersection of intermediate horizontal. Locate hole just above or below horizontal. Check anchor chart for spacing and quantity based on substrate.

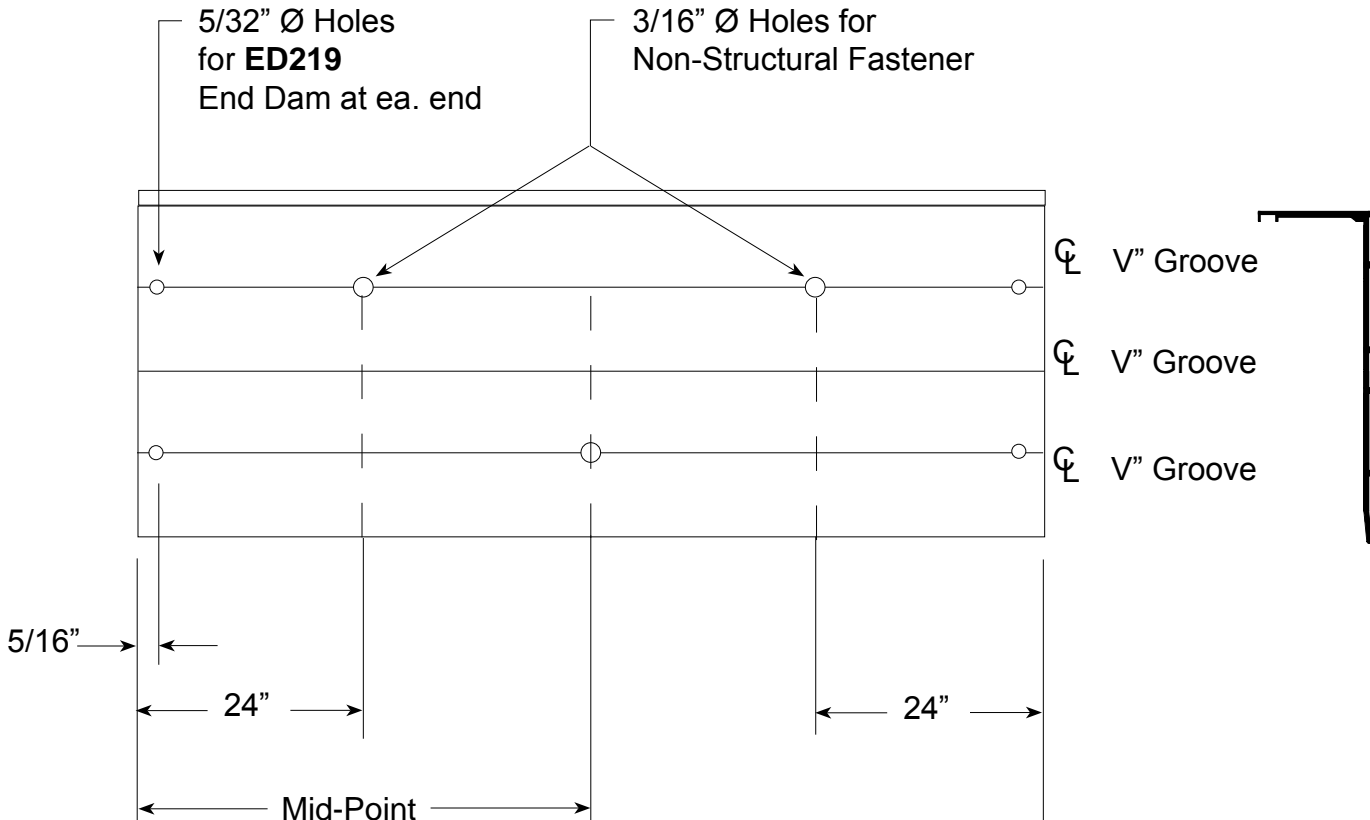
WALL JAMB

FRAME FABRICATION

STEP 8.

Fabricate **FL219** subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for fasteners in subsill are approximate. Use rear or front "V" groove lines for non-structural fasteners

SUBSILL FLASHING

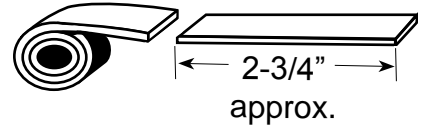


1. Drill 3/16" Ø hole for non-structural fasteners used for attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required to temporarily hold subsill in place until structural fasteners are installed (**See Step 3 Page 16**). Holes may be located on the inside or outside of "V" groove or staggered.
2. Drill two each 5/32" Ø holes at each end (except end abutting a door jamb) for attaching **ED219** end dams. Countersink for (#10-24 x 3/8" UCPFH) screw.

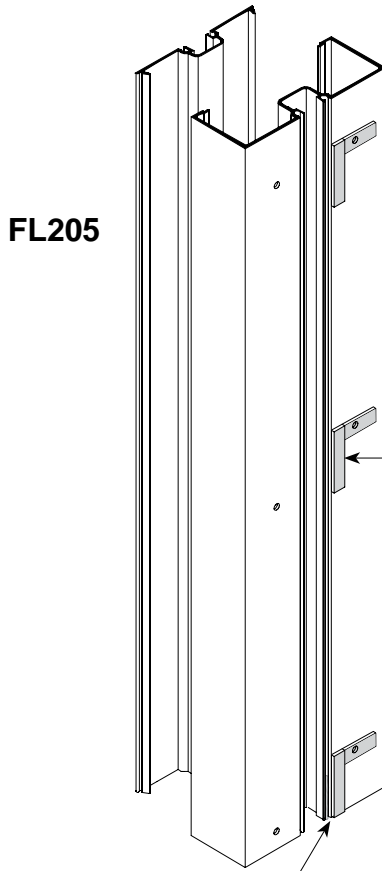
FRAME ASSEMBLY- OUTSIDE GLAZING

STEP 1.

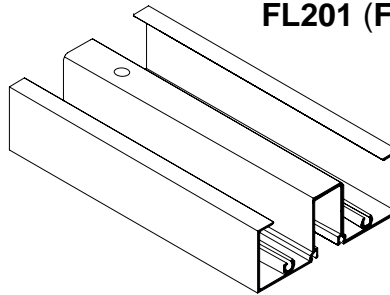
Note:
Shallow glazing pockets
cannot face each other.



Schnee-Morehead **SM5601**
1/8" x 1/2" Tacky Tape.

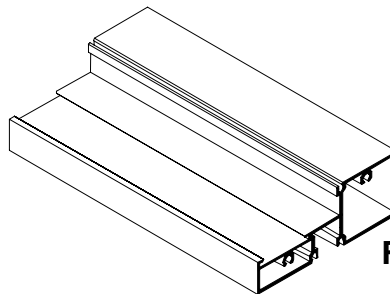


FL201 (FL214 similar)

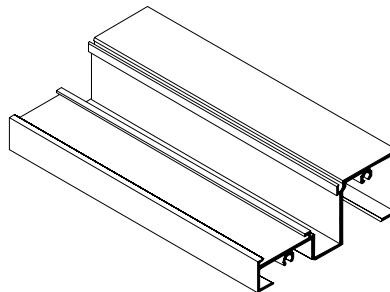


Note: **CS104** flat filler plate
must be used for attaching
FL214 to substrate.

Apply Schnee-Morehead
SM5601 1/8" x 1/2" Tacky
Tape at horizontal / vertical
joints.

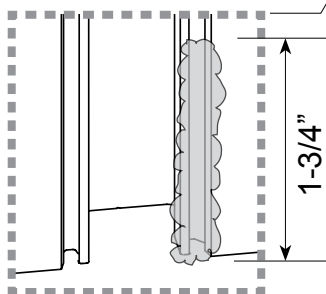


FL206



FL202

FL209



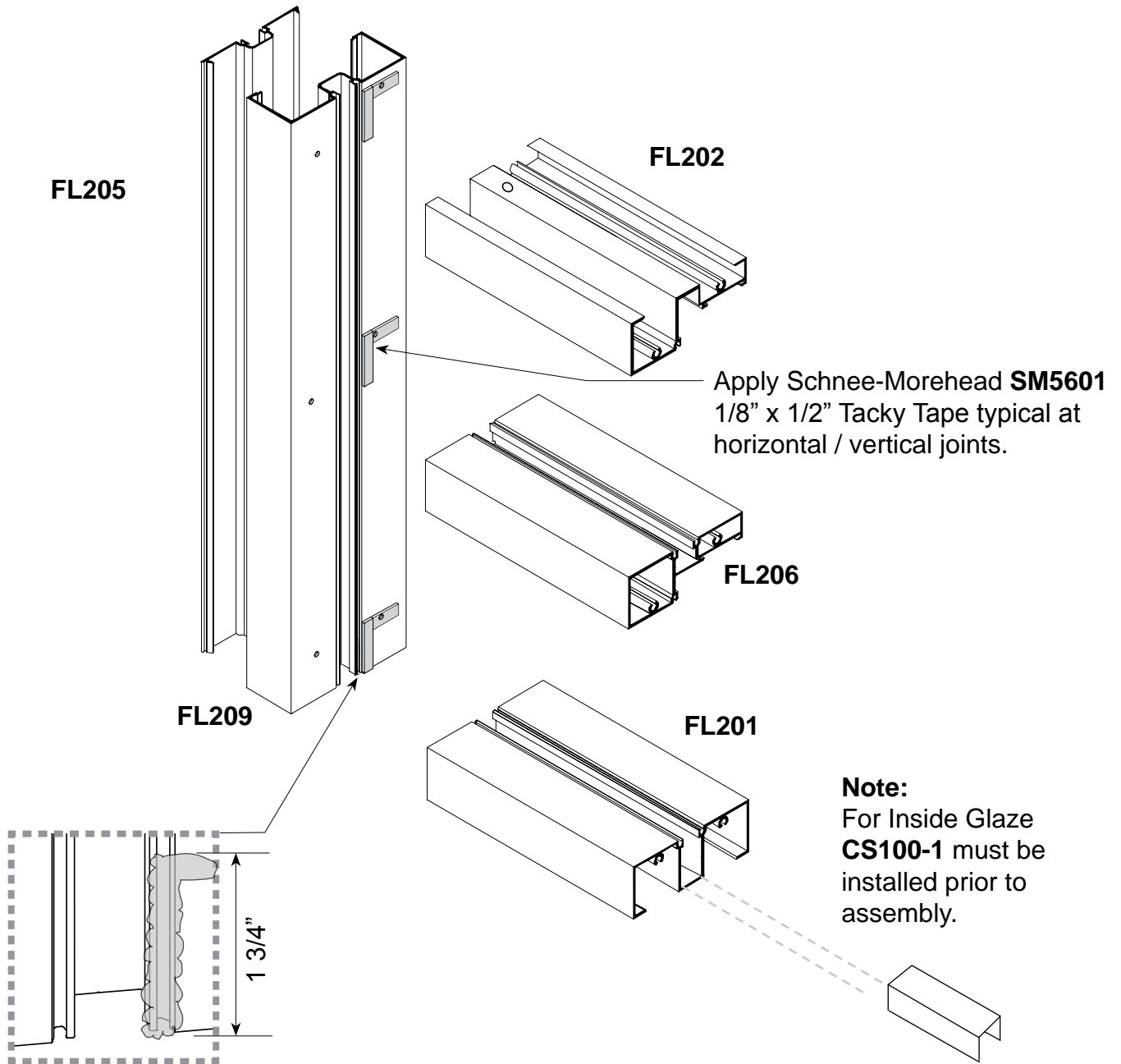
Critical Seal: Completely fill gasket reglet with **DOW 795** sealant at bottom as shown.
Attach horizontals to verticals using **AS16** (#14 x 1" HHSTS spline screws). See **Page 7** for hole prep locations.

FRAME ASSEMBLY- INSIDE GLAZING

STEP 1.

Note:

Shallow glazing pockets cannot face each other.

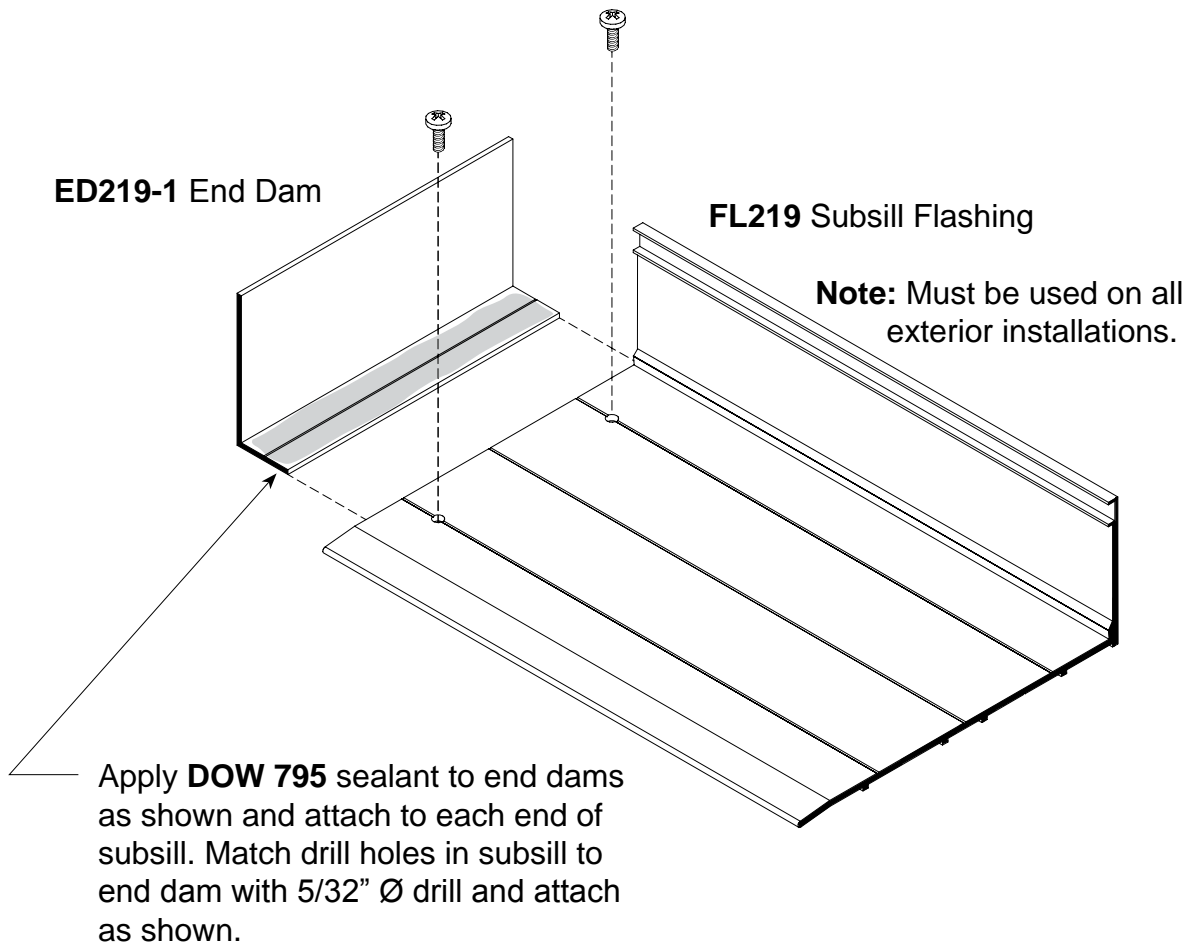


CRITICAL SEAL: Completely fill gasket reglet with **DOW 795** sealant at bottom as shown. Attach horizontals to verticals using **AS16** (#14 x 1" HHSTS spline screws). See **Page 7** for hole prep locations.

FRAME ASSEMBLY

STEP 2.

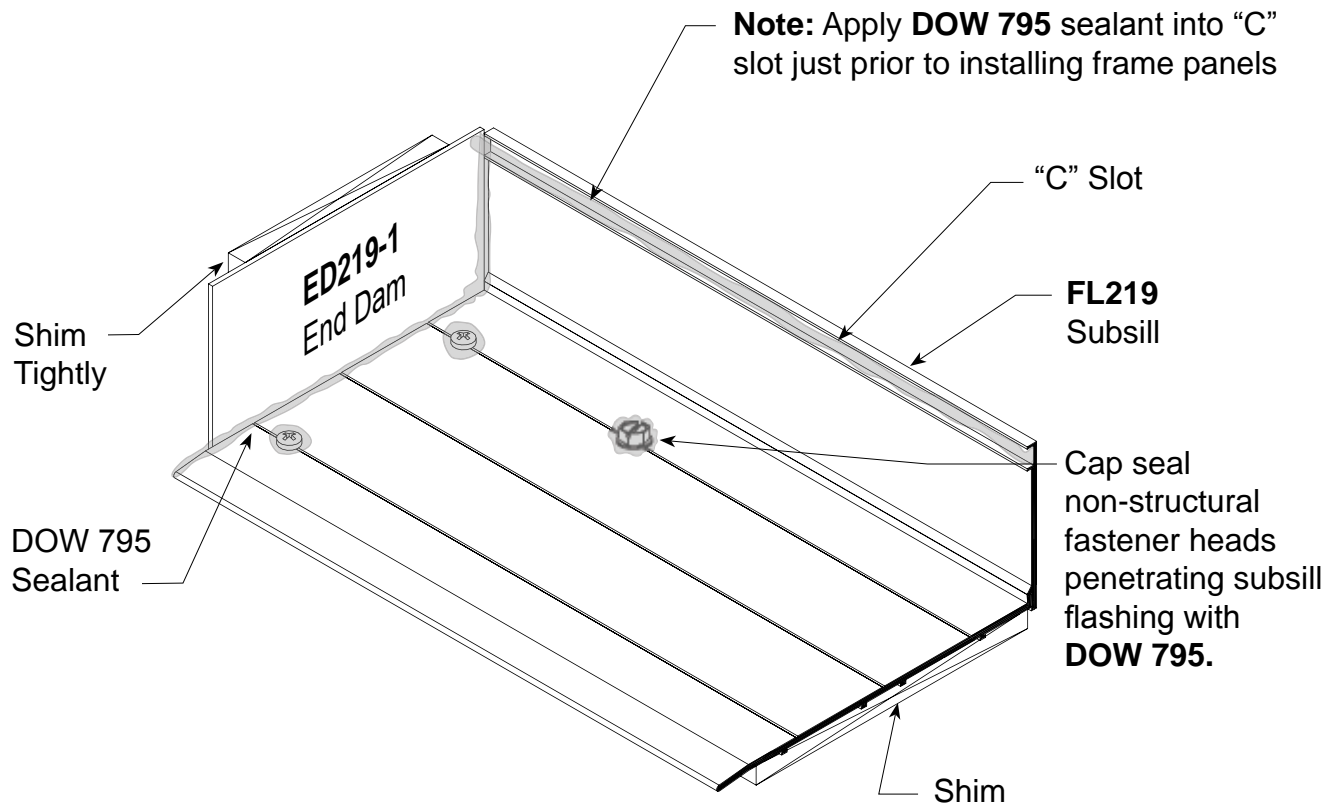
AS31 (#6 x 3/8" PPH) Fastener



FRAME INSTALLATION

STEP 1.

Center subsill into opening allowing for a 1/4" minimum shim space at each end to ensure a good caulk joint.



Shim beneath subsill to be a minimum of 1/4". Attach subsill flashing to structure with non-structural fasteners using attachment holes shown on **Page 11**.

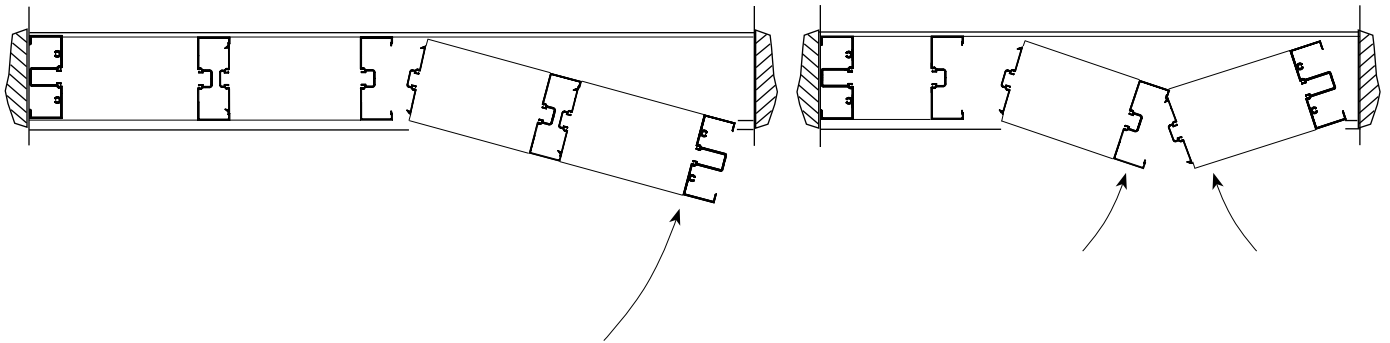
Wedge shims tightly between end dams and jamb substrate on each end prior to installing frame panels. These shims prevent the end dam from dislodging while frame panels are being installed. Completely seal end dams as shown.

Run a continuous bead of **DOW 795** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

FRAME INSTALLATION

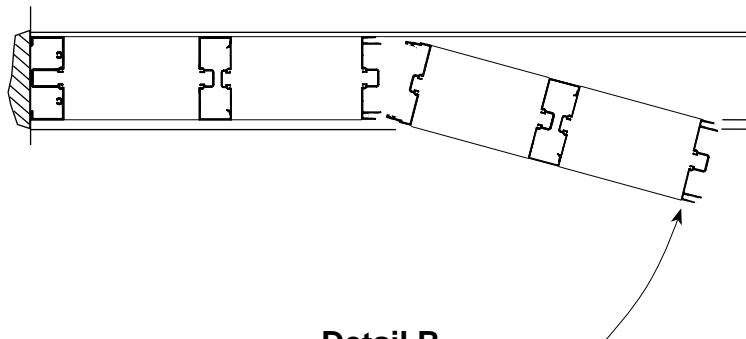
STEP 2.

Screw spline joinery allows for frames to be shop fabricated into panels and shipped to job site assembled. Each panel must have at least one vertical deep pocket for glazing. Arrange panels so that two shallow pockets never face each other. **Reference Page 12 (FRAME ASSEMBLY).**



Detail A
Typical Elevations

Expansion mullions should be used in elevations exceeding 24'-0" in width to allow for thermal movement. **See Page 30 for formula.**

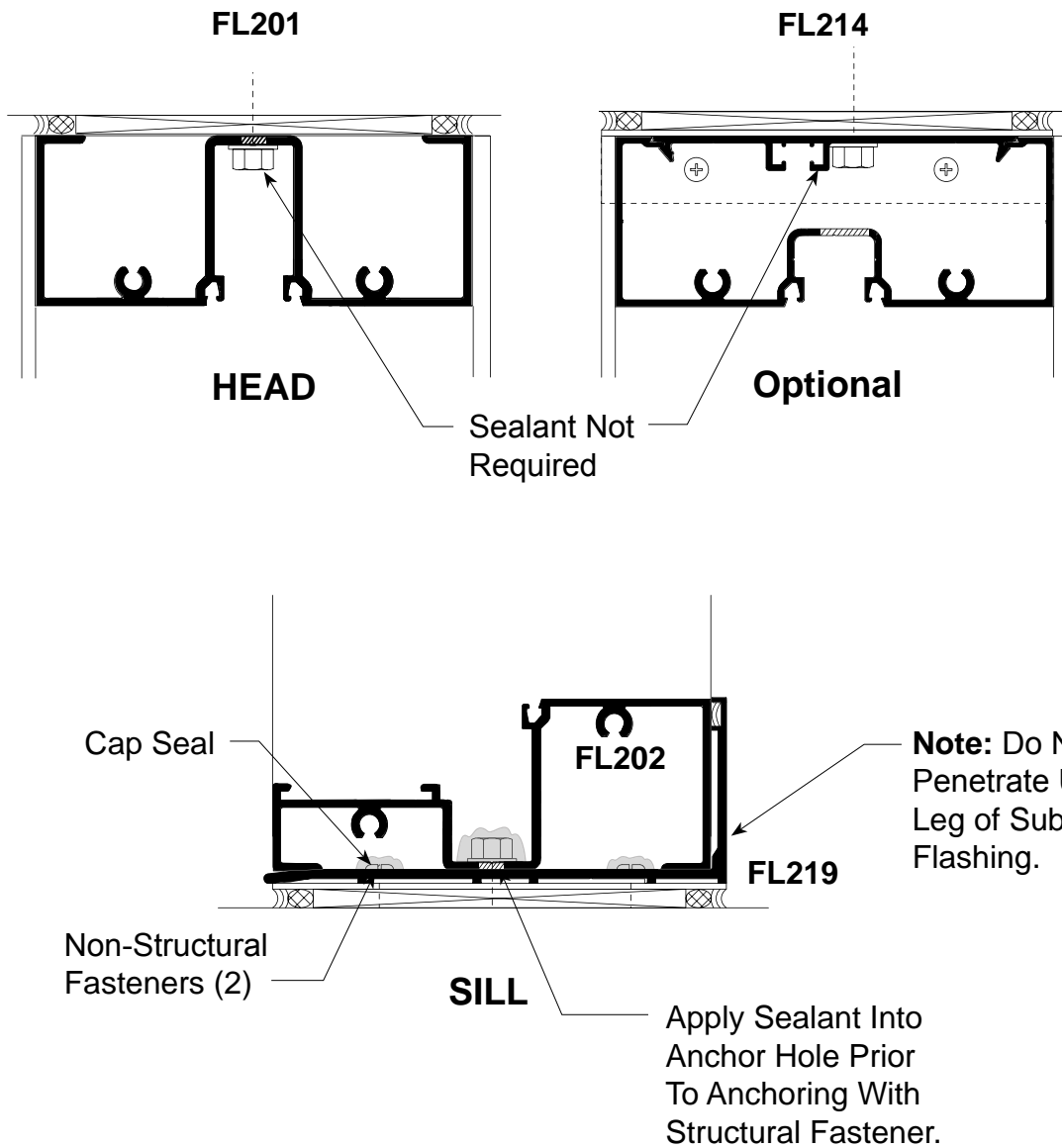


Detail B
Elevations with Expansion Mullions

FRAME INSTALLATION

STEP 3.

After all panels are installed, shim beneath subsill at fastener location. Match drill holes through sill into substrate. Remove dust from hole and apply **DOW 795** sealant as shown below into anchor holes prior to anchoring with structural fasteners. Cap seal fastener heads with **DOW 795**. Match drill holes through head into substrate, anchor and shim as shown.



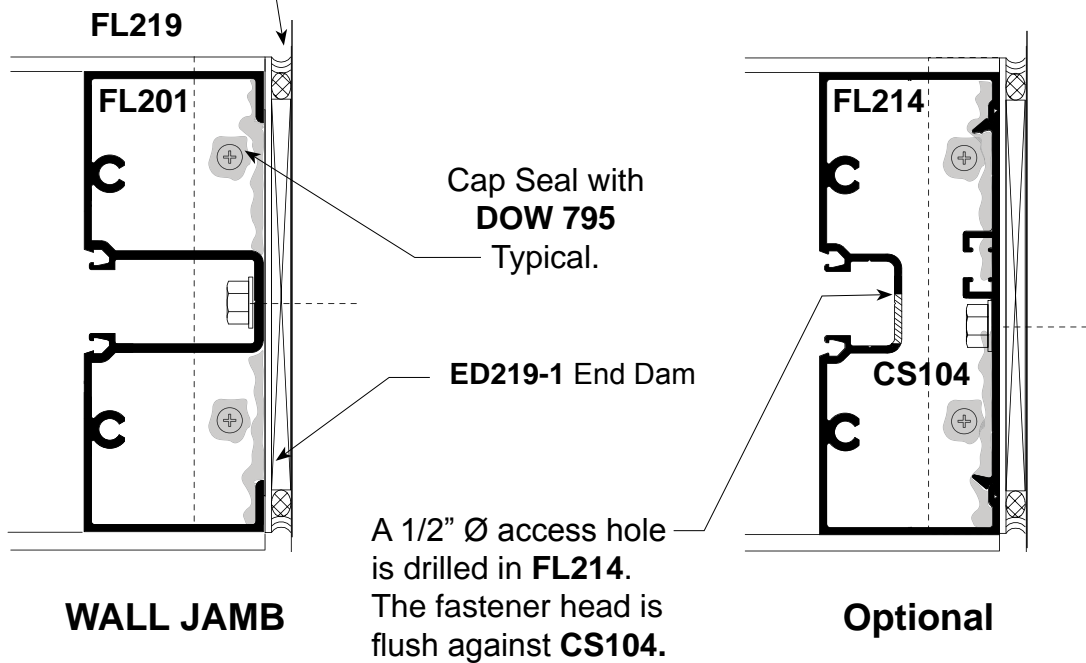
FRAME INSTALLATION

STEP 4.

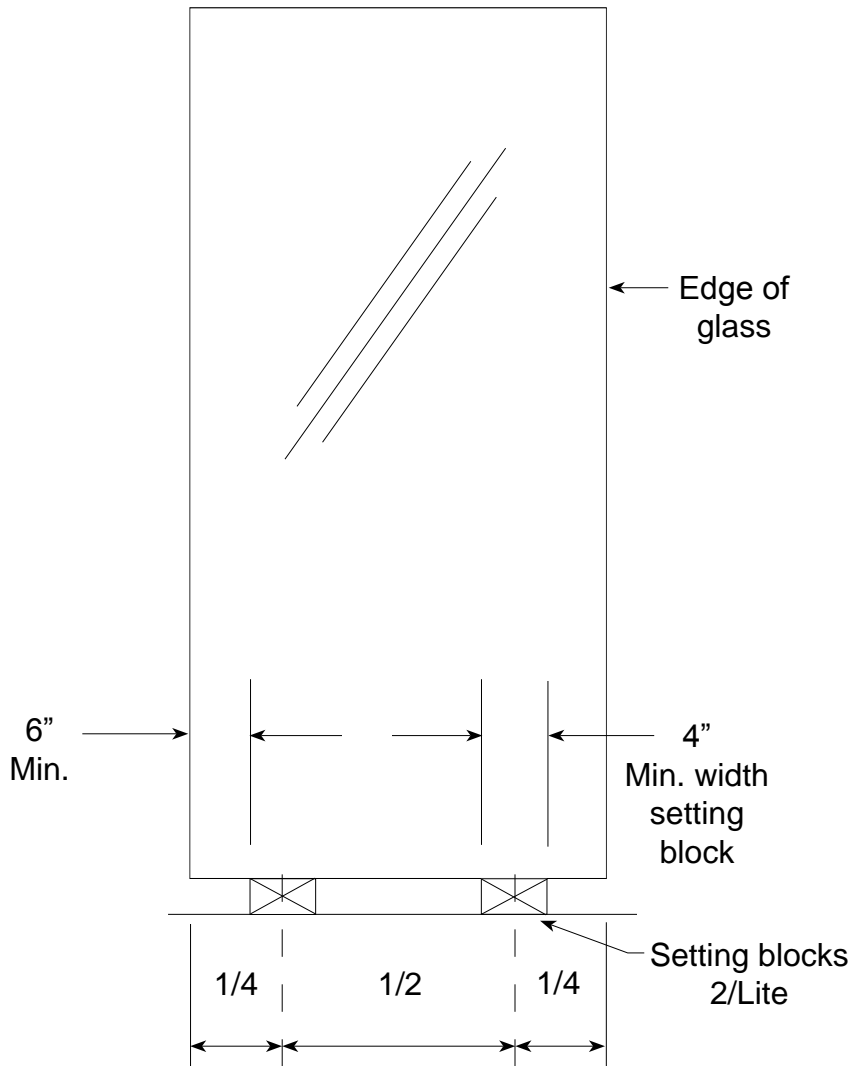
In high wind load areas, it may be necessary to attach jamb to substrate as shown. When required, match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads with **DOW 795**.

When all frames are secured to the opening, then completely seal exterior and interior perimeter with a continuous bead of **DOW 795** sealant.

Completely Seal
Exterior & Interior
Perimeter of Frame



PREPARATION OF FRAME OPENING FOR GLASS



1. Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

2. Setting Blocks

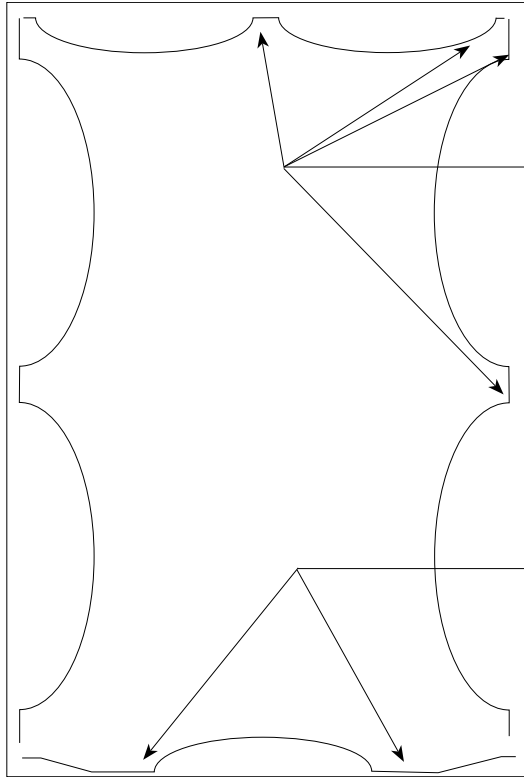
Glass should be set on two identical setting blocks having a Shore A Durometer of 85 + or -5. The preferred location is at the 1/4 points.

If the 1/4 point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block **CANNOT** be closer than 6" to the corner of the glass.

3. Deflection

The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check dead load charts for proper setting block locations.

INSTALLATION OF TOP LOAD GLAZING GASKETS



Start jamb and head gaskets at corners and center.

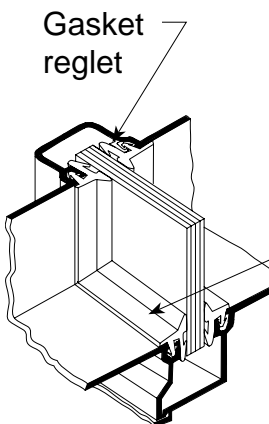
Start gaskets at setting blocks.

Detail A

1. Cut gaskets a minimum of 3/16" longer per foot than aluminum extrusion.

2. Do not stretch gasket to make them fit.

It is very important that gaskets are installed correctly as shown in **Detail "A"**, to prevent shrinkage at corners.



Seal corners of Gaskets.

3. Pull gaskets back 2" in both directions at corner intersections & seal with **DOW 795/995** silicone. This should be done on interior & exterior for best performance.

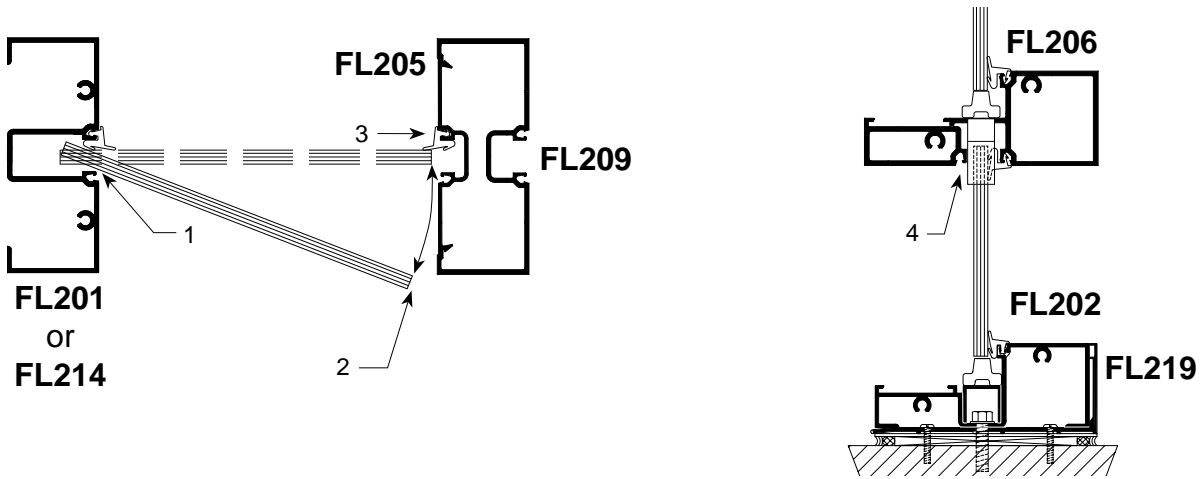
EXTERIOR GLAZING

GLASS SIZES*

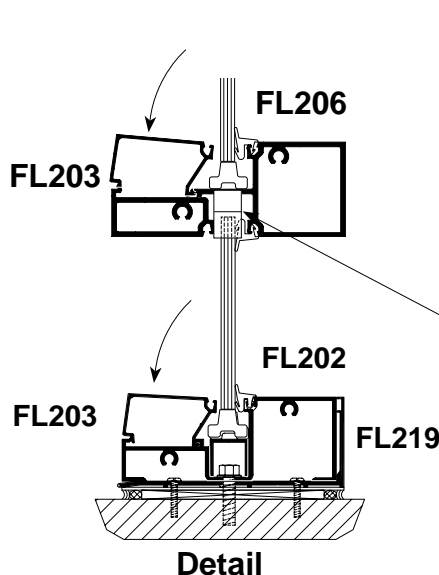
GLASS SIZE = DAYLIGHT OPENING + 5/8"

Consult glass manufacturer for glass tolerance before ordering glass.

* (See door frame instructions for glass size at transom.)

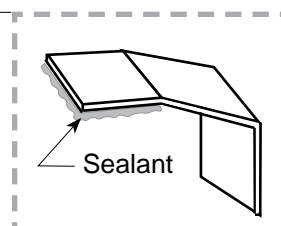


1. Install interior gasket. Vertical gasket runs through. **Reference Pages 19 & 20.**
2. Check deadload charts and shop drawings for correct setting blocks in horizontal and sill members. Rest glass on setting blocks and press glass against installed gasket.
3. **See Below.** Center glass into opening following the four step procedure shown above taking care not to disturb exterior gasket. Rest glass on setting blocks.
3. Press glass against installed gaskets and snap-in **FL203** Glass Stop as shown below.
4. Install **NG1** exterior gaskets as shown on **Page 20.**

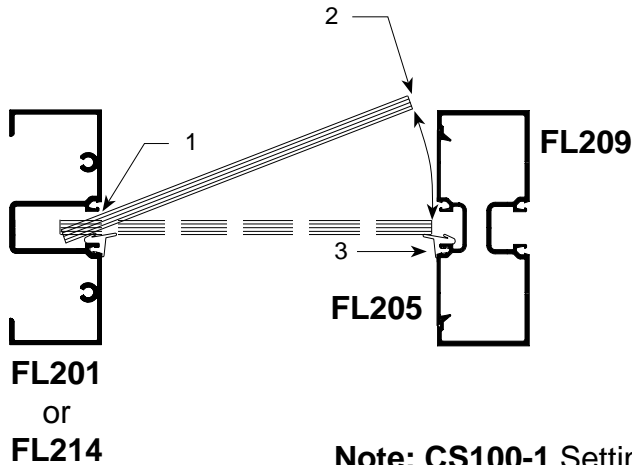


Glaze from bottom to top. Install **WD200-1** Water Diverter as shown before setting upper lite.

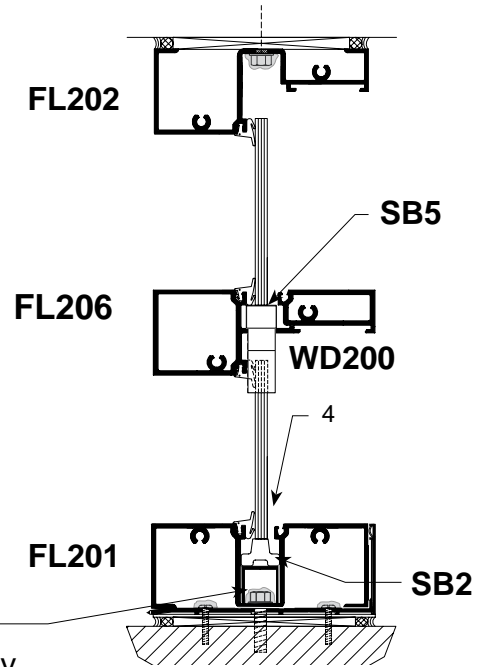
WD200-1 Water Diverter is embedded in sealant at each end of horizontal.



INTERIOR GLAZING

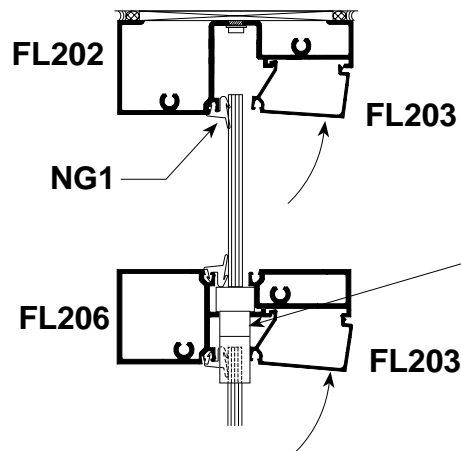


Note: CS100-1 Setting chairs must be installed prior to assembly

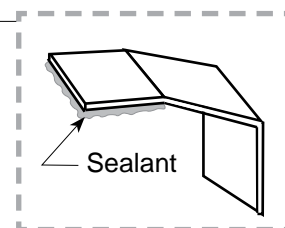


1. Install exterior gaskets. Vertical gasket runs through. **Reference Pages 19 & 20.**
2. Check deadload charts and shop drawings for correct setting block locations for intermediate horizontals. Position **SB5** setting blocks in horizontal and **SB2** setting block at sill members.
Rest glass on setting blocks and press glass against installed gaskets.
3. **See Below.** Center glass into opening following the four step procedure shown above taking care not to disturb exterior gasket. Rest glass on setting blocks.
4. Press glass against installed gaskets and snap-in **FL203** Glass Stop as shown below.
5. Install **NG1** interior gaskets as shown on **Page 20.**

Glaze from bottom to top.
Install **WD200-1** Water Diverter as shown before setting upper lite.

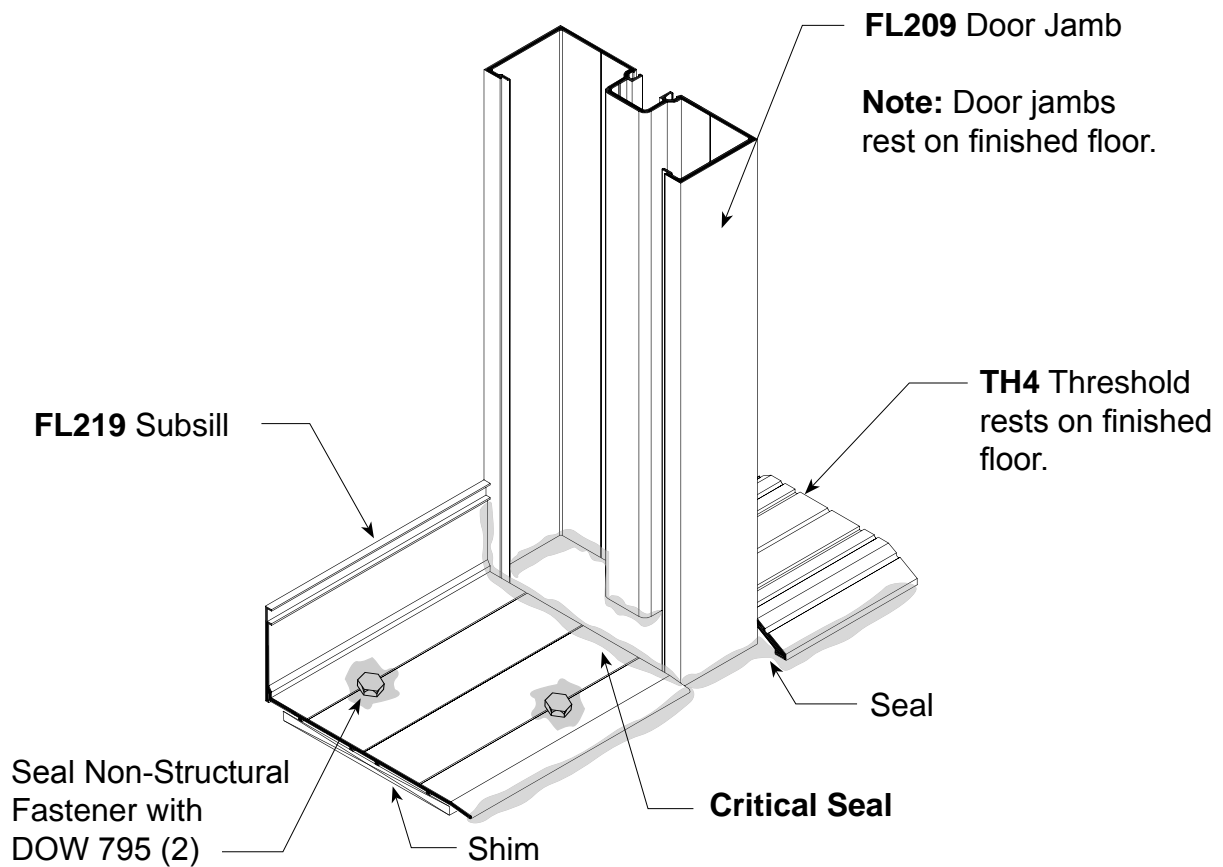


WD200-1 Water Diverter is embedded in sealant at each end of horizontal.



ENTRANCE DOOR FRAME INSTALLATION WITH SUBSILL FOR SIDELIGHTS

Where entrance doors occur, install entrance door frames first.
Subsill butts against door jamb.
The subsill abutting the door jamb does not require an end dam.



Note: Subsill perimeter sealant is applied after frame panels have been installed and anchored.

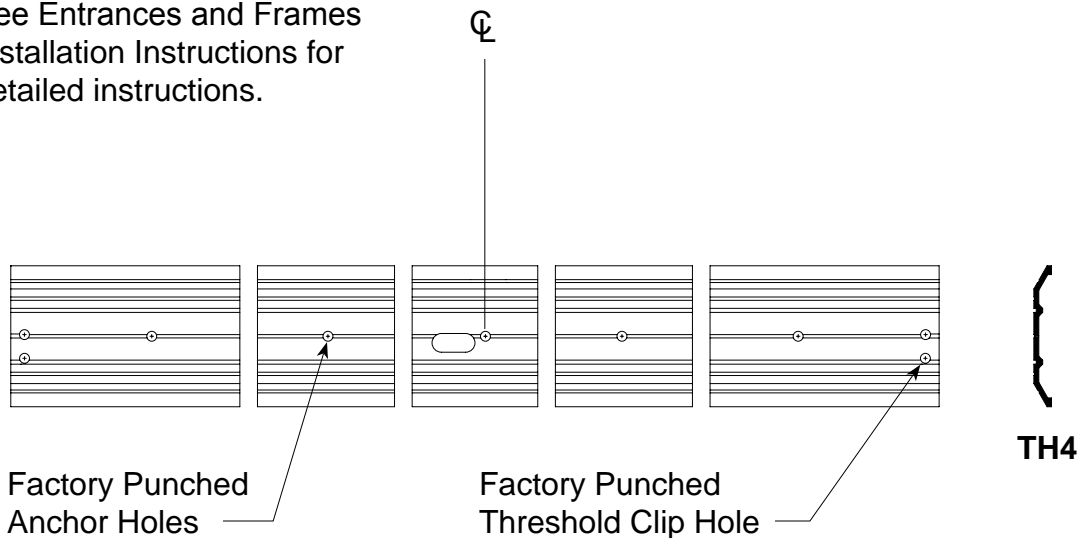
PREPARATION OF DOOR FRAME

All hardware back-up plates are installed in the frame at the factory. Door stops and transom sash are cut to length in the factory. Stock transom frames are fabricated for a vertical frame size of 10' - 5 1/2". If your opening is smaller, cut the verticals members down to the appropriate length. Leave a minimum 1/4" caulk joint at the head. The fabrication for the transom head horizontal should be made using either a drill fixture or punch die set for Series **FL200** framing. (**See Page 7 for hole locations**). Review frame anchor charts for configuration and for substrate to which the frame will be attached. Drill anchor holes into door jamb at wall and **CS104** flat filler. Apply **DOW 795/995** sealant to joint intersections at door header and transom head. Assemble frame with **AS16** spline screws. Use threshold clips as shown on **Page 25** for attaching threshold. Install transom sash if applicable. The frame is now ready for installation.

THRESHOLD FABRICATION

Note:

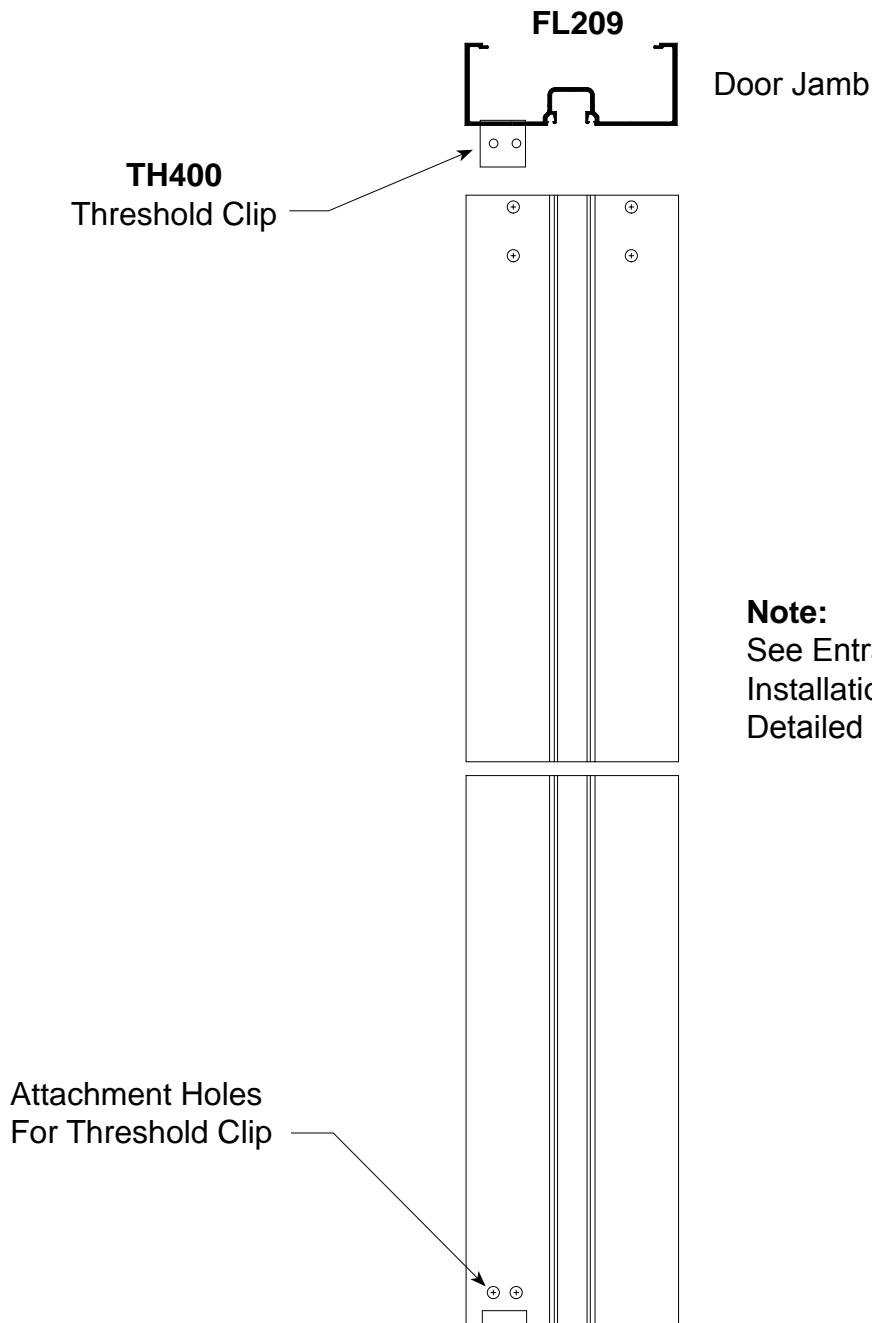
See Entrances and Frames Installation Instructions for detailed instructions.



Threshold For Door Pair. (Butt Hung Shown, Offset Pivot Similar.)

INSTALLATION OF DOOR FRAME

1. Door frame and threshold shall be completely assembled with joints neatly aligned and tight.
2. Door frame shall be installed square and plumb. Measure frame diagonally from corner to corner and shim until the measurements are equal.
3. Level door frame threshold. The door frame is designed to have the jambs extend to floor.
4. Install fasteners through frame and threshold anchor holes and securely anchor to the substrate. Position shims between framing and substrate to prevent members from bowing.
5. Install door stops.
6. You are now ready to install the door.

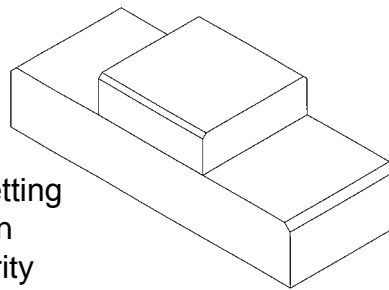


DOOR PREPARATION AND GLAZING

Door glass stops and gaskets are shipped loose.

SB1

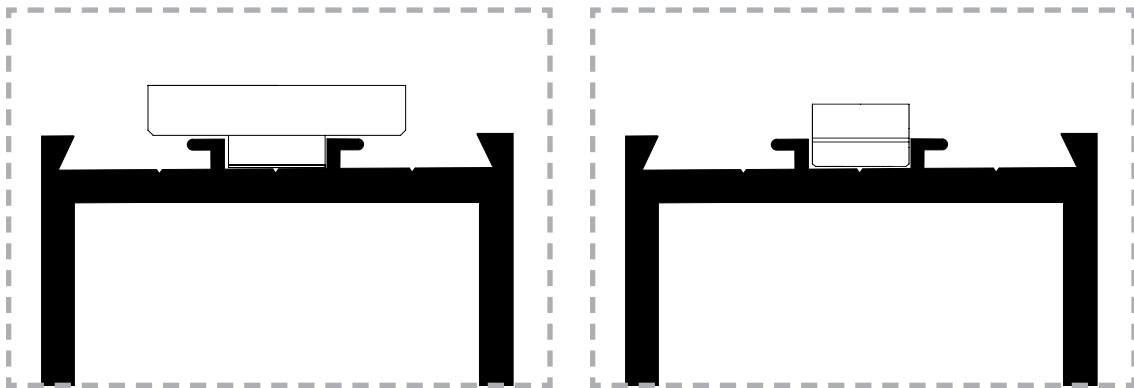
Side Block
& Setting Block



Side Block & Setting Block are Shown Inverted for Clarity

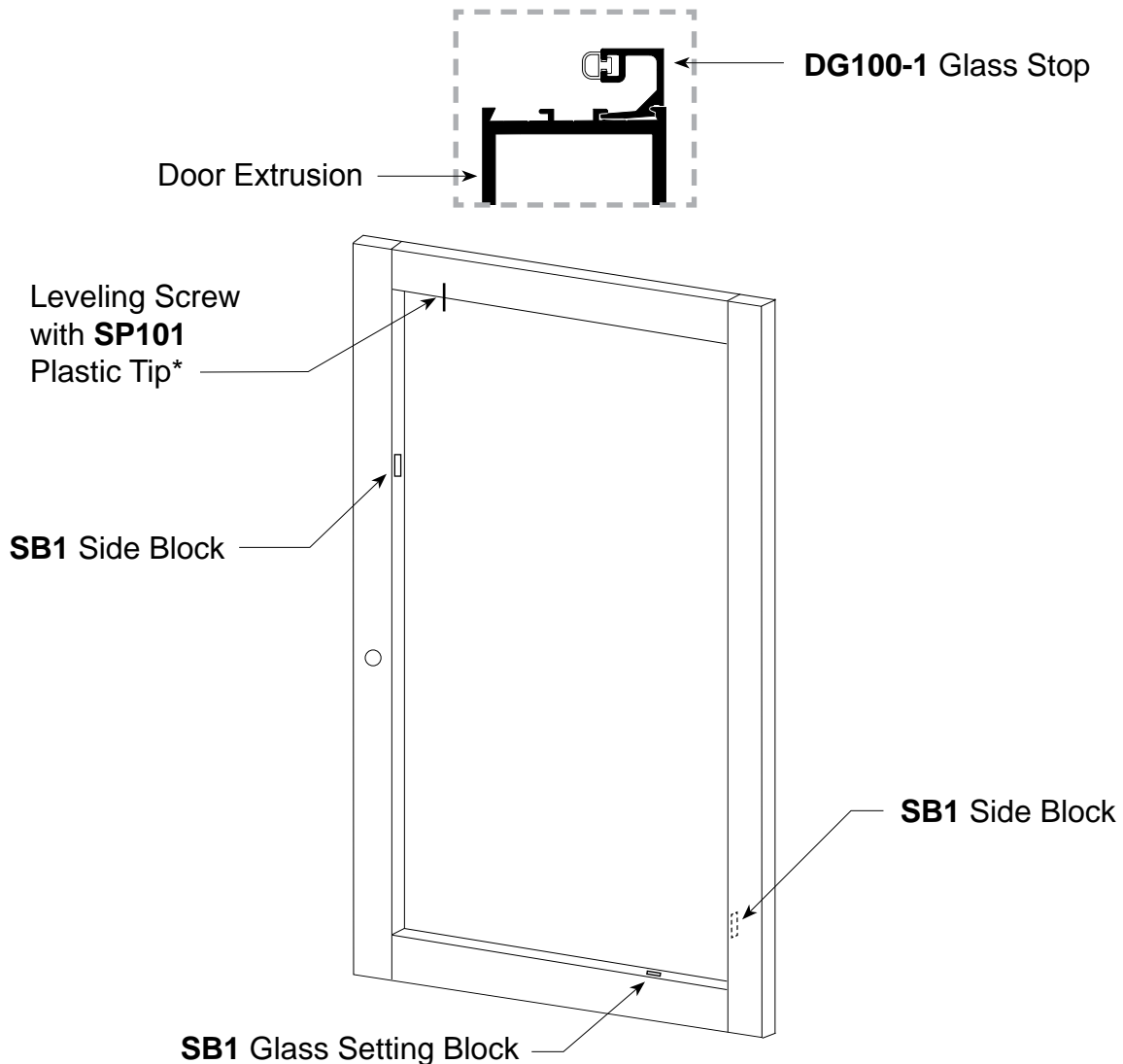
For 1" Glass (Rotate 90°
From 1/4" Position)

For 1/4" Glass



DOOR PREPARATION AND GLAZING

1. Install **DG100-1** glass stops on interior side of door.
2. Center glass in opening on setting blocks and aligned with side blocks.
3. Once the glass is in the correct position, lightly screw the glass adjustment screw down with **SP101** plastic tip attached to the top of the glass.
4. Install horizontal door glass stops.
5. Square door using adjustment screw located in top rail of door as required.



* If 1" glass is being glazed into door, install **SP102** plastic tip over **SP101**

SPECIAL CONDITIONS 90° CORNER

1. Install mitered subsill on one side of corner first and attach with non-structural fastener. Install adjoining subsill to form corner and secure it to structure. Cap seal over all fasteners. Apply bond breaker tape along full depth of mitered joint and seal joint with **DOW 795** silicone.
2. Set left corner panel first. Attach horizontals of right panel to right side of corner with **AS16** fasteners **See Fig. "A"**. Re-seal any damage sealant at mitered joint of subsill. Anchor head and sill to substrate as shown on **Page 16**.
3. The corner trim can be installed after the right panel is completed. **See Fig. "B"**.

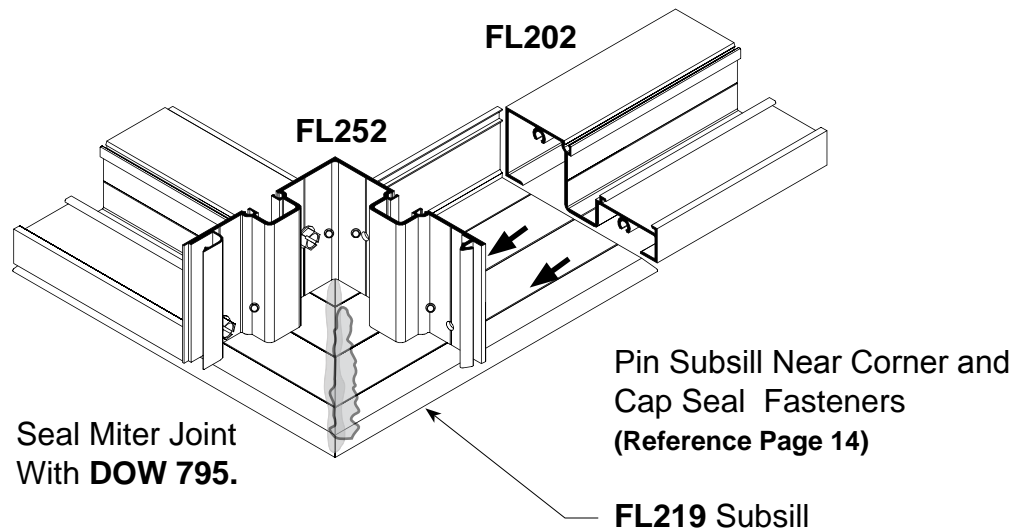


Fig. A.

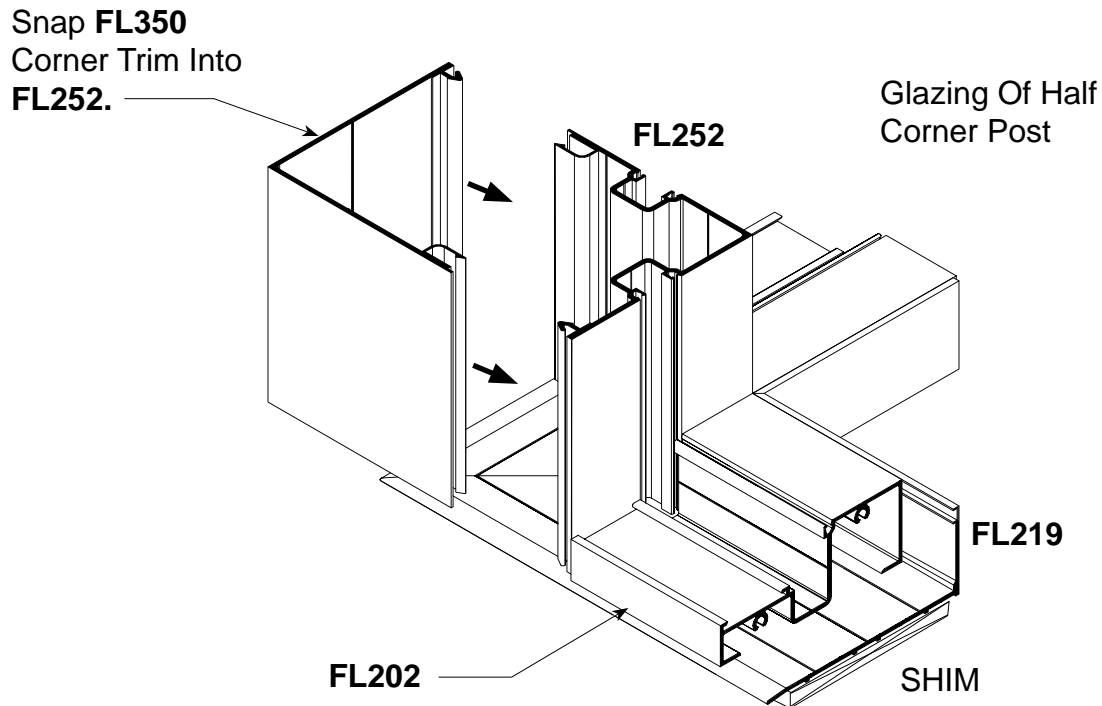
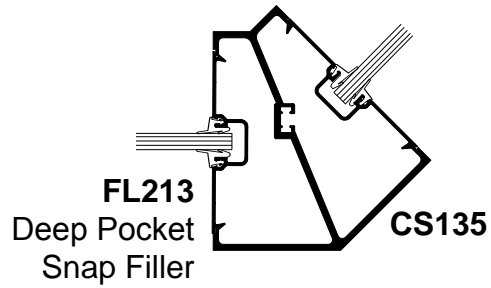


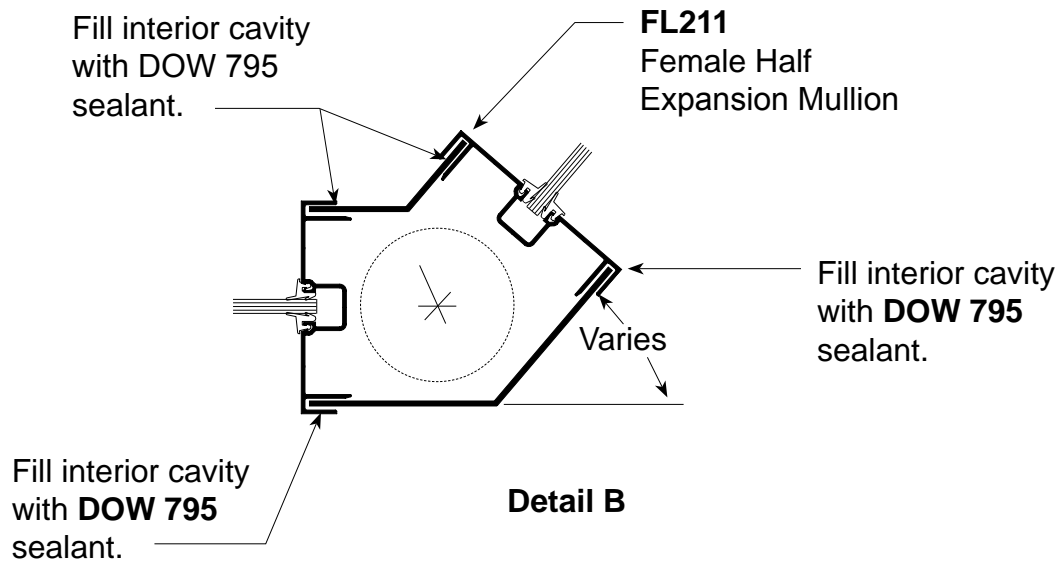
Fig. B.

SPECIAL CONDITIONS 135° INSIDE / OUTSIDE CORNERS



135°/45° Corner
Detail A

BREAK METAL ANGLE CORNERS

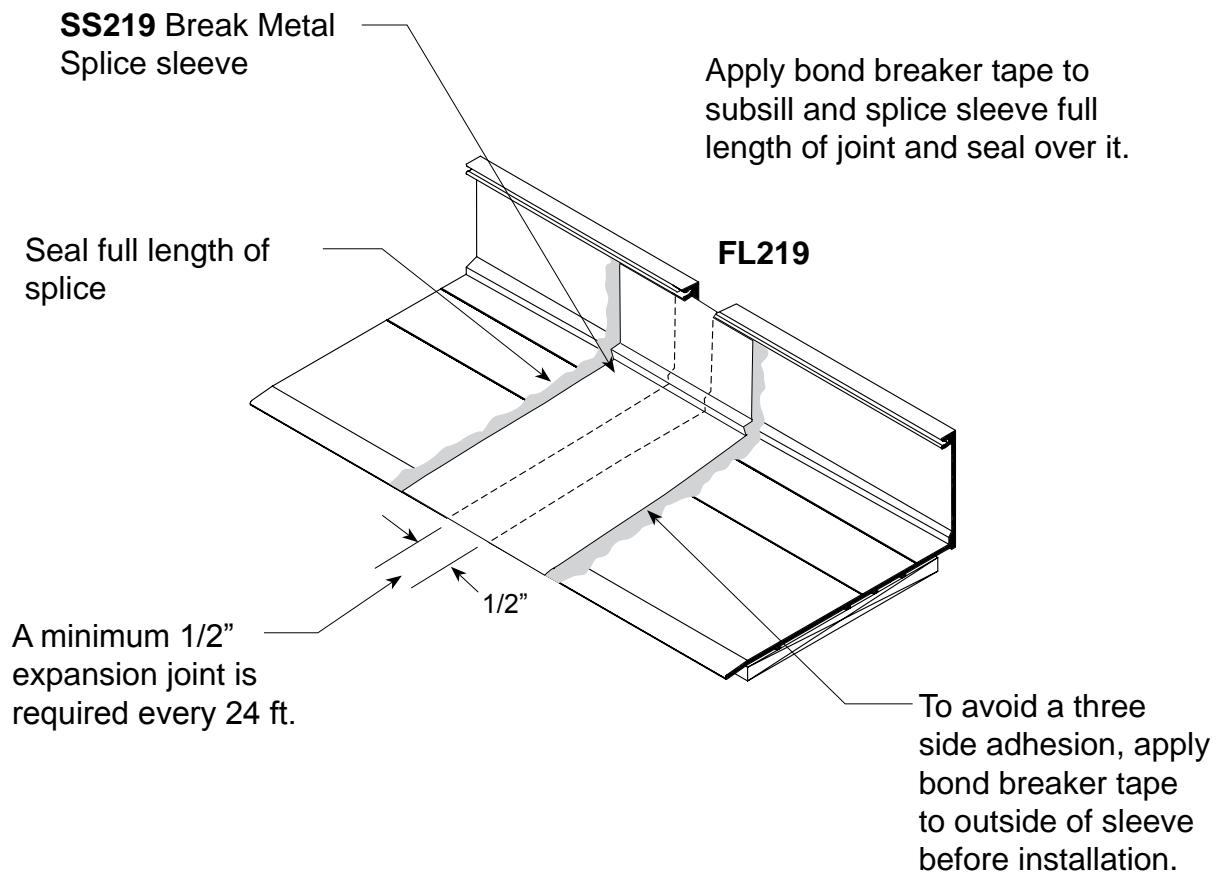


Detail B

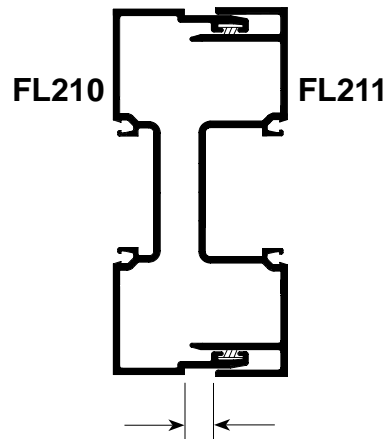
Aluminum brake metal filler plates
at interior and exterior

SPECIAL CONDITIONS SPLICE SLEEVE AT SUBSILL

STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



SPECIAL CONDITIONS EXPANSION MULLIONS



Calculated Gap (See Example Below)

Detail

Calculated gap is determined by job conditions project specifications and temperature at the time of installation. Expansion mullions allow for 3/8" maximum movement.

EXPANSION GAP SIZE FORMULA= Length (") x F° difference x .0000129

L = Length in inches, between center line of expansion mullion in elevation.

F° = Specified Temperature Variation

.0000129 = Thermal Coefficient for Aluminum

FOR EXAMPLE:

Assume 100° temperature variation specified and temperature at job site on day of installation is 60°

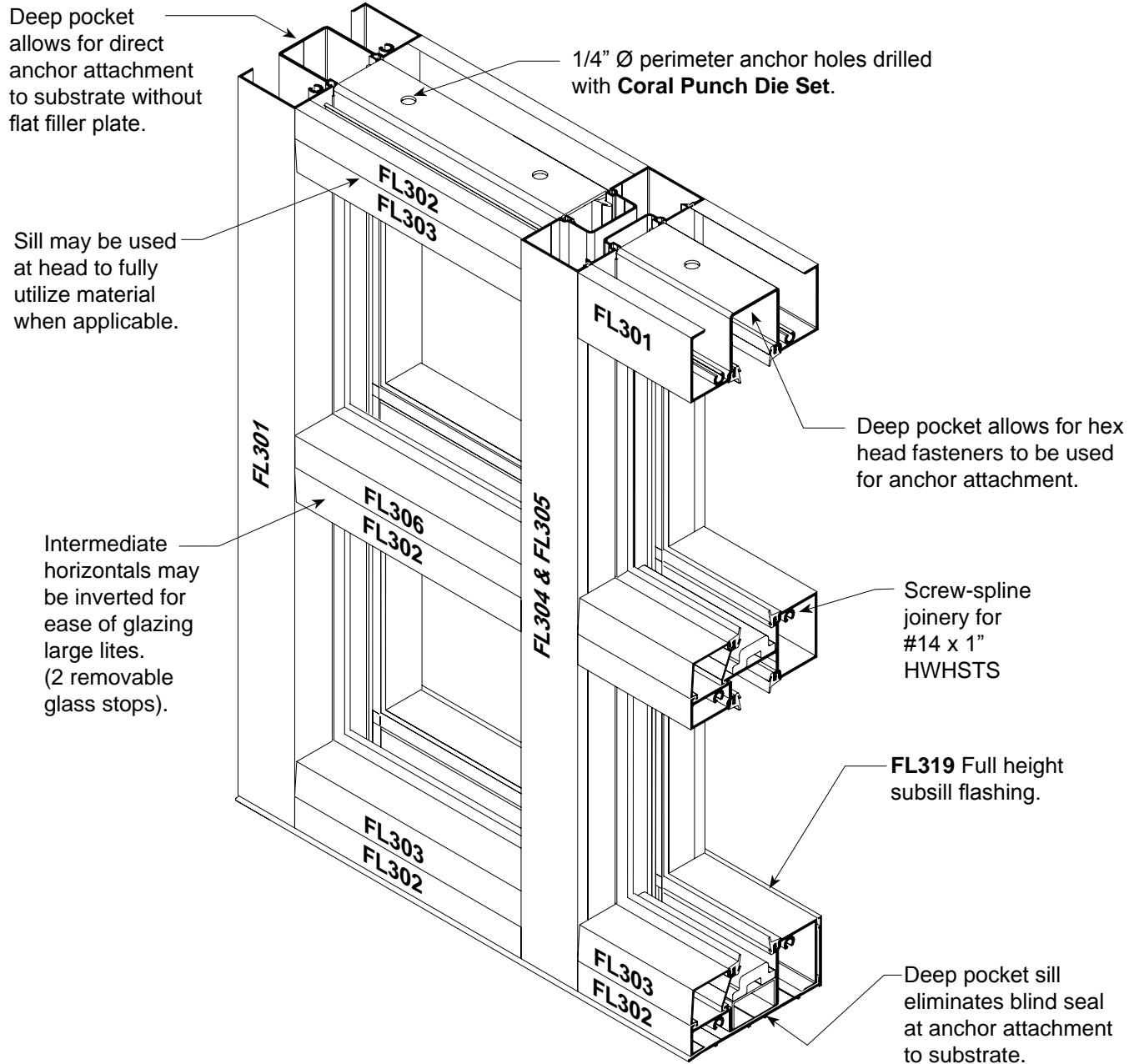
1. 100° - 60° = 40° temperature difference
2. Length of elevation between expansion mullions equals 20'- 0" or 240"
3. 240" x .0000129 x 40° = .124" Therefore, set expansion mullion gap at .124" or 1/8".

FL300

STOREFRONT SYSTEM

INSTALLATION INSTRUCTIONS

2" x 4 1/2" for 1" Glass



These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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INSTALLATION INSTRUCTIONS - General Notes -

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS

- General Notes -

- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be keep dry. (See 13.A.2)
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.

FRAME FABRICATION

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 5/8" allowing 1/8" for subsill and a 1/4" minimum caulk joint at the head and sill.

STEP 2.

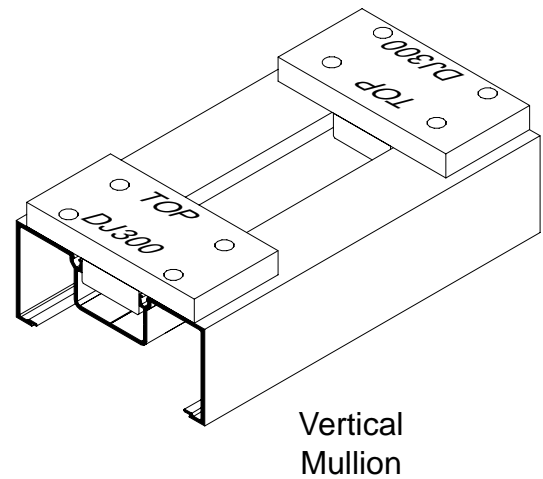
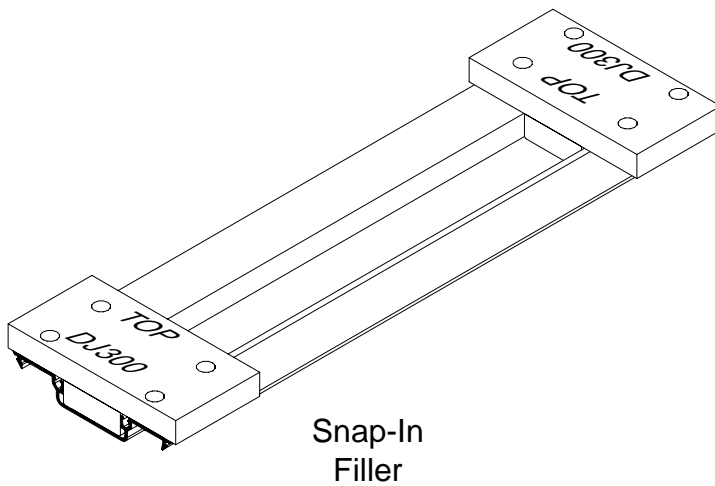
Cut members to size.

- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

FRAME FABRICATION

STEP 3.

Mark location for horizontals on vertical extrusions and drill holes for screw spline. Reference **STEP 4** for correct orientation of drill jig.

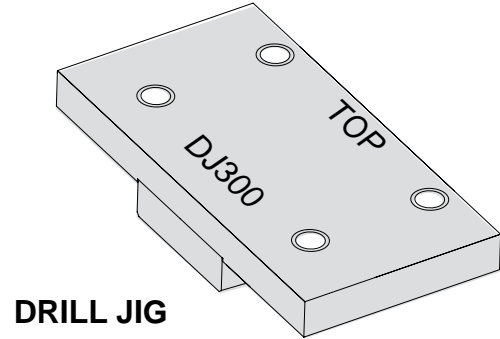
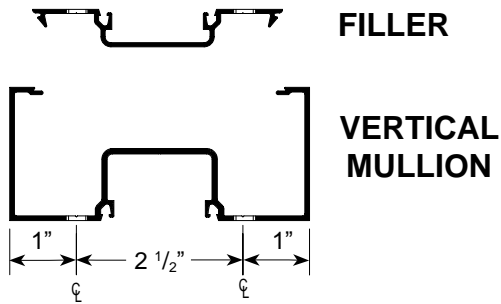


FRAME FABRICATION

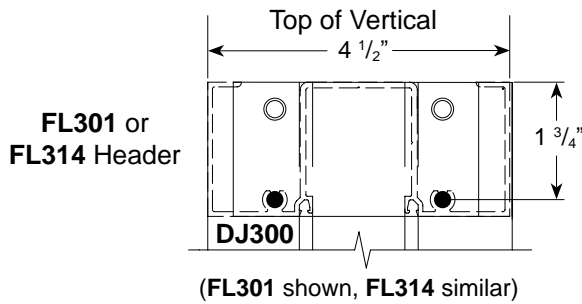
STEP 4.

Drill or punch holes in verticals for attaching horizontals.

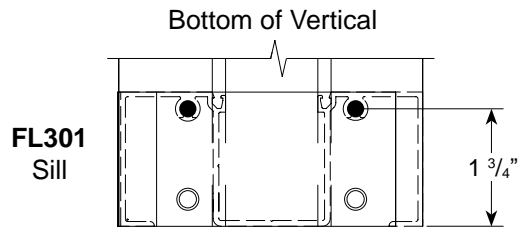
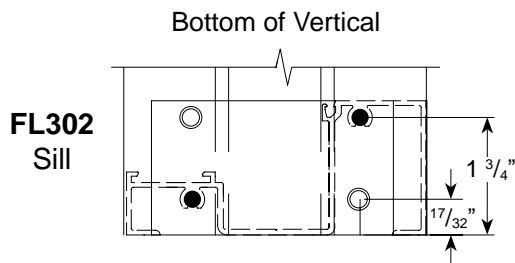
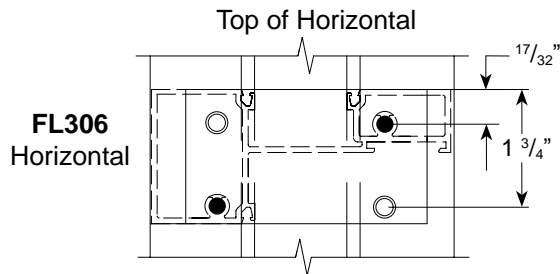
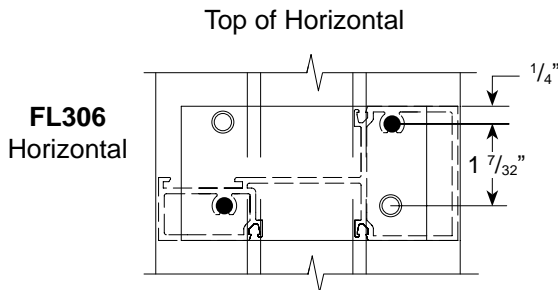
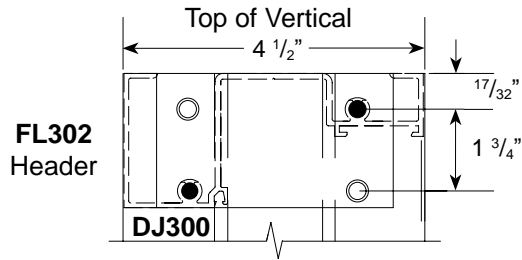
Use Letter "F" (.257 Ø) Drill



EXTERIOR GLAZING



INTERIOR GLAZING



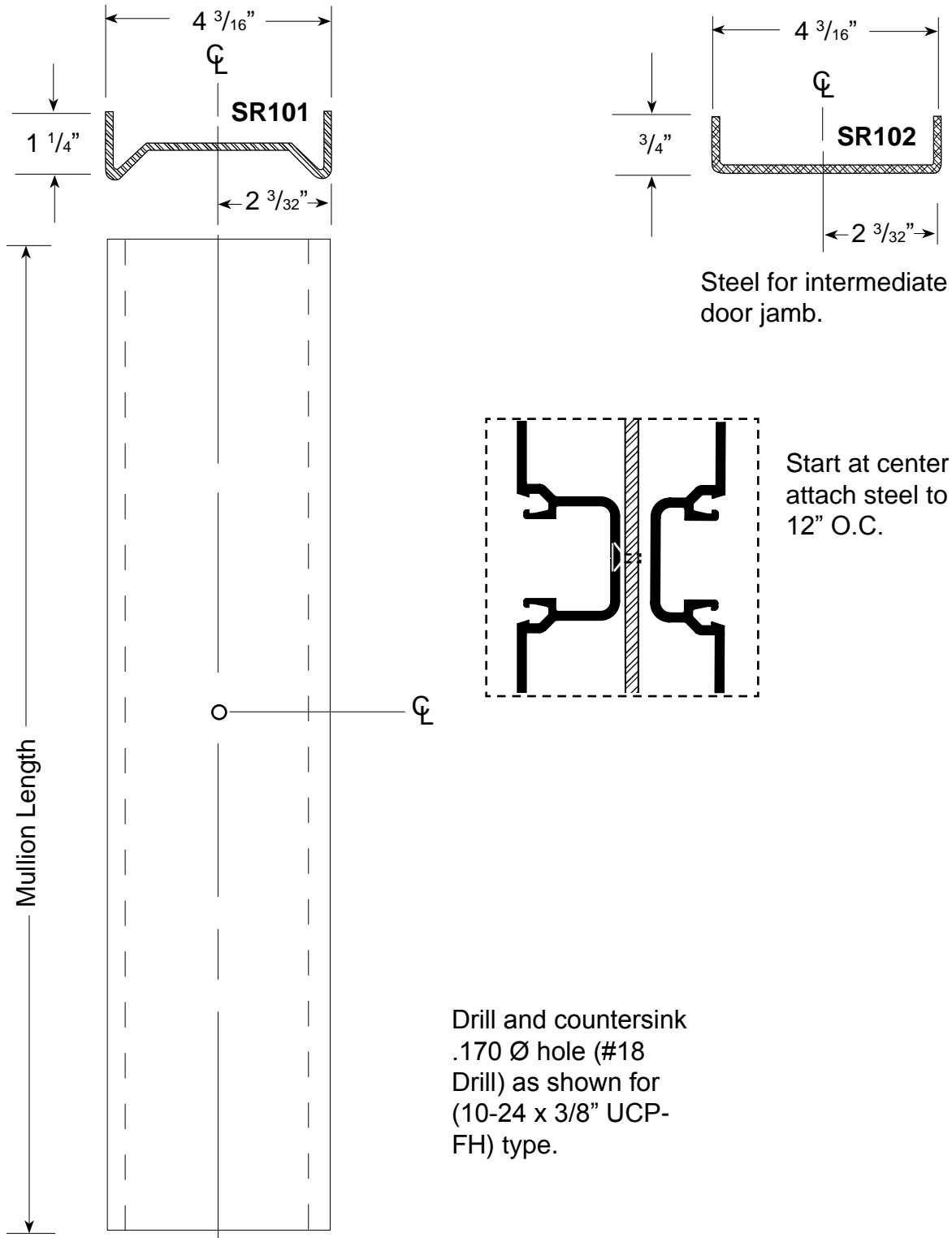
Vertical at door jamb extends to floor

Vertical at door jamb extends to floor

FRAME FABRICATION

STEP 5.

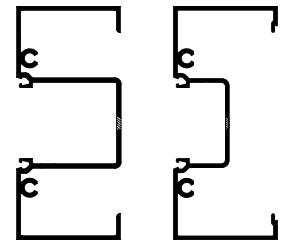
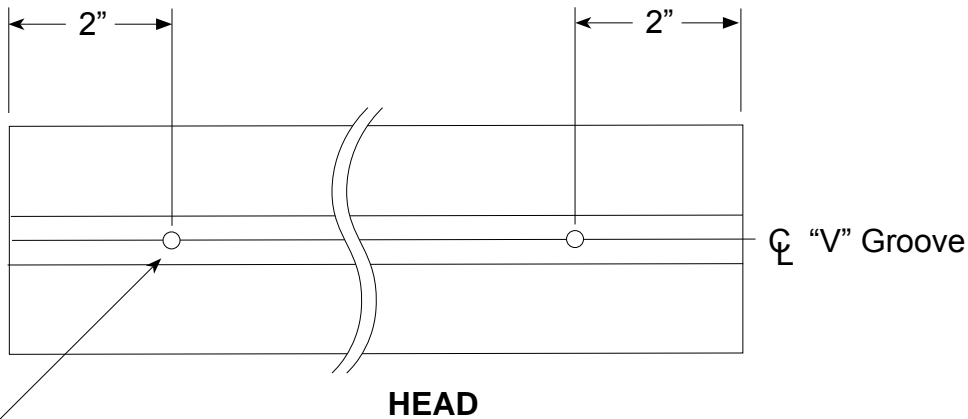
Fabricate steel reinforcement where required.



FRAME FABRICATION

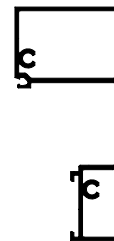
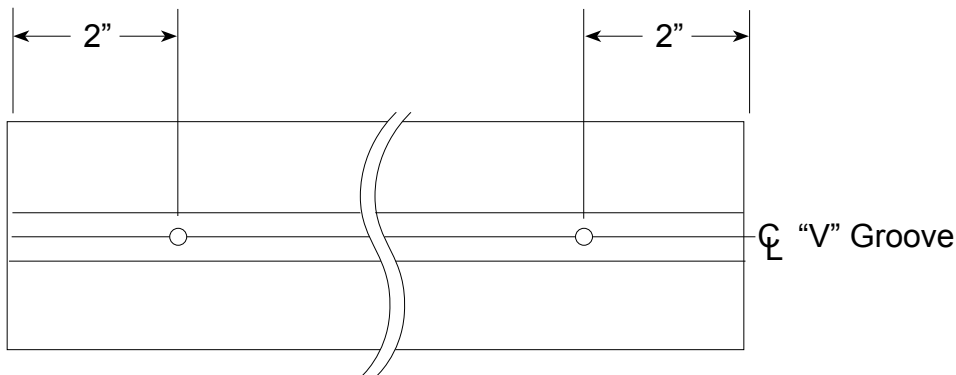
STEP 6.

Fabricate head and sill anchor holes. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end. Each additional fastener hole is located at required minimum spacing between fasteners based on substrate as shown in anchor charts.



Clear hole for 1/4" Ø fastener **FL301**
Drill 1/2" clear hole for 1/4" Ø fastener **FL314**.

Note: **CS104** flat filler plate must be used for attaching **FL314** to substrate.

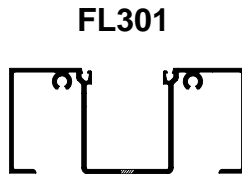


SILL

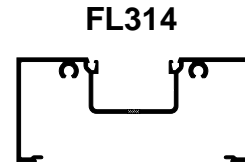
FRAME FABRICATION

STEP 7.

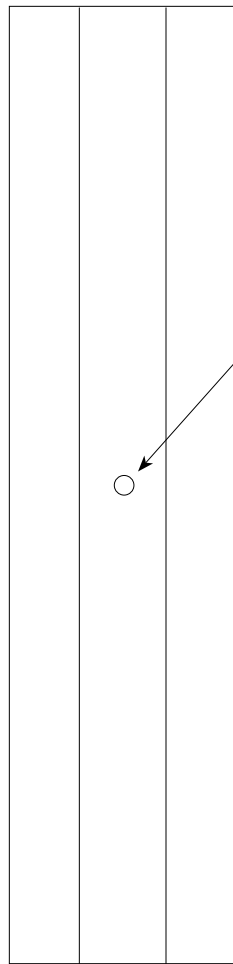
Fabricate wall jamb for anchor holes when required. (Reference Anchor Charts).



or



Note: CS104 flat filler plate must be used for attaching FL314 to substrate.



Clear hole for 1/4" Ø fastener at **FL301**
Drill 1/2" Ø hole for **FL314**.

Note:
Do not locate anchor hole at intersection of intermediate horizontal. Locate hole just above or below horizontal. Check anchor chart for spacing and quantity based on substrate.

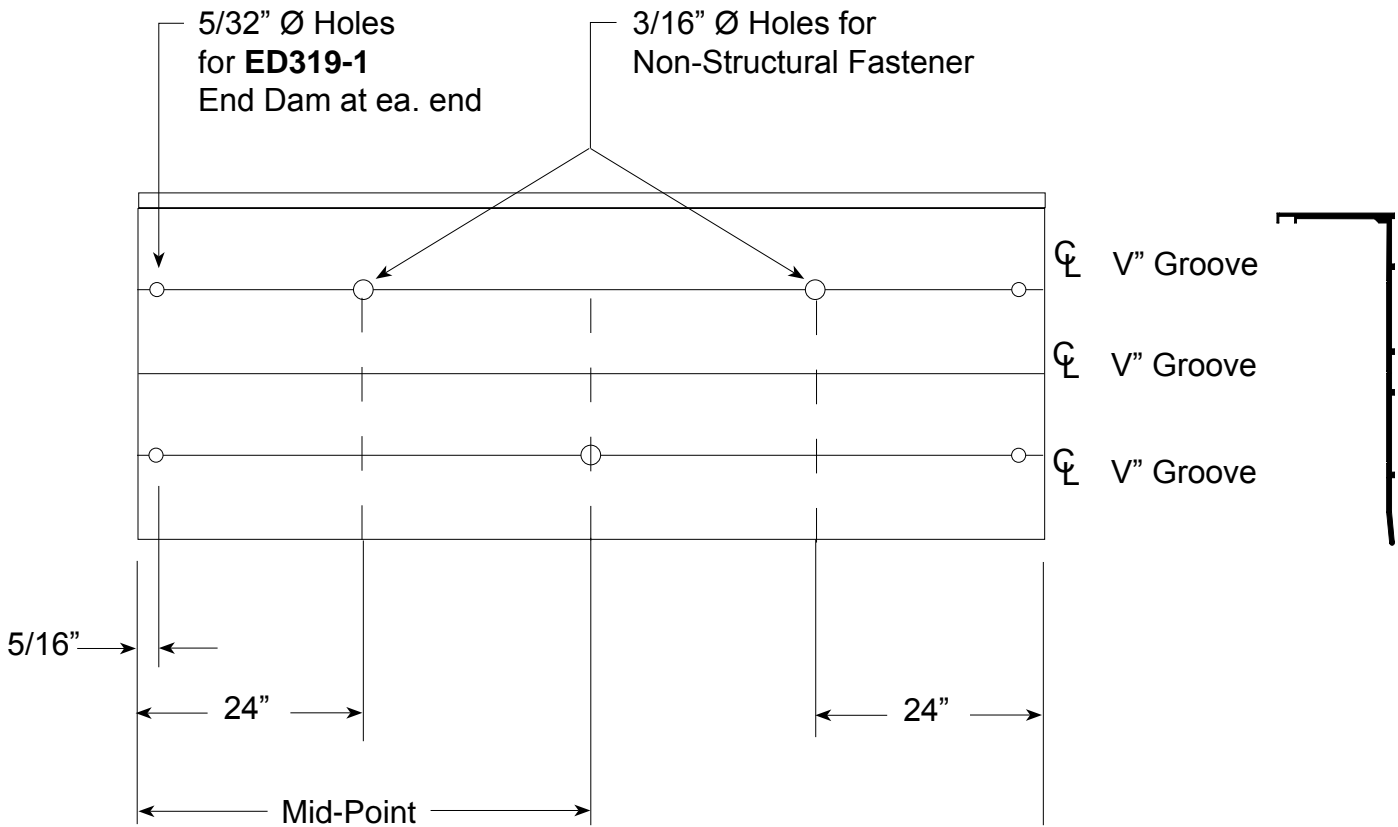
WALL JAMB

FRAME FABRICATION

STEP 8.

Fabricate **FL319** subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for fasteners in subsill are approximate. Use rear or front "V" groove lines for non-structural fasteners.

SUBSILL FLASHING

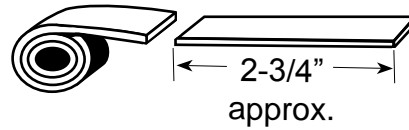


1. Drill 3/16" Ø hole for non-structural fasteners used for attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required to temporarily hold subsill in place until structural fasteners are installed (See **Step 3 Page 17**). Holes may be located on the inside or outside of "V" groove or staggered.
2. Drill two each 5/32" Ø holes at each end (except end abutting a door jamb) for attaching **ED319-1** end dams. Countersink for (#10-24 x 3/8" UCPFH) screw.

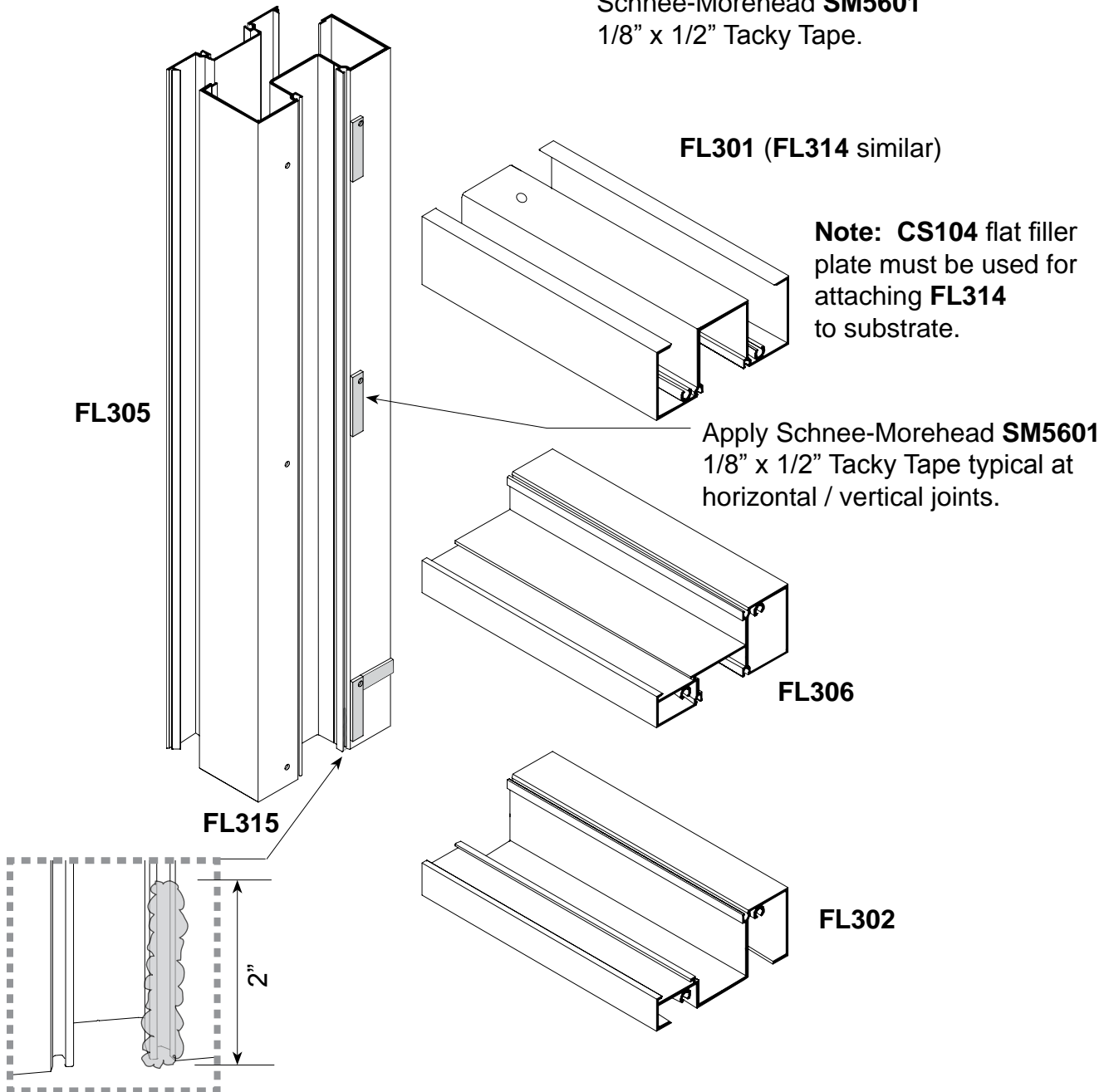
FRAME ASSEMBLY - OUTSIDE GLAZING

STEP 1.

Note:
Shallow glazing pockets
cannot face each other.



Schnee-Morehead **SM5601**
1/8" x 1/2" Tacky Tape.



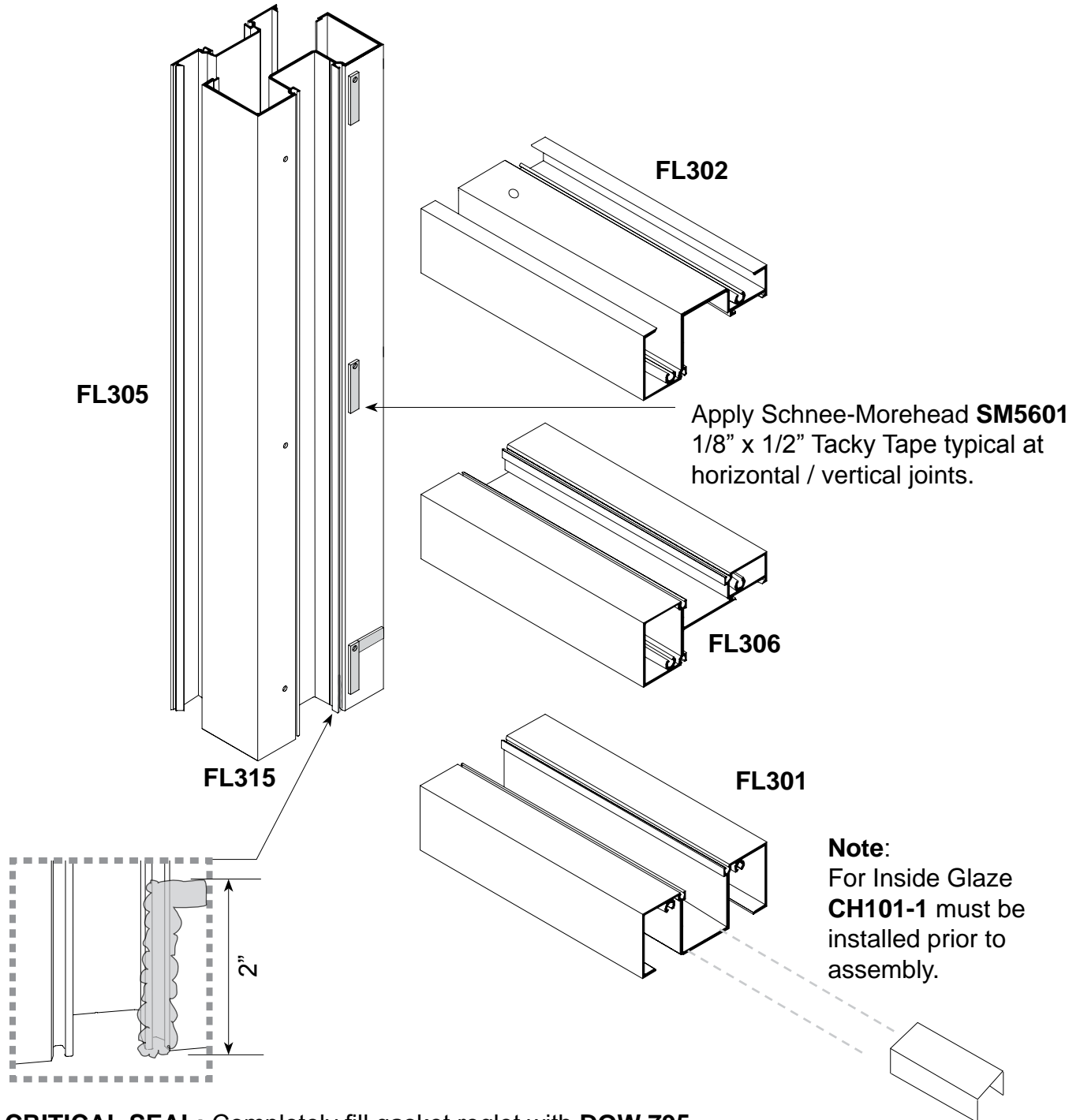
CRITICAL SEAL: Completely fill gasket reglet with **DOW 795** sealant at bottom as shown.
Attach horizontals to verticals using **AS16** (#14 x 1" HHSTS spline screws). See **Page 7** for hole prep locations.

FRAME ASSEMBLY - INSIDE GLAZING

STEP 1.

Note:

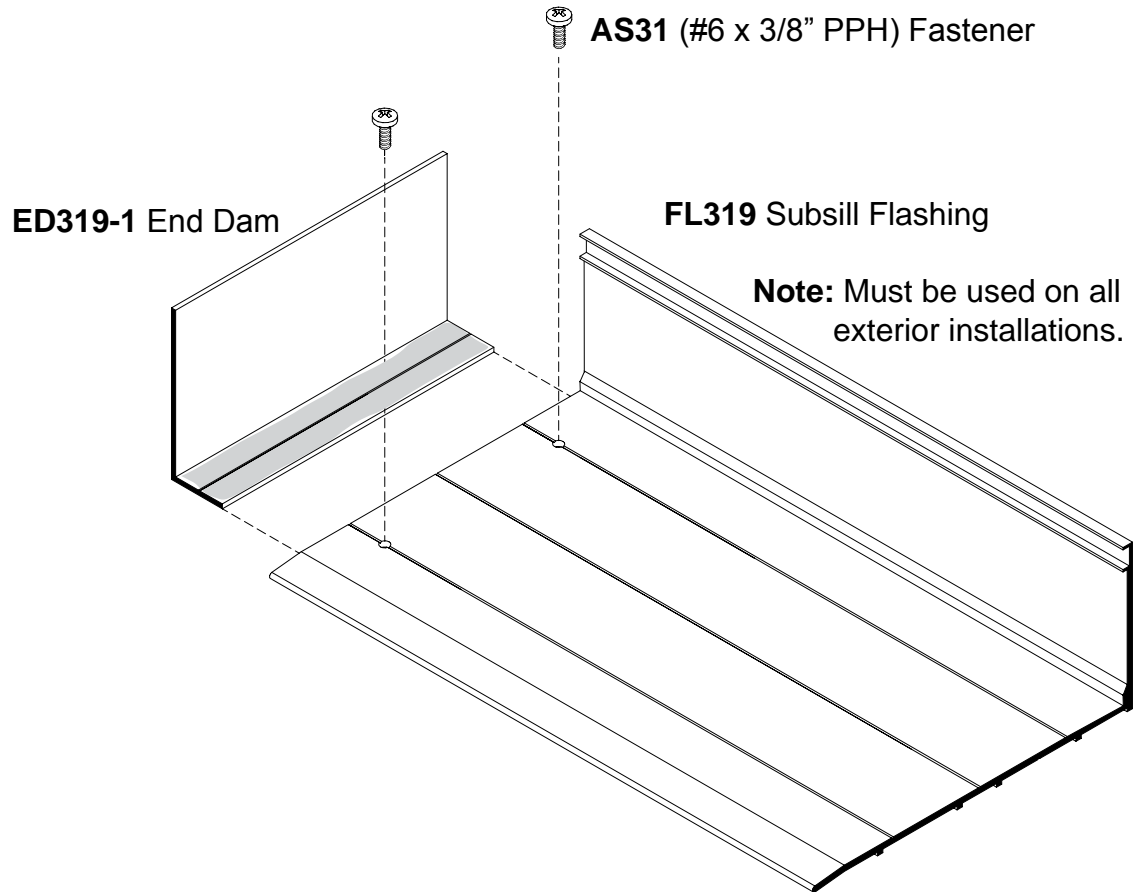
Shallow glazing pockets cannot face each other.



CRITICAL SEAL: Completely fill gasket reglet with **DOW 795** sealant at bottom as shown.
Attach horizontals to verticals using **AS16** (#14 x 1" HHSTS spline screws). See **Page 7** for hole prep locations.

FRAME ASSEMBLY

STEP 2.

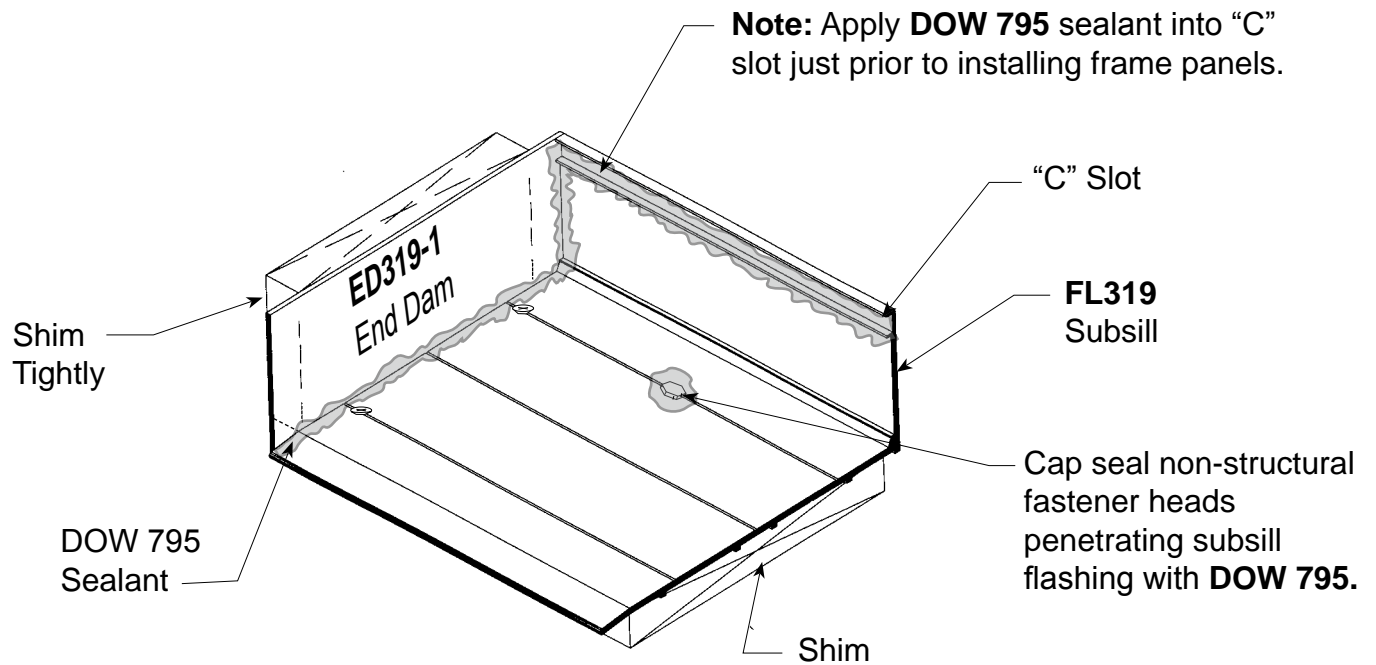


Apply **DOW 795** sealant to end dams as shown and attach to each end of subsill. Match drill holes in subsill to end dam with 5/32" Ø drill and attach as shown.

FRAME INSTALLATION

STEP 1.

Center subsill into opening allowing for a 1/4" minimum shim space at each end to ensure a good caulk joint.



Shim beneath subsill to be a minimum of 1/4". Attach subsill flashing to structure with non-structural fasteners using attachment holes shown on **Page 11**.

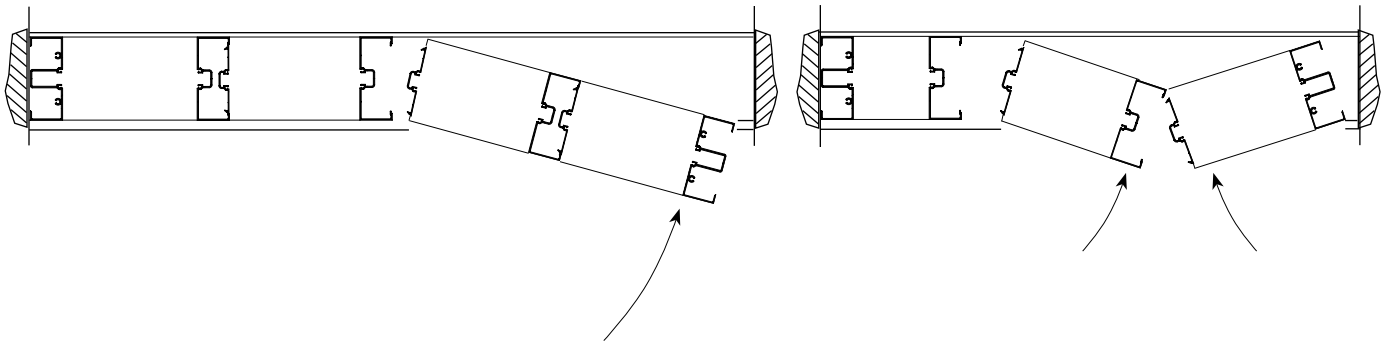
Wedge shims tightly between end dams and jamb substrate on each end prior to installing frame panels. These shims prevent the end dam from dislodging while frame panels are being installed. Completely seal end dams as shown.

Run a continuous bead of **DOW 795** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

FRAME INSTALLATION

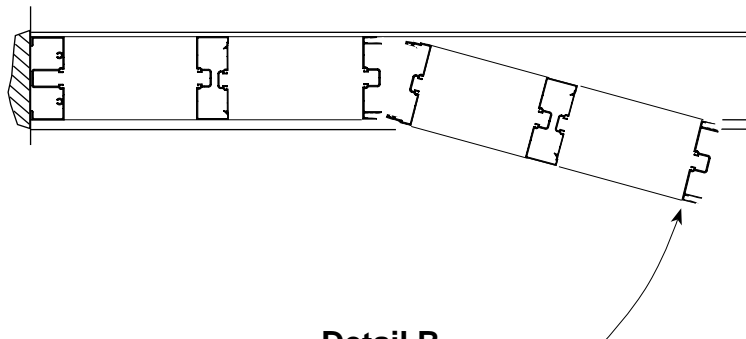
STEP 2.

Screw spline joinery allows for frames to be shop fabricated into panels and shipped to job site assembled. Each panel must have at least one vertical deep pocket for glazing. Arrange panels so that two shallow pockets never face each other. **Reference Page 12 (FRAME ASSEMBLY).**



Detail A
Typical Elevations

Expansion mullions should be used in elevations exceeding 24'-0" in width to allow for thermal movement. See **Page 31** for formula.

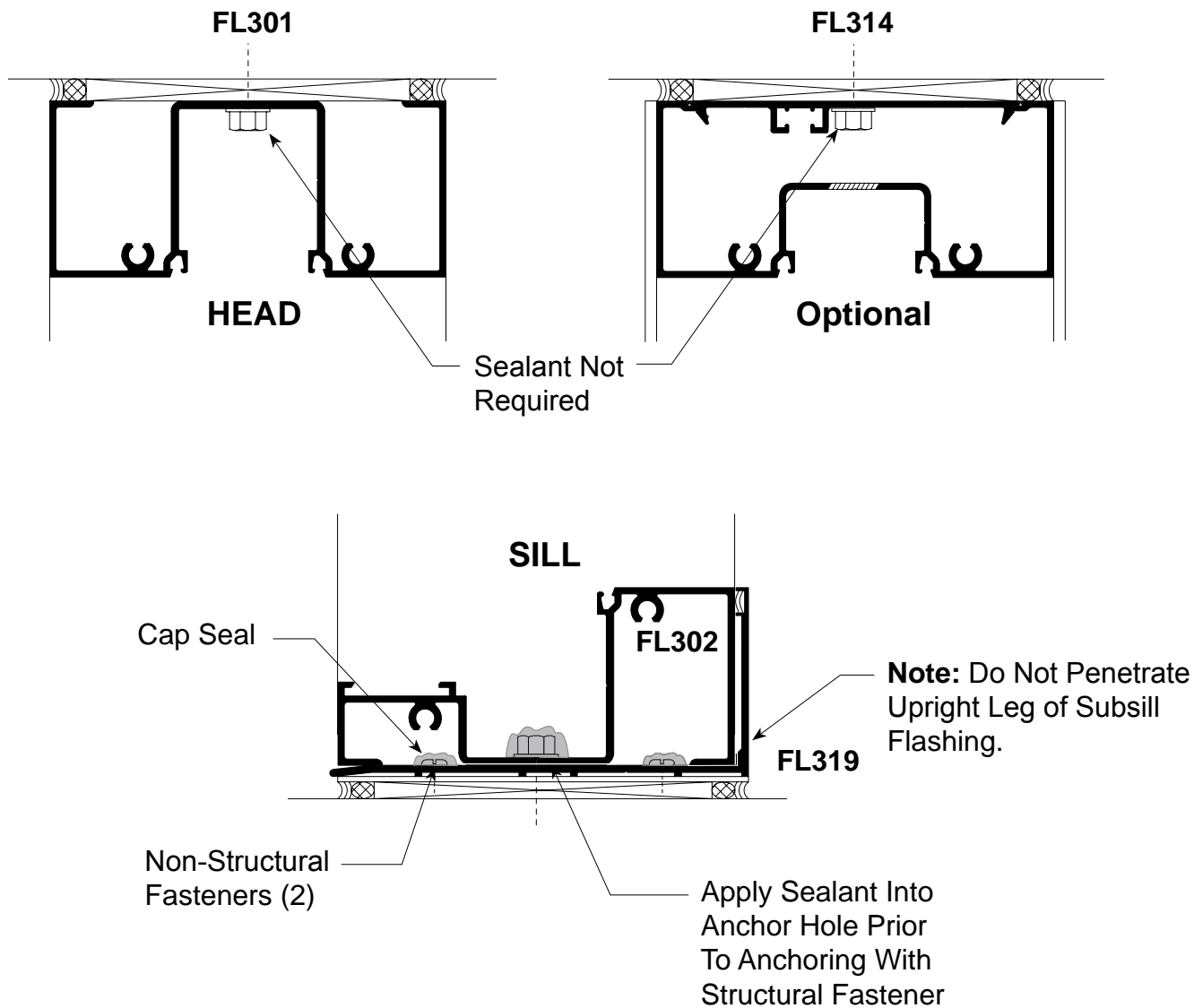


Detail B
Elevations with Expansion Mullions

FRAME INSTALLATION

STEP 3.

After all panels are installed, shim beneath subsill at fastener location. Match drill holes through sill into substrate. Remove dust from hole and apply **DOW 795** sealant as shown below into anchor holes prior to anchoring with structural fasteners. Cap seal fastener heads with **DOW 795**. Match drill holes through head into substrate, anchor and shim as shown.



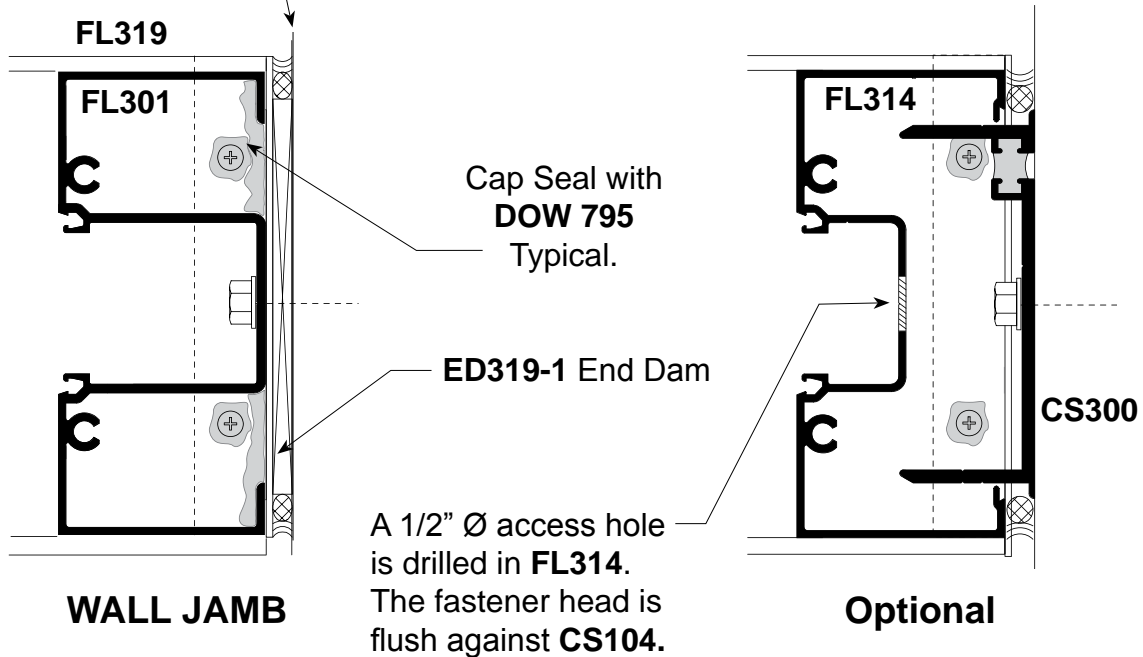
FRAME INSTALLATION

STEP 4.

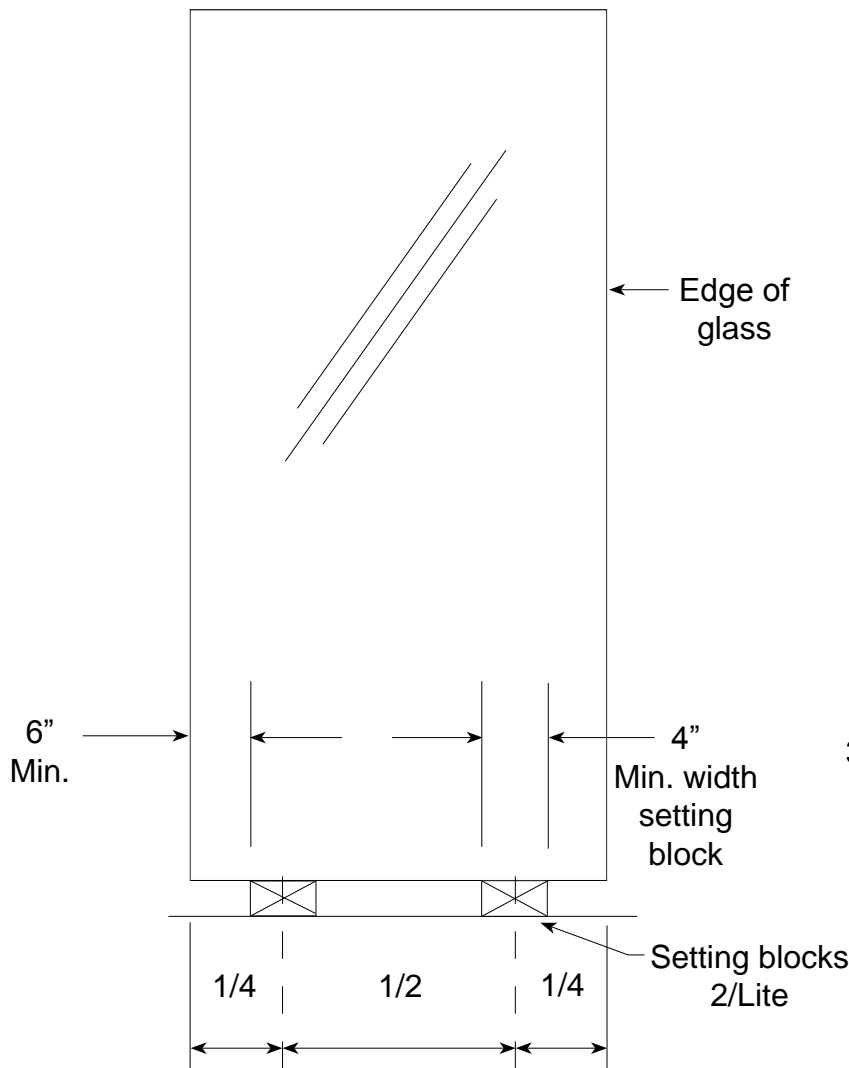
In high wind load areas, it may be necessary to attach jamb to substrate as shown. When required, match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads with **DOW 795**.

When all frames are secured to the opening, then completely seal exterior and interior perimeter with a continuous bead of **DOW 795** sealant.

Completely Seal
Exterior & Interior
Perimeter of Frame.



PREPARATION OF FRAME OPENING FOR GLASS



1. Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

2. SETTING BLOCKS

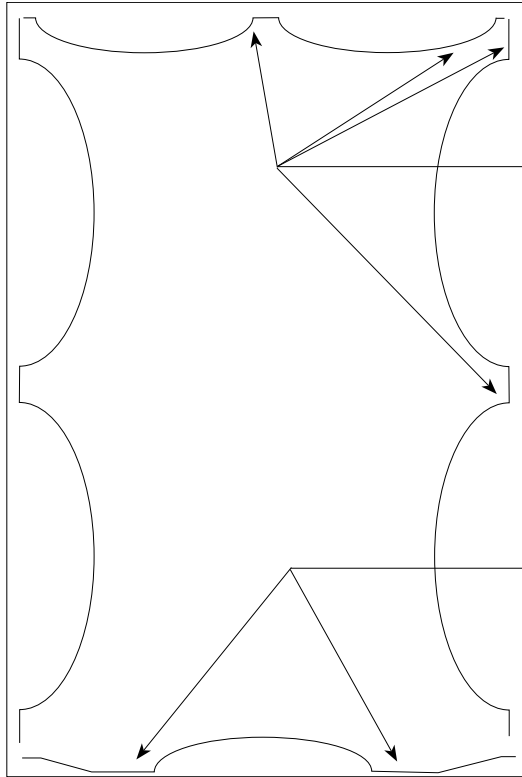
Glass should be set on two identical setting blocks having a Shore A Durometer of 85 + or -5. The preferred location is at the 1/4 points.

If the 1/4 point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block **CANNOT** be closer than 6" to the corner of the glass.

3. DEFLECTION

The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check dead load charts for proper setting block locations.

INSTALLATION OF TOP LOAD GLAZING GASKETS



Detail A

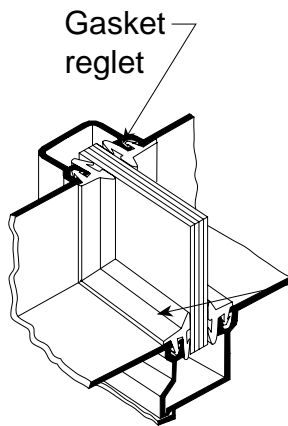
Start jamb and head gaskets at corners and center.

1. Cut gaskets a minimum of 3/16" longer per foot than aluminum extrusion.

2. Do not stretch gasket to make them fit.

Start gaskets at setting blocks.

It is very important that gaskets are installed correctly as shown in **Detail "A"**, to prevent shrinkage at corners.



Seal corners of Gaskets.

3. Pull gaskets back 2" in both directions at corner intersections & seal with **DOW 795/995** silicone. This should be done on interior & exterior for best performance.

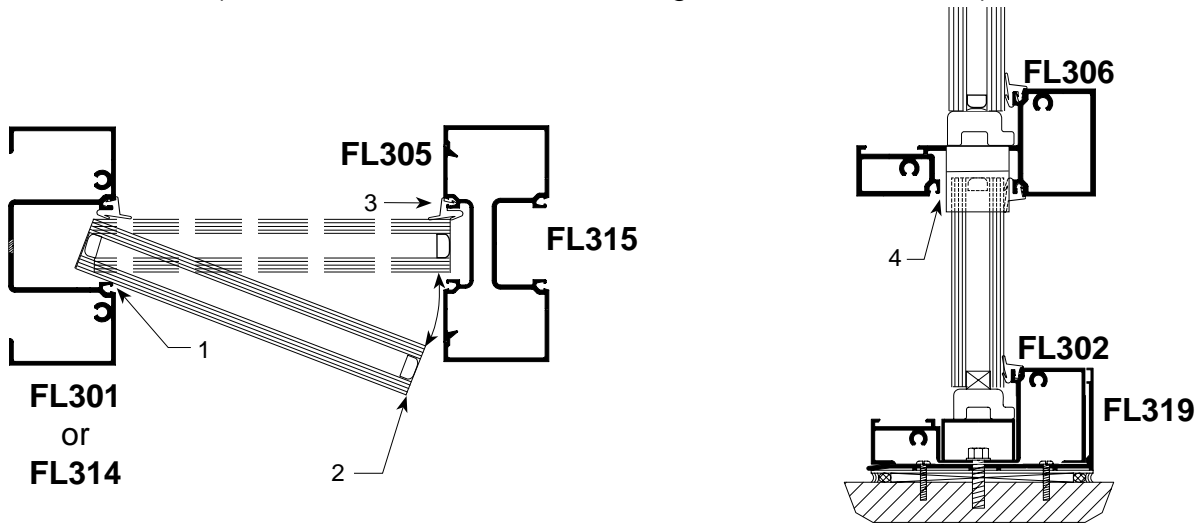
EXTERIOR GLAZING

GLASS SIZES*

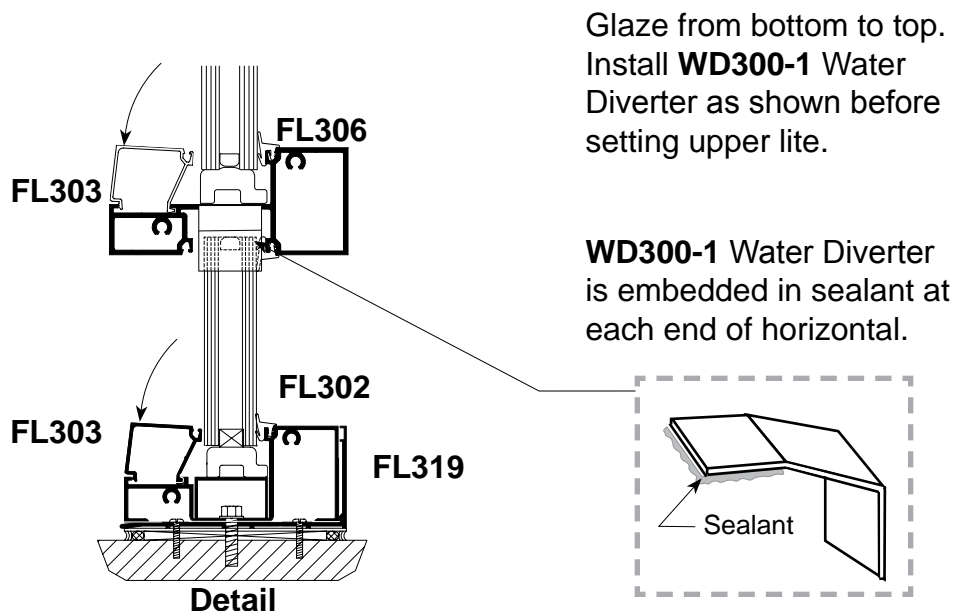
GLASS SIZE = DAYLIGHT OPENING + 7/8"

Consult glass manufacturer for glass tolerance before ordering glass.

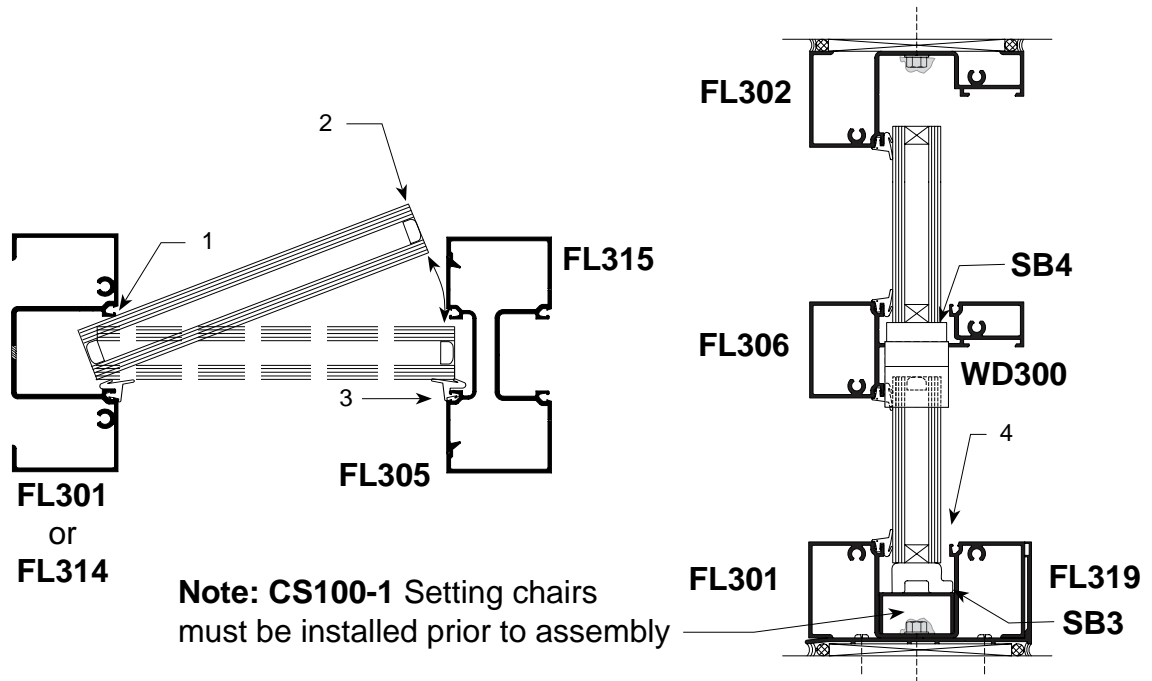
* (See door frame instructions for glass size at transom.)



1. Install interior gasket. Vertical gasket runs through. **Reference Pages 19 & 20.**
2. Set glass in place following the four step procedure shown above. Center glass in the opening, making sure proper glass penetration is achieved. Rest glass on setting blocks.
3. Press glass against installed gaskets and snap-in **FL303** Glass Stop as shown below.
4. Install **NG1** exterior gaskets as shown on **Page 20.**



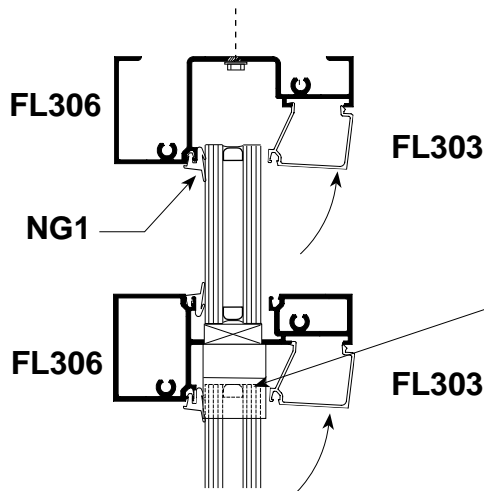
INTERIOR GLAZING



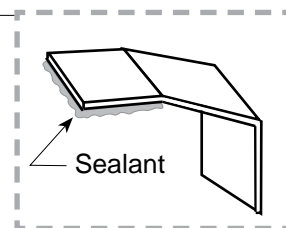
Note: CS100-1 Setting chairs must be installed prior to assembly

1. Install exterior gaskets. Vertical gasket runs through. **Reference Pages 19 & 20.**
2. Check deadload charts and shop drawings for correct setting block locations for intermediate horizontals. Position **SB4** setting blocks in horizontal and **SB3** sill members. Rest glass on setting blocks and press glass against installed gaskets.
3. **SEE BELOW.** Center glass into opening following the four step procedure shown above taking care not to disturb exterior gasket. Rest glass on setting blocks.
4. Press glass against installed gaskets snap-in **FL303** Glass Stop as shown below.
5. Install **NG1** interior gaskets as shown on **Page 20.**

Glaze from bottom to top. Install **WD300-1** Water Diverter as shown before setting upper lite.

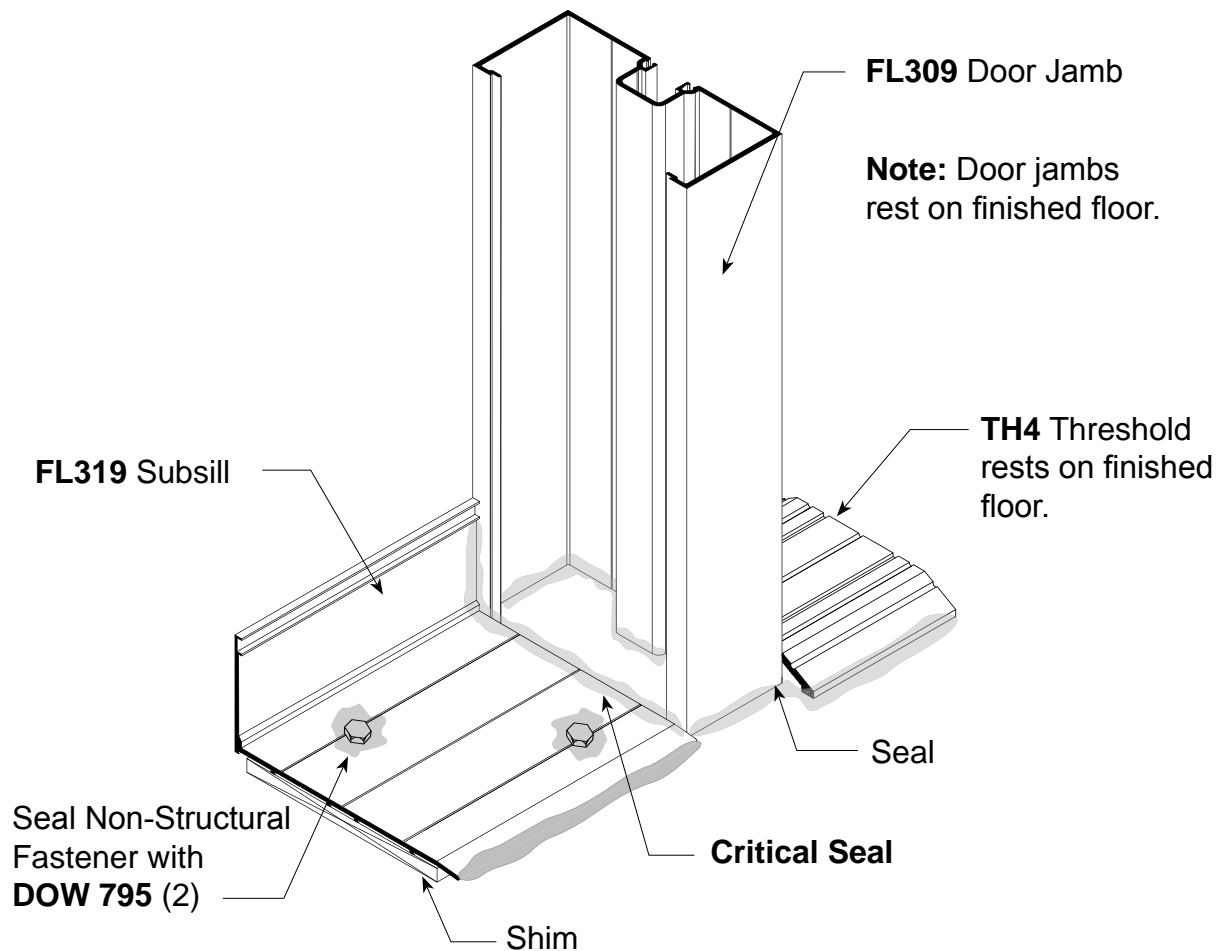


WD300-1 Water Diverter is embedded in sealant at each end of horizontal.



ENTRANCE DOOR FRAME INSTALLATION WITH SUBSILL FOR SIDELIGHTS

Where entrance doors occur, install entrance door frames first.
Subsill butts against door jamb.
The subsill abutting the door jamb does not require an end dam.



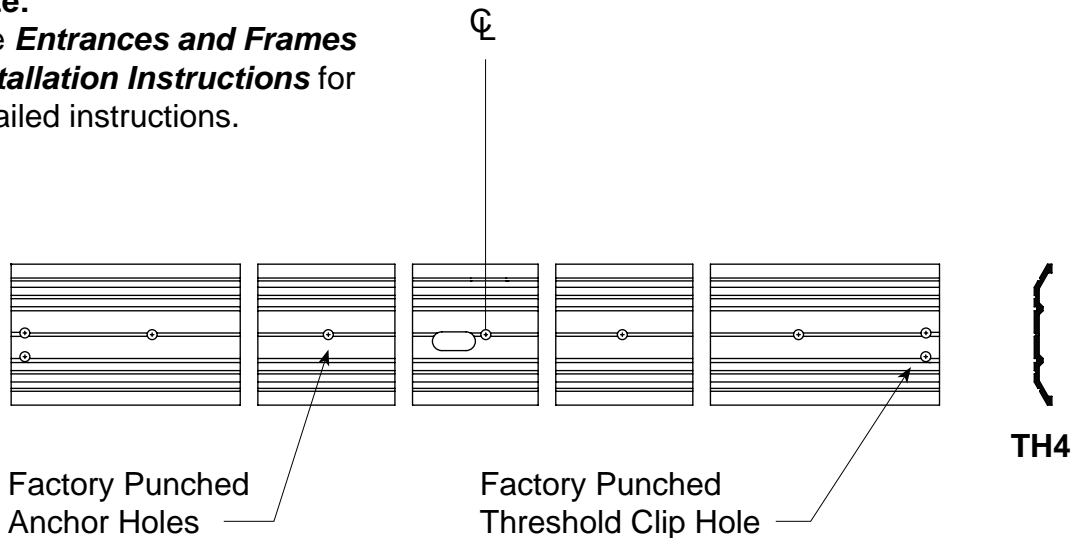
Note: Subsill perimeter sealant is applied after frame panels have been installed and anchored.

PREPARATION OF DOOR FRAME

All hardware back-up plates are installed in the frame at the factory. Door stops and transom sash are cut to length in the factory. Stock transom frames are fabricated for a vertical frame size of 10' - 5 1/2". If your opening is smaller, cut the verticals members down to the appropriate length. Leave a minimum 1/4" caulk joint at the head. The fabrication for the transom head horizontal should be made using either a drill fixture or punch die set for Series **FL300** framing. (See **Page 7 for hole locations**). Review frame anchor charts for configuration and for substrate to which the frame will be attached. Drill anchor holes into door jamb at wall and **CS104** flat filler. Apply **DOW 795/995** sealant to joint intersections at door header and transom head. Assemble frame with **AS16** spline screws. Use threshold clips as shown on **Page 25** for attaching threshold. Install transom sash if applicable. The frame is now ready for installation.

THRESHOLD FABRICATION

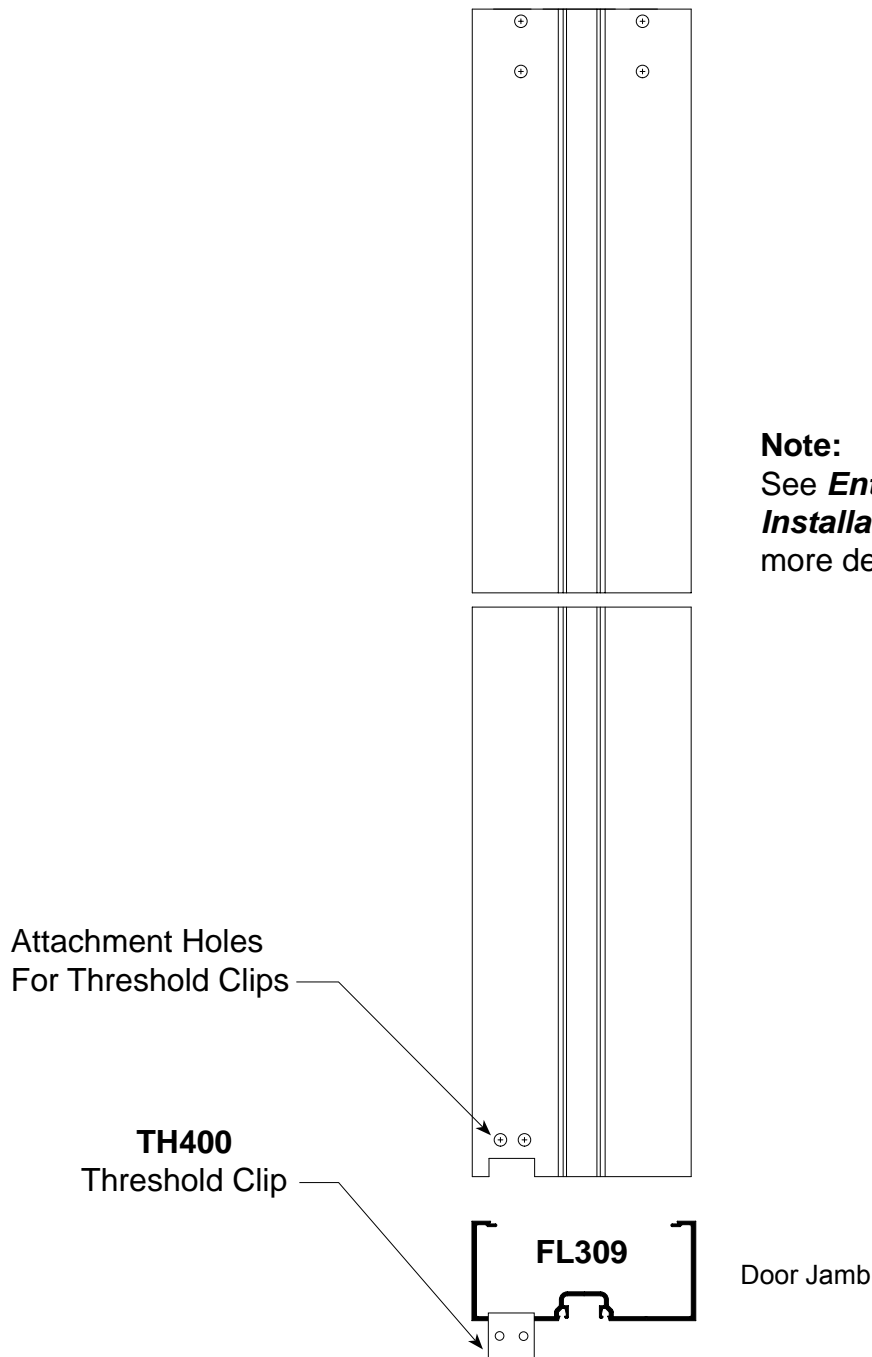
Note:
See *Entrances and Frames Installation Instructions* for detailed instructions.



Threshold For Door Pair. (Butt Hung Shown, Offset Pivot Similar.)

INSTALLATION OF DOOR FRAME

1. Door frame and threshold shall be completely assembled with joints neatly aligned and tight.
2. Door frame shall be installed square and plumb. Measure frame diagonally from corner to corner and shim until the measurements are equal.
3. Level door frame threshold. The door frame is designed to have the jambs extend to floor.
4. Install fasteners through frame and threshold anchor holes and securely anchor to the substrate. Position shims between framing and substrate to prevent members from bowing.
5. Install door stops.
6. You are now ready to install the door.

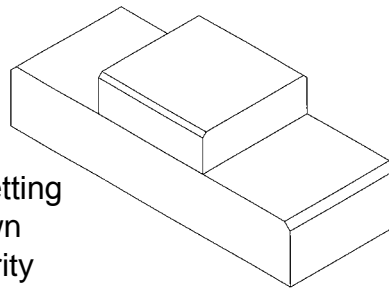


DOOR PREPARATION AND GLAZING

Door glass stops and gaskets are shipped loose.

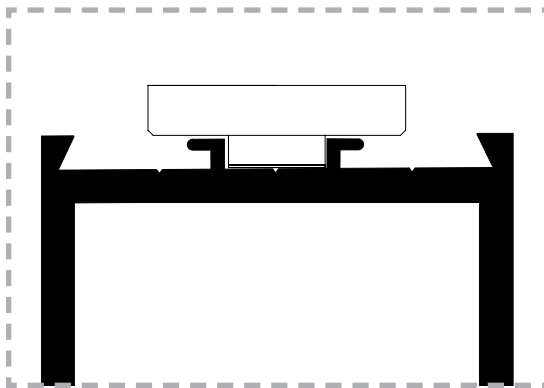
SB1

Side Block
& Setting Block

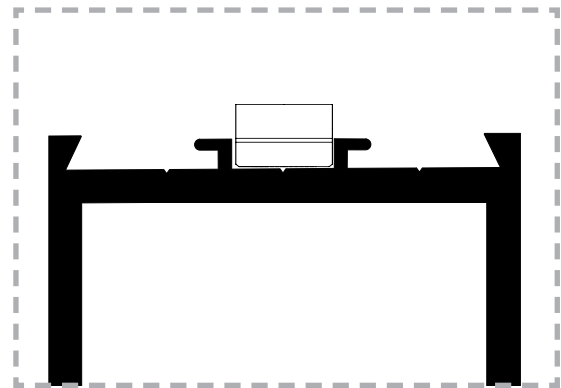


Side Block & Setting Block are Shown Inverted for Clarity

For 1" Glass (Rotate 90°
From 1/4" Position)

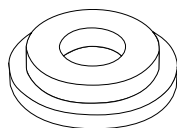
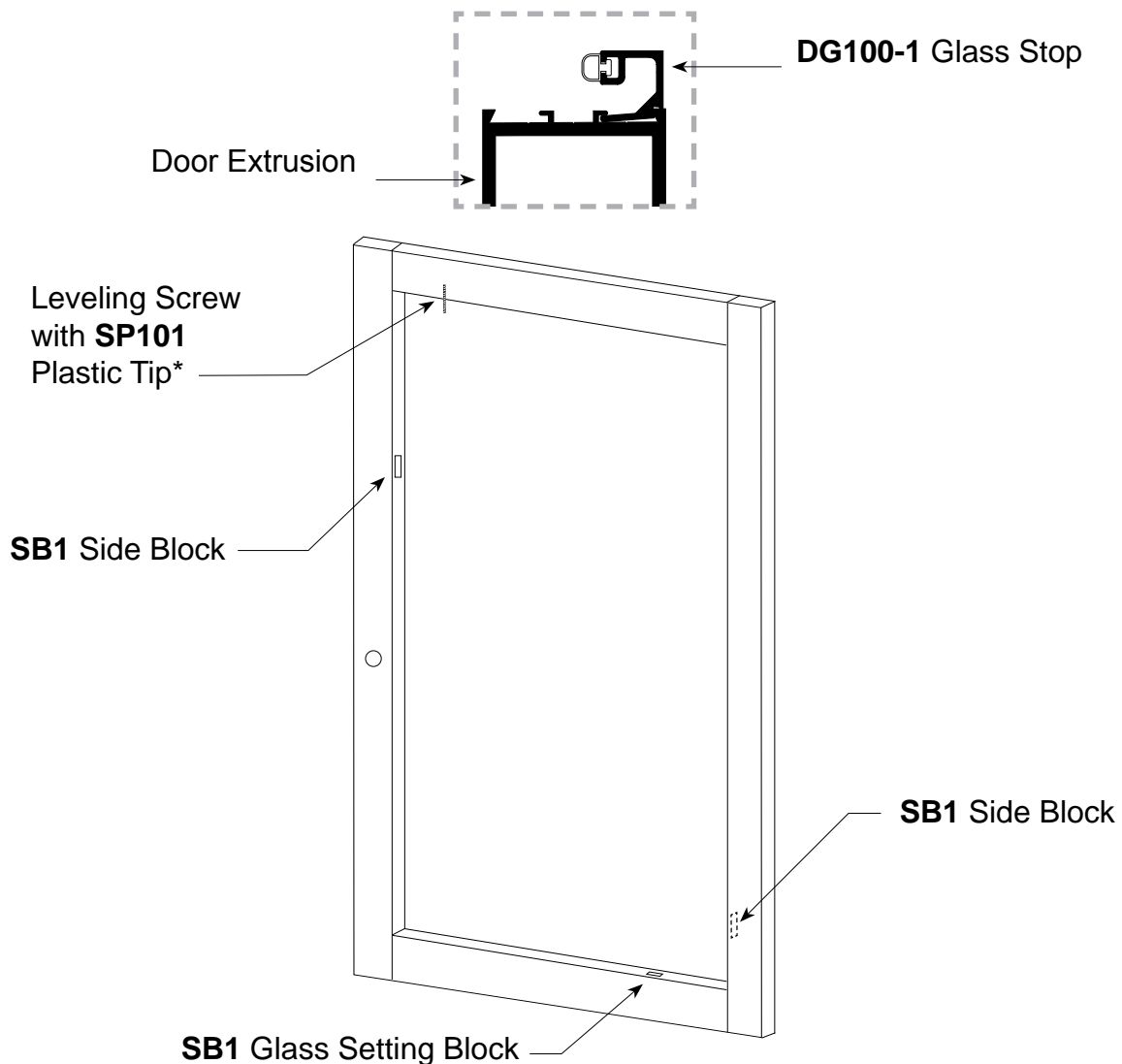


For 1/4" Glass



DOOR PREPARATION AND GLAZING

1. Install **DG100-1** glass stops on interior side of door.
2. Center glass in opening on setting blocks and align with side blocks.
3. Once the glass is in the correct position, lightly screw the glass adjustment screw down with **SP101** plastic tip attached to the top of the glass.
4. Install horizontal door glass stops.
5. Square door using adjustment screw located in top rail of door as required.

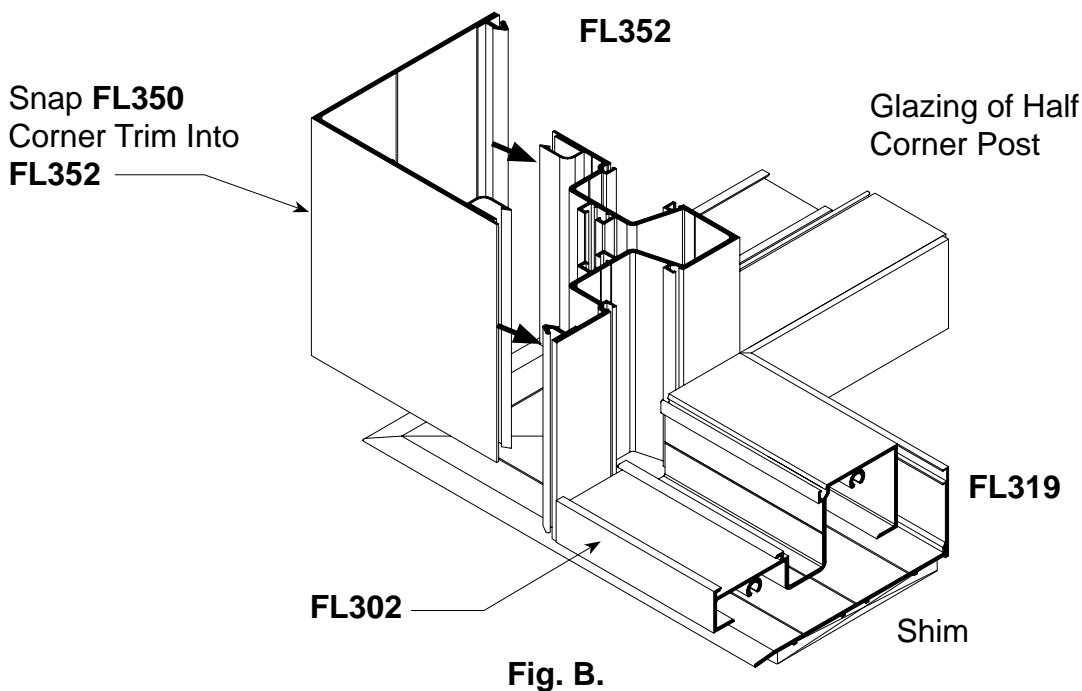
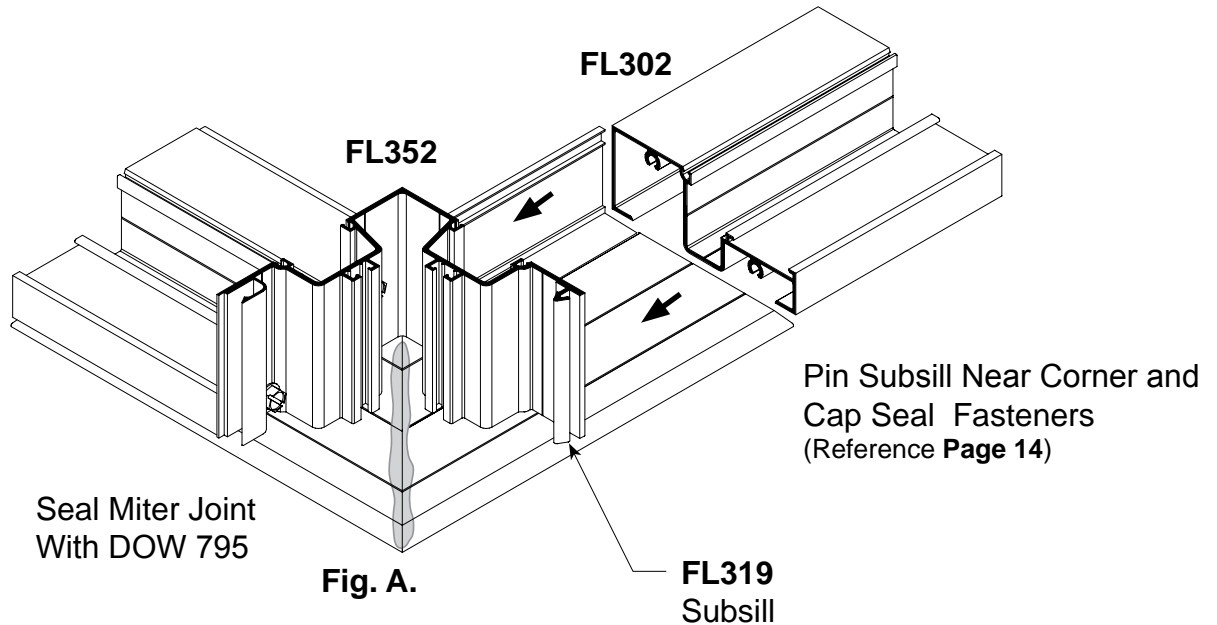


SP102

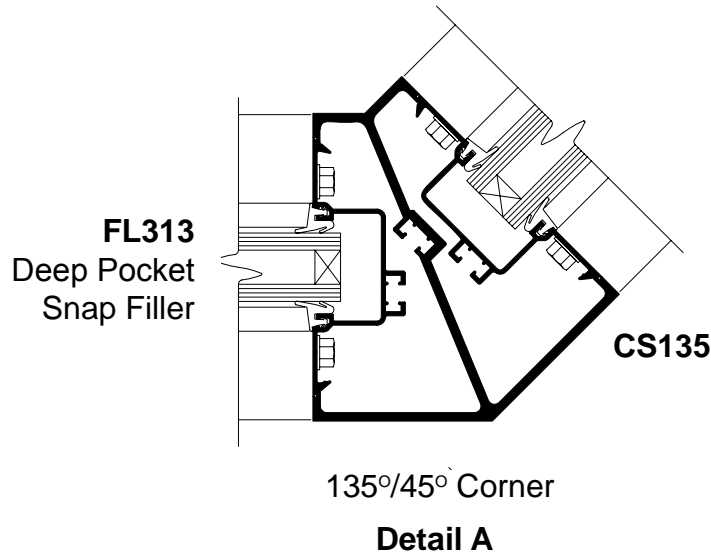
* If 1" glass is being glazed into door, install **SP102** plastic tip over **SP101**.

SPECIAL CONDITIONS 90° CORNER

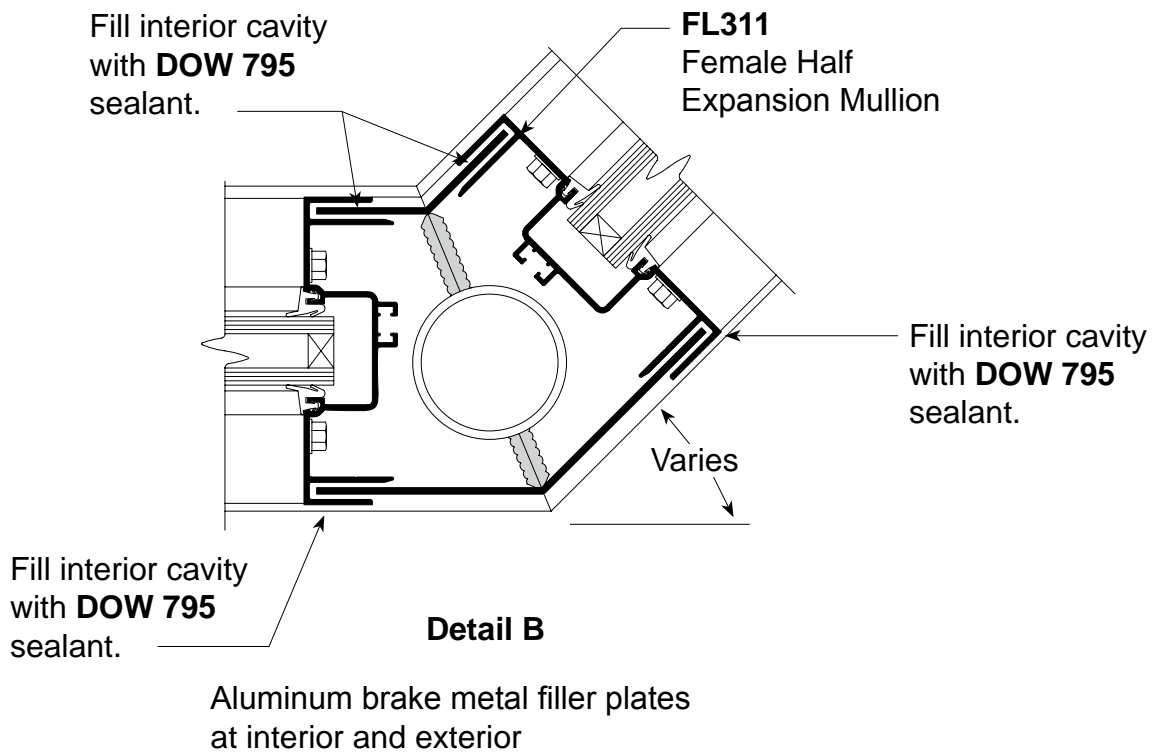
1. Install mitered subsill on one side of corner first and attach with non-structural fastener. Install adjoining subsill to form corner and secure it to structure. Cap seal over all fasteners. Apply bond breaker tape along full depth of mitered joint and seal joint with **DOW 795** silicone.
2. Set left corner panel first. Attach horizontals of right panel to right side of corner with **AS16** fasteners. **See Fig. "A"**. Re-seal any damage sealant at mitered joint of subsill. Anchor head and sill to substrate as shown on **Page 16**.
3. The corner trim can be installed after the right panel is completed. **See Fig. "B"**.



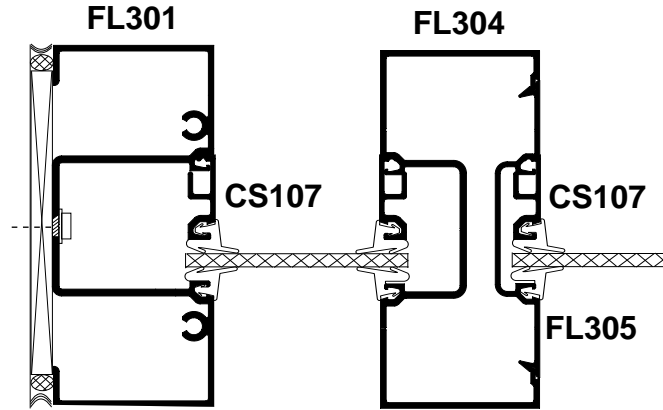
SPECIAL CONDITIONS 135° INSIDE / OUTSIDE CORNERS



BREAK METAL ANGLE CORNERS



SPECIAL CONDITIONS TRANSITION GLAZING



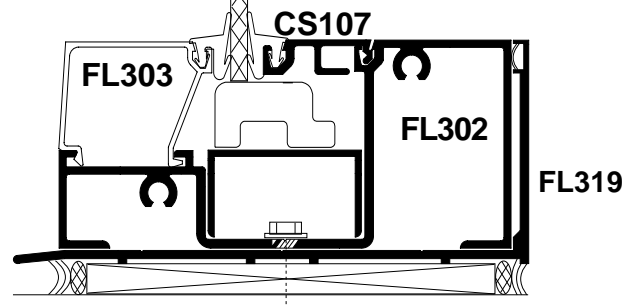
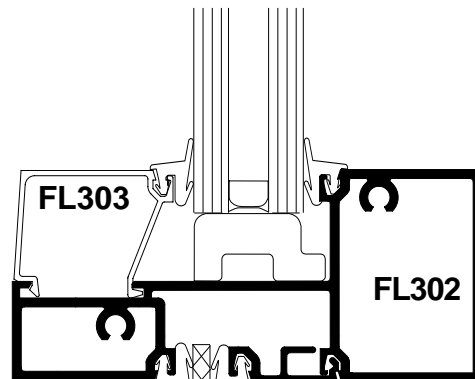
CS107 - Shown for
1/4" Glazing



CS108 - For 3/8"
Glazing similar

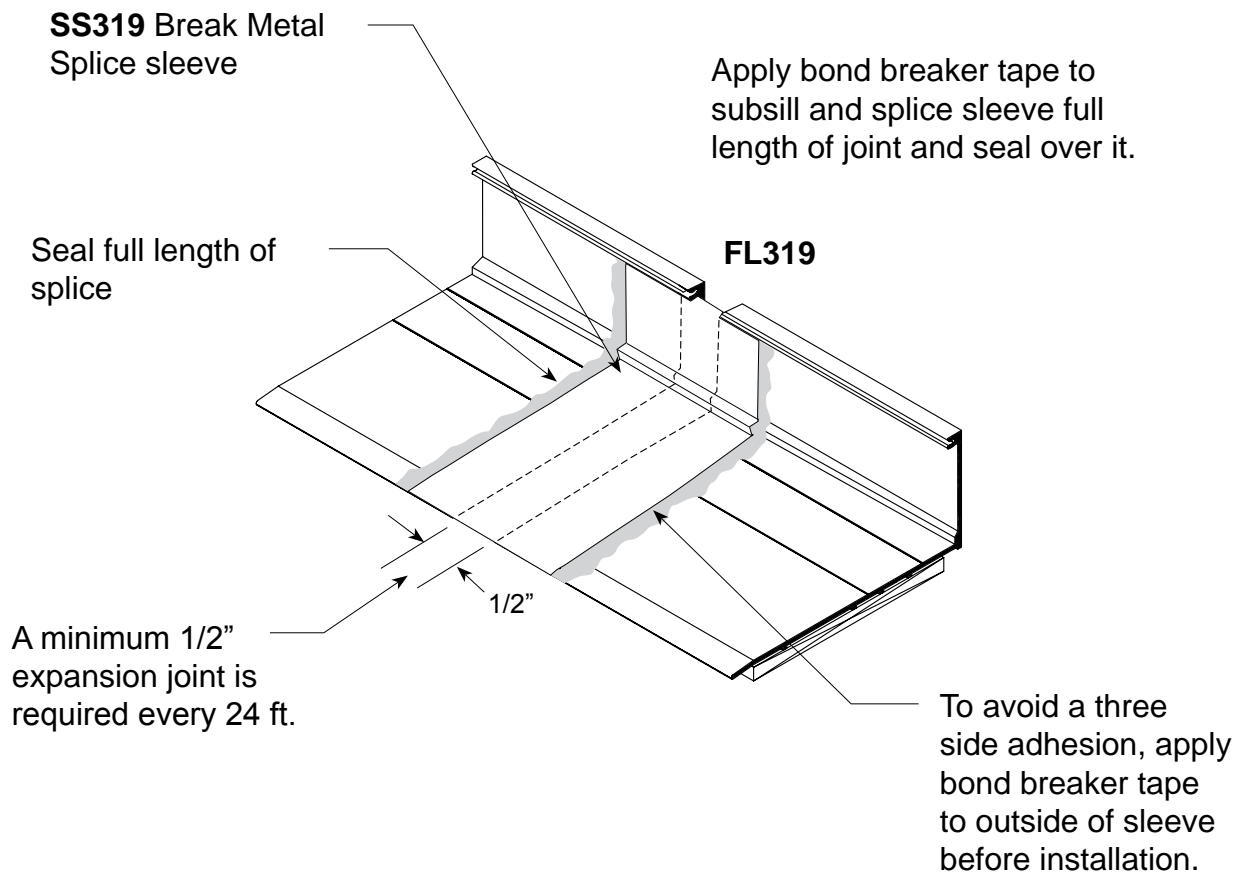


CS109 - For 1/2"
Glazing similar

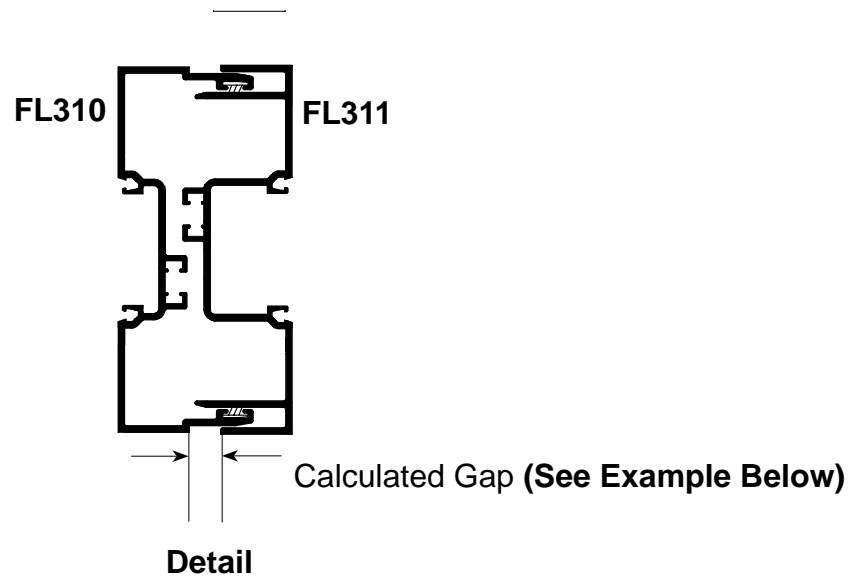


SPECIAL CONDITIONS SPLICE SLEEVE AT SUBSILL

STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



SPECIAL CONDITIONS EXPANSION MULLIONS



Calculated gap is determined by job conditions project specifications and temperature at the time of installation. Expansions mullions allow for 3/8" maximum movement.

EXPANSION GAP SIZE FORMULA= Length (") x F° difference x .0000129

L = Length in inches, between center line of expansion mullion in elevation.

F° = Specified Temperature Variation

.0000129 = Thermal Coefficient for Aluminum

FOR EXAMPLE:

Assume 100° temperature variation specified and temperature at job site on day of installation is 60°

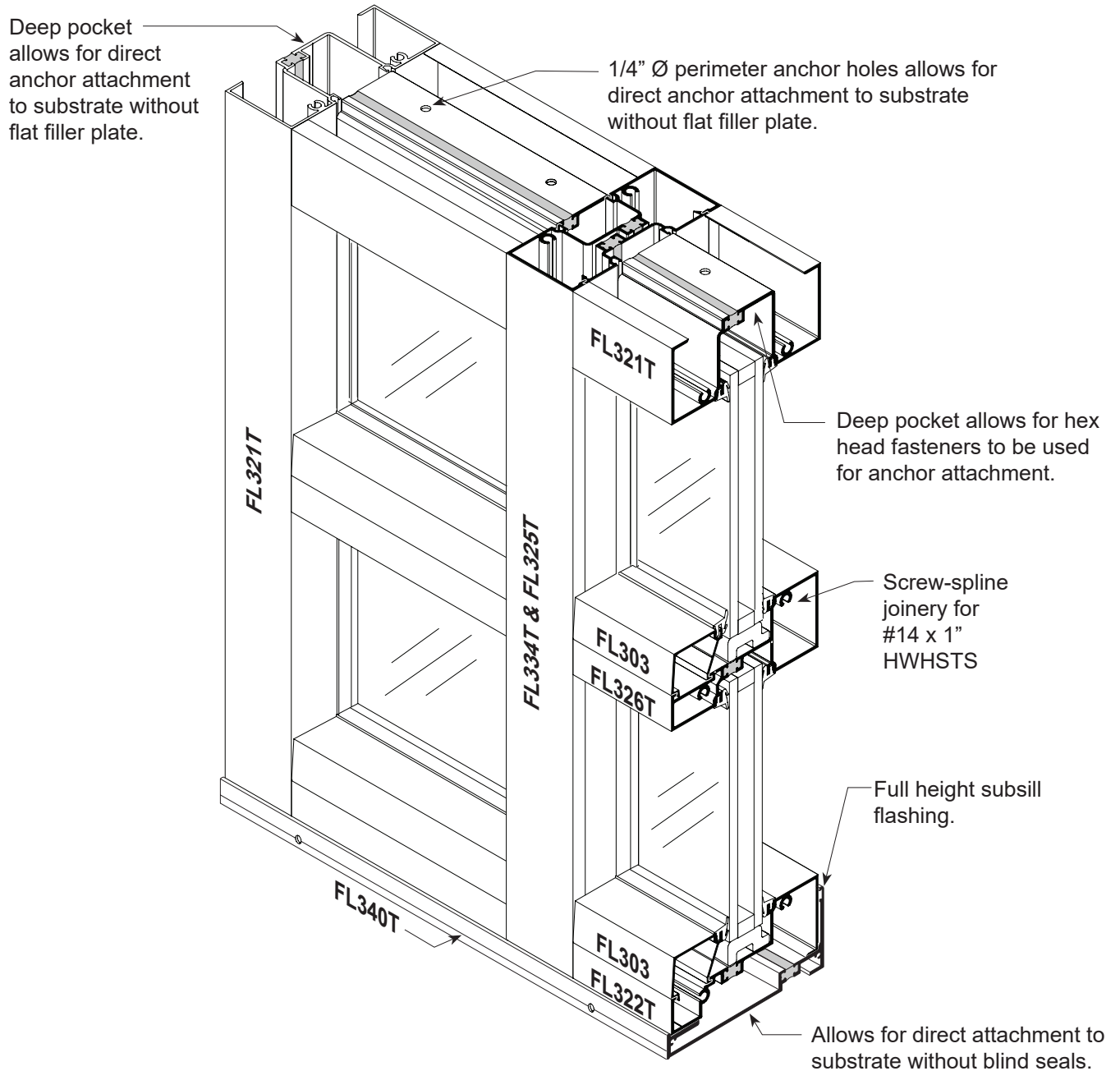
1. $100^{\circ} - 60^{\circ} = 40^{\circ}$ temperature difference
2. Length of elevation between expansion mullions equals 20'- 0" or 240"
3. $240" \times .0000129 \times 40^{\circ} = .124"$ Therefore, set expansion mullion gap at .124" or 1/8".

FL300T

THERMAL STOREFRONT SYSTEM

INSTALLATION INSTRUCTIONS

2" x 4 1/2" for 1" Glass



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Coral
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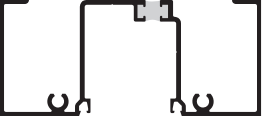
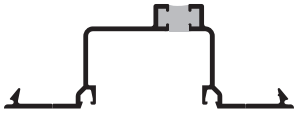
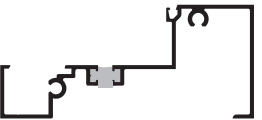
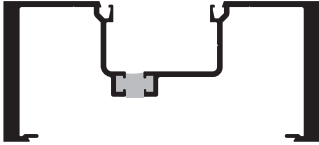

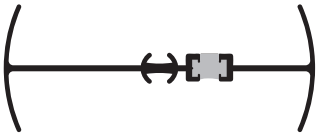

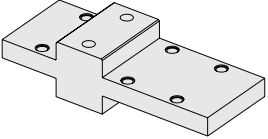
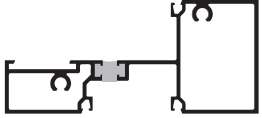
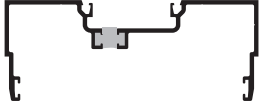
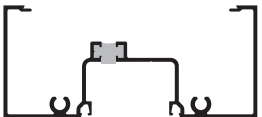
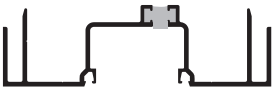

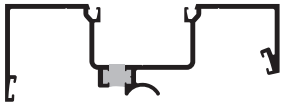
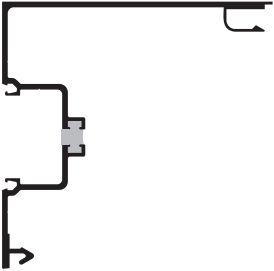
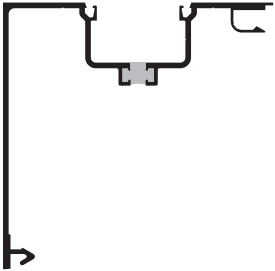
THERMAL STOREFRONT SYSTEM

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

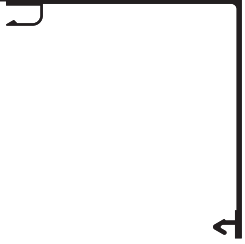
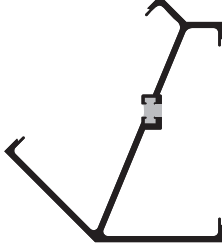
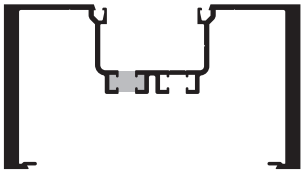
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FL300T SYSTEM PARTS
















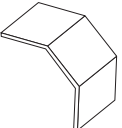


PARTS			
PART DESCRIPTION	PART NO.	PART DESCRIPTION	PART NO.
 Head/Jamb and Vertical (Deep Pocket)	FL321T	 Deep Pocket Filler	FL313T
 Sill/Optional Head	FL322T	 Heavy Vertical Mullion	FL316T
 Glass Stop	FL303	 Axel Interlock	FL320T
 Shallow Pocket Filler	FL325T	 Drill Jig	DJ300
 Intermediate Horizontal	FL326T	 Expansion Male Mullion	FL310T
 Standard Vertical Mullion	FL334T	 Expansion Female Mullion	FL311T
 Sub-Sill	FL340T	 Rotating Mullion	FL321T
 Single Pocket Corner Post Mullion	FL351T	 Single Pocket Corner Post Mullion	FL353T

FL300T SYSTEM PARTS

PARTS			
PART DESCRIPTION	PART NO.	PART DESCRIPTION	PART NO.
 <p>90° Corner Post Trim</p>	FL350	 <p>135° Corner Post Mullion</p>	CS135T
 <p>Heavy Wide Mullion</p>	FL346		

FL300T SYSTEM PARTS

PARTS

PART DESCRIPTION		PART NO.	PART DESCRIPTION		PART NO.
	FL518	FL518		Weathering for D200	WP200
	Door Stop (Standard used)	DS200		Schnee-Morehead SM5601 1/8" x 1/2" Tacky Tape	SM5601
	CS115	CS115		EPDM Gasket (Standard Gasket)	NG1
	CS105	CS105		Vinyl Gasket (Standard Weathering Gasket for FL210 and CS118 / CS119)	VG10
	CS106	CS106		AS90	AS90
	CS107	CS107		AS16	AS16
	CS108	CS108		AS31	AS31
	CS109	CS109		Water Diverter	WD300-1
	Setting Block	SB3		End Dam	ED340-1

INSTALLATION INSTRUCTIONS

- General Installation Information -

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS

- General Installation Information -

- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.

FRAME FABRICATION

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 1 1/8" allowing 5/8" for subsill and a 1/4" caulk joint at the head and beneath the subsill.

STEP 2.

Cut members to size.

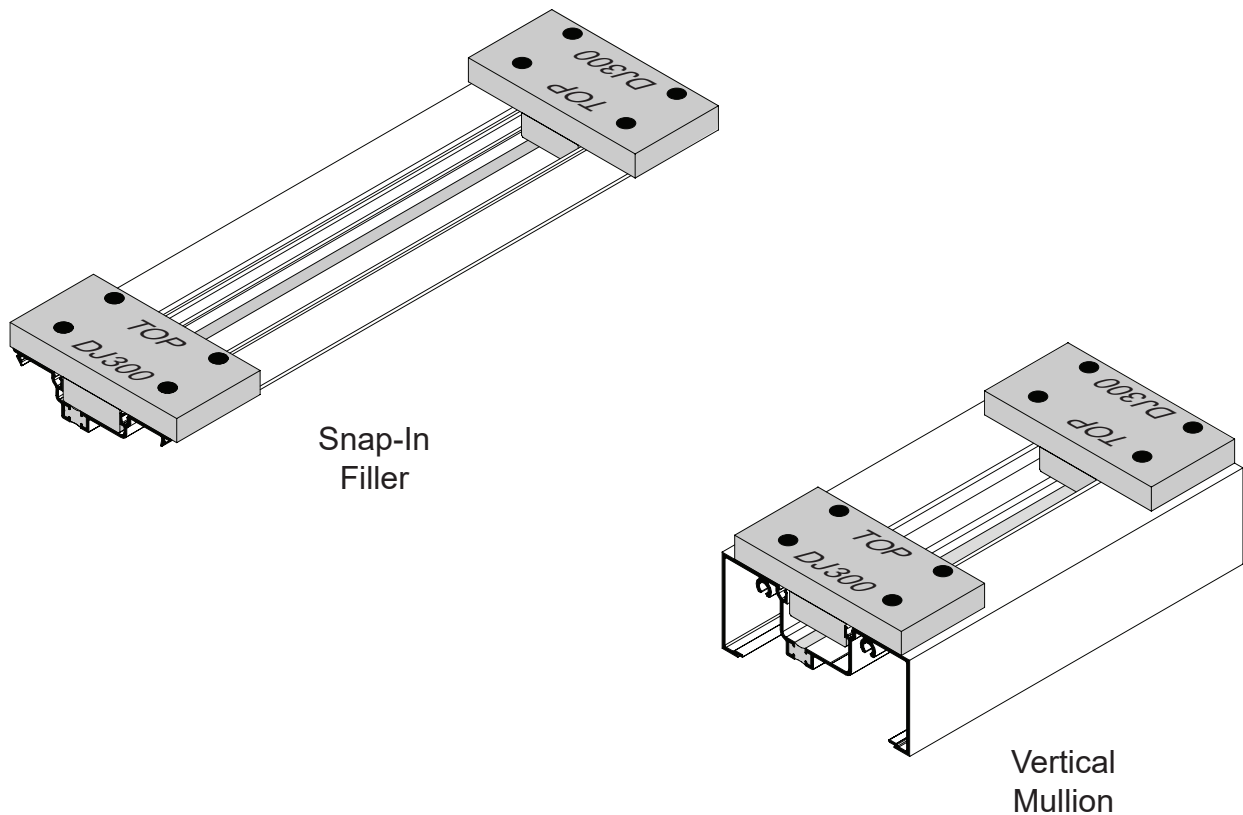
- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

FRAME FABRICATION

STEP 3.

Mark location for horizontals on vertical extrusions and drill holes for screw spline.
Reference **STEP 4** for correct orientation of drill jig.

NOTE: FL300T parts are handed. Carefully ensure to hand parts prior to layout of horizontal locations. The illustration below depicts parts as they would be snapped together, thus handed / orientated correctly. See **Step 4** Diagram.



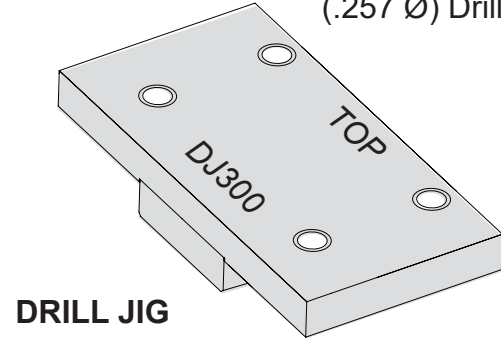
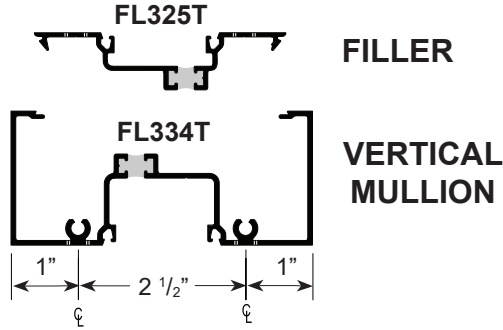
Note: Thermal cavity hands these parts.

FRAME FABRICATION

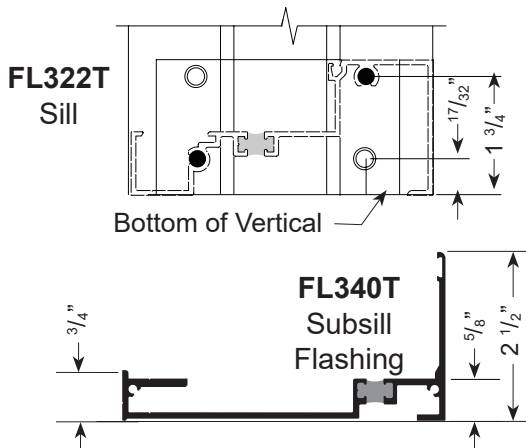
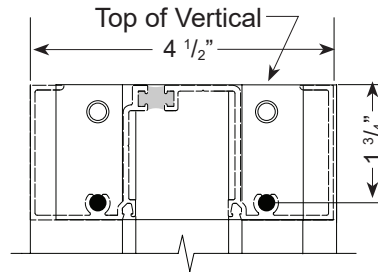
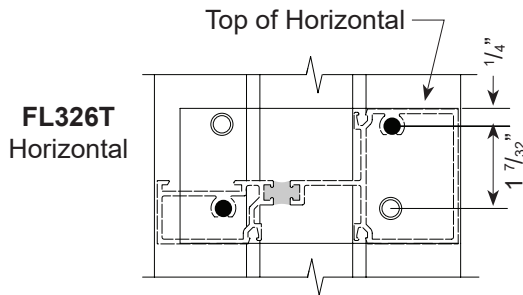
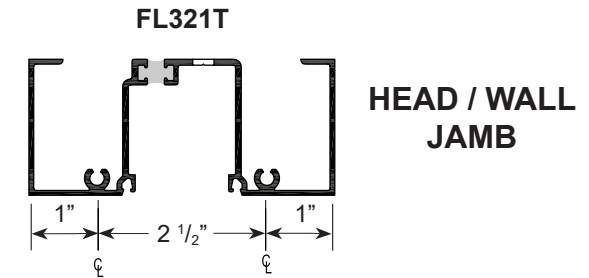
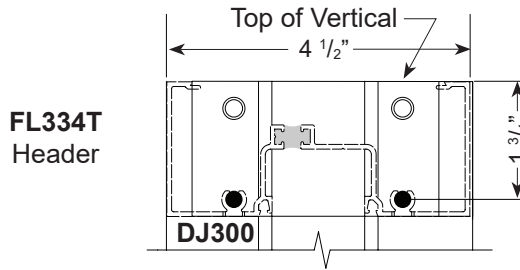
STEP 4.

Drill or punch holes in verticals for attaching horizontals.

Use Letter "F"
(.257 Ø) Drill



EXTERIOR GLAZING

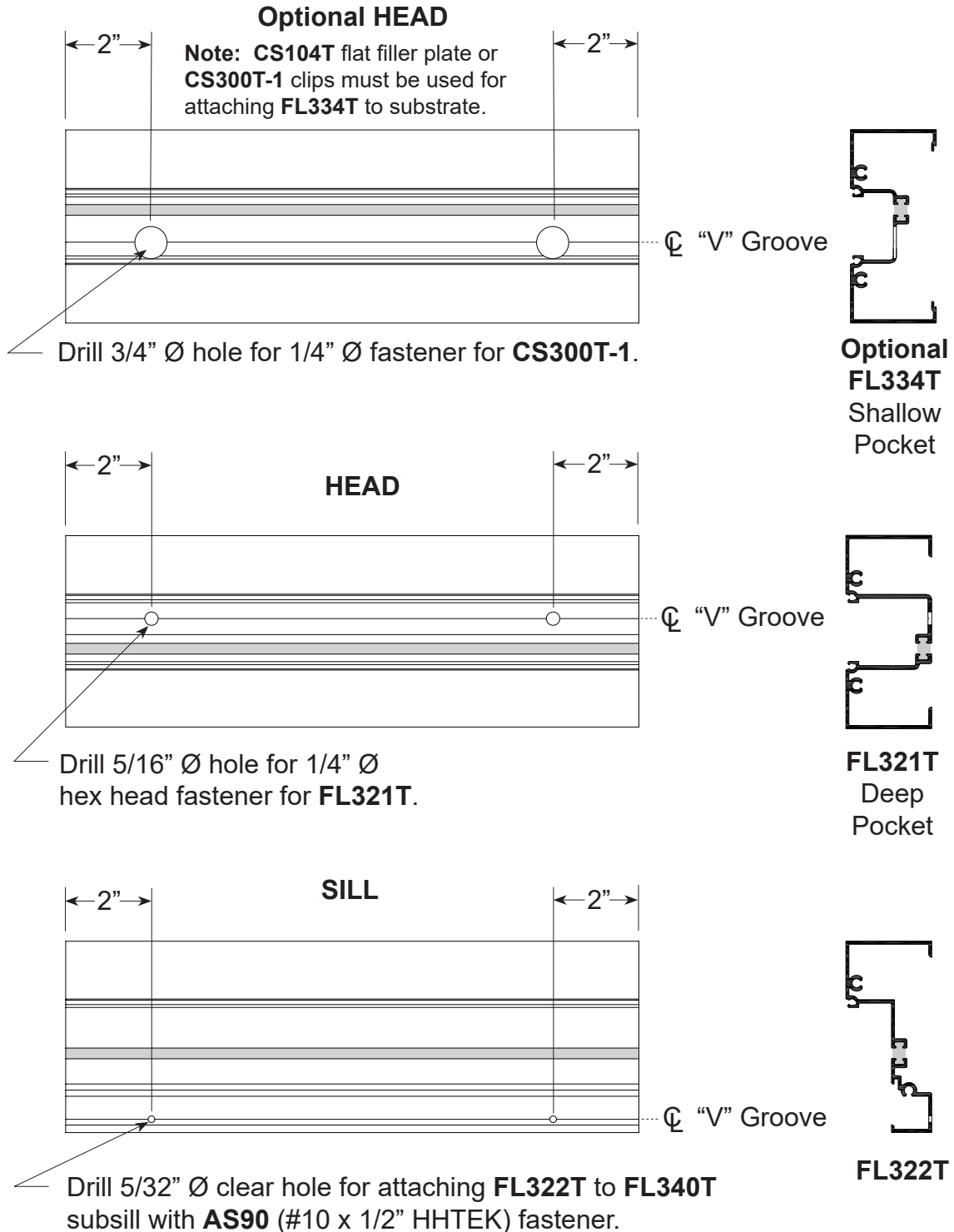


Note: Vertical at door jamb extends to floor

FRAME FABRICATION

STEP 6.

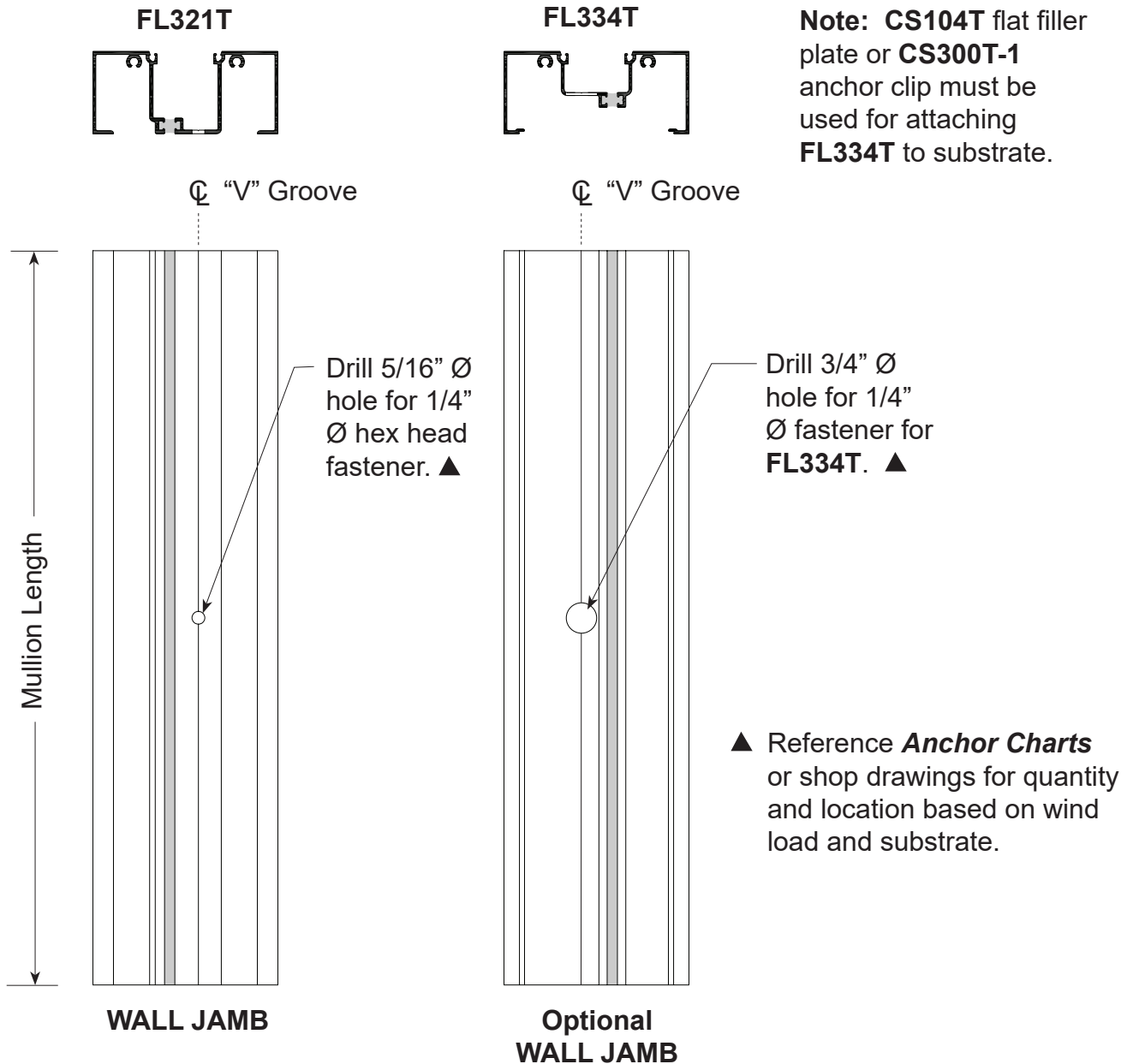
Fabricate head and sill anchor holes. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end. Each additional fastener hole is located at required minimum spacing between fasteners based on substrate as shown in anchor charts on Pg 38-41.



FRAME FABRICATION

STEP 7.

Fabricate wall jamb for anchor holes when required. (Reference Anchor Charts on Pg 38-41)



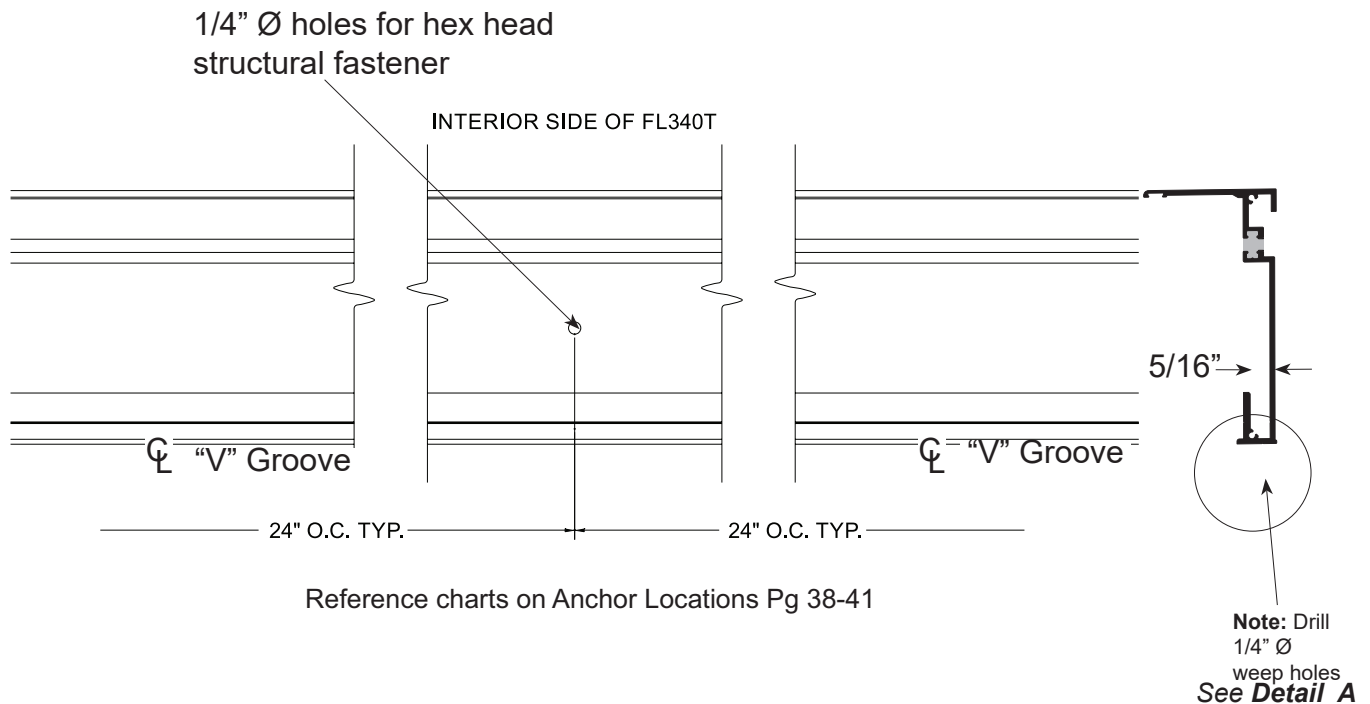
Note: Do not locate anchor holes at intersection of intermediate horizontal. Locate hole just above or below horizontal. Check anchor chart for spacing and quantity based on substrate.

FRAME FABRICATION

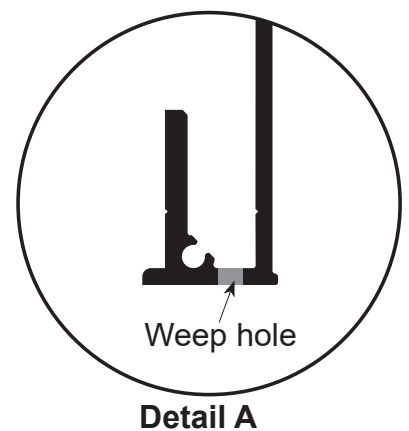
STEP 8.

Fabricate **FL340T** subsill flashing for 1/4" Ø hex head structural fastener and weep holes. Hole location dimensions for fasteners in subsill are approximate. Drill 1/4" Ø weep holes as shown in **Detail "A"**.

SUBSILL FLASHING

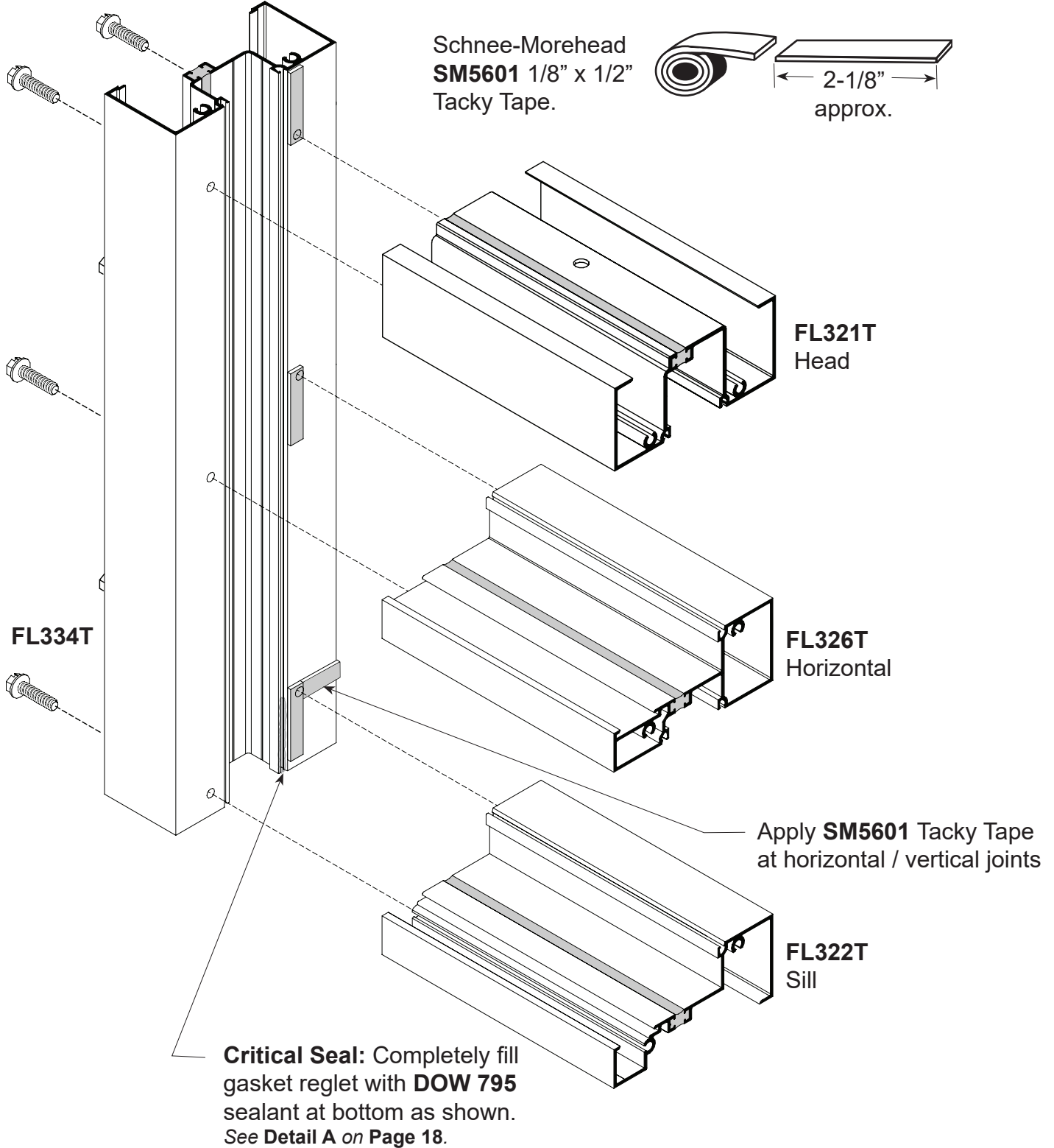


1. Drill 1/4" Ø hole for hex head structural fasteners used for attaching subsill to substrate as shown.
2. Drill 1/4" Ø weep holes in locations as shown. Locate one weep hole 6" from each end and additional holes approximately 48" on center. Total weep holes should average 2 each between each vertical mullion.



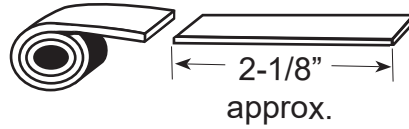
FRAME ASSEMBLY - EXTERIOR GLAZING

STEP 1.



FRAME ASSEMBLY - EXTERIOR GLAZING

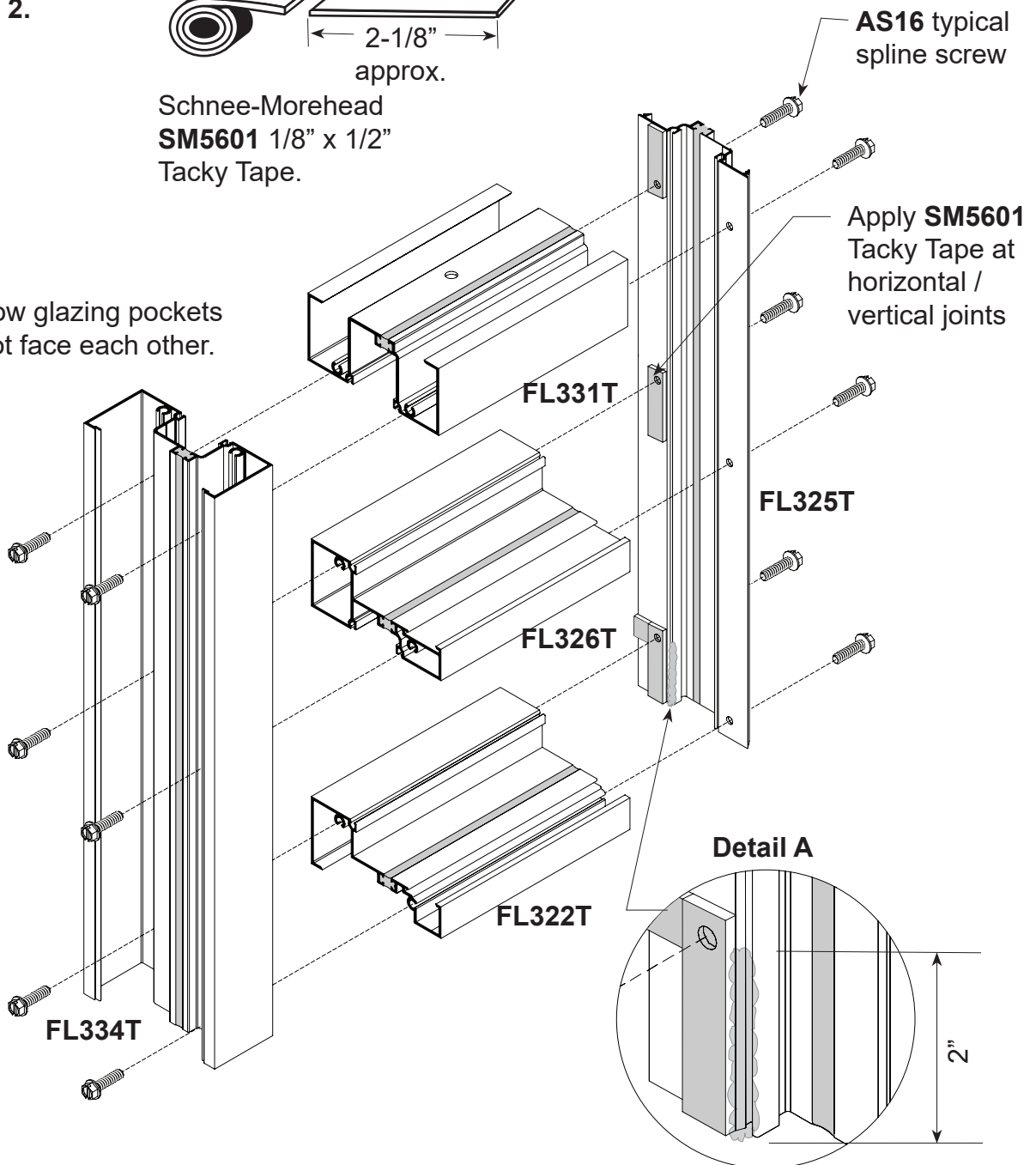
STEP 2.



Schnee-Morehead
SM5601 1/8" x 1/2"
Tacky Tape.

Note:

Shallow glazing pockets cannot face each other.

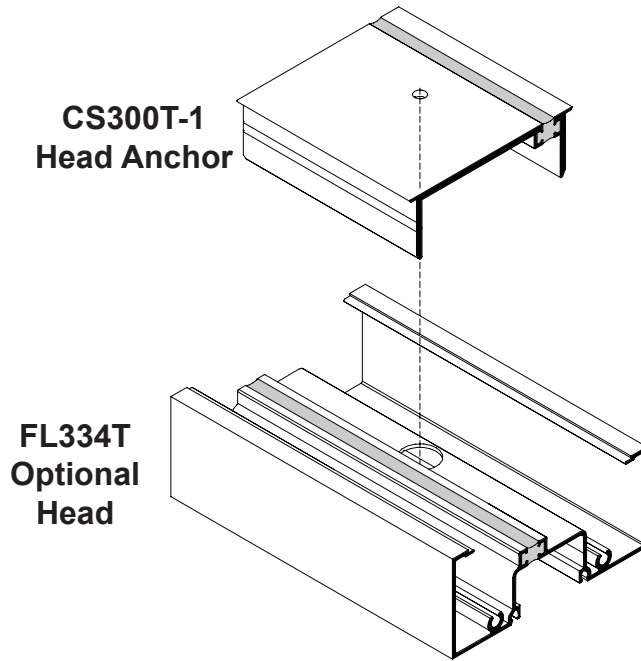


Attach horizontals to verticals using **AS16** (#14 x 1" HHSTS spline screws).
See **Page 13** for hole prep locations.

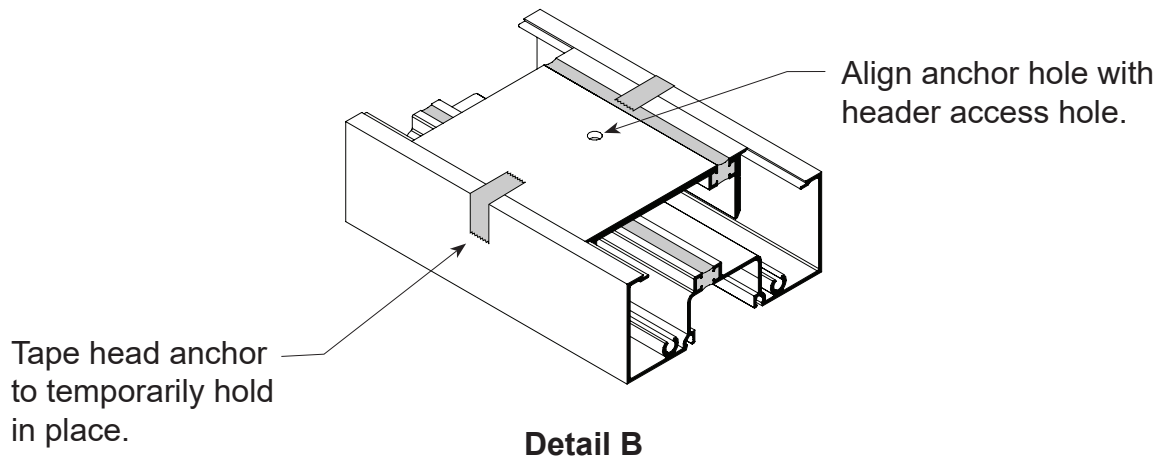
Critical Seal: Completely fill gasket reglet with **DOW 795** sealant at bottom as shown.

FRAME ASSEMBLY

Using Optional FL334T with CS300T-1
in lieu of FL331T



Tape **CS300T-1** head anchors
to head members at clearance
hole locations.
See **Detail B** below.



FRAME ASSEMBLY

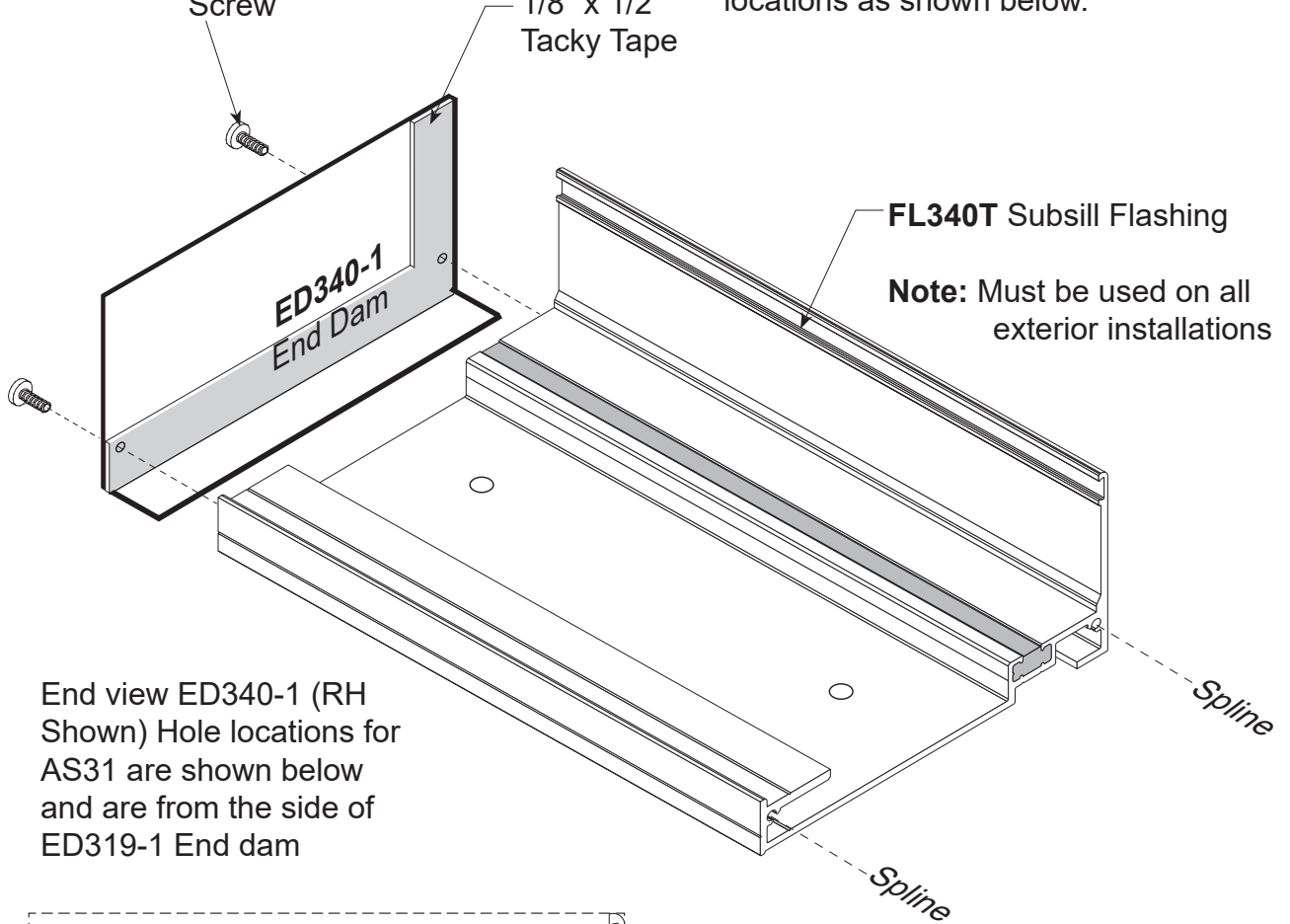
STEP 3.

AS31
(#6 x 3/8" PPH)
Screw

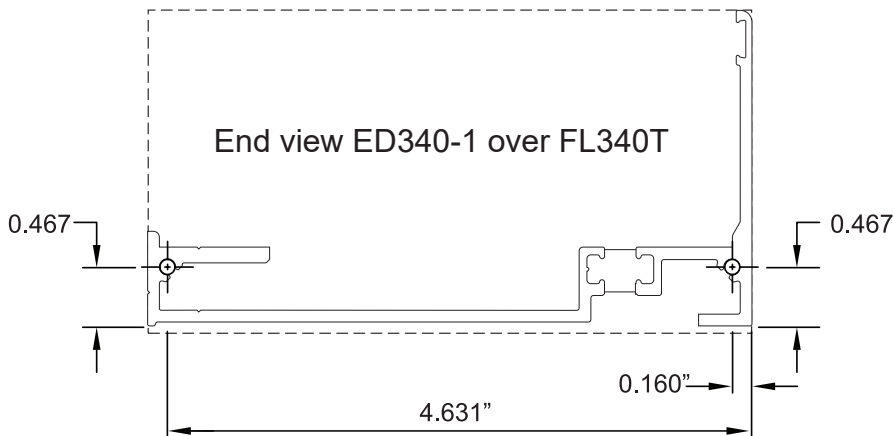


SM5601
1/8" x 1/2"
Tacky Tape

Apply **SM5601** Tacky sealant tape to **ED340-1** end dams and attach to each end of subsill with **AS31** fasteners at spline locations as shown below.



End view ED340-1 (RH Shown) Hole locations for AS31 are shown below and are from the side of ED319-1 End dam

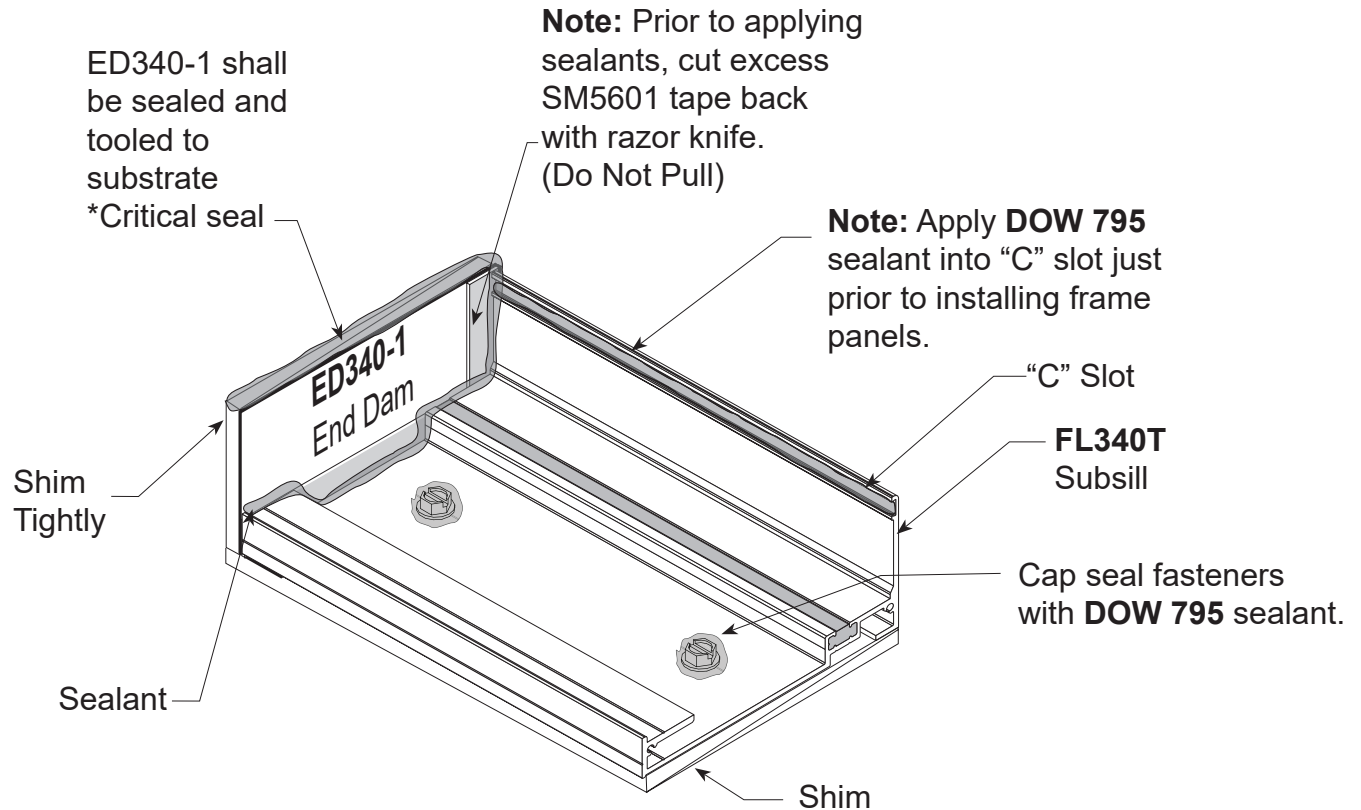


Drill # 21 hole @ .160 4.631 as shown above

FRAME INSTALLATION

STEP 1.

Center subsill into opening allowing for a 1/4" minimum shim space at each end to ensure a good caulk joint.



Shim beneath subsill to be a minimum of 1/4". Attach subsill flashing to structure with structural fasteners using attachment holes shown on **Page 16**. Cap seal fastener heads as shown.

Wedge shims tightly between end dams and jamb substrate on each end prior to installing frame panels. These shims prevent the end dam from dislodging while frame panels are being installed. Completely seal end dams as shown.

Run a continuous bead of **DOW 795** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

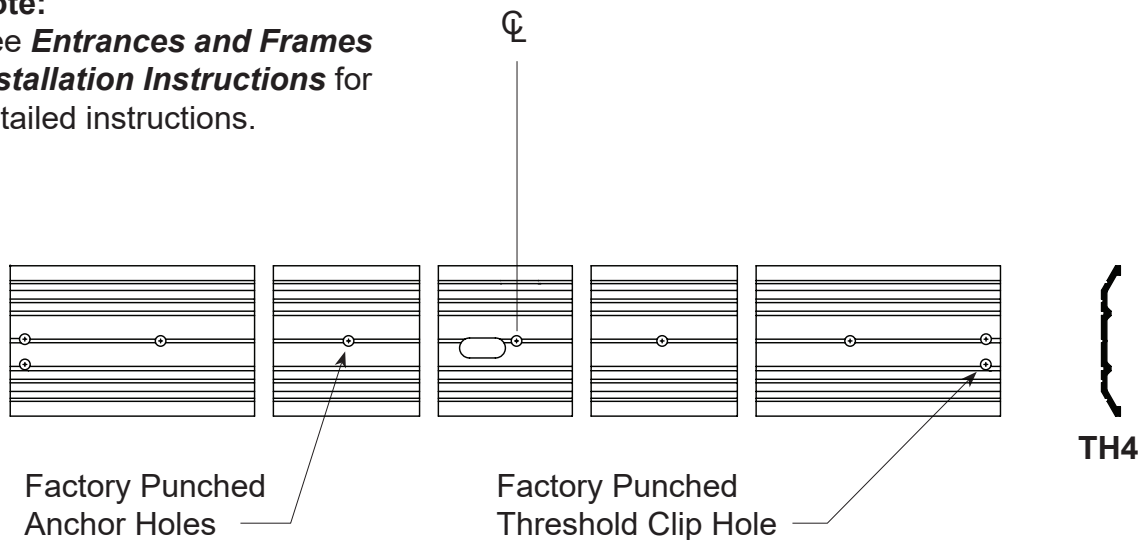
Note: Remove all debris from subsill to prevent clogging weep holes prior to installing panels.

PREPARATION OF DOOR FRAME

All hardware back-up plates are installed in the frame at the factory. Door stops and transom sash are cut to length in the factory. Stock transom frames are fabricated for a vertical frame size of 10' - 5 1/2". If your transom opening is smaller, cut the verticals members down to the appropriate length. Leave a minimum 1/4" caulk joint at the head. The fabrication for the transom head horizontal should be made using either a drill fixture or punch die set for Series **FL300** framing. (See **Page 13** for hole locations). Review frame anchor charts for configuration and for substrate to which the frame will be attached. Drill anchor holes into door jamb at wall and **CS104** flat filler. Apply **SM5601** Tacky Tape to joint intersections at door header and transom head. Assemble frame with **AS16** spline screws. Use threshold clips as shown on **Page 23** for attaching threshold. Install transom sash if applicable. The frame is now ready for installation.

THRESHOLD FABRICATION

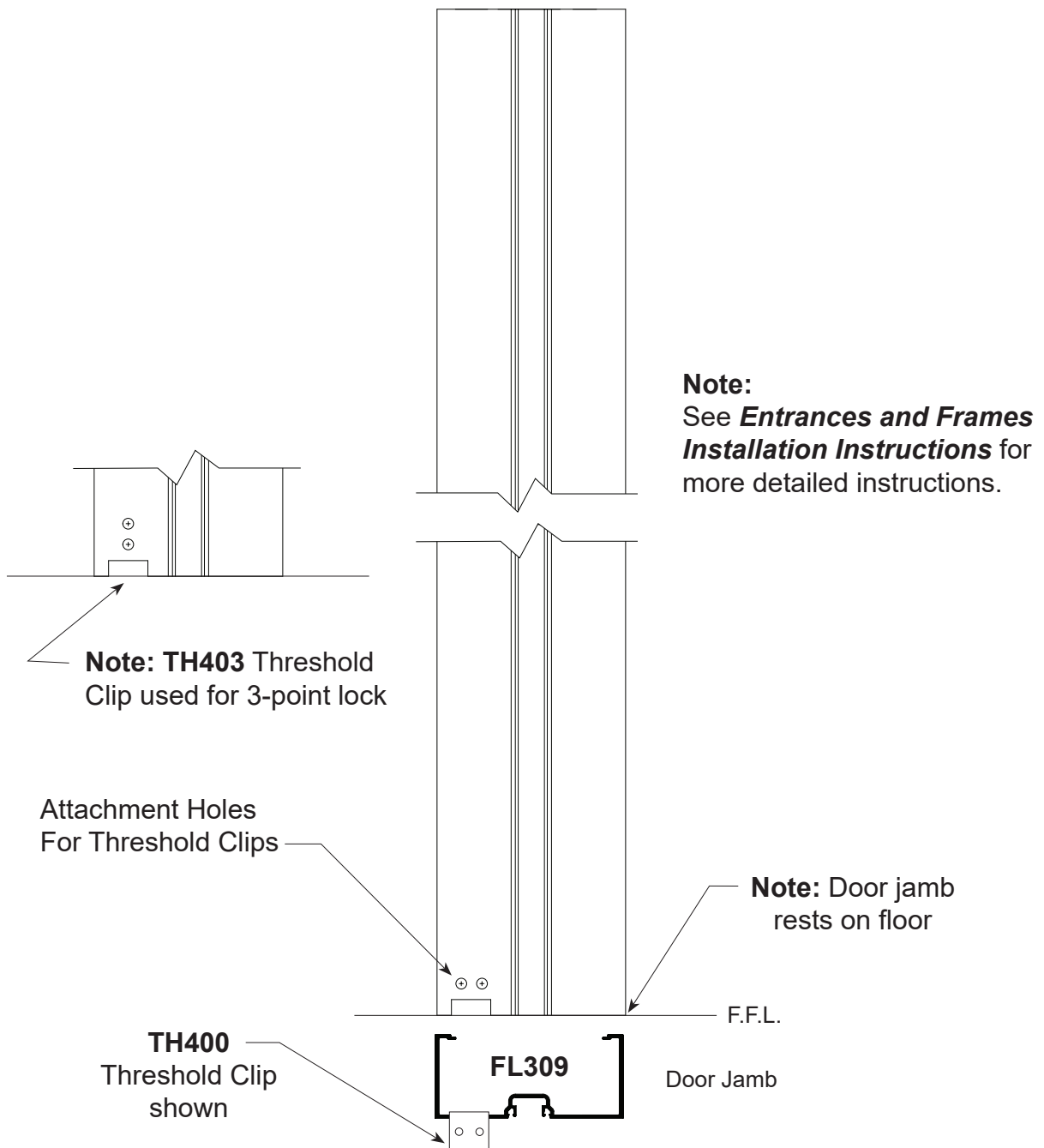
Note:
See *Entrances and Frames Installation Instructions* for detailed instructions.



Threshold For Door Pair. (Butt Hung Shown, Offset Pivot Similar.)

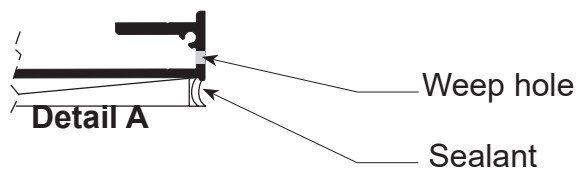
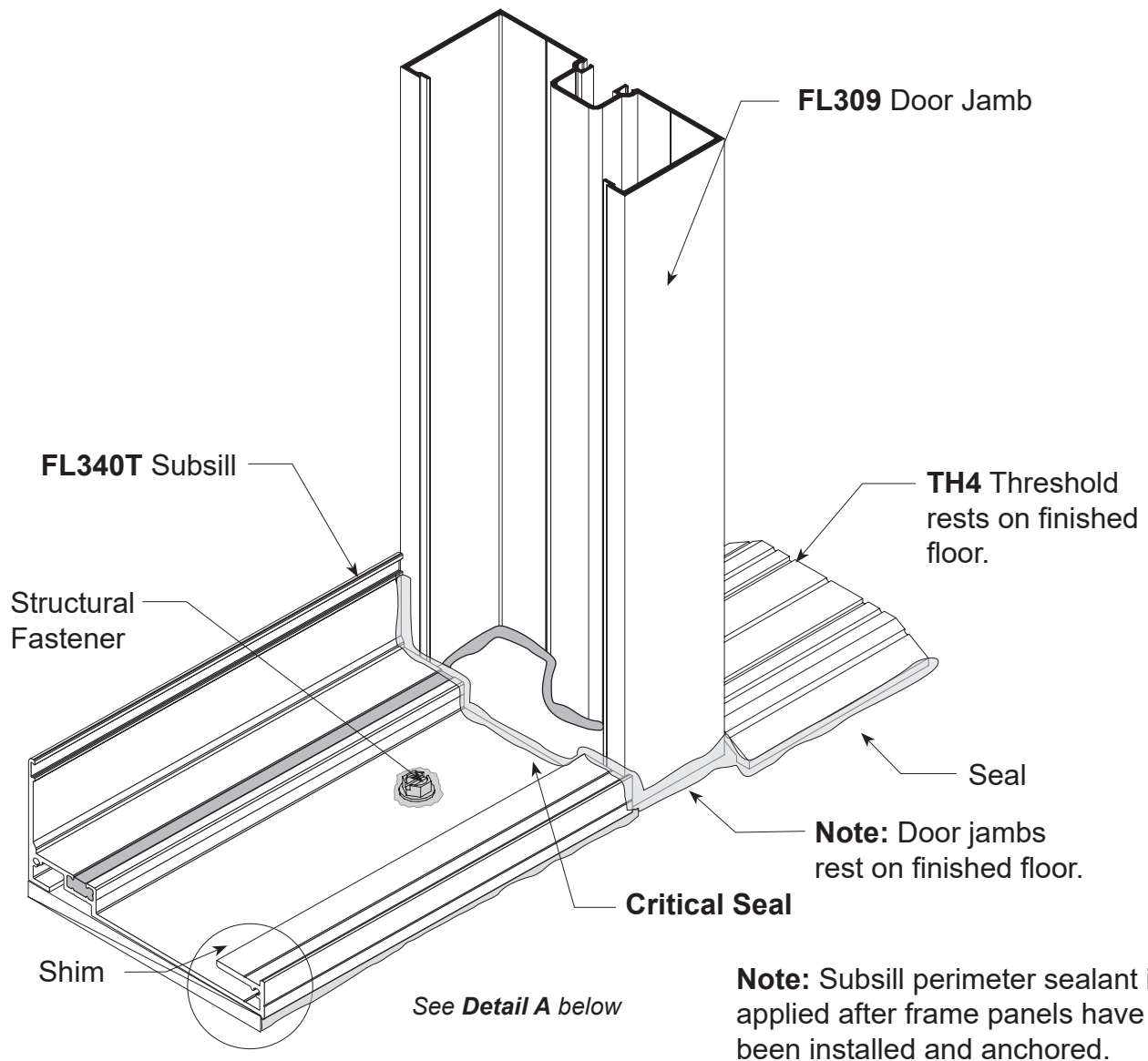
INSTALLATION OF DOOR FRAME

1. Door frame and threshold shall be completely assembled with joints neatly aligned and tight.
2. Door frame shall be installed square and plumb. Measure frame diagonally from corner to corner and shim until the measurements are equal.
3. Level door frame threshold. The door frame is designed to have the jambs extend to floor.
4. Install fasteners through frame and threshold anchor holes and securely anchor to the substrate. Position shims between framing and substrate to prevent members from bowing.
5. Install door stops.
6. You are now ready to install the door.



**ENTRANCE DOOR FRAME INSTALLATION
WITH SUBSILL FOR SIDELIGHTS**

Where entrance doors occur, install entrance door frames first.
Subsill butts against door jamb.
The subsill abutting the door jamb does not require an end dam.



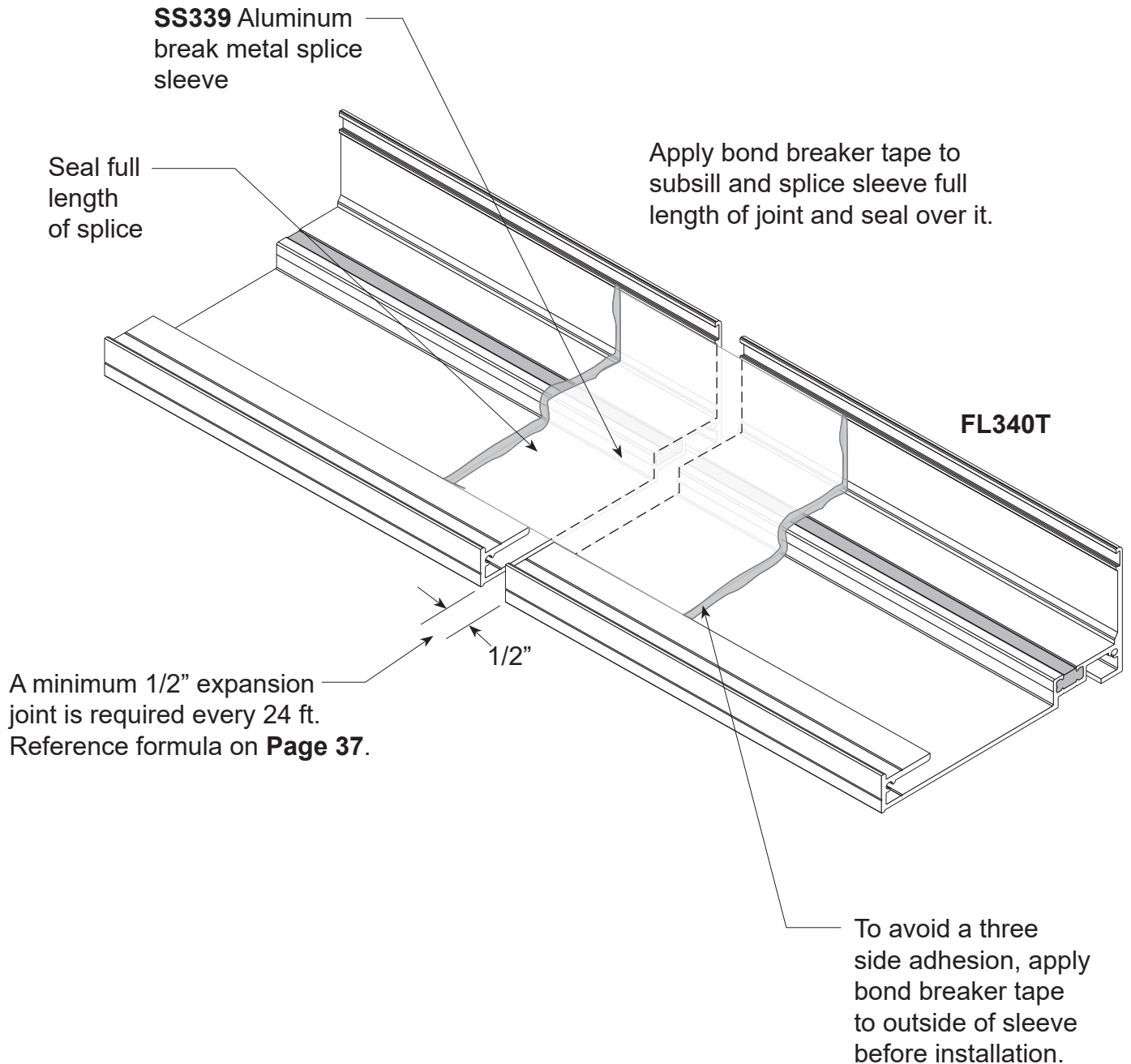
Caution: Be careful not to seal over weep hole.

FRAME INSTALLATION

SPECIAL CONDITIONS

SPLICE SLEEVE AT SUBSILL

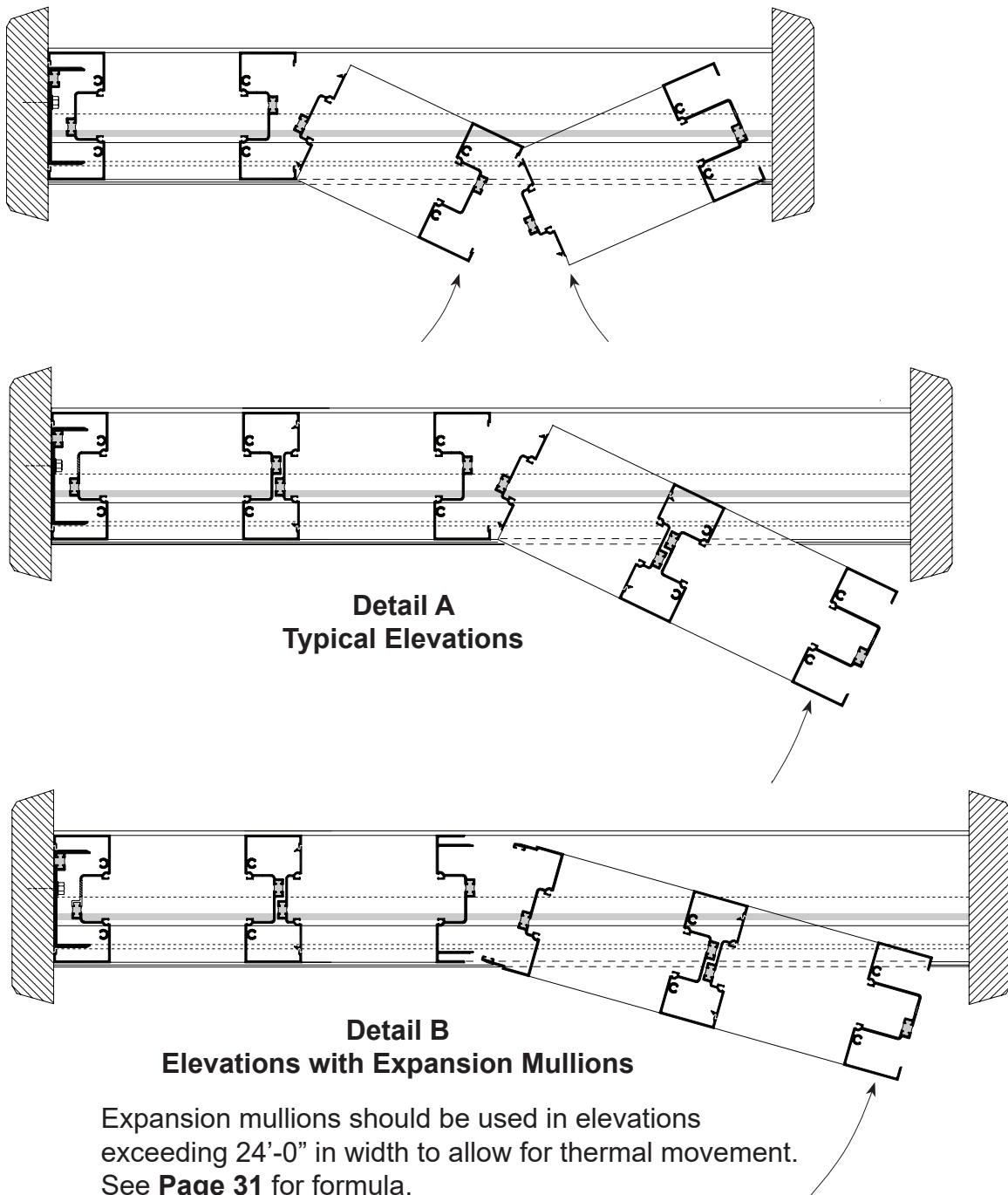
STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



FRAME INSTALLATION

STEP 2.

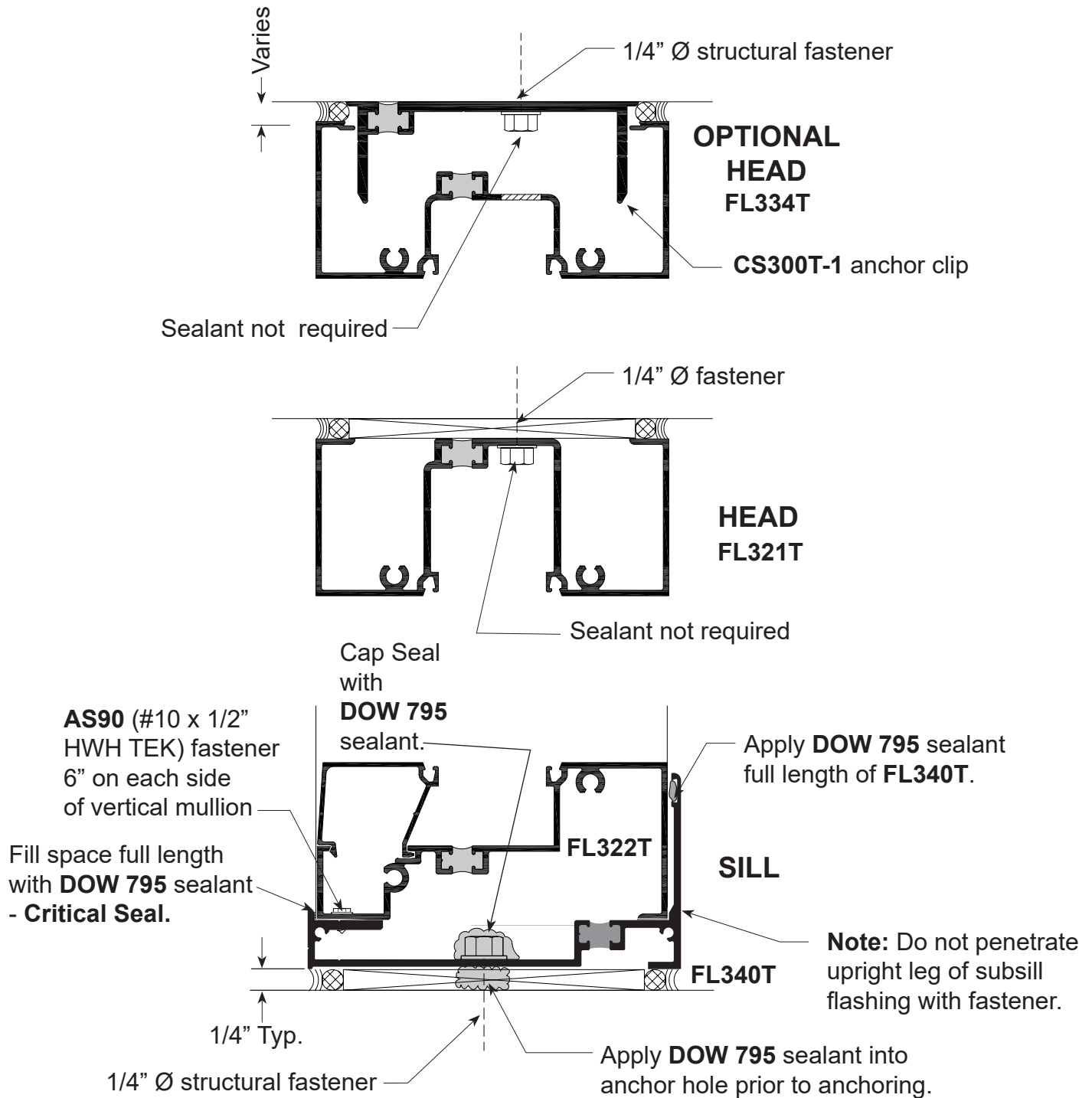
Screw spline joinery allows for frames to be shop fabricated into panels and shipped to job site assembled. Each panel must have at least one vertical deep pocket for glazing. Arrange panels so that two shallow pockets never face each other. **Reference Page 12 (FRAME ASSEMBLY).**



FRAME INSTALLATION

STEP 3.

After all panels are installed and frame panels are attached to substrate at head, then attach sill to subsill with **AS90** 6" on each side of vertical mullions in location shown below.

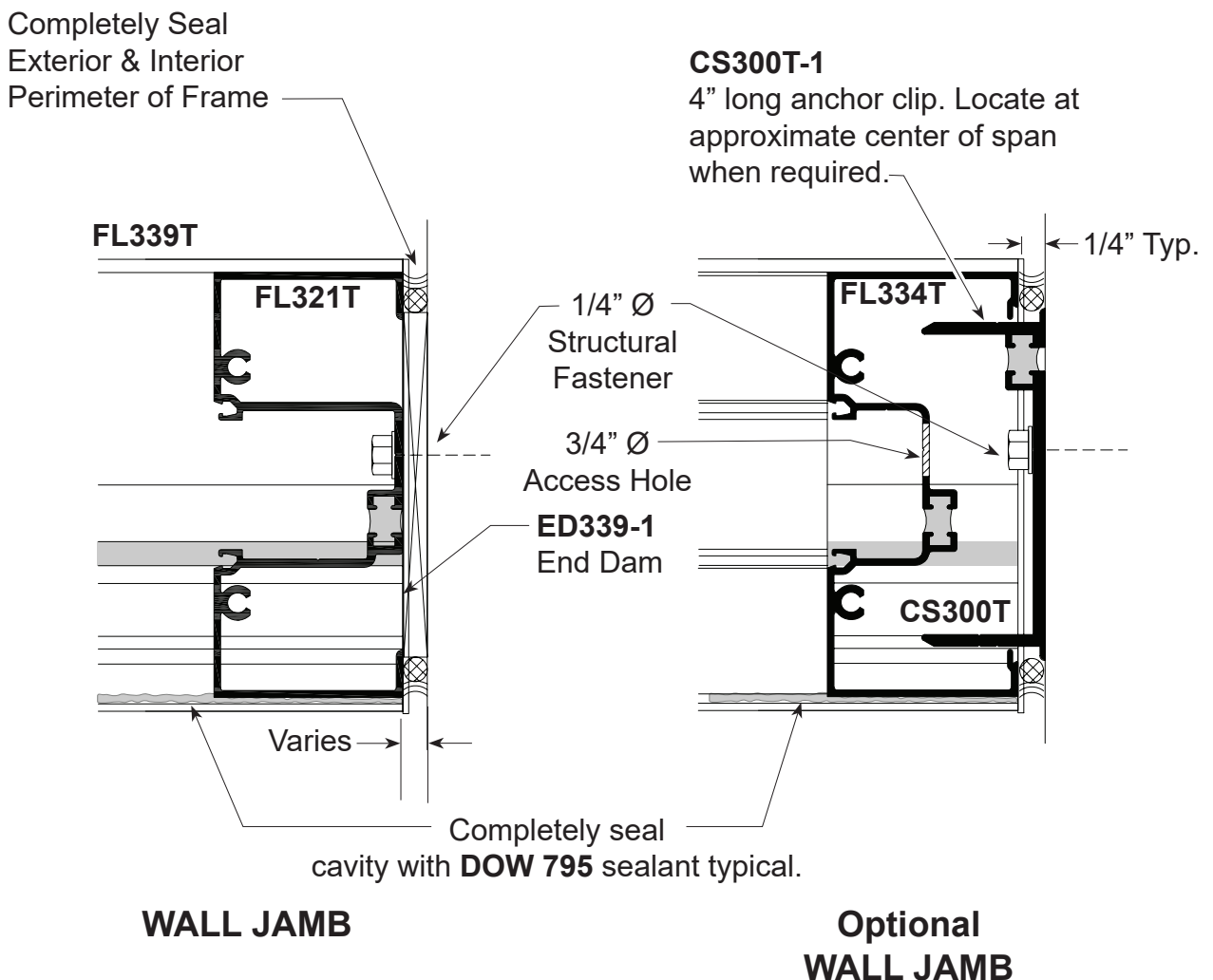


STEP 4.

In high velocity wind zone areas and/or high spans, it may be necessary to attach jamb to substrate as shown to limit deflection. When required, match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads with **DOW 795** sealant.

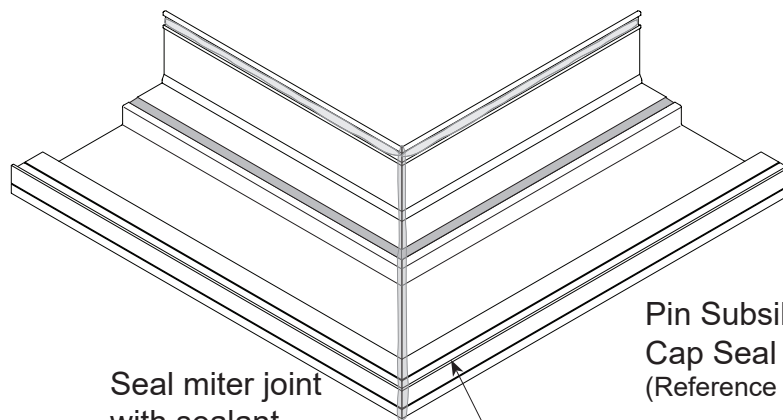
When all frames are secured to the opening, then completely seal exterior and interior perimeter with a continuous bead of **DOW 795** sealant. Completely seal exterior cavity in FL340T full length of sill as shown below.

1. All internal and external sealants to be **DOW 795**.



90° CORNER

1. Install the mitered subsill FL340 on one side of the corner, test fit other side to confirm corner miter fits as desired. Anchor this part to the substrate seal open cavities with DOW 795 to the substrate and tool same, install the other half in the same manner anchor to substrate and seal to existing half of this corner, fill any and all cavities with sealant and tool. Cap seal all exposed fasteners and tool. Reference **figure "A"**.
2. Apply sealant to the back edge of the FL340 as shown page 21 and install the first corner panel (shown RH panel) in **Figure "B"**
3. Repeat this application for the LH panel as shown in **figure "B"**
4. Use quick clamps or a block of wood and dead blow hammer to get corners snapped together
5. Once corner is snapped together anchor both left and right panels to the FL340 with AS90 fasteners as shown on page 27

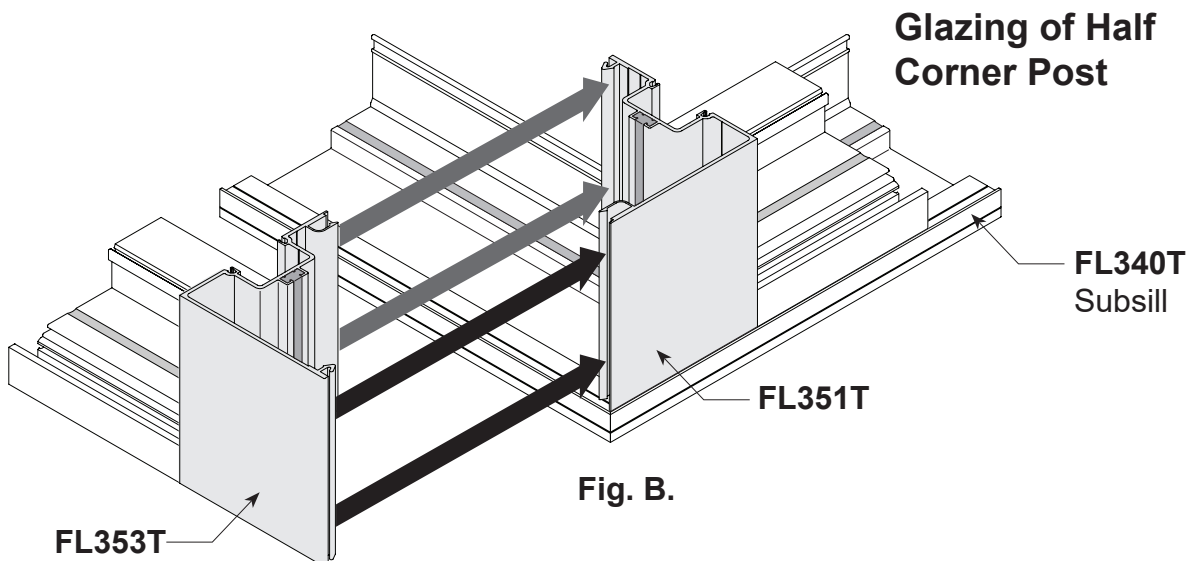


Seal miter joint with sealant.

Pin Subsill Near Corner and Cap Seal Fasteners. (Reference Page 14)

Fig. A.

FL340T
Subsill



Glazing of Half
Corner Post

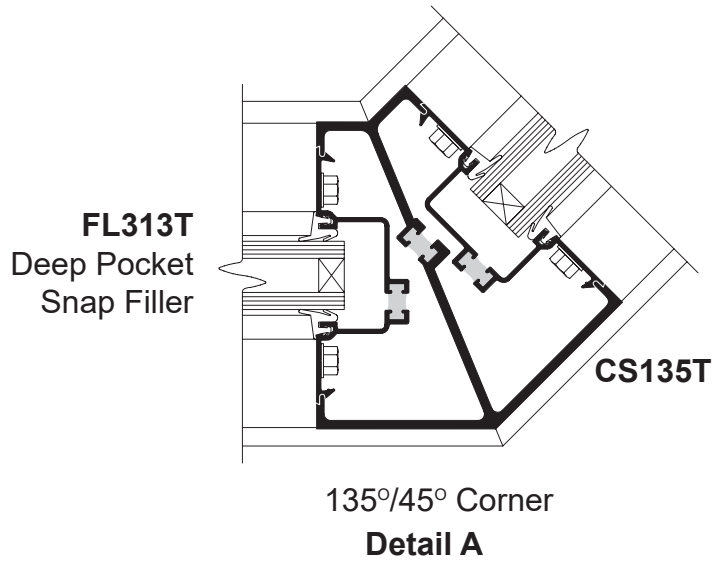
FL340T
Subsill

FL351T

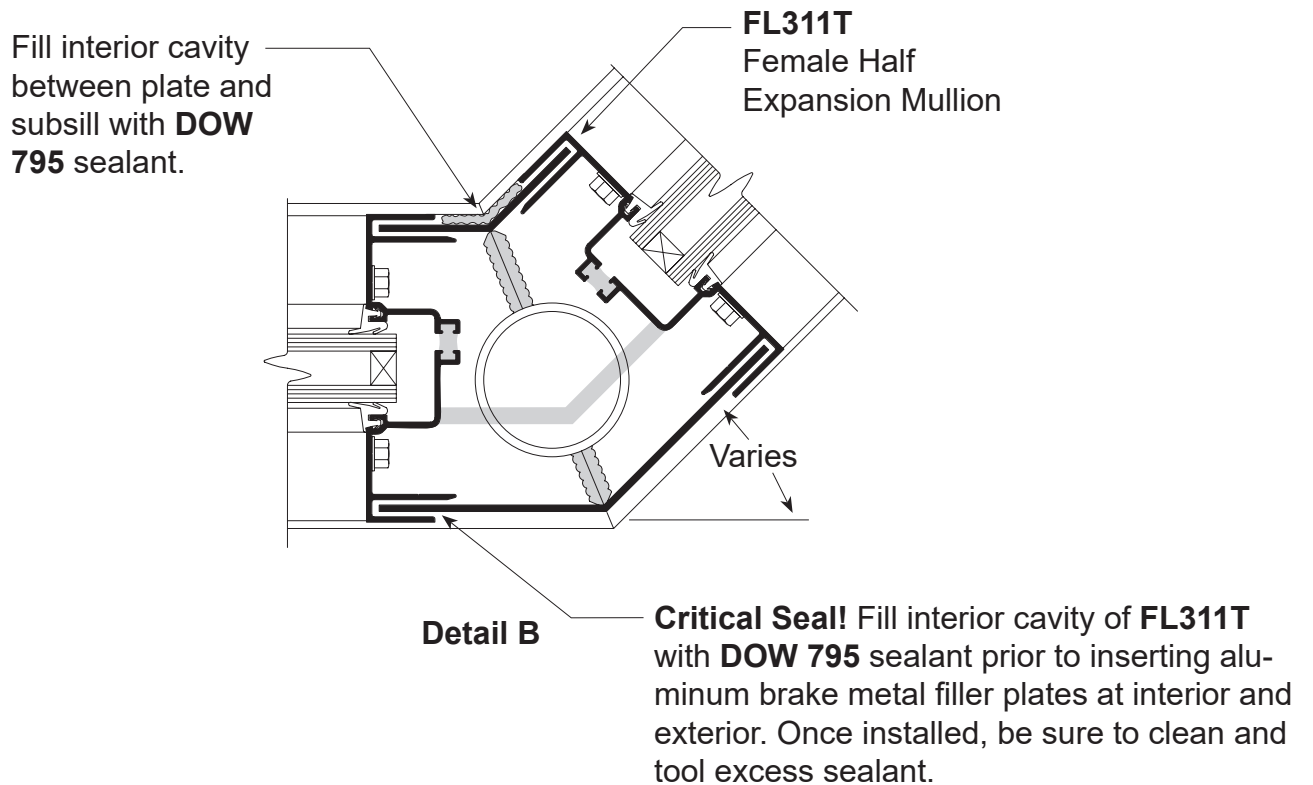
Fig. B.

FL353T

135° INSIDE / OUTSIDE CORNERS



BREAK METAL ANGLE CORNERS



GLASS SIZE FORMULAS

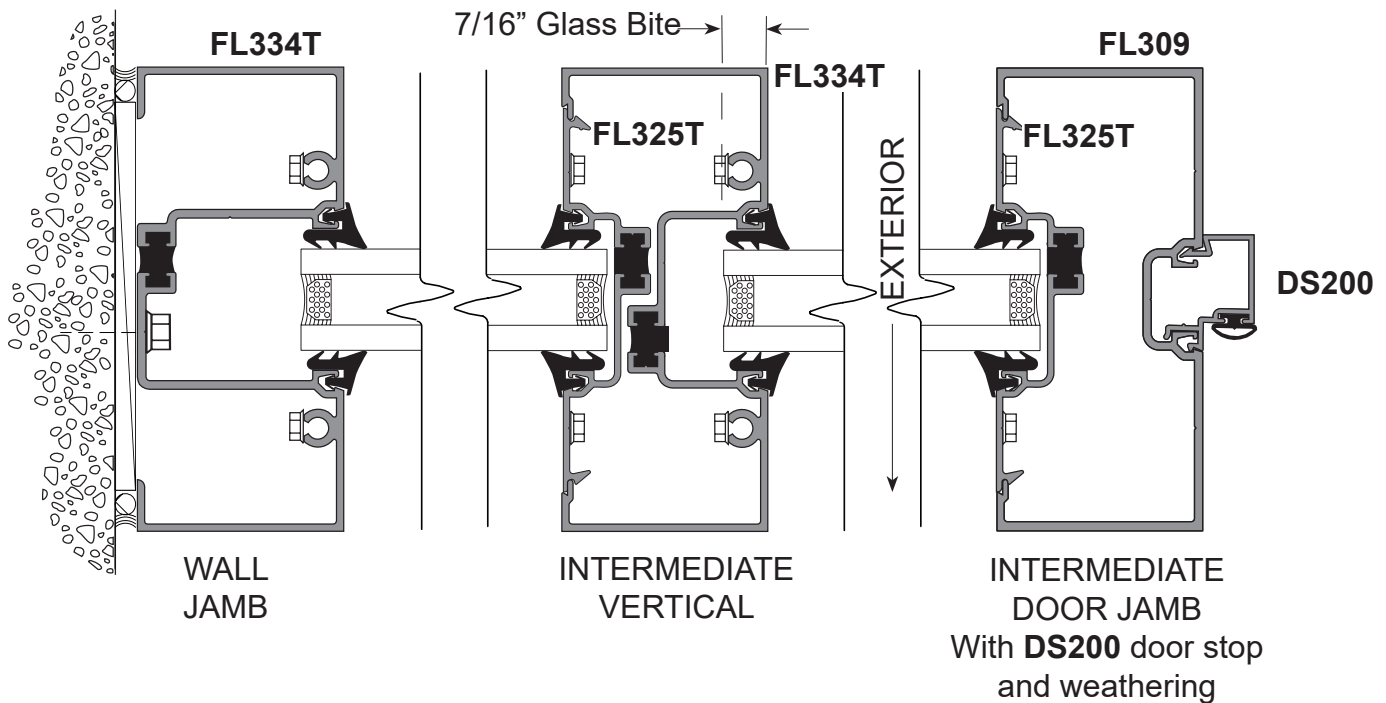
Glass Sizes for **FL300T** System:

Glass Width and Height = D.L.O. + 7/8"

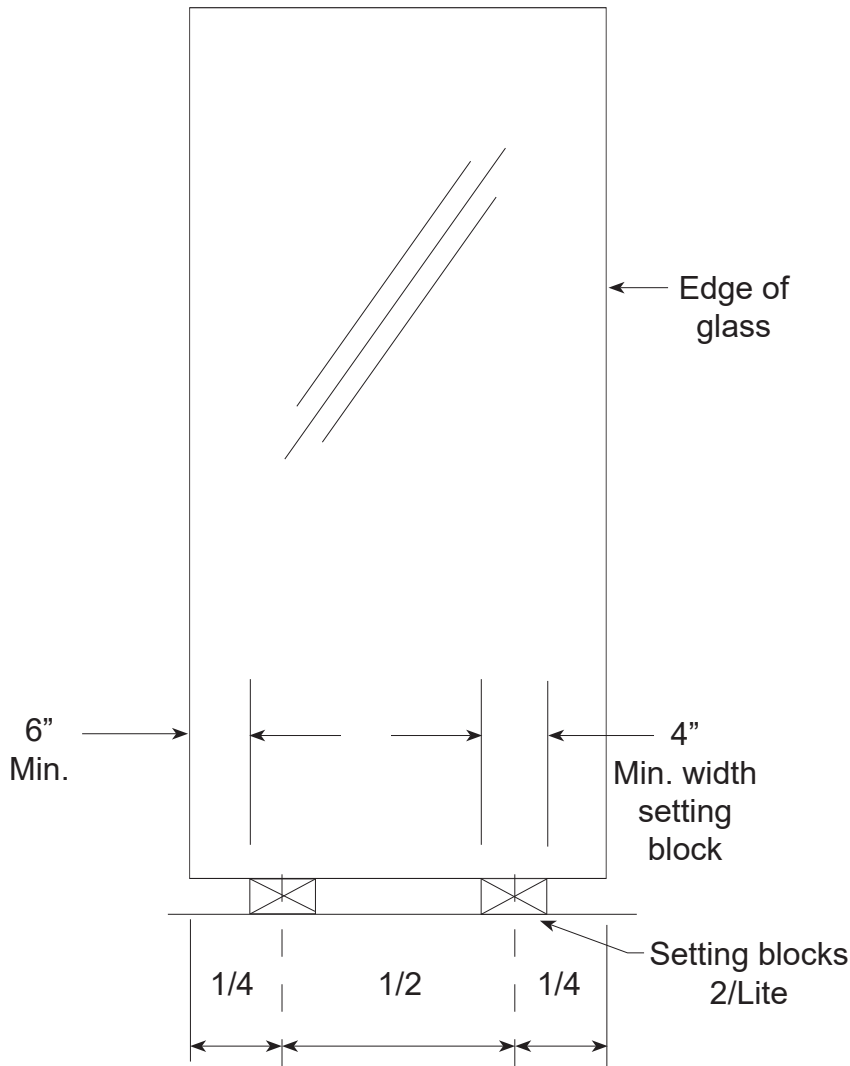
FL300T Door Frames with surface mounted closers
 Transom parts FL307T Transom bar and FL314T Header
 Width: door opening width - 1 1/8"
 Height: daylite opening + 7/8"

FL300T Door Frames with concealed closers
 Transom parts FL312 Transom bar and FL314T Header
 Width: door opening width - 1 1/8" (CS115/FL518 will be on both vertical sides)
 Height: daylite opening (taken from top of sash CS115 to bottom of FL314T) - 1/8"

Note: Glass tolerances are not addressed in the above formula.
 Consult glass manufacturer for glass tolerances prior to ordering.



PREPARATION OF FRAME OPENING FOR GLASS



1. Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

2. Install interior gasket as shown on **page 32**.

3. SETTING BLOCKS

Glass should be set on two identical setting blocks having a Shore A Durometer of 85 + or -5. The preferred location is at the 1/4 points.

If the 1/4 point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block **CANNOT** be closer than 6" to the corner of the glass.

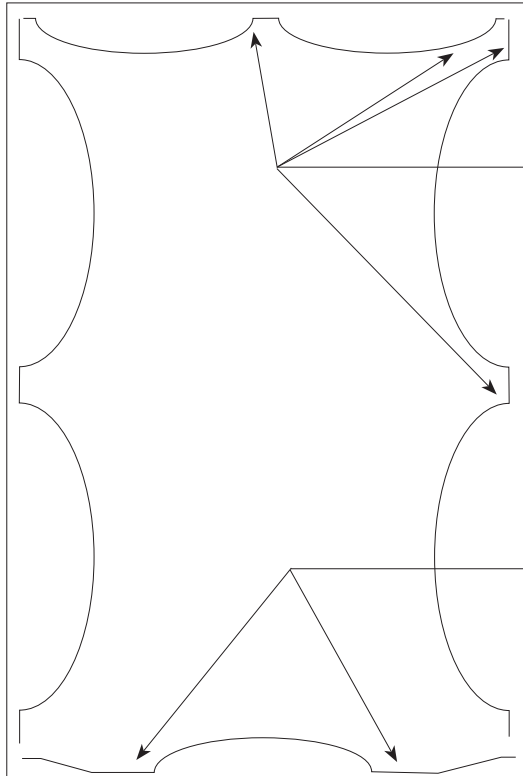
4. DEFLECTION

The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check dead load charts for proper setting block locations.

INSTALLATION OF TOP LOAD GLAZING GASKETS



NG1 glazing gasket
shown actual size.



Start jamb and
head gaskets at
corners and center.

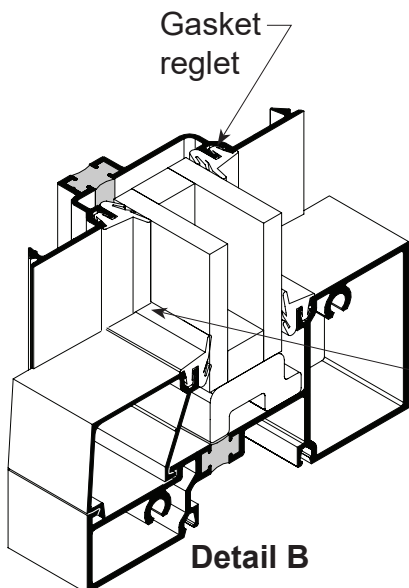
1. Cut gaskets a minimum of 3/16”
longer per foot than aluminum
extrusion.

Start gaskets at
setting blocks

2. **Do not stretch gasket to make
them fit.**

It is very important that gaskets
are installed correctly as shown
in **Detail “A”**, to prevent
shrinkage at corners.

Detail A



Seal corners of Gaskets.

3. Pull gaskets back 2” in both directions at
corner intersections & seal with **DOW 795**
silicone sealant. This should be done on
interior & exterior for best performance.

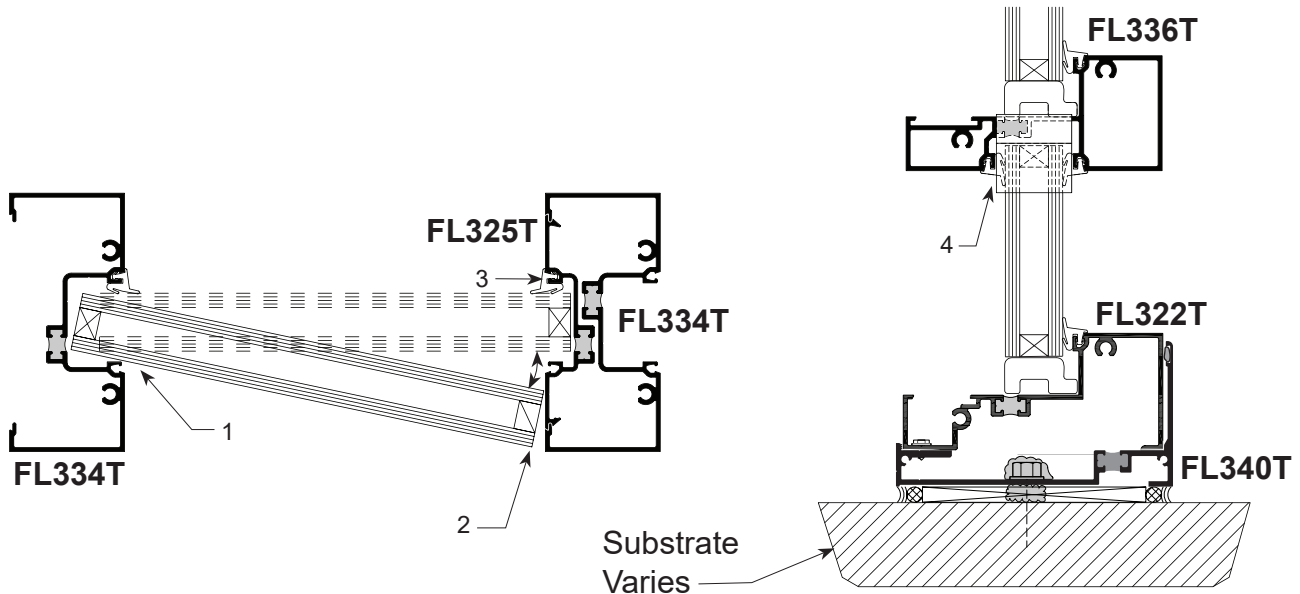
Detail B

EXTERIOR GLAZING GLASS SIZES*

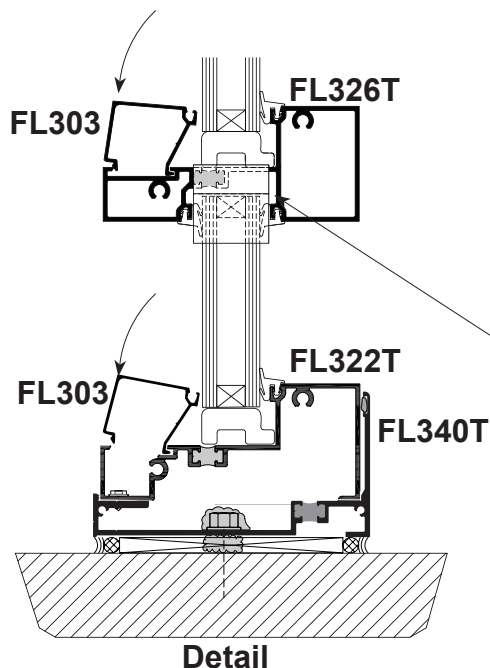
GLASS SIZE = DAYLIGHT OPENING + 7/8"

Consult glass manufacturer for glass tolerance before ordering glass.

* (See door frame instructions for glass size at transom.)

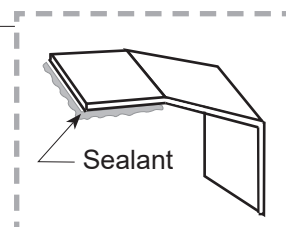


1. Install interior gasket. Vertical gaskets run through. **Reference Page 32.**
2. Set glass in place following the four step procedure shown above. Center glass in the opening, making sure proper glass penetration is achieved. Rest glass on setting blocks.
3. Press glass against installed gaskets and snap-in **FL303** Glass Stop as shown below.
4. Install **NG1** exterior gaskets as shown on **Page 32**. Make sure glass has been pushed back against the interior gaskets, if gaskets are hard to push in use a diluted mixture of window cleaner spray the cavity and gasket with same use a vinyl roller to push gasket in and smooth out.



Glaze from bottom to top.
Install **WD300-1** Water Diverter as shown before setting upper lite.

WD300-1 Water Diverter is embedded in sealant at each end of horizontal.

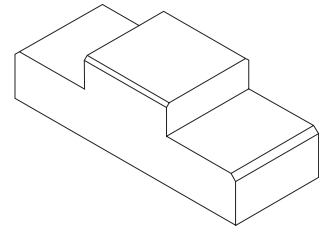


DOOR PREPARATION AND GLAZING

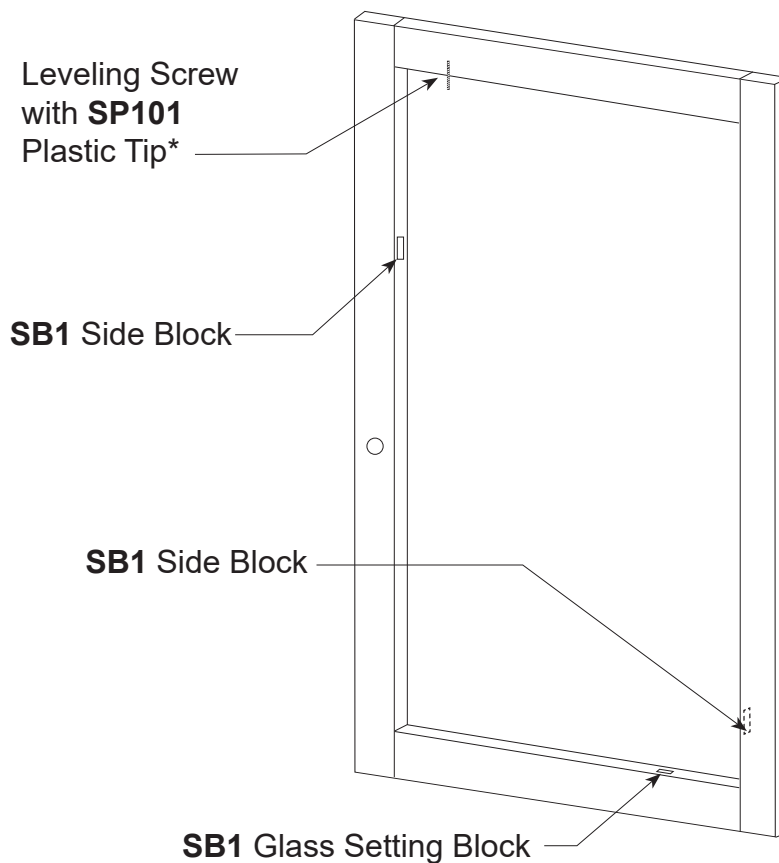
Door glass stops and gaskets are shipped loose.

1. Install SB1 Side blocks as shown below. (RH door shown, LH door will be opposite.)
2. Install **DG100** or **DG101** glass stops on interior side of door.
3. Center glass in opening on setting blocks and align with side blocks.
4. Once the glass is in the correct position, lightly screw the glass adjustment screw down with **SP101** plastic tip attached to the top of the glass.
5. Install horizontal door glass stops.
6. Square door using adjustment screw located in top rail of door as required.

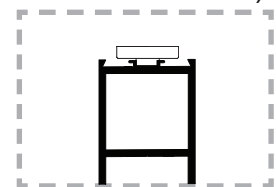
SB1



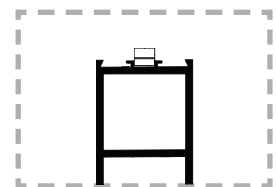
Side Block & Setting Block are Shown Inverted for Clarity



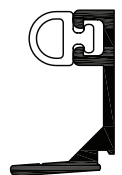
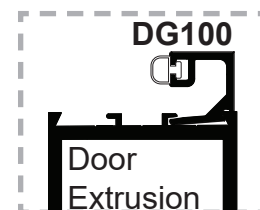
For 1" Glass (Rotate 90° From 1/4" Position)



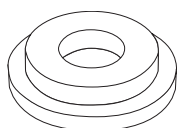
For 1/4" Glass



DG100 Glass Stop with bulb gasket and 1/4" glass
Use **DG101** Glass Stop for 7/8" insulating glass.



DG101

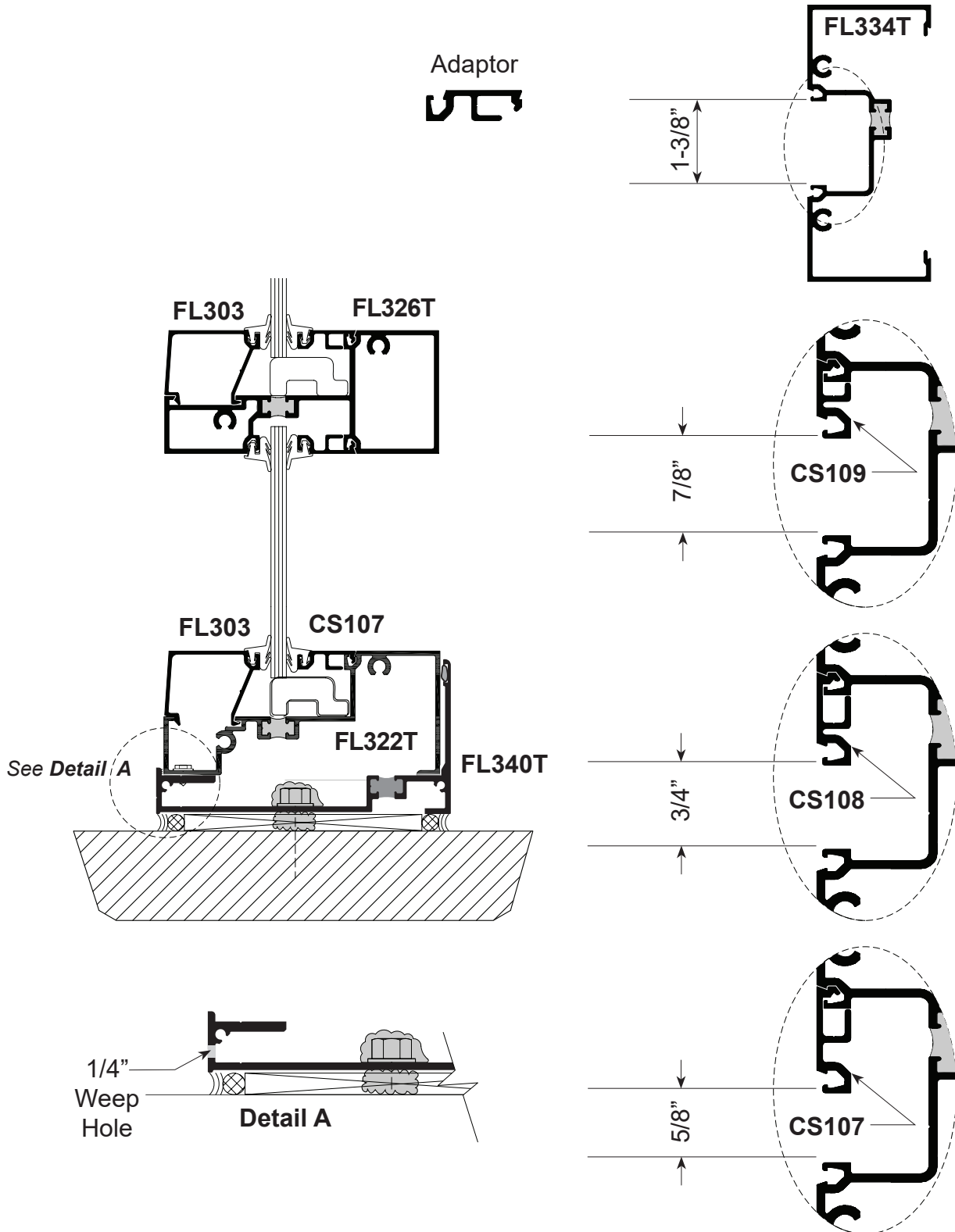


SP102

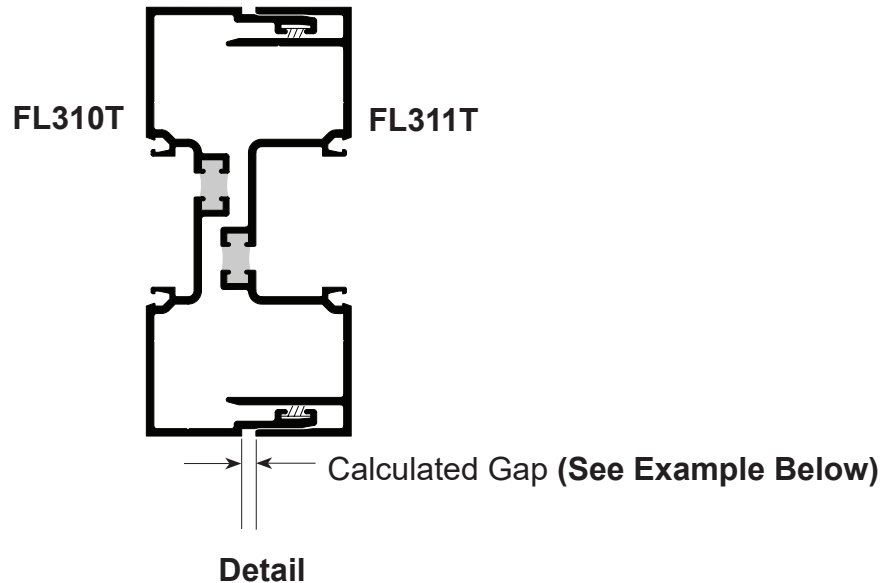
NOTE: If 7/8" glass is being glazed into door, install **SP102** plastic tip over **SP101**

SPECIAL CONDITIONS TRANSITION GLAZING

Adaptor



SPECIAL CONDITIONS EXPANSION MULLIONS



Calculated gap is determined by job conditions project specifications and temperature at the time of installation. Expansions mullions allow for 3/8" maximum movement.

EXPANSION GAP SIZE FORMULA= Length (") x F° difference x .0000129

L = Length in inches, between center line of expansion mullion in elevation.

F° = Specified Temperature Variation

.0000129 = Thermal Coefficient for Aluminum

FOR EXAMPLE:

Assume 100° temperature variation specified and temperature at job site on day of installation is 60°

1. 100° - 60° = 40° temperature difference
2. Length of elevation between expansion mullions equals 20'- 0" or 240"
3. 240" x .0000129 x 40° = .124" Therefore, set expansion mullion gap at .124" or 1/8".

NOTE: Charts shown are for reference only.
Anchor locations provided in shop drawings and/or product approvals shall supersede chart below.

PERIMETER FASTENERS:

- TYPICAL INSTALLATION INTO SUBSTRATES
 - 3000 PSI CONCRETE
 - STEEL, 1/8 GA. MIN.
 - HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - SO. PINE, GRADE NO. 2 OR BETTER
- FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

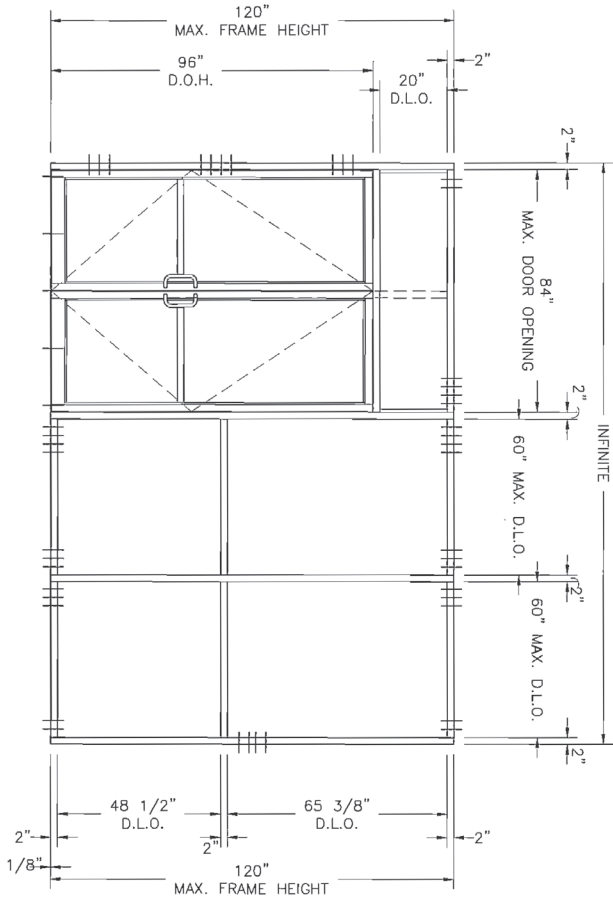
ANCHOR LENGTHS ARE SHOWN TO MEET MINIMUM EMBEDMENT.

DOOR PAIR DEPICTED, SINGLE DOORS QUALIFIED BY SAME.

FOR DOOR FRAMES WITHOUT SIDELITES, ANCHORING SHALL BE DUPLICATED ON BOTH JAMBS AS SHOWN (PAIRS AND/OR SINGLES).

DOOR FRAME JAMB ANCHORS	LOCATION	SPACING
#14 X 3" PAN ON THE HEAD WOOD SCREW		
FROM BOTTOM OF FRAME	11'-1/2", 14'-1/2", 17'-1/2"	(3) TOTAL
FROM CENTERLINE	1'-1/2", 4'-1/2" ABOVE CENTERLINE	(4) TOTAL
FROM BOTTOM OF DOOR HEADER	11'-1/2", 14'-1/2", 17'-1/2"	(3) TOTAL

NOTE:
DOOR FRAMES WITH AND WITHOUT TRANSOM SHALL BE ANCHORED AS SHOWN ON CHART ABOVE.



HEAD AND SILL
#14 X 3" WOOD SCREWS WITH 2" MIN. EMBEDMENT, 1-3/4" MIN. EDGE DISTANCE. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 3" MIN. SPACING.

WOOD SUBSTRATE - 3" THICK ANCHOR LOCATIONS

THRESHOLD ANCHORS	LOCATION	SPACING
1/4" X 2-1/2" FHP TAPCON OR EQUAL - 1-3/4" MINIMUM EMBEDMENT, 2-1/2" MIN. EDGE DISTANCE		
SINGLE DOORS UP TO 48"	(1) EACH 4" FROM EACH JAMB	(2) ANCHORS TOTAL
(3 ANCHORS TOTAL)	(1) EACH AT CENTER LINE OF DOOR OPENING	
	(1) EACH AT 4" FROM EACH JAMB	
PAIRS DOORS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING	(2) ANCHORS TOTAL
(3 ANCHORS TOTAL)	(1) EACH BETWEEN CENTER LINE AND JAMB ANCHORS	

NOTE:
WOOD FRAMING THAT IS LESS THAN 2-1/2" SPACING SHALL BE CONSIDERED BLOCKING. STOREFRONT FRAMING SHALL BE FASTENED THROUGH JAMB INTO STEEL OR CONCRETE SUBSTRATE.

JAMB
#14 X 3" WOOD SCREWS WITH 2" MIN. EMBEDMENT, 1-3/4" MIN. EDGE DISTANCE. LOCATE (1) ANCHOR @ 1'-1/2" ABOVE AND BELOW CENTERLINE AND ADDITIONAL FASTENERS @ 3" MIN. SPACING.

NOTE:
MULLION JAMB ANCHORS MAY BE OMITTED FOR HEIGHTS LESS THAN 9'-0"

BROADWAY ENGINEERING, PA
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www.broadway-eng.com
Certificate of Authorization No. 4589

FLORIDA PRODUCT APPROVAL DRAWINGS FOR FL300T

WOOD FASTENER LOCATIONS

PRODUCT NO.	FL300T
DATE	3/29/18
DESIGN	056
CHECKED	056
DATE	3/29/18
APPROVED	056
DATE	3/29/18
SHEET	14 OF 17

Coral
Architectural Products
3010 RICE BUNGE ROAD, TUSCALOOSA, AL 35400
PHONE 800-772-7727 FAX 800-255-7320

REV	BY	DATE	DESCRIPTION

NOTE: Charts shown are for reference only.
Anchor locations provided in shop drawings and/or product approvals shall supersede chart below.

PERIMETER FASTENERS:

- TYPICAL INSTALLATION INTO SUBSTRATES
 - A. 3000 PSI CONCRETE
 - B. STEEL, 18 GA. MIN.
 - C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - D. SO. PINE, GRADE NO. 2 OR BETTER

- FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS ARE SHOWN TO MEET MINIMUM EMBEDMENT.
DOOR PAIR DEPICTED. SINGLE DOORS QUALIFIED BY SAME.

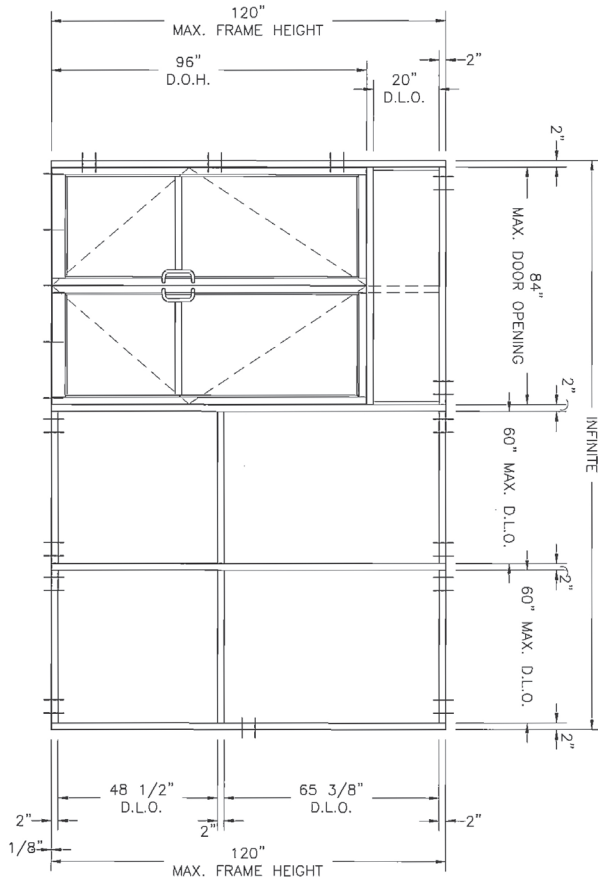
FOR DOOR FRAMES WITHOUT SIDELITES, ANCHORING SHALL BE DUPLICATED ON BOTH JAMBS AS SHOWN (PAIRS AND/ OR SINGLES).

DOOR FRAME JAMB ANCHORS 1/4" X 3" HEX OR FLAT HEAD TAPCONS	
LOCATION	SPACING
FROM BOTTOM OF FRAME (2) TOTAL	8-1/2", 12-1/2"
FROM CENTERLINE (2) TOTAL	2" ABOVE CENTERLINE 2" BELOW CENTERLINE
FROM BOTTOM OF DOOR HEADER (2) TOTAL	8-1/2", 12-1/2"

NOTE:
DOOR FRAMES WITH AND WITHOUT TRANSOM SHALL BE ANCHORED AS SHOWN ON CHART ABOVE.

THRESHOLD ANCHORS	
1/4" X 2-1/2" FHP TAPCON OR EQUAL - 1-3/4" MINIMUM EMBEDMENT, 2-1/2" MIN. EDGE DISTANCE	
SINGLE DOORS UP TO 48" (3 ANCHORS TOTAL)	(1) EACH 4" FROM EACH JAMB (1) EACH AT CENTER LINE OF DOOR OPENING
PAIRS DOORS UP TO 96" (6 ANCHORS TOTAL)	(1) EACH AT 4" FROM EACH JAMB (1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND JAMB ANCHORS

**CONCRETE SUBSTRATE
ANCHOR LOCATIONS**



HEAD AND SILL
1/4" X 2-1/2" TAPCON WITH 1-3/4" MIN. EMBEDMENT MIN. 4" SPACING. 2-1/2" MIN. EDGE DISTANCE. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 4" MIN. SPACING.

JAMB
1/4" X 2-1/2" TAPCON WITH 1-3/4" MIN. EMBEDMENT. 2-1/2" MIN. EDGE DISTANCE. LOCATE (1) ANCHOR @ 2" ABOVE AND BELOW CENTERLINE

NOTE:
MULLION JAMB ANCHORS MAY BE OMITTED FOR HEIGHTS LESS THAN 9'-0"



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Certified of Authorization No. 4399
BE-4870

FLORIDA PRODUCT APPROVAL DRAWINGS FOR FL300T

CONCRETE FASTENER LOCATIONS



3019 RICE MINE ROAD TUSCALOOSA, AL 35408
PHONE 800-772-7737 FAX 660-255-7330

REV	BY	DATE	DESCRIPTION

NOTE: Charts shown are for reference only.
Anchor locations provided in shop drawings and/or product approvals shall supersede chart below.

PERIMETER FASTENERS:

1. TYPICAL INSTALLATION INTO SUBSTRATES
 - A. 3000 PSI CONCRETE
 - B. STEEL, 1/8 GA. MIN.
 - C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - D. SO. PINE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

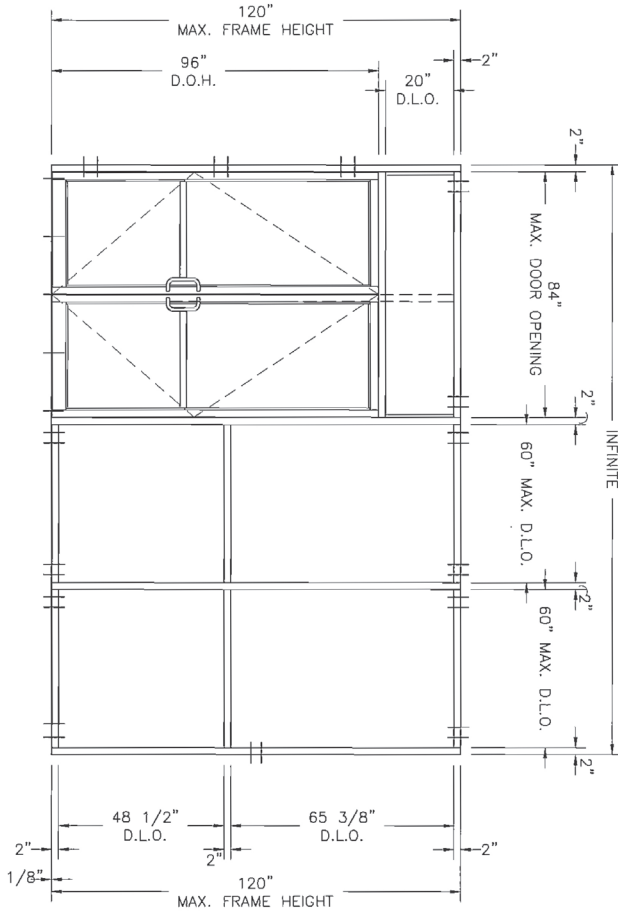
ANCHOR LENGTHS ARE SHOWN TO MEET MINIMUM EMBEDMENT. DOOR PAIR DEPICTED, SINGLE DOORS QUALIFIED BY SAME.

FOR DOOR FRAMES WITHOUT SIDELITES, ANCHORING SHALL BE DUPLICATED ON BOTH JAMBS AS SHOWN (PAIRS AND/OR SINGLES).

DOOR FRAME JAMB ANCHORS	
LOCATION	SPACING
1/4" X 2-1/2" TEK 3 HEX OR FLAT HEAD SCREWS	
FROM BOTTOM OF FRAME (2) TOTAL	8-1/2", 12-1/2"
FROM CENTERLINE (2) TOTAL	2" ABOVE CENTERLINE 2" BELOW CENTERLINE
FROM BOTTOM OF DOOR HEADER (2) TOTAL	8-1/2", 12-1/2"

NOTE:
DOOR FRAMES WITH AND WITHOUT TRANSOM SHALL BE ANCHORED AS SHOWN ON CHART ABOVE.

THRESHOLD ANCHORS	
1/4" X 2-1/2" F-HP TAPCON OR EQUAL - 1-3/4" MINIMUM EMBEDMENT, 2-1/2" MIN. EDGE DISTANCE	
SINGLE DOORS UP TO 48" (3 ANCHORS TOTAL)	(1) EACH 4" FROM EACH JAMB (1) EACH AT CENTER LINE OF DOOR OPENING
PAIRS DOORS UP TO 96" (5 ANCHORS TOTAL)	(1) EACH AT 4" FROM EACH JAMB (1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND JAMB ANCHORS



**LIGHT GAUGE MIN. 18 GA. STEEL
SUBSTRATE ANCHOR LOCATIONS**

HEAD AND SILL.
1/4" X 2-1/2" TEK 3 SCREW.
LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL ANCHORS @ 2" MIN. SPACING.

JAMB
1/4" X 2-1/2" TEK 3 SCREW.
LOCATE (1) ANCHOR @ 1" ABOVE AND BELOW CENTERLINE

NOTE:
MULLION JAMB ANCHORS MAY BE OMITTED FOR HEIGHTS LESS THAN 9'-0"



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813-251-9244
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Elza, Inc. 4000 Broadway - Eng. Cam
Professional Engineer - FL3000
FLORIDA REGISTRATION NO. 659

FLORIDA PRODUCT
APPROVAL DRAWINGS FOR FL300T

LIGHT GAUGE STEEL FASTENER LOCATIONS

Coral
Architectural Products
3010 RICE MIKE ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7727 FAX: 800-255-7320

PROJECT NO.	TAJOUR
DATE	3/28/18
CHECKED	MS
APPROVED	EMB
SHEET	16 OF 17

REV	BY	DATE	DESCRIPTION

NOTE: Charts shown are for reference only.
Anchor locations provided in shop drawings and/or product approvals shall supersede chart below.

PERIMETER FASTENERS:

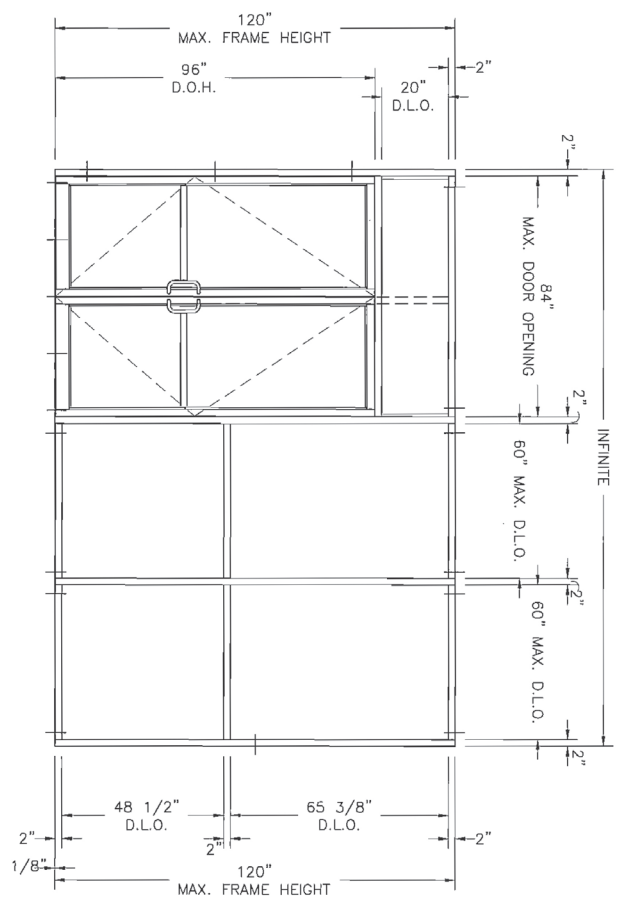
1. TYPICAL INSTALLATION INTO SUBSTRATES
 - A. 3000 PSI CONCRETE
 - B. STEEL, 18 GA. MIN.
 - C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - D. SO. PINE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS ARE SHOWN TO MEET MINIMUM EMBEDMENT.
DOOR PAIR DEPICTED, SINGLE DOORS QUALIFIED BY SAME.

FOR DOOR FRAMES WITHOUT SIDELITES, ANCHORING SHALL BE DUPLICATED ON BOTH JAMBS AS SHOWN (PAIRS AND/ OR SINGLES).

LOCATION	SPACING
DOOR FRAME JAMB ANCHORS 1/4-14 X 2-1/2" TEK 3 HEX OR FLAT HEAD SCREWS OR 1/4" X 2-1/2" BOLT	
FROM BOTTOM OF FRAME (1) TOTAL	8-1/2"
FROM CENTERLINE (1) TOTAL	AT CENTERLINE
FROM BOTTOM OF DOOR HEADER (1) TOTAL	8-1/2"

NOTE:
DOOR FRAMES WITH AND WITHOUT TRANSOM SHALL BE ANCHORED AS SHOWN ON CHART ABOVE.



HEAD AND SILL
1/4" X 2" PAN HEAD OR TEK SCREW
OR
1/4" X 2" TYPE F BOLT OR STANDARD SAE BOLT AND TAP
OR
1/4" X 2" BOLT, NUT, AND WASHER
LOCATE ANCHORS 2" FROM EDGE OF MULLION.

**HOT ROLLED STEEL
SUBSTRATE ANCHOR LOCATIONS**

THRESHOLD ANCHORS	
1/4" X 2-1/2" FHP TAPCON OR EQUAL - 1-3/4" MINIMUM EMBEDMENT, 2-1/2" MIN. EDGE DISTANCE	
SINGLE DOORS UP TO 48" (3 ANCHORS TOTAL)	(1) EACH 4" FROM EACH JAMB (1) EACH AT CENTER LINE OF DOOR OPENING
PAIRS DOORS UP TO 96" (5 ANCHORS TOTAL)	(1) EACH AT 4" FROM EACH JAMB (1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND JAMB ANCHORS

JAMB
1/4" X 2-1/2" TEK 3 SCREW OR BOLT
LOCATE ANCHOR @ CENTERLINE

NOTE:
MULLION JAMB ANCHORS MAY BE OMITTED FOR HEIGHTS LESS THAN 9'-0"



BROADWAY ENGINEERING, P.A.
1335 W. Case Street
Tampa, Florida 33606 813-251-9244
Cell: 813-391-3330 Fax: 813-251-9244
www.broadwayeng.com

FLORIDA PRODUCT APPROVAL DRAWINGS FOR FL300T

HOT ROLLED STEEL FASTENER LOCATIONS

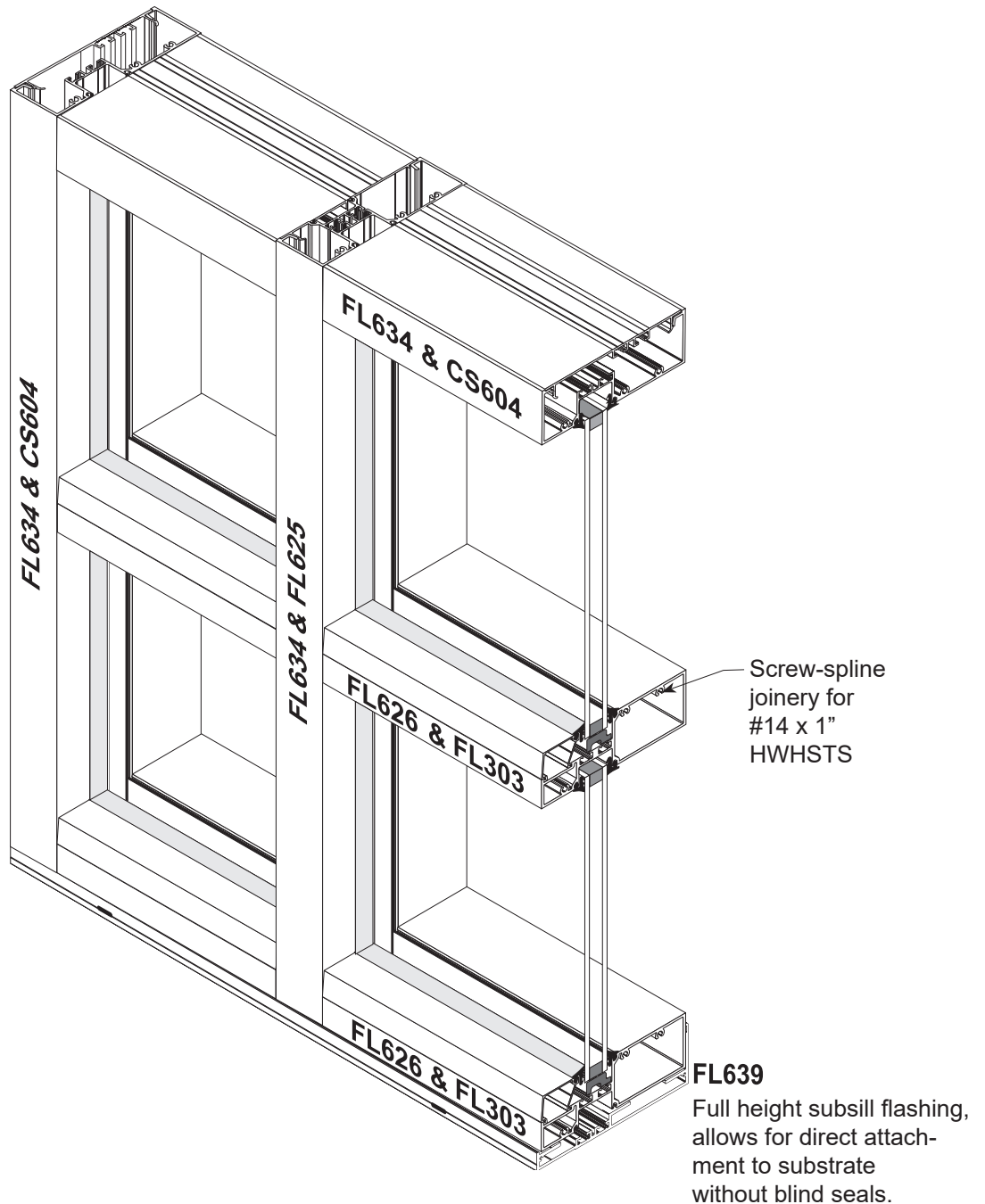
Coral
Architectural Products
3010 RICE MINE ROAD, TUSCALOOSA, AL 35406
PHONE 800-772-7121 FAX 205-255-7100

REV	BY	DATE	DESCRIPTION

FL600

STOREFRONT SYSTEM

INSTALLATION INSTRUCTIONS 2-1/4" x 6" for 1" Glass



3010 Rice Mine Road, Tuscaloosa, Alabama 35406
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Coral
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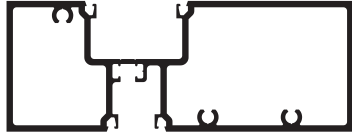



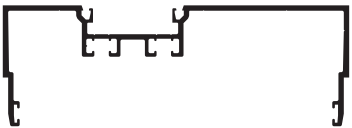
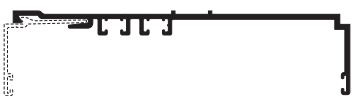
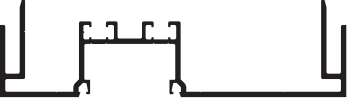
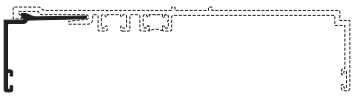

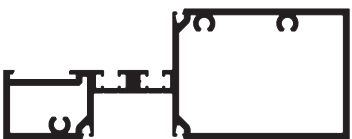


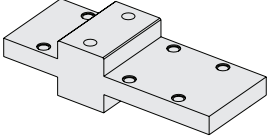


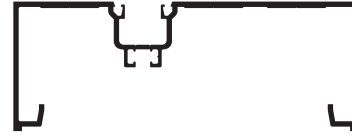



STOREFRONT SYSTEM

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.















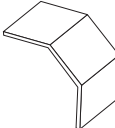

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FL600T SYSTEM PARTS

PARTS			
PART DESCRIPTION	PART NO.	PART DESCRIPTION	PART NO.
 Head/Jamb and Vertical (Deep Pocket)	FL634	 Door Header	FL607
 Flat Filler (Head/Wall Jamb)	CS604	 "F" Clip	CS601
 Filler (For Vertical)	FL625	 Expansion Mullion (Male)	FL610
 Head Expander	CS619	 Expansion Mullion (Female)	FL611
 Interlocking Stop (Snap fits with CS619 interlocking stop)	CS118	 Heavy Wall Frame Jamb	FL649
 Sill/Intermediate Horizontal	FL626	 Concealed Closer Header	FL612
 Glass Stop	FL303	 Drill Jig	DJ600
 Subsill	FL639	 Door Stop	DS200
 Door Jamb	FL609	 Door Stop	DS600
 Threshold	TH5BT	 Setting Block	SB3

FL600T SYSTEM PARTS

PARTS			
PART DESCRIPTION	PART NO.	PART DESCRIPTION	PART NO.
 FL518	FL518	 Weathering for D200	WP200
 CS115	CS115	 Schnee-Morehead SM5601 1/8" x 1/2" Tacky Tape	SM5601
 CS105	CS105	 EPDM Gasket (Standard Gasket for 1/4" Glazing)	NG1
 CS106	CS106	 Vinyl Gasket (Standard Weathering Gasket for FL210 and CS118 / CS119)	VG10
 CS107	CS107	 AS56	AS56
 CS108	CS108	 AS16	AS16
 CS109	CS109	 AS31	AS31
		 Water Diverter	WD300-1
		 End Dam	ED639

INSTALLATION INSTRUCTIONS - General Installation Information -

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS

- General Installation Information -

- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.

ESTABLISH FRAME SIZE

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 1-1/8" allowing 5/8" for FL639T subsill and a 1/4" caulk joint at the head and and a 1/4" shim and caulk beneath the subsill.

STEP 2.

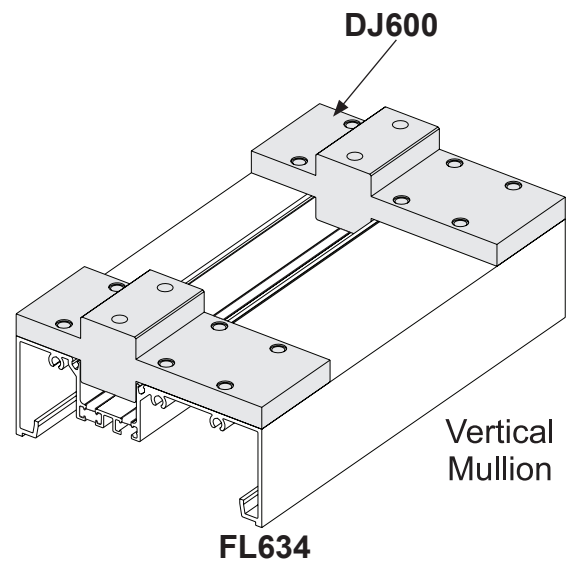
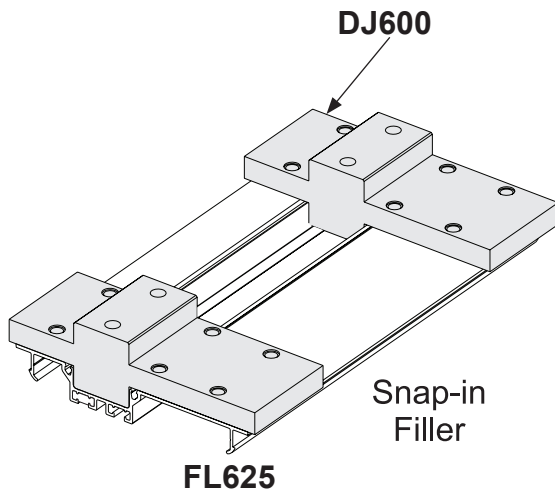
Cut members to size.

- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations will butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

FRAME FABRICATION

STEP 3.

Mark location for horizontals on vertical extrusions and drill holes for screw spline. Reference **STEP 4** for correct orientation of drill jig.

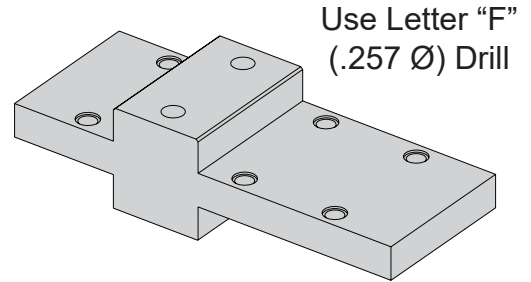
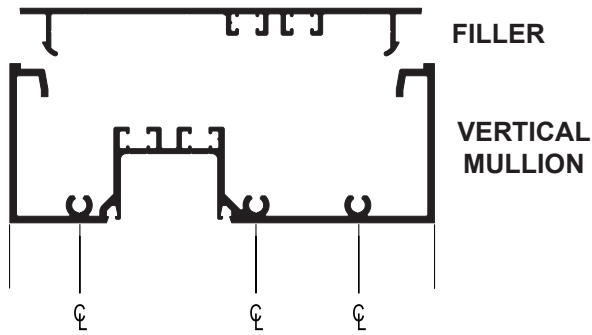


Note: Offset depth hands parts make sure to check handing of parts prior to any fabrication.

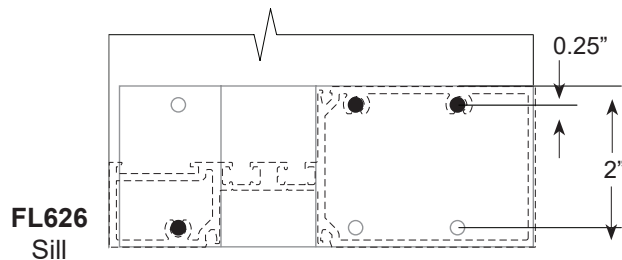
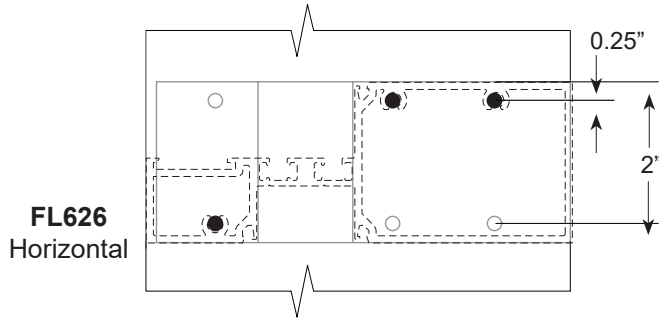
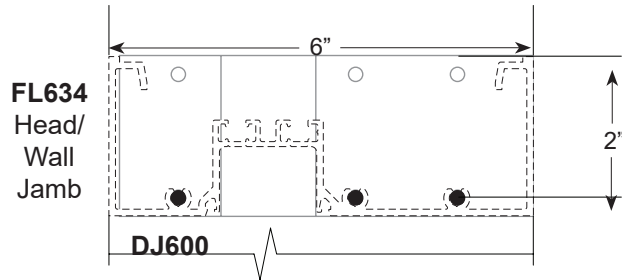
FRAME FABRICATION

STEP 4.

Drill or punch holes in verticals for attaching horizontals.



EXTERIOR GLAZING

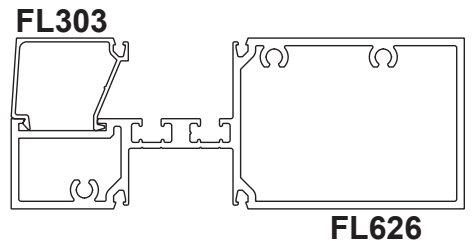
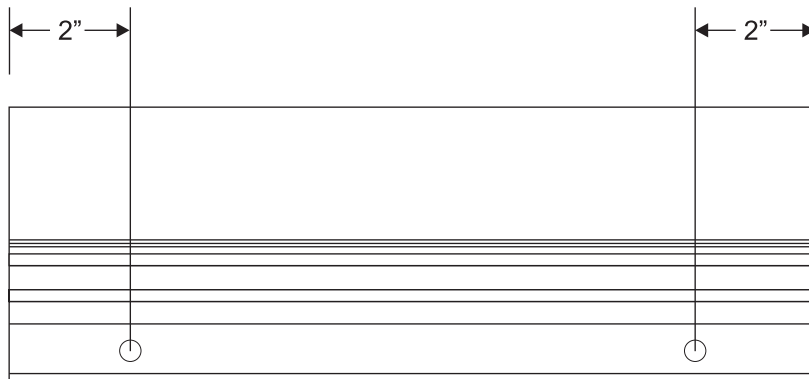
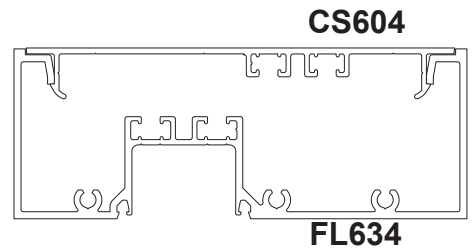
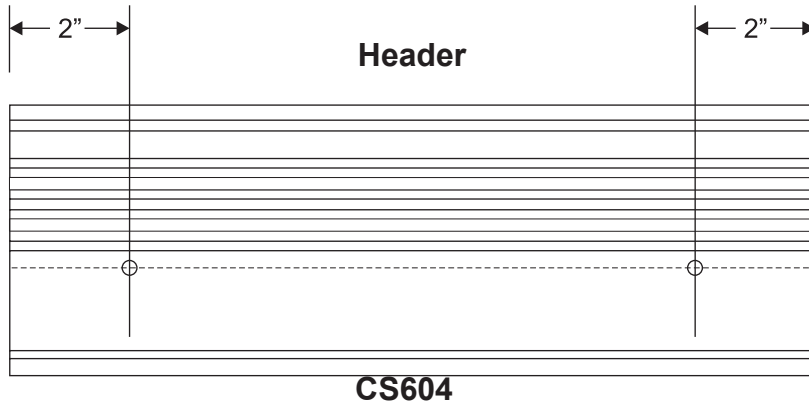


Note: Vertical at door jamb extends to floor

FRAME FABRICATION

STEP 6.

Fabricate head and sill anchor holes. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end. Each additional fastener hole is located at required minimum spacing between fasteners based on substrate as shown in anchor charts. See page 35.

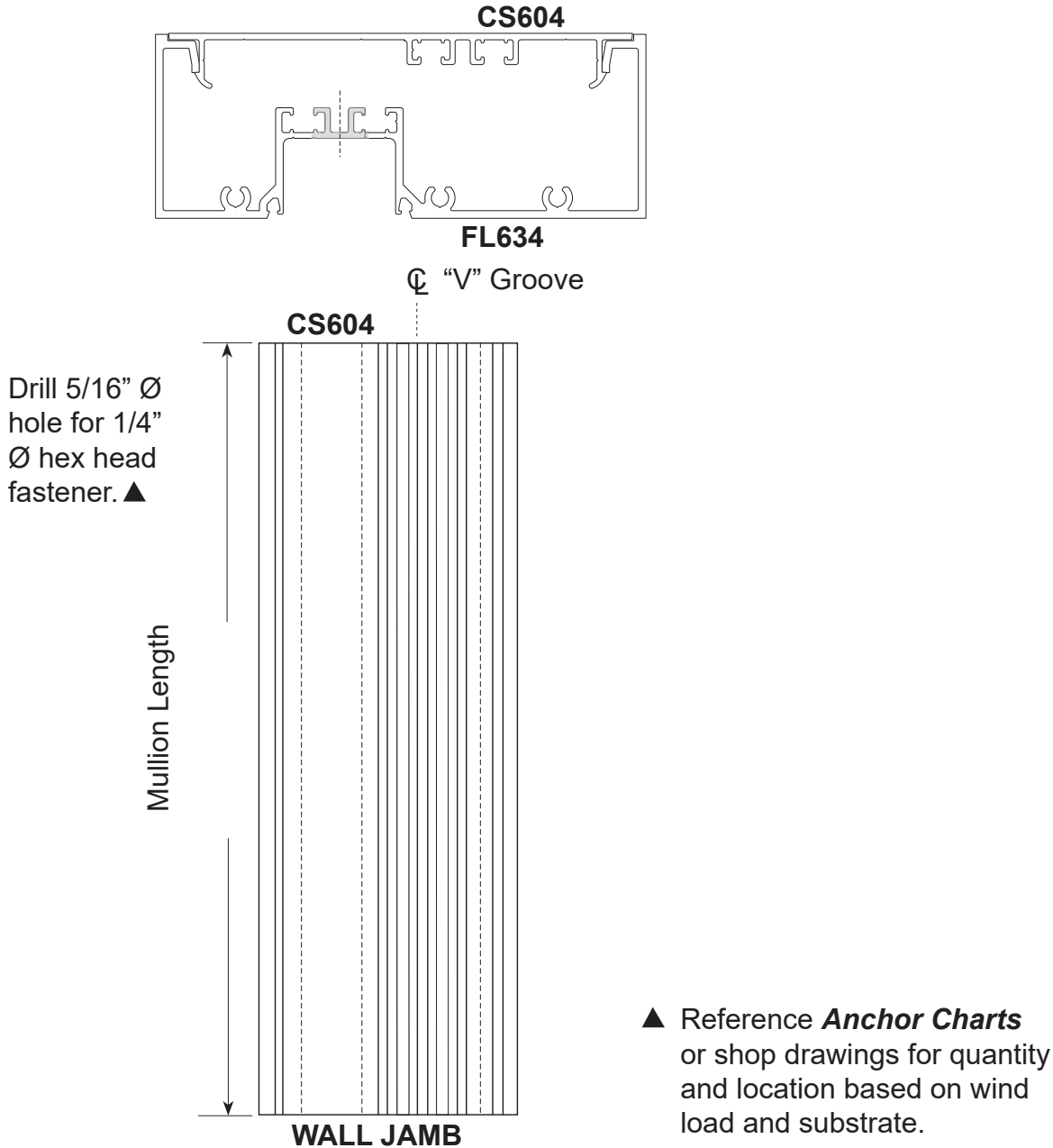


Drill 9/32" Ø clear hole for attaching **FL626** to **FL639** subsill with **AS56 1-1/4" x #12 SSPHPSMS** fastener.

FRAME FABRICATION

STEP 7.

Fabricate wall jamb for anchor holes when required. (**Reference Anchor Charts Page 37**) CS601 F clip can be used at this location in lieu of jamb anchors.



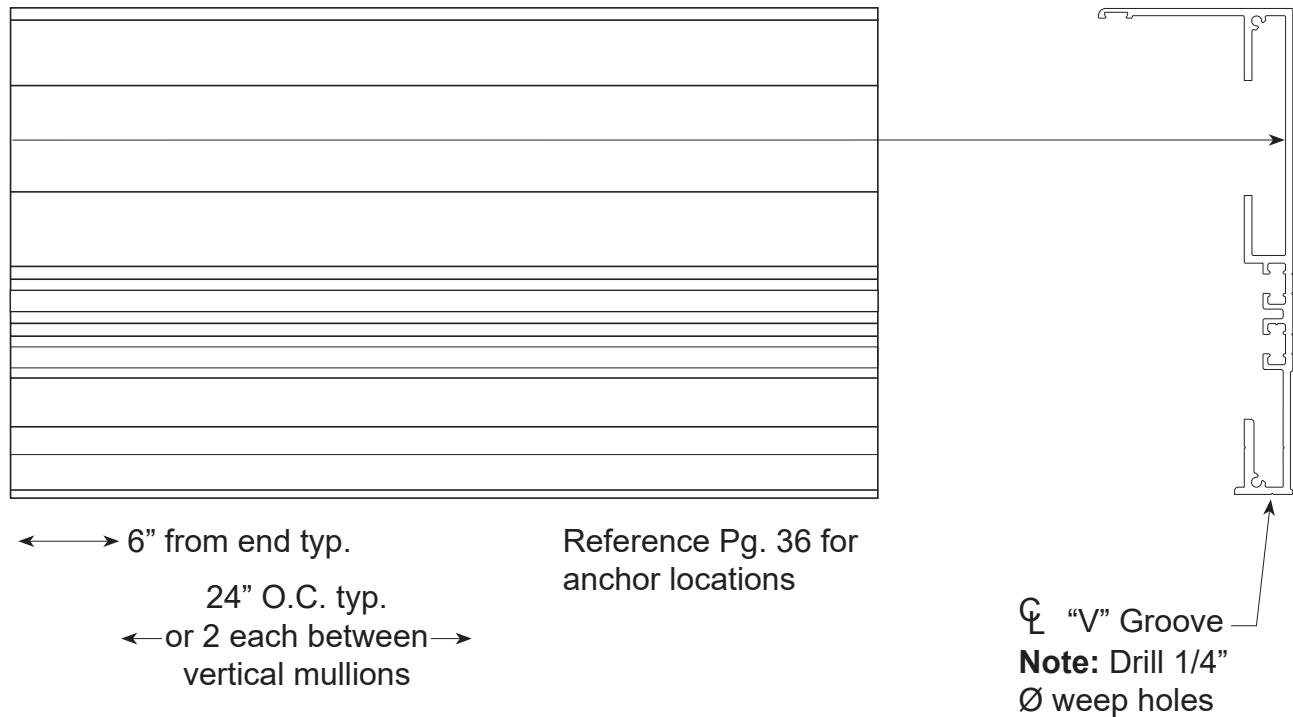
Note: Do not locate anchor holes at intersection of intermediate horizontal. Locate hole just above or below horizontal. Check anchor chart for spacing and quantity based on substrate.

FRAME FABRICATION

STEP 8.

Fabricate **FL639** subsill flashing for 1/4" Ø hex head structural fastener and weep holes. Hole location dimensions for fasteners in subsill are approximate. Drill 1/4" Ø weep holes as shown.

SUBSILL FLASHING

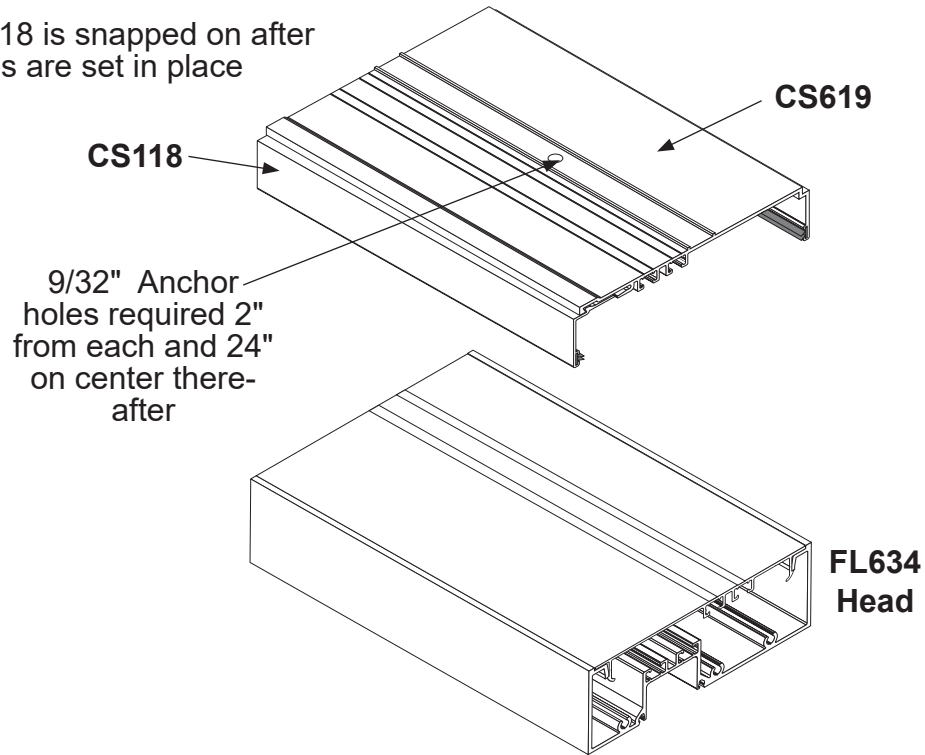


1. Drill 1/4" Ø weep holes in locations as shown. Locate one weep hole 6" from each end and additional holes approximately 48" on center. Total weep holes should average 2 each between each vertical mullion.

FRAME FABRICATION

Using Optional FL634 with CS619 and CS118
Not to be used in areas above 25PSF without PE Review

Note: CS118 is snapped on after frames are set in place



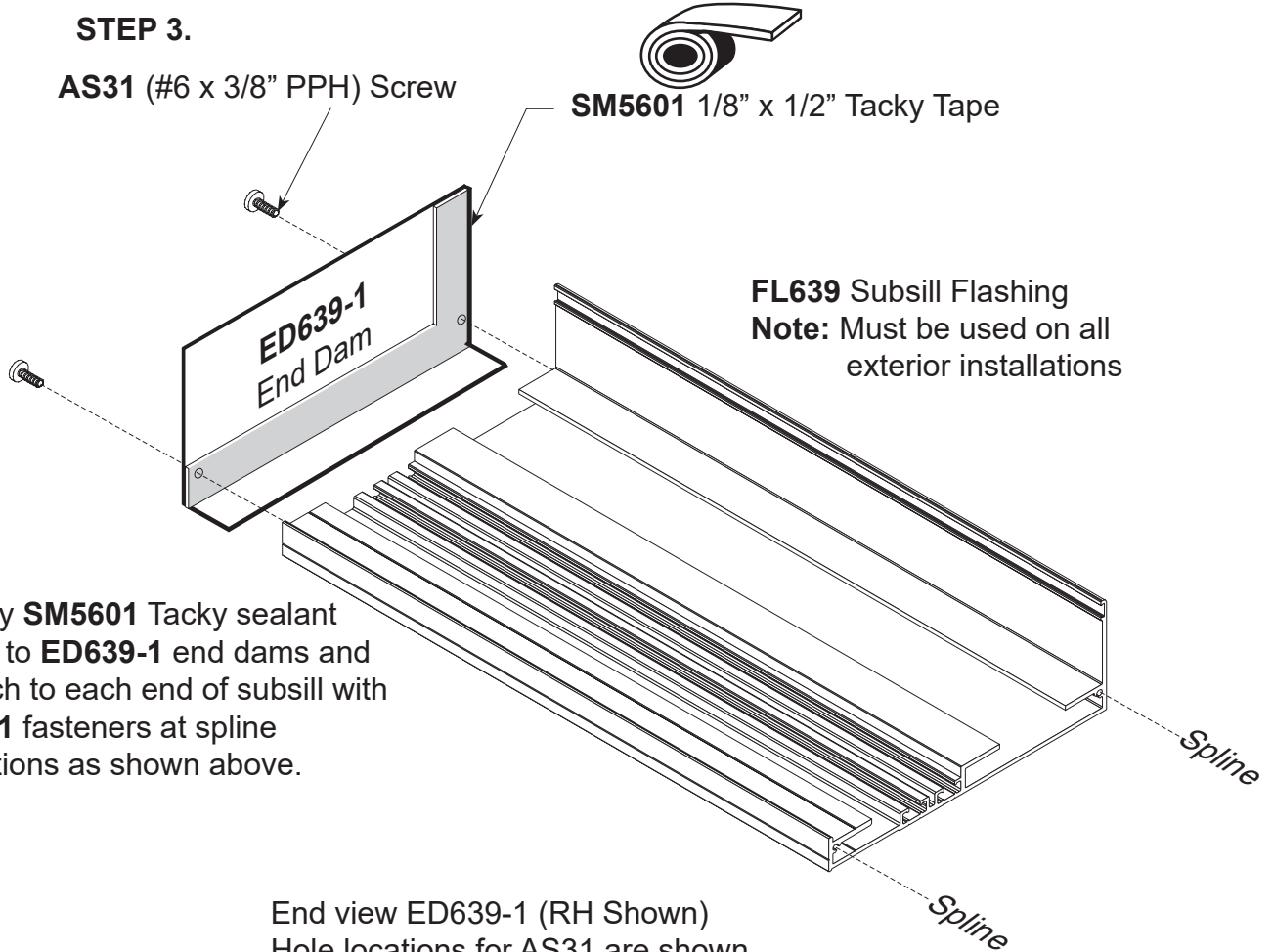
FRAME ASSEMBLY

Note: Wipe all surfaces with isopropyl alcohol to remove cutting oils and debris prior to applying SM5601 joint tape or sealants.

STEP 3.

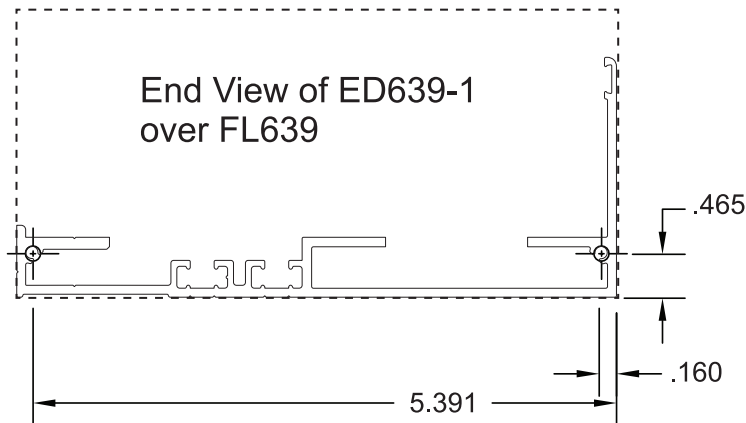
AS31 (#6 x 3/8" PPH) Screw

SM5601 1/8" x 1/2" Tacky Tape



Apply **SM5601** Tacky sealant tape to **ED639-1** end dams and attach to each end of subsill with **AS31** fasteners at spline locations as shown above.

End view ED639-1 (RH Shown)
Hole locations for AS31 are shown below and are from the underside of ED639-1 End dam

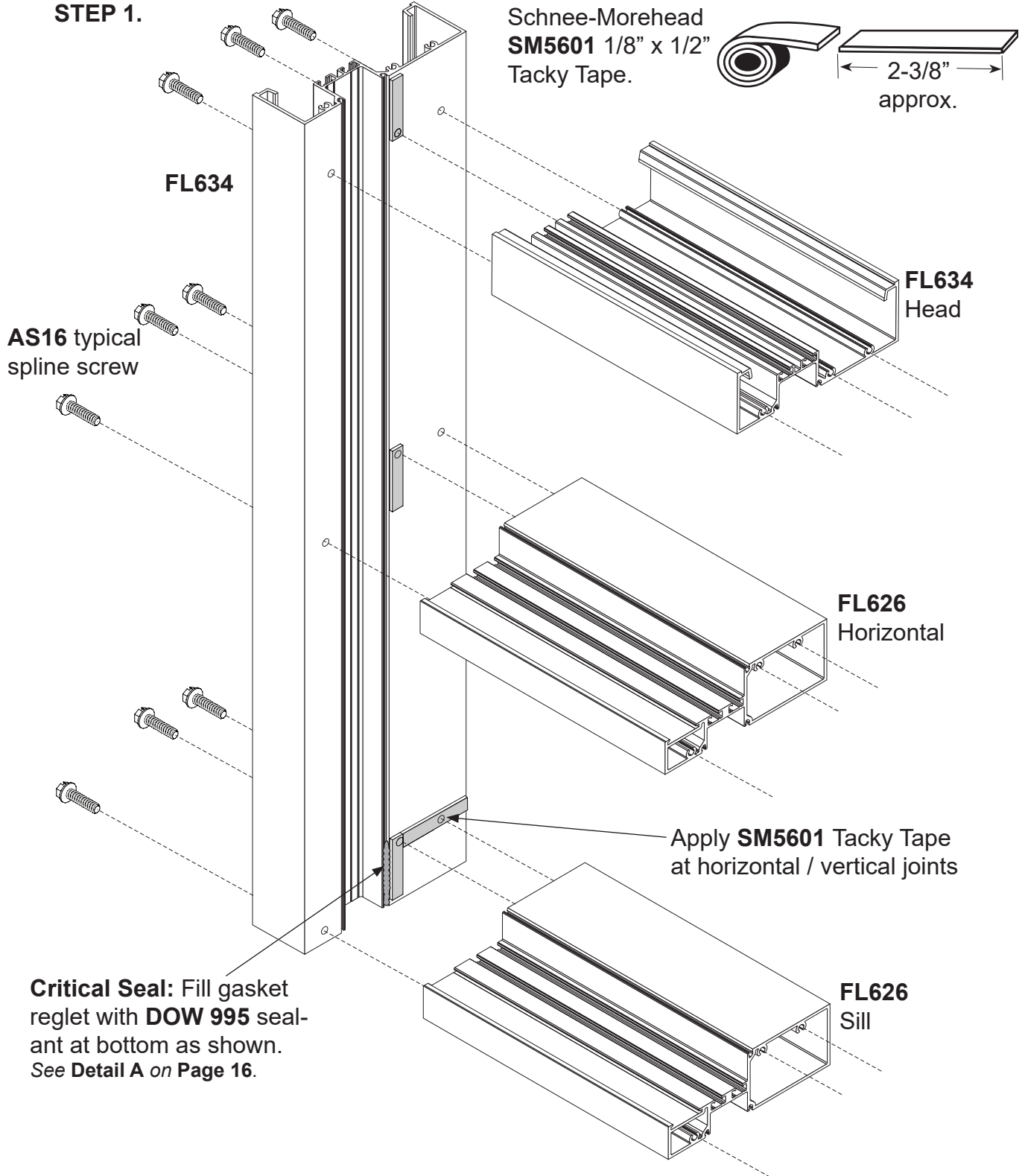


Locate holes as shown drill size required #21

FRAME ASSEMBLY - EXTERIOR GLAZING

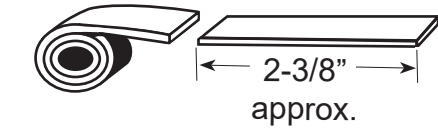
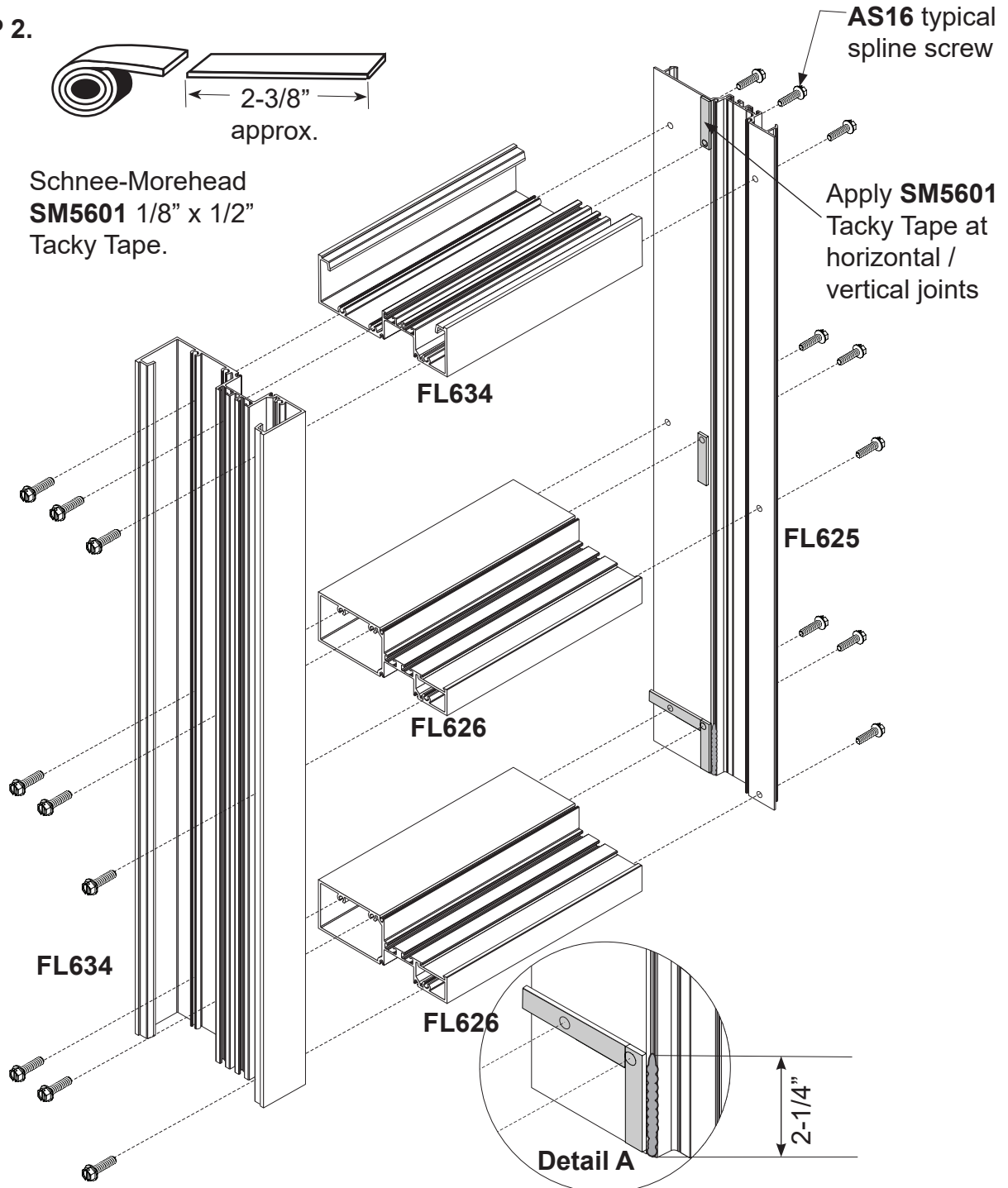
Note: Wipe all surfaces with isopropyl alcohol to remove cutting oils and debris prior to applying SM5601 joint tape or sealants.

STEP 1.



FRAME ASSEMBLY - EXTERIOR GLAZING

STEP 2.



Schnee-Morehead
SM5601 1/8" x 1/2"
Tacky Tape.

Attach horizontals to verticals using **AS16** (#14 x 1" HHSTS spline screws).
See Page 7 for hole prep locations.

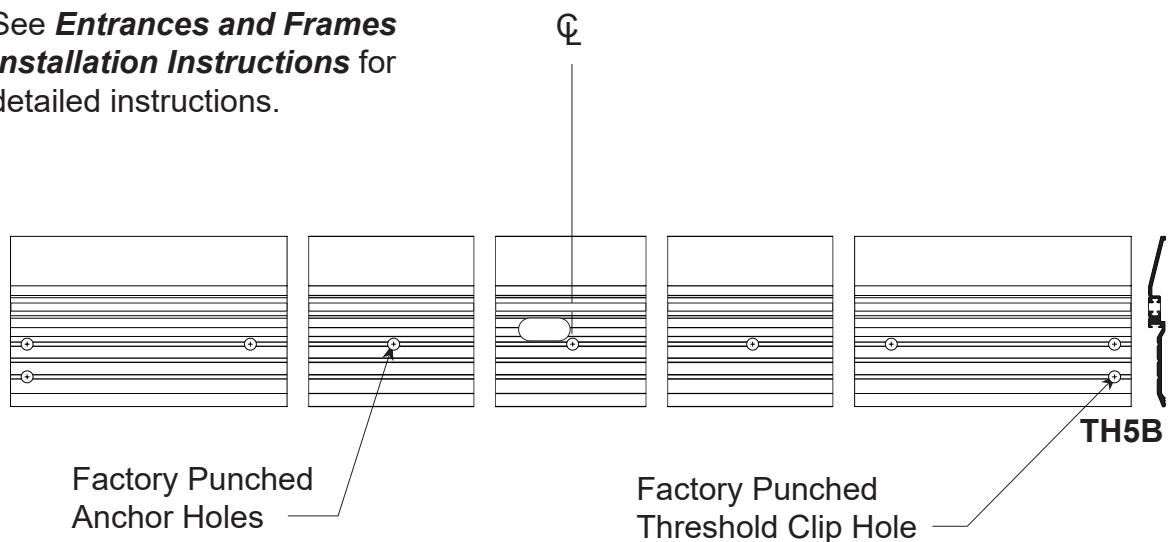
Critical Seal: Fill gasket reglet with **DOW 795** sealant at bottom as shown.

PREPARATION OF DOOR FRAME

All hardware back-up plates are installed in the frame at the factory. Door stops and transom sash are cut to length in the factory. Stock transom frames are fabricated for a vertical frame size of 10' - 5 1/2". If your transom opening is smaller, cut the verticals members down to the appropriate length. Leave a minimum 1/4" caulk joint at the head. The fabrication for the transom head horizontal should be made using either a drill fixture or punch die set for Series **FL600** framing. (See **Page 7** for **hole locations**). Review frame anchor charts for configuration and for substrate to which the frame will be attached. Drill anchor holes into door jamb at wall and **CS604** flat filler. Apply **SM5601** Tacky Tape to joint intersections at door header and transom head. Assemble frame with **AS16** spline screws. Use threshold clips as shown on **Page 19** for attaching threshold. Install transom sash if applicable. The frame is now ready for installation.

THRESHOLD FABRICATION

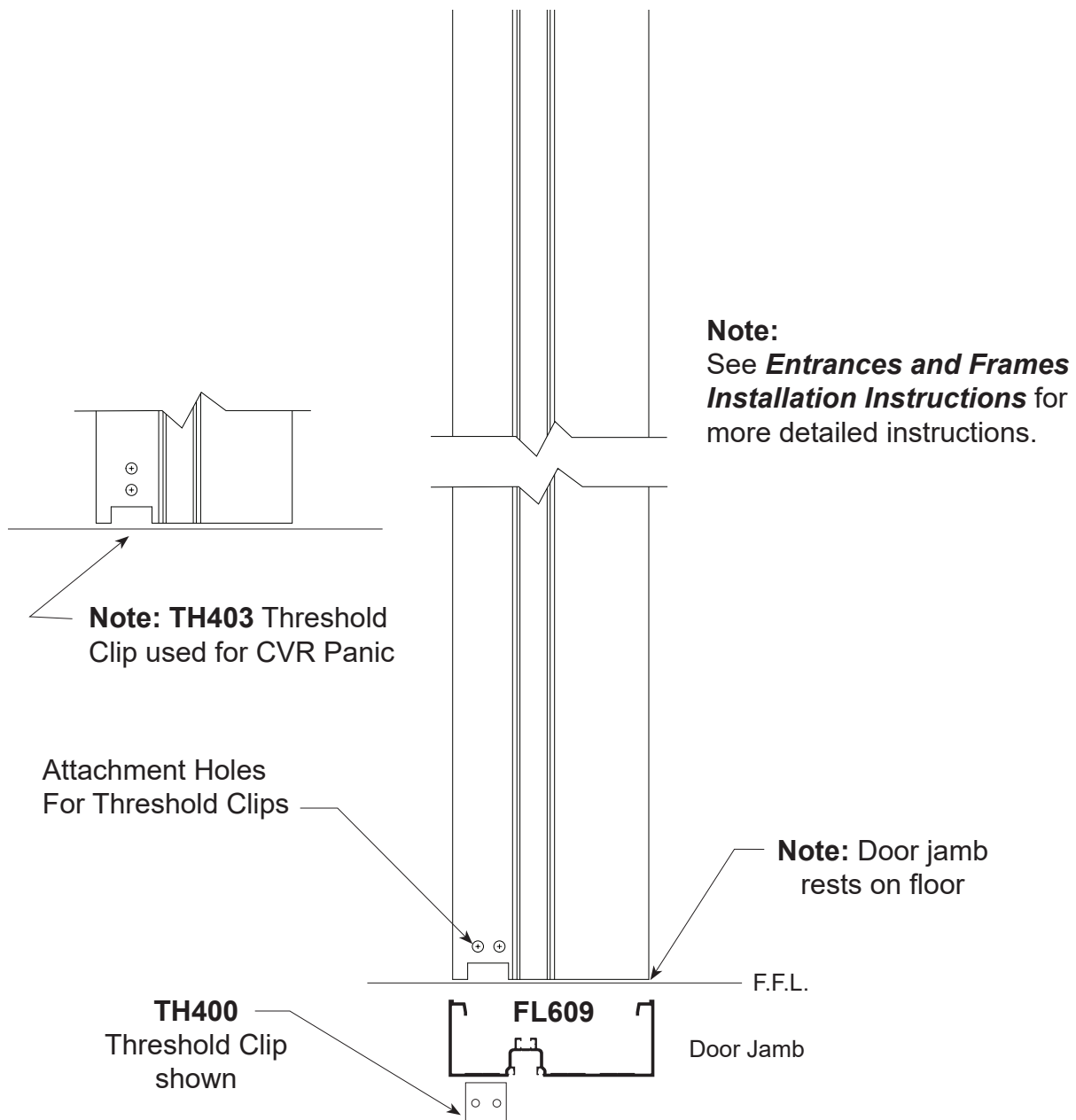
Note:
See *Entrances and Frames Installation Instructions* for detailed instructions.



Threshold For Door Pair. (Butt Hung Shown, Offset Pivot Similar.)

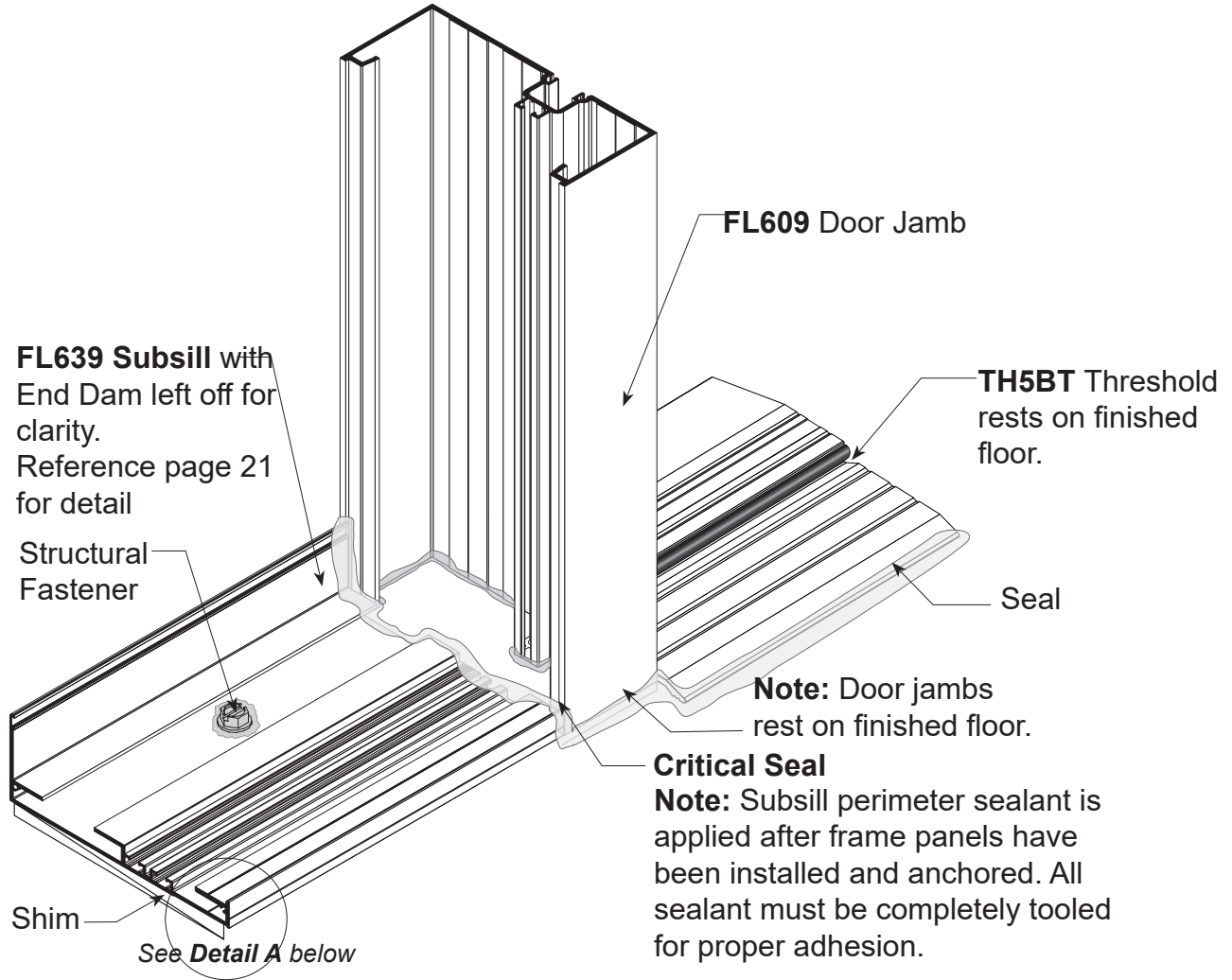
INSTALLATION OF DOOR FRAME

1. Door frame and threshold shall be completely assembled with joints neatly aligned and tight.
2. Door frame shall be installed square and plumb. Measure frame diagonally from corner to corner and shim until the measurements are equal.
3. Level door frame threshold. The door frame is designed to have the jambs extend to floor.
4. Install fasteners through frame and threshold anchor holes and securely anchor to the substrate. Position shims between framing and substrate to prevent members from bowing.
5. Install door stops.
6. Install FL639T Subsill for sidelites as required.

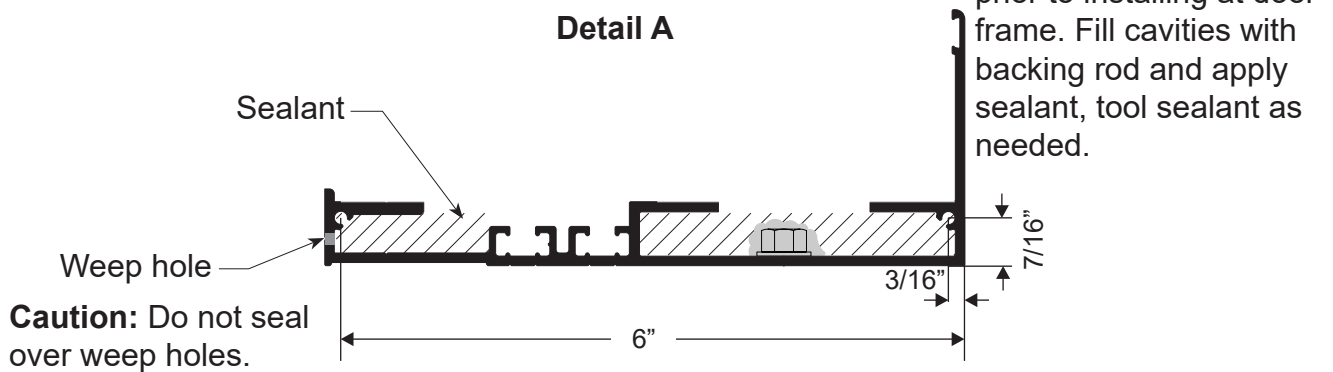


ENTRANCE DOOR FRAME INSTALLATION WITH SUBSILL FOR SIDELIGHTS

Where entrance doors occur, install entrance door frames first. Subsill butts against door jamb. The subsill abutting the door jamb does not require an end dam.



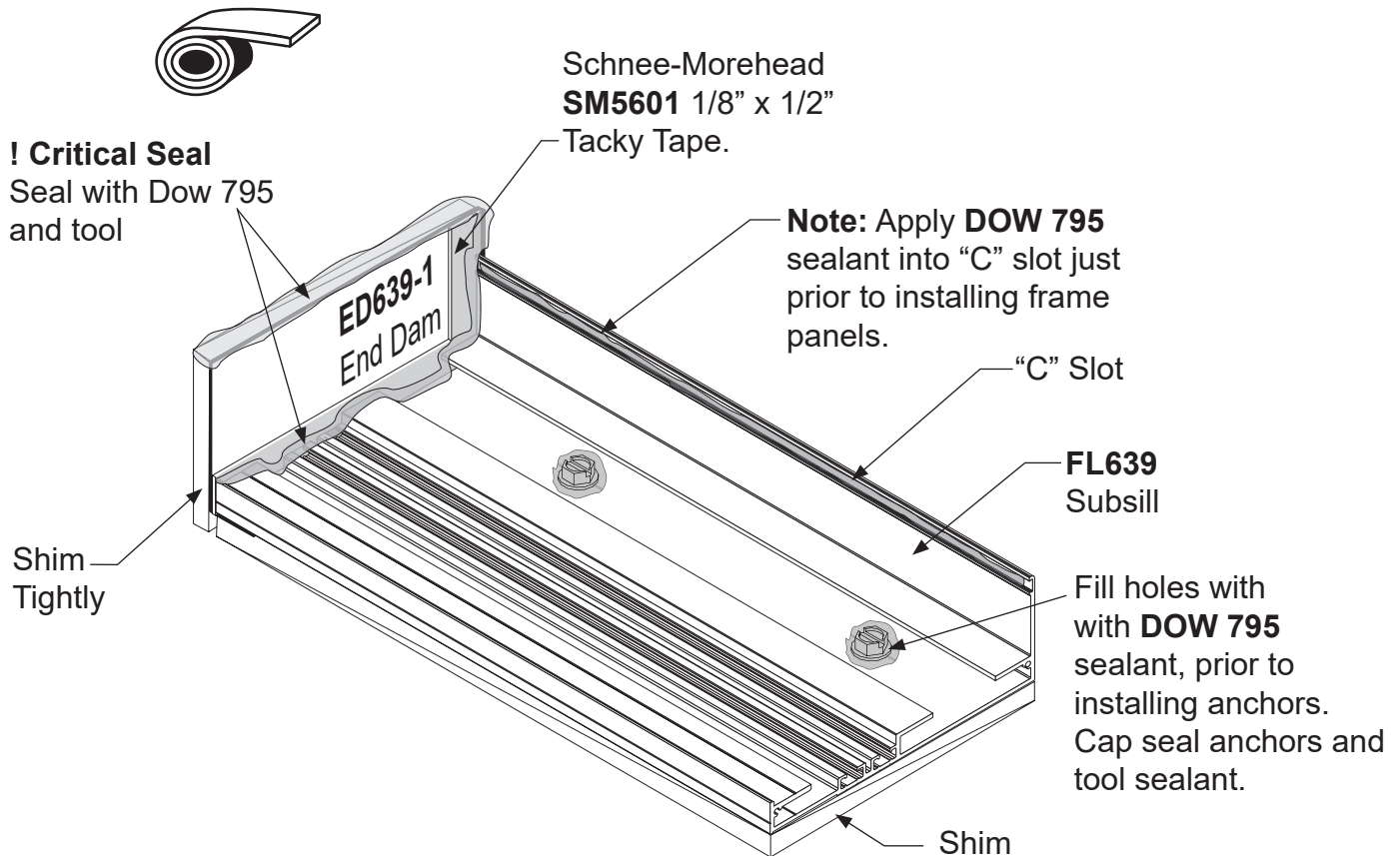
Detail A



FRAME INSTALLATION

STEP 1.

Center subsill into opening allowing for a 1/4" minimum shim space at each end to ensure a good caulk joint.



Shim beneath subsill to be a minimum of 1/4". Attach subsill flashing to structure with structural fasteners using attachment holes shown on **Page 13**. Cap seal fastener heads as shown.

Wedge shims tightly between end dams and jamb substrate on each end prior to installing frame panels. These shims prevent the end dam from dislodging while frame panels are being installed. Completely seal end dams to subsill and substrate as shown.

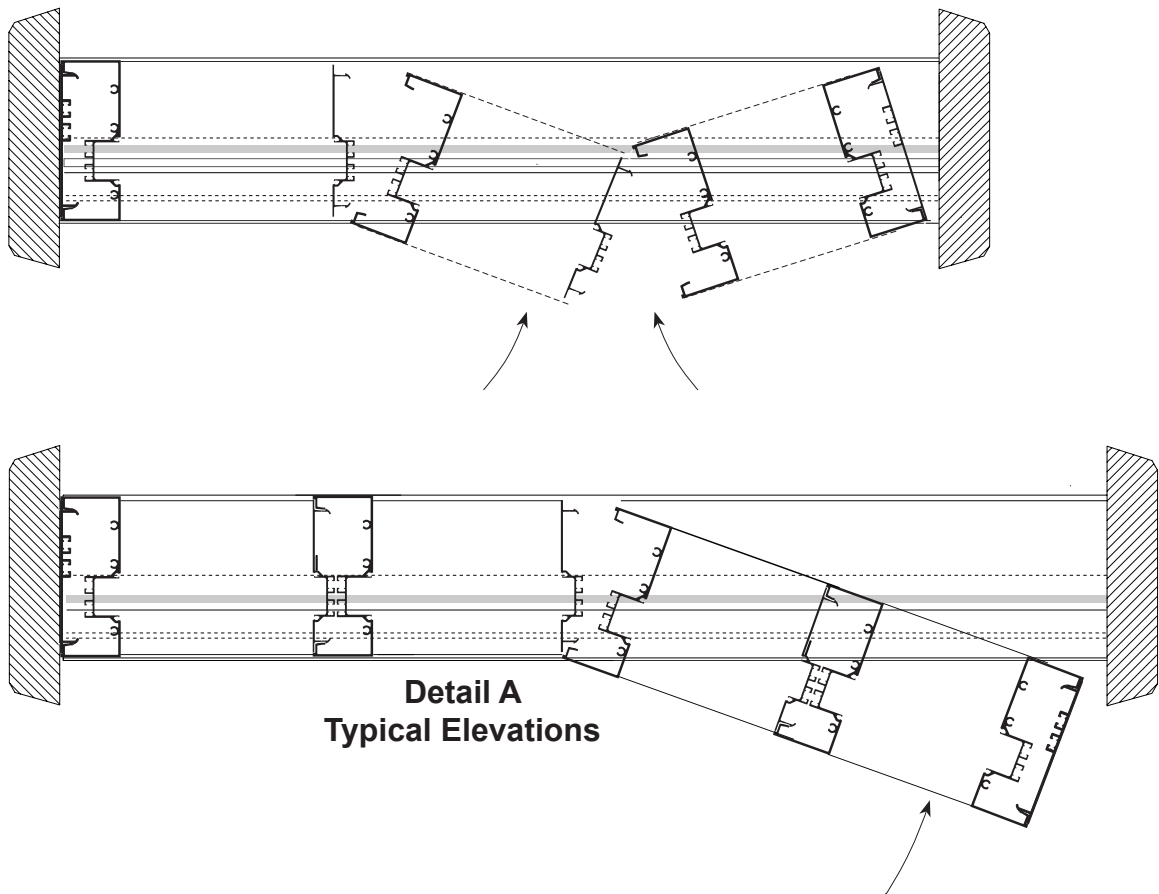
Run a continuous bead of **DOW 795** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

Note: Remove all debris from subsill to prevent clogging weep holes prior to installing panels.

FRAME INSTALLATION

STEP 2.

Screw spline joinery allows for frames to be shop fabricated into panels and shipped to job site assembled. Each panel must have at least one vertical deep pocket for glazing. Arrange panels so that two shallow pockets never face each other. **Reference Page 16 (FRAME ASSEMBLY).**

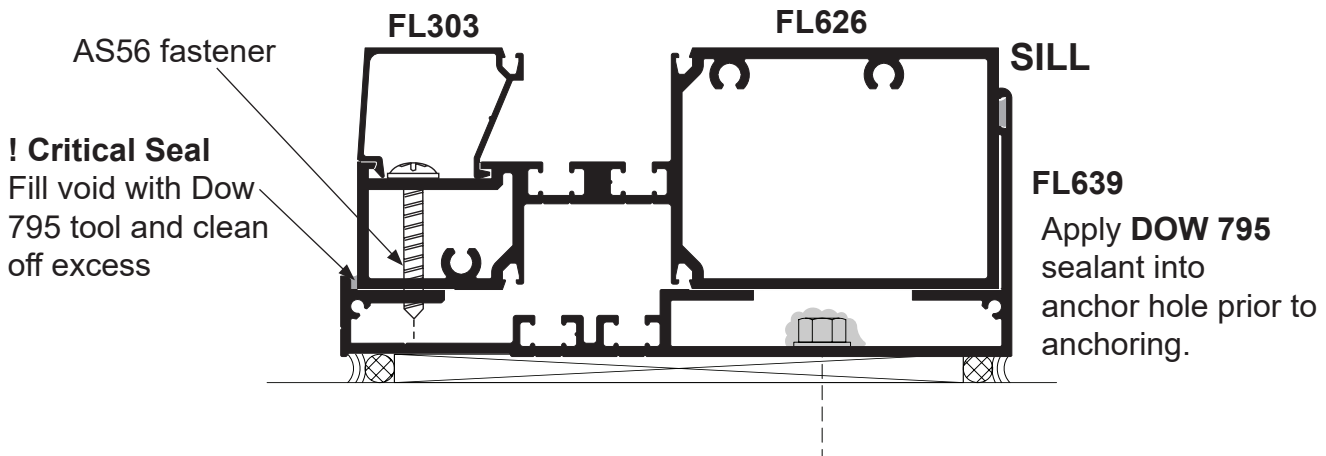
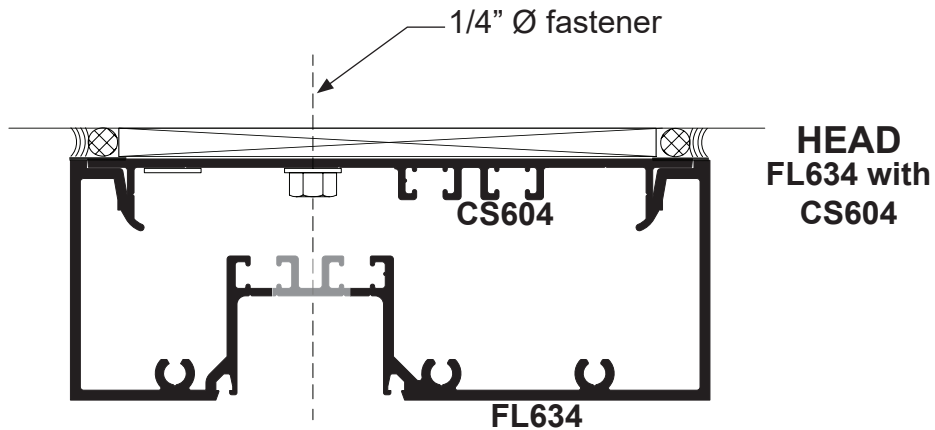
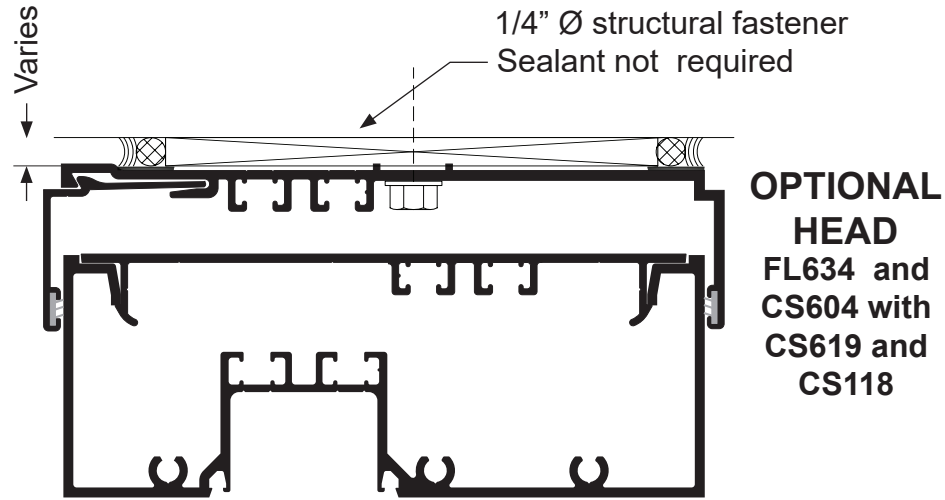


Note: Make sure the back leg of FL539 has sealant applied prior to setting panels. Once panels are installed and anchored, tool exposed sealant and clean off excess

FRAME INSTALLATION

STEP 3.

After all panels are installed and frame panels are attached to substrate at head, then attach sill to subsill with **AS56** per anchor charts (page 35) on each side vertical mullions in locations shown below.



FRAME INSTALLATION

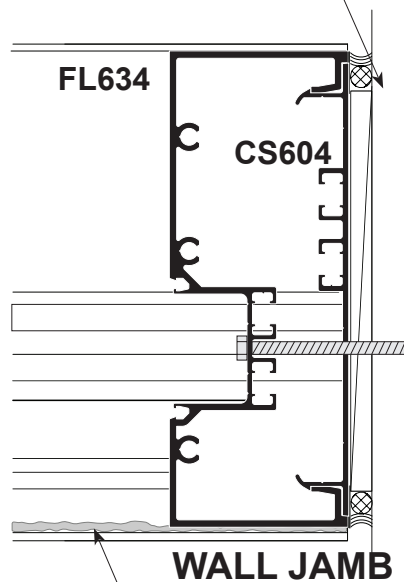
STEP 4.

In high wind zone areas and/or tall spans, it may be necessary to attach jamb to substrate as shown to limit deflection. When required, match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads with **DOW 795** sealant.

When all frames are secured to the opening, then completely seal the exterior and interior perimeter with a continuous bead of Dow 795 sealant. Completely seal the space between the FL636 to the FL639 as shown below

1. All sealants to be **DOW 795**.

Completely Seal
Exterior & Interior
Perimeter of Frame



Completely seal
cavity at FL639 with **DOW 795**

GLASS SIZE FORMULAS

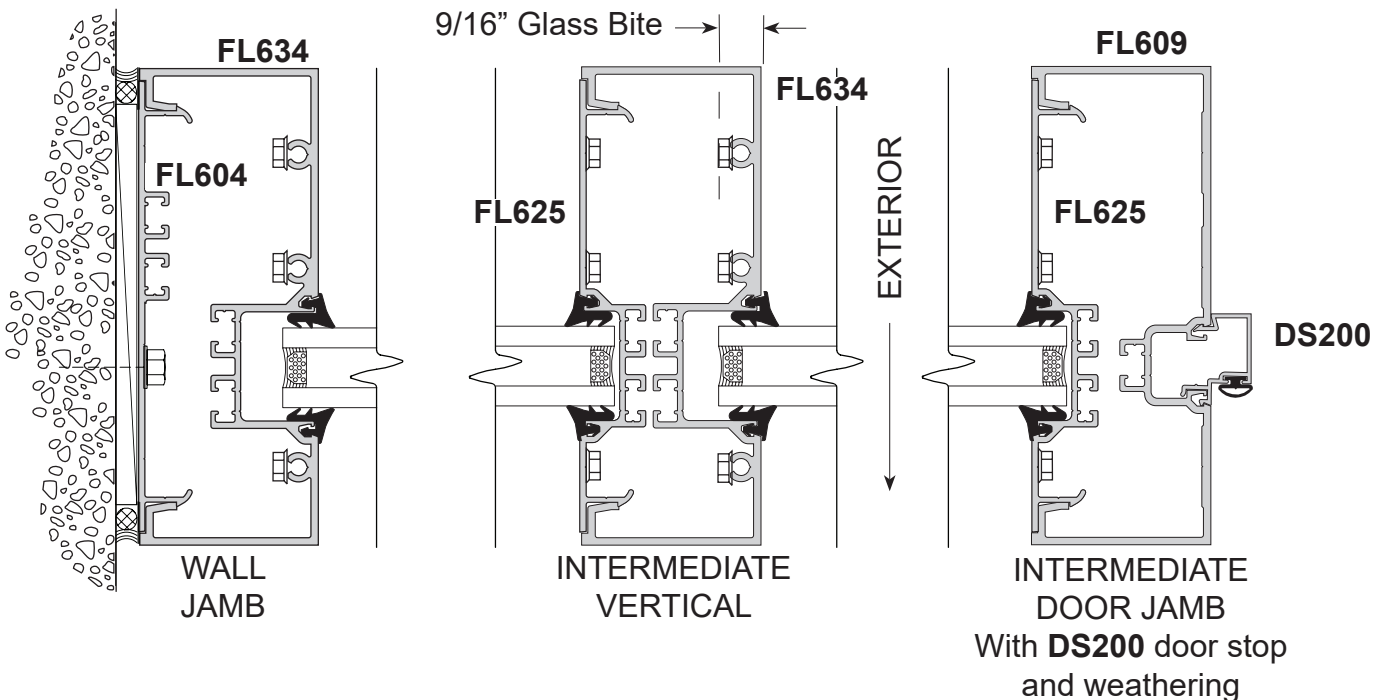
Glass Sizes for **FL600** System:

Glass Width and Height = D.L.O. + 7/8"

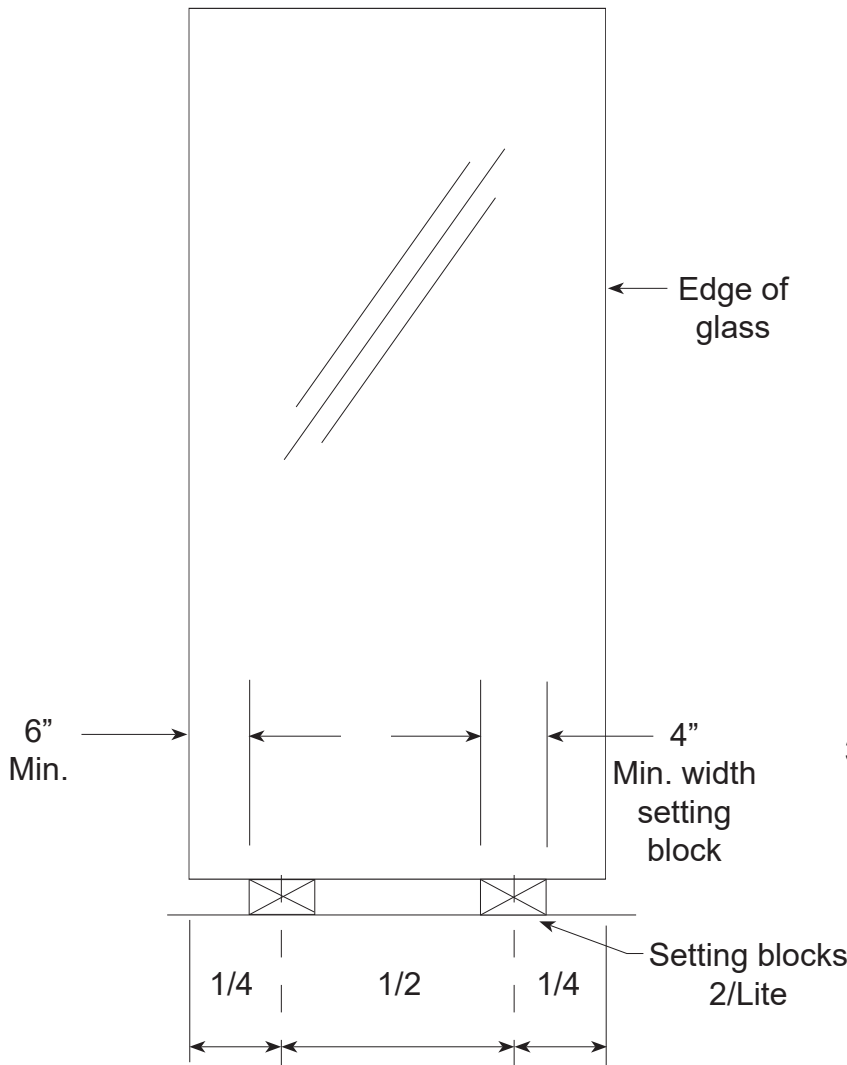
FL600 Door Frames with surface mounted closers
Transom parts FL607 Transom bar and FL634 Header
Width: door opening width - 1 1/8"
Height: daylite opening + 7/8"

FL600 Door Frames with concealed closers
Transom parts FL612 Transom bar and FL634 Header
Width: door opening width - 1 1/8" (CS115/FL518 will be on both vertical sides)
Height: daylite opening (taken from top of sash CS115 to bottom of FL634) - 1/8"

Note: Glass tolerances are not addressed in the above formula.
Consult glass manufacturer for glass tolerances prior to ordering.



PREPARATION OF FRAME OPENING FOR GLASS



1. Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

2. SETTING BLOCKS

Glass should be set on two identical setting blocks having a Shore A Durometer of 85 + or -5. The preferred location is at the 1/4 points.

If the 1/4 point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block **CANNOT** be closer than 6" to the corner of the glass.

3. DEFLECTION

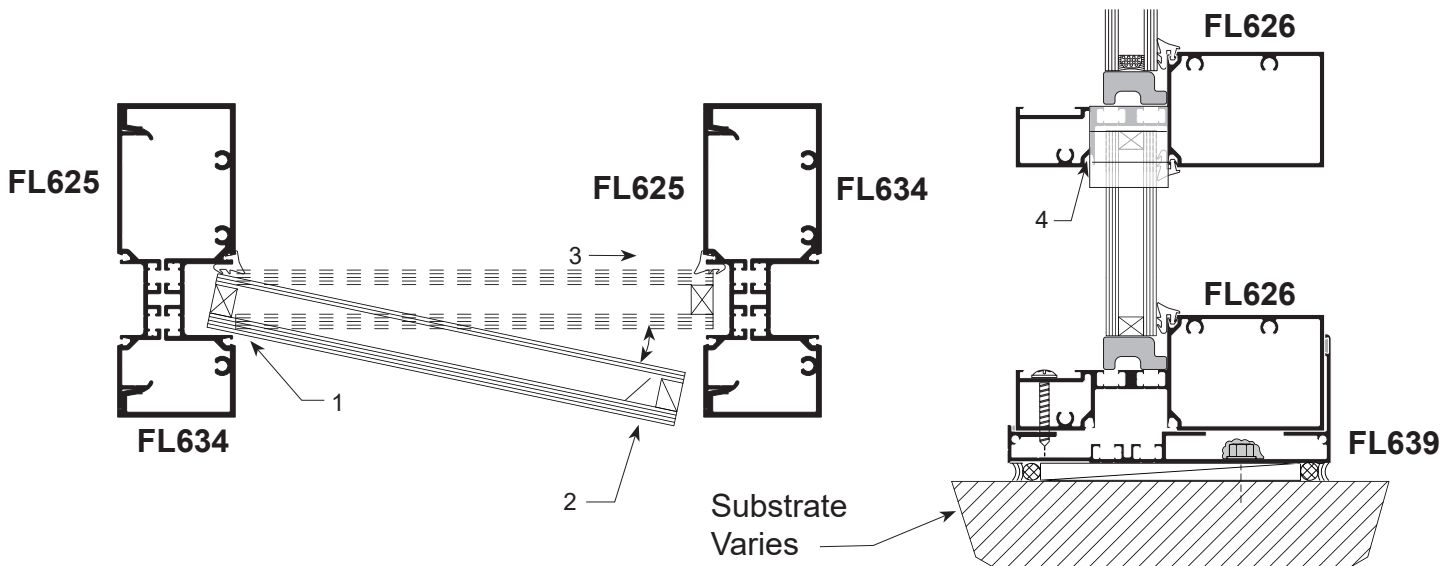
The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check dead load charts for proper setting block locations.

EXTERIOR GLAZING

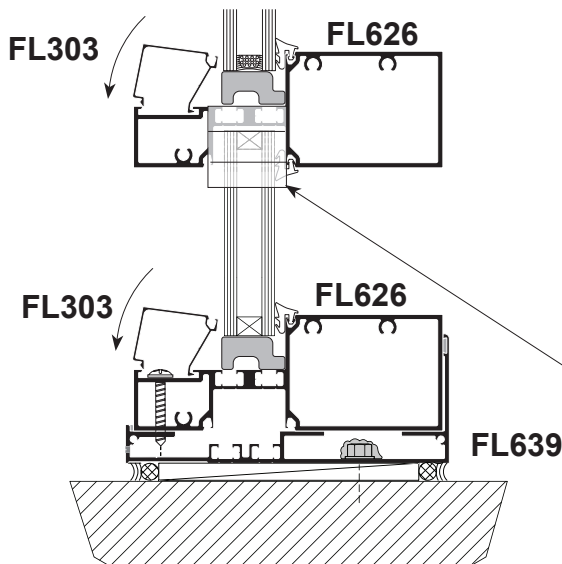
GLASS SIZES*

GLASS SIZE = DAYLIGHT OPENING + 7/8"

Consult glass manufacturer for glass tolerance before ordering glass.



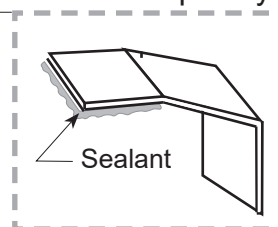
1. Install interior gasket. Vertical gasket runs through. **Reference Pages 28.**
2. Set glass in place following the four step procedure shown above. Center glass in the opening, making sure proper glass penetration is achieved. Rest glass on setting blocks.
3. Press glass against installed gaskets and snap-in **FL303** Glass Stop as shown below.
4. Install **NG1** exterior gaskets as shown on **Page 28.**



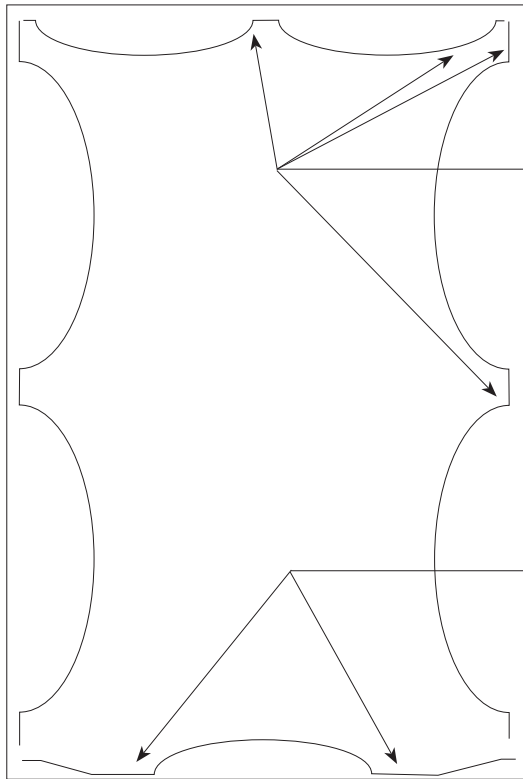
Detail

Glaze from bottom to top. Install **WD300-1** Water Diverter as shown before setting upper lite.

WD300-1 Water Diverter is embedded in sealant at each end of horizontal. Tool sealant completely



INSTALLATION OF TOP LOAD GLAZING GASKETS



Detail A

Start jamb and head gaskets at corners and center.

Start gaskets at setting blocks

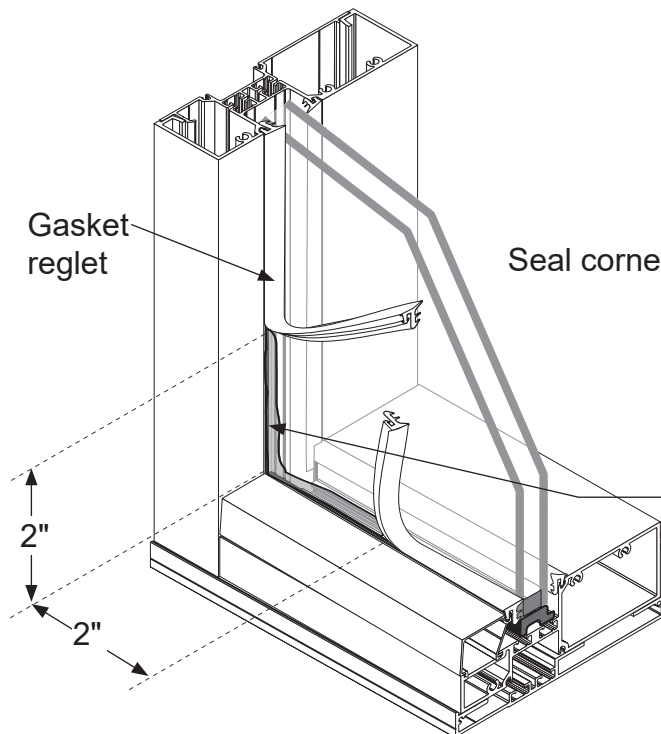


NG1 glazing gasket
shown actual size.

1. Cut gaskets a minimum of 3/16" longer per foot than aluminum extrusion.

2. Do not stretch gasket to make them fit.

It is very important that gaskets are installed correctly as shown in **Detail "A"**, to prevent shrinkage at corners.



Gasket
reglet

Seal corners of Gaskets.

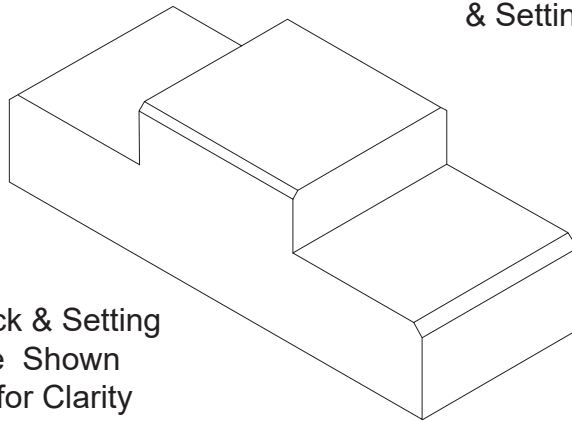
3. Pull gaskets back 2" in both directions at corner intersections & seal with **DOW 795** silicone sealant. This should be done on interior & exterior for best performance.

DOOR PREPARATION AND GLAZING

Door glass stops and gaskets are shipped loose.

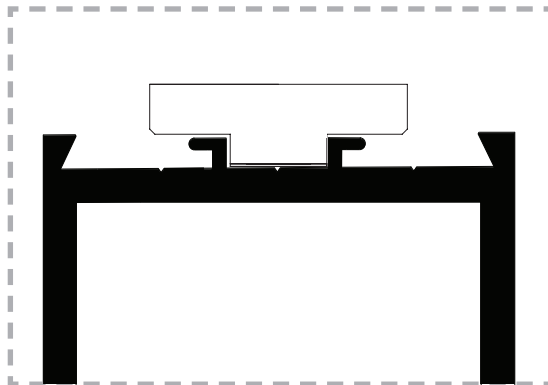
SB1

Side Block
& Setting Block

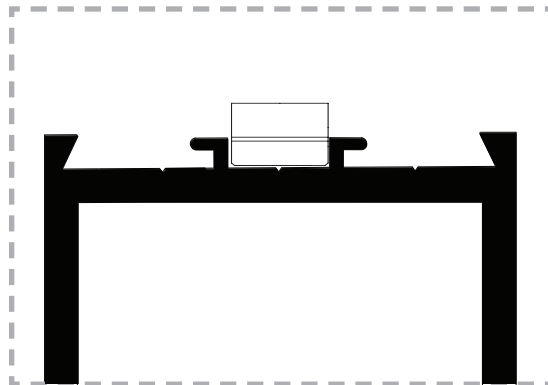


Side Block & Setting
Block are Shown
Inverted for Clarity

For 1" Glass (Rotate 90°
From 1/4" Position)

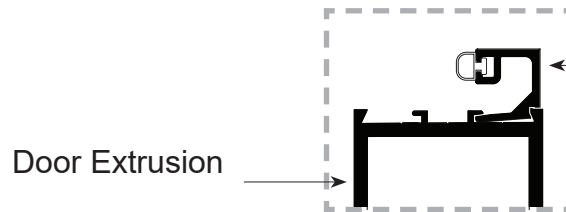


For 1/4" Glass



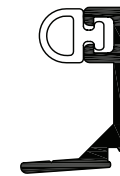
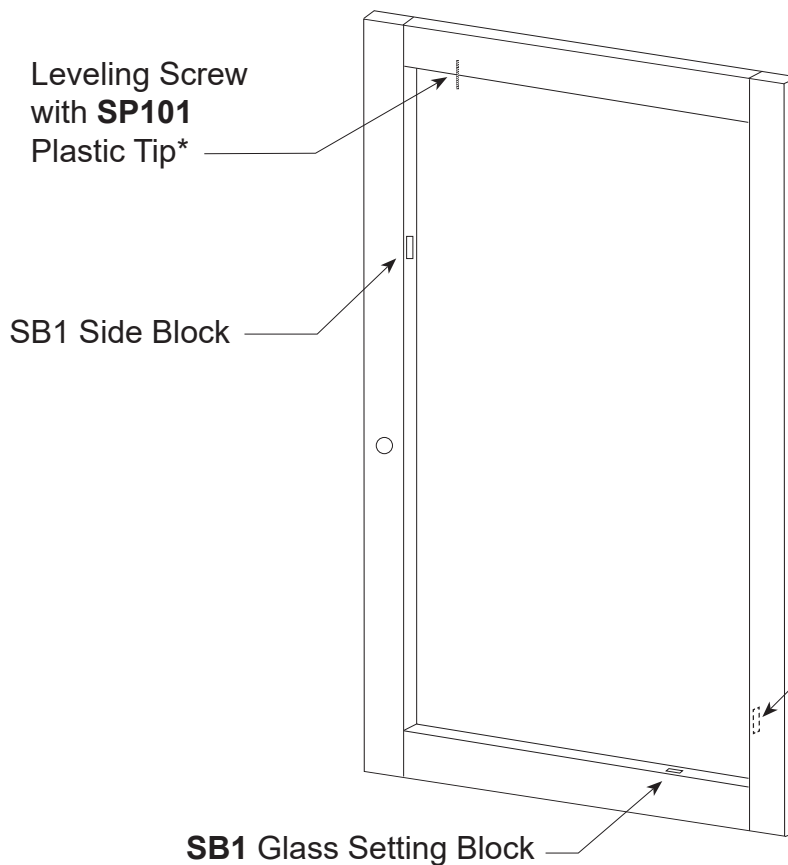
DOOR PREPARATION AND GLAZING

1. Install **DG100-1** glass stops on interior side of door.
2. Center glass in opening on setting blocks and align with side blocks.
3. Once the glass is in the correct position, lightly screw the glass adjustment screw down with **SP101** plastic tip attached to the top of the glass.
4. Install horizontal door glass stops.
5. Square door using adjustment screw located in top rail of door as required.

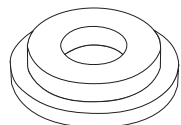


DG100-1 Glass Stop with bulb gaslet

Use **DG101-1** Glass Stop for 1" insulating glass.



DG101-1



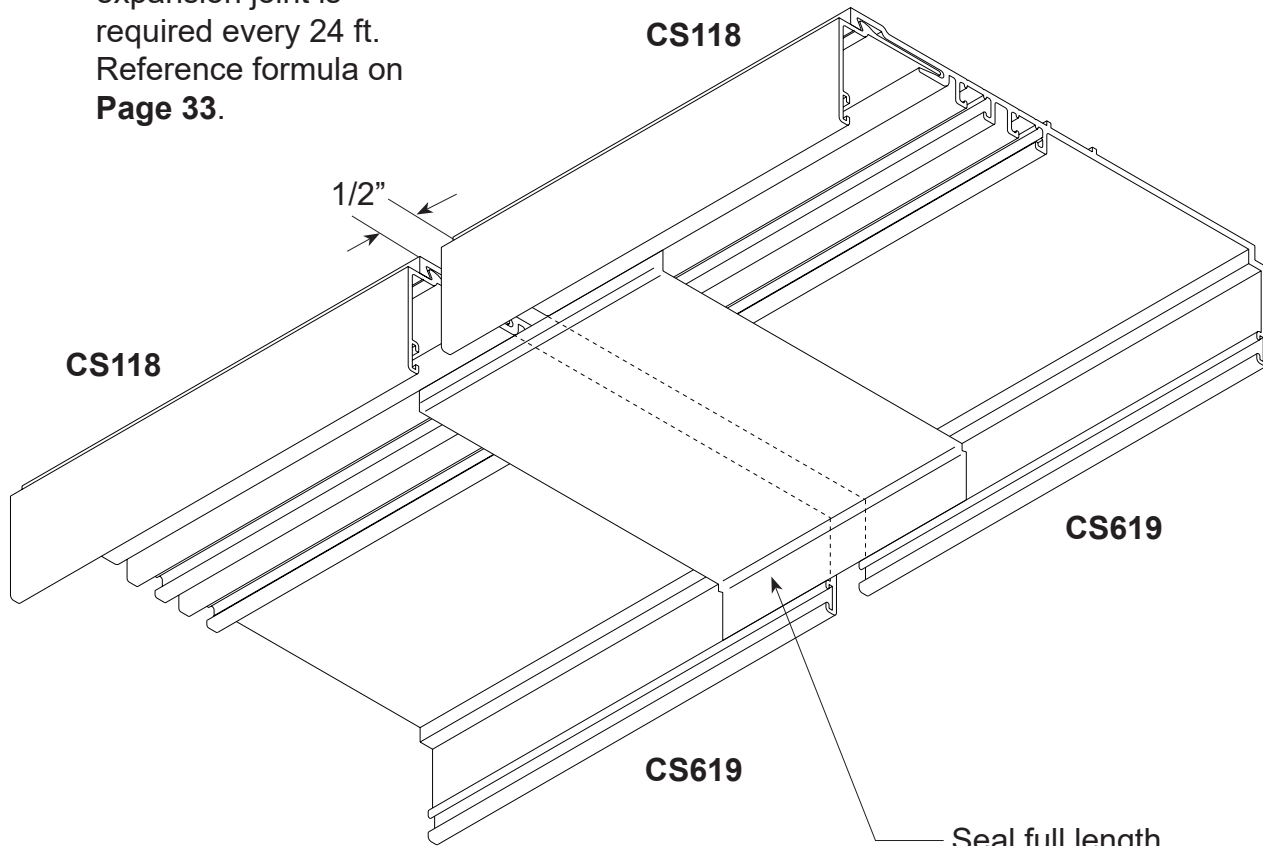
SP102

* If 1" glass is being glazed into door, install **SP102** plastic tip over **SP101**

SPECIAL CONDITIONS SPLICE AT HEAD EXPANDER

A minimum 3/8" expansion joint is required every 24 ft. Reference formula on Page 33.

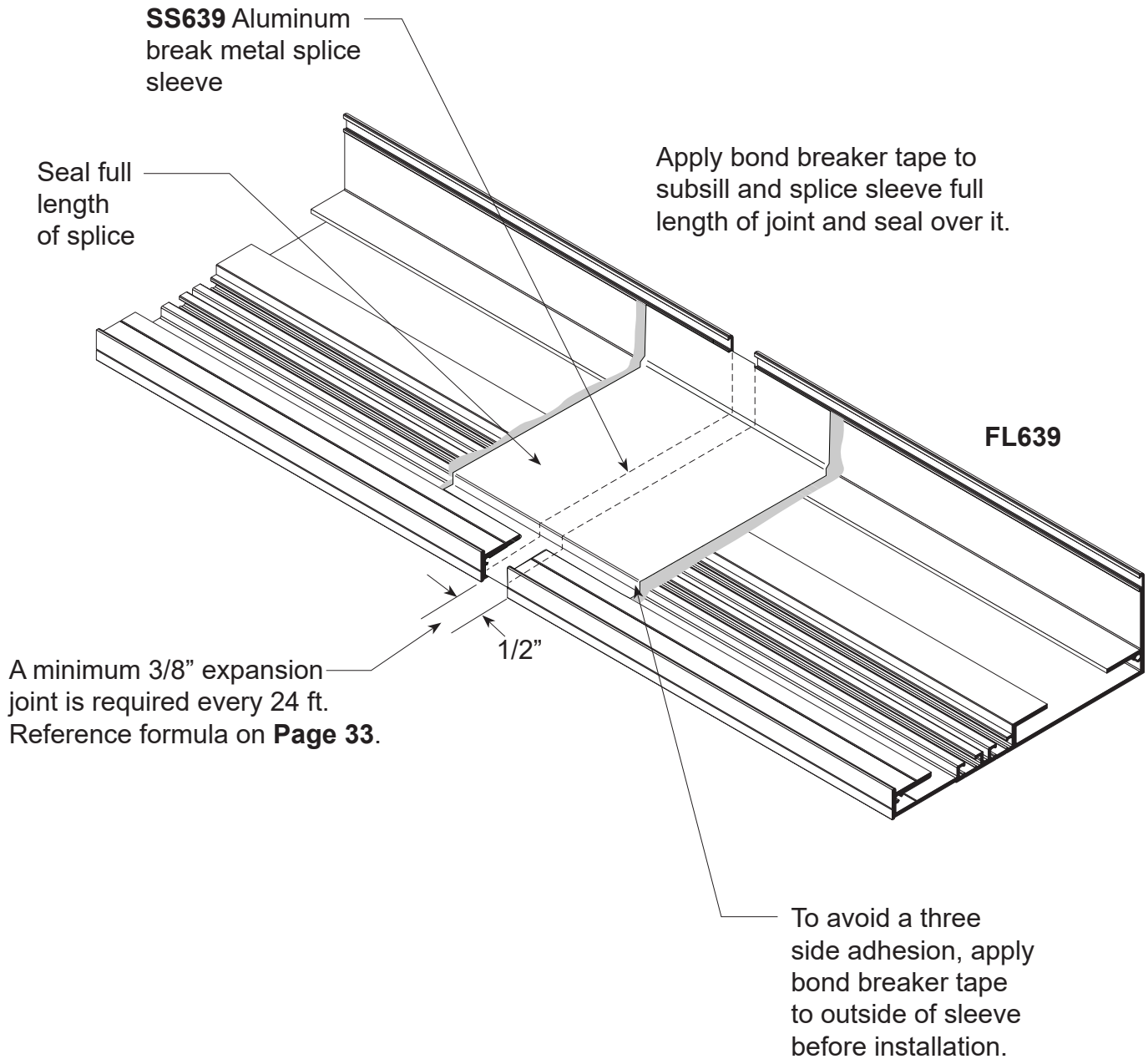
Apply bond breaker tape to CS619 and splice sleeve full length of joint and seal over it.



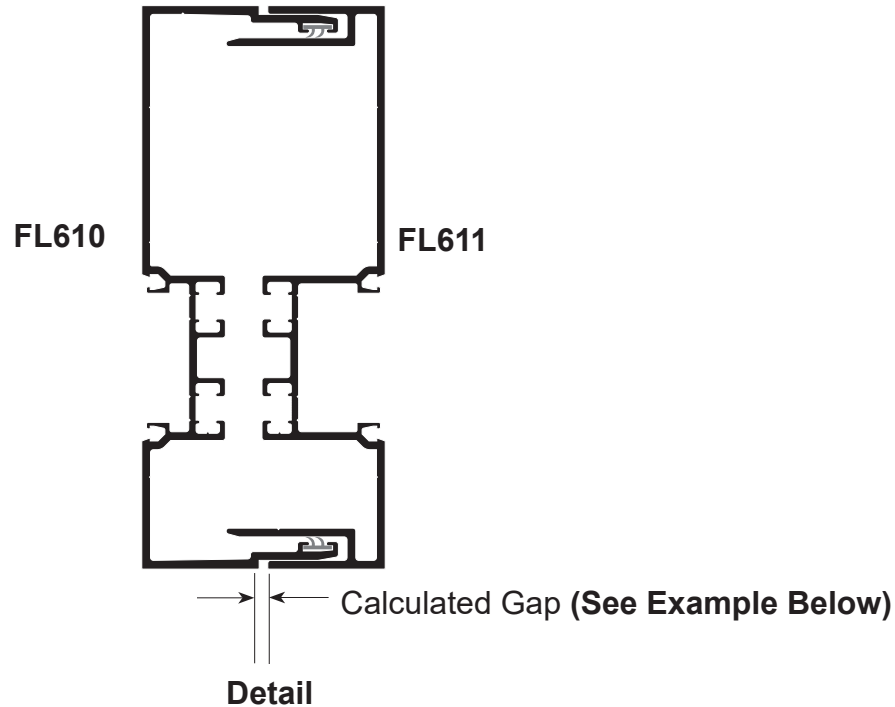
Seal full length of splice. To avoid a three side adhesion, apply bond breaker tape to outside of sleeve before installation.

SPECIAL CONDITIONS SPlice SLEEVE AT SUBSILL

STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



SPECIAL CONDITIONS EXPANSION MULLIONS



Calculated gap is determined by job conditions project specifications and temperature at the time of installation. Expansions mullions allow for 3/8" maximum movement.

EXPANSION GAP SIZE FORMULA= Length (") x F° difference x .0000129

L = Length in inches, between center line of expansion mullion in elevation.

F° = Specified Temperature Variation

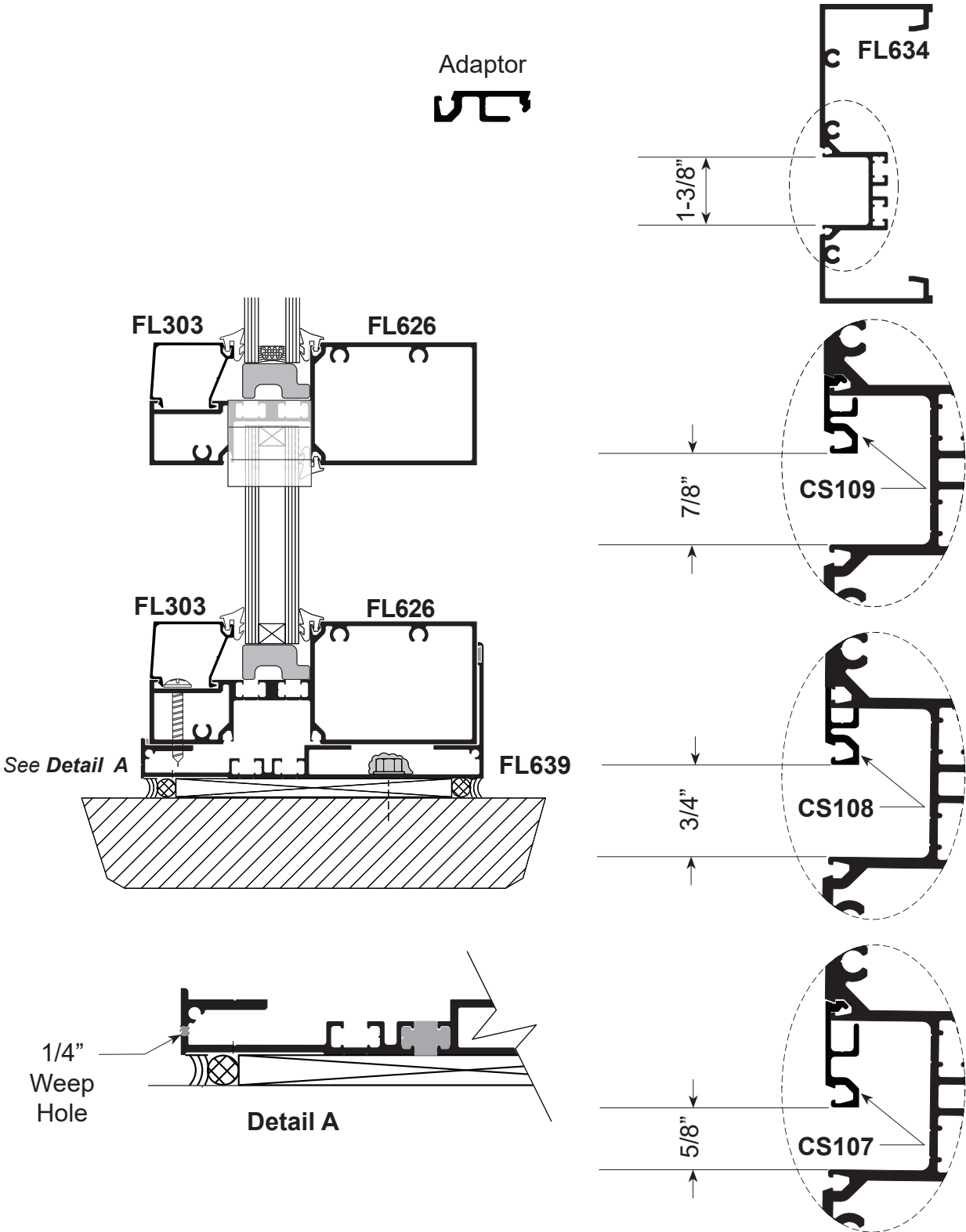
.0000129 = Thermal Coefficient for Aluminum

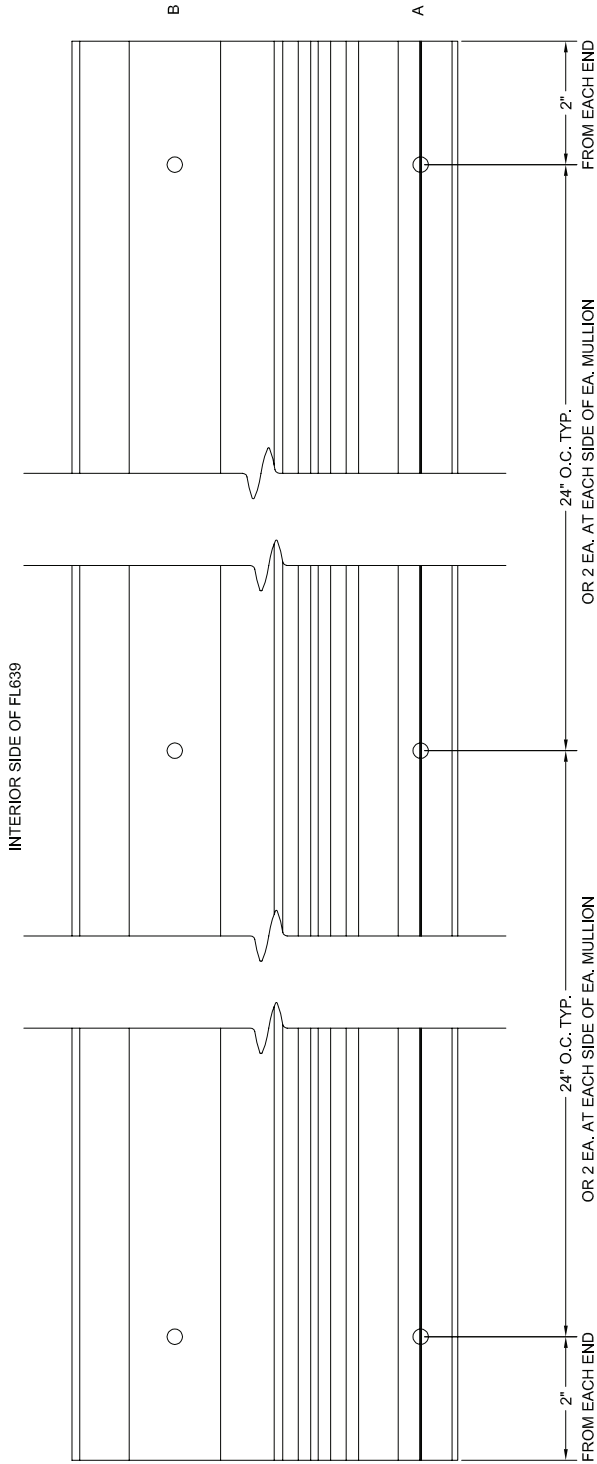
FOR EXAMPLE:

Assume 100° temperature variation specified and temperature at job site on day of installation is 60°

1. $100^{\circ} - 60^{\circ} = 40^{\circ}$ temperature difference
2. Length of elevation between expansion mullions equals 20'- 0" or 240"
3. $240" \times .0000129 \times 40^{\circ} = .124"$ Therefore, set expansion mullion gap at .124" or 1/8".

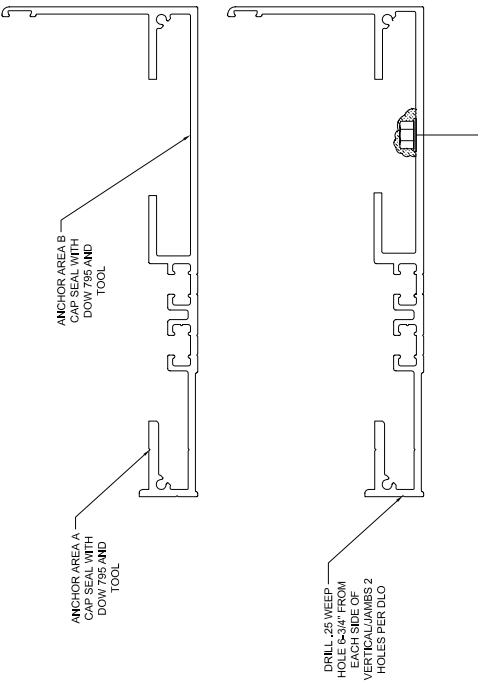
SPECIAL CONDITIONS TRANSITION GLAZING





REFERENCE CHART BELOW FOR ANCHOR LOCATIONS

SUBSILL ANCHORING



FL639 AND FL639T ANCHOR TYPES		
SUBSTRATE	ANCHOR TYPE	LENGTH BASED ON 1/2" SHIM SPACE
WOOD 1-1/2" THICK	#14 WOOD SCREW	1-3/4" EVERY 16" ON CENTER AND 2" FROM EACH END
WOOD 3" THICK	#14 WOOD SCREW	2-1/2" PER DRAWING ABOVE
CONCRETE MIN 2500 PSI	1/4" HEX HEAD TAPCON OR EQUAL	3" PER DRAWING ABOVE
STEEL STUD MIN 18 GA	#14 PH OR HH TEK SCREW	2" PER DRAWING ABOVE
STEEL HOT ROLLED MIN 1/8"	#14 PH OR HH TEK SCREW	2" PER DRAWING ABOVE
STEEL HOT ROLLED MIN 1/8"	#14 PH OR HH TEK SCREW	2" PER DRAWING ABOVE
STEEL HOT ROLLED MIN 1/8"	1/4" TYPE F OR STANDARD SAE AND TAP	2" PER DRAWING ABOVE

NOTES:
TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

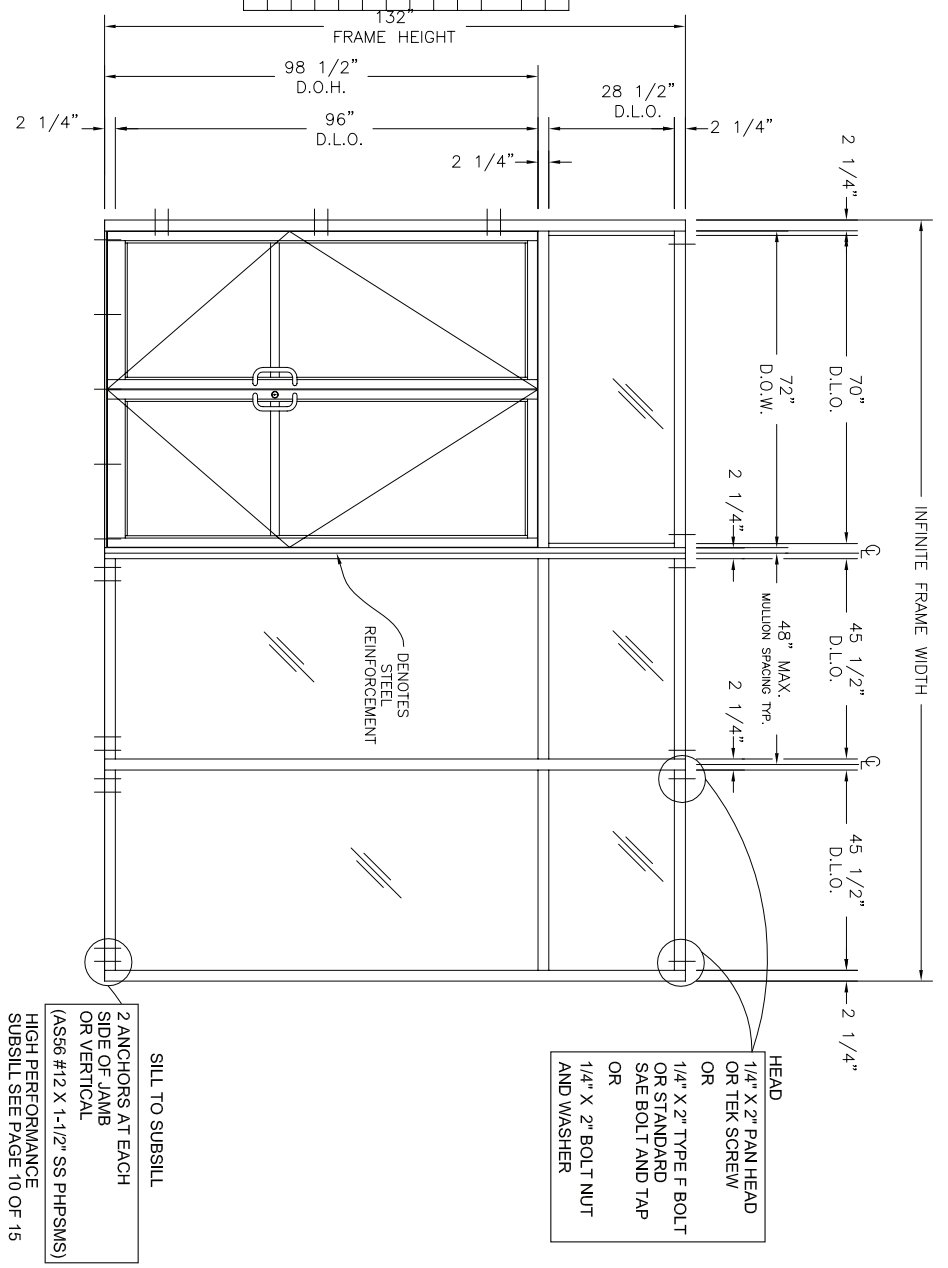
- PERIMETER FASTENERS:
1. TYPICAL INSTALLATION INTO SUBSTRATES
A. 2500 PSI CONCRETE
B. STEEL, 18 GA. MIN.
C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
D. SO. PINE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	10 TOTAL
1/4" X 2" PAN OR HEX HEAD TEK SCREW	
1/4" X 2" TYPE F BOLT OR STANDARD SAE BOLT AND TAP	
1/4" X 2" BOLT NUT AND WASHER	
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"	
1 EACH	8 - 1/2"
1 EACH	11 - 1/2"
FROM CENTER OF DOOR OPENING UP TO 96"	
1 EACH	1 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" BELOW CTR LINE
FROM BOTTOM OF FRAME UP	
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN

TYPE	THRESHOLD ANCHORS
SINGLE DOORS UP TO 48"	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR JAMB (1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS
5 ANCHORS TOTAL	(1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS



**STEEL SUBSTRATE
ANCHOR LOCATIONS**

SILL TO SUBSILL
2 ANCHORS AT EACH SIDE OF JAMB OR VERTICAL
(ASS6 #12 X 1-1/2" SS PHPSMS)
HIGH PERFORMANCE SUBSILL SEE PAGE 10 OF 15

NOTES:
TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

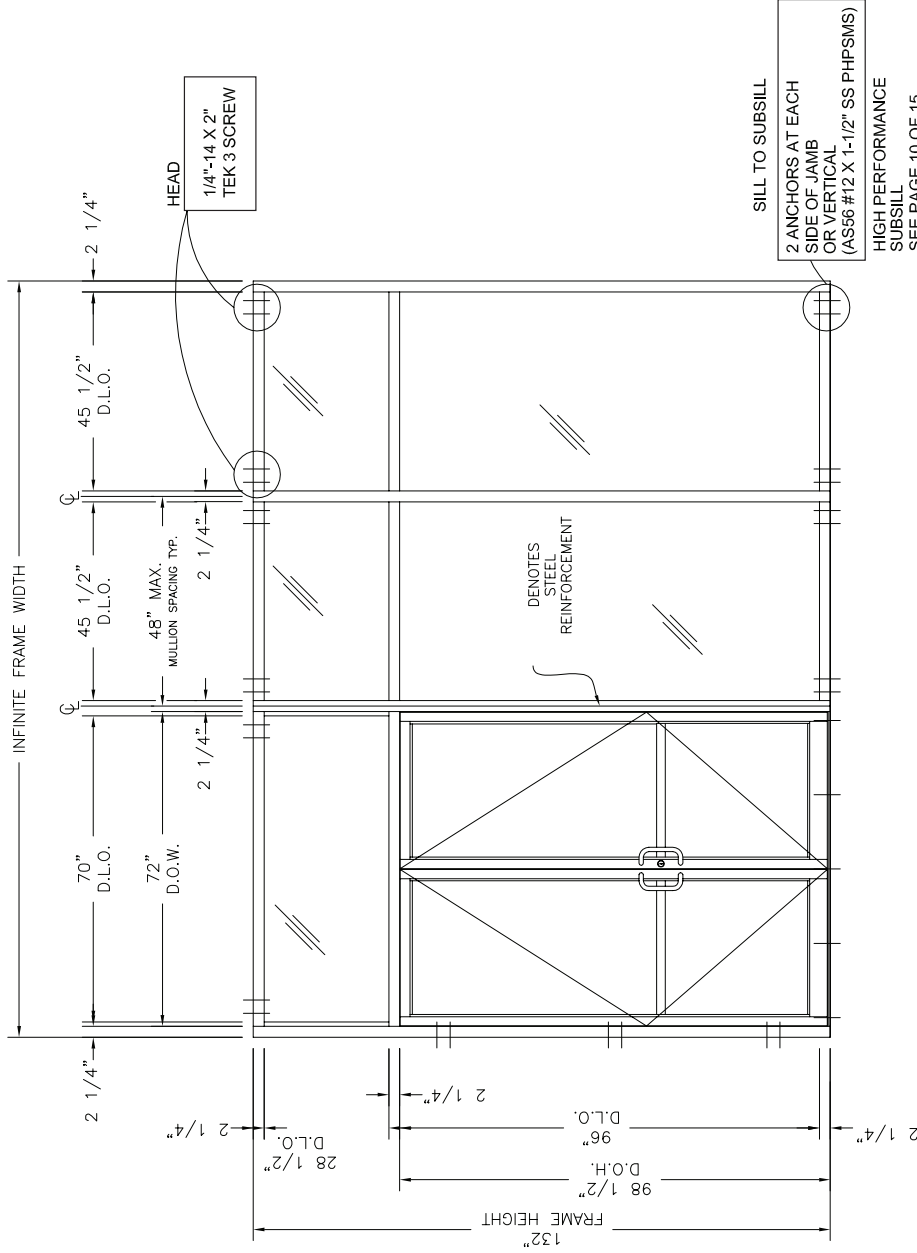
PERIMETER FASTENERS:

1. TYPICAL INSTALLATION INTO SUBSTRATES
 - A. 2500 PSI CONCRETE
 - B. STEEL, 18 GA. MIN.
 - C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - D. SO. PINE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	10 TOTAL
1/4" X 2" PAN OR HEX HEAD TEK SCREW	
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"	
1 EACH	8 - 1/2"
1 EACH	11 - 1/2"
FROM CENTER OF DOOR OPENING UP TO 96"	
1 EACH	1 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" BELOW CTR LINE
FROM BOTTOM OF FRAME UP	
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN



**LIGHT GAUGE MIN. 18 GA. STEEL
OR MIN. 1/8" HOT ROLLED STEEL
SUBSTRATE ANCHOR LOCATIONS**

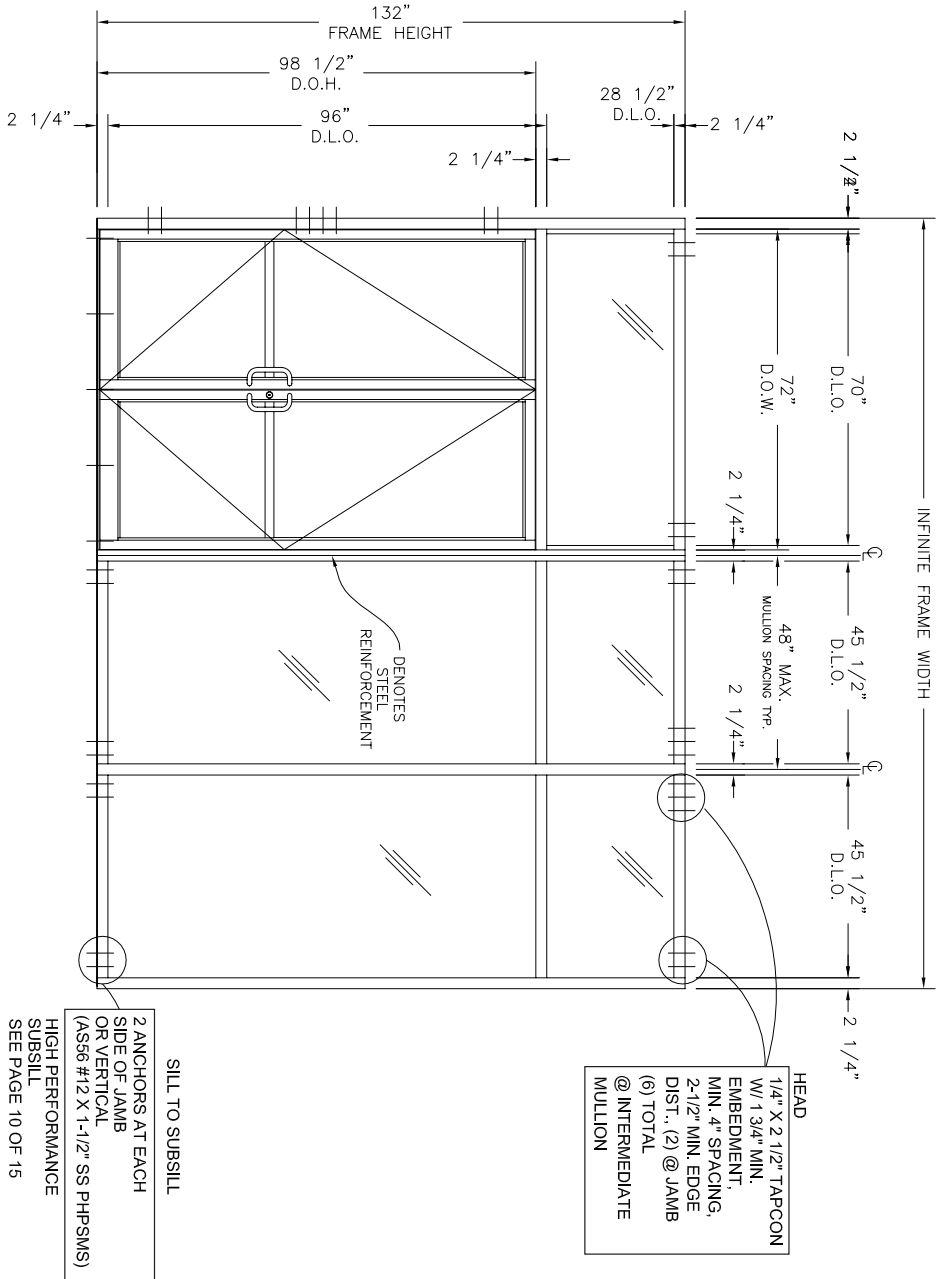
THRESHOLD ANCHORS	
TYPE	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT
SINGLE DOORS UP TO 48"	(1) EACH AT 4" FROM EACH JAMB
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS
5 ANCHORS TOTAL	

NOTES:
 PERIMETER FASTENERS:
 1. TYPICAL INSTALLATION INTO SUBSTRATES
 A. 2500 PSI CONCRETE
 B. STEEL, 18 GA. MIN.
 C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 D. SO. PINE, GRADE NO. 2 OR BETTER
 2. FIRST ANCHORS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.
 ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME	10 TOTAL
TYPE	1/4" X 2-1/2" HEX TAPCON OR EQUAL
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"	
1 EACH	8 - 1/2"
1 EACH	11 - 1/2"
FROM CENTER OF DOOR OPENING UP TO 96"	
1 EACH	4 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" BELOW CTR LINE
1 EACH	4 - 1/2" BELOW CTR LINE
FROM BOTTOM OF FRAME UP	
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN

THRESHOLD ANCHORS	
TYPE	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT
SINGLE DOORS UP TO 48"	(1) EACH 4" FROM EACH JAMB
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING
	(1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING
5 ANCHORS TOTAL	(1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS



CONCRETE SUBSTRATE ANCHOR LOCATIONS

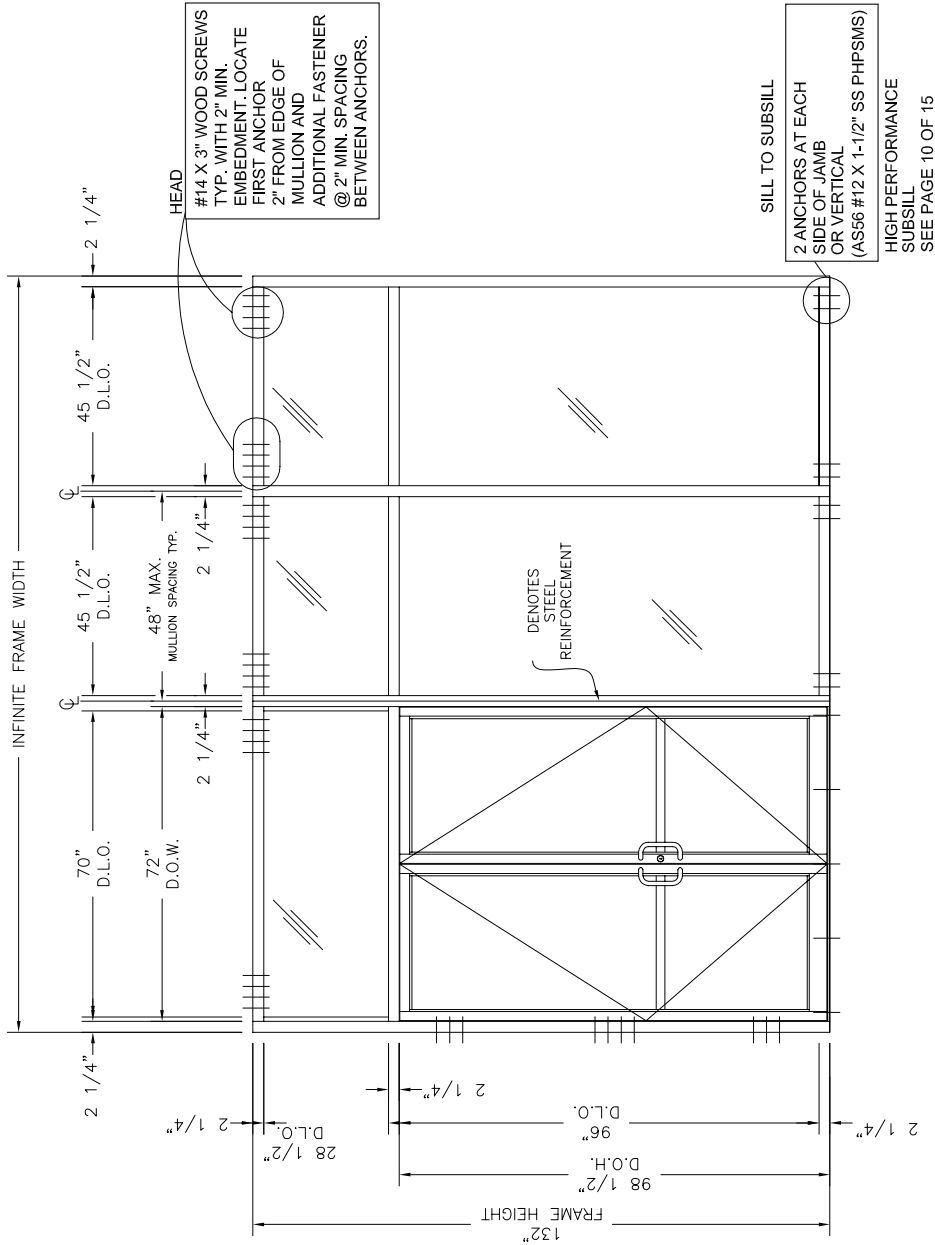
SILL TO SUBSILL
 2 ANCHORS AT EACH SIDE OF JAMB OR VERTICAL (ASS6 #12 X 1-1/2" SS PHPSMS)
 HIGH PERFORMANCE SUBSILL
 SEE PAGE 10 OF 15

NOTES:
 TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
 DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

PERMETER FASTENERS:

- TYPICAL INSTALLATION INTO SUBSTRATES
 - 2500 PSI CONCRETE
 - STEEL, 18 GA. MIN.
 - HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - SO. PINE, GRADE NO. 2 OR BETTER
- FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT



DOOR FRAME TYPE	#14 X 3" PAN OR HEX HEAD WOOD SCREW	10 TOTAL
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"		
1 EACH	8 - 1/2"	
1 EACH	11 - 1/2"	
1 EACH	14 - 1/2"	
FROM CENTER OF DOOR OPENING UP TO 96"		
1 EACH	4 - 1/2" ABOVE CTR LINE	
1 EACH	1 - 1/2" ABOVE CTR LINE	
1 EACH	1 - 1/2" BELOW CTR LINE	
1 EACH	4 - 1/2" BELOW CTR LINE	
FROM BOTTOM OF FRAME UP		
1 EACH	11 - 1/2"	
1 EACH	14 - 1/2"	
1 EACH	17 - 1/2"	

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN

THRESHOLD ANCHORS	
TYPE	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT (1) EACH 4" FROM EACH JAMB
SINGLE DOORS UP TO 48"	
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING
5 ANCHORS TOTAL	(1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS

WOOD SUBSTRATE - 3" THICK ANCHOR LOCATIONS

NOTES:
 TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
 DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

PERIMETER FASTENERS:

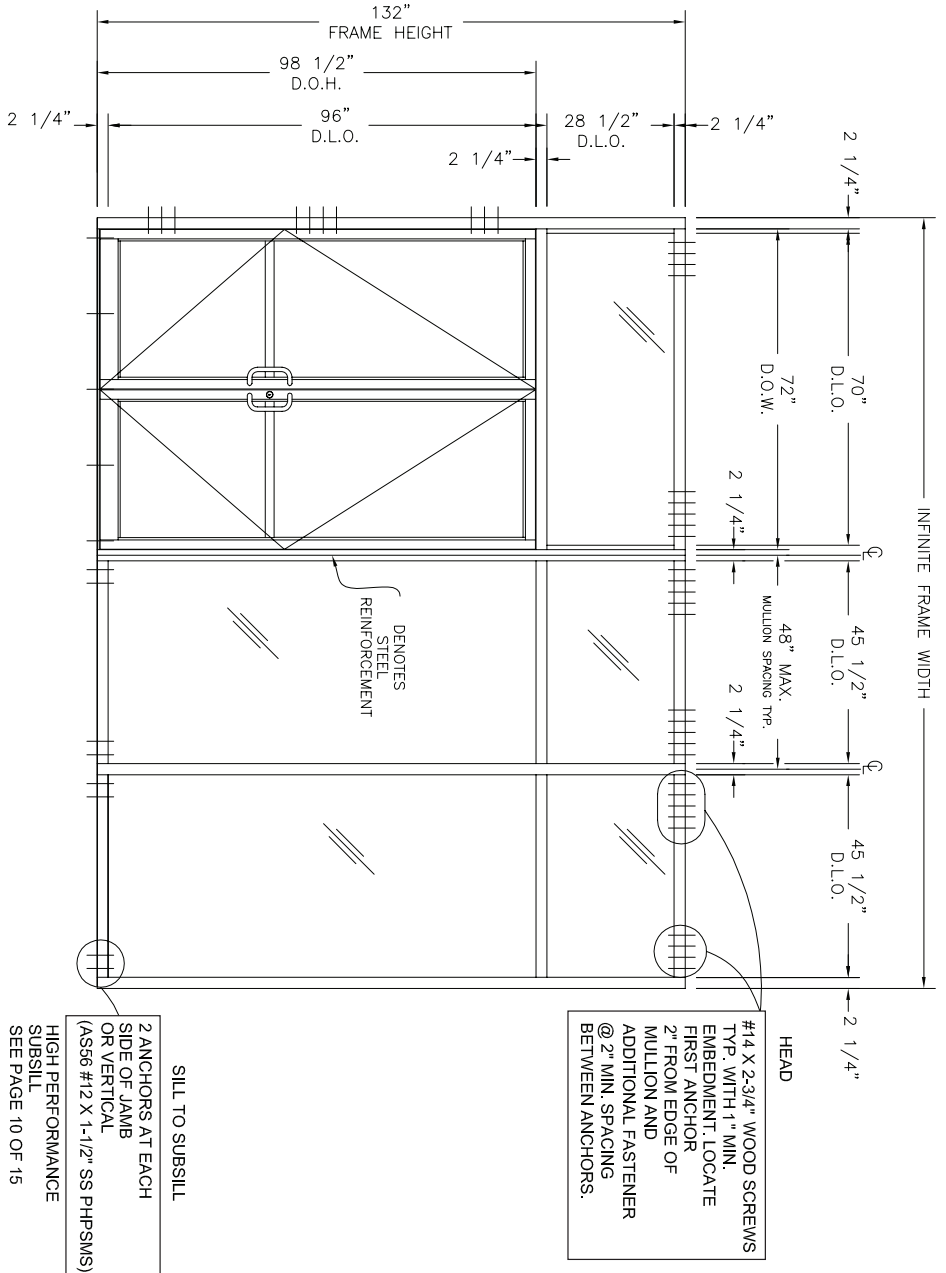
1. TYPICAL INSTALLATION INTO SUBSTRATES
 - A. 2500 PSI CONCRETE
 - B. STEEL, 18 GA. MIN.
 - C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - D. SO. PINE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	10 TOTAL
#14 X 2-3/4" PAN OR HEX HEAD WOOD SCREW	
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"	
1 EACH	8 - 1 1/2"
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"
FROM CENTER OF DOOR OPENING UP TO 96"	
1 EACH	4 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" BELOW CTR LINE
1 EACH	4 - 1/2" BELOW CTR LINE
FROM BOTTOM OF FRAME UP	
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"
1 EACH	17 - 1/2"

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN

TYPE	THRESHOLD ANCHORS
SINGLE DOORS UP TO 48"	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT (1) EACH 4" FROM EACH JAMB
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS
5 ANCHORS TOTAL	

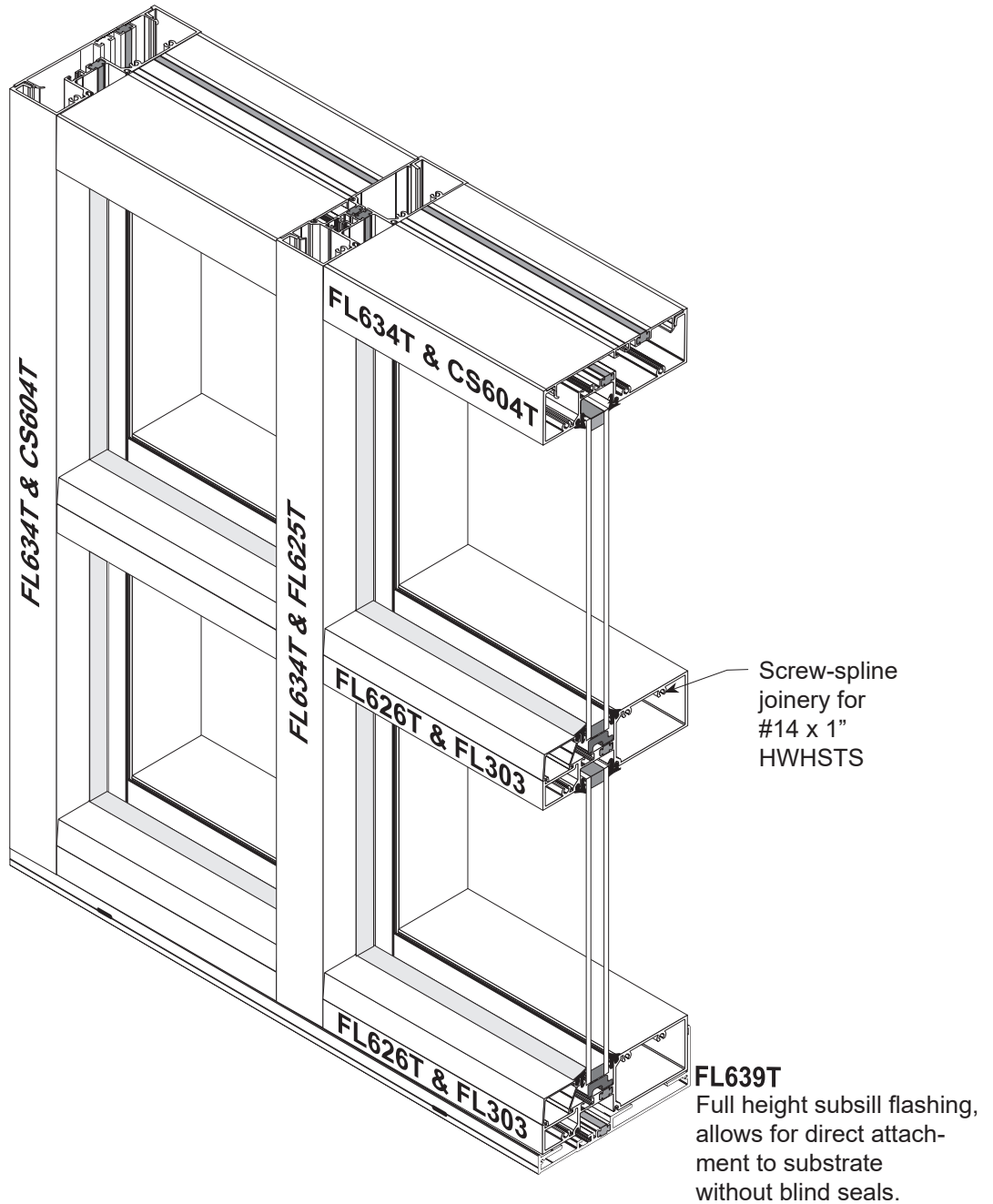


WOOD SUBSTRATE - 1-1/2" THICK ANCHOR LOCATIONS

FL600T & FL600UT

THERMAL STOREFRONT SYSTEM

INSTALLATION INSTRUCTIONS 2-1/4" x 6" for 1" Glass



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Coral
Architectural Products

FL600T & FL600UT

THERMAL STOREFRONT SYSTEM



THERMAL STOREFRONT SYSTEM

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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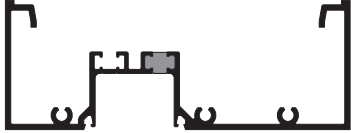
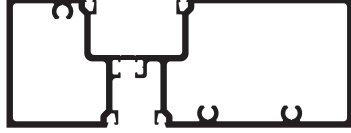



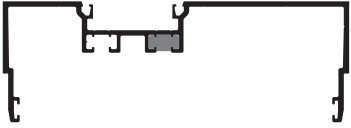

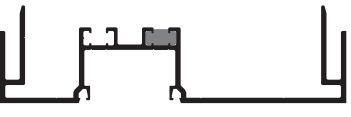
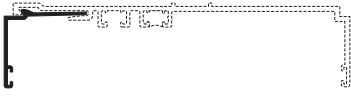




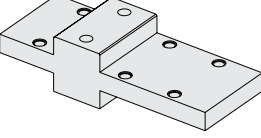


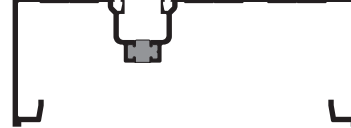



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FL600T & FL600UT















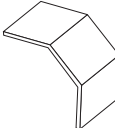

THERMAL STOREFRONT SYSTEM



FL600T SYSTEM PARTS

PARTS			
PART DESCRIPTION	PART NO.	PART DESCRIPTION	PART NO.
 Head/Jamb and Vertical (Deep Pocket)	FL634T	 Door Header	FL607T
 Flat Filler (Head/Wall Jamb)	CS604T	 "F" Clip	CS601
 Filler (For Vertical)	FL625T	 Expansion Mullion (Male)	FL610T
 Head Expander	CS619T	 Expansion Mullion (Female)	FL611T
 Interlocking Stop (Snap fits with CS619T interlocking stop)	CS118	 Heavy Wall Frame Jamb	FL649T
 Sill/Intermediate Horizontal	FL626T	 Concealed Closer Header	FL612
 Glass Stop	FL303	 Drill Jig	DJ600
 Subsill	FL639T	 Door Stop	DS200
 Door Jamb	FL609T	 Door Stop	DS600
 Threshold	TH5BT	 Setting Block	SB3

FL600T SYSTEM PARTS

PARTS			
PART DESCRIPTION	PART NO.	PART DESCRIPTION	PART NO.
 FL518	FL518	 Weathering for D200	WP200
 CS115	CS115	 Schnee-Morehead SM5601 1/8" x 1/2" Tacky Tape	SM5601
 CS105	CS105	 EPDM Gasket (Standard Gasket for 1/4" Glazing)	NG1
 CS106	CS106	 Vinyl Gasket (Standard Weathering Gasket for FL210 and CS118 / CS119)	VG10
 CS107	CS107	 AS56	AS56
 CS108	CS108	 AS16	AS16
 CS109	CS109	 AS31	AS31
		 Water Diverter	WD300-1
		 End Dam	ED639

INSTALLATION INSTRUCTIONS - General Installation Information -

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS - General Installation Information -

- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.

ESTABLISH FRAME SIZE

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 1-1/8" allowing 5/8" for FL639T subsill and a 1/4" caulk joint at the head and a 1/4" shim and caulk beneath the subsill.

STEP 2.

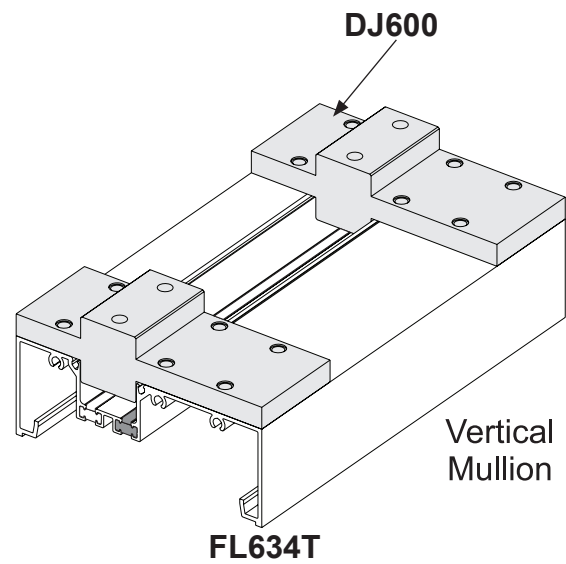
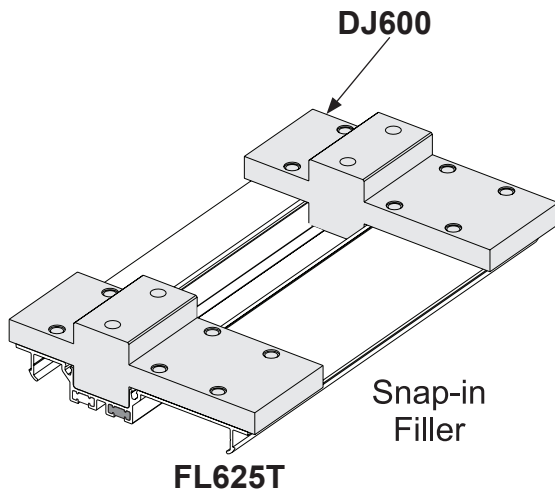
Cut members to size.

- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations will butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

FRAME FABRICATION

STEP 3.

Mark location for horizontals on vertical extrusions and drill holes for screw spline. Reference **STEP 4** for correct orientation of drill jig.

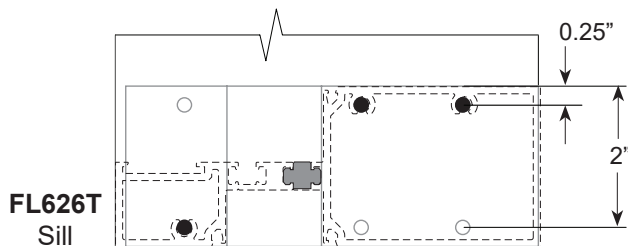
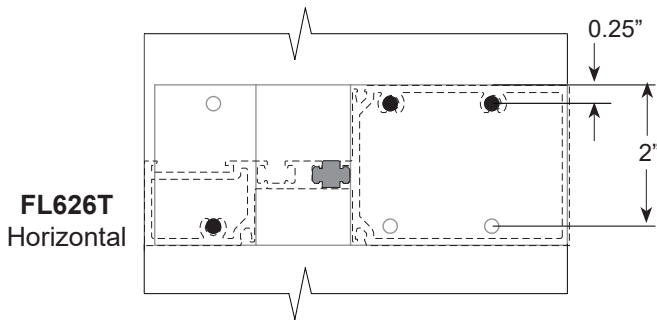
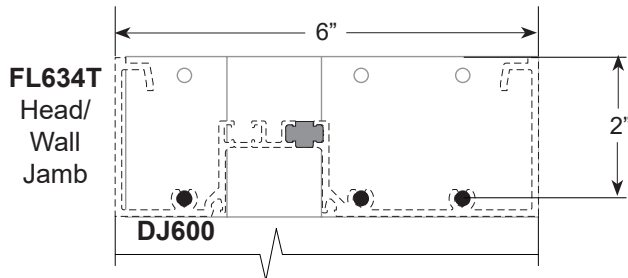
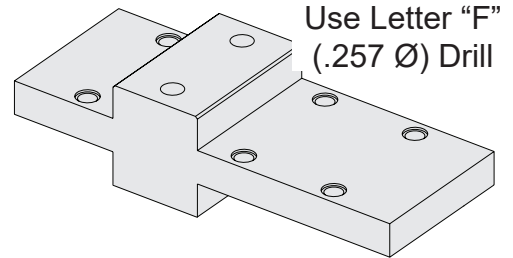
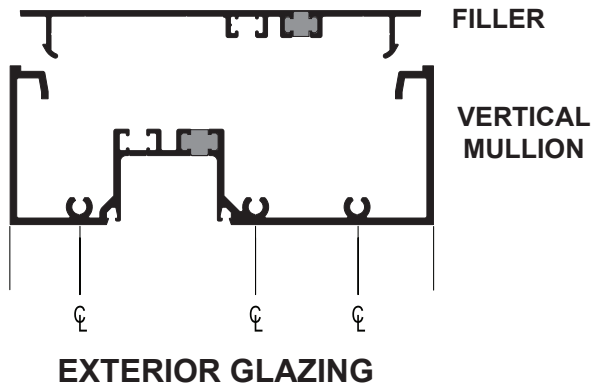


Note: Offset depth hands parts make sure to check handing of parts prior to any fabrication.

FRAME FABRICATION

STEP 4.

Drill or punch holes in verticals for attaching horizontals.

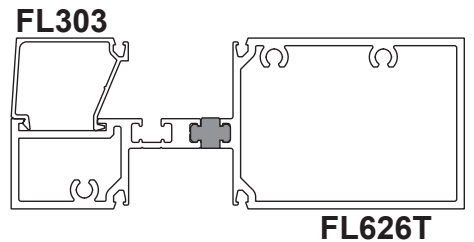
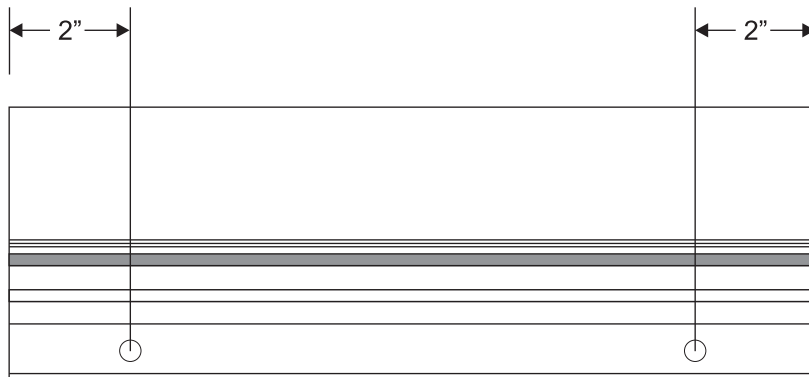
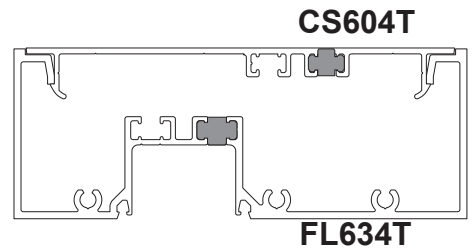
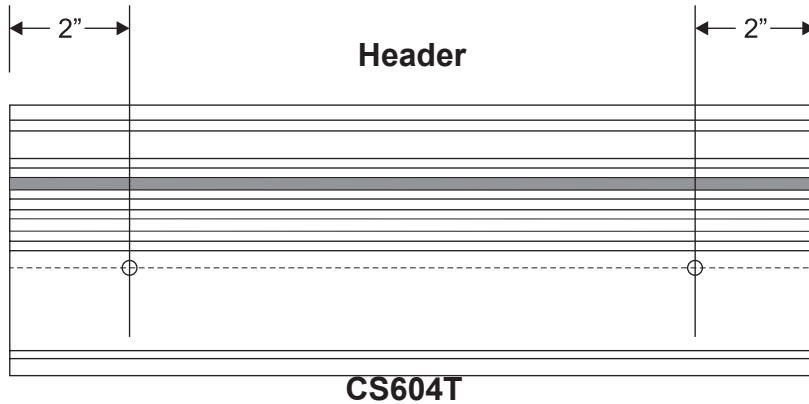


Note: Vertical at door jamb extends to floor

FRAME FABRICATION

STEP 6.

Fabricate head and sill anchor holes. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end. Each additional fastener hole is located at required minimum spacing between fasteners based on substrate as shown in anchor charts. See page 35.

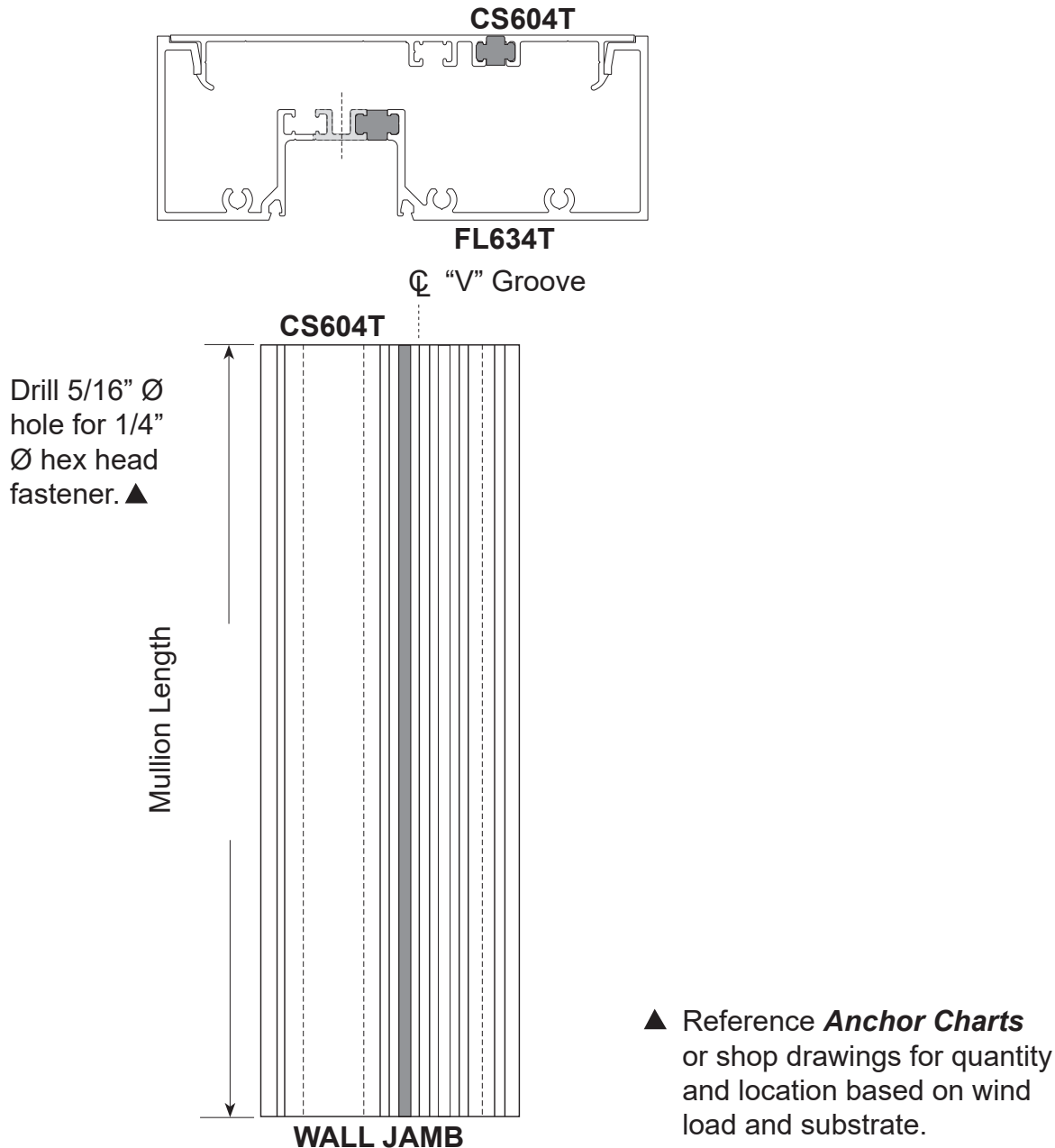


Drill 9/32" Ø clear hole for attaching **FL626T** to **FL639T** subsill with **AS56 1-1/4" x #12 SSPHPSMS** fastener.

FRAME FABRICATION

STEP 7.

Fabricate wall jamb for anchor holes when required. (**Reference Anchor Charts Page 37**) CS601 F clip can be used at this location in lieu of jamb anchors.



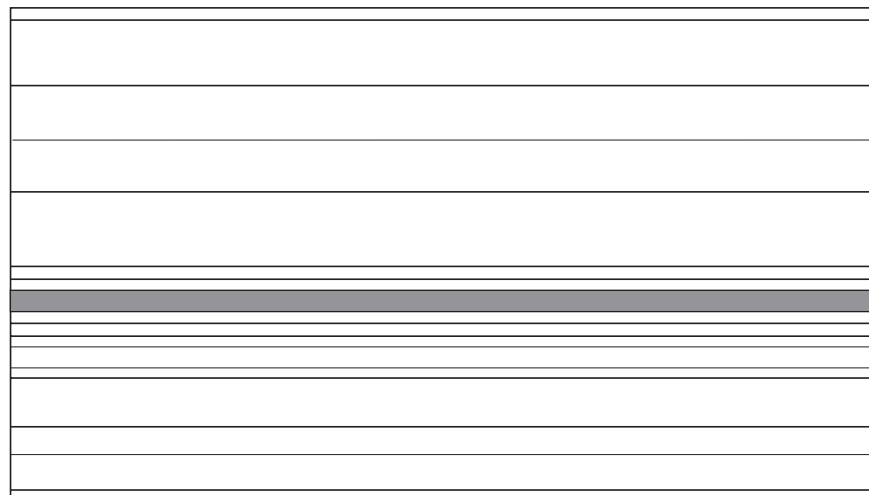
Note: Do not locate anchor holes at intersection of intermediate horizontal. Locate hole just above or below horizontal. Check anchor chart for spacing and quantity based on substrate.

FRAME FABRICATION

STEP 8.

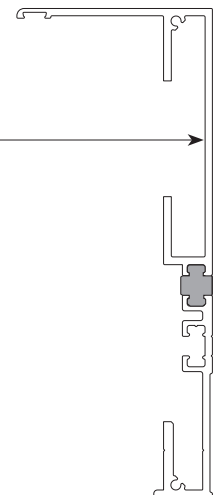
Fabricate **FL639T** subsill flashing for 1/4" Ø hex head structural fastener and weep holes. Hole location dimensions for fasteners in subsill are approximate. Drill 1/4" Ø weep holes as shown.

SUBSILL FLASHING



←→ 6" from end typ.
24" O.C. typ.
←→ or 2 each between →
vertical mullions

Reference Pg. 36 for
anchor locations



⊕ "V" Groove
Note: Drill 1/4"
Ø weep holes

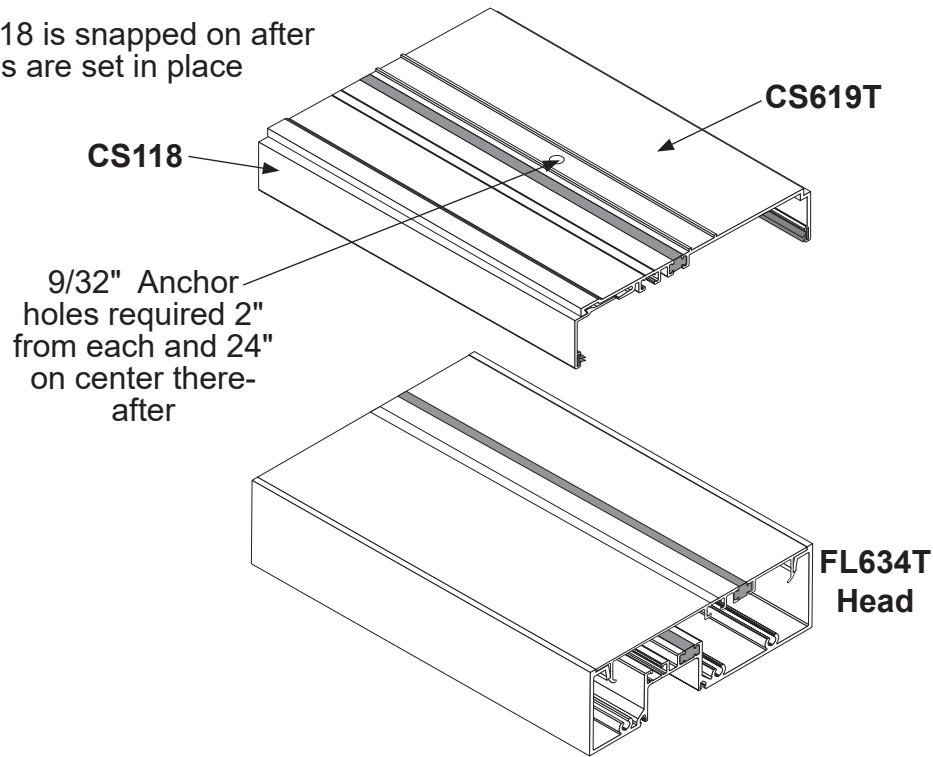
1. Drill 1/4" Ø weep holes in locations as shown. Locate one weep hole 6" from each end and additional holes approximately 48" on center. Total weep holes should average 2 each between each vertical mullion.

FRAME FABRICATION

Using Optional FL634T with CS619T and CS118

Not to be used in areas above 25PSF without PE Review

Note: CS118 is snapped on after frames are set in place



FRAME ASSEMBLY

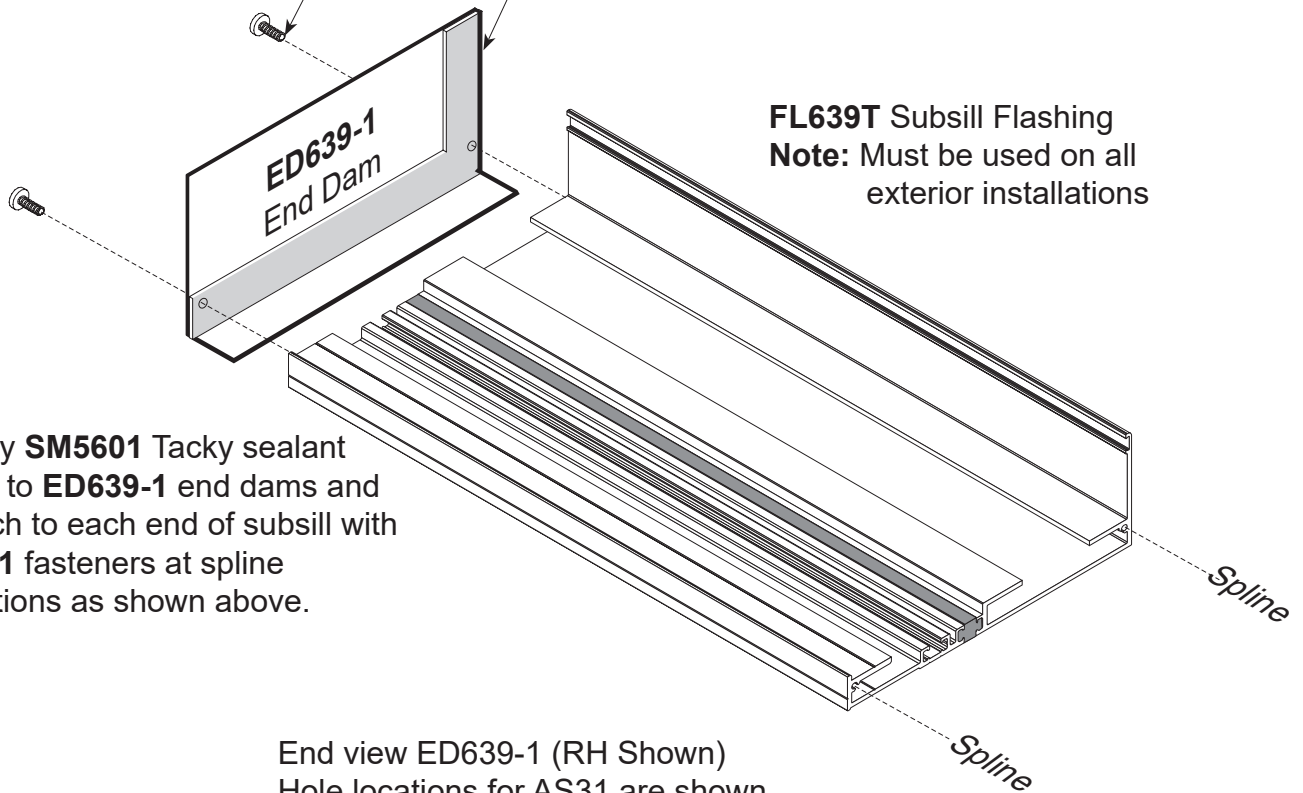
Note: Wipe all surfaces with isopropyl alcohol to remove cutting oils and debris prior to applying SM5601 joint tape or sealants.

STEP 3.

AS31 (#6 x 3/8" PPH) Screw

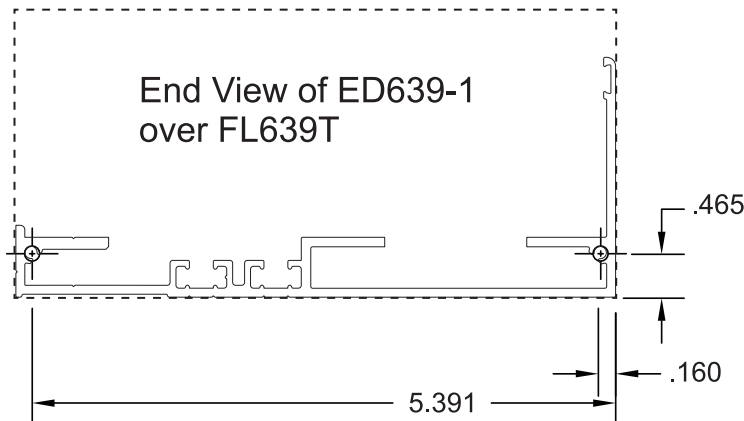


SM5601 1/8" x 1/2" Tacky Tape



Apply **SM5601** Tacky sealant tape to **ED639-1** end dams and attach to each end of subsill with **AS31** fasteners at spline locations as shown above.

End view ED639-1 (RH Shown)
Hole locations for AS31 are shown below and are from the underside of ED639-1 End dam

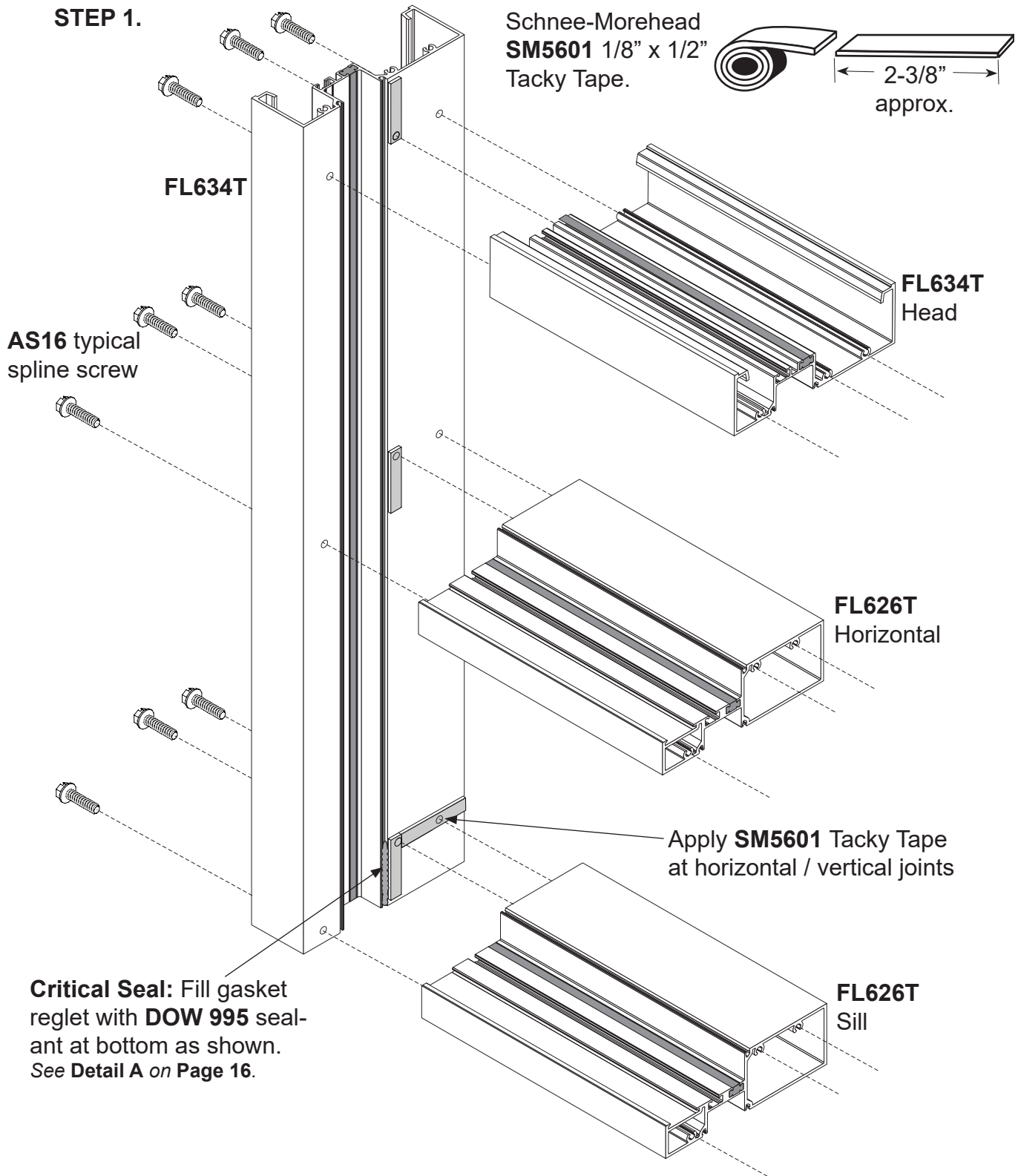


Locate holes as shown drill size required #21

FRAME ASSEMBLY - EXTERIOR GLAZING

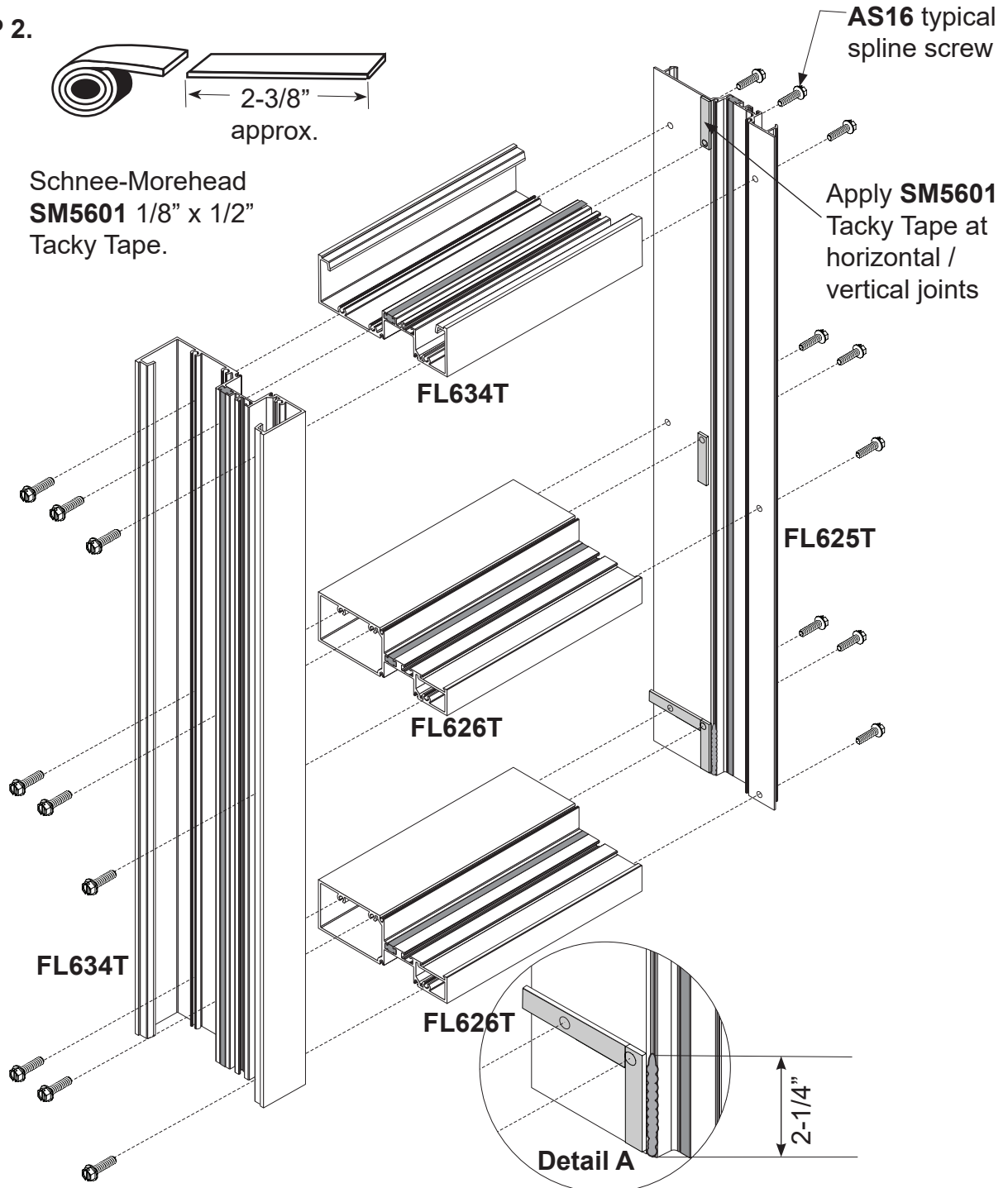
Note: Wipe all surfaces with isopropyl alcohol to remove cutting oils and debris prior to applying SM5601 joint tape or sealants.

STEP 1.



FRAME ASSEMBLY - EXTERIOR GLAZING

STEP 2.



Attach horizontals to verticals using **AS16** (#14 x 1" HHSTS spline screws).
See Page 7 for hole prep locations.

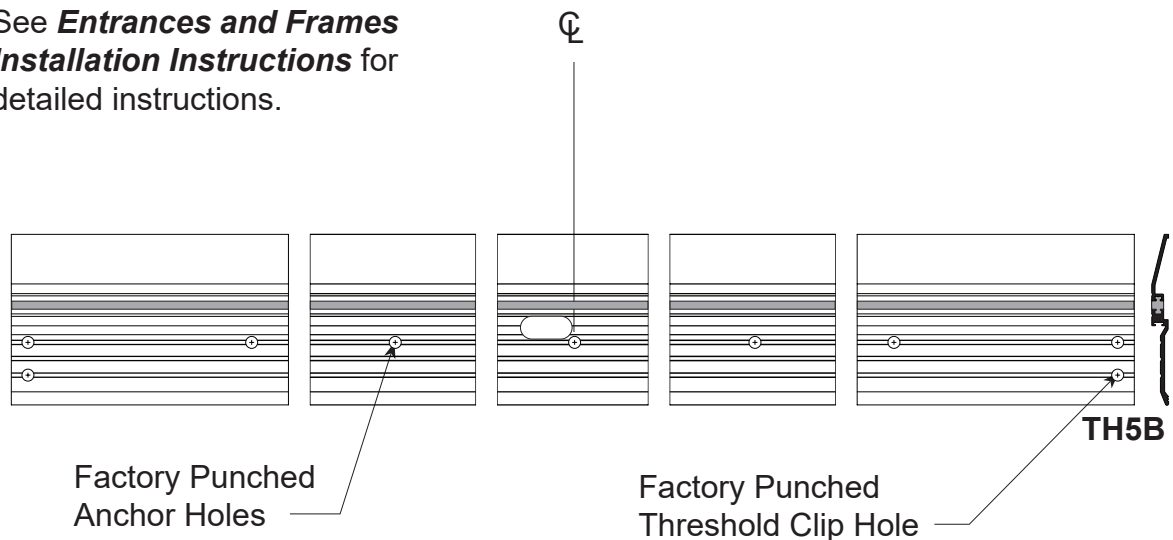
Critical Seal: Fill gasket reglet with **DOW 795** sealant at bottom as shown.

PREPARATION OF DOOR FRAME

All hardware back-up plates are installed in the frame at the factory. Door stops and transom sash are cut to length in the factory. Stock transom frames are fabricated for a vertical frame size of 10' - 5 1/2". If your transom opening is smaller, cut the verticals members down to the appropriate length. Leave a minimum 1/4" caulk joint at the head. The fabrication for the transom head horizontal should be made using either a drill fixture or punch die set for Series **FL600T** framing. (See **Page 7** for hole locations). Review frame anchor charts for configuration and for substrate to which the frame will be attached. Drill anchor holes into door jamb at wall and **CS604T** flat filler. Apply **SM5601** Tacky Tape to joint intersections at door header and transom head. Assemble frame with **AS16** spline screws. Use threshold clips as shown on **Page 19** for attaching threshold. Install transom sash if applicable. The frame is now ready for installation.

THRESHOLD FABRICATION

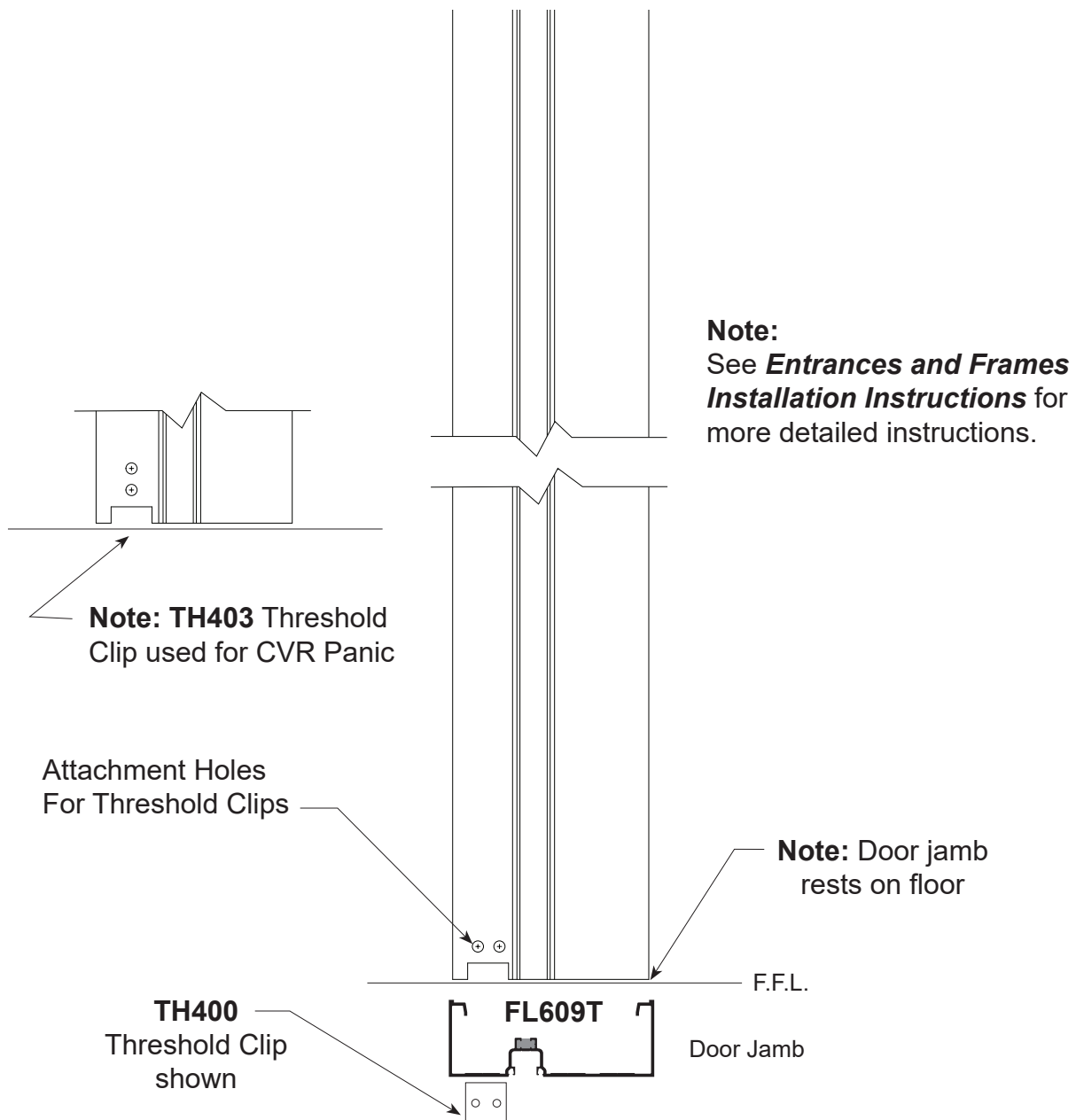
Note:
See *Entrances and Frames Installation Instructions* for detailed instructions.



Threshold For Door Pair. (Butt Hung Shown, Offset Pivot Similar.)

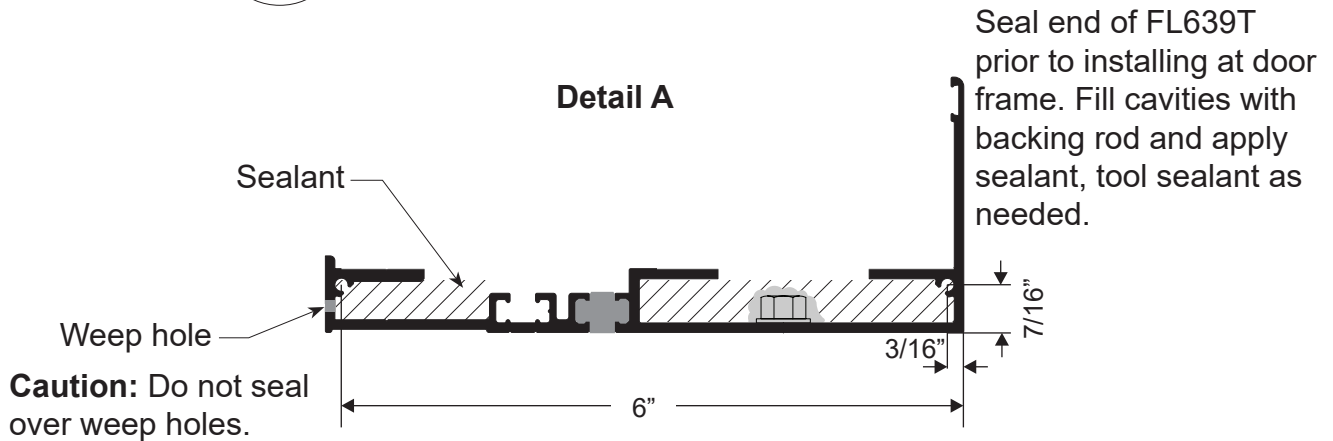
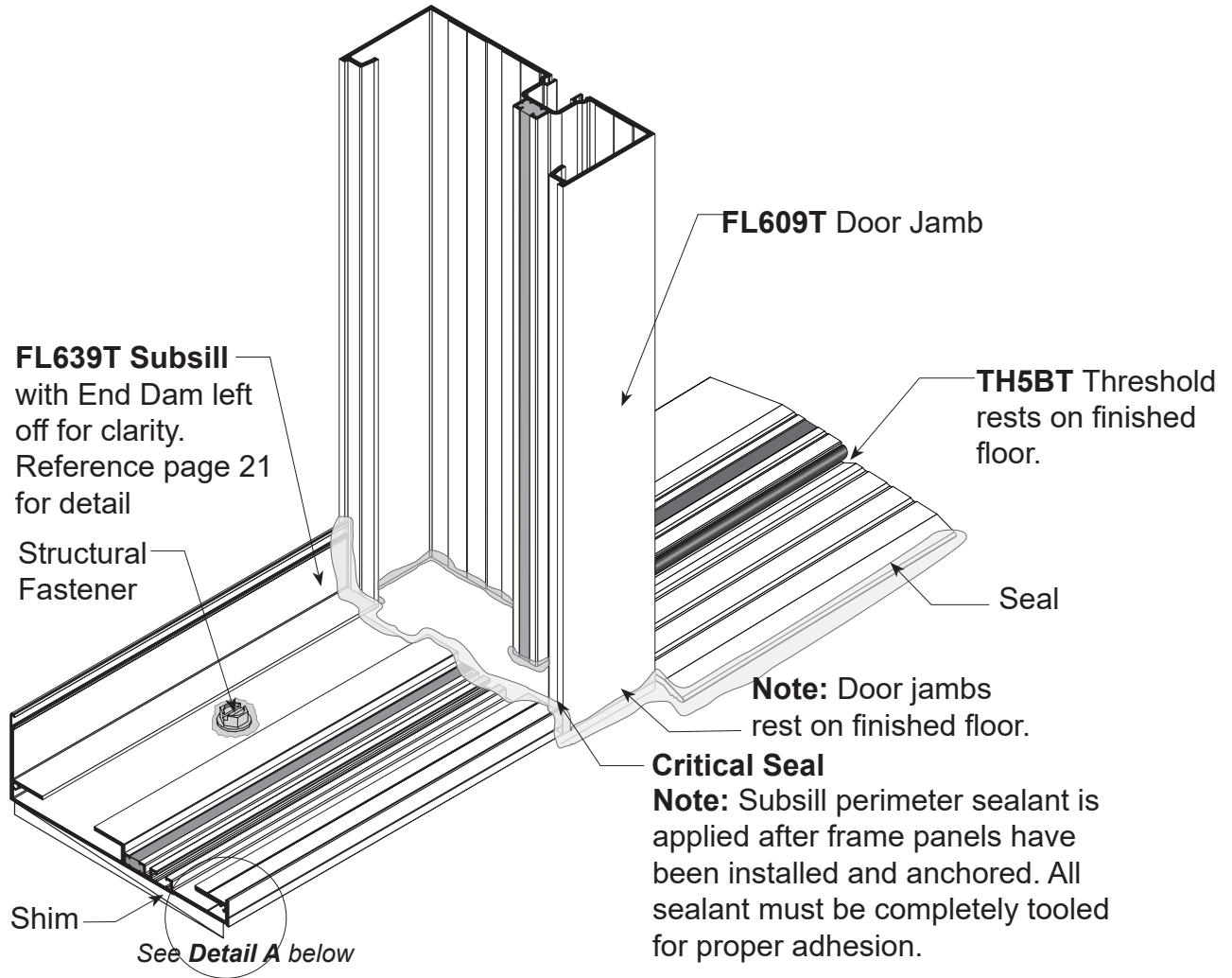
INSTALLATION OF DOOR FRAME

1. Door frame and threshold shall be completely assembled with joints neatly aligned and tight.
2. Door frame shall be installed square and plumb. Measure frame diagonally from corner to corner and shim until the measurements are equal.
3. Level door frame threshold. The door frame is designed to have the jambs extend to floor.
4. Install fasteners through frame and threshold anchor holes and securely anchor to the substrate. Position shims between framing and substrate to prevent members from bowing.
5. Install door stops.
6. Install FL639T Subsill for sidelites as required.



ENTRANCE DOOR FRAME INSTALLATION WITH SUBSILL FOR SIDELIGHTS

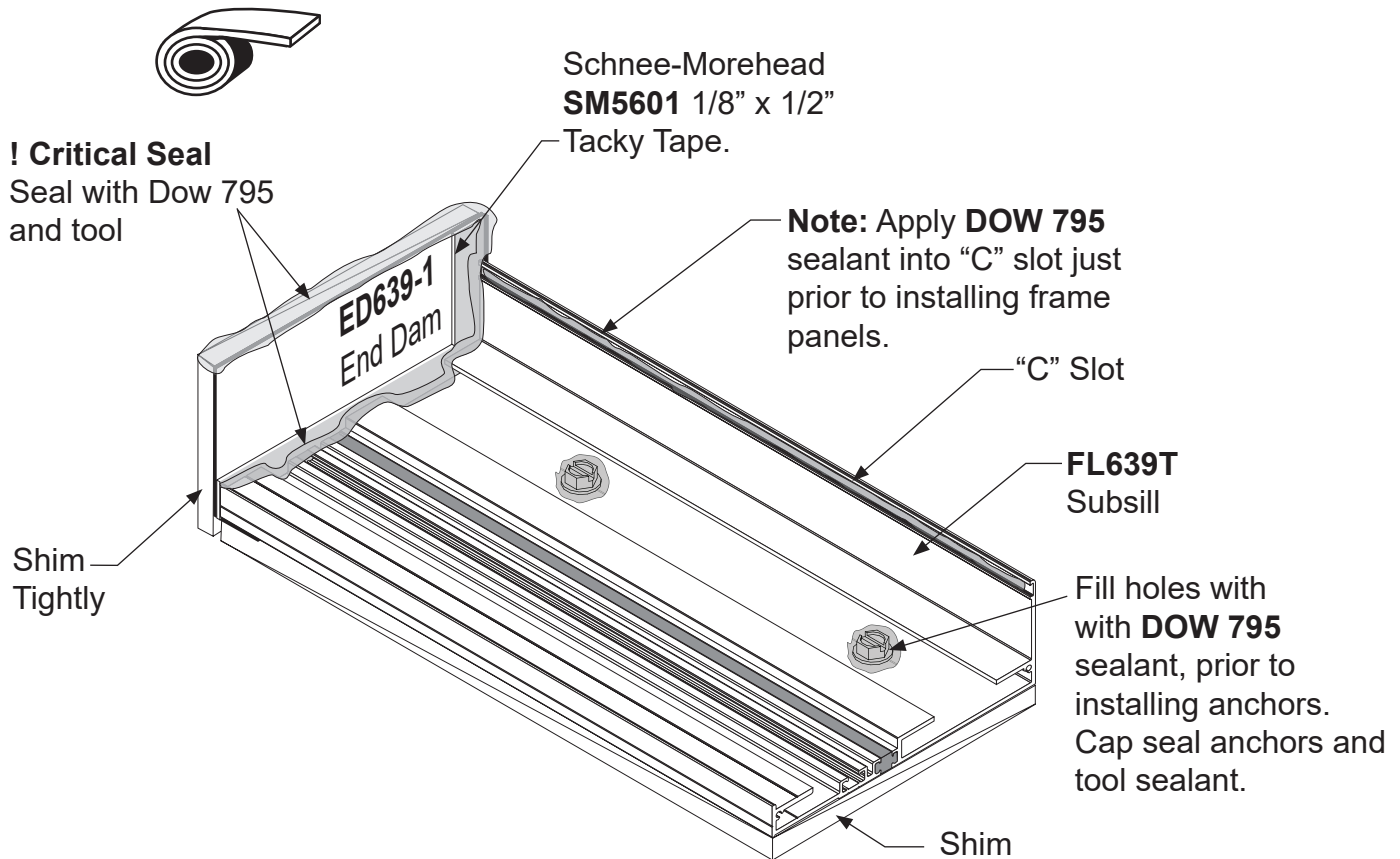
Where entrance doors occur, install entrance door frames first. Subsill butts against door jamb. The subsill abutting the door jamb does not require an end dam.



FRAME INSTALLATION

STEP 1.

Center subsill into opening allowing for a 1/4" minimum shim space at each end to ensure a good caulk joint.



Shim beneath subsill to be a minimum of 1/4". Attach subsill flashing to structure with structural fasteners using attachment holes shown on **Page 13**. Cap seal fastener heads as shown.

Wedge shims tightly between end dams and jamb substrate on each end prior to installing frame panels. These shims prevent the end dam from dislodging while frame panels are being installed. Completely seal end dams to subsill and substrate as shown.

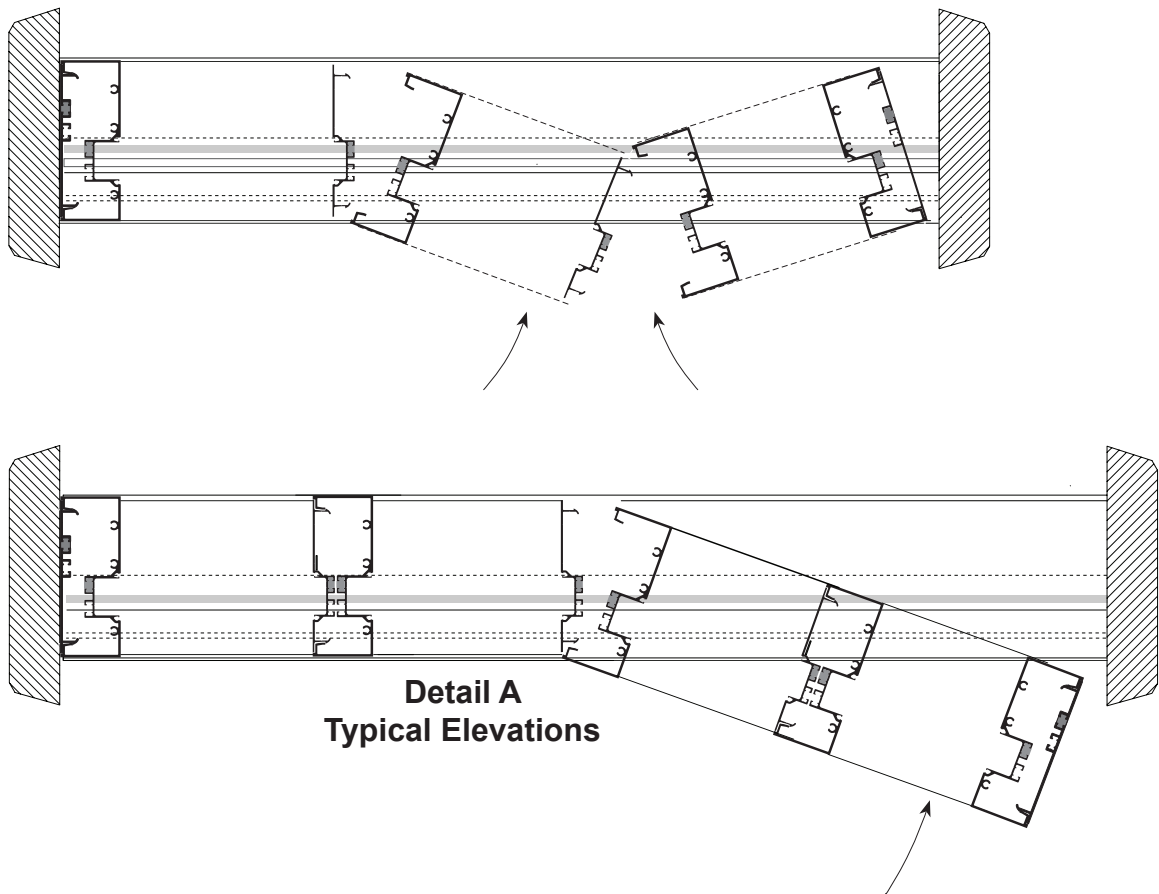
Run a continuous bead of **DOW 795** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

Note: Remove all debris from subsill to prevent clogging weep holes prior to installing panels.

FRAME INSTALLATION

STEP 2.

Screw spline joinery allows for frames to be shop fabricated into panels and shipped to job site assembled. Each panel must have at least one vertical deep pocket for glazing. Arrange panels so that two shallow pockets never face each other. **Reference Page 16 (FRAME ASSEMBLY).**

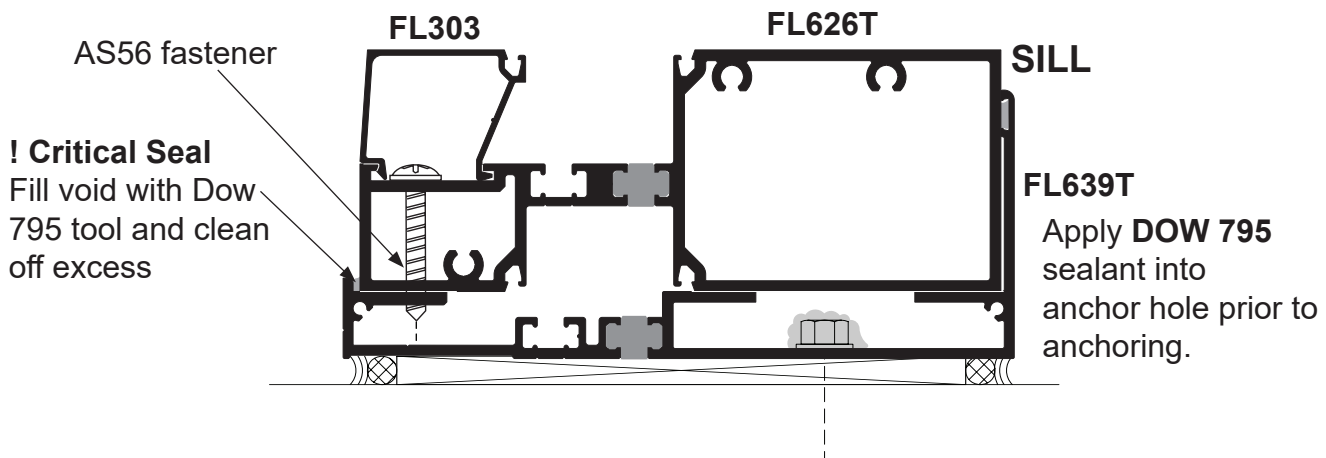
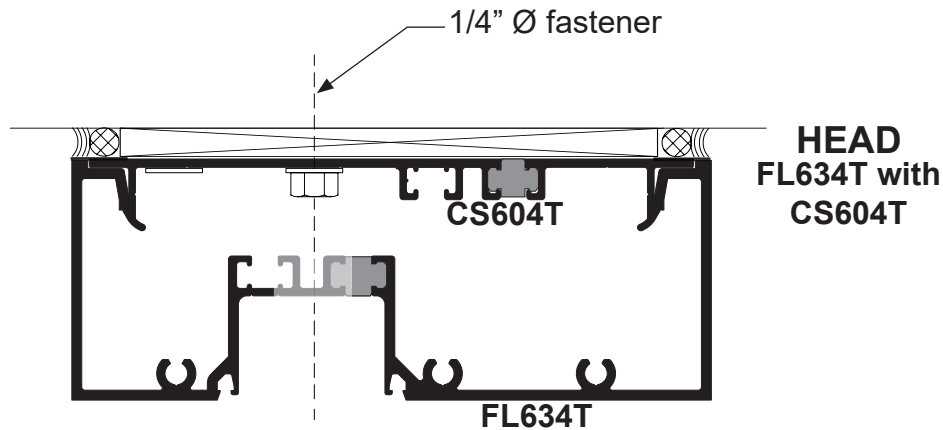
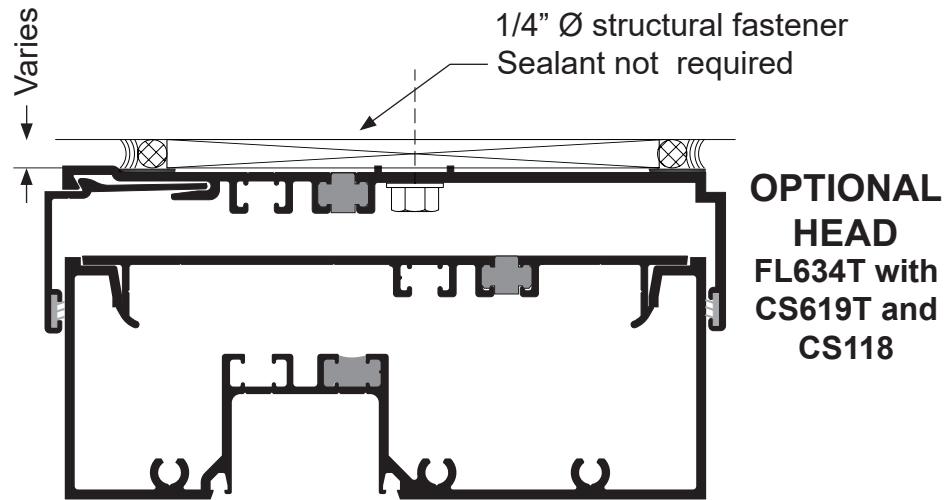


Note: Make sure the back leg of FL539T has sealant applied prior to setting panels. Once panels are installed and anchored, tool exposed sealant and clean off excess

FRAME INSTALLATION

STEP 3.

After all panels are installed and frame panels are attached to substrate at head, then attach sill to subsill with **AS56** per anchor charts (page 35) on each side vertical mullions in locations shown below.



FRAME INSTALLATION

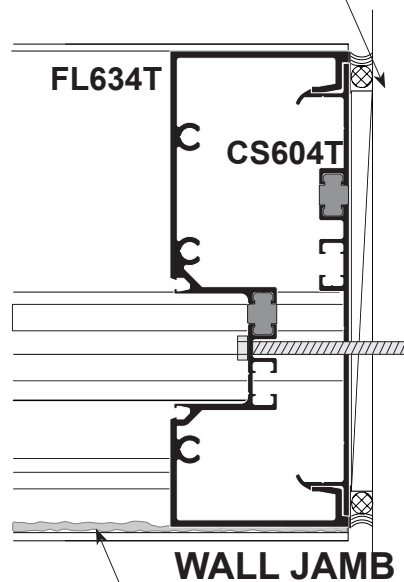
STEP 4.

In high wind zone areas and/or tall spans, it may be necessary to attach jamb to substrate as shown to limit deflection. When required, match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads with **DOW 795** sealant.

When all frames are secured to the opening, then completely seal the exterior and interior perimeter with a continuous bead of Dow 795 sealant. Completely seal the space between the FL636 to the FL639T as shown below

1. All sealants to be **DOW 795**.

Completely Seal
Exterior & Interior
Perimeter of Frame



Completely seal
cavity at FL639T with **DOW 795**

GLASS SIZE FORMULAS

Glass Sizes for **FL600T** System:

Glass Width and Height = D.L.O. + 7/8"

FL600T Door Frames with surface mounted closers
Transom parts FL607T Transom bar and FL634T Header

Width: door opening width - 1 1/8"

Height: daylite opening + 7/8"

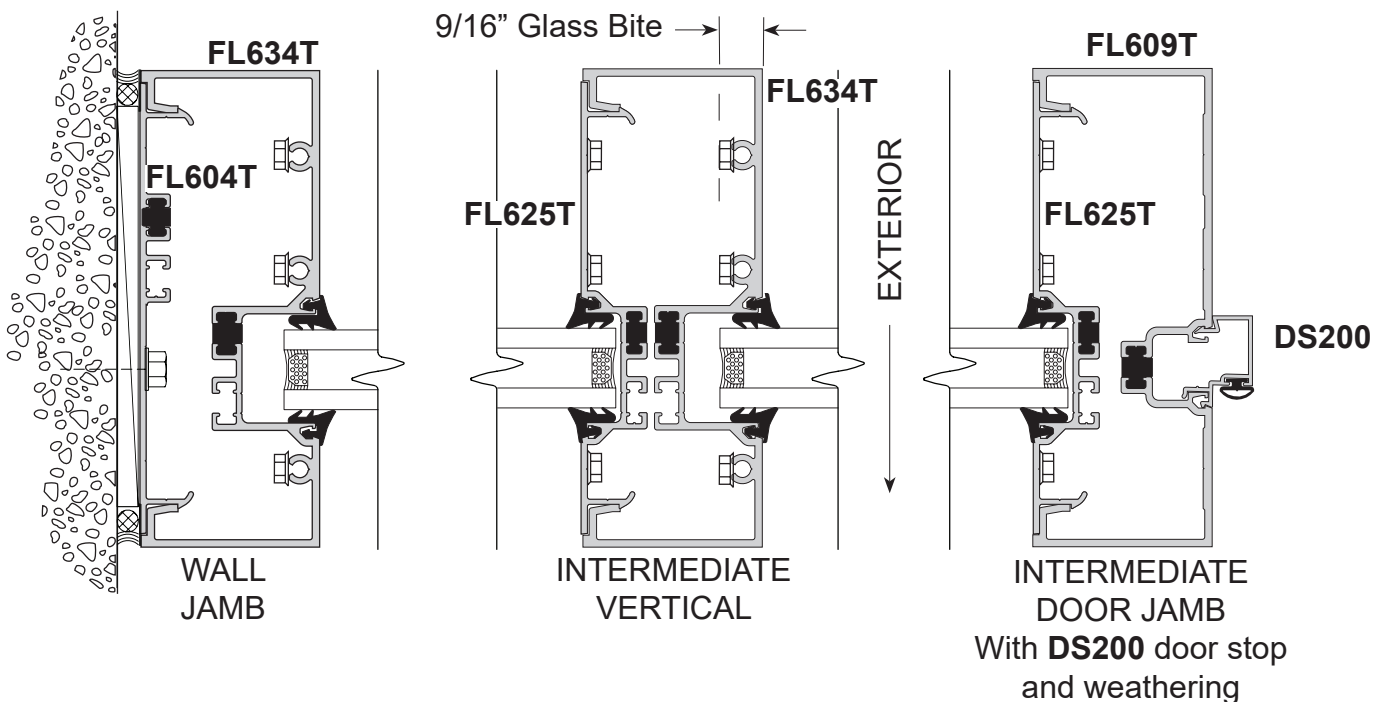
FL600T Door Frames with concealed closers

Transom parts FL612 Transom bar and FL634T Header

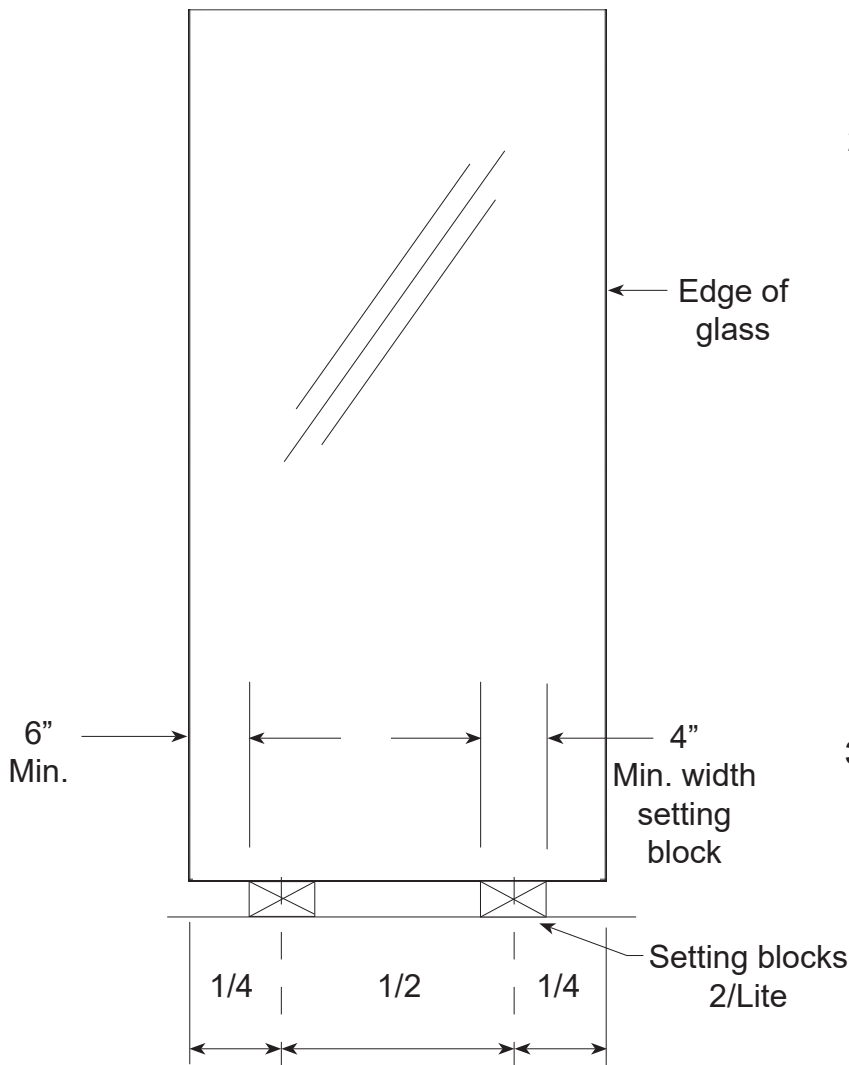
Width: door opening width - 1 1/8" (CS115/FL518 will be on both vertical sides)

Height: daylite opening (taken from top of sash CS115 to bottom of FL634T) - 1/8"

Note: Glass tolerances are not addressed in the above formula.
Consult glass manufacturer for glass tolerances prior to ordering.



PREPARATION OF FRAME OPENING FOR GLASS



1. Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

2. SETTING BLOCKS

Glass should be set on two identical setting blocks having a Shore A Durometer of 85 + or -5. The preferred location is at the 1/4 points.

If the 1/4 point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block **CANNOT** be closer than 6" to the corner of the glass.

3. DEFLECTION

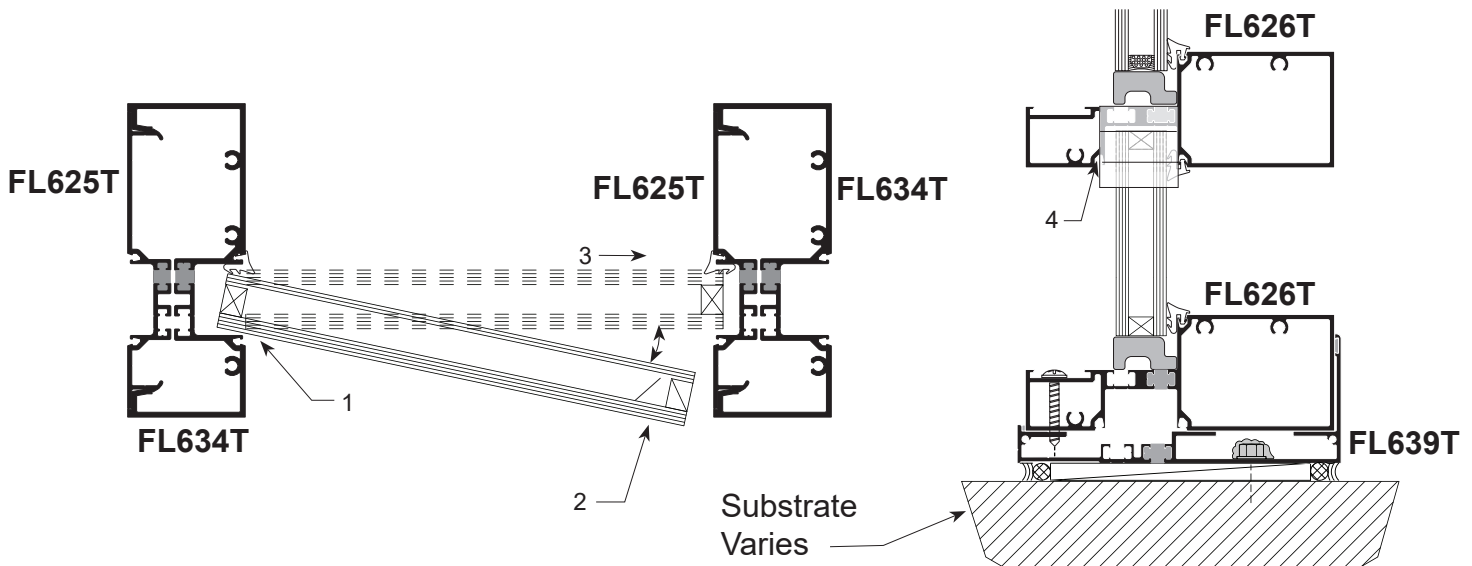
The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check dead load charts for proper setting block locations.

EXTERIOR GLAZING

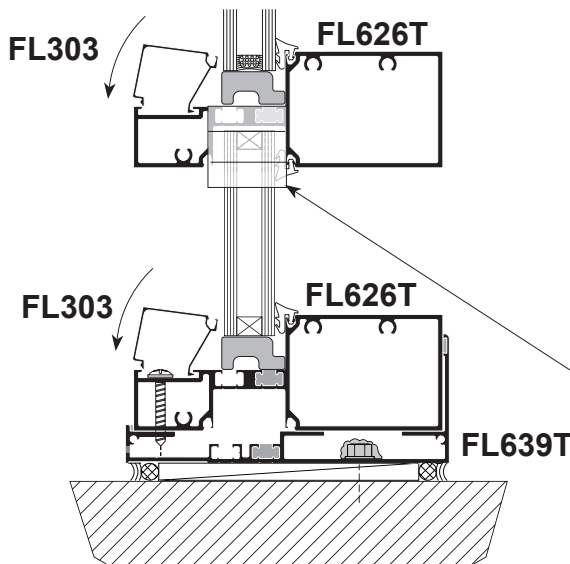
GLASS SIZES*

GLASS SIZE = DAYLIGHT OPENING + 7/8"

Consult glass manufacturer for glass tolerance before ordering glass.



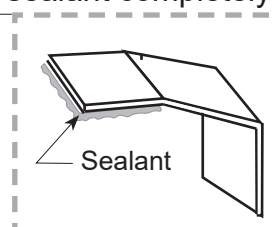
1. Install interior gasket. Vertical gasket runs through. **Reference Pages 28.**
2. Set glass in place following the four step procedure shown above. Center glass in the opening, making sure proper glass penetration is achieved. Rest glass on setting blocks.
3. Press glass against installed gaskets and snap-in **FL303** Glass Stop as shown below.
4. Install **NG1** exterior gaskets as shown on **Page 28.**



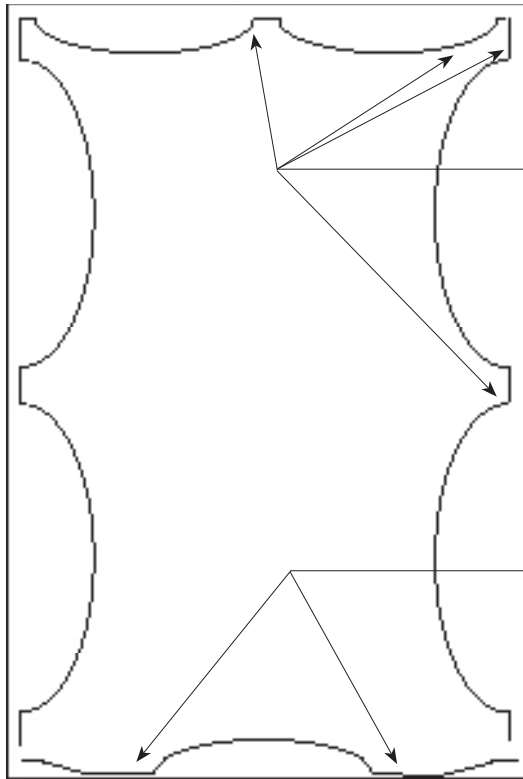
Detail

Glaze from bottom to top. Install **WD300-1** Water Diverter as shown before setting upper lite.

WD300-1 Water Diverter is embedded in sealant at each end of horizontal. Tool sealant completely



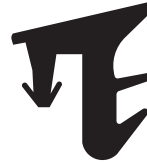
INSTALLATION OF TOP LOAD GLAZING GASKETS



Detail A

Start jamb and head gaskets at corners and center.

Start gaskets at setting blocks

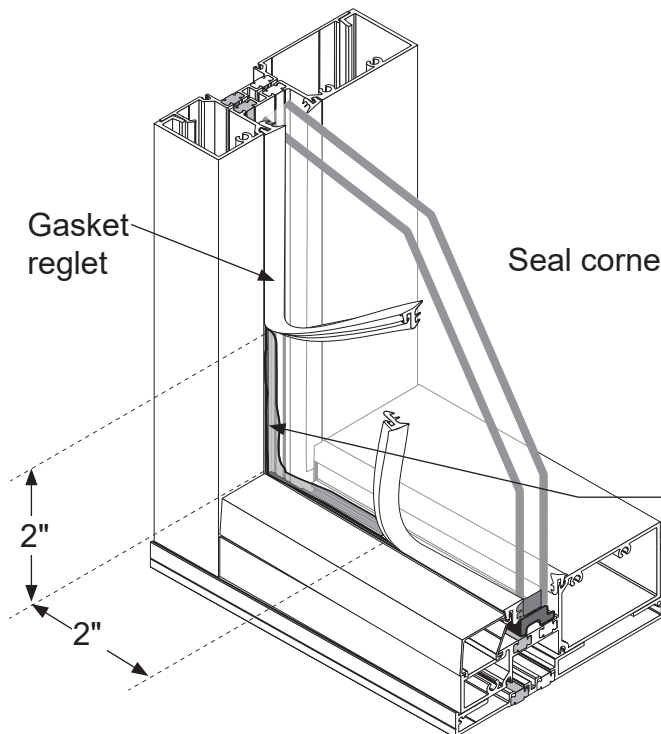


NG1 glazing gasket
shown actual size.

1. Cut gaskets a minimum of 3/16" longer per foot than aluminum extrusion.

2. Do not stretch gasket to make them fit.

It is very important that gaskets are installed correctly as shown in **Detail "A"**, to prevent shrinkage at corners.



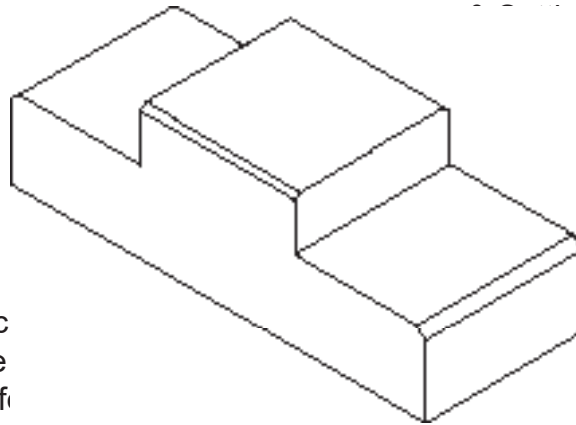
3. Pull gaskets back 2" in both directions at corner intersections & seal with **DOW 795** silicone sealant. This should be done on interior & exterior for best performance.

DOOR PREPARATION AND GLAZING

Door glass stops and gaskets are shipped loose.

SB1

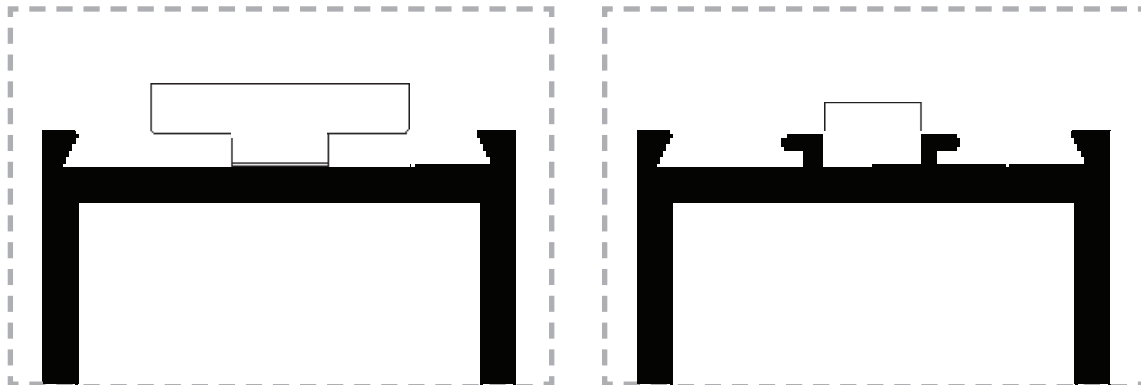
Side Block
Gasketing Block



Side Bloc
Block are
Inverted f

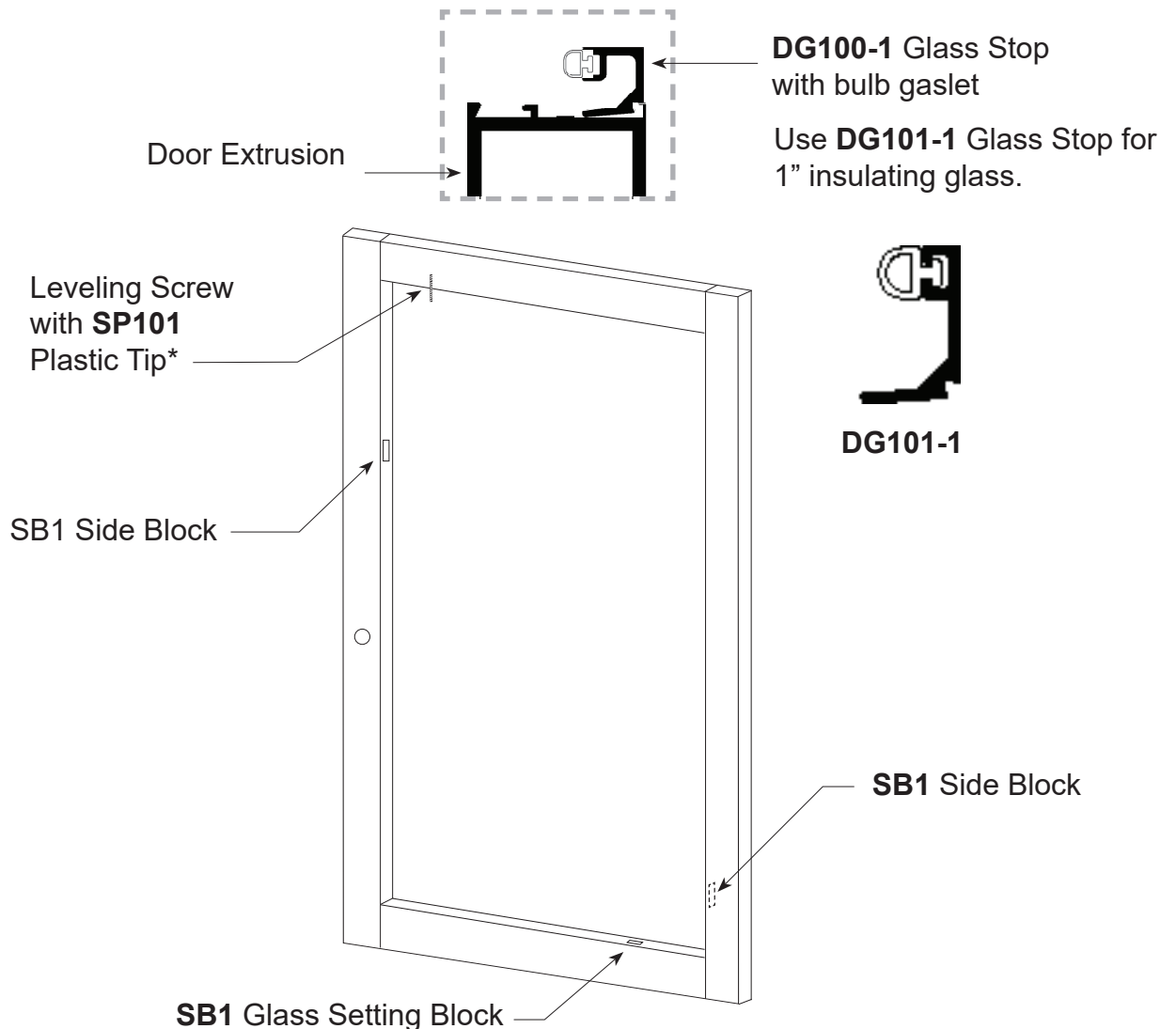
For 1" Glass (Rotate 90°
From 1/4" Position)

For 1/4" Glass



DOOR PREPARATION AND GLAZING

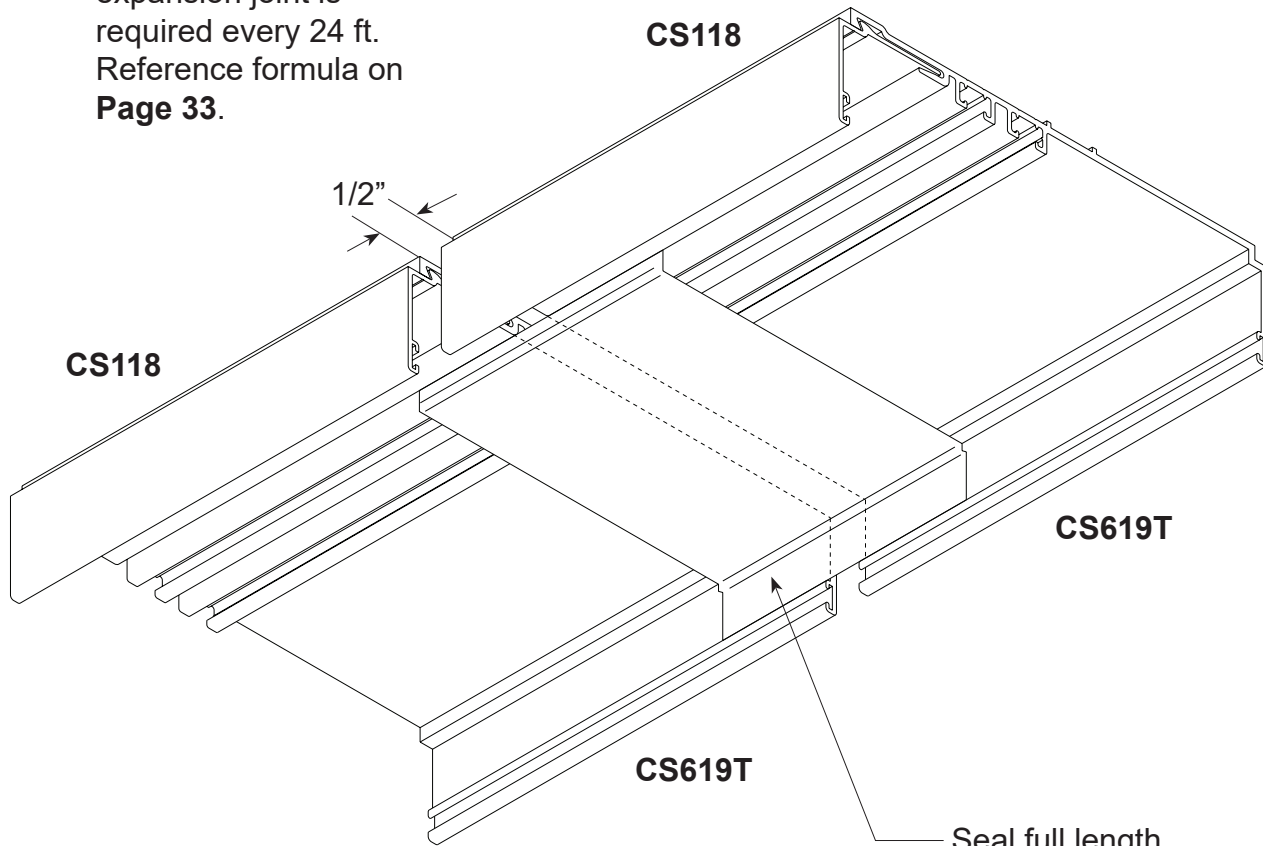
1. Install **DG100-1** glass stops on interior side of door.
2. Center glass in opening on setting blocks and align with side blocks.
3. Once the glass is in the correct position, lightly screw the glass adjustment screw down with **SP101** plastic tip attached to the top of the glass.
4. Install horizontal door glass stops.
5. Square door using adjustment screw located in top rail of door as required.



SPECIAL CONDITIONS SPLICE AT HEAD EXPANDER

A minimum 3/8" expansion joint is required every 24 ft. Reference formula on Page 33.

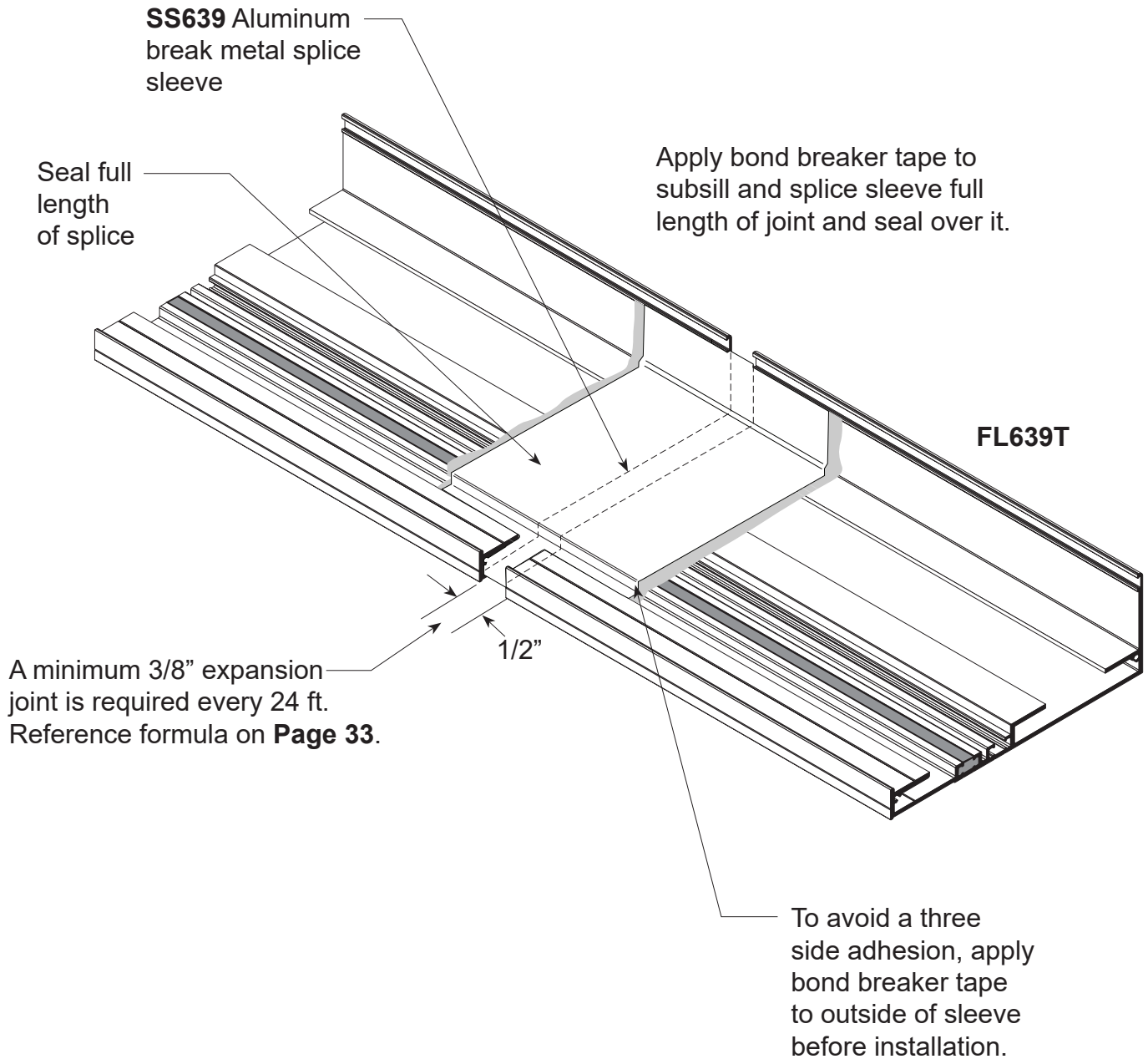
Apply bond breaker tape to CS619 and splice sleeve full length of joint and seal over it.



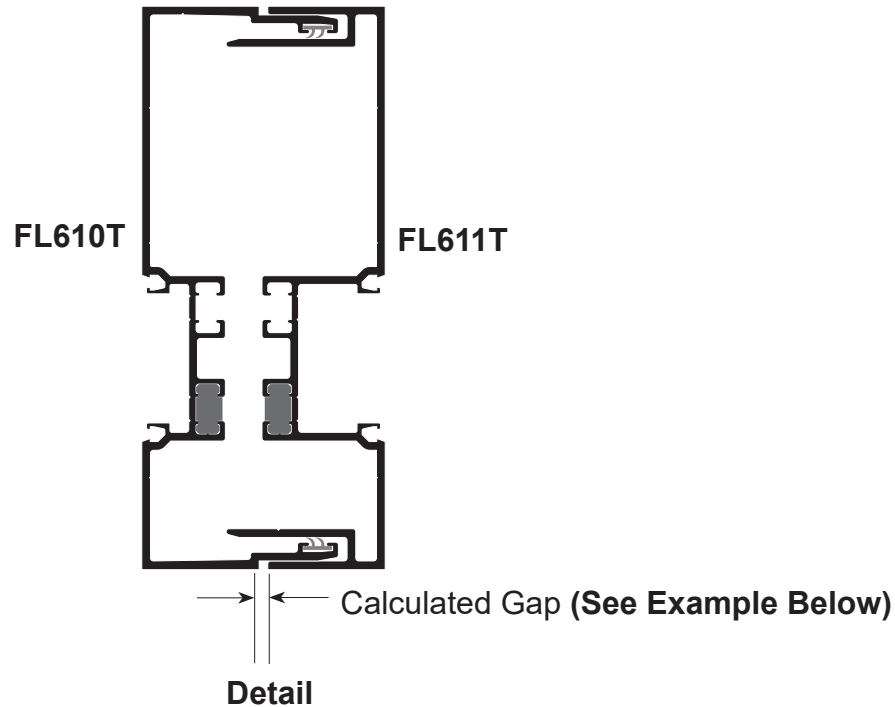
Seal full length of splice. To avoid a three side adhesion, apply bond breaker tape to outside of sleeve before installation.

SPECIAL CONDITIONS SPlice SLEEVE AT SUBSILL

STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



SPECIAL CONDITIONS EXPANSION MULLIONS



Calculated gap is determined by job conditions project specifications and temperature at the time of installation. Expansions mullions allow for 3/8" maximum movement.

EXPANSION GAP SIZE FORMULA= Length (") x F° difference x .0000129

L = Length in inches, between center line of expansion mullion in elevation.

F° = Specified Temperature Variation

.0000129 = Thermal Coefficient for Aluminum

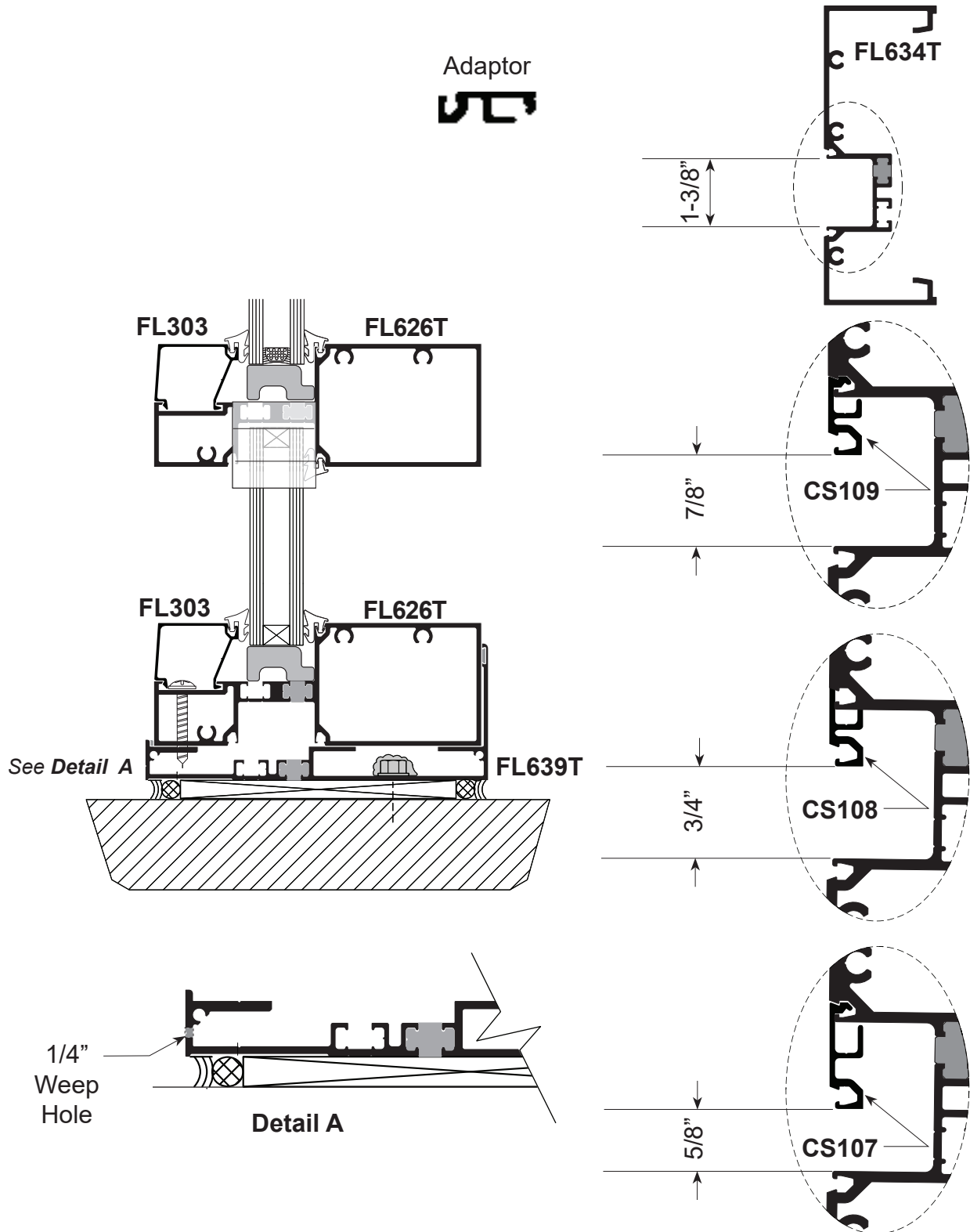
FOR EXAMPLE:

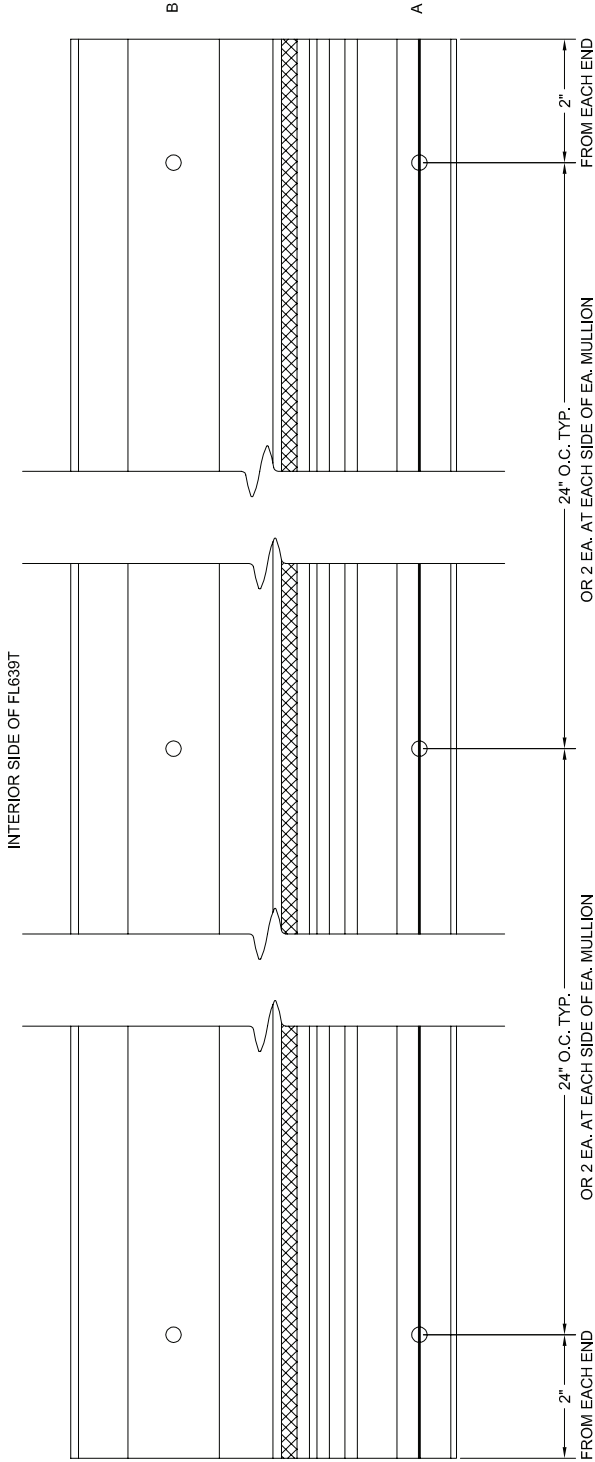
Assume 100° temperature variation specified and temperature at job site on day of installation is 60°

1. $100^{\circ} - 60^{\circ} = 40^{\circ}$ temperature difference
2. Length of elevation between expansion mullions equals 20'- 0" or 240"
3. $240" \times .0000129 \times 40^{\circ} = .124"$ Therefore, set expansion mullion gap at .124" or 1/8".

**SPECIAL CONDITIONS
TRANSITION GLAZING**

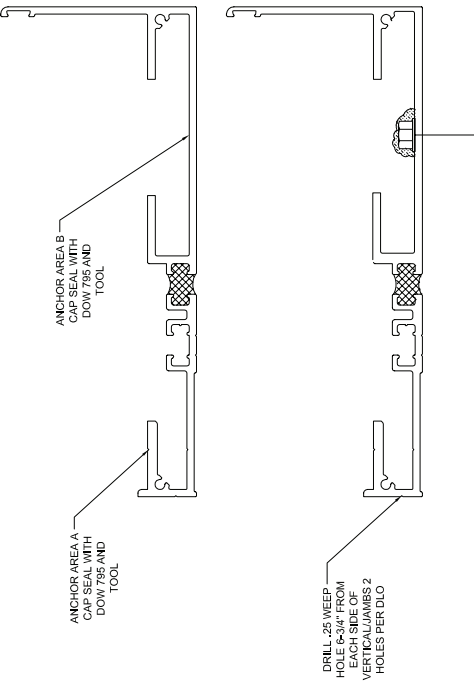
Adaptor





REFERENCE CHART BELOW FOR ANCHOR LOCATIONS

SUBSILL ANCHORING



FL639 AND FL639T ANCHOR TYPES		
SUBSTRATE	ANCHOR TYPE	LENGTH BASED ON 1/2" SHIM SPACE
WOOD 1-1/2" THICK	#14 WOOD SCREW	1-3/4" ON CENTER AND 2" FROM EACH END
WOOD 3" THICK	#14 WOOD SCREW	2-1/2" PER DRAWING ABOVE
CONCRETE MIN 2500 PSI	1/4" HEX HEAD TAPCON OR EQUAL	3" PER DRAWING ABOVE
STEEL STUD MIN 18 GA	#14 PH OR HH TEK SCREW	2" PER DRAWING ABOVE
STEEL HOT ROLLED MIN 1/8"	#14 PH OR HH TEK SCREW	2" PER DRAWING ABOVE
STEEL HOT ROLLED MIN 1/8"	#14 PH OR HH TEK SCREW	2" PER DRAWING ABOVE
STEEL HOT ROLLED MIN 1/8"	1/4" TYPE F OR STANDARD SAE AND TAP	2" PER DRAWING ABOVE

NOTES:
TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

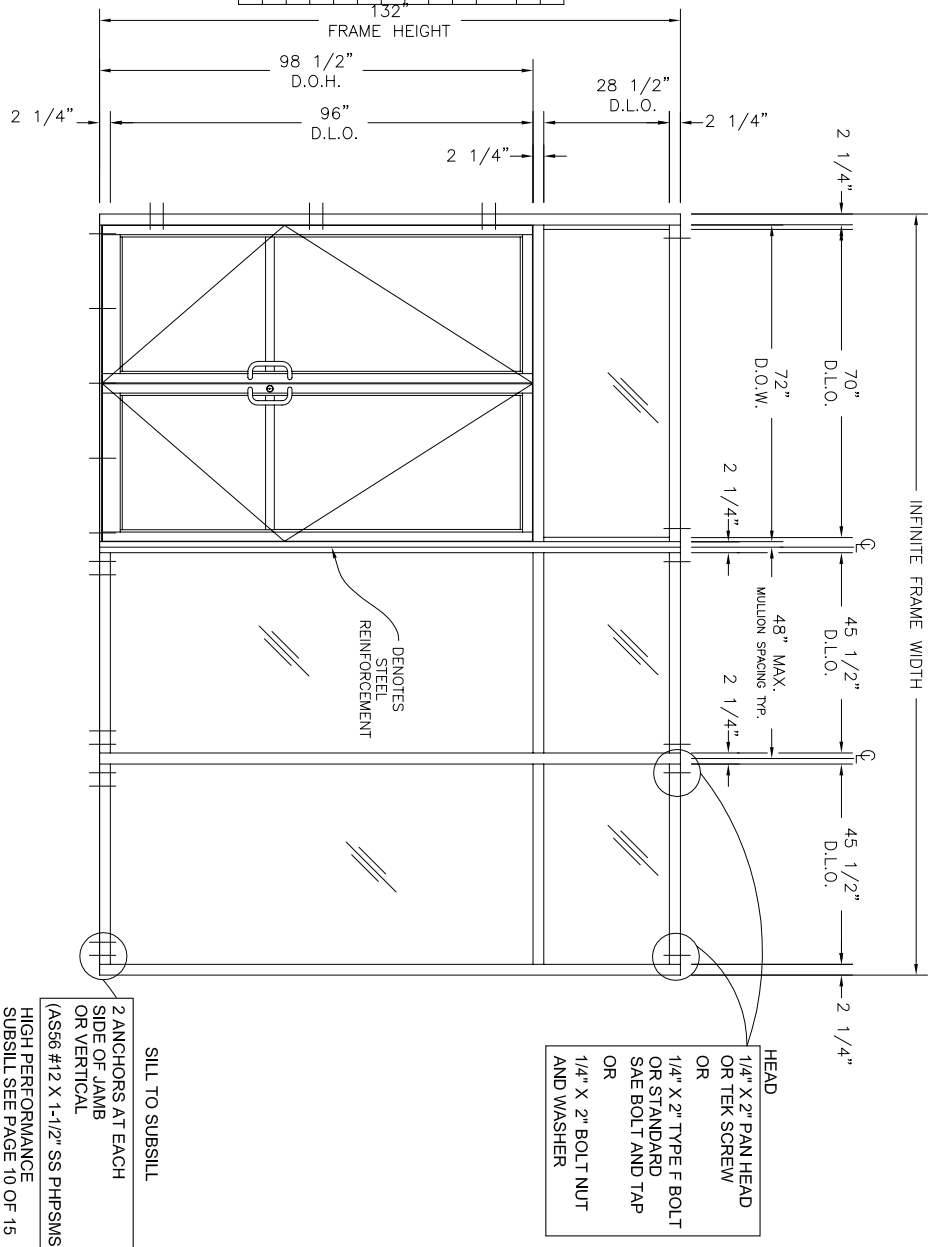
PERIMETER FASTENERS:
1. TYPICAL INSTALLATION INTO SUBSTRATES
A. 2500 PSI CONCRETE
B. STEEL, 18 GA. MIN.
C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
D. SO. PINE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	10 TOTAL
1/4" X 2" PAN OR HEX HEAD TEK SCREW	
1/4" X 2" TYPE F BOLT OR STANDARD SAE BOLT AND TAP	
1/4" X 2" BOLT NUT AND WASHER	
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"	
1 EACH	8 - 1/2"
1 EACH	11 - 1/2"
FROM CENTER OF DOOR OPENING UP TO 96"	
1 EACH	1 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" BELOW CTR LINE
FROM BOTTOM OF FRAME UP	
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN

THRESHOLD ANCHORS	
TYPE	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT
SINGLE DOORS UP TO 48"	(1) EACH 4" FROM EACH JAMB
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS
5 ANCHORS TOTAL	(1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS



**STEEL SUBSTRATE
ANCHOR LOCATIONS**

NOTES:
 TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
 DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

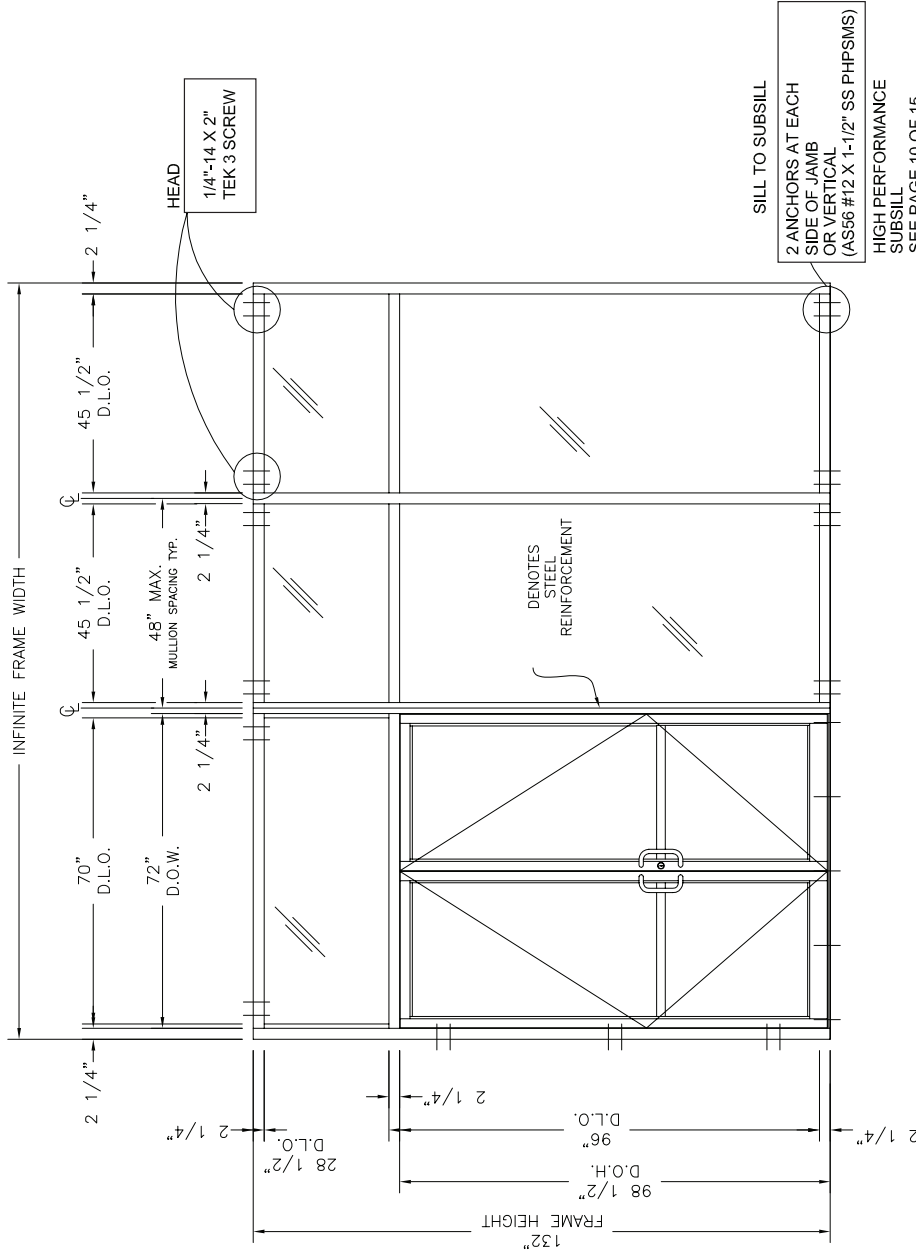
PERIMETER FASTENERS:

1. TYPICAL INSTALLATION INTO SUBSTRATES
 - A. 2500 PSI CONCRETE
 - B. STEEL, 18 GA. MIN.
 - C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - D. SO. PIPE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	1/4" X 2" PAN OR HEX HEAD TEK SCREW	10 TOTAL
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"		
1 EACH	8 - 1/2"	
1 EACH	11 - 1/2"	
FROM CENTER OF DOOR OPENING UP TO 96"		
1 EACH	1 - 1/2" ABOVE CTR LINE	
1 EACH	1 - 1/2" BELOW CTR LINE	
FROM BOTTOM OF FRAME UP		
1 EACH	11 - 1/2"	
1 EACH	14 - 1/2"	

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN



SILL TO SUBSILL
 2 ANCHORS AT EACH SIDE OF JAMB OR VERTICAL (AS56 #12 X 1-1/2" SS PHPSMS)
 HIGH PERFORMANCE SUBSILL
 SEE PAGE 10 OF 15

LIGHT GAUGE MIN. 18 GA. STEEL OR MIN. 1/8" HOT ROLLED STEEL SUBSTRATE ANCHOR LOCATIONS

THRESHOLD ANCHORS	
TYPE	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT
SINGLE DOORS UP TO 48"	(1) EACH 4" FROM EACH JAMB
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS
5 ANCHORS TOTAL	

NOTES:
 TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
 DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

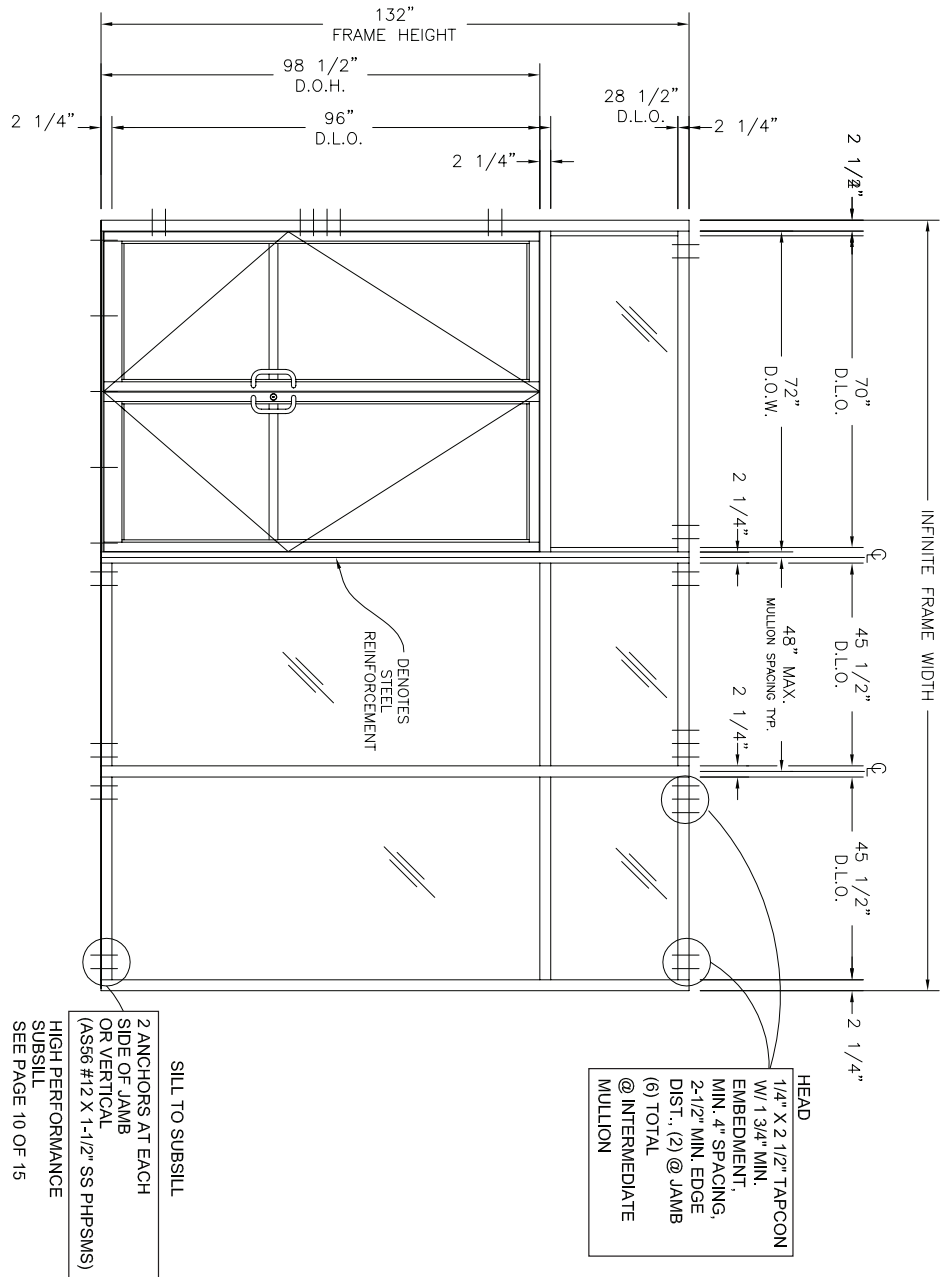
- PERIMETER FASTENERS:
 1. TYPICAL INSTALLATION INTO SUBSTRATES
 A. 2500 PSI CONCRETE
 B. STEEL, 18 GA. MIN.
 C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 D. SO. PINE, GRADE NO. 2 OR BETTER
 2. FIRST ANCHORS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	10 TOTAL
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"	
1 EACH	8 - 1/2"
1 EACH	11 - 1/2"
FROM CENTER OF DOOR OPENING UP TO 96"	
1 EACH	4 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" BELOW CTR LINE
1 EACH	4 - 1/2" BELOW CTR LINE
FROM BOTTOM OF FRAME UP	
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN

THRESHOLD ANCHORS	
TYPE	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT
SINGLE DOORS UP TO 48"	(1) EACH 4" FROM EACH JAMB
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS
5 ANCHORS TOTAL	(1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS



CONCRETE SUBSTRATE ANCHOR LOCATIONS

SILL TO SUBSILL
 2 ANCHORS AT EACH SIDE OF JAMB OR VERTICAL (ASS6 #12 X 1-1/2" SS PHPSMS)
 HIGH PERFORMANCE SUBSILL
 SEE PAGE 10 OF 15

NOTES:
 TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
 DOOR FRAMES WITH AND WITH OUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

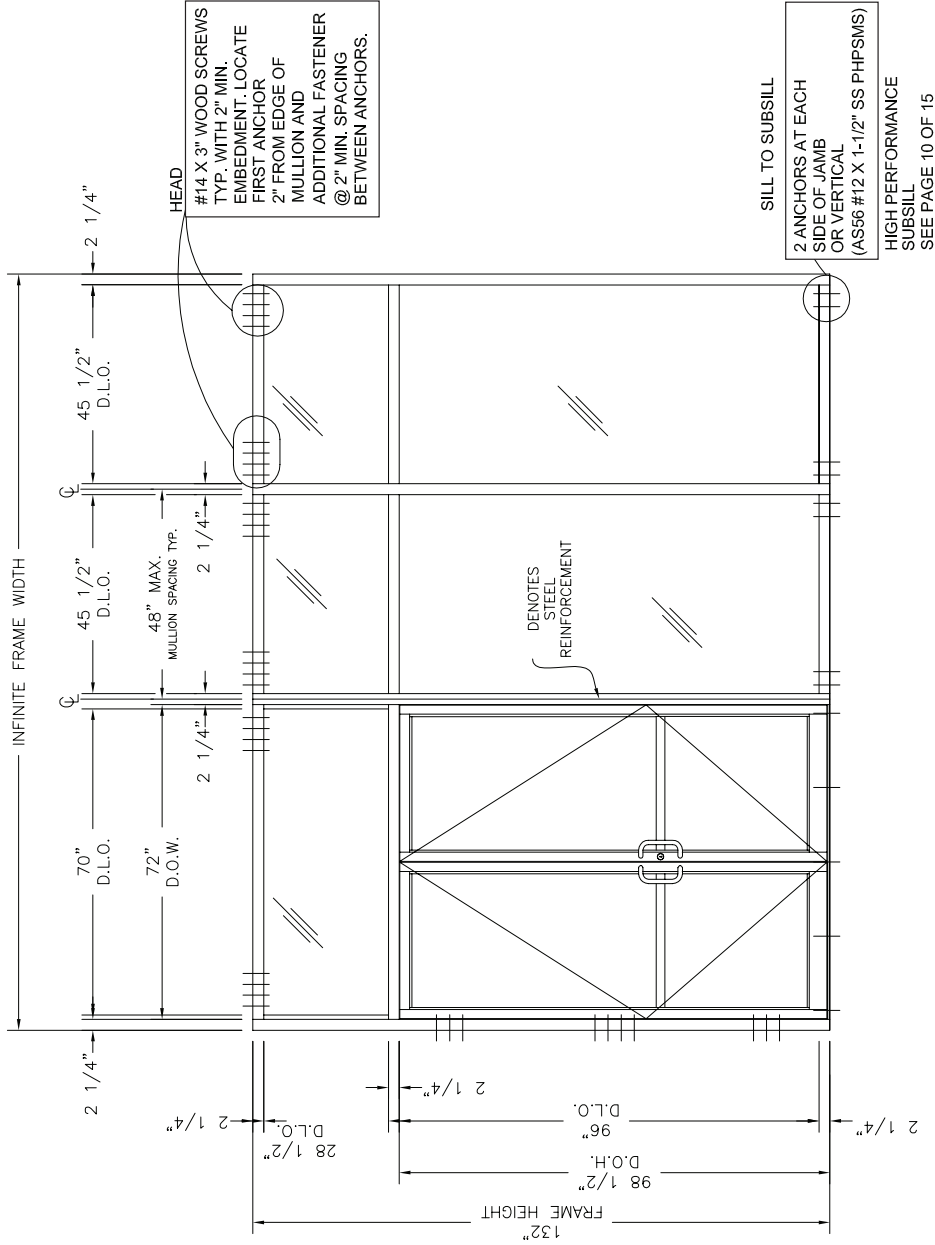
PERIMETER FASTENERS:

- TYPICAL INSTALLATION INTO SUBSTRATES
 - 2500 PSI CONCRETE
 - STEEL, 18 GA. MIN.
 - HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - SO. PINE, GRADE NO. 2 OR BETTER
- FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	#14 X 3" PAN OR HEX HEAD WOOD SCREW	10 TOTAL
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"		
1 EACH	8 - 1/2"	
1 EACH	11 - 1/2"	
1 EACH	14 - 1/2"	
FROM CENTER OF DOOR OPENING UP TO 96"		
1 EACH	4 - 1/2" ABOVE CTR LINE	
1 EACH	1 - 1/2" ABOVE CTR LINE	
1 EACH	1 - 1/2" BELOW CTR LINE	
1 EACH	4 - 1/2" BELOW CTR LINE	
FROM BOTTOM OF FRAME UP		
1 EACH	11 - 1/2"	
1 EACH	14 - 1/2"	
1 EACH	17 - 1/2"	

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN



WOOD SUBSTRATE - 3" THICK ANCHOR LOCATIONS

THRESHOLD ANCHORS	
TYPE	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT (1) EACH 4" FROM EACH JAMB
SINGLE DOORS UP TO 48"	
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING
5 ANCHORS TOTAL	(1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS

NOTES:
TAPCON TYPE ANCHORS MUST HAVE 3" MINIMUM BETWEEN EACH ANCHOR AND 2 1/2" MIN EDGE DISTANCE
DOOR FRAMES WITH AND WITHOUT TRANSOM MUST BE ANCHORED AS SHOWN ON CHART ABOVE AND BELOW

PERIMETER FASTENERS:
1. TYPICAL INSTALLATION INTO SUBSTRATES

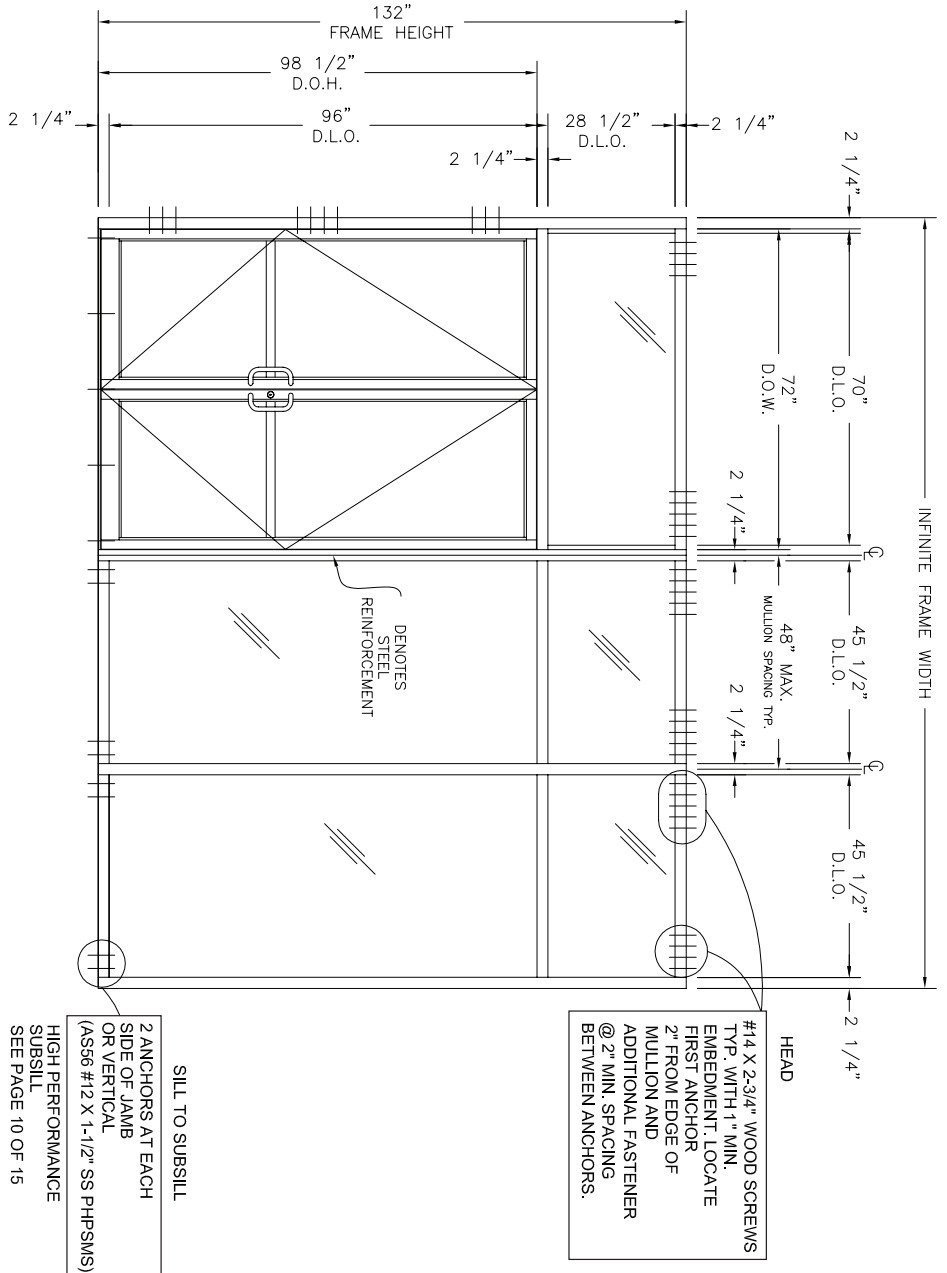
- A. 2500 PSI CONCRETE
 - B. STEEL, 18 GA. MIN.
 - C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - D. SO. PINE, GRADE NO. 2 OR BETTER
2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

ANCHOR LENGTHS SHOWN MINIMUM TO MEET MINIMUM EMBEDMENT

DOOR FRAME TYPE	10 TOTAL
#14 X 2-3/4" PAN OR HEX HEAD WOOD SCREW	
FROM BOTTOM OF HEADER DOOR OPENINGS UP 96"	
1 EACH	8 - 1 1/2"
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"
FROM CENTER OF DOOR OPENING UP TO 96"	
1 EACH	4 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" ABOVE CTR LINE
1 EACH	1 - 1/2" BELOW CTR LINE
1 EACH	4 - 1/2" BELOW CTR LINE
FROM BOTTOM OF FRAME UP	
1 EACH	11 - 1/2"
1 EACH	14 - 1/2"
1 EACH	17 - 1/2"

DOOR FRAME WITHOUT SIDELIGHTS DUPLICATE ANCHORING ON BOTH JAMBS AS SHOWN

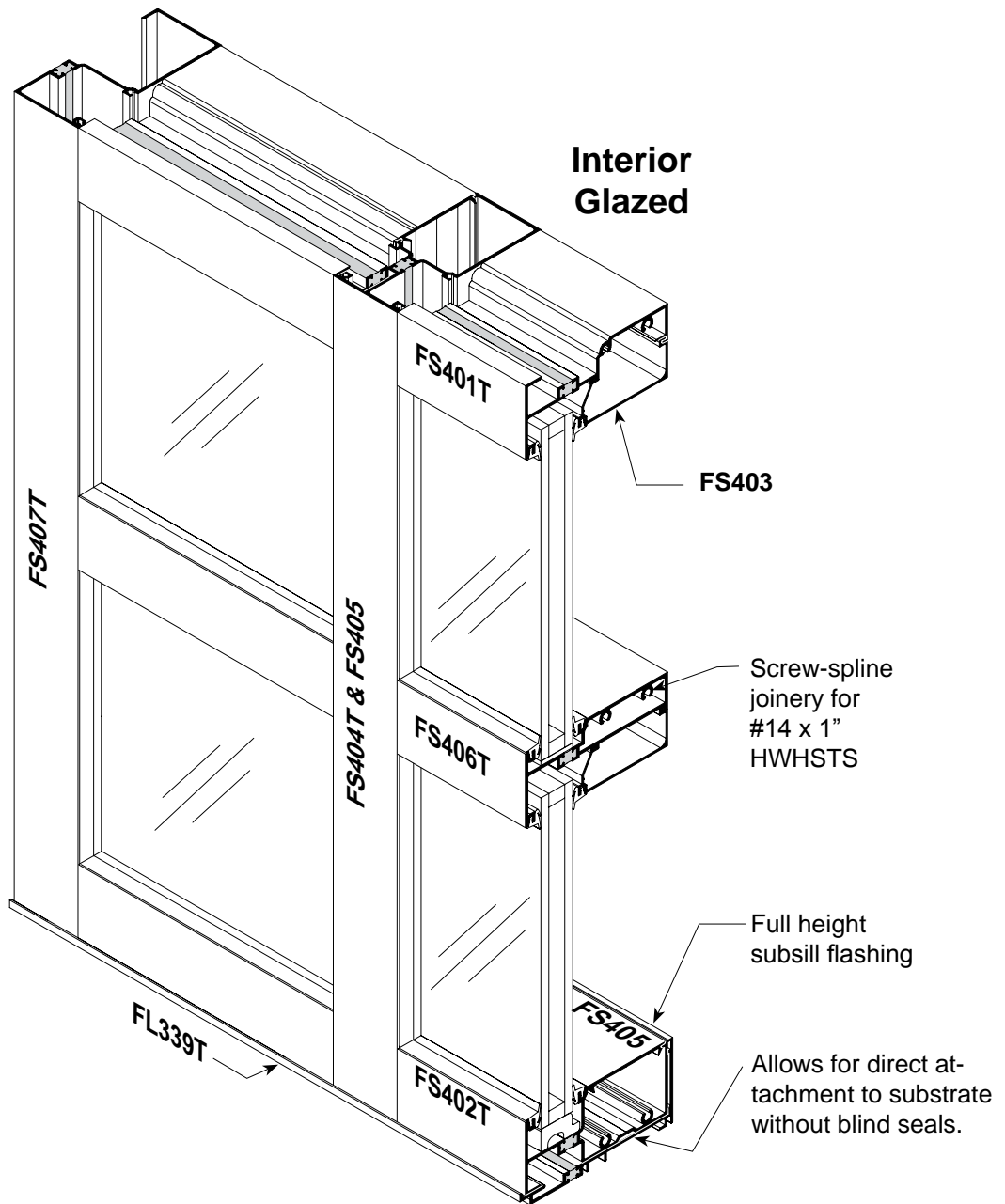
TYPE	THRESHOLD ANCHORS
SINGLE DOORS UP TO 48"	1/4" X 2-1/2" FHP TAPCON OR EQUAL WITH 1-3/4" MINIMUM EMBEDMENT (1) EACH 4" FROM EACH JAMB
3 ANCHORS TOTAL	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH AT 4" FROM EACH JAMB
PAIRS UP TO 96"	(1) EACH AT CENTER LINE OF DOOR OPENING (1) EACH BETWEEN CENTER LINE AND 4" JAMB ANCHORS
5 ANCHORS TOTAL	



WOOD SUBSTRATE - 1-1/2" THICK
ANCHOR LOCATIONS

INSTALLATION INSTRUCTIONS

2" x 4-1/2" Offset Glazed for 1" Insulated Glass



WINDOW WALL

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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Frame Fabrication	5-10
Frame Assembly	11-13
Frame Installation	14-17
Glazing	18-21
Special Conditions	22
Expansion Mullions	23
Anchor Charts	24-29

INSTALLATION INSTRUCTIONS - General Notes -

Recommended guidelines for all installations:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS

- General Notes -

- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be keep dry. (See 13.A.2)
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.

FRAME FABRICATION

Establish frame size and cut metal to length.

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 13/16" allowing 5/16" for subsill and a 1/4" minimum caulk joint at the head and sill.

STEP 2.

Cut members to size.

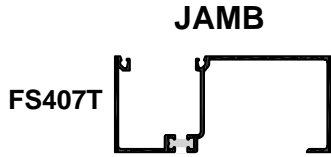
- A. Cut subsill to frame dimension plus 1/4".
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

FRAME FABRICATION

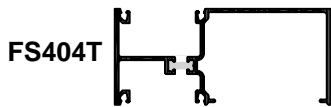
STEP 3.

Drill or punch holes in verticals for attaching horizontals.

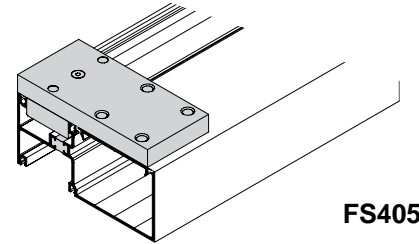
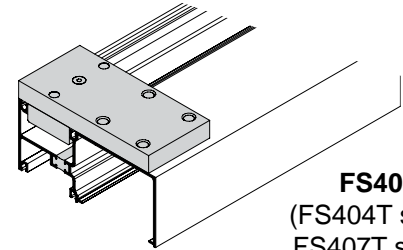
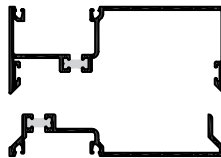
Use Letter "F" (.257 Ø) drill.



VERTICAL MULLIONS

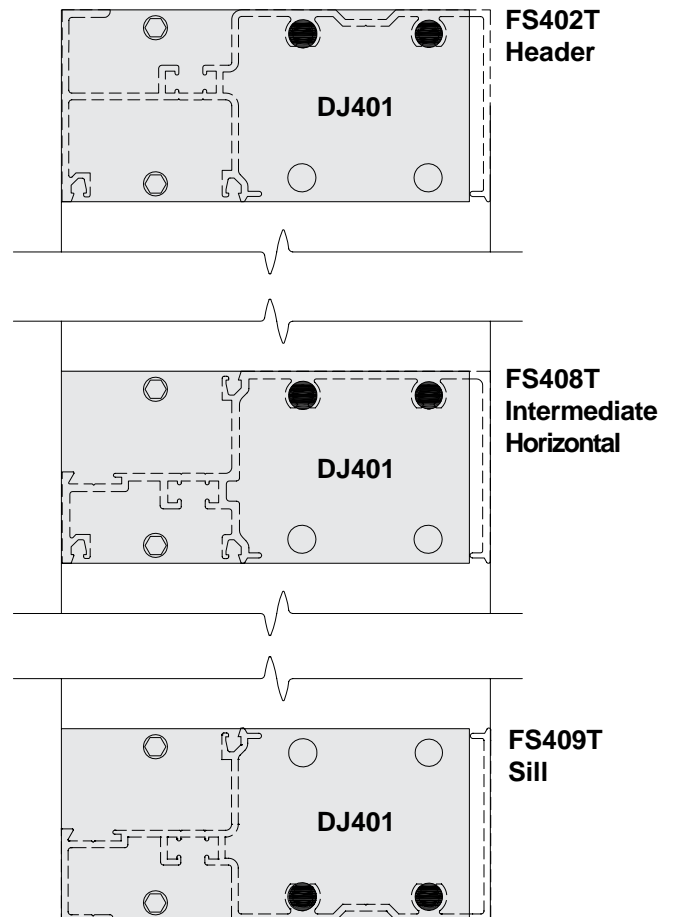
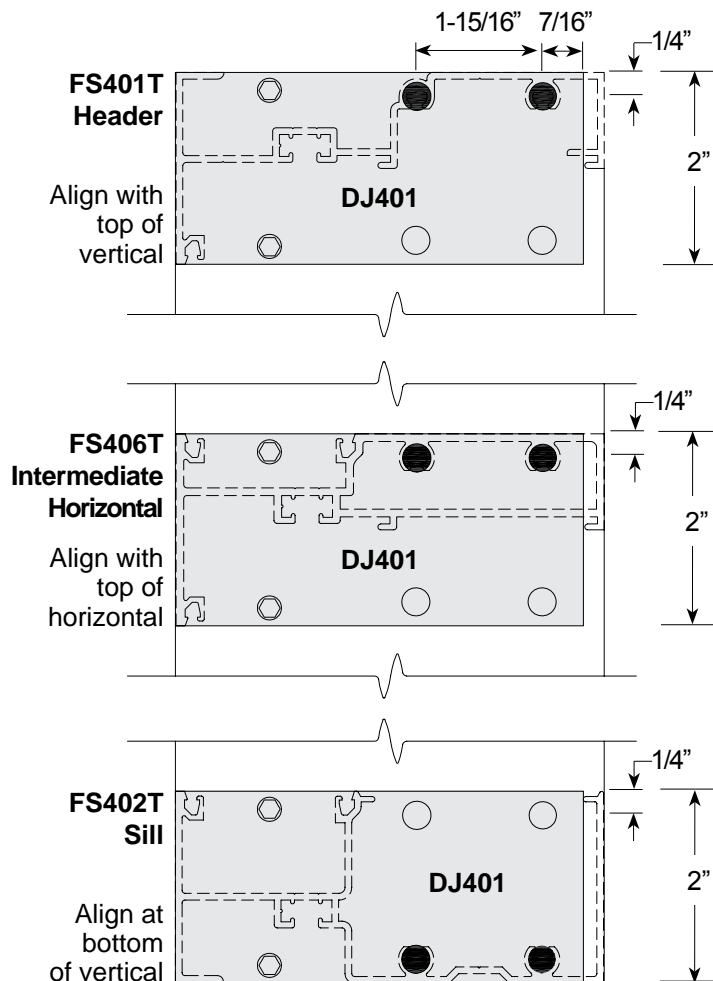


FS410T/
FS411T



INTERIOR GLAZING

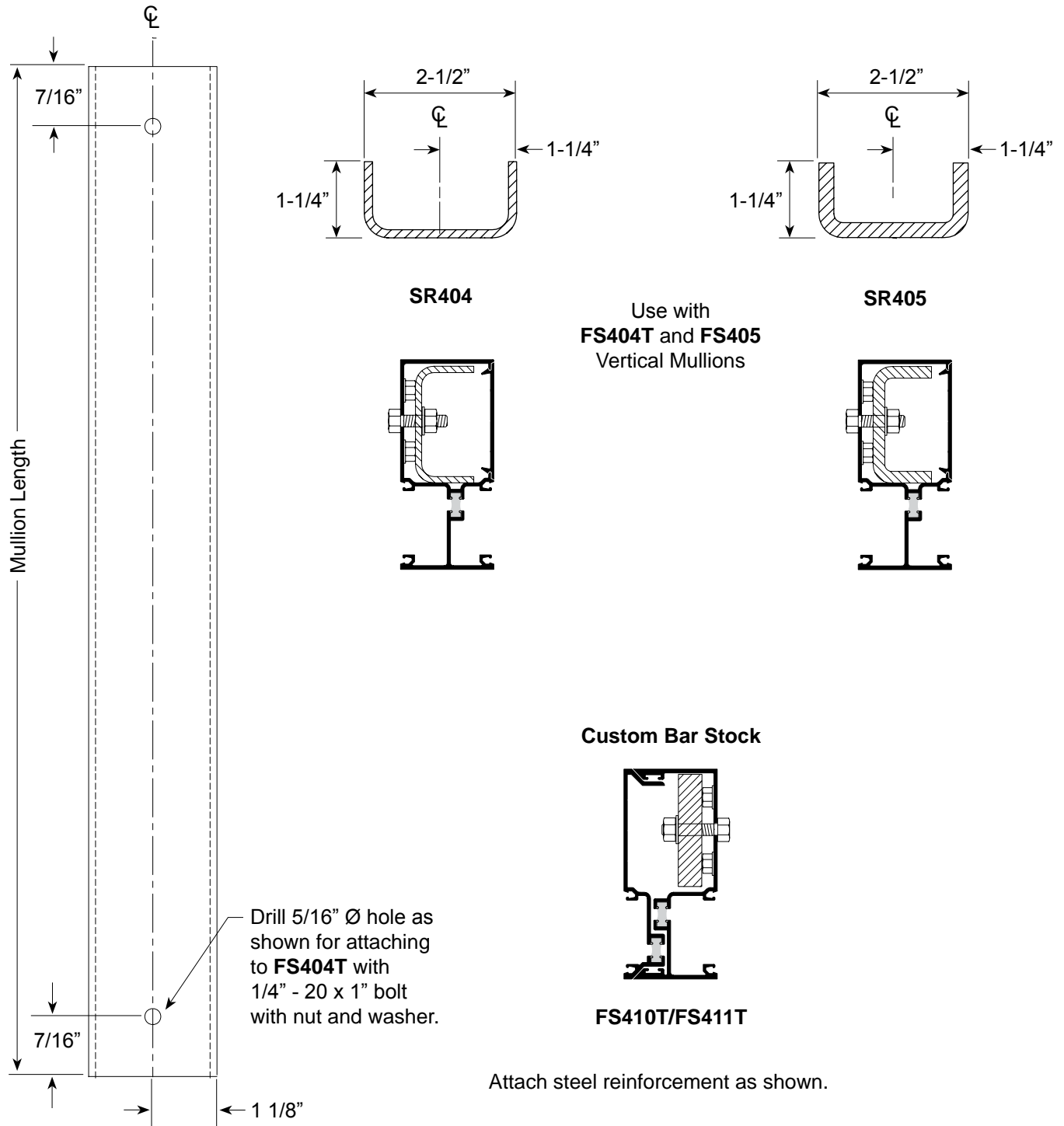
EXTERIOR GLAZING



FRAME FABRICATION

STEP 4.

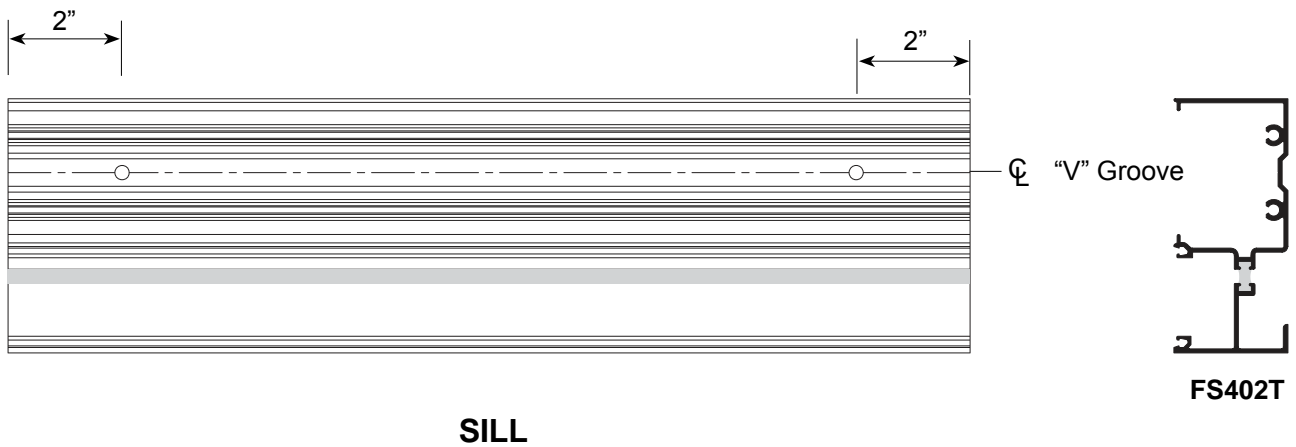
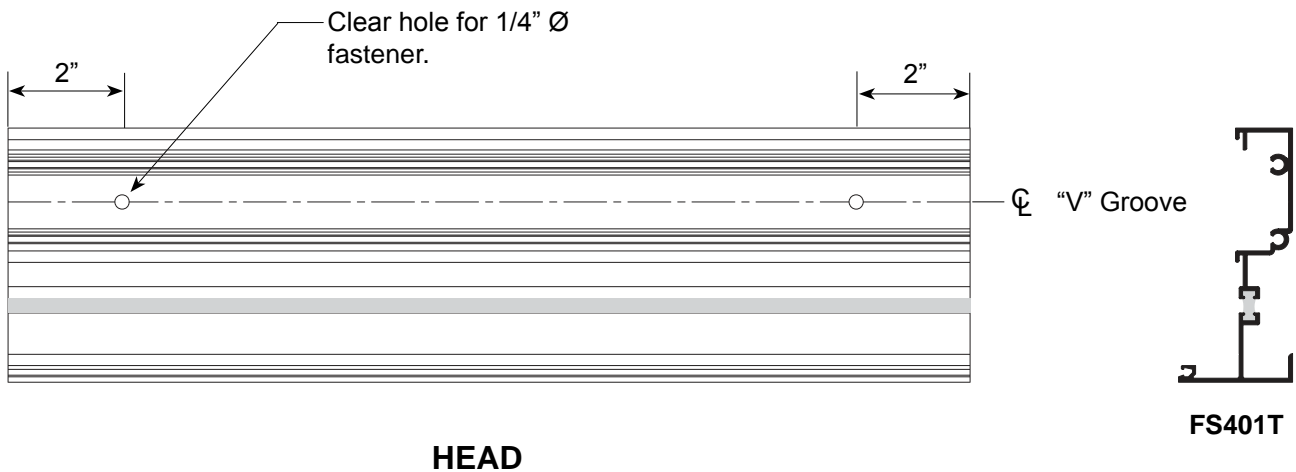
Fabricate steel reinforcement where required.



FRAME FABRICATION

STEP 5.

Fabricate head and sill anchor holes. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end.



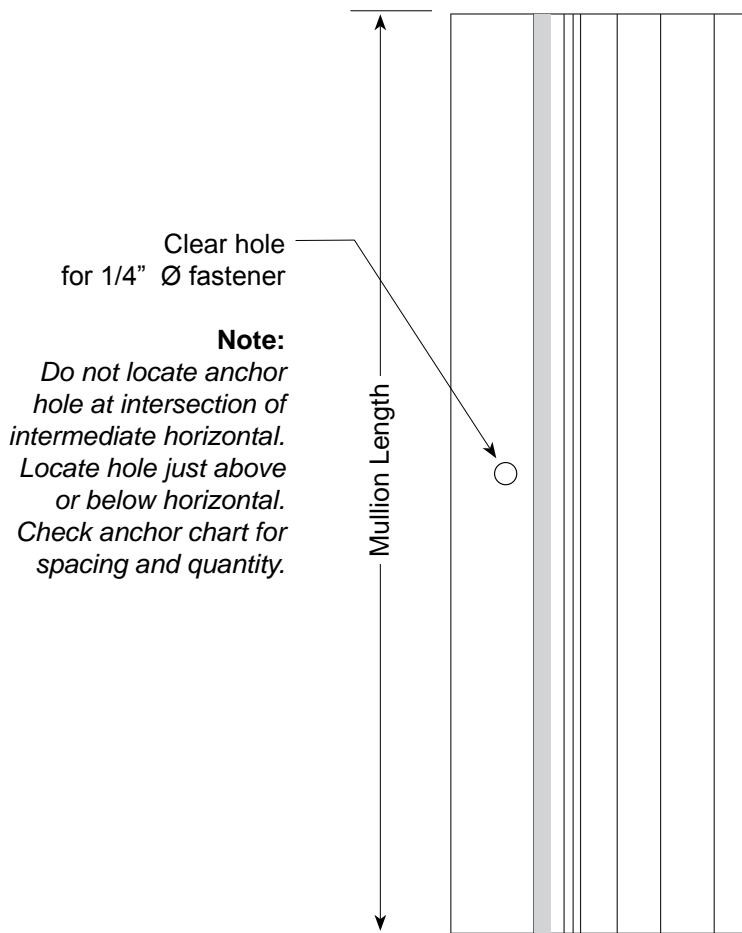
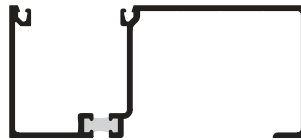
Note: Anchor points required at quarter points (under setting blocks).

FRAME FABRICATION

STEP 6.

Fabricate wall jamb for anchor holes when required. (Reference anchor charts.)

FS407T



Note:
Do not locate anchor hole at intersection of intermediate horizontal. Locate hole just above or below horizontal. Check anchor chart for spacing and quantity.

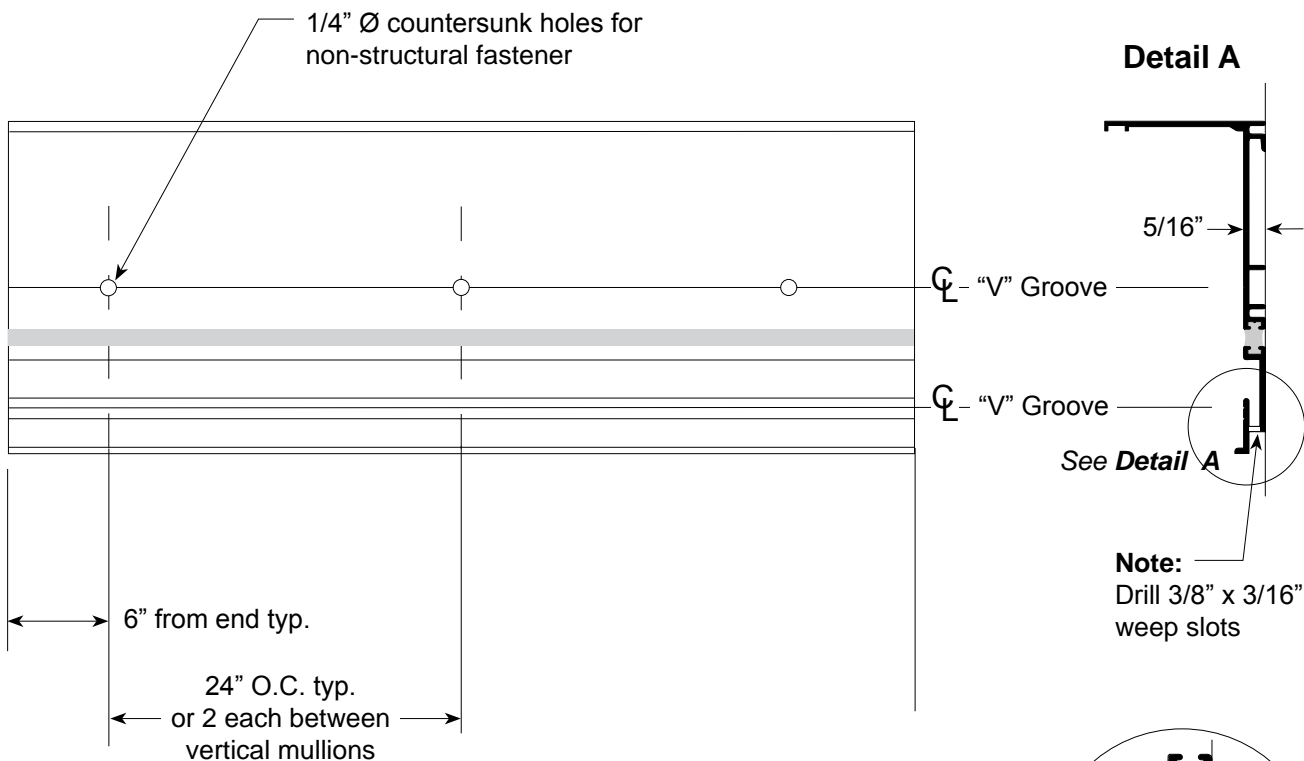
WALL JAMB

FRAME FABRICATION

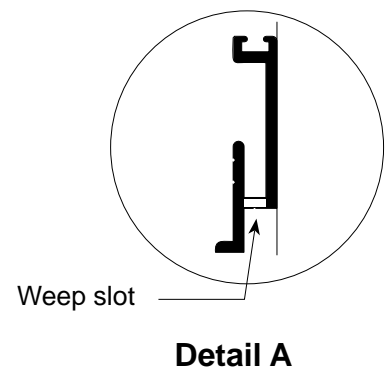
STEP 7.

Fabricate **FL339T** subsill flashing for 1/4" Ø countersunk non-structural fastener and weep slots. Hole location dimensions for fasteners in subsill are approximate. Drill 3/8" x 3/16" weep slots as shown in **Detail "A"**.

SUBSILL FLASHING



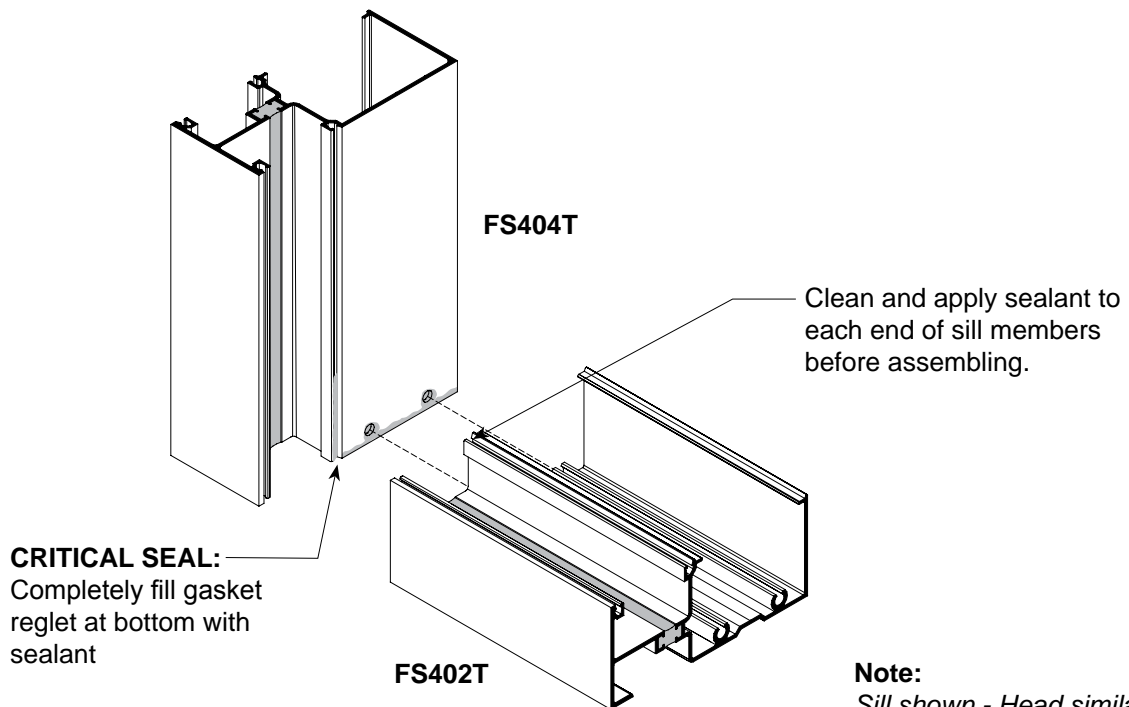
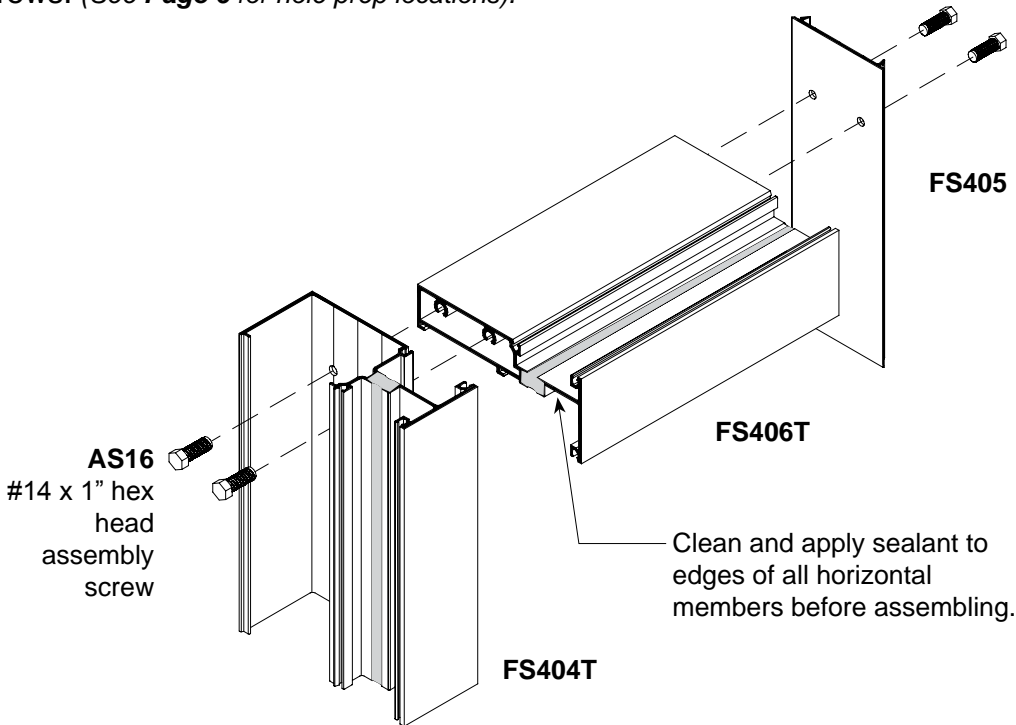
1. Drill / countersink 1/4" Ø holes for non-structural fasteners used for attaching subsill to substrate as shown.
2. Drill 3/8" x 3/16" weep slots in locations as shown. Locate one weep slot 6" from each end and additional slots approximately 48" on center. Total weep slots should average 2 each between each vertical mullion.



FRAME ASSEMBLY STANDARD MULLION

STEP 1.

Attach head, intermediate horizontal and sill to verticals using **AS16 (#14x1" HHSTS)** spline screws. (See **Page 6** for hole prep locations).



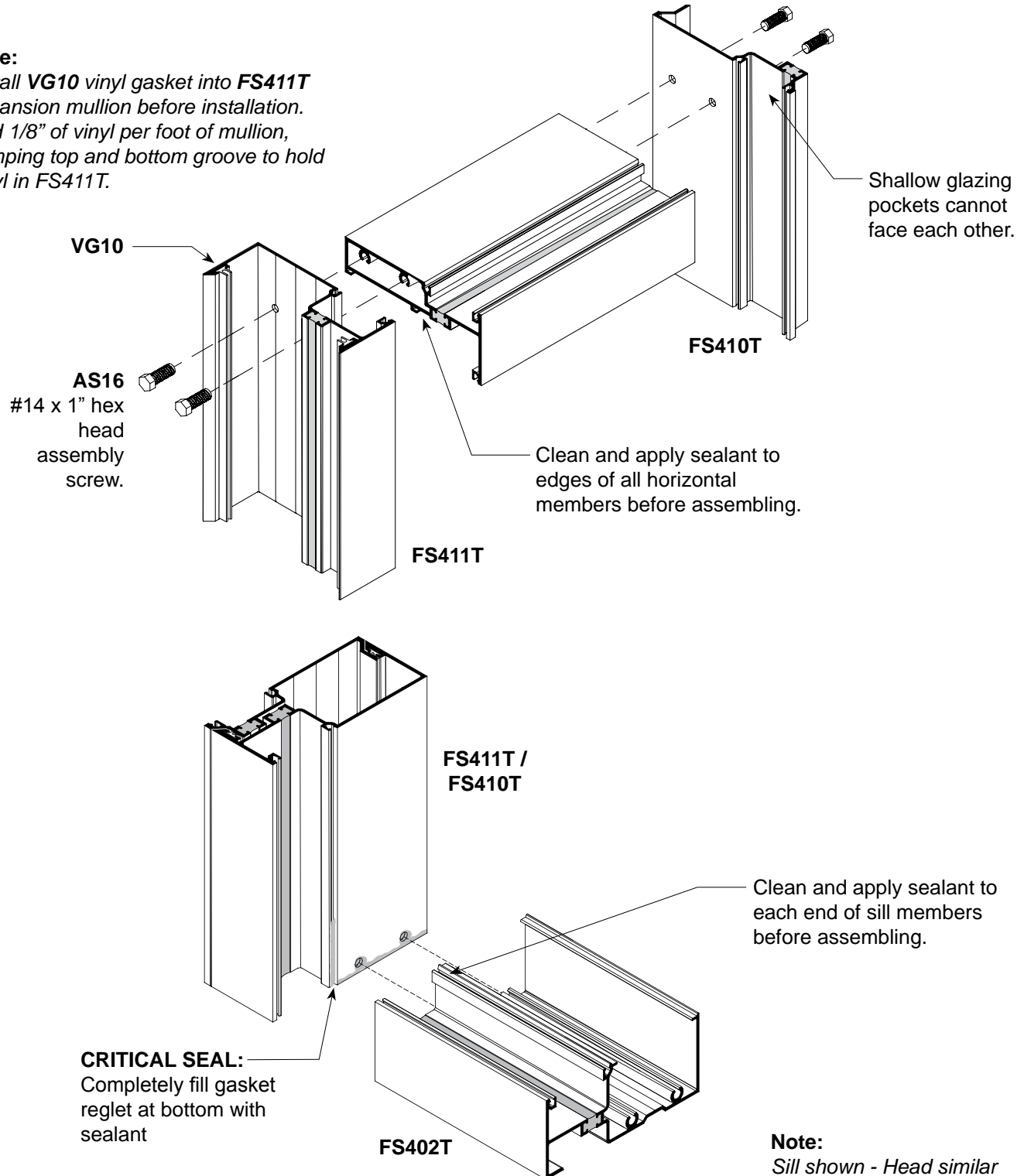
FRAME ASSEMBLY EXPANSION MULLIONS

STEP 1.

Attach head, intermediate horizontal and sill to verticals using **AS16** (#14x1" HHSTS) spline screws. (See **Page 6** for hole prep locations).

Note:

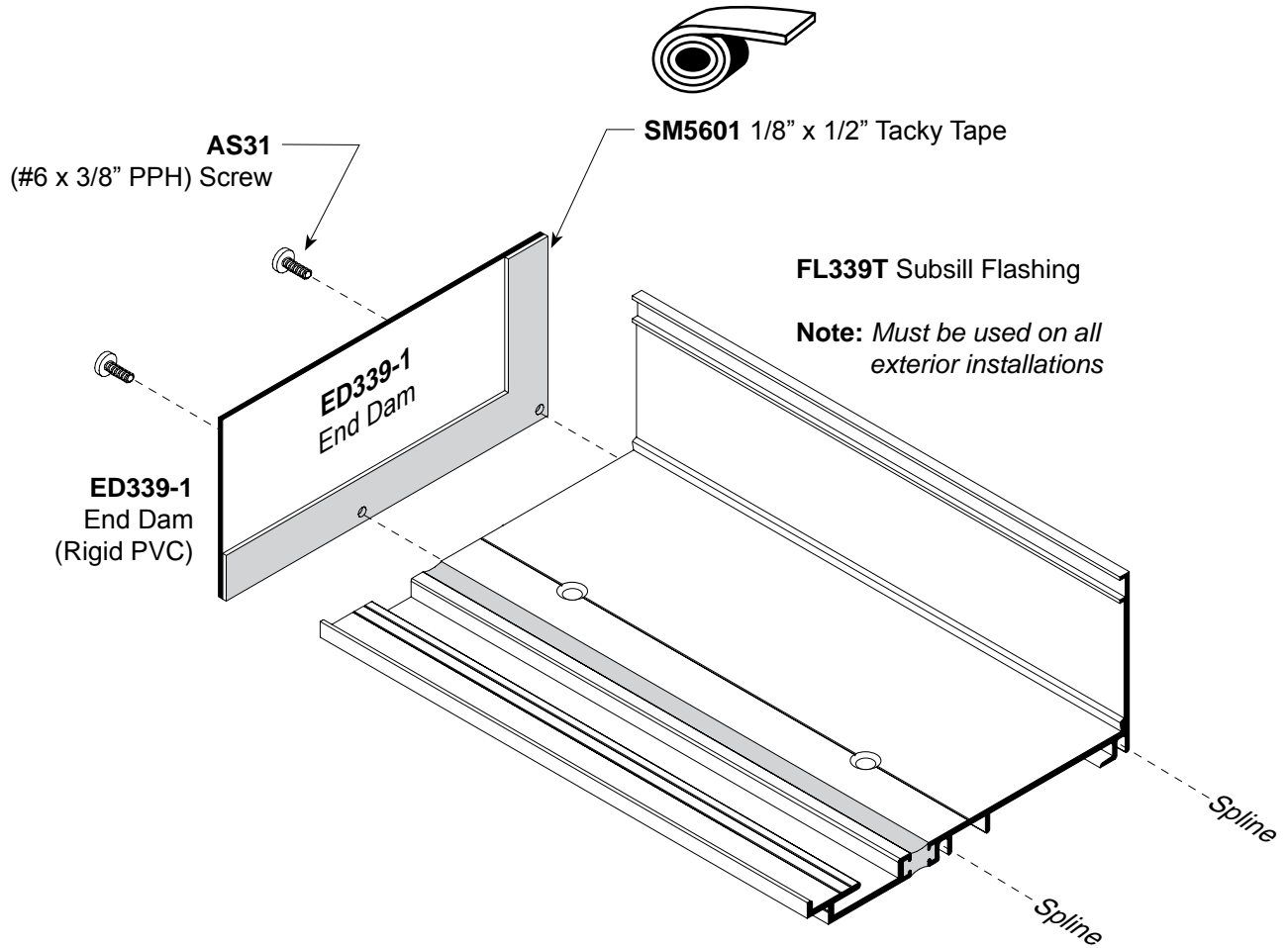
Install **VG10** vinyl gasket into **FS411T** expansion mullion before installation. Add 1/8" of vinyl per foot of mullion, crimping top and bottom groove to hold vinyl in **FS411T**.



Note:
Sill shown - Head similar

FRAME ASSEMBLY

STEP 2.

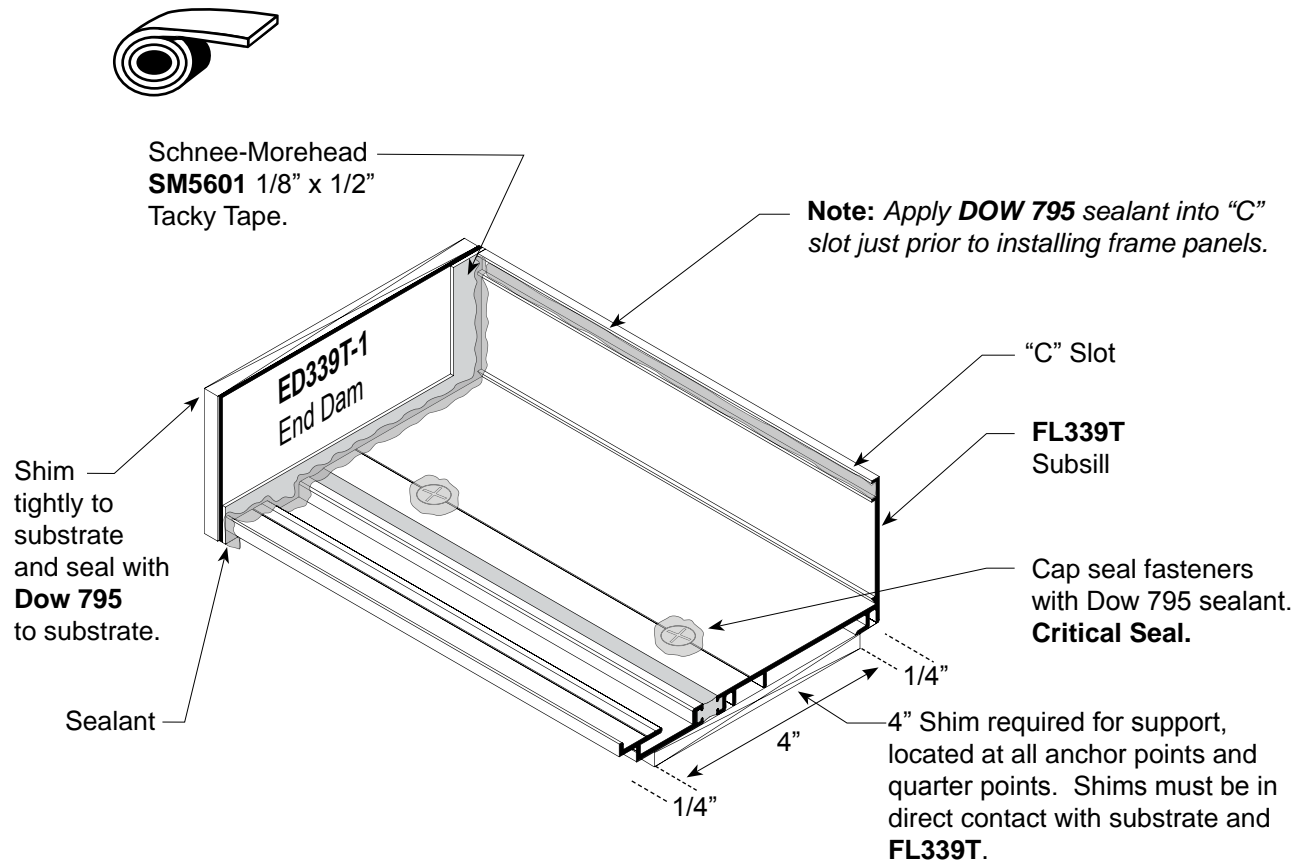


Apply **SM5601** Tacky sealant tape to **ED339-1** end dams and attach to each end of subsill with **AS31** fasteners at spline locations as shown above.

FRAME INSTALLATION

STEP 1.

Center subsill into opening allowing for a 1/4" minimum shim space at each end to ensure a good caulk joint.



Shim beneath subsill to be a minimum of 1/4". Attach subsill flashing to structure with non-structural fasteners using attachment holes shown on **Page 10**. Cap seal fastener heads as shown.

Wedge shims tightly between end dams and jamb substrate on each end prior to installing frame panels. These shims prevent the end dam from dislodging while frame panels are being installed. Completely seal end dams as shown.

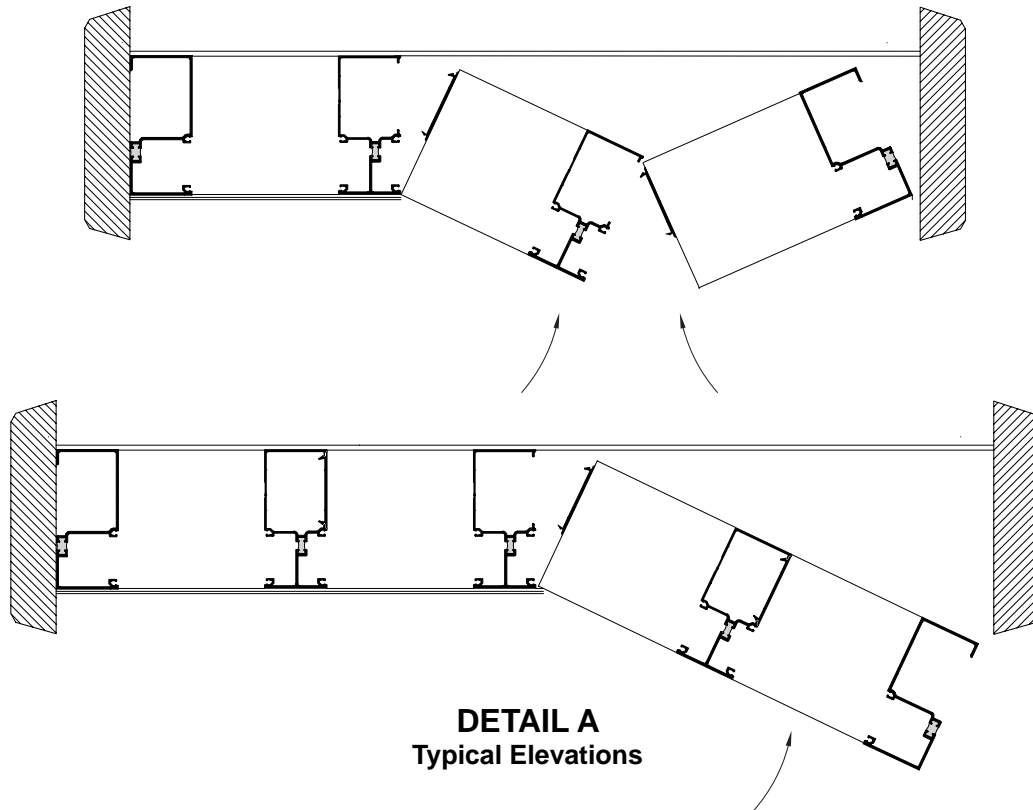
Run a continuous bead of **DOW 795** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

Note: Remove all debris from subsill to prevent clogging weep holes prior to installing panels.

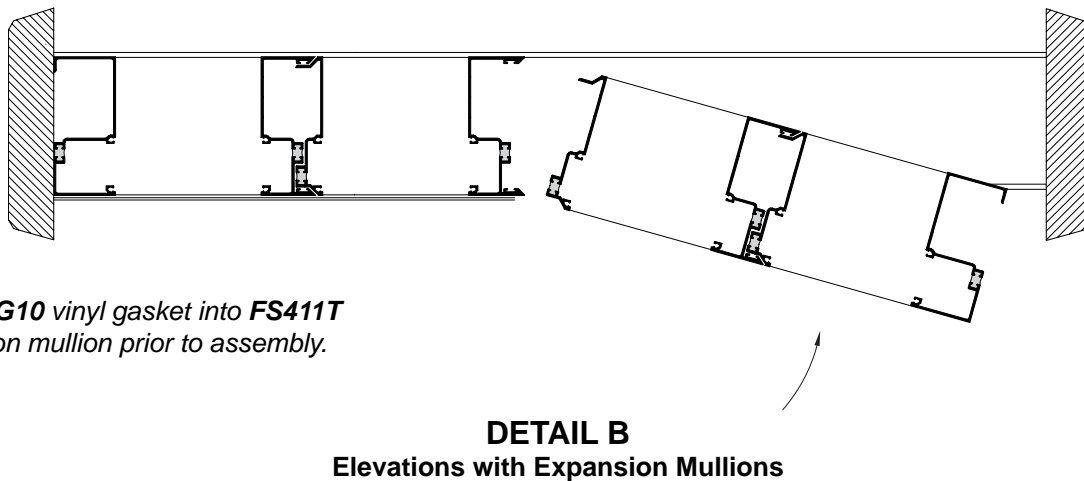
FRAME INSTALLATION

STEP 2.

Screw spline joinery allows for frames to be shop fabricated into panels and shipped to job site assembled. Each panel must have at least one vertical deep pocket for glazing. Arrange panels so that two shallow pockets never face each other. (Reference **Page 12** of *Frame Assembly*.)



Expansion mullions should be used in elevations exceeding 24'-0" in width to allow for thermal movement. (See **Page 23** for formula.)



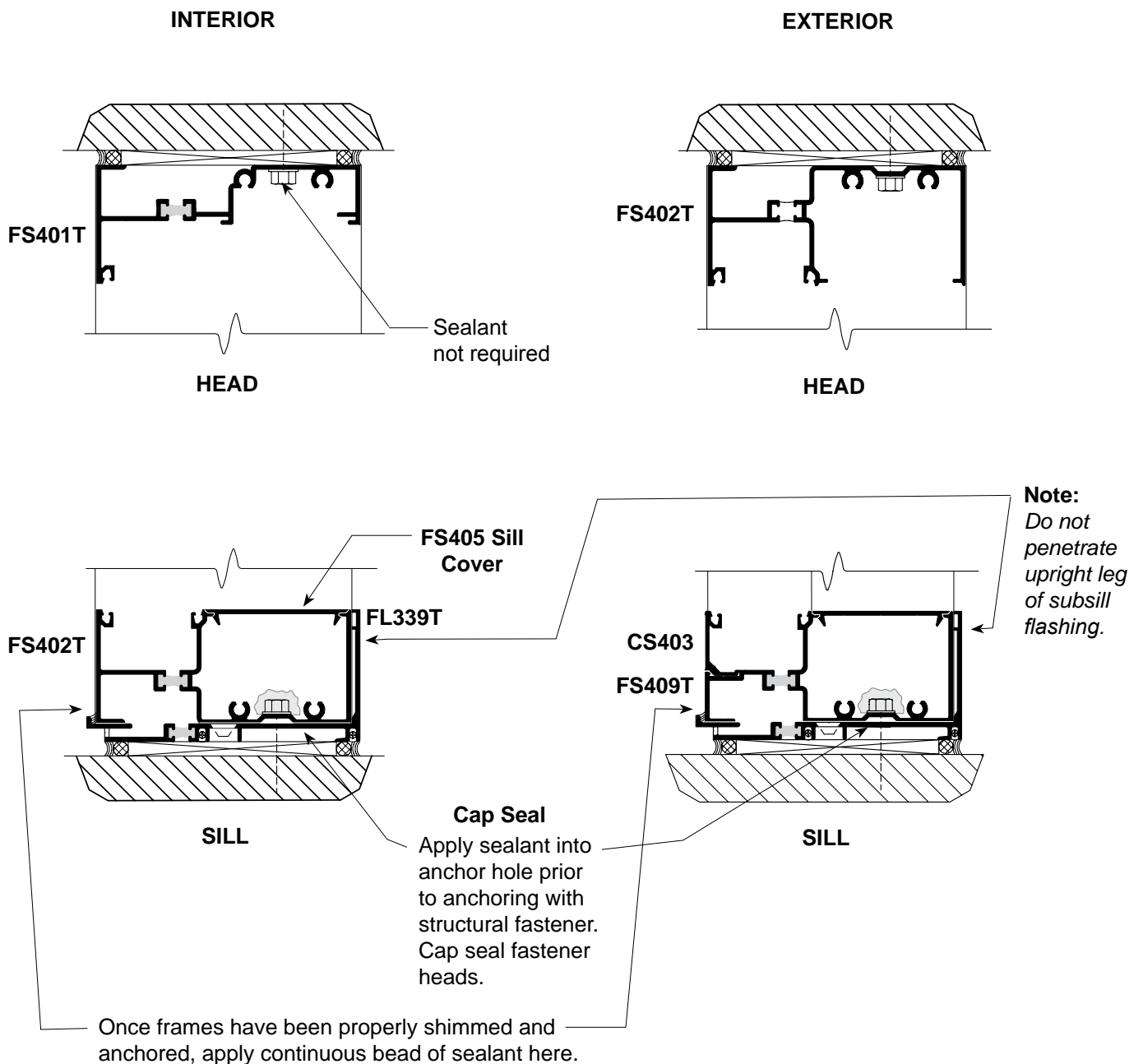
NOTE:

Install **VG10** vinyl gasket into **FS411T** expansion mullion prior to assembly.

FRAME INSTALLATION

STEP 3.

After all panels are installed, shim beneath subsill at fastener location. Match drill holes through sill into substrate. Remove dust from hole and apply **DOW 795** sealant as shown below into anchor holes prior to anchoring with structural fasteners. Cap seal fastener heads with **DOW 795**. Match drill holes through head into substrate, anchor and shim as shown. Install **FS405** sill cover after sealing fastener heads.

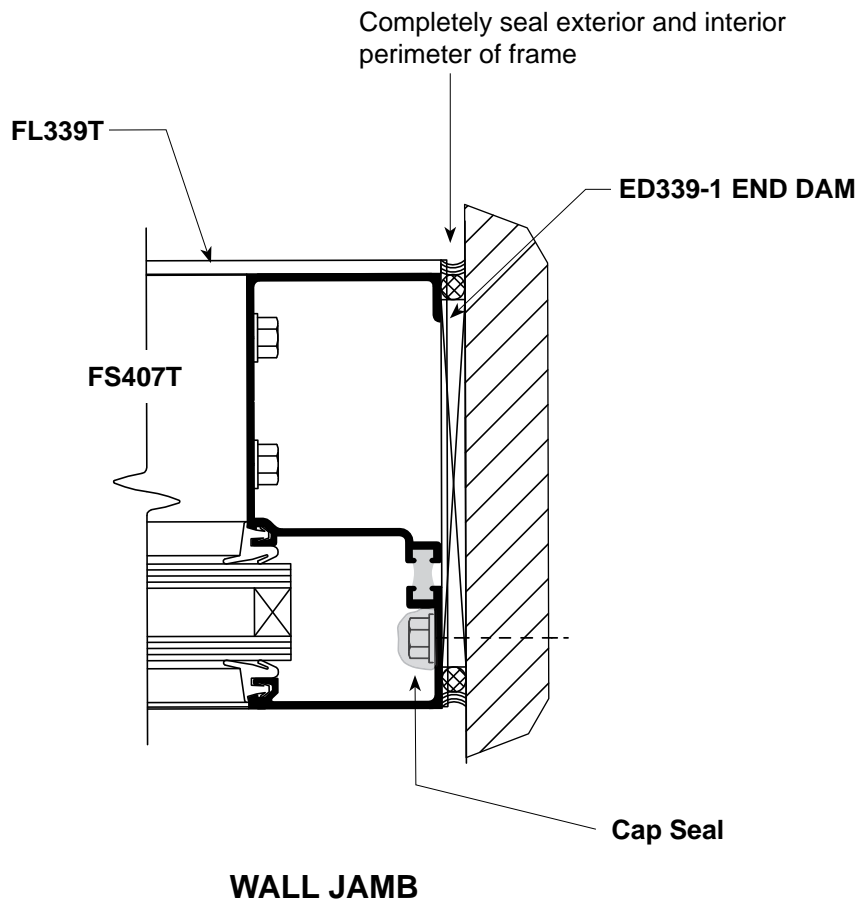


FRAME INSTALLATION

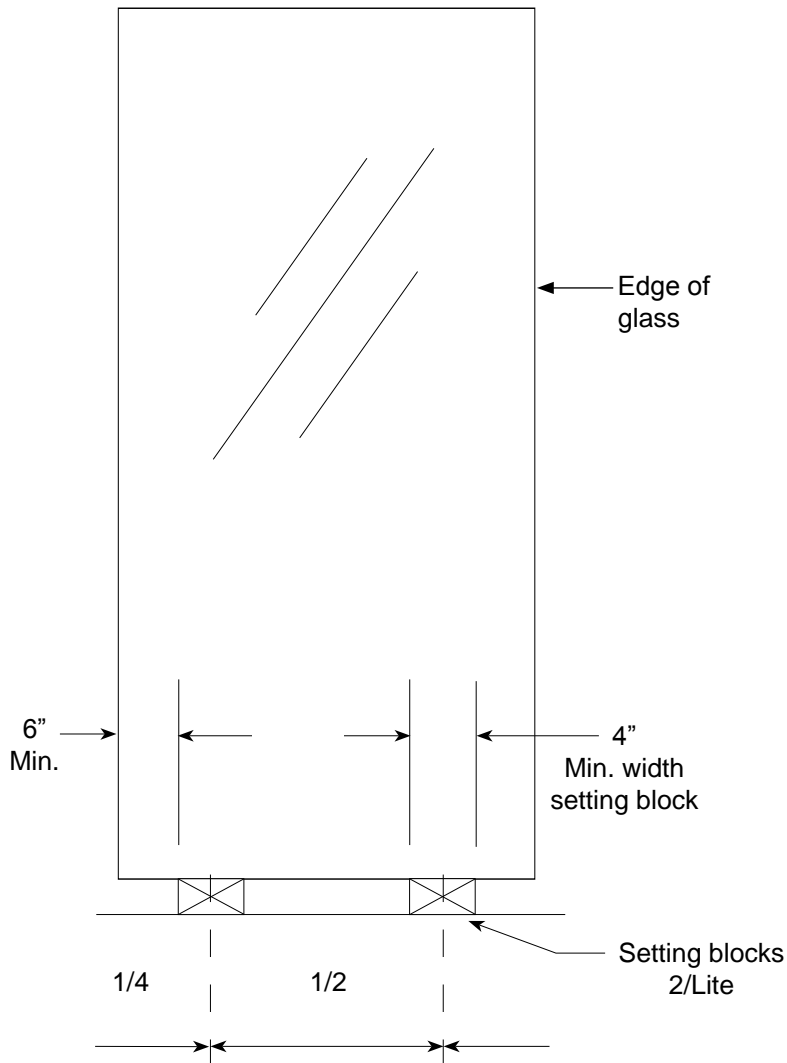
STEP 4.

In high wind load areas, it may be necessary to attach jamb to substrate as shown. When required, match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads with **DOW 795**.

When all frames are secured to the opening, then completely seal exterior and interior perimeter with a continuous bead of **DOW 795** sealant.



PREPARATION OF FRAME OPENING FOR GLASS



STEP 1.

Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

STEP 2 - SETTING BLOCKS.

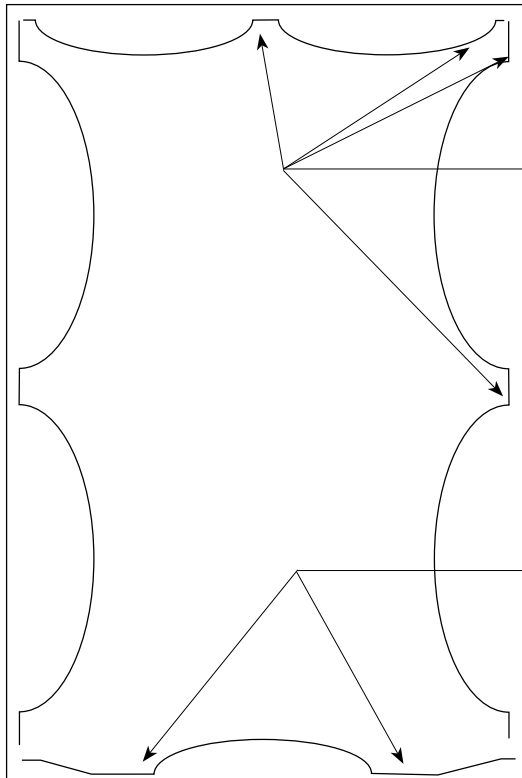
Glass should be set on two identical setting blocks having a Shore A Durometer of 85+ or -5. The preferred location is at the 1/4 points.

If the 1/4 point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block **CANNOT** be closer than 6" to the corner of the glass.

STEP 3 - DEFLECTION.

The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check dead load charts (*Reference Page C1-3 of Architectural Manual*) for proper setting block locations.

INSTALLATION OF TOP LOAD GLAZING GASKETS



Start jamb and head gaskets at corners and center.

Start gaskets at setting blocks

Detail A



NG1 glazing gasket shown actual size.

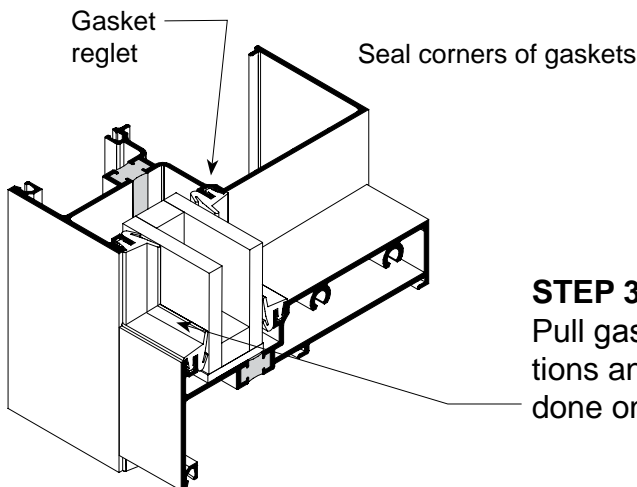
STEP 1.

Cut gaskets a minimum of 3/16" longer per foot than aluminum extrusion.

STEP 2.

Do not stretch gasket to make them fit.

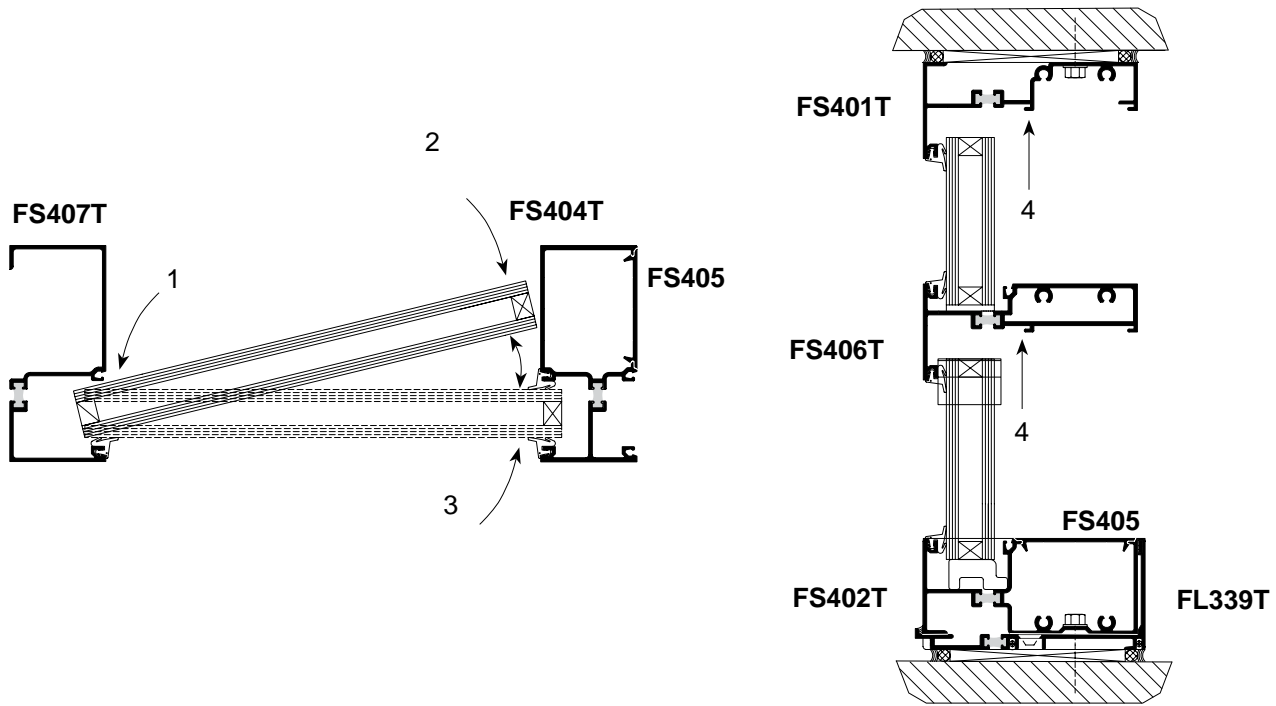
It is very important that gaskets are installed correctly as shown in **Detail "A"**, to prevent shrinkage at corners.



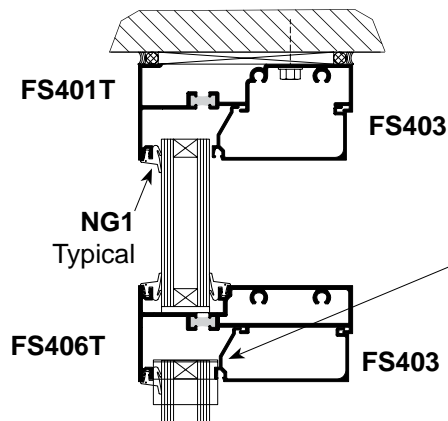
STEP 3.

Pull gaskets back 2" in both directions at corner intersections and seal with **DOW 995** silicone. This should be done on interior and exterior for best performance.

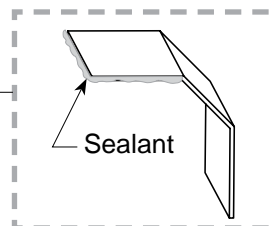
INTERIOR GLAZING



- STEP 1.** Install exterior gaskets. Vertical gasket runs through. *Reference Page 19.*
- STEP 2.** Check dead load charts and shop drawings for correct setting block locations for intermediate horizontals. Position **SB12** setting blocks in horizontal and **SB3** in sill members. Rest glass on setting blocks and press glass against installed gaskets.
- STEP 3.** Center glass into opening following the four step procedure and press glass against installed gaskets. *See below.*
- STEP 4.** Install **FS403** glass stop as shown below.
- STEP 5.** Install **NG1** interior gaskets as shown on **Page 19.**

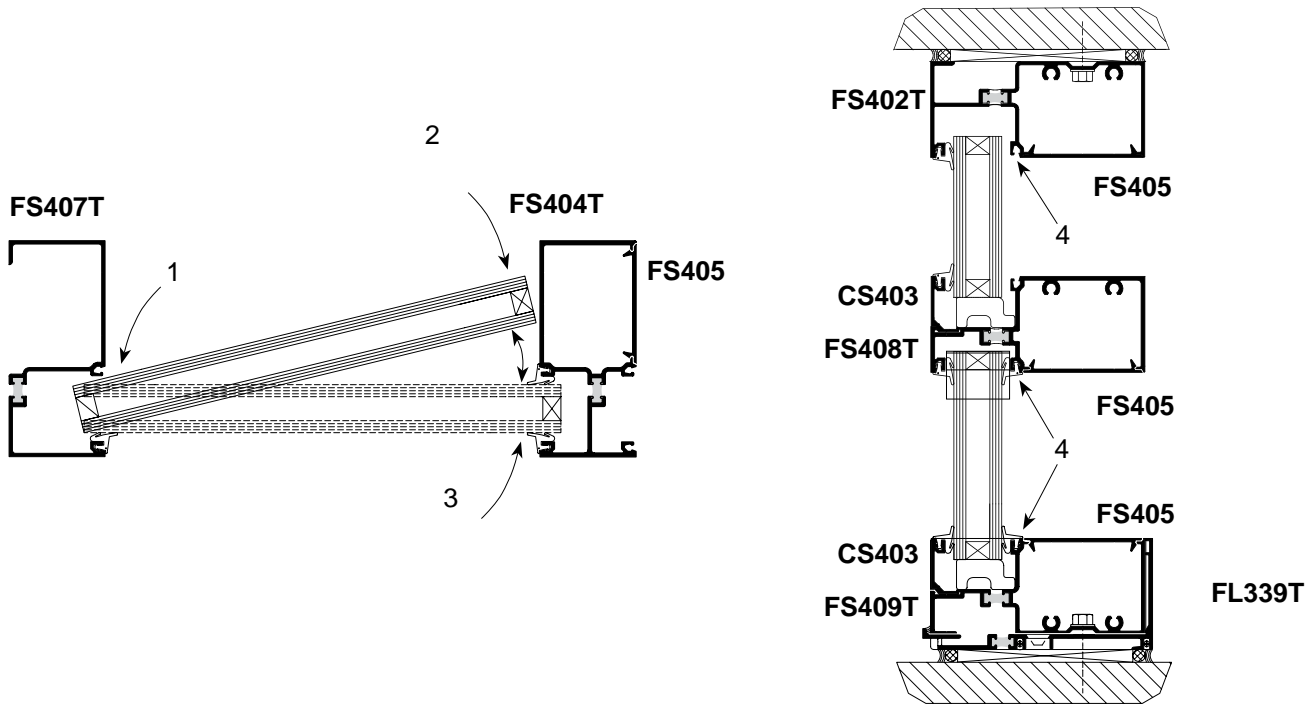


Glaze from bottom to top. Install **WD300-1** Water Diverter as shown before setting upper lite.

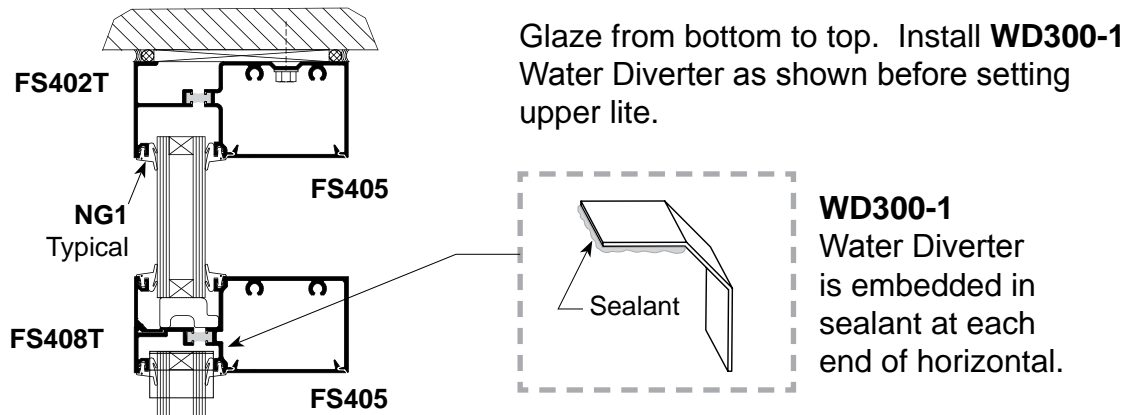


WD300-1 Water Diverter is embedded in sealant at each end of horizontal.

EXTERIOR GLAZING

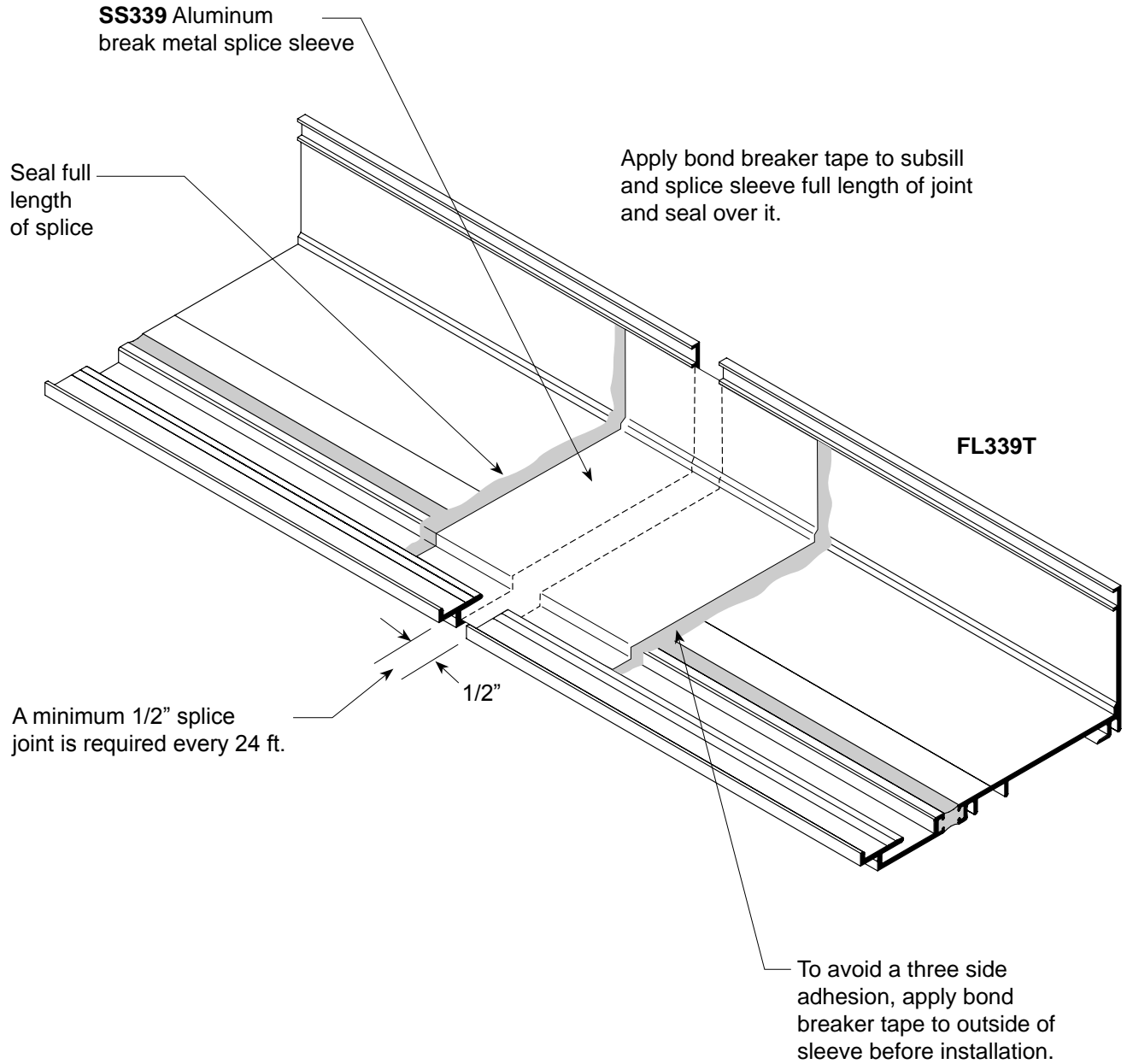


- STEP 1.** Install exterior gaskets. Vertical gasket runs through. *Reference Page 19.*
- STEP 2.** Check dead load charts and shop drawings for correct setting block locations for intermediate horizontals. Position **SB3** setting blocks in horizontal and sill members. Rest glass on setting blocks and press glass against installed gaskets.
- STEP 3.** Center glass into opening following the four step procedure and press glass against installed gaskets. *See below.*
- STEP 4.** Install **NG1** interior gaskets as shown on **Page 19.**

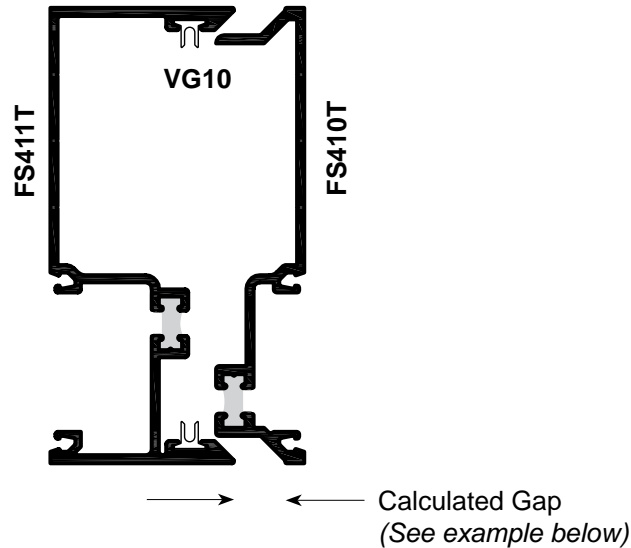


SPECIAL CONDITIONS SPLICE SLEEVE AT SUBSILL

STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



SPECIAL CONDITIONS EXPANSION MULLIONS



Calculated gap is determined by job conditions, project specifications, and temperature at the time of installation. Expansion mullions allow for 3/8" maximum movement.

EXPANSION GAP SIZE FORMULA = Length (") x F⁰ difference x .0000129

L = Length in inches, between center line of expansion mullion in elevation.

F⁰ = Specified Temperature Variation

.0000129 = Thermal Coefficient for Aluminum

EXAMPLE

Assume 100⁰ temperature variation specified and temperature at job site on day of installation is 60⁰.

1. 100⁰ - 60⁰ = 40⁰ temperature difference
2. Length of elevation between expansion mullions equals 20'-0" or 240"
3. 240" x 40⁰ x .0000129 = .124".
Therefore, set expansion mullion gap at .124" or 1/8".

PERIMETER FASTENER LOCATIONS



Light Mullion with Steel in Steel Substrate

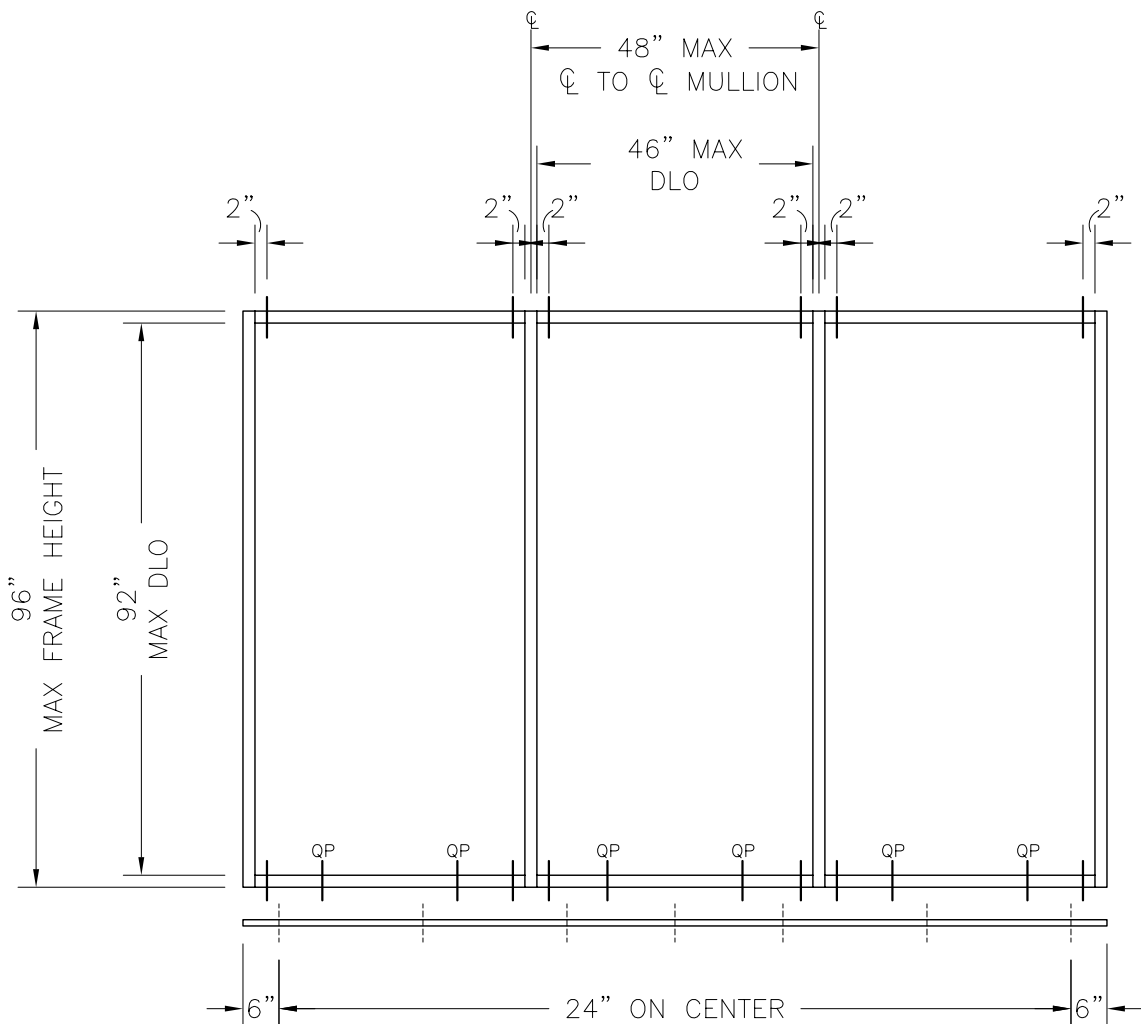
- SUB SILL FS339T**
 - 3/16" FHP TEK SCREW
 - 6" FROM EACH END AND 24" ON CENTER
- SILL FS402T INSIDE SET AND FS409T OUTSIDE SET**
 - 1/4" HEX HEAD TEK SCREW
 - (1) EACH 2" FROM MULLION EDGE AND (1) EACH AT QUARTER POINTS (EXAMPLE 46" DLO DIVIDED BY 4 = 11.50") ADDITIONAL ANCHOR MUST BE PLACED 11-1/2" FROM MULLION EDGE
- HEAD FS401T**
 - 1/4" HEX HEAD TEK SCREW
 - (1) EACH 2" FROM MULLION EDGE

MAXIMUM HEIGHT = 96"
MAXIMUM DLO = 46"
MAXIMUM PSF = +35/-35

Consult factory for locations if parameters above are exceeded in any direction. (Height, DLO, or PSF)

LEGEND

-  HEAD AND SILL FASTENERS
-  NONE STRUCTURAL SUBSILL FASTENERS



SCALE: 3/8"=1'-0"

PERIMETER FASTENER LOCATIONS



Split Mullion in Steel Substrate

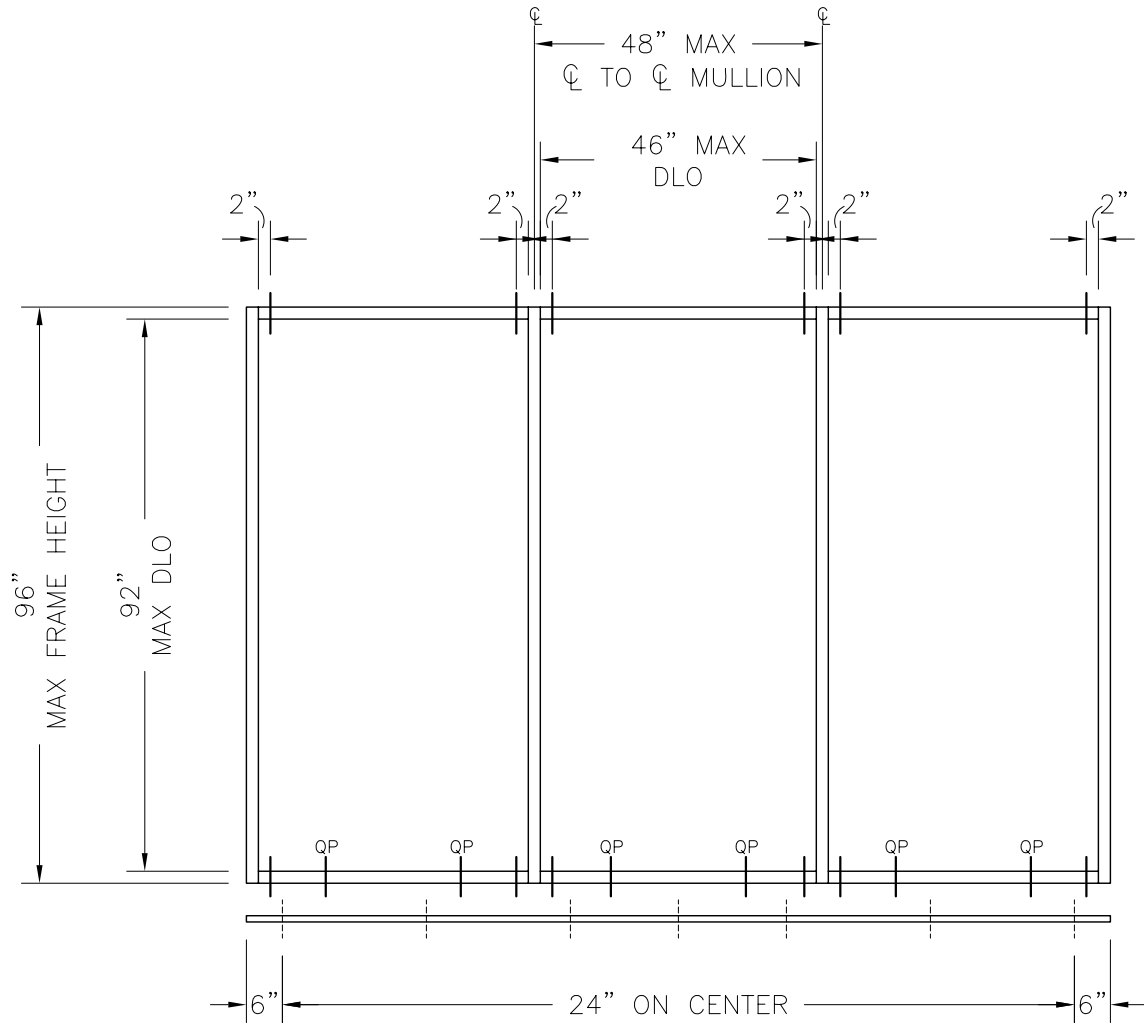
- SUB SILL FS339T**
 - 3/16" FHP TEK SCREW
 - 6" FROM EACH END AND 24" ON CENTER
- SILL FS402T INSIDE SET AND FS409T OUTSIDE SET**
 - 1/4" HEX HEAD TEK SCREW
 - (1) EACH 2" FROM MULLION EDGE AND (1) EACH AT QUARTER POINTS (EXAMPLE 46" DLO DIVIDED BY 4 = 11.50") ADDITIONAL ANCHOR MUST BE PLACED 11-1/2" FROM MULLION EDGE
- HEAD FS401T**
 - 1/4" HEX HEAD TEK SCREW
 - (1) EACH 2" FROM MULLION EDGE

MAXIMUM HEIGHT = 96"
MAXIMUM DLO = 46"
MAXIMUM PSF = +55/-55

Consult factory for locations if parameters above are exceeded in any direction. (Height, DLO, or PSF)

LEGEND

	HEAD AND SILL FASTENERS
	NONE STRUCTURAL SUBSILL FASTENERS



SCALE: 3/8"=1'-0"

PERIMETER FASTENER LOCATIONS

Light Mullion with Steel in Concrete (2500 PSI)

- SUB SILL FS339T**

 - 3/16" FHP TAPCON 1" EMBEDMENT
 - 6" FROM EACH END AND 24" ON CENTER
- SILL FS402T INSIDE SET AND FS409T OUTSIDE SET**

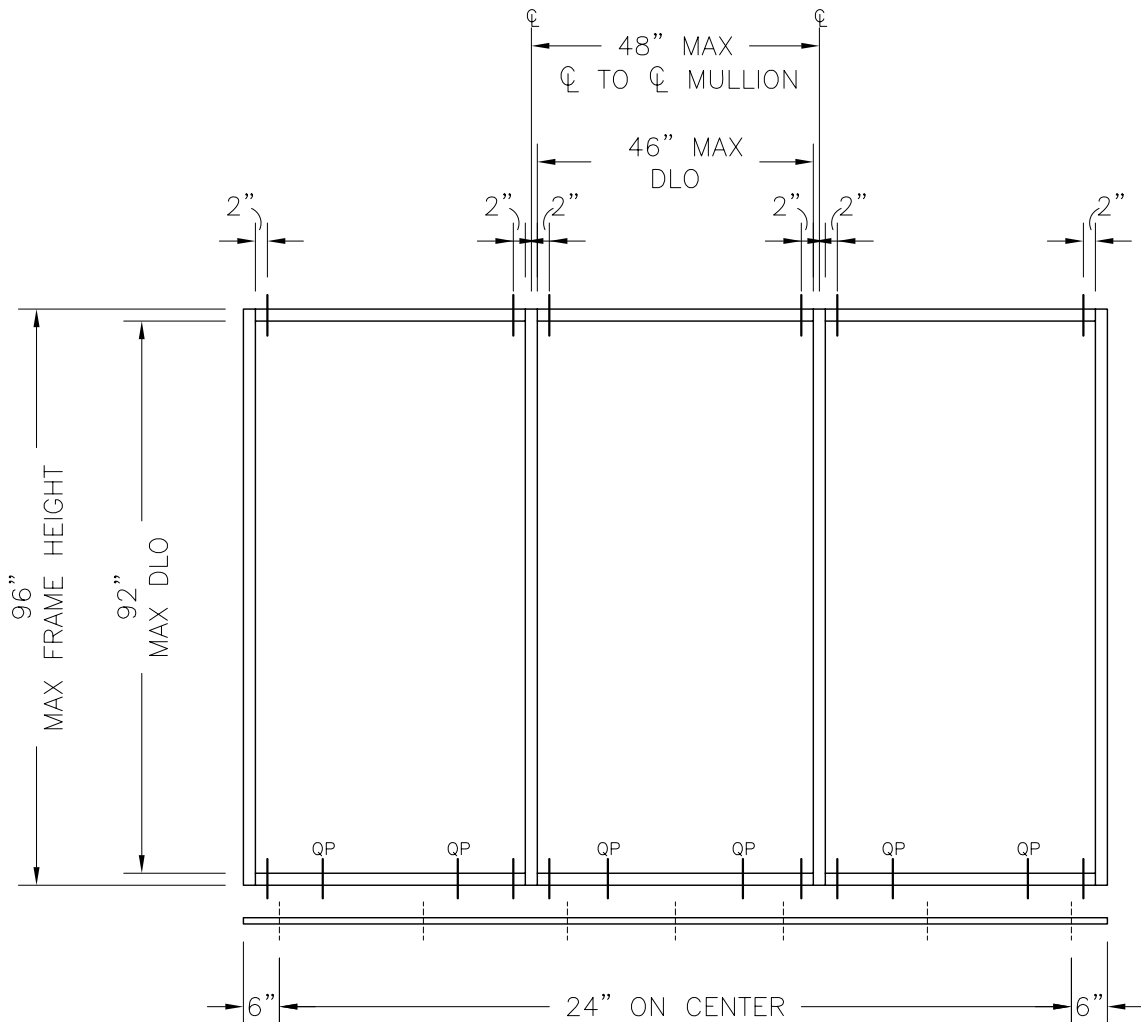
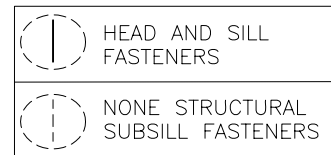
 - 1/4" TAPCON WITH 1-3/4" MINIMUM EMBEDMENT
 - (1) EACH 2" FROM MULLION EDGE AND (1) EACH AT QUARTER POINTS (EXAMPLE 46" DLO DIVIDED BY 4 = 11.50") ADDITIONAL ANCHOR MUST BE PLACED 11-1/2" FROM MULLION EDGE
- HEAD FS401T**

 - 1/4" HEX HEAD TAPCON WITH 1-3/4" MINIMUM EMBEDMENT
 - (1) EACH 2" FROM MULLION EDGE

MAXIMUM HEIGHT = 96"
MAXIMUM DLO = 46"
MAXIMUM PSF = +35/-35

Consult factory for locations if parameters above are exceeded in any direction. (Height, DLO, or PSF)

LEGEND



SCALE: 3/8"=1'-0"

PERIMETER FASTENER LOCATIONS

Light Mullion with Steel in Wood Substrate

- SUB SILL FS339T**

 - 3/16" FHP WOOD SCREW
 - 6" FROM EACH END AND 24" ON CENTER
- SILL FS402T INSIDE SET AND FS409T OUTSIDE SET**

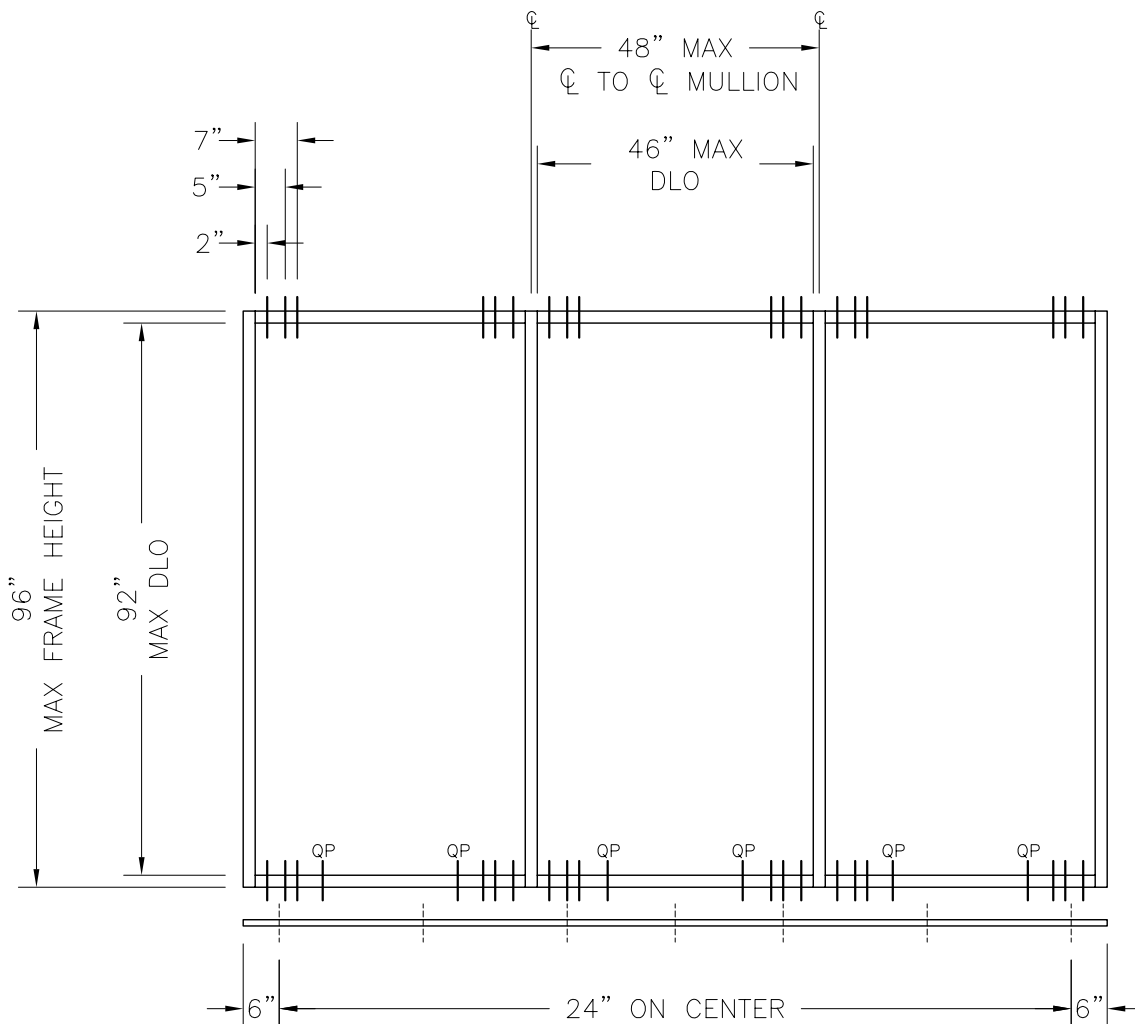
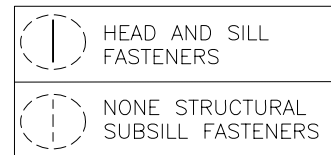
 - 1/4" HEX HEAD LAG BOLT WITH 2" MINIMUM EMBEDMENT
 - (3) EACH 2"-5"-7" FROM MULLION EDGE AND (1) EACH AT QUARTER POINTS (EXAMPLE 46" DLO DIVIDED BY 4 = 11.50") ADDITIONAL ANCHOR MUST BE PLACED 11-1/2" FROM MULLION EDGE
- HEAD FS401T**

 - 1/4" HEX HEAD LAG BOLT WITH 2" MINIMUM EMBEDMENT
 - (3) EACH 2"-5"-7" FROM MULLION EDGE

MAXIMUM HEIGHT = 96"
MAXIMUM DLO = 46"
MAXIMUM PSF = +35/-35

Consult factory for locations if parameters above are exceeded in any direction. (Height, DLO, or PSF)

LEGEND



SCALE: 3/8"=1'-0"

PERIMETER FASTENER LOCATIONS

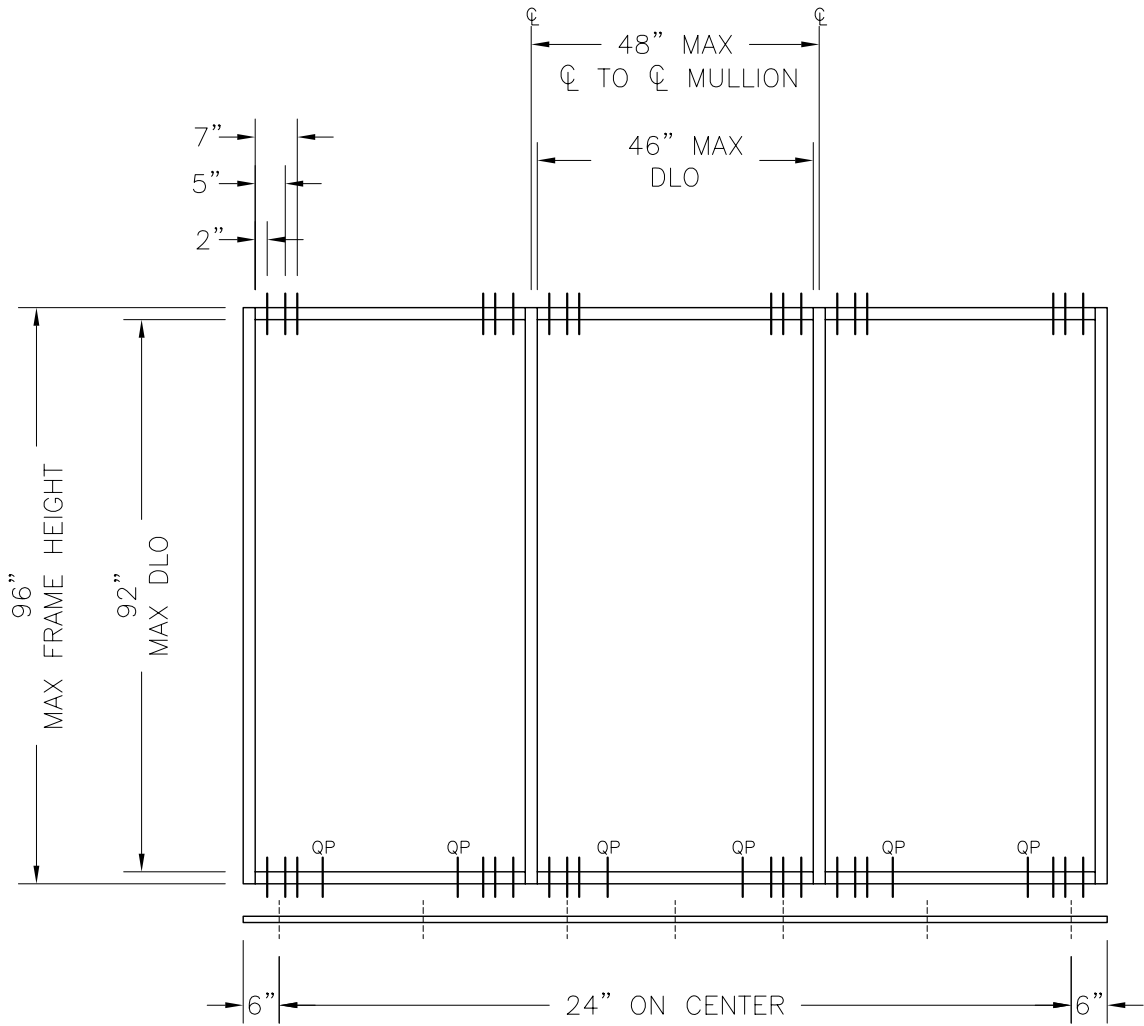
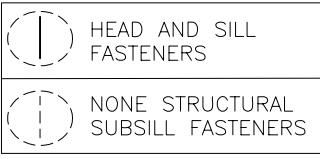
Split Mullion in Wood Substrate

- SUB SILL FS339T**
 - 3/16" FHP WOOD SCREW
 - 6" FROM EACH END AND 24" ON CENTER
- SILL FS402T INSIDE SET AND FS409T OUTSIDE SET**
 - 1/4" HEX HEAD LAG BOLT WITH 2" MINIMUM EMBEDMENT
 - (3) EACH 2"-5"-7" FROM MULLION EDGE AND (1) EACH AT QUARTER POINTS (EXAMPLE 46" DLO DIVIDED BY 4 = 11.50") ADDITIONAL ANCHOR MUST BE PLACED 11-1/2" FROM MULLION EDGE
- HEAD FS401T**
 - 1/4" HEX HEAD LAG BOLT WITH 2" MINIMUM EMBEDMENT
 - (3) EACH 2"-5"-7" FROM MULLION EDGE

MAXIMUM HEIGHT = 96"
MAXIMUM DLO = 46"
MAXIMUM PSF = +55/-55

Consult factory for locations if parameters above are exceeded in any direction. (Height, DLO, or PSF)

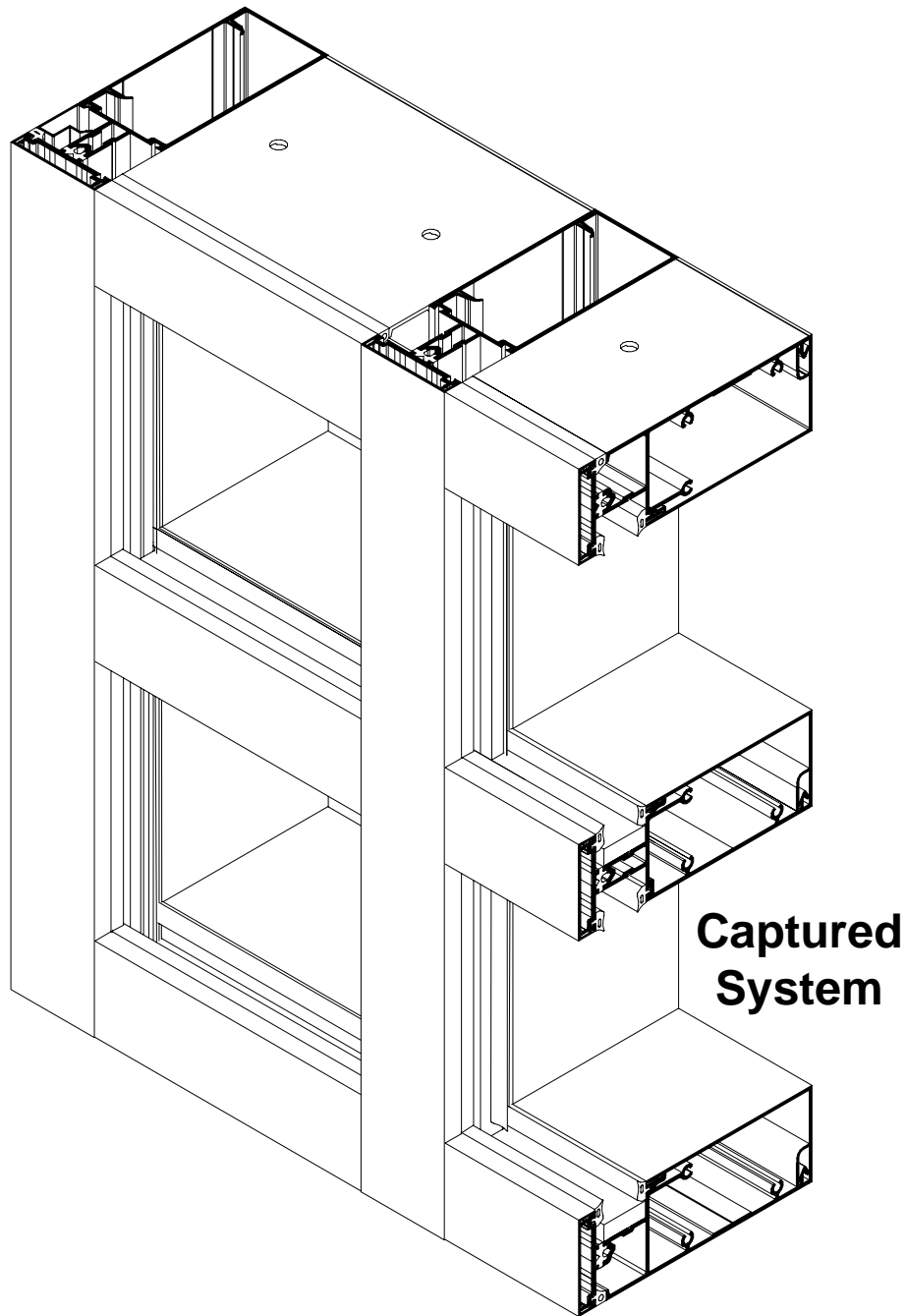
LEGEND



SCALE: 3/8"=1'-0"

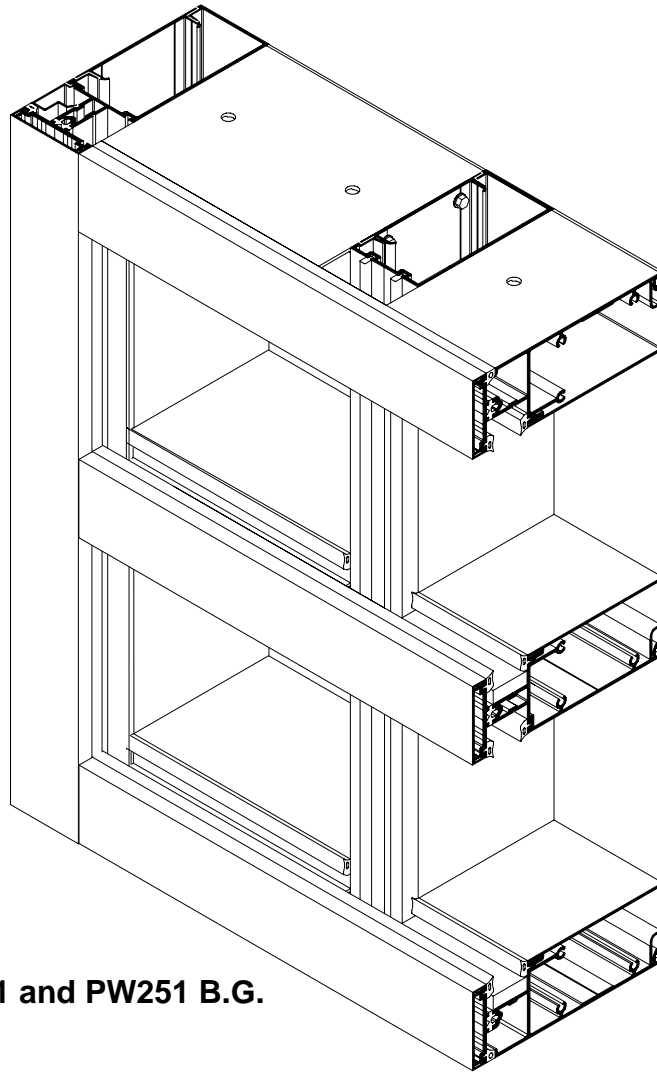
INSTALLATION INSTRUCTIONS

2 1/2" x 7" for 1" Glass



**Captured
System**

B.G. System
(Butt Glazed)



PRODUCT FEATURES: PW251 and PW251 B.G.

Glazing Features:

- Same EPDM dense gasket used on interior and exterior at captured glass

Screw spline joinery allows:

- Coral Punch die shop fabrication
- Die set punches spline and pressure bar weep holes
- Panelized frame assembly for easy transporting and installation

Pressure Bars:

- Factory installed EPDM thermal isolator with attachment holes pre-punched 9" O.C.
- Attached to back members with #12-14 x 1-1/4" HWH #3 self-drilling screws

Removable snap-on interior trim covers at all horizontals allow:

- Anchor inspection to substrate after glazing
- Inspection and/or repair of critical joint seal areas prior to and after glazing

Injection molded plastic end dams and bridges at horizontals provide:

- Tight seals at intersection of vertical/horizontal joints for zone glazing

Injection molded plastic top and bottom vertical mullion caps:

- Accurate compression fit
- Provides continuous perimeter seal

Injection molded plastic temporary glazing retainer:

- Reduces labor
- Distributes uniform pressure on glass reducing risk of breaking glass
- Reusable for next project

CURTAIN WALL

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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INSTALLATION INSTRUCTIONS

- General Notes -

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS - General Notes -

- 11. WATER HOSE TEST.** After a representative amount of the curtain wall system has been glazed (250 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.
- 16. GLASS.** Glazing gaskets are designed for a compression fit against glass and can accommodate (+/- 1/32"). Be sure to check overall size of glass and thickness.

INSTALLATION INSTRUCTIONS

GENERAL NOTES

SERIES PW251 - B.G. MULLION

1. **SEALANTS.** All sealants referenced in these instructions must be one part elastomeric silicone and must be applied according to the silicone manufacturer's recommendations.
2. **APPLICATION.** Structural silicone must be applied from the interior and weatherseal from the exterior.
3. **MAXIMUM ALLOWABLE STRESS ON SILICONE.** The maximum allowable size of the glass lite is controlled by the width and depth of the silicone joint combined with the specified design wind load. The stress on the structural silicone must not exceed 20 PSI for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.
4. **ARCHITECT.** It is the responsibility of the architect to secure approval of the system and request from the Glazing Contractor the compatibility and adhesion test reports described below.
5. **GLAZING CONTRACTOR.** It is the responsibility of the glazing contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. ***This is required on every project.***
6. **CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of Coral Architectural Products to supply a system to meet the architect's specification.

PRODUCT APPLICATION AND INSTALLATION

Series **PW251** Panelized Curtain Wall was designed with screw spline joinery for simple fabrication and panelized installation. These features make the fabrication and installation very similar to storefront systems. **PW251** Panelized Curtain Wall should only be installed by glazing contractors employing personnel with the necessary installation and project management experience to handle these type projects.

PW251 Panelized Curtain Wall requires the installer to pay close attention to the details shown within these ***Instructions*** and ***General Notes***. All critical seal areas must be completed as shown.

FRAME FABRICATION

Captured or B.G. Installation

Establish frame size and cut metal to length.

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1" allowing for a 1/2" minimum for shimming and caulking joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 1" allowing 1/2" minimum for shimming and caulking joint at the head and sill.

STEP 2. Vertical Members

Cut **vertical** members to size. (All vertical members run through)

Wall jambs, intermediate verticals, snap-in perimeter jamb filler and corner mullions are cut to frame height.

- A. Pressure bars are cut frame height minus (-) 1/4".
- B. Face covers are cut frame height minus (-) 1/4".
- C. Vertical glazing adaptors D.L.O. (+) 1".
- D. Reference Pages 30-31 for vertical mullions with a splice joint.

STEP 3.

Captured - Horizontals

Cut **horizontal** members to size.

- A. Head, sill and intermediate mullions are cut D.L.O.
- B. Pressure bars are cut D.L.O. minus (-) 1/4".
- C. Face covers are cut D.L.O. minus (-) 1/32".
- D. Interior snap-on trim is cut D.L.O. minus (-) 1/32"
- E. Horizontal glazing adaptors D.L.O. (-) 1/8"
(Reference **page 29**)

B.G. - Horizontals

Cut **horizontal** members to size.

- A. Head, sill and intermediate mullions are cut D.L.O.
- B. Pressure bars run continuous between wall jambs.
See **page 42, Detail "A"** for splice joints when req'd.
- C. Face covers run continuous between wall jambs.
See **page 43, Detail "C"** for splice joints when req'd.
- D. Interior snap-on trim is cut D.L.O. minus (-) 1/32"
- E. Horizontal glazing adaptors D.L.O. (-) 1/8"
(Reference **page 29**)

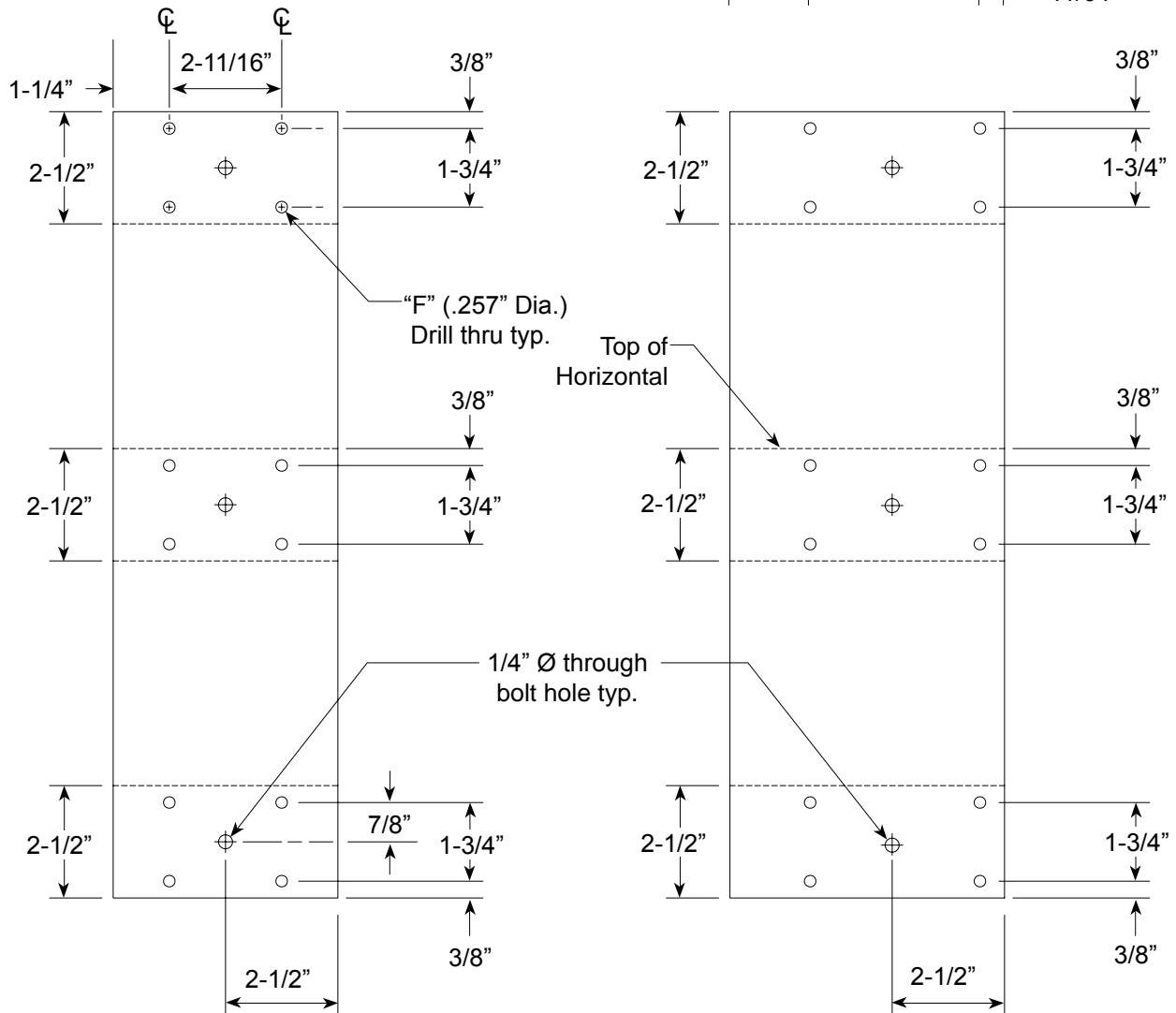
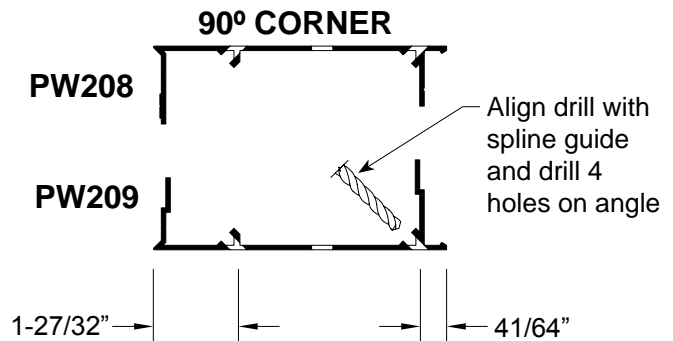
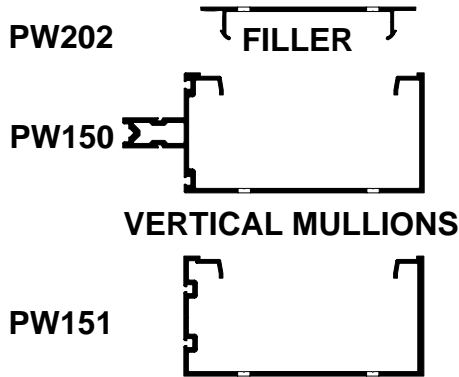
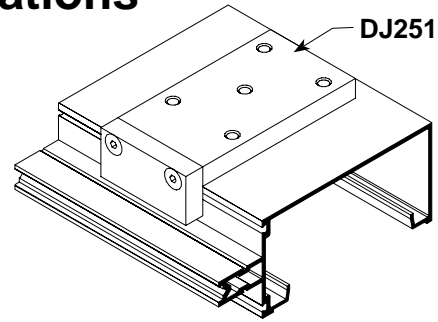
Mullion spacing **tolerance** accumulation **build up** may become a problem on wide multi-bay elevations. Frequently check the cut lengths of head, sill and intermediate horizontal members prior to assembly to prevent tolerance build up. It is also good practice to check overall frame width every four or five bays during installation.

FRAME FABRICATION

Joinery Hole Locations

STEP 4.

Use **DJ251** drill jig or **PW251 Punch Die Set** for hole fabrication in verticals for attaching horizontals.

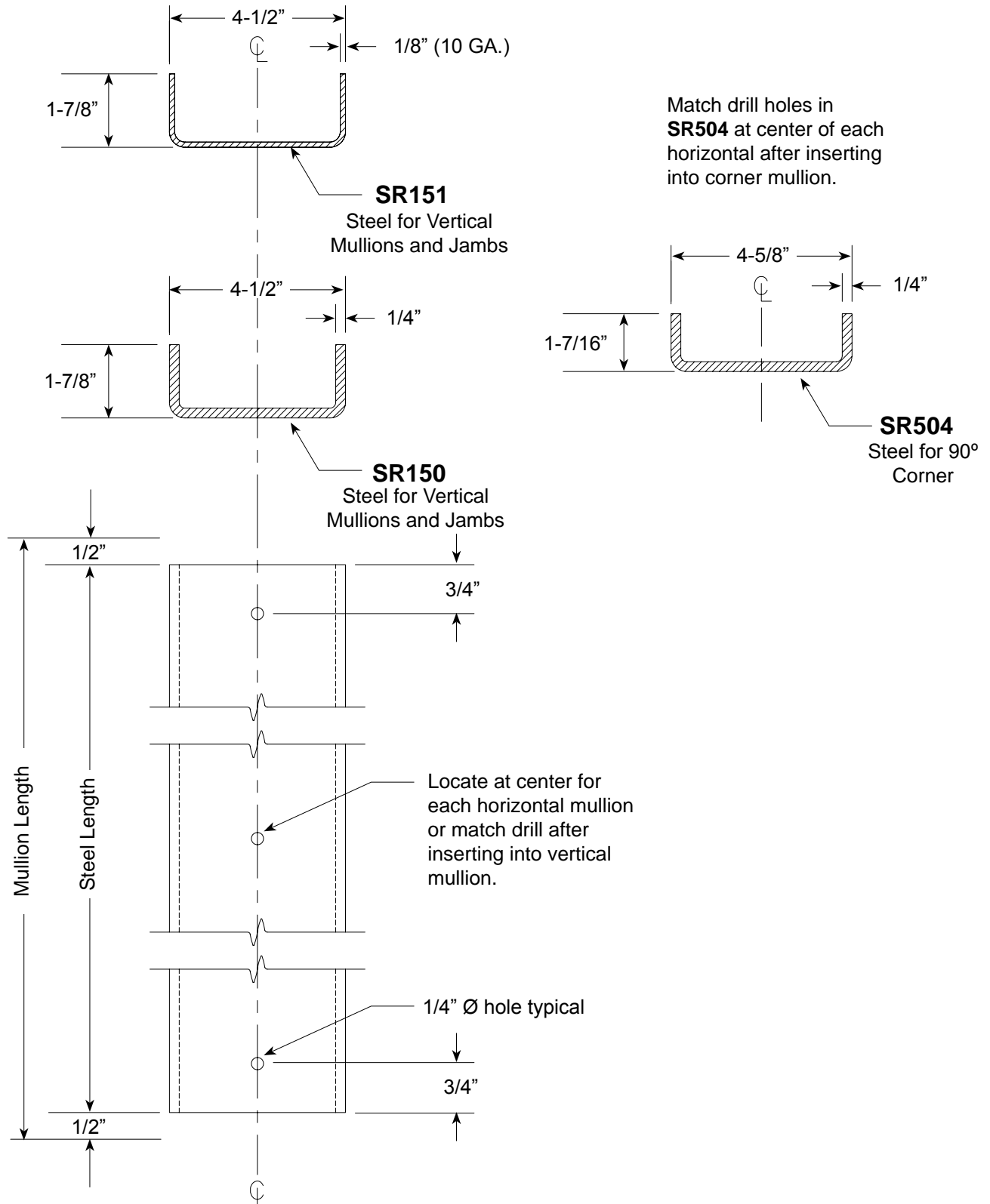


FRAME FABRICATION

Steel Reinforcement

STEP 5.

Fabricate steel reinforcement where required. Cut steel 1" less than length of vertical mullion.



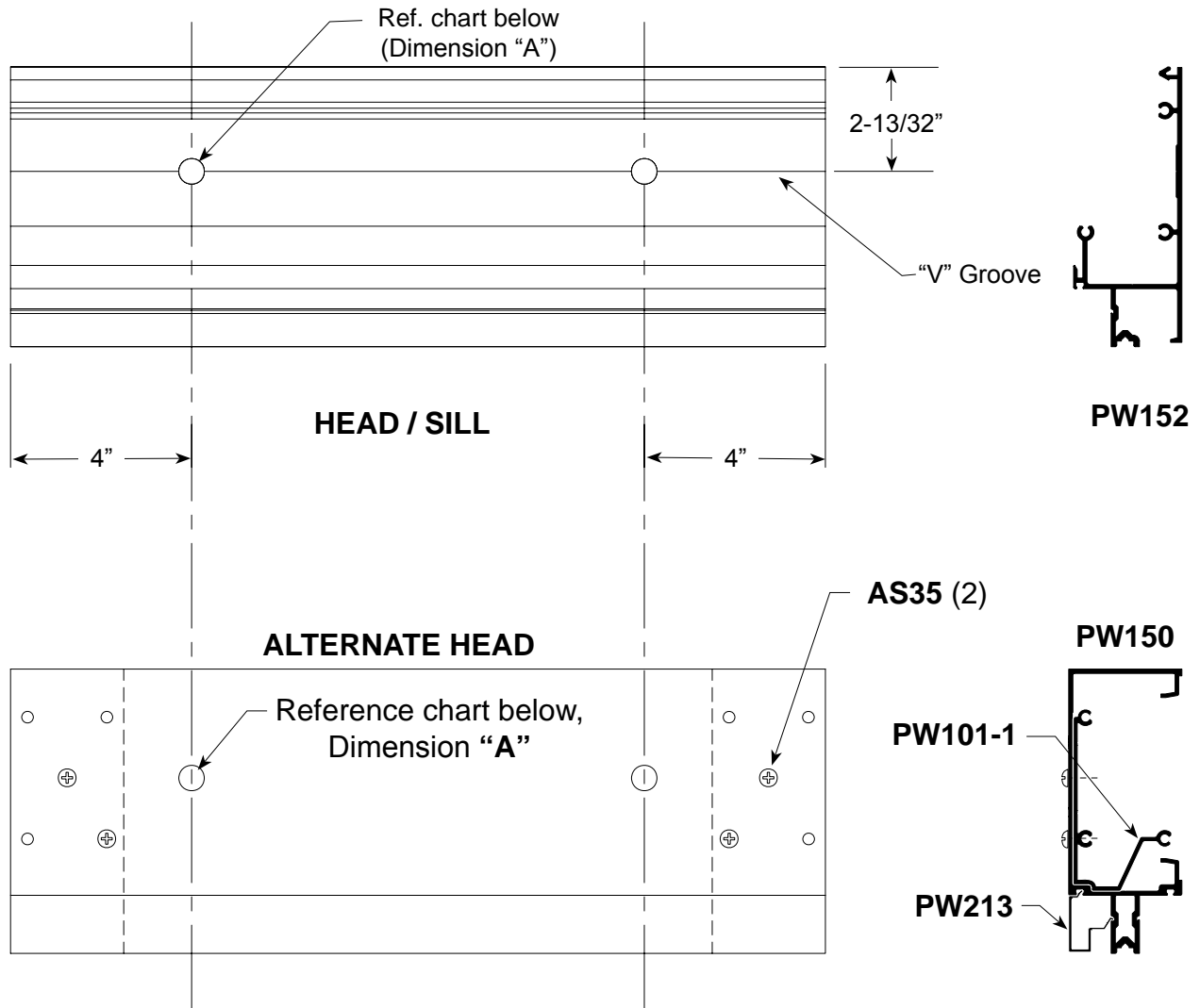
FRAME FABRICATION

Head / Sill

STEP 6.

Fabricate head and sill anchor holes. Drill or punch one (1) ea. anchor hole located approximately 4" from each end of part. Hole should be centered on "V" groove located in extrusion. When two (2) or more fasteners are required, locate each additional fastener at minimum spacing as required for substrate.

Note: Hole Ø may vary depending on bolt size required for meeting job specific wind load conditions. Reference **CAP anchor charts** for typical conditions.



Punch or drill (Reference **page 8**) holes in each end of **PW150**. Attach **PW101-1** spline anchor clip in each end using, 2 each, **AS35** (#14 x 1" FHP self drilling fastener).

ANCHOR BOLT Ø	DIMENSION "A"
3/8"	7/16"
1/2"	9/16"

FRAME FABRICATION

Wall Jamb

STEP 7.

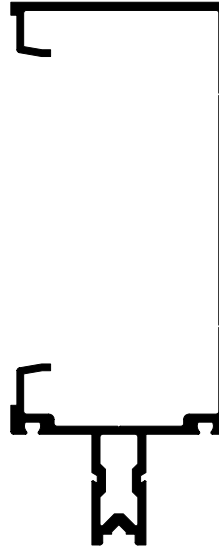
Fabricate for wall jamb using **PW150**, **PW202** and **PW213**.



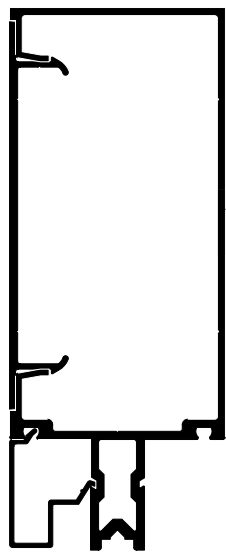
PW202
Flat Filler



PW213
Snap-in
Pocket Filler



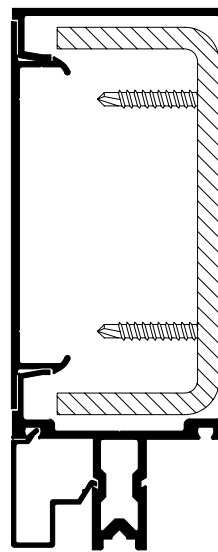
PW150
Vertical Mullion



Single Span

3/4" Access Hole

Wall Jamb



Multi-Span

Locate 8" long **SR150-1** tapping plate at anchor location for multi-span conditions. Reference **page 26, Detail "C"**.

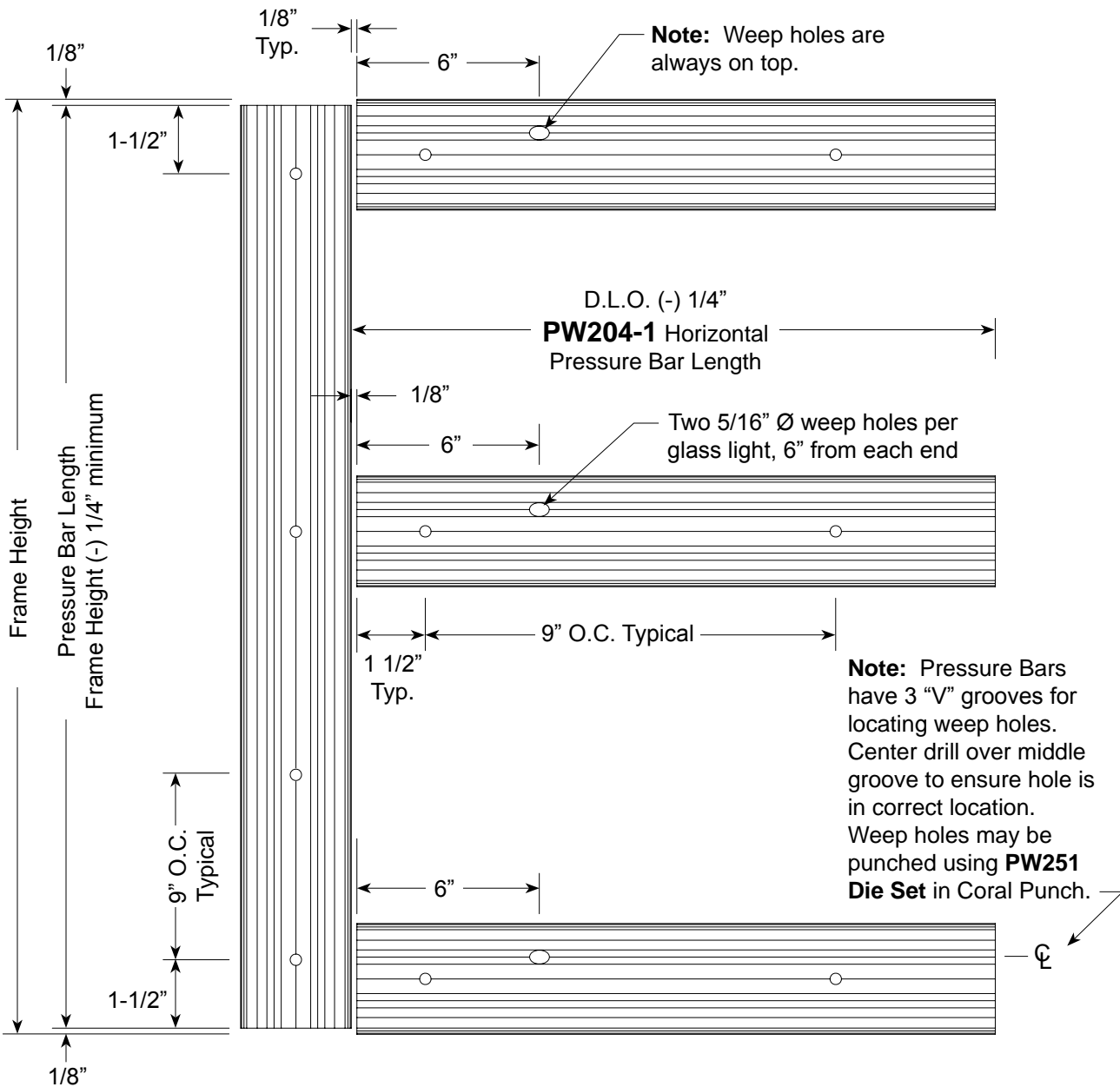
FRAME FABRICATION

Pressure Bar - Captured

STEP 8.

Fabricate vertical and horizontal pressure bars.

Holes for attaching **PW204-1** pressure bars are pre-punched at factory 9" on center. The 1/4" Ø holes located 1-1/2" from each end of pressure bar will need to be added as shown below. Drill hole on "V" groove line.



Note: It is very important to ensure that vertical pressure bars are cut short to prevent dislodging **SP209** top & bottom mullion caps.

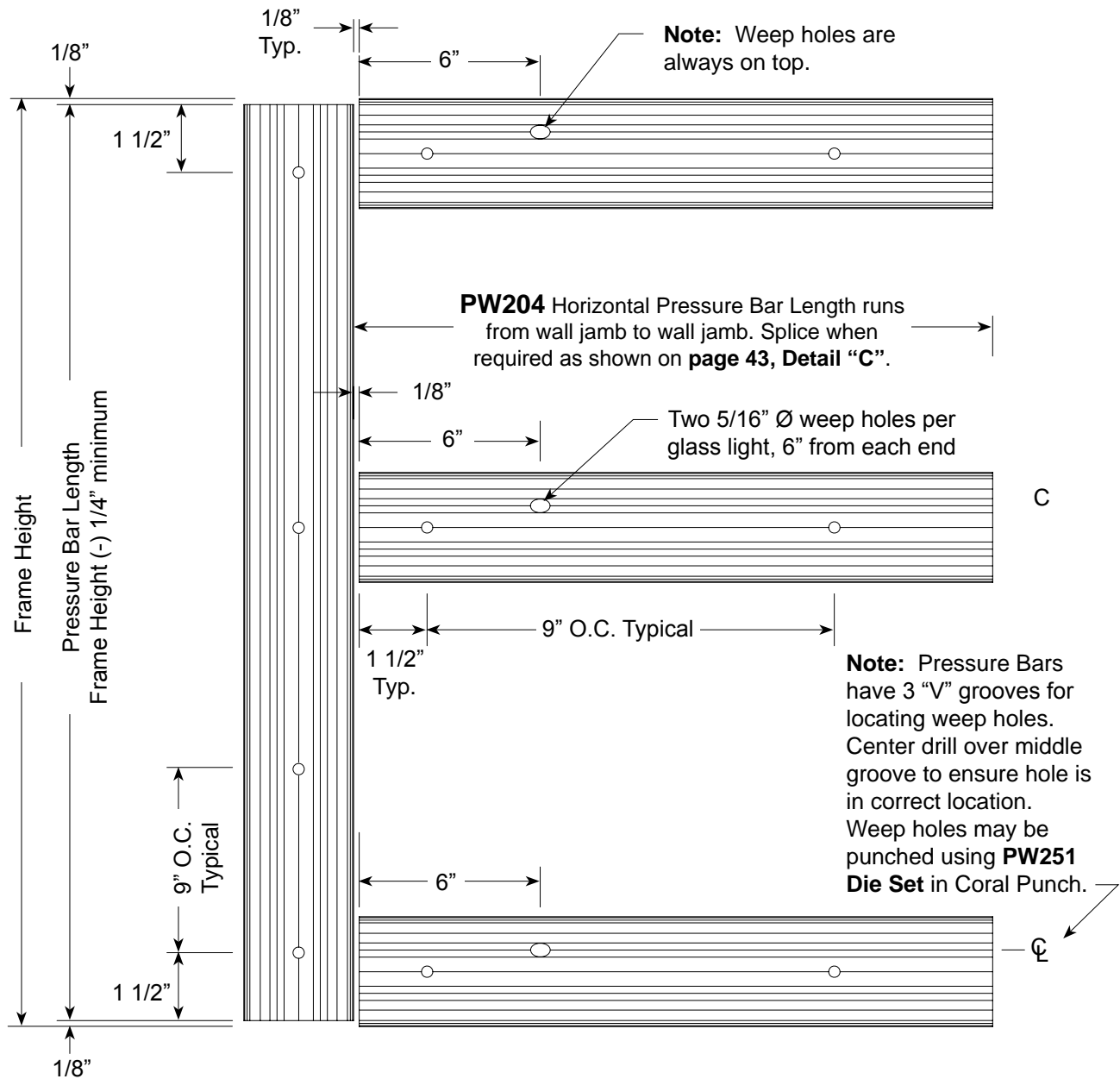
FRAME FABRICATION

Pressure Bar - B.G.

STEP 9.

Fabricate vertical and horizontal pressure bars.

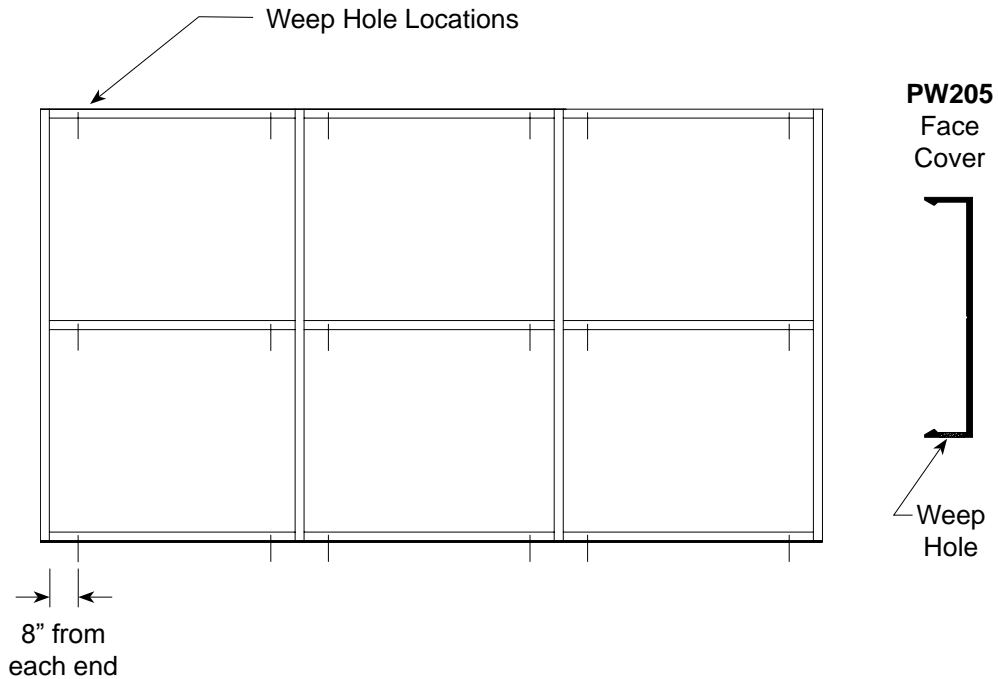
Holes for attaching **PW204** pressure bars are pre-punched at factory 9" on center. The 1/4" Ø holes located 1 1/2" from each end of pressure bar will need to be added as shown below. Drill hole on "V" groove line.



Note: It is very important to ensure that vertical pressure bars are cut short to prevent dislodging **SP209** top & bottom mullion caps.

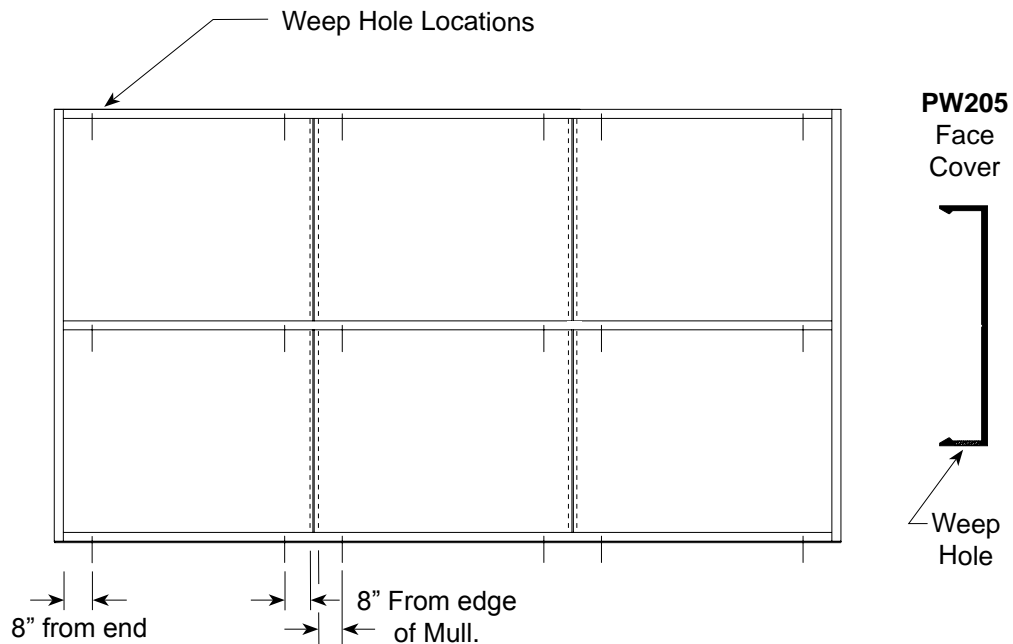
FRAME FABRICATION

Weep Holes for Horizontal Covers



STEP 10. Captured Installation

Fabricate horizontal face covers for 1/4" Ø weep holes. Install covers with weep holes located on the underneath side.



STEP 11. B.G. Installation

Fabricate horizontal face covers for 1/4" Ø weep holes. Install covers with weep holes located on the underneath side when snapping on covers. See **page 43** for splice joints.

FRAME ASSEMBLY Gasket Installation

STEP 1.

Prior to assembly of frames, install the following gaskets into the fabricated framing members:

Back Members: **NG10**

Intermediate Pressure Bars: **NG10**

Perimeter Pressure Bars: **NG10** (against glass) and **NG11** (against aluminum)
(Reference **Detail “A”** on **page 42**).

Spacer gasket for B.G. Mullion: **NG14**

GASKET INSTALLATION PROCEDURES (*Do not stretch gaskets*)

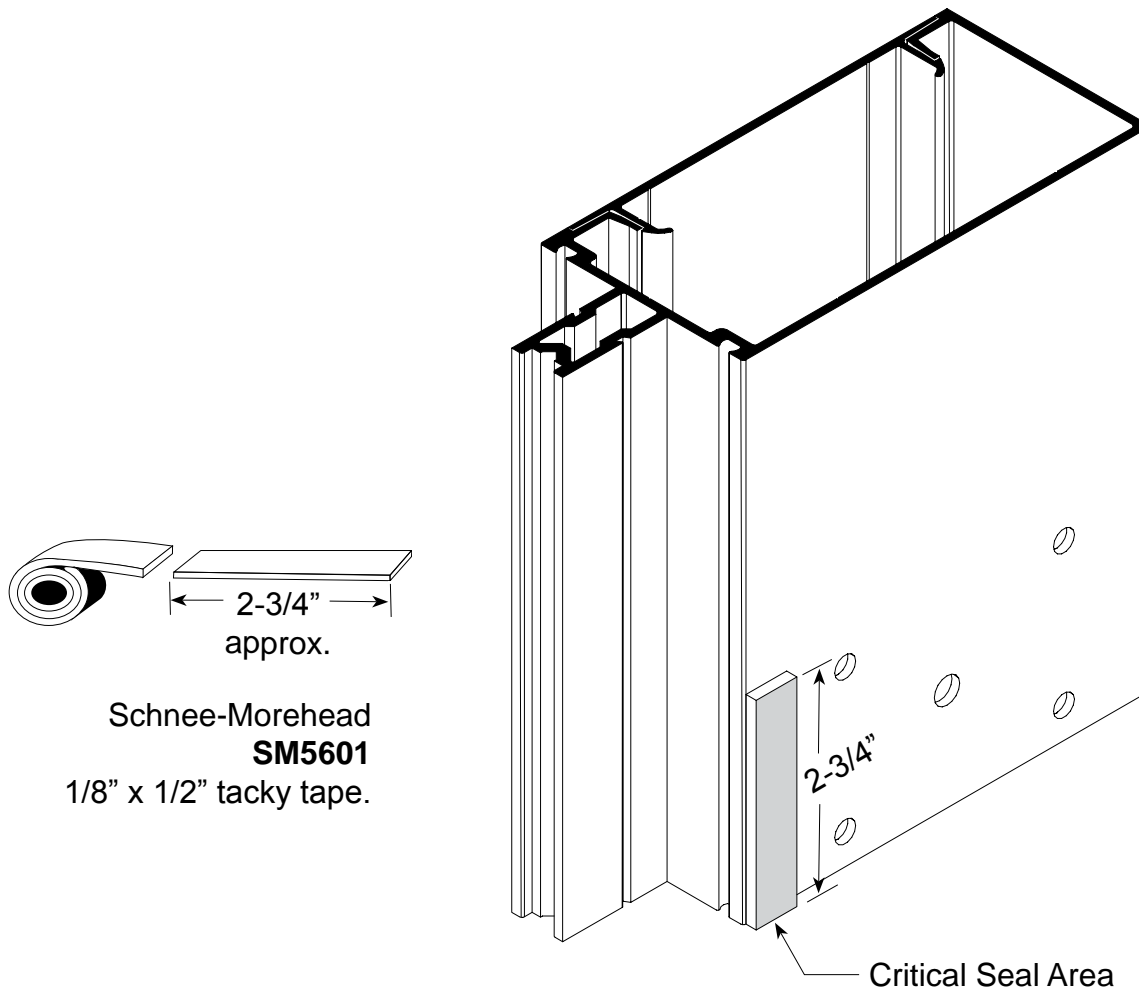
1. Cut gaskets allowing for 1/8” extra length per foot of framing members to accommodate shrinkage.
2. **NG10** gaskets for vertical back members are cut D.L.O. plus 1-1/4”.
(Reference **Detail “A”** on **page 38**).
3. **NG14** Vertical spacer gasket runs full length on **PW151** B.G. mullion.
(Reference **Detail “B”** on **page 38**).
4. Horizontal spacer gasket is cut to D.L.O. length.
5. Horizontal pressure bar: glazing gasket should extend 1/8” beyond end of pressure bar.
6. Vertical pressure bar: gasket runs full length.

FRAME ASSEMBLY Joinery Tape Application

STEP 2.

GLAZING TAPE INSTALLATION PROCEDURES: *Ref. Step 3.*

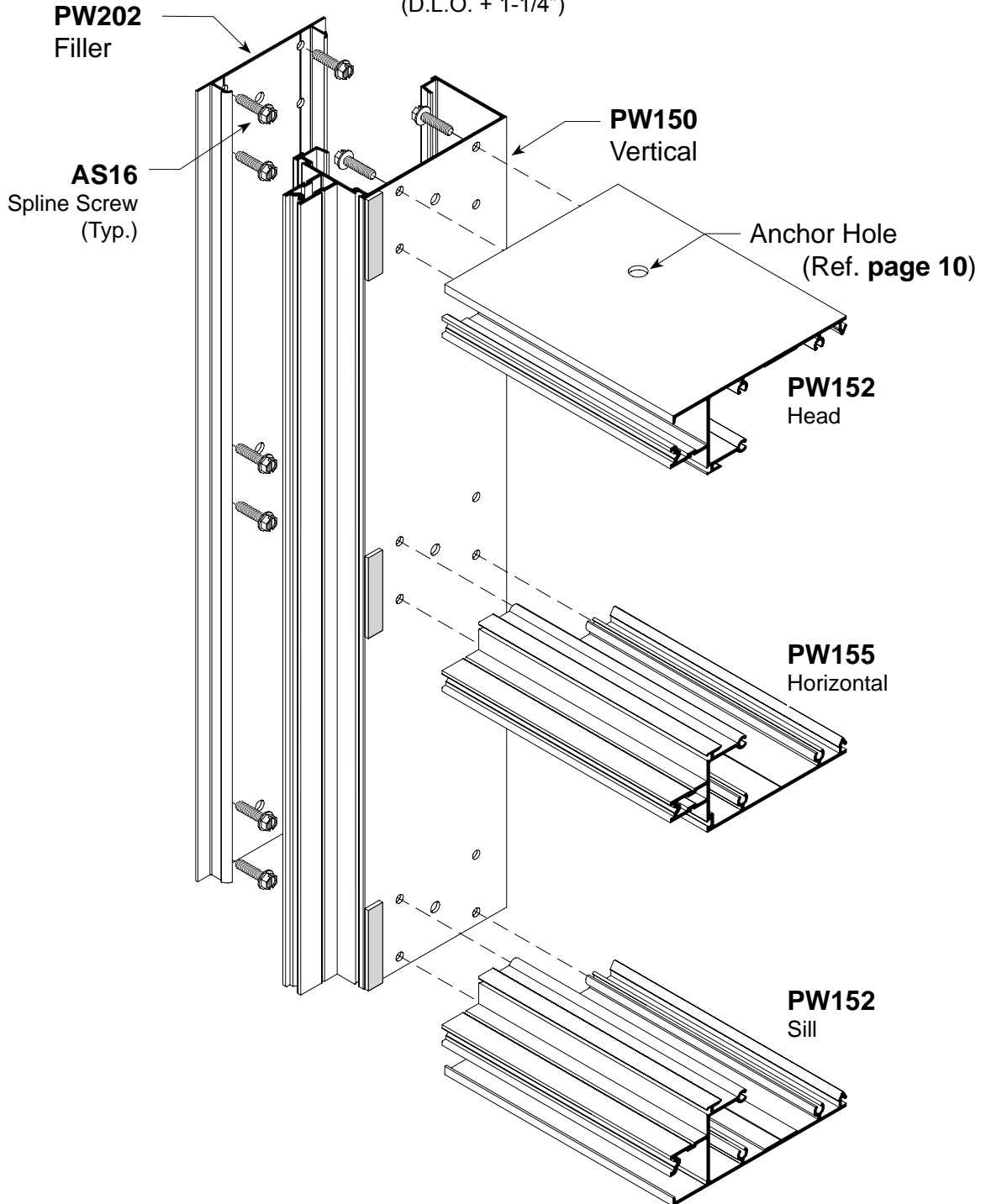
1. Cut **SM5601** 1/8" x 1/2" tack tape approximately 2-3/4" long.
2. Clean surfaces where tape is to be applied with isopropyl alcohol or solvent to remove all dirt and cutting oils. Allow surface to dry before applying tape.
3. Position tape on vertical mullions at horizontal joint intersections.
4. Just prior to frame assembly, remove protective cover and screw joints together.
5. Use a box knife to trim excess sealant tape where exposed. Do not pull tape to trim.



CAPTURED FRAME ASSEMBLY Vertical to Horizontal Joinery

STEP 3.

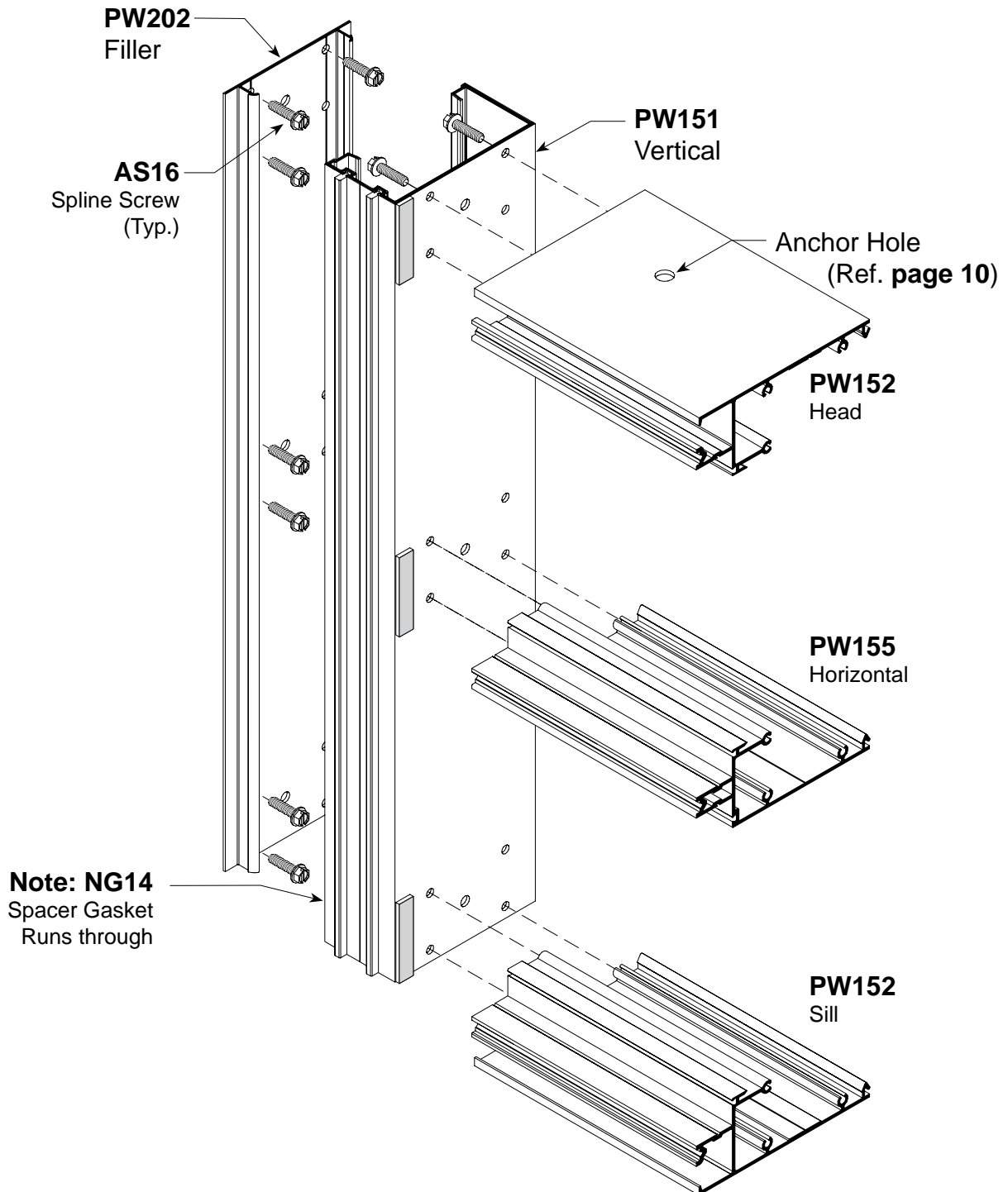
Note: Reference page 38, Detail "A" for NG10 Gasket location in vertical. (D.L.O. + 1-1/4")



B.G. MULLION FRAME ASSEMBLY

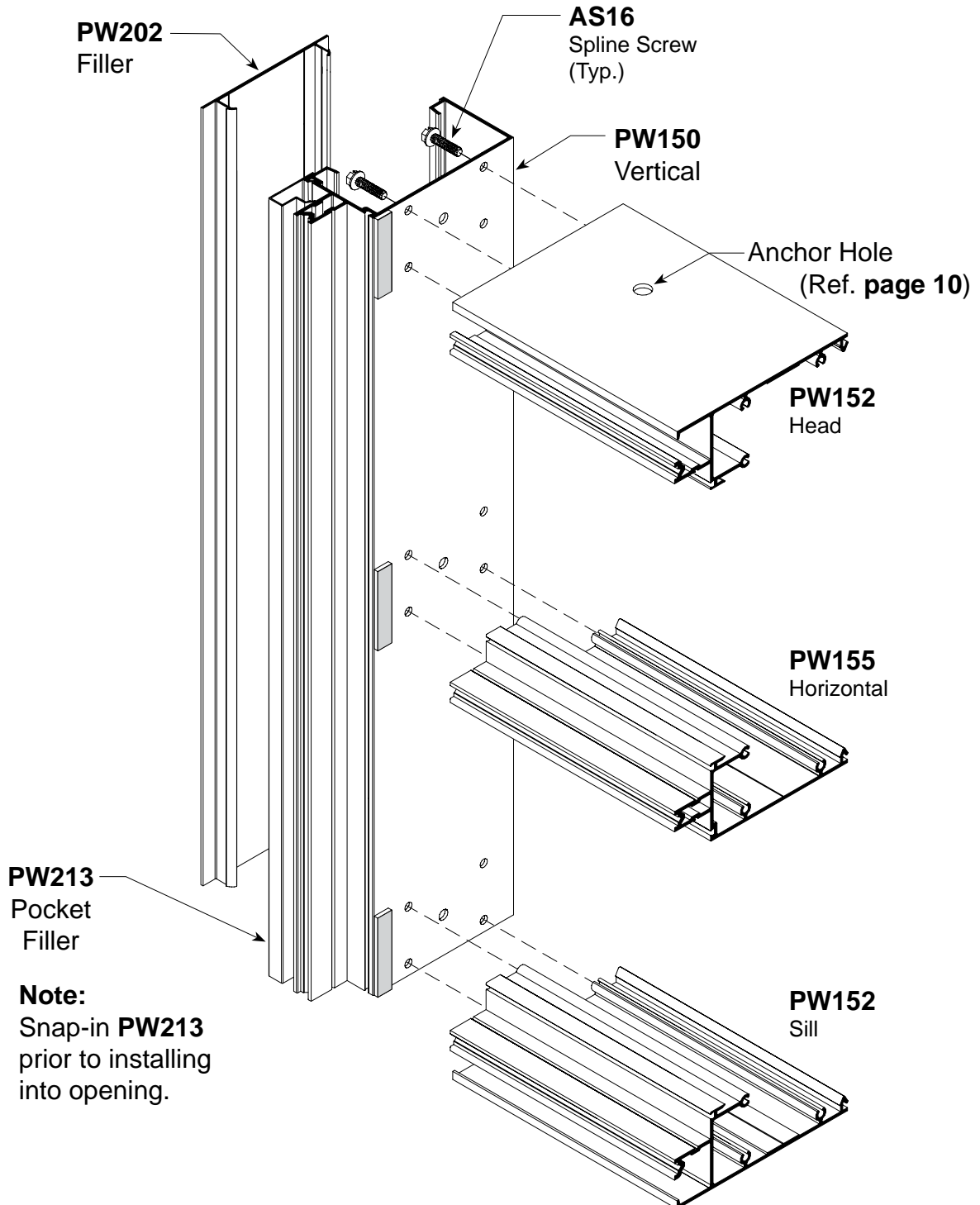
Vertical to Horizontal Joinery

STEP 4.



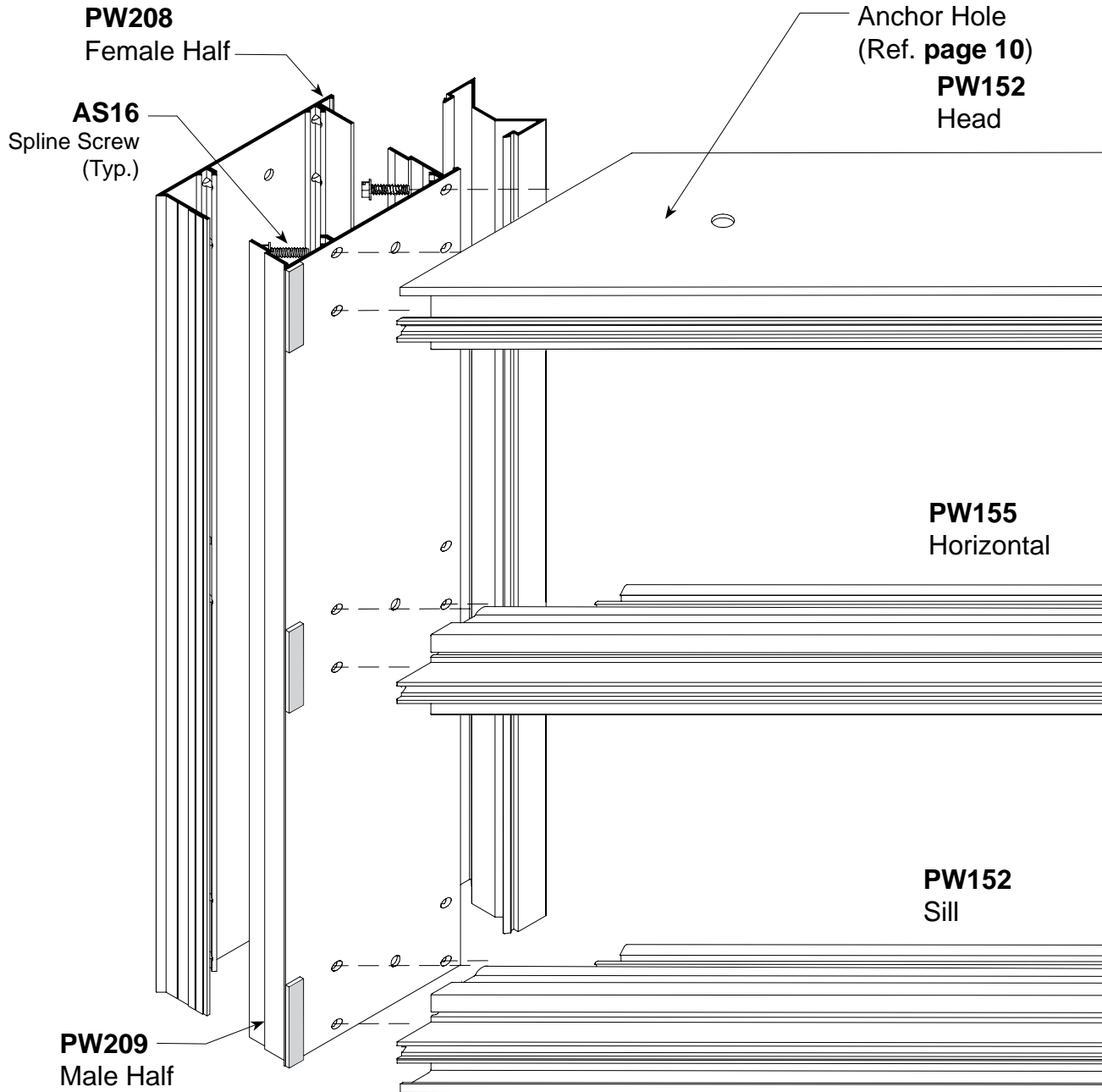
WALL JAMB ASSEMBLY Vertical to Horizontal Joinery

STEP 5.



OUTSIDE CORNER ASSEMBLY Corner to Horizontal Joinery

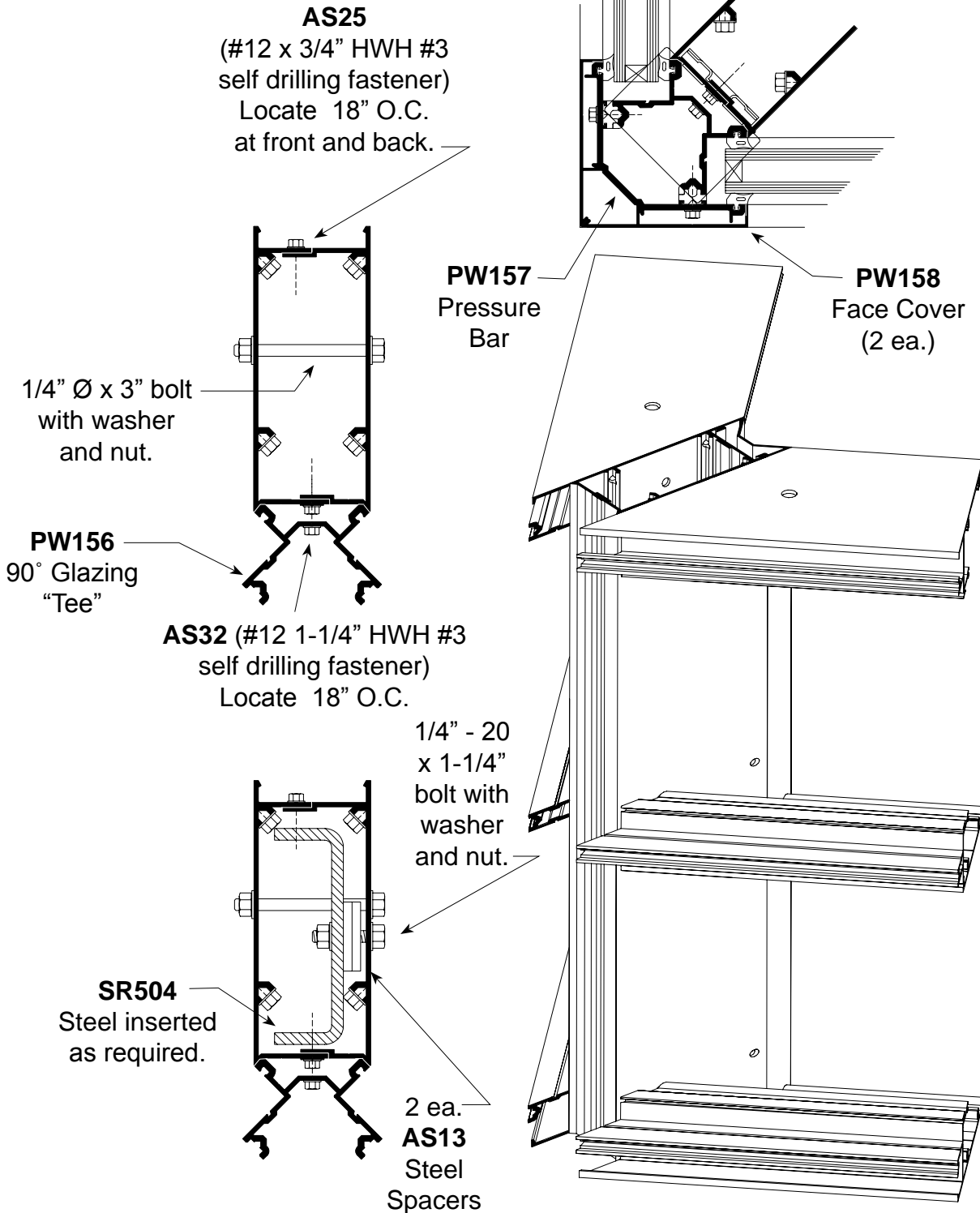
STEP 6.



OUTSIDE CORNER ASSEMBLY

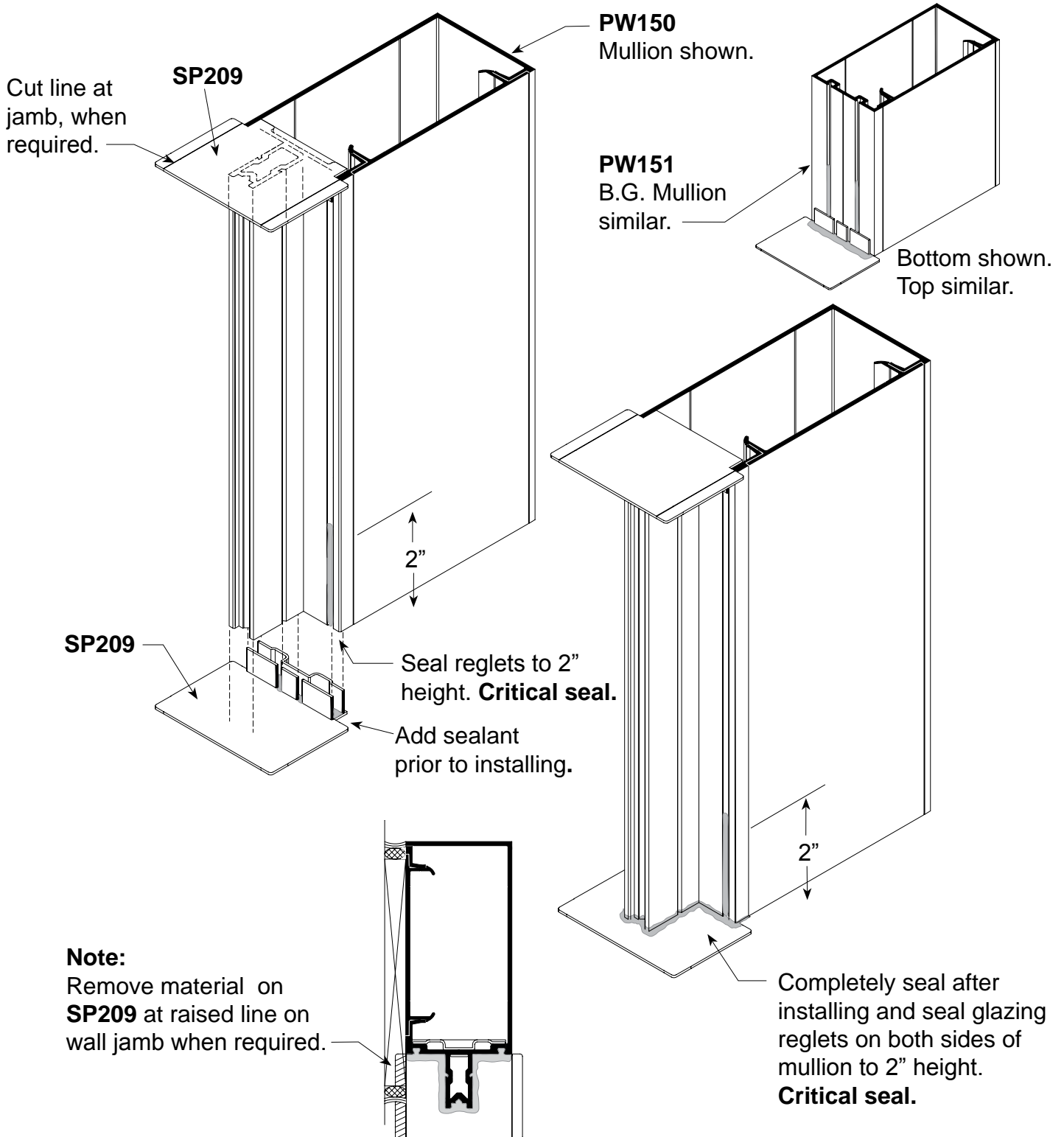
Corner Assembly Fasteners

STEP 7.



MULLION CAP INSTALLATION Captured and B.G.

STEP 8. Prior to installing frames into opening, install injection molded plastic **SP209** mullion caps at top and bottom of vertical members as shown below to ensure continuous perimeter seal.

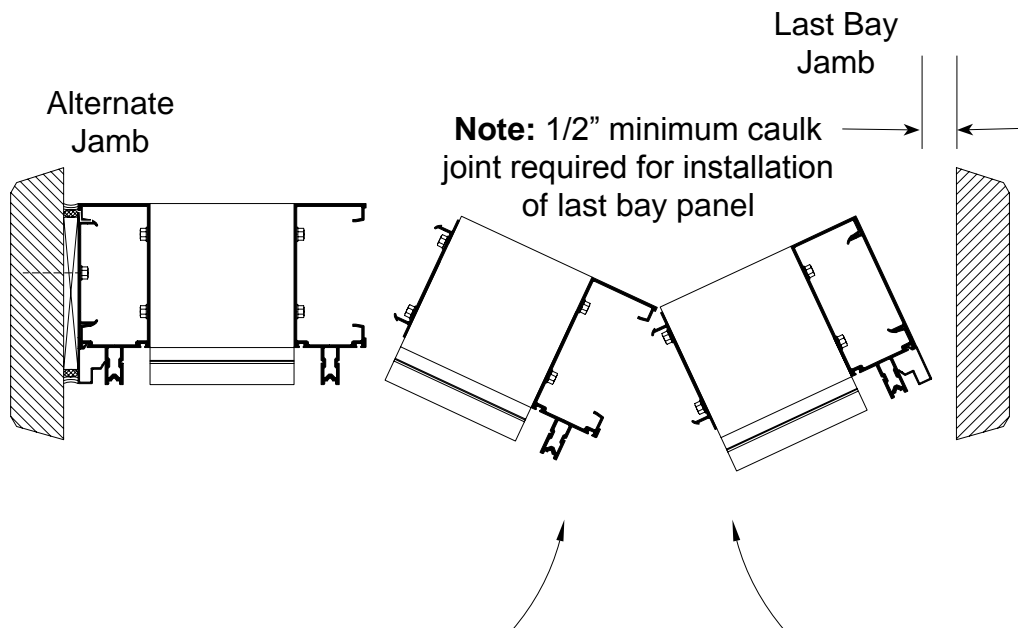
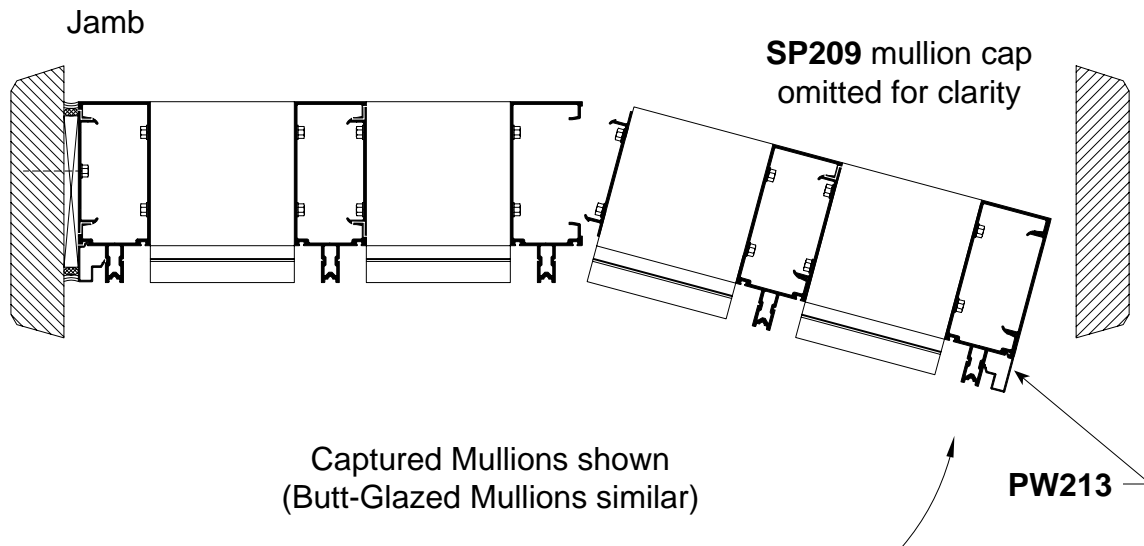


FRAME INSTALLATION Panelized Assembly

STEP 1.

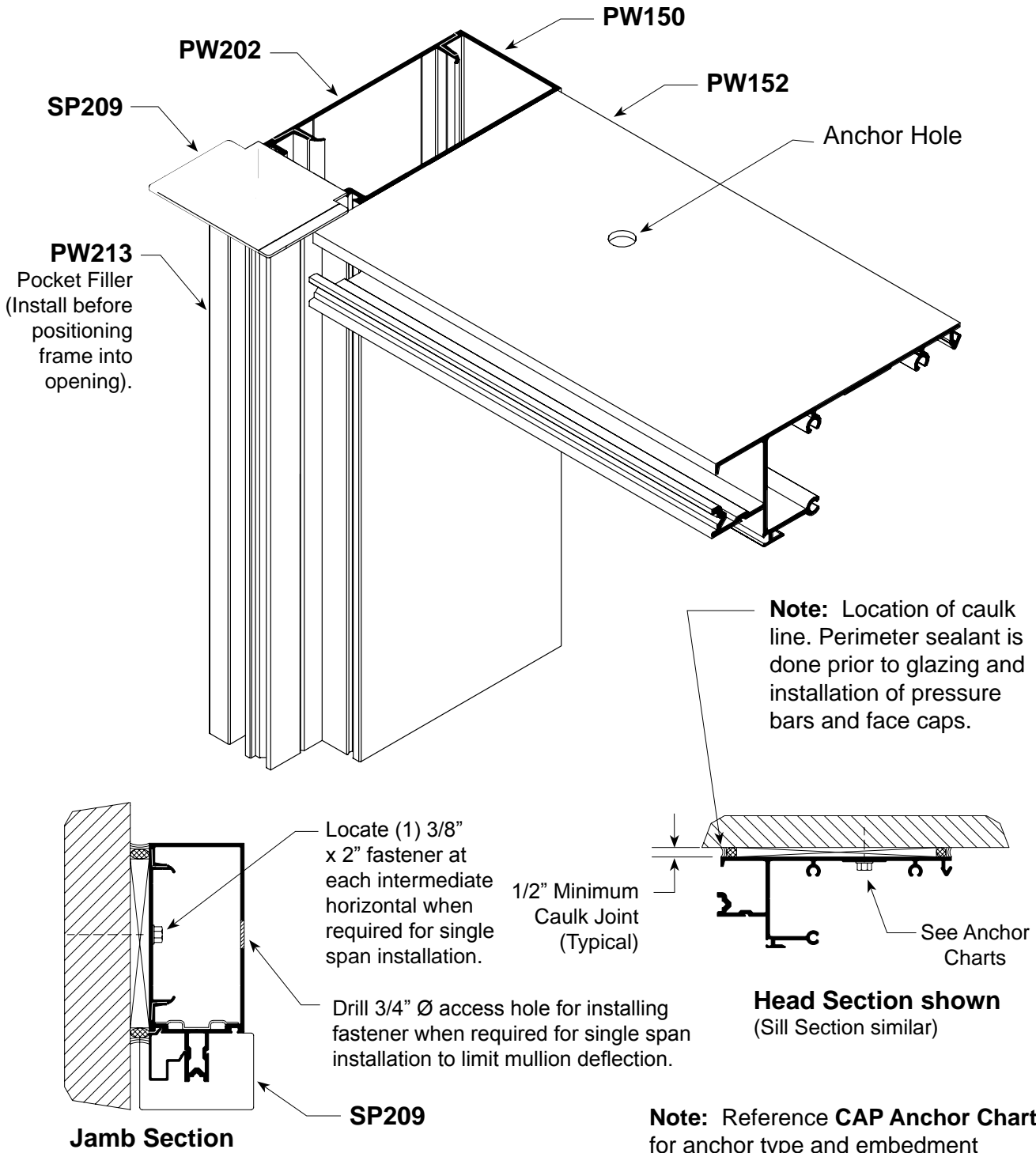
Install assembled frame panels into opening starting with jamb and continue working toward the last bay until the last panel is installed. Reference illustrations shown below for sequencing.

Note: Snap-in **PW202** flat filler and **PW213** pocket filler into jambs prior to installing. **PW213** is difficult to install after jambs are installed due to limited work space.



TYPICAL JAMB INSTALLATION

STEP 2.



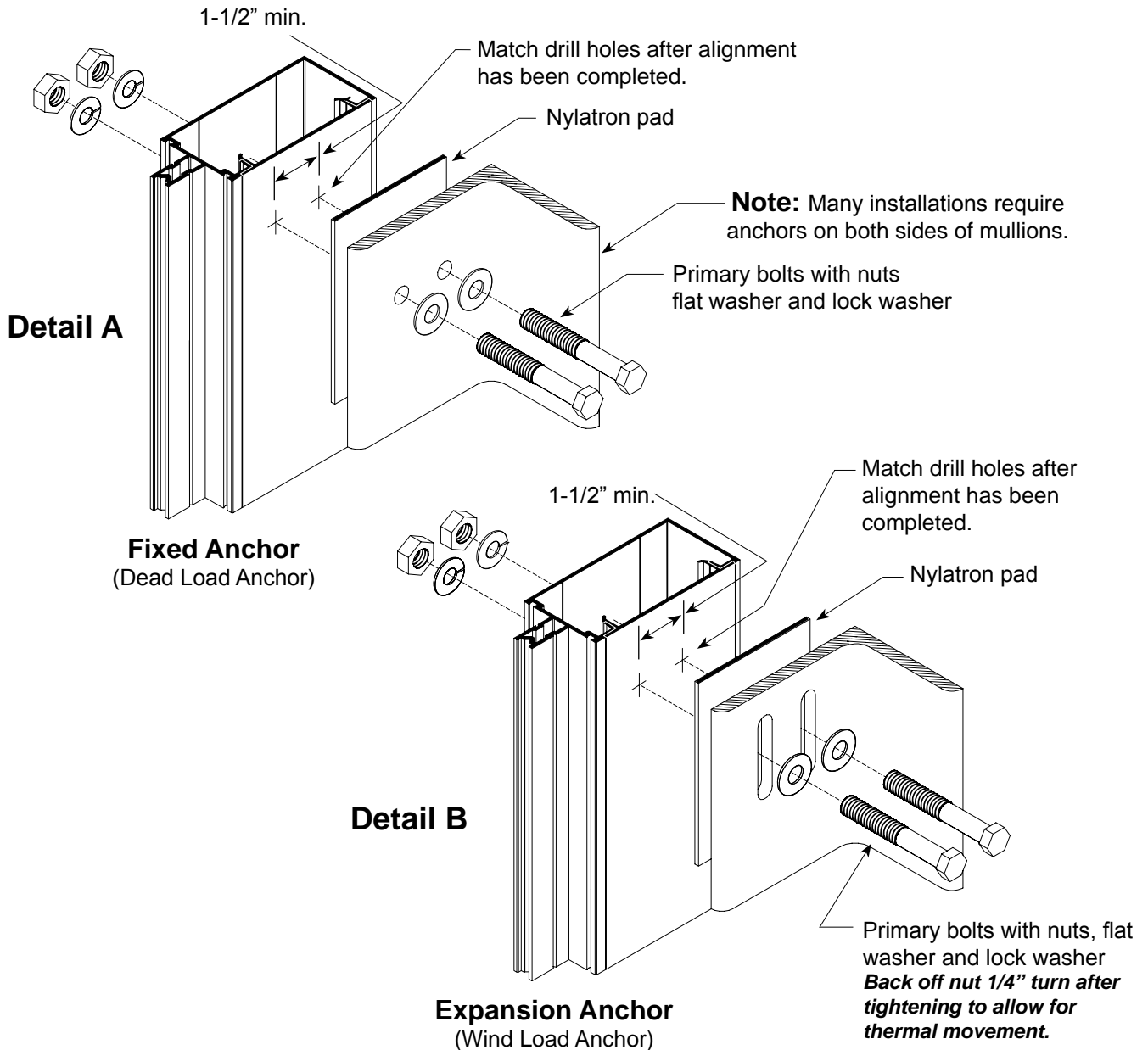
STEEL ANCHOR INSTALLATION

Multi-Span Condition

Details A and B show fixed (dead load) and expansion (wind load) anchors. Anchor type, size and quantity vary per job requirements. Details shown are to be used as a guide only. See approved shop drawings for actual conditions.

Step 1. Secure verticals to anchor clips after alignment has been completed.

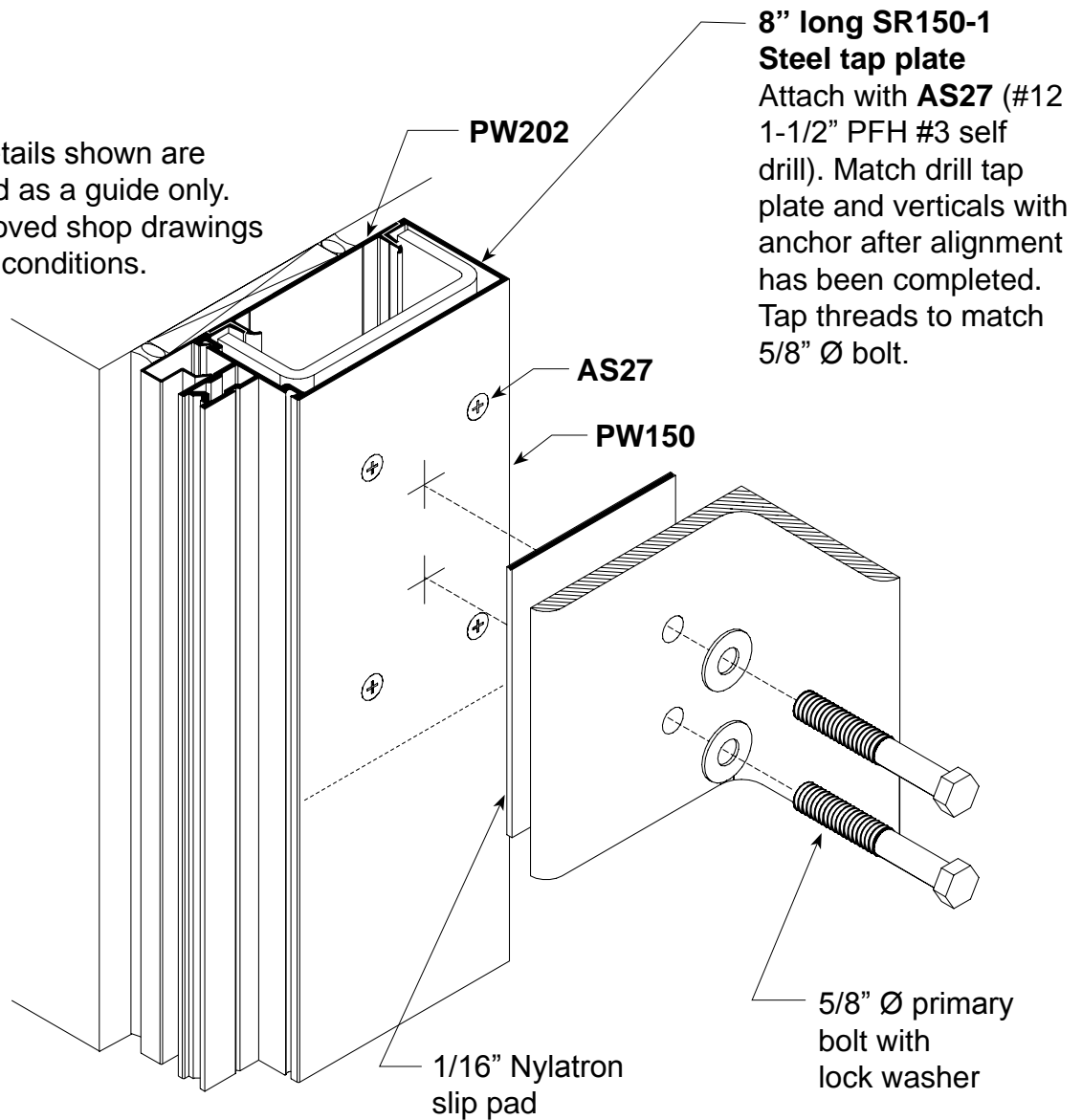
Note: Mullion spacing must be held to within $\pm 1/32"$. Check overall frame dimension every four bays to monitor dimension build up.



JAMB ANCHOR INSTALLATION Multi-Span Condition

STEP 2.

Note: Details shown are to be used as a guide only. See approved shop drawings for actual conditions.



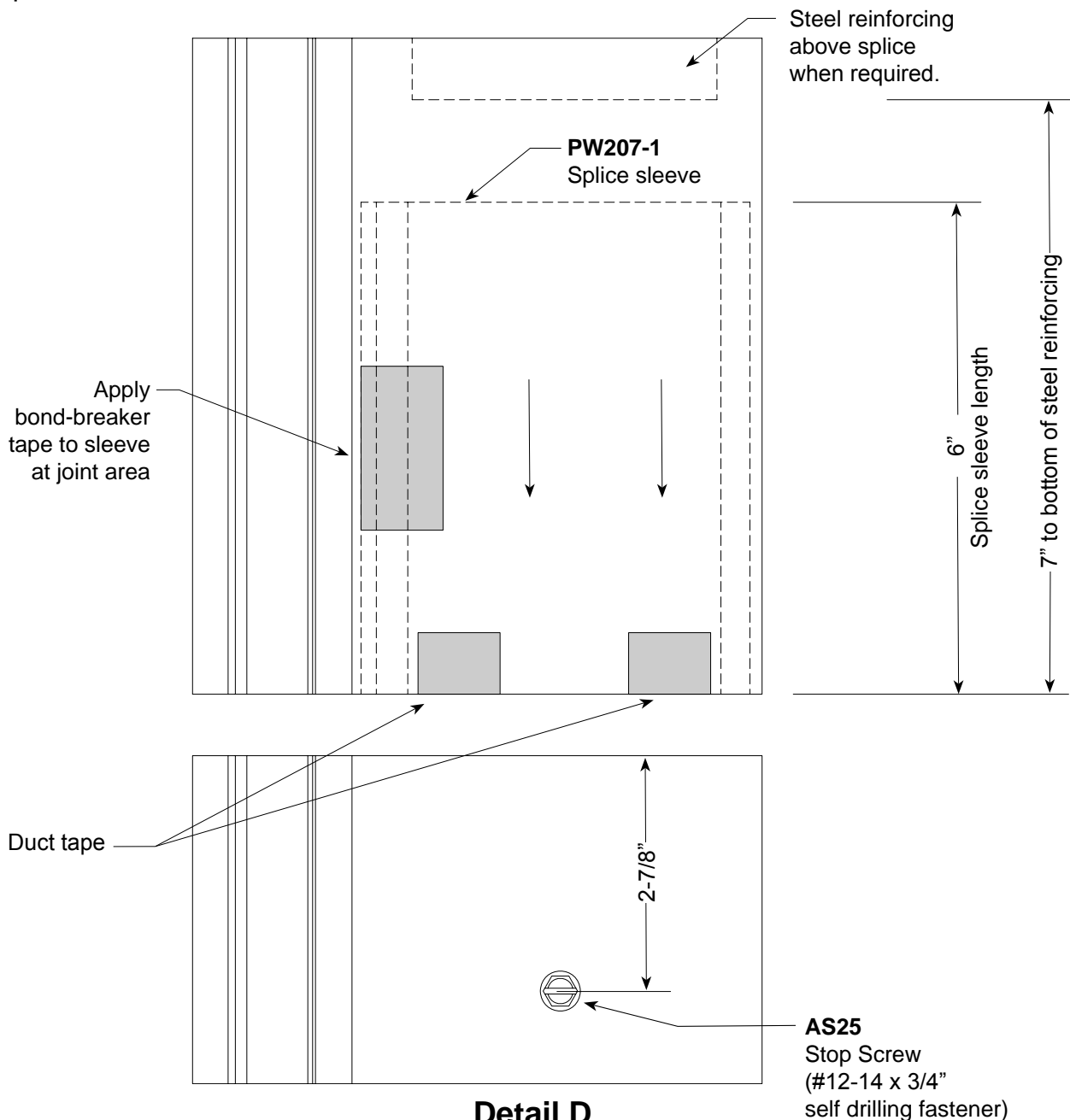
Detail C
Fixed Anchor
(Dead Load) shown

Note: Reference **Detail B** on **page 25** for wind load anchor.

SPLICE DETAIL Vertical Mullion - Multi-Span

STEP 3.

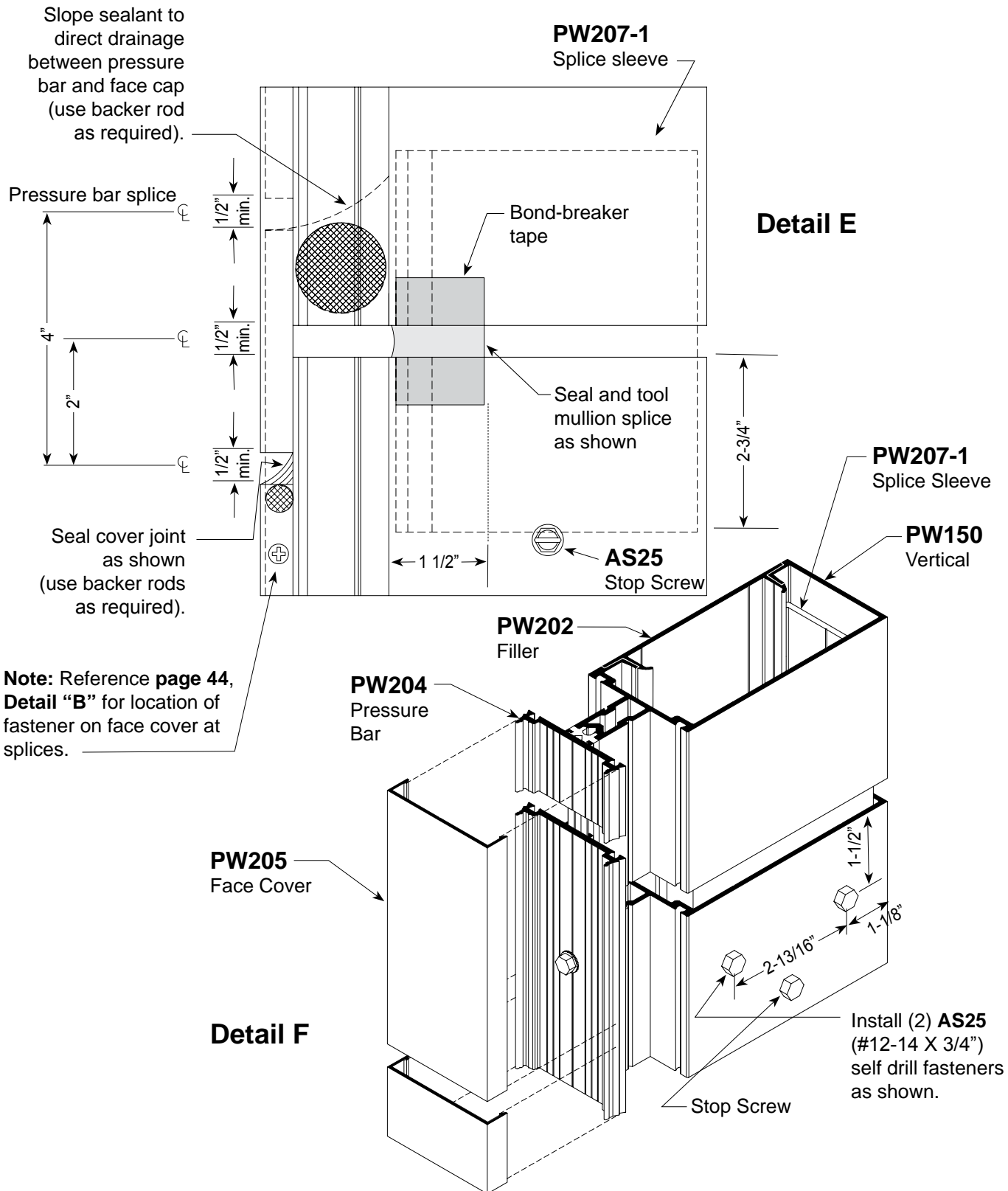
1. Clean splice sleeves and all joint surfaces. Apply bond breaker tape at areas where sleeve will be sealed to avoid three side adhesion.
2. Slide sleeve into the upper member before it is installed and use duct tape to hold it in retracted position.
3. Install **AS25** stop screw 2-7/8" from top of lower member as shown below.
4. Install upper member, remove duct tape and let extruded sleeve slide down until it rests on top of stop screw.
5. Seal joint over sleeve as shown on **Detail "F"** (page 28). Stagger joints on back members, pressure bars.



SPLICE DETAIL

Vertical Mullion - Multi-Span

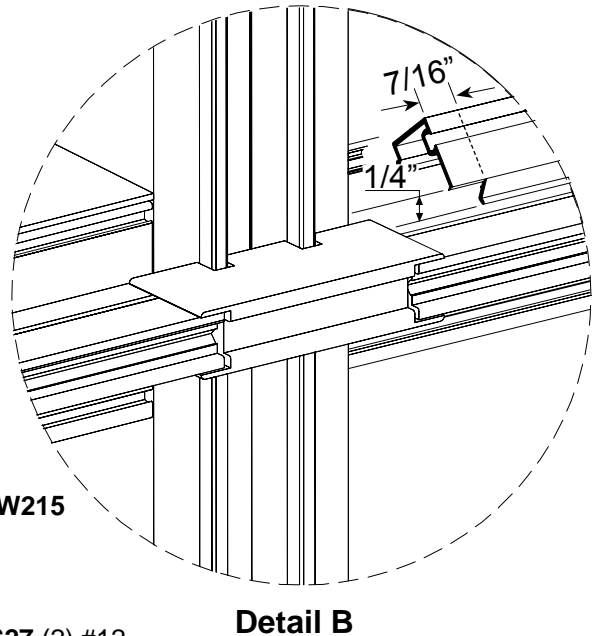
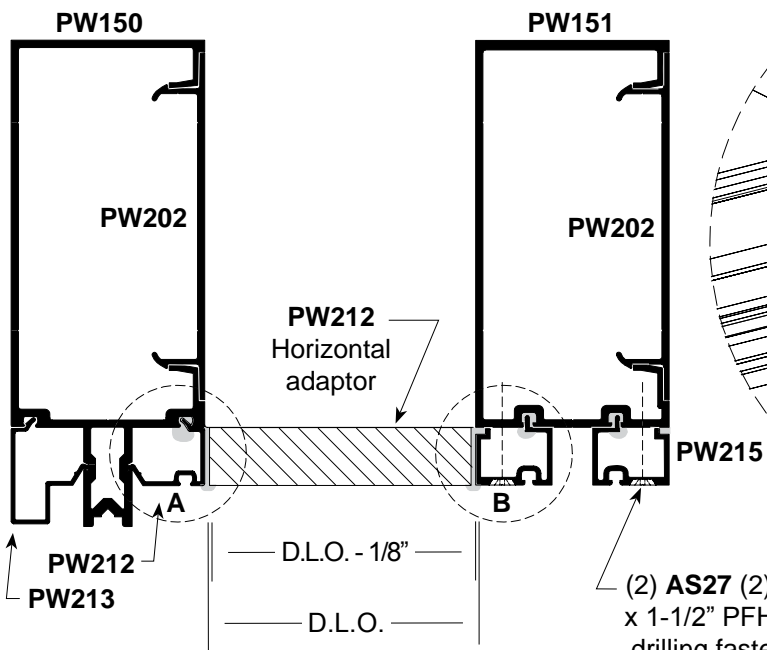
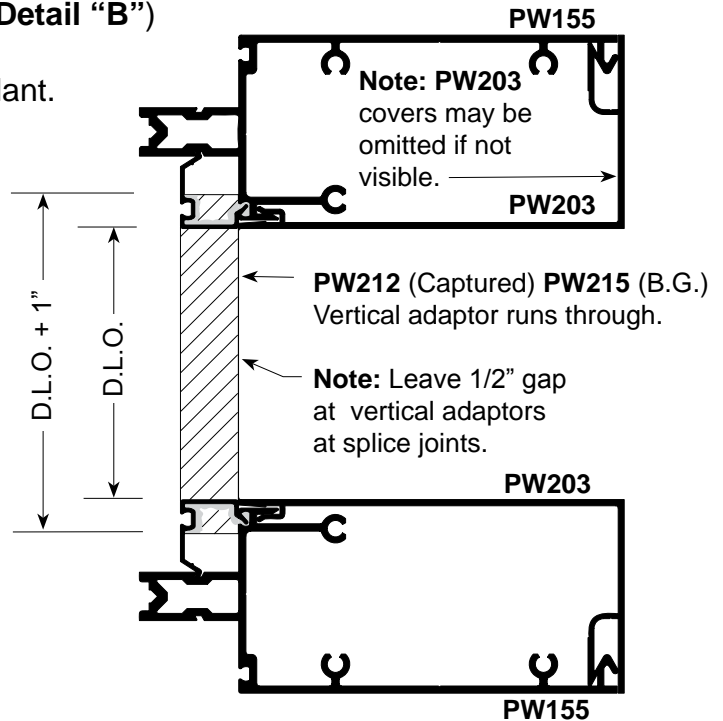
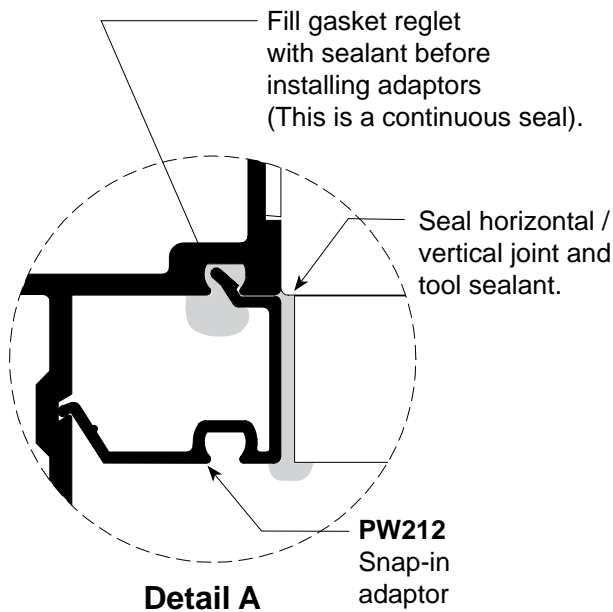
STEP 4.



FRAME INSTALLATION

1/4" Transition Glazing at Captured or B.G. Mullion

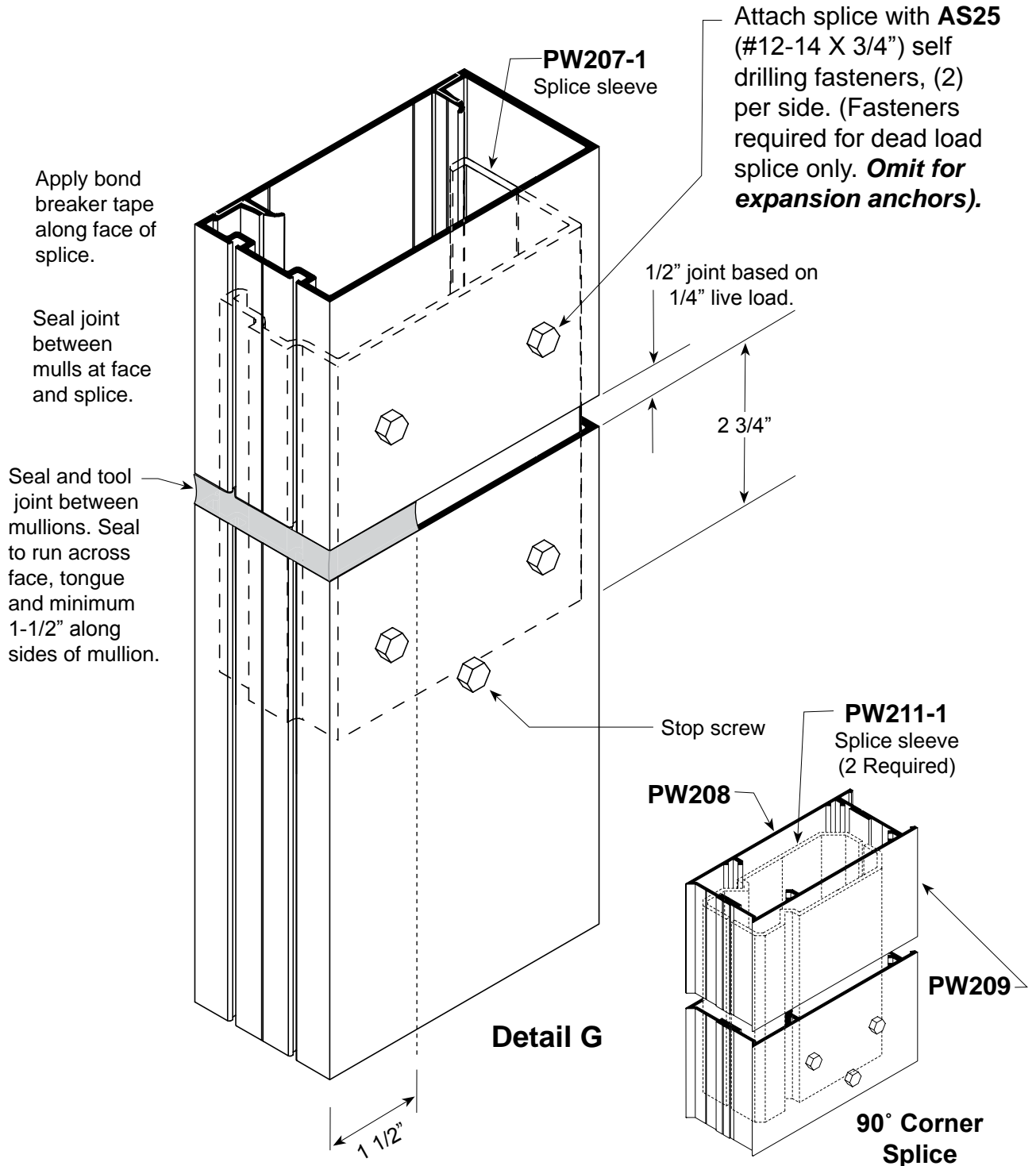
- STEP 1.** Apply sealant into gasket reglets before installing transition adaptors.
- STEP 2.** Install vertical adaptors first. Attach **PW215** with **AS27** fastener approximately 3" from each end and 18" O.C.
- STEP 3.** Notch horizontal adaptors at intersection of captured and B.G. verticals as shown. (See **Detail "B"**)
- STEP 4.** Install horizontal adaptors and seal horizontal / vertical joints. Tool Sealant.



(2) **AS27** (2) #12 x 1-1/2" PFH self drilling fastener. (See **Step 2**).

FRAME INSTALLATION B.G. Splice Sleeve

STEP 1.

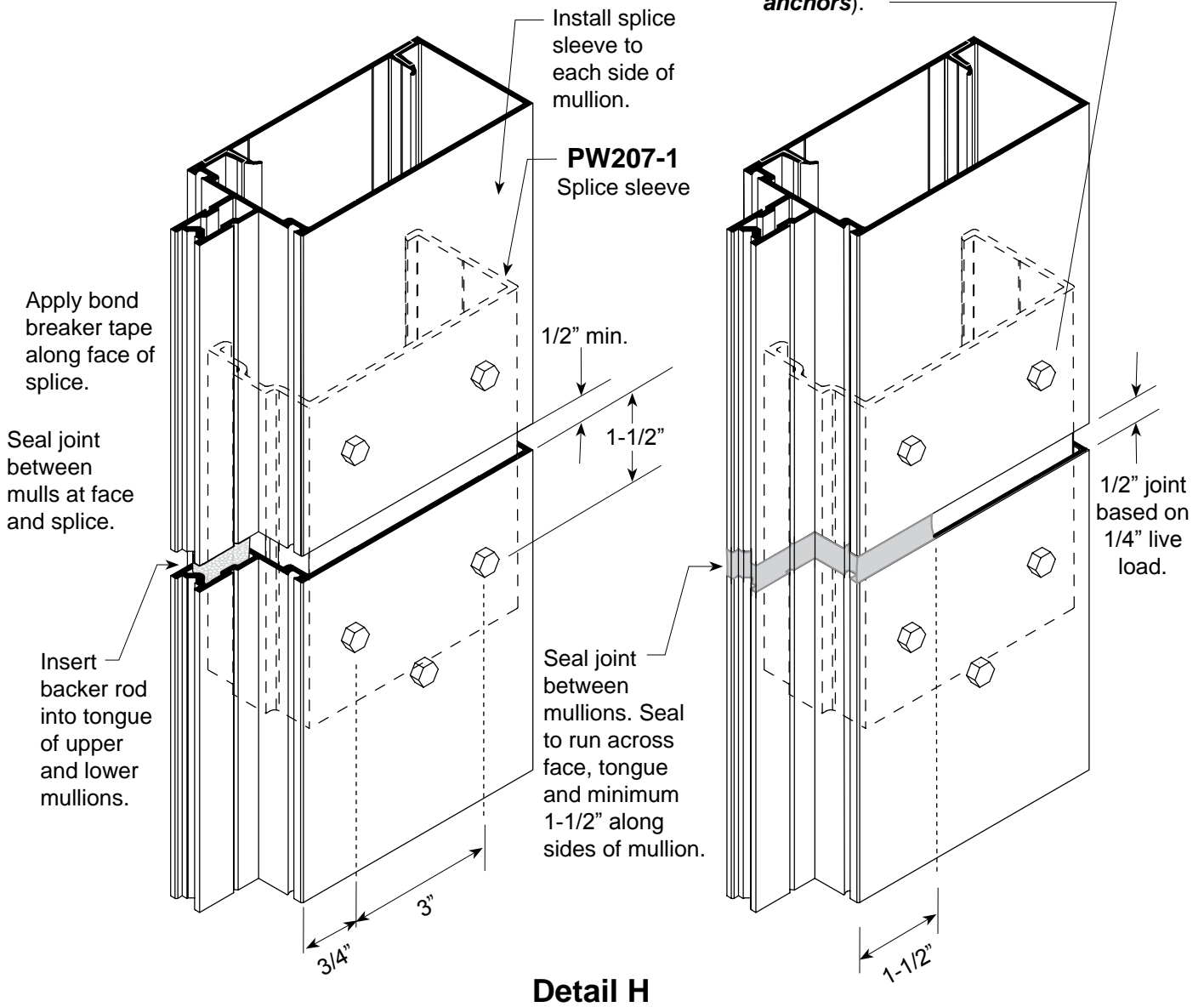


FRAME INSTALLATION

Splice Sleeve

STEP 1.

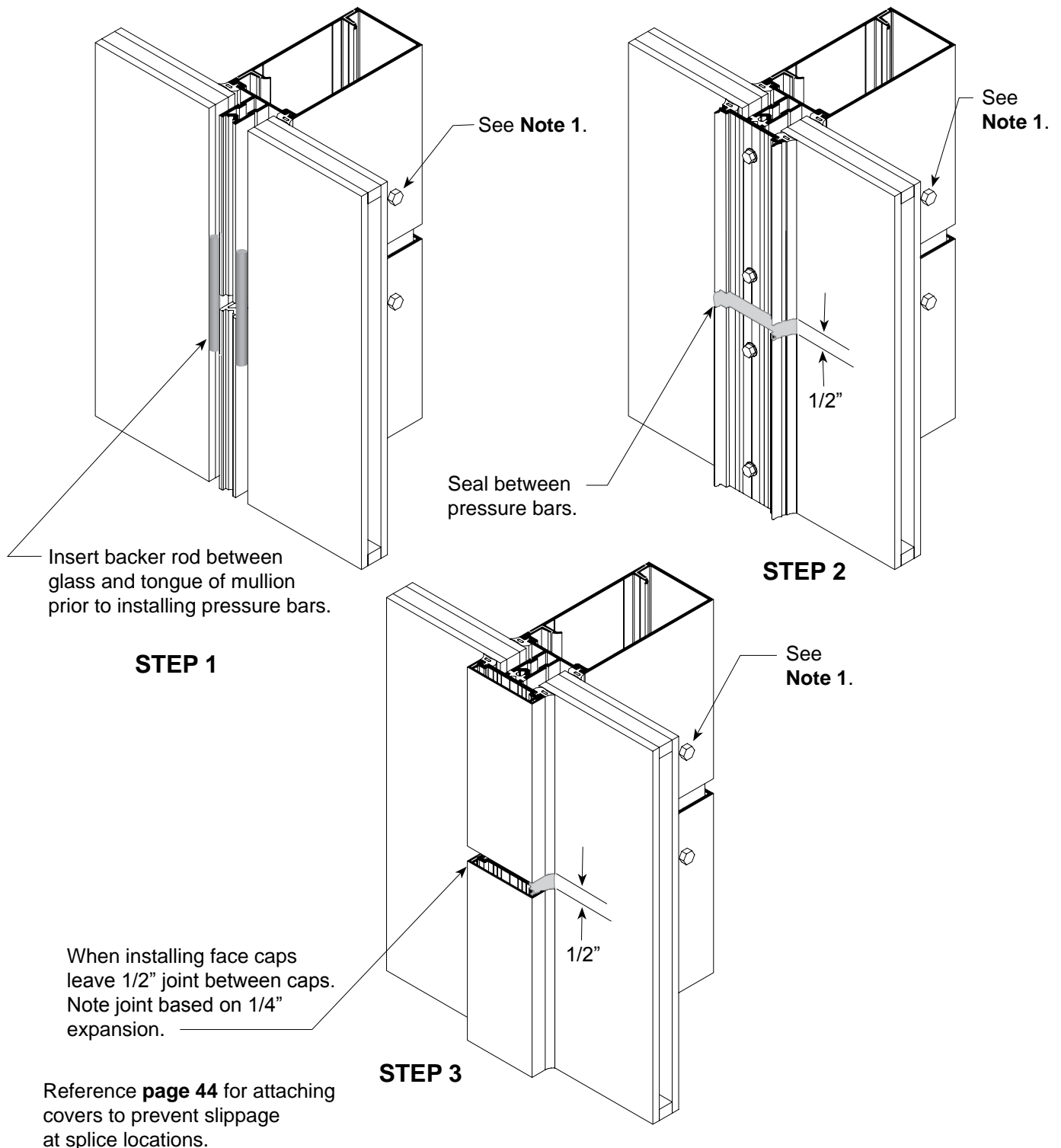
Attach splice with **AS25** #12-14 X 3/4" self drilling fasteners, (2) per side. (Fasteners required for dead load splice only. **Omit for expansion splices**).



FRAME INSTALLATION

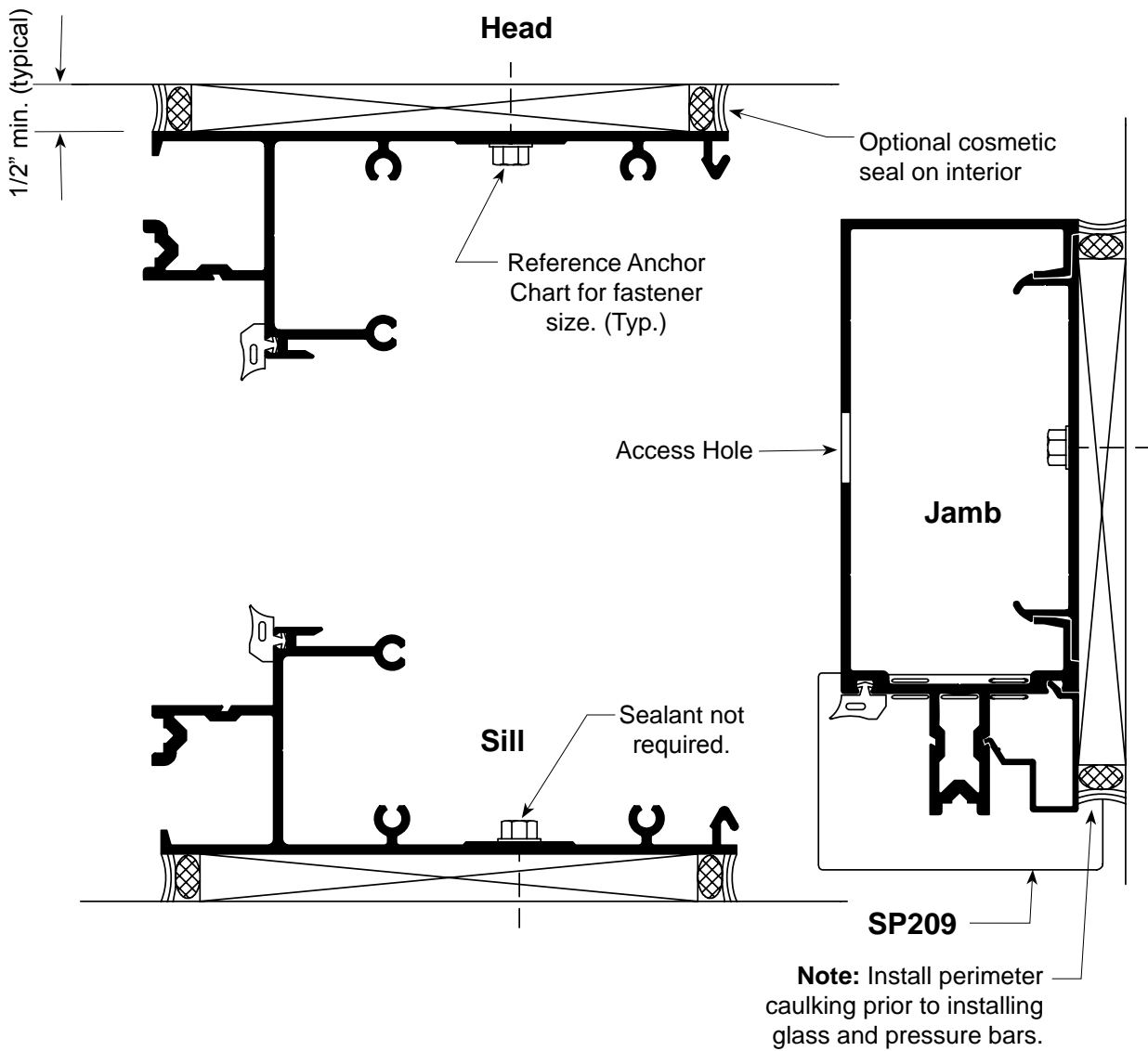
Vertical Mullion Splicing

Note 1: Do not install fasteners on upper half for expansion anchors.



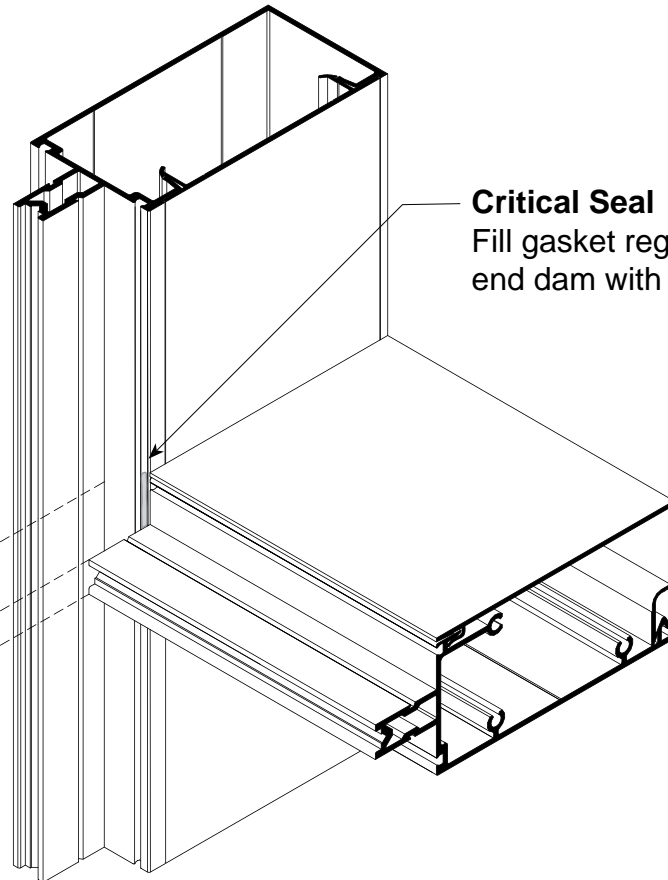
FRAME INSTALLATION Perimeter Sealant Locations

STEP 1. Once all frames are installed and the system has been anchored to the substrate, apply weather sealant around the entire perimeter. See details below for the correct location of the perimeter sealant and backer rod. **Interior** cosmetic seal is optional.



FRAME INSTALLATION

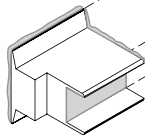
End Dams



Critical Seal
 Fill gasket reglet behind end dam with sealant.

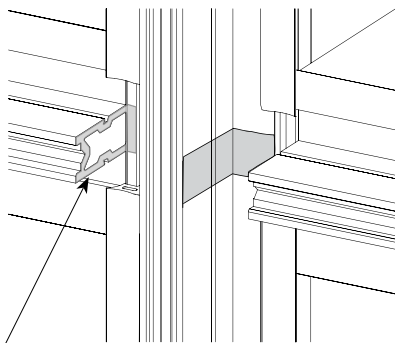
Critical Seal
 Apply sealant to all three contact surfaces prior to installation as shown.

SP203
 End Dam



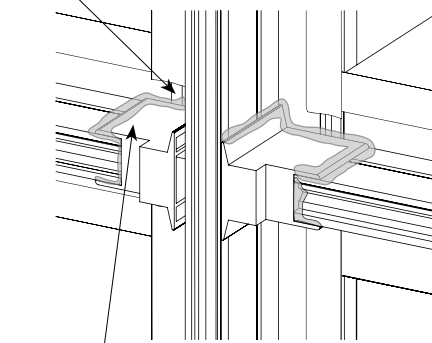
Note: SP203 End Dam required at all joints (head, sill, intermediate horizontals)

Force sealant into gasket reglet.



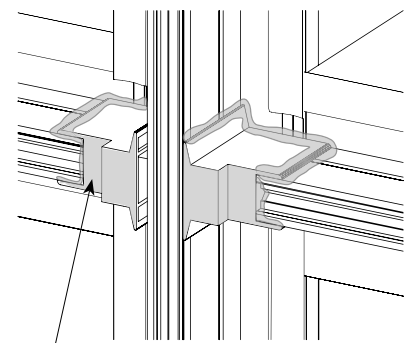
Seal along tongue of horizontal across face and tongue of mullion before installing **SP203** end dams.

STEP 1



Tool sealant along top of end dam to form a water tight seal.

STEP 2



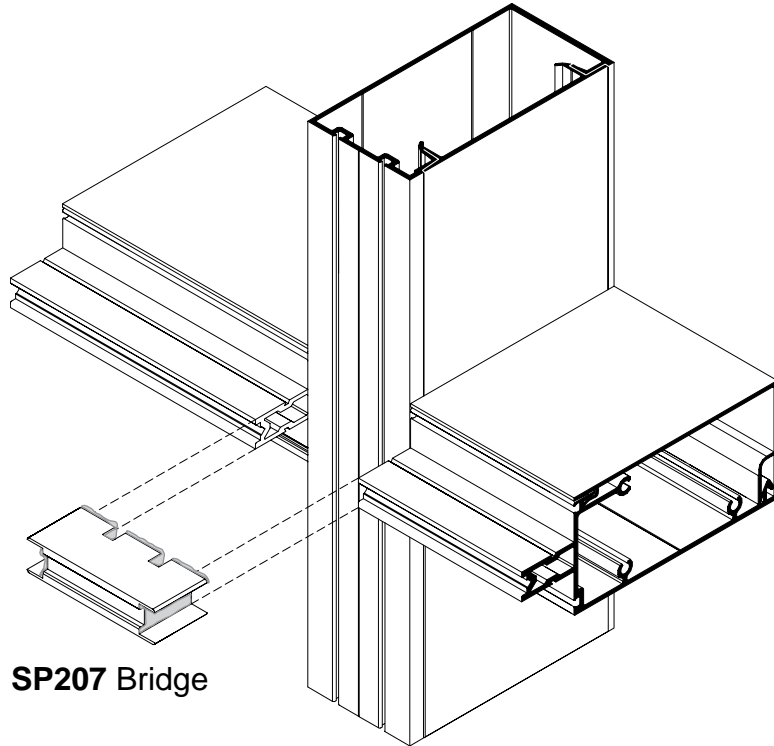
Apply sealant to face of end dam just prior to installing vertical pressure bar.

STEP 3

B.G. FRAME INSTALLATION Bridges

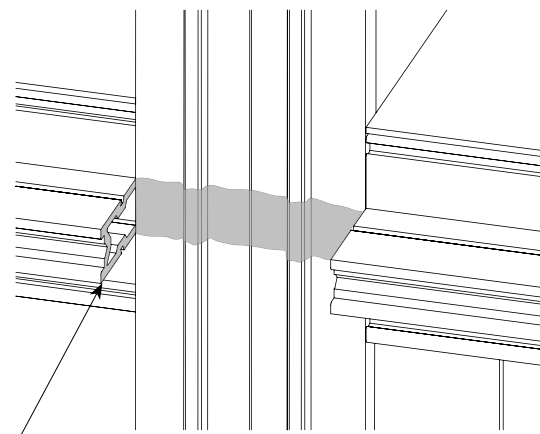
Critical Seal

Apply sealant to all three contact surfaces prior to installation as shown.



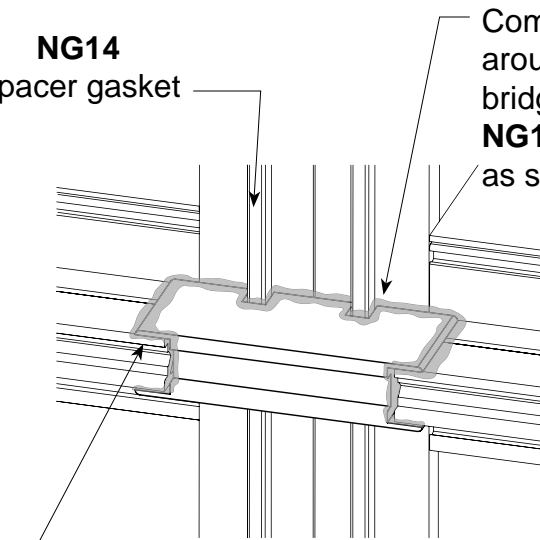
NG14 Spacer gasket

Completely seal around **SP207** bridge and **NG14** gasket as shown.



Seal along tongue of horizontal and across face of mullion before installing **SP207** bridge.

STEP 1.

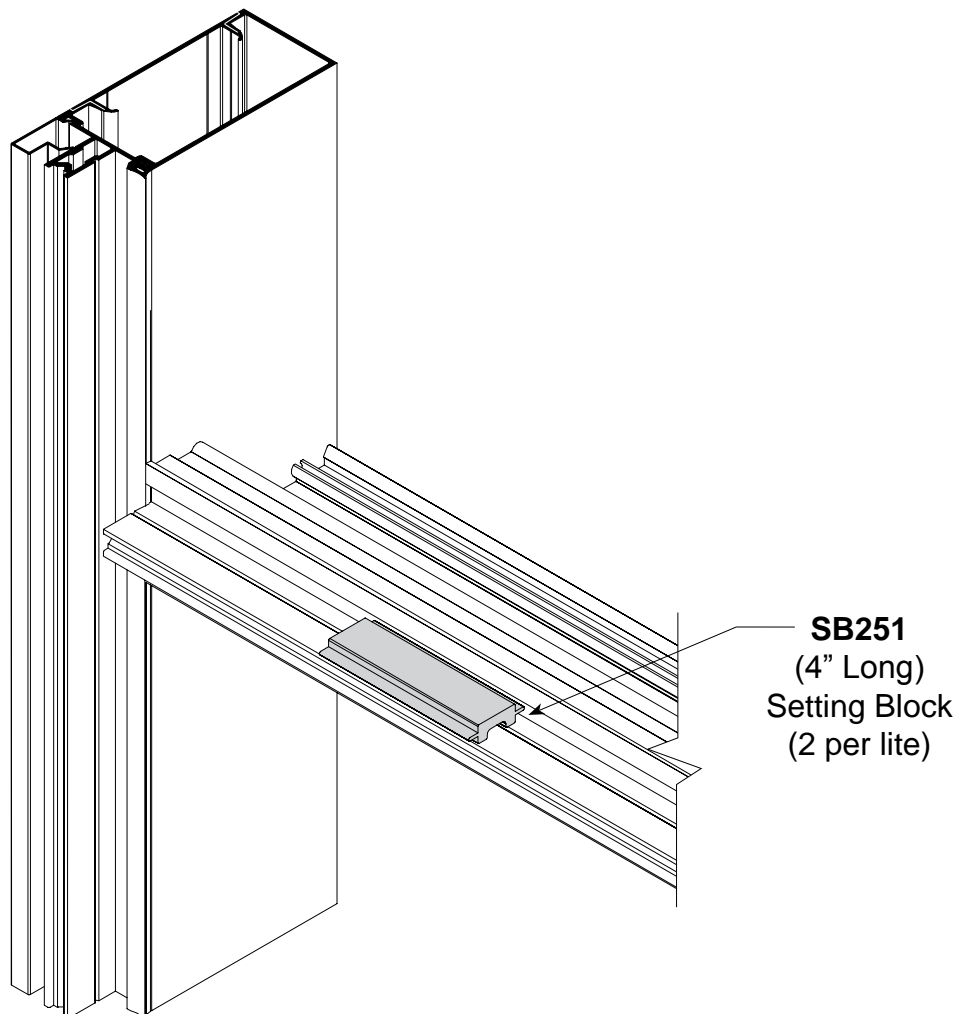


Tool sealant along top and sides of bridge to form a water tight seal.

STEP 2.

GLAZING Setting Block Installation

Locate two setting blocks on each sill and intermediate horizontal member as shown. Reference **Dead Load Charts** for this system in *Architectural Detail* book and/or shop drawings for correct location based on glass size.



GLASS SIZE FORMULAS Captured and B.G. Mullions

Glass Sizes for Captured System:

Glass Width and Height = D.L.O. + 1"

Glass Sizes for Butt Glazed System: (See Detail A below)

Glass Height = D.L.O. + 1"

Glass Width (Butt Glaze on Both Sides) = D.L.O. + 2"

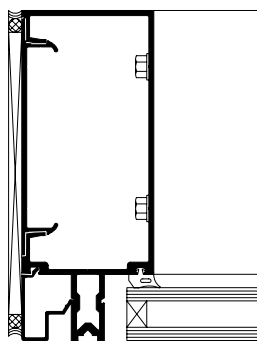
Glass Width (Butt Glaze on One Side and
 Captured on the Other Side) = D.L.O. + 1 1/2"

Glass Width at 90° Corner:

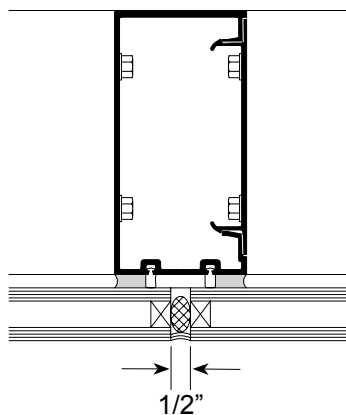
With Captured Intermediate Vertical = D.L.O. + 1"

With B.G. Intermediate Vertical = D.L.O. + 1-1/2"

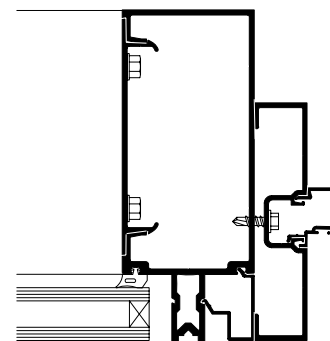
Note: Glass tolerances are not addressed in the above formulas. Consult the glass manufacturer for glass tolerances prior to ordering. Structural silicone must be applied from the interior and weatherseal from the exterior.



**WALL
 JAMB**



**INTERMEDIATE
 B.G. VERTICAL**

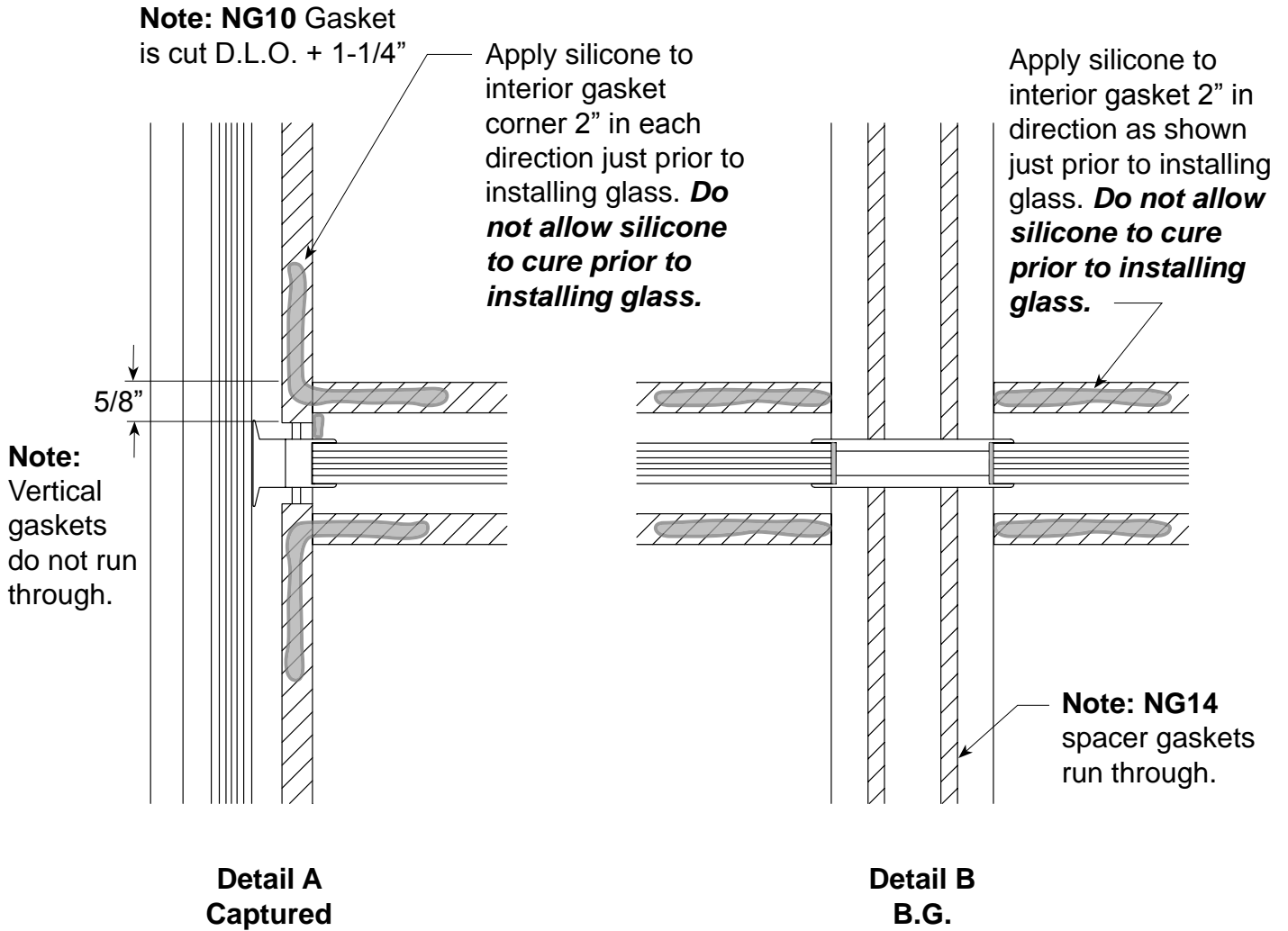


DOOR JAMB

Detail A

GLAZING

Sealant at Interior Gasket Corners



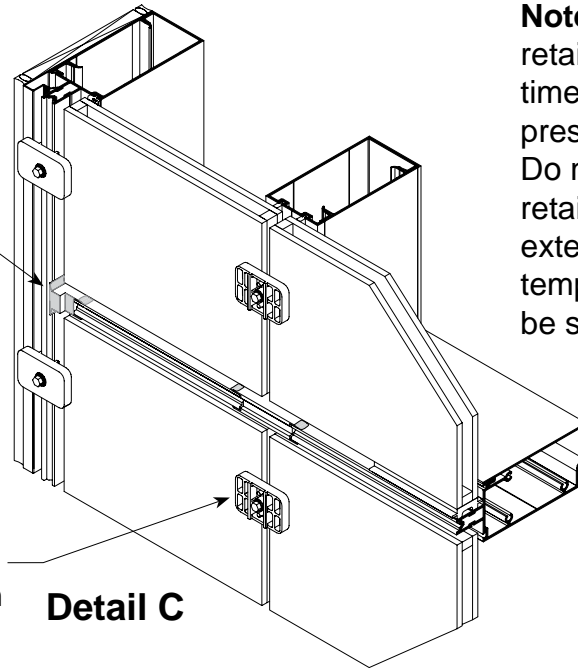
GLAZING Glass Installation

Step 1.

Install glass and center in opening. Retain glass with **SP253** temporary retainers. Retainers should remain in place until structural silicone has fully cured on B.G. Mullions.

Apply sealant to face of end and bridge dams just prior to installing the pressure bars.
Critical seal.

Note: Remove temporary retainers one mullion at a time and install **PW204-1** pressure bars. Do not rely on temporary retainers to hold glass for extended periods. **SP253** temporary retainers should be saved and reused.



Leave **SP253** temporary retainers on B.G. Mullion until silicone has cured. Then remove and apply exterior cosmetic seal.

Detail C

Torque **SP253** Temporary glass retainer to 30 in. lbs.
Do not over torque.

AS32

PW202

PW151

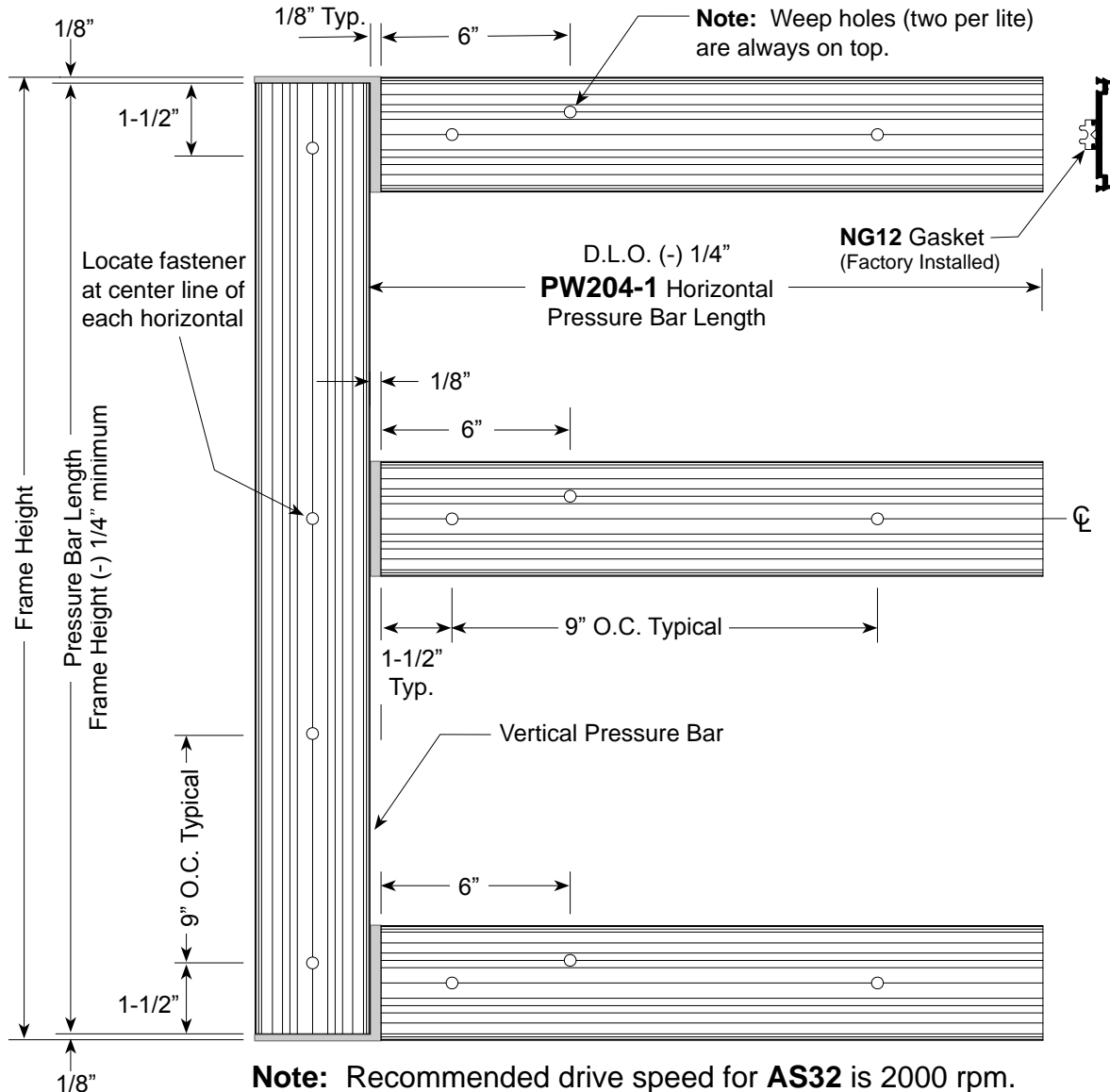
Note: For B.G. Installation, position smooth side of **SP253** against glass. Use (#12-14 x 2") self drill screw to attach **SP253** at B.G. Mullion. **Do not use these fasteners for attaching PW204 pressure bars.**

Detail D

GLAZING

Pressure Bar Installation - Captured

Install **AS32** vertical pressure bar fasteners from bottom to top and horizontal pressure bar fasteners from center outward. Make sure one fastener is located 1-1/2" maximum from vertical/horizontal joint intersections to ensure proper pressure over end dams. **While installing pressure bar fasteners, take care not to disengage NG12 pressure bar spacer.**

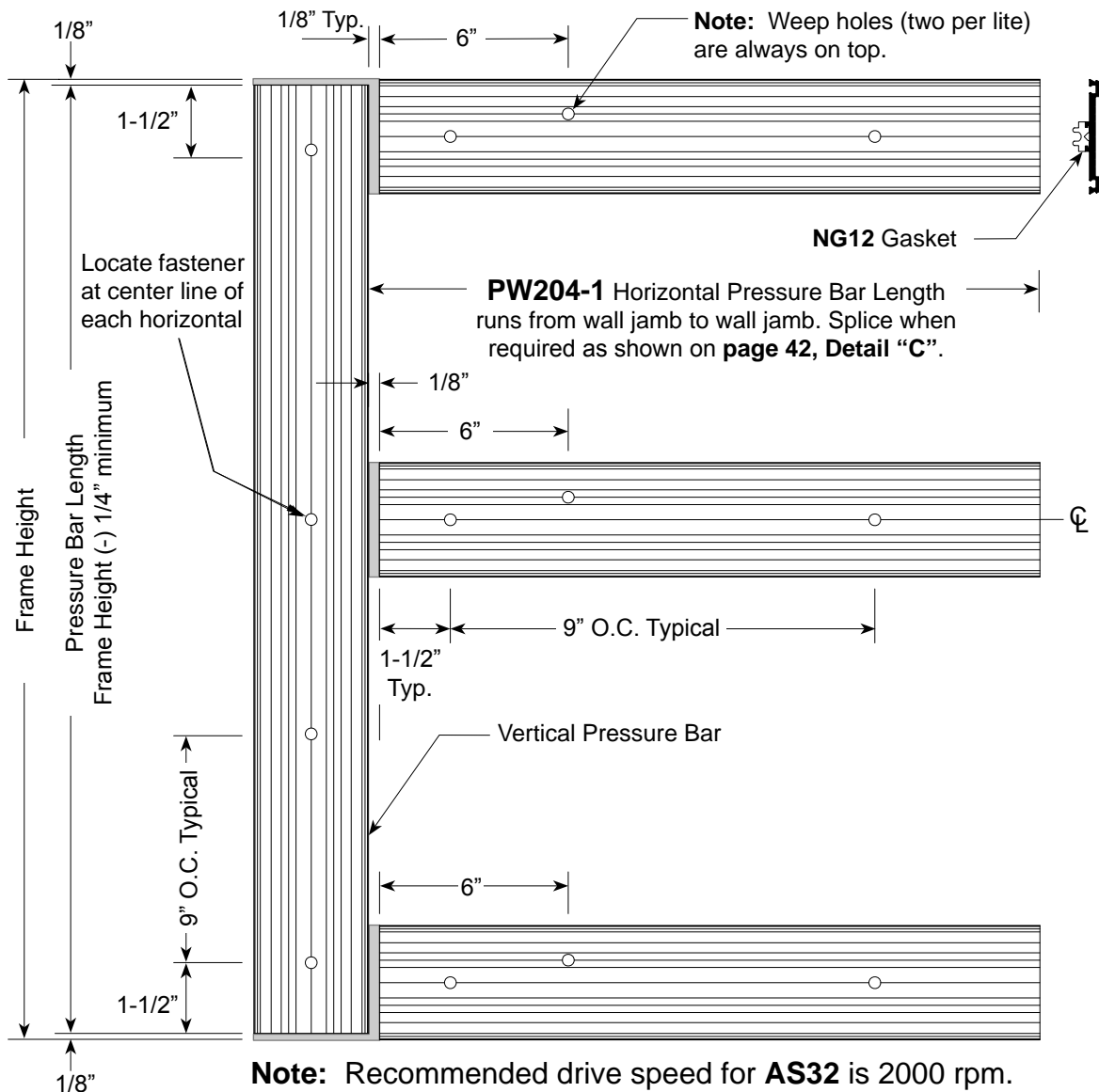


- Step 1.** Attach vertical pressure bars leaving a 1/8" gap at top and bottom with **AS32** (#12 x 1-1/4") #3 self-drilling fasteners. Using electrically powered hand held drill/driver, torque **AS32** fasteners to 85-90 in. lbs. If using battery power tools, *it is recommended that installer frequently check for accurate torque settings, as battery power will diminish over time.*
- Step 2.** Center horizontal pressure bars in opening leaving a 1/8" gap at each end and attach.
- Step 3.** Seal gaps at vertical/horizontal intersections and at top and bottom of vertical pressure bars.

GLAZING

Pressure Bar Installation - B.G.

Install **AS32** vertical pressure bar fasteners from bottom to top and horizontal pressure bar fasteners from center outward. Make sure one fastener is located 1-1/2" maximum from vertical/horizontal joint intersections to ensure proper pressure over end dams. **While installing pressure bar fasteners, take care not to disengage NG12 pressure bar spacer.**



- Step 1.** Remove temporary retainers one mullion at a time. Attach vertical pressure bars leaving a 1/8" gap at top and bottom with **AS32** (#12 x 1-1/4" #3 self-drilling fasteners). Using an electrically powered hand held drill/driver, torque **AS32** fasteners to 85-90 in. lbs. If using battery power tools, *it is recommended that installer frequently check for accurate torque settings, as battery power will diminish over time.*
- Step 2.** Center horizontal pressure bars in opening leaving a 1/8" gap at each end and attach.
- Step 3.** Seal gaps at vertical/horizontal intersections and at top and bottom of vertical pressure bars.

PRESSURE BAR INSTALLATION At B.G. Mullions

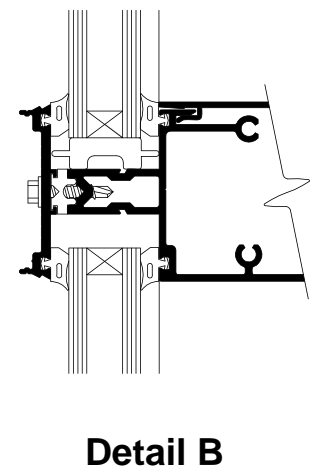
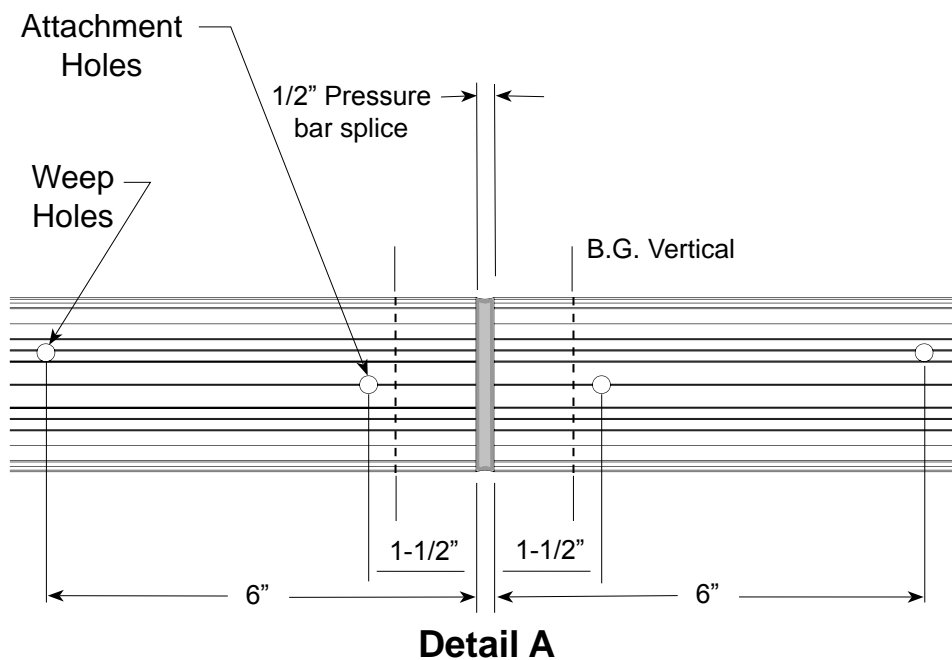
1. Remove temporary retainers one vertical at a time and install pressure bars using **AS32** (#12 x 1-3/4") #3 self-drilling fasteners and a cordless adjustable clutch driver/drill with a 3/8" driver. Torque fasteners to 85-90 inch pounds. Periodically check the torque setting on the adjustable clutch driver/drill.
Note: Recommended drive speed for **AS32** is 2000 rpm.

2. Install wall jamb pressure bar fasteners from bottom to top and horizontals from center outward. Locate **AS32** fasteners 1-1/2" maximum from vertical/horizontal intersections to ensure proper pressure over end and bridge dams.
 Reference **Step 8, page 12**.

3. Remove temporary retainers from horizontals, one bay at a time, and center horizontal pressure bars in opening leaving 1/8" gaps at ends and 1/2" at splice joints. Attach with **AS32** fasteners, reference **page 41** and **Detail "A"** below.

4. Upon completion of pressure bars installation and just prior to installing face covers, seal all gaps at intersection of vertical/horizontal pressure bar joints and tool the sealant.

5. Seal between pressure bar & face cover splices. Keep sealant away from face cover snap area.

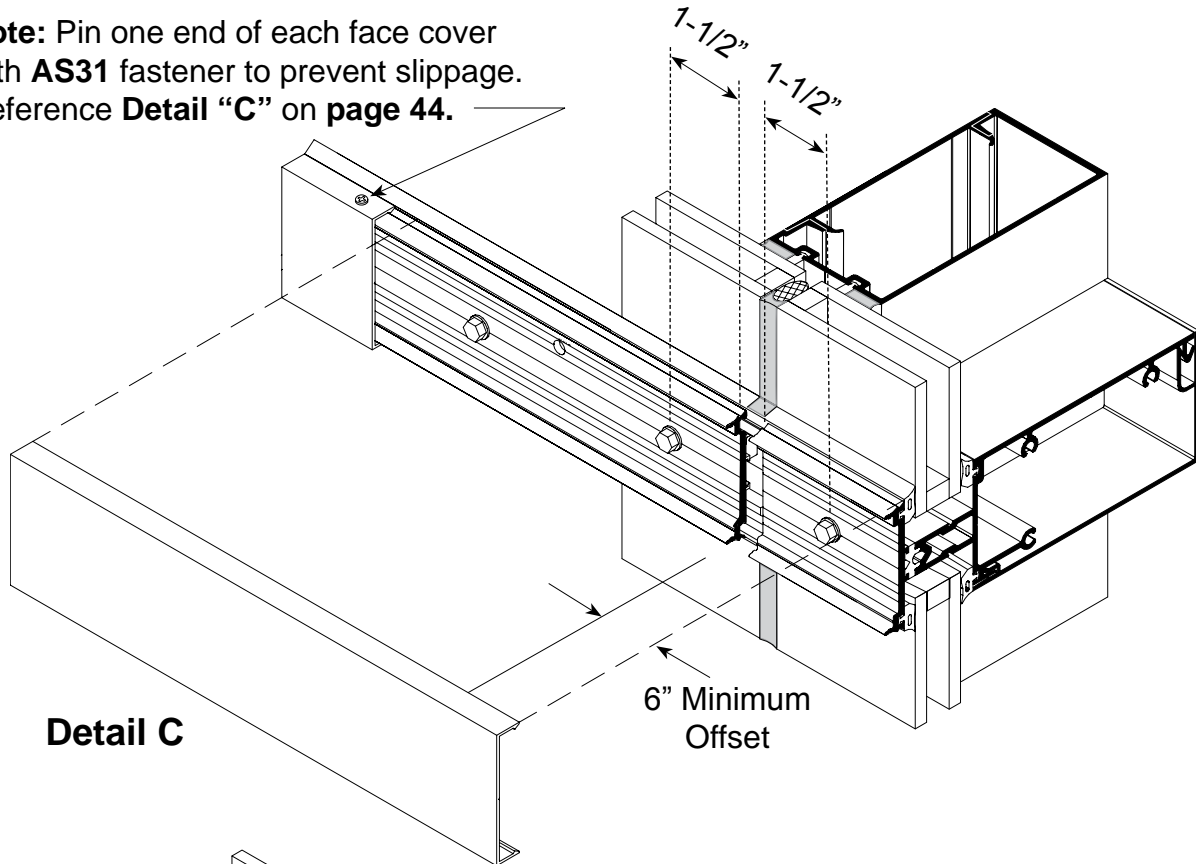


Pressure bar splicing & sealing at B.G. Mullions
(Intermediate Horizontal shown; Head & Sill similar)

HORIZONTAL FACE COVER Splice Joints - B.G. Installation

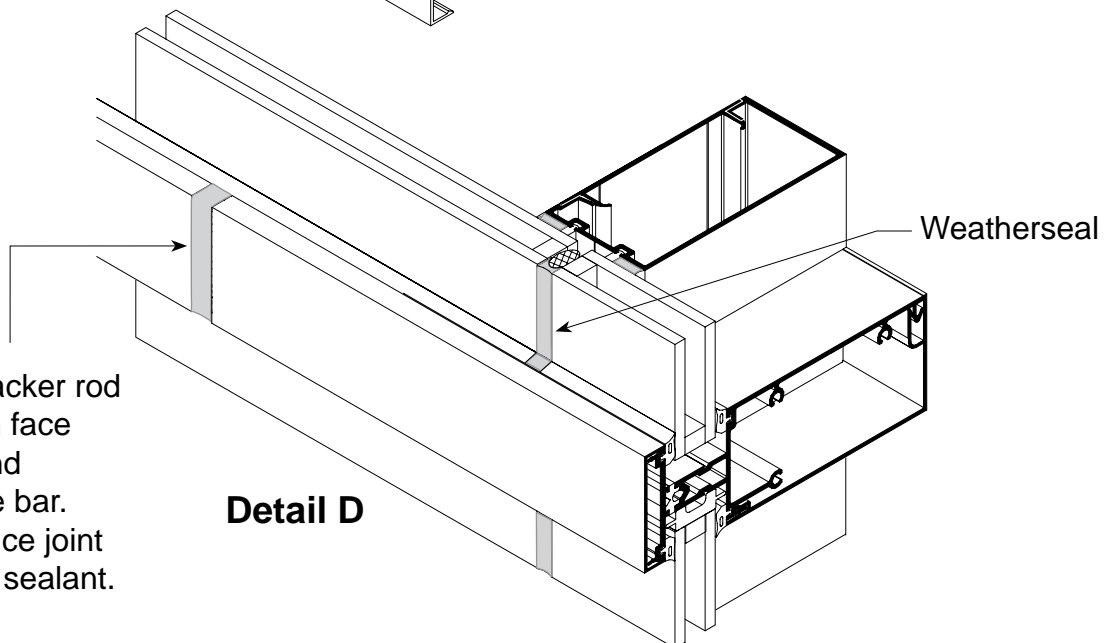
1. Locate 1/2" wide splice joints at center line of vertical members.
2. Do not align face cover splices directly over pressure bar splices. Offset 6" minimum.
See **Detail "C"**.
3. Set backer rod between face cover and pressure bars at joint and seal. Tool sealant.
See **Detail "D"**.

Note: Pin one end of each face cover with **AS31** fastener to prevent slippage. Reference **Detail "C"** on page 44.



Detail C

6" Minimum
Offset



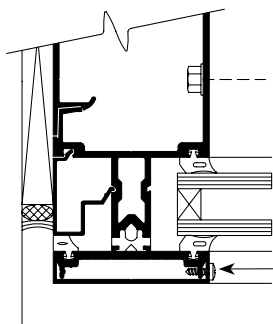
Weatherseal

Insert backer rod
between face
cover and
pressure bar.
Seal splice joint
and tool sealant.

Detail D

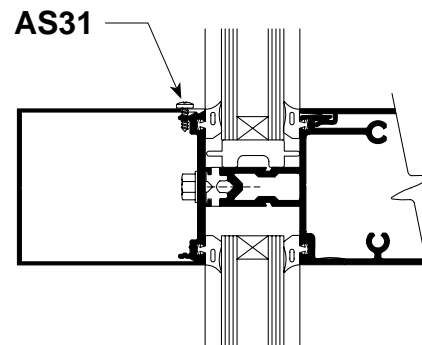
FACE COVER INSTALLATION

1. Care must be taken to prevent damage of face covers during installation. Use a piece of wood such as 2" x 4" approximately 8-10" long and a 3" diameter Stanley 3 lb. Compo-Cast dead blow soft face hammer.
2. Install vertical face covers first. Do not displace top and bottom mullion caps when installing face covers. Pinning of vertical face cover is required to prevent slippage. Use one **AS31** on each side per cut length, concealed behind horizontal face cover as shown. See **Detail B**.
3. Install snap-in horizontal face covers with the weep holes located on the bottom side.
4. Horizontal face covers exceeding 1-1/2" in depth must be pinned on top side with **AS31** fastener to prevent disengagement. Locate one fastener at mid-point for 3-5 ft. lengths. On longer lengths, locate at 3'-0" O.C. See **Detail C**.



AS31 (#6 x 3/8"
 PPH Type AB pt.)

Detail B

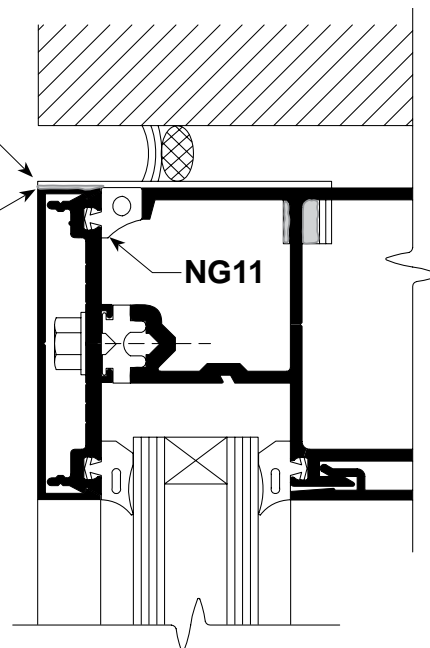


Detail C

SEALING MULLION END CAPS Top and Bottom (Top Shown - Bottom Similar)

SP209
 Mullion
 End Cap

1. Seal top and bottom of each vertical mullion end cap as shown.
Note: Vertical face covers are cut mullion length -1/4". Leave 1/8" gap at top and bottom.



Detail A

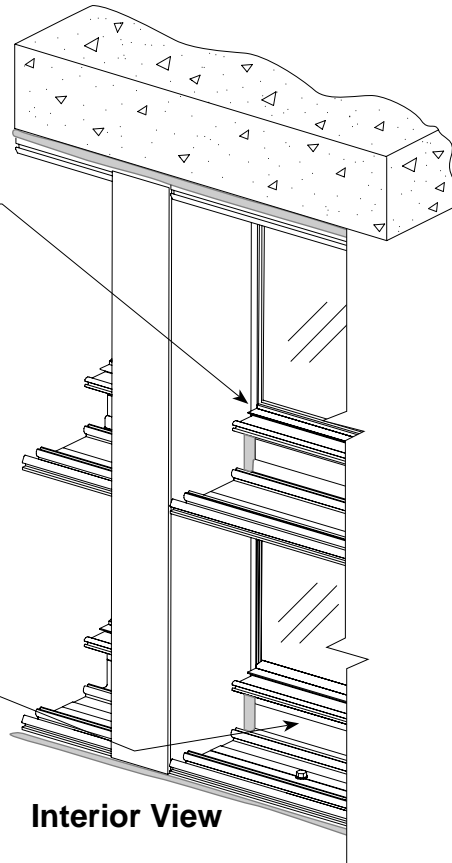
INTERIOR TRIM INSTALLATION

Checking Joinery Seals and Anchor Bolts

Note: Interior trim covers may be omitted in spandrel areas when not visible from interior.

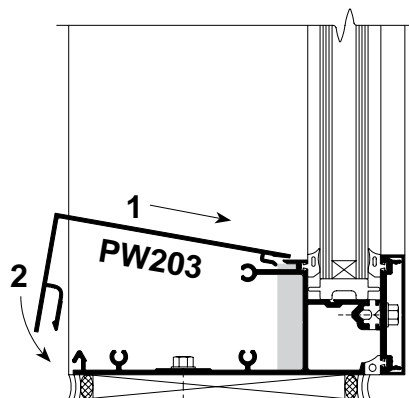
Step 1. Check seals at all vertical/horizontal joints and reseal if required.

Step 2. Check all perimeter anchor bolts to make sure they are installed and secure.



Detail A

Step 3. Insert **PW203** interior trim cover into receiver and snap downward into place. Use dead blow mallet and wooden block as required. Take care not to ding or bend cover.



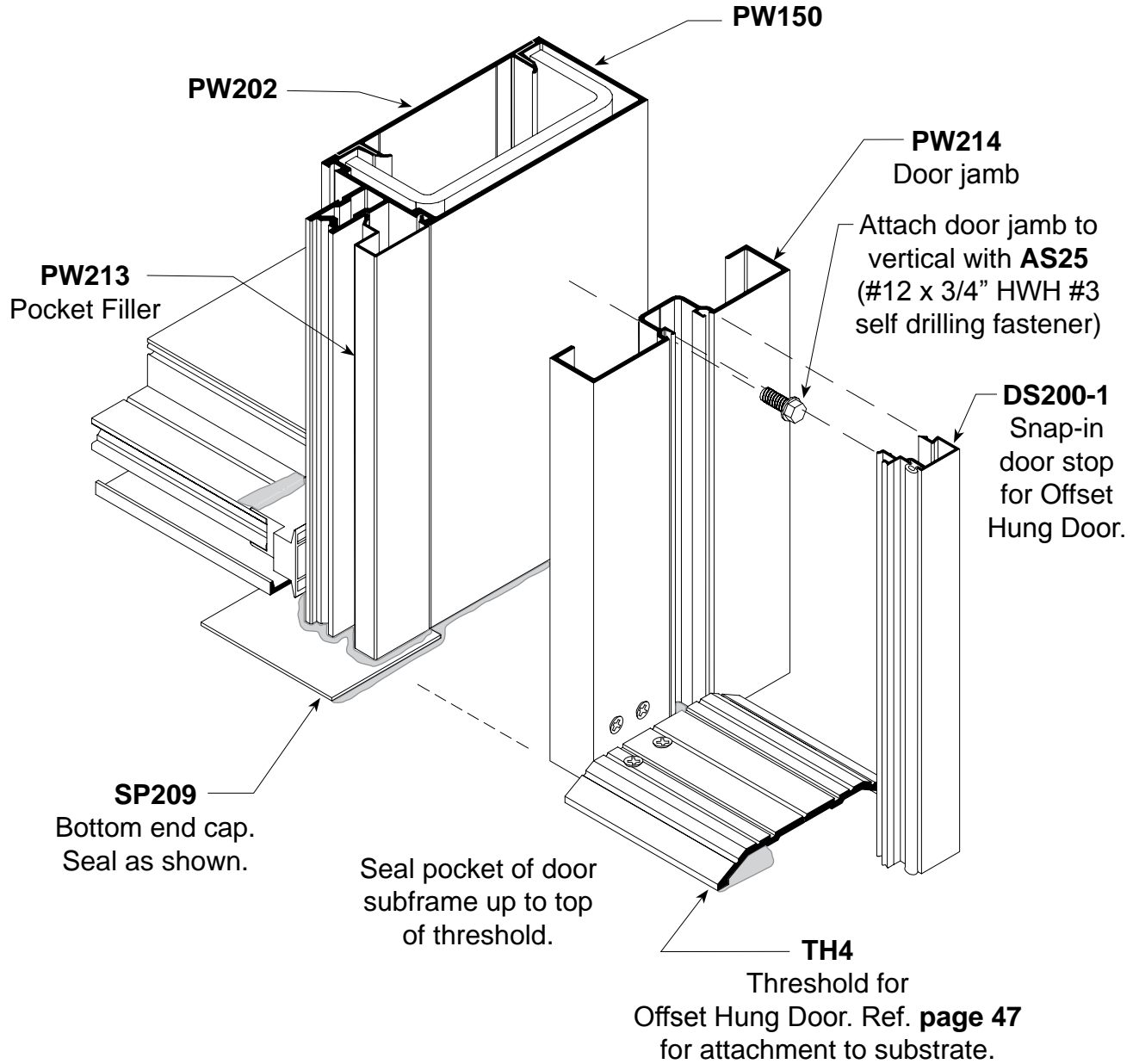
Sill shown, head and horizontal similar.

Exterior View

Detail B

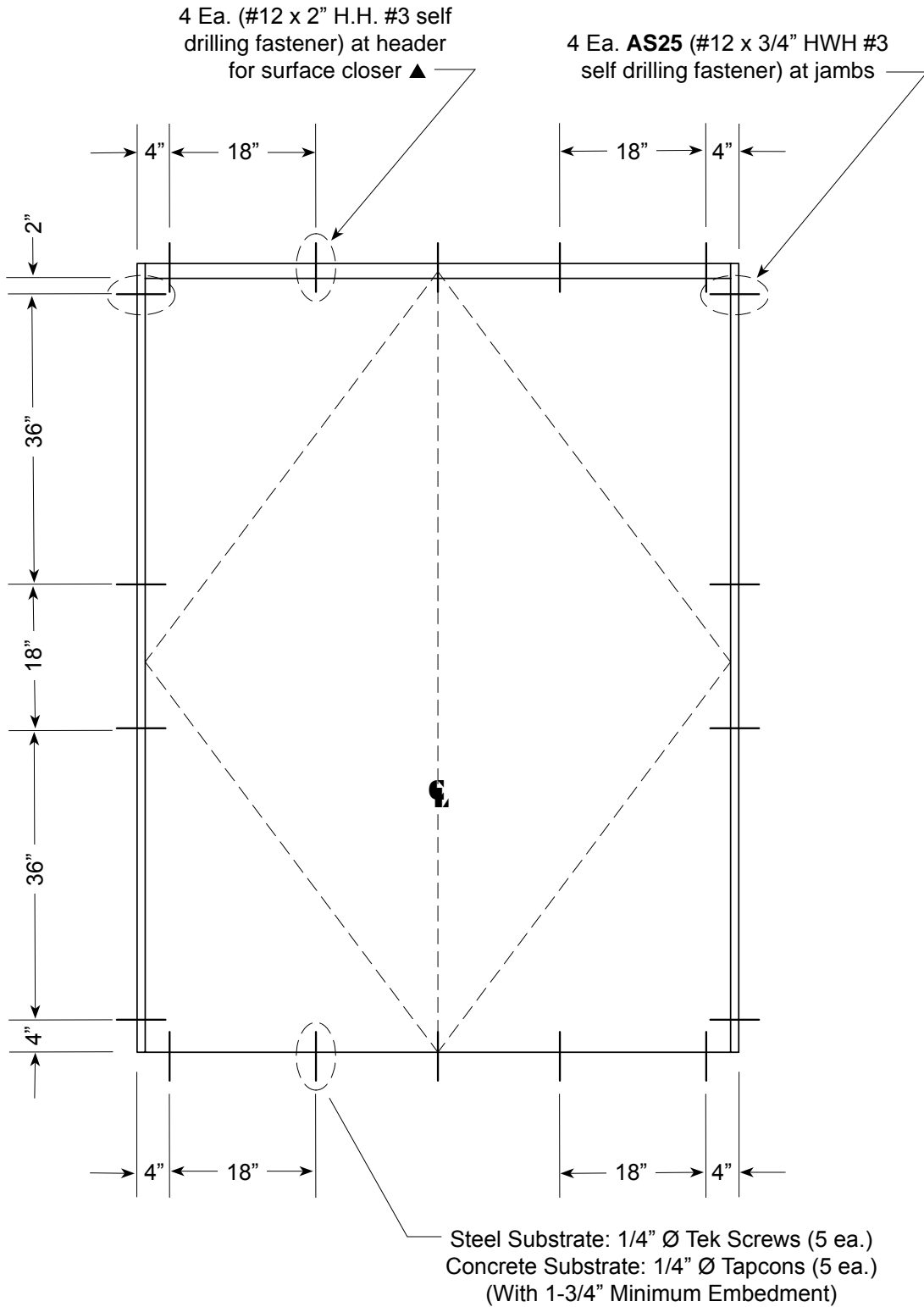
ENTRANCE SUBFRAMES

Note: Refer to **FRAMES & ENTRANCES** section of this manual for additional fabrication and installation instructions. Entrance Frames may be installed simultaneously with Curtain Wall or after Curtain Wall installation has been completed.



Offset Hung Door

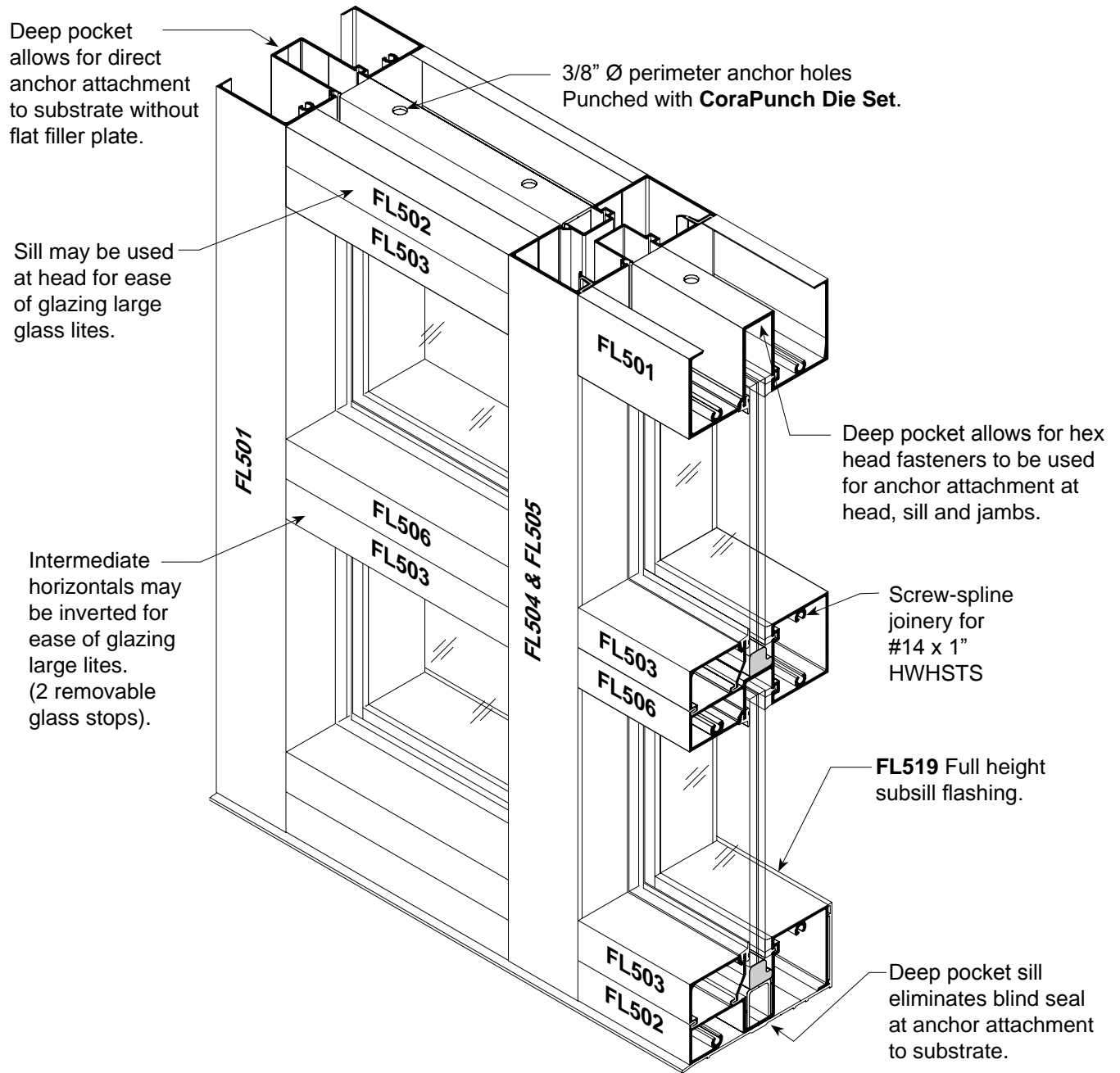
SUBFRAME FASTENER CHART

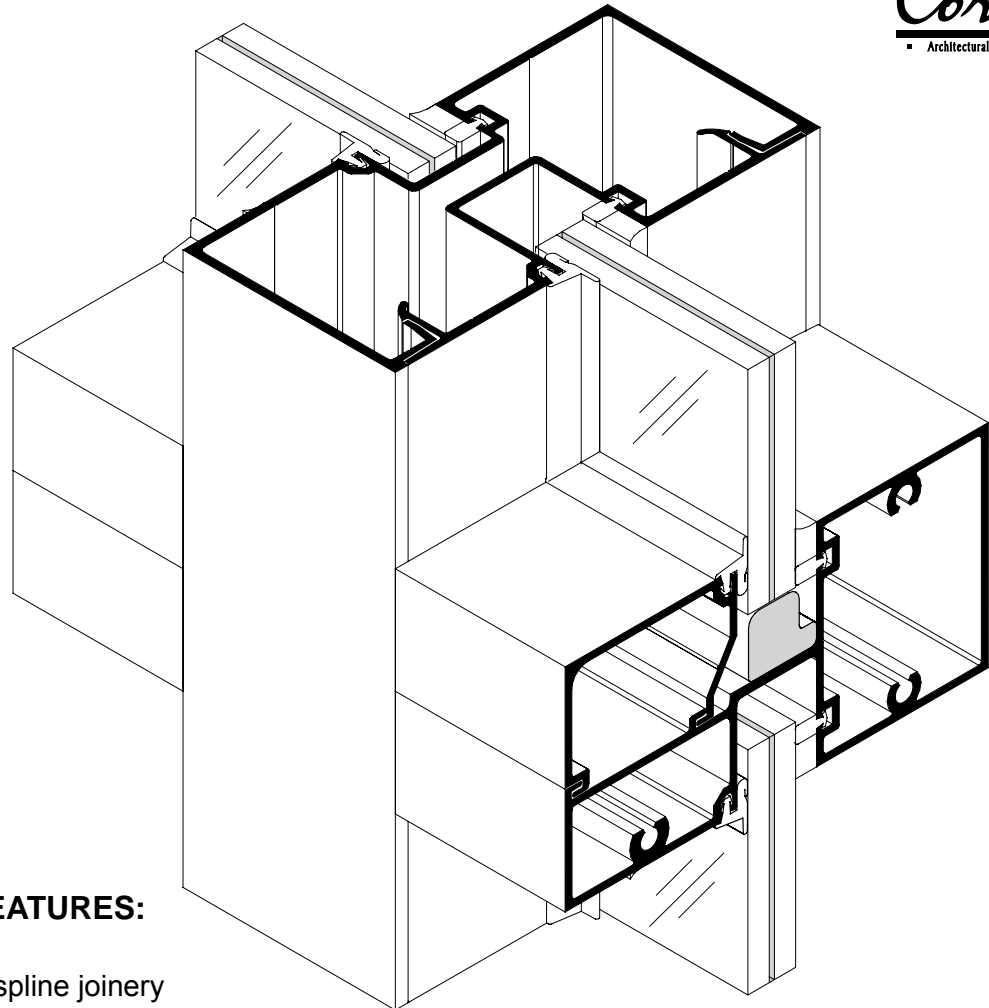


▲ For C.O.C. Tubular Header, use 4 ea. **AS25** with access holes concealed under **DS202-1** offset arm cover.

INSTALLATION INSTRUCTIONS

2 1/2" x 5" for 9/16" Laminated Glass





PRODUCT FEATURES:

- Screw-spline joinery
- **CoraPunch** or drill jig fabrication
- Panelized assembly
- Deep pocket perimeter sections:
 - Eliminates drilling access holes with blind seals
 - Eliminates flat filler plate at head and wall jambs
 - Allows for 3/8" diameter hex head anchor bolt attachment to substrate
 - Intermediate horizontals may be inverted for ease of glazing large lites
 - Sill may be used at head for ease of glazing large lites
- Heavy wall mullion option without steel
- Steel reinforcing attachment to mullions at head and sill only
- Tested with and without steel reinforcement at various design pressures
- Tested with 84" x 96" **Series 381 M.S.** impact-resistant entrance doors
- Tested with 72" x 84" **Series 281 N.S.** impact-resistant entrance doors
- Anodized finishing or factory applied thermosetting fluorocarbon powder coating option

To download 3-part specification, go to: www.coralind.com

These instructions are for typical conditions. Reference the Dade County Applications (Options and Limitations) for FL500 framing and for Series 281 or 381 impact resistant entrance doors. Always check www.coralind.com for the latest updates to these instructions prior to installation.

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INSTALLATION INSTRUCTIONS - General Notes -

Coral Series **FL500** (2-1/2" x 5") hurricane impact-resistant system was especially designed to meet the stringent Dade County, FL Building Codes for impact-resistant glass and framing systems. Series **FL500** successfully passed a series of large missile impact and cyclic wind tests with multiple impact-resistant glass compositions.

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

1. **REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. These installation instructions are of general nature and cover most conditions.
2. **INSTALLATION.** All materials shall be installed plumb, level and true.
3. **BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
4. **FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
5. **SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
6. **ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
7. **STRUCTURAL SEALANTS.**
 - A. **DOW 995** structural sealant was used on the Series **FL500** test specimen approved by Dade County for glass to metal adhesion. To comply with Dade County, FL Building Code Protocols, **DOW 995** sealant must be used for glass to metal adhesion with Series **FL500**.
 - B. Perimeter Sealants: Due to varying job conditions, all perimeter sealants used should be approved by the sealant manufacturer to ensure the sealant will function for the conditions shown on these instructions and shop drawings. Sealants must be compatible with all surfaces in which adhesion is required, including other sealants. Use primers where directed by sealant manufacturer. Be sure to properly store sealants at recommended temperature and check container for remainder of shelf life before using. **DOW 795** structural silicone was the perimeter sealant used on the Series **FL500** test specimen approved by Dade County.
8. **FASTENING.** This framing system must be assembled with the same type fasteners specified within these instructions. **FL500** framing system must be attached to the substrate(s) with the quantity and type fasteners shown in the anchor charts contained within these instructions. It is the installer's responsibility to ensure that the framing configuration selected conforms to all applicable state and/or local building codes for High

INSTALLATION INSTRUCTIONS - General Notes -

Velocity Wind Zones. Please reference the **Options and Limitation Charts for FL500 Framing and Approved Glass Types**. Where entrance doors are required, please reference the **Options and Limitation Charts for Series 281 and Series 381 Entrance Doors** for the proper selection that meets your job requirements. These Options and Limitation Charts are shown in the CORAL ARCHITECTURAL MANUAL and also maybe found at www.coralap.com. Select Products and then for Hurricane Impact-Resistant Products.

- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of it's products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.
- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (250 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
 - A. SHOP
 1. Cardboard wrapped or paper interleaved material must be kept dry.
 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 2. Cardboard wrapped or paper interleaved material must be keep dry. (See 13.A.2)
 3. Keep record of where various materials are stored.
 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.
- 16. GLASS.** Glazing gaskets are designed for a compression fit against glass and can accommodate (+/- 1/32"). Be sure to check overall size of glass size and thickness.

PRODUCT APPLICATION AND INSTALLATION

Series **FL500** hurricane impact-resistant storefront system was designed with screw spline joinery for simple fabrication and panelized installation, but should only be installed by glazing contractors employing personnel with the necessary installation and project management experience to handle these type projects.

FL500 hurricane impact-resistant storefront system requires the installer to pay close attention to the details shown within these ***Instructions*** and ***General Notes***. All critical seal areas must be done as shown.

OPTIONS and LIMITATIONS

*The laminated glass and mullions function as an integral unit. The combinations shown in the **Options and Limitation Charts** for **FL500** framing and **Series 281** and **381** entrance doors are based on actual performance testing and cannot be altered without sacrificing the integrity of the system.*

FRAME FABRICATION

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Note: Maximum caulk joint for Dade County, FL installation is 1/4".

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 5/8".

This allows 1/8" for subsill and a 1/4" caulk joint at the sill and head.

STEP 2.

Cut members to size.

- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.*
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

* **Note:** See **Page 30** for subsill condition abutting door frame.

Abbreviations used within these instructions:

D.L.O. = Day Light Opening

D.O.W. = Door Opening Width

D.O.H. = Door Opening Height

C.O.C. = Concealed Overhead Closer

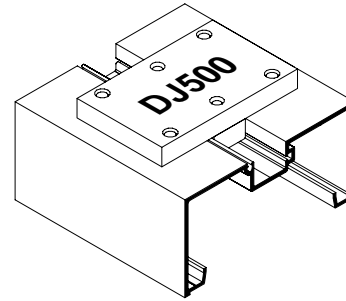
C.V.R. = Concealed Vertical Rod

∅ = Diameter

FRAME FABRICATION Joinery Hole Locations

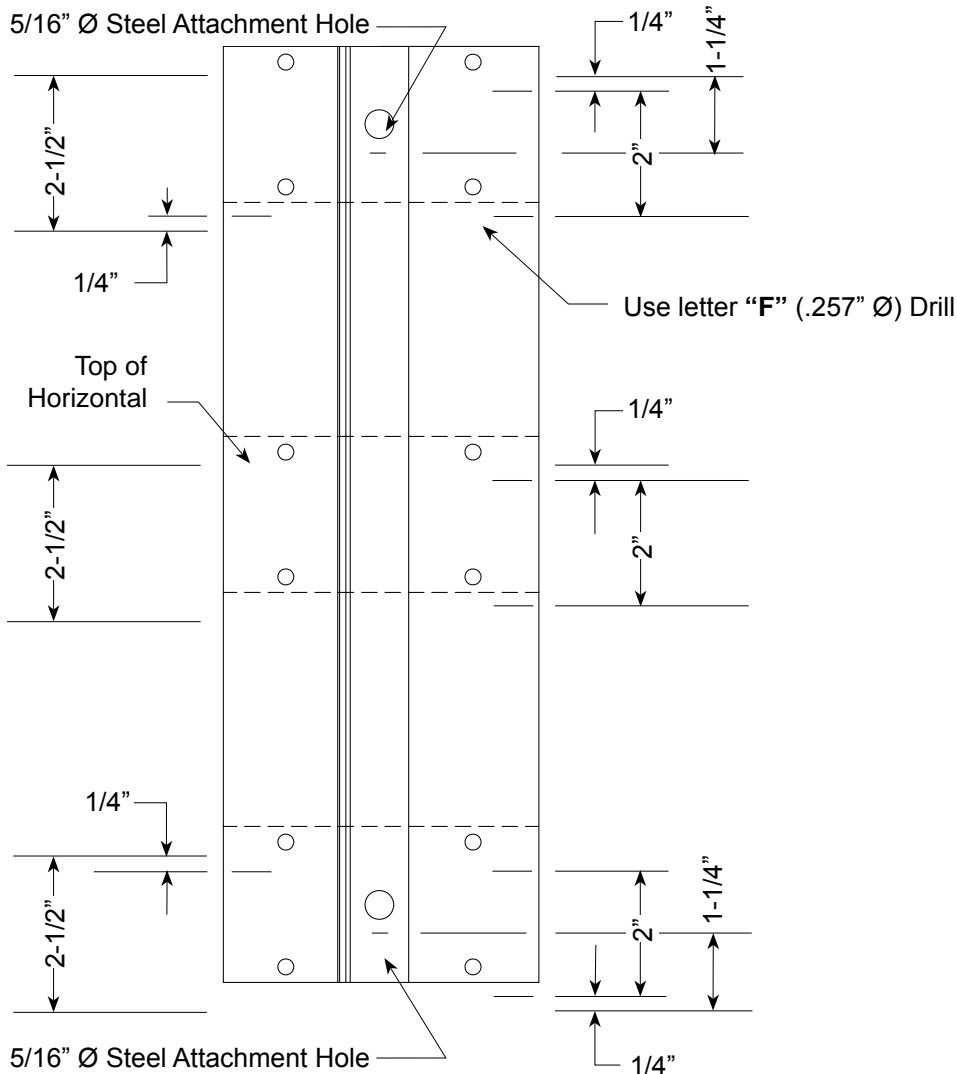
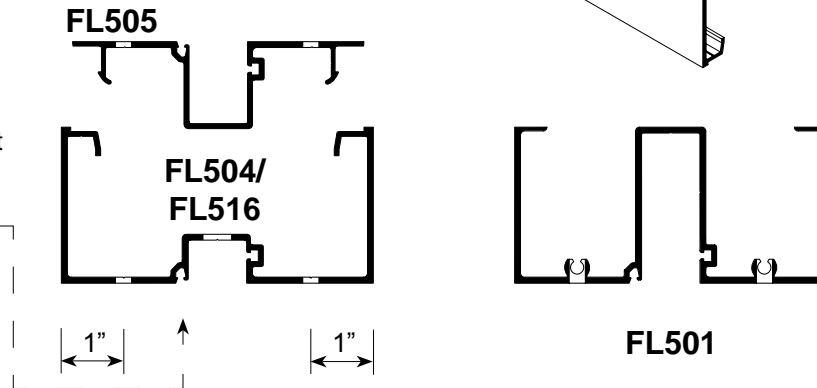
STEP 3.

Use **DJ500** drill jig or **FL500 Punch Die Set** for fabricating spline hole locations in verticals.



Note: NG1 Gasket reglet is always to exterior.

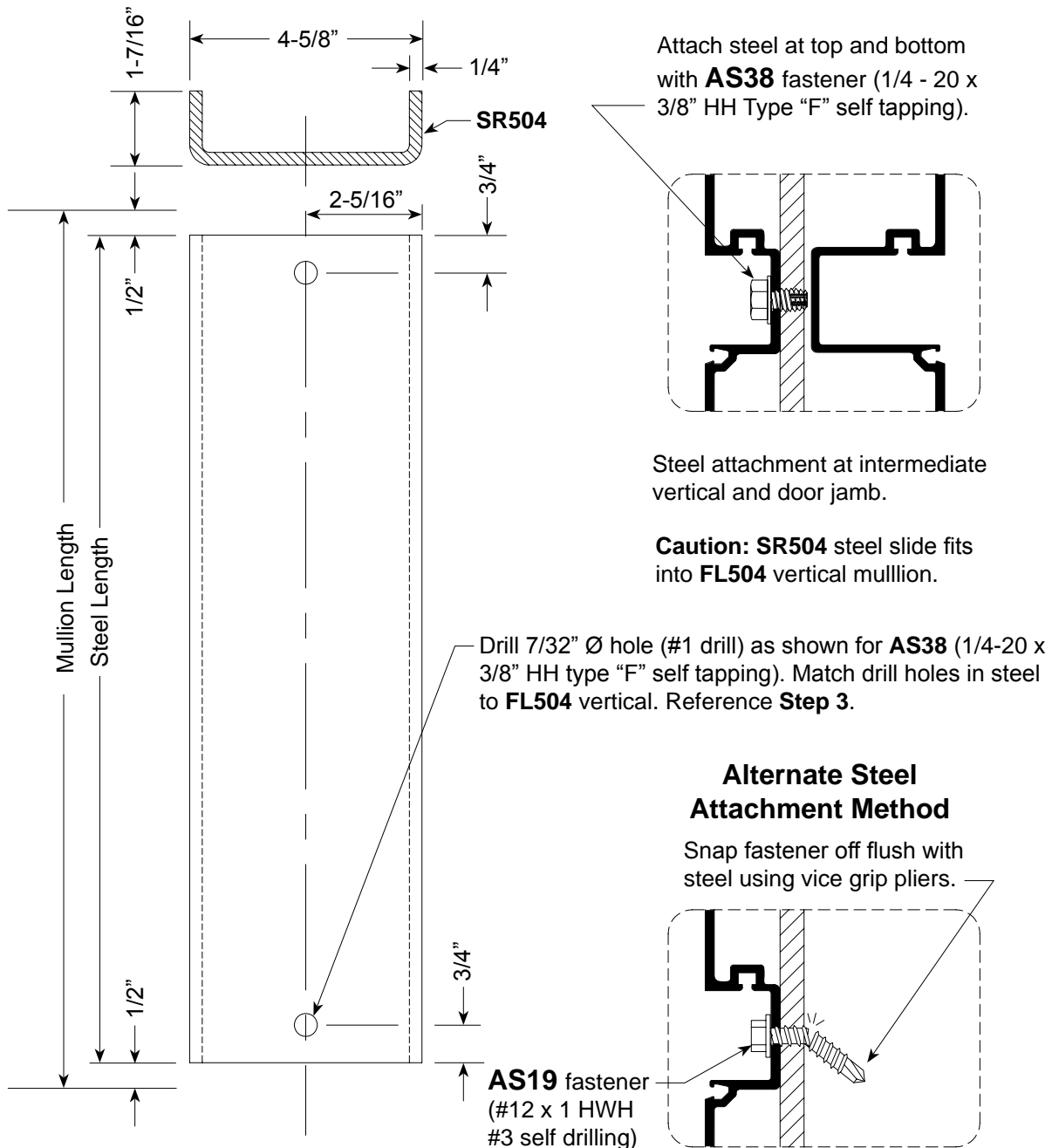
← **EXTERIOR**



FRAME FABRICATION Steel Reinforcement

STEP 4.

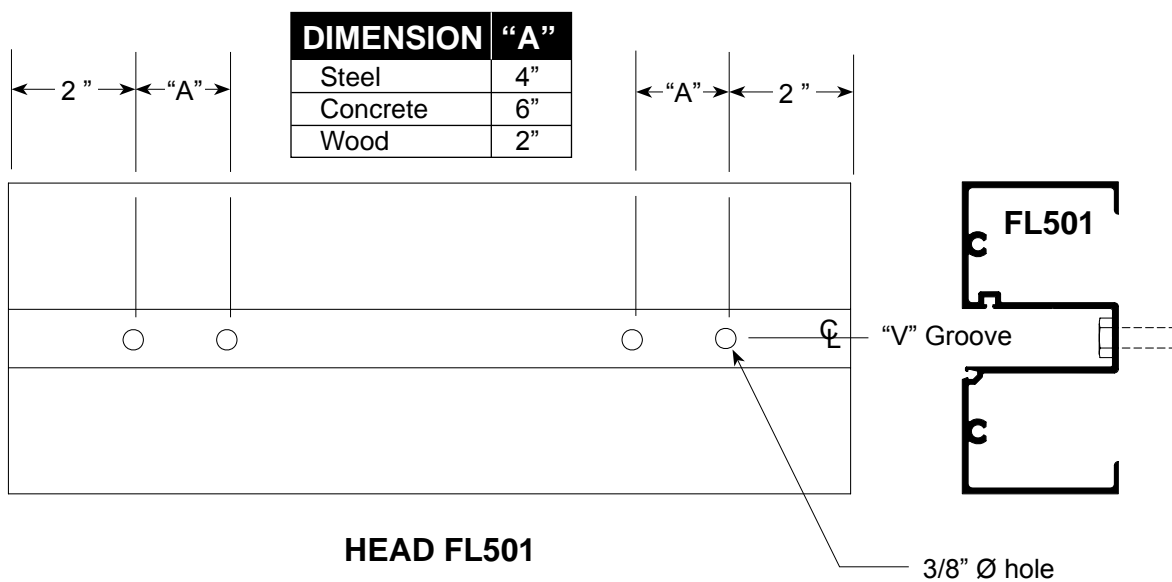
Fabricate steel reinforcement where required. Cut steel 1" less than length of vertical mullion.
Note: AS38 hex head fastener location is below glass line and does not interfere with glazing.



FRAME FABRICATION Head / Sill

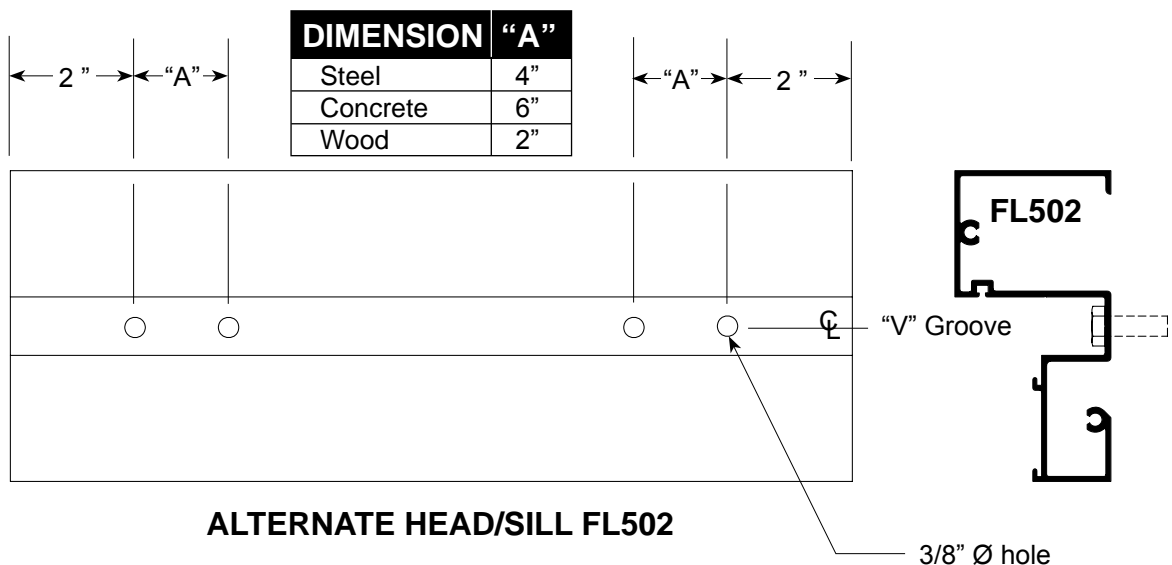
STEP 5.

Drill head and sill anchor holes as shown or punch using **FL500 Punch Die Set**. Number of anchor holes required is based on substrate material conditions. Reference **CAP anchor charts, (Pages 51-56)** for number of anchor holes and locations for various substrates. First hole is always 2" from end. Each additional fastener hole is at required minimum spacing "A" between fasteners as shown in fastener charts.



Note: Removable glass stop at head facilitates glazing of large lites.
(Reference **Page 21**)

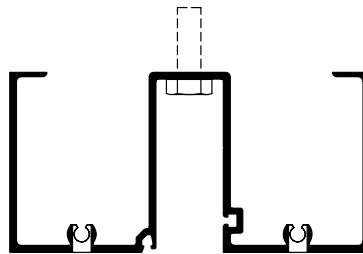
Note: Anchor holes may be punched using **FL500 Punch Die Set**.



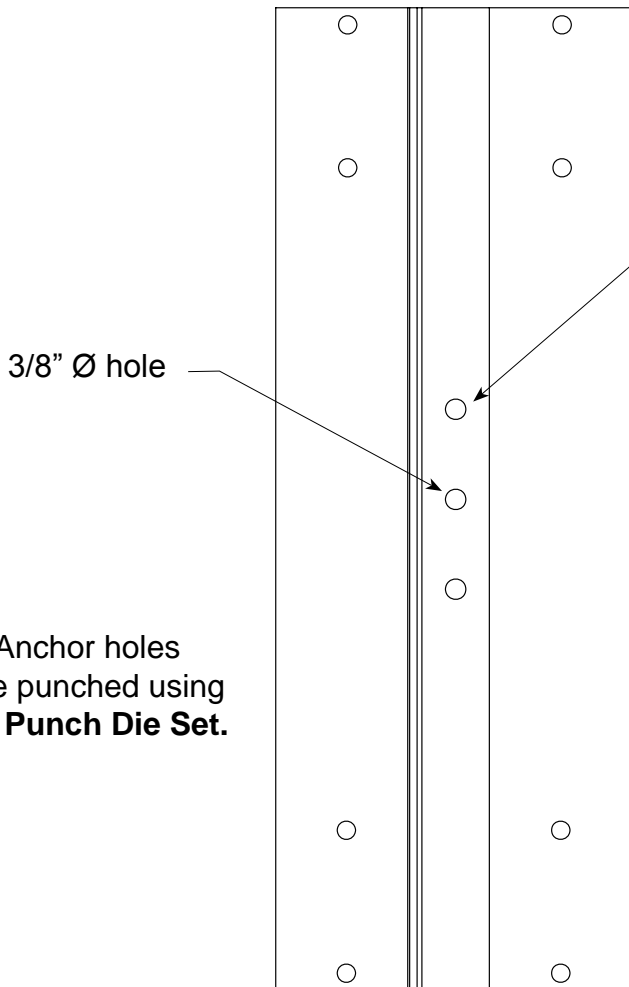
FRAME FABRICATION Wall Jamb

STEP 6.

Fabricate wall jamb for anchor holes, when required. Number of anchors required is dependent on mullion length and substrate material. Reference **CAP Anchor Chart**, (Pages 51-56).



FL500



3/8" Ø hole

Compare charted anchor hole locations with intermediate horizontal dimensions on shop drawings. Should charted anchor holes be shown at same location as intermediate horizontal, then drill holes directly above or below horizontal to avoid fastener installation interference.

Note: Anchor holes may be punched using **FL500 Punch Die Set**.

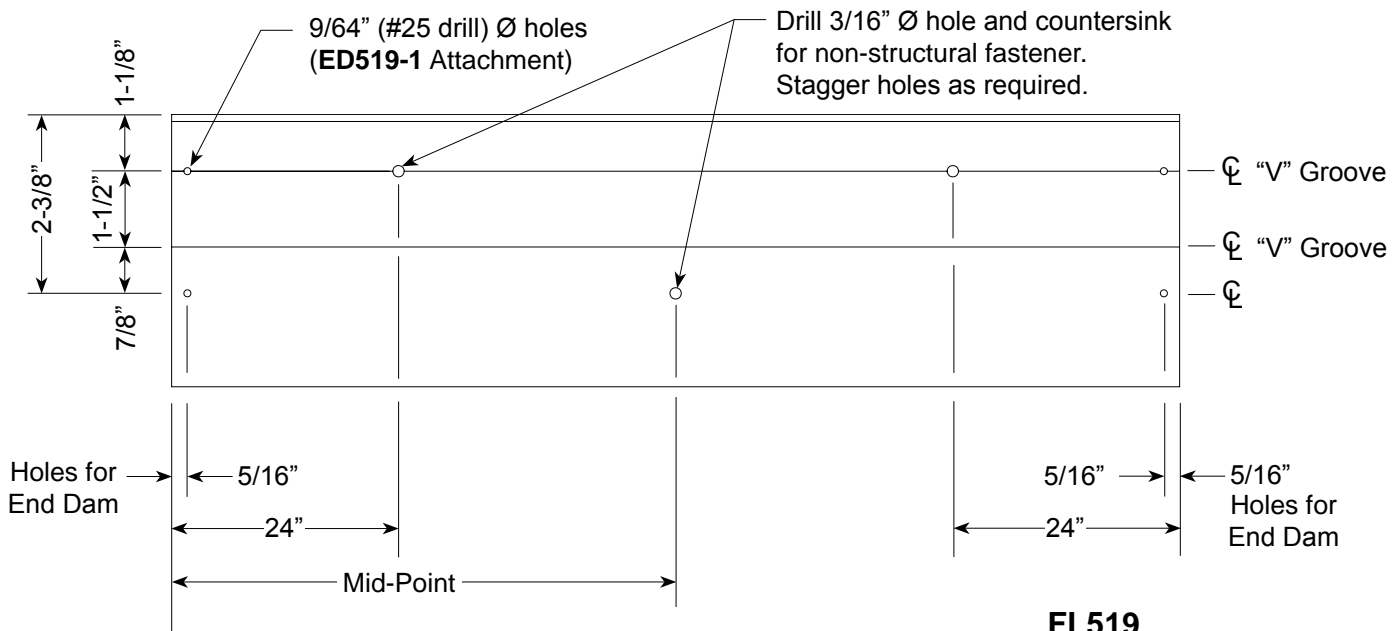
Note: Locate anchors as close to charted dimensions as possible.

Wall Jamb

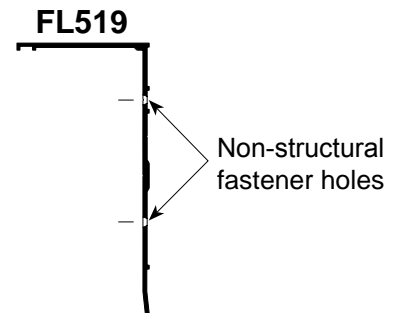
FRAME FABRICATION Subsill Flashing

STEP 7.

Fabricate **FL519** subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for non-structural fasteners in subsill are approximate.



See **Page 30** for subsill abutting door jamb.



1. Drill 3/16" dia. hole for non-structural fasteners used for temporarily attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required until structural fasteners are installed.
2. Drill two each 9/64" dia. holes (#25 drill) at each end (except end abutting at door jamb) for attaching **ED519-1** end dams. **Note:** Subsill terminates at door jamb. Reference **Page 30**.

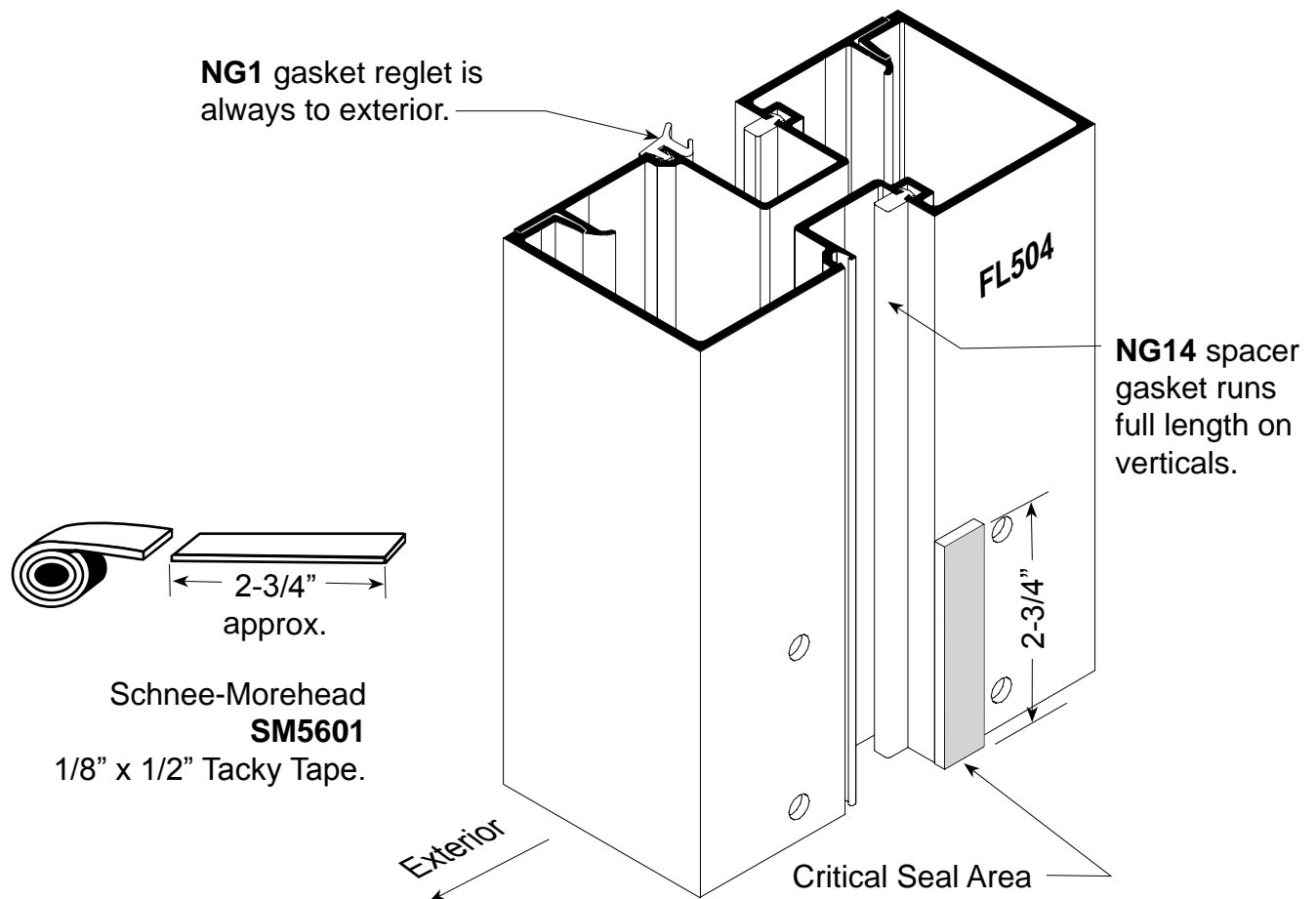
FRAME ASSEMBLY Joinery Tape Application

STEP 1.

GLAZING TAPE INSTALLATION PROCEDURES:

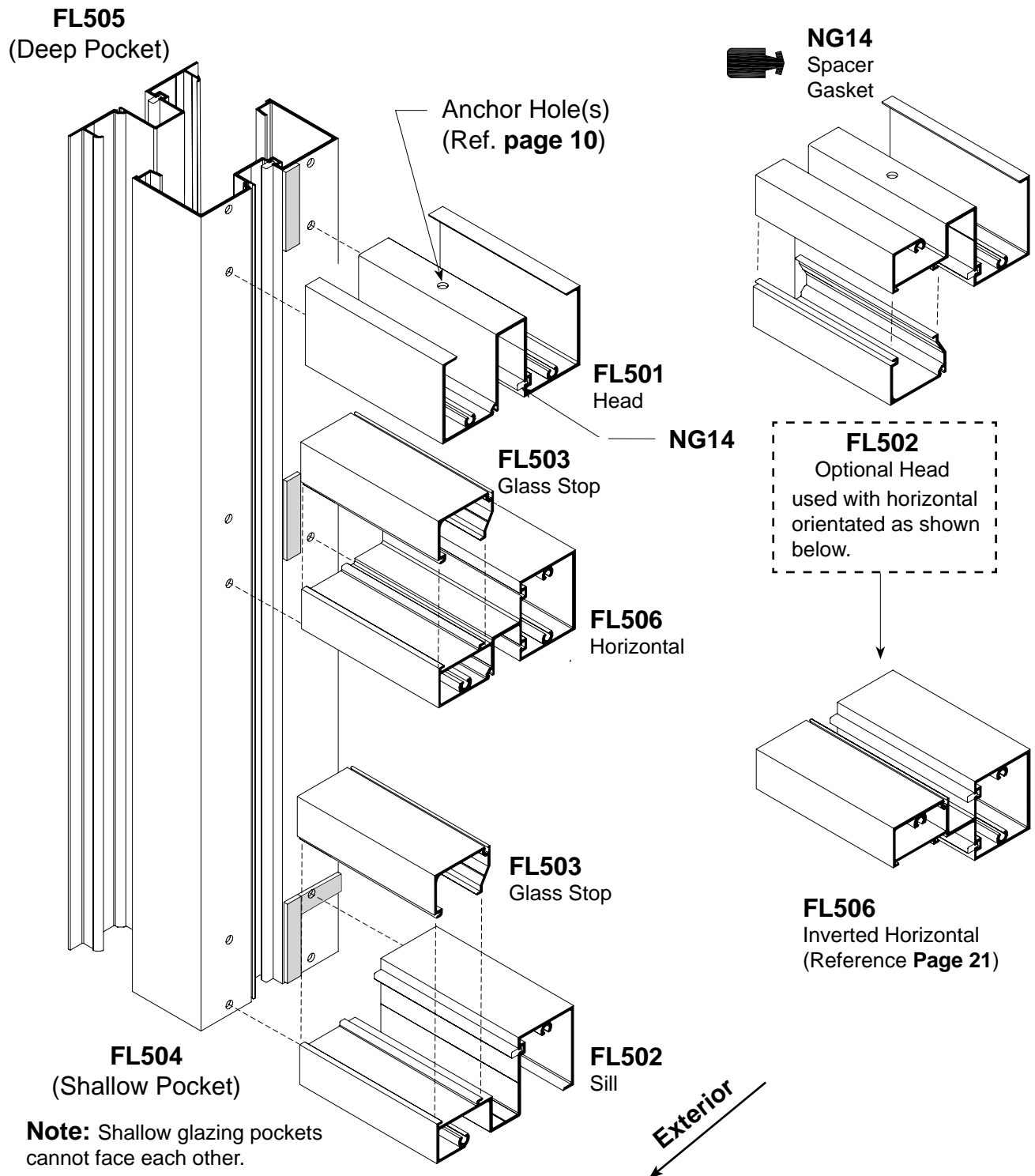
Ref. Step 2 for location.

1. Cut **SM5601** 1/8" x 1/2" Tacky Tape approximately 2-3/4" long.
2. Clean surfaces where tape is to be applied with isopropyl alcohol or solvent to remove all dirt and cutting oils. Allow surface to dry before applying tape.
3. Position tape on vertical mullions at horizontal joint intersections, as shown on **Page 14**.
4. Just prior to frame assembly, remove protective cover and screw joints together.
5. Use a box knife to trim excess sealant tape where exposed. Do not pull tape to trim.



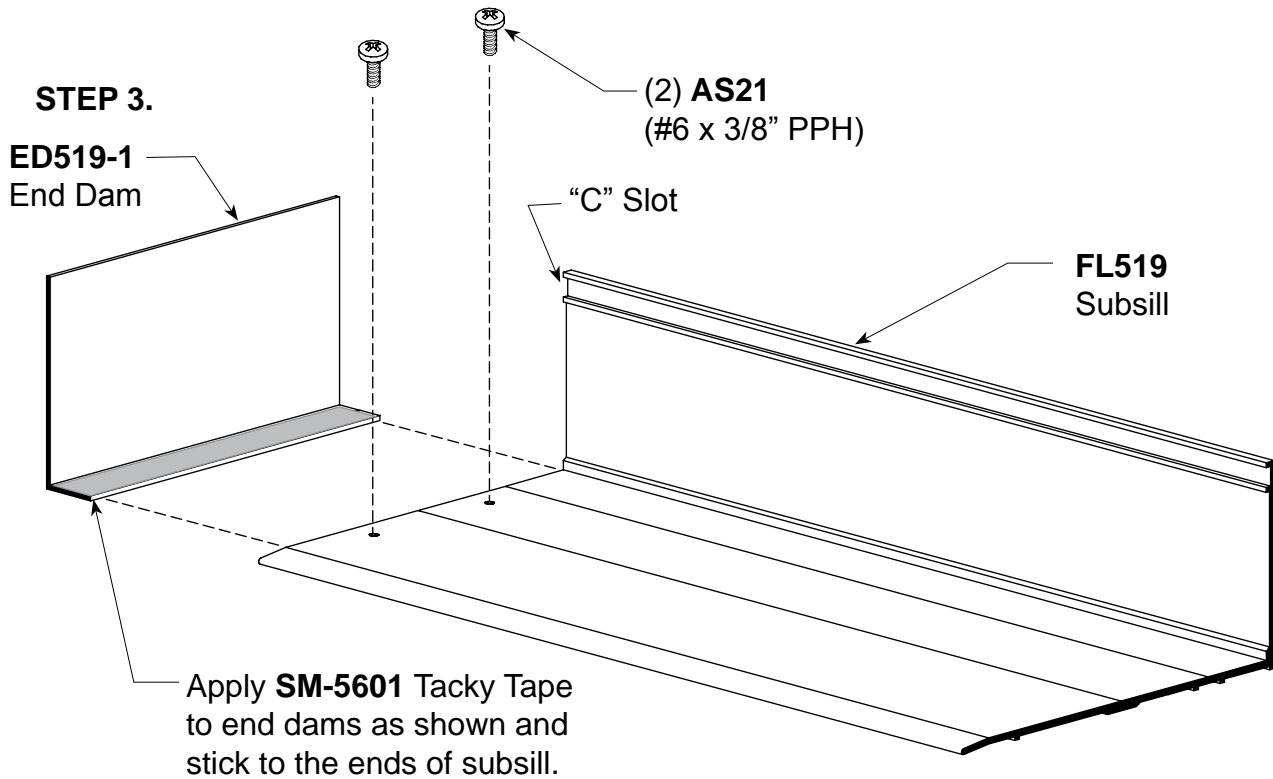
CAPTURED FRAME ASSEMBLY Vertical to Horizontal Joinery

STEP 2. Install **NG14** interior spacer gaskets into vertical and horizontal members prior to frame assembly. Cut spacer gaskets to D.L.O. dimensions.

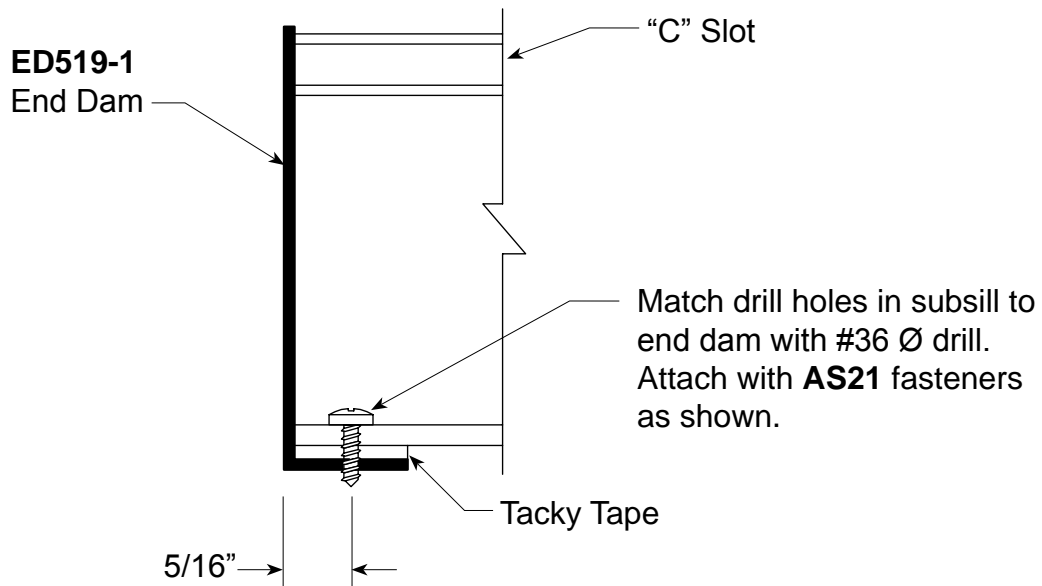


Note: Shallow glazing pockets cannot face each other.

FRAME ASSEMBLY End Dam Attachment to Subsill



Note: Reference **Page 30** for subsill abutting the door jamb where entrance doors occur.

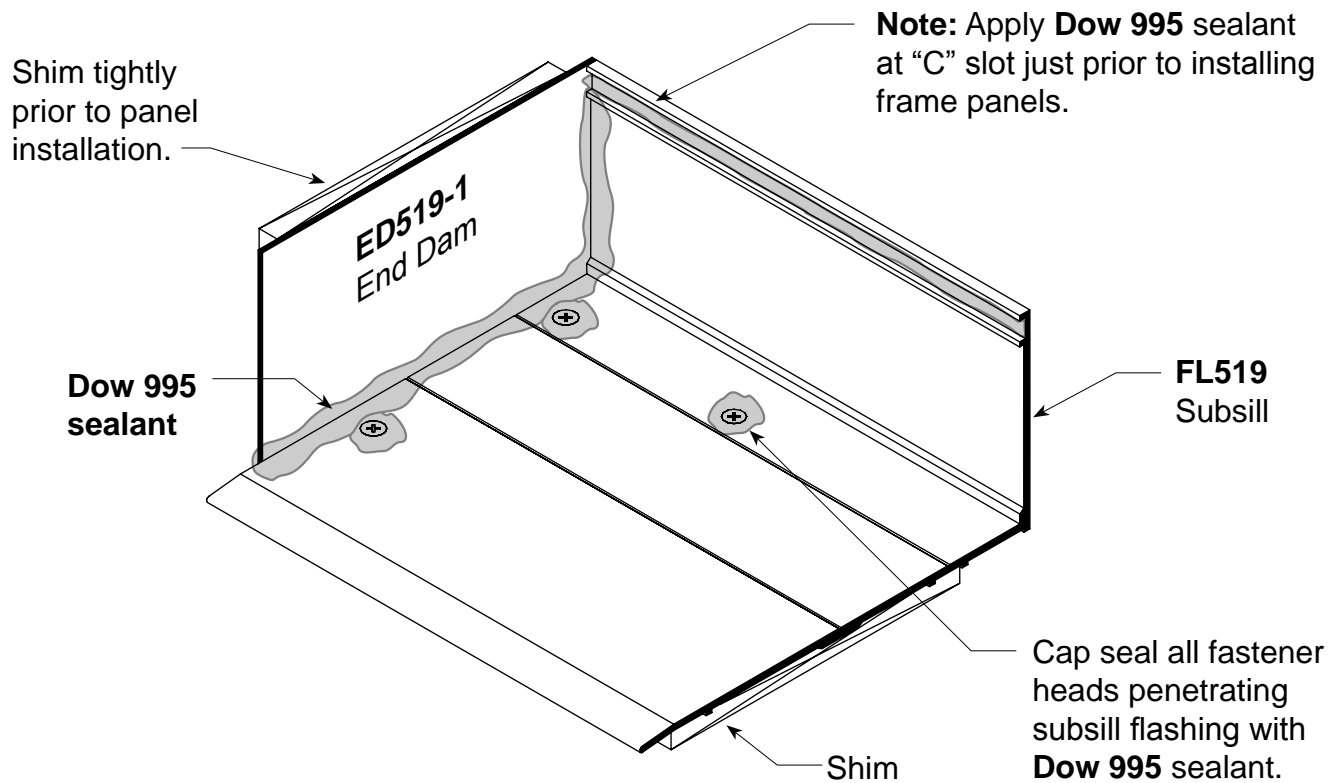


FRAME INSTALLATION

Subsill Installation and Sealant Application

STEP 1.

Position fabricated subsill with end dams into opening. Center into opening allowing shim space at jambs. (See **Page 30** for openings with entrance frames).



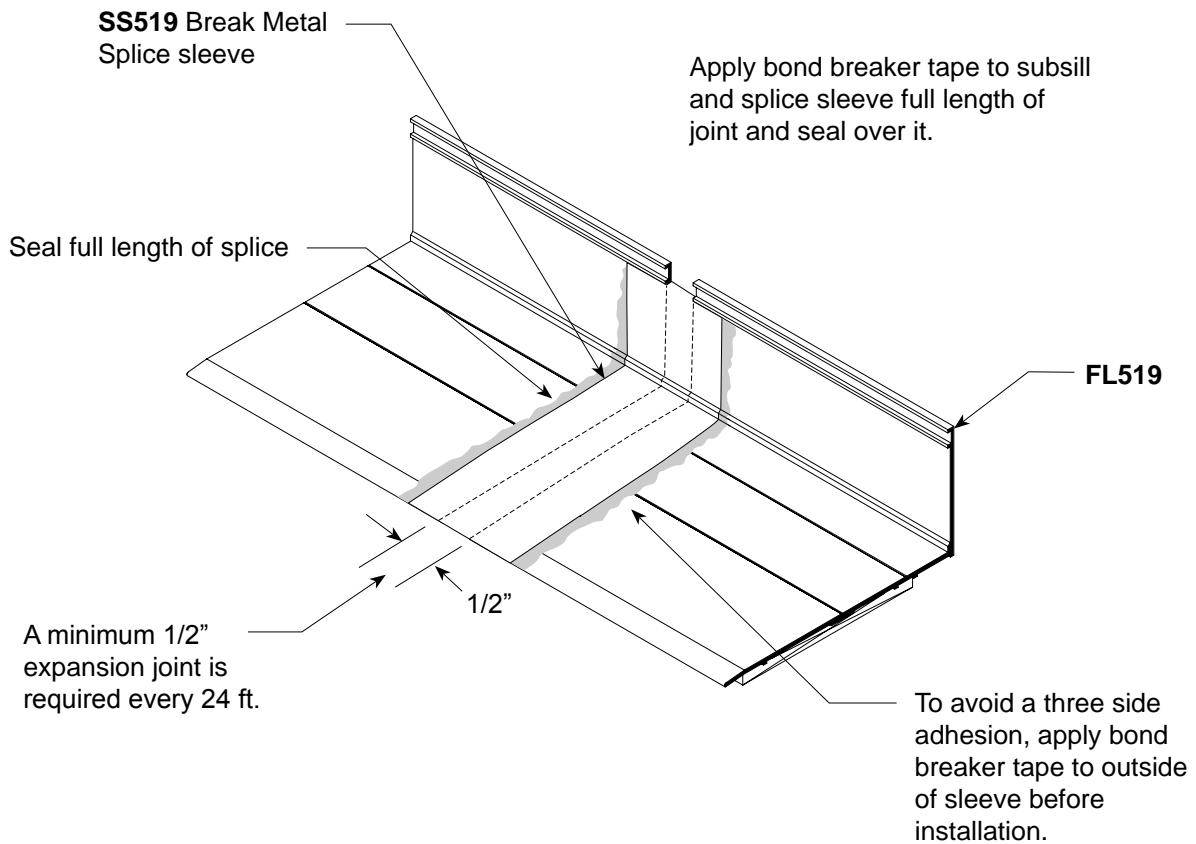
Shim beneath subsill to be a maximum of 1/4". Attach subsill flashing to structure with non-structural fasteners using attachment holes shown on **Page 12**.

Wedge shims tightly between end dams and jamb substrate at each end prior to installing frame panels. These shims prevent the end dams from being dislodged while frame panels are being installed. Completely seal end dams as shown.

Run a continuous bead of **Dow 995** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

SPECIAL CONDITIONS SPLICE SLEEVE AT SUBSILL

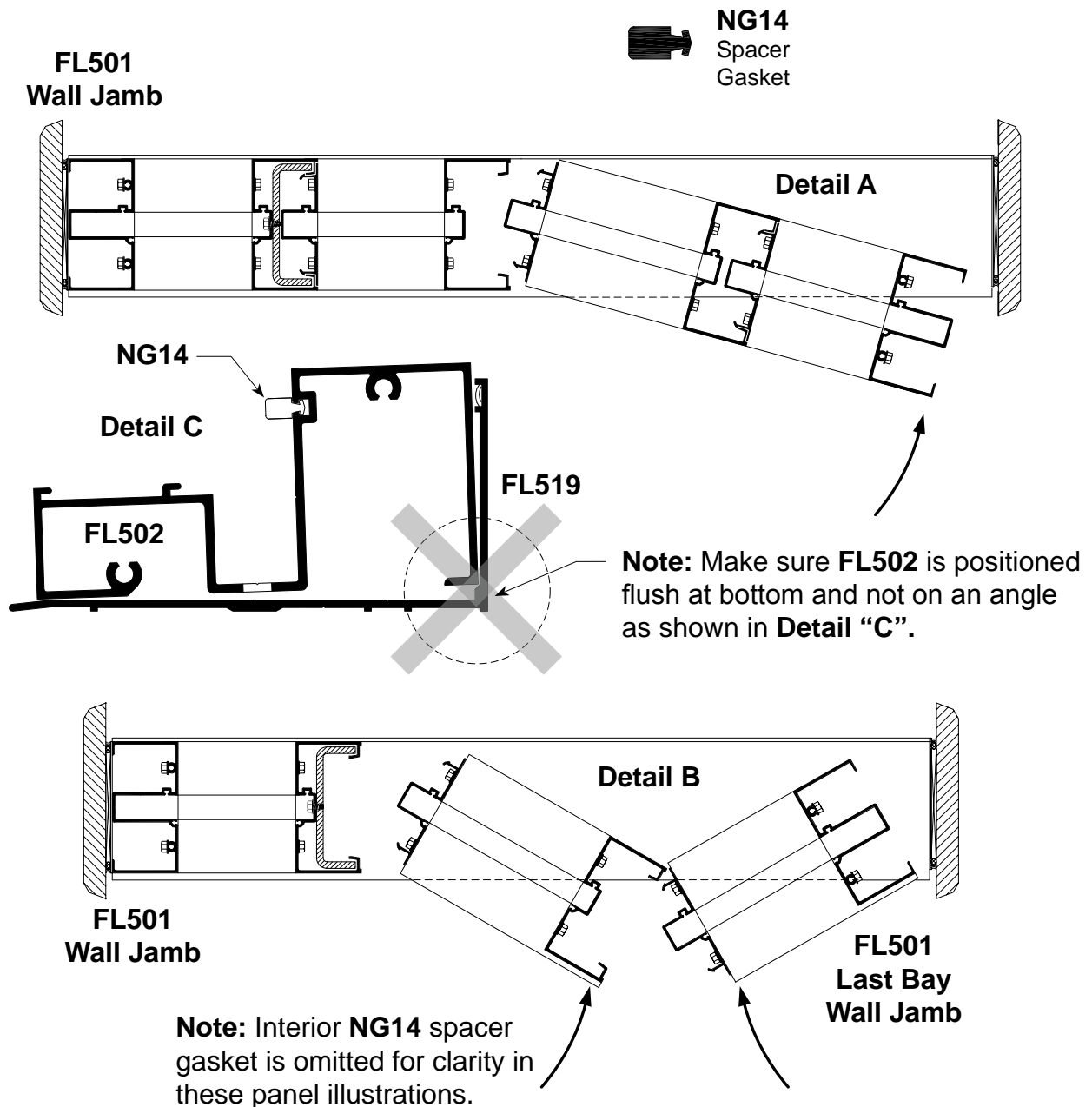
STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



FRAME INSTALLATION Panelized Assembly

STEP 1.

Install assembled frame panels into opening starting with jamb and continue working toward the last bay. Reference illustrations shown below. Use option “A” or “B” as required. **Caution: SR504** steel slide fits into **FL504** and must be inserted and attached prior to installing panels.



FRAME INSTALLATION

Panelized Frame Attachment to Substrate

STEP 2.

Shim beneath subsill as required at fasteners. Match drill lead holes through sill into substrate for perimeter fasteners. Match drill lead diameter holes in head and wall jamb into substrate. Shim and anchor panels to substrate.

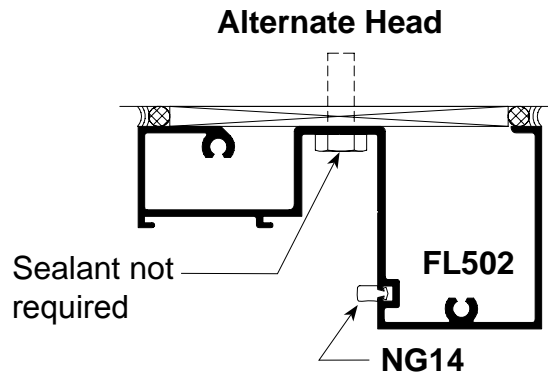
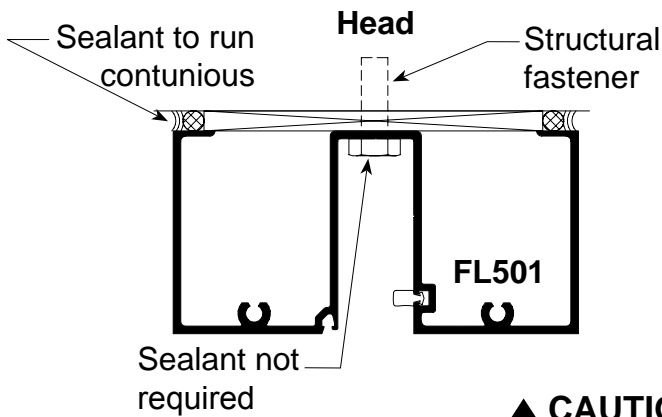
NOTE: The lead diameter hole is determined by fastener manufacturer for each different substrate material.



NG14
Spacer
Gasket

STEP 3.

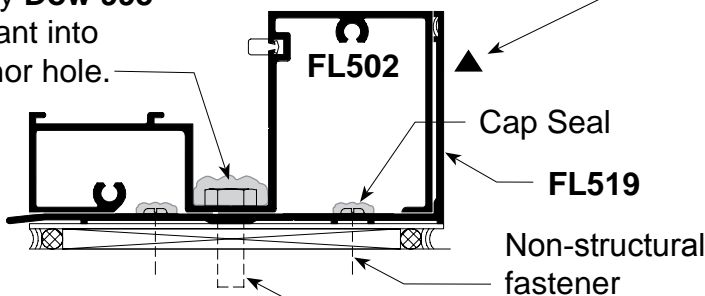
Completely seal exterior and interior perimeter with a continuous bead of **Dow 795 sealant**.



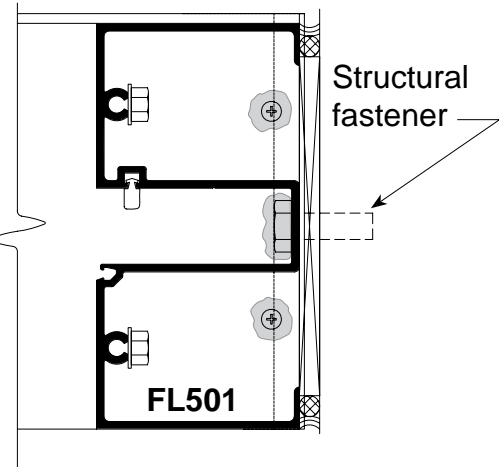
▲ CAUTION

Do Not Penetrate back of subsill flashing with a fastener

Apply **Dow 995** sealant into anchor hole.

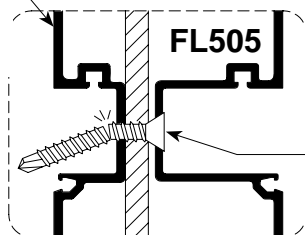


Wall Jamb



FL504 or FL516 without steel

Detail A



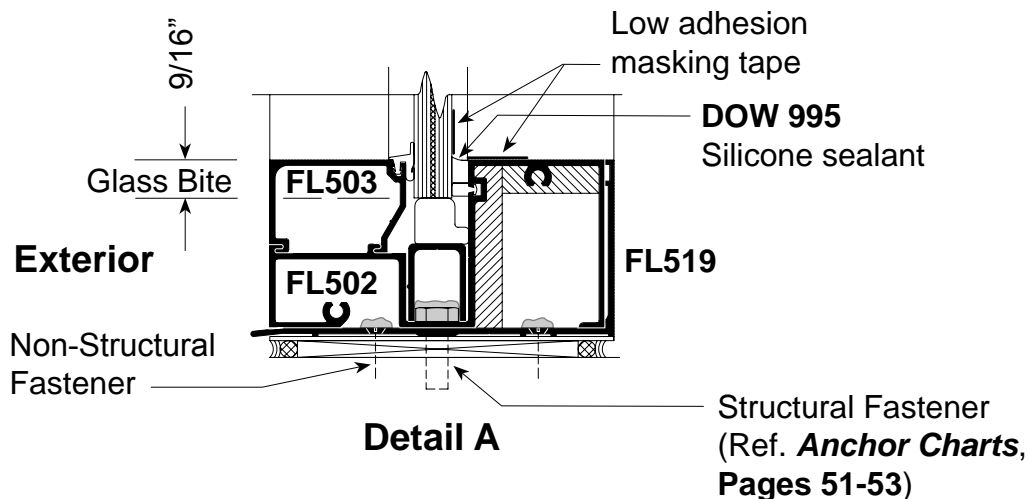
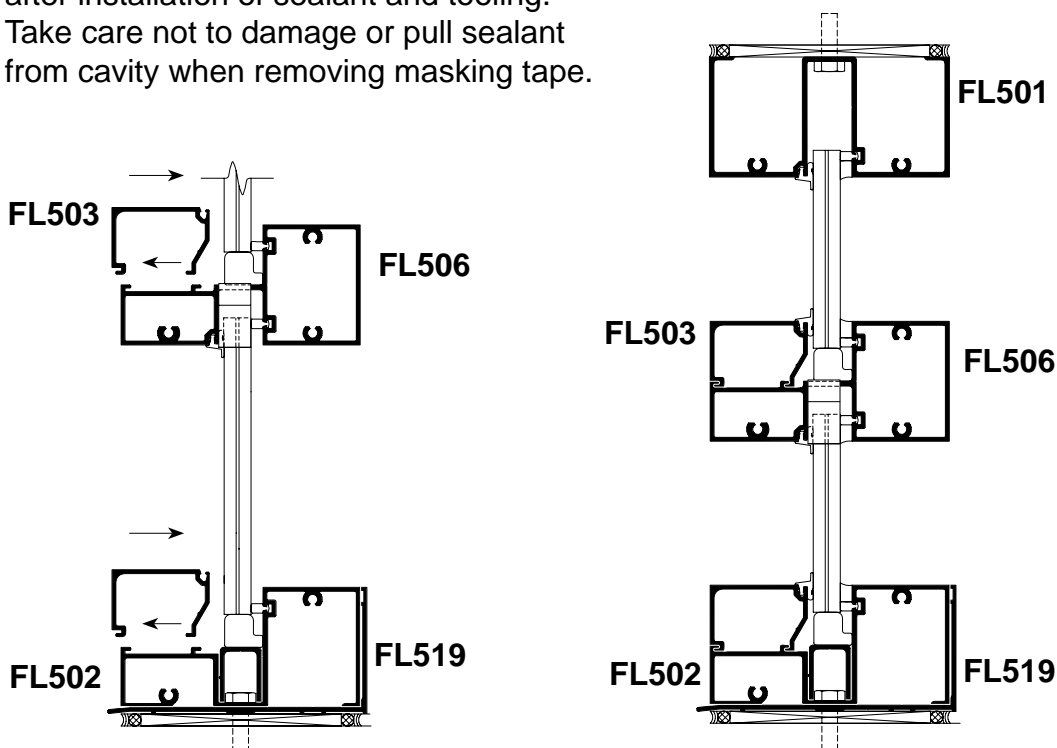
For D.L.O. heights 72" or greater, attach **FL505** to vertical mullion filler at midpoint and 18" above and below midpoint with **AS27** (#12 x 1-1/2" #3 PFH self drill) and snap off excess using pliers.

GLAZING

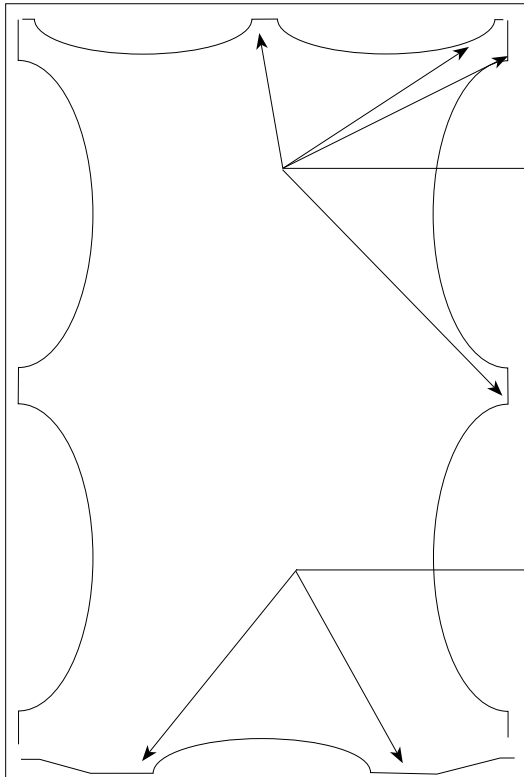
6. Continue glazing following the four step procedure.
7. Install **FL503** hook-in glass stops as shown.
8. Prepare **NG1** top load gaskets and install as instructed on **Page 23**.
9. Mask off glass and aluminum with 2" wide low adhesion masking tape. Fill cavity with **Dow 995** sealant as shown, **Detail "A"** and tool. Remove masking tape immediately after installation of sealant and tooling. Take care not to damage or pull sealant from cavity when removing masking tape.



NG1
(Actual Size)



INSTALLATION OF TOP LOAD GLAZING GASKETS



Detail A

Start jamb and head gaskets at corners and center.

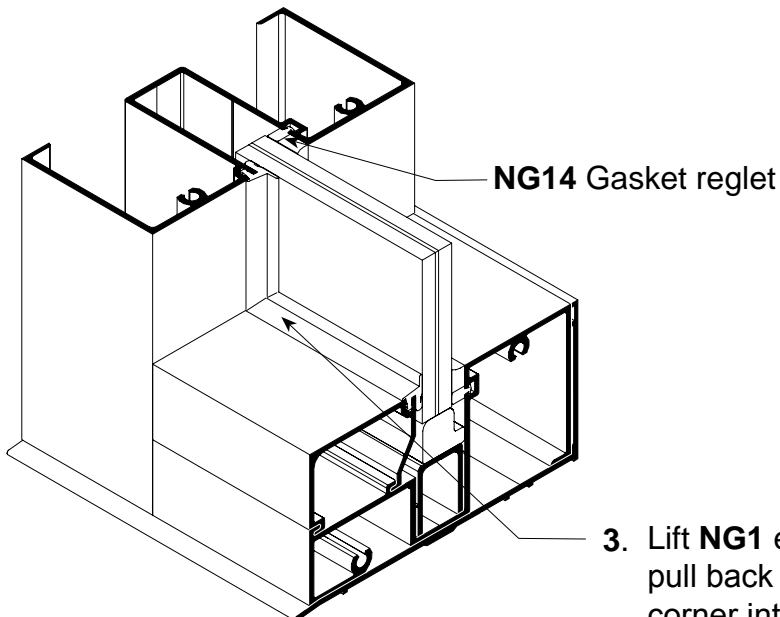
Start gaskets at setting blocks



NG1
(Actual Size)

1. Cut **NG1** gaskets a minimum of 3/16" longer per foot than aluminum extrusion.
2. Do not stretch gaskets to make them fit.

It is very important that gaskets are installed correctly as shown in **Detail "A"**, to prevent shrinkage at corners.



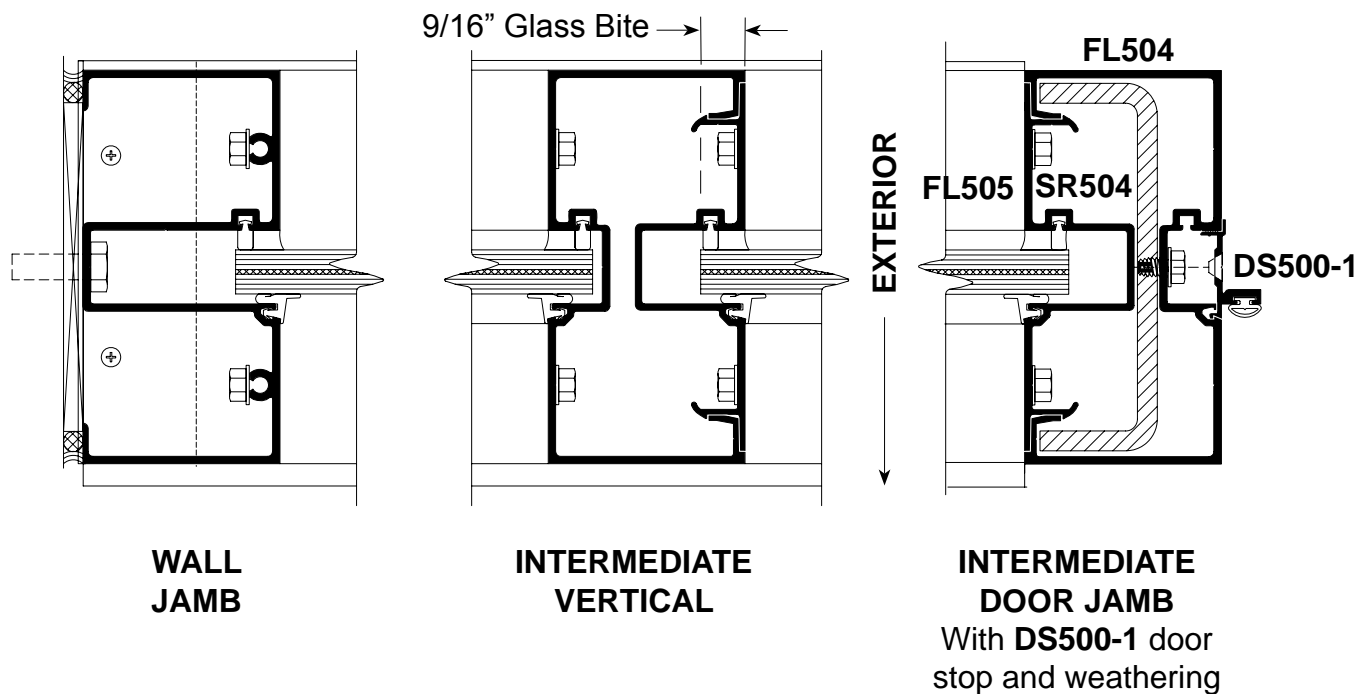
3. Lift **NG1** exterior gaskets and pull back 2" in both directions at corner intersections & seal with **DOW 795** silicone.

GLASS SIZE FORMULAS

Glass Sizes for FL500 System:

Glass Width and Height = D.L.O. + 1-1/8"

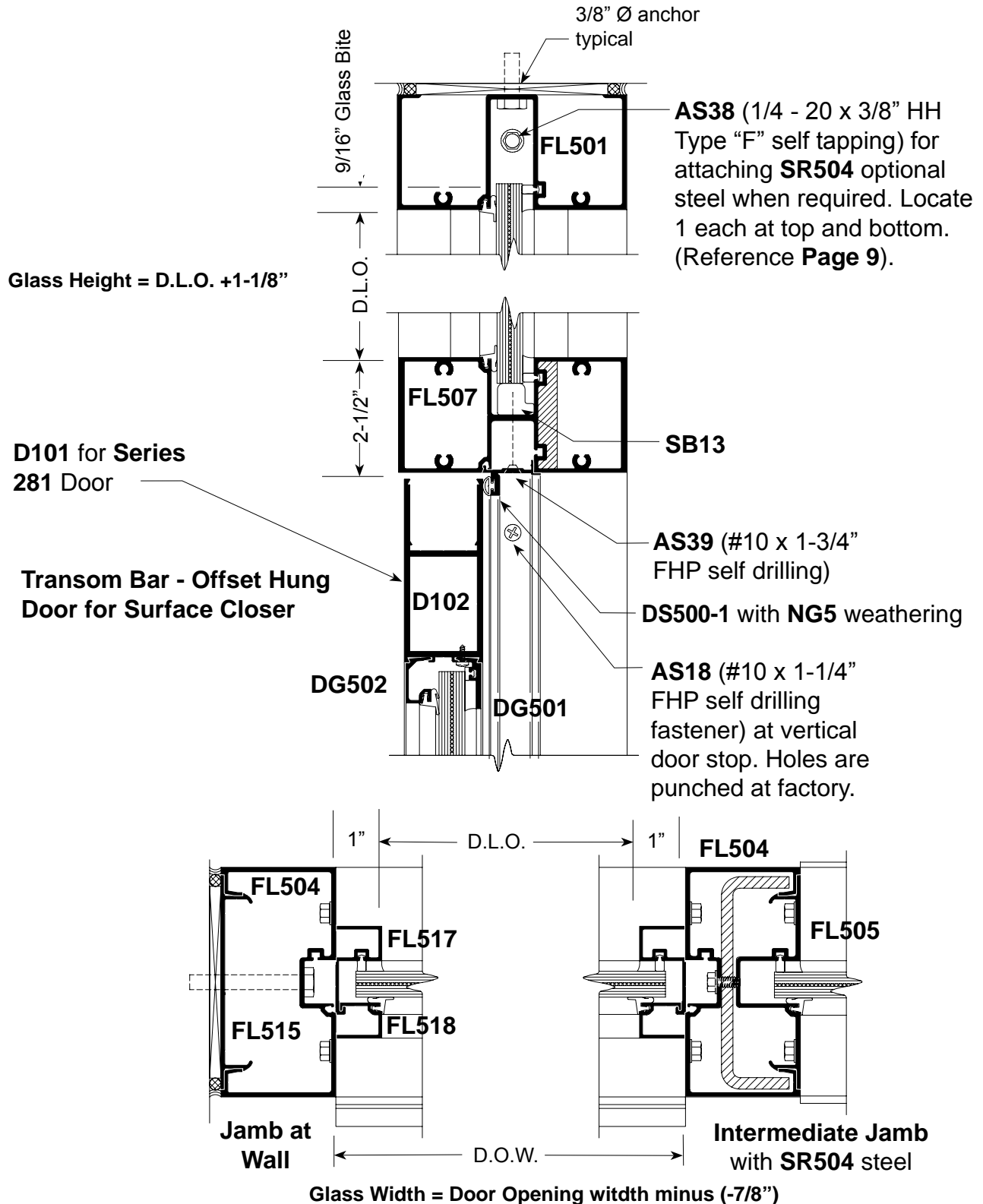
Note: Glass tolerances are not addressed in the above formula.
 Consult glass manufacturer for glass tolerances prior to ordering.



TRANSOM GLASS SIZE FORMULA

FT5 Frame for Offset Hung Door for Surface Closer

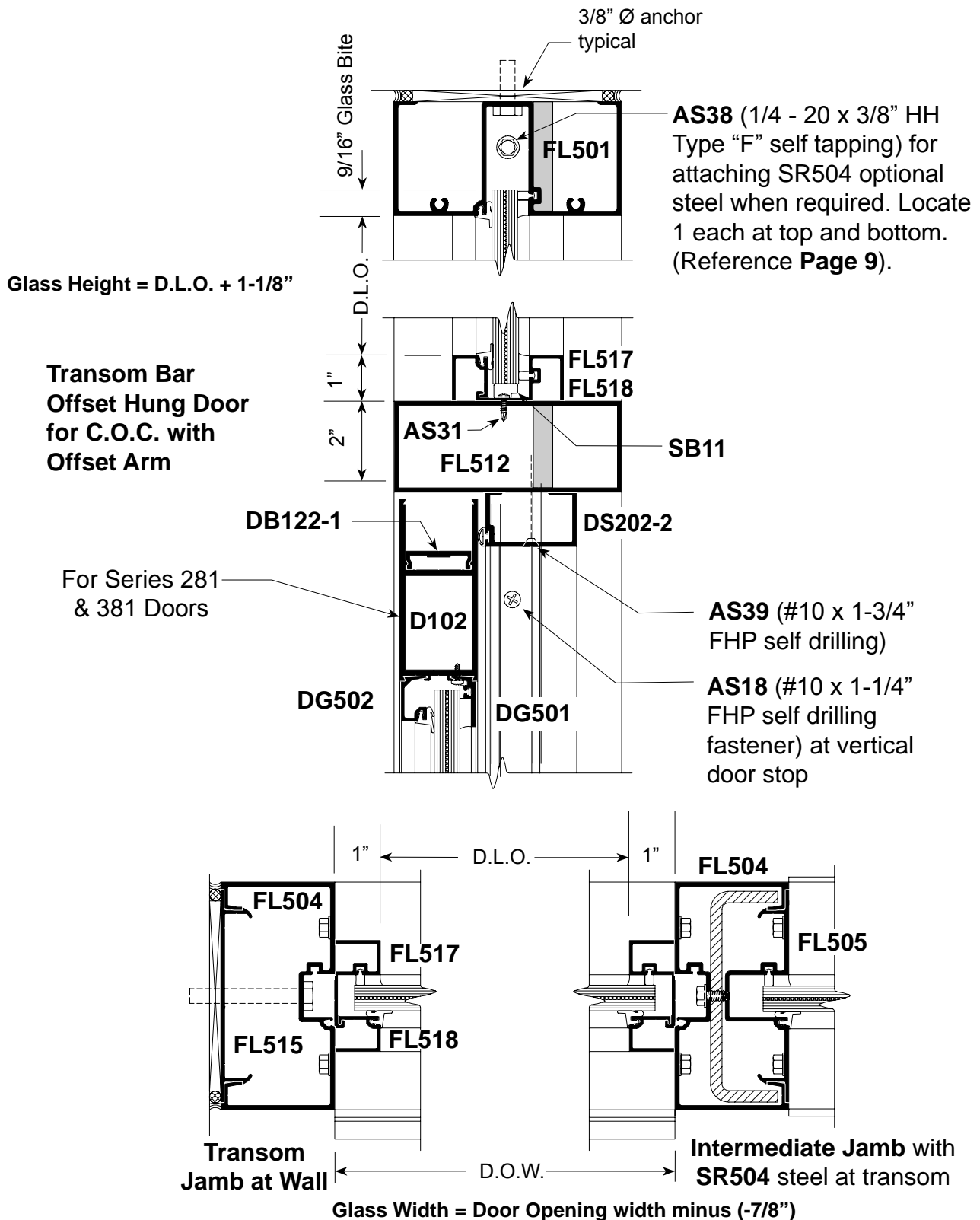
(See Glazing for Glass Installation)



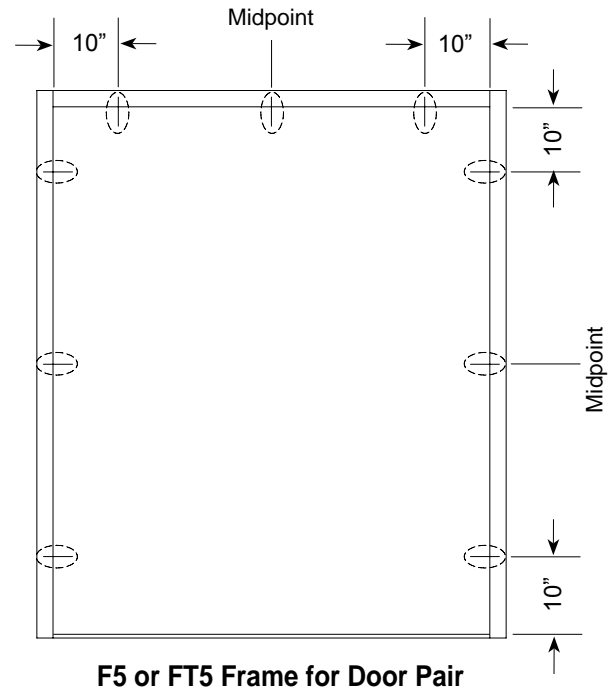
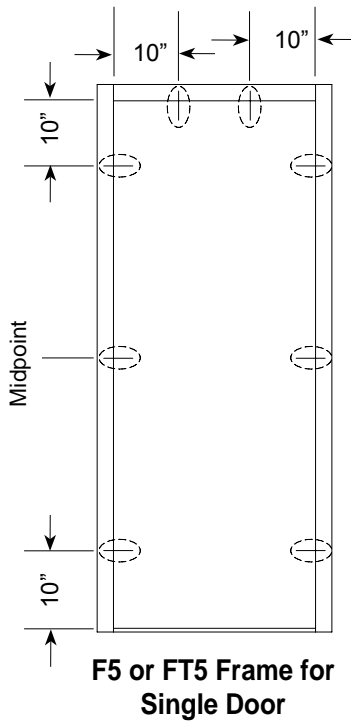
TRANSOM GLASS SIZE FORMULA

FT5 Frame for Offset Hung Door with C.O.C.

(See Glazing for Glass Installation)

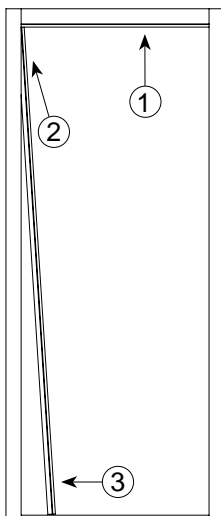


DS500-1 Door Stop ATTACHMENT LOCATIONS For 84" or 96" Door Height

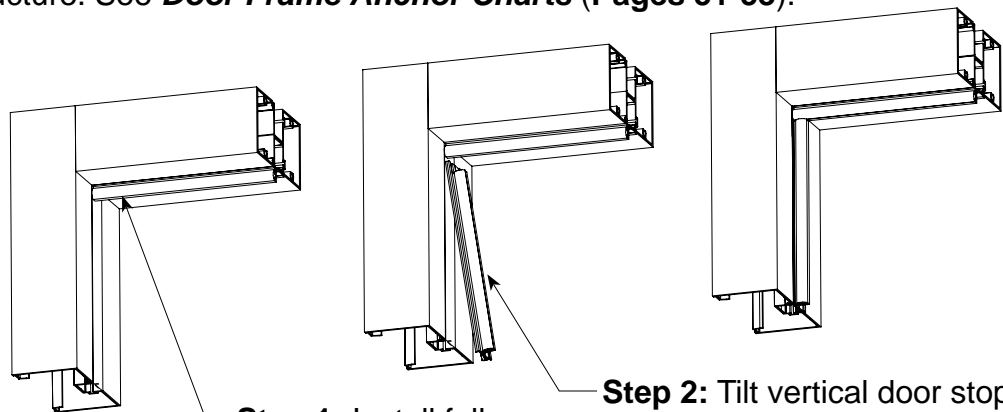


DS500 Door Stop INSTALLATION

Caution: Do not attach DS500-1 until frame has been anchored to structure. See *Door Frame Anchor Charts (Pages 51-53)*.



Detail A



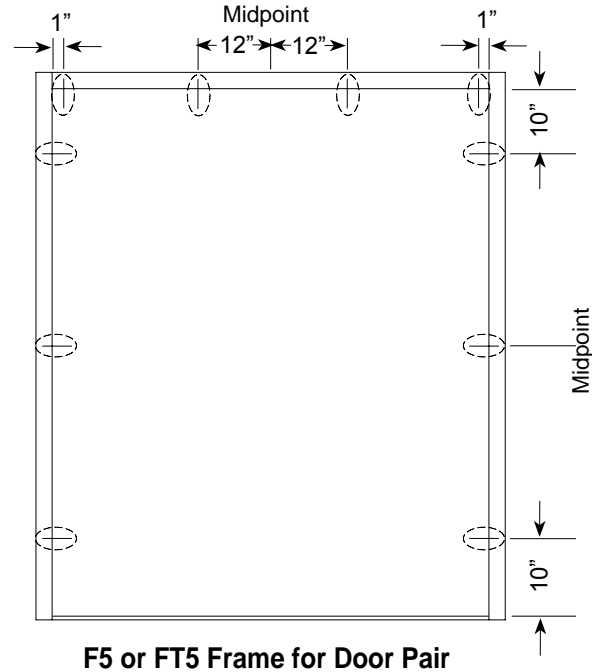
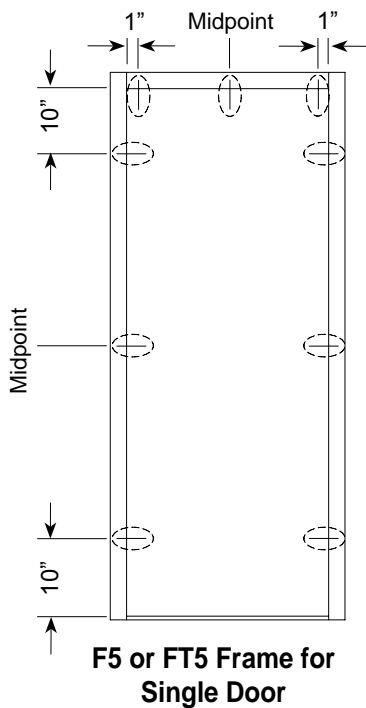
Step 1: Install full length at header with **AS39** (#10 x 1-3/4" FHPUC self drill) fasteners in factory punched holes.

Step 2: Tilt vertical door stop as shown in **Detail "A"** and push up into slot.

Step 3: Push in at bottom. Attach with **AS18** (#10 x 1-1/4" self drill) fasteners in factory punched holes.

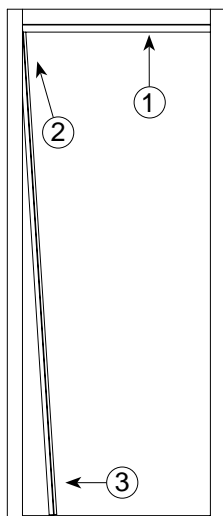
Step 4: Repeat steps 2 and 3 on opposite side.

DS202-1 Offset Arm Door Stop at Head and DS500-1 at Jambs For 84" or 96" Door Height

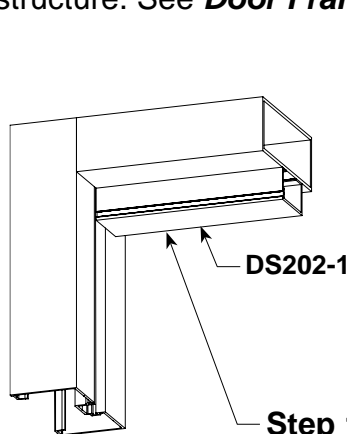


DS202-1 Door Stop at Head with DS500-1 at Jambs

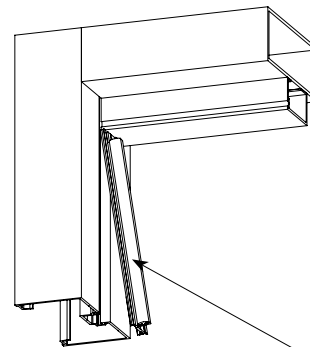
Caution: Do not attach until frame has been anchored to structure. See *Door Frame Anchor Charts (Pages 51-53)*.



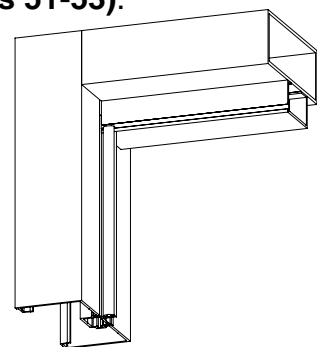
Detail A



Step 1: Install full length at header with **AS39** (#10 x 1-3/4" FHPUC self drill) fasteners in factory punched holes.



Step 2: Tilt vertical door stop as shown in **Detail "A"** and push up into slot.



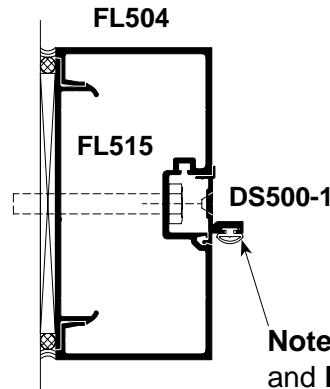
Step 3: Push in at bottom. Attach with **AS18** (#10 x 1-1/4" self drill) fasteners in factory punched holes.

Step 4: Repeat steps 2 and 3 on opposite side.

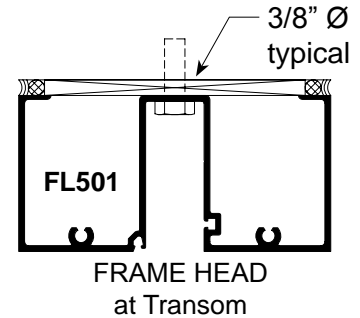
TYPICAL ASSEMBLY & INSTALLATION For F5 or FT5 Door Frames

ASSEMBLY:

1. Verify opening size. Allow for 1/4" minimum sealant space at jambs and frame head.
2. Reduce frame transom height when required. Use drill jig for drilling spline hole locations for frame head.
3. Attach **TH403** threshold clips to jambs using **AS24** fasteners.
4. Assemble head and transom bar to jambs as shown.
5. Install **FL517** sash with **NG14** gasket in transom.



TYPE "FT" FRAME



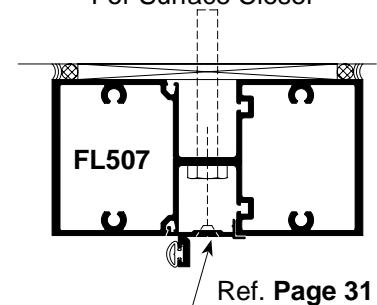
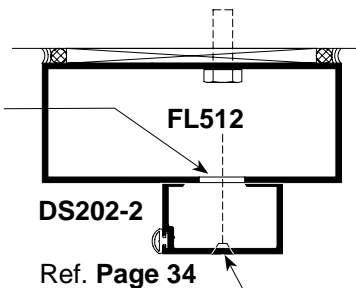
Note: Do not attach **DS500-1** door stop or **FL567** transom sash until frame has been anchored to substrate.

TYPE "F" FRAMES

For C.O.C. with offset arm

For Surface Closer

3/4" Ø Access Hole for 3/8" Ø fastener

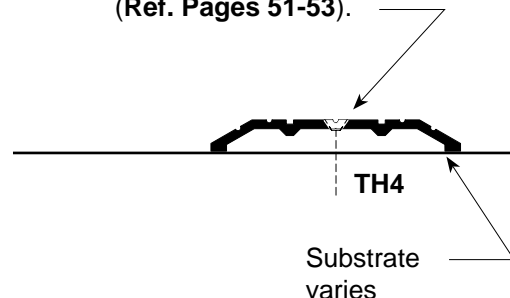


INSTALLATION:

1. Drill 3/8" Ø anchor holes in wall jamb and frame head as shown on **Anchor Charts**, (**Pages 51-53**), prior to assembly.
2. Set frame plumb and square into opening.
3. Anchor frame to substrate with fastener types as shown in anchor charts.
4. Attach **DS500-1** door stop with **NG5** weathering to jambs and transom bar or door header.
5. Position setting blocks in door header at quarter or eighth points as required and glaze transom. Glazing sash is required in transom. See details on **Pages 25 and 26**.

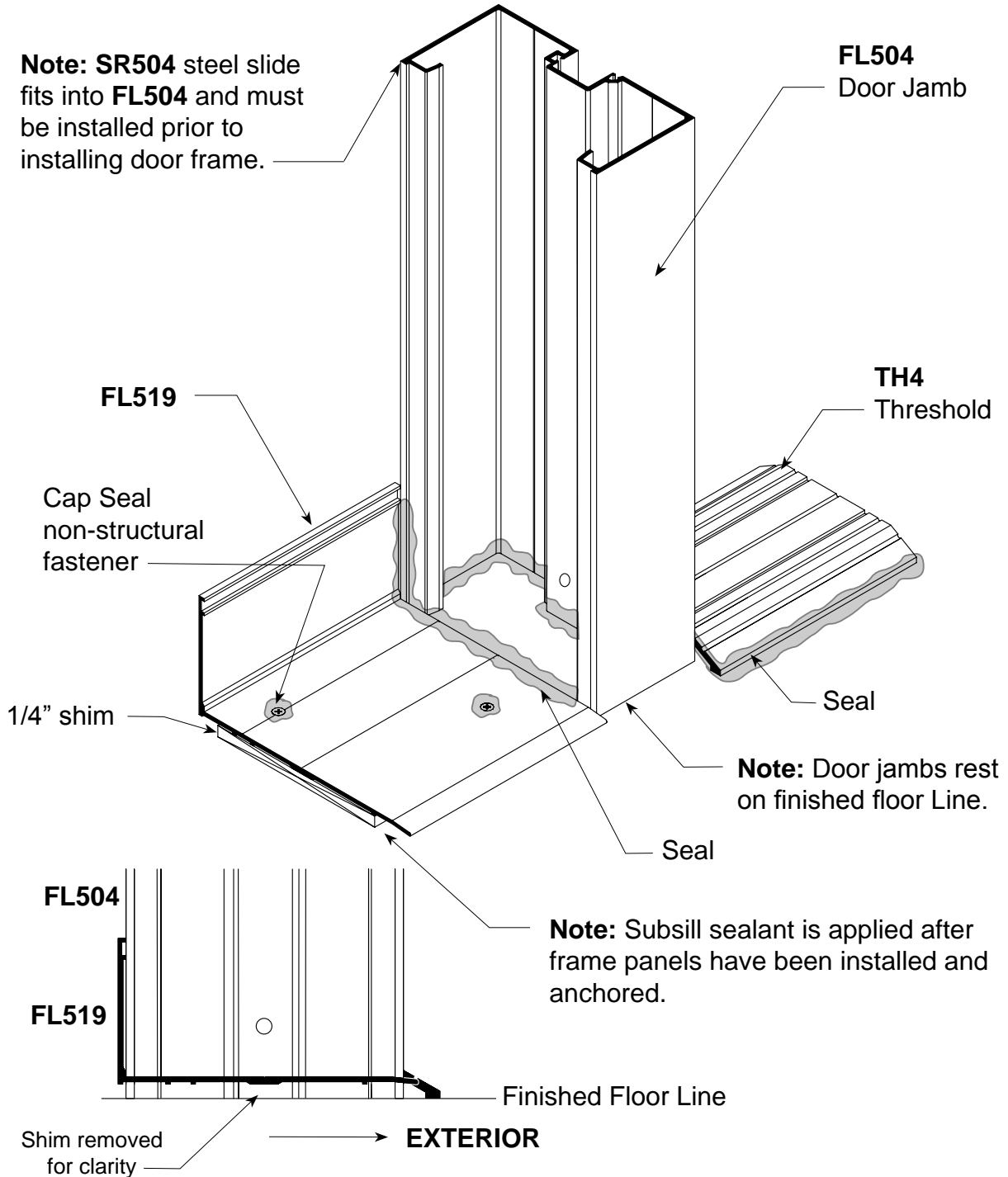
AS39
(#10 x 1-3/4" FHP self drilling)

Field fabricate holes in locations as shown in anchor charts and anchor threshold to substrate. (Ref. Pages 51-53).

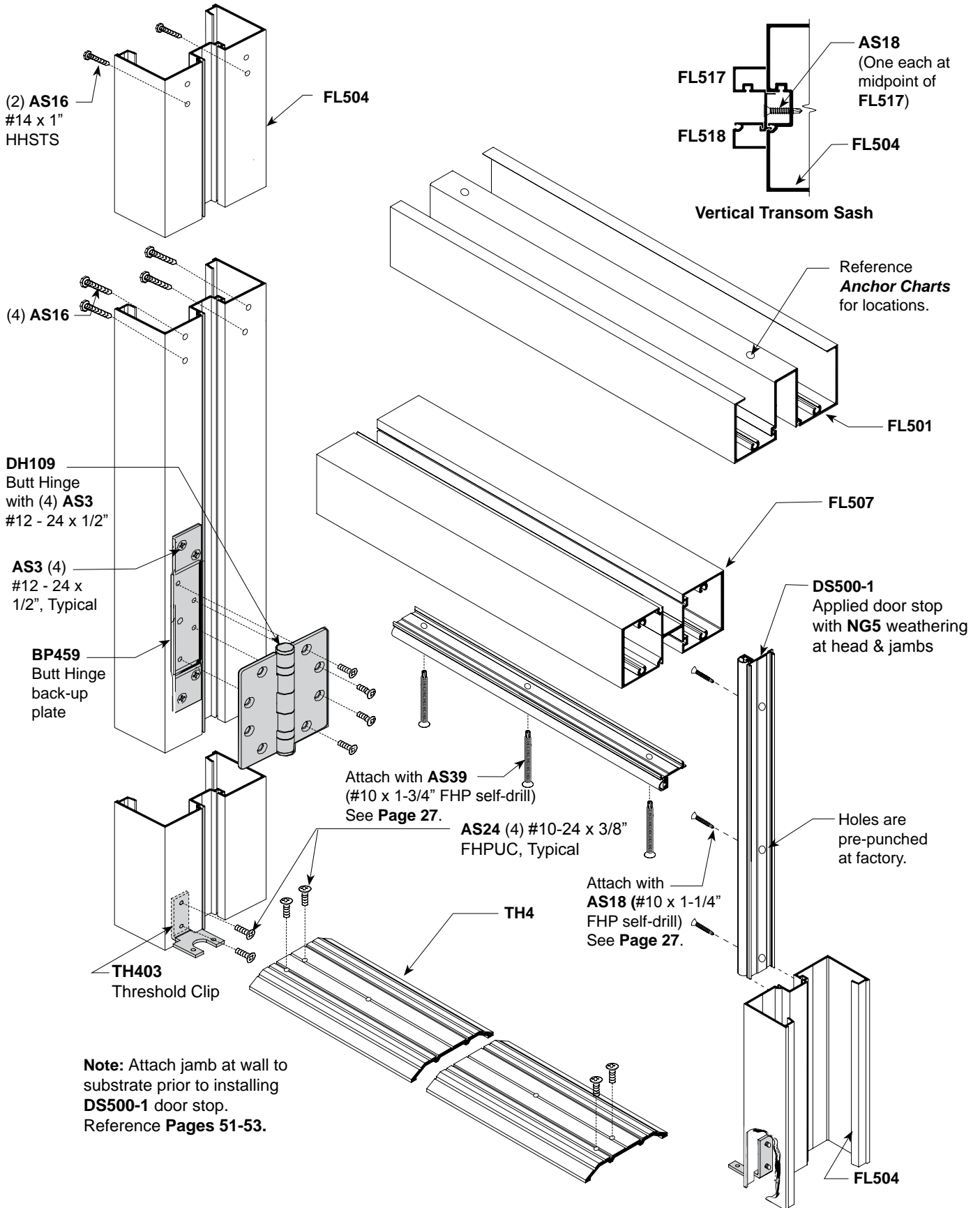


ENTRANCE DOOR FRAME INSTALLATION With Subsill for Sidelights

When entrances occur, install entrance frames first. Subsill butts against door jamb(s). The subsill abutting the door jamb does not require an end dam.



F5 or FT5 FRAME with Transom - Butt Hung Door - for Surface Closer

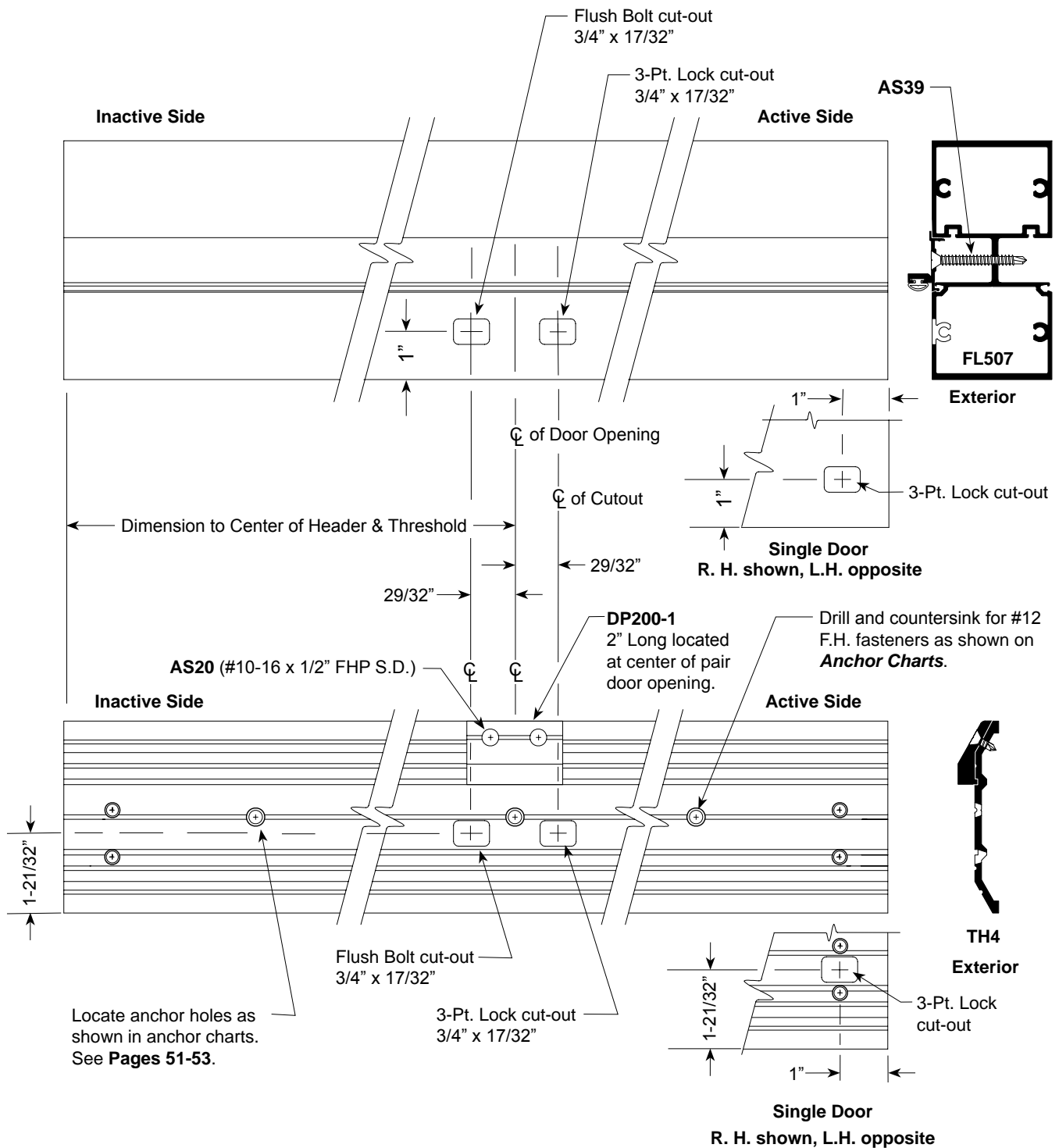


FLUSH BOLT & 3 PT. LOCK STRIKE LOCATIONS

F5 or FT5 Open Back Frame - Butt Hung Door - For Surface or Concealed Overhead Closer

FL507 Header Fabrication Shown for Surface Closer.

FL512 Header Fabrication Similar for C.O.C.

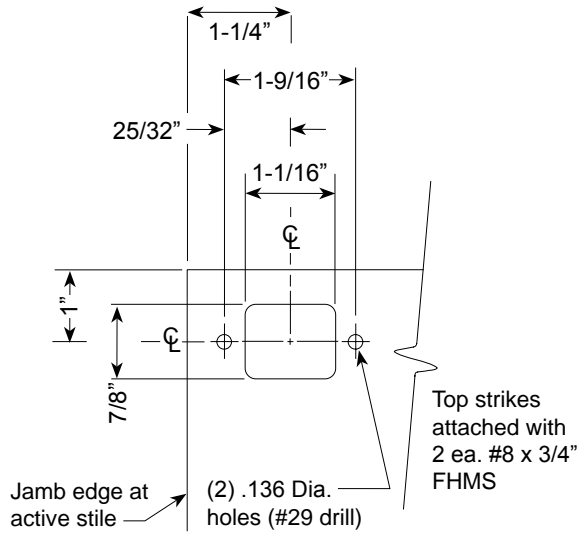


STRIKE LOCATIONS

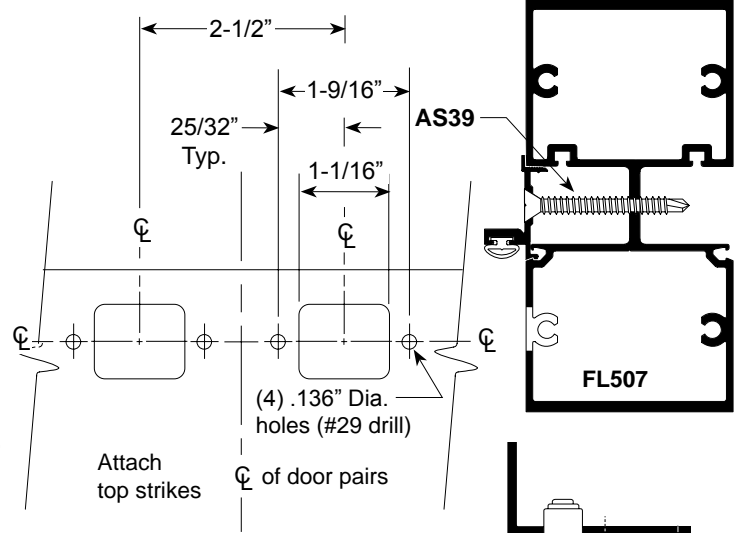
At Door Header and Threshold

For DH2086HR Concealed Panic

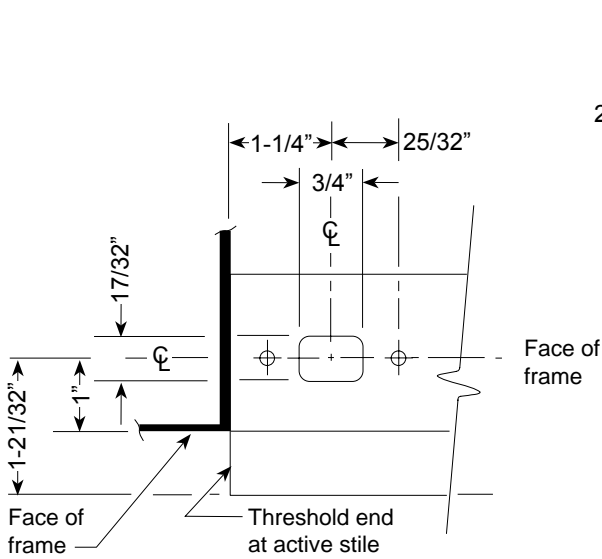
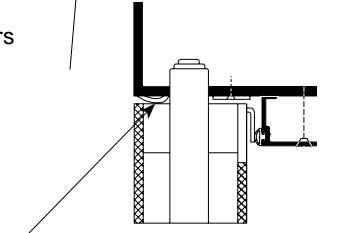
(Top and bottom strikes must be installed)



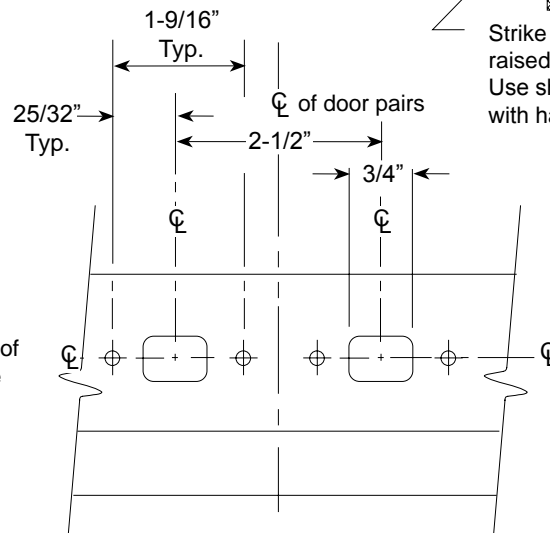
HEADER AT SINGLE DOOR



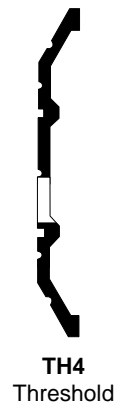
HEADER AT DOOR PAIRS



THRESHOLD AT SINGLE DOOR



THRESHOLD AT DOOR PAIRS

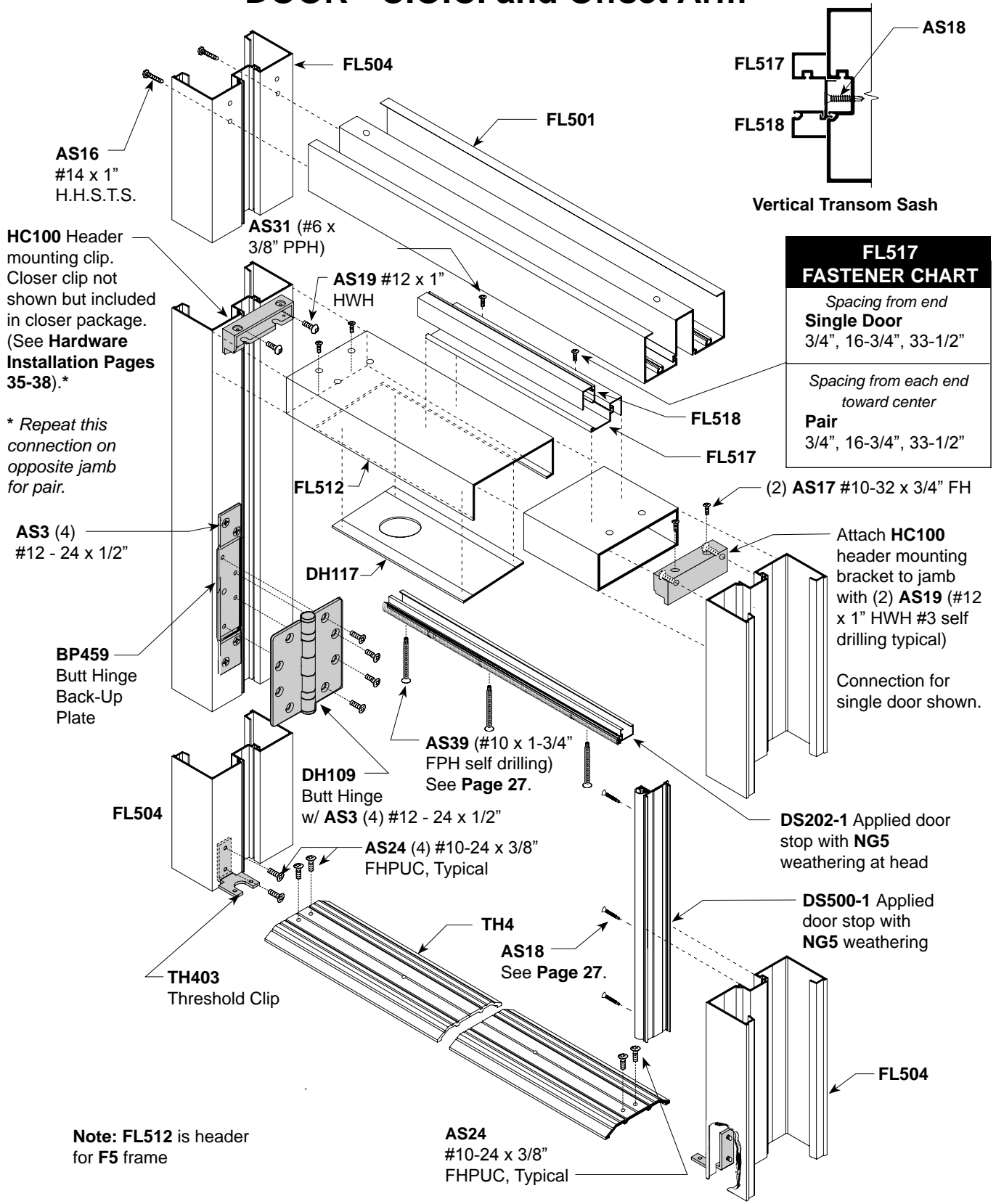


DH2086HR concealed panic device is factory installed in "Panic doors".

Panic is shipped in dogged position and must be undogged. This can be done with the use of flat head screwdriver.

Note: FL507 header for surface closer shown. FL512 header for C.O.C. similar.

F5 or FT5 FRAME - OFFSET BUTT HUNG DOOR - C.O.C. and Offset Arm

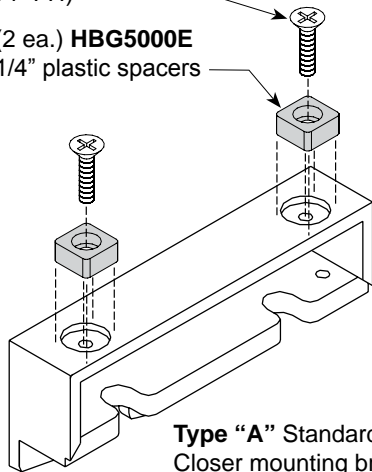


FT5 FRAME WITH FL512 HEADER for C.O.C. with Offset Arm

To mount closer into **FL512** headers, **HBG5000E** 1/4" plastic spacers are required.
For balance of header installation, see **pages 36-38**.

Secure closer mounting clip to header with (2) **AS17** fasteners (#10-32 x 3/4" FH)

(2 ea.) **HBG5000E** 1/4" plastic spacers



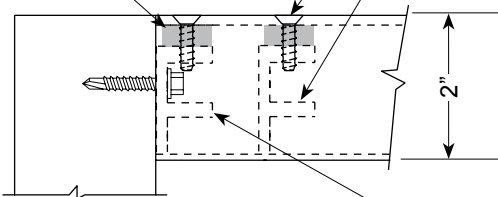
Type "A" Standard Clip
Closer mounting bracket
(included with closer)

Note: **HC100** header mounting clip is identical to **Type "A"** standard clip. **HC100** is used as a header / frame joinery clip.

(4) **AS17** fasteners (#10-32 x 3/4" FH)

(4) **HBG5000E** 1/4" spacers

Closer type "A" Mounting Clip

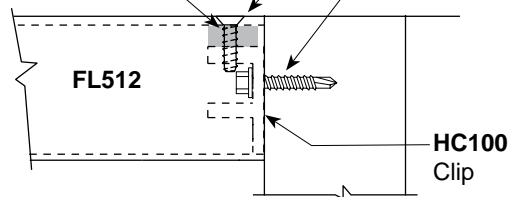


Attach **HC100** header mounting clips with (2) **AS19** (#12 x 1") self drilling fasteners (Repeat on opposite jamb for door pair)

(2) **HBG5000E** 1/4" spacers

(2) **AS17**

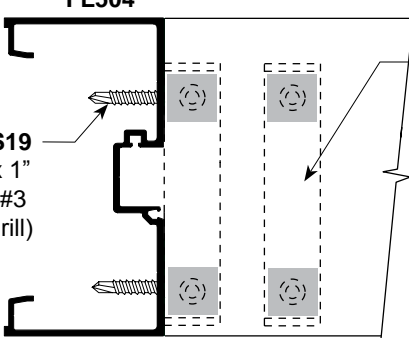
(2) **AS19** (#12 x 1" HWH #3 Self Drill)



Header / Jamb for Single Door
Opposite end from closer

FL504

(2) **AS19** (#12 x 1" HWH #3 Self Drill)

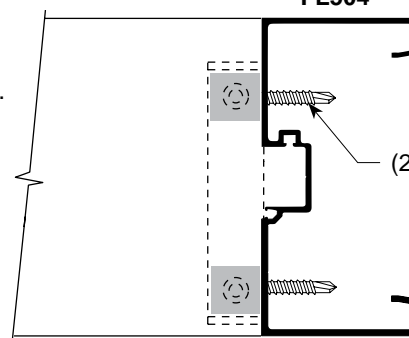


See **Page 35** for clip location.

105° swing for butt hung door

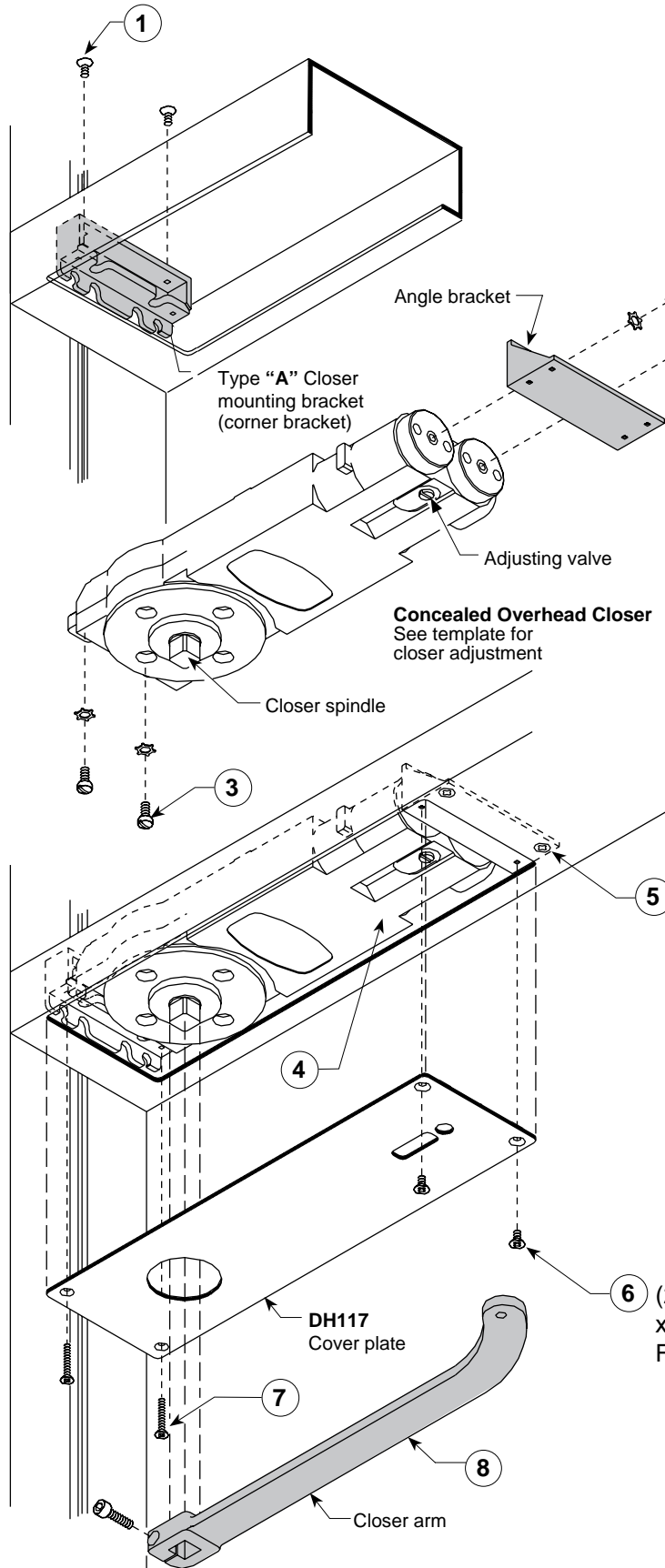
FL504

(2) **AS19**



C.O.C. FOR BUTT HUNG DOOR With 105° Swing for F5 or FT5 Frame

For door preparation and slide channel installation, see **Pages 38-39**.



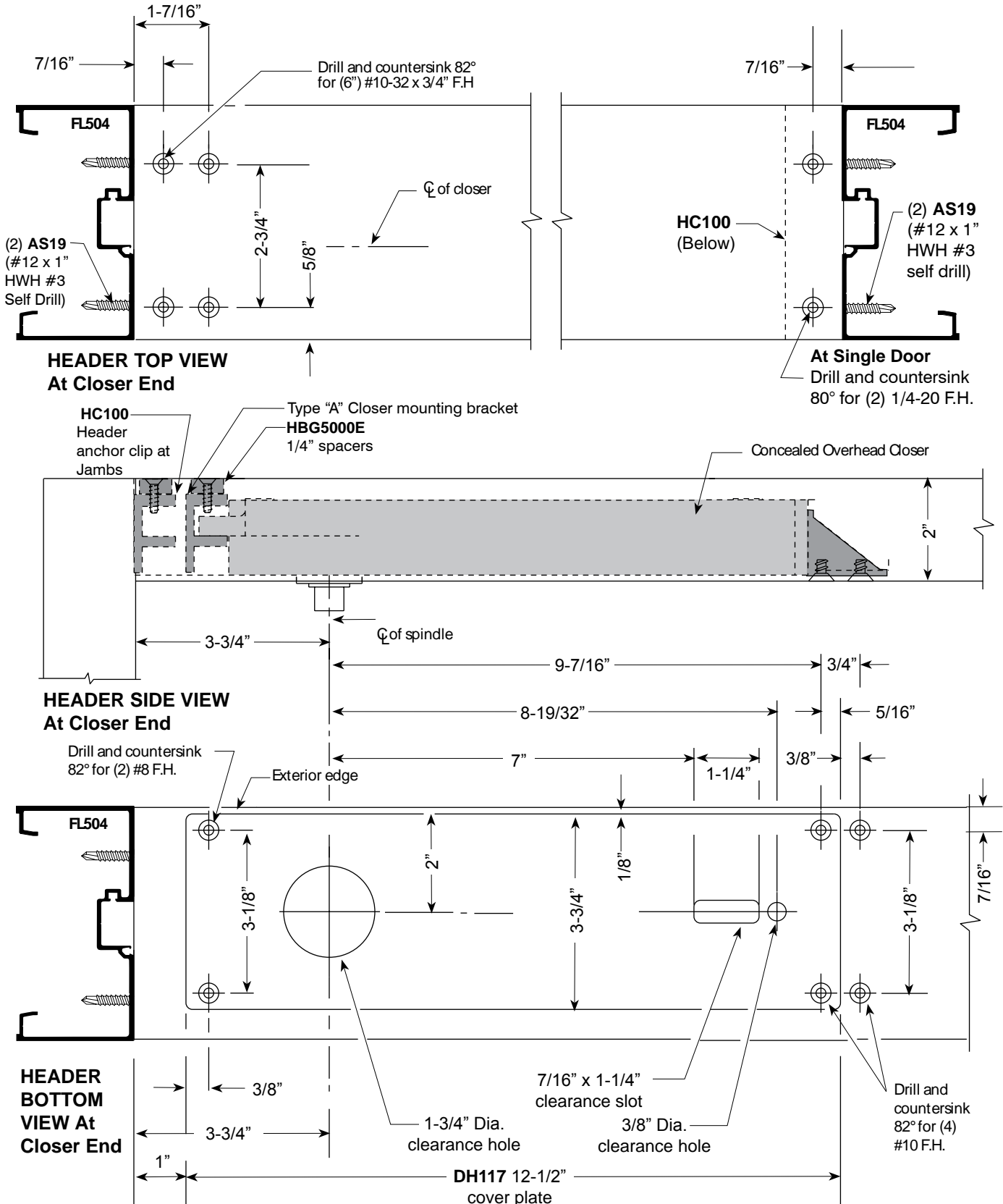
Note: Corner clips at jambs are attached prior to installing header.

1. Mount corner clip into header with (2) **AS17** 10-32 x 3/4" FHMS. See **Page 37** for clip location.
2. Mount angle bracket to closer with (2) 1/4-20 x 1/2" Hex Head M.S. and washers.
3. Install (2) 1/4-20 x 1/2" Fillister Head M.S. with washers into lugs of closer. Do not tighten screws.
4. Set closer onto header and align angle bracket holes with holes in header. Closer lugs shall rest on corner bracket.
5. Fasten angle bracket to header with (2) 10-24 x 3/8" FHMS. Tighten Fillister Head screws.
6. Install cover plate and secure to angle with (2) #8-32 x 1" FHP.
7. Attach cover plate to closer at hinge side with (2) #8-32 x 1" FHMS fasteners included with cover plate.
8. Mount arm on spindle and secure with 1/4-20 x 7/8" Socket Head Cap Screw.

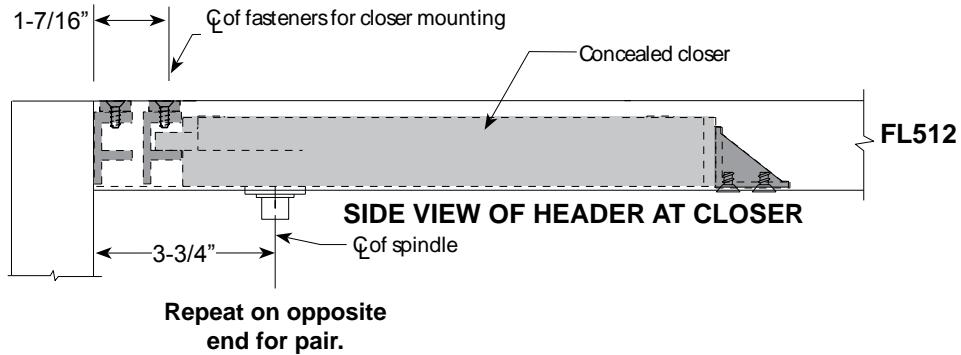
HEADER FOR C.O.C. - Butt Hung Door - with 105° Swing

FL512 Header Preparation

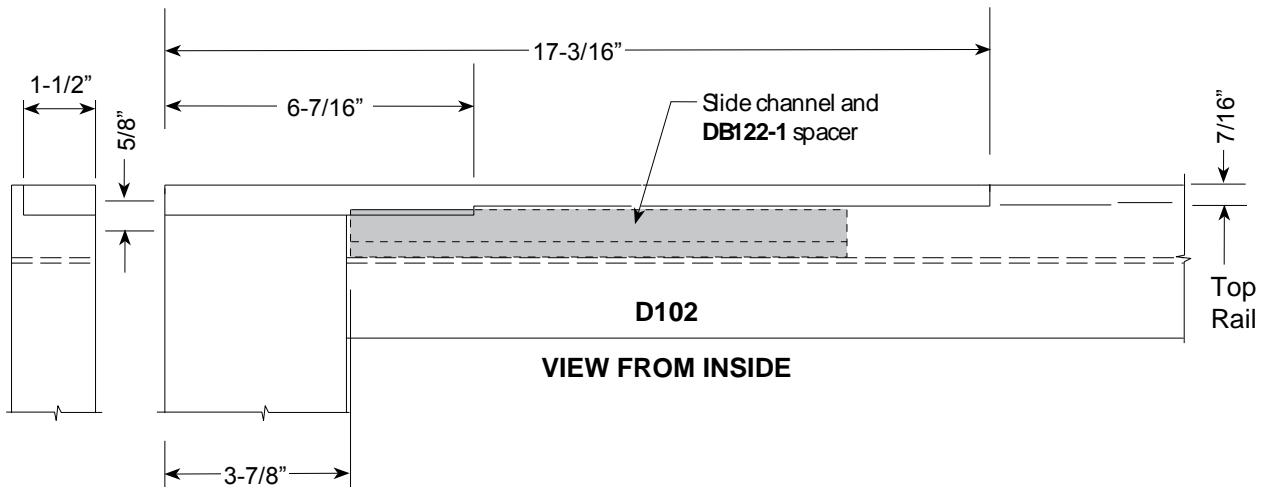
Header requires **HBG5000** 1/4" spacers.



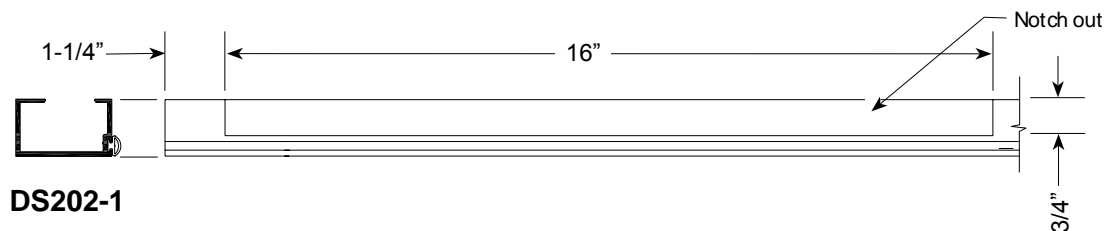
C.O.C. Closer Location in FL512 Header for 105° Swing



SLIDE CHANNEL LOCATION IN DOOR TOP RAIL FOR OFFSET ARM



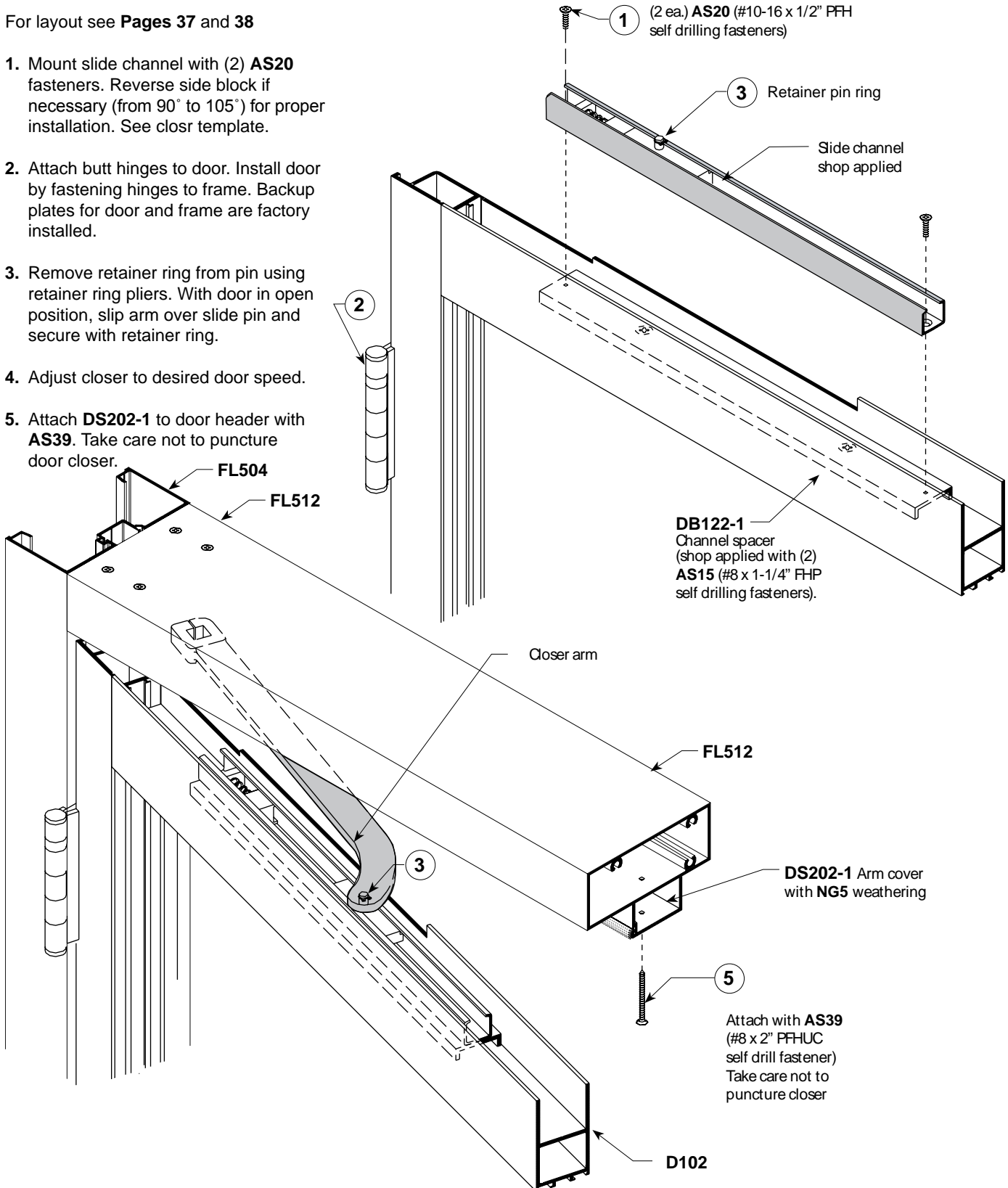
OFF-SET ARM COVER CHANNEL LEFT HAND SHOWN RIGHT HAND OPPOSITE



BUTT HINGE DOOR WITH JACKSON C.O.C. FOR 105° SWING

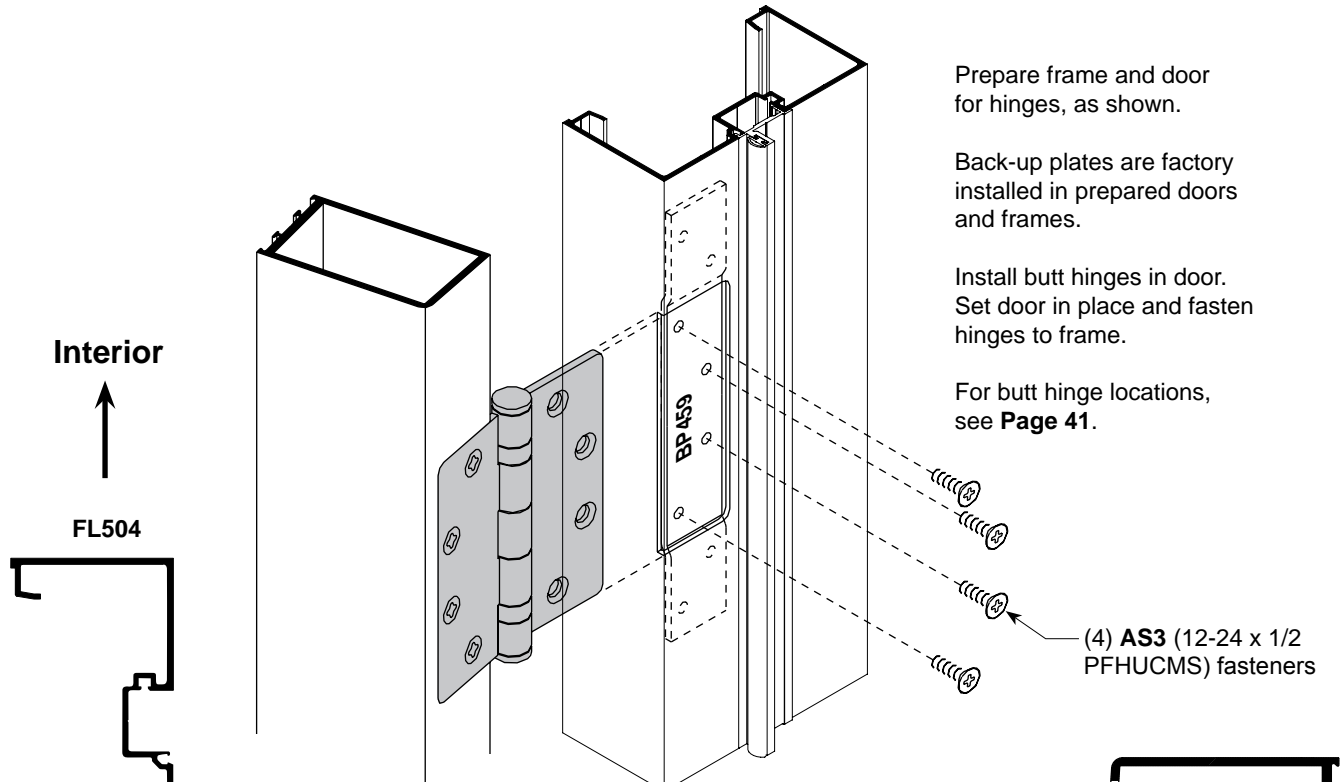
For layout see **Pages 37 and 38**

1. Mount slide channel with (2) **AS20** fasteners. Reverse side block if necessary (from 90° to 105°) for proper installation. See closer template.
2. Attach butt hinges to door. Install door by fastening hinges to frame. Backup plates for door and frame are factory installed.
3. Remove retainer ring from pin using retainer ring pliers. With door in open position, slip arm over slide pin and secure with retainer ring.
4. Adjust closer to desired door speed.
5. Attach **DS202-1** to door header with **AS39**. Take care not to puncture door closer.



BUTT HINGE INSTALLATION

Door and Frame



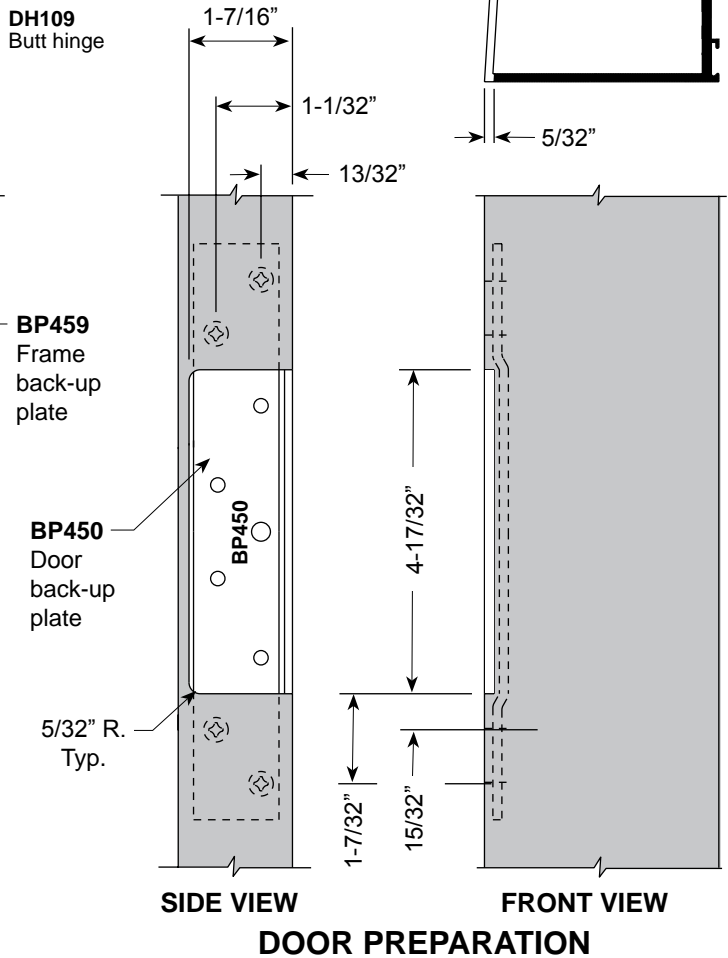
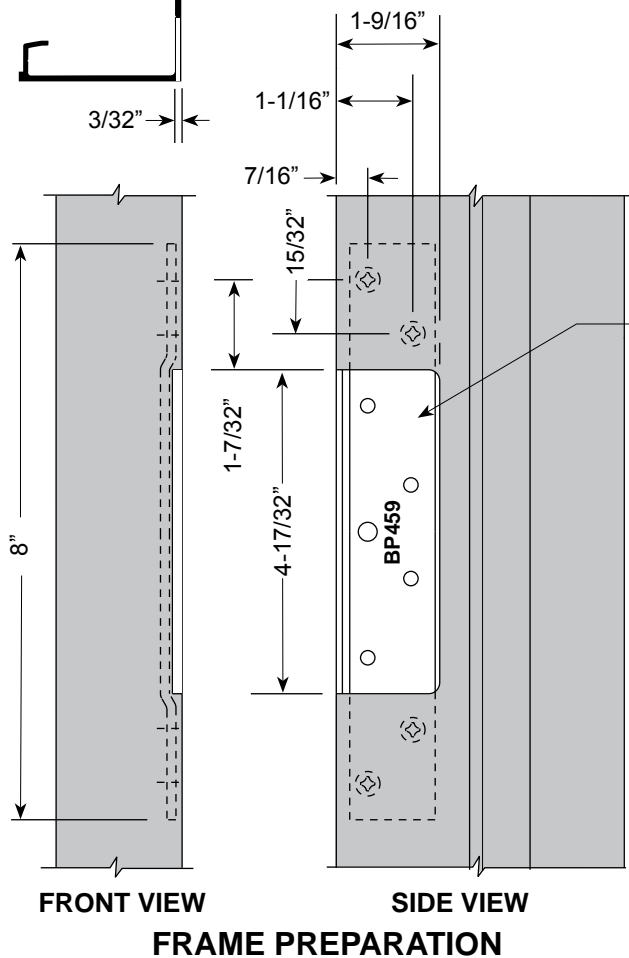
Prepare frame and door for hinges, as shown.

Back-up plates are factory installed in prepared doors and frames.

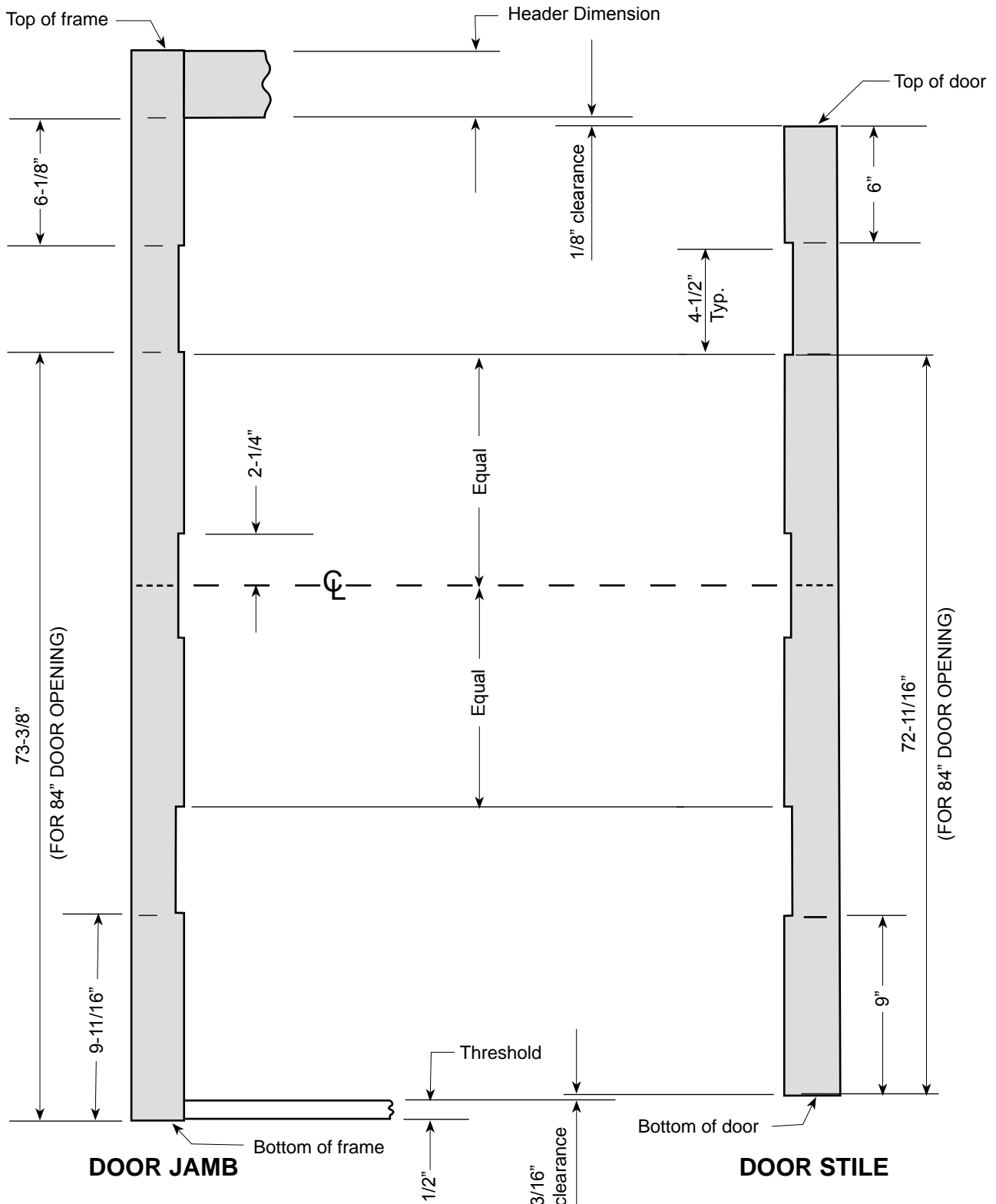
Install butt hinges in door. Set door in place and fasten hinges to frame.

For butt hinge locations, see **Page 41**.

(4) **AS3** (12-24 x 1/2 PPHUCMS) fasteners



STANDARD DH109 BUTT HINGE LOCATION For F5 Frame and Series 381 Door

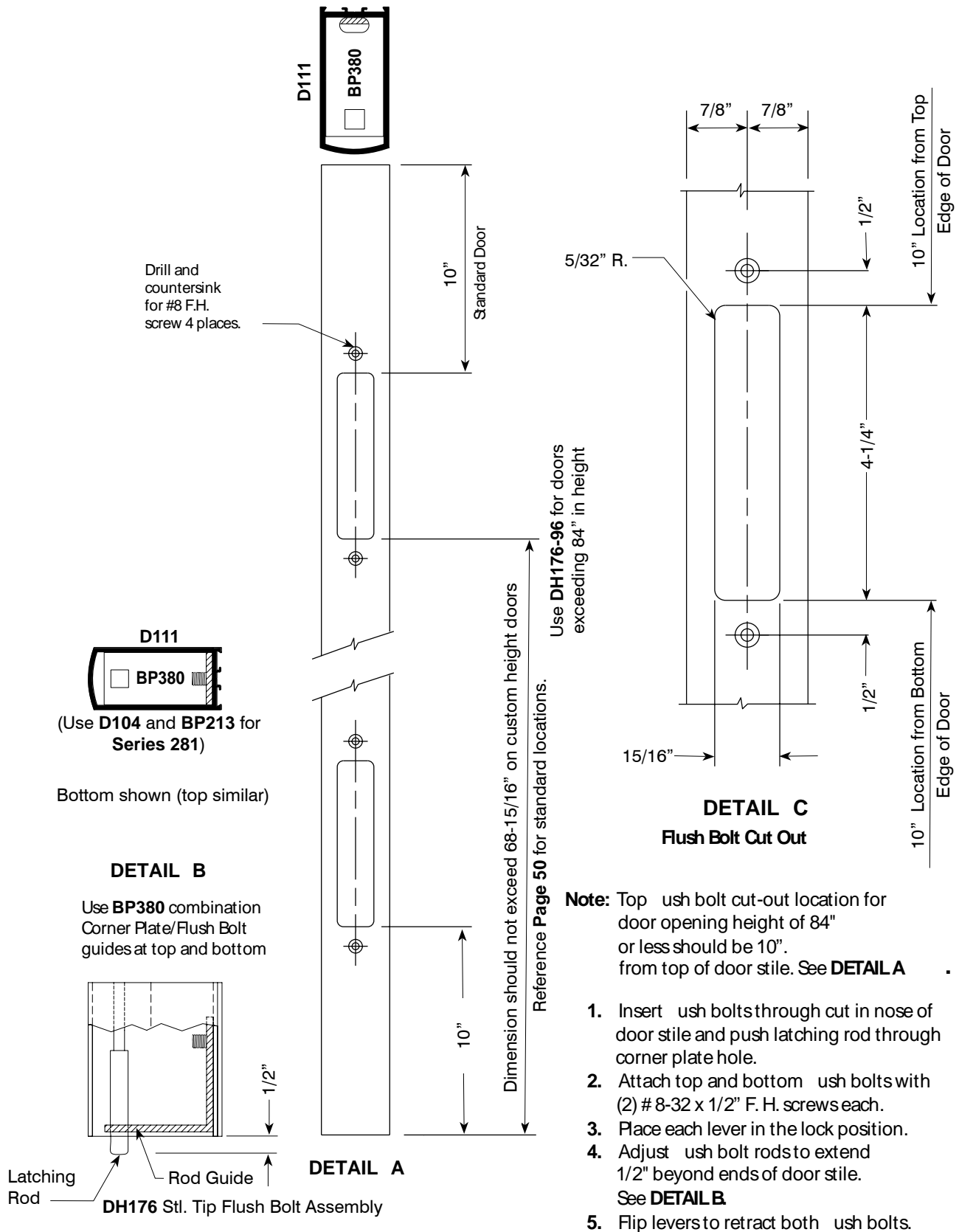


Note: Reference **Page 50** for other standard hardware locations.

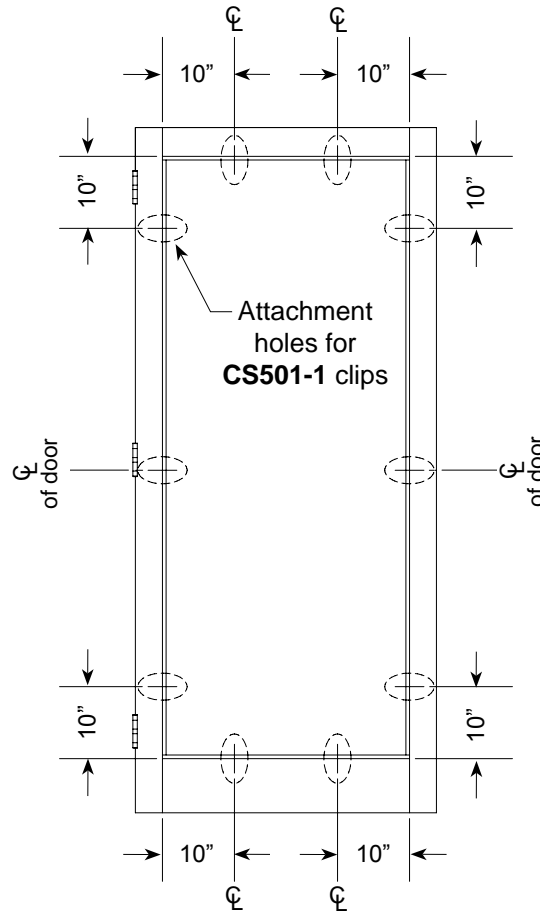
FLUSH BOLTS

Series 381 Inactive Leaf Shown

Series 281 Similar



Series 281 and 381 Doors ATTACHMENT LOCATIONS For CS501-1 Glass Stop Clip



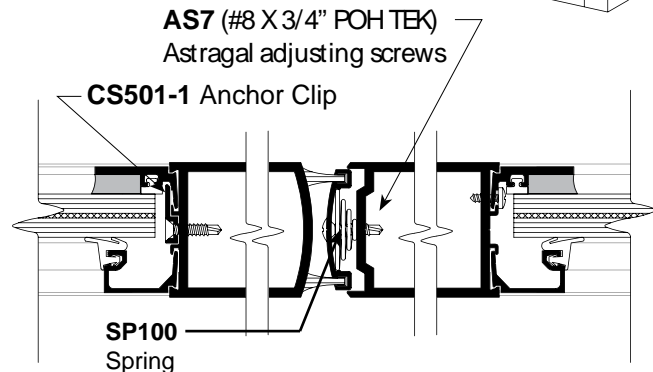
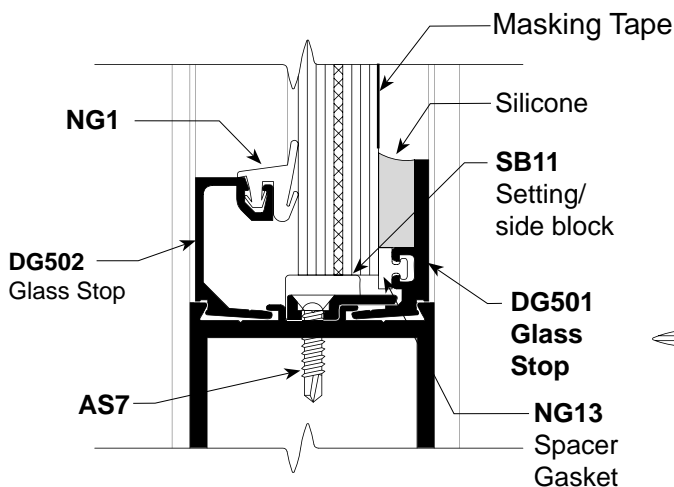
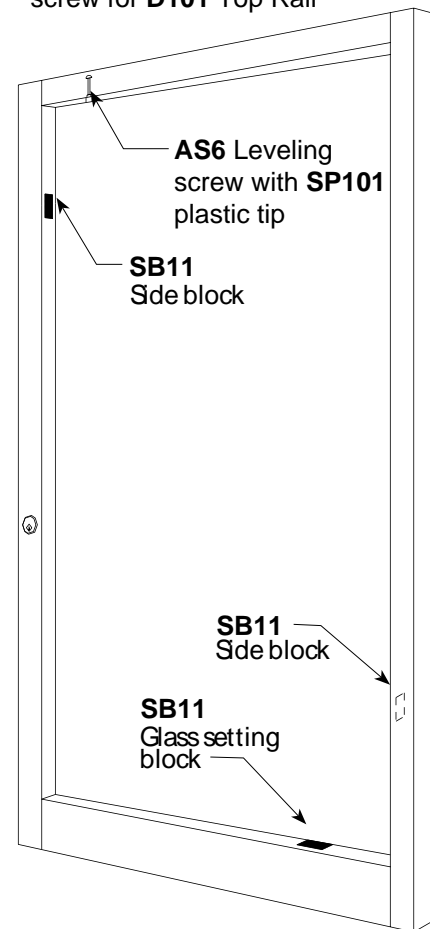
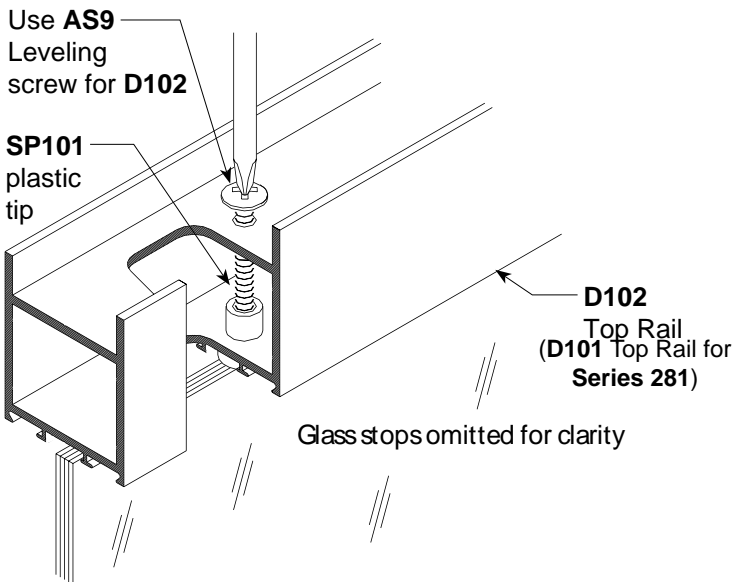
**CS501-1 Glass Stop Clip Attachment
for 84" or 96" Door Height**

1. Position **DG501-1** with **NG13** spacer gasket as instructed on **Page 44**.
2. Position **CS501-1** clips as shown above and attach with **AS7** fasteners. Reference **Detail A** on **Page 44**.

SERIES 381 DOOR GLAZING INSTRUCTIONS

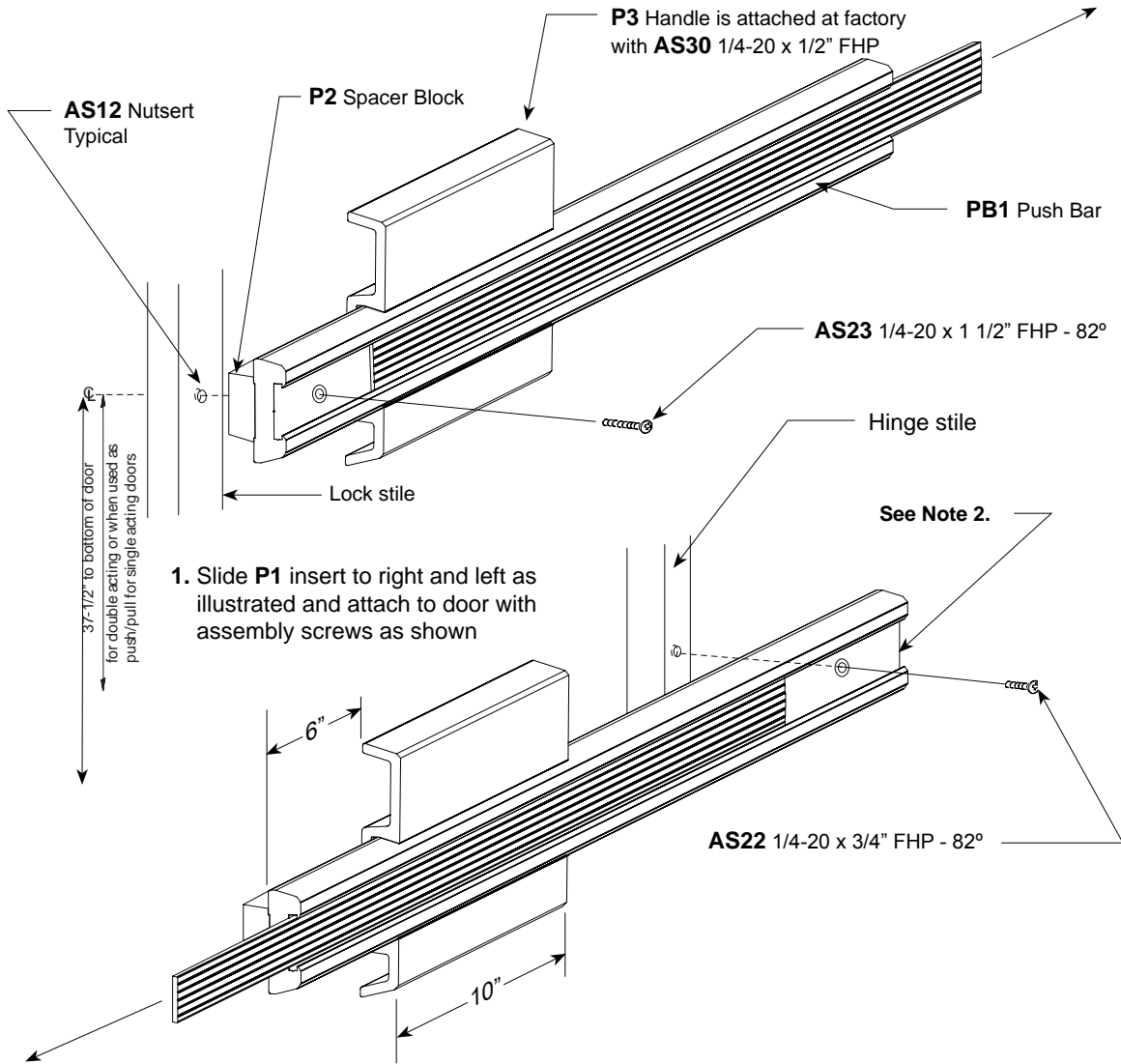
1. Raise leveling screw to maximum retracted position.
2. **DG501** glass stop may be installed on either interior or exterior side of door. It is recommended that **DG501** be installed on the interior side of doors receiving panic devices to allow for re-glazing without removing the panic bars.
3. Determine side of door you desire to place **DG501** and secure with **CS501-1** anchor clips. Match drill holes in stop into door and attach as shown below in **Detail "A"** with **AS7**.
4. Position **SB11** setting/side blocks in locations as shown.
5. Center glass into opening on setting blocks and align with side blocks.
6. Once the glass is in the correct position, lightly screw the glass jack down on top of the glass to create a uniform clearance between the top rail and header.
7. Adjust astragal screws for proper clearance between meeting stiles.
8. Install horizontal **DG502** glass stops first. Now install the vertical **DG502** glass stops.
9. Roll **NG1** gasket into **DG502**.
10. Mask off glass with 2" wide low adhesive masking tape and apply Dow 995 sealant into the cavity between the glass and **DG501** glass stop. Remove masking tape immediately after installation of sealant taking care not to damage or pull sealant from the cavity.

NOTE: Use **AS6** Leveling screw for **D101** Top Rail



CAPSTYLE CLASSIC

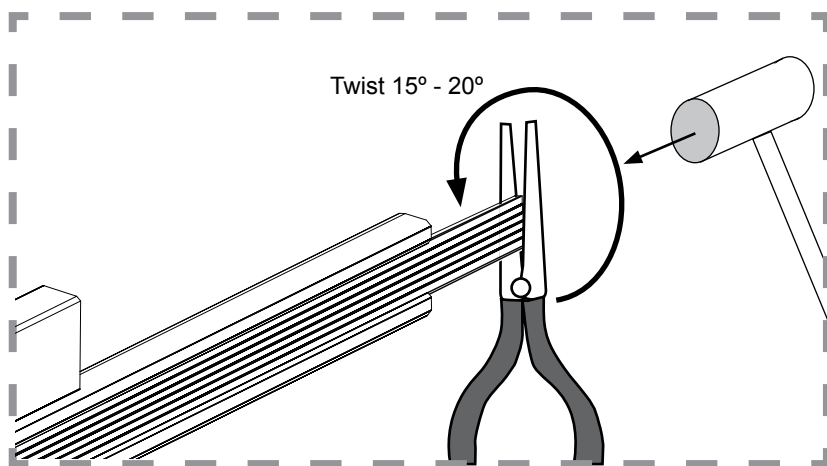
**INSTRUCTIONS FOR ATTACHING DH300 SERIES
PUSH BAR WITH P1 INSERT TO DOOR**



1. Slide **P1** insert to right and left as illustrated and attach to door with assembly screws as shown

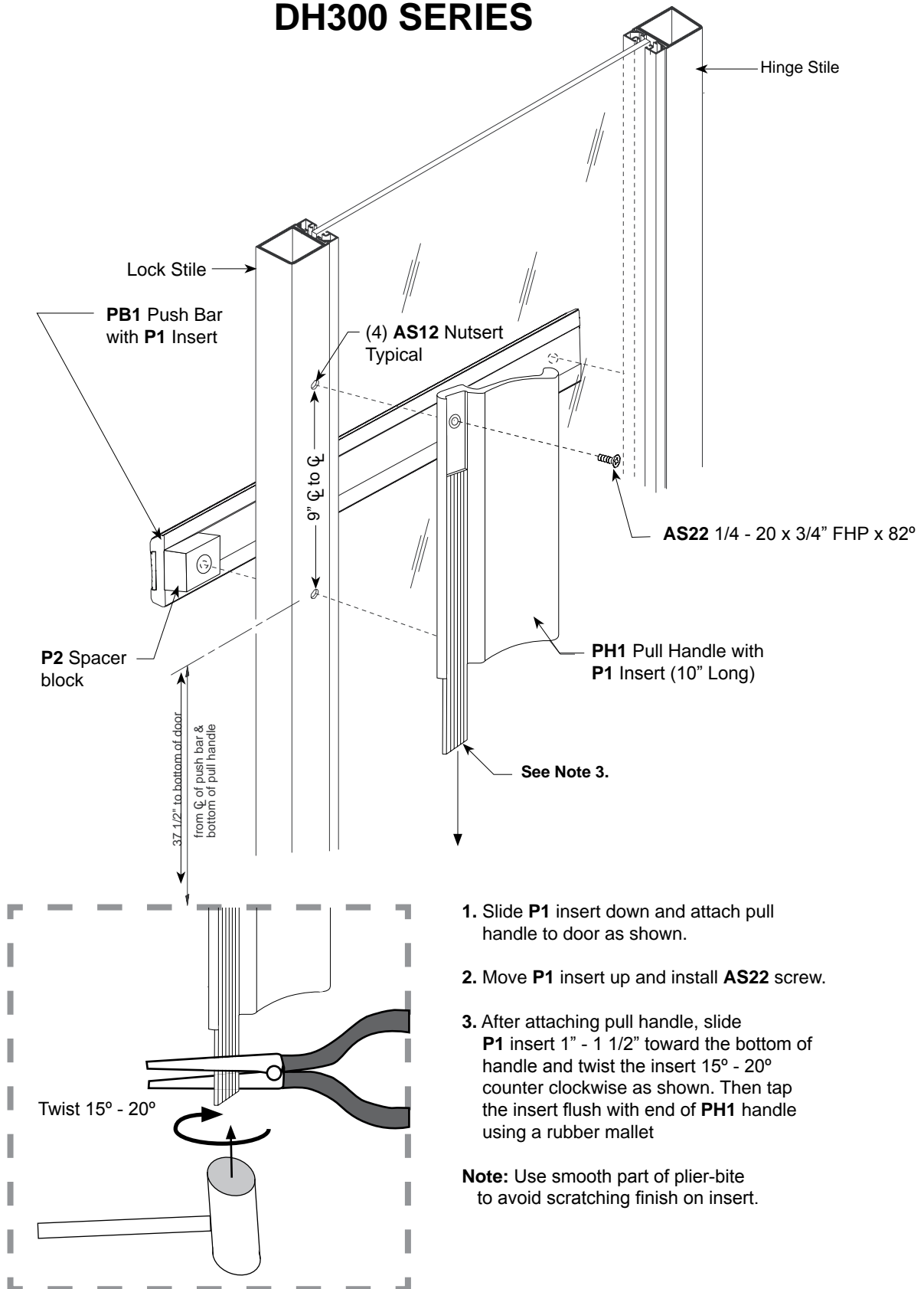
2. After attaching push bar, slide **P1** insert 1" - 1 1/2" toward the hinge stile and twist the insert 15° - 20° counter clockwise as shown. Then use a rubber mallet to tap the insert flush with end of **PB1** bar.

Note: Use smooth part of plier-bite to avoid scratching finish on insert.



CAPSTYLE CLASSIC

**STANDARD OFFSET HUNG HARDWARE SET
DH300 SERIES**



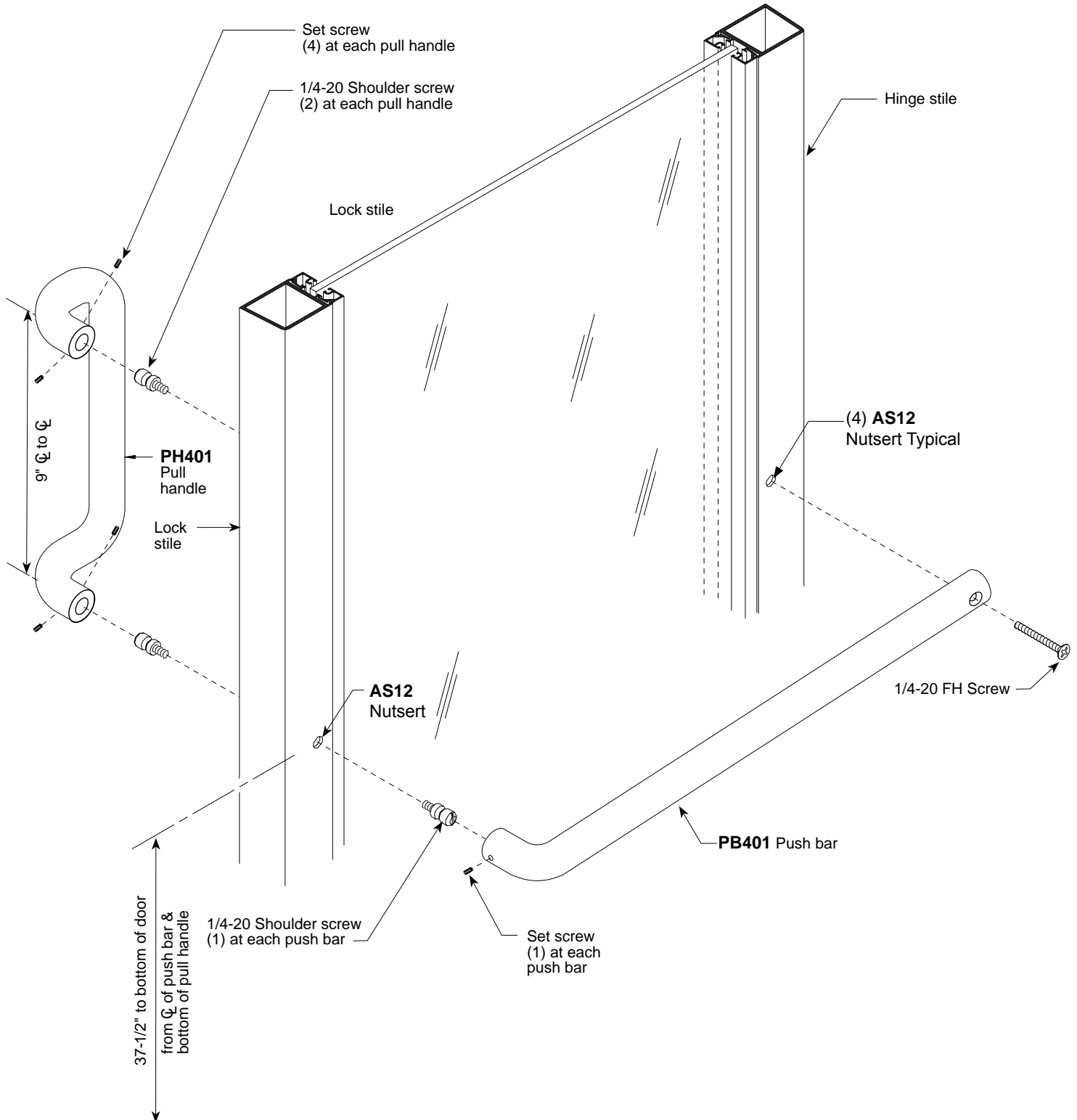
1. Slide **P1** insert down and attach pull handle to door as shown.
2. Move **P1** insert up and install **AS22** screw.
3. After attaching pull handle, slide **P1** insert 1" - 1 1/2" toward the bottom of handle and twist the insert 15° - 20° counter clockwise as shown. Then tap the insert flush with end of **PH1** handle using a rubber mallet

Note: Use smooth part of plier-bite to avoid scratching finish on insert.

CAPSTYLE[®] TRADITIONAL

OFFSET HUNG DOOR HARDWARE SET

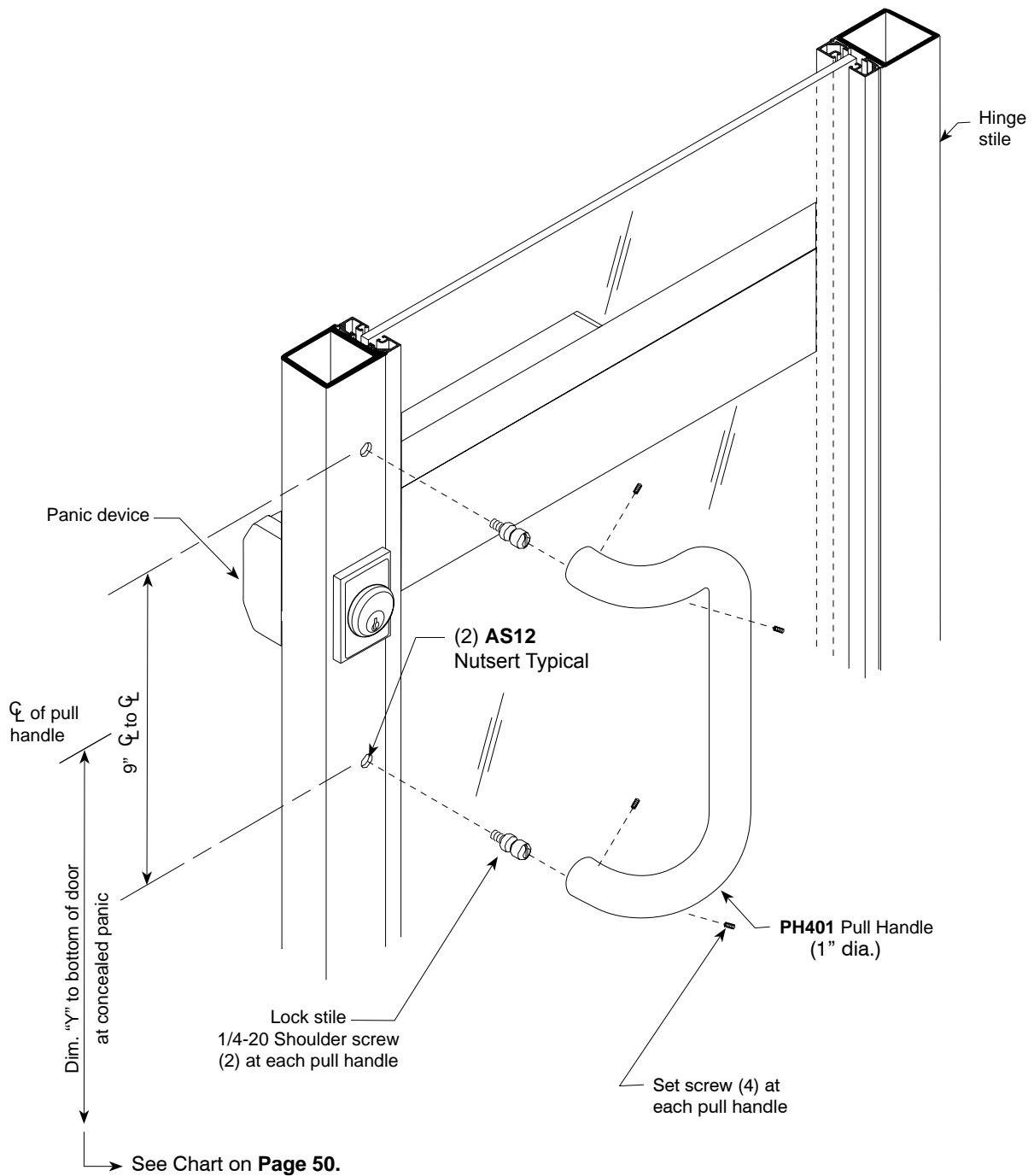
DH400 (OPTIONAL)



CAPSTYLE TRADITIONAL

PULL HARDWARE SET FOR PANIC DOOR

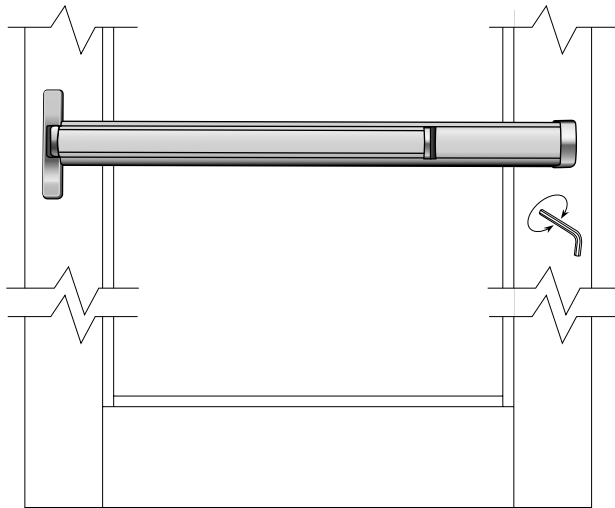
DH40P (STANDARD FOR PANIC DOORS)



PANIC DOORS WITH DH2086HR PUSH PAD EXIT DEVICE with Optional Dogging Feature

Concealed panic device is factory installed with Hurricane-Impact rod guides.

Panic is shipped in dogged position and must be undogged. This can be done with the use of an allen wrench (supplied) or the cylinder key.



Dogging Instructions:

- To dog:** Depress panic bar, hold down and turn dogging key 1/4 clockwise.
- To undog:** Turn dogging key counterclockwise.

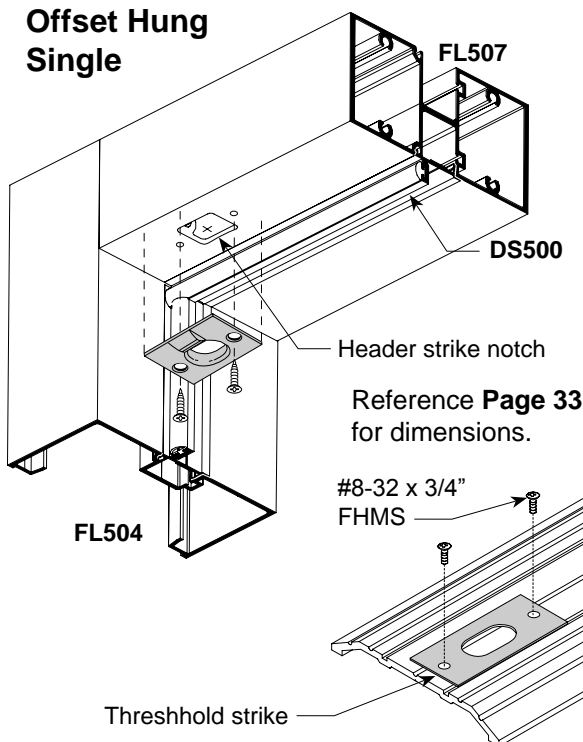
Installation Procedure

1. Hang door, as required. The clearance between top of door and bottom of header **must not exceed 1/8"**.
2. Undog panic.
3. **Note:** Panic devices are preset at the factory. Due to various field conditions, they may require minor adjustment.

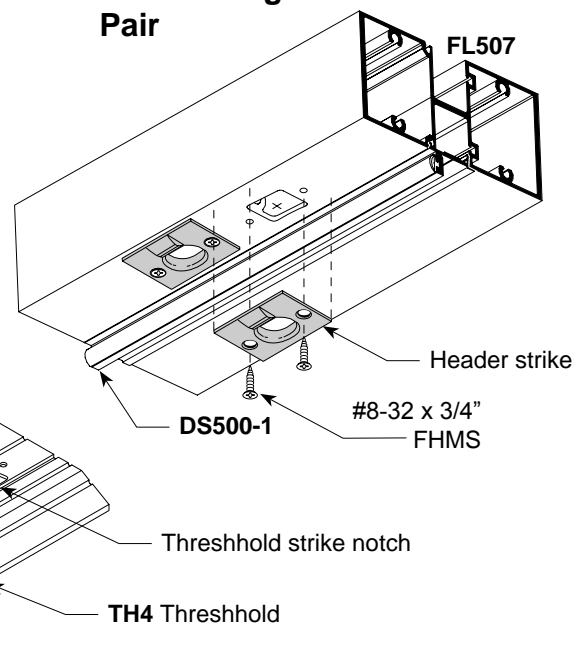
Outside Key Functions

The DH2086HR panic is factory installed for key entry with dogging key option. To key dog device for continued outside entry, hold bar in fully depressed position and turn key approximately one quarter turn clockwise; then, return key to vertical position and remove. To lock door again, fully depress bar and turn key approximately one quarter turn counter clockwise; then return key to vertical position and remove.

Offset Hung Single

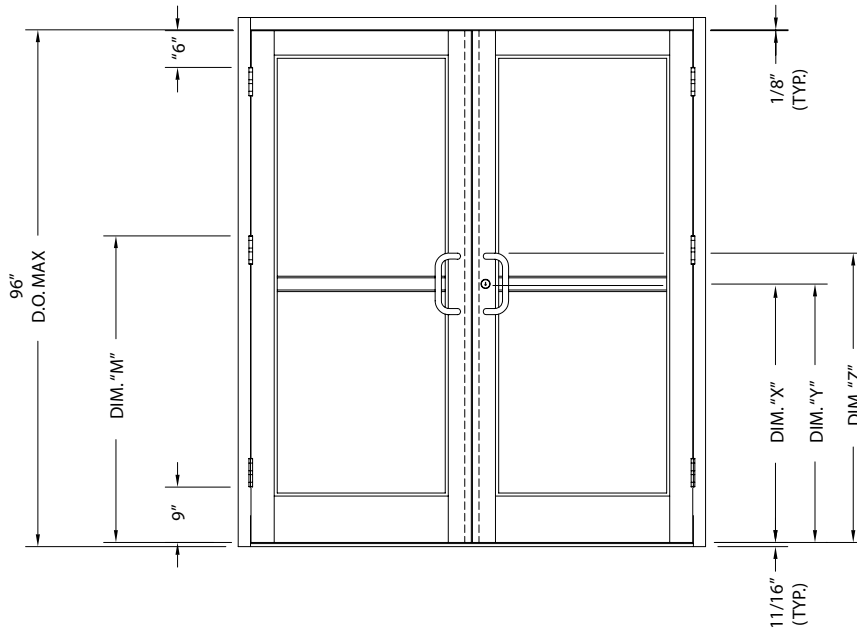


Offset Hung Pair



STANDARD HARDWARE LOCATIONS

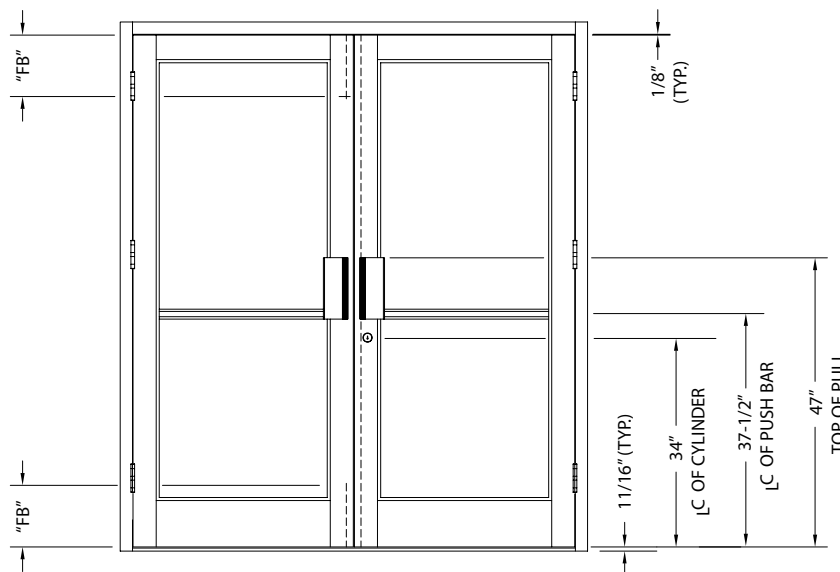
Series 381 and 281 Hurricane Impact-Resistant Doors



INTERMEDIATE HINGE	
D.O. HEIGHT	DIM. "M"
	BUTT HUNG
84"	45-11/32"
96"	51-11/32"

Note: All doors require an intermediate hinge.

HARDWARE LOCATIONS FOR PANIC DOORS				
MANUFACTURER	PANIC DEVICE	DIM "X" C OF CYLINDER	DIM "Y" C OF PANIC	DIM "Z" TOP OF PULL
JACKSON	2086 C.V.R.	37 - 7/8"	38 - 5/32"	42 - 7/8"



STANDARD HARDWARE LOCATIONS, LOCK & FLUSH BOLT		
PART NO.	DESCRIPTION	DIM. "FB"
DH176-96	TOP FLUSH BOLT (FOR 96" DOOR)	22"
DH176	TOP FLUSH BOLT (FOR 84" DOOR)	10"
DH176	BOTTOM FLUSH BOLT (FOR 84" / 96" DOOR)	10"

PERIMETER FASTENER LOCATIONS

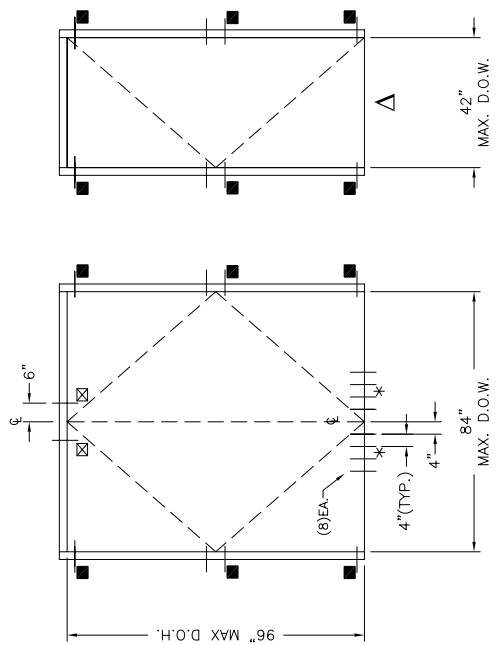
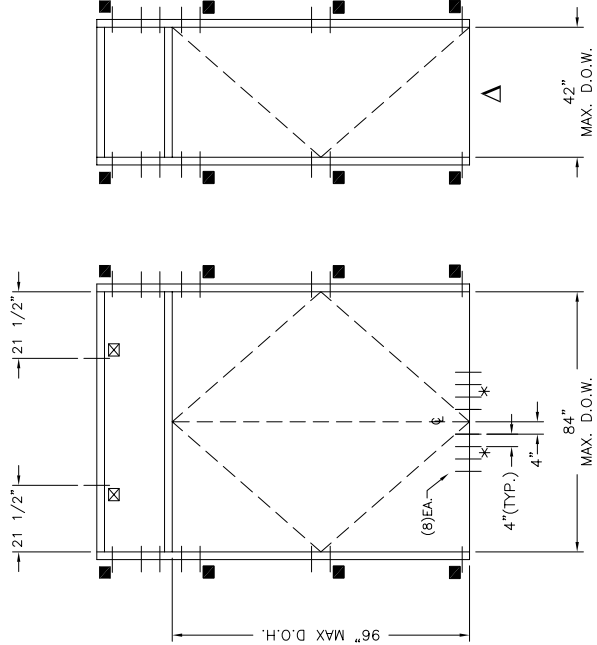
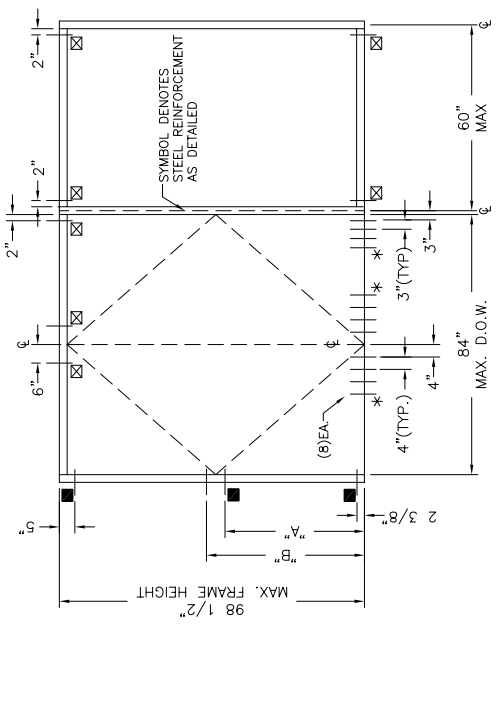
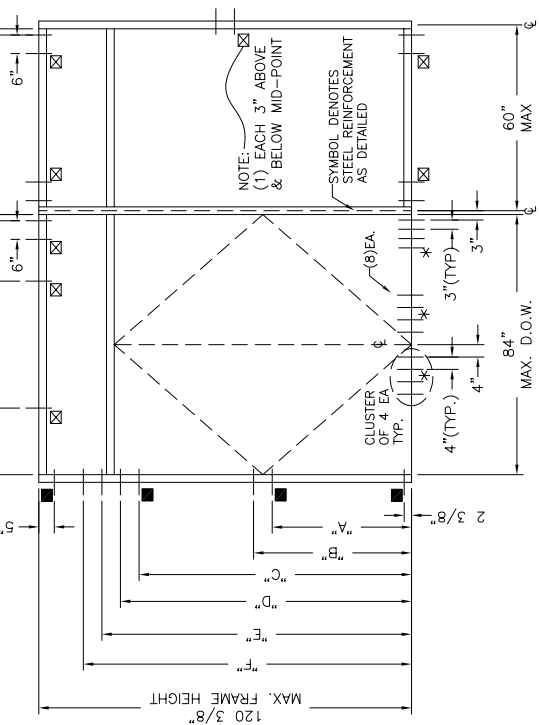
**TYPICAL INSTALLATION INTO:
CONCRETE SUBSTRATE MIN. 2,500 P.S.I.**

PERIMETER FASTENER LOCATIONS

DOOR OPENING HEIGHT	ANCHOR LOCATIONS FOR "LETTER" DIM.					
	"A"	"B"	"C"	"D"	"E"	"F"
84"	45"	51"	76"	82"	89"	95"
96"	45"	51"	88"	94"	100"	106"

**TYP. INSTALLATION INTO:
2,500 PSI CONCRETE SUBSTRATE**

■	3/8" X 4-1/2" LDT, 2" MIN. EMBEDMENT WITH FILLER PLATE FULL LENGTH OF MULLION
☒	3/8" X 2-1/2" LDT, 2" MIN. EMBEDMENT
*	1/4" X 2-1/2" PFH TAPCON, 1-3/4" MIN. EMBEDMENT
	6" MIN. SPACING @ 3/8" TAPCON
	3" MIN. SPACING @ 1/4" TAPCON



**MAX. DESIGN PRESSURE:
+70/80 P.S.F.**

NOTES:

Δ = STRUCTURAL FASTENERS NOT REQUIRED AT THRESHOLD.

LEGEND



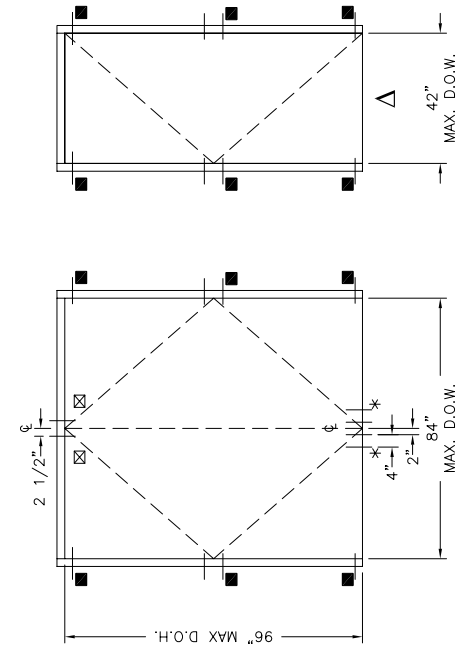
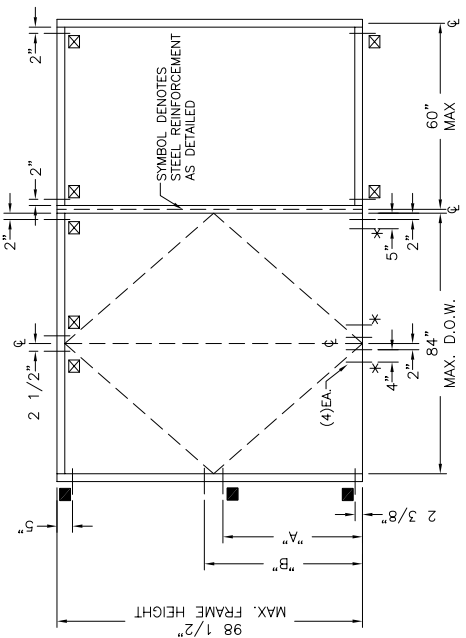
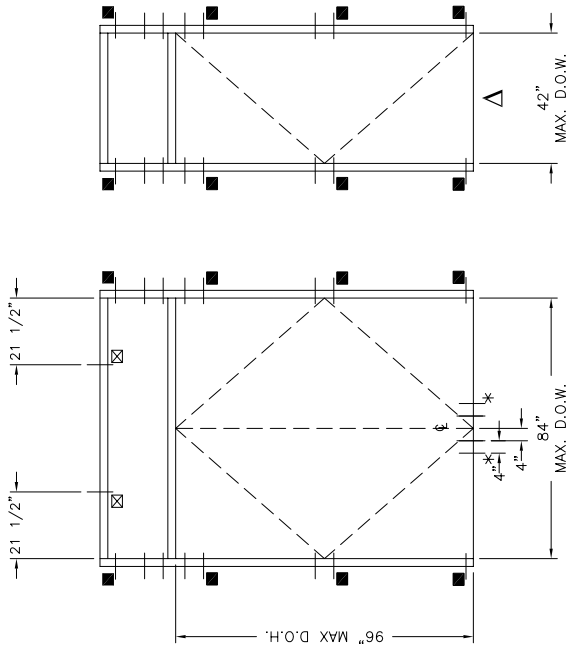
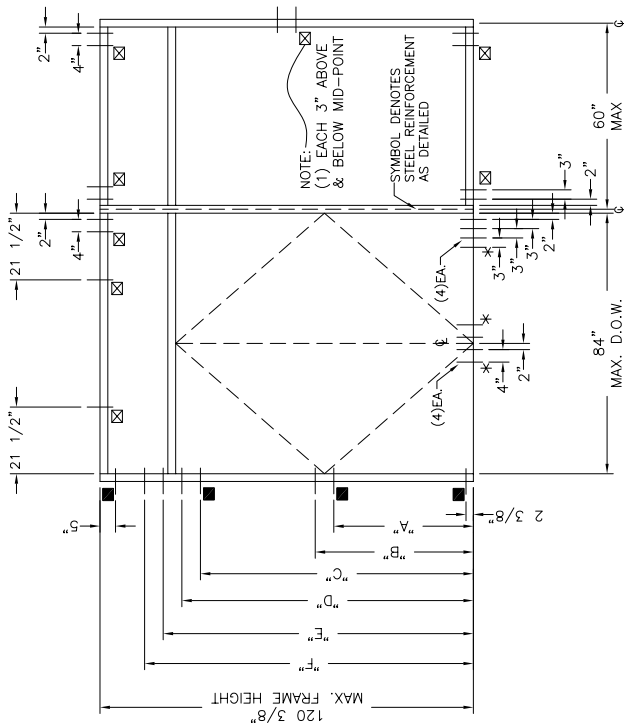
PERIMETER FASTENER LOCATIONS
TYPICAL INSTALLATION INTO:
1/4" MIN. THICK STEEL SUBSTRATE

PERIMETER FASTENER LOCATIONS

DOOR OPENING HEIGHT	ANCHOR LOCATIONS FOR "LETTER" DIM.				
	"A"	"B"	"C"	"D"	"E"
84"	45"	51"	76"	82"	89"
96"	45"	51"	88"	94"	106"

TYP. INSTALLATION INTO:
STEEL SUBSTRATE

■	3/8"-16 X 3 1/2" HWH TYPE "F" TCS FILLER PLATE FULL LENGTH OF MULLION
☒	3/8"-16 X 1 1/2" HWH TYPE "F" TCS SCREW
*	1/4"-12 X 1 1/2" PFH #3 TEK SCREW 2" MIN SPACING



MAX. DESIGN PRESSURE:
+70/80 P.S.F.

NOTES:

Δ = STRUCTURAL FASTENERS NOT REQUIRED AT THRESHOLD.

LEGEND

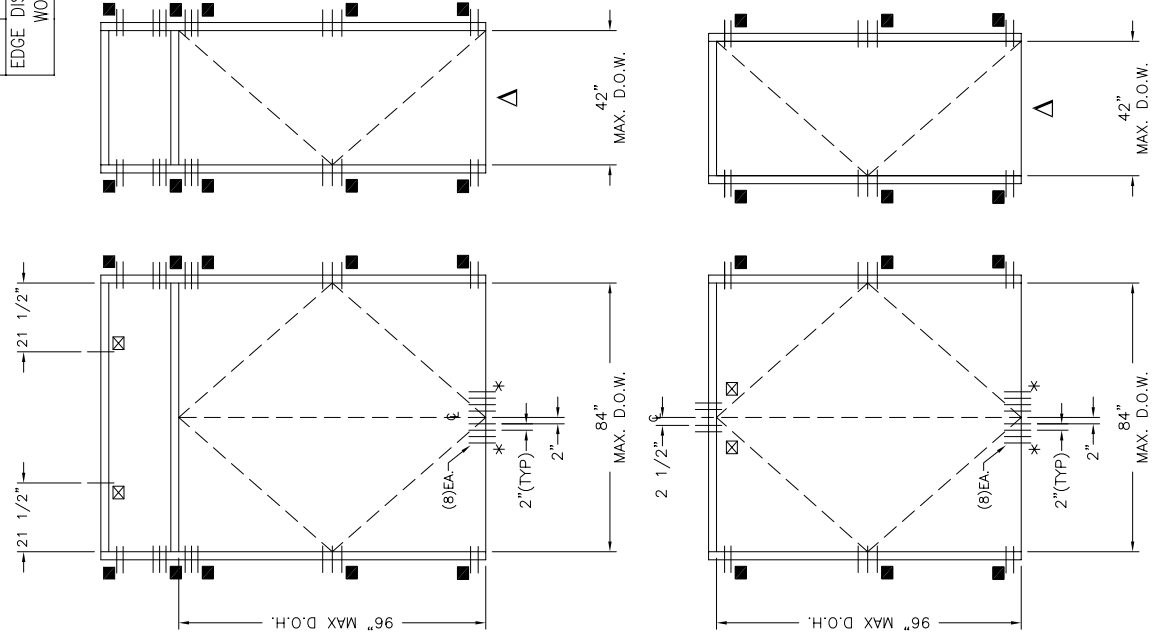
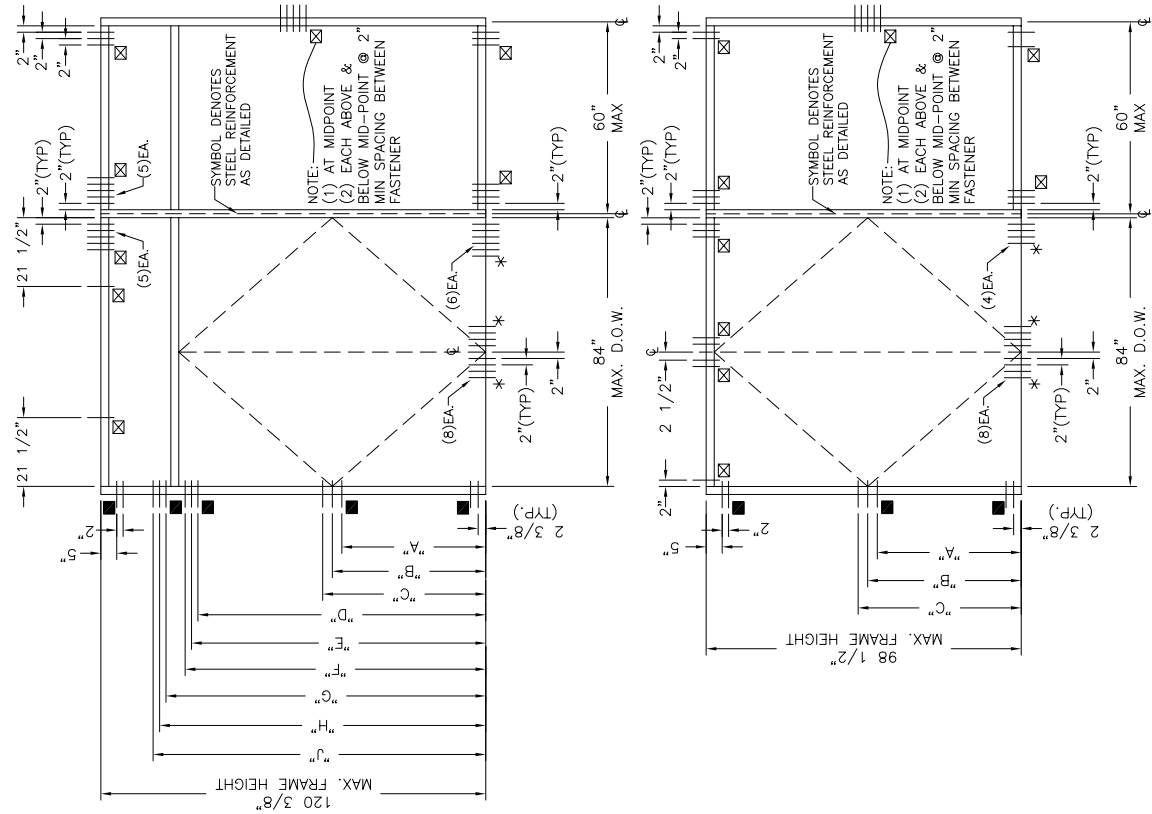


PERIMETER FASTENER LOCATIONS

**TYPICAL INSTALLATION INTO:
MIN. #2 SYP WOOD SUBSTRATE**

DOOR OPENING HEIGHT	ANCHOR LOCATIONS FOR "LETTER" DIM.									
	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"
84"	45"	48"	51"	78"	80"	82"	89"	91"	93"	
96"	45"	48"	51"	90"	92"	94"	100"	102"	104"	

TYP. INSTALLATION INTO: WOOD SUBSTRATE	
■	3/8" LAG BOLT WITH FILLER PLATE FULL LENGTH, 3" MIN. EMBEDMENT
☒	3/8" X 3-1/2" LAG BOLT, 3" MIN. EMBEDMENT
*	#14 X 2-1/2" WOOD SCREW



MAX. DESIGN PRESSURE:
+70/80 P.S.F.

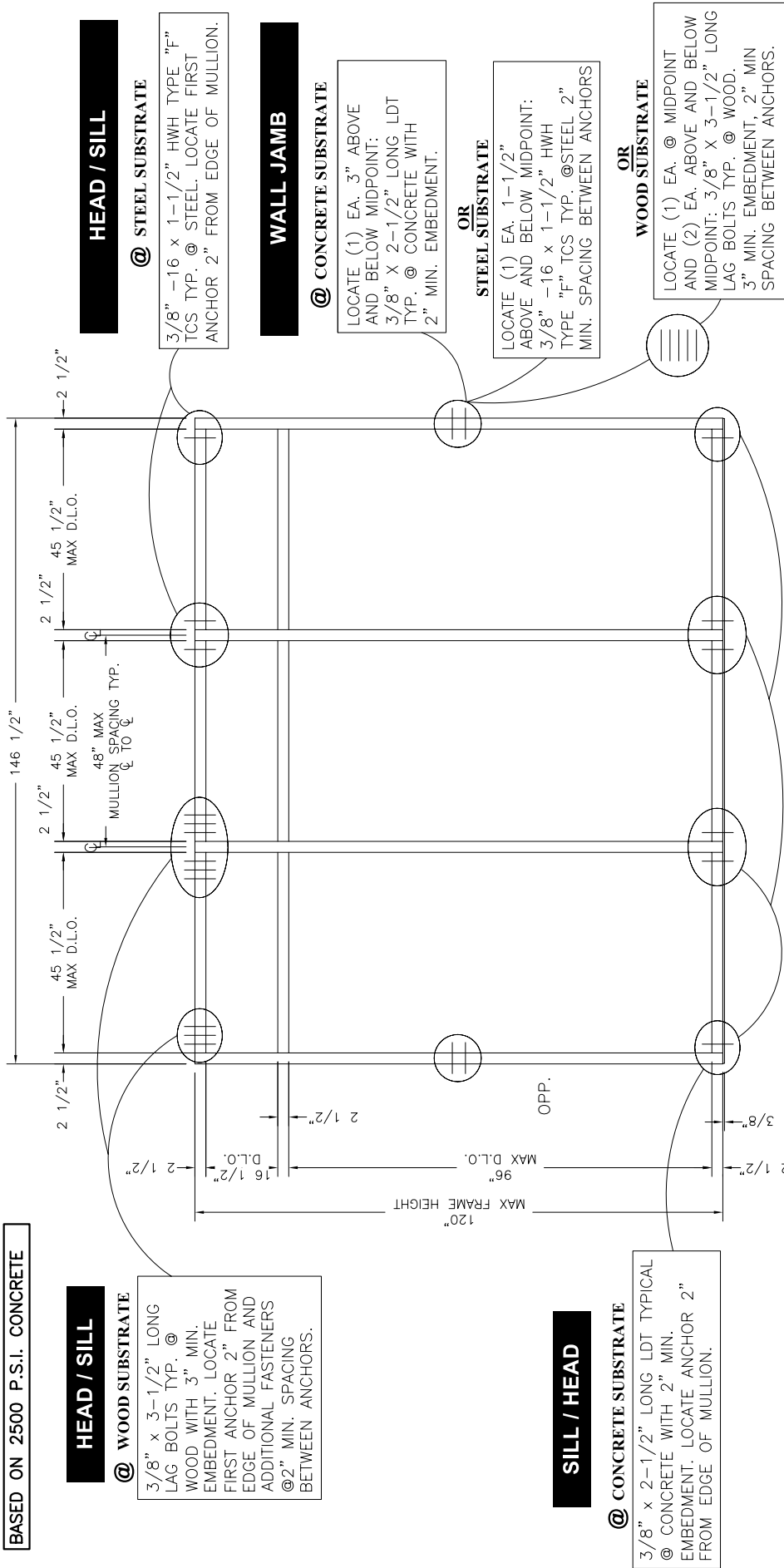
NOTES:
Δ = STRUCTURAL FASTENERS NOT REQUIRED AT THRESHOLD.



PERIMETER FASTENER LOCATIONS

**TYPICAL ATTACHMENT TO:
WOOD/STEEL/CONCRETE SUBSTRATE**

BASED ON 2500 P.S.I. CONCRETE



HEAD / SILL

@ WOOD SUBSTRATE
3/8" x 3-1/2" LONG LAG BOLTS TYP. @ WOOD WITH 3" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @2" MIN. SPACING BETWEEN ANCHORS.

HEAD / SILL

@ STEEL SUBSTRATE
3/8" -16 x 1-1/2" HHW TYPE "F" TCS TYP. @ STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION.

WALL JAMB

@ CONCRETE SUBSTRATE
LOCATE (1) EA. 3" ABOVE AND BELOW MIDPOINT: 3/8" X 2-1/2" LONG LDT TYP. @ CONCRETE WITH 2" MIN. EMBEDMENT.

SILL / HEAD

@ CONCRETE SUBSTRATE
3/8" x 2-1/2" LONG LDT TYPICAL @ CONCRETE WITH 2" MIN. EMBEDMENT. LOCATE ANCHOR 2" FROM EDGE OF MULLION.

STEEL SUBSTRATE

LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT: 3/8" -16 x 1-1/2" HHW TYPE "F" TCS TYP. @STEEL 2" MIN. SPACING BETWEEN ANCHORS

WOOD SUBSTRATE

LOCATE (1) EA. @ MIDPOINT AND (2) EA. ABOVE AND BELOW MIDPOINT: 3/8" X 3-1/2" LONG LAG BOLTS TYP. @ WOOD. 3" MIN. EMBEDMENT, 2" MIN SPACING BETWEEN ANCHORS.

LEGEND
⊖ EACH LINE REPRESENTS ONE FASTENER

NOTE: WOOD STRUCTURE. MIN. #2 SYP.

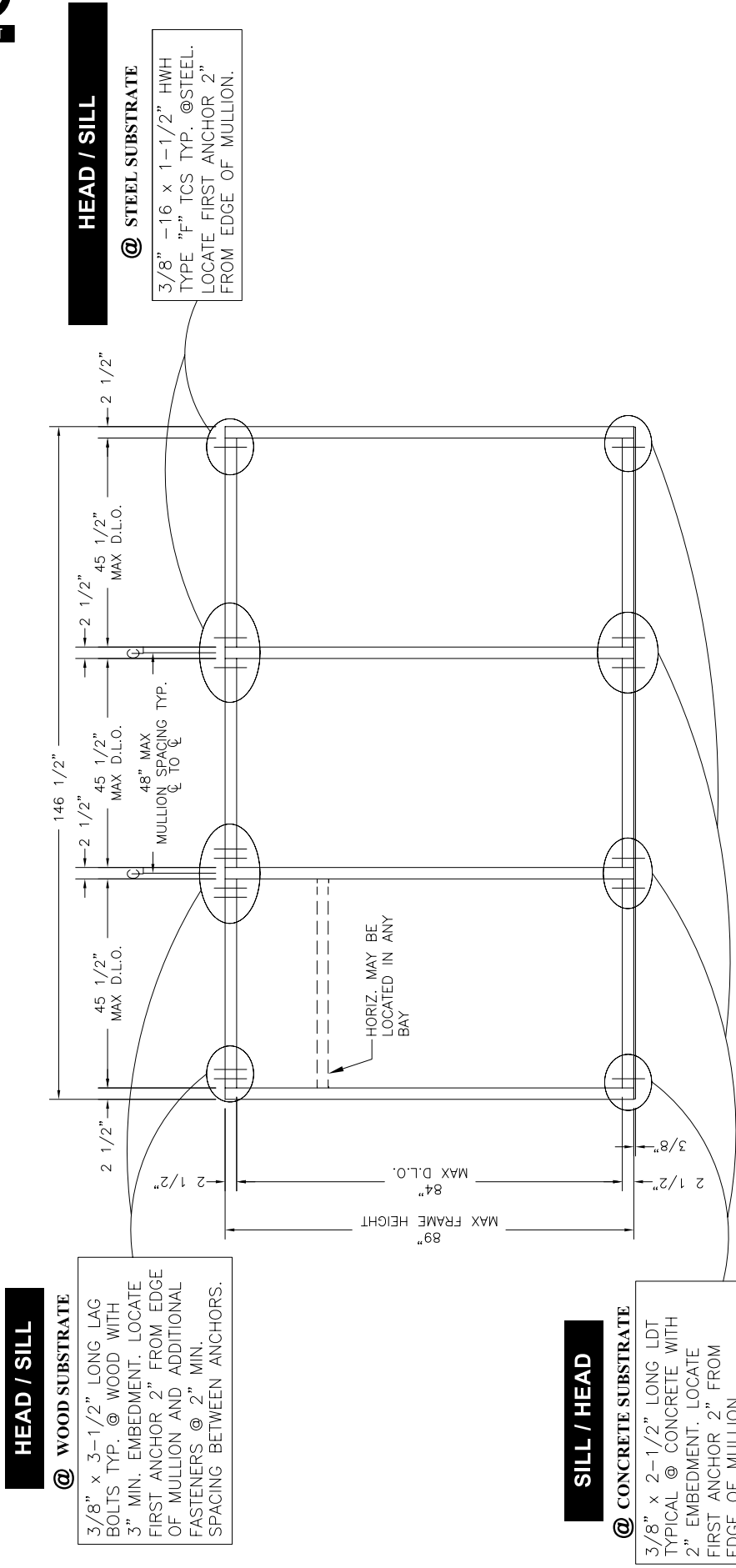
DESIGN PRESSURE
+60/-60 PSF

**TYPICAL ELEVATION HEAVY ALUM. MULLION WITHOUT STEEL
- LONG SPAN -**

PERIMETER FASTENER LOCATIONS

**TYPICAL ATTACHMENT TO:
WOOD/STEEL/CONCRETE SUBSTRATE**

BASED ON 2500 P.S.I. CONCRETE



HEAD / SILL

@ WOOD SUBSTRATE
3/8" x 3-1/2" LONG LAG BOLTS TYP. @ WOOD WITH 3" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 2" MIN. SPACING BETWEEN ANCHORS.

SILL / HEAD

@ CONCRETE SUBSTRATE
3/8" x 2-1/2" LONG LDT TYPICAL @ CONCRETE WITH 2" EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION.

**TYPICAL ELEVATION LIGHT ALUM. MULLION WITHOUT STEEL REINFORCEMENT
-SHORT SPAN-**

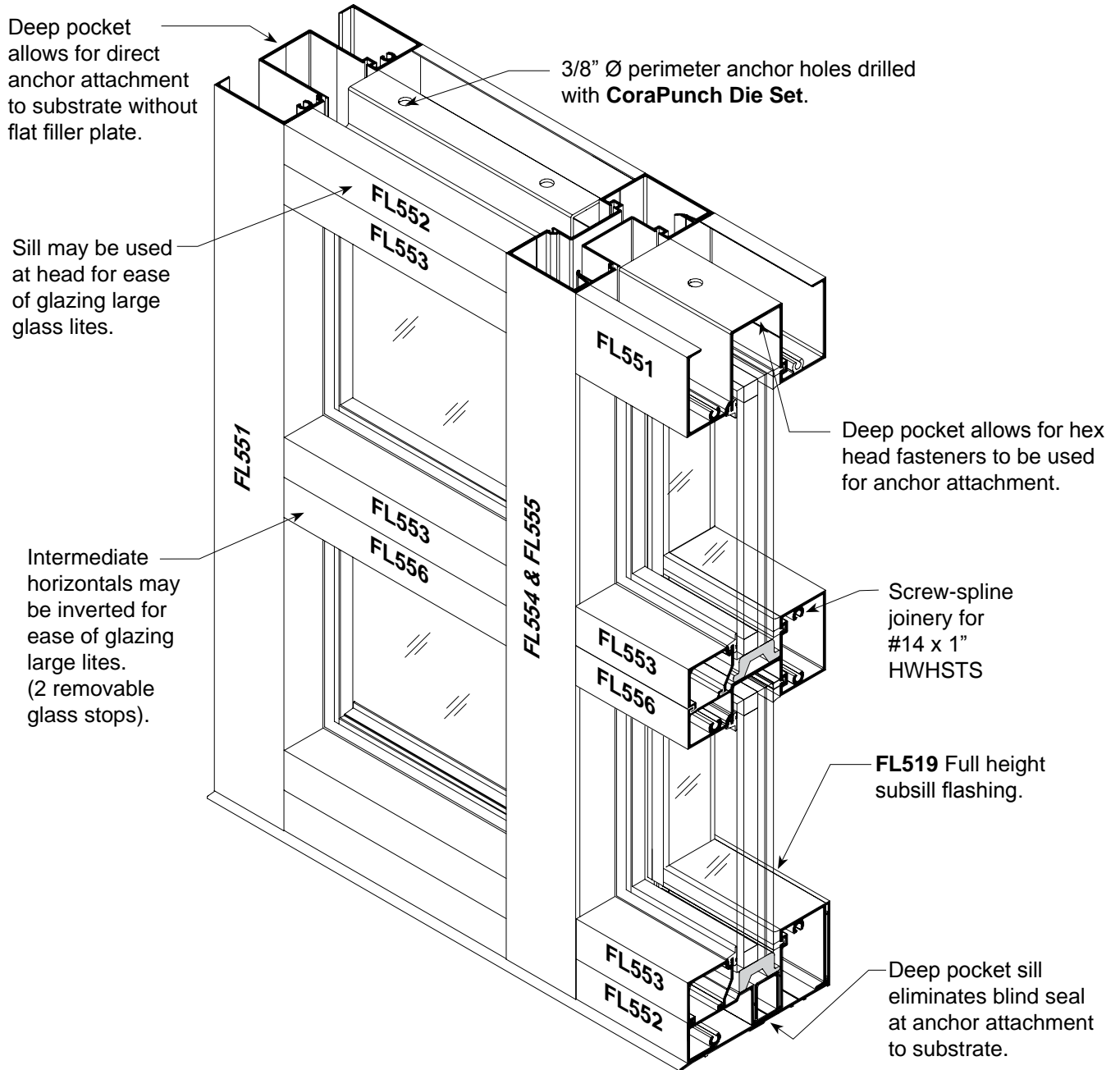
LEGEND
○ EACH LINE REPRESENTS ONE FASTENER

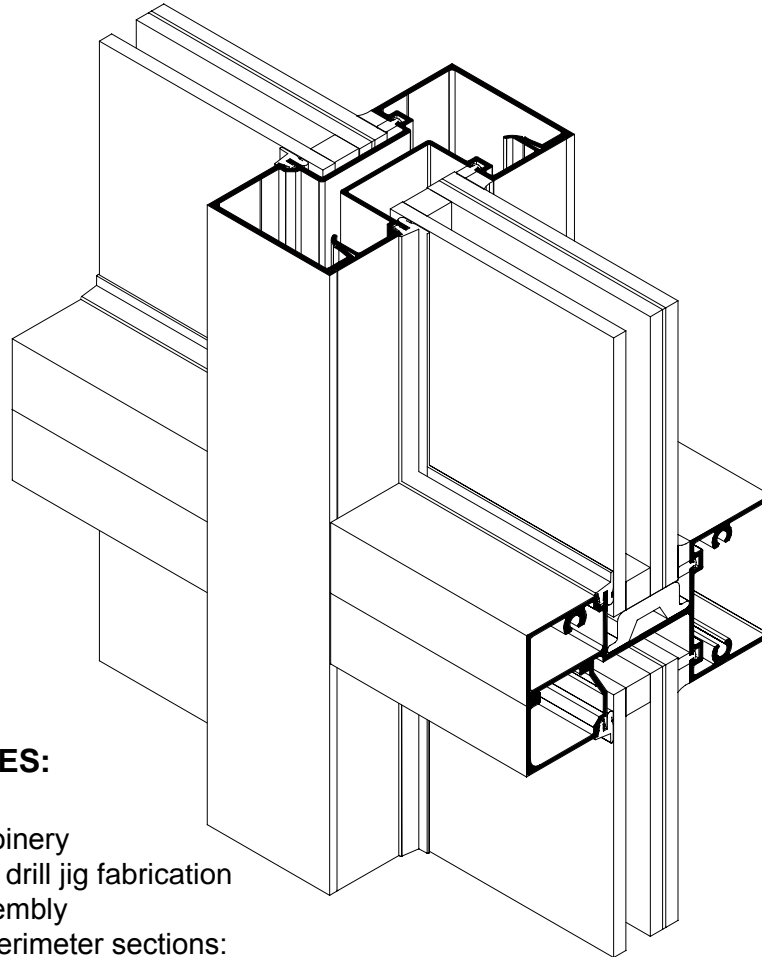
NOTE: WOOD STRUCTURE: MIN. #2 SYP.

DESIGN PRESSURE
+65/-65 PSF

INSTALLATION INSTRUCTIONS

2 1/2" x 5" for 1 5/16" Insulating Laminated Glass





PRODUCT FEATURES:

- Screw-spline joinery
- **CoraPunch** or drill jig fabrication
- Panelized assembly
- Deep pocket perimeter sections:
 - Eliminates drilling access holes with blind seals
 - Eliminates flat filler plate at head and wall jambs
 - Allows for 3/8" diameter hex head anchor bolt attachment to substrate
 - Intermediate horizontals may be inverted for ease of glazing large lites
 - Sill may be used at head for ease of glazing large lites
- Heavy wall mullion option without steel
- Steel reinforcing attachment to mullions at head and sill only
- Tested with and without steel reinforcement at various design pressures
- Tested with 84" x 96" **Series 381 M.S.** impact-resistant entrance doors
- Tested with 72" x 84" **Series 281 N.S.** impact-resistant entrance doors
- Anodized finishing or factory applied thermosetting fluorocarbon powder coating option

To download 3-part specification, go to: www.coralind.com

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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INSTALLATION INSTRUCTIONS

GENERAL NOTES

Coral Series **FL550** (2-1/2" x 5") hurricane impact-resistant system was especially designed to meet the stringent Dade County, FL Building Codes for impact-resistant glass and glazing systems. Series **FL550** successfully passed a series of large missile impact and cyclic wind tests with multiple impact-resistant glass compositions.

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

1. **REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. These installation instructions are of general nature and cover most conditions.
2. **INSTALLATION.** All materials shall be installed plumb, level and true.
3. **BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
4. **FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
5. **SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
6. **ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
7. **STRUCTURAL SEALANTS.**
 - A. **DOW 995** structural sealant was used on the Series **FL550** test specimen approved by Dade County for glass to metal adhesion. To comply with Dade County, FL Building Code Protocols, **DOW 995** sealant must be used for glass to metal adhesion with Series **FL550**.
 - B. Perimeter Sealants: Due to varying job conditions, all perimeter sealants used should be approved by the sealant manufacturer to ensure the sealant will function for the conditions shown on these instructions and shop drawings. Sealants must be compatible with all surfaces in which adhesion is required, including other sealants. Use primers where directed by sealant manufacturer. Be sure to properly store sealants at recommended temperature and check container for remainder of shelf life before using. **DOW 795** structural silicone was the perimeter sealant used on the Series **FL550** test specimen approved by Dade County.
8. **FASTENING.** Only those fasteners used *within* the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.

INSTALLATION INSTRUCTIONS GENERAL NOTES

- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.
- 11. WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (250 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
 - 1. Cardboard wrapped or paper interleaved material must be kept dry.
 - 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 - 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. JOB SITE
 - 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 - 2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
 - 3. Keep record of where various materials are stored.
 - 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.
- 16. GLASS.** Glazing gaskets are designed for a compression fit against glass and can accommodate (+/- 1/32"). Be sure to check overall size of glass size and thickness.

PRODUCT APPLICATION AND INSTALLATION

Series **FL550** hurricane impact-resistant storefront system was designed with screw spline joinery for simple fabrication and panelized installation, but should only be installed by glazing contractors employing personnel with the necessary installation and project management experience to handle these type projects.

FL550 hurricane impact-resistant storefront system requires the installer to pay close attention to the details shown within these **Instructions** and **General Notes**. All critical seal areas must be done as shown.

OPTIONS and LIMITATIONS

*The laminated glass and mullions function as an integral unit. The combinations shown in the **Options and Limitation Charts** for **FL550** framing and **Series 281** and **381** entrance doors are based on actual performance testing and cannot be altered without sacrificing the integrity of the system.*

FRAME FABRICATION

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Note: Maximum caulk joint for Dade County, FL installation is 1/4".

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 5/8".

This allows 1/8" for subsill and a 1/4" caulk joint at the sill and head.

STEP 2.

Cut members to size.

- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.*
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

* **Note:** See **Page 30** for subsill condition abutting door frame.

Abbreviations used within these instructions:

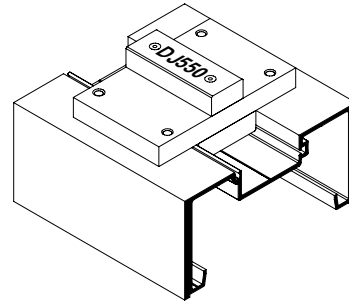
- D.L.O.** = Day Light Opening
- D.O.W.** = Door Opening Width
- D.O.H.** = Door Opening Height
- C.O.C.** = Concealed Overhead Closer
- C.V.R.** = Concealed Vertical Rod
- ∅** = Diameter

FRAME FABRICATION

Joinery Hole Locations

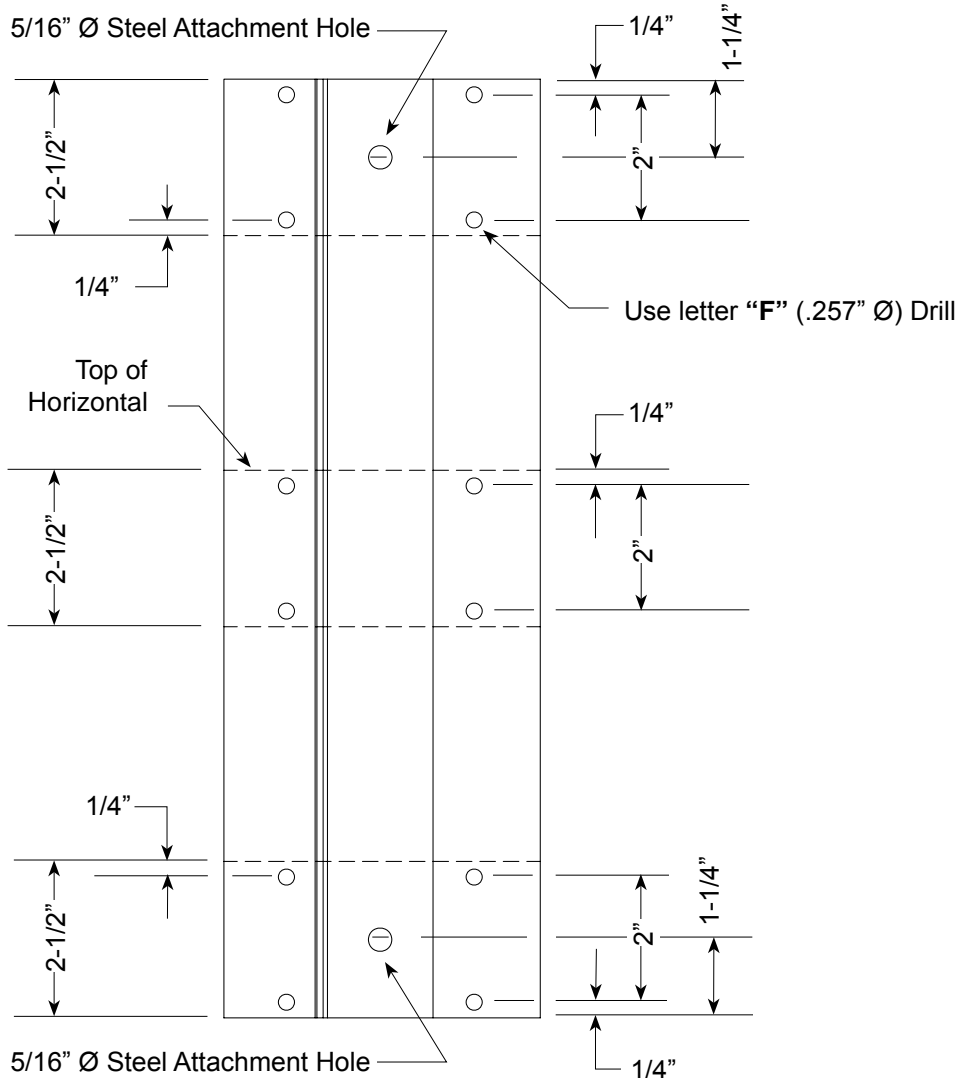
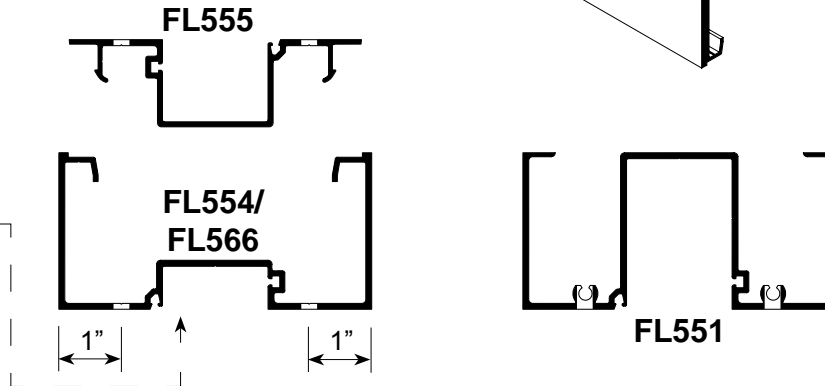
STEP 3.

Use **DJ550** drill jig or **FL550 Punch Die Set** with pocket adaptor for fabricating spline hole locations in verticals.



Note: NG1 Gasket reglet is always to exterior.

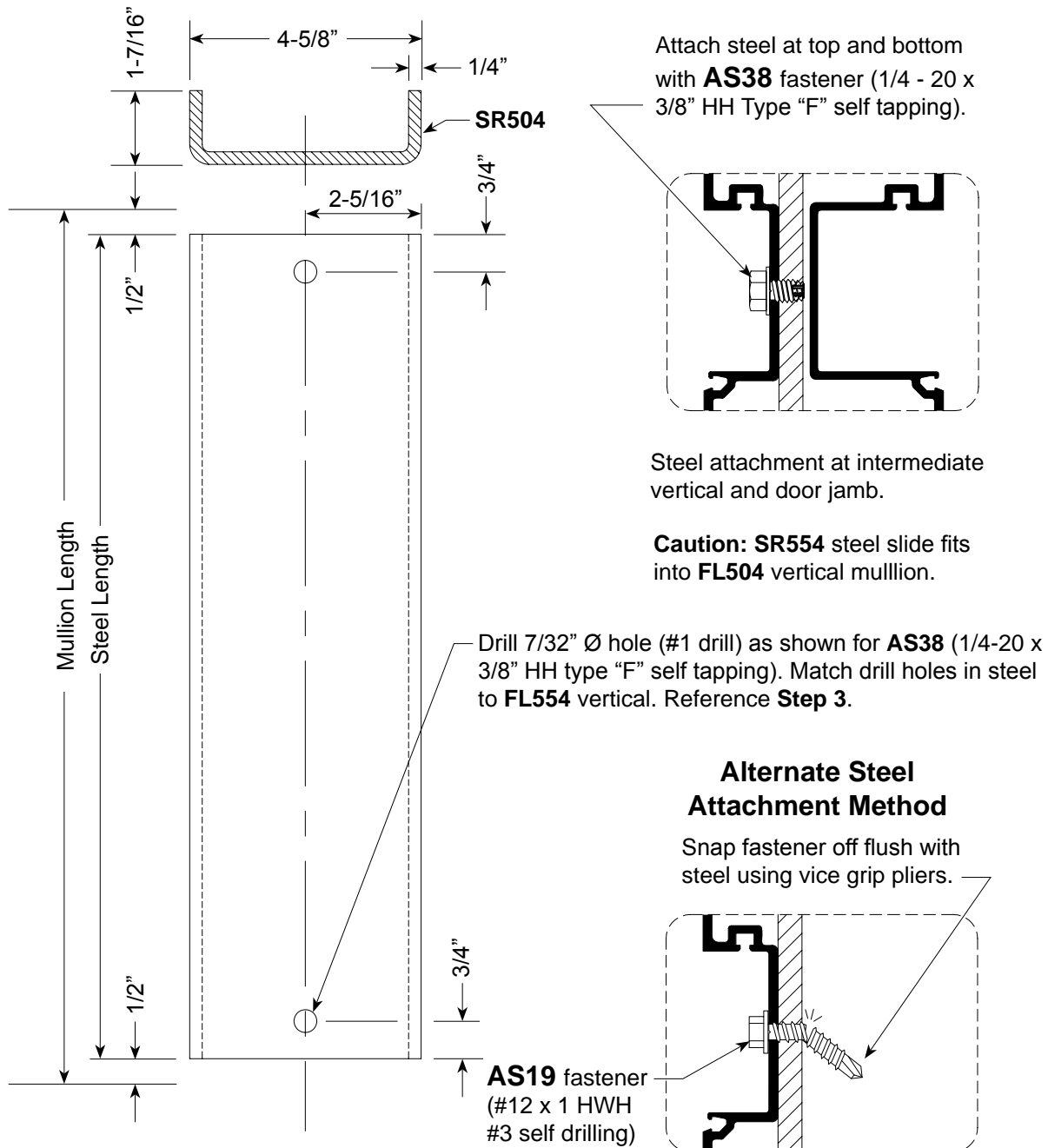
← **EXTERIOR**



FRAME FABRICATION Steel Reinforcement

STEP 4.

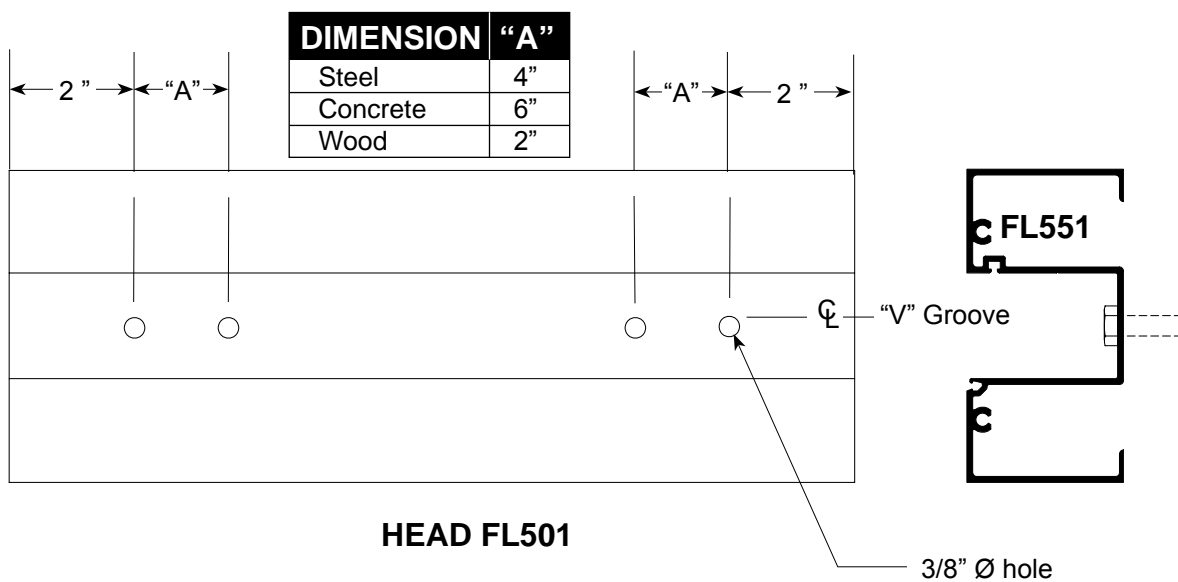
Fabricate steel reinforcement where required. Cut steel 1" less than length of vertical mullion.
Note: AS38 hex head fastener location is below glass line and does not interfere with glazing.



FRAME FABRICATION Head / Sill

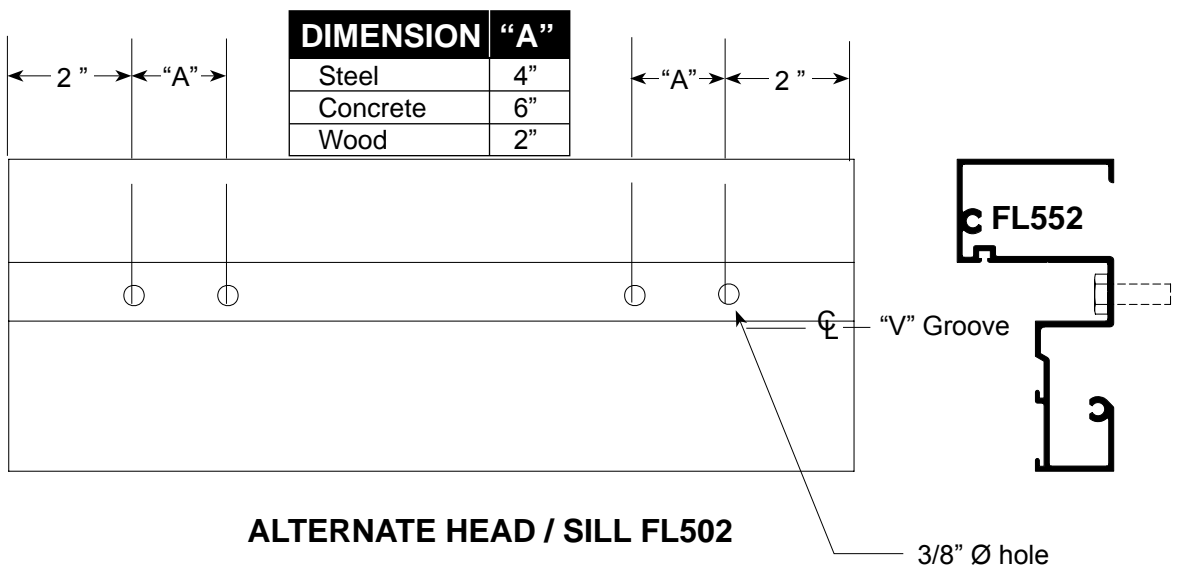
STEP 5.

Fabricate head and sill anchor holes as shown, using **FL550 Punch Die Set** or drill. Number of anchor holes required is based on substrate material conditions. Reference **CAP anchor charts, (Pages 50-52)** for number of anchor holes and locations for various substrates. First hole is always 2" from end. Each additional fastener hole is at required minimum spacing "A" between fasteners as shown in fastener charts.



Note: Removable glass stop at head facilitates glazing of large lites.
(Reference **Page 21**)

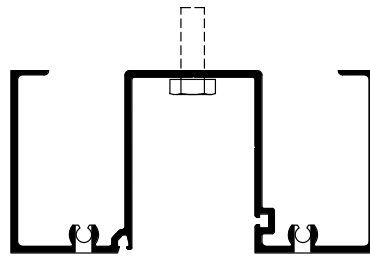
Note: Anchor holes may be punched using **FL550 Punch Die Set**.



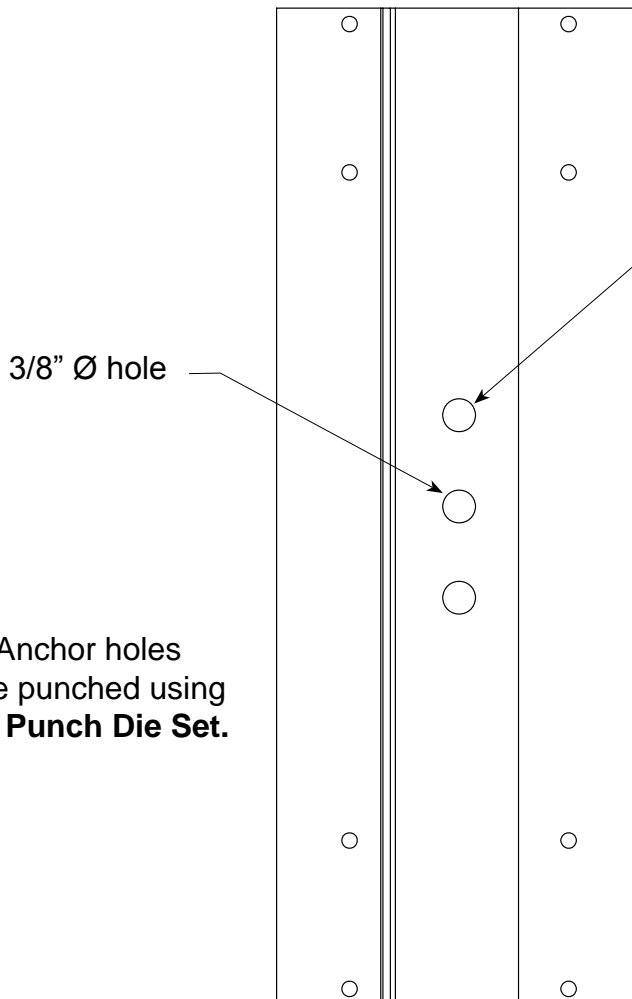
FRAME FABRICATION Wall Jamb

STEP 6.

Fabricate wall jamb for anchor holes, when required. Number of anchors required is dependent on mullion length and substrate material. Reference **CAP Anchor Chart**, (Pages 51-53).



FL551



Note: Anchor holes may be punched using **FL550 Punch Die Set**.

Compare charted anchor hole locations with intermediate horizontal dimensions on shop drawings. Should charted anchor holes be shown at same location as intermediate horizontal, then drill holes directly above or below horizontal to avoid fastener installation interference.

Note: Locate anchors as close to charted dimensions as possible.

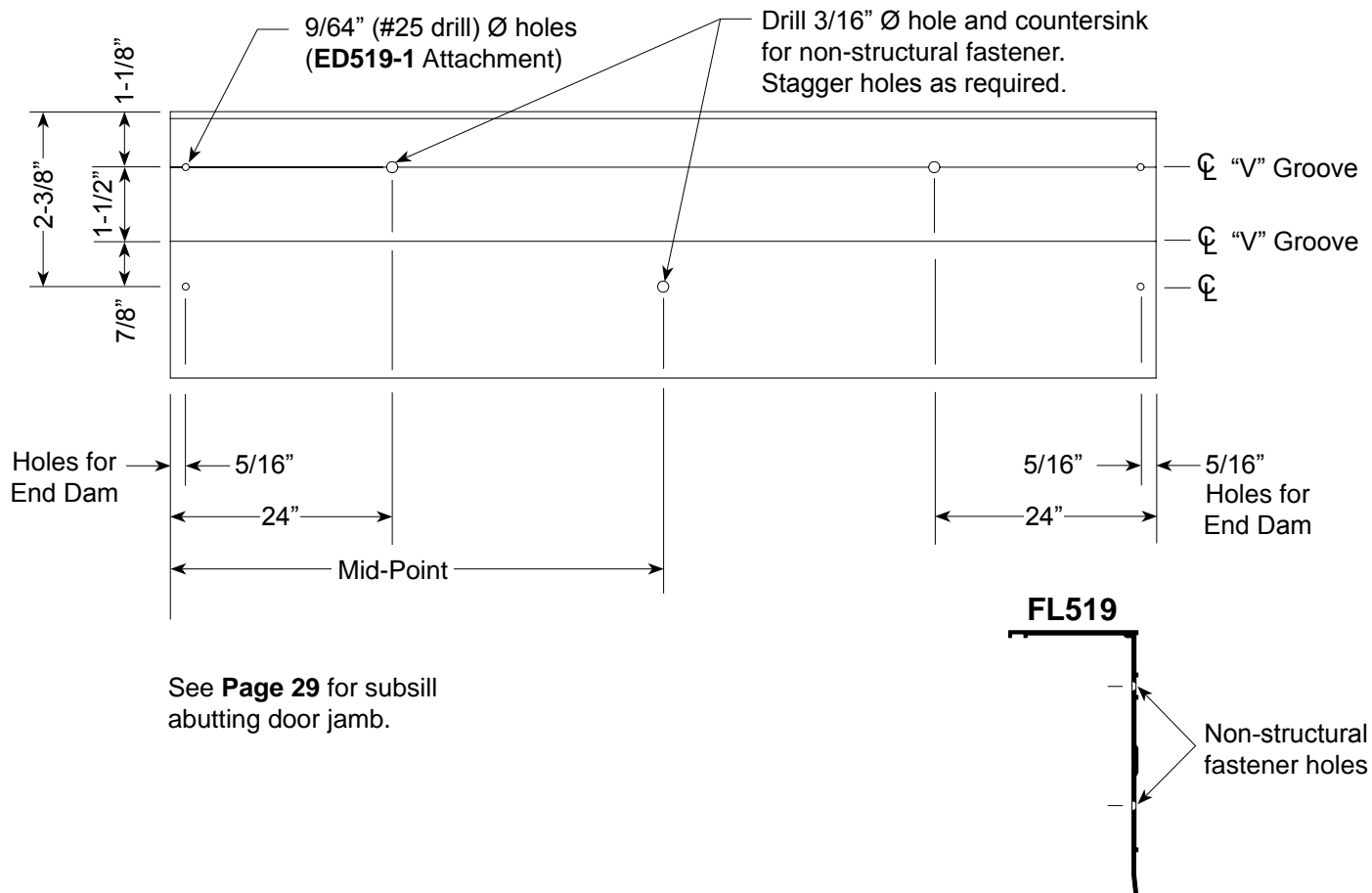
Wall Jamb

FRAME FABRICATION

Subsill Flashing

STEP 7.

Fabricate **FL519** subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for non-structural fasteners in subsill are approximate.



1. Drill 3/16" dia. hole for non-structural fasteners used for temporarily attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required until structural fasteners are installed.
2. Drill two each 9/64" dia. holes (#25 drill) at each end (except end abutting at door jamb) for attaching **ED519-1** end dams. **Note:** Subsill terminates at door jamb. Reference **Page 29**.

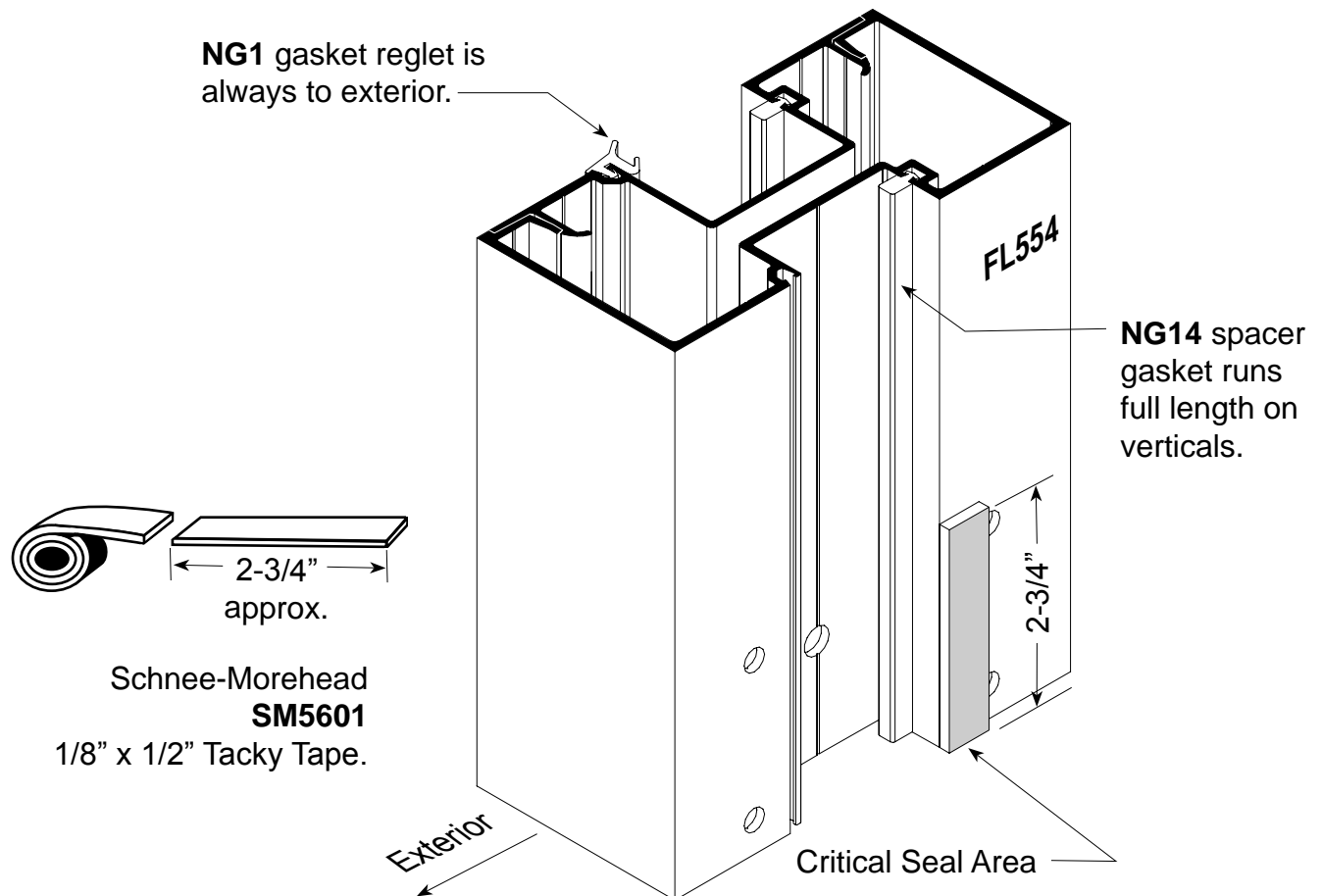
FRAME ASSEMBLY Joinery Tape Application

STEP 1.

GLAZING TAPE INSTALLATION PROCEDURES:

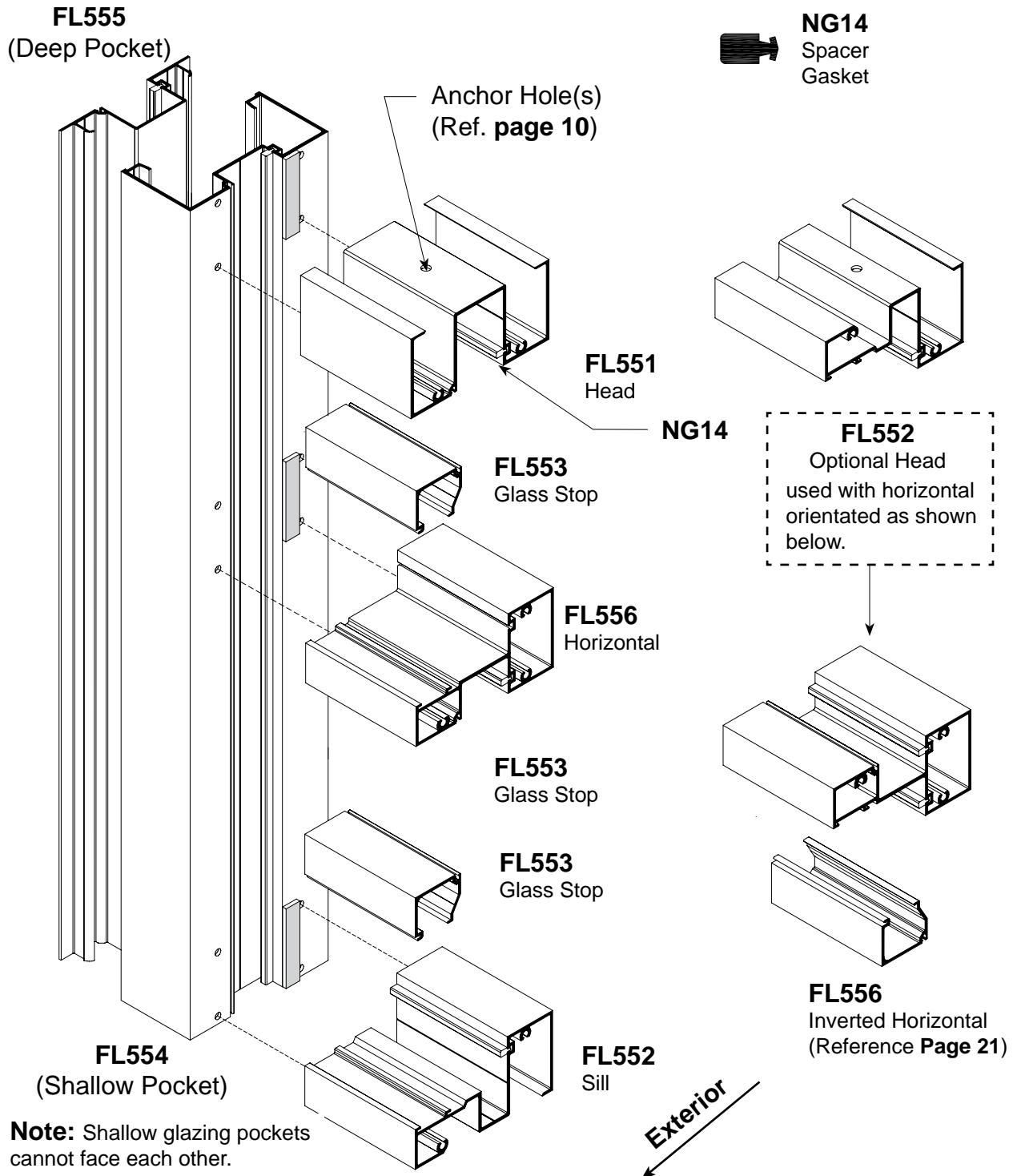
Ref. Step 2 for location.

1. Cut **SM5601** 1/8" x 1/2" Tacky Tape approximately 2-3/4" long.
2. Clean surfaces where tape is to be applied with isopropyl alcohol or solvent to remove all dirt and cutting oils. Allow surface to dry before applying tape.
3. Position tape on vertical mullions at horizontal joint intersections, as shown on **Page 14**.
4. Just prior to frame assembly, remove protective cover and screw joints together.
5. Use a box knife to trim excess sealant tape where exposed. Do not pull tape to trim.

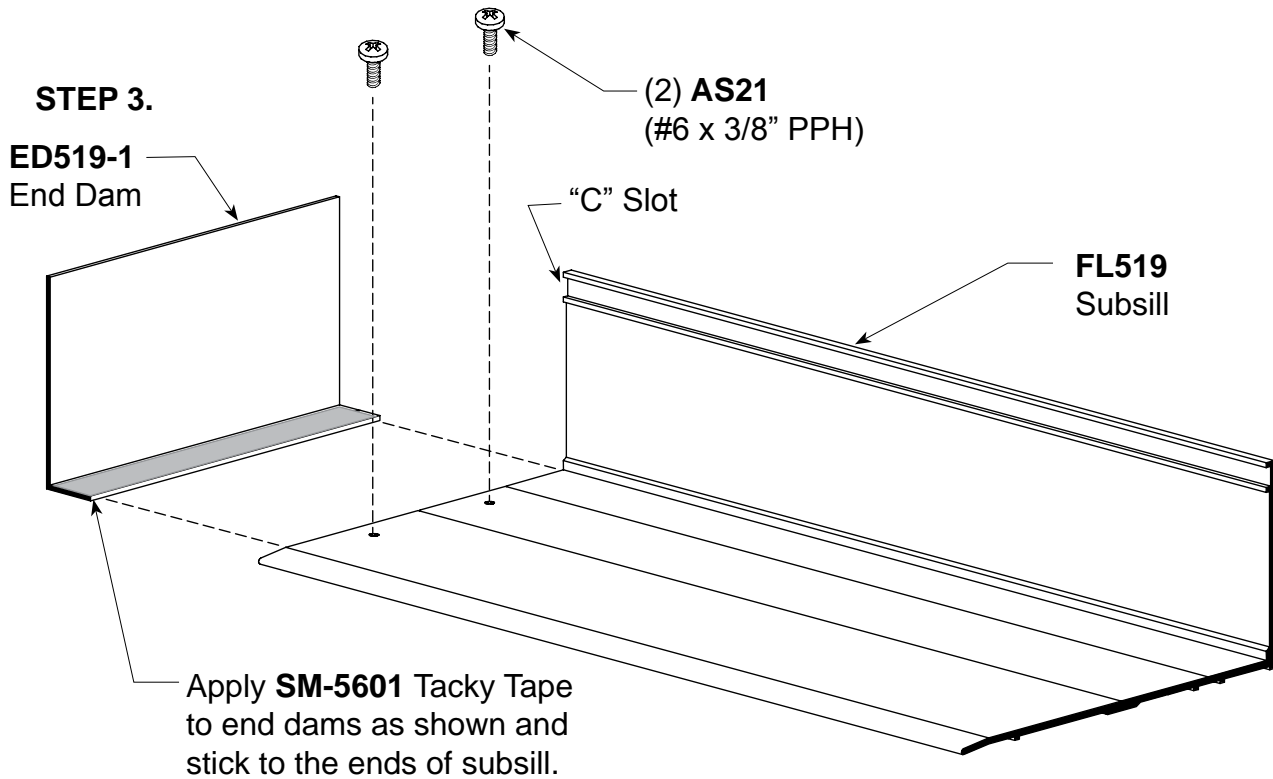


CAPTURED FRAME ASSEMBLY Vertical to Horizontal Joinery

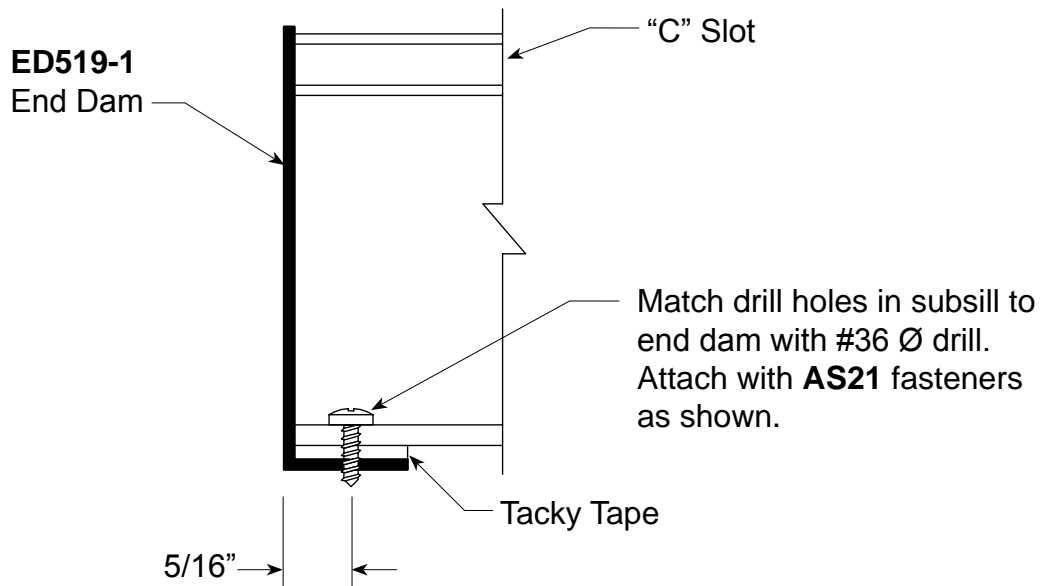
STEP 2. Install **NG14** interior spacer gaskets into vertical and horizontal members prior to frame assembly. Cut spacer gaskets to D.L.O. dimensions.



FRAME ASSEMBLY End Dam Attachment to Subsill



Note: Reference **Page 29** for subsill abutting the door jamb where entrance doors occur.

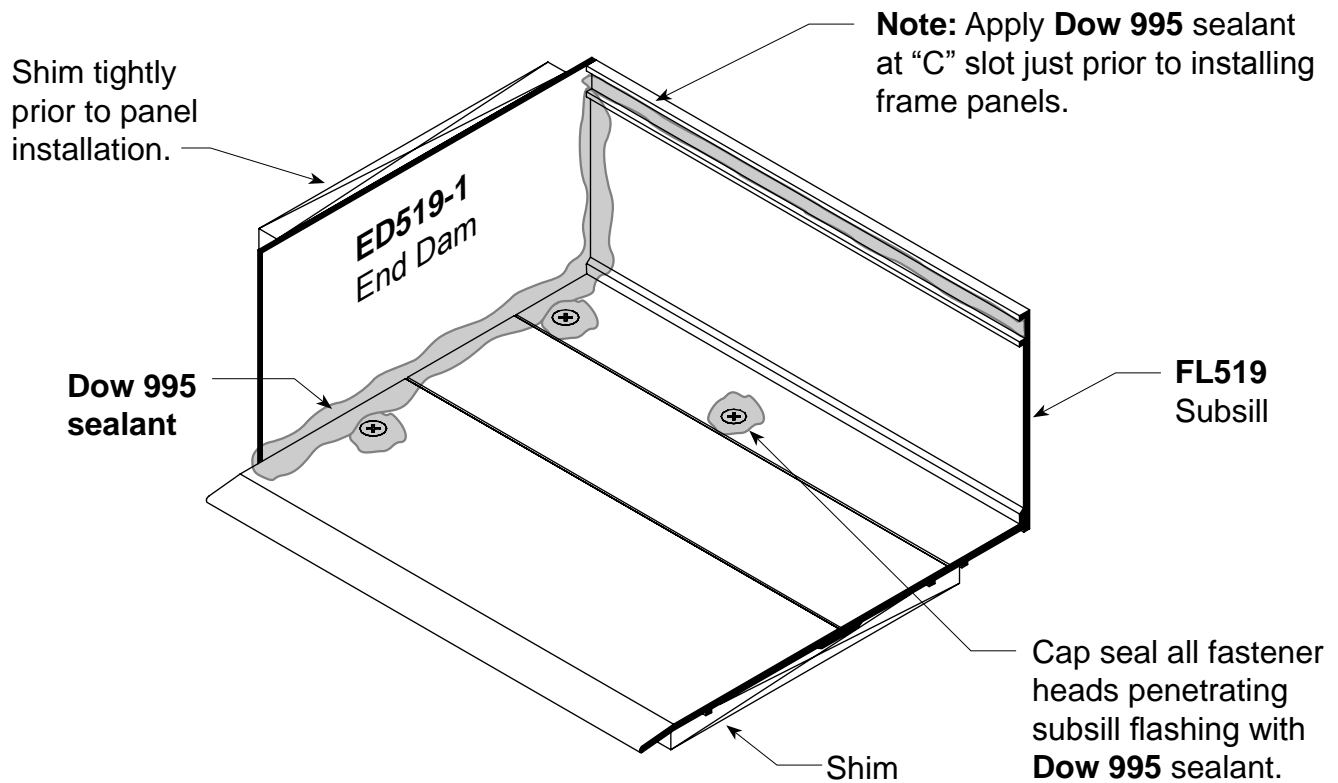


FRAME INSTALLATION

Subsill Installation and Sealant Application

STEP 1.

Position fabricated subsill with end dams into opening. Center into opening allowing shim space at jambs. (See **Page 29** for openings with entrance frames).



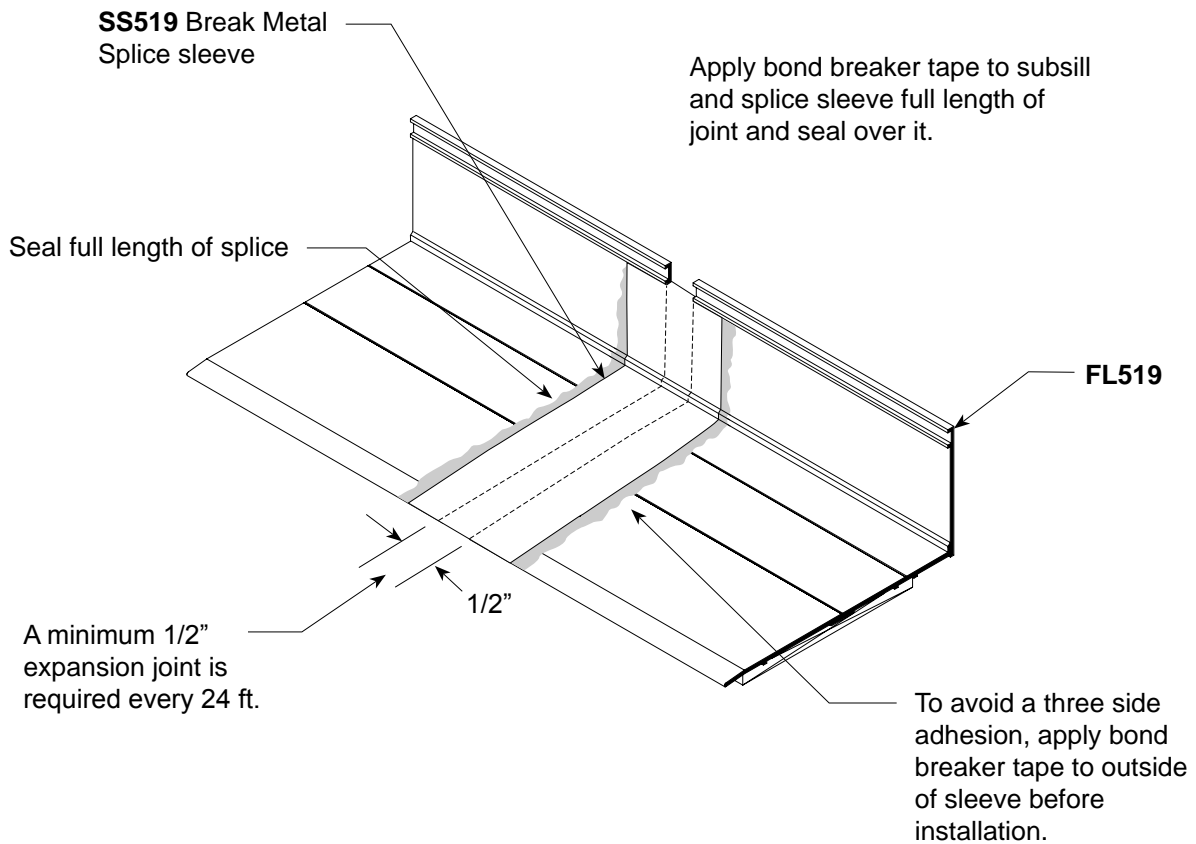
Shim beneath subsill to be a maximum of 1/4". Attach subsill flashing to structure with non-structural fasteners using attachment holes shown on **Page 12**.

Wedge shims tightly between end dams and jamb substrate at each end prior to installing frame panels. These shims prevent the end dams from being dislodged while frame panels are being installed. Completely seal end dams as shown.

Run a continuous bead of **Dow 995** sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

SPECIAL CONDITIONS SPLICE SLEEVE AT SUBSILL

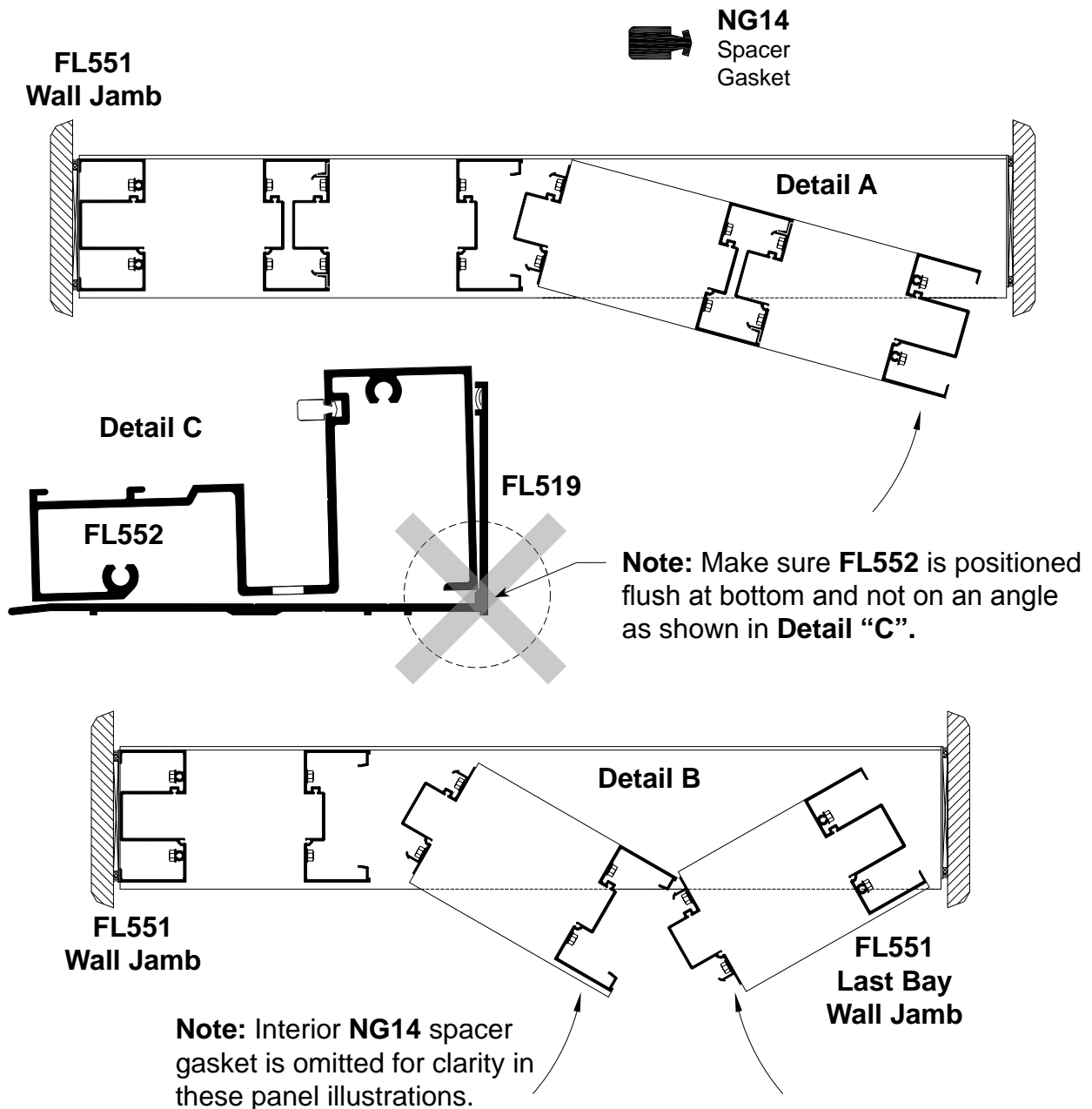
STEP 1. Locate splice sleeves near center of D.L.O. at panel positioned over splice.



FRAME INSTALLATION Panelized Assembly

STEP 1.

Install assembled frame panels into opening starting with jamb and continue working toward the last bay. Reference illustrations shown below. Use option “A” or “B” as required. **Caution: SR504** steel slide fits into **FL554** and must be inserted and attached prior to installing panels.



FRAME INSTALLATION

Panelized Frame Attachment to Substrate

STEP 2.

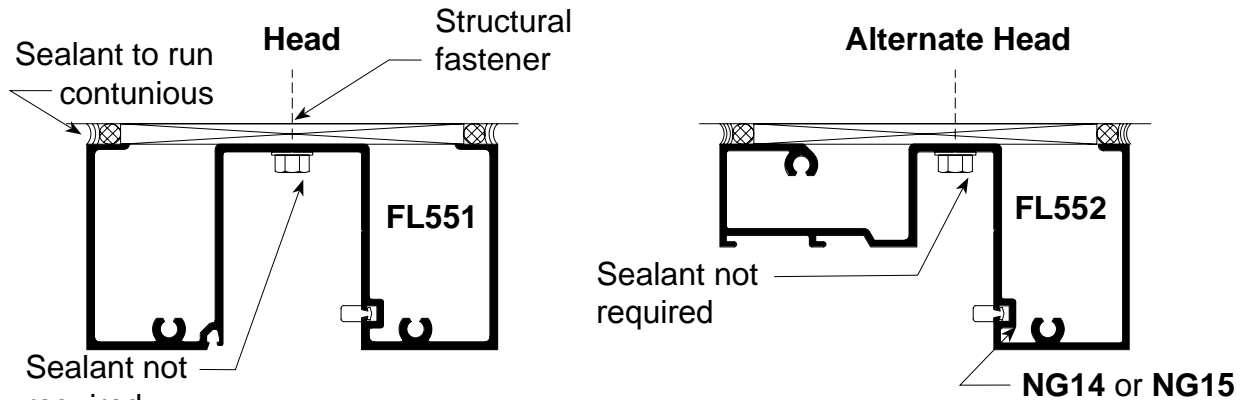
Shim beneath subsill as required at fasteners. Match drill holes through sill into substrate for perimeter fasteners. Match drill holes in head and wall jamb into substrate. Shim and anchor panels to substrate.



NG14
Spacer
Gasket

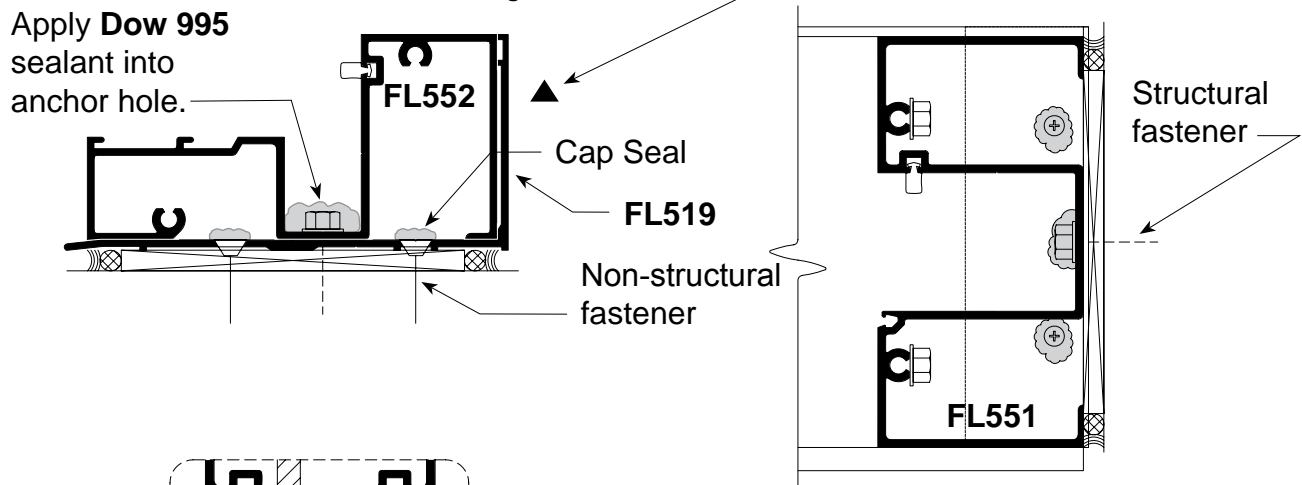
STEP 3.

Completely seal exterior and interior perimeter with a continuous bead of **Dow 795 sealant**.

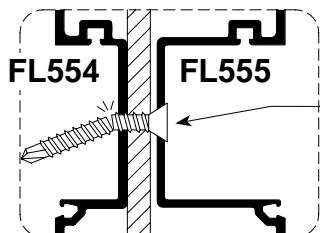


▲ CAUTION

Do Not Penetrate back of subsill flashing with a fastener



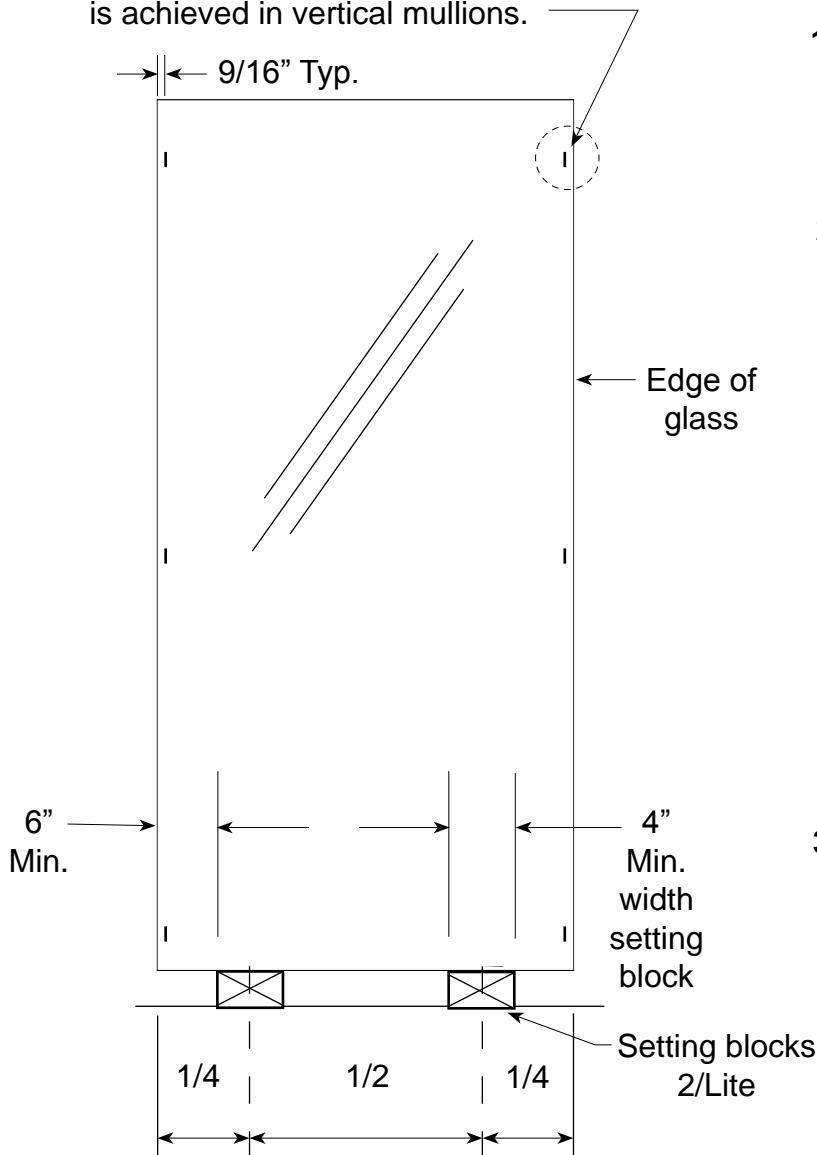
Detail A



For D.L.O. heights 72" or greater, attach **FL555** to **FL554** at midpoint and 18" above and below midpoint with **AS27** (#12 x 1-1/2" #3 PFH self drill) and snap off excess using pliers.

PREPARATION OF FRAME OPENING FOR GLASS

Note: Mark glass as shown with 1" long reference lines to ensure proper glass bite is achieved in vertical mullions.



1. Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.

2. SETTING BLOCKS

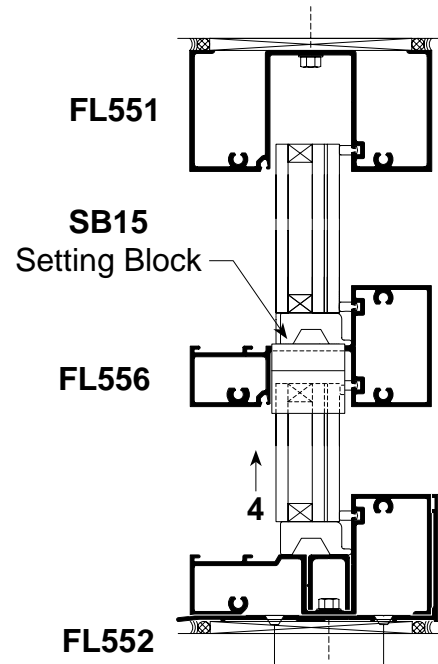
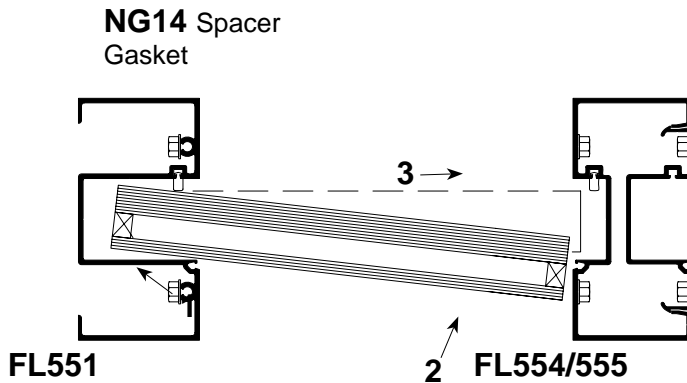
Glass should be set on two identical setting blocks having a *Shore A Durometer* of 85 + or -5. The preferred location is at the $1/4$ points.

If the $1/4$ point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the $1/8$ points. The outer end of the block **CANNOT** be closer than $6"$ to the corner of the glass.

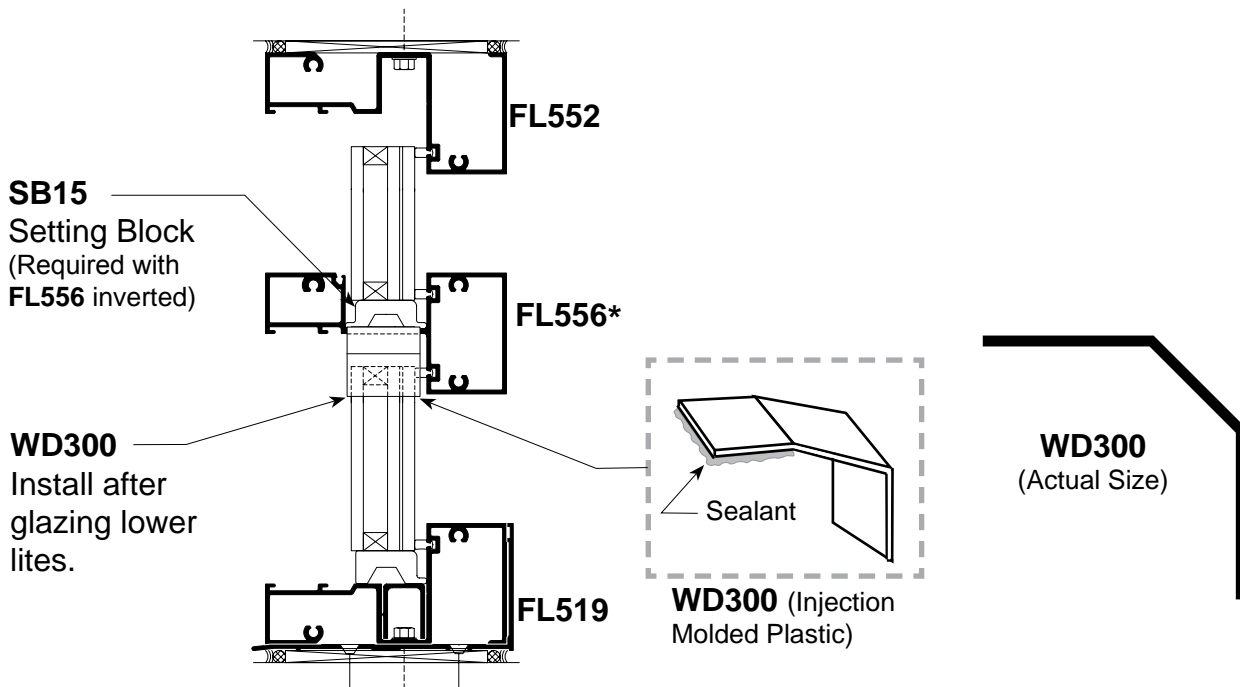
3. DEFLECTION

The intermediate horizontal must not exceed $1/8"$ and a door header is limited to $1/16"$. Check deadload charts for proper setting block locations.

GLAZING



1. Make sure **NG14** spacer gaskets are installed.
2. Prepare frame openings for glass as instructed on **Page 20** and install **CS500-1** setting chairs in sill.
3. Glaze from bottom to top following the four step procedure shown.
4. Center glass into opening making sure proper glass penetration is achieved. Rest glass on setting blocks and press tightly against **NG14** gasket.
5. Apply **Dow 995** sealant to one end of **WD300** Water Diverter and position at each end of horizontal, as shown, after glazing lower lites.



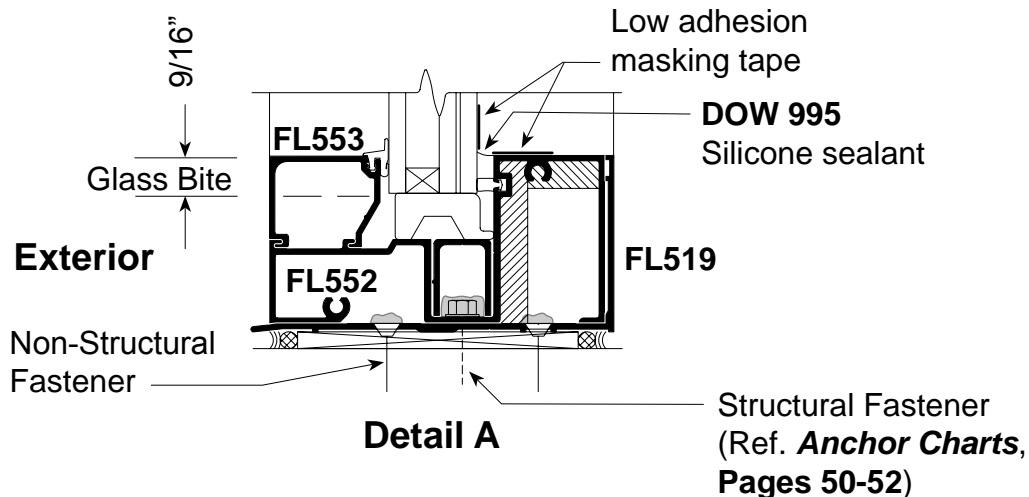
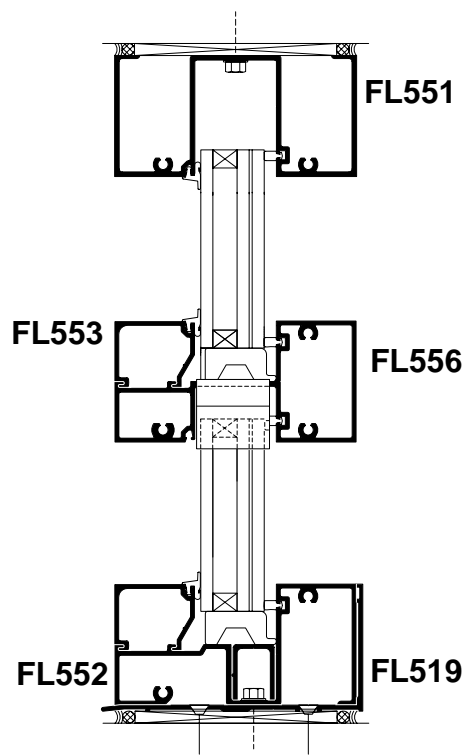
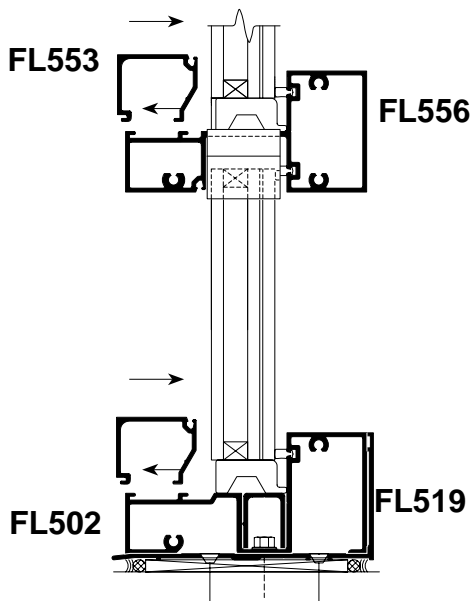
***Note:** FL556 may be inverted to facilitate glazing large lites.

GLAZING

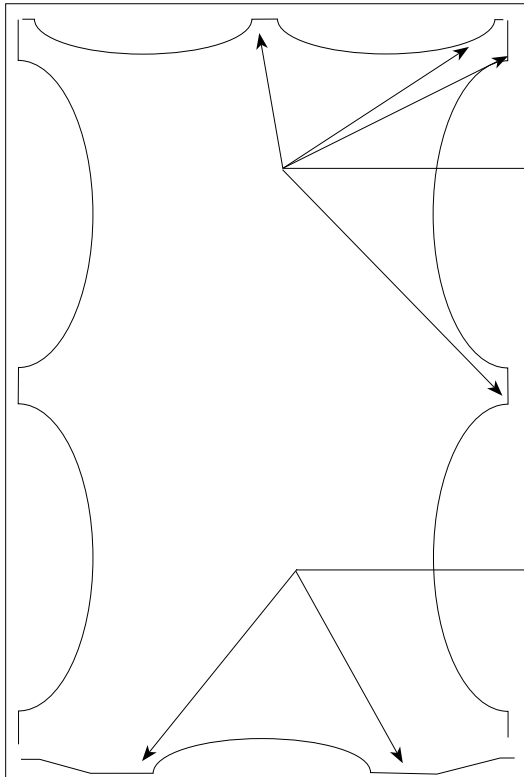
6. Continue glazing following the four step procedure.
7. Install **FL553** hook-in glass stops as shown.
8. Prepare **NG1** top load gaskets and install as instructed on **Page 23**.
9. Mask off glass and aluminum with 2" wide low adhesion masking tape. Fill cavity with **Dow 995** sealant as shown, **Detail "A"** and tool. Remove masking tape immediately after installation of sealant and tooling. Take care not to damage or pull sealant from cavity when removing masking tape.



NG1
(Actual Size)



INSTALLATION OF TOP LOAD GLAZING GASKETS



Detail A



NG1
(Actual Size)

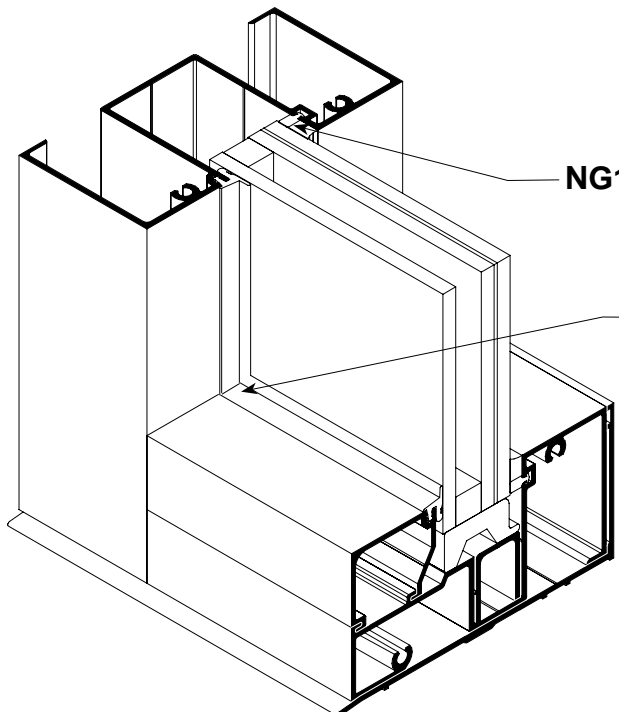
Start jamb and head gaskets at corners and center.

1. Cut **NG1** gaskets a minimum of 3/16" longer per foot than aluminum extrusion.

2. Do not stretch gaskets to make them fit.

Start gaskets at setting blocks

It is very important that gaskets are installed correctly as shown in **Detail "A"**, to prevent shrinkage at corners.



NG14 Gasket reglet

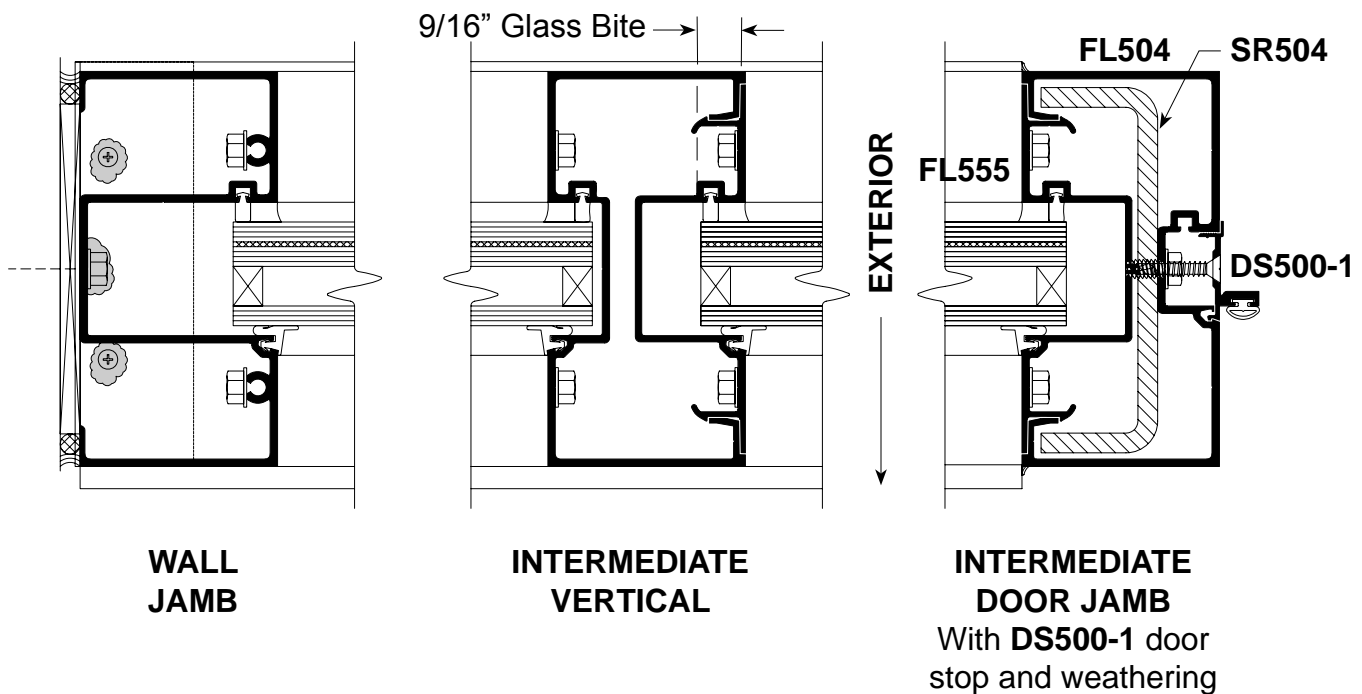
3. Lift **NG1** exterior gaskets and pull back 2" in both directions at corner intersections & seal with **DOW 795** silicone.

GLASS SIZE FORMULAS

Glass Sizes for FL550 System:

Glass Width and Height = D.L.O. + 1-1/8"

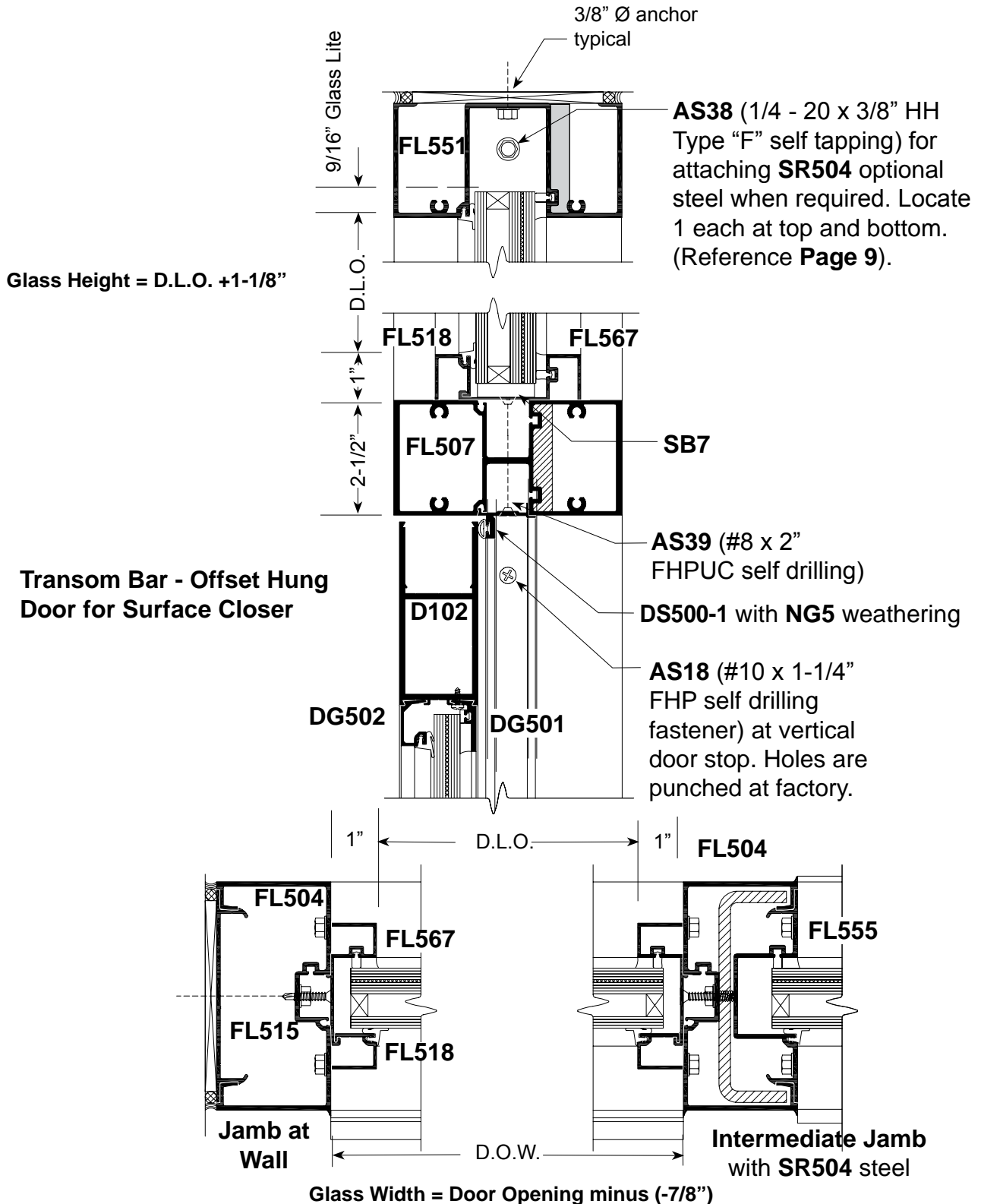
Note: Glass tolerances are not addressed in the above formula.
 Consult glass manufacturer for glass tolerances prior to ordering.



TRANSOM GLASS SIZE FORMULA

FT5 Frame for Offset Hung Door for Surface Closer

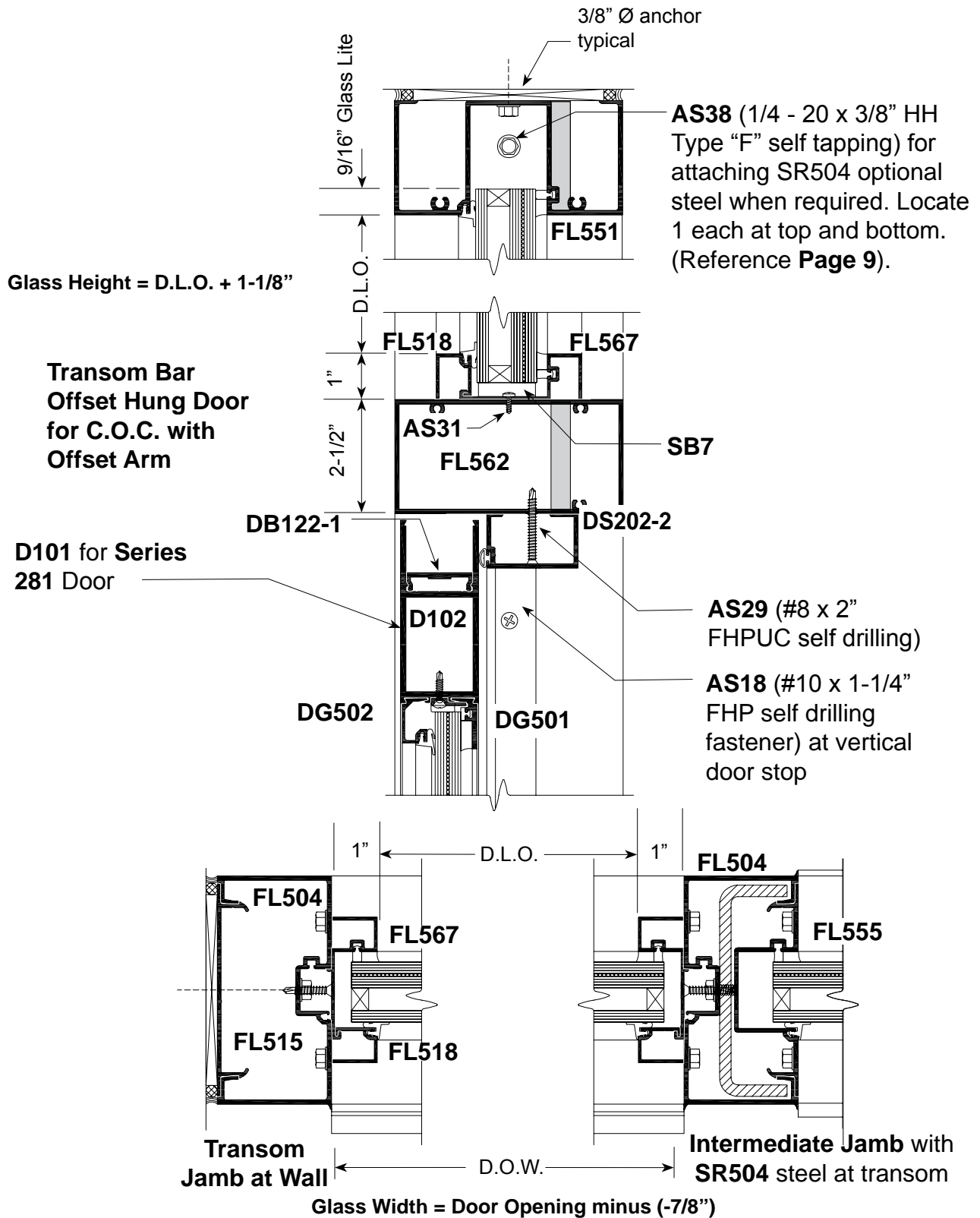
(See Glazing for Glass Installation)



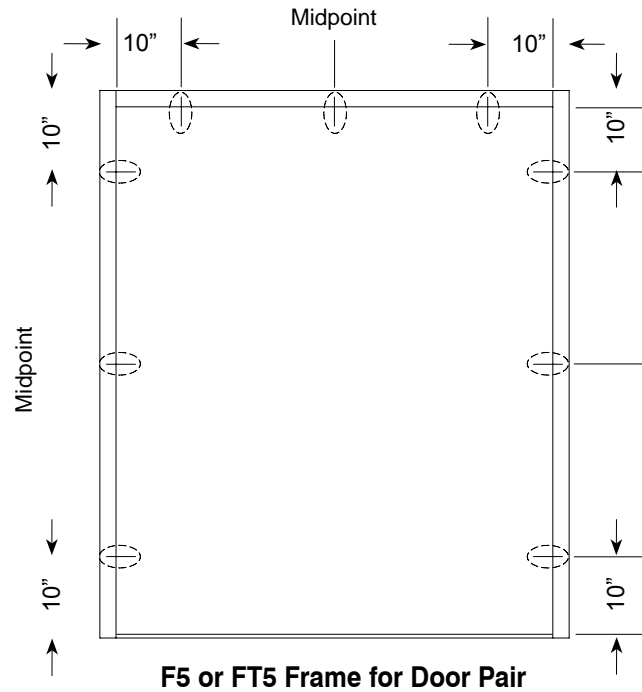
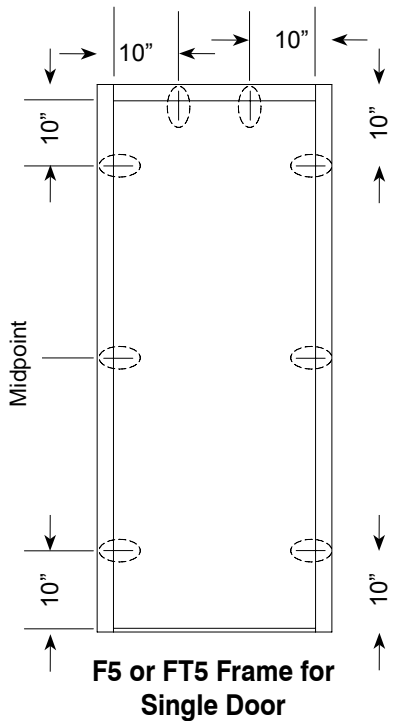
TRANSOM GLASS SIZE FORMULA

FT5 Frame for Offset Hung Door with C.O.C.

(See Glazing for Glass Installation)

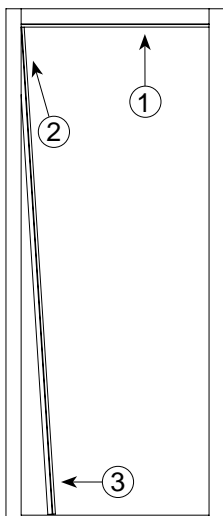


DS501-1 Door Stop ATTACHMENT HOLE LOCATIONS For 84" or 96" Door Height

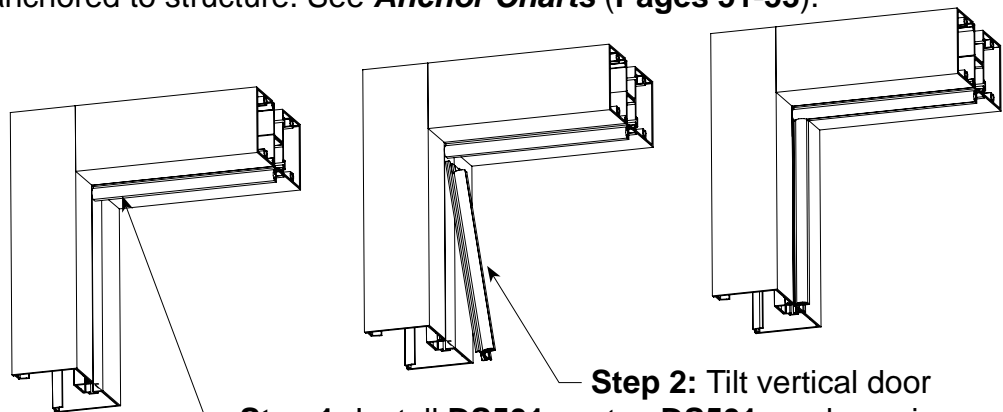


DS501 Door Stop INSTALLATION

Caution: Do not attach DS501 until frame has been anchored to structure. See *Anchor Charts (Pages 51-53)*.



Detail A



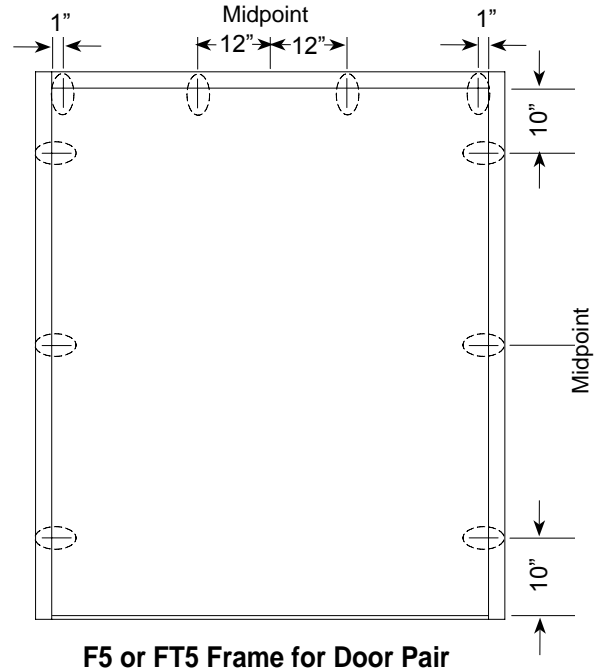
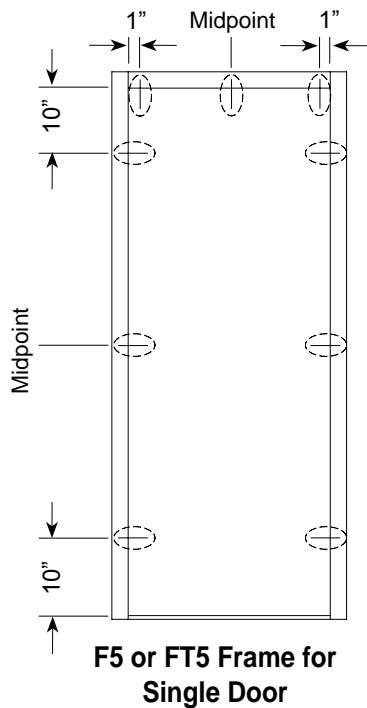
Step 1: Install DS501 full length at header with **AS39** (#10 x 1-3/4" FHPUC self drill) fasteners in factory punched holes.

Step 2: Tilt vertical door stop DS501 as shown in **Detail "A"** and push up into slot.

Step 3: Push DS501 in at bottom. Attach with **AS18** (#10 x 1-1/4" self drill) fasteners in factory punched holes.

Step 4: Repeat on opposite side.

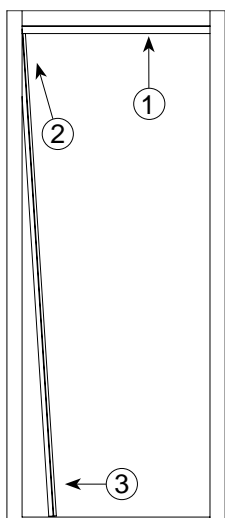
DS202-1 Offset Arm Door Stop at Head and DS500-1 at Jambs For 84" or 96" Door Height



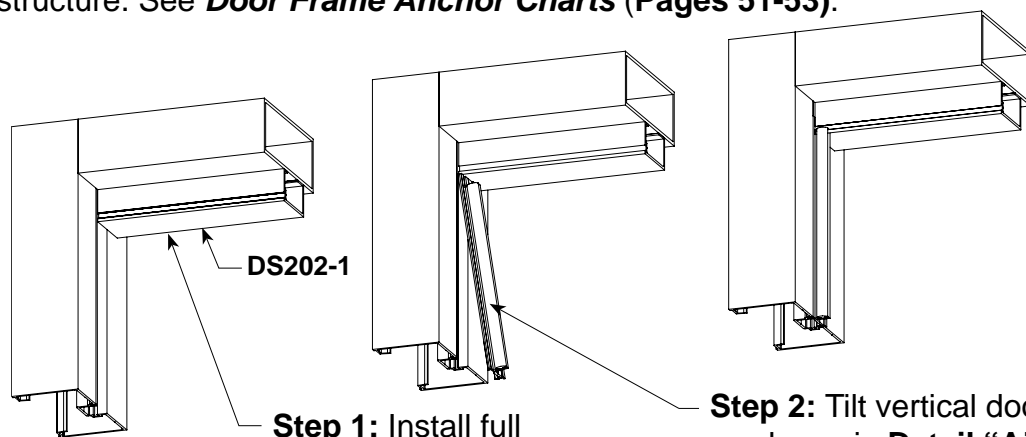
DS202-1 Door Stop

at Head with DS500-1 at Jambs

Caution: Do not attach until frame has been anchored to structure. See *Door Frame Anchor Charts (Pages 51-53)*.



Detail A



Step 1: Install full length at header with **AS39** (#10 x 1-3/4" FHPUC self drill) fasteners in factory punched holes.

Step 2: Tilt vertical door stop as shown in **Detail "A"** and push up into slot.

Step 3: Push in at bottom. Attach with **AS18** (#10 x 1-1/4" self drill) fasteners in factory punched holes.

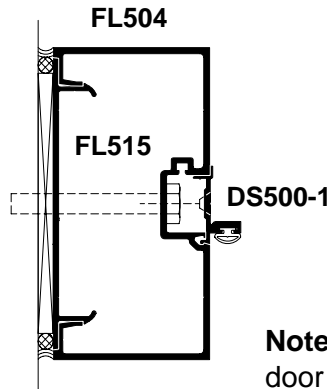
Step 4: Repeat steps 2 and 3 on opposite side.

TYPICAL ASSEMBLY & INSTALLATION For F5 or FT5 Door Frames

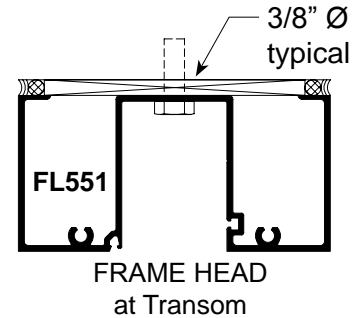
ASSEMBLY:

Note: See **INSTALLATION, Item 1** below.

1. Verify opening size. Allow for 1/4" minimum sealant space at jambs and frame head.
2. Reduce frame transom height when required. Use drill jig for drilling spline hole locations for frame head.
3. Attach **TH403** threshold clips to jambs using **AS24** fasteners.
4. Assemble head and transom bar to jambs as shown.
5. Install **FL567** sash with **NG14** gasket in transom.



TYPE "FT" FRAME



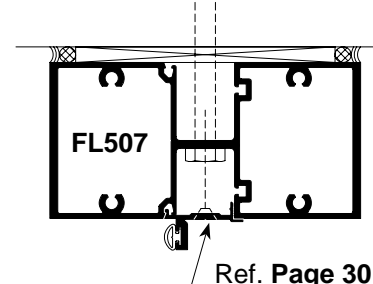
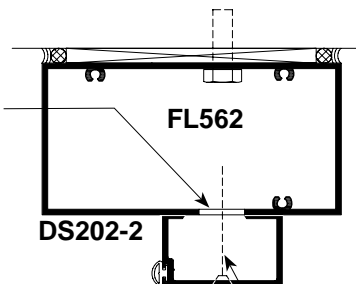
Note: Do not attach **DS500-1** and **FL517** door stop and transom sash until frame has been anchored to substrate.

TYPE "F" FRAMES

For C.O.C. with offset arm

For Surface Closer

3/4" Ø Access Hole for 3/8" Ø fastener



Ref. Page 33

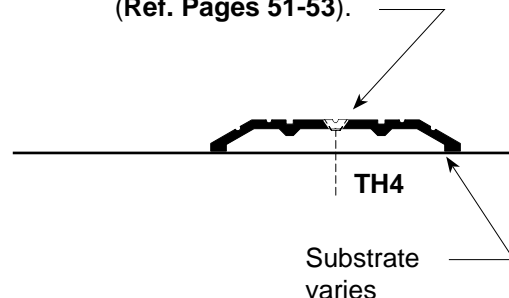
AS29
(#8 x 2" FHPUC self drilling)

Ref. Page 30

INSTALLATION:

1. Drill 3/8" Ø anchor holes in wall jamb and frame head as shown on **Anchor Charts, (Pages 51-53)**, prior to assembly.
2. Set frame plumb and square into opening.
3. Anchor frame to substrate with fastener types as shown in anchor charts.
4. Attach **DS500-1** door stop with **NG5** weathering to jambs and transom bar or door header.
5. Position setting blocks in door header at quarter or eighth points as required and glaze transom. Glazing sash is required in transom. See details on **Pages 25 and 26**.

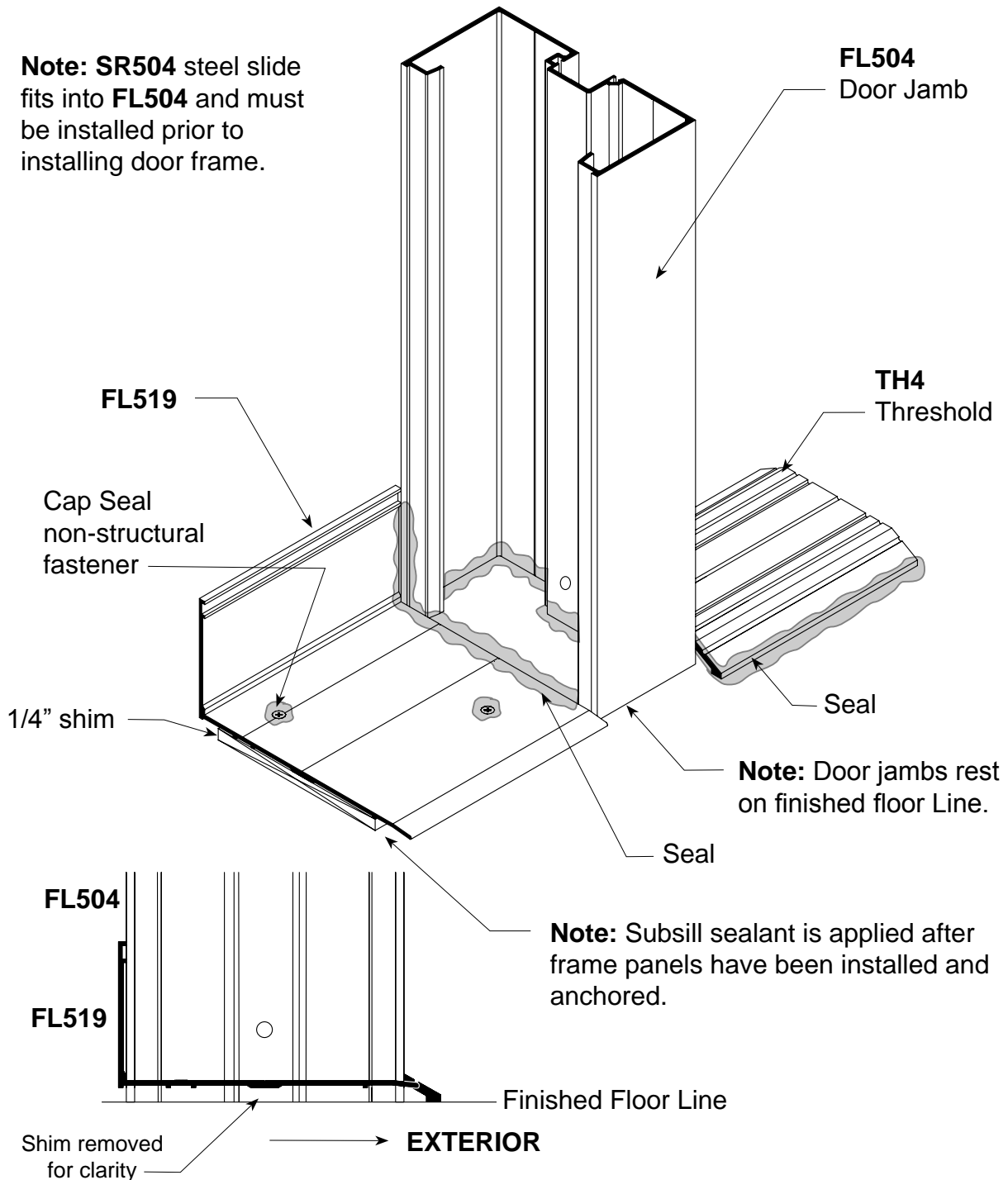
Field fabricate holes in locations as shown in anchor charts and anchor threshold to substrate. (Ref. Pages 51-53).



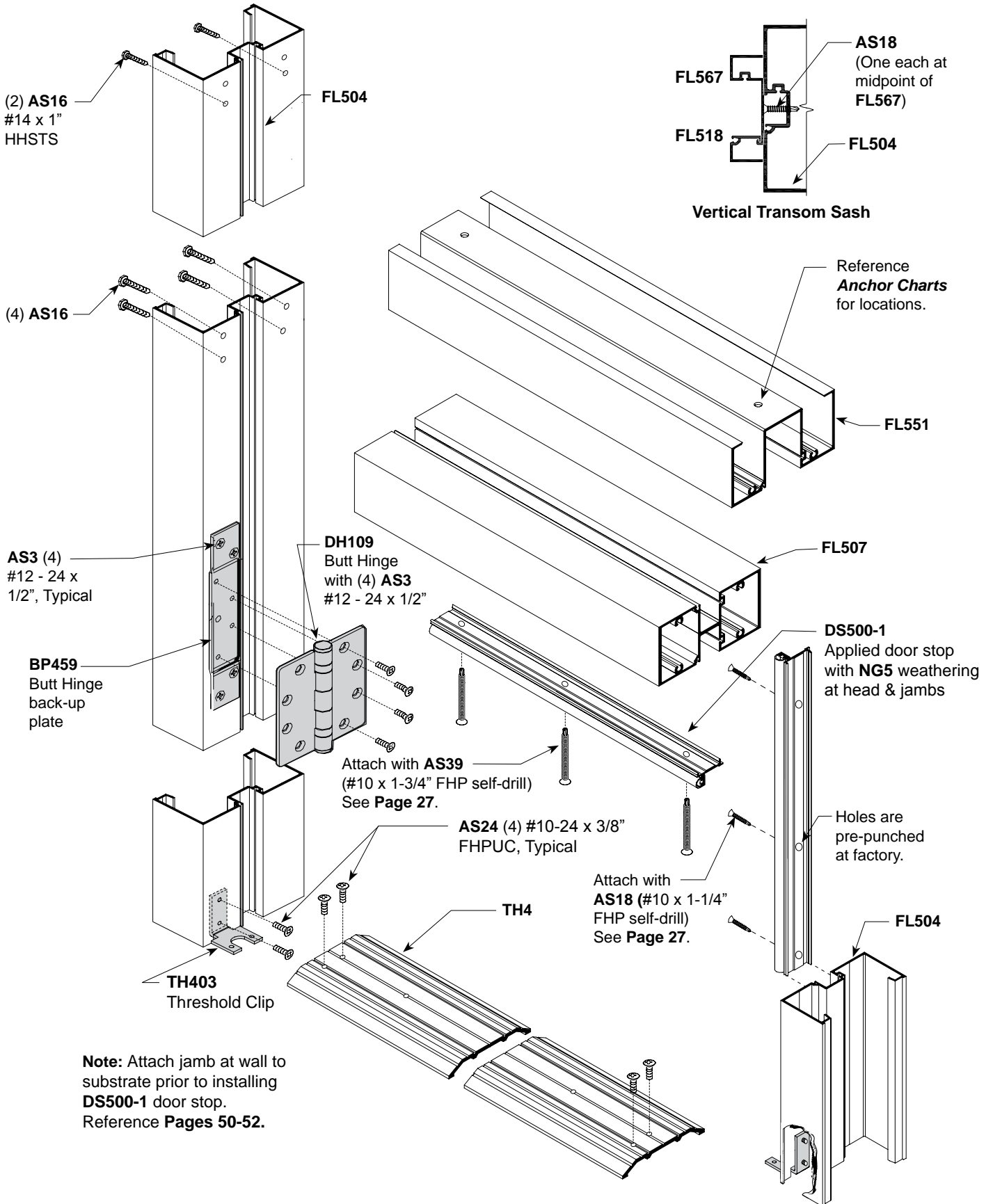
ENTRANCE DOOR FRAME INSTALLATION With Subsill for Sidelights

When entrances occur, install entrance frames first. Subsill butts against door jamb(s). The subsill abutting the door jamb does not require an end dam.

Note: SR504 steel slide fits into FL504 and must be installed prior to installing door frame.



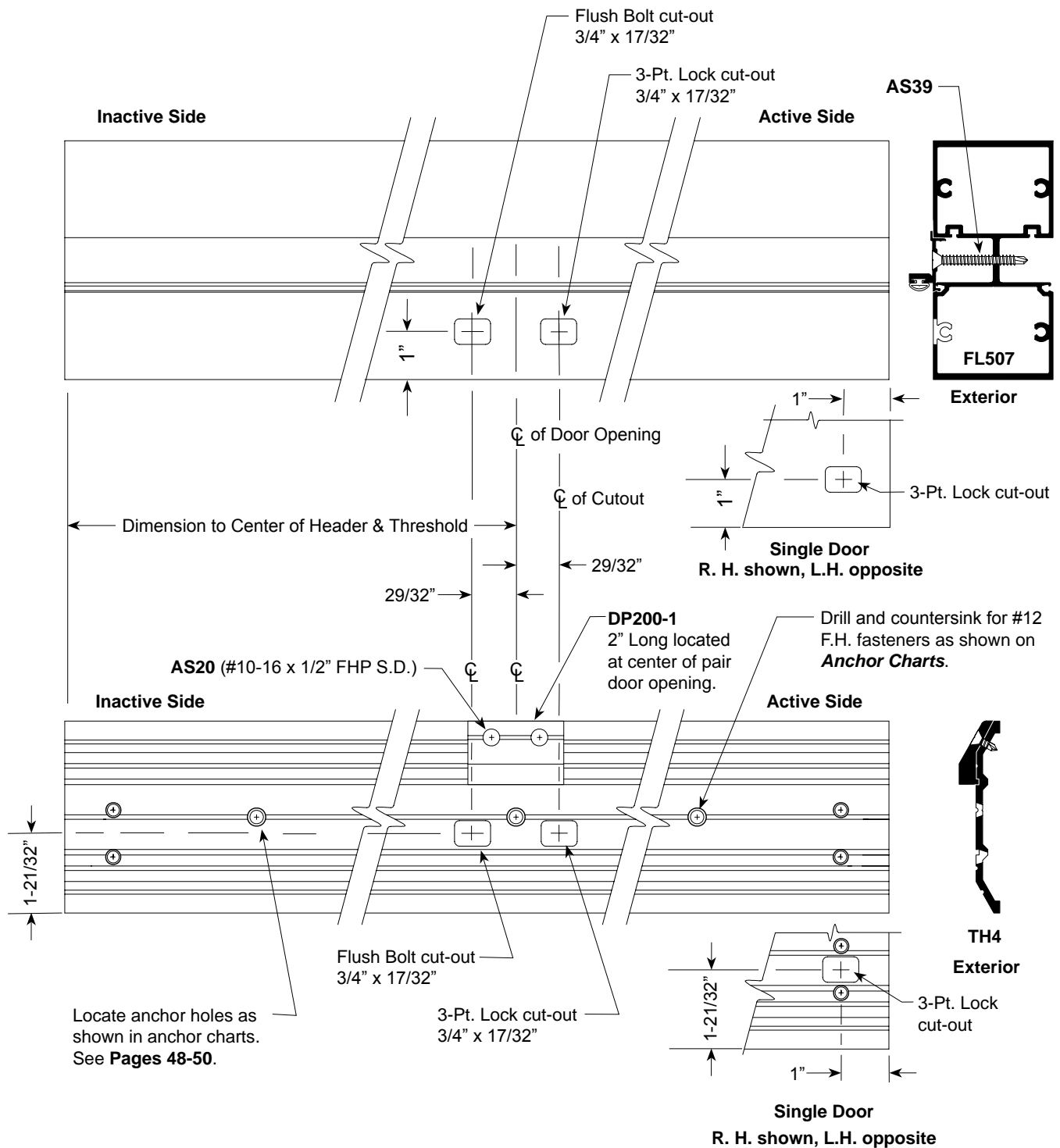
F5 or FT5 FRAME with Transom - Butt Hung Door - for Surface Closer



FLUSH BOLT & 3 PT. LOCK STRIKE LOCATIONS

F5 or FT5 Open Back Frame - Butt Hung Door - For Surface or Concealed Overhead Closer

FL507 Header Fabrication Shown for Surface Closer.
FL562 Header Fabrication Similar for C.O.C.

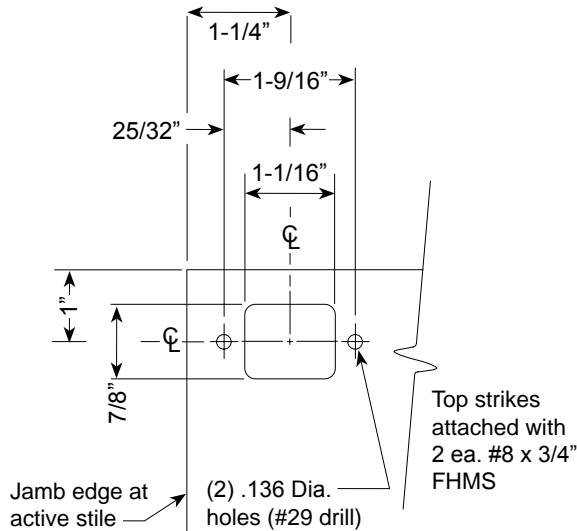


STRIKE LOCATIONS

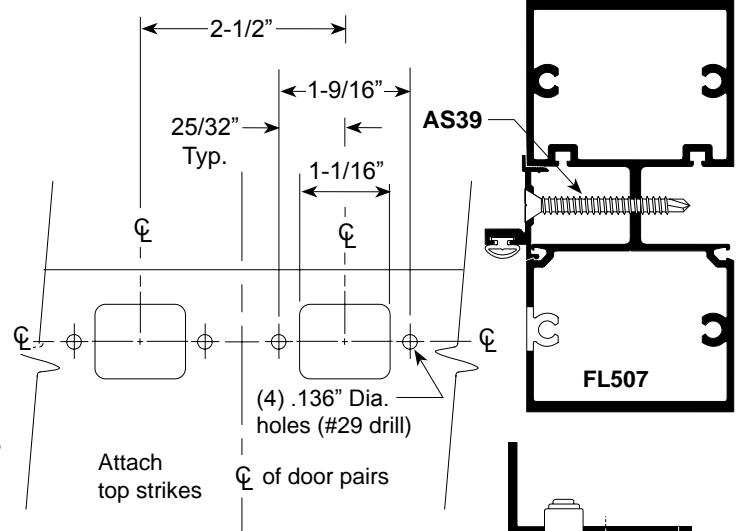
At Door Header and Threshold

For DH2086HR Concealed Panic

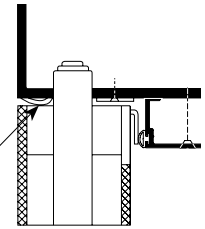
(Top and bottom strikes must be installed)



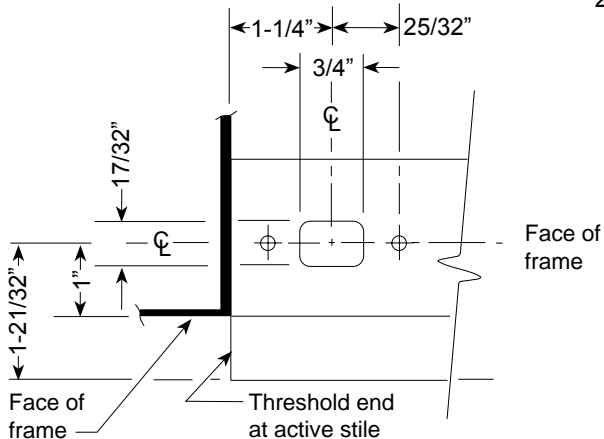
HEADER AT SINGLE DOOR



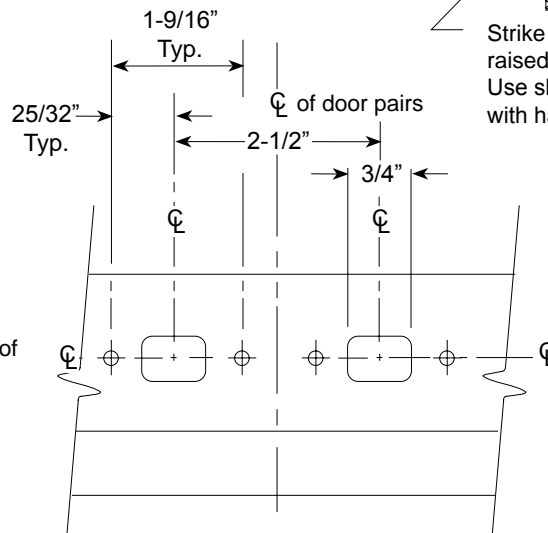
HEADER AT DOOR PAIRS



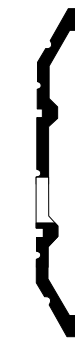
Strike to be installed with raised portion to exterior. Use shim plate, included with hardware kit, if required.



THRESHOLD AT SINGLE DOOR



THRESHOLD AT DOOR PAIRS



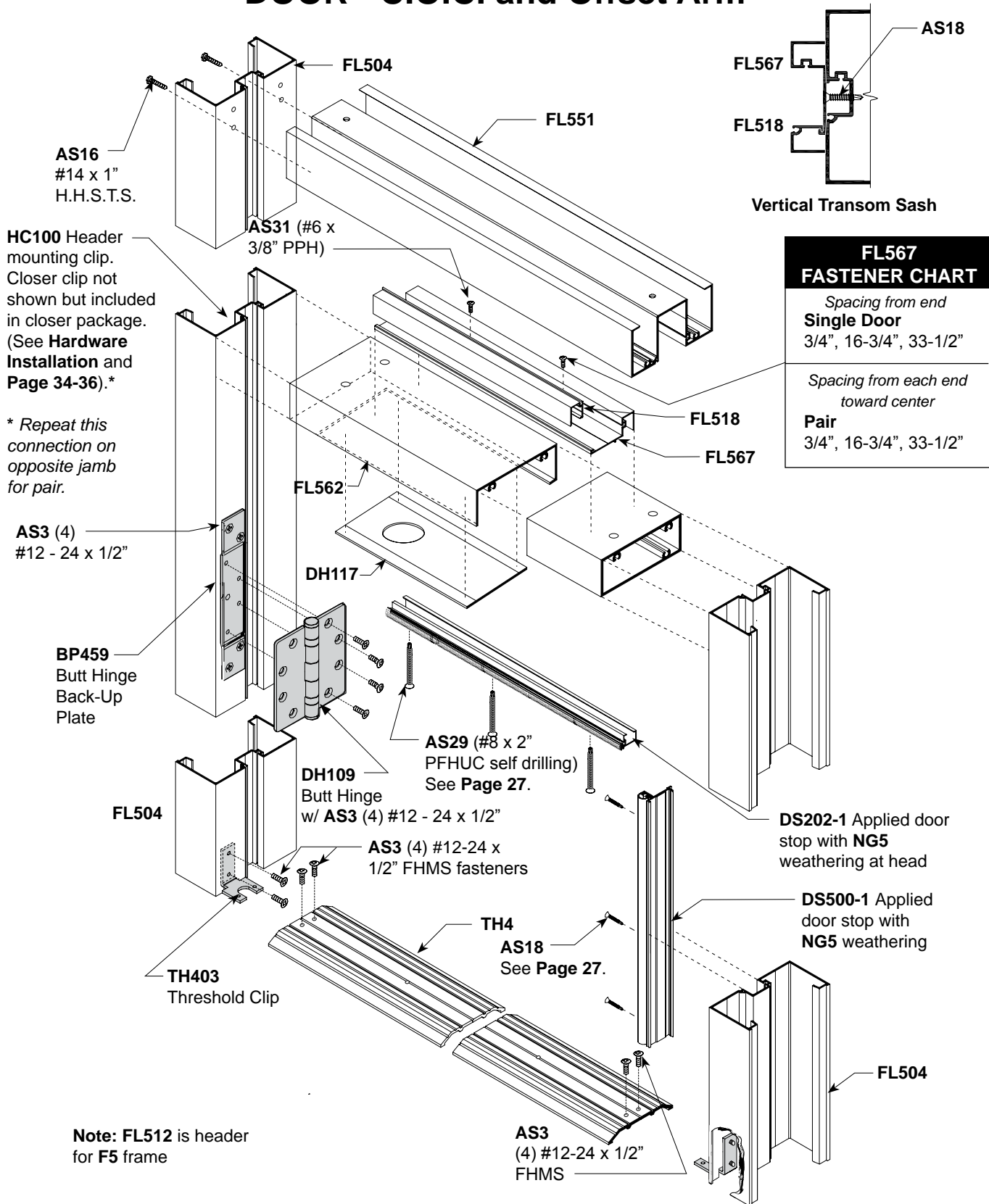
TH4 Threshold

DH2086HR concealed panic device is factory installed in "Panic doors".

Panic is shipped in dogged position and must be undogged. This can be done with the use of flat head screwdriver.

Note: FL507 header for surface closer shown. FL562 header for C.O.C. similar.

F5 or FT5 FRAME - OFFSET BUTT HUNG DOOR - C.O.C. and Offset Arm

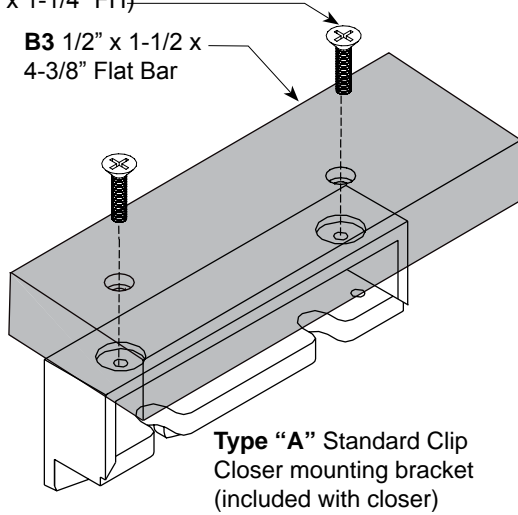


FT5 FRAME WITH FL562 HEADER for C.O.C. with Offset Arm

To mount closer into **FL562** headers, a **B3 1/2" x 1-1/2"** flat bar is required.
For balance of header installation, see **pages 32 through 37**.

Secure closer mounting clip to header with (2) **AS45** fasteners (#10-32 x 1-1/4" FH)

B3 1/2" x 1-1/2" x 4-3/8" Flat Bar

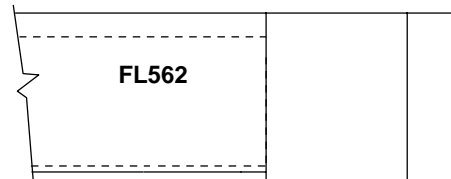
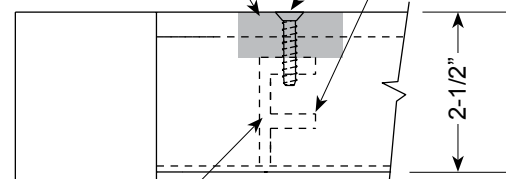


(2) **AS45** fasteners (#10-32 x 1-1/4" FH)

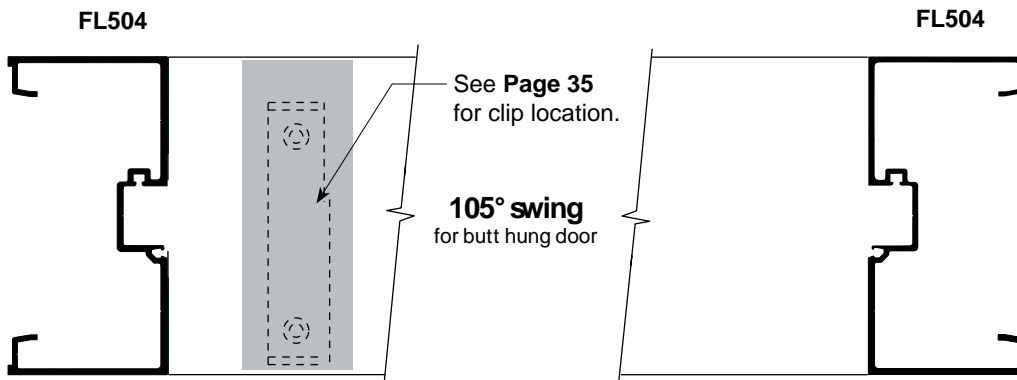
B3 1/2" x 1-1/2" x 4-3/8" Flat Bar

Closer type "A" Mounting Clip

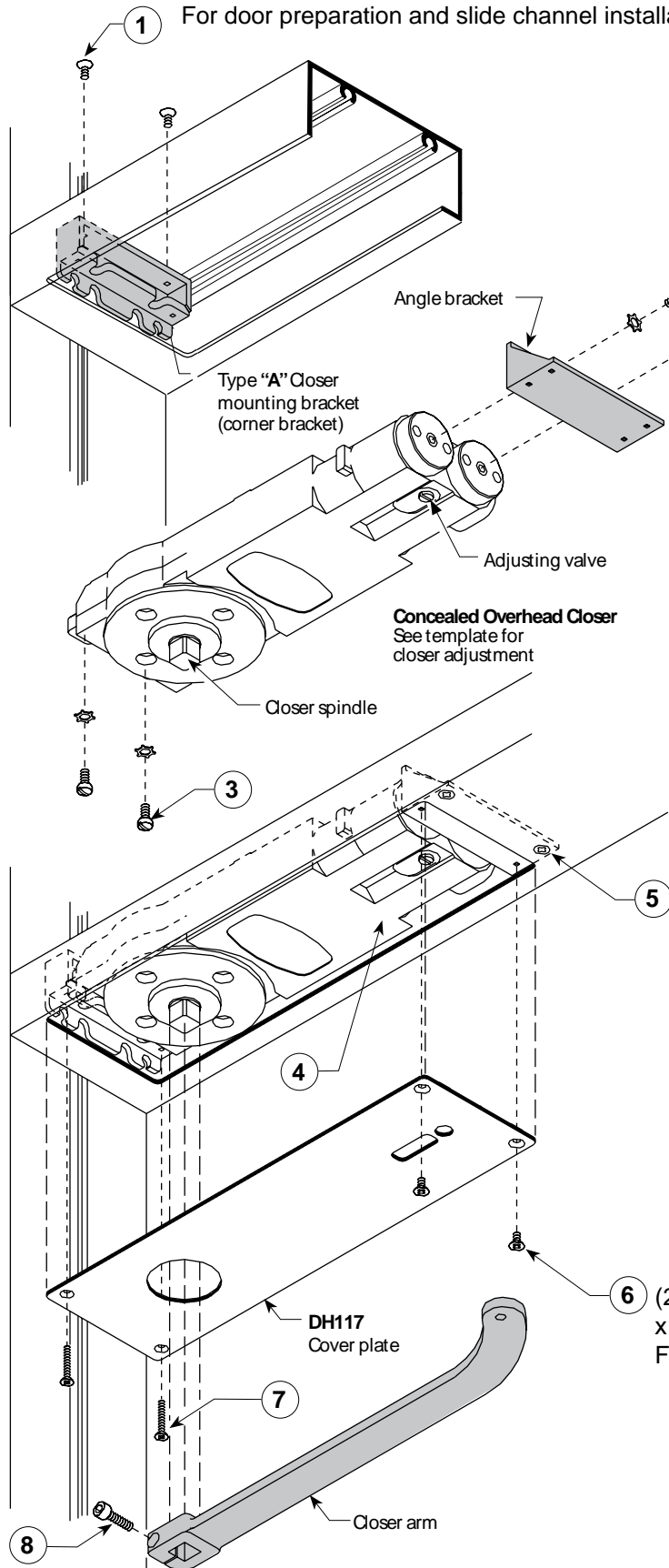
HC100 Mounting Clips



Header / Jamb for Single Door
Opposite end from closer



C.O.C. FOR BUTT HUNG DOOR With 105° Swing for F5 or FT5 Frame



1 For door preparation and slide channel installation, see **Pages 36-37**.

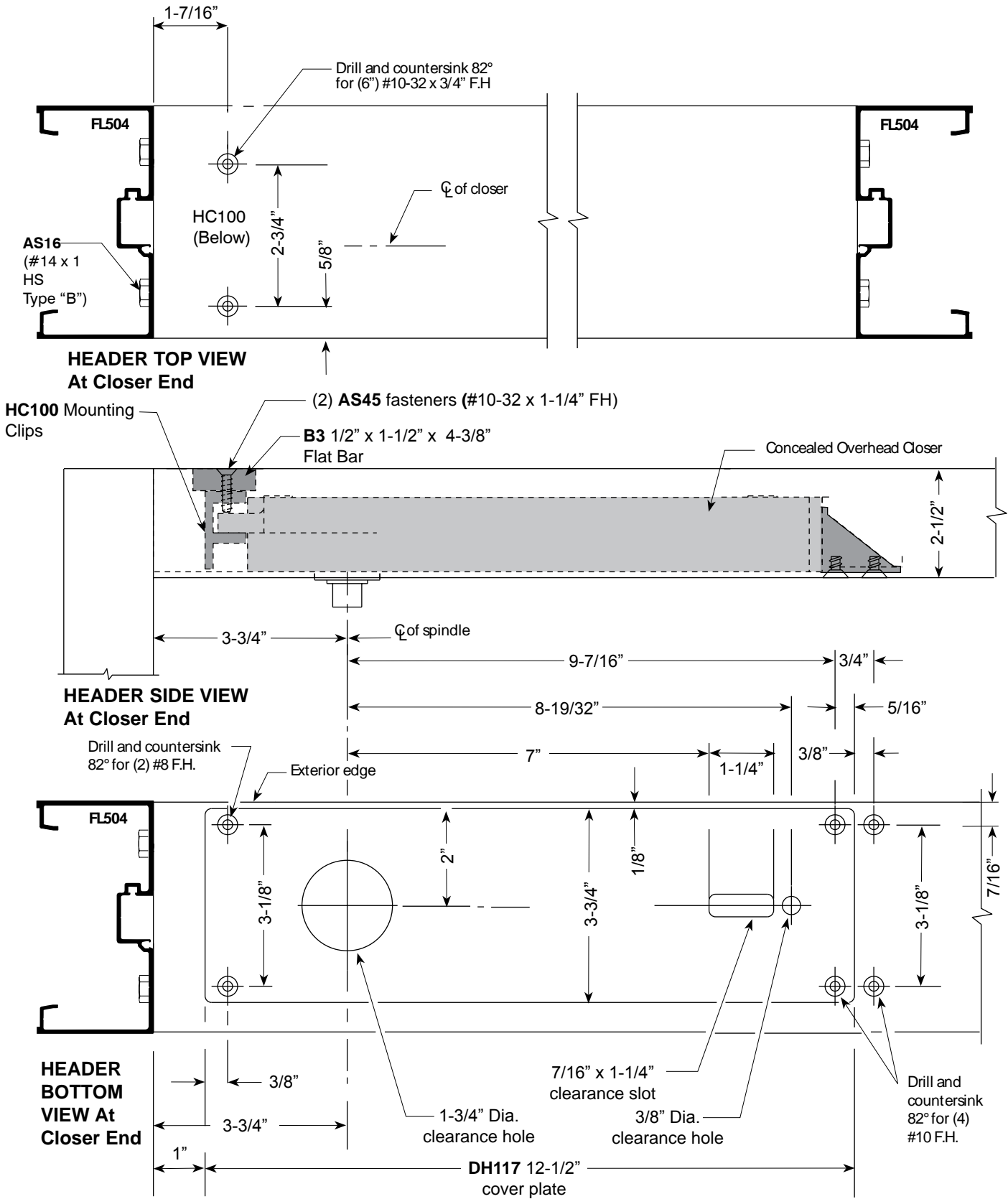
Note: Corner clips at jambs are attached prior to installing header.

1. Mount corner clip into header with (2) **AS45 10-32 x 1-1/4"** FHMS. See **Page 35** for clip location.
2. Mount angle bracket to closer with (2) **1/4-20 x 1/2"** Hex Head M.S. and washers.
3. Install (2) **1/4-20 x 1/2"** Fillister Head M.S. with washers into lugs of closer. Do not tighten screws.
4. Set closer onto header and align angle bracket holes with holes in header. Closer lugs shall rest on corner bracket.
5. Fasten angle bracket to header with (2) **10-24 x 3/8"** FHMS. Tighten Fillister Head screws.
6. Install cover plate and secure to angle with (2) **#8-32 x 1"** FHP.
7. Attach cover plate to closer at hinge side with (2) **#8-32 x 1"** FHMS fasteners included with cover plate.
8. Mount arm on spindle and secure with **1/4-20 x 7/8"** Socket Head Cap Screw.

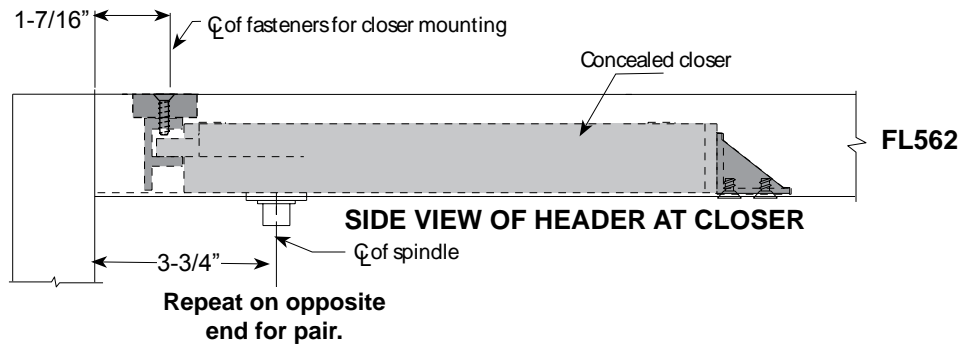
HEADER FOR C.O.C. - Butt Hung Door - with 105° Swing

FL562 Header Preparation

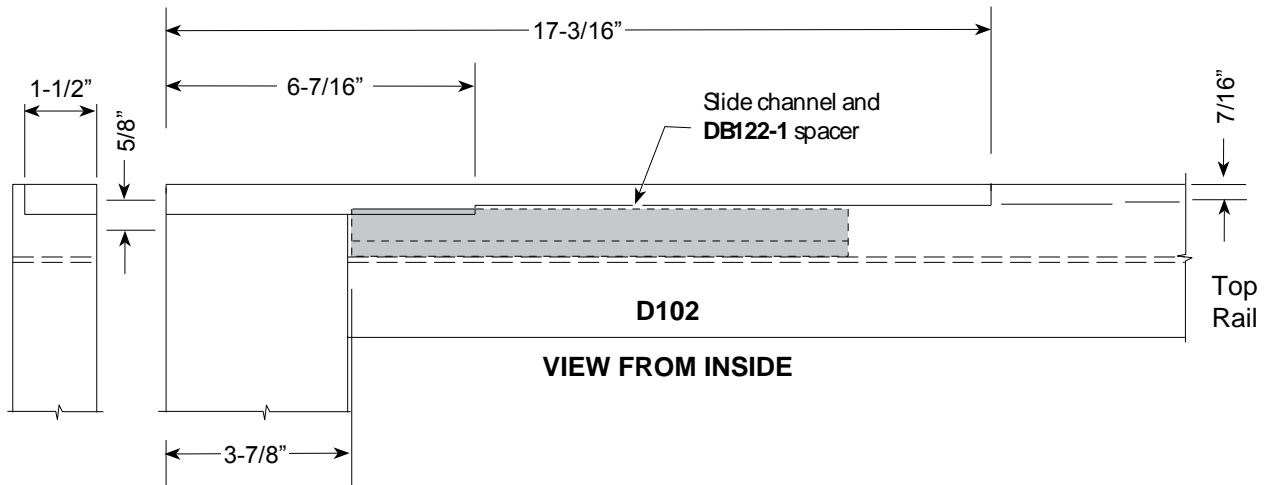
FL562 2" x 5" Header requires a B3 1/2" x 1-1/2" x 4-3/8" flat bar.



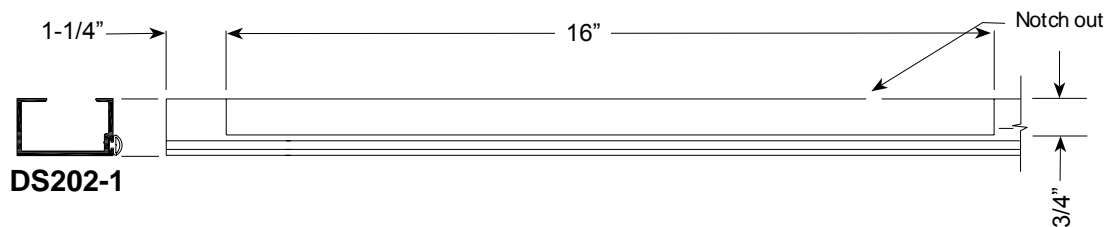
C.O.C. Closer Location in FL562 Header for 105° Swing



SLIDE CHANNEL LOCATION IN DOOR TOP RAIL FOR OFFSET ARM



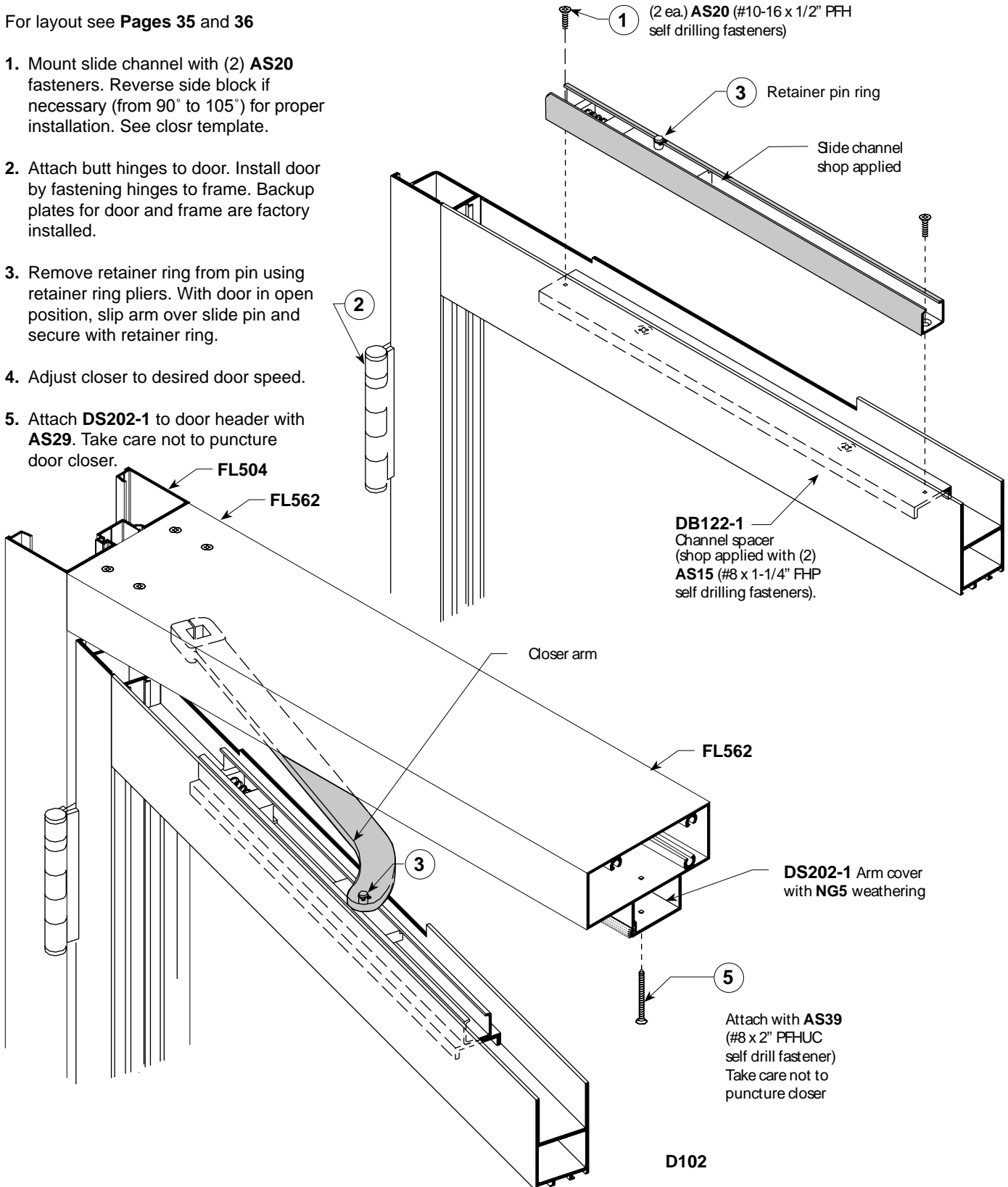
OFF-SET ARM COVER CHANNEL LEFT HAND SHOWN RIGHT HAND OPPOSITE



BUTT HINGE DOOR WITH JACKSON C.O.C. FOR 105° SWING

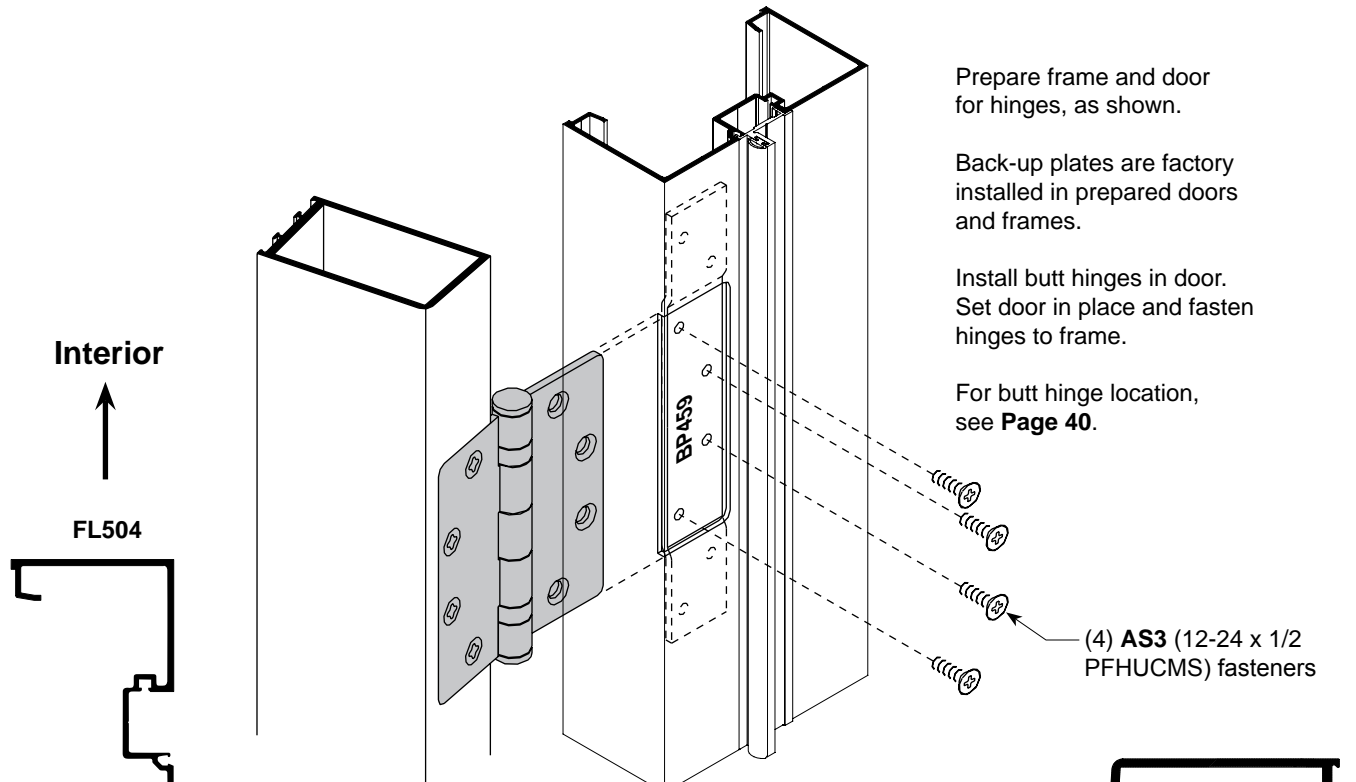
For layout see **Pages 35 and 36**

1. Mount slide channel with (2) **AS20** fasteners. Reverse side block if necessary (from 90° to 105°) for proper installation. See closr template.
2. Attach butt hinges to door. Install door by fastening hinges to frame. Backup plates for door and frame are factory installed.
3. Remove retainer ring from pin using retainer ring pliers. With door in open position, slip arm over slide pin and secure with retainer ring.
4. Adjust closer to desired door speed.
5. Attach **DS202-1** to door header with **AS29**. Take care not to puncture door closer.



BUTT HINGE INSTALLATION

Door and Frame



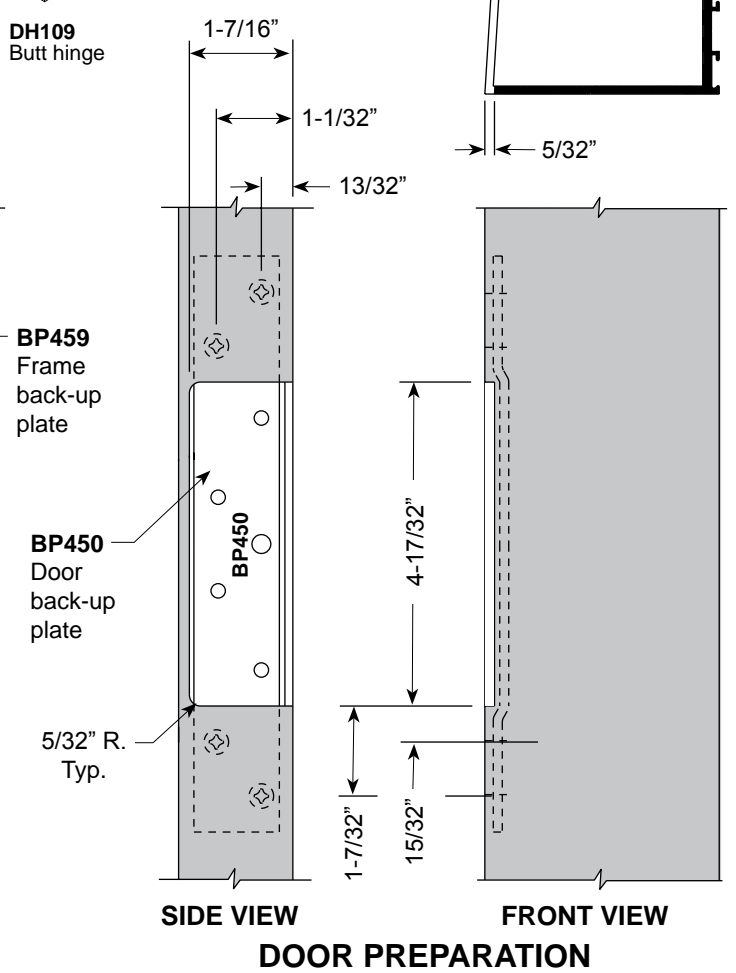
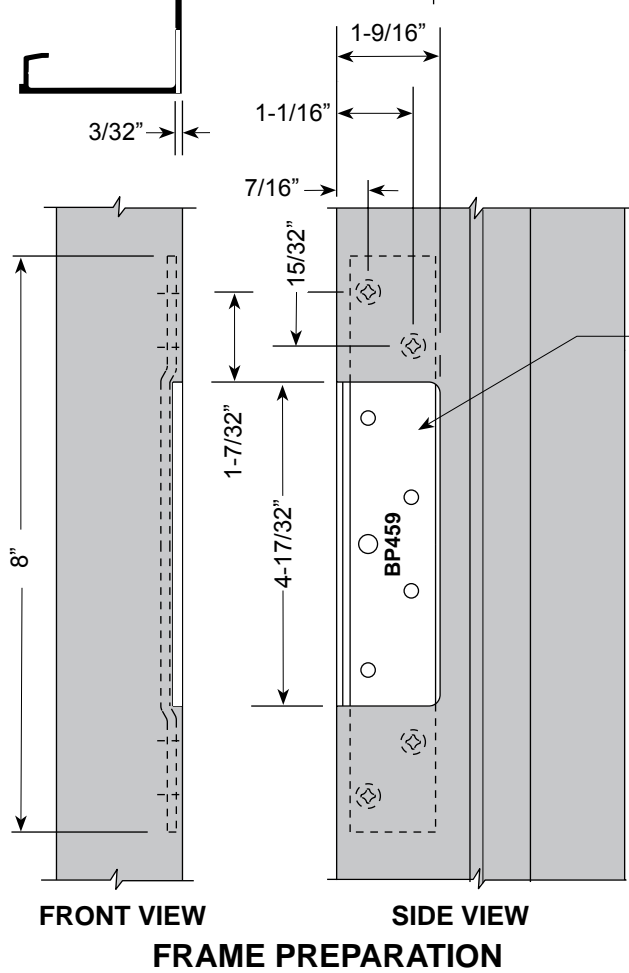
Prepare frame and door for hinges, as shown.

Back-up plates are factory installed in prepared doors and frames.

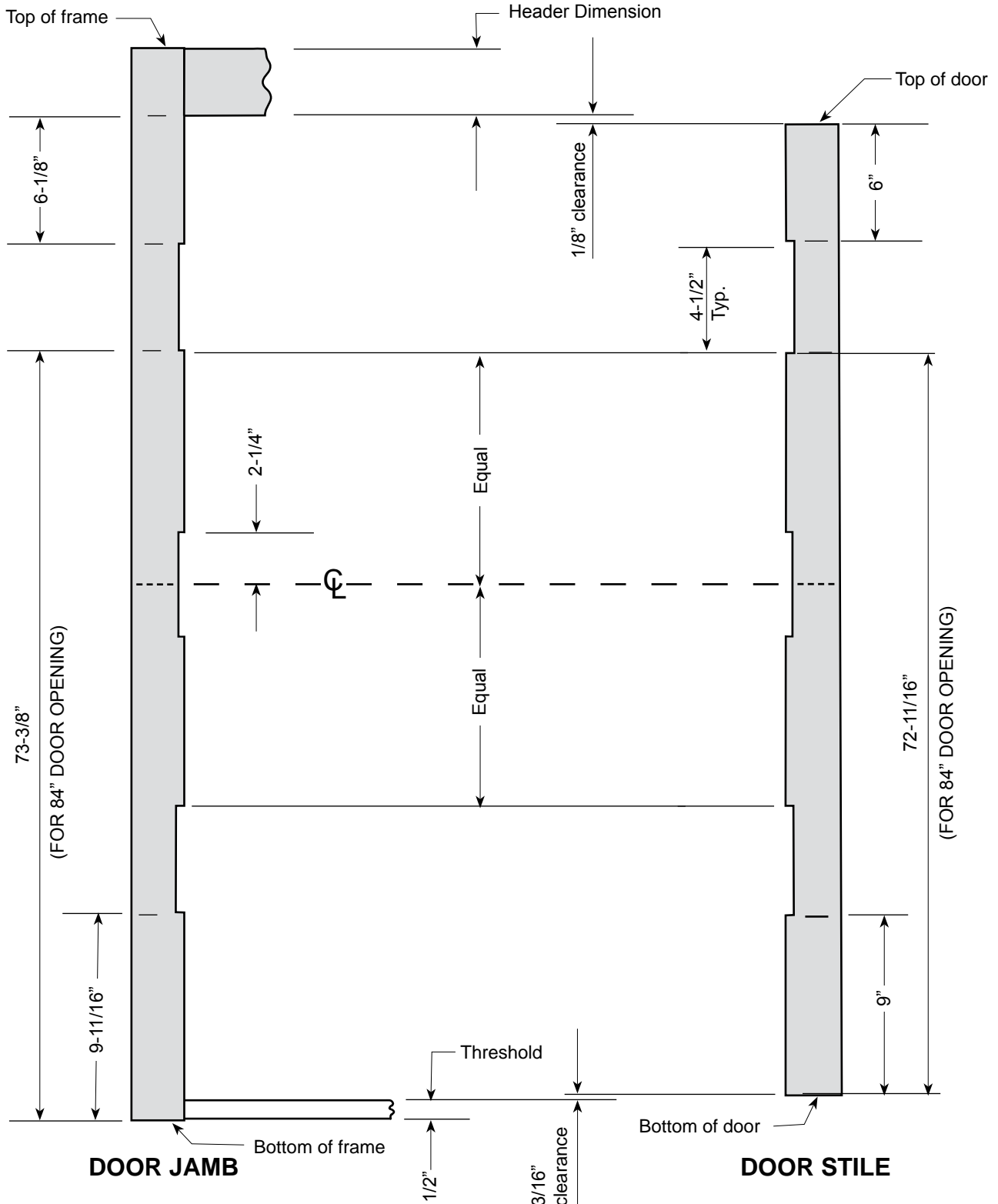
Install butt hinges in door. Set door in place and fasten hinges to frame.

For butt hinge location, see **Page 40**.

(4) **AS3** (12-24 x 1/2 PFHUCMS) fasteners



STANDARD DH109 BUTT HINGE LOCATION For F5 Frame and Series 381 Door

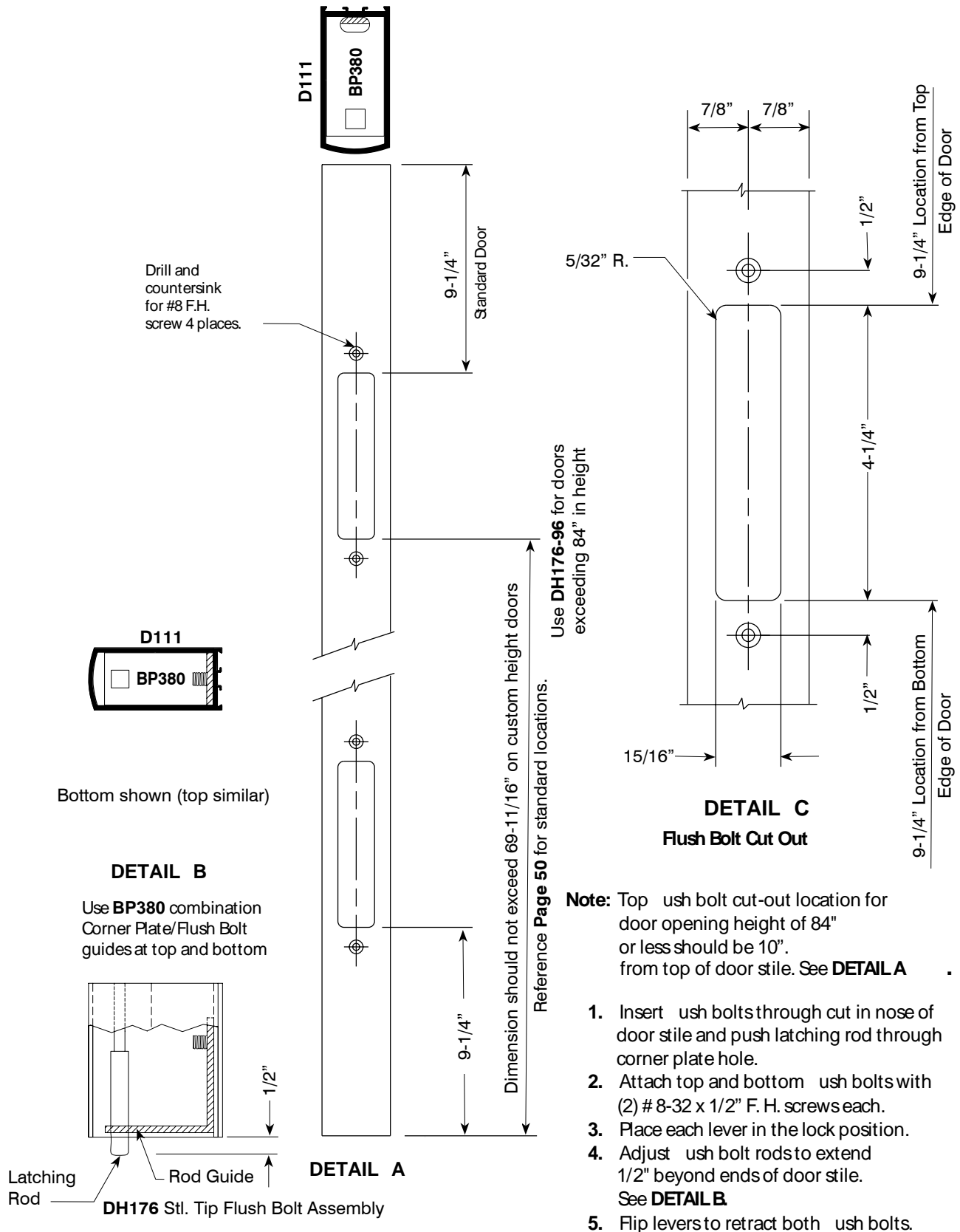


Note: Reference **Page 49** for other standard hardware locations.

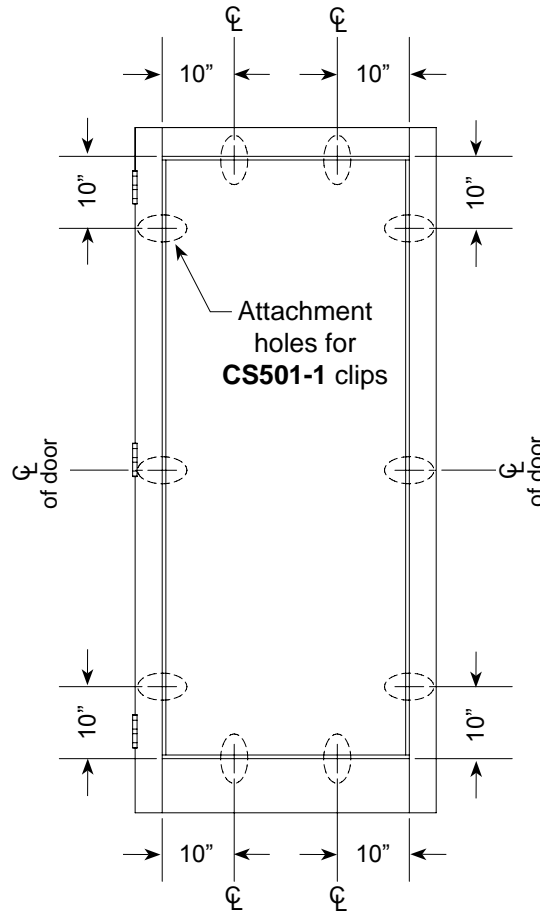
FLUSH BOLTS

Series 381 Inactive Leaf Shown

Series 281 Similar



Series 381 Doors ATTACHMENT HOLE LOCATIONS For CS501-1 Glass Stop Clip



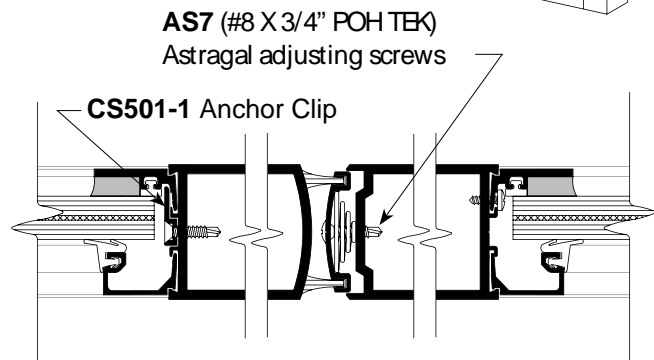
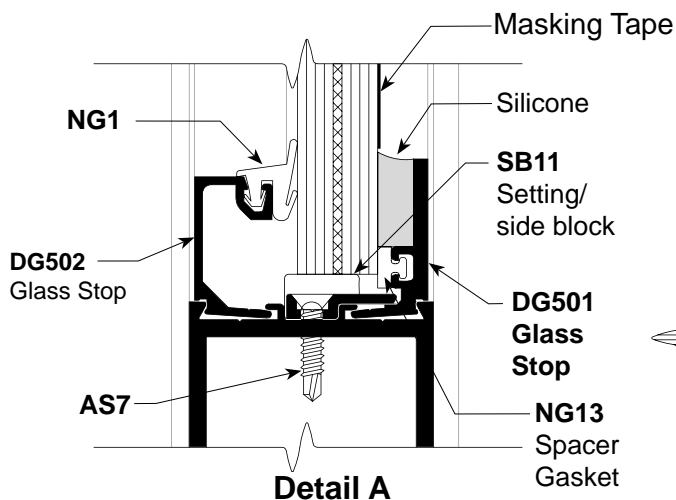
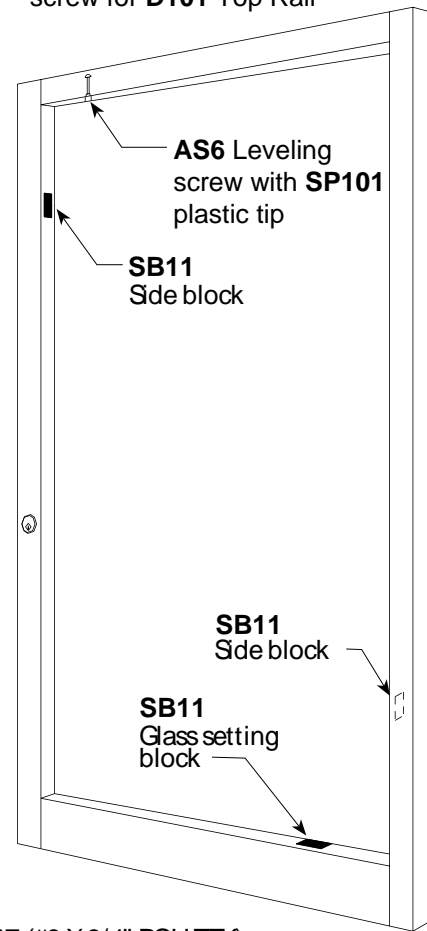
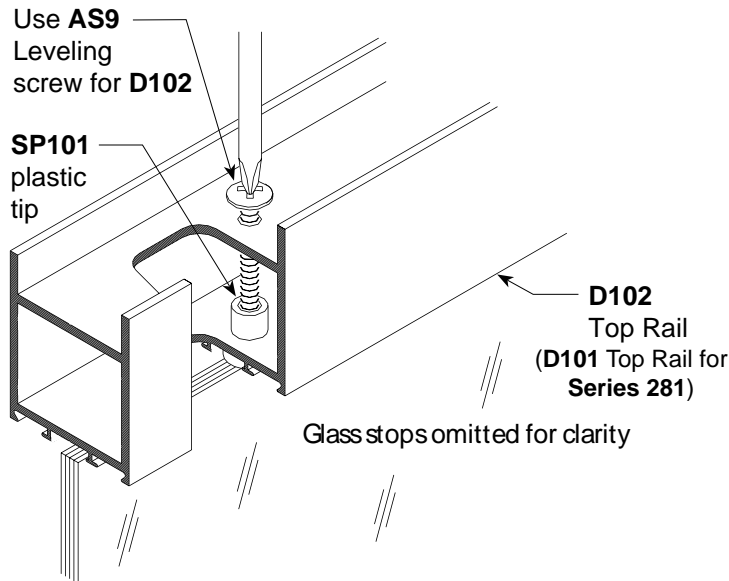
**CS501-1 Glass Stop Clip Attachment
 for 84" or 96" Door Height**

1. Position **DG501-1** with **NG13** spacer gasket as instructed on **Page 43**.
2. Positon **CS501-1** clips as shown above and attach with **AS7** fasteners. Reference **Detail A** on **Page 43**.

DOOR GLAZING INSTRUCTIONS

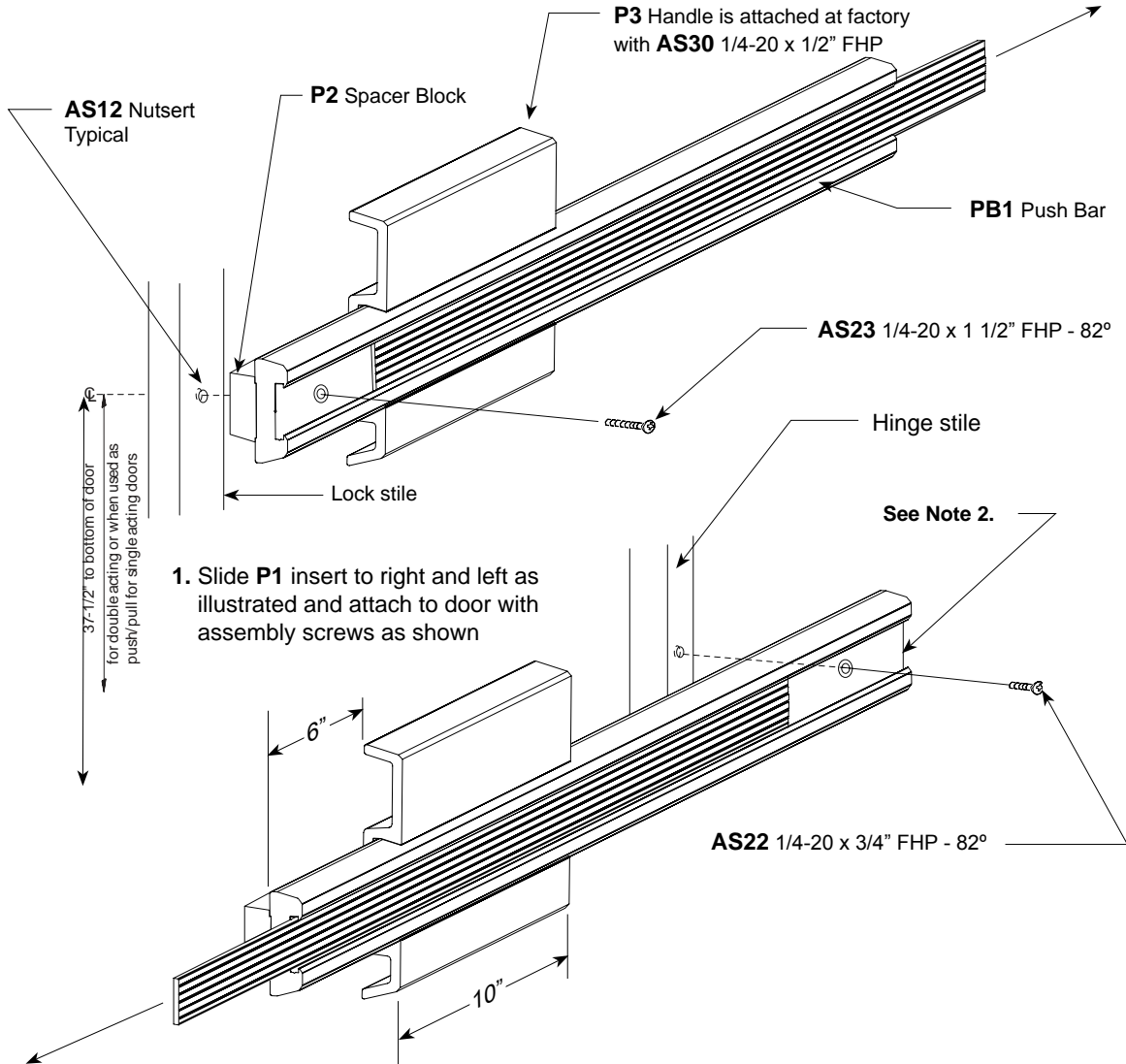
1. Raise leveling screw to maximum retracted position.
2. **DG501** glass stop may be installed on either interior or exterior side of door. It is recommended that **DG501** be installed on the interior side of doors receiving panic devices to allow for re-glazing without removing the panic bars.
3. Determine side of door you desire to place **DG501** and secure with **CS501-1** anchor clips. Match drill holes in stop into door and attach as shown below in **Detail "A"** with **AS7**.
4. Position **SB11** setting/side blocks in locations as shown.
5. Center glass into opening on setting blocks and align with side blocks.
6. Once the glass is in the correct position, lightly screw the glass jack down on top of the glass to create a uniform clearance between the top rail and header.
7. Adjust astragal screws for proper clearance between meeting stiles.
8. Install horizontal **DG502** glass stops first. Now install the vertical **DG502** glass stops.
9. Roll **NG1** gasket into **DG502**.
10. Mask off glass with 2" wide low adhesive masking tape and apply Dow 995 sealant into the cavity between the glass and **DG501** glass stop. Remove masking tape immediately after installation of sealant taking care not to damage or pull sealant from the cavity.

NOTE: Use **AS6** Leveling screw for **D101** Top Rail



CAPSTYLE CLASSIC

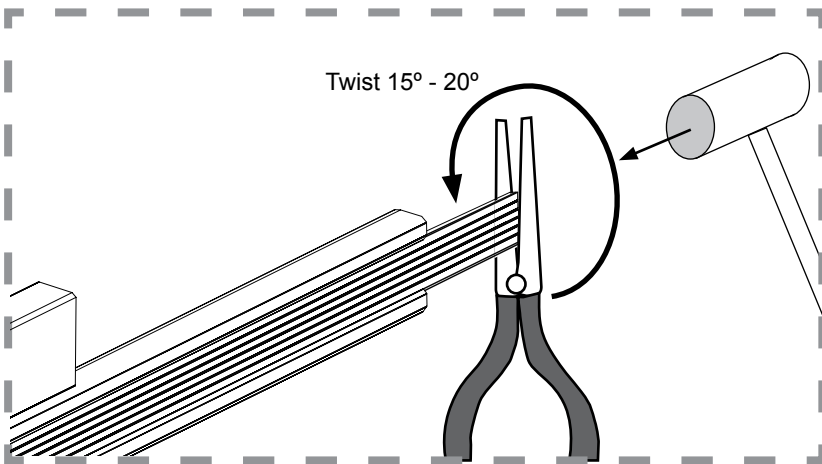
**INSTRUCTIONS FOR ATTACHING DH300 SERIES
PUSH BAR WITH P1 INSERT TO DOOR**



1. Slide **P1** insert to right and left as illustrated and attach to door with assembly screws as shown

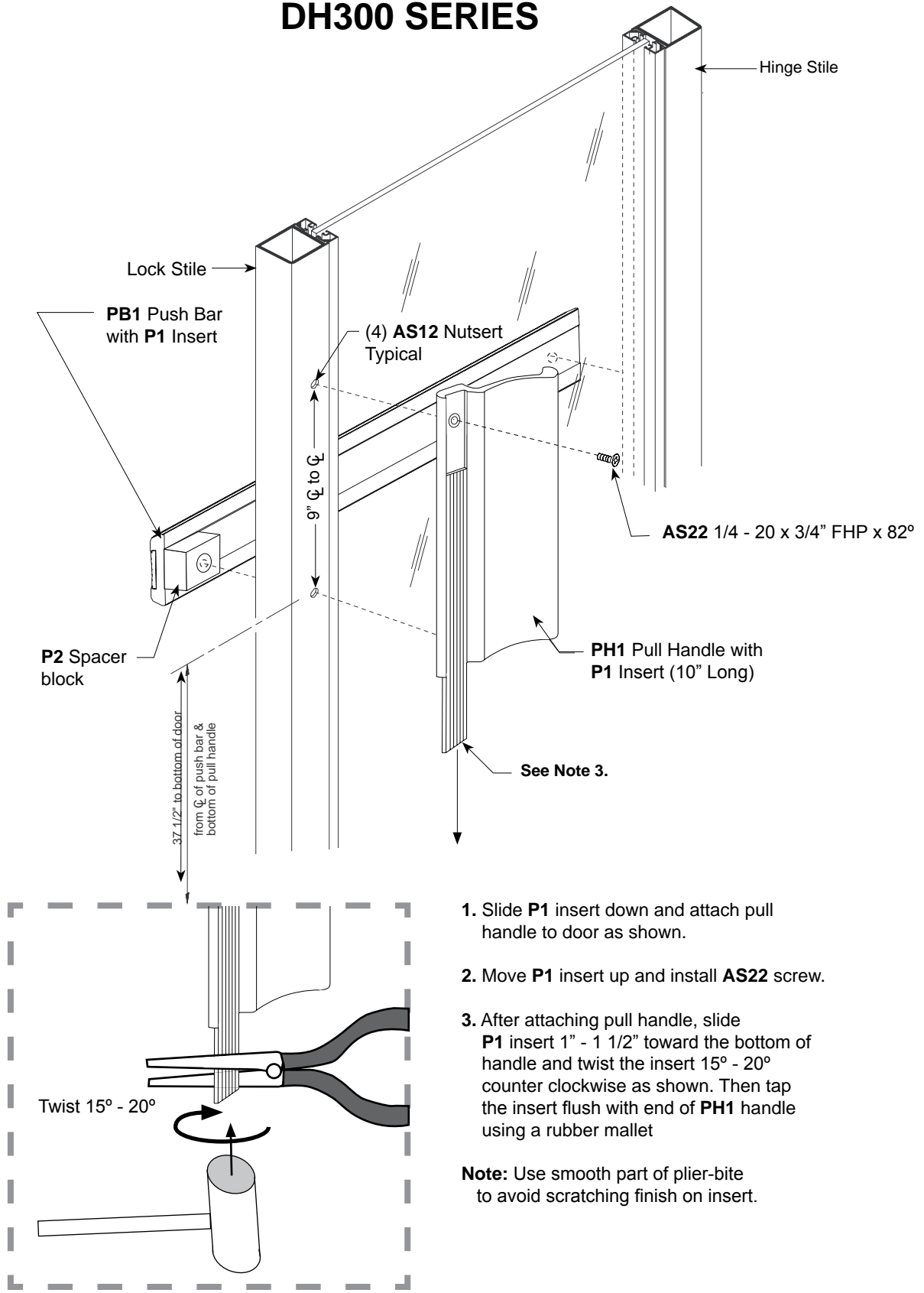
2. After attaching push bar, slide **P1** insert 1" - 1 1/2" toward the hinge stile and twist the insert 15° - 20° counter clockwise as shown. Then use a rubber mallet to tap the insert flush with end of **PB1** bar.

Note: Use smooth part of plier-bite to avoid scratching finish on insert.



CAPSTYLE CLASSIC

**STANDARD OFFSET HUNG HARDWARE SET
DH300 SERIES**



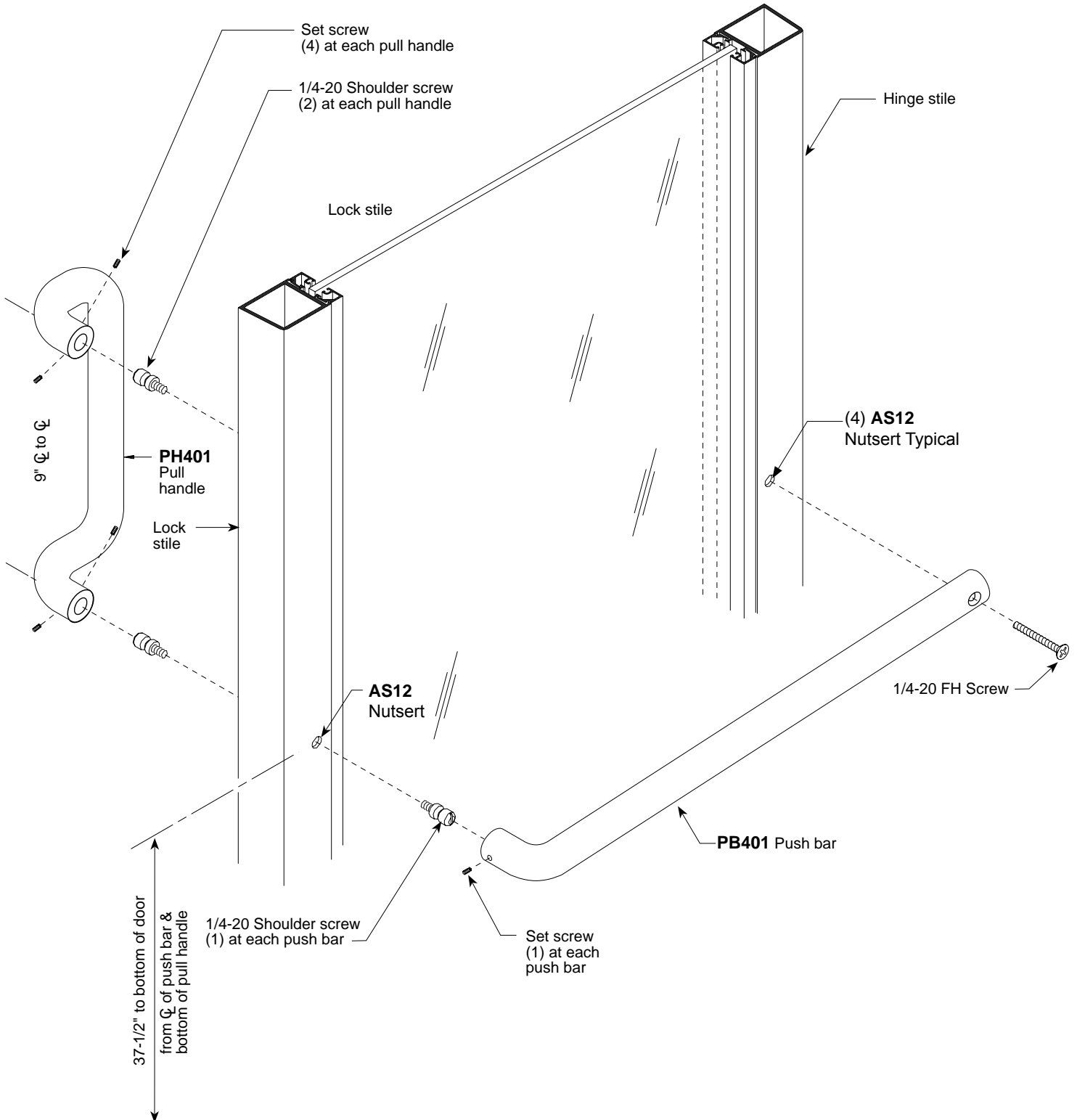
1. Slide **P1** insert down and attach pull handle to door as shown.
2. Move **P1** insert up and install **AS22** screw.
3. After attaching pull handle, slide **P1** insert 1" - 1 1/2" toward the bottom of handle and twist the insert 15° - 20° counter clockwise as shown. Then tap the insert flush with end of **PH1** handle using a rubber mallet

Note: Use smooth part of plier-bite to avoid scratching finish on insert.

CADSTYLE^{TRADITIONAL}

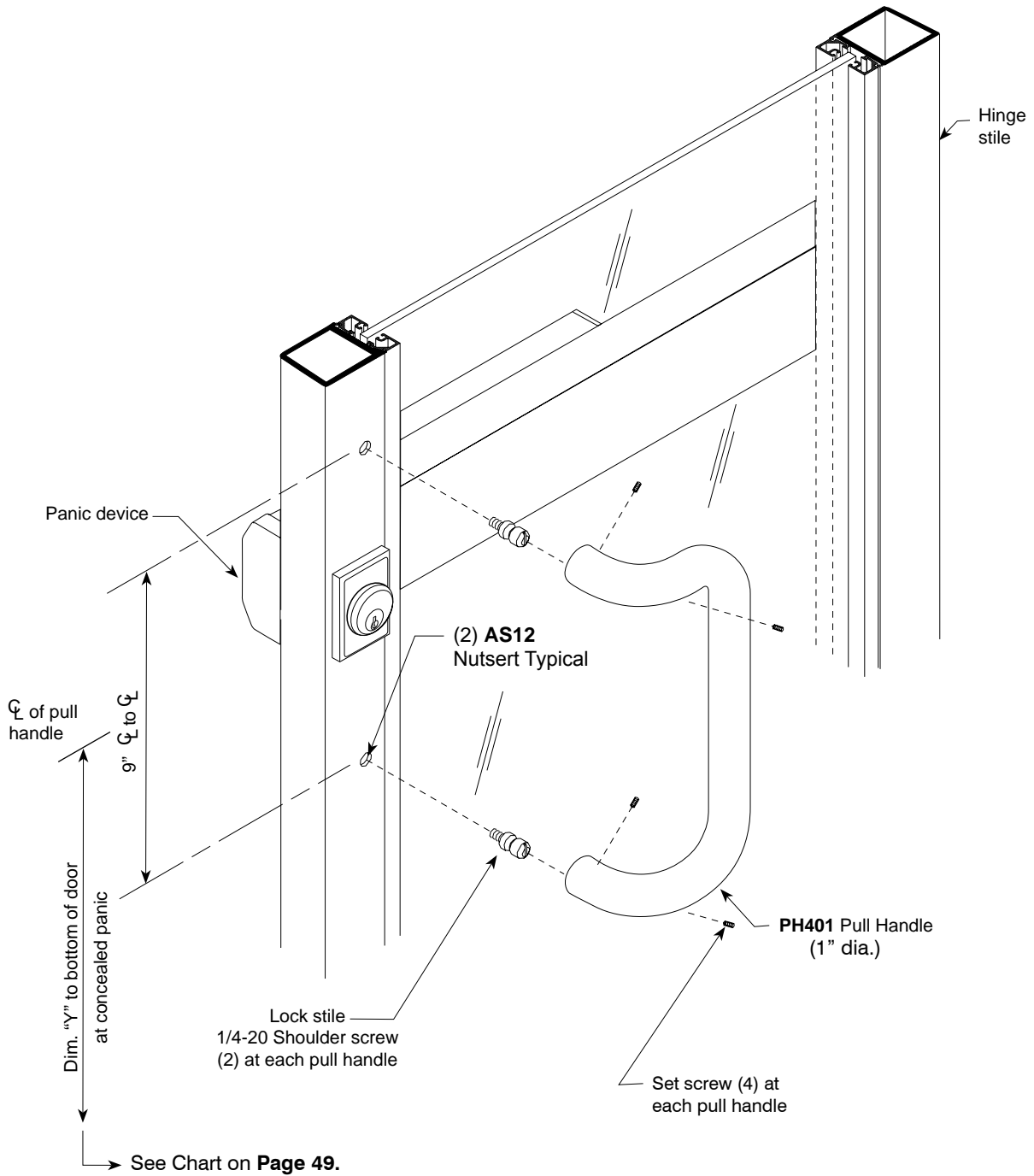
OFFSET HUNG DOOR HARDWARE SET

DH400 (OPTIONAL)



CAPSTYLE TRADITIONAL

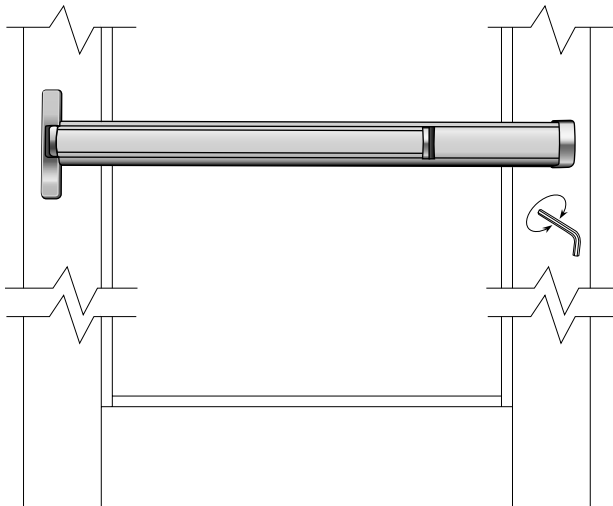
PULL HARDWARE SET FOR PANIC DOOR DH40P (STANDARD FOR PANIC DOORS)



PANIC DOORS WITH DH2086HR PUSH PAD EXIT DEVICE with Optional Dogging Feature

Concealed panic device is factory installed with Hurricane-Impact rod guides.

Panic is shipped in dogged position and must be undogged. This can be done with the use of an allen wrench (supplied) or the cylinder key.



Dogging Instructions:

- To dog:** Depress panic bar, hold down and turn dogging key 1/4 clockwise.
- To undog:** Turn dogging key counterclockwise.

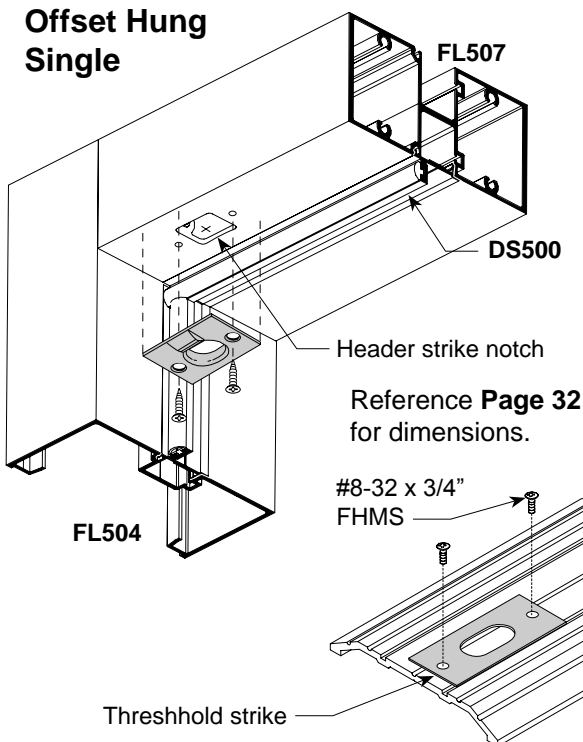
Installation Procedure

1. Hang door, as required. The clearance between top of door and bottom of header **must not exceed 1/8"**.
2. Undog panic.
3. **Note:** Panic devices are preset at the factory. Due to various field conditions, they may require minor adjustment.

Outside Key Functions

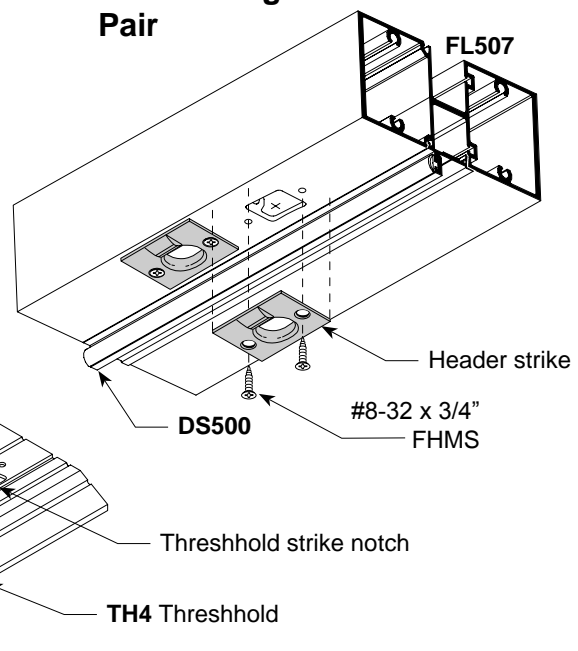
The **DH2086HR** panic is factory installed for key entry with dogging key option. To key dog device for continued outside entry, hold bar in fully depressed position and turn key approximately one quarter turn clockwise; then, return key to vertical position and remove. To lock door again, fully depress bar and turn key approximately one quarter turn counter clockwise; then return key to vertical position and remove.

Offset Hung Single



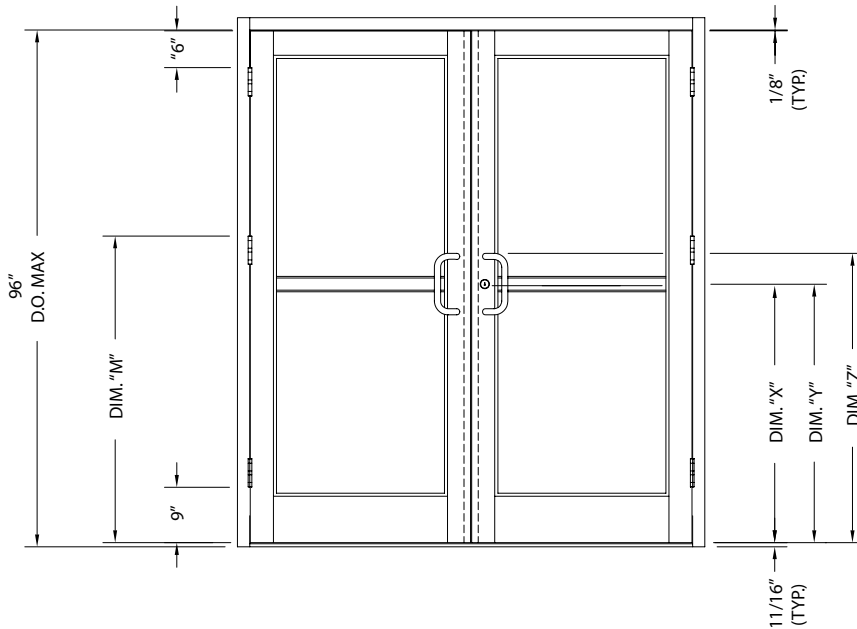
Reference **Page 32** for dimensions.

Offset Hung Pair



STANDARD HARDWARE LOCATIONS

Series 381 and 281 Hurricane Impact-Resistant Doors



Series 281 doors are limited to a maximum size of 72" x 84" at +/- 65 p.s.f.

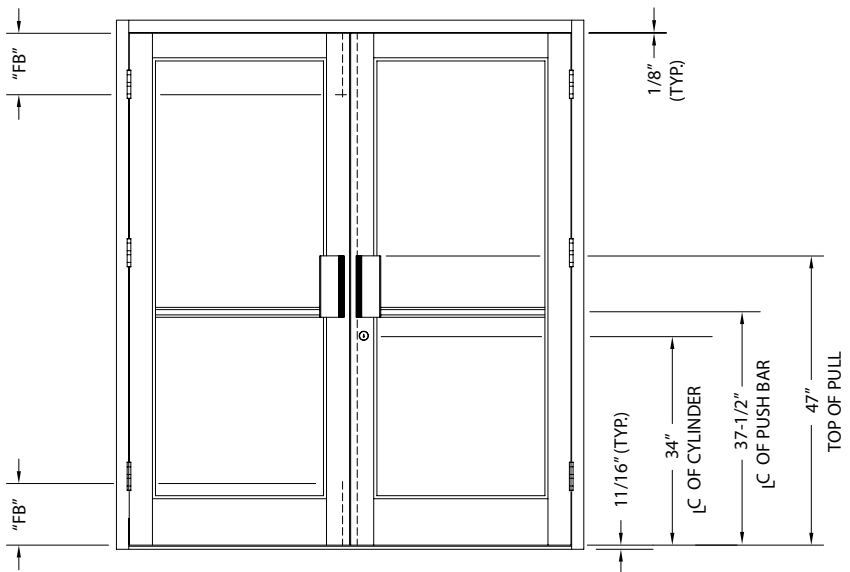
INTERMEDIATE HINGE

D.O. HEIGHT	DIM. "M"
	BUTT HUNG
84"	45-11/32"
96"	51-11/32"

Note: All doors require an intermediate hinge.

HARDWARE LOCATIONS FOR PANIC DOORS

MANUFACTURER	PANIC DEVICE	DIM "X" ϕ OF CYLINDER	DIM "Y" ϕ OF PANIC	DIM "Z" TOP OF PULL
JACKSON	2086 C.V.R.	37 - 7/8"	38 - 5/32"	42 - 7/8"



STANDARD HARDWARE LOCATIONS, LOCK & FLUSH BOLT

PART NO.	DESCRIPTION	DIM. "FB"
DH176-96	TOP FLUSH BOLT (FOR 96" DOOR)	22"
DH176	TOP FLUSH BOLT (FOR 84" DOOR)	10"
DH176	BOTTOM FLUSH BOLT (FOR 84" / 96" DOOR)	10"

PERIMETER FASTENER LOCATIONS

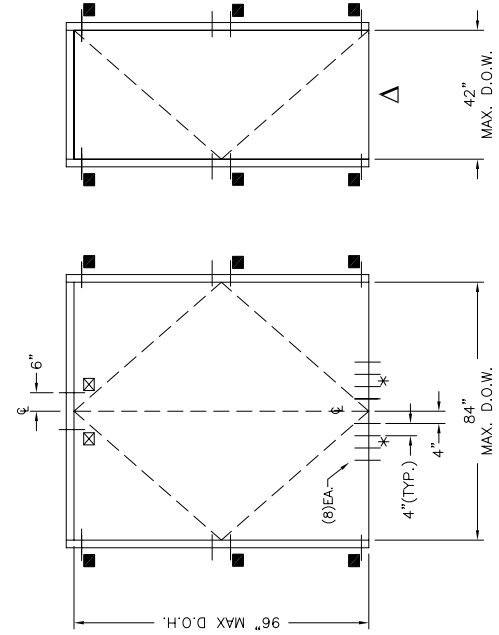
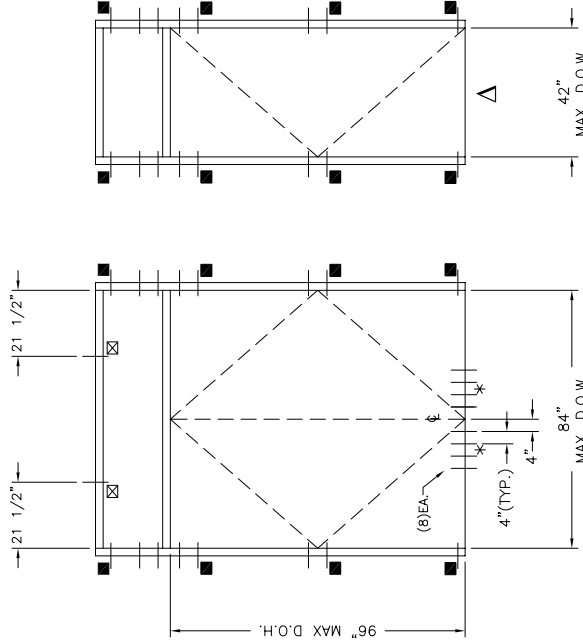
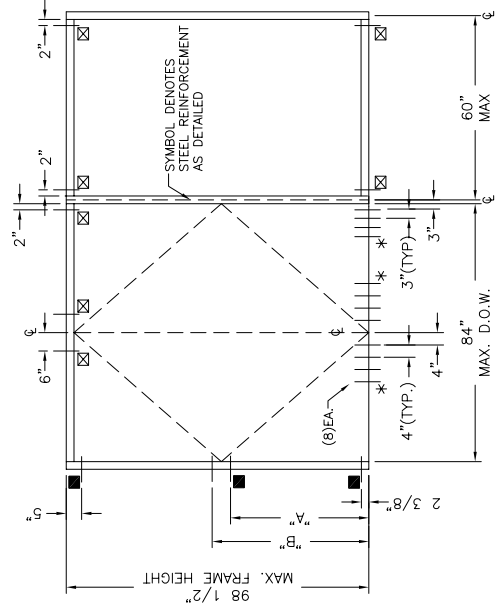
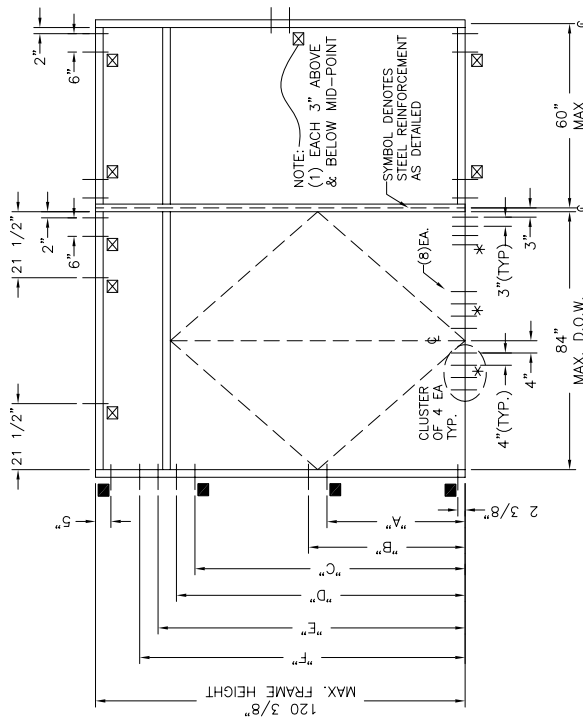
TYPICAL INSTALLATION INTO: CONCRETE SUBSTRATE MIN. 2,500 P.S.I.

PERIMETER FASTENER LOCATIONS

DOOR OPENING HEIGHT	ANCHOR LOCATIONS FOR "LETTER" DIM.					
	"A"	"B"	"C"	"D"	"E"	"F"
84"	45"	51"	76"	82"	89"	95"
96"	45"	51"	88"	94"	100"	106"

TYP. INSTALLATION INTO: 2,500 PSI CONCRETE SUBSTRATE

■	3/8" X 4-1/2" LDT, 2" MIN. EMBEDMENT WITH FILLER PLATE FULL LENGTH OF MULLION
☒	3/8" X 2-1/2" LDT, 2" MIN. EMBEDMENT
*	1/4" X 2-1/2" PFH TAPCON, 1-3/4" MIN. EMBEDMENT
	6" MIN. SPACING @ 3/8"Ø TAPCON
	3" MIN. SPACING @ 1/4"Ø TAPCON



MAX. DESIGN PRESSURE
+70/80 P.S.F.

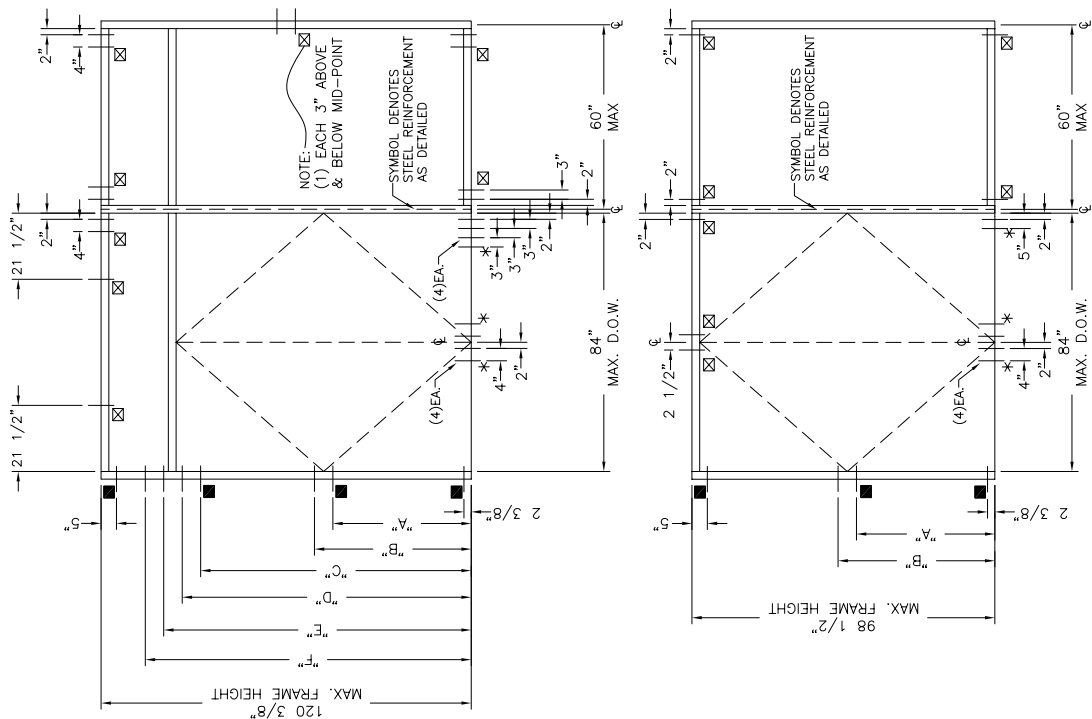
NOTES:

△ = STRUCTURAL FASTENERS NOT REQUIRED AT THRESHOLD.

LEGEND



PERIMETER FASTENER LOCATIONS
TYPICAL INSTALLATION INTO:
1/4" MIN. THICK STEEL SUBSTRATE

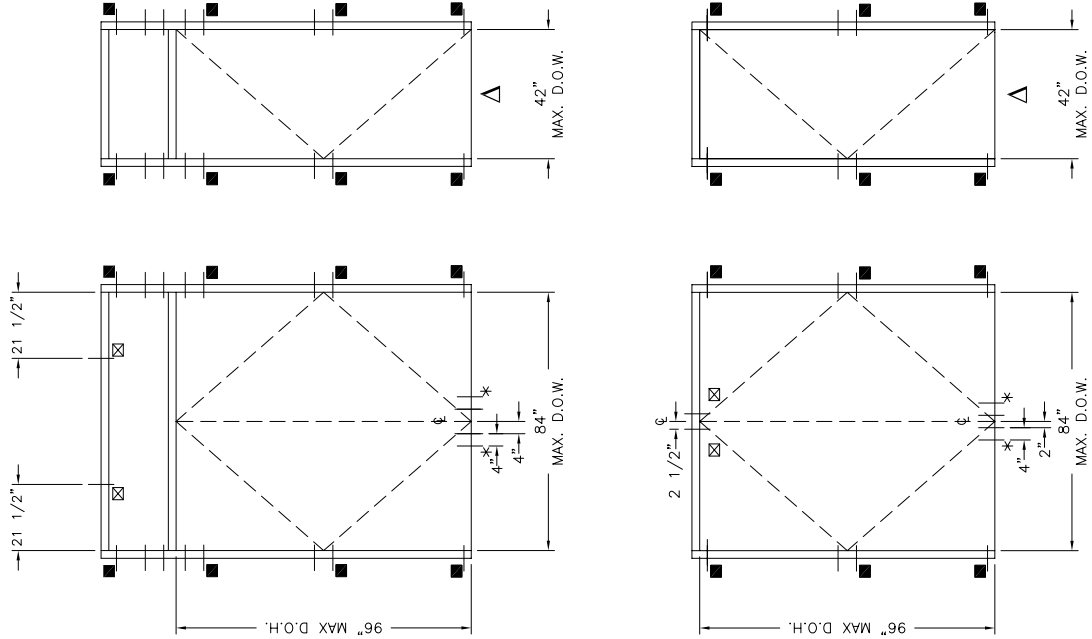


PERIMETER FASTENER LOCATIONS

DOOR OPENING HEIGHT	ANCHOR LOCATIONS FOR "LETTER" DIM.					
	"A"	"B"	"C"	"D"	"E"	"F"
84"	45"	51"	76"	82"	89"	95"
96"	45"	51"	88"	94"	100"	106"

TYP. INSTALLATION INTO:

STEEL SUBSTRATE	
■	3/8"-16 X 3 1/2" HHW TYPE "F" TCS FILLER PLATE FULL LENGTH OF MULLION
☒	3/8"-16 X 1 1/2" HHW TYPE "F" TCS SCREW
*	1/4"-12 X 1 1/2" PFH #3 TEK SCREW 2" MIN SPACING



MAX. DESIGN PRESSURE:
+70/80 P.S.F.

NOTES:
Δ = STRUCTURAL FASTENERS NOT REQUIRED AT THRESHOLD.

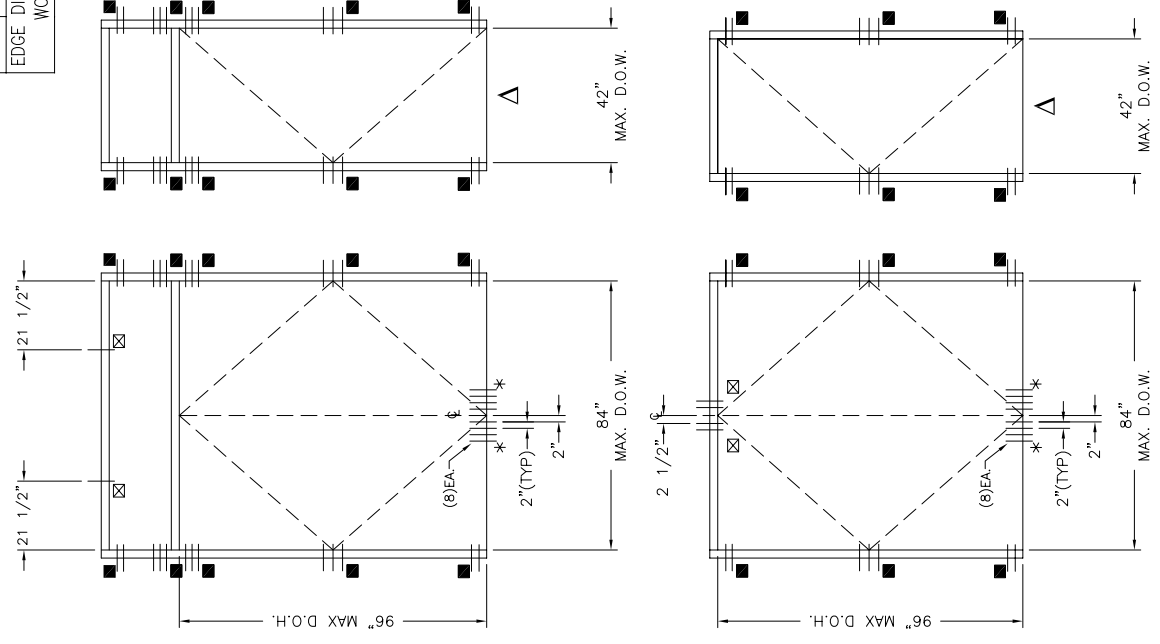
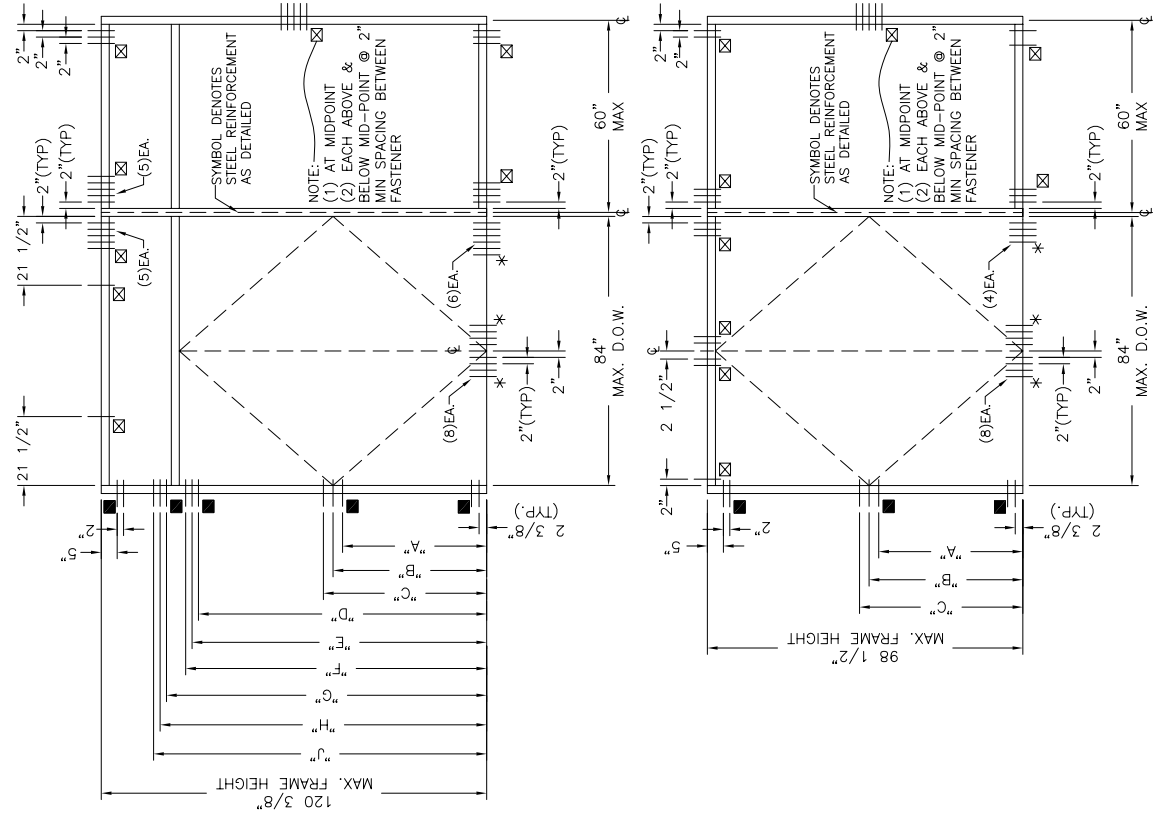


PERIMETER FASTENER LOCATIONS

**TYPICAL INSTALLATION INTO:
MIN. #2 SYP WOOD SUBSTRATE**

DOOR OPENING HEIGHT	ANCHOR LOCATIONS FOR "LETTER" DIM.									
	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	
84"	45"	48"	51"	78"	80"	82"	89"	91"	93"	
96"	45"	48"	51"	90"	92"	94"	100"	102"	104"	

TYP. INSTALLATION INTO: WOOD SUBSTRATE	
■	3/8" LAG BOLT WITH FILLER PLATE FULL LENGTH, 3" MIN. EMBEDMENT
☒	3/8" X 3-1/2" LAG BOLT, 3" MIN. EMBEDMENT
*	#14 X 2-1/2" WOOD SCREW



MAX. DESIGN PRESSURE:
+70/80 P.S.F.

NOTES:

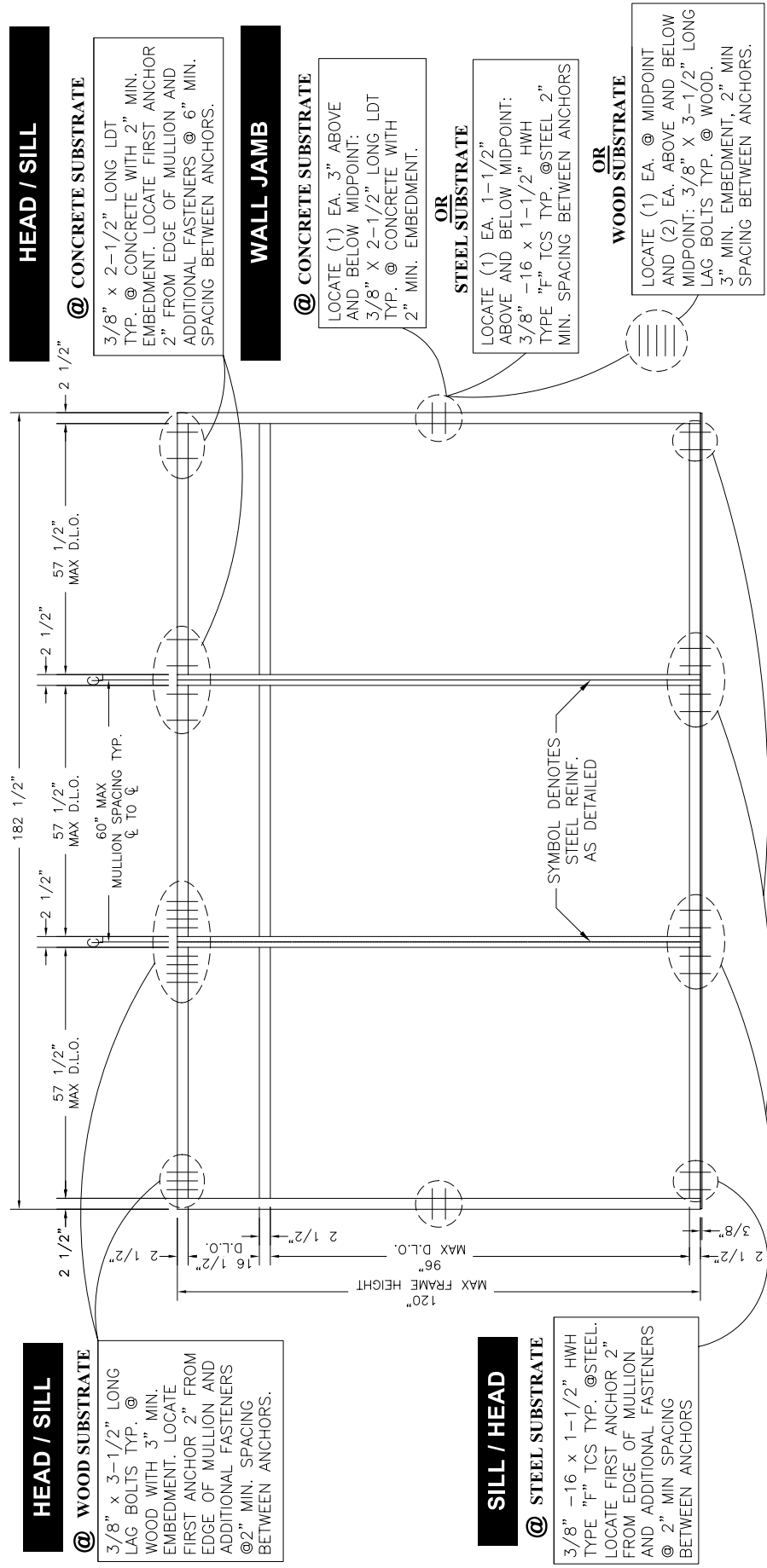
Δ = STRUCTURAL FASTENERS NOT REQUIRED AT THRESHOLD.



PERIMETER FASTENER LOCATIONS

**TYPICAL ATTACHMENT TO:
WOOD/STEEL/CONCRETE SUBSTRATE**

BASED ON 2500 P.S.I. CONCRETE



HEAD / SILL
@ WOOD SUBSTRATE
3/8" x 3-1/2" LONG LAG BOLTS TYP. @ WOOD WITH 3" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 2" MIN. SPACING BETWEEN ANCHORS.

SILL / HEAD
@ STEEL SUBSTRATE
3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 2" MIN SPACING BETWEEN ANCHORS

HEAD / SILL
@ CONCRETE SUBSTRATE
3/8" x 2-1/2" LONG LDT TYP. @ CONCRETE WITH 2" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 6" MIN. SPACING BETWEEN ANCHORS.

WALL JAMB
@ CONCRETE SUBSTRATE
LOCATE (1) EA. 3" ABOVE AND BELOW MIDPOINT: 3/8" X 2-1/2" LONG LDT TYP. @ CONCRETE WITH 2" MIN. EMBEDMENT.

OR
STEEL SUBSTRATE
LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT: 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @STEEL 2" MIN. SPACING BETWEEN ANCHORS

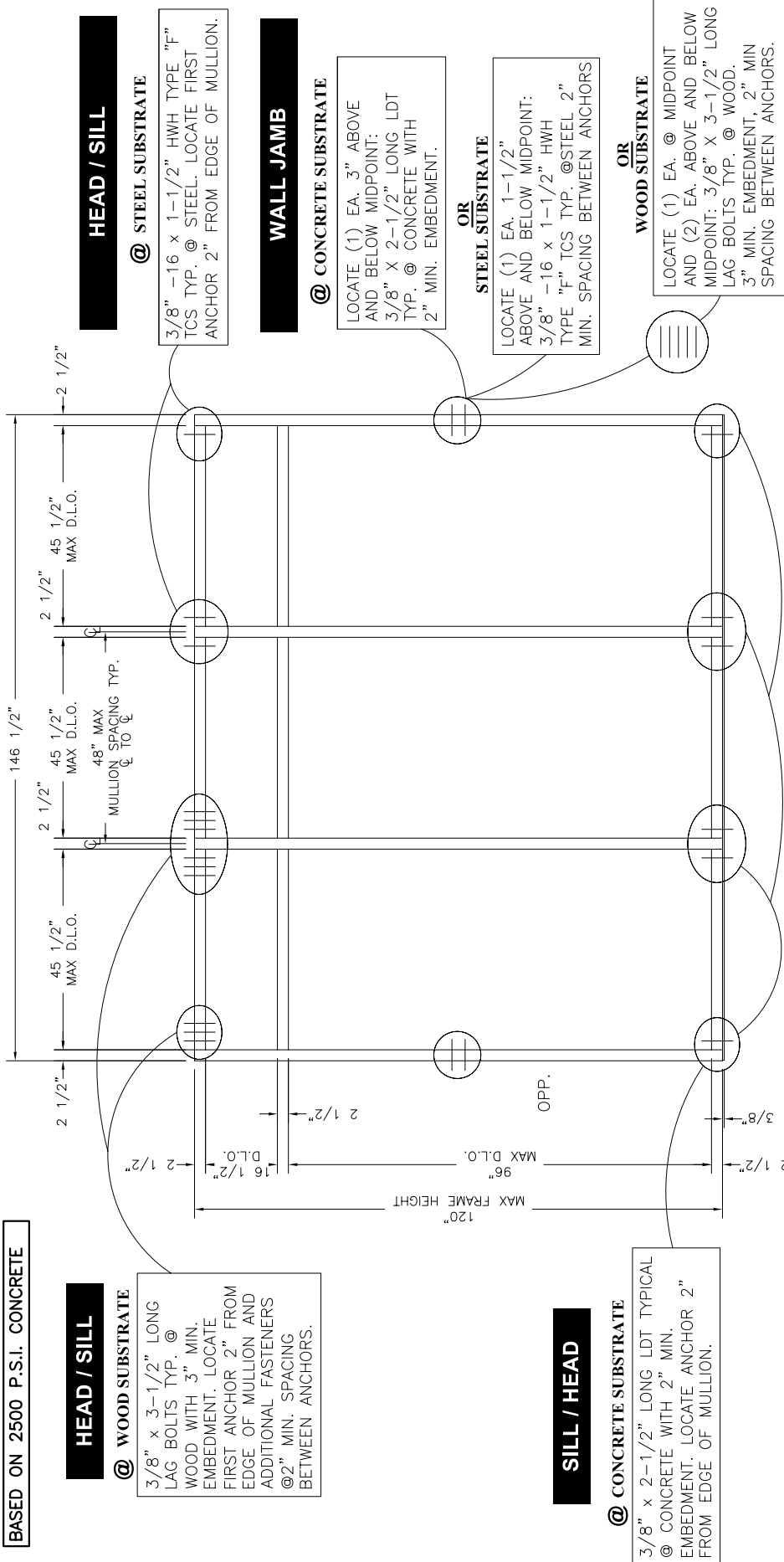
OR
WOOD SUBSTRATE
LOCATE (1) EA. @ MIDPOINT AND (2) EA. ABOVE AND BELOW MIDPOINT: 3/8" X 3-1/2" LONG LAG BOLTS TYP. @ WOOD. 3" MIN. EMBEDMENT, 2" MIN SPACING BETWEEN ANCHORS.

TYPICAL ELEVATION LIGHT ALUM. MULLION WITH STEEL REINFORCEMENT-LONG SPAN

LEGEND

 NOTE: WOOD STRUCTURE: MIN. #2 SYP.
 DESIGN PRESSURE +70/-80 PSF

PERIMETER FASTENER LOCATIONS
TYPICAL ATTACHMENT TO:
WOOD/STEEL/CONCRETE SUBSTRATE



BASED ON 2500 P.S.I. CONCRETE

HEAD / SILL
@ WOOD SUBSTRATE
3/8" x 3-1/2" LONG LAG BOLTS TYP. @ WOOD WITH 3" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @2" MIN. SPACING BETWEEN ANCHORS.

HEAD / SILL
@ STEEL SUBSTRATE
3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @ STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION.

WALL JAMB
@ CONCRETE SUBSTRATE
LOCATE (1) EA. 3" ABOVE AND BELOW MIDPOINT: 3/8" X 2-1/2" LONG LDT TYP. @ CONCRETE WITH 2" MIN. EMBEDMENT.

OR
STEEL SUBSTRATE
LOCATE (1) EA. 1-1/2" ABOVE AND BELOW MIDPOINT: 3/8" -16 x 1-1/2" HWH TYPE "F" TCS TYP. @STEEL 2" MIN. SPACING BETWEEN ANCHORS

SILL / HEAD
@ CONCRETE SUBSTRATE
3/8" x 2-1/2" LONG LDT TYPICAL @ CONCRETE WITH 2" MIN. EMBEDMENT. LOCATE ANCHOR 2" FROM EDGE OF MULLION.

OR
WOOD SUBSTRATE
LOCATE (1) EA. @ MIDPOINT AND (2) EA. ABOVE AND BELOW MIDPOINT: 3/8" X 3-1/2" LONG LAG BOLTS TYP. @ WOOD. 3" MIN. EMBEDMENT, 2" MIN SPACING BETWEEN ANCHORS.



NOTE: WOOD STRUCTURE: MIN. #2 SYP.

DESIGN PRESSURE
+60/-60 PSF

TYPICAL ELEVATION HEAVY ALUM. MULLION WITHOUT STEEL
- LONG SPAN -

PERIMETER FASTENER LOCATIONS

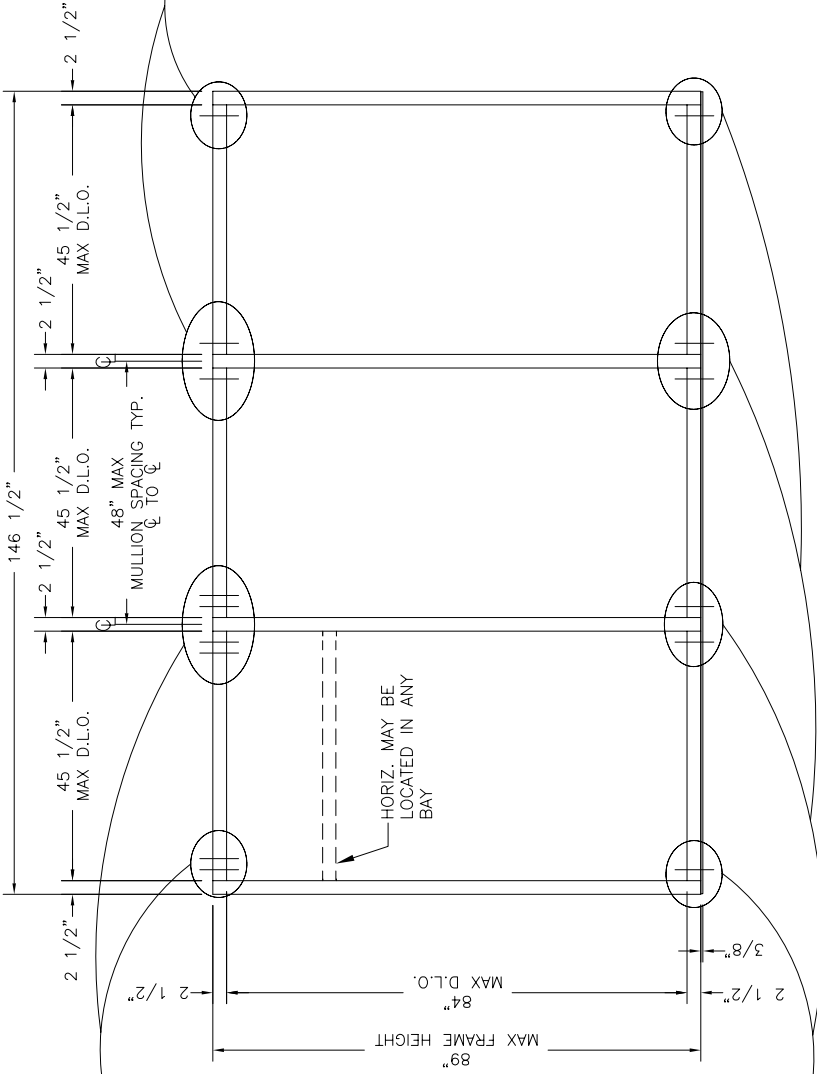
**TYPICAL ATTACHMENT TO:
WOOD/STEEL/CONCRETE SUBSTRATE**

BASED ON 2500 P.S.I. CONCRETE

HEAD / SILL

@ WOOD SUBSTRATE

3/8" x 3-1/2" LONG LAG BOLTS TYP. @ WOOD WITH 3" MIN. EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION AND ADDITIONAL FASTENERS @ 2" MIN. SPACING BETWEEN ANCHORS.



HEAD / SILL

@ STEEL SUBSTRATE

3/8" - 16 x 1-1/2" HWH TYPE "F" TCS TYP. @ STEEL. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION.

SILL / HEAD

@ CONCRETE SUBSTRATE

3/8" x 2-1/2" LONG LDT TYPICAL @ CONCRETE WITH 2" EMBEDMENT. LOCATE FIRST ANCHOR 2" FROM EDGE OF MULLION.

LEGEND



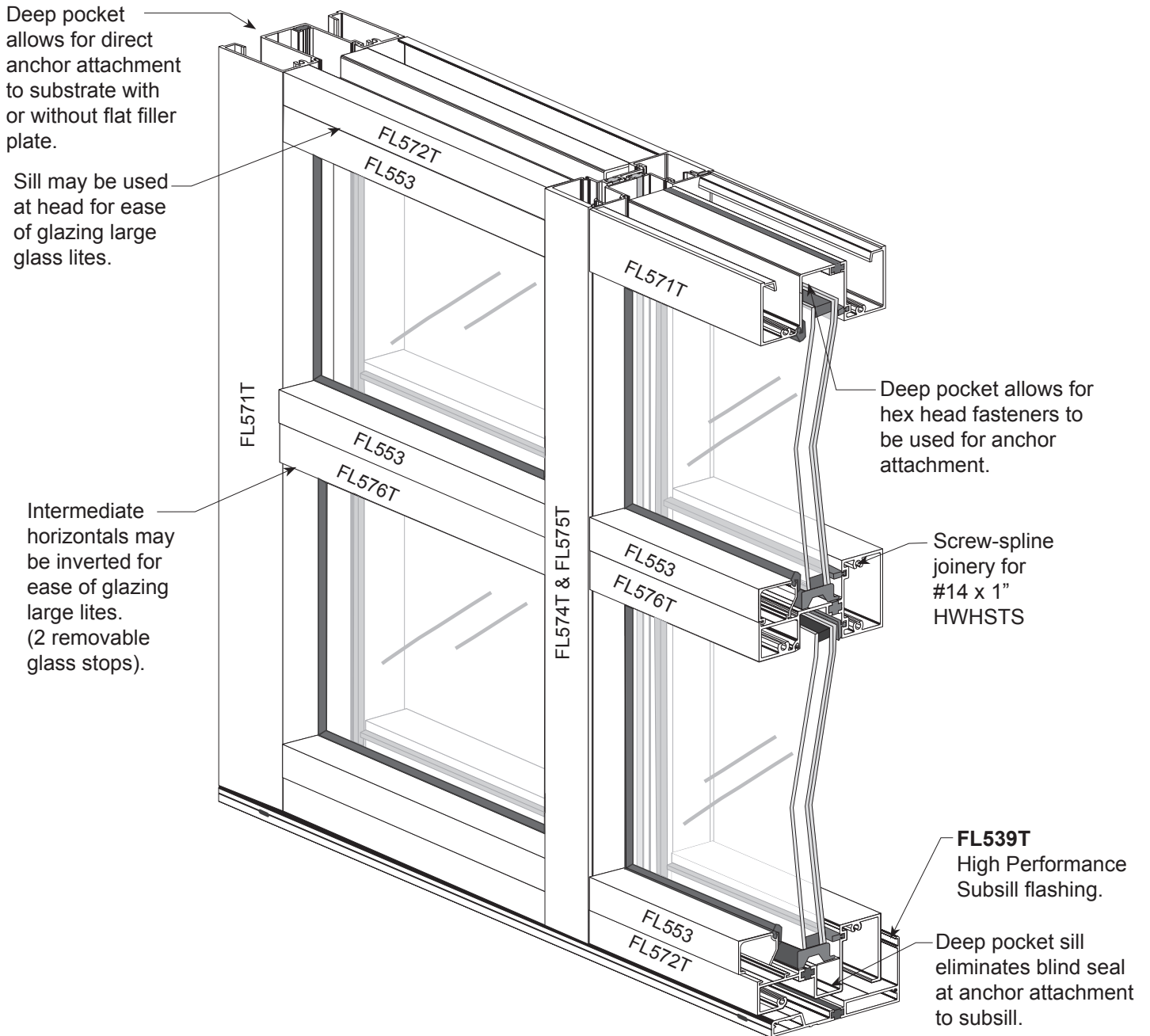
NOTE: WOOD STRUCTURE: MIN. #2 SYP.

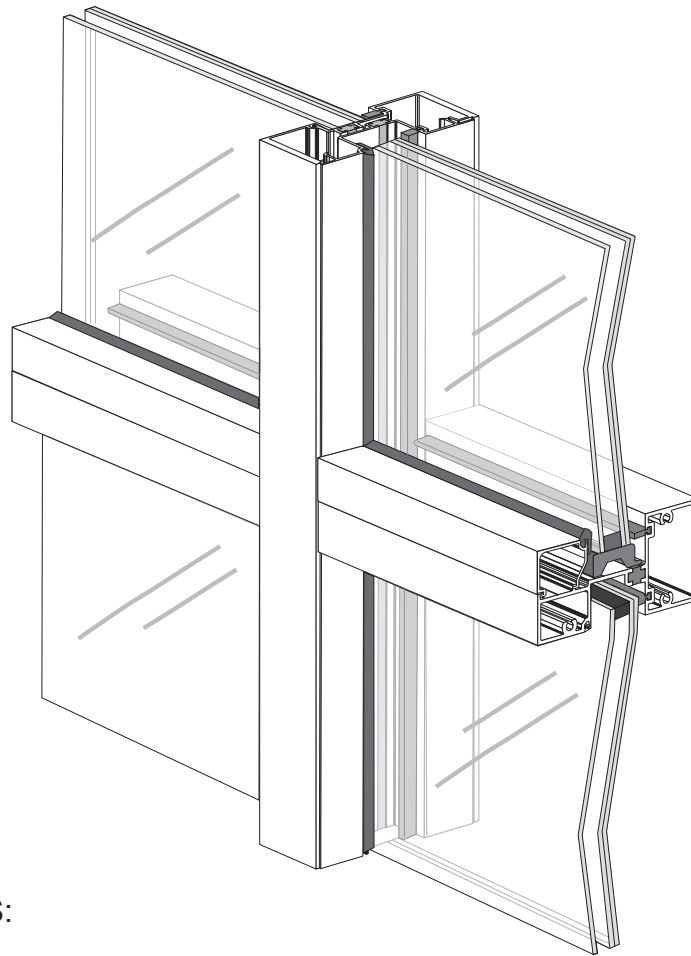
DESIGN PRESSURE
+65/-65 PSF

**TYPICAL ELEVATION LIGHT ALUM. MULLION WITHOUT STEEL REINFORCEMENT
-SHORT SPAN-**

INSTALLATION INSTRUCTIONS

2 1/2" x 5" for 1 5/16" Insulating Laminated Glass

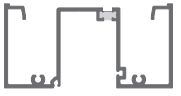

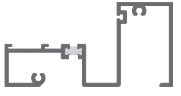





















PRODUCT FEATURES:

- Screw-spline joinery
- CoraPunch or drill jig fabrication
- Panelized assembly
- Deep pocket perimeter sections:
 - Eliminates drilling access holes with blind seals
 - Eliminates flat filler plate at head and wall jambs
 - Intermediate horizontals may be inverted for ease of glazing large lites
 - Sill may be used at head for ease of glazing large lites
- Available door option, 84" x 96" Series 581 W.S. impact-resistant entrance doors
- Available door option, 84" x 96" Series 381 M.S. impact-resistant entrance doors
- Available door option, 72" x 84" Series 281 N.S. impact-resistant entrance doors
- Anodized finishing or factory applied thermosetting fluorocarbon powder coating option

FL550T SYSTEM PARTS

PARTS			
PART DESCRIPTION	PART NO.	PART DESCRIPTION	PART NO.
 <p>Head/Wall Jamb (Deep Pocket)</p>	FL571T	 <p>Spline Screw #14 x 1 HHSTS (Assembly Screw)</p>	AS16
 <p>Sill/Optional Head (Deep Pocket)</p>	FL572T	 <p>#6 x 3/8" PPH Type AB (Attaches End Dams)</p>	AS21
 <p>Glass Stop</p>	FL553	 <p>Setting Chair (Two Per Lite Re-quired at Sill Meber)</p>	CS500-1
 <p>Intermediate Horizontal</p>	FL576T	 <p>End Dam for Sill Flashing</p>	ED519-1
 <p>Heavy Wall Vertical Mullion</p>	FL574T	 <p>Exterior EPDM Gasket</p>	NG1
 <p>Pocket Filler (For use with FL574T)</p>	FL575T	 <p>EPDM Gasket for DS550 Door stop at Door jamb</p>	NG5
 <p>High Performance Subsill</p>	FL539T	 <p>1/4" Interior Spacer Gasket</p>	NG14
 <p>Transom Sash</p>	FL567	 <p>Dry Glazed Gasket</p>	NG15
 <p>Transom Glass Stop</p>	FL518	 <p>Setting Block for Intermediate Horizontal FL550T Dry Glazed Inside glaze</p>	SB17
 <p>Threshold</p>	TH5BT	 <p>4" Long EPDM Setting Block for 15/16" Glass (Two Per Lite at inverted horizontal)</p>	SB15

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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INSTALLATION INSTRUCTIONS GENERAL NOTES

Coral Series FL550T (2-1/2" x 5") hurricane impact-resistant system was especially designed to meet the stringent Florida Building Codes (FBC) for impact-resistant glass and glazing systems. Series FL550T successfully passed a series of large and small missile impact and cyclic wind tests with multiple impact-resistant glass compositions.

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

1. **REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. These installation instructions are of general nature and cover most conditions.
2. **INSTALLATION.** All materials shall be installed plumb, level and true.
3. **BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
4. **FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
5. **SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
6. **ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
7. **STRUCTURAL SEALANTS.**
 - A. **DOW 995** structural sealant was used on the Series FL550T test specimen approved by FBC for glass to metal adhesion. To comply with FBC Protocols, **DOW 995** sealant must be used for glass to metal adhesion with Series FL550T.
 - B. **Perimeter Sealants:** Due to varying job conditions, all perimeter sealants used should be approved by the sealant manufacturer to ensure the sealant will function for the conditions shown on these instructions and shop drawings. Sealants must be compatible with all surfaces in which adhesion is required, including other sealants. Use primers where directed by sealant manufacturer. Be sure to properly store sealants at recommended temperature and check container for remainder of shelf life before using. **DOW 795** structural silicone was the perimeter sealant used on the Series FL550T test specimen approved by FBC.
8. **FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.

INSTALLATION INSTRUCTIONS GENERAL NOTES

9. **BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
10. **EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.
11. **WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (250 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
12. **COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
13. **MATERIAL HANDLING:**
 - A. **SHOP**
 1. Cardboard wrapped or paper interleaved material must be kept dry.
 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 3. Check arriving materials for quantity and keep record of where various materials are stored.
 - B. **JOB SITE**
 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
 3. Keep record of where various materials are stored.
 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
14. **CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609 for anodized aluminum and 610 for painted aluminum.
15. **CORAL ARCHITECTURAL PRODUCTS.** It is NOT the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.
16. **GLASS.** Glazing gaskets are designed for a compression fit against glass and can accommodate (+/- 1/32"). Be sure to check overall size of glass size and thickness.

PRODUCT APPLICATION AND INSTALLATION

Series FL550T thermal hurricane impact-resistant storefront system was designed with screw spline joinery for simple fabrication and panelized installation, but should only be installed by glazing contractors employing personnel with the necessary installation and project management experience to handle these type projects.

FL550T thermal hurricane impact-resistant storefront system requires the installer to pay close attention to the details shown within these ***Instructions*** and ***General Notes***. All critical seal areas must be done as shown.

OPTIONS and LIMITATIONS

The laminated glass and mullions function as an integral unit. The combinations shown in the ***Options and Limitation Charts*** for FL550T framing and ***Series 281*** and ***381*** entrance doors are based on actual performance testing and cannot be altered without sacrificing the integrity of the system. Lower design pressures of door or frame systems, govern maximum PSF.

Example: 381 Door -70 PSF and FL550T -55PSF maximum PSF combined systems would = -55PSF.

FRAME FABRICATION

Establish Frame Size and Cut Metal to Length

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1/2" allowing for a minimum 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less, 1-1/8".

This allows 5/8" for subsill and a 1/4" caulk joint at the sill and head.

STEP 2.

Cut members to size.

- A. Cut subsill to frame dimension plus 1/4". The subsill at entrance locations butt tight against door jambs and is cut 1/8" longer than width of side lights on either side of door frame.*
- B. Wall jambs and intermediate vertical mullions are cut to frame height.
- C. Horizontal members are cut to D.L.O.
- D. Snap-on glass stops are cut D.L.O. minus (-) 1/16".

* Note: See Page 18 for subsill condition abutting door frame.

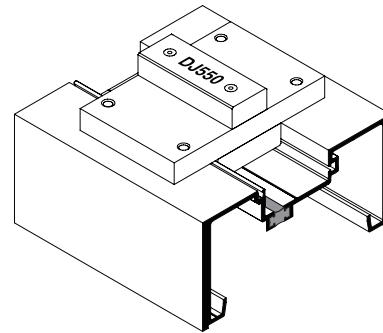
Abbreviations used within these instructions:

- D.L.O. = Day Light Opening
- D.O.W. = Door Opening Width
- D.O.H. = Door Opening Height
- C.O.C. = Concealed Overhead Closer
- C.V.R. = Concealed Vertical Rod
- ∅ = Diameter

FRAME FABRICATION Joinery Hole Locations

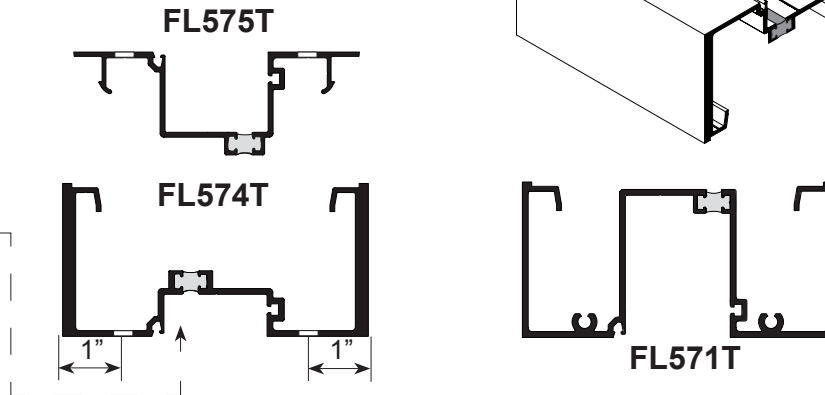
STEP 3.

Use DJ550 drill jig or FL500/550 Punch Die Set with pocket adaptor for fabricating spline hole locations in verticals.

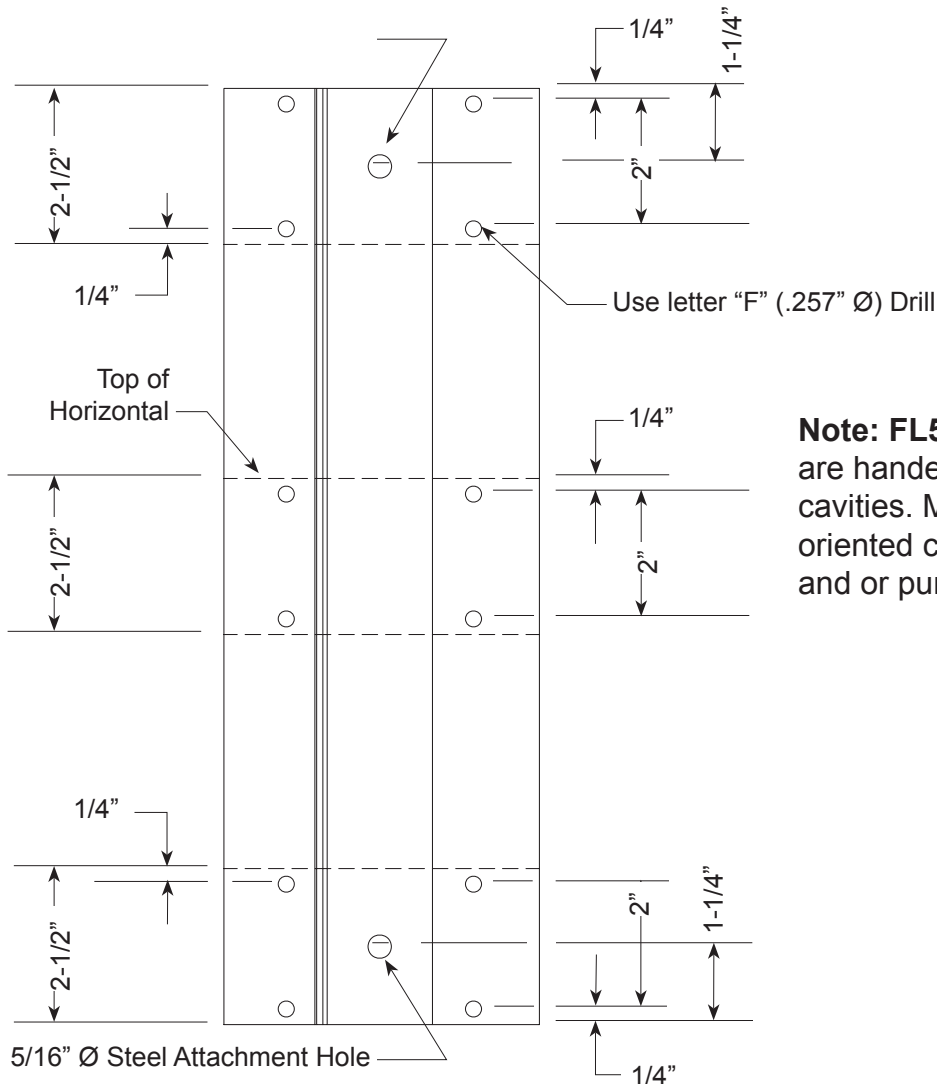


Note: NG1 Gasket reglet is always to exterior.

← EXTERIOR



5/16" Ø Steel Attachment Hole



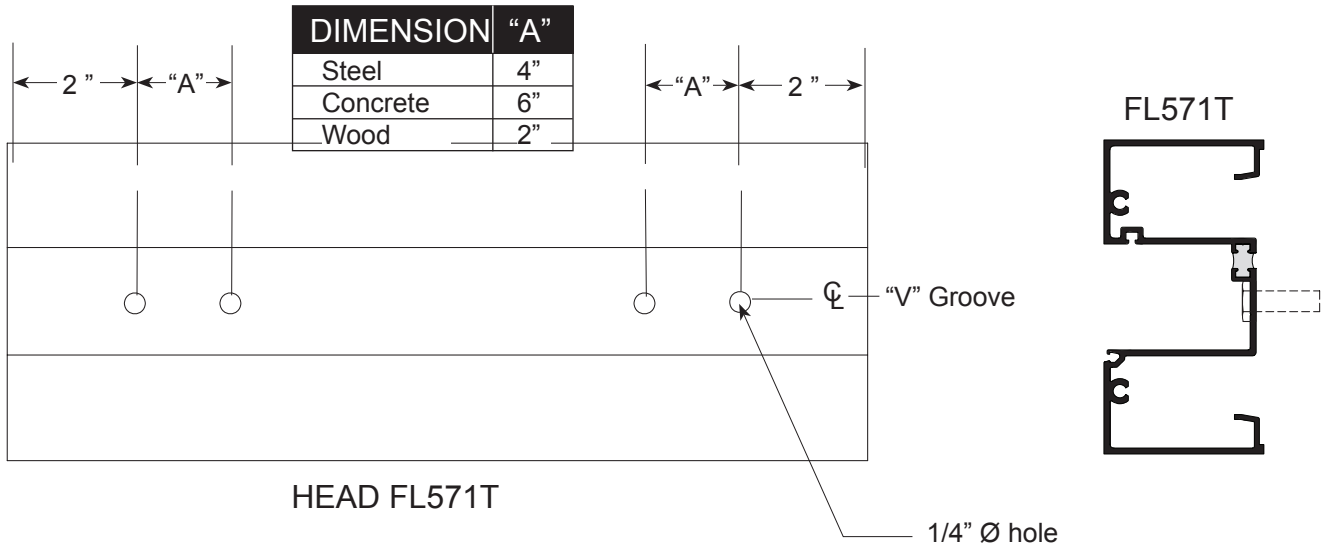
Note: FL574T and FL575T are handed by way of thermal cavities. Make sure parts are oriented correctly before drilling and or punching joinery holes.

FRAME FABRICATION Head / Sill

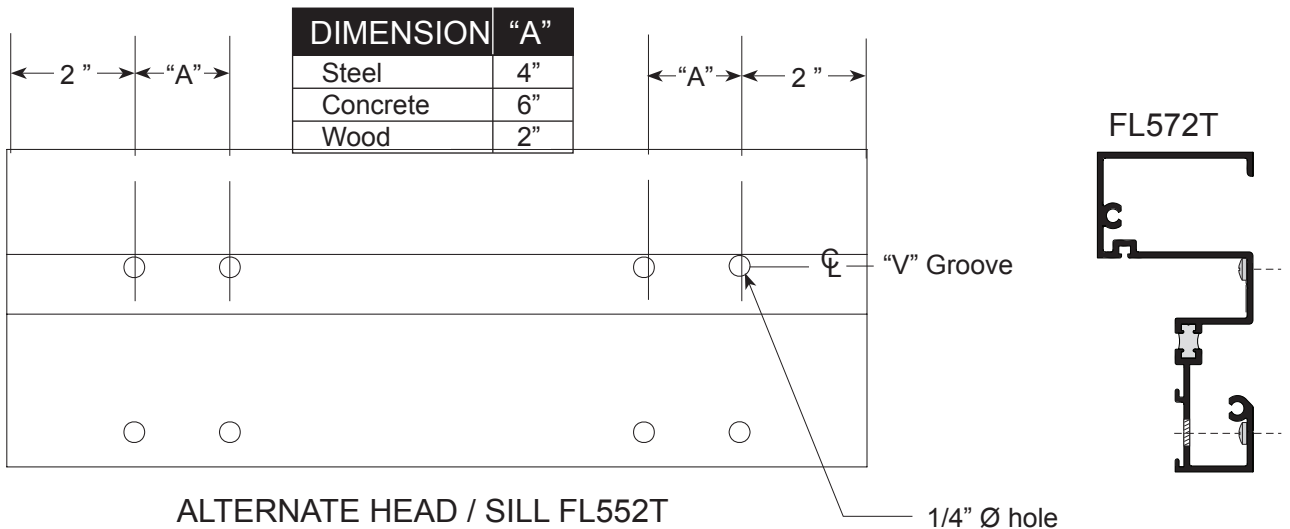
STEP 4.

Fabricate head and sill anchor holes as shown, using FL500/550 Punch Die Set or drill.

Number of anchor holes required is based on substrate material conditions. Reference CAP anchor charts, (Pages 44-47) for number of anchor holes and locations for various substrates. First hole is always 2" from end. Each additional fastener hole is at required minimum spacing "A" between fasteners as shown in fastener charts.



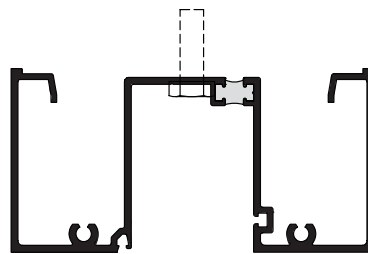
Note: Removable glass stop at head facilitates glazing of large lites.
(Reference Page 20)



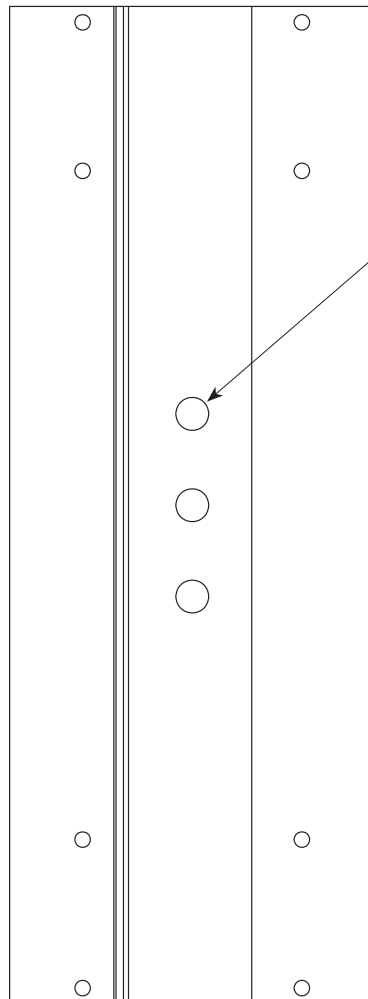
FRAME FABRICATION Wall Jamb

STEP 5.

Fabricate wall jamb for anchor holes, when required. Number of anchors required is dependent on mullion length and substrate material. Reference CAP Anchor Chart, (Pages 45-48).



FL571T



Compare charted anchor hole locations with intermediate horizontal dimensions on shop drawings. Should charted anchor holes be shown at same location as intermediate horizontal, then drill holes directly above or below horizontal to avoid fastener installation interference.

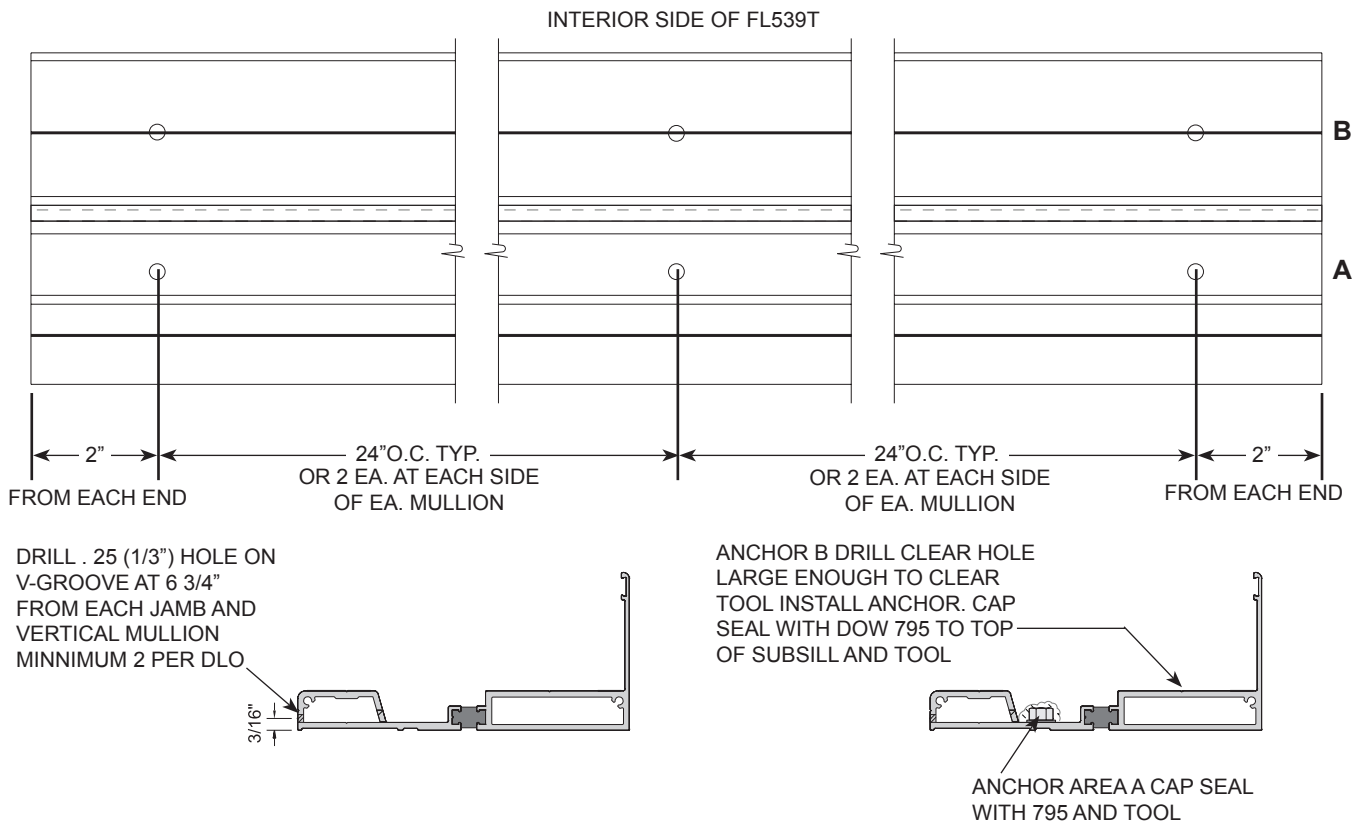
Note: Locate anchors as close to charted dimensions as possible.

Wall Jamb

FRAME FABRICATION Subsill Flashing

STEP 6.

Fabricate FL539T subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for non-structural fasteners in subsill are approximate.

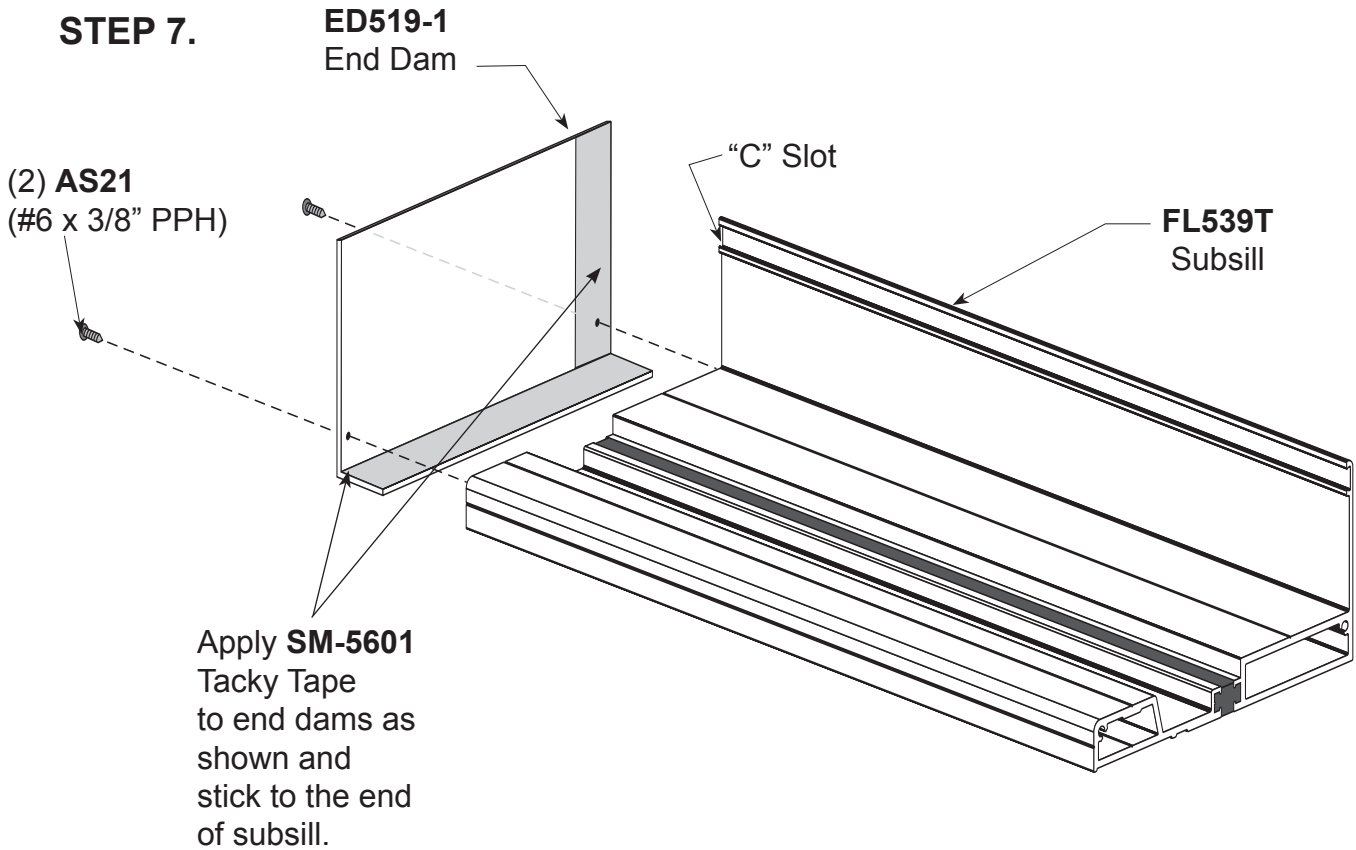


See Page 18 for subsill abutting door jamb.

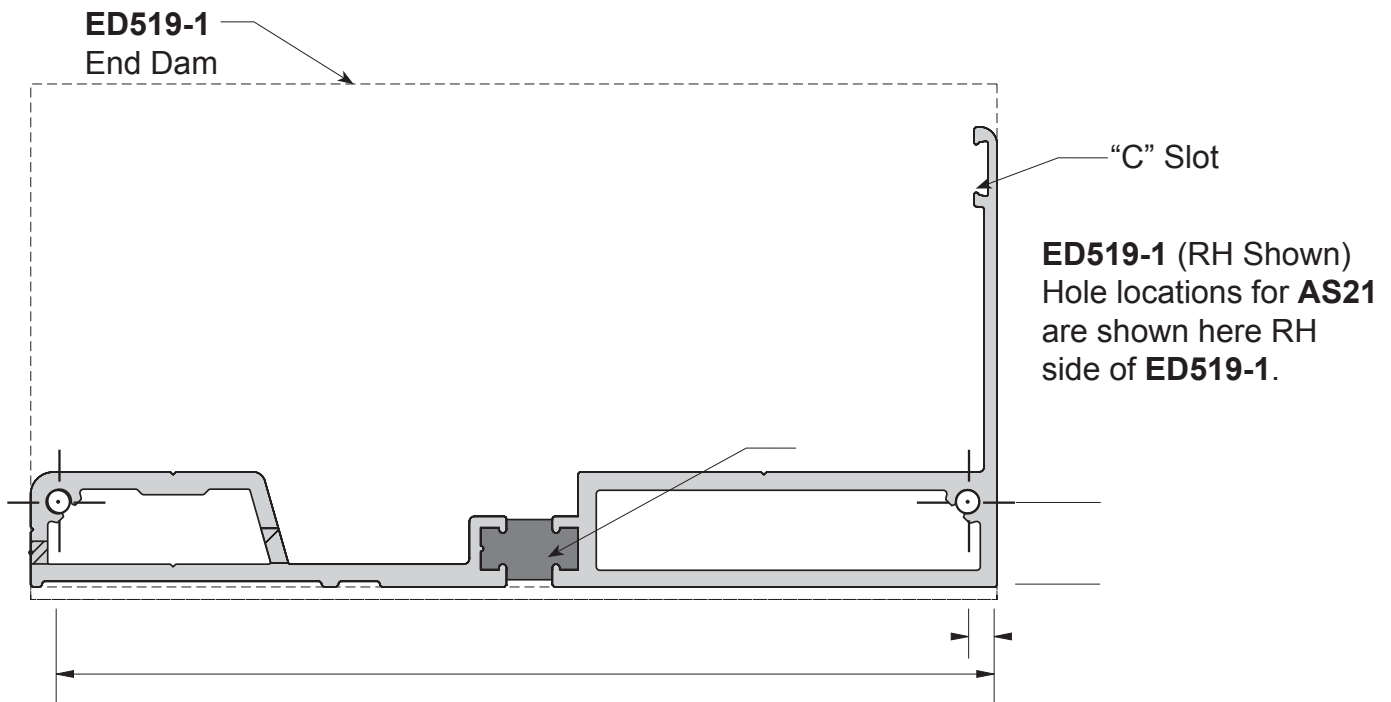
1. Drill 3/16" dia. hole for non-structural fasteners used for temporarily attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required until structural fasteners are installed.

FRAME ASSEMBLY End Dam Attachment to Subsill

STEP 7.



Note: Reference Page 18 for subsill abutting the door jamb where entrance doors occur.



FRAME ASSEMBLY

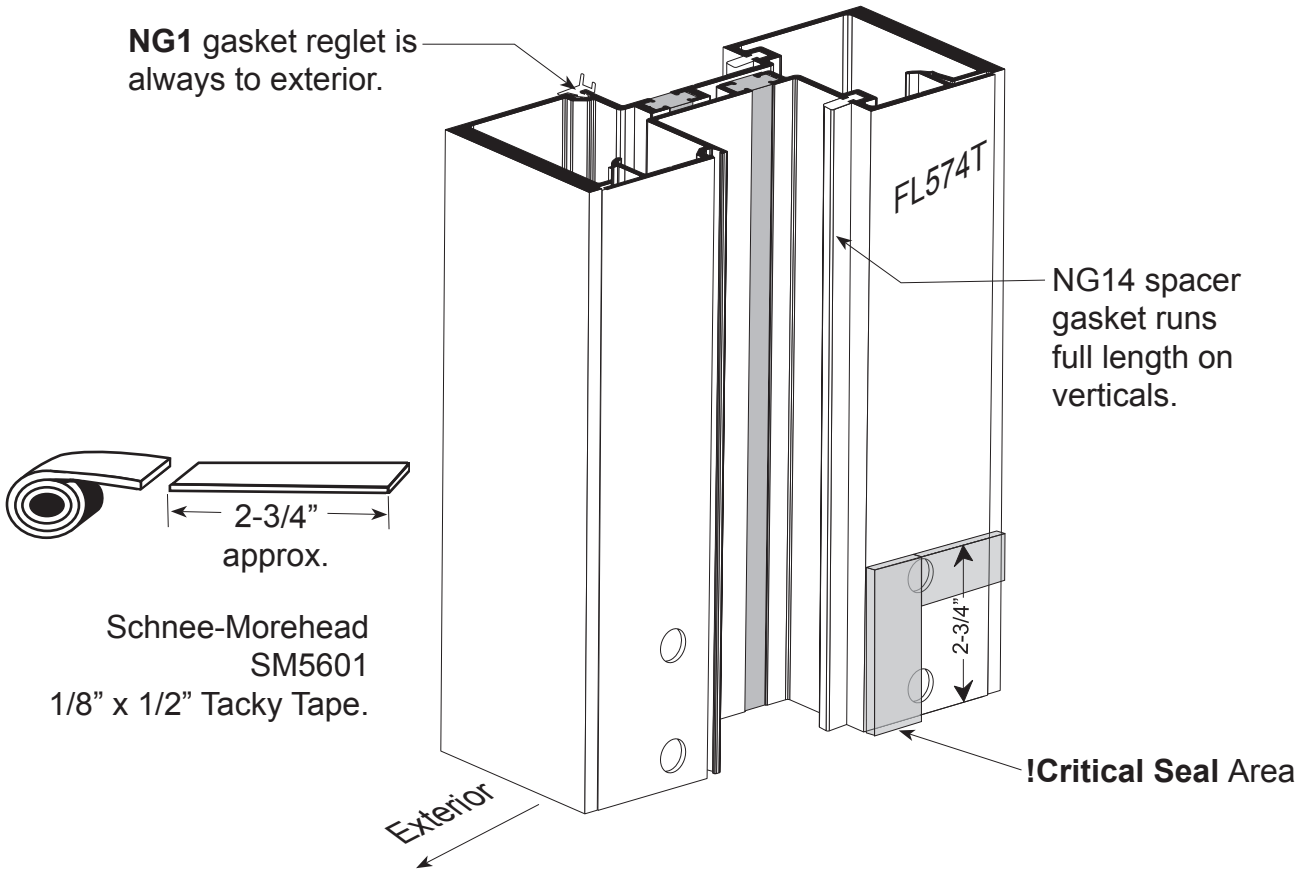
Joinery Tape Application

STEP 1.

GLAZING TAPE INSTALLATION PROCEDURES:

Ref. Step 2 for location.

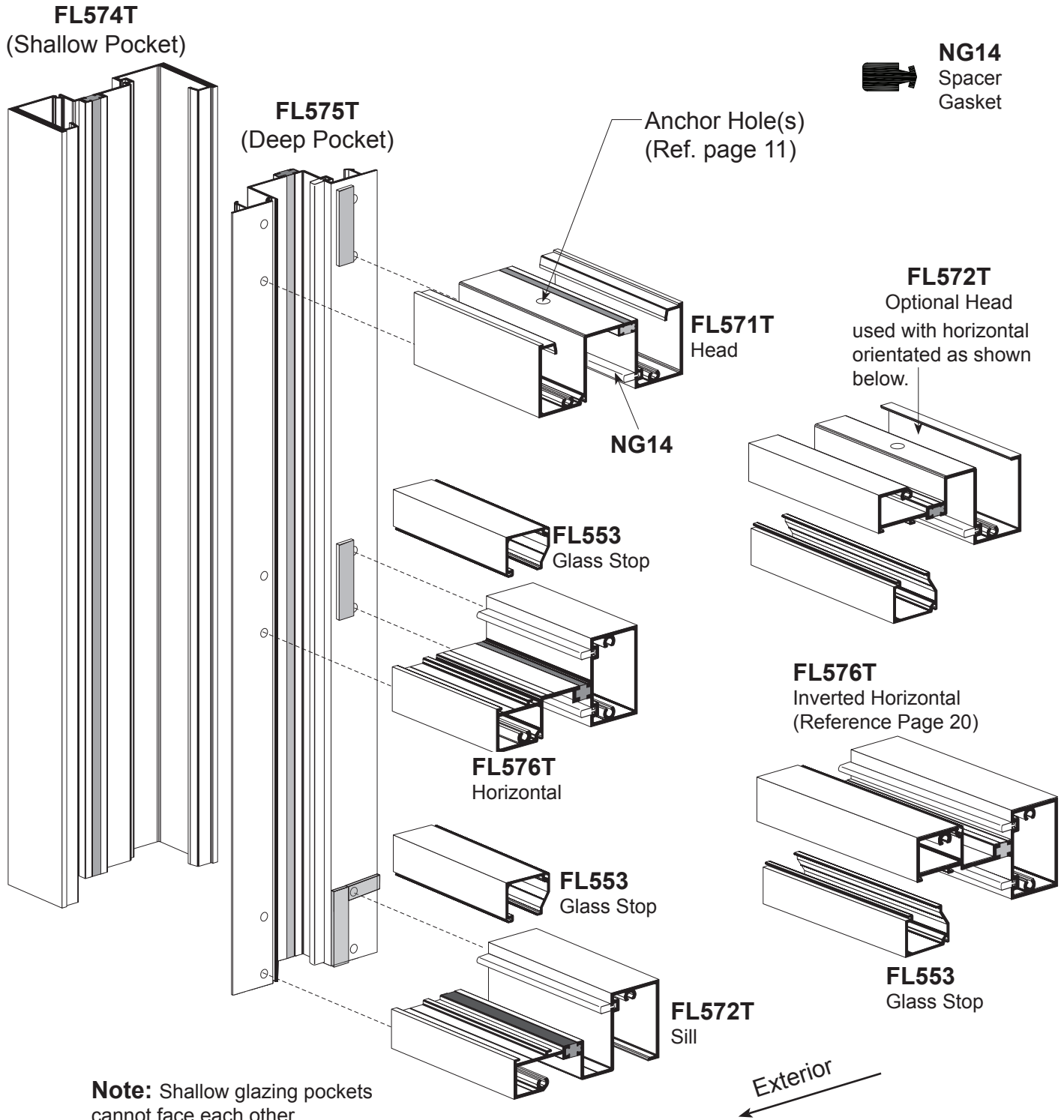
1. Cut **SM5601** 1/8" x 1/2" Tacky Tape approximately 2-3/4" long.
2. Clean surfaces where tape is to be applied with isopropyl alcohol or solvent to remove all dirt and cutting oils. Allow surface to dry before applying tape.
3. Position tape on vertical mullions at horizontal joint intersections, as shown on Page 16.
4. Just prior to frame assembly, remove protective cover and screw joints together.
5. Use a box knife to trim excess sealant tape where exposed. Do not pull tape to trim.



CAPTURED FRAME ASSEMBLY

Vertical to Horizontal Joinery

STEP 2. Install **NG14** interior spacer gaskets into vertical and horizontal members prior to frame assembly. Cut spacer gaskets to D.L.O. dimensions.

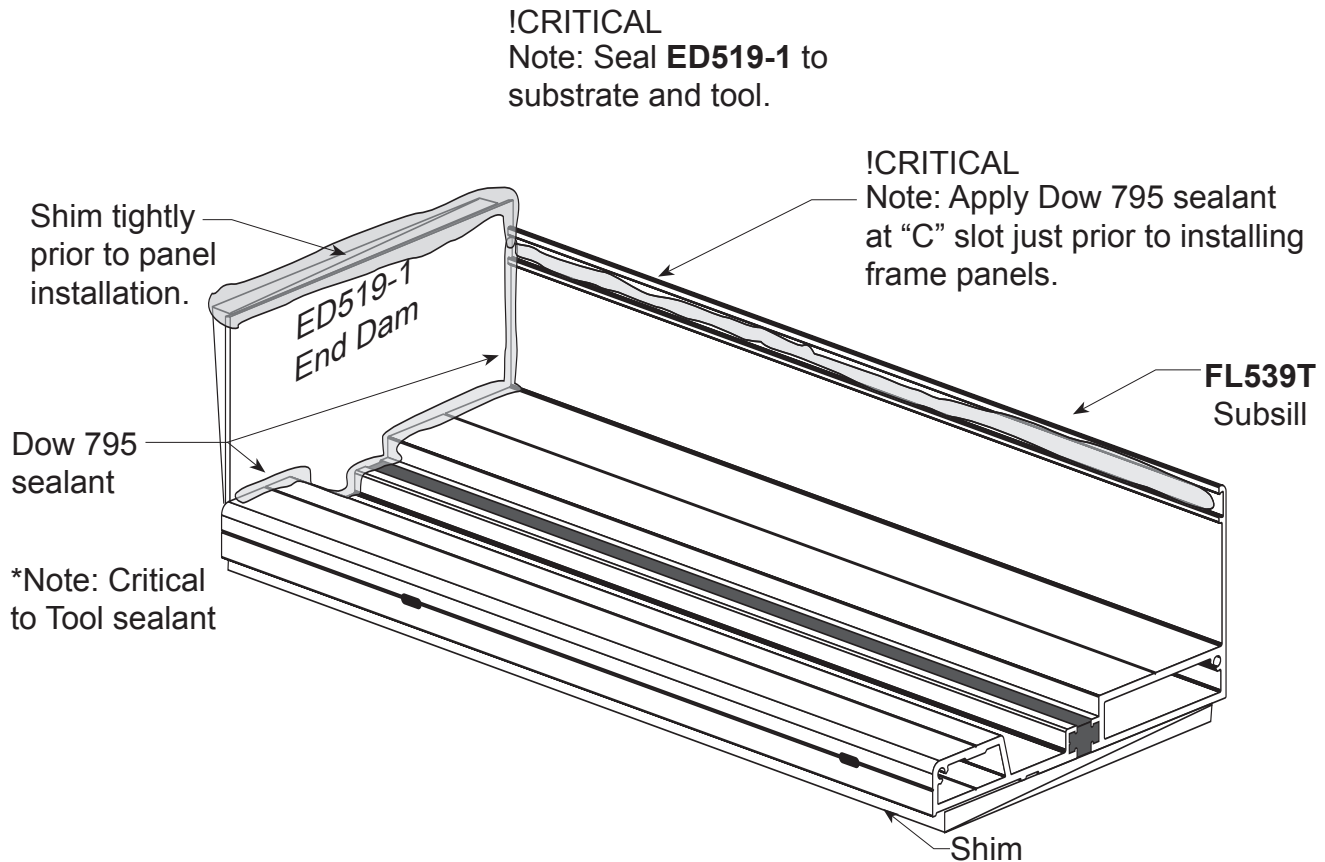


Note: Shallow glazing pockets cannot face each other.

FRAME INSTALLATION

Subsill Installation and Sealant Application

STEP 1. Position fabricated subsill with end dams into opening. Center into opening allowing shim space at jambs. (See Page 18 for openings with entrance frames).



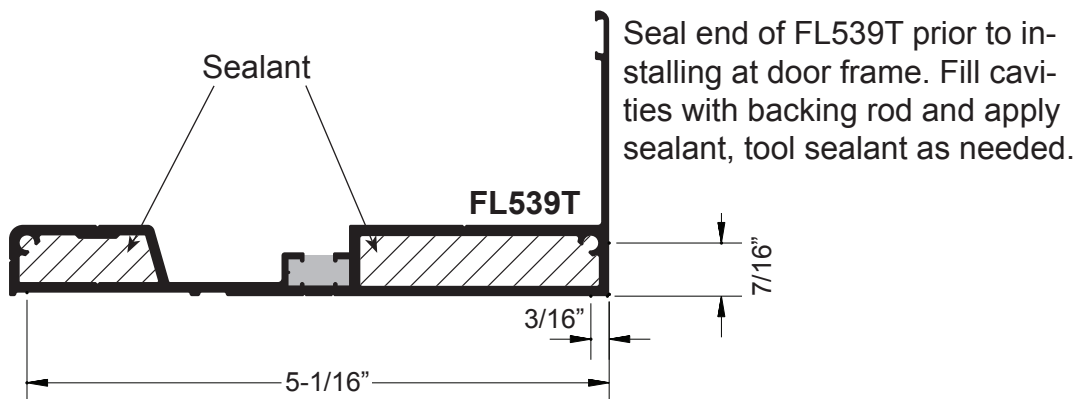
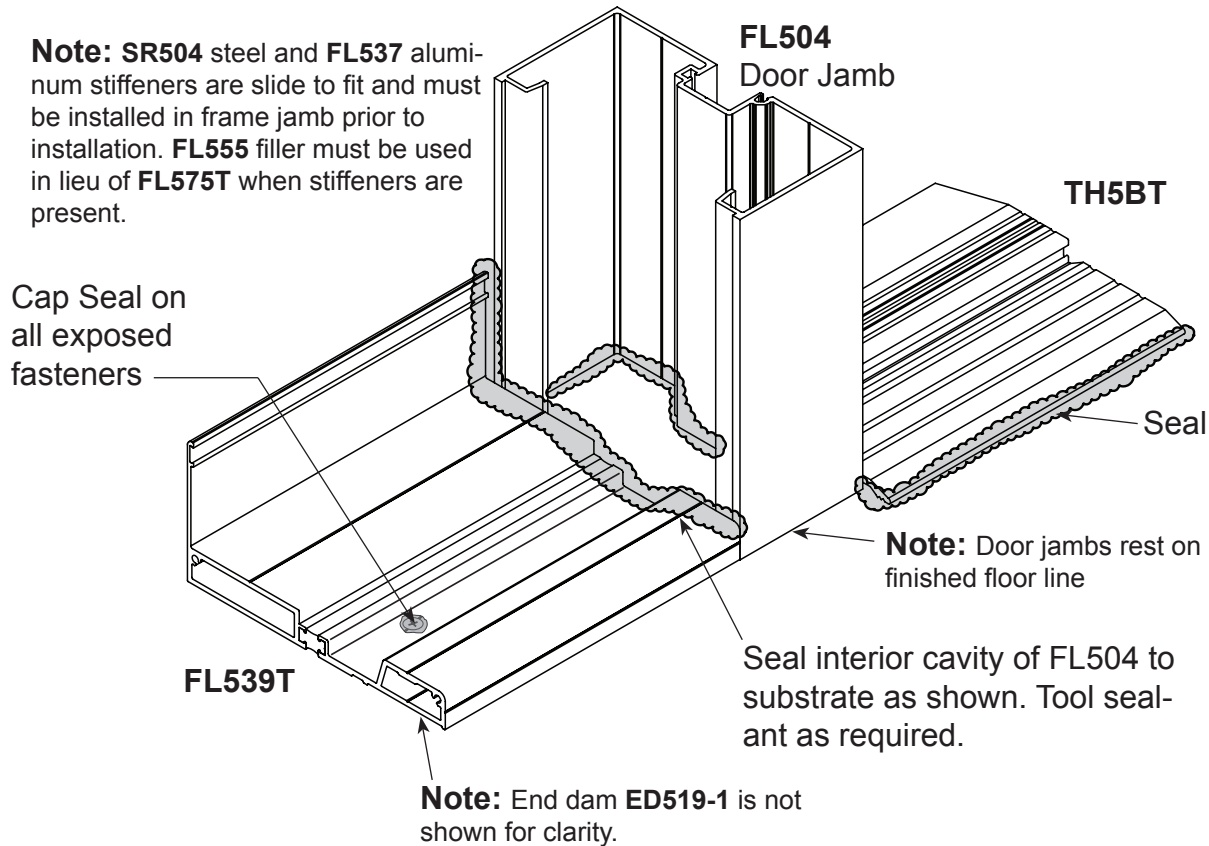
Shim beneath subsill to be a maximum of 3/4". Attach subsill flashing to structure with structural fasteners using attachment holes shown on Page 13.

Wedge shims tightly between end dams and jamb substrate at each end prior to installing frame panels. These shims prevent the end dams from being dislodged while frame panels are being installed. Completely seal and tool end dams to FL539T and Substrate as shown.

Run a continuous bead of Dow 795 sealant along the full length of the subsill "C" slot as shown above just prior to installing frame panels. Do not allow sealant to harden prior to installing frame panels. Remove excess sealant after panels are installed.

ENTRANCE DOOR FRAME INSTALLATION With Subsill for Sidelights

When entrances occur, install entrance frames first. Subsill butts against door jamb(s). The subsill abutting the door jamb does not require an end dam.



FRAME INSTALLATION

Panelized Assembly

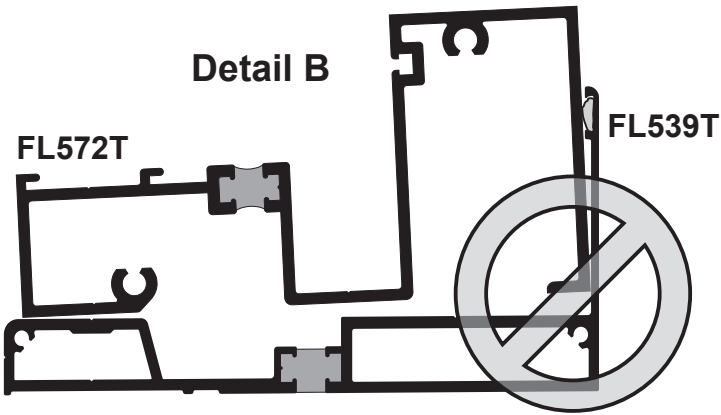
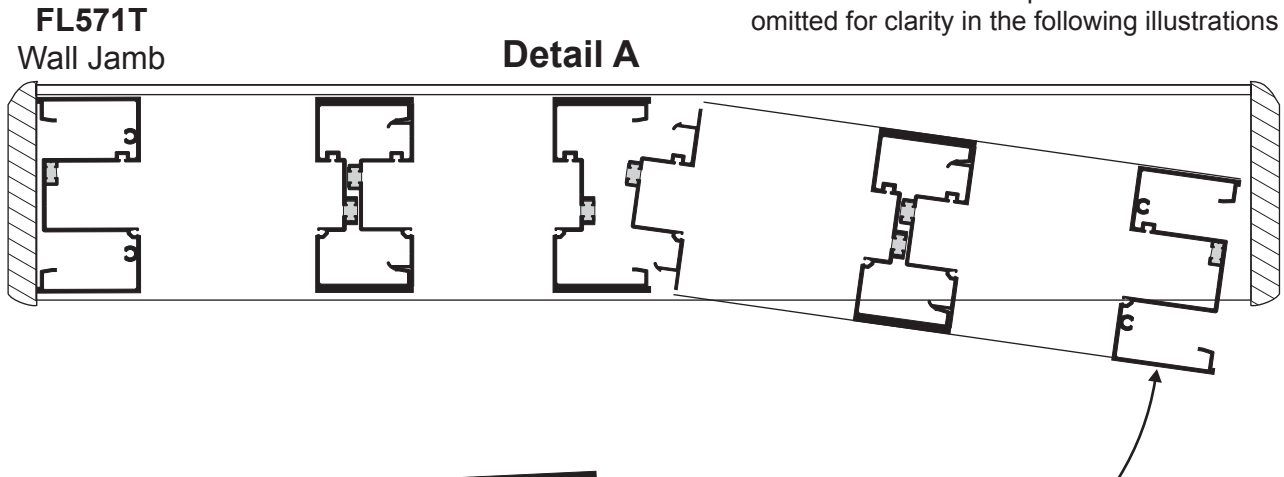
STEP 1.

Install assembled frame panels into opening starting with jamb and continue working toward the last bay. Reference illustrations shown below.

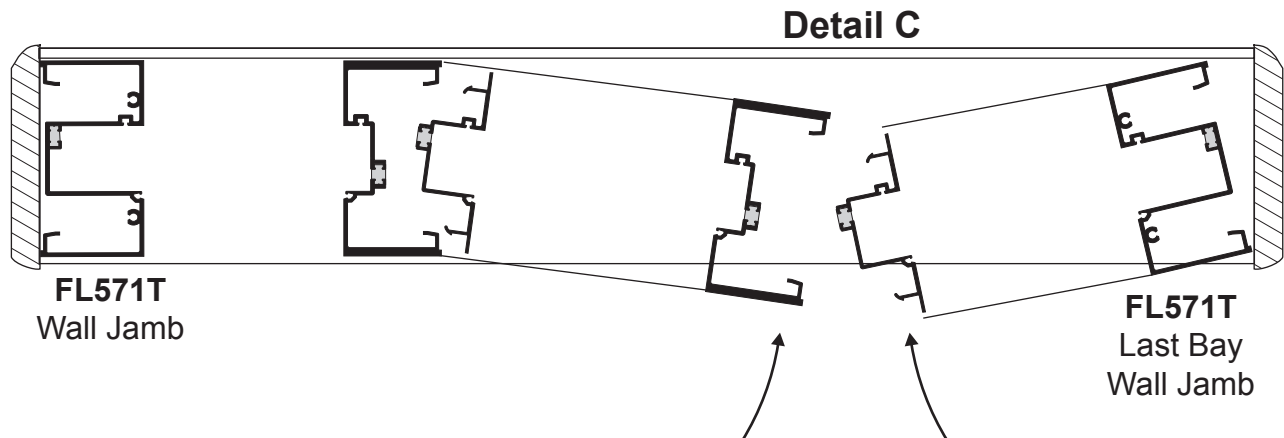
Use option "A" or "C" as required.



Note: Interior NG14 Spacer Gasket is omitted for clarity in the following illustrations



Note: Make sure FL572T is positioned flush at the bottom and not on an angle as shown in Detail B.



FRAME INSTALLATION

Panelized Frame Attachment to Substrate

STEP 2.

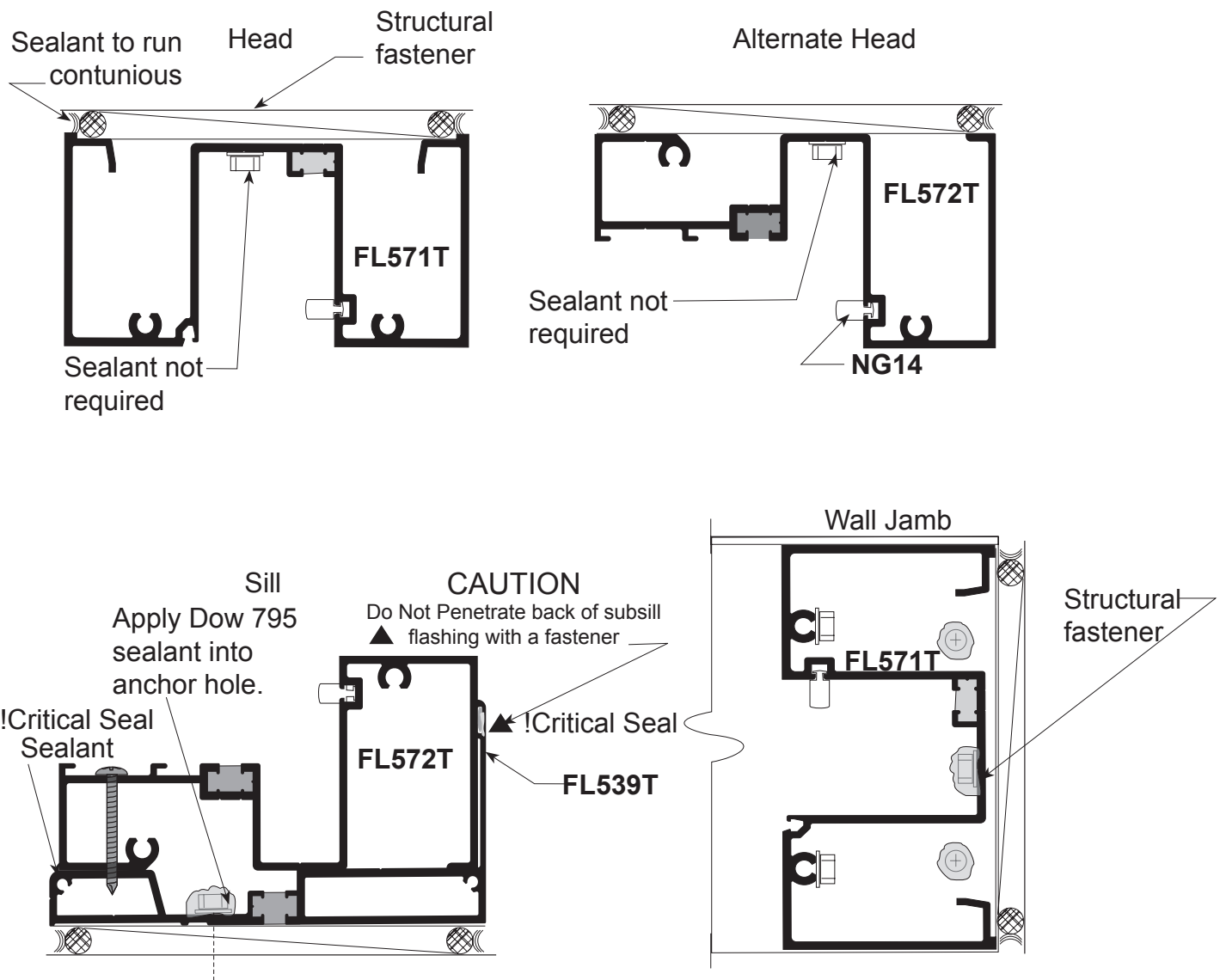
Shim beneath subsill as required at fasteners. Match drill holes through sill into FL539T Subsill for perimeter fasteners. Match drill holes in head and wall jamb into substrate. Shim and anchor panels to substrate.



NG14
Spacer
Gasket

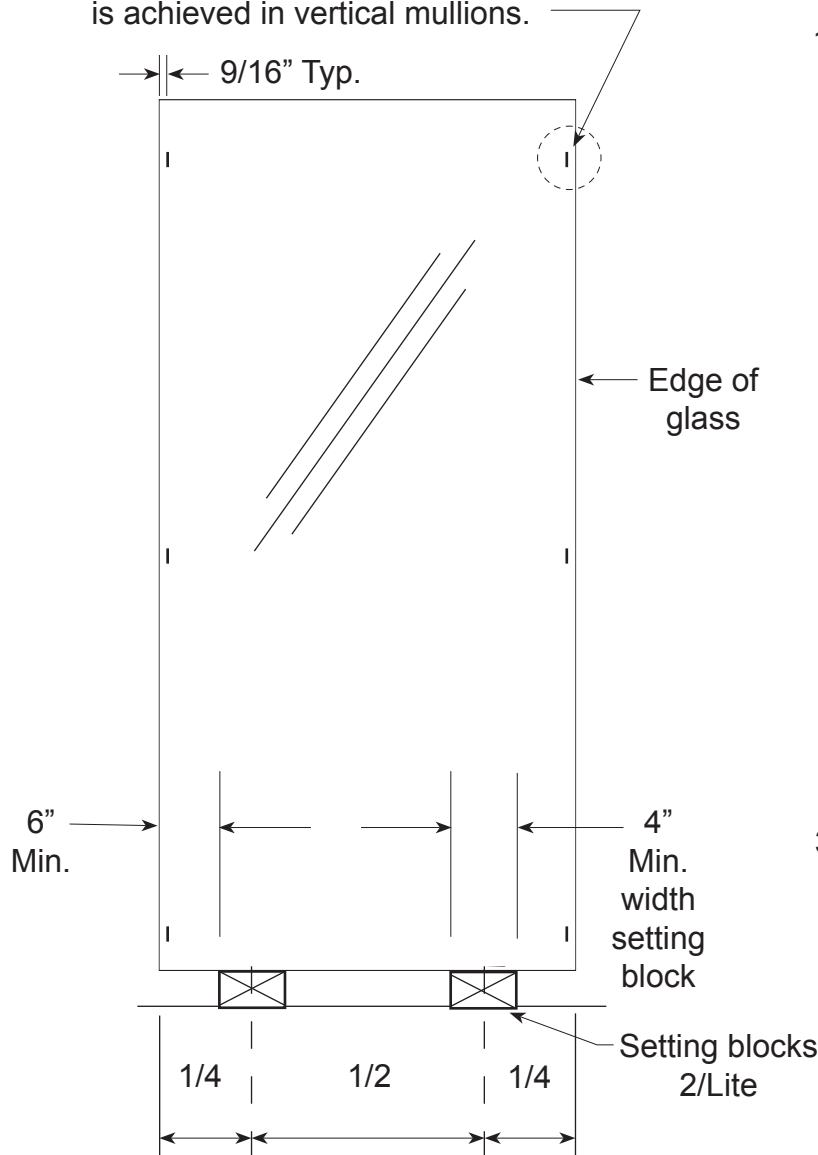
STEP 3.

Completely seal exterior and interior perimeter with a continuous bead of Dow 795 sealant.



PREPARATION OF FRAME OPENING FOR GLASS

Note: Mark glass as shown with 1" long reference lines to ensure proper glass bite is achieved in vertical mullions.



1. Prepare the frame opening by removing all dirt and debris from the glazing pockets and gasket reglets.
2. SETTING BLOCKS
Glass should be set on two identical setting blocks, part number SB15. The preferred location is at the 1/4 points.

If the 1/4 point location causes excessive deflection of the intermediate horizontal, move the setting blocks equally towards the corners of the lite as far as the 1/8 points. The outer end of the block CANNOT be closer than 6" to the corner of the glass.

DEFLECTION

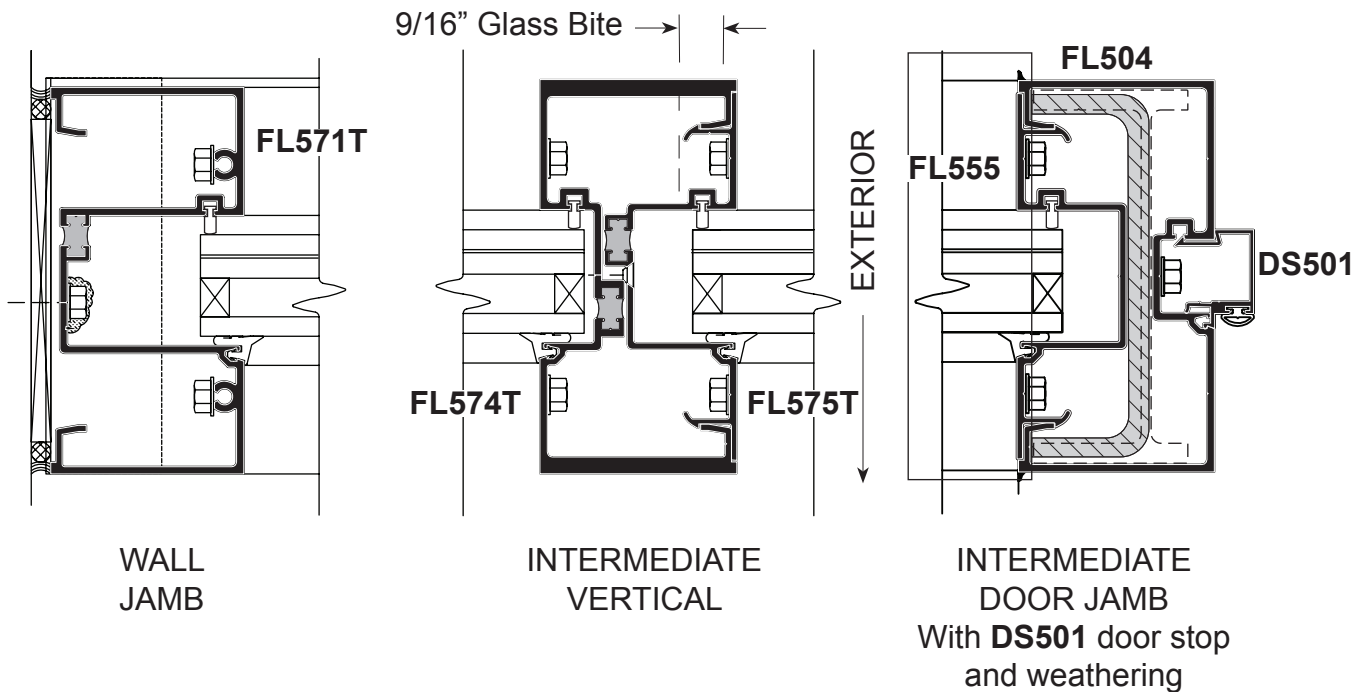
3. The intermediate horizontal must not exceed 1/8" and a door header is limited to 1/16". Check deadload charts for proper setting block locations.

GLASS SIZE FORMULAS

Glass Sizes for **FL550T** System:

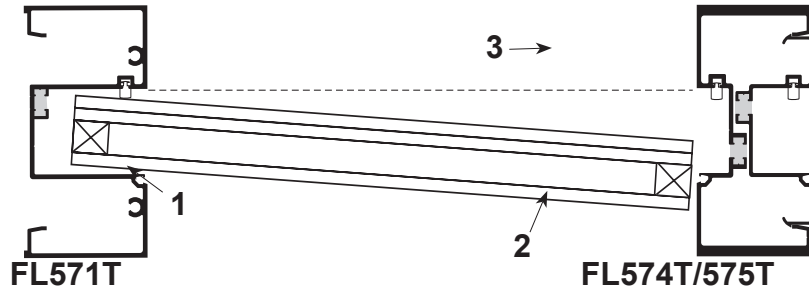
Glass Width and Height = D.L.O. + 1-1/8"

Note: Glass tolerances are not addressed in the above formula.
Consult glass manufacturer for glass tolerances prior to ordering.

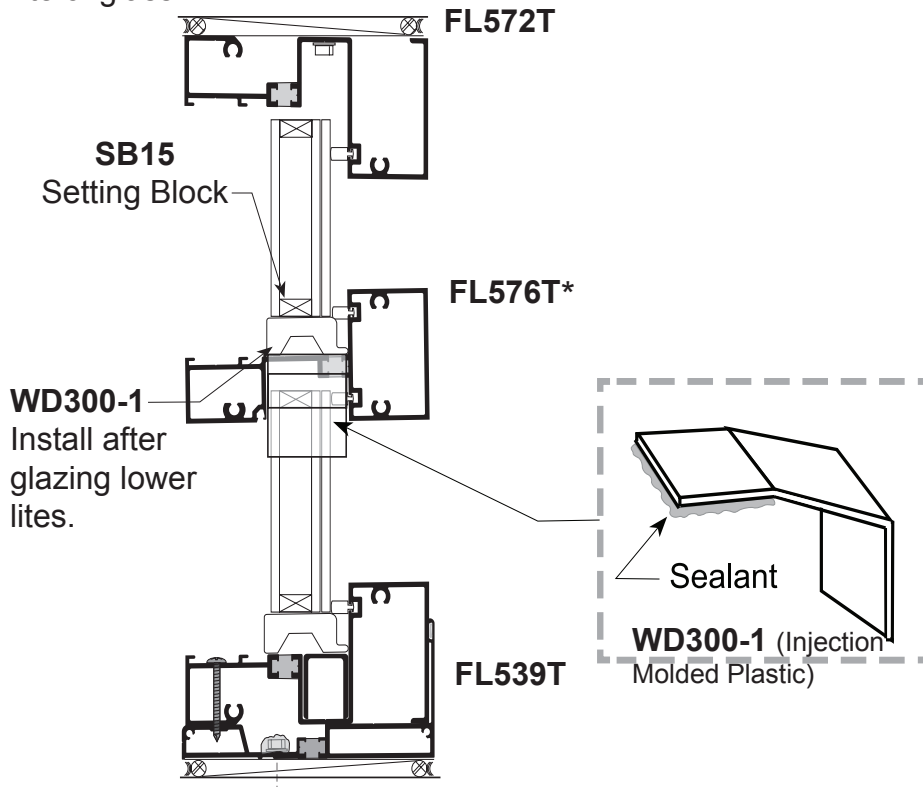
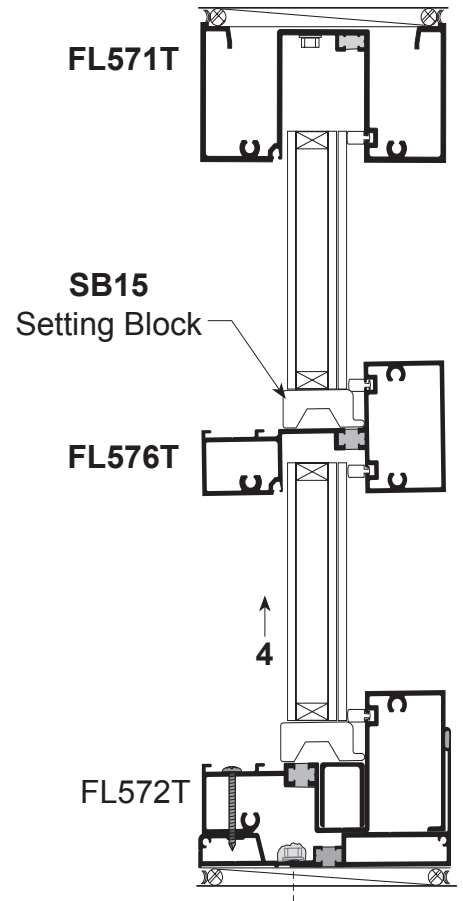


GLAZING

NG14 Spacer Gasket



1. Make sure **NG14** spacer gaskets are installed.
2. Prepare frame openings for glass as instructed on Page 19 and install **CS500-1** setting chairs in sill.
3. Glaze from bottom to top following the four step procedure shown.
4. Center glass into opening making sure proper glass penetration is achieved. Rest glass on setting blocks and press tightly against **NG14** gasket.
5. Apply Dow 795 or 995 sealant to one end of **WD300-1** Water Diverter and position at each end of horizontal, as shown, after glazing lower lite. Tool sealant on **WD300-1** prior to setting upper lite of glass.

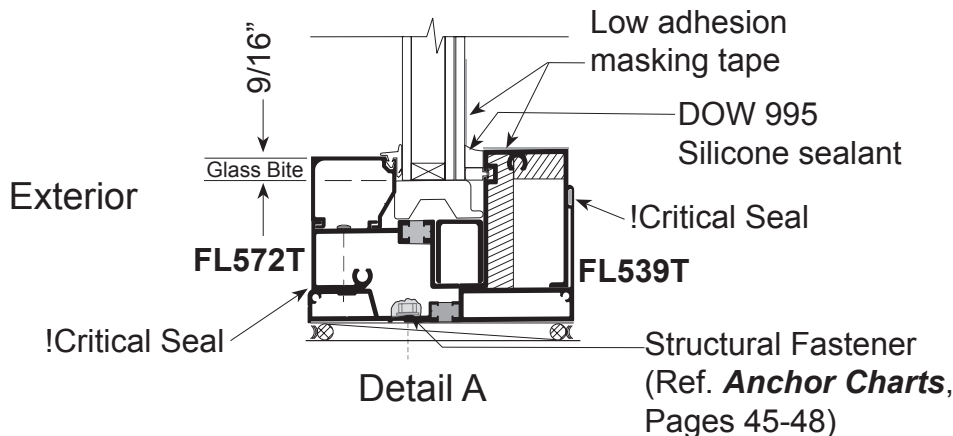
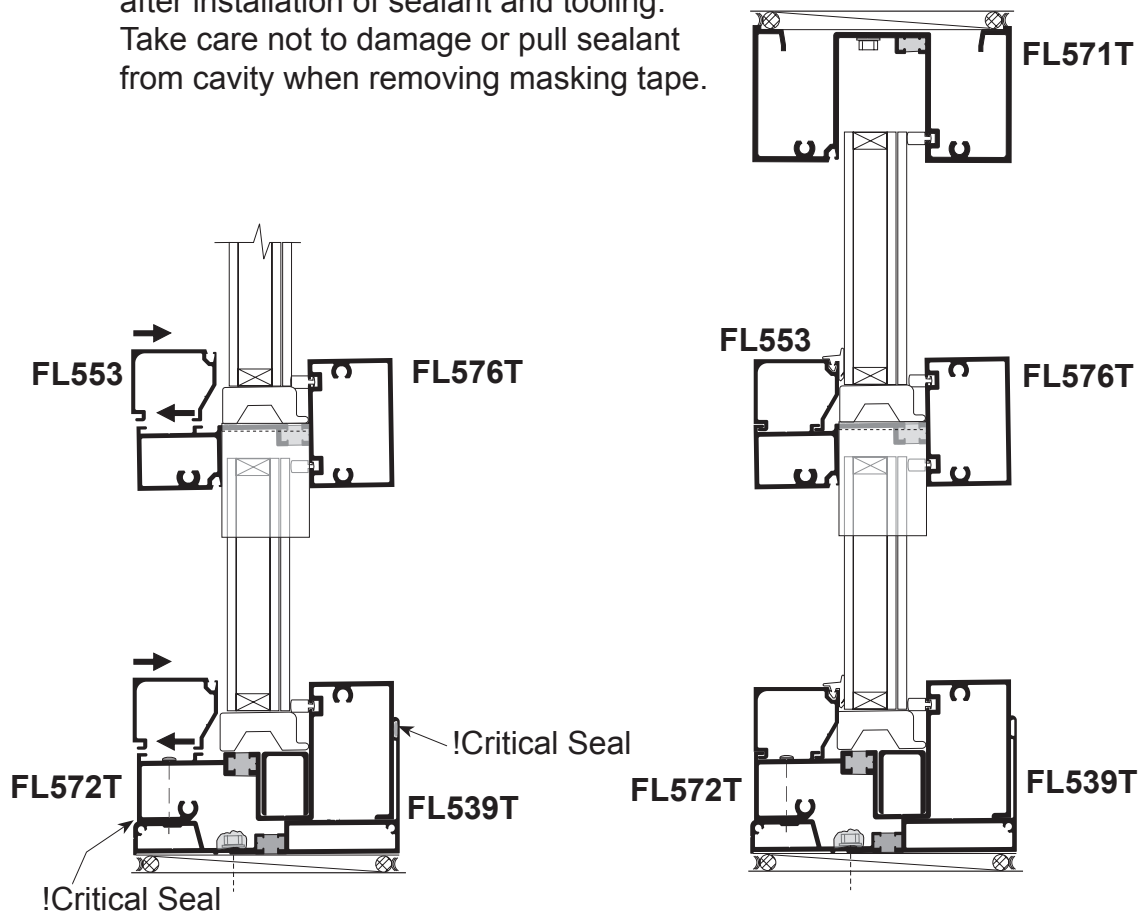


GLAZING

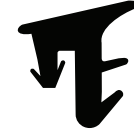
6. Continue glazing following the four step procedure.
7. Install FL553 hook-in glass stops as shown.
8. Prepare NG1 top load gaskets and install as instructed on Page 25.
9. Mask off glass and aluminum with 2" wide low adhesion masking tape. Fill cavity with Dow 995 sealant as shown, Detail "A" and tool. Remove masking tape immediately after installation of sealant and tooling. Take care not to damage or pull sealant from cavity when removing masking tape.



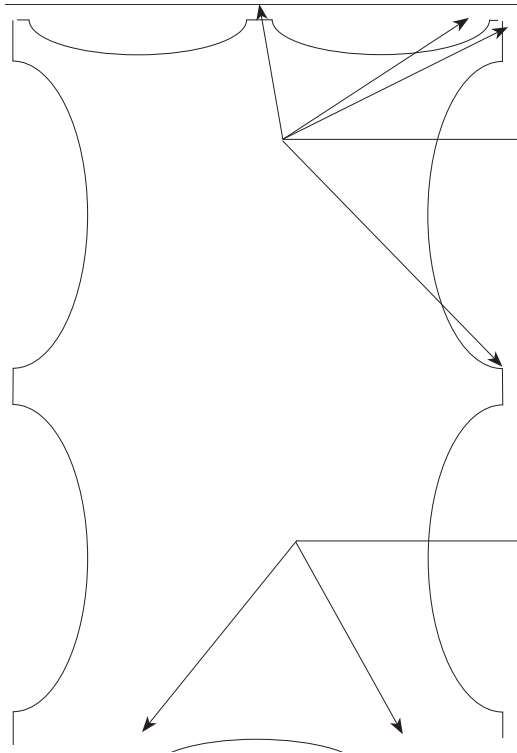
NG1
(Actual Size)



INSTALLATION OF TOP LOAD GLAZING GASKETS



NG1
(Actual Size)



Detail A

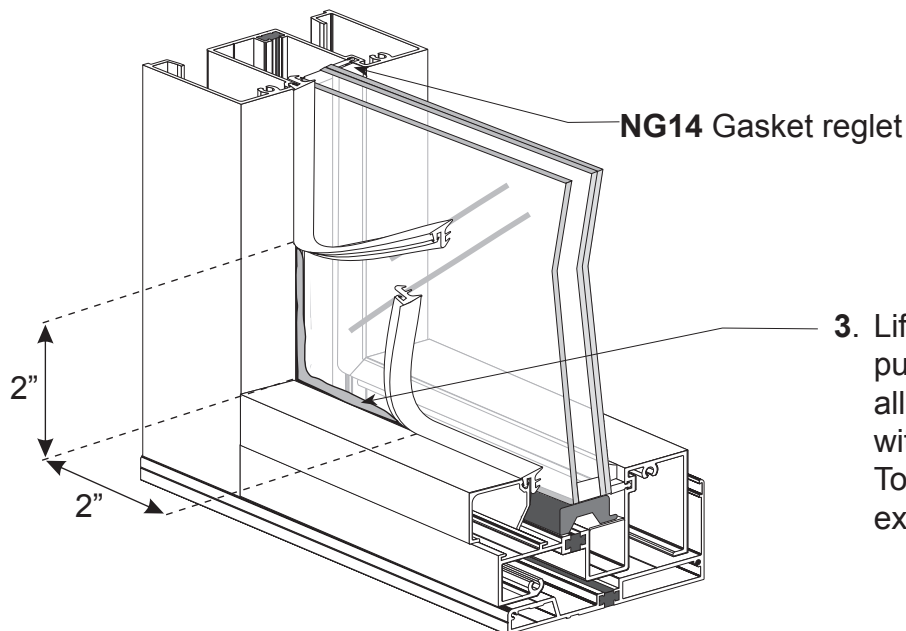
Start jamb and head gaskets at corners and center.

Start gaskets at setting blocks

1. Cut NG1 gaskets a minimum of 3/16" longer per foot than aluminum extrusion.

2. Do not stretch gaskets to make them fit.

It is very important that gaskets are installed correctly as shown in Detail "A", to prevent shrinkage at corners.

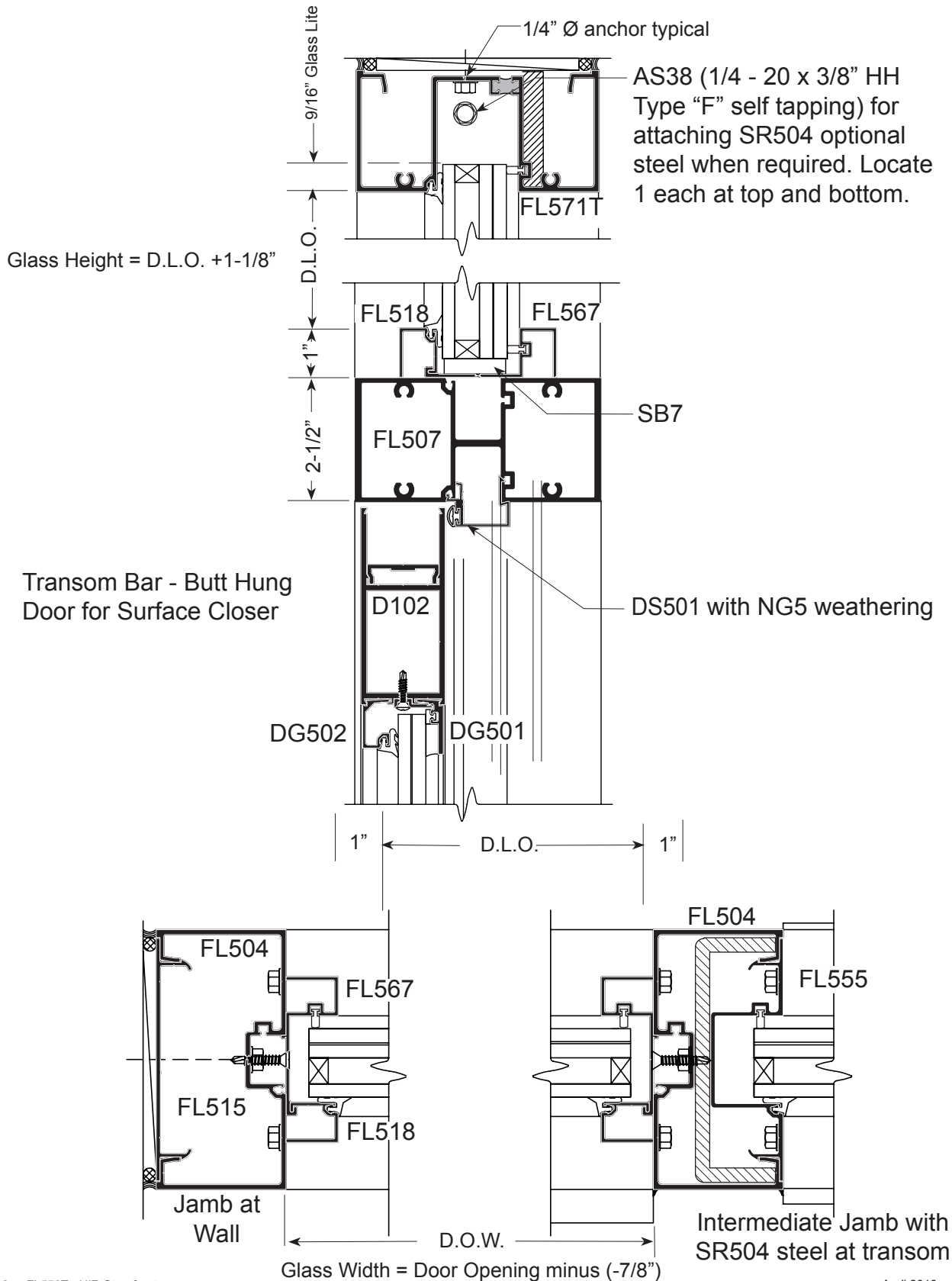


3. Lift NG1 exterior gaskets and pull back 2" in both directions at all corner intersections & seal with DOW 795 or 995 silicone. Tool sealant and remove excess.

TRANSOM GLASS SIZE FORMULA

FT5 Frame for Butt Hung Door for Surface Closer

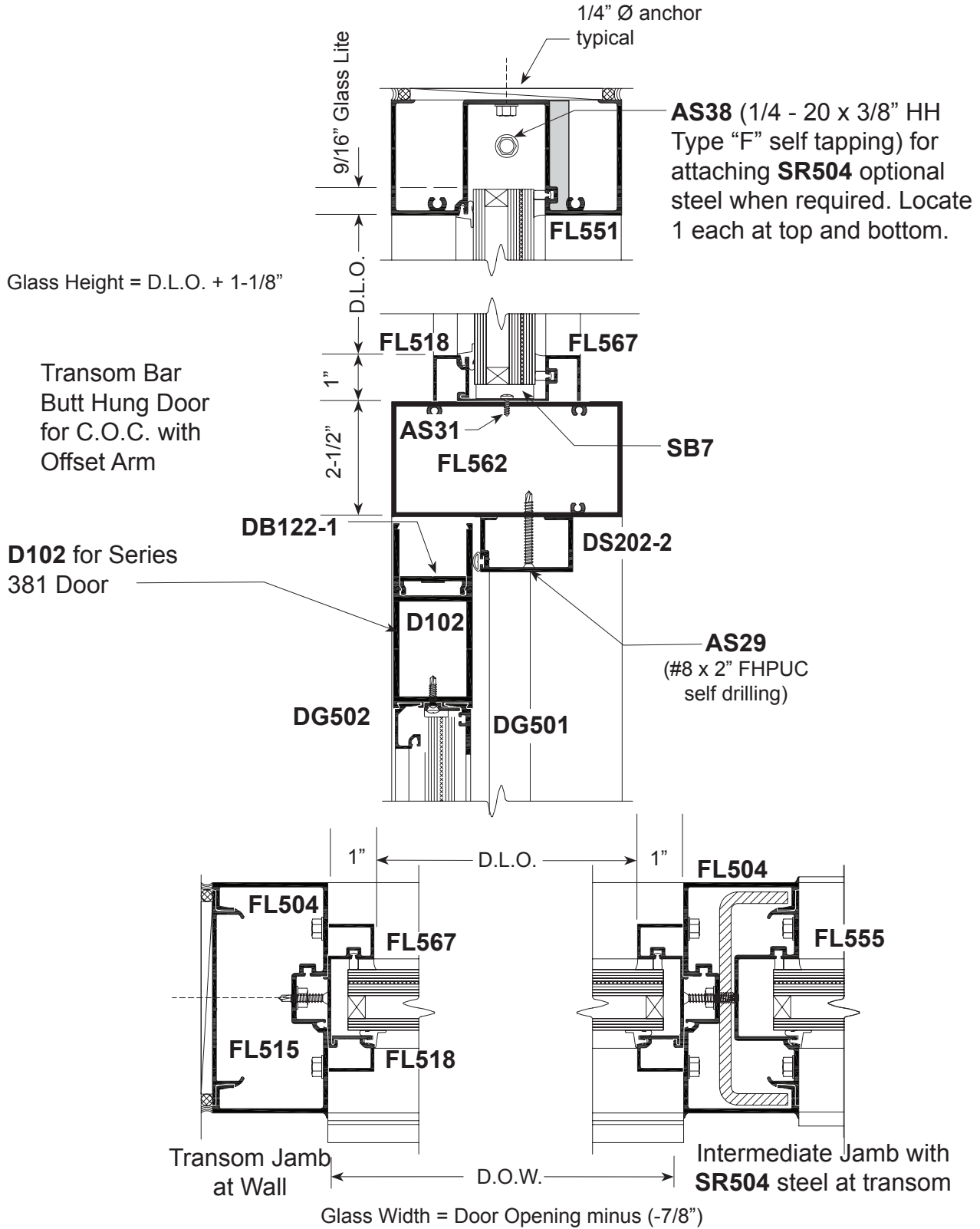
(See Glazing for Glass Installation)



TRANSOM GLASS SIZE FORMULA

FT5 Frame for Butt Hung Door with C.O.C.

(See Glazing for Glass Installation)



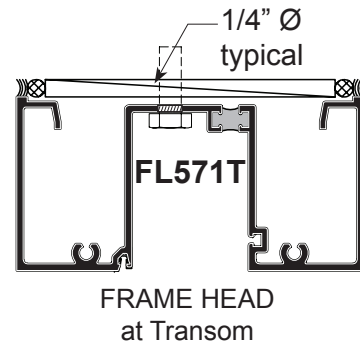
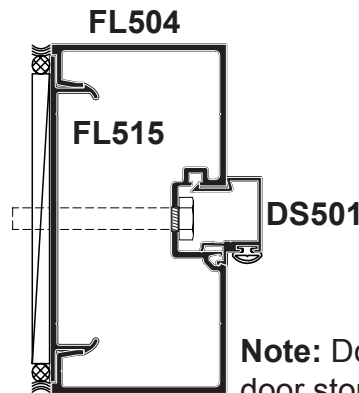
TYPICAL ASSEMBLY & INSTALLATION For F5 or FT5 Door Frames

ASSEMBLY:

Note: See INSTALLATION, Item 1 below.

1. Verify opening size. Allow for 1/4" minimum sealant space at jambs and frame head.
2. Reduce frame transom height when required. Use drill jig for drilling spline hole locations for frame head.
3. Attach TH403 threshold clips to jambs using AS24 fasteners.
4. Assemble head and transom bar to jambs as shown.
5. Install FL567 sash with NG14 gasket in transom.

TYPE "FT" FRAME



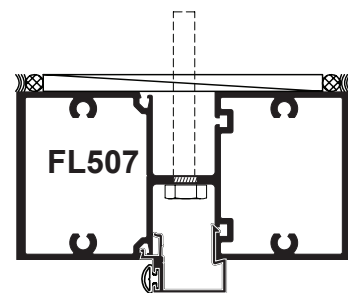
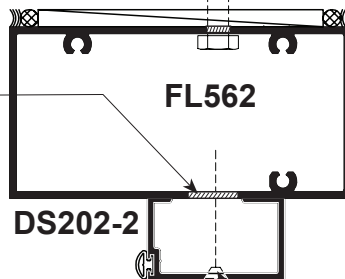
Note: Do not attach DS501 and FL517 door stop and transom sash until frame has been anchored to substrate.

TYPE "F" FRAMES

For C.O.C. with offset arm

For Surface Closer

3/4" Ø Access Hole for 1/4" Ø fastener

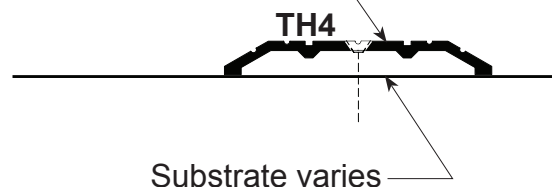


AS29
(#8 x 2" FHPUC self drilling)

INSTALLATION:

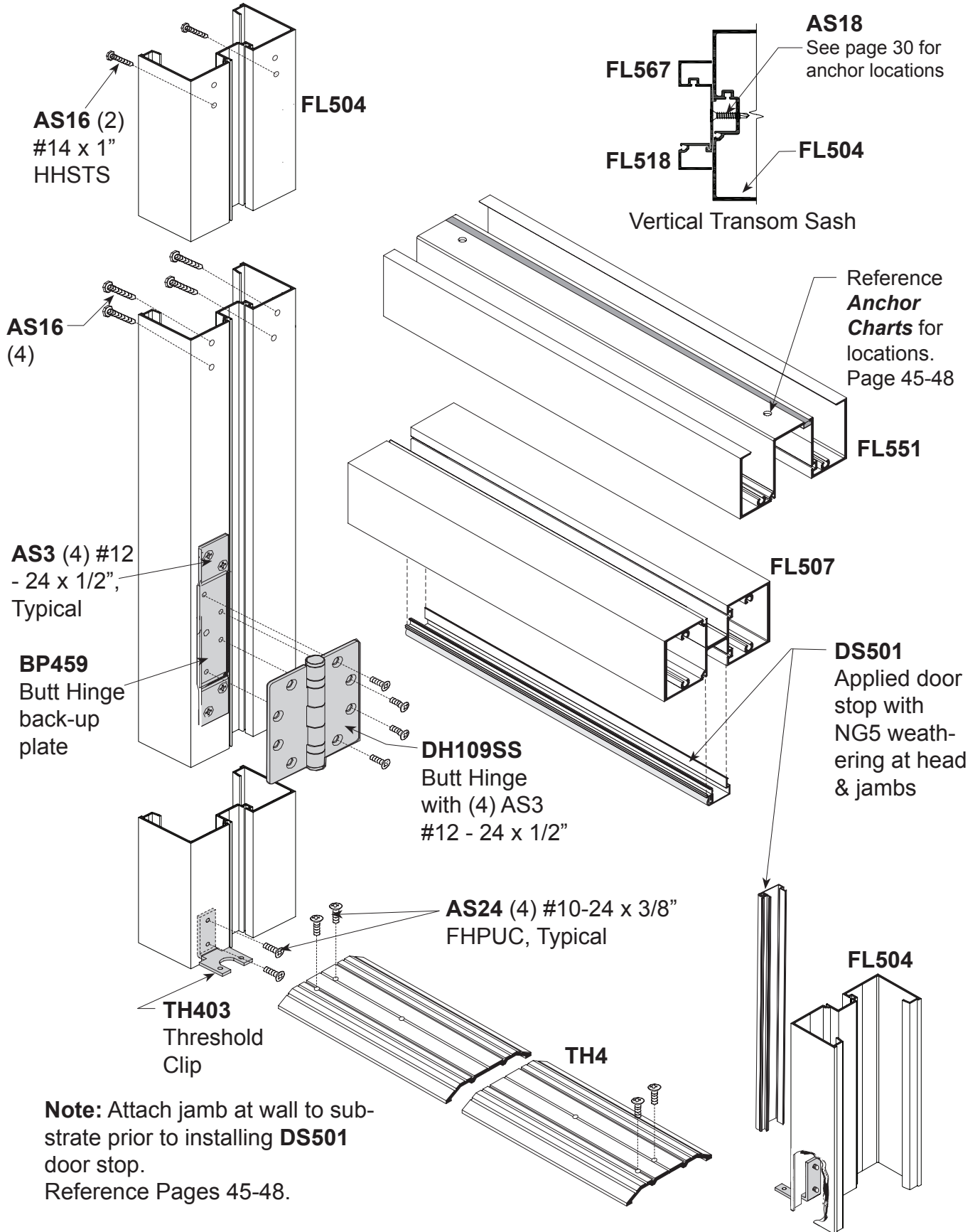
1. Drill 1/4" Ø anchor holes in wall jamb and frame head as shown on Anchor Charts, (Pages 45-48), prior to assembly.
2. Set frame plumb and square into opening.
3. Anchor frame to substrate with fastener types as shown in anchor charts.
4. Install DS501 door stop with NG5 weathering to jambs and transom bar or door header. ***NOTE**
5. Position setting blocks in door header at quarter or eighth points as required and glaze transom. Glazing sash is required in transom.

Field fabricate holes in locations as shown in anchor charts and anchor threshold to substrate. (Ref. Pages 45-48).

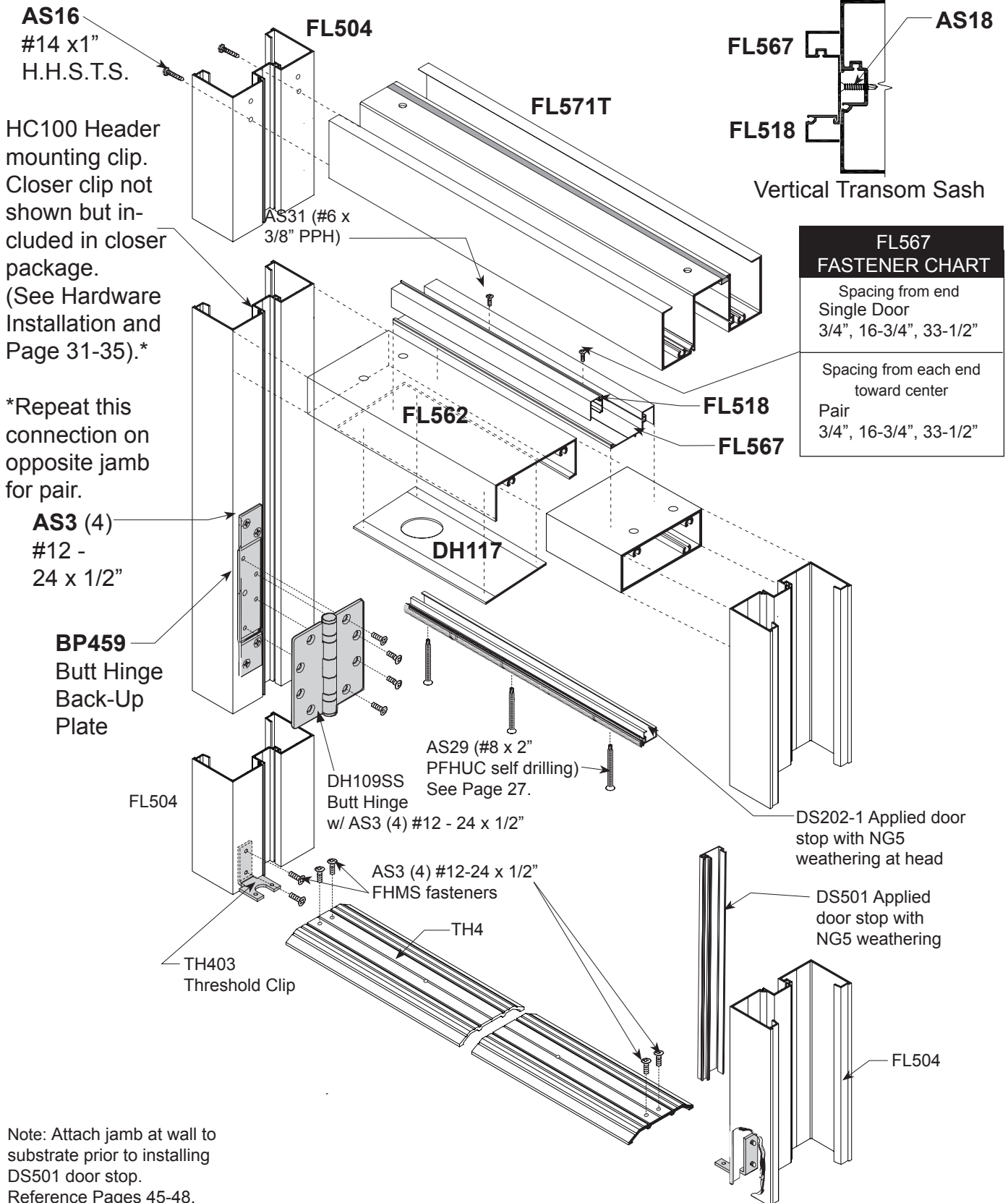


***NOTE:** DS501 is a snap in part and may have a loose fit, if this is the case, run DOW 795 in snap groove area and wipe off excess.

F5 or FT5 FRAME with Transom - Butt Hung Door - for Surface Closer



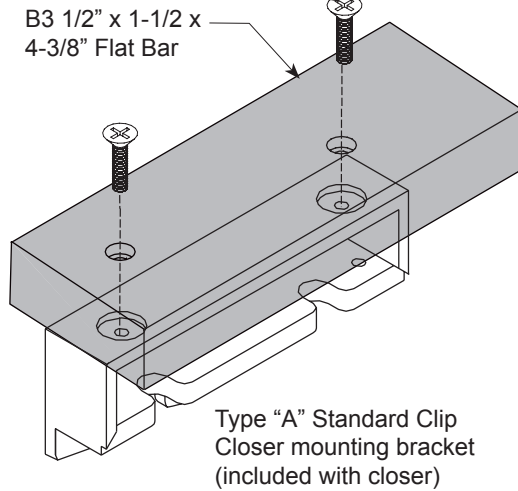
F5 or FT5 FRAME - OFFSET BUTT HUNG DOOR - C.O.C. and Offset Arm



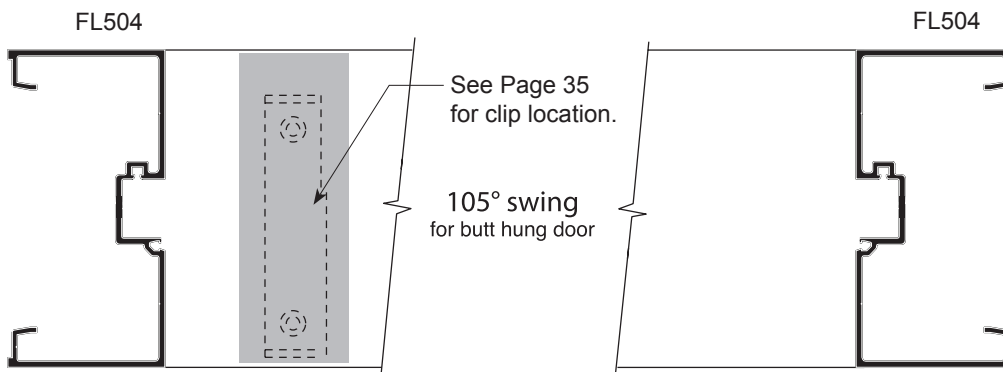
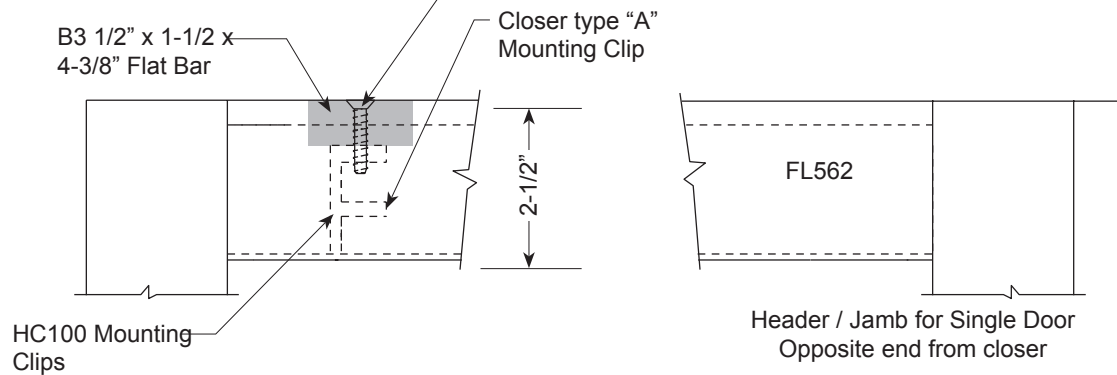
FT5 FRAME WITH FL562 HEADER for C.O.C. with Offset Arm

To mount closer into FL562 headers, a B3 1/2" x 1-1/2" flat bar is required.
For balance of header installation, see pages 32-34.

Secure closer mounting clip to header with (2) AS45 fasteners (#10-32 x 1-1/4" FH)

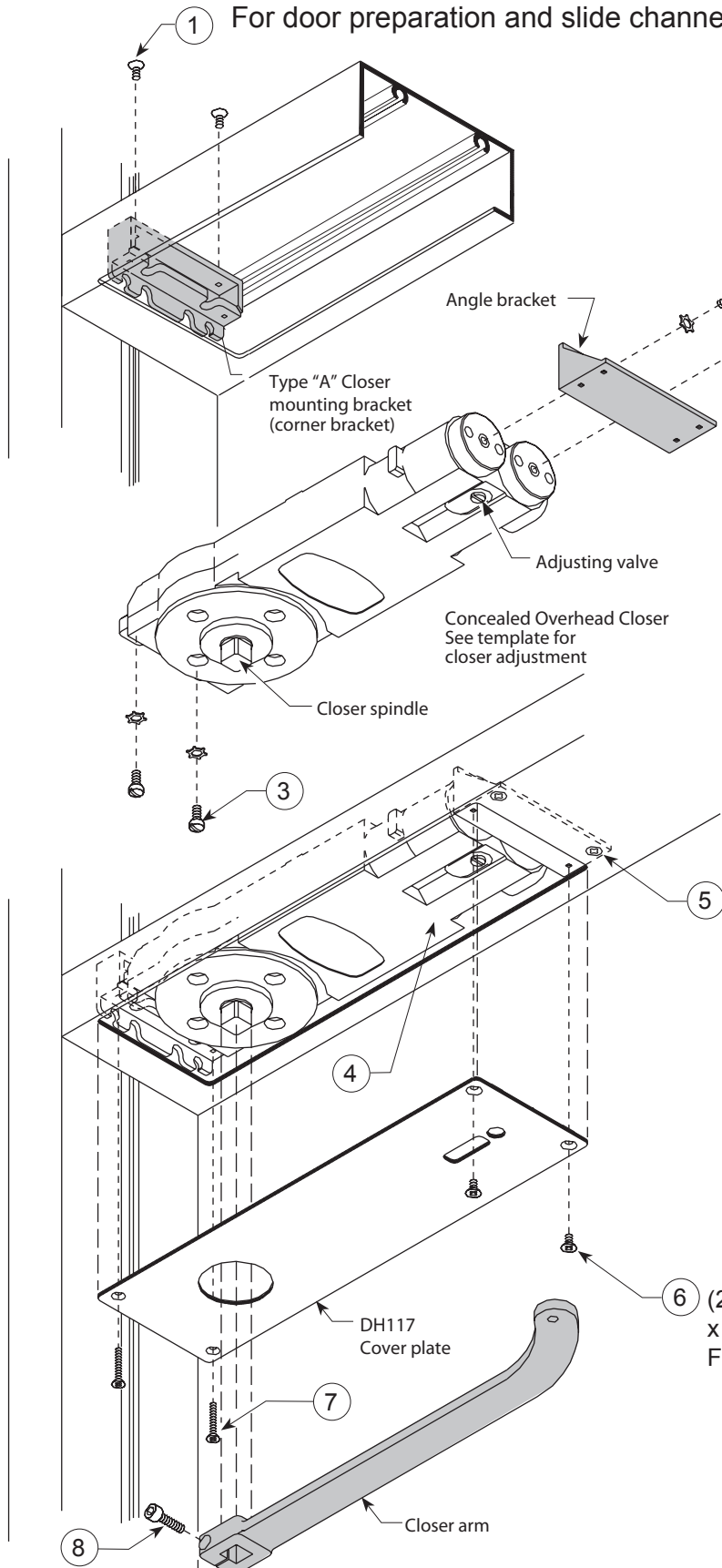


(2) AS45 fasteners (#10-32 x 1-1/4" FH)



C.O.C. FOR BUTT HUNG DOOR With 105° Swing for F5 or FT5 Frame

① For door preparation and slide channel installation, see Pages 34-35.

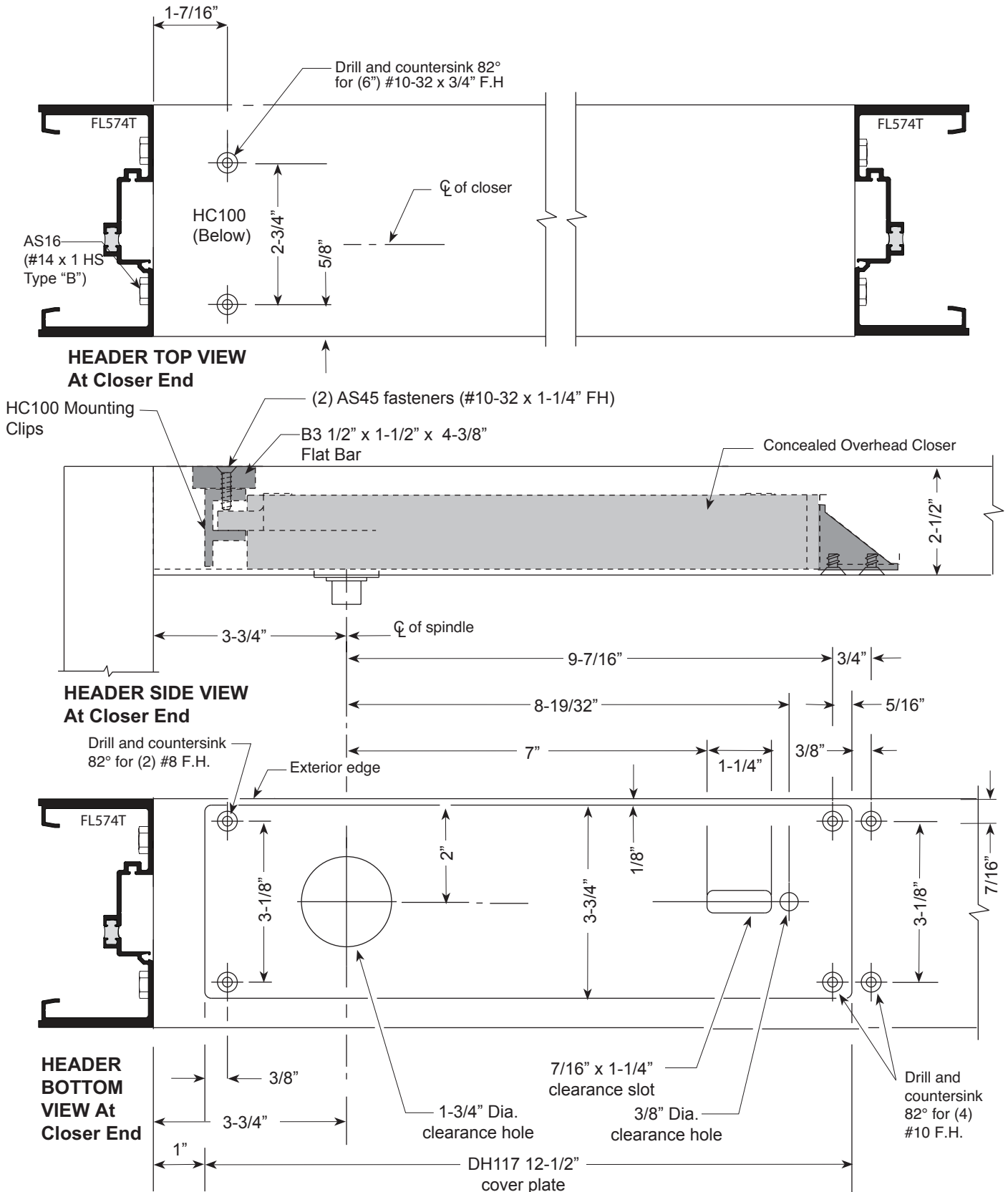


Note: Corner clips at jambs are attached prior to installing header.

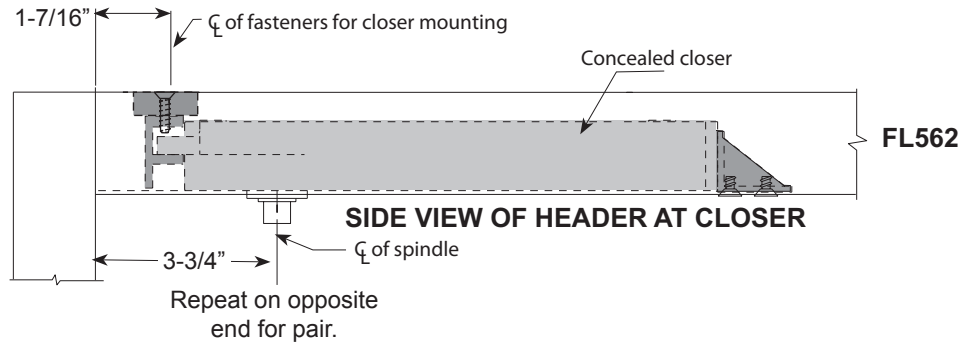
1. Mount corner clip into header with (2) AS45 10-32 x 1-1/4" FHMS. See Page 33 for clip location.
2. Mount angle bracket to closer with (2) 1/4-20 x 1/2" Hex Head M.S. and washers.
3. Install (2) 1/4-20 x 1/2" Fillister Head M.S. with washers into lugs of closer. Do not tighten screws.
4. Set closer onto header and align angle bracket holes with holes in header. Closer lugs shall rest on corner bracket.
5. Fasten angle bracket to header with (2) 10-24 x 3/8" FHMS. Tighten Fillister Head screws.
6. Install cover plate and secure to angle with (2) #8-32 x 1" FHP.
7. Attach cover plate to closer at hinge side with (2) #8-32 x 1" FHMS fasteners included with cover plate.
8. Mount arm on spindle and secure with 1/4-20 x 7/8" Socket Head Cap Screw.

HEADER FOR C.O.C. - Butt Hung Door - with 105° Swing

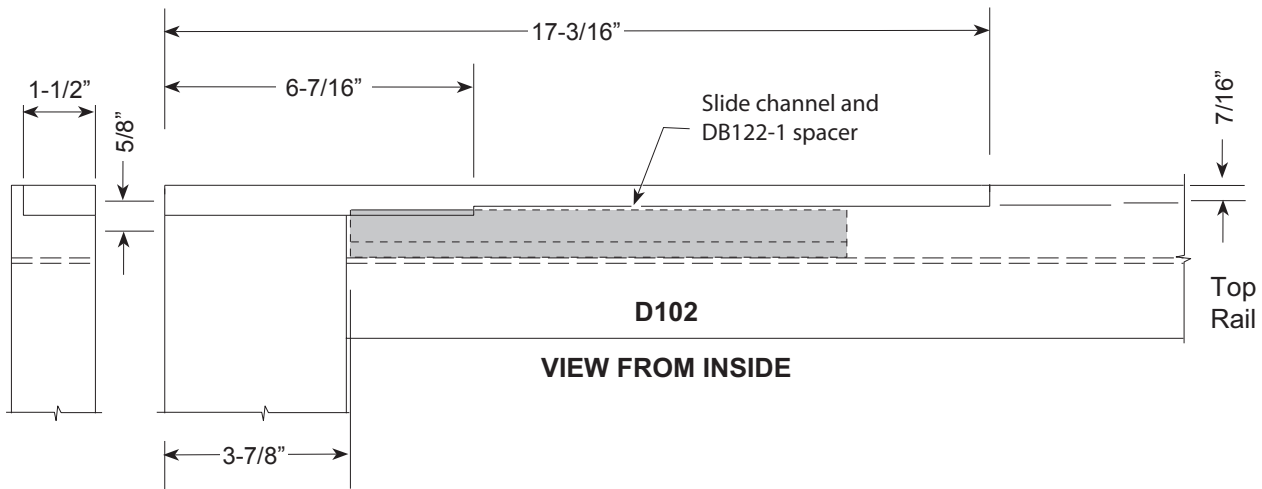
FL562 Header Preparation
FL562 2" x 5" Header requires a B3 1/2" x 1-1/2" x 4-3/8" flat bar.



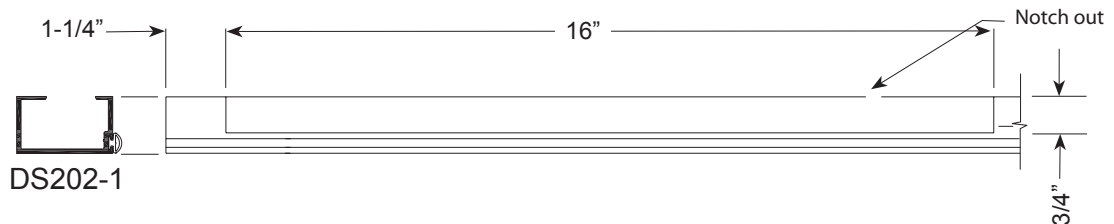
C.O.C. Closer Location in FL562 Header for 105° Swing



SLIDE CHANNEL LOCATION IN DOOR TOP RAIL FOR OFFSET ARM

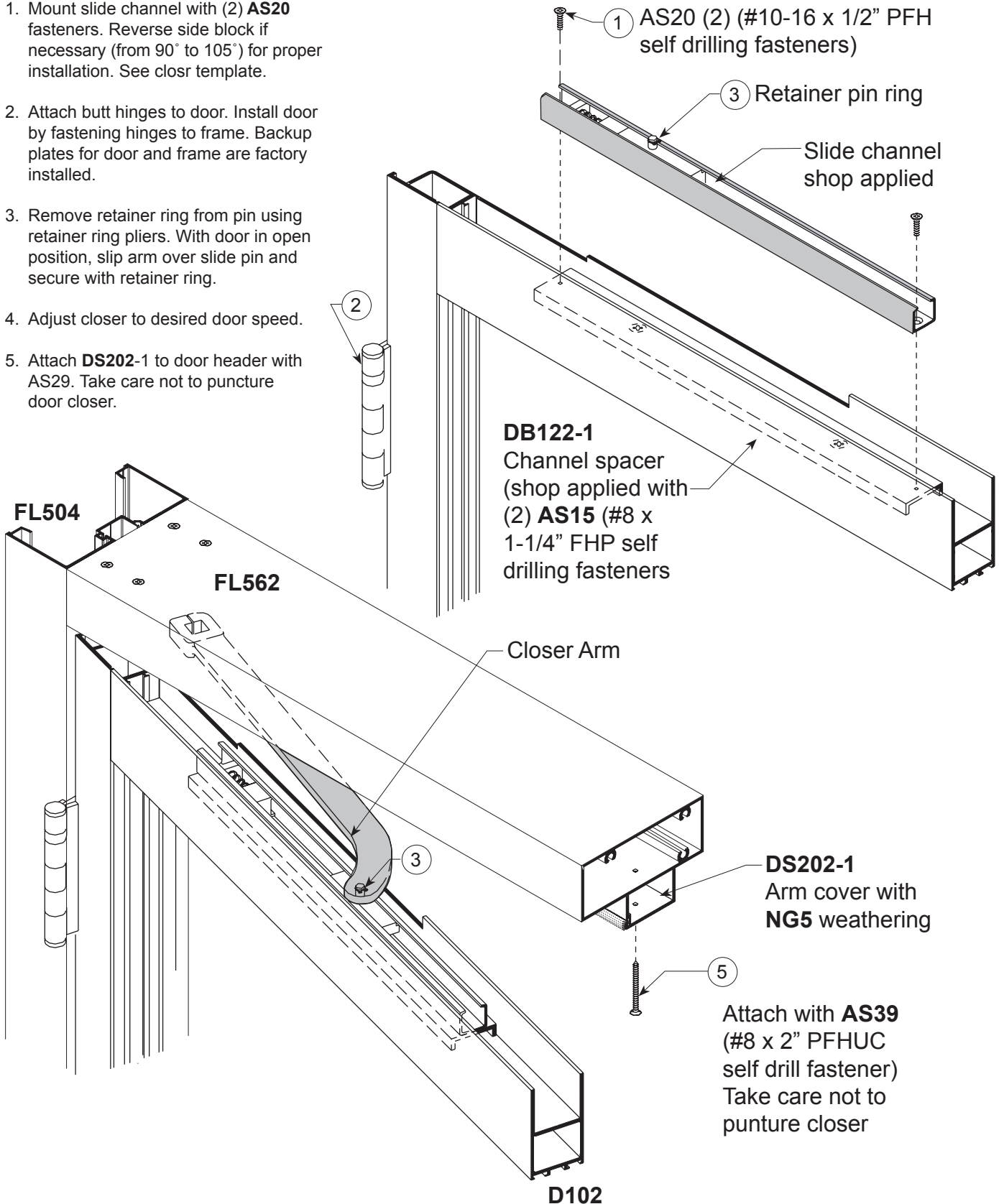


OFF-SET ARM COVER CHANNEL LEFT HAND SHOWN RIGHT HAND OPPOSITE



BUTT HINGE DOOR WITH JACKSON C.O.C. FOR 105° SWING

1. Mount slide channel with (2) **AS20** fasteners. Reverse side block if necessary (from 90° to 105°) for proper installation. See closer template.
2. Attach butt hinges to door. Install door by fastening hinges to frame. Backup plates for door and frame are factory installed.
3. Remove retainer ring from pin using retainer ring pliers. With door in open position, slip arm over slide pin and secure with retainer ring.
4. Adjust closer to desired door speed.
5. Attach **DS202-1** to door header with **AS29**. Take care not to puncture door closer.



BUTT HINGE INSTALLATION

Door and Frame

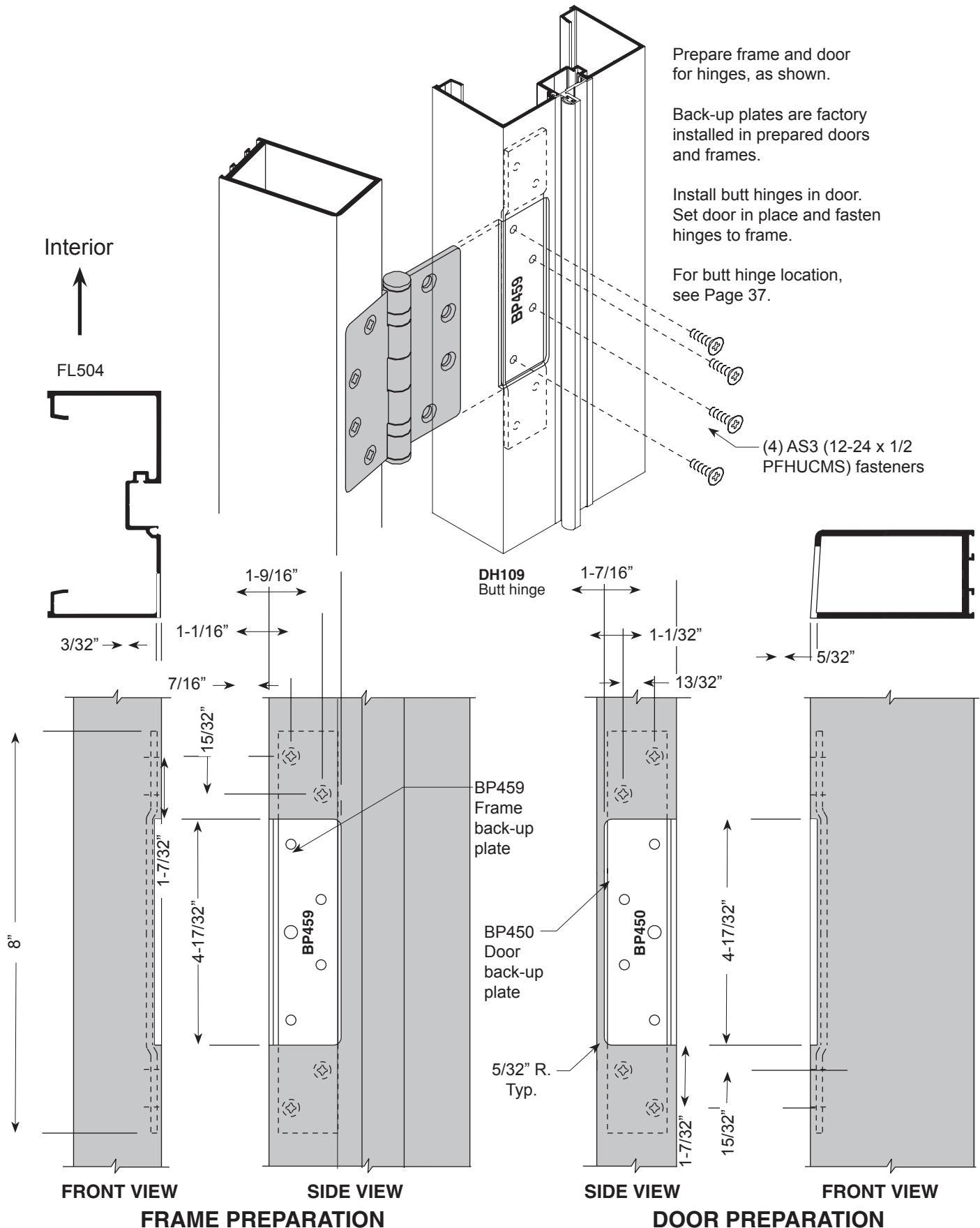
Prepare frame and door for hinges, as shown.

Back-up plates are factory installed in prepared doors and frames.

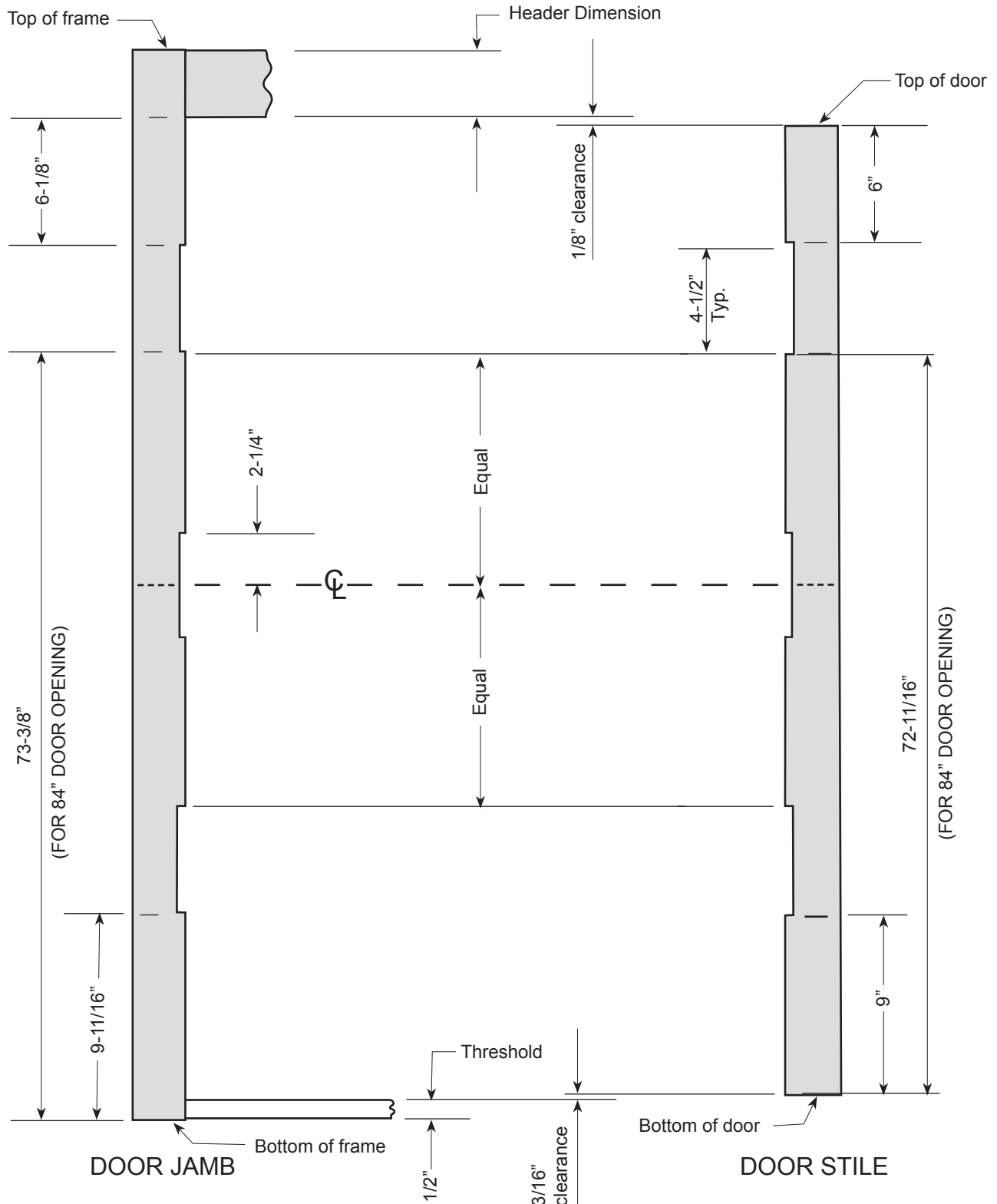
Install butt hinges in door. Set door in place and fasten hinges to frame.

For butt hinge location, see Page 37.

(4) AS3 (12-24 x 1/2 PFHUCMS) fasteners



STANDARD DH109 BUTT HINGE LOCATION For F5 Frame and Series 381 Door

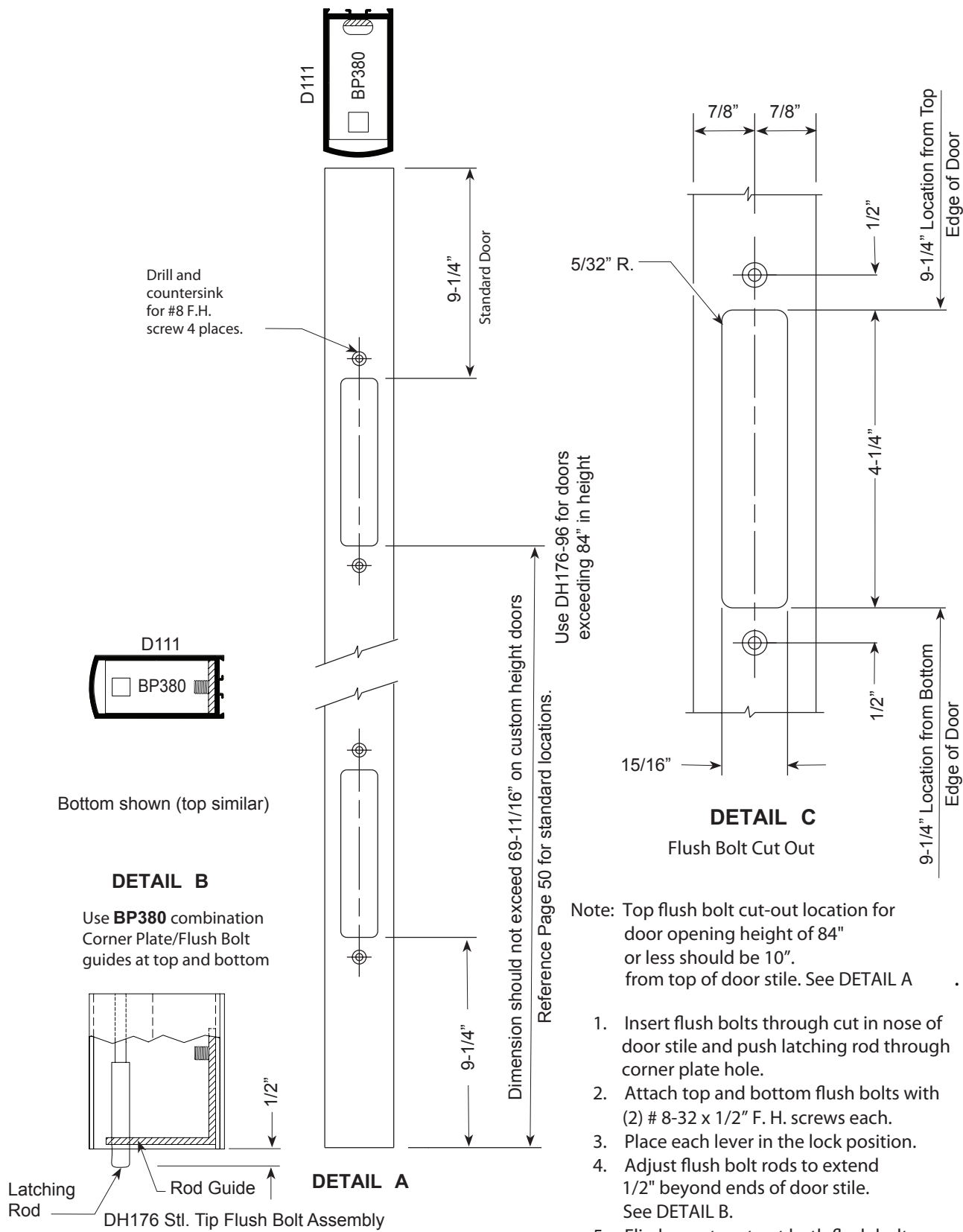


Note: Reference Page 40 for other standard hardware locations.

FLUSH BOLTS

Series 381 Inactive Leaf Shown

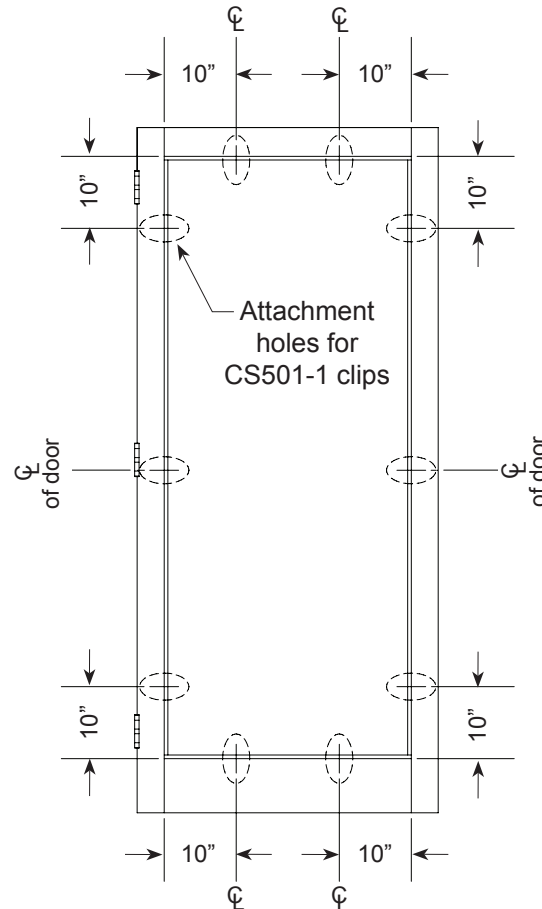
Series 281 Similar



Note: Top flush bolt cut-out location for door opening height of 84" or less should be 10" from top of door stile. See DETAIL A

1. Insert flush bolts through cut in nose of door stile and push latching rod through corner plate hole.
2. Attach top and bottom flush bolts with (2) # 8-32 x 1/2" F. H. screws each.
3. Place each lever in the lock position.
4. Adjust flush bolt rods to extend 1/2" beyond ends of door stile. See DETAIL B.
5. Flip levers to retract both flush bolts.

Series 381 Doors ATTACHMENT HOLE LOCATIONS For CS501-1 Glass Stop Clip



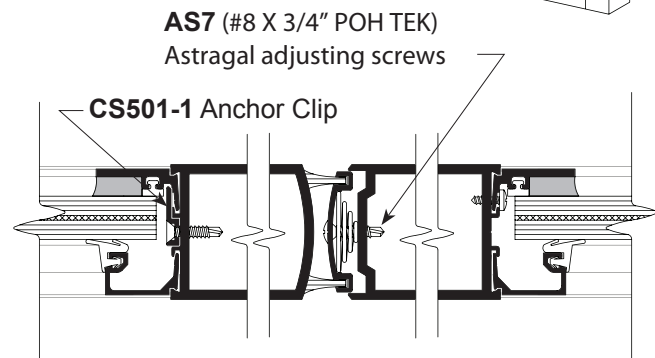
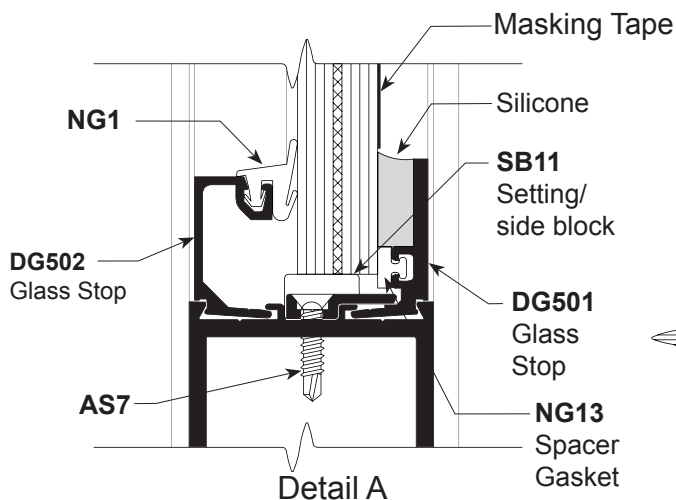
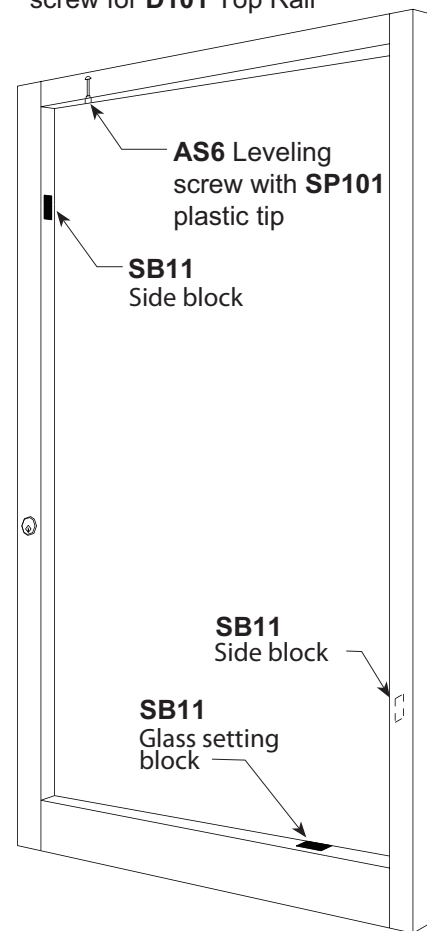
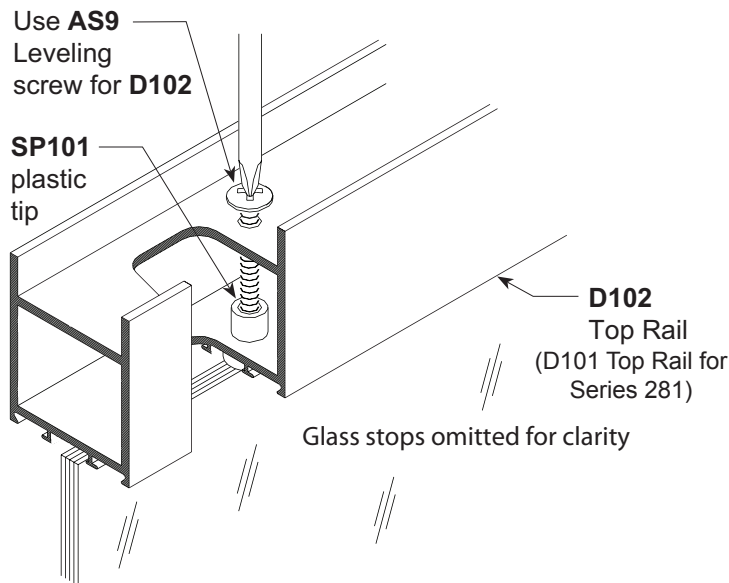
CS501-1 Glass Stop Clip Attachment
 for 84" or 96" Door Height

1. Position DG501 with NG13 spacer gasket.
2. Position CS501 clips as shown above and attach with AS7 fasteners. Reference Detail A on Page 40.

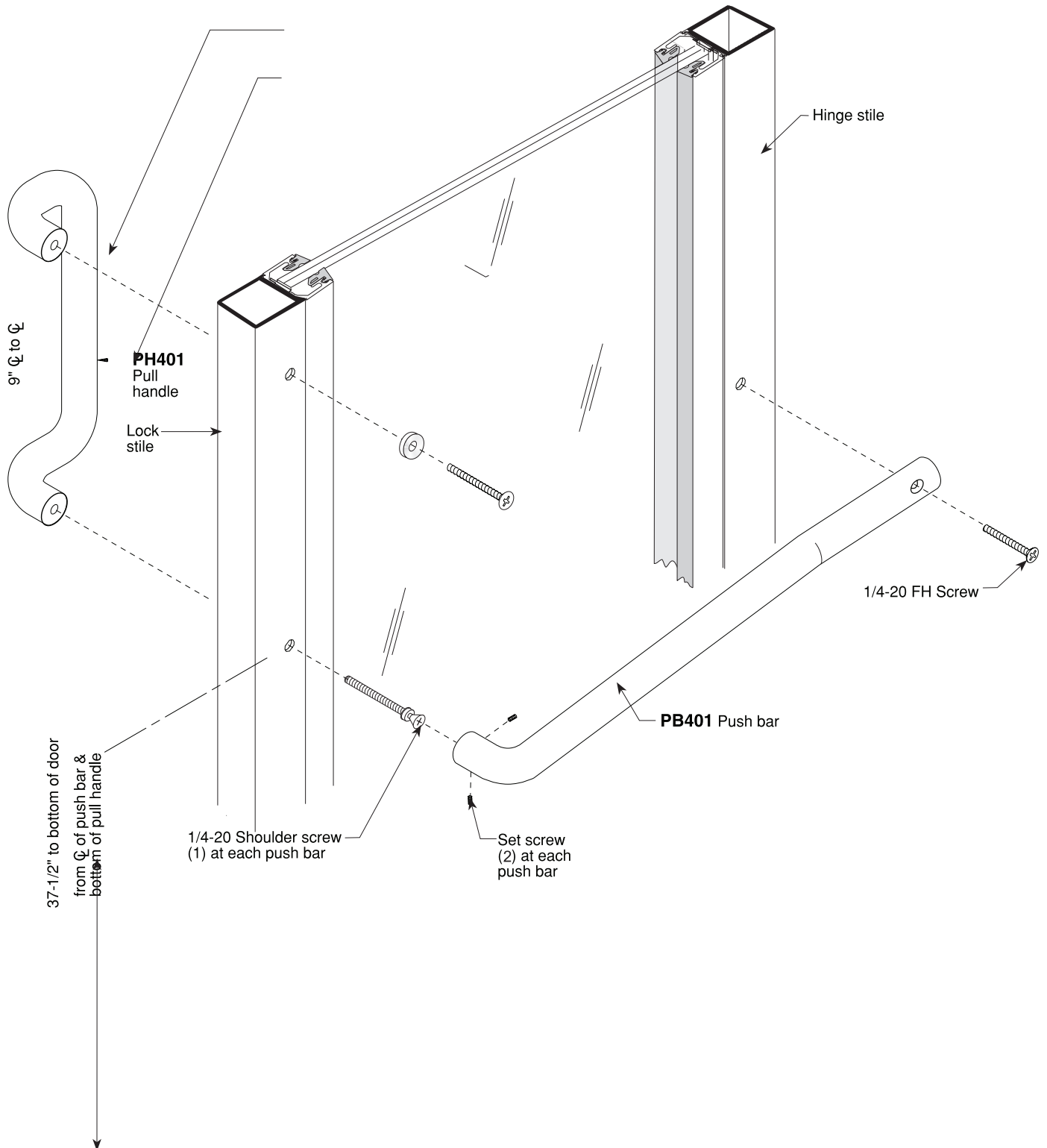
SERIES 381 DOOR GLAZING INSTRUCTIONS

1. Raise leveling screw to maximum retracted position.
2. DG501 glass stop may be installed on either interior or exterior side of door. It is recommended that DG501 be installed on the interior side of doors receiving panic devices to allow for re-glazing without removing the panic bars.
3. Determine side of door you desire to place DG501 and secure with CS501-1 anchor clips. Match drill holes in stop into door and attach as shown below in Detail "A" with AS7.
4. Position SB11 setting/side blocks in locations as shown.
5. Center glass into opening on setting blocks and align with side blocks.
6. Once the glass is in the correct position, lightly screw the glass jack down on top of the glass to create a uniform clearance between the top rail and header.
7. Adjust astragal screws for proper clearance between meeting stiles.
8. Install horizontal DG502 glass stops first. Now install the vertical DG502 glass stops.
9. Roll NG1 gasket into DG502.
10. Mask off glass with 2" wide low adhesive masking tape and apply Dow 995 sealant into the cavity between the glass and DG501 glass stop. Remove masking tape immediately after installation of sealant taking care not to damage or pull sealant from the cavity.

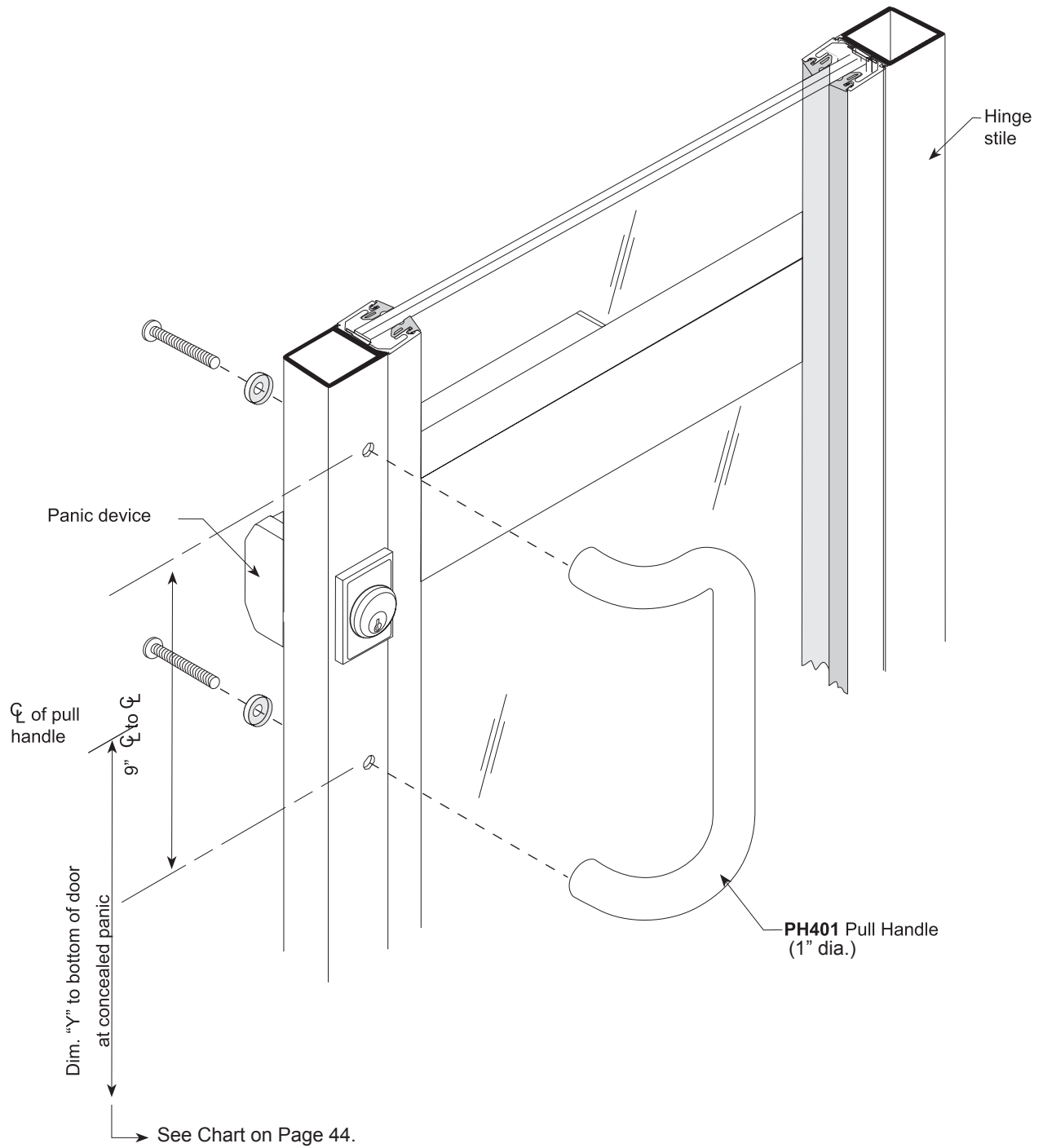
NOTE: Use **AS6** Leveling screw for **D101** Top Rail



OFFSET HUNG DOOR HARDWARE SET DH4036 (STANDARD)

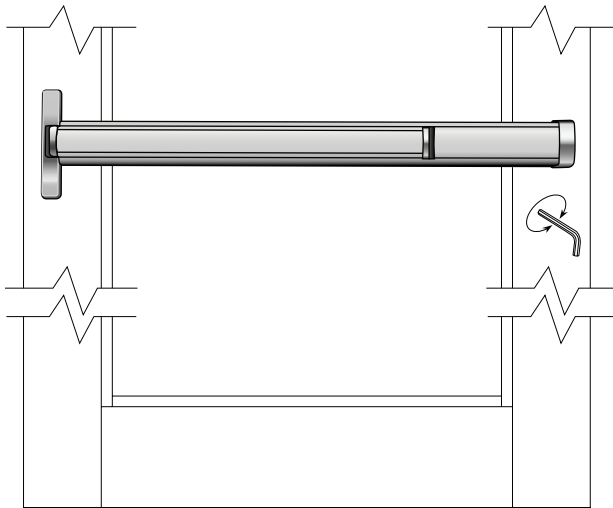


PULL HARDWARE SET FOR PANIC DOOR PH401 (STANDARD FOR PANIC DOORS)



PANIC DOORS WITH DH2086HR PUSH PAD EXIT DEVICE with Optional Dogging Feature

Concealed panic device is factory installed with Hurricane-Impact rod guides.



Dogging Instructions:

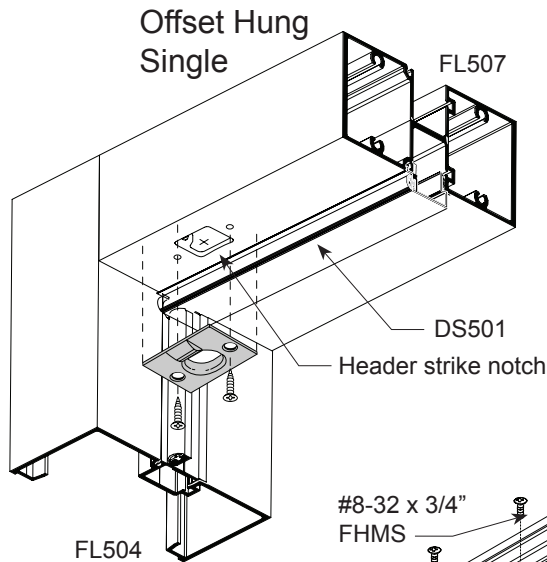
- To dog: Depress panic bar, hold down and turn dogging key 1/4 clockwise.
To undog: Turn dogging key counterclockwise.

Installation Procedure

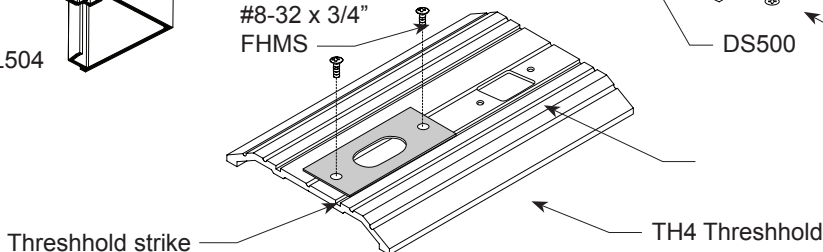
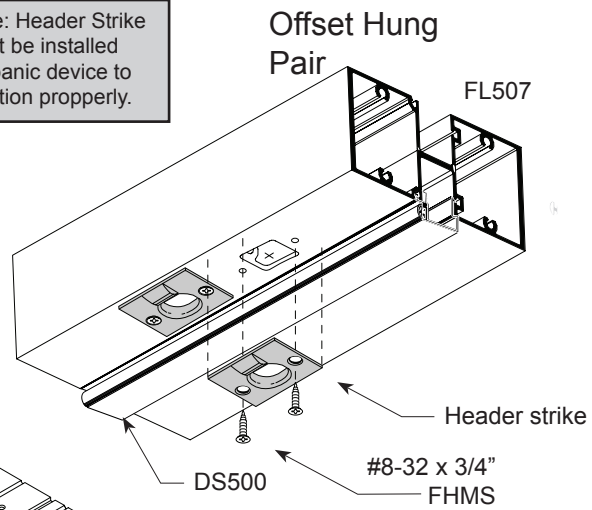
1. Hang door, as required. The clearance between top of door and bottom of header **must not exceed 1/8"**.
2. Note: Panic devices are preset at the factory. Due to various field conditions, they may require minor adjustment.

Outside Key Functions

The DH2086HR panic is factory installed for key entry with dogging key option. To key dog device for continued outside entry, hold bar in fully depressed position and turn key approximately one quarter turn clockwise; then, return key to vertical position and remove. To lock door again, fully depress bar and turn key approximately one quarter turn counter clockwise; then return key to vertical position and remove.

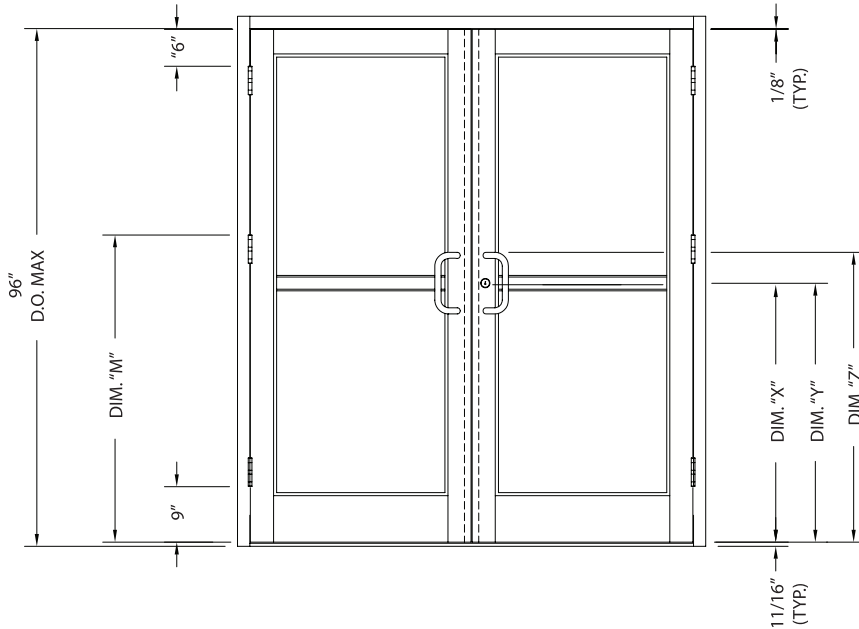


Note: Header Strike must be installed for panic device to function properly.



STANDARD HARDWARE LOCATIONS

Series 381 and 281 Hurricane Impact-Resistant Doors

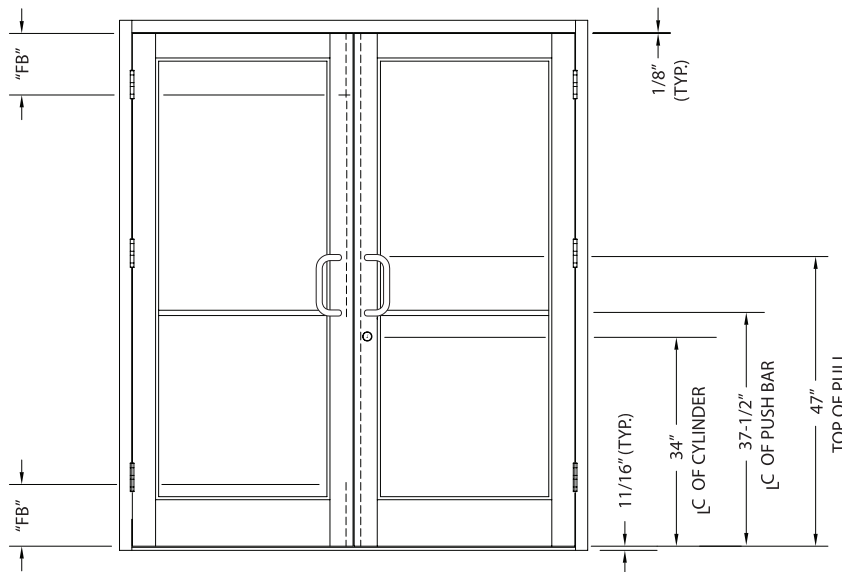


Series 281 doors are limited to a maximum size of 72" x 84" at +/- 65 p.s.f.

INTERMEDIATE HINGE	
D.O. HEIGHT	DIM. "M"
	BUTT HUNG
84"	45-11/32"
96"	51-11/32"

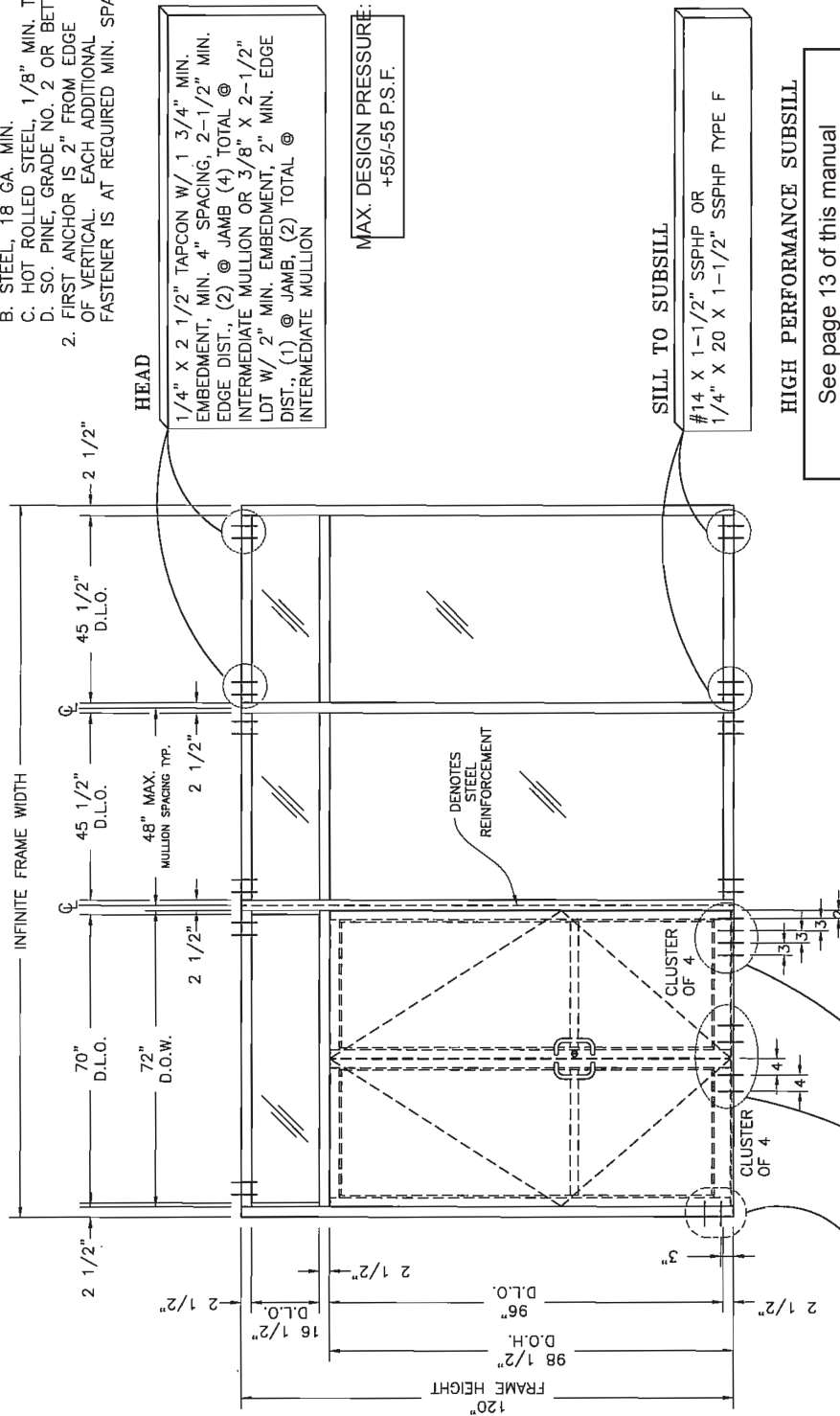
Note: All doors require an intermediate hinge.

HARDWARE LOCATIONS FOR PANIC DOORS				
MANUFACTURER	PANIC DEVICE	DIM "X" ☉ OF CYLINDER	DIM "Y" ☉ OF PANIC	DIM "Z" TOP OF PULL
JACKSON	2086 C.V.R.	37 - 7/8"	38 - 5/32"	42 - 7/8"



STANDARD HARDWARE LOCATIONS, LOCK & FLUSH BOLT		
PART NO.	DESCRIPTION	DIM. "FB"
DH176-96	TOP FLUSH BOLT (FOR 96" DOOR)	22"
DH176	TOP FLUSH BOLT (FOR 84" DOOR)	10"
DH176	BOTTOM FLUSH BOLT (FOR 84" / 96" DOOR)	10"

- PERIMETER FASTENERS:
 1. TYPICAL INSTALLATION INTO SUBSTRATES
 A. 2500 PSI CONCRETE
 B. STEEL, 18 GA. MIN.
 C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 D. SO. PINE, GRADE NO. 2 OR BETTER
 2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.



HEAD
 1/4" X 2 1/2" TAPCON W/ 1 3/4" MIN. EMBEDMENT, MIN. 4" SPACING, 2-1/2" MIN. EDGE DIST., (2) @ JAMB (4) TOTAL @ INTERMEDIATE MULLION OR 3/8" X 2-1/2" LDT W/ 2" MIN. EMBEDMENT, 2" MIN. EDGE DIST., (1) @ JAMB, (2) TOTAL @ INTERMEDIATE MULLION

MAX. DESIGN PRESSURE:
 +55/-55 P.S.F.

SILL TO SUBSILL
 #14 X 1-1/2" SSPHP OR 1/4" X 20 X 1-1/2" SSPHP TYPE F

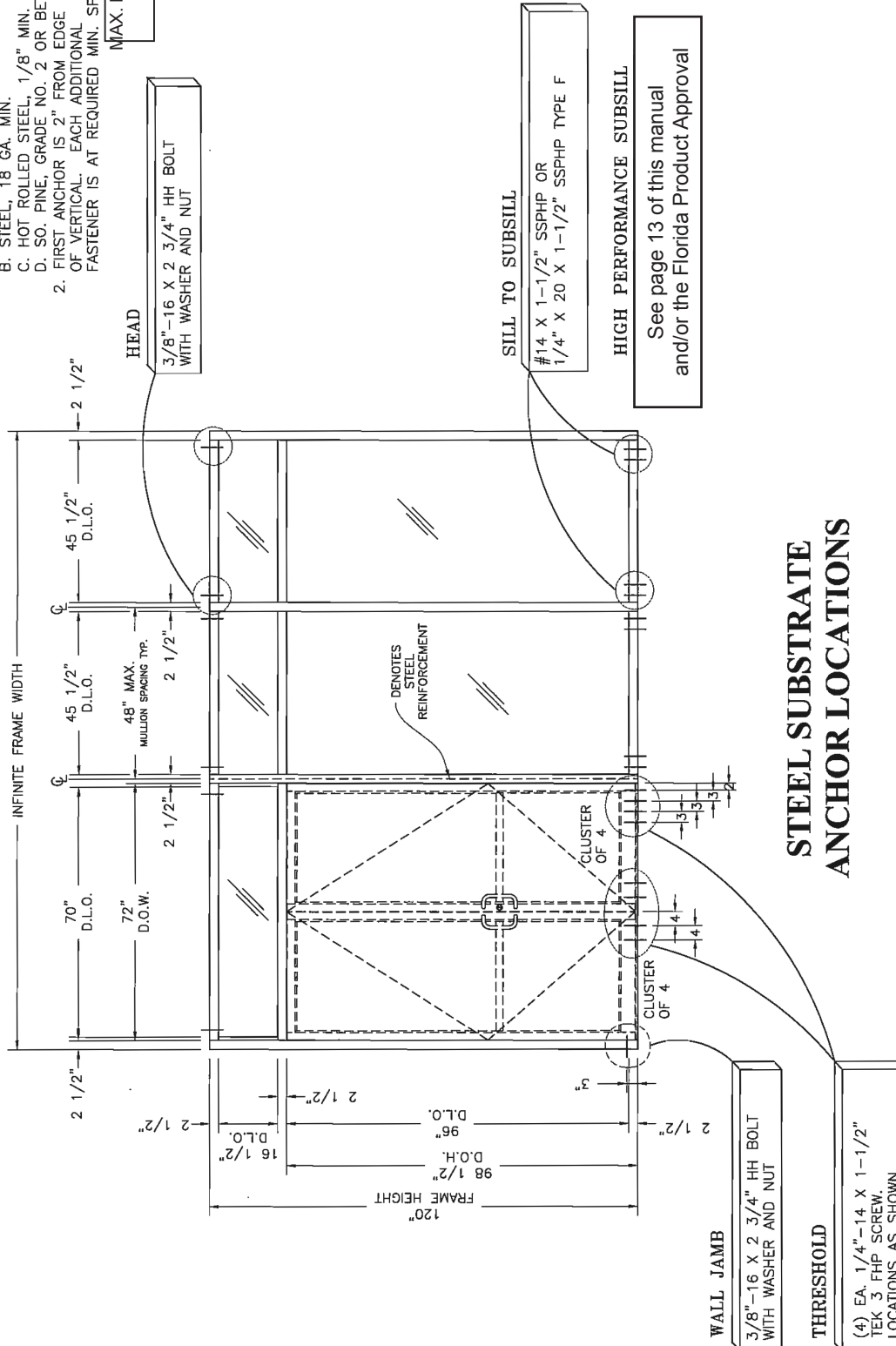
HIGH PERFORMANCE SUBSILL
 See page 13 of this manual and/or the Florida Product Approval

CONCRETE SUBSTRATE ANCHOR LOCATIONS

WALL JAMB
 1/4" X 2 1/2" TAPCON W/ 1 3/4" MIN. EMBEDMENT, 2-1/2" MIN. EDGE DIST. OR 3/8" X 2-1/2" LDT W/ 2" MIN. EMBEDMENT, 2" MIN. EDGE DIST.

THRESHOLD
 (4) EA. 1/4" X 2 1/2" TAPCON WITH 1 3/4" MIN. EMBEDMENT. LOCATIONS AS SHOWN, 2-1/2" MIN. EDGE DIST.

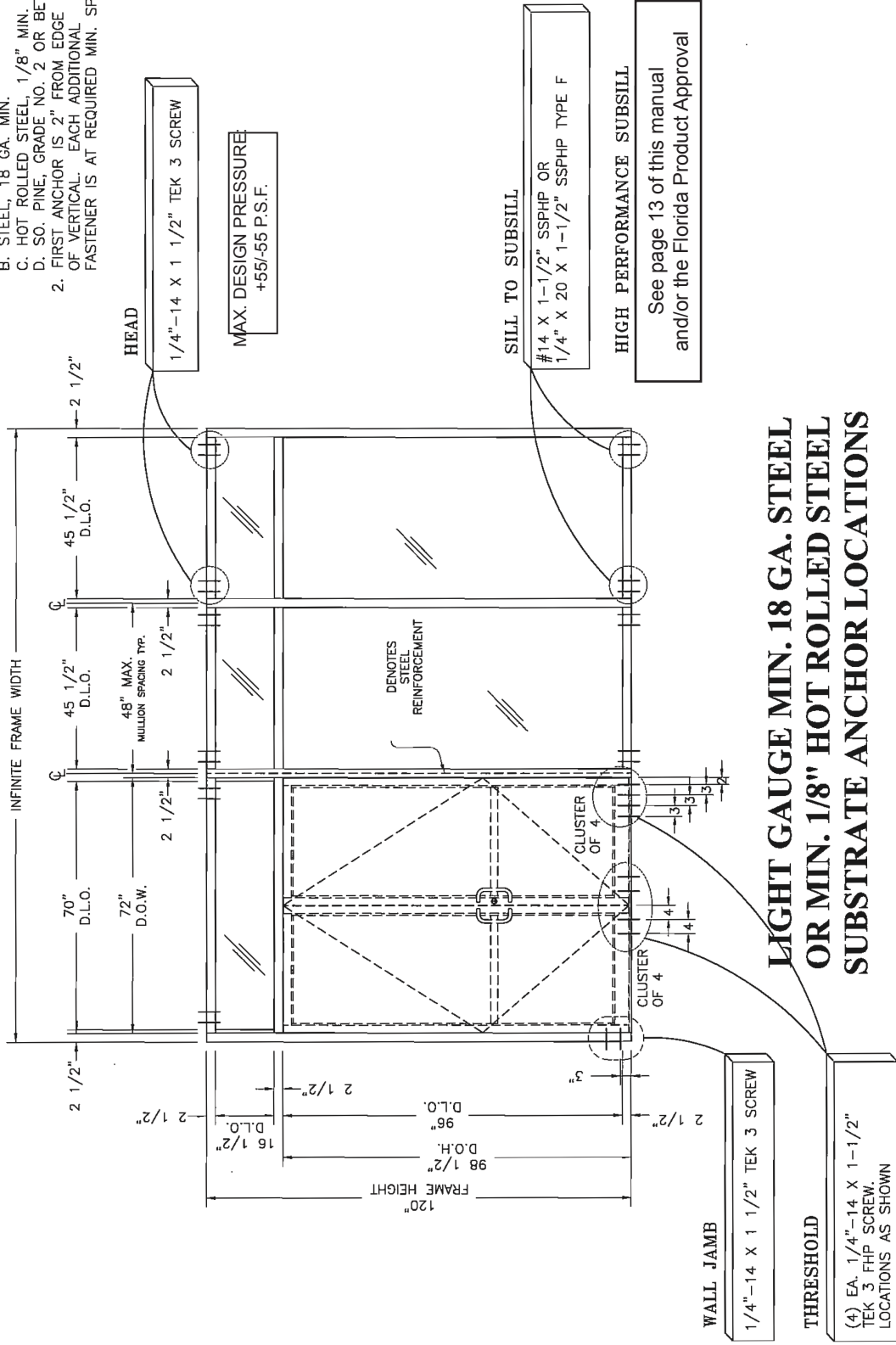
- PERIMETER FASTENERS:
- TYPICAL INSTALLATION INTO SUBSTRATES
 - 2500 PSI CONCRETE
 - STEEL, 18 GA. MIN.
 - HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 - SO. PINE, GRADE NO. 2 OR BETTER
 - FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.
- MAX. DESIGN PRESSURE:
+55/-55 P.S.F.



See page 13 of this manual and/or the Florida Product Approval

See page 45 of this manual and/or the Florida Product Approval

- PERIMETER FASTENERS:
 1. TYPICAL INSTALLATION INTO SUBSTRATES
 A. 2500 PSI CONCRETE
 B. STEEL, 18 GA. MIN.
 C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 D. SO. PINE, GRADE NO. 2 OR BETTER
 2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.

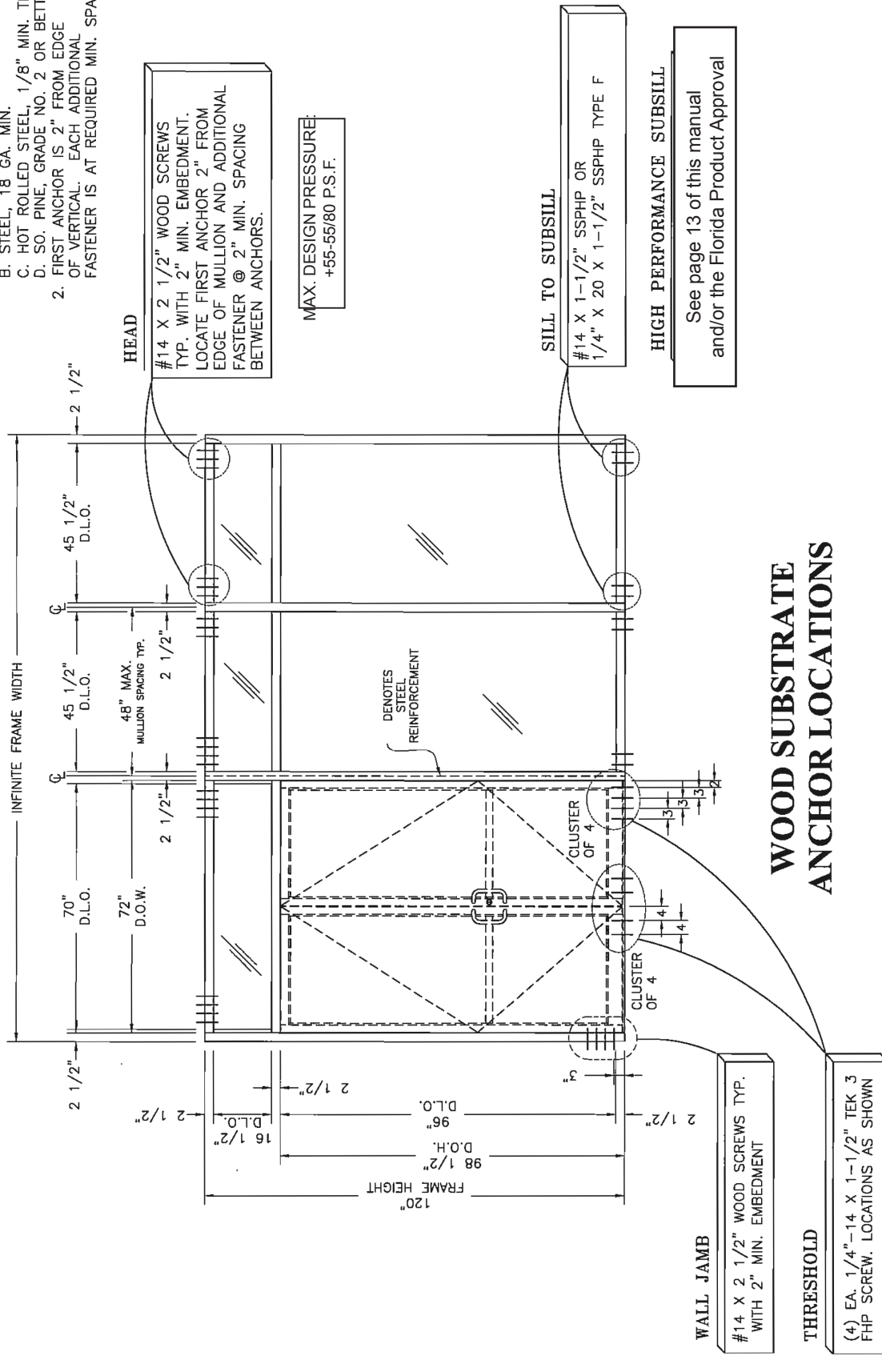


**LIGHT GAUGE MIN. 18 GA. STEEL
 OR MIN. 1/8" HOT ROLLED STEEL
 SUBSTRATE ANCHOR LOCATIONS**

See page 13 of this manual
 and/or the Florida Product Approval

See page 45 of this manual
 and/or the Florida Product Approval

- PERIMETER FASTENERS:
 1. TYPICAL INSTALLATION INTO SUBSTRATES
 A. 2500 PSI CONCRETE
 B. STEEL, 18 GA. MIN.
 C. HOT ROLLED STEEL, 1/8" MIN. THICKNESS
 D. SO. PINE, GRADE NO. 2 OR BETTER
 2. FIRST ANCHOR IS 2" FROM EDGE OF VERTICAL. EACH ADDITIONAL FASTENER IS AT REQUIRED MIN. SPACING.



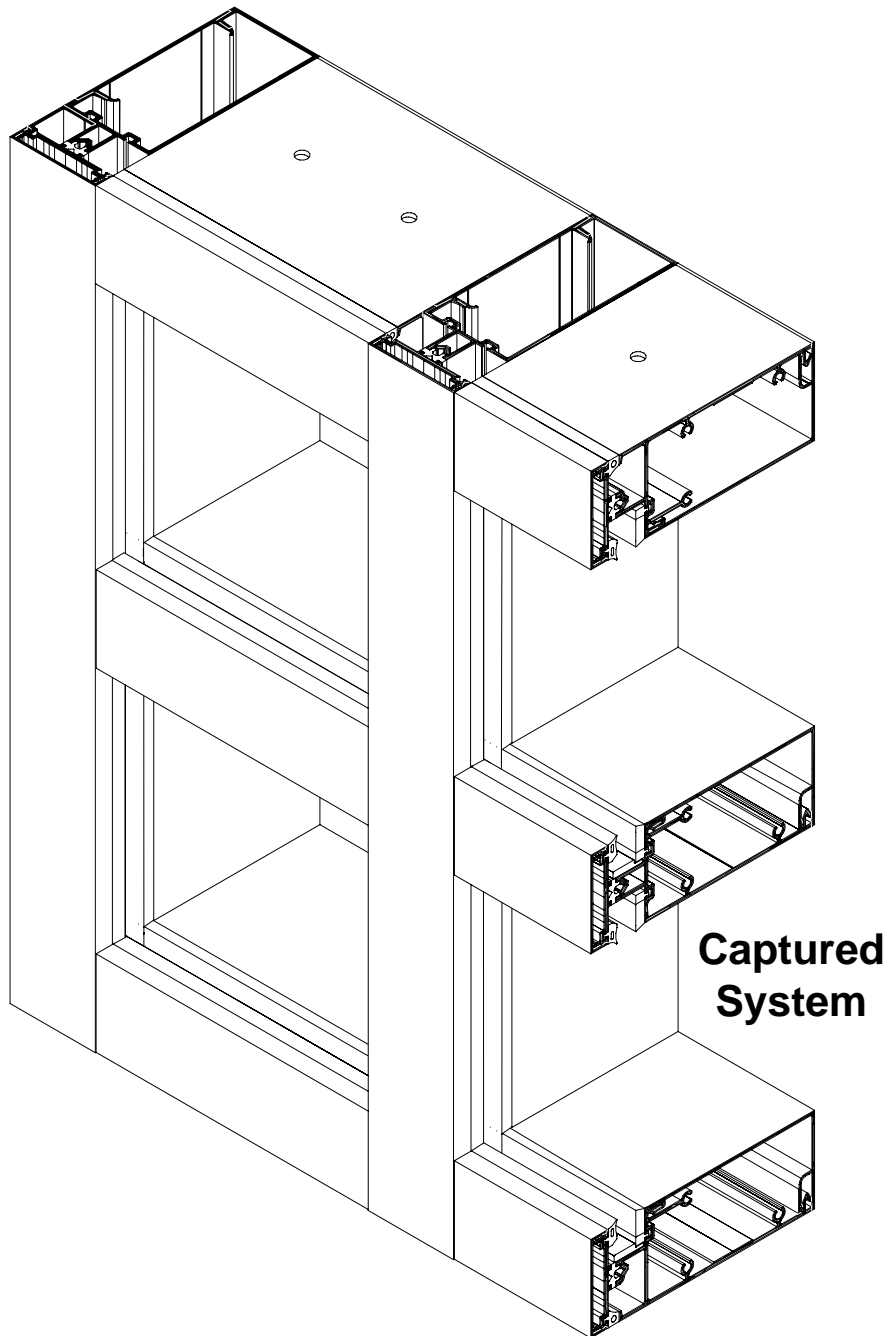
WOOD SUBSTRATE ANCHOR LOCATIONS

See page 45 of this manual and/or the Florida Product Approval

See page 13 of this manual and/or the Florida Product Approval

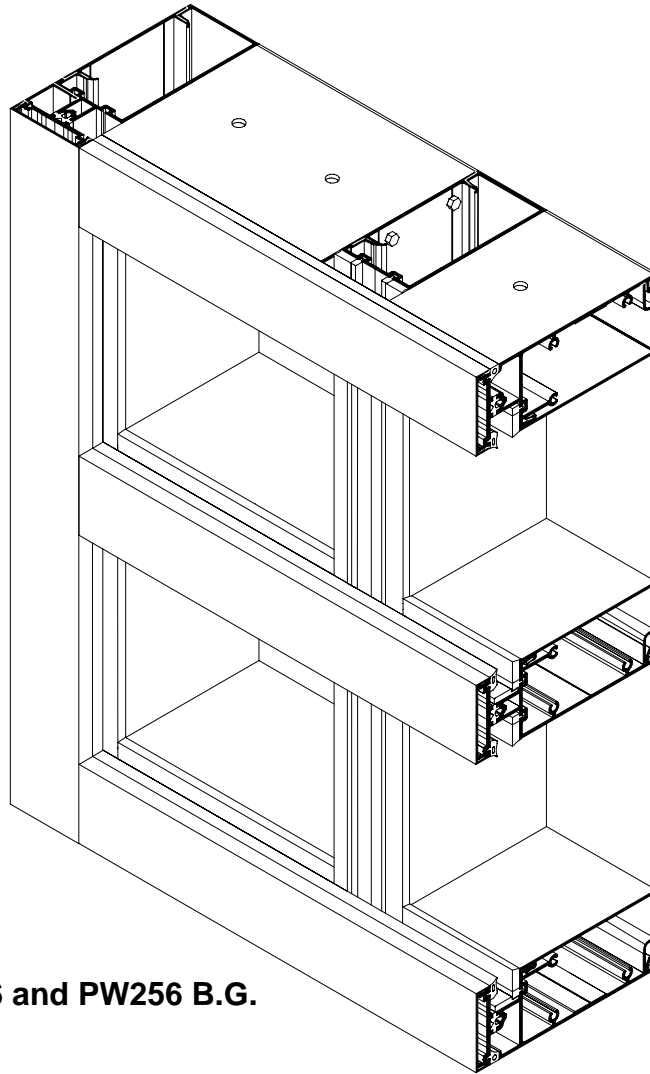
INSTALLATION INSTRUCTIONS

2-1/2" x 6-9/16" for 9/16" Glass



**Captured
System**

B.G. System
(Butt Glazed)



PRODUCT FEATURES: PW256 and PW256 B.G.

Glazing Features:

- Same EPDM dense gasket used on interior and exterior at captured glass

Screw spline joinery allows:

- Coral Punch die shop fabrication
- Die set punches spline and pressure bar weep holes
- Panelized frame assembly for easy transporting and installation

Pressure Bars:

- Factory installed EPDM thermal isolator with attachment holes pre-punched 9" O.C.
- Attached to back members with #12 x 1-1/8" HWH #3 self-drilling screws

Removable snap-on interior trim covers at all horizontals allow:

- Anchor inspection to substrate after glazing
- Inspection and/or repair of critical joint seal areas prior to and after glazing

Injection molded plastic end dams and bridges at horizontals provide:

- Tight seals at intersection of vertical/horizontal joints for zone glazing

Aluminum and bottom vertical mullion caps:

- Accurate compression fit
- Provides continuous perimeter seal

Injection molded plastic temporary glazing retainer:

- Reduces labor
- Distributes uniform pressure on glass reducing risk of breaking glass
- Reusable for next project

CURTAIN WALL

Hurricane Impact-Resistant

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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INSTALLATION INSTRUCTIONS - General Notes -

RECOMMENDED GUIDELINES FOR ALL INSTALLATIONS:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS - General Notes -

- 11. WATER HOSE TEST.** After a representative amount of the curtain wall system has been glazed (250 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.
- 13. MATERIAL HANDLING:**
- A. SHOP
1. Cardboard wrapped or paper interleaved material must be kept dry.
 2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
 3. Check arriving materials for quantity and keep record of where various materials are stored.
- B. JOB SITE
1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
 2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
 3. Keep record of where various materials are stored.
 4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.
- 14. CARE AND MAINTENANCE.** Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA. 609.1 for anodized aluminum and 610.1 for painted aluminum.
- 15. CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.
- 16. GLASS.** Glazing gaskets are designed for a compression fit against glass and can accommodate (+/- 1/32"). Be sure to check overall size of glass and thickness.

INSTALLATION INSTRUCTIONS

- General Notes -

Series PW256

1. **SEALANTS.** All sealants referenced in these instructions must be one part elastomeric silicone and must be applied according to the silicone manufacturer's recommendations.
2. **APPLICATION.** Structural silicone must be applied from the interior and weatherseal from the exterior.
3. **MAXIMUM ALLOWABLE STRESS ON SILICONE.** The maximum allowable size of the glass lite is controlled by the width and depth of the silicone joint combined with the specified design wind load. The stress on the structural silicone must not exceed 20 PSI for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.
4. **ARCHITECT.** It is the responsibility of the architect to secure approval of the system and request from the Glazing Contractor the compatibility and adhesion test reports described below.
5. **GLAZING CONTRACTOR.** It is the responsibility of the glazing contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. ***This is required on every project.***
6. **CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of Coral Architectural Products to supply a system to meet the architect's specification.

PRODUCT APPLICATION AND INSTALLATION

Series **PW256** Panelized Curtain Wall was designed with screw spline joinery for simple fabrication and panelized installation. These features make the fabrication and installation very similar to storefront systems. **PW256** Panelized Curtain Wall should only be installed by glazing contractors employing personnel with the necessary installation and project management experience to handle these type projects.

PW256 Panelized Curtain Wall requires the installer to pay close attention to the details shown within these ***Instructions*** and ***General Notes***. All critical seal areas must be completed as shown.

FRAME FABRICATION Captured or B.G. Installation

Establish frame size and cut metal to length.

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1" allowing for a 1/2" minimum for shimming and caulking joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 1" allowing 1/2" minimum for shimming and caulking joint at the head and sill.

STEP 2. Vertical Members

Cut **vertical** members to size. (All vertical members run through)

Wall jambs, intermediate verticals, snap-in perimeter jamb filler and corner mullions are cut to frame height.

- A. Pressure bars are cut frame height minus (-) 1/4".
- B. Face covers are cut frame height minus (-) 1/16".
- C. Reference Pages 29-30 for vertical mullions with a splice joint.

STEP 3.

Captured - Horizontals

Cut **horizontal** members to size.

- A. Head, sill and intermediate mullions are cut D.L.O.
- B. Pressure bars are cut D.L.O. minus (-) 1/4".
- C. Face covers are cut D.L.O. minus (-) 1/32".
- D. Interior snap-on trim is cut D.L.O. minus (-) 1/32"

B.G. - Horizontals

Cut **horizontal** members to size.

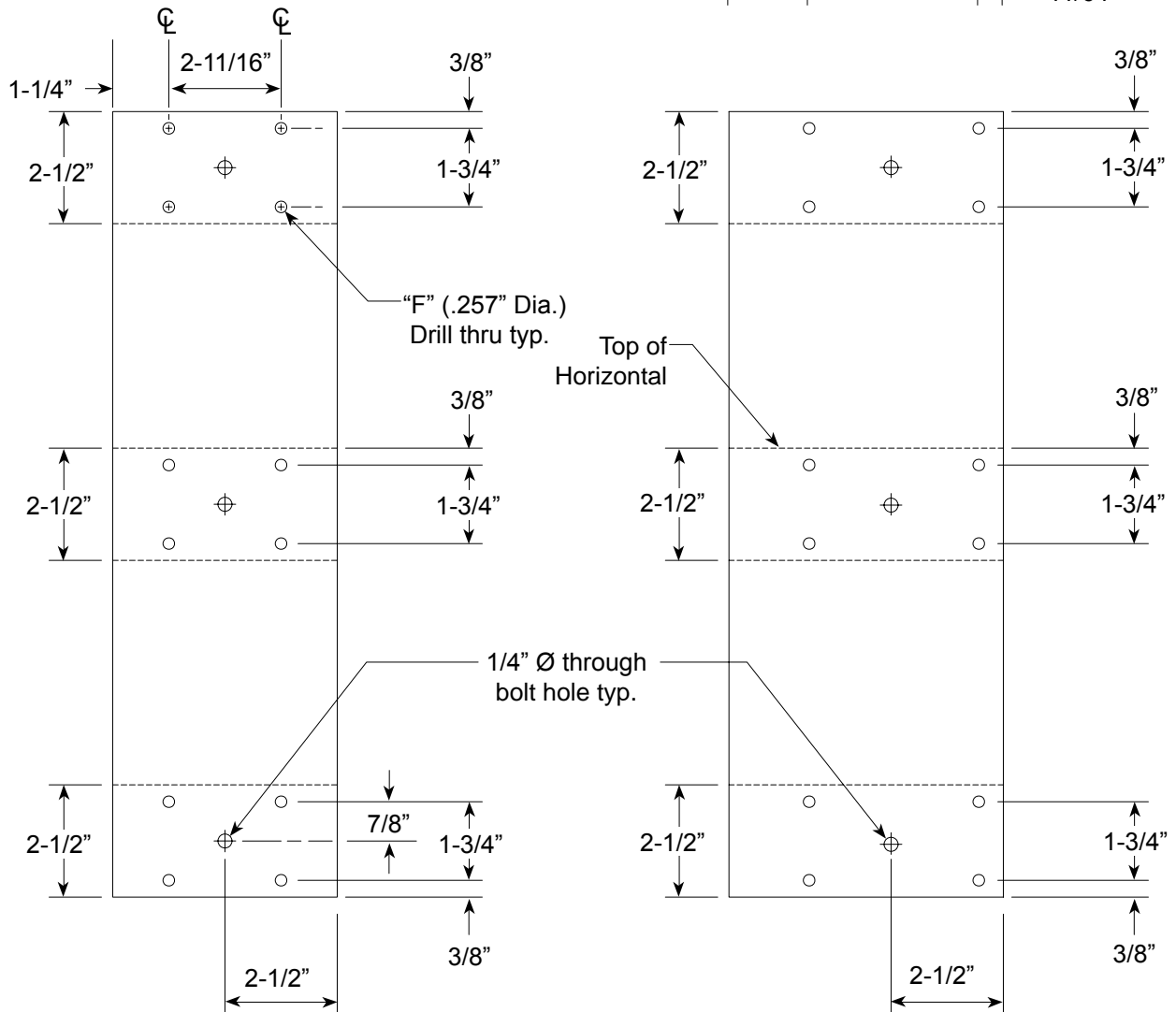
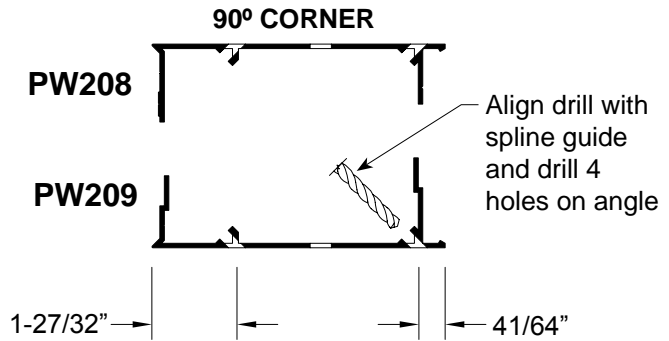
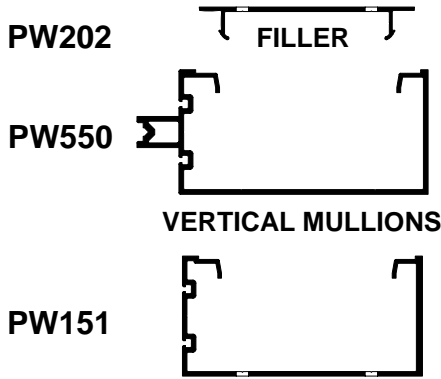
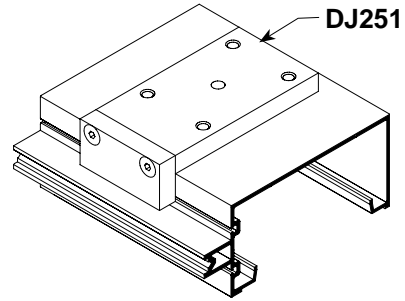
- A. Head, sill and intermediate mullions are cut D.L.O.
- B. Pressure bars run continuous between wall jambs.
See **page 41, Detail "A"** for splice joints when req'd.
- C. Face covers run continuous between wall jambs.
See **page 42, Detail "C"** for splice joints when req'd.
- D. Interior snap-on trim is cut D.L.O. minus (-) 1/32"
- E. Horizontal glazing adaptors D.L.O. (-) 1/8"

Mullion spacing **tolerance** accumulation **build up** may become a problem on wide multi-bay elevations. Frequently check the cut lengths of head, sill and intermediate horizontal members prior to assembly to prevent tolerance build up. It is also good practice to check overall frame width every four or five bays during installation.

FRAME FABRICATION Joinery Hole Locations

STEP 4.

Use **DJ251** drill jig or **PW251 Punch Die Set** (same set used for PW251 System) for hole fabrication in verticals for attaching horizontals.

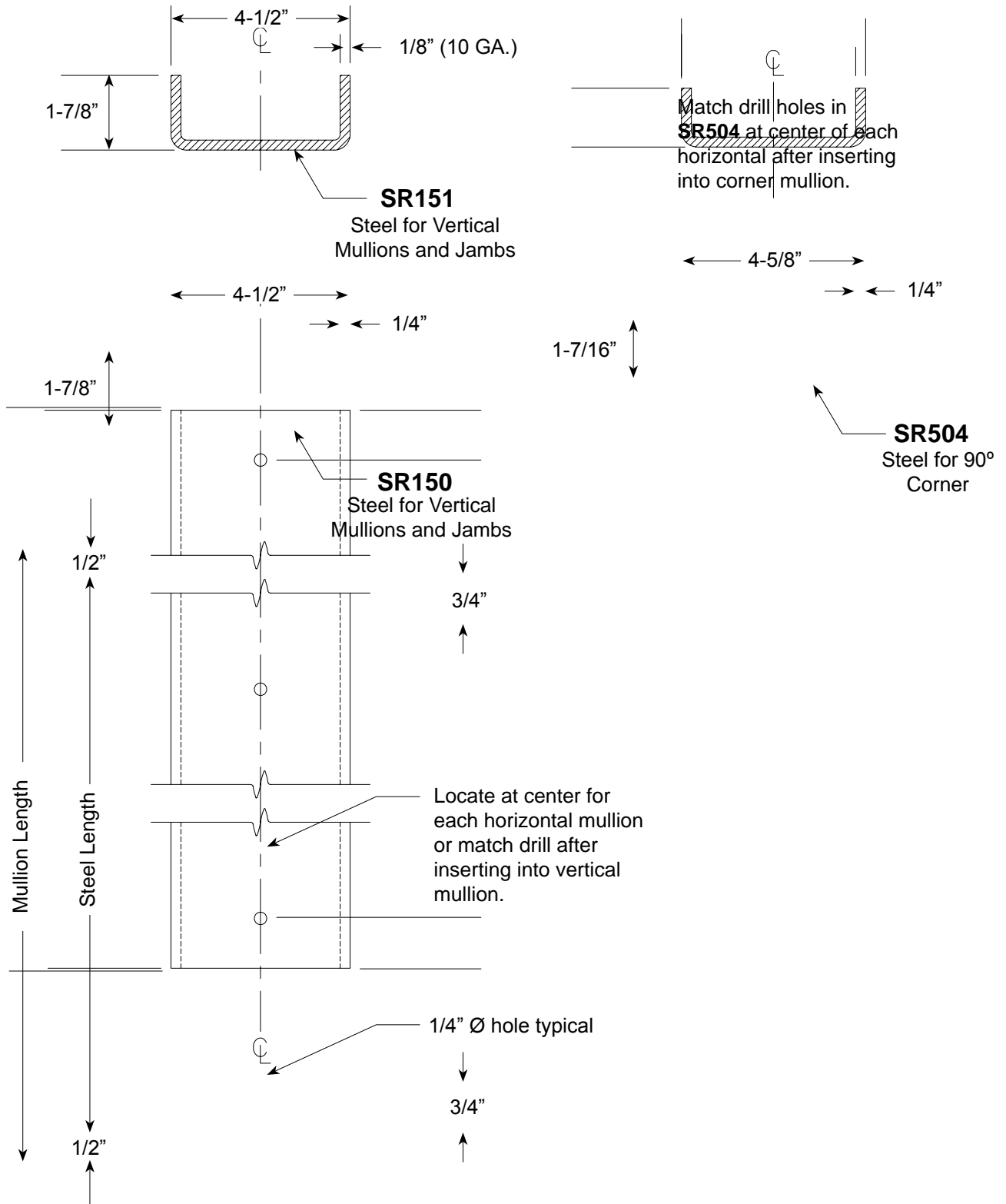


FRAME FABRICATION

Steel Reinforcement

STEP 5.

Fabricate steel reinforcement where required. Cut steel 1" less than length of vertical mullion.

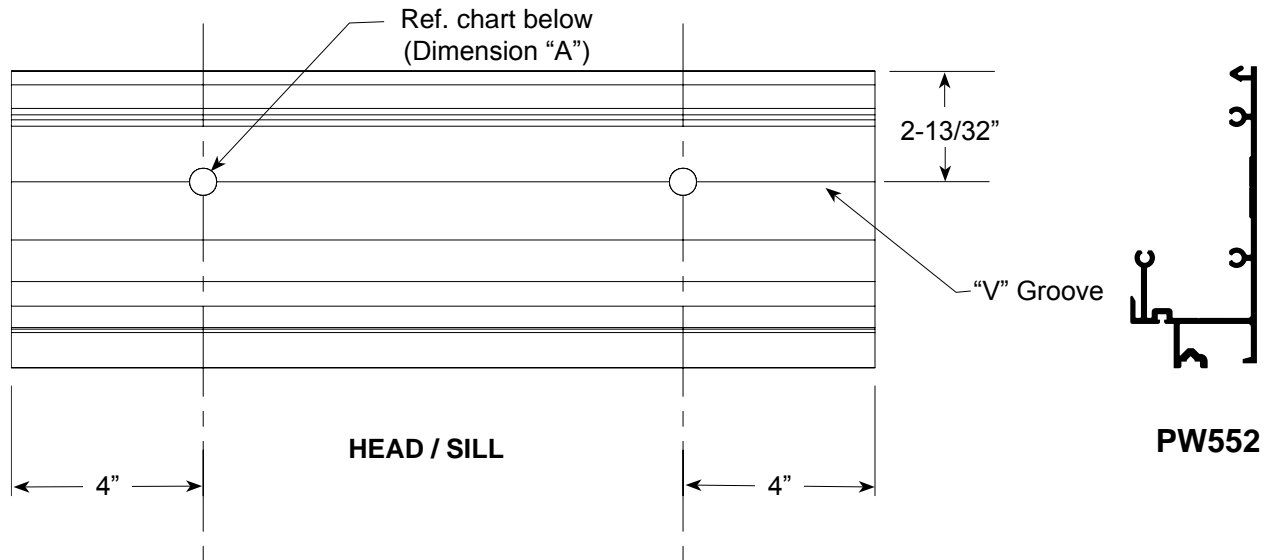


FRAME FABRICATION Head / Sill

STEP 6.

Fabricate head and sill anchor holes. Drill or punch one (1) ea. anchor hole located approximately 4" from each end of part. Hole should be centered on "V" groove located in extrusion. When two (2) or more fasteners are required, locate each additional fastener at minimum spacing as required for substrate.

Note: Hole Ø may vary depending on bolt size required for meeting job specific wind load conditions. Reference **CAP anchor charts** for typical conditions.



Punch or drill (Reference **page 8**) holes in each end of **PW552**.

ANCHOR BOLT Ø	DIMENSION "A"
3/8"	7/16"
1/2"	9/16"

FRAME FABRICATION

Wall Jamb

STEP 7.

Fabricate for wall jamb using **PW550**, **PW202** and **PW513**.



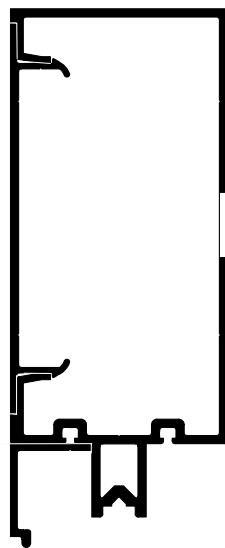
PW202
Flat Filler



PW513
Pocket Filler

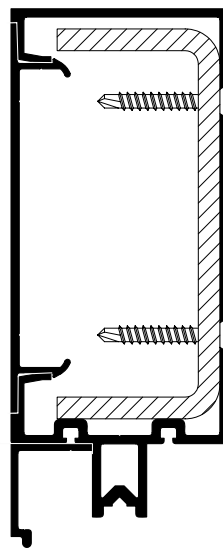


PW550
Vertical Mullion



Single Span

3/4" Access Hole
 Wall Jamb



Multi-Span

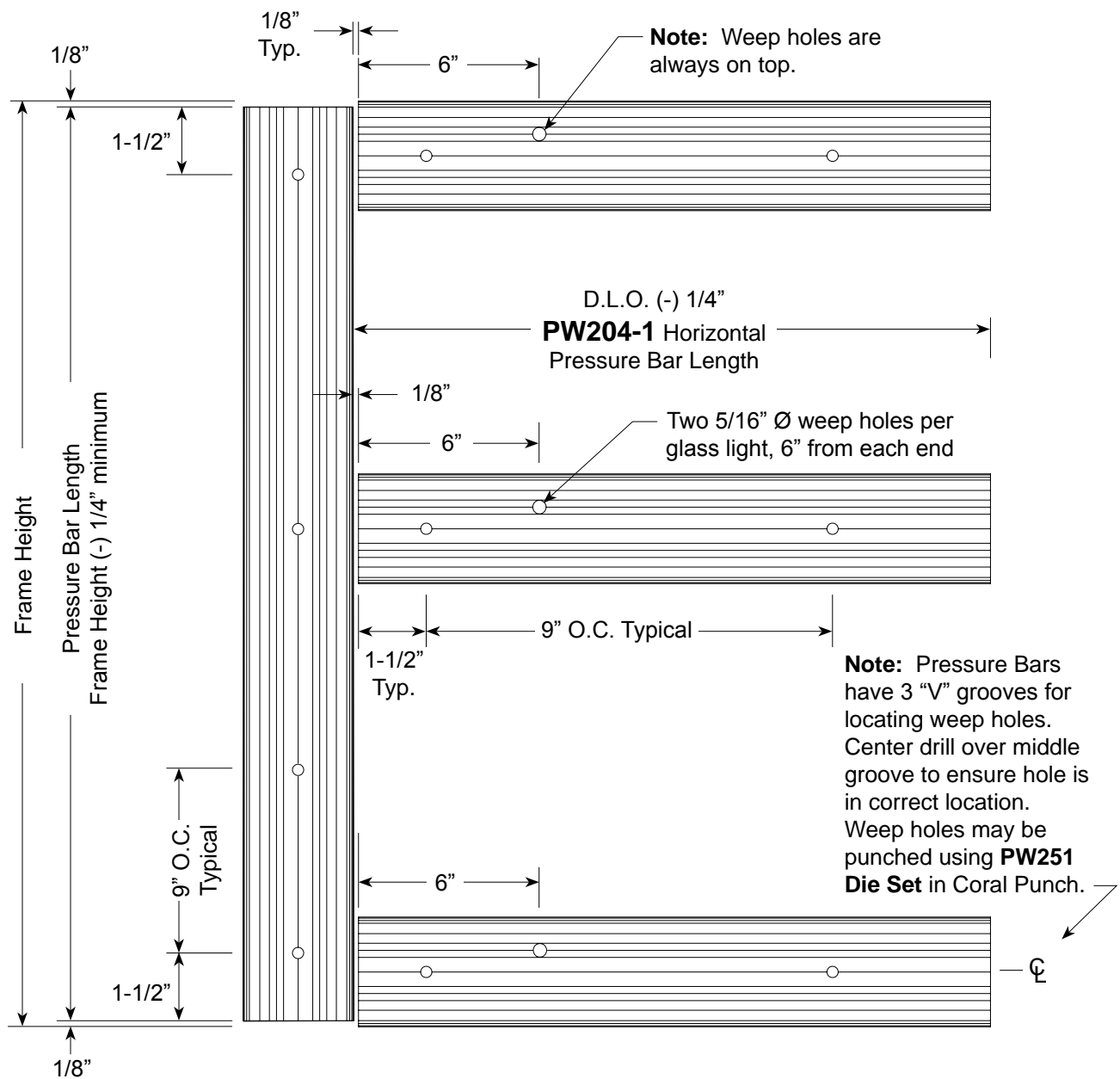
Locate 8" long **SR150-1** tapping plate at anchor location for multi-span conditions. Reference **page 26, Detail "C"**.

FRAME FABRICATION Pressure Bar - Captured

STEP 8.

Fabricate vertical and horizontal pressure bars.

Holes for attaching **PW204-1** pressure bars are pre-punched at factory 9" on center. The 1/4" Ø holes located 1-1/2" from each end of pressure bar will need to be added as shown below. Drill hole on "V" groove line.



Note: It is very important to ensure that vertical pressure bars are cut short to prevent dislodging **SP210** top & bottom mullion caps.

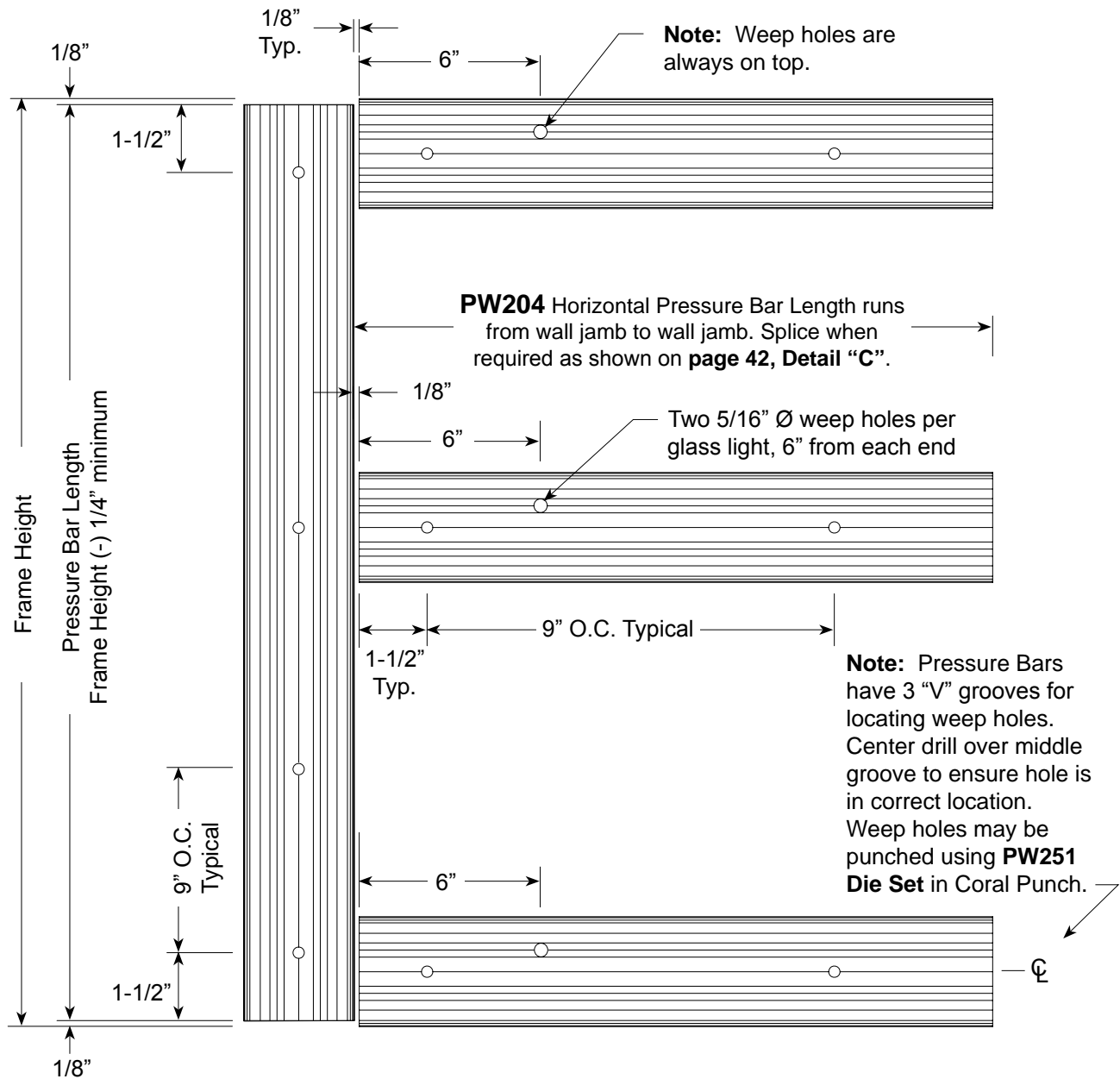
FRAME FABRICATION

Pressure Bar - B.G.

STEP 9.

Fabricate vertical and horizontal pressure bars.

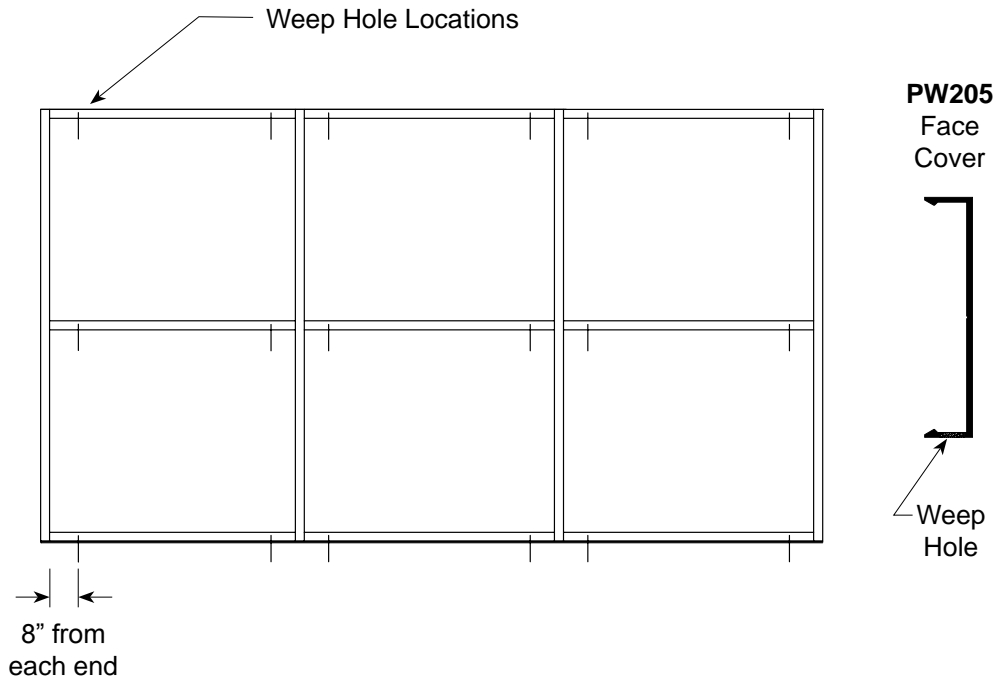
Holes for attaching **PW204** pressure bars are pre-punched at factory 9" on center. The 1/4" Ø holes located 1-1/2" from each end of pressure bar will need to be added as shown below. Drill hole on "V" groove line.



Note: It is very important to ensure that vertical pressure bars are cut short to prevent dislodging **SP210** top & bottom mullion caps.

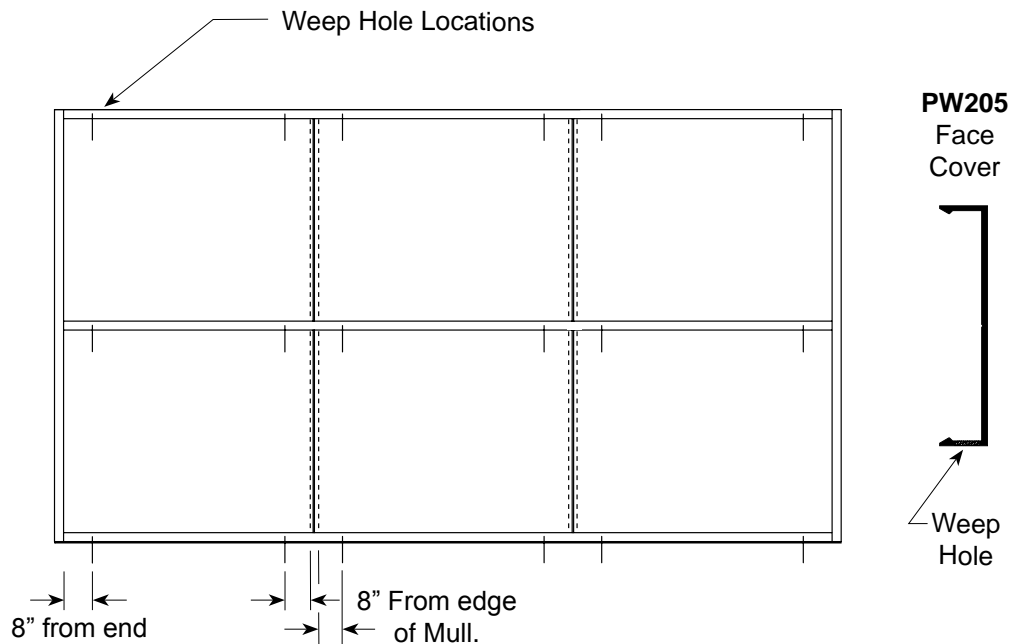
FRAME FABRICATION

Weep Holes for Horizontal Covers



STEP 10. Captured Installation

Fabricate horizontal face covers for 5/16" Ø weep holes. Install covers with weep holes located on the underneath side.



STEP 11. B.G. Installation

Fabricate horizontal face covers for 5/16" Ø weep holes. Install covers with weep holes located on the underneath side when snapping on covers. See **page 42** for splice joints.

FRAME ASSEMBLY Gasket Installation

STEP 1.

Prior to assembly of frames, install the following gaskets into the fabricated framing members:

Back Members: **NG14**

Intermediate Pressure Bars: **NG10**

Perimeter Pressure Bars: **NG10** (against glass) and **NG11** (against aluminum)
(Reference **Detail “A”** on **page 41**).

Spacer gasket for B.G. Mullion: **NG14**

GASKET INSTALLATION PROCEDURES (*Do not stretch gaskets*)

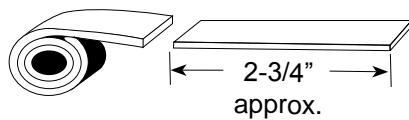
1. Cut gaskets allowing for 1/8” extra length per foot of framing members to accommodate shrinkage.
2. **NG10** gaskets for vertical back members are cut D.L.O. plus 1-1/4”.
(Reference **Detail “A”** on **page 37**).
3. **NG14** Vertical spacer gasket runs full length on **PW151** B.G. mullion.
(Reference **Detail “B”** on **page 37**).
4. Horizontal spacer gasket is cut to D.L.O. length.
5. Horizontal pressure bar: glazing gasket should extend 1/8” beyond end of pressure bar.
6. Vertical pressure bar: gasket runs full length.

FRAME ASSEMBLY Joinery Tape Application

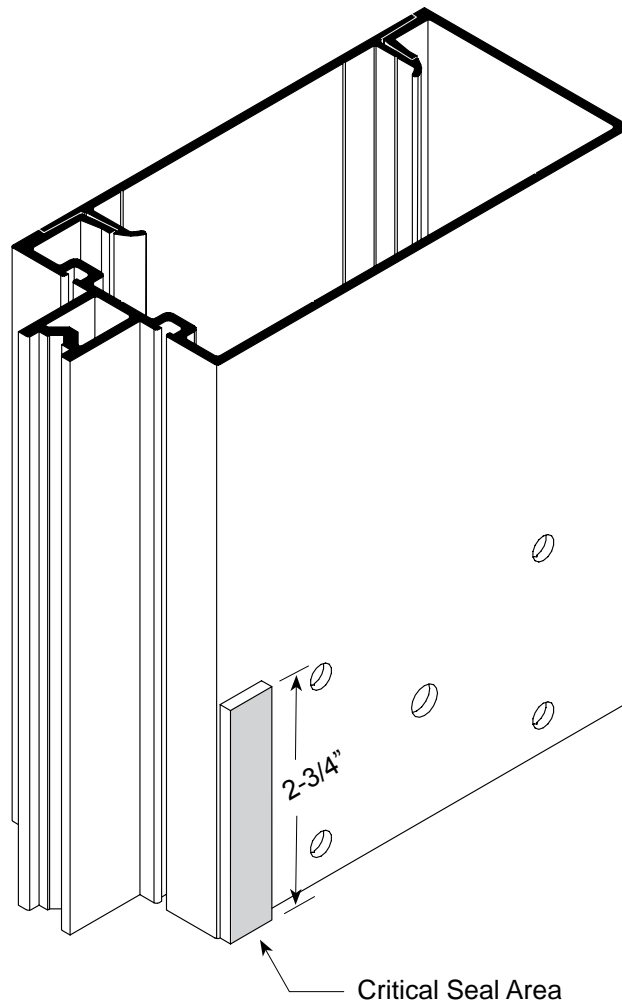
STEP 2.

GLAZING TAPE INSTALLATION PROCEDURES: *Ref. Step 3.*

1. Cut **SM5601** 1/8" x 1/2" tack tape approximately 2-3/4" long.
2. Clean surfaces where tape is to be applied with isopropyl alcohol or solvent to remove all dirt and cutting oils. Allow surface to dry before applying tape.
3. Position tape on vertical mullions at horizontal joint intersections.
4. Just prior to frame assembly, remove protective cover and screw joints together.
5. Use a box knife to trim excess sealant tape where exposed. Do not pull tape to trim.



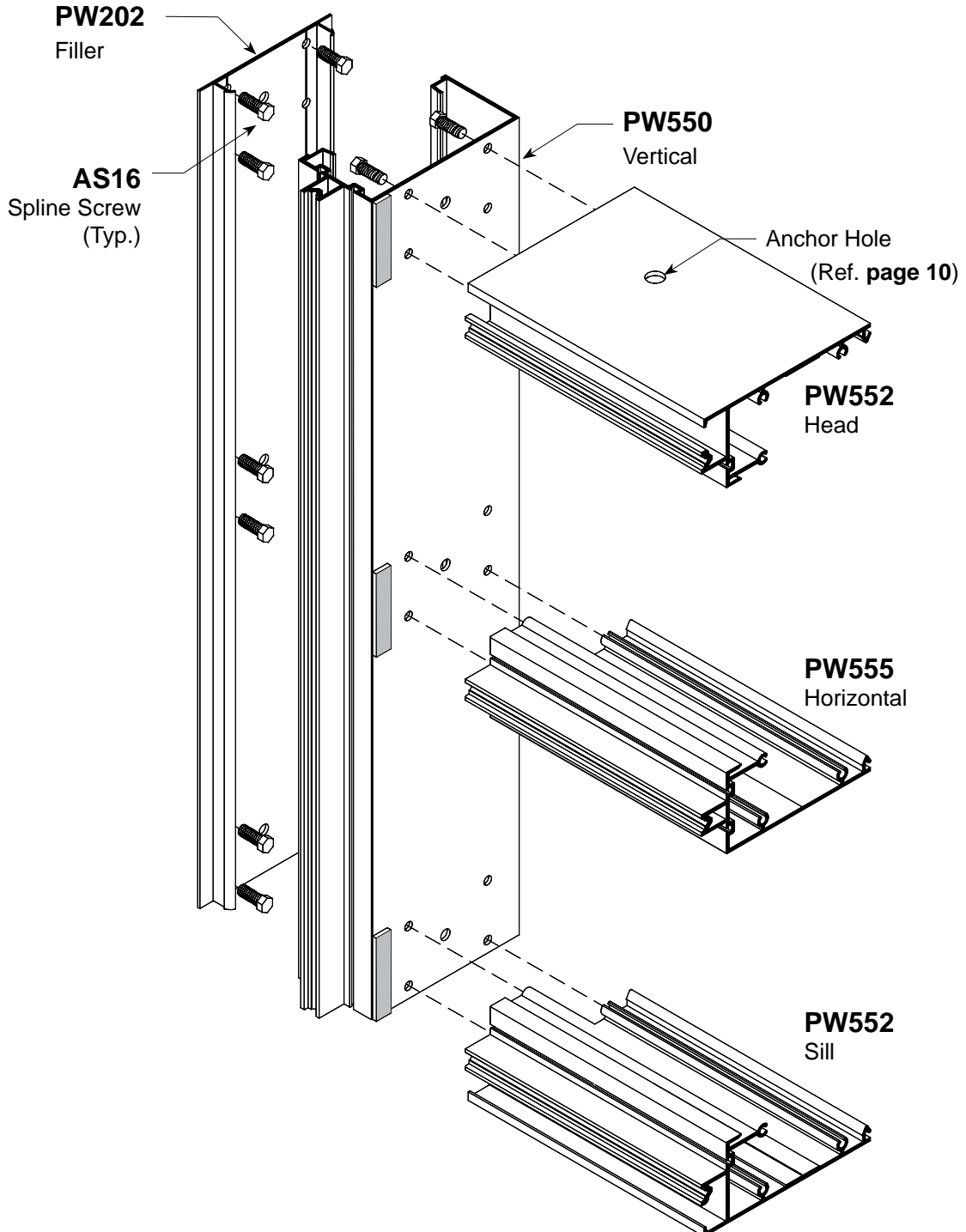
Schnee-Morehead
SM5601
1/8" x 1/2" tacky tape.



CAPTURED FRAME ASSEMBLY Vertical to Horizontal Joinery

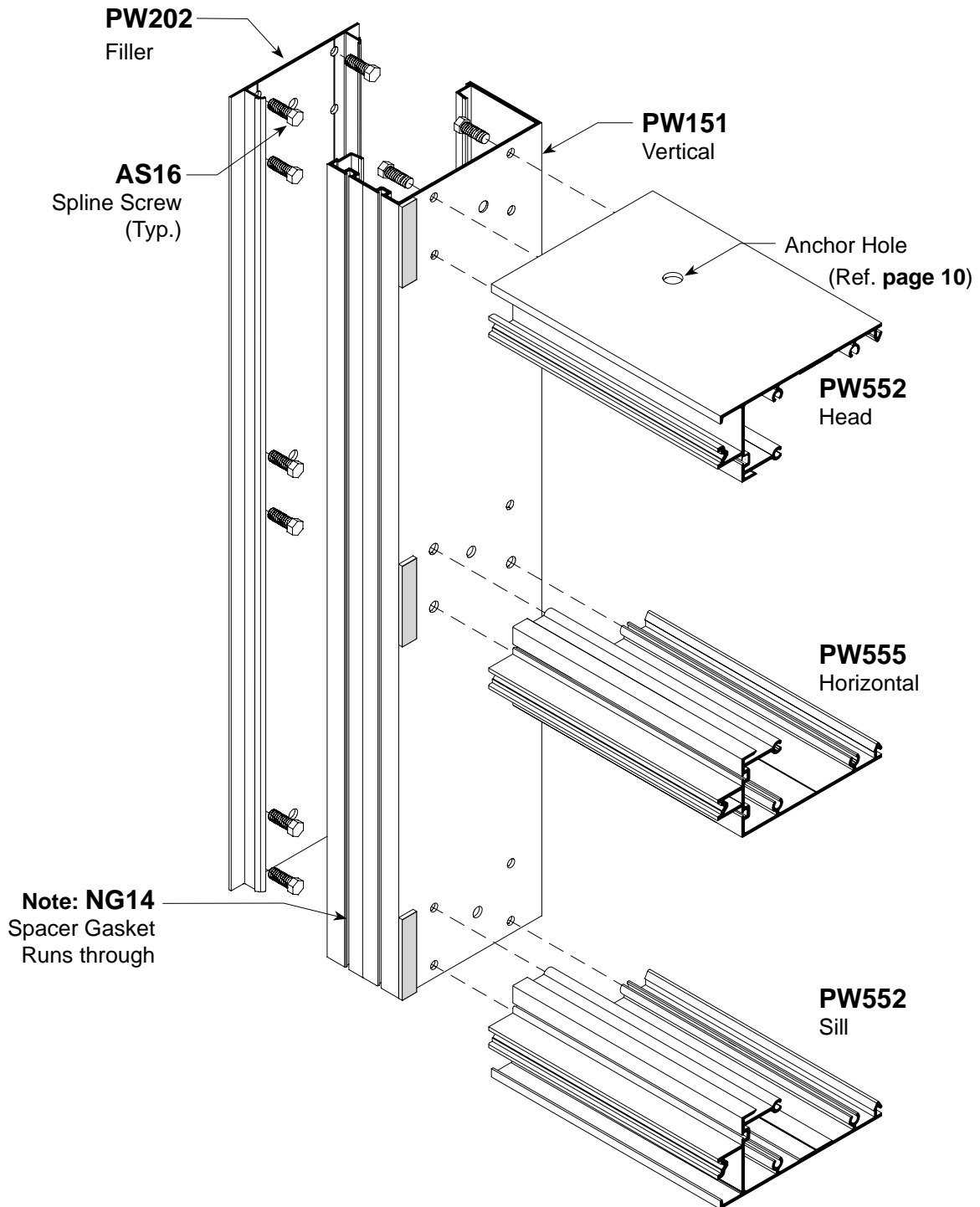
STEP 3.

Note: Reference page 37, Detail "A"
for NG14 Gasket location in vertical.



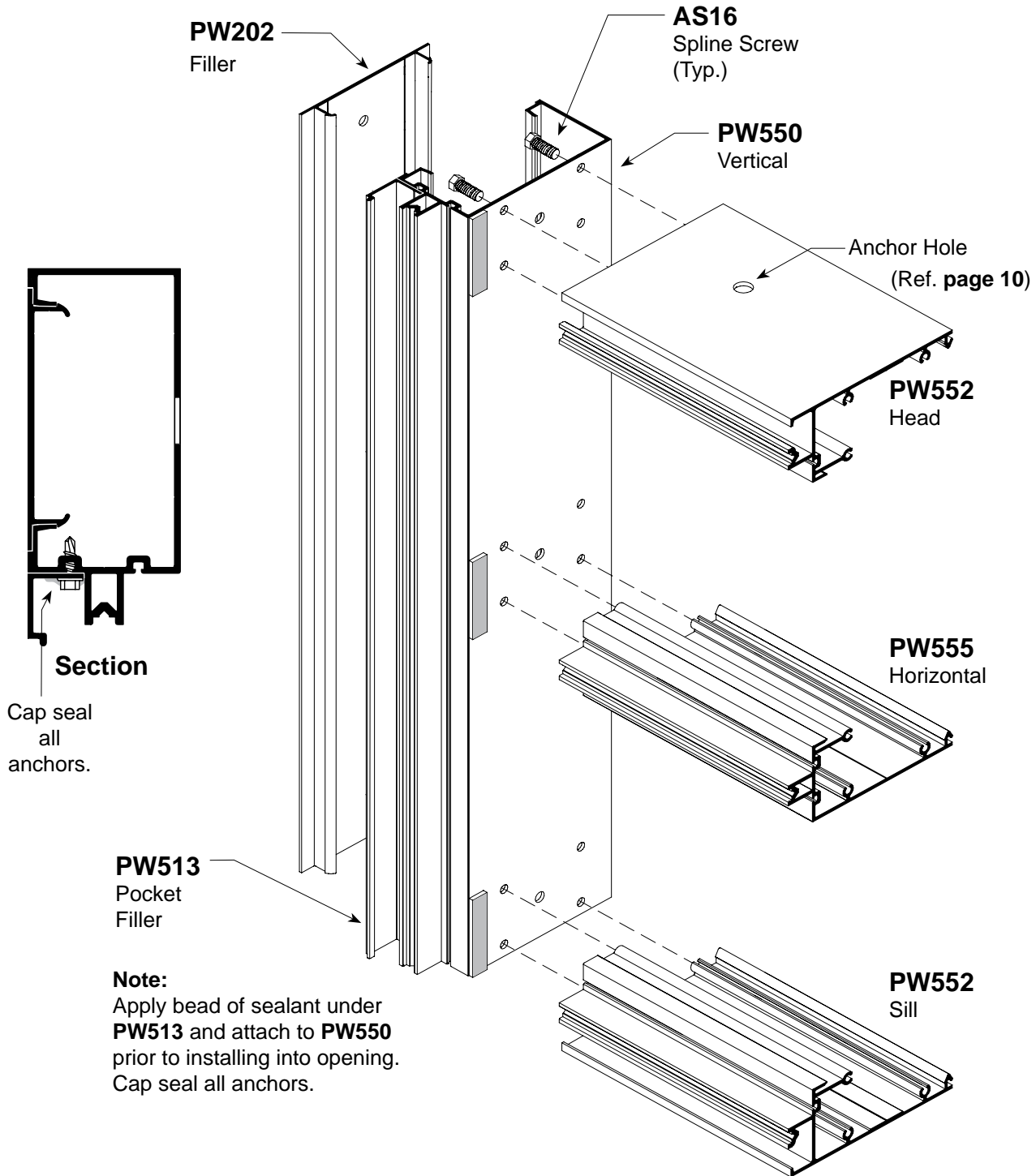
B.G. MULLION FRAME ASSEMBLY Vertical to Horizontal Joinery

STEP 4.



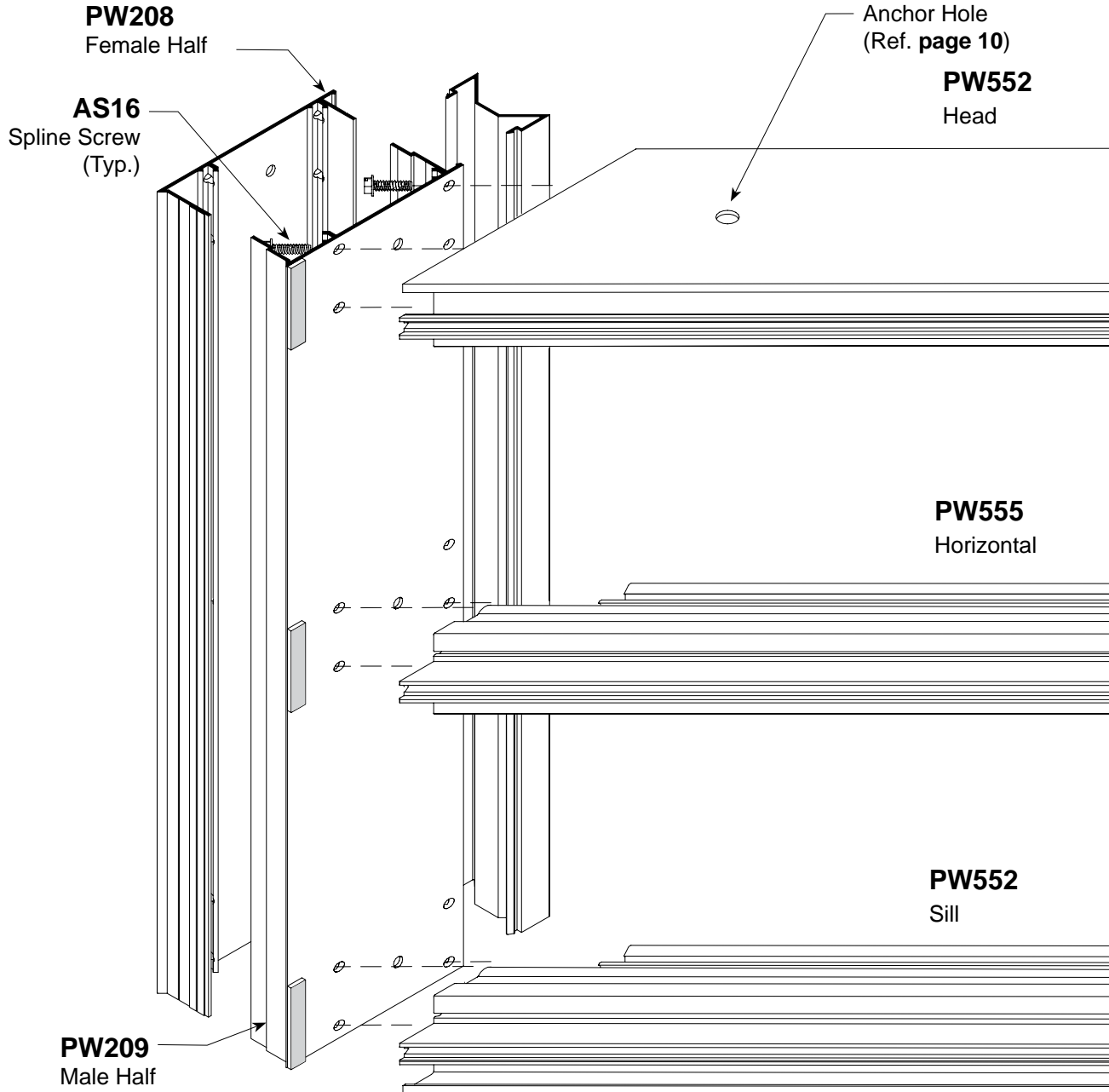
WALL JAMB ASSEMBLY Vertical to Horizontal Joinery

STEP 5.



OUTSIDE CORNER ASSEMBLY Corner to Horizontal Joinery

STEP 6.

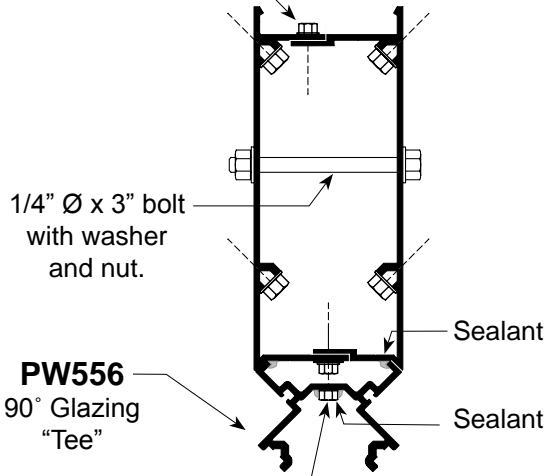
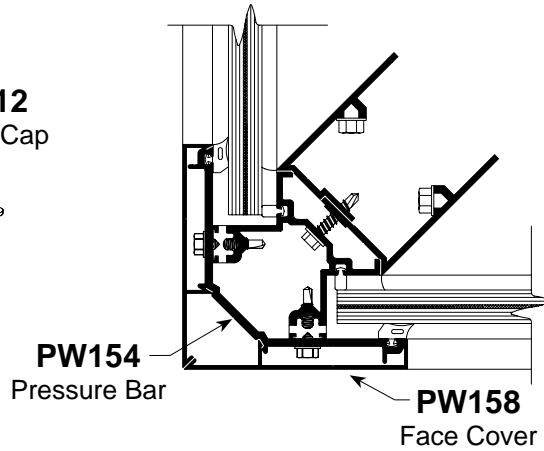
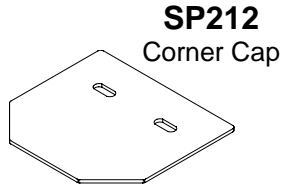


OUTSIDE CORNER ASSEMBLY

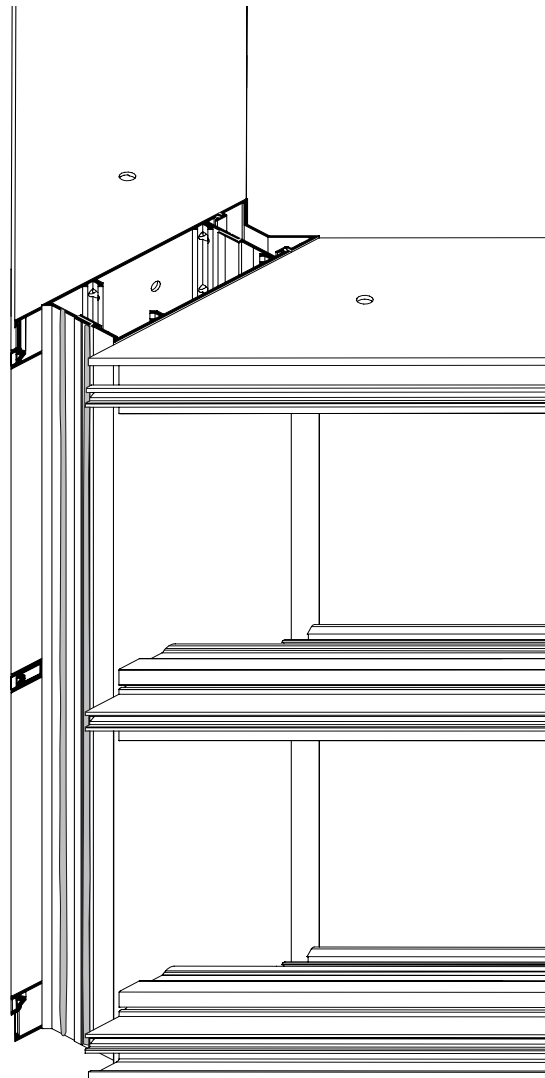
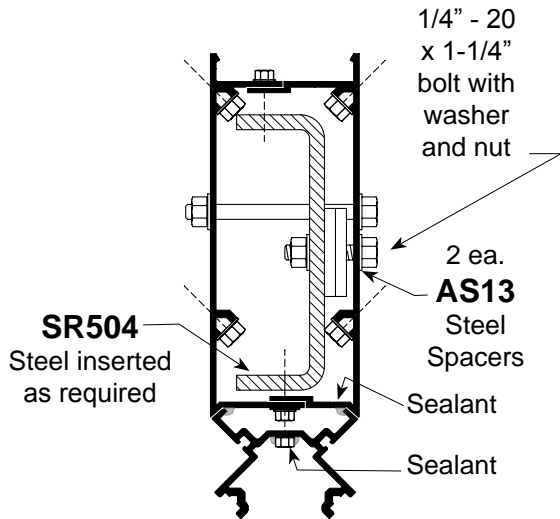
Corner Assembly Fasteners

STEP 7.

AS25
(#12 x 3/4" HWH #3 self drilling fastener) Locate 18" O.C. at front and back.

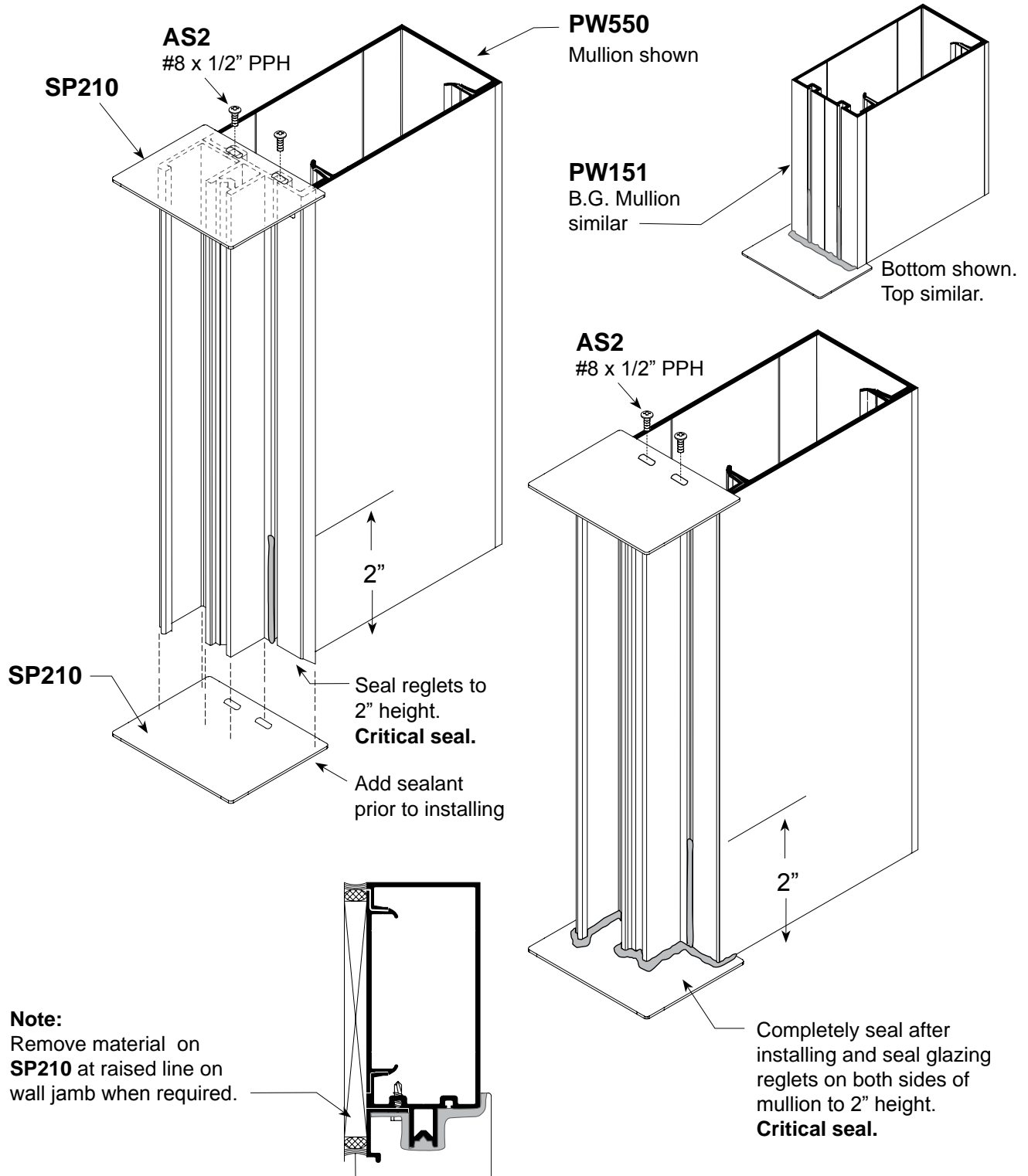


AS34
(#12 x 1-1/8" HWH #3 self drilling fastener) Locate 18" O.C.



MULLION CAP INSTALLATION Captured and B.G.

STEP 8. Prior to installing frames into opening, install aluminum **SP210** mullion caps at top and bottom of vertical members as shown below to ensure continuous perimeter seal.

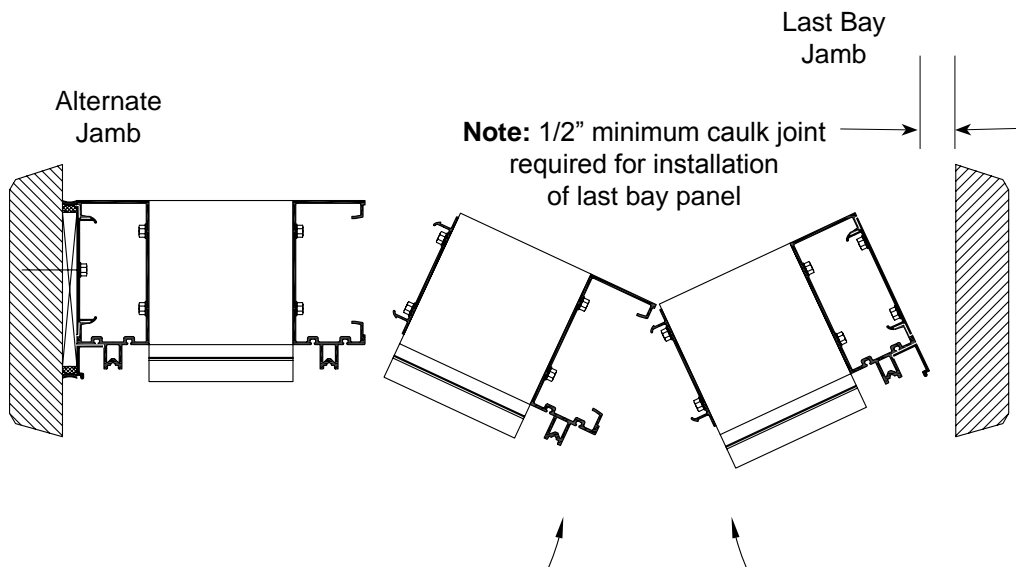
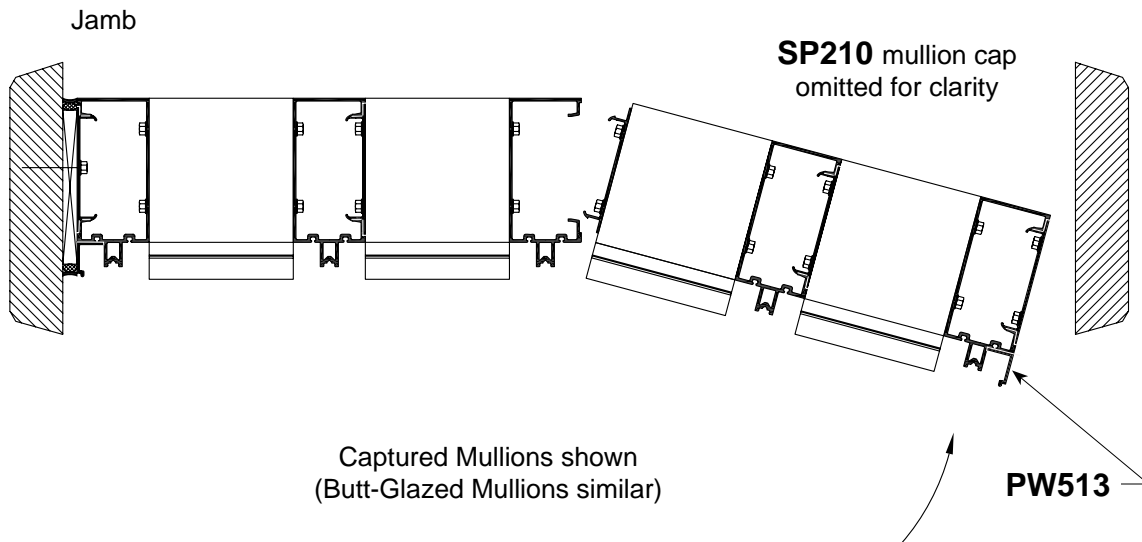


FRAME INSTALLATION Panelized Assembly

STEP 1.

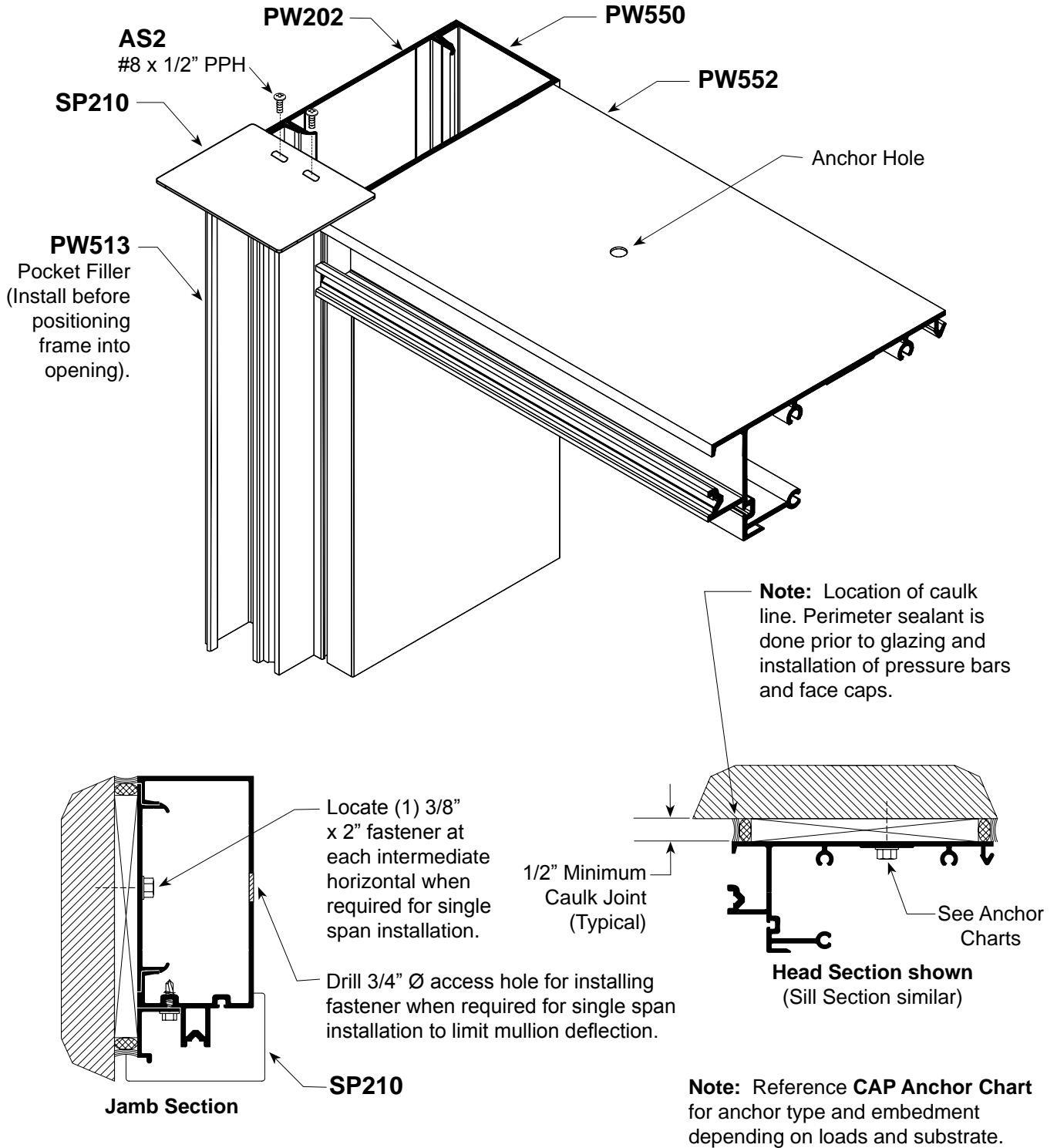
Install assembled frame panels into opening starting with jamb and continue working toward the last bay until the last panel is installed. Reference illustrations shown below for sequencing.

Note: Snap-in **PW202** flat filler and **PW513** pocket filler into jambs prior to installing. **PW513** is difficult to install after jambs are installed due to limited work space.



TYPICAL JAMB INSTALLATION

STEP 2.

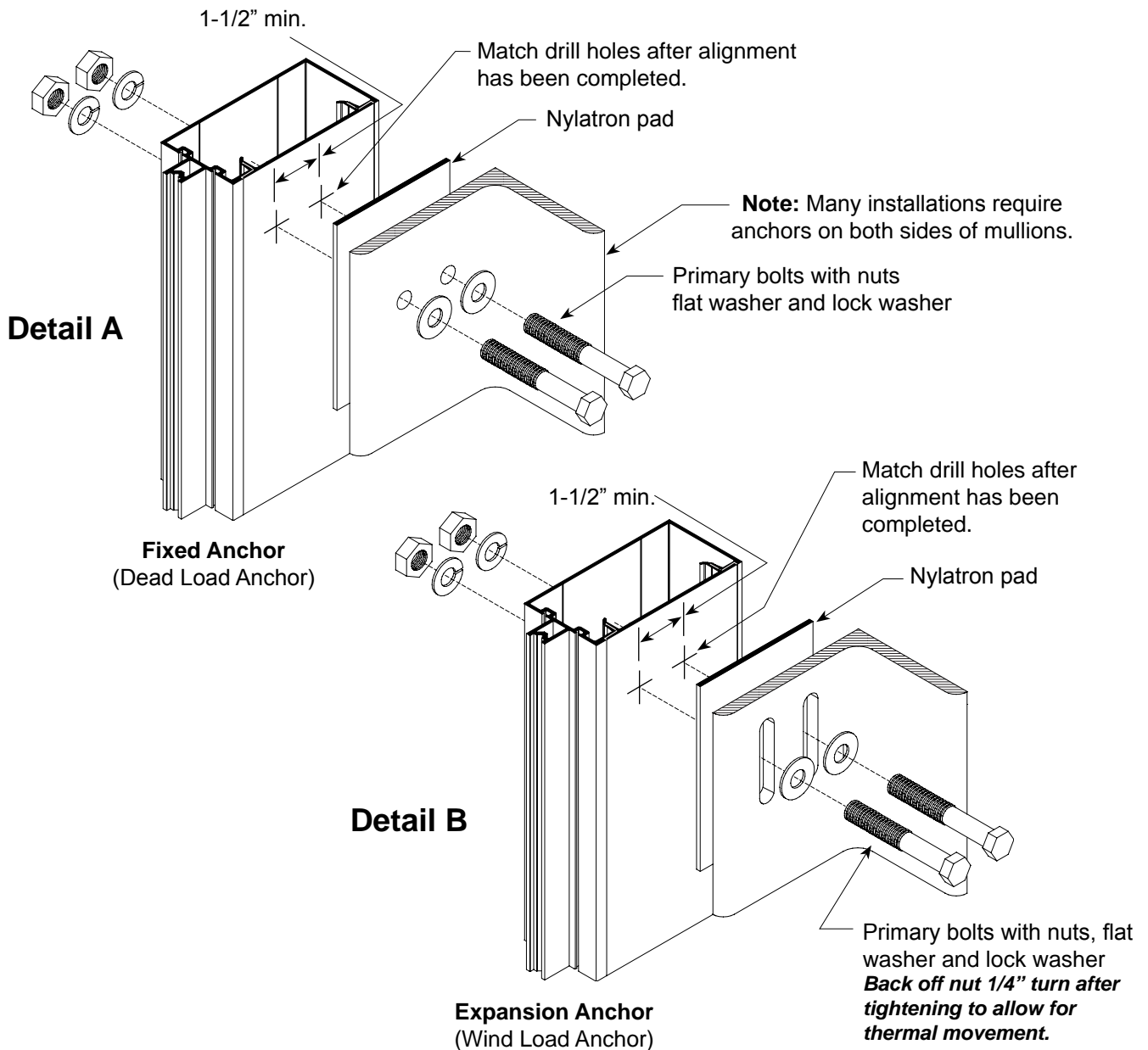


STEEL ANCHOR INSTALLATION Multi-Span Condition

Details A and B show fixed (dead load) and expansion (wind load) anchors. Anchor type, size and quantity vary per job requirements. Details shown are to be used as a guide only. See approved shop drawings for actual conditions.

Step 1. Secure verticals to anchor clips after alignment has been completed.

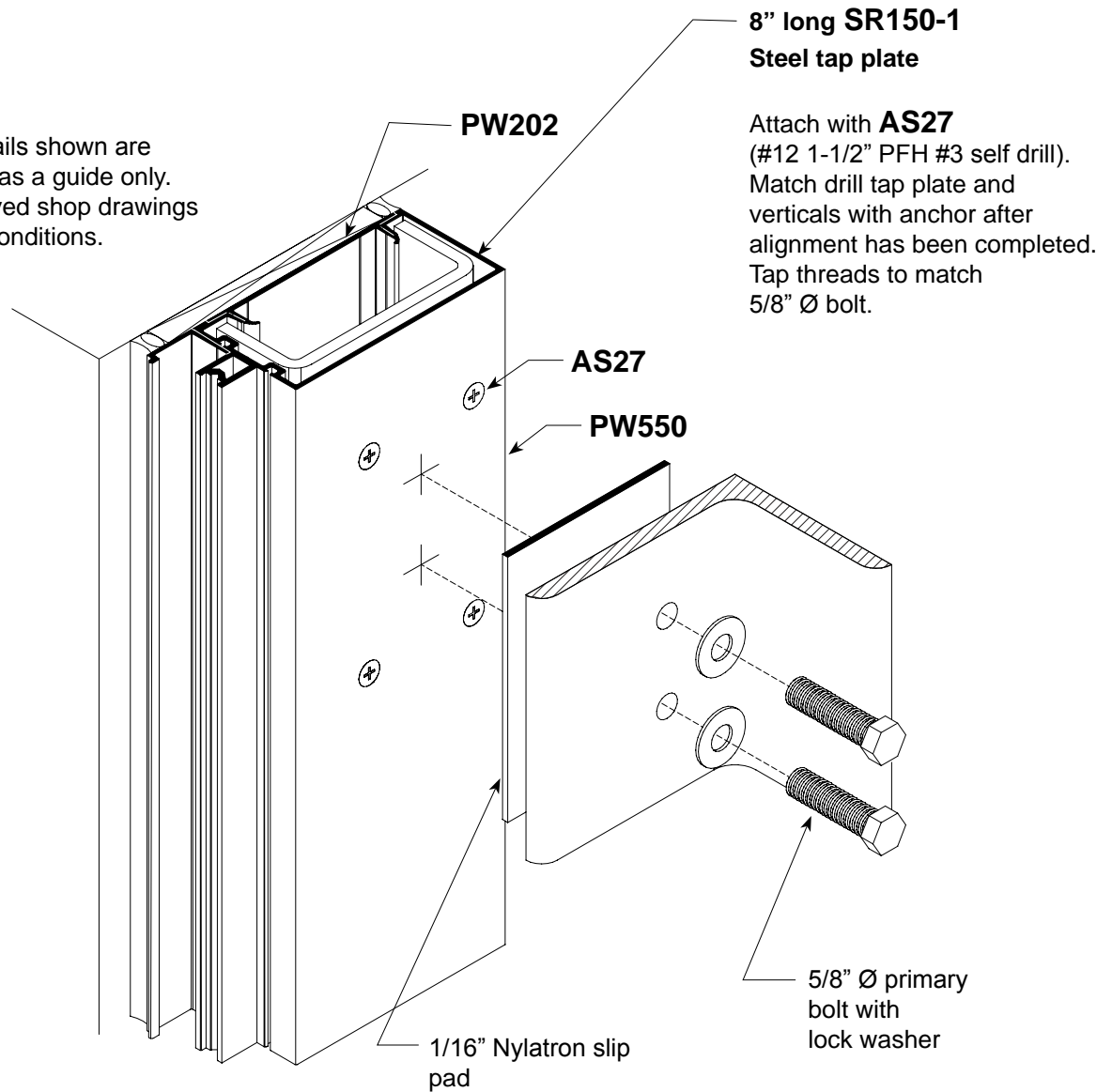
Note: Mullion spacing must be held to within $\pm 1/32"$. Check overall frame dimension every four bays to monitor dimension build up.



JAMB ANCHOR INSTALLATION Multi-Span Condition

STEP 2.

Note: Details shown are to be used as a guide only. See approved shop drawings for actual conditions.



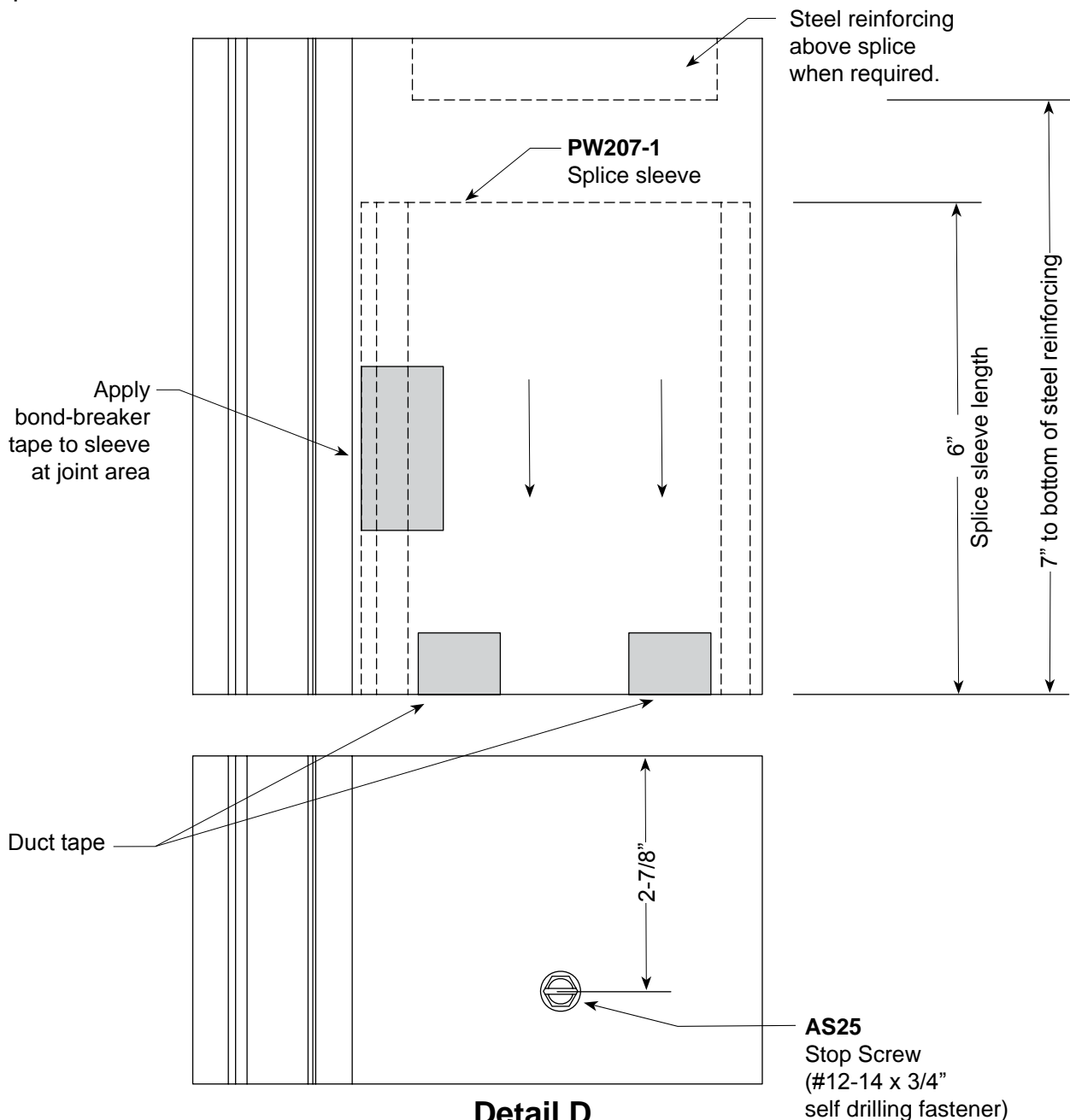
Detail C
Fixed Anchor
(Dead Load) shown

Note: Reference **Detail B** on **page 25** for wind load anchor.

SPLICE DETAIL Vertical Mullion - Multi-Span

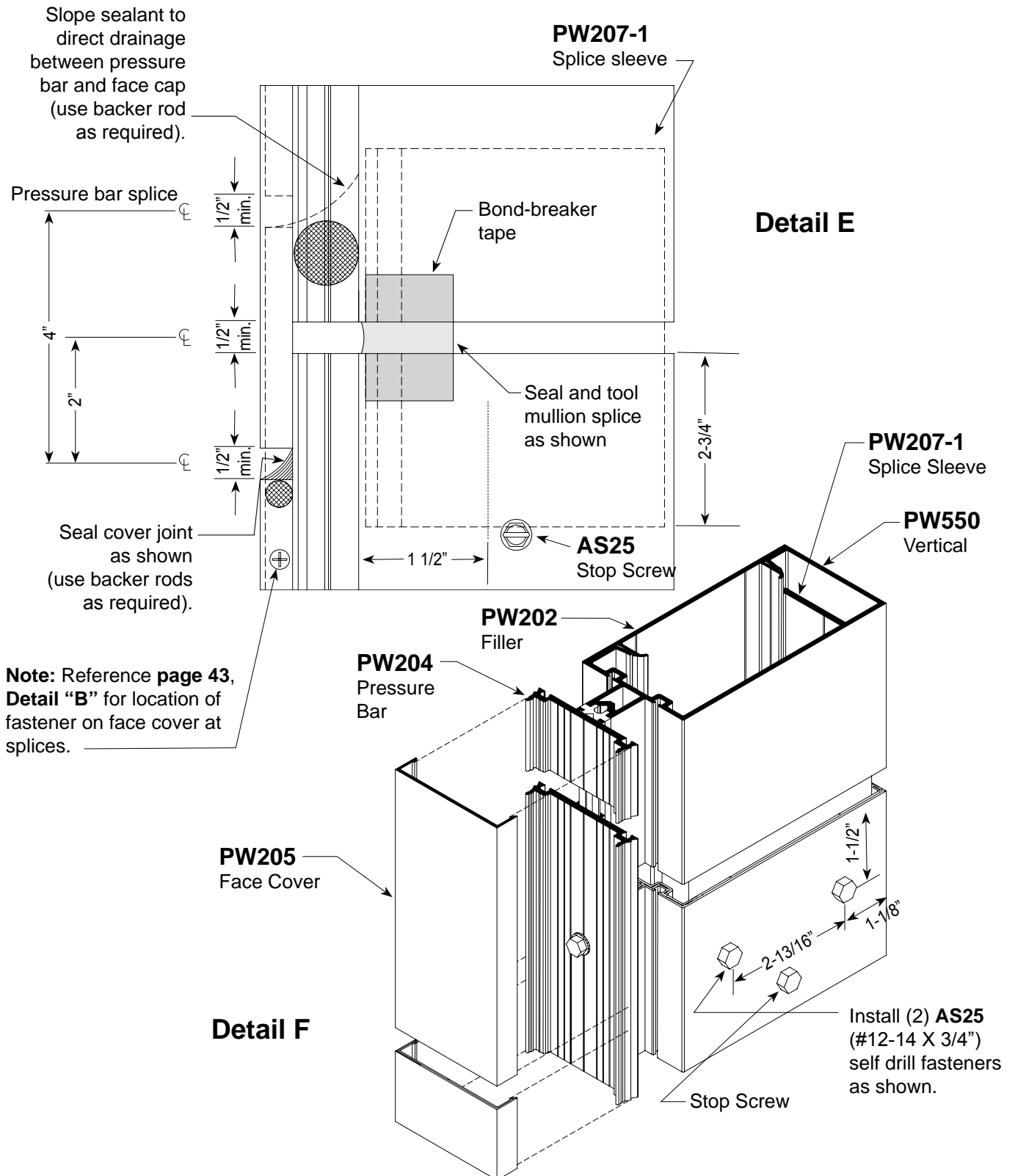
STEP 3.

1. Clean splice sleeves and all joint surfaces. Apply bond breaker tape at areas where sleeve will be sealed to avoid three side adhesion.
2. Slide sleeve into the upper member before it is installed and use duct tape to hold it in retracted position.
3. Install **AS25** stop screw 2-7/8" from top of lower member as shown below.
4. Install upper member, remove duct tape and let extruded sleeve slide down until it rests on top of stop screw.
5. Seal joint over sleeve as shown on **Detail "F"** (page 28). Stagger joints on back members, pressure bars and face covers.



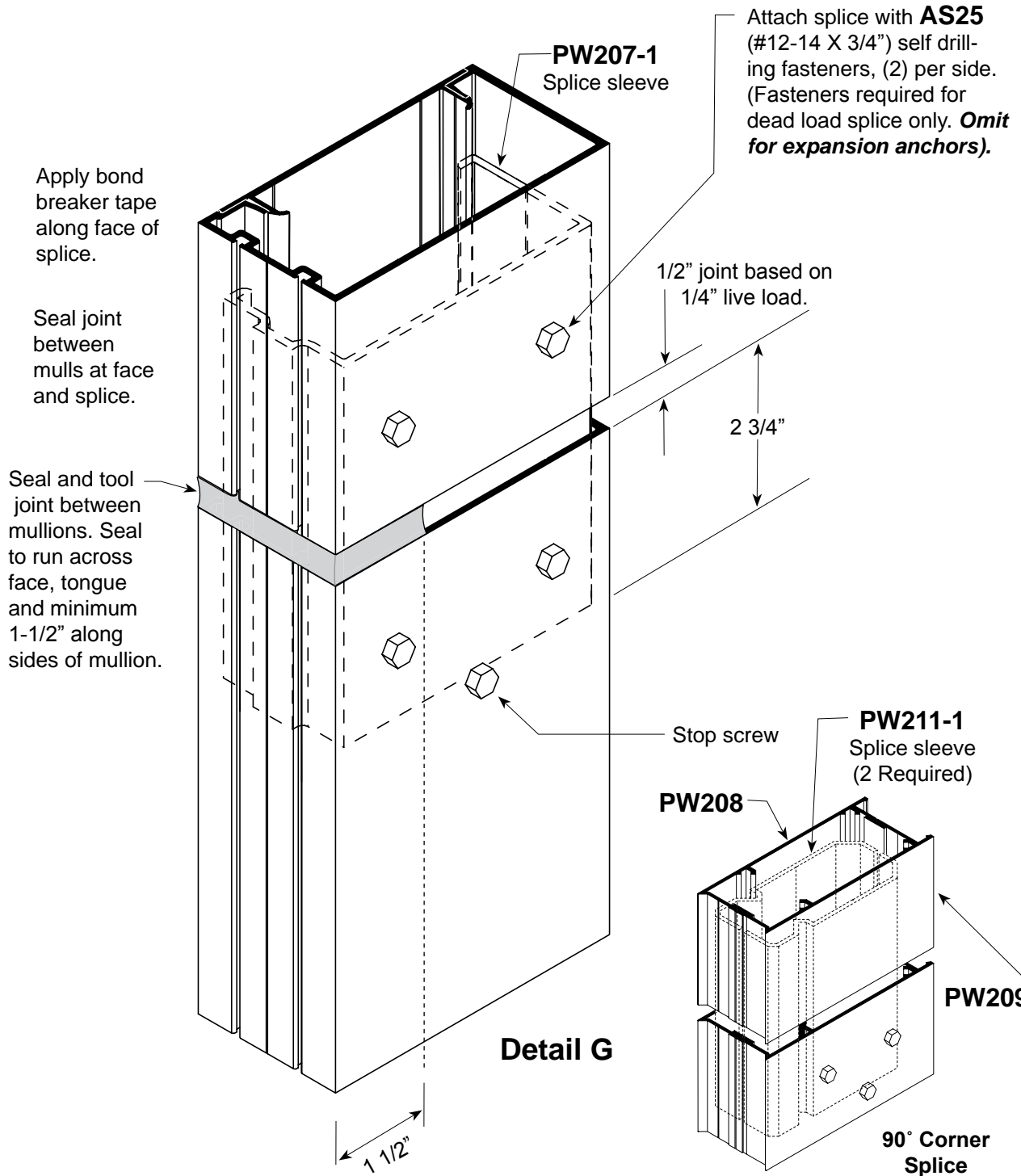
SPLICE DETAIL Vertical Mullion - Multi-Span

STEP 4.



FRAME INSTALLATION B.G. Splice Sleeve

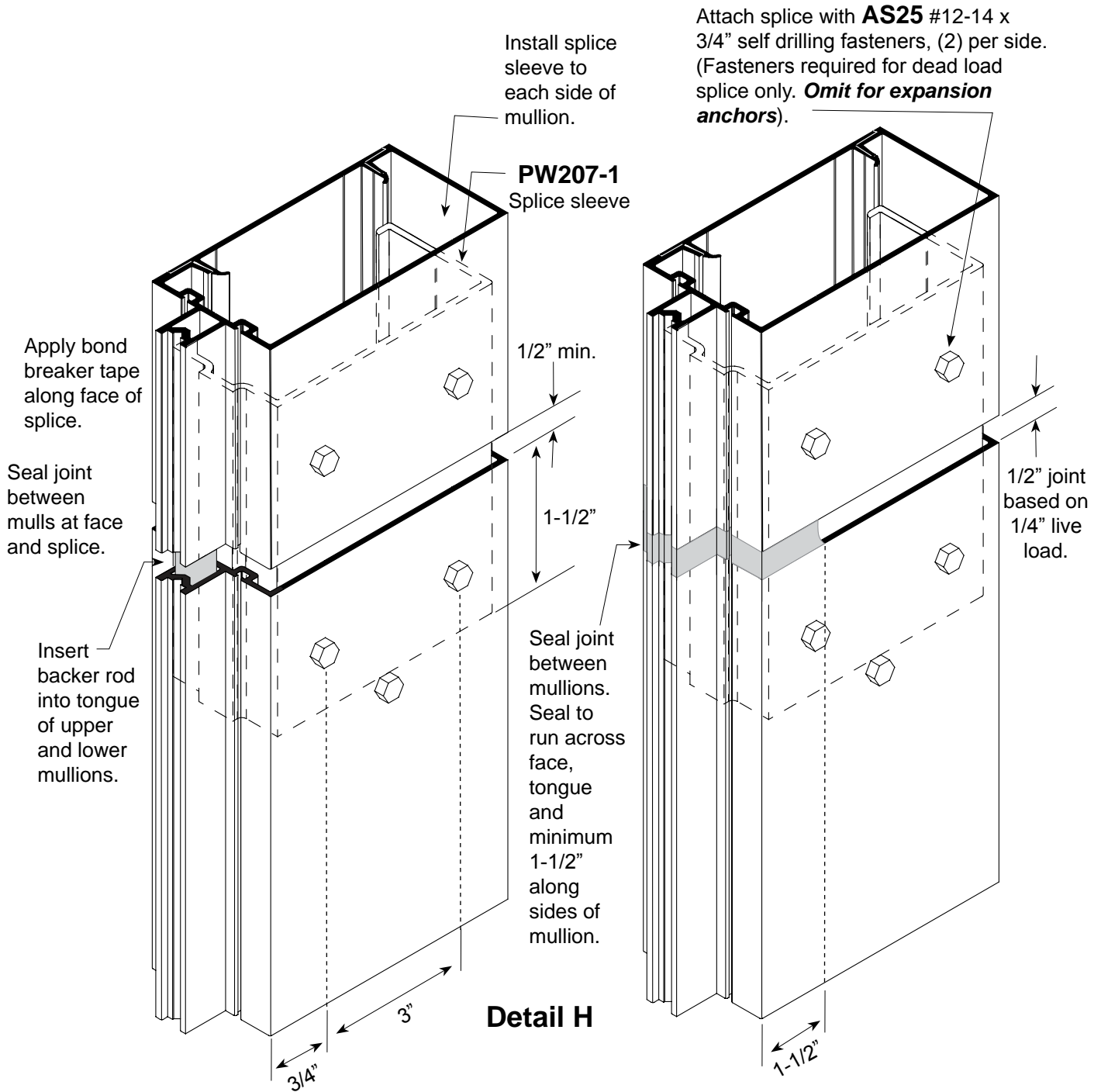
STEP 1.



FRAME INSTALLATION

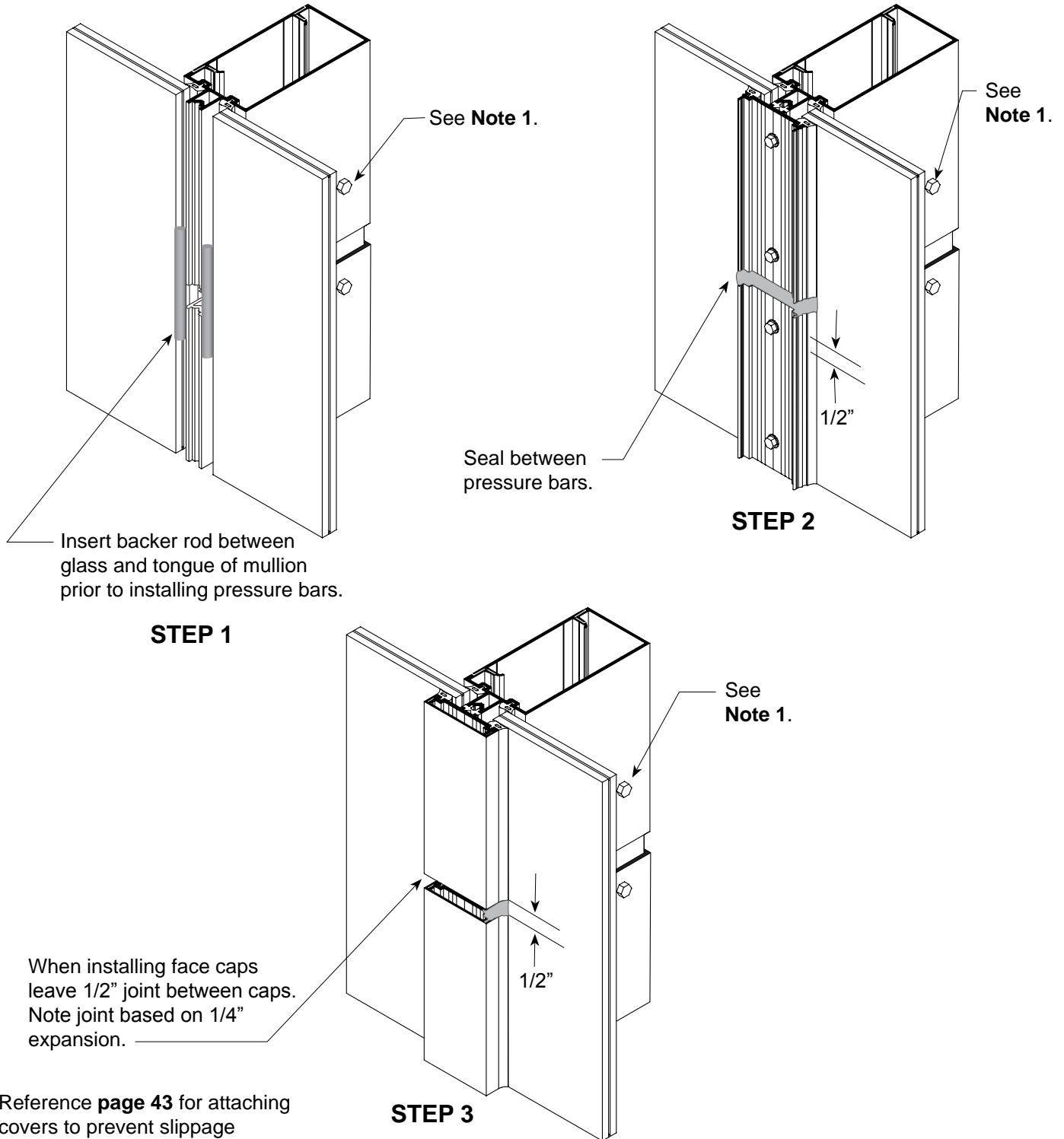
Splice Sleeve

STEP 1.



FRAME INSTALLATION Vertical Mullion Splicing

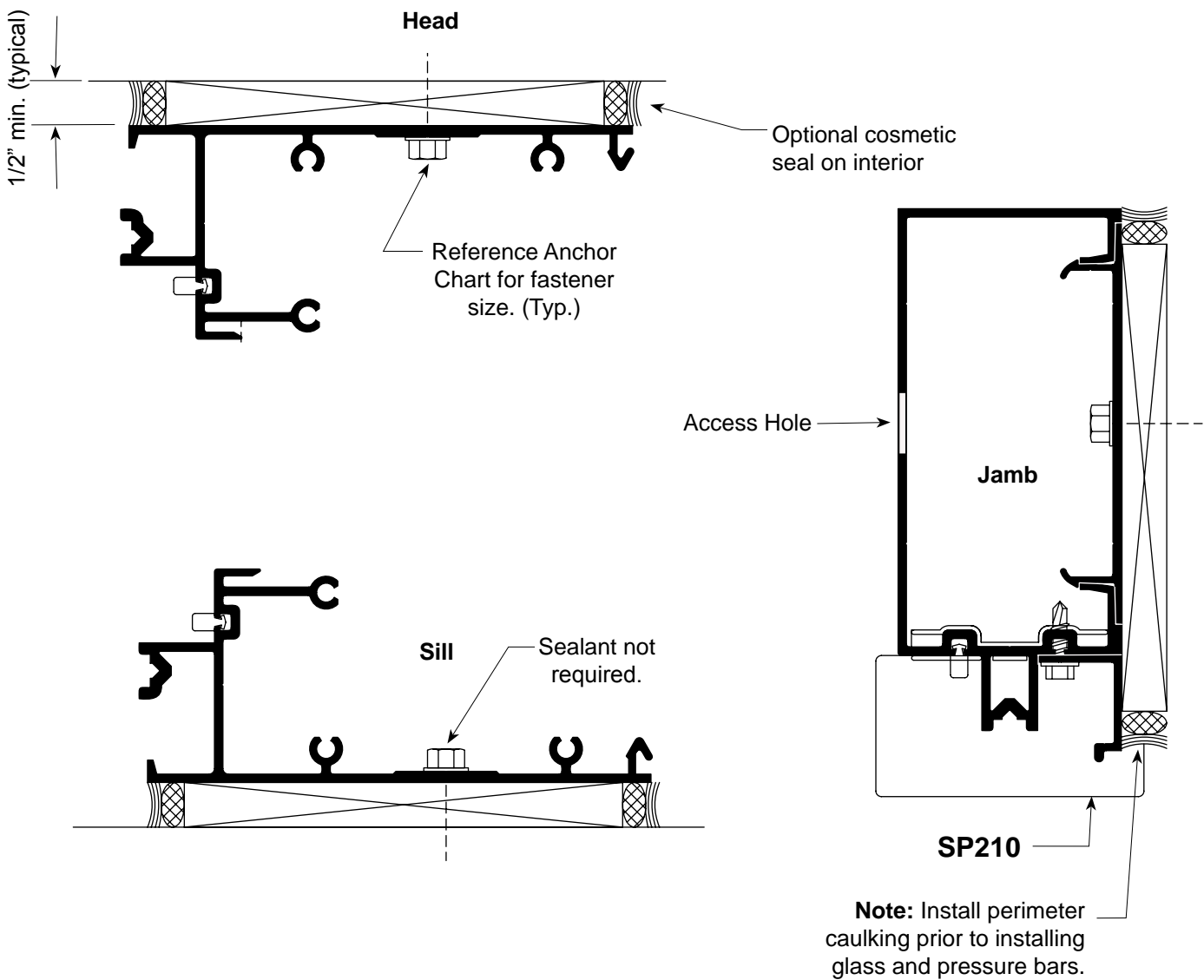
Note 1: Do not install fasteners on upper half for expansion anchors.



Reference **page 43** for attaching covers to prevent slippage at splice locations.

FRAME INSTALLATION Perimeter Sealant Locations

STEP 1. Once all frames are installed and the system has been anchored to the substrate, apply weather seal around the entire perimeter. See details below for the correct location of the perimeter sealant and backer rod. **Interior** cosmetic seal is optional.



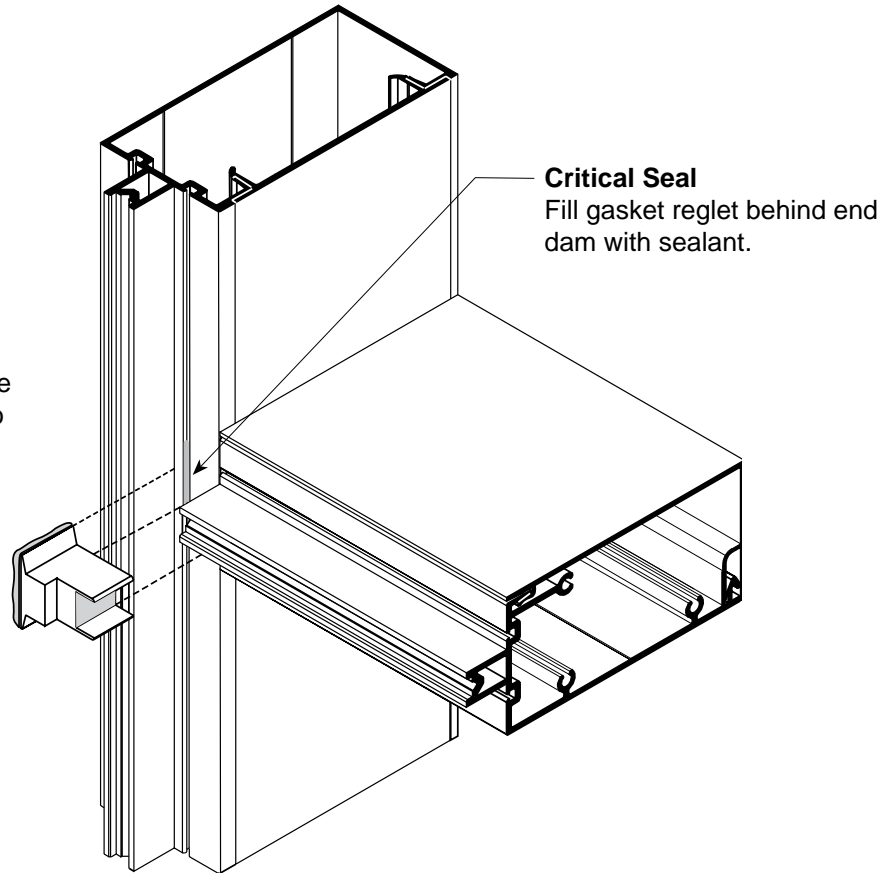
FRAME INSTALLATION

End Dams

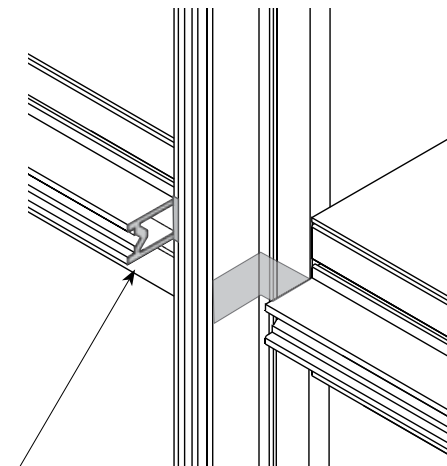
Critical Seal
Apply sealant to all three contact surfaces prior to installation as shown.

SP202
End Dam

Note:
SP202 End Dam required on all joints (head, sill, intermediate horizontals)

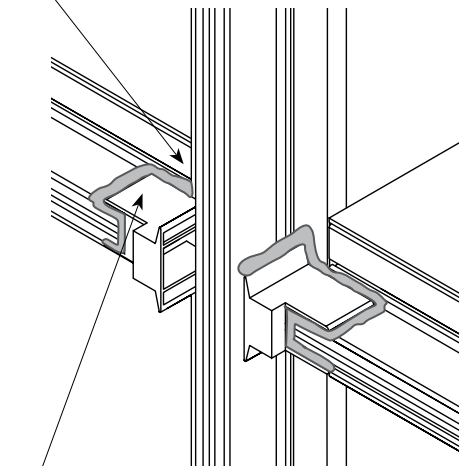


Force sealant into gasket reglet.



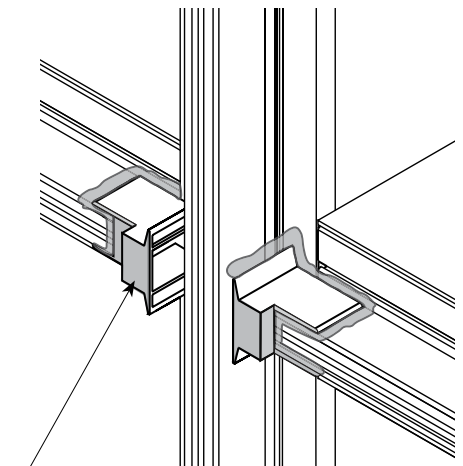
Seal along tongue of horizontal across face and tongue of mullion before installing **SP202** end dams.

STEP 1



Tool sealant along top of end dam to form a water tight seal.

STEP 2

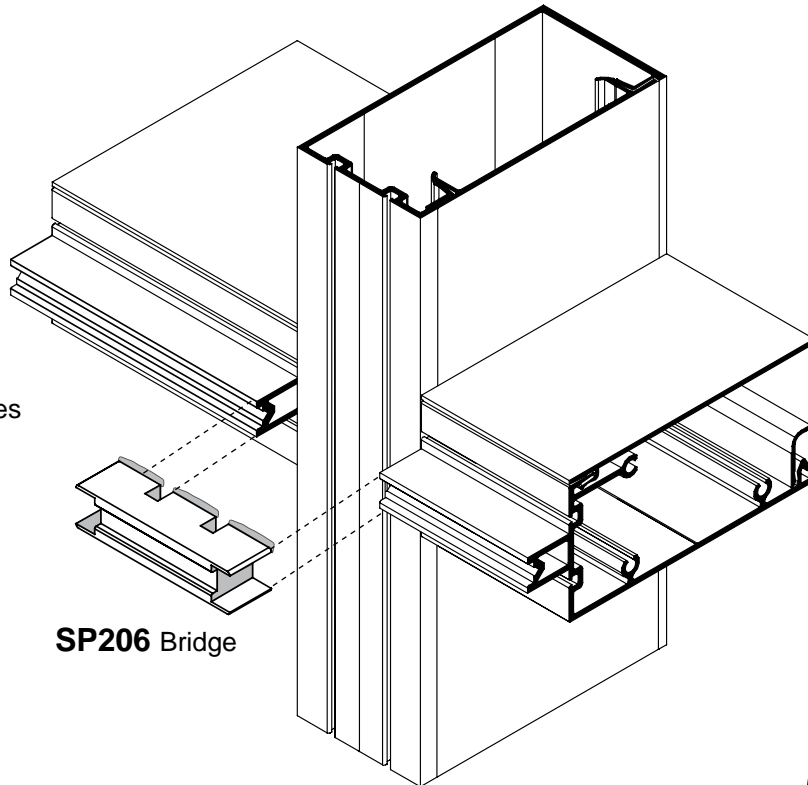


Apply sealant to face of end dam just prior to installing vertical pressure bar.

STEP 3

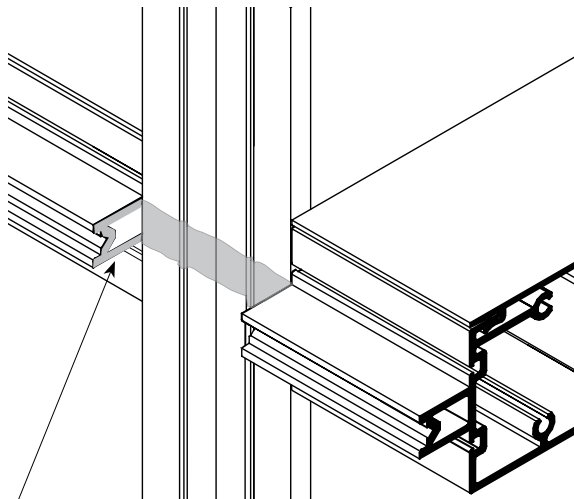
B.G. FRAME INSTALLATION Bridges

Critical Seal
Apply sealant to all three contact surfaces prior to installation as shown.



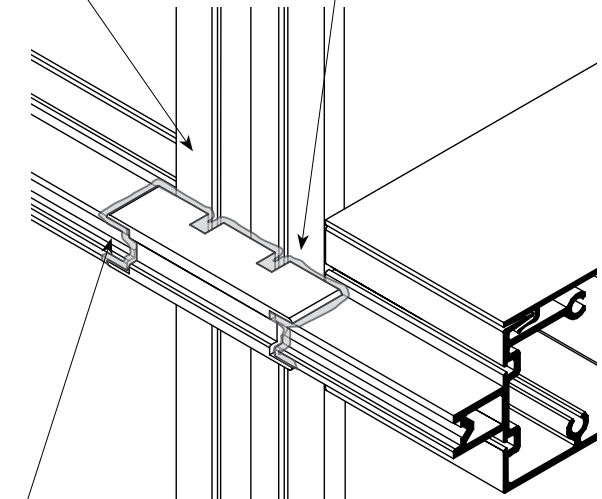
Completely seal around **SP206** bridge and **NG14** gasket as shown.

NG14
Spacer gasket



Seal along tongue of horizontal and across face of mullion before installing **SP206** bridge.

STEP 1.

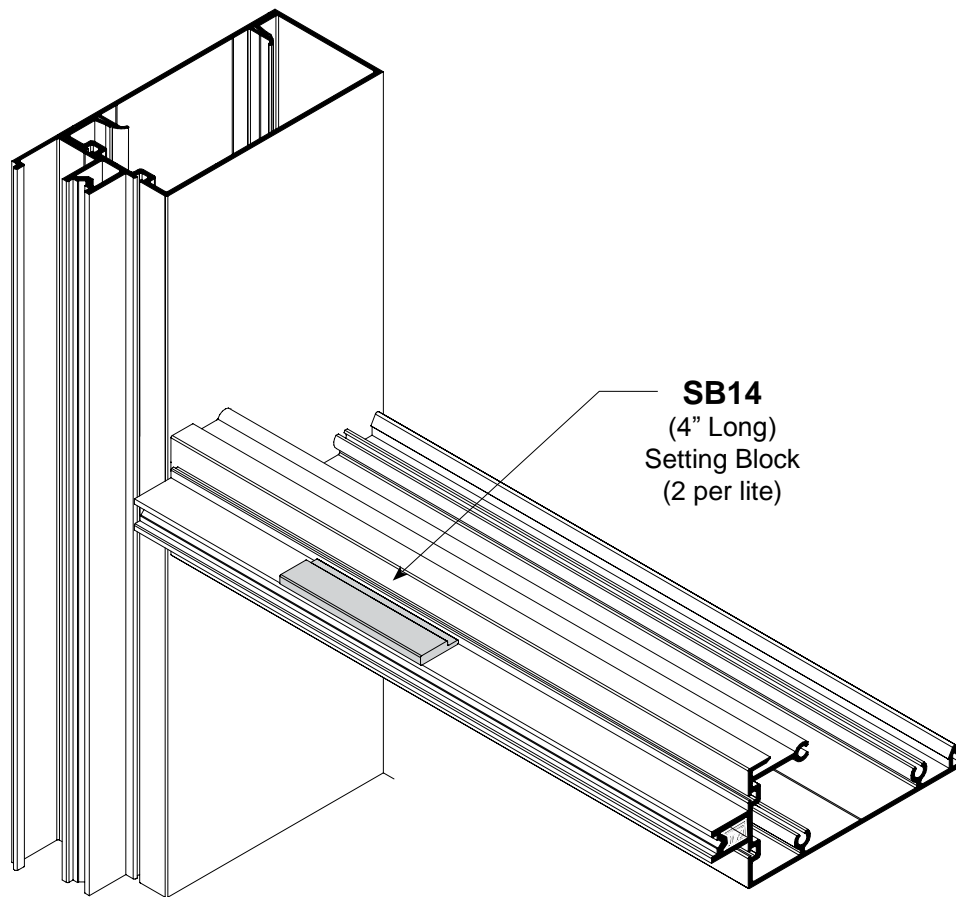


Tool sealant along top and sides of bridge to form a water tight seal.

STEP 2.

GLAZING Setting Block Installation

Locate two setting blocks on each sill and intermediate horizontal member as shown. Reference **Dead Load Charts** for this system in *Architectural Detail* book and/or shop drawings for correct location based on glass size.



GLASS SIZE FORMULAS Captured and B.G. Mullions

Glass Sizes for Captured System:

Glass Width and Height = D.L.O. + 1-1/2 ”

Glass Sizes for Butt Glazed System: (See Detail A below)

Glass Height = D.L.O. + 1-1/2 ”

Glass Width (Butt Glaze on Both Sides) = D.L.O. + 2”

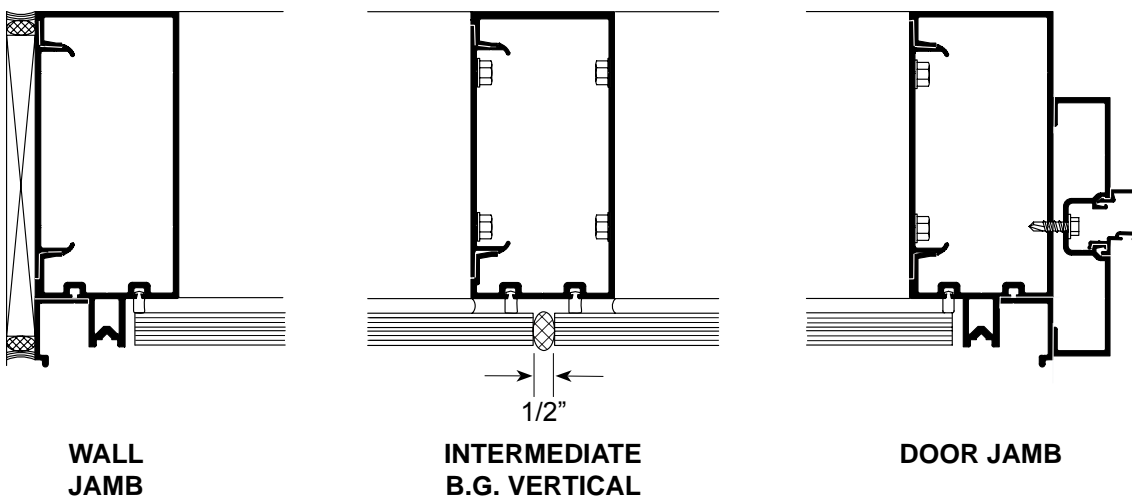
Glass Width (Butt Glaze on One Side and
Captured on the Other Side) = D.L.O. + 1-3/4”

Glass Width at 90° Corner:

With Captured Intermediate Vertical = D.L.O. + 1-1/2 ”

With B.G. Intermediate Vertical = D.L.O. + 1-3/4”

Note: Glass tolerances are not addressed in the above formulas.
Consult the glass manufacturer for glass tolerances prior to ordering.
Structural silicone must be applied from the interior and weatherseal
from the exterior.

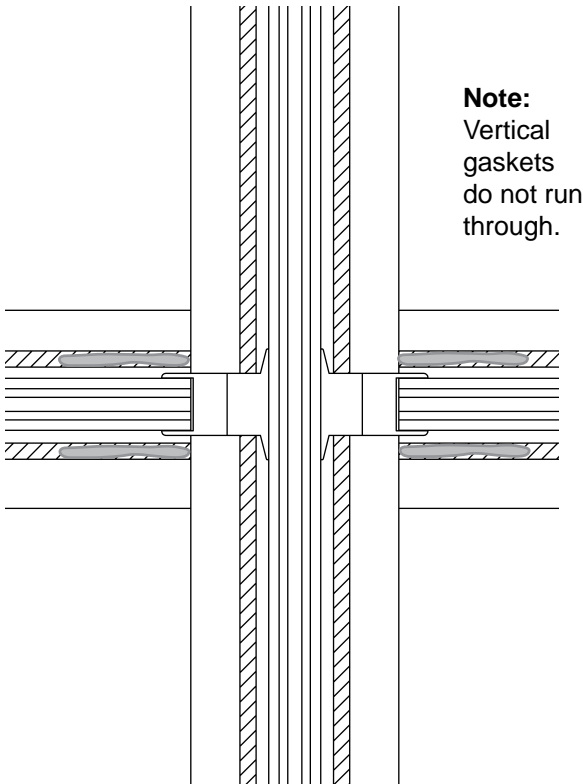


Detail A

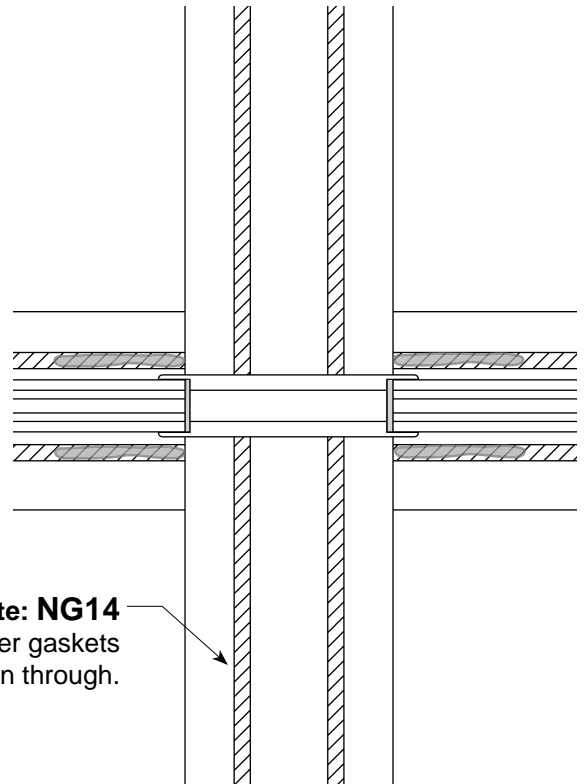
GLAZING

Sealant at Interior Gasket Corners

Note:
NG14 Gasket
is cut D.L.O. + 1-1/4"



Detail A
Captured



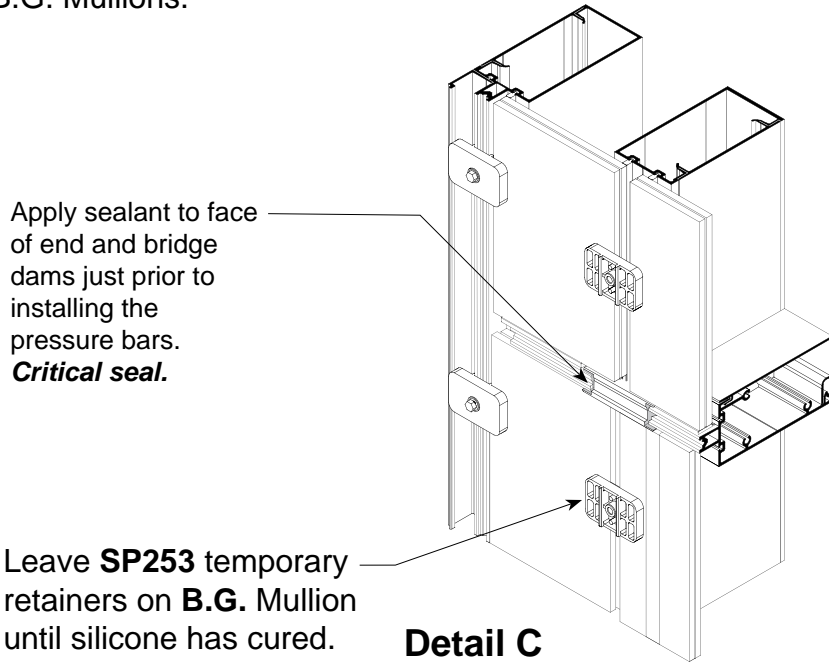
Detail B
B.G.

GLAZING

Glass Installation

Step 1.

Install glass and center in opening. Retain glass with **SP253** temporary retainers. Retainers should remain in place until structural silicone has fully cured on B.G. Mullions.

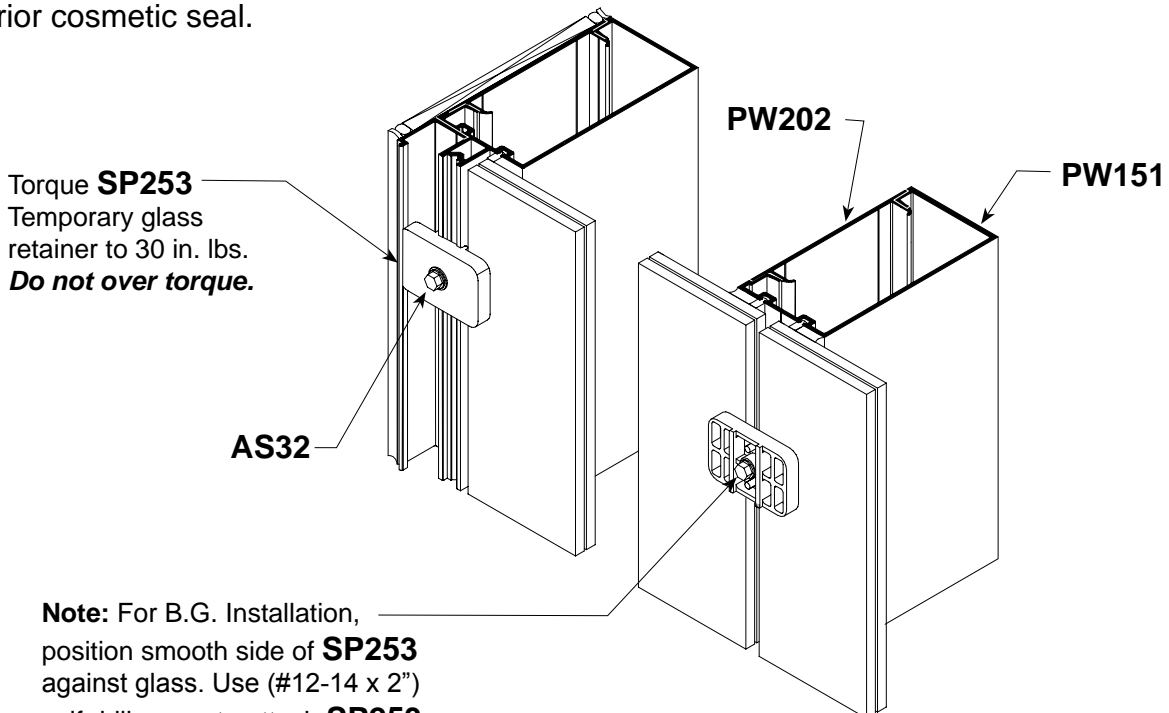


Apply sealant to face of end and bridge dams just prior to installing the pressure bars.
Critical seal.

Note: Remove temporary retainers one mullion at a time and install **PW204-1** pressure bars. Do not rely on temporary retainers to hold glass for extended periods. **SP253** temporary retainers should be saved and reused.

Leave **SP253** temporary retainers on **B.G.** Mullion until silicone has cured. Then remove and apply exterior cosmetic seal.

Detail C



Torque **SP253** Temporary glass retainer to 30 in. lbs. **Do not over torque.**

AS32

PW202

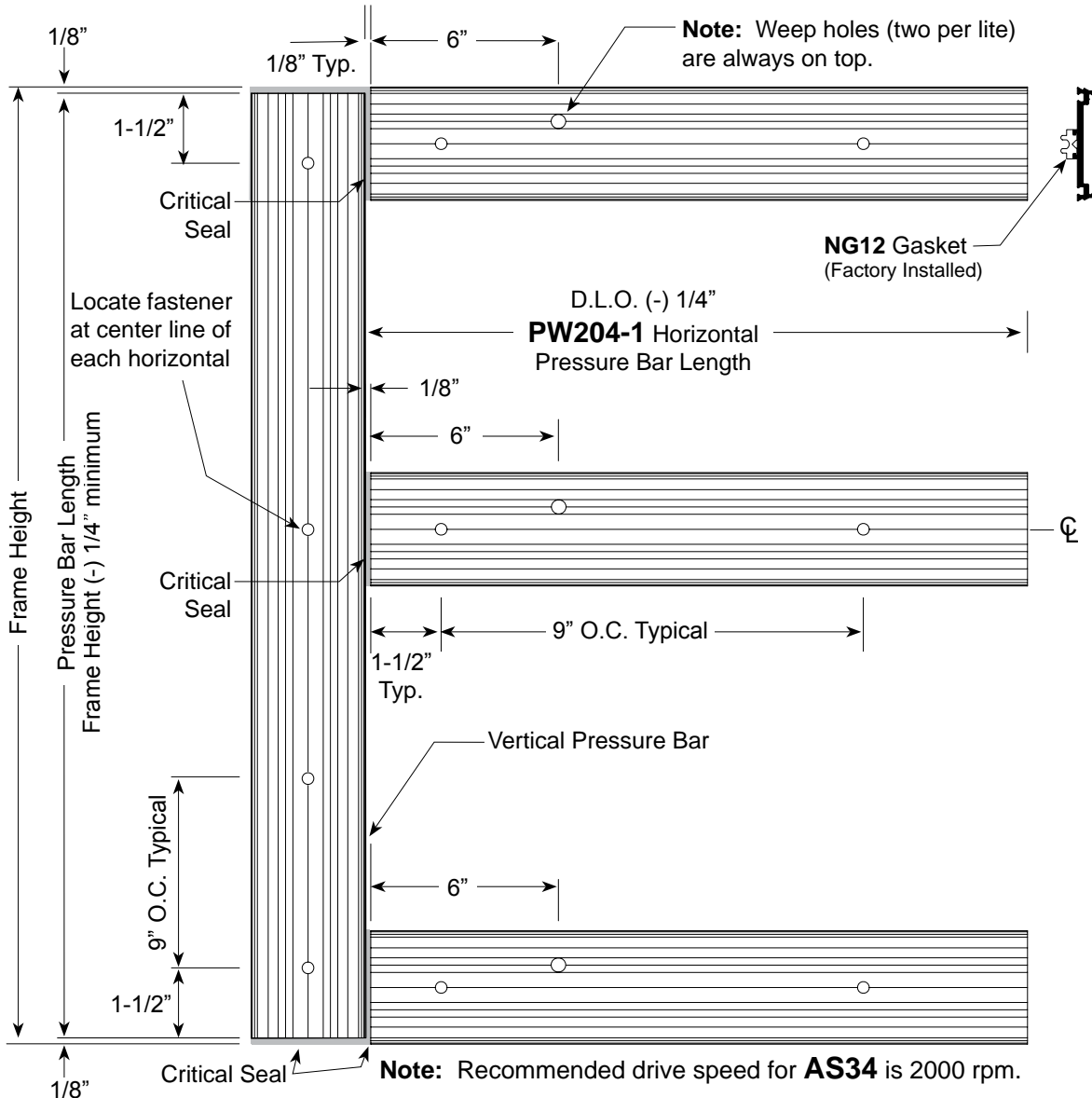
PW151

Note: For B.G. Installation, position smooth side of **SP253** against glass. Use (#12-14 x 2") self drill screw to attach **SP253** at B.G. Mullion. **Do not use these fasteners for attaching PW204 pressure bars.**

Detail D

GLAZING Pressure Bar Installation - Captured

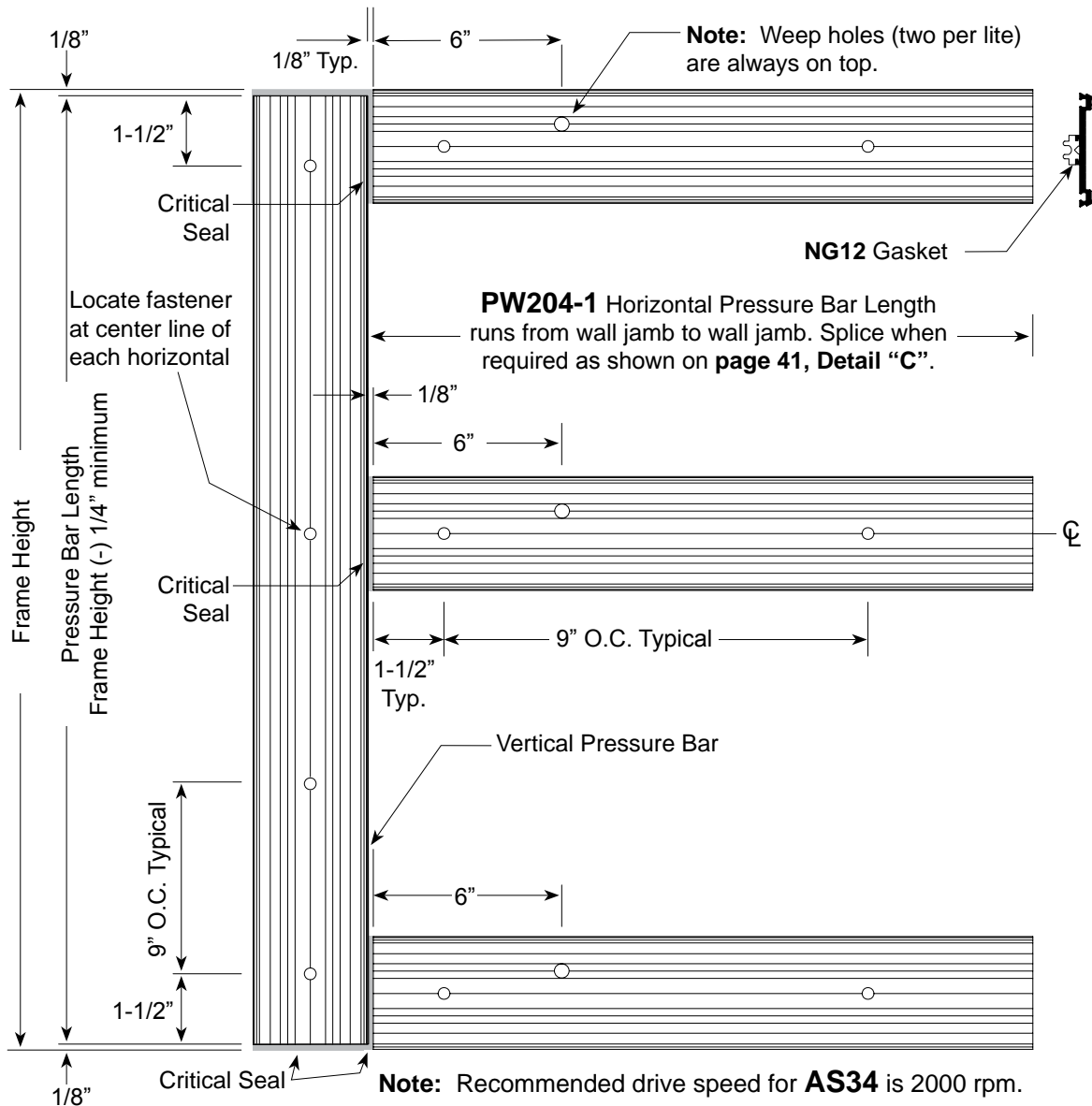
Install **AS34** vertical pressure bar fasteners from bottom to top and horizontal pressure bar fasteners from center outward. Make sure one fastener is located 1-1/2" maximum from vertical/horizontal joint intersections to ensure proper pressure over end dams. **While installing pressure bar fasteners, take care not to disengage NG12 pressure bar spacer.**



- Step 1.** Attach vertical pressure bars leaving a 1/8" gap at top and bottom with **AS34** (#12 x 1-1/8" HWH #3 self-drilling fasteners). Using electrically powered hand held drill/driver, torque **AS34** fasteners to 85-90 in. lbs. If using battery power tools, *it is recommended that installer frequently check for accurate torque settings, as battery power will diminish over time.*
- Step 2.** Center horizontal pressure bars in opening leaving a 1/8" gap at each end and attach.
- Step 3.** Upon completion of pressure bars installation and just prior to installing face covers, seal all gaps at intersection of vertical/horizontal pressure bar joints and tool the sealant.

GLAZING Pressure Bar Installation - B.G.

Install **AS34** vertical pressure bar fasteners from bottom to top and horizontal pressure bar fasteners from center outward. Make sure one fastener is located 1-1/2" maximum from vertical/horizontal joint intersections to ensure proper pressure over end dams. **While installing pressure bar fasteners, take care not to disengage NG12 pressure bar spacer.**



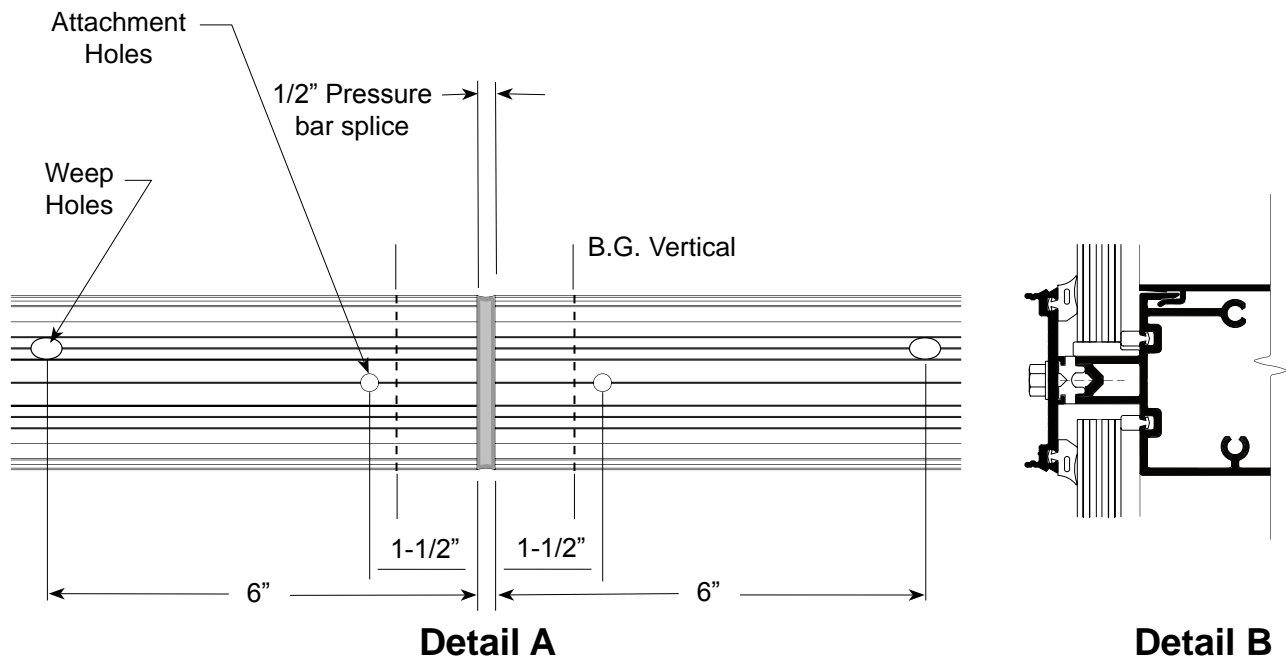
Step 1. Remove temporary retainers one mullion at a time. Attach vertical pressure bars leaving a 1/8" gap at top and bottom with **AS34** (#12 x 1-1/8" HWH #3 self-drilling fasteners). Using an electrically powered hand held drill/driver, torque **AS34** fasteners to 85-90 in. lbs. If using battery power tools, *it is recommended that installer frequently check for accurate torque settings, as battery power will diminish over time.*

Step 2. Center horizontal pressure bars in opening leaving a 1/8" gap at each end and attach.

Step 3. Upon completion of pressure bars installation and just prior to installing face covers, seal all gaps at intersection of vertical/horizontal pressure bar joints and tool the sealant.

PRESSURE BAR INSTALLATION At B.G. Mullions

1. Remove temporary retainers one vertical at a time and install pressure bars using **AS34** (#12 x 1-1/8" HWH #3 self-drilling fasteners) and a cordless adjustable clutch driver/drill with a 3/8" driver. Torque fasteners to 85-90 inch pounds. Periodically check the torque setting on the adjustable clutch driver/drill.
Note: Recommended drive speed for **AS34** is 2000 rpm.
2. Install wall jamb pressure bar fasteners from bottom to top and horizontals from center outward. Locate **AS34** fasteners 1-1/2" maximum from vertical/horizontal intersections to ensure proper pressure over end and bridge dams.
Reference **Step 8, page 12**.
3. Remove temporary retainers from horizontals, one bay at a time, and center horizontal pressure bars in opening leaving 1/8" gaps at ends and 1/2" at splice joints. Attach with **AS34** fasteners, reference **page 40** and **Detail "A"** below.
4. Upon completion of pressure bars installation and just prior to installing face covers, seal all gaps at intersection of vertical/horizontal pressure bar joints and tool the sealant.
5. Seal between pressure bar & face cover splices. Keep sealant away from face cover snap area.

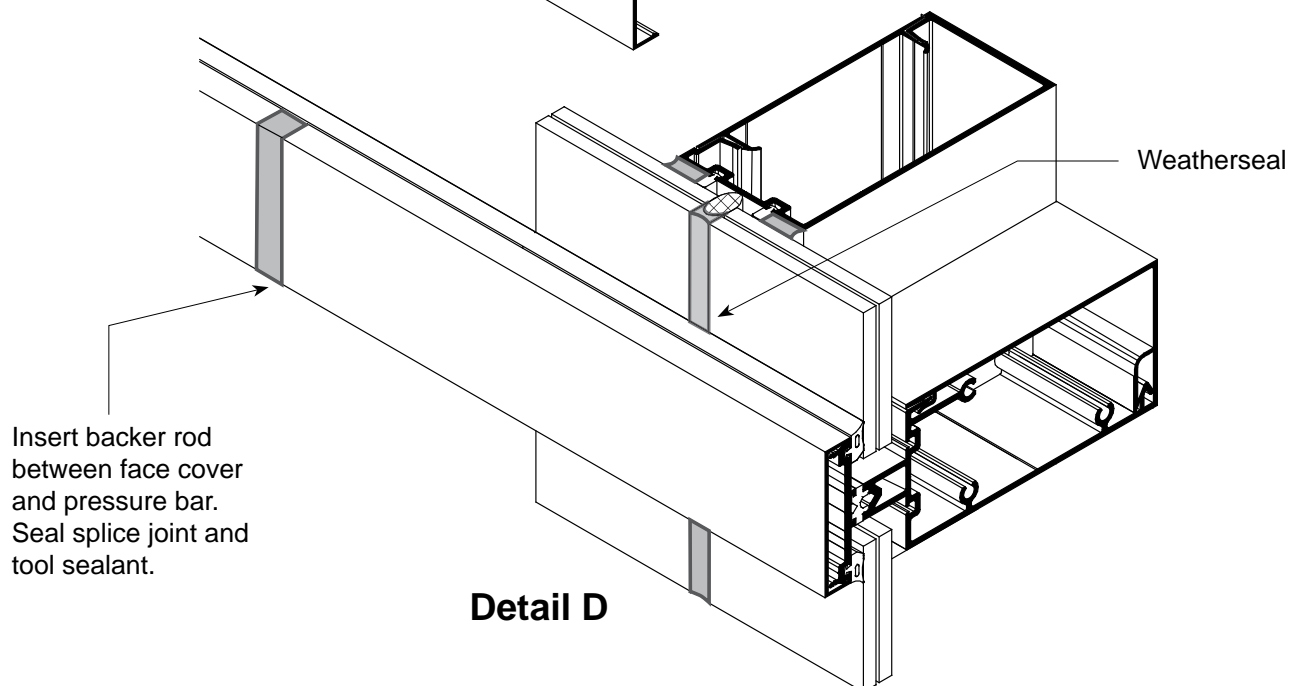
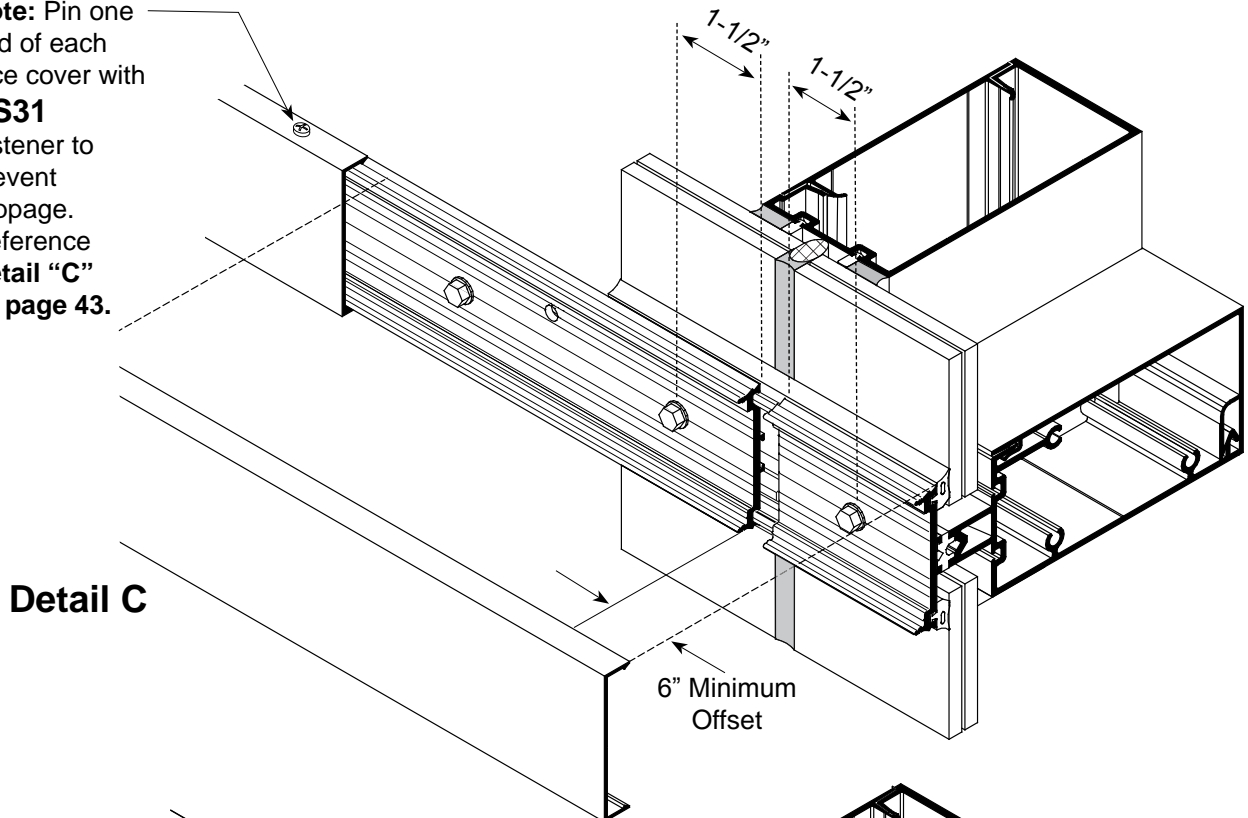


Pressure bar splicing & sealing at B.G. Mullions
(Intermediate Horizontal shown; Head & Sill similar)

HORIZONTAL FACE COVER Splice Joints - B.G. Installation

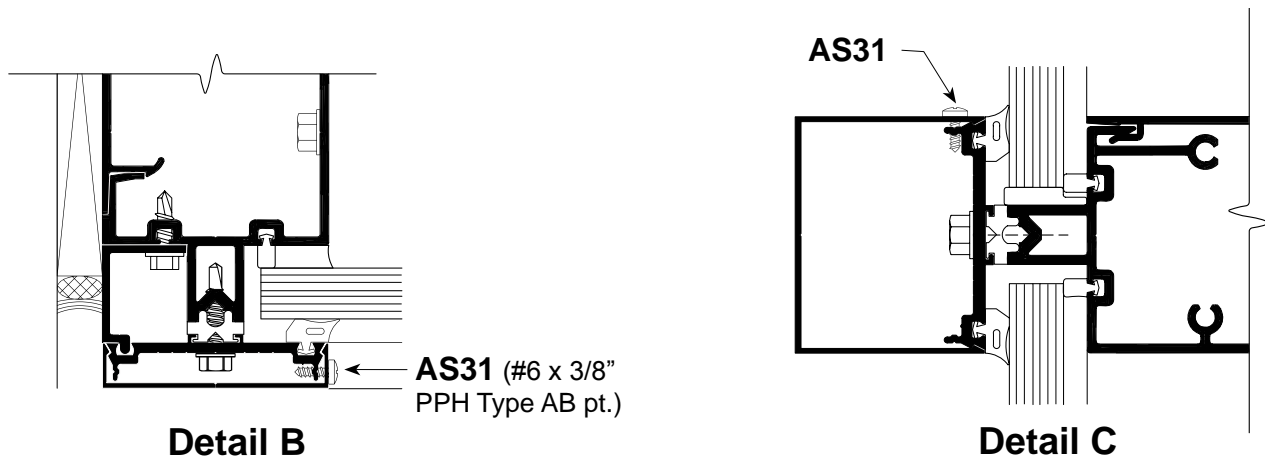
1. Locate 1/2" wide splice joints at center line of vertical members.
2. Do not align face cover splices directly over pressure bar splices. Offset 6" minimum.
See **Detail "C"**.
3. Set backer rod between face cover and pressure bars at joint and seal. Tool sealant.
See **Detail "D"**.

Note: Pin one end of each face cover with **AS31** fastener to prevent slippage. Reference **Detail "C"** on page 43.

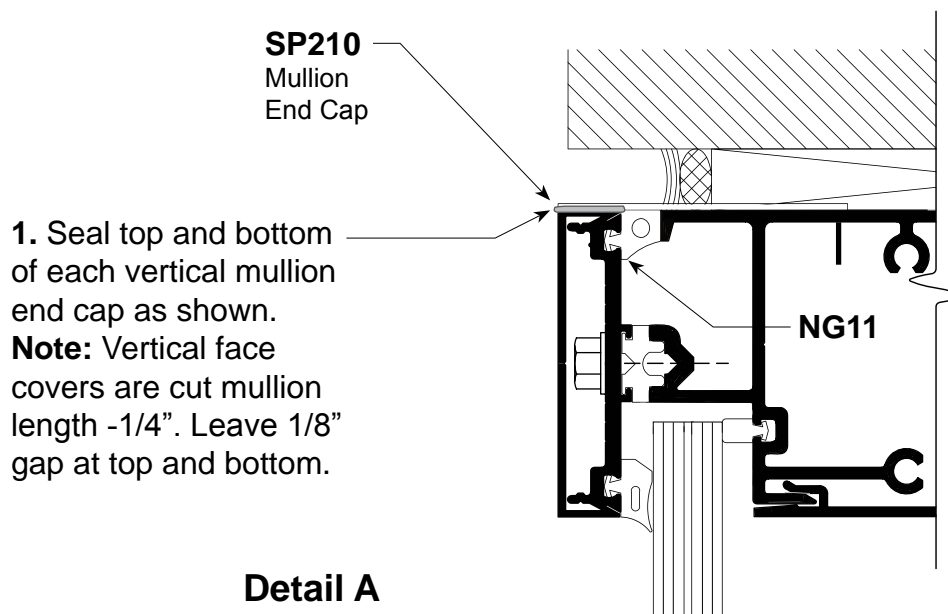


FACE COVER INSTALLATION

1. Care must be taken to prevent damage of face covers during installation. Use a piece of wood such as 2" x 4" approximately 8-10" long and a 3" diameter Stanley 3 lb. Compo-Cast dead blow soft face hammer.
2. Install vertical face covers first. Do not displace top and bottom mullion caps when installing face covers. Pinning of vertical face cover is required to prevent slippage. Use one **AS31** on each side per cut length, concealed behind horizontal face cover as shown. See **Detail B**.
3. Install snap-in horizontal face covers with the weep holes located on the bottom side.
4. Horizontal face covers exceeding 1-1/2" in depth must be pinned on top side with **AS31** fastener to prevent disengagement. Locate one fastener at mid-point for 3-5 ft. lengths. On longer lengths, locate at 3'-0" O.C. See **Detail C**.



SEALING MULLION END CAPS Top and Bottom (Top Shown - Bottom Similar)



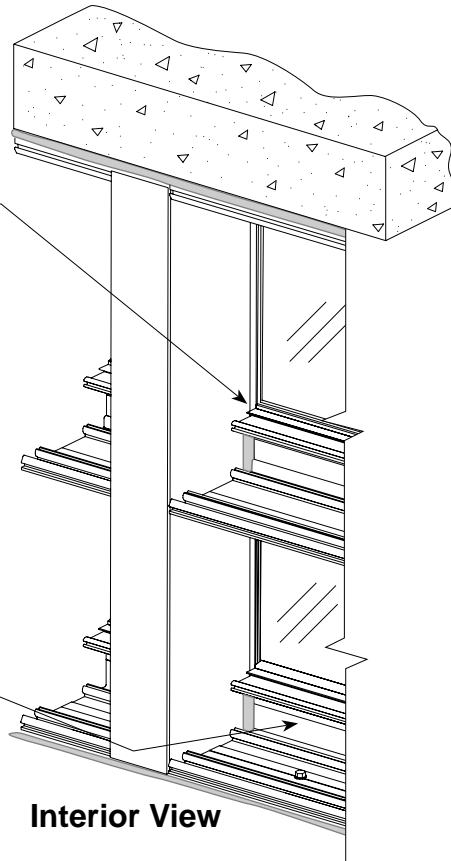
INTERIOR TRIM INSTALLATION

Checking Joinery Seals and Anchor Bolts

Note: Interior trim covers may be omitted in spandrel areas when not visible from interior.

Step 1. Check seals at all vertical/horizontal joints and reseal if required.

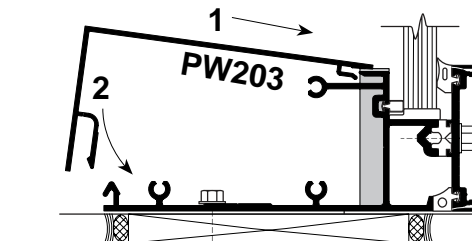
Step 2. Check all perimeter anchor bolts to make sure they are installed and secure.



Interior View

Detail A

Step 3. Insert **PW203** interior trim cover into receiver and snap downward into place. Use dead blow mallet and wooden block as required. Take care not to ding or bend cover.



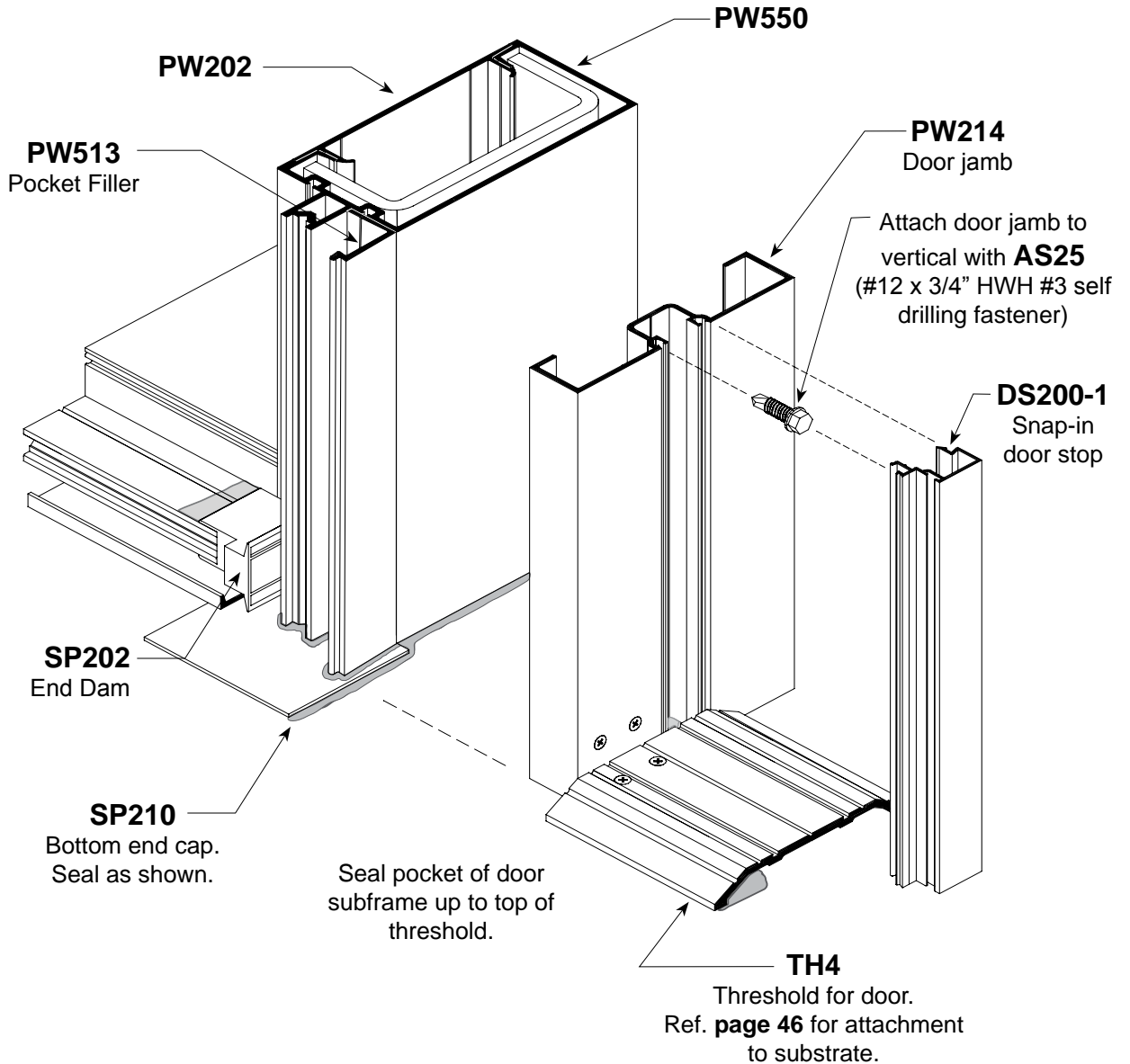
Detail B

Sill shown, head and horizontal similar.

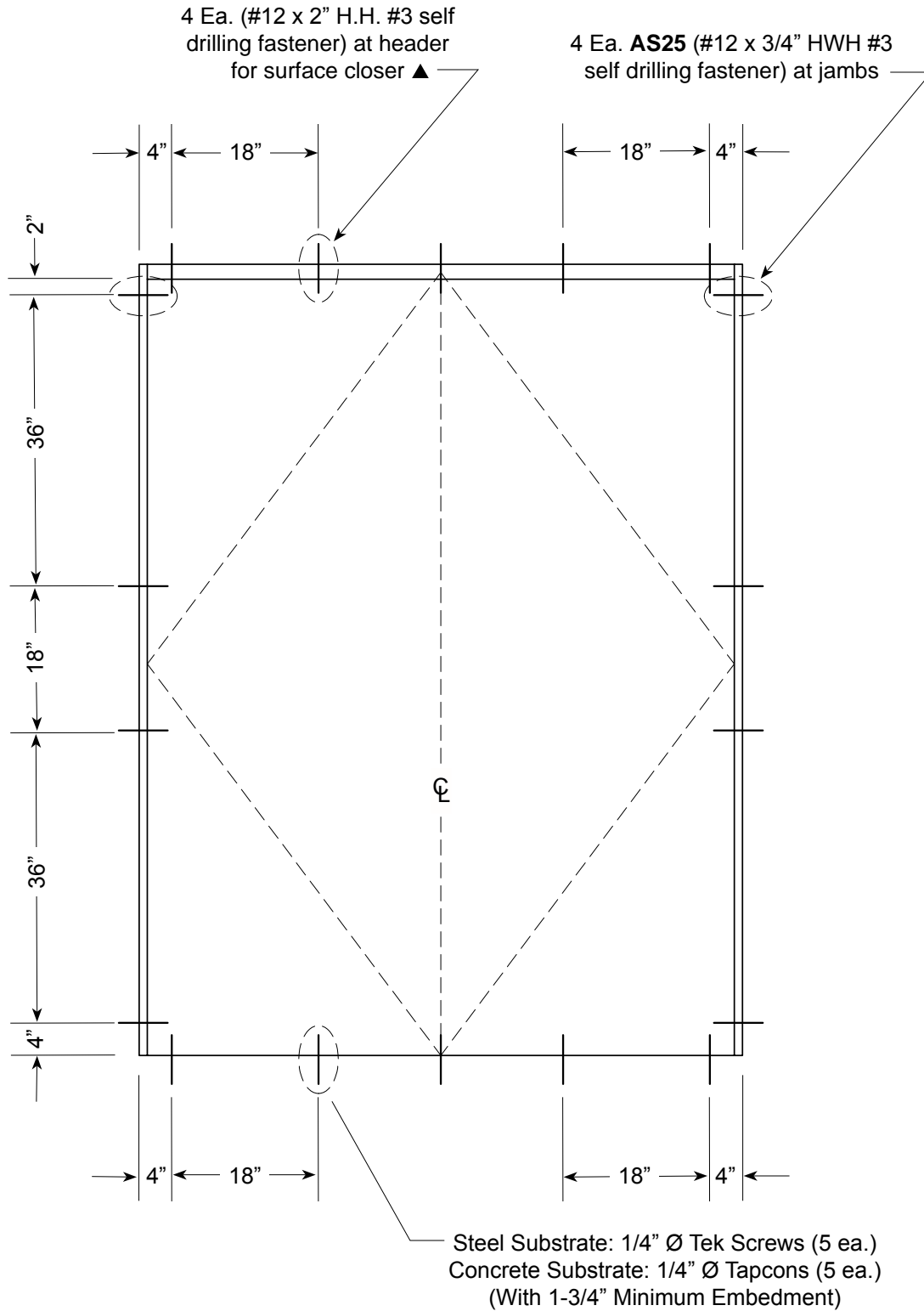
Exterior View

ENTRANCE SUBFRAMES

Note: Refer to **FRAMES & ENTRANCES** section of this manual for additional fabrication and installation instructions. Entrance Frames may be installed simultaneously with Curtain Wall or after Curtain Wall installation has been completed.



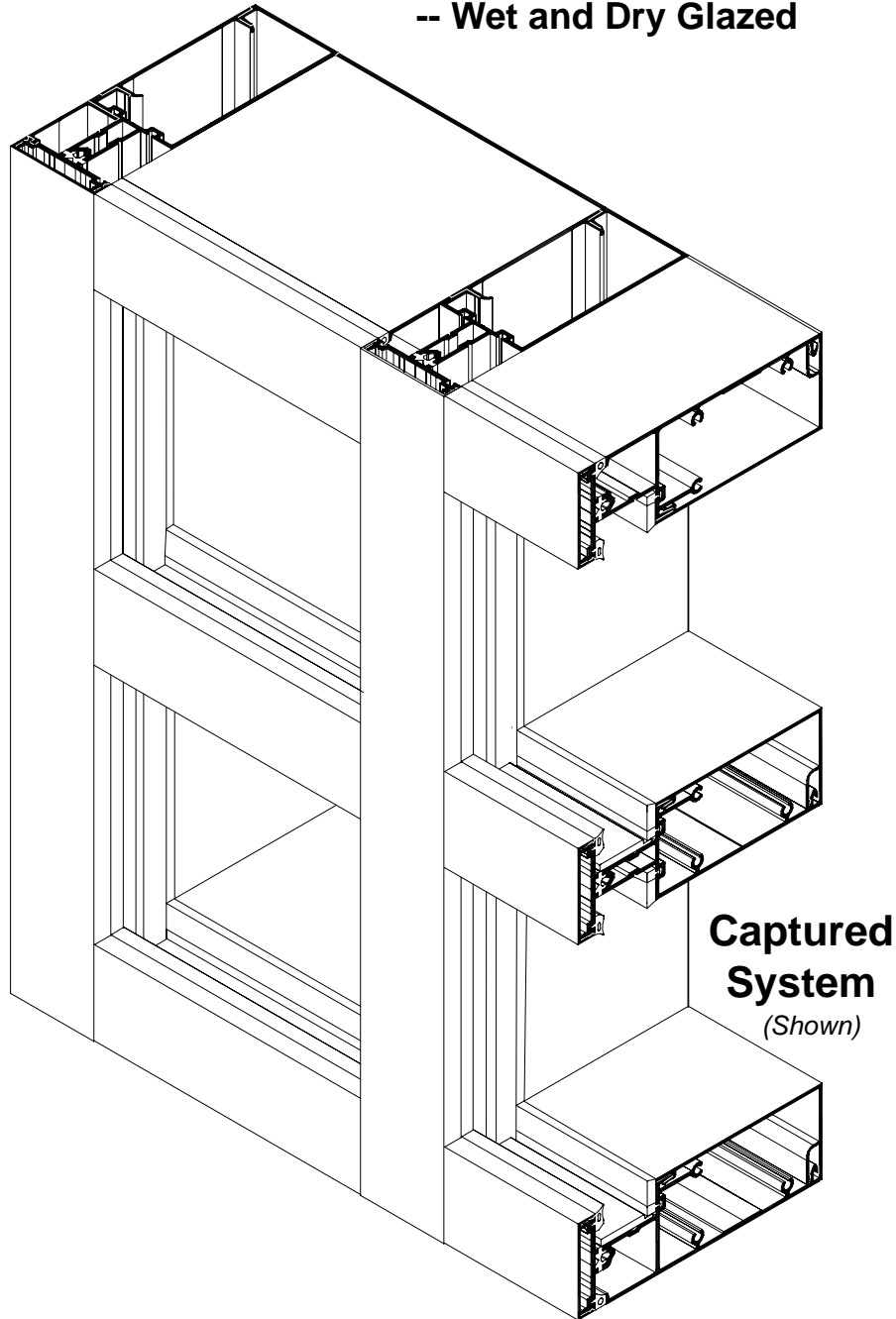
SUBFRAME FASTENER CHART



INSTALLATION INSTRUCTIONS

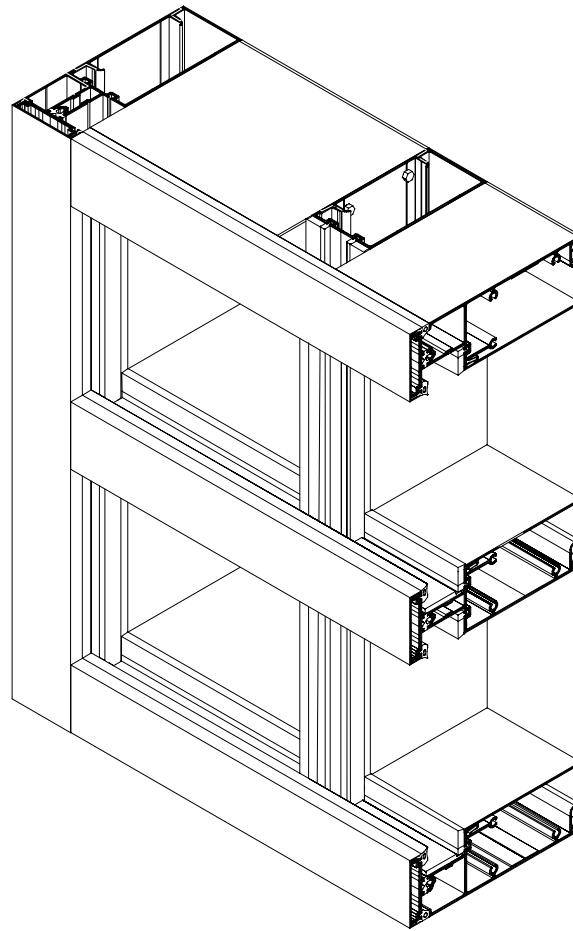
2-1/2" x 7-5/16" for 1-5/16" Glass

-- Wet and Dry Glazed



**Captured
System**
(Shown)

B.G. System
(Butt Glazed)



PRODUCT FEATURES: PW257 and PW257 B.G.

Glazing Features:

- Dry Glazed with Sentry Glass Interlayer by DuPont®

Screw spline joinery allows:

- Coral Punch die shop fabrication
- Die set punches spline and pressure bar weep holes
- Panelized frame assembly for easy transporting and installation

Pressure Bars:

- Factory installed EPDM thermal isolator with attachment holes pre-punched 9" O.C.
- Attached to back members with #12 x 1-1/4" HWH #3 self-drilling screws

Removable snap-on interior trim covers at all horizontals allow:

- Anchor inspection to substrate after glazing
- Inspection and/or repair of critical joint seal areas prior to and after glazing

EVA foam end dams and bridges at horizontals provide:

- Tight seals at intersection of vertical/horizontal joints for zone glazing

Aluminum top and bottom vertical mullion caps:

- Pre-punched for quick installation
- Provides continuous perimeter seal

Injection molded plastic temporary glazing retainer:

- Reduces labor
- Distributes uniform pressure on glass reducing risk of breaking glass
- Reusable for next project

CURTAIN WALL

Hurricane Impact-Resistant

These instructions are for typical installations. Reference shop drawings for special notations on installations and glazing.

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INSTALLATION INSTRUCTIONS - General Notes -

Recommended guidelines for all installations:

- 1. REVIEW CONTRACT DOCUMENTS.** Check shop drawings, installation instructions, architectural drawings and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Field verified notations shown within shop drawings must be resolved prior to installation. The installation instructions are of general nature and cover most conditions.
- 2. INSTALLATION.** All materials shall be installed plumb, level and true.
- 3. BENCHMARKS.** All work should start from established benchmarks and column center lines established by the architect and general contractor.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Advise general contractor and other trades accordingly. All field welds of steel anchors must receive touch-up paint (zinc chromate) to avoid rust.
- 5. SURROUNDING CONDITIONS.** Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.
- 6. ISOLATION OF ALUMINUM.** Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.
- 7. SEALANTS.** Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Sealants depicted in this manual as critical seals and sealants shown as structural are Dow Products®. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning, priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established.
- 8. FASTENING.** Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements perimeter fasteners are not specified in these instructions. Reference the shop drawings or anchor charts for perimeter fasteners.
- 9. BUILDING CODES.** Due to the diversity in state, local and national codes that govern the design and application of architectural products, it is the responsibility of the architect, owner and installer to assure that products selected for use on each project comply with all the applicable building codes and laws. CORAL ARCHITECTURAL PRODUCTS exercises no control over the use or application of its products, glazing materials and operating hardware and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and shop drawings are shown at normal size. Expansion mullion gaps should be based on temperature at time of installation.

INSTALLATION INSTRUCTIONS - General Notes -

11. WATER HOSE TEST. After a representative amount of the curtain wall system has been glazed (250 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet during the glazing operation. Note: This test procedure should not be used for entrance doors.

12. COORDINATION WITH OTHER TRADES. Coordinate with the general contractor and sequence with other trades items which offset the storefront installation such as back-up walls, partitions, ceilings and mechanical ducts.

13. MATERIAL HANDLING:

A. SHOP

1. Cardboard wrapped or paper interleaved material must be kept dry.
2. Immediately remove aluminum from cardboard wrapped or paper interleaved materials should it get wet to prevent staining or etching aluminum finish.
3. Check arriving materials for quantity and keep record of where various materials are stored.

B. JOB SITE

1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
2. Cardboard wrapped or paper interleaved material must be kept dry. (See 13.A.2)
3. Keep record of where various materials are stored.
4. Protect materials after erection. Cement, plaster, mortar and other alkaline solutions are very harmful to the finish.

14. CARE AND MAINTENANCE. Final cleaning of exposed aluminum surfaces should be done in accordance with AAMA 609 for anodized aluminum and 610.02 for painted aluminum.

15. CORAL ARCHITECTURAL PRODUCTS. It is the responsibility of CORAL ARCHITECTURAL PRODUCTS to supply a system to meet the architect's specifications.

16. GLASS. Glazing gaskets are designed for a compression fit against glass and can accommodate (+/- 1/32"). Be sure to check overall size of glass and thickness.

INSTALLATION INSTRUCTIONS

- General Notes -

Series PW257

1. **SEALANTS.** All sealants referenced in these instructions must be one part elastomeric silicone and must be applied according to the silicone manufacturer's recommendations.
2. **APPLICATION.** Structural silicone must be applied from the interior and weatherseal from the exterior.
3. **MAXIMUM ALLOWABLE STRESS ON SILICONE.** The maximum allowable size of the glass lite is controlled by the width and depth of the silicone joint combined with the specified design wind load. The stress on the structural silicone must not exceed 20 PSI for a 6:1 safety factor. Check Structural Silicone Chart in the Architectural Design Manual for this product series.
4. **ARCHITECT.** It is the responsibility of the architect to secure approval of the system and request from the Glazing Contractor the compatibility and adhesion test reports described below.
5. **GLAZING CONTRACTOR.** It is the responsibility of the glazing contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. ***This is required on every project.***
6. **CORAL ARCHITECTURAL PRODUCTS.** It is the responsibility of Coral Architectural Products to supply a system to meet the architect's specification.

PRODUCT APPLICATION AND INSTALLATION

Series **PW257** Panelized Curtain Wall was designed with screw spline joinery for simple fabrication and panelized installation. These features make the fabrication and installation very similar to storefront systems. **PW257** Panelized Curtain Wall should only be installed by glazing contractors employing personnel with the necessary installation and project management experience to handle these type projects.

PW257 Panelized Curtain Wall requires the installer to pay close attention to the details shown within these ***Instructions*** and ***General Notes***. All critical seal areas must be completed as shown.

FRAME FABRICATION Captured or B.G. Installation

Establish frame size and cut metal to length.

STEP 1.

Measure width of rough opening.

- A. Measure opening at bottom.
- B. Measure opening at center.
- C. Measure opening at top.

The frame width will be the smallest dimension less 1" allowing for a 1/2" minimum for shimming and caulking joint at each jamb.

Repeat process to determine frame height.

- A. Beginning on left side of opening, measure dimension from top to bottom.
- B. Repeat at center.
- C. Repeat at right side of opening.

The frame height will be the smallest dimension less 1" allowing 1/2" minimum for shimming and caulking joint at the head and sill.

STEP 2. Vertical Members

Cut **vertical** members to size. (All vertical members run through)

Wall jambs, intermediate verticals, snap-in perimeter jamb filler and corner mullions are cut to frame height.

- A. Pressure bars are cut frame height minus (-) 1/4".
- B. Face covers are cut frame height minus (-) 1/16".
- C. Reference Pages 28-31 for vertical mullions with a splice joint.

STEP 3.

Captured - Horizontals

Cut **horizontal** members to size.

- A. Head, sill and intermediate mullions are cut D.L.O.
- B. Pressure bars are cut D.L.O. minus (-) 1/4".
- C. Face covers are cut D.L.O. minus (-) 1/32".
- D. Interior snap-on trim is cut D.L.O. minus (-) 1/32"

B.G. - Horizontals

Cut **horizontal** members to size.

- A. Head, sill and intermediate mullions are cut D.L.O.
- B. Pressure bars run continuous between wall jambs.
See **page 41, Detail "A"** for splice joints when req'd.
- C. Face covers run continuous between wall jambs.
See **page 42, Detail "C"** for splice joints when req'd.
- D. Interior snap-on trim is cut D.L.O. minus (-) 1/32"
- E. Horizontal glazing adaptors D.L.O. (-) 1/8"

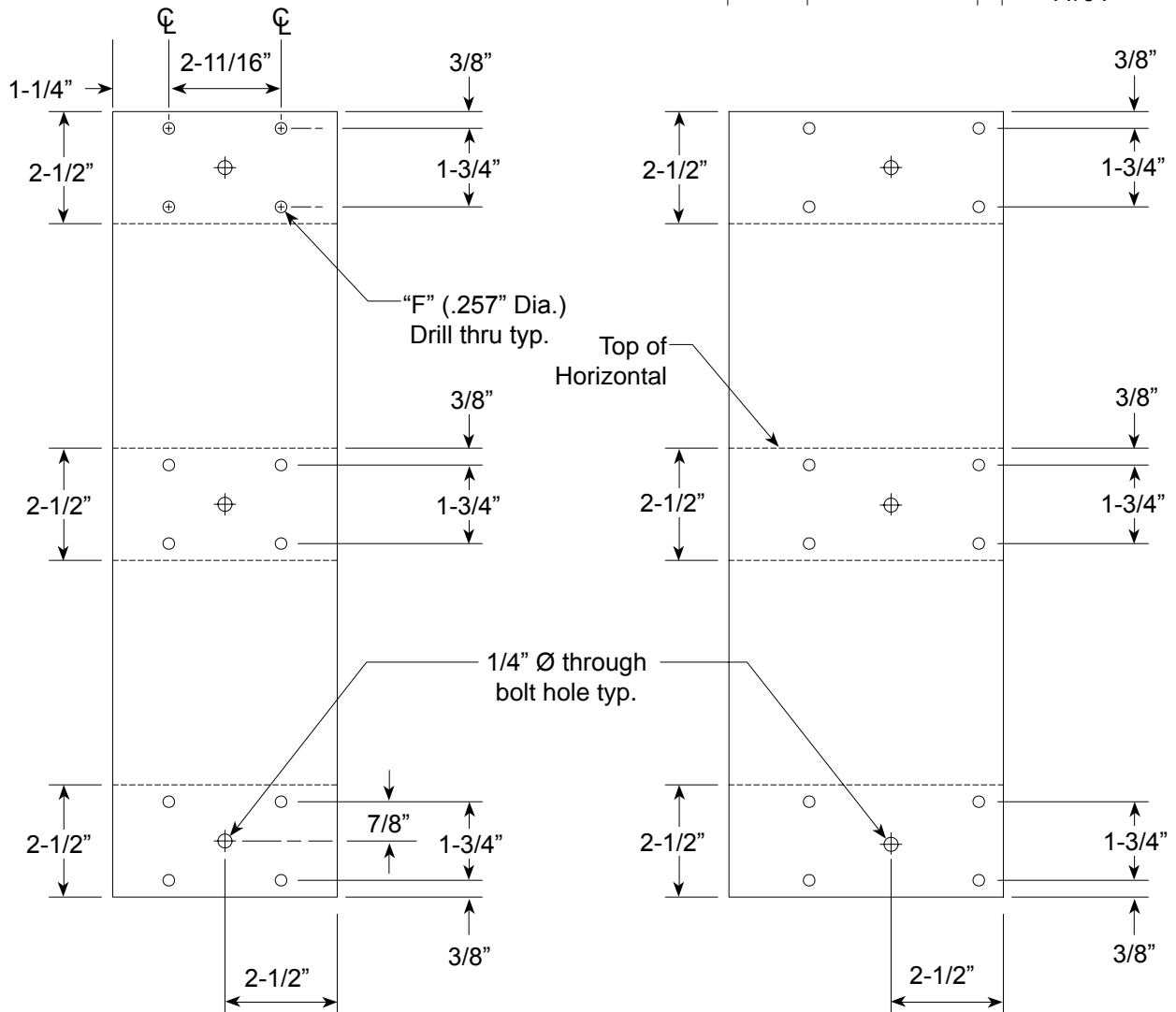
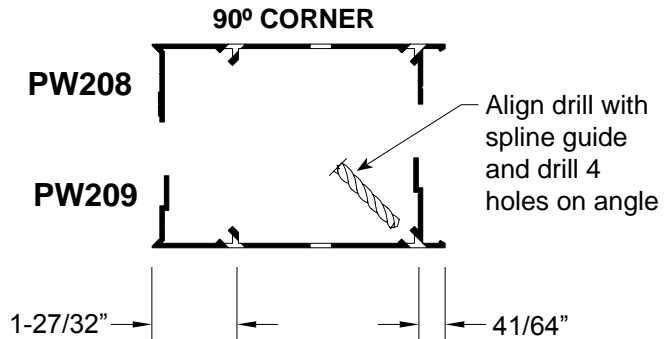
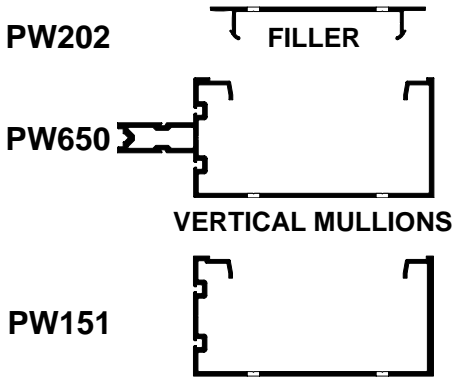
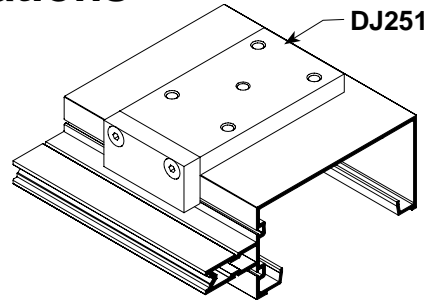
Mullion spacing **tolerance** accumulation **build up** may become a problem on wide multi-bay elevations. Frequently check the cut lengths of head, sill and intermediate horizontal members prior to assembly to prevent tolerance build up. It is also good practice to check overall frame width every four or five bays during installation.

FRAME FABRICATION

Joinery Hole Locations

STEP 4.

Use **DJ251** drill jig or **PW251 Punch Die Set** (same set used for PW251 System) for hole fabrication in verticals for attaching horizontals.

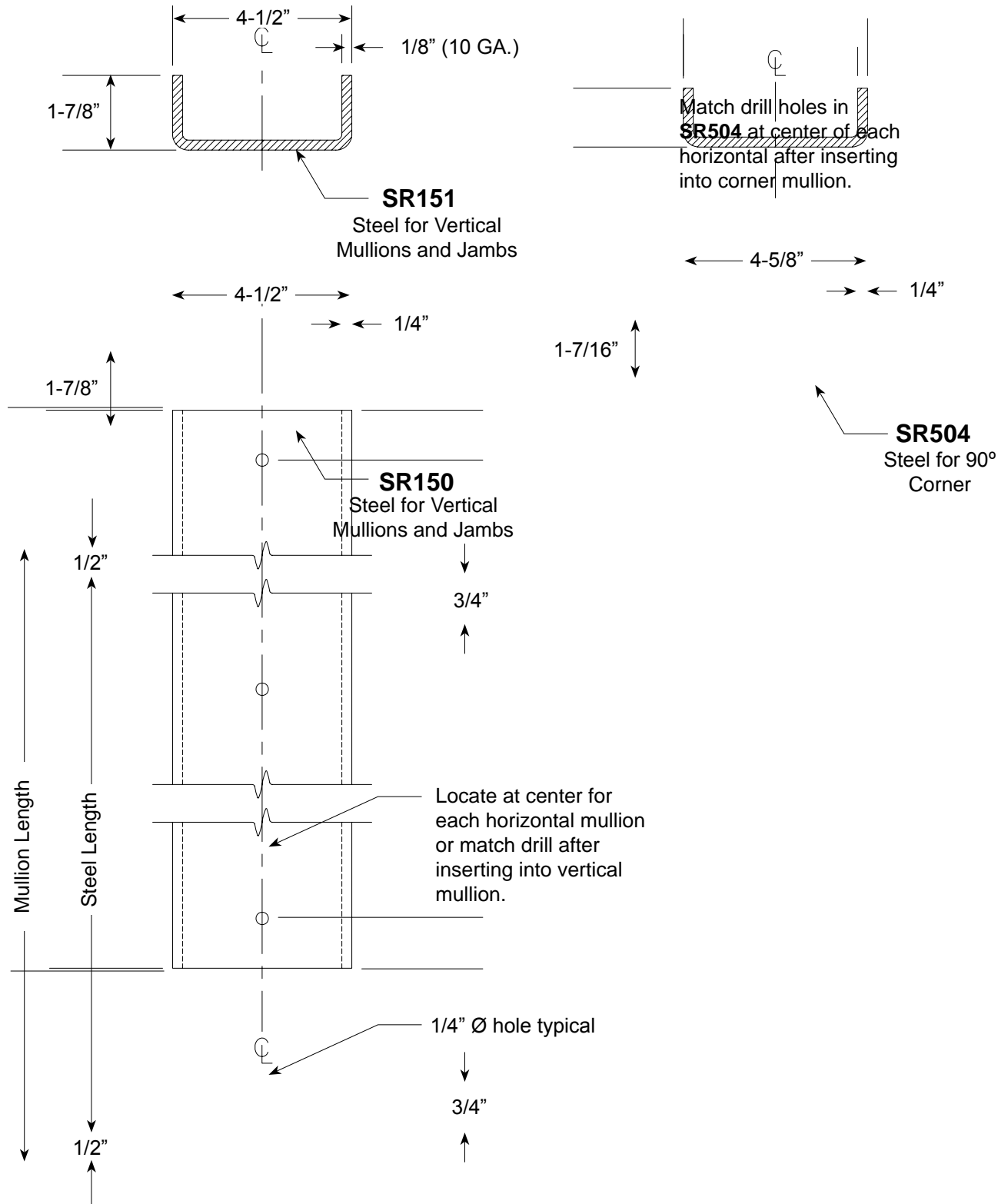


FRAME FABRICATION

Steel Reinforcement

STEP 5.

Fabricate steel reinforcement where required. Cut steel 1" less than length of vertical mullion.



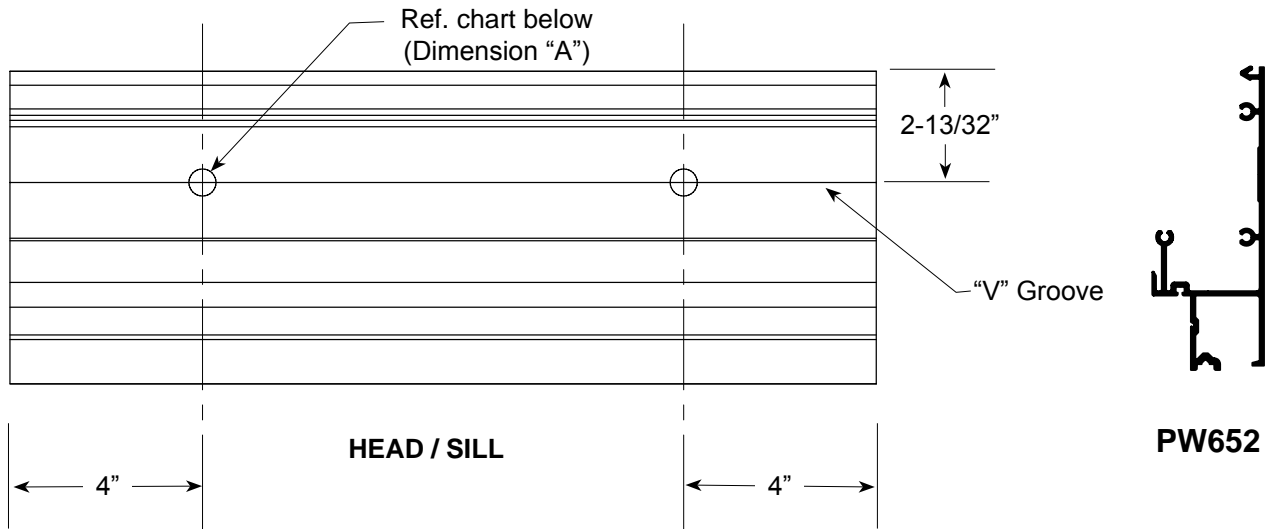
FRAME FABRICATION

Head / Sill

STEP 6.

Fabricate head and sill anchor holes. Drill or punch one (1) ea. anchor hole located approximately 4" from each end of part. Hole should be centered on "V" groove located in extrusion. When two (2) or more fasteners are required, locate each additional fastener at minimum spacing as required for substrate.

Note: Hole Ø may vary depending on bolt size required for meeting job specific wind load conditions. Reference **CAP anchor charts** for typical conditions.



Punch or drill (Reference **page 8**) holes in each end of **PW652**.

ANCHOR BOLT Ø	DIMENSION "A"
3/8"	7/16"
1/2"	9/16"

FRAME FABRICATION

Wall Jamb

STEP 7.

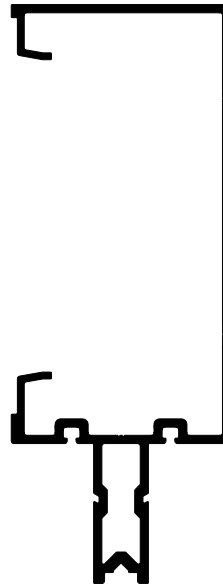
Fabricate for wall jamb using **PW650**, **PW202** and **PW613**.



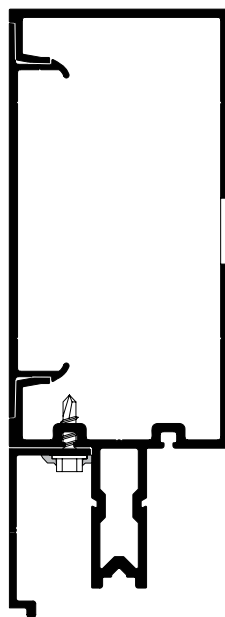
PW202
Flat Filler



PW613
Pocket Filler



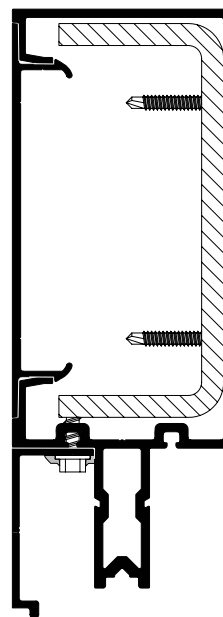
PW650
Vertical Mullion



Single Span

3/4" Access Hole

Wall Jamb



Multi-Span

Locate 8" long **SR150-1** tapping plate at anchor location for multi-span conditions. Reference **page 27, Detail "C"**.

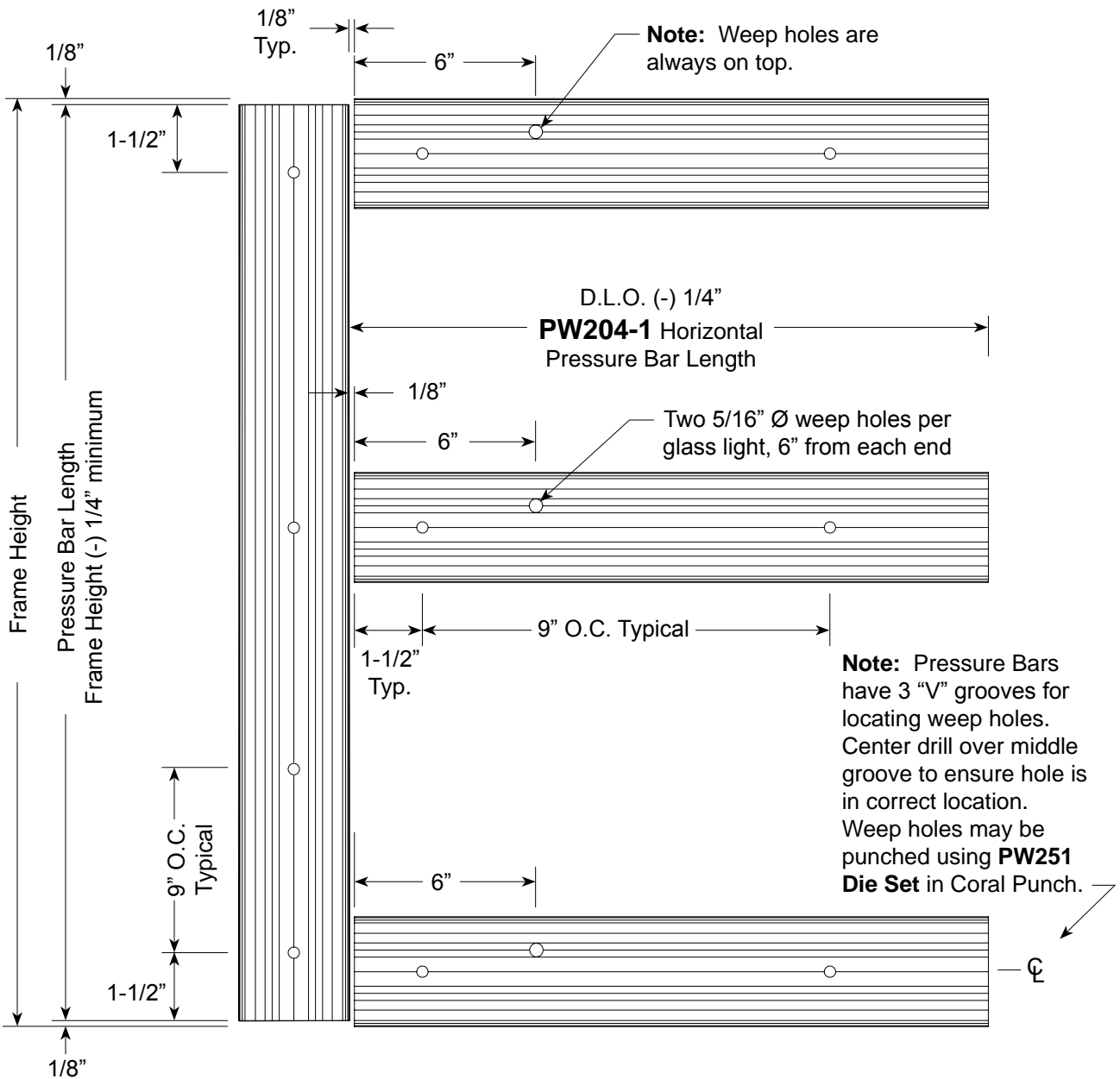
FRAME FABRICATION

Pressure Bar - Captured

STEP 8.

Fabricate vertical and horizontal pressure bars.

Holes for attaching **PW204-1** pressure bars are pre-punched at factory 9" on center. The 1/4" Ø holes located 1-1/2" from each end of pressure bar will need to be added as shown below. Drill hole on "V" groove line.



Note: It is very important to ensure that vertical pressure bars are cut short to prevent dislodging **SP211** top & bottom mullion caps.

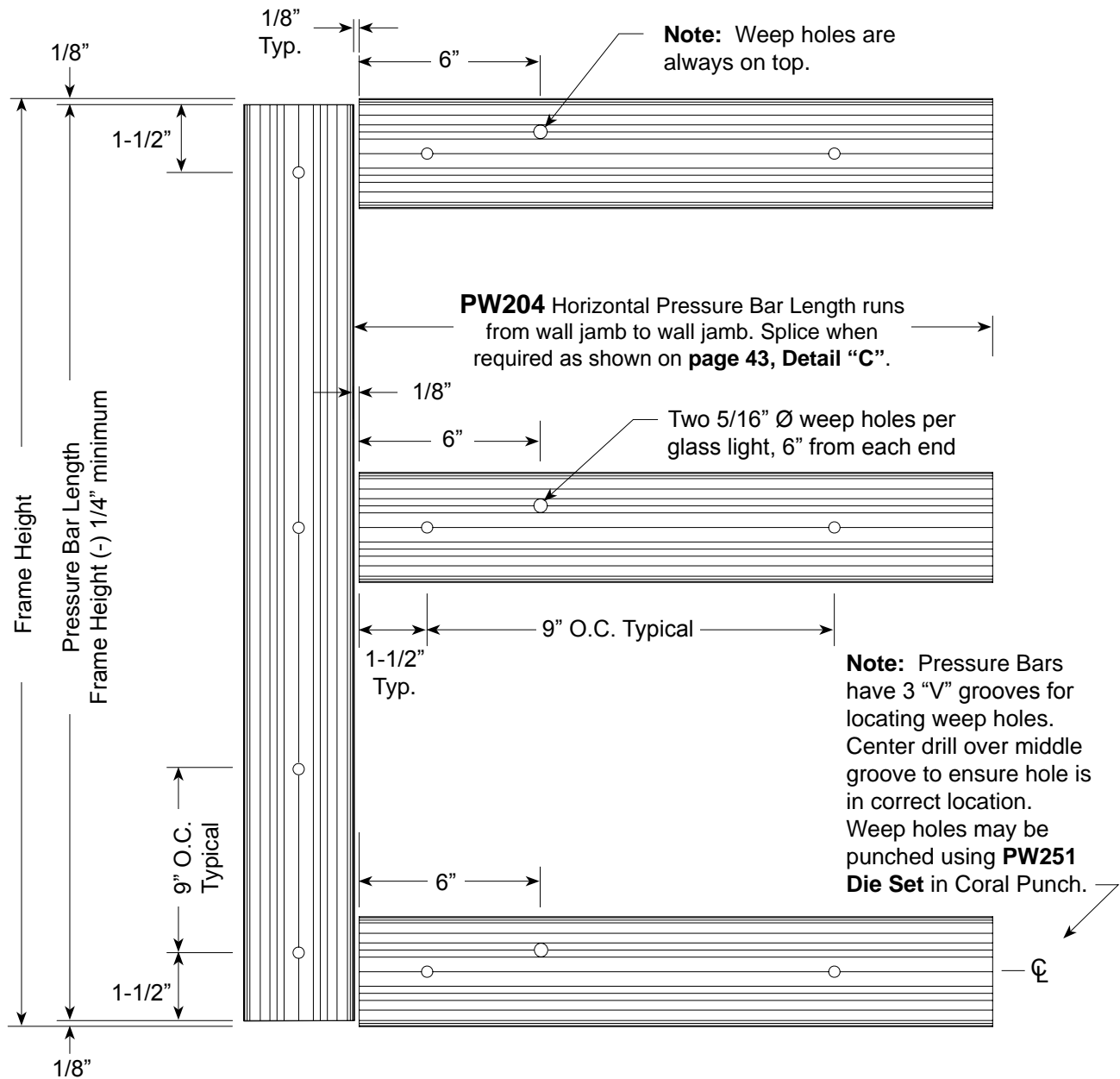
FRAME FABRICATION

Pressure Bar - B.G.

STEP 9.

Fabricate vertical and horizontal pressure bars.

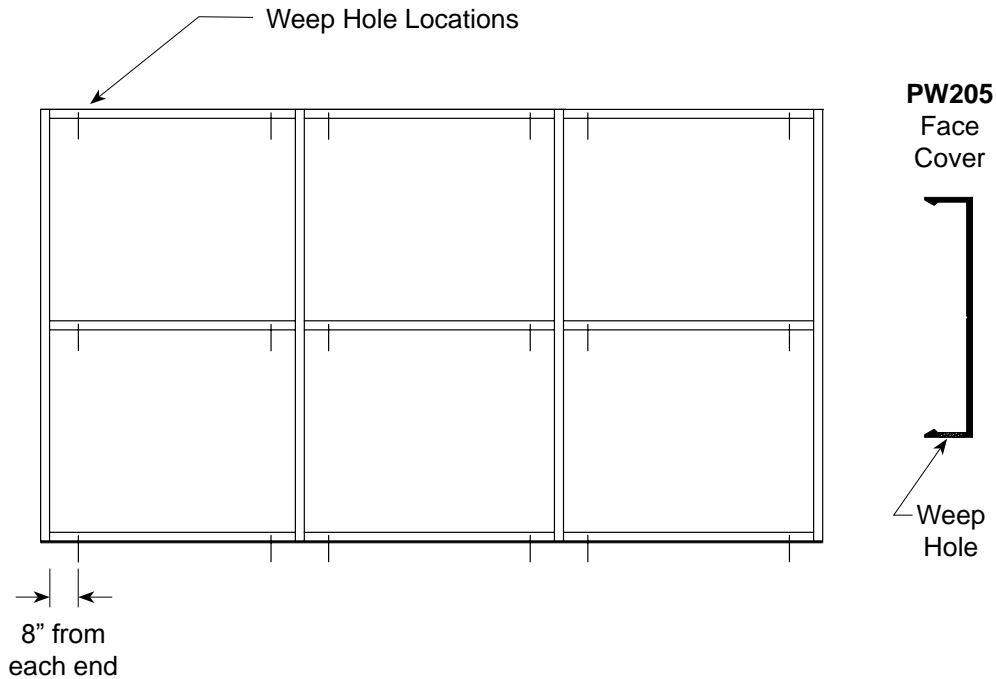
Holes for attaching **PW204** pressure bars are pre-punched at factory 9" on center. The 1/4" Ø holes located 1-1/2" from each end of pressure bar will need to be added as shown below. Drill hole on "V" groove line.



Note: It is very important to ensure that vertical pressure bars are cut short to prevent dislodging **SP211** top & bottom mullion caps.

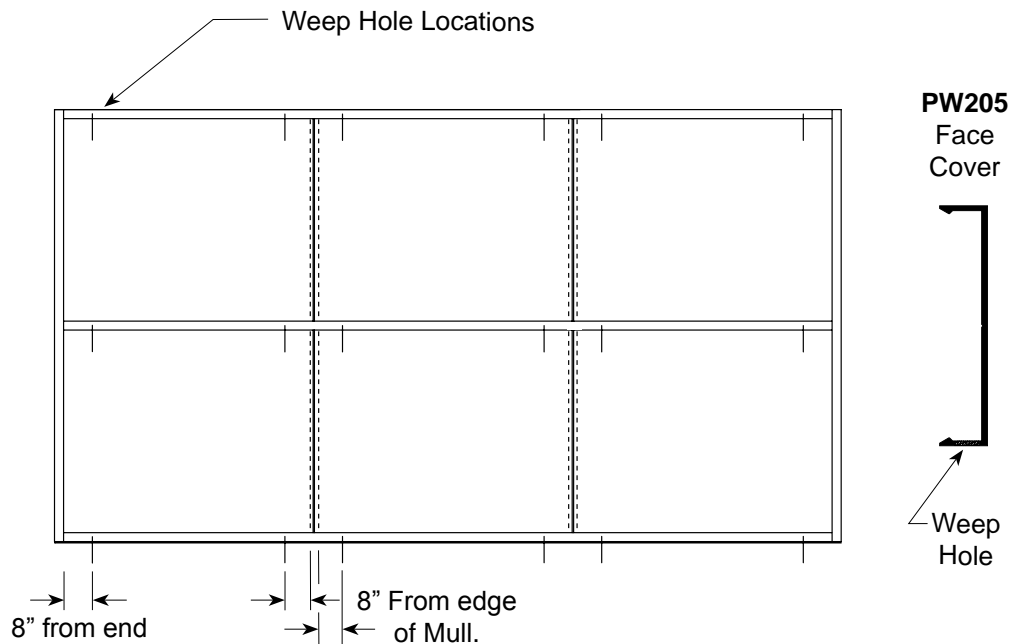
FRAME FABRICATION

Weep Holes for Horizontal Covers



STEP 10. Captured Installation

Fabricate horizontal face covers for 5/16" Ø weep holes. Install covers with weep holes located on the underneath side.



STEP 11. B.G. Installation

Fabricate horizontal face covers for 5/16" Ø weep holes. Install covers with weep holes located on the underneath side when snapping on covers. See **page 43** for splice joints.

FRAME ASSEMBLY Gasket Installation

- - Wet Glaze - -

STEP 1.

Prior to assembly of frames, install the following gaskets into the fabricated framing members:

Back Members: **NG14**

Intermediate Pressure Bars: **NG10**

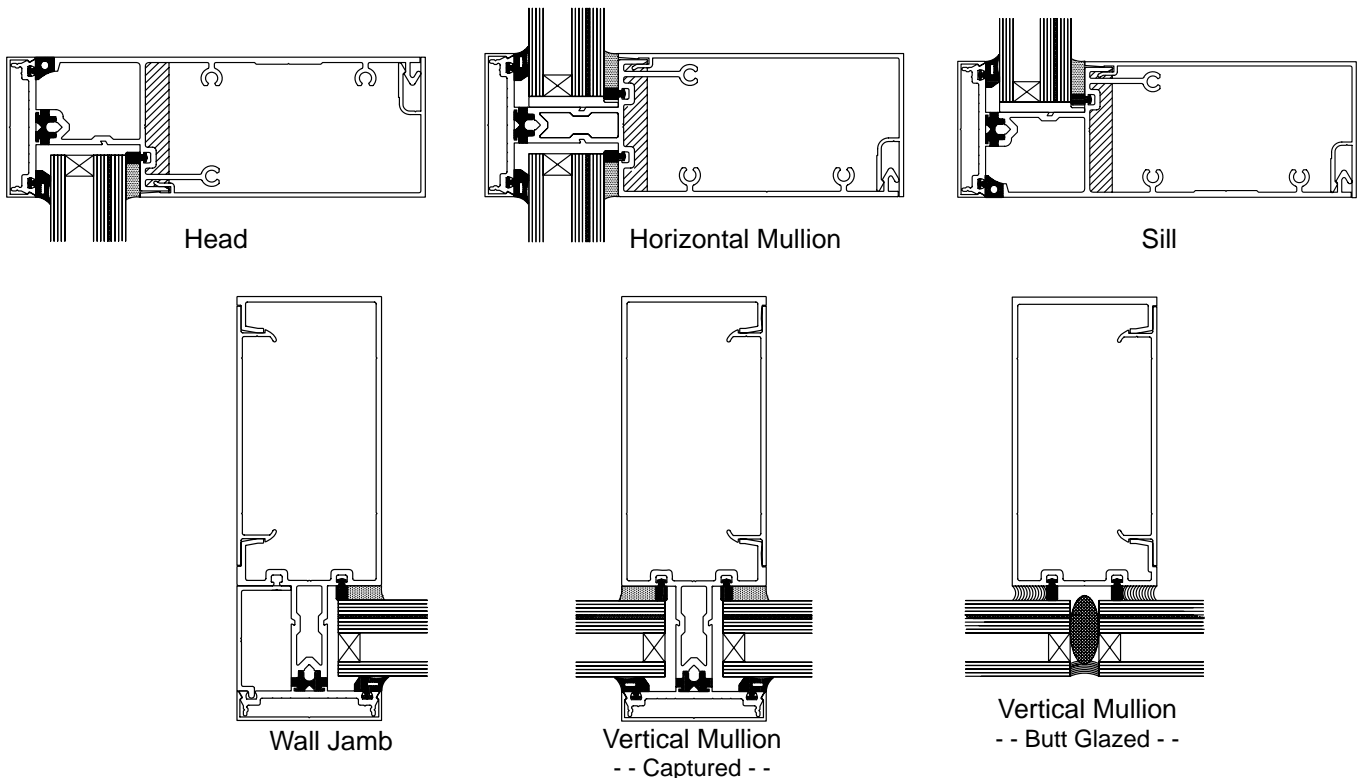
Perimeter Pressure Bars: **NG10** (against glass) and **NG11** (against aluminum)

(Reference **Detail "A"** on **page 42**).

Spacer gasket for B.G. Mullion: **NG14**

GASKET INSTALLATION PROCEDURES *(Do not stretch gaskets)*

1. Cut gaskets allowing for 1/8" extra length per foot of framing members to accommodate shrinkage.
2. **NG10** gaskets for vertical back members are cut D.L.O. plus 1-1/4".
(Reference **Detail "A"** on **page 38**).
3. **NG14** Vertical spacer gasket runs full length on **PW151** B.G. mullion.
(Reference **Detail "B"** on **page 38**).
4. Horizontal spacer gasket is cut to D.L.O. length.
5. Horizontal pressure bar: glazing gasket should extend 1/8" beyond end of pressure bar.
6. Vertical pressure bar: gasket runs full length.



FRAME ASSEMBLY Gasket Installation

-- Dry Glaze --

STEP 1.

Prior to assembly of frames, install the following gaskets into the fabricated framing members:

Back Members: **NG16**

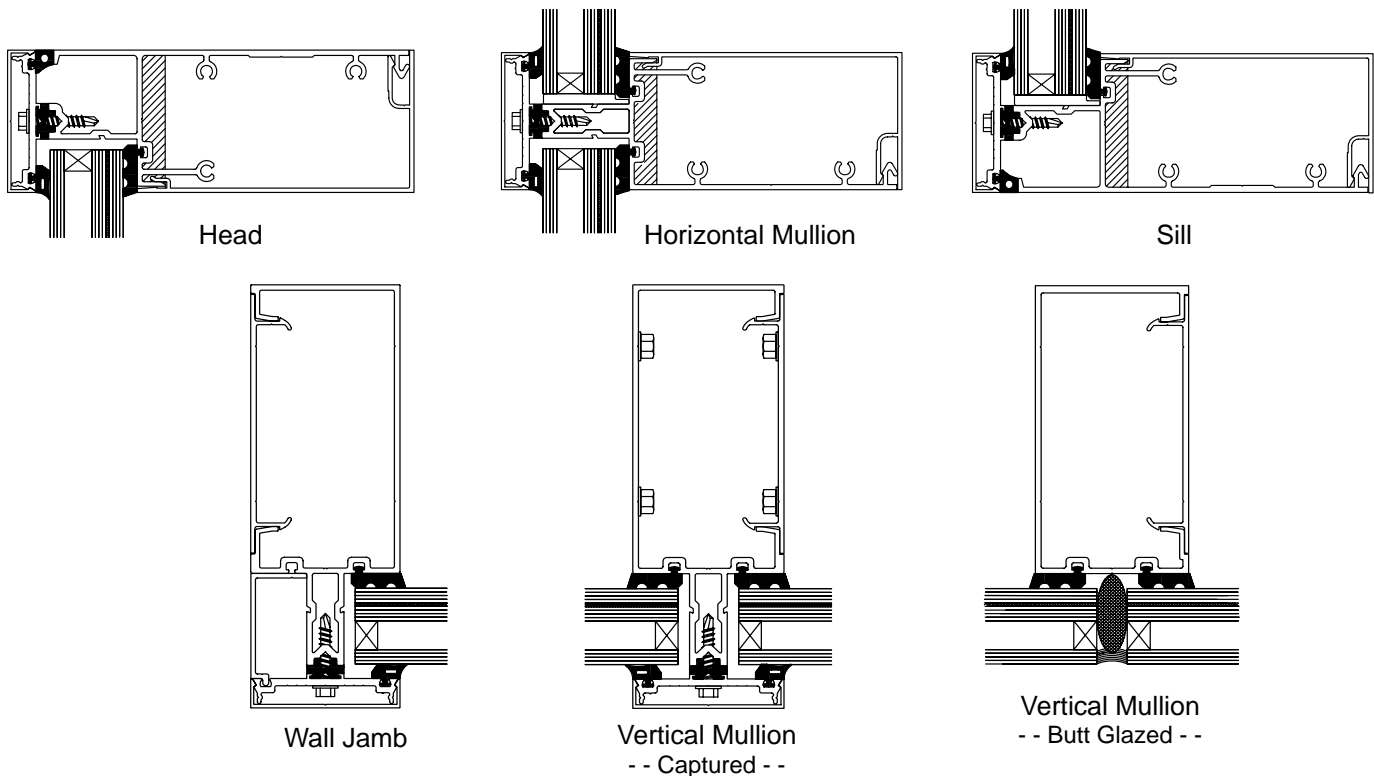
Intermediate Pressure Bars: **NG10**

Perimeter Pressure Bars: **NG10** (against glass) and **NG11** (against aluminum)
(Reference **Detail "A"** on **page 42**).

Spacer gasket for B.G. Mullion: **NG16**

GASKET INSTALLATION PROCEDURES *(Do not stretch gaskets)*

1. Cut gaskets allowing for 1/8" extra length per foot of framing members to accommodate shrinkage.
2. **NG10** gaskets for vertical back members are cut D.L.O. plus 1-1/4".
(Reference **Detail "A"** on **page 38**).
3. **NG16** Vertical spacer gasket runs full length on **PW151** B.G. mullion.
(Reference **Detail "B"** on **page 38**).
4. Horizontal spacer gasket is cut to D.L.O. length.
5. Horizontal pressure bar: glazing gasket should extend 1/8" beyond end of pressure bar.
6. Vertical pressure bar: gasket runs full length.

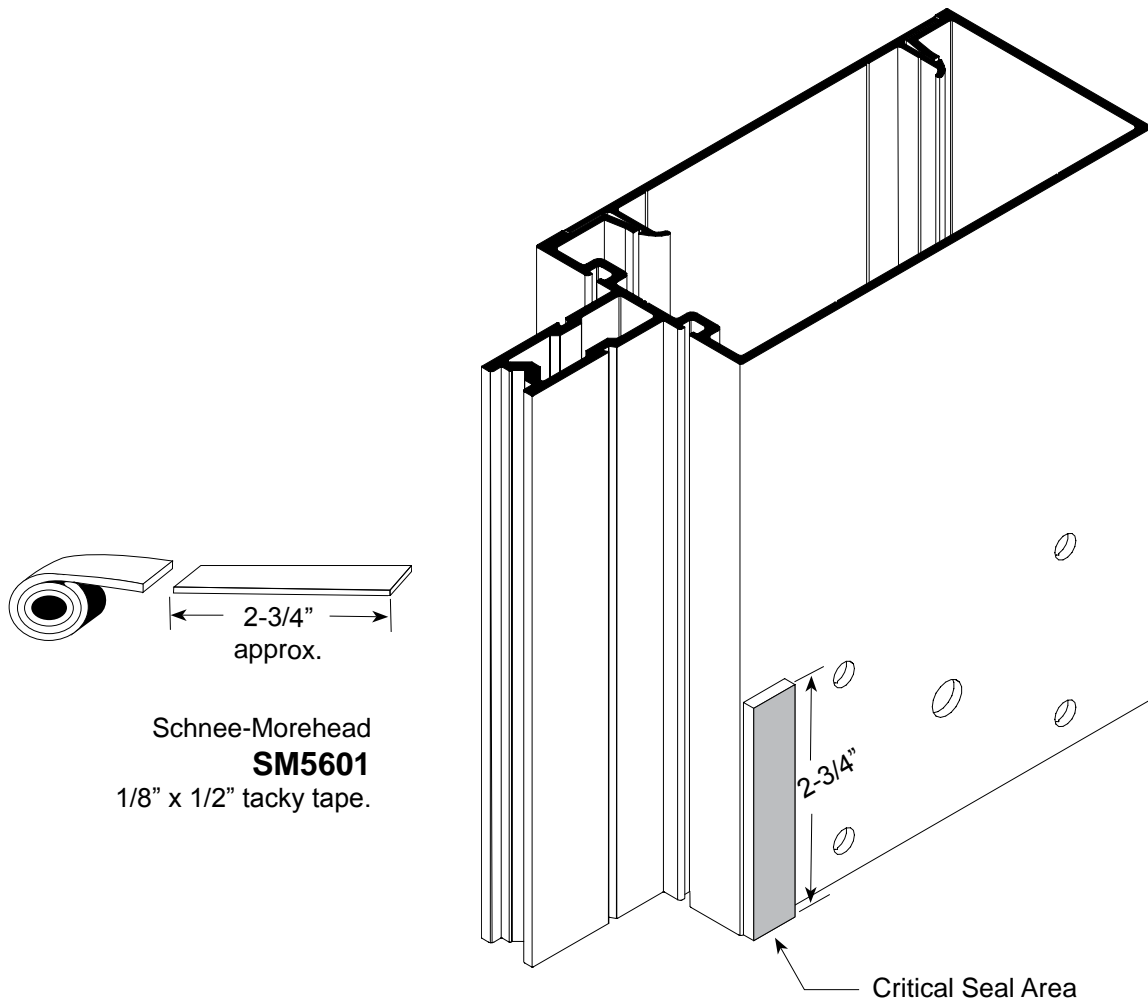


FRAME ASSEMBLY Joinery Tape Application

STEP 2.

GLAZING TAPE INSTALLATION PROCEDURES: *Ref. Step 3.*

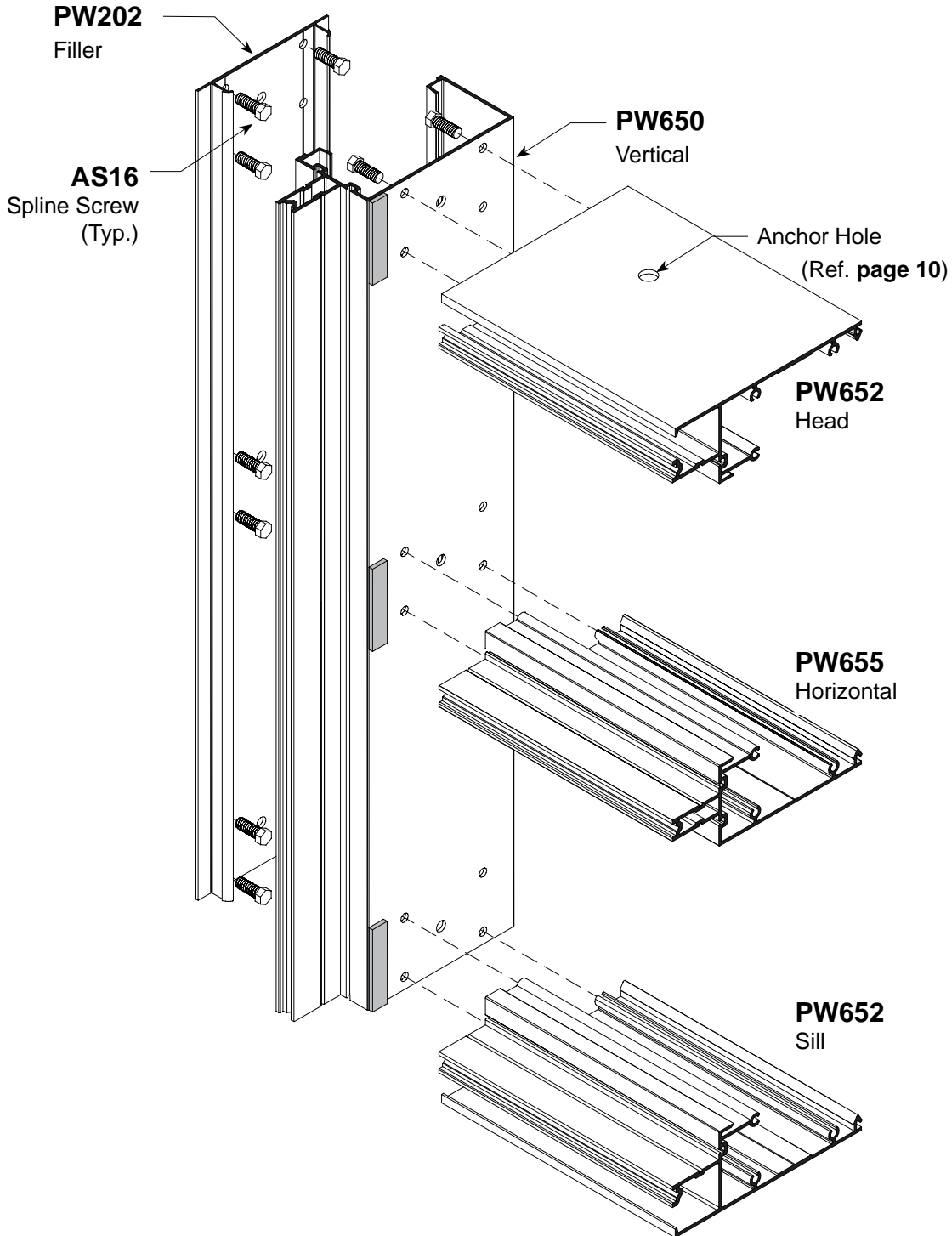
1. Cut **SM5601** 1/8" x 1/2" tack tape approximately 2-3/4" long.
2. Clean surfaces where tape is to be applied with isopropyl alcohol or solvent to remove all dirt and cutting oils. Allow surface to dry before applying tape.
3. Position tape on vertical mullions at horizontal joint intersections.
4. Just prior to frame assembly, remove protective cover and screw joints together.
5. Use a box knife to trim excess sealant tape where exposed. Do not pull tape to trim.



CAPTURED FRAME ASSEMBLY Vertical to Horizontal Joinery

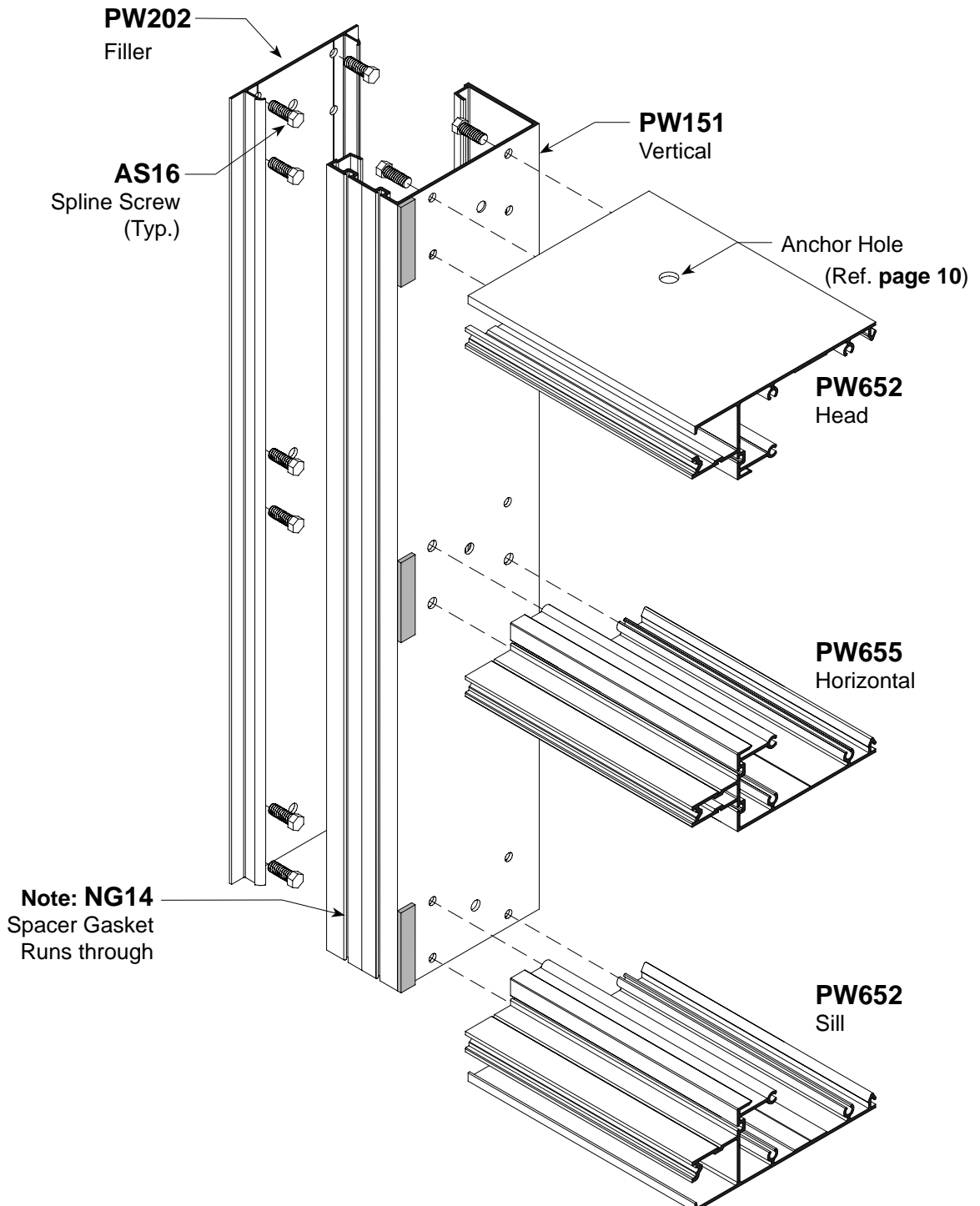
STEP 3.

Note: Reference page 38, Detail "A"
for NG14 Gasket location in vertical.



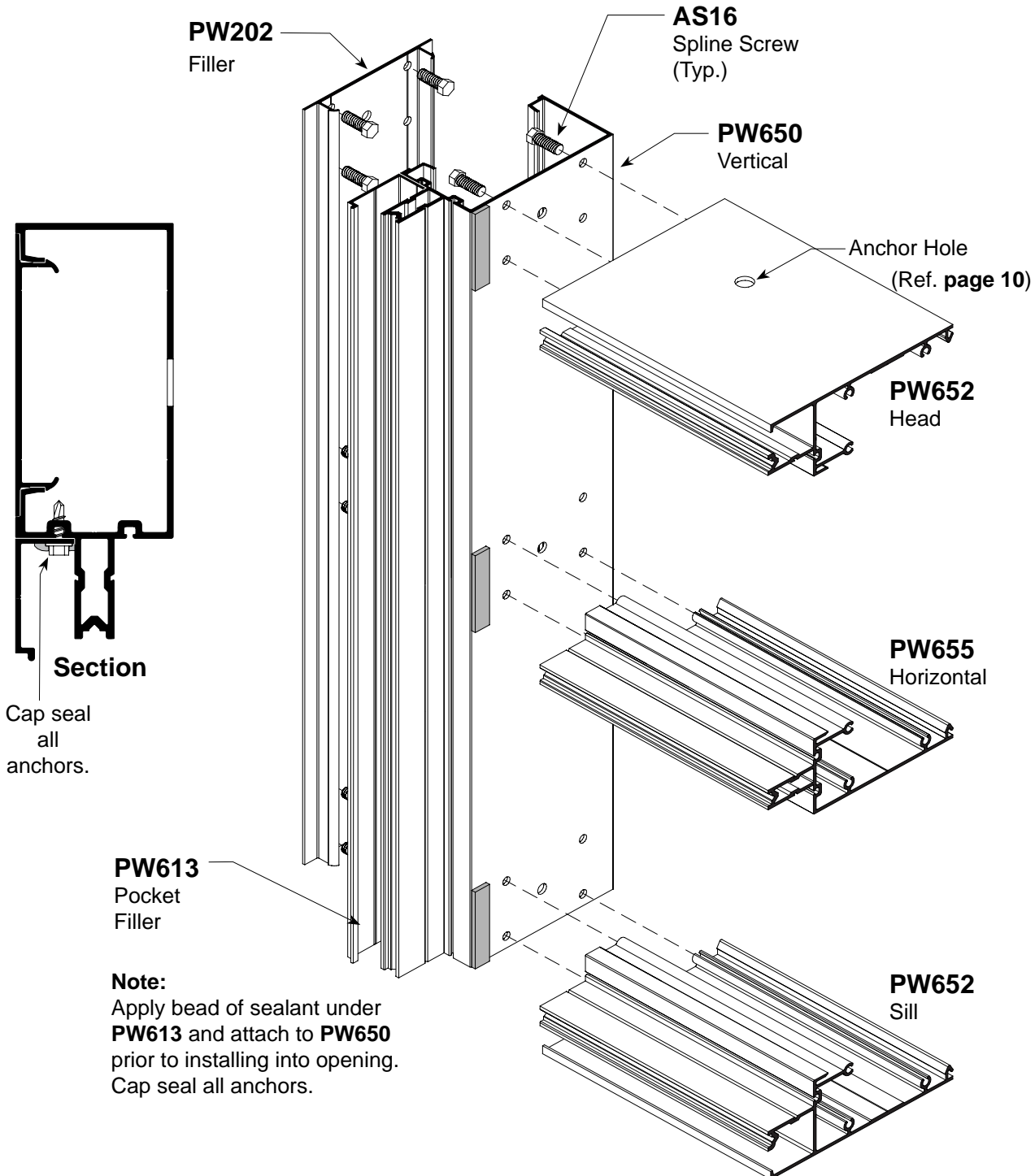
B.G. MULLION FRAME ASSEMBLY Vertical to Horizontal Joinery

STEP 4.



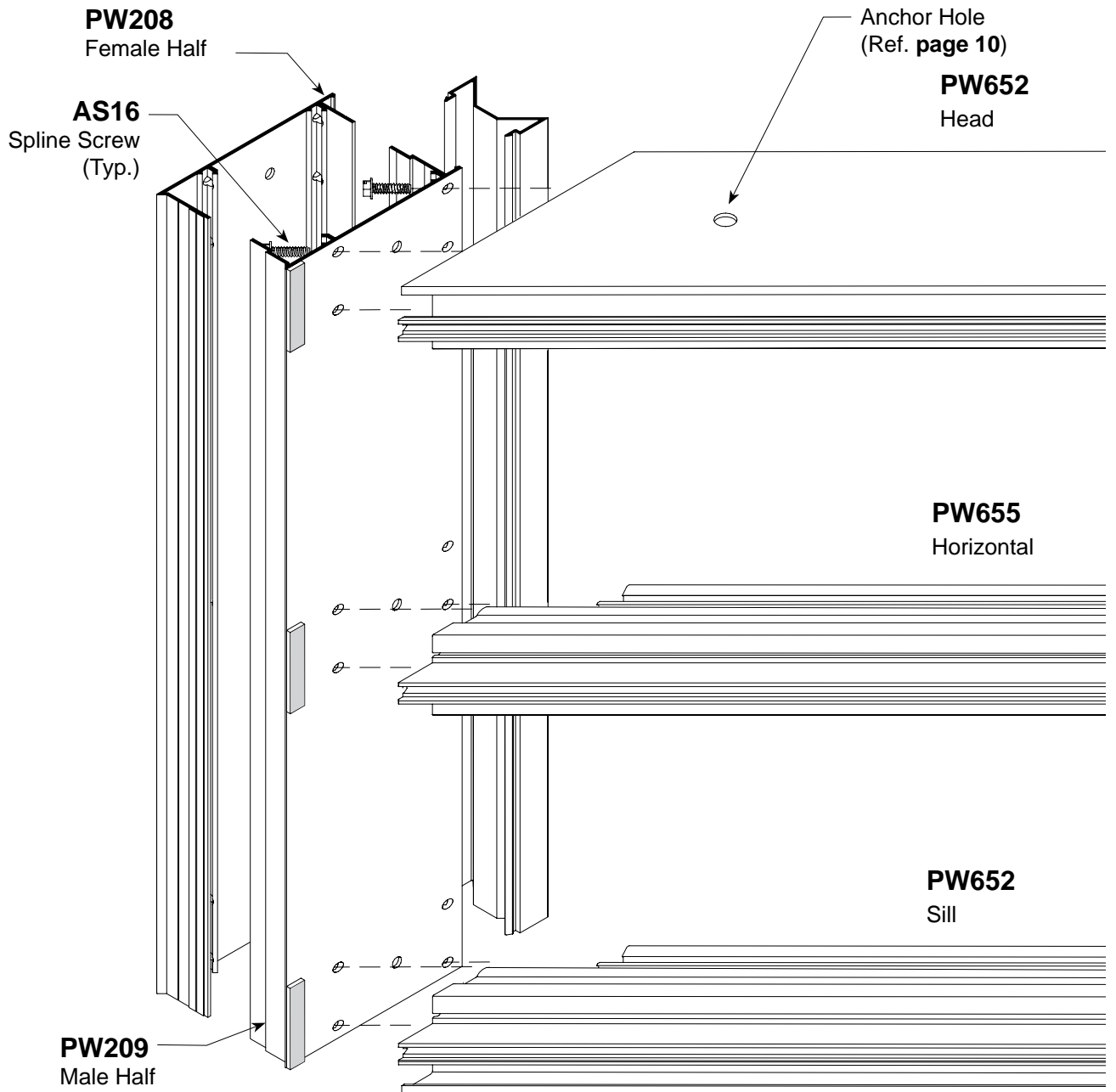
WALL JAMB ASSEMBLY Vertical to Horizontal Joinery

STEP 5.



OUTSIDE CORNER ASSEMBLY Corner to Horizontal Joinery

STEP 6.



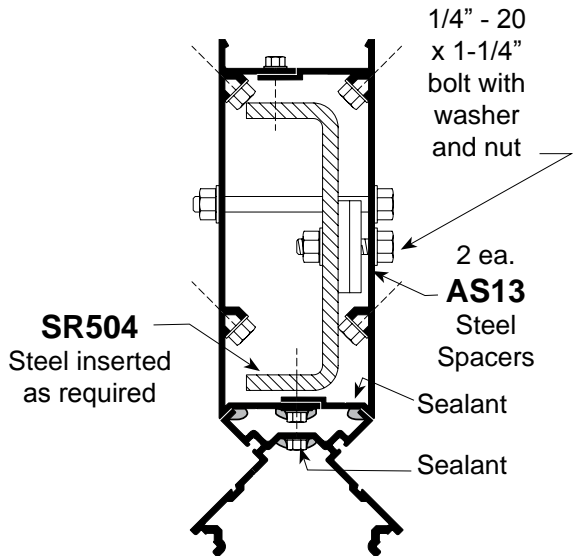
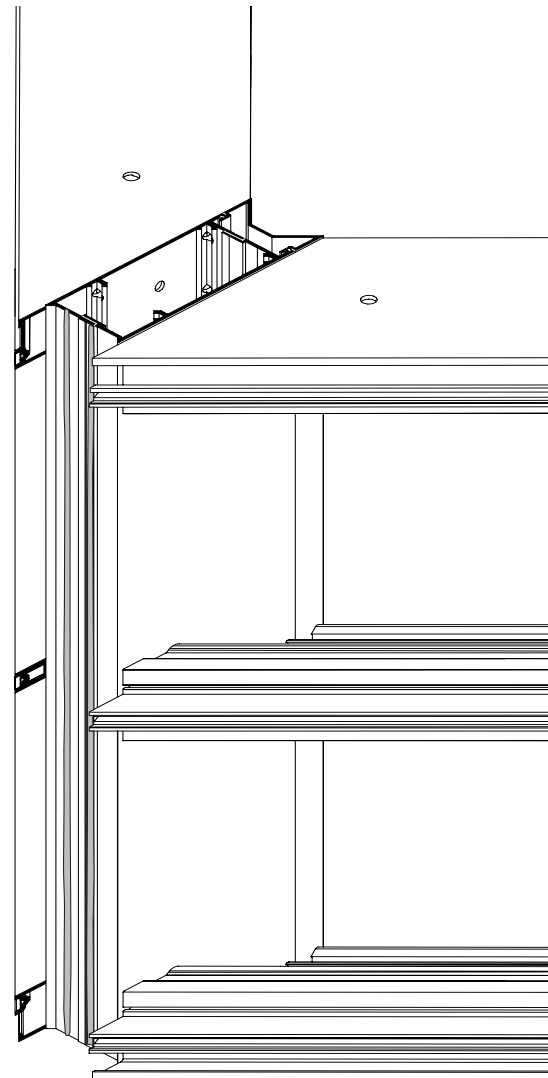
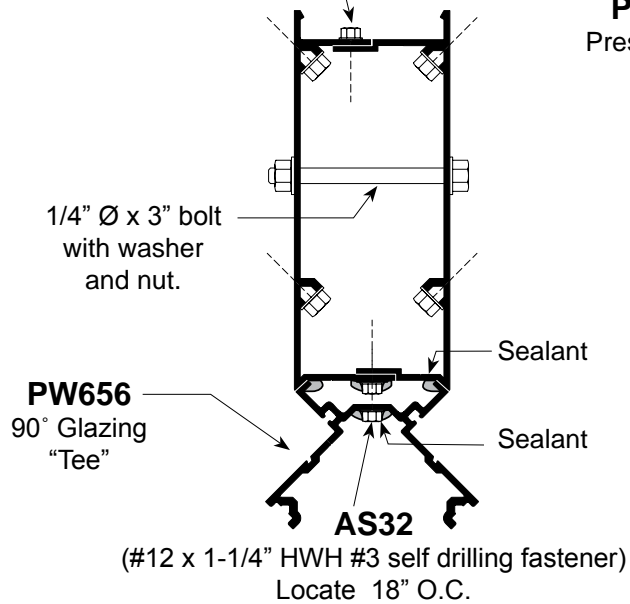
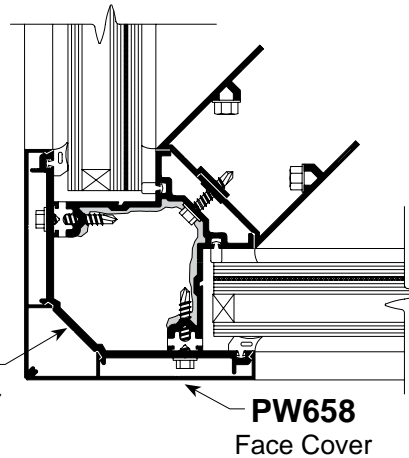
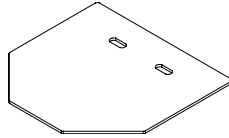
OUTSIDE CORNER ASSEMBLY

Corner Assembly Fasteners

STEP 7.

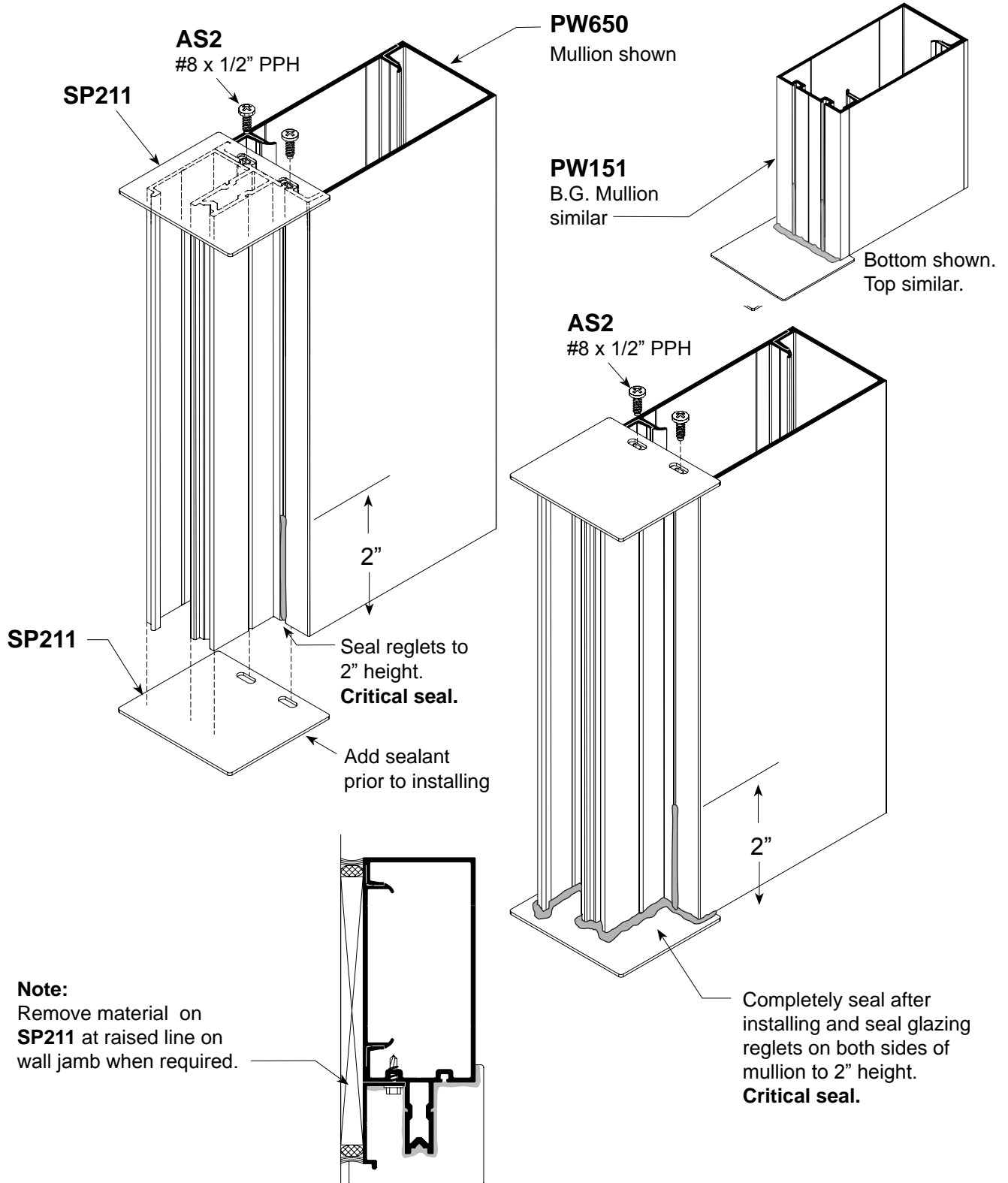
AS25
 (#12 x 3/4" HWH #3 self drilling fastener) Locate 18" O.C. at front and back.

SP214
 Corner Cap



MULLION CAP INSTALLATION Captured and B.G.

STEP 8. Prior to installing frames into opening, install aluminum **SP210** mullion caps at top and bottom of vertical members as shown below to ensure continuous perimeter seal.

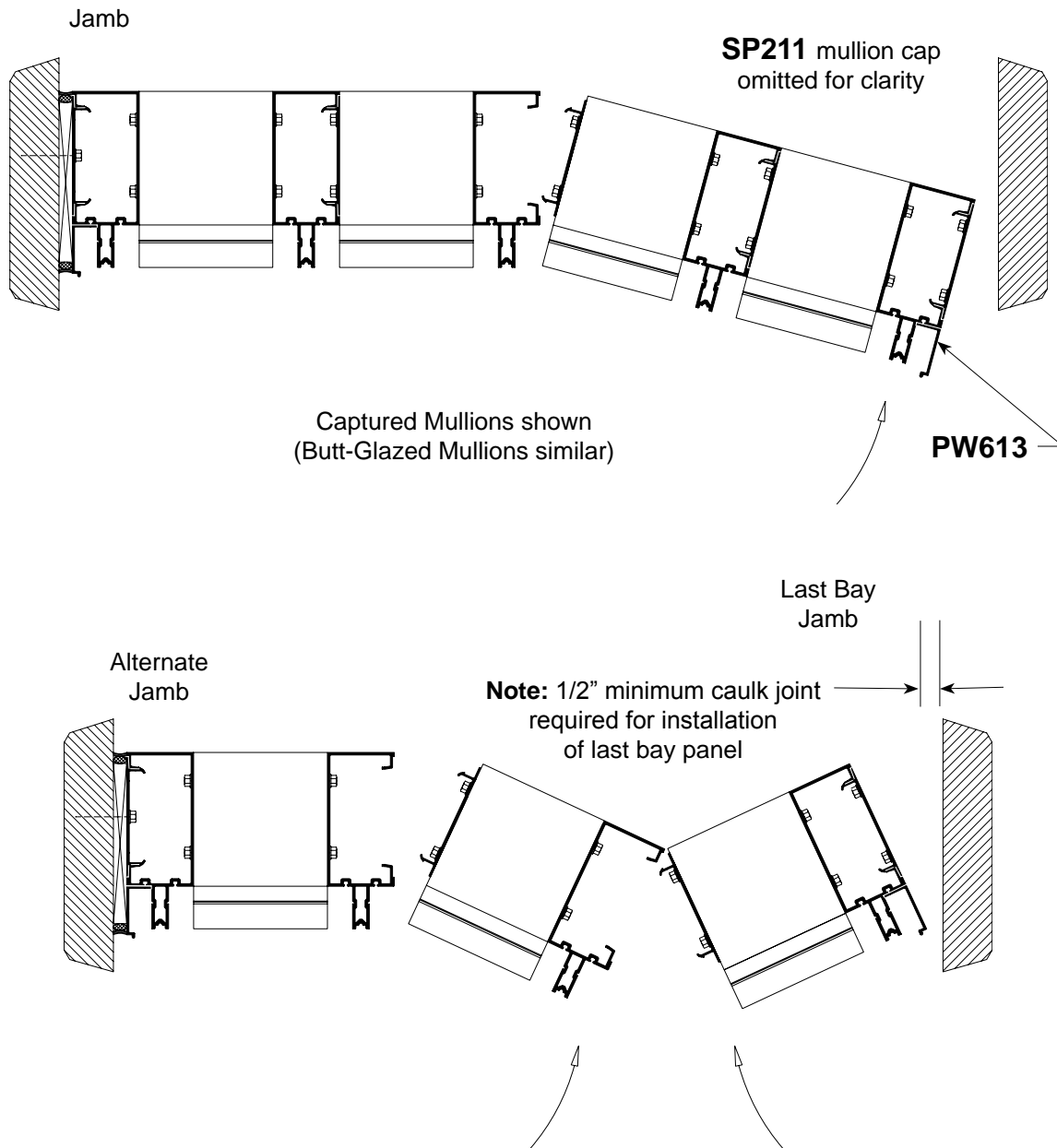


FRAME INSTALLATION Panelized Assembly

STEP 1.

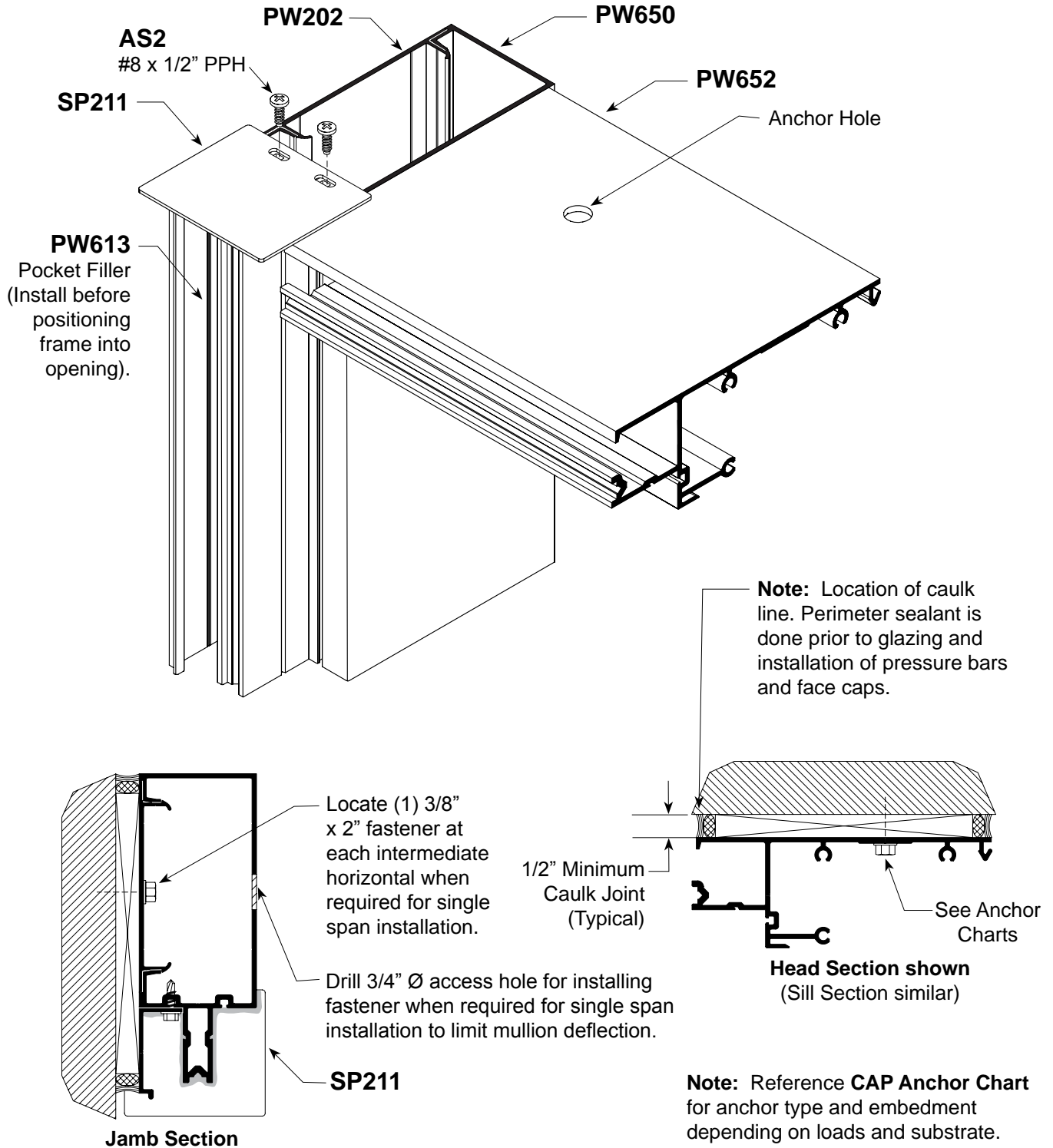
Install assembled frame panels into opening starting with jamb and continue working toward the last bay until the last panel is installed. Reference illustrations shown below for sequencing.

Note: Snap-in **PW202** flat filler and **PW613** pocket filler into jambs prior to installing. **PW613** is difficult to install after jambs are installed due to limited work space.



TYPICAL JAMB INSTALLATION

STEP 2.



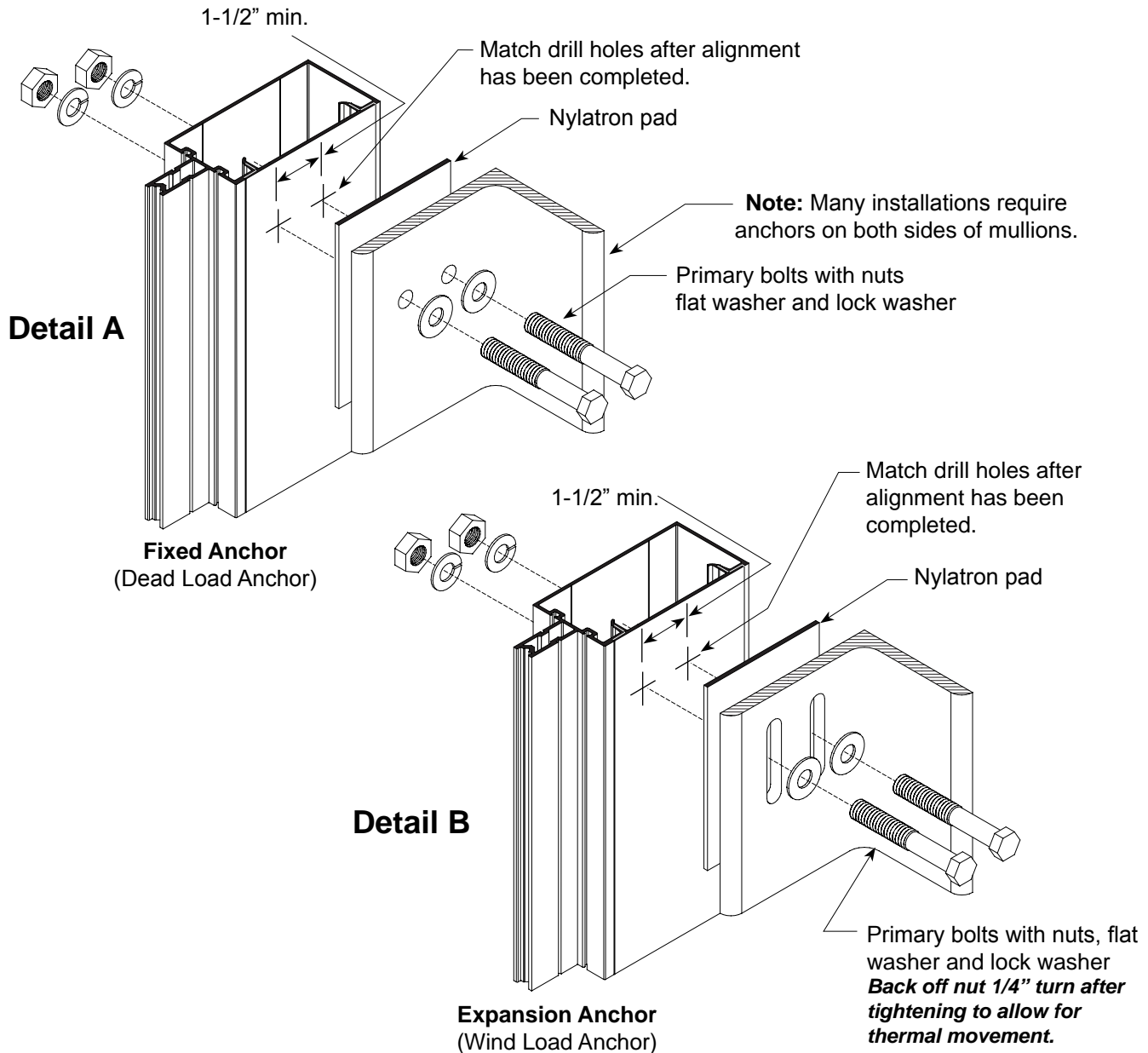
STEEL ANCHOR INSTALLATION

Multi-Span Condition

Details A and B show fixed (dead load) and expansion (wind load) anchors. Anchor type, size and quantity vary per job requirements. Details shown are to be used as a guide only. See approved shop drawings for actual conditions.

Step 1. Secure verticals to anchor clips after alignment has been completed.

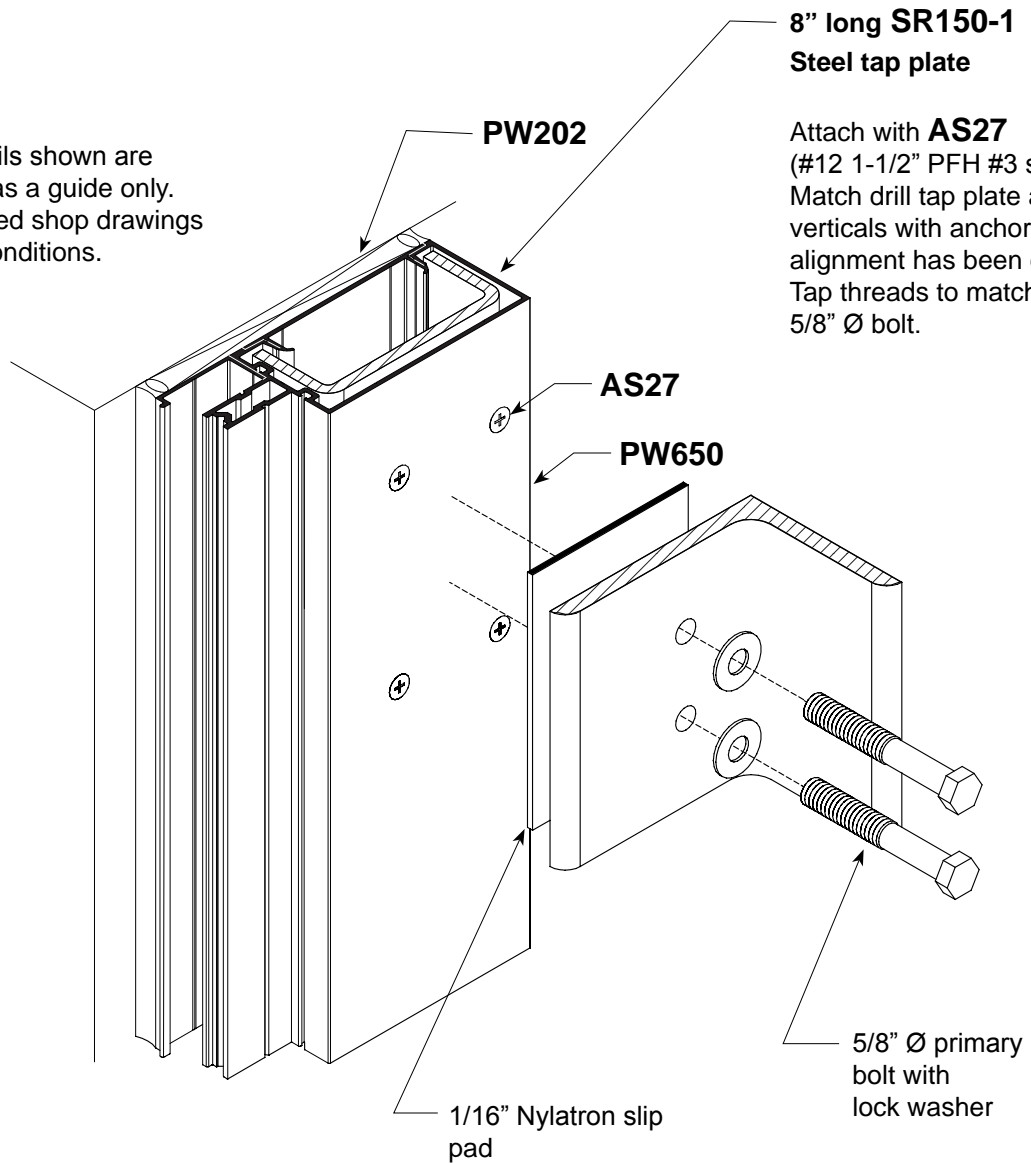
Note: Mullion spacing must be held to within $\pm 1/32"$. Check overall frame dimension every four bays to monitor dimension build up.



JAMB ANCHOR INSTALLATION Multi-Span Condition

STEP 2.

Note: Details shown are to be used as a guide only. See approved shop drawings for actual conditions.



**8" long SR150-1
Steel tap plate**

Attach with **AS27**
(#12 1-1/2" PFH #3 self drill).
Match drill tap plate and
verticals with anchor after
alignment has been completed.
Tap threads to match
5/8" Ø bolt.

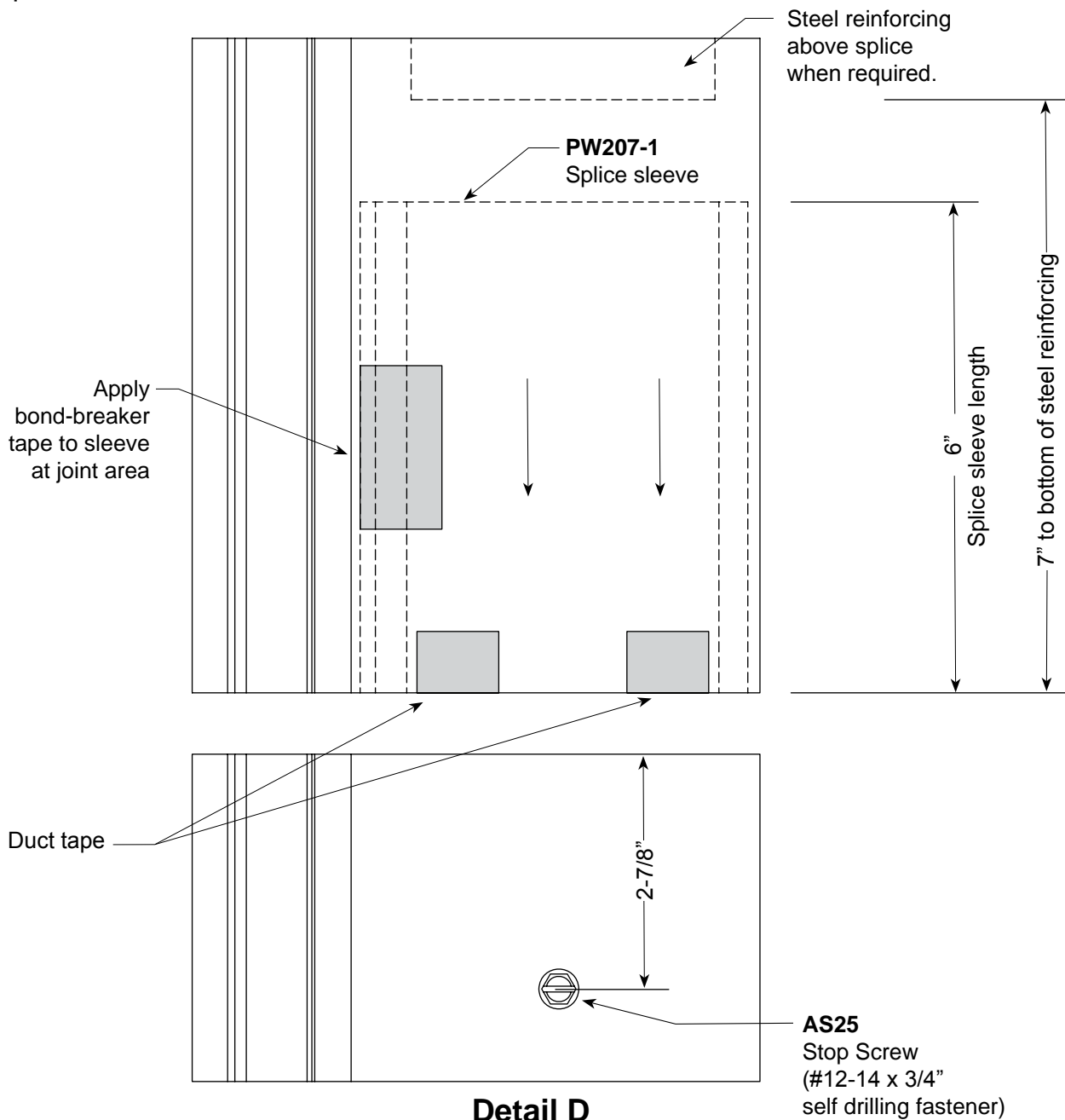
Detail C
Fixed Anchor
(Dead Load) shown

Note: Reference **Detail B**
on **page 26** for wind load anchor.

SPLICE DETAIL Vertical Mullion - Multi-Span

STEP 3.

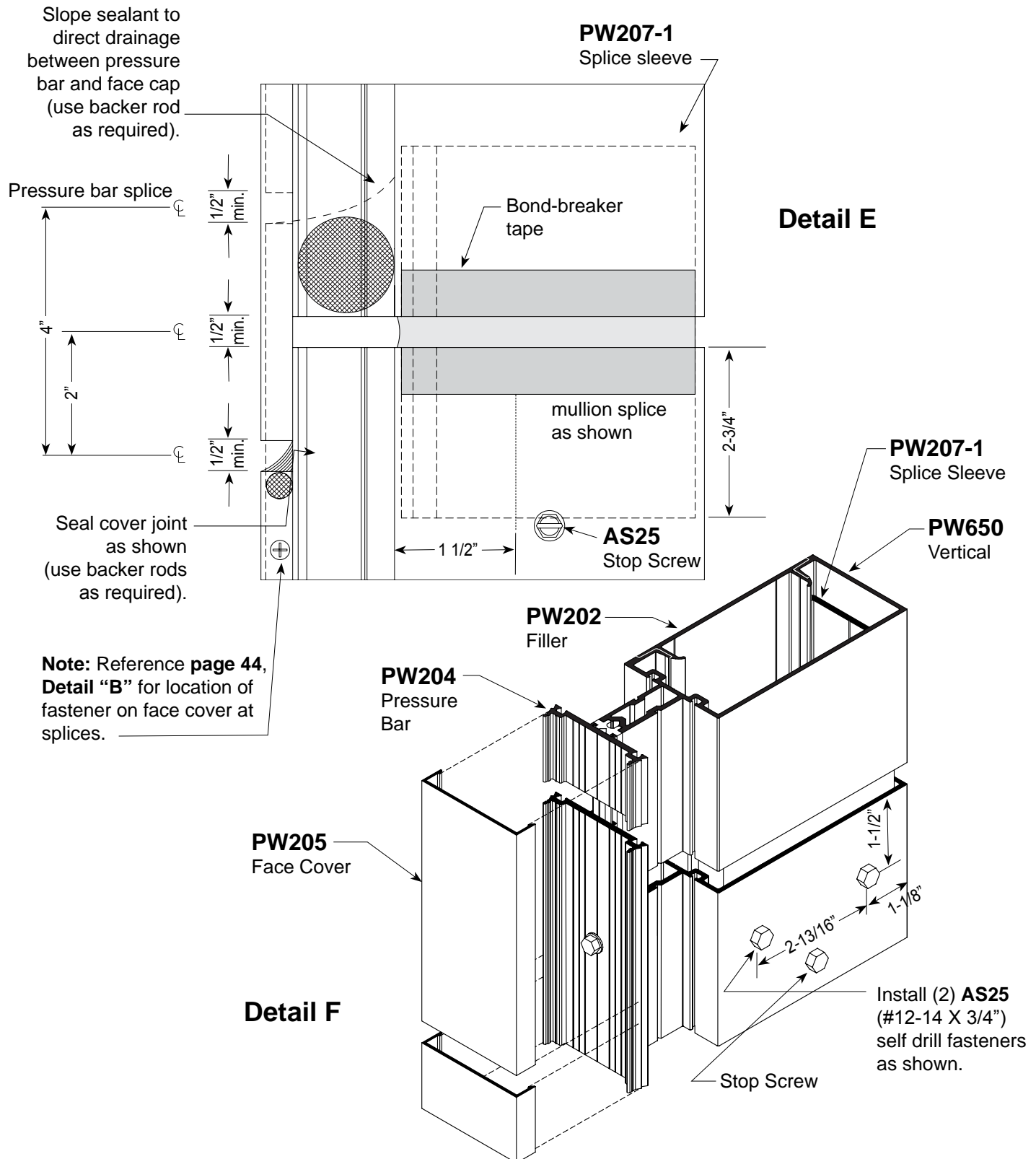
1. Clean splice sleeves and all joint surfaces. Apply bond breaker tape at areas where sleeve will be sealed to avoid three side adhesion.
2. Slide sleeve into the upper member before it is installed and use duct tape to hold it in retracted position.
3. Install **AS25** stop screw 2-7/8" from top of lower member as shown below.
4. Install upper member, remove duct tape and let extruded sleeve slide down until it rests on top of stop screw.
5. Seal joint over sleeve as shown on **Detail "F"** (page 29). Stagger joints on back members, pressure bars and face covers.



SPLICE DETAIL

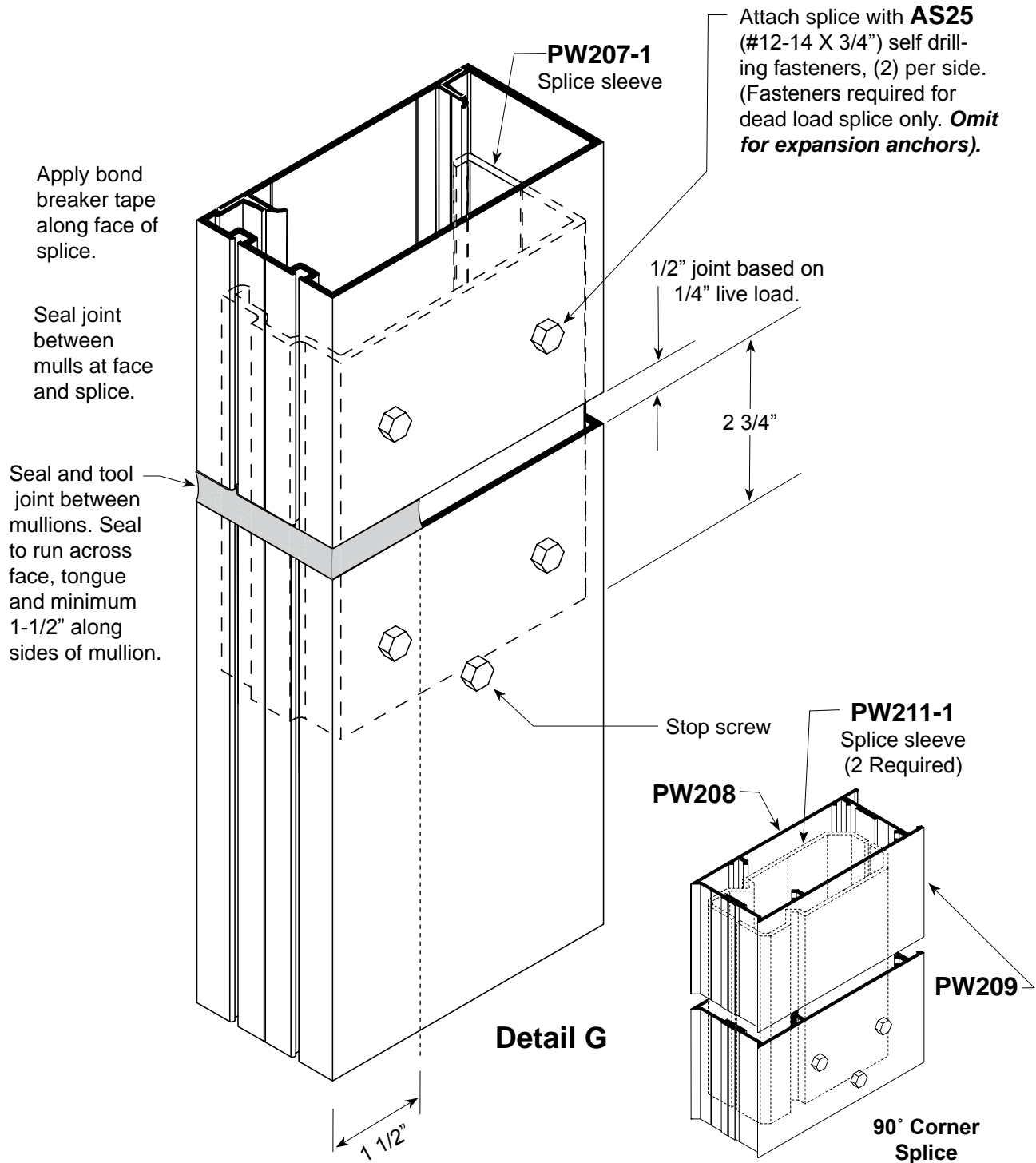
Vertical Mullion - Multi-Span

STEP 4.



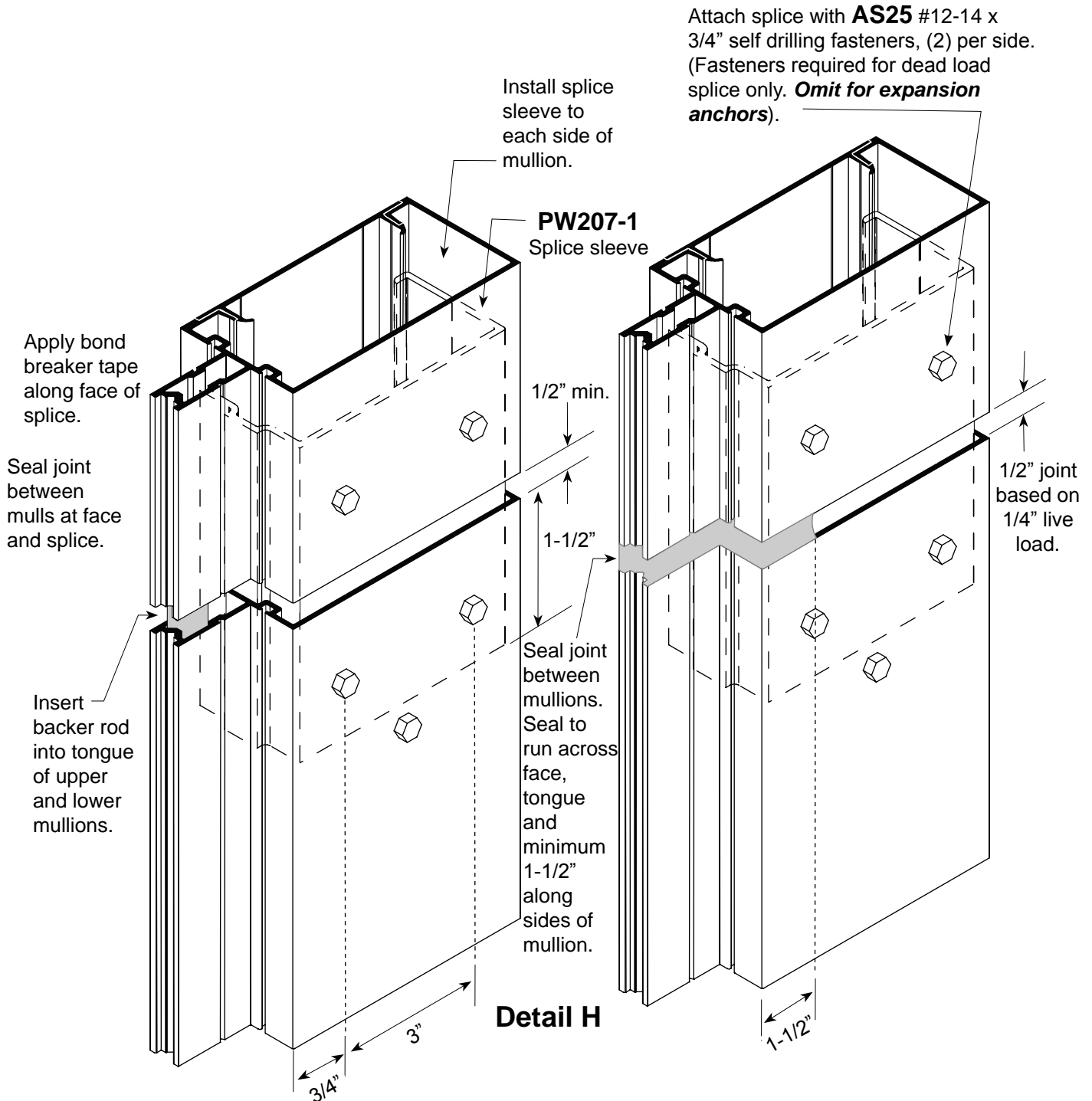
FRAME INSTALLATION B.G. Splice Sleeve

STEP 1.



FRAME INSTALLATION Splice Sleeve

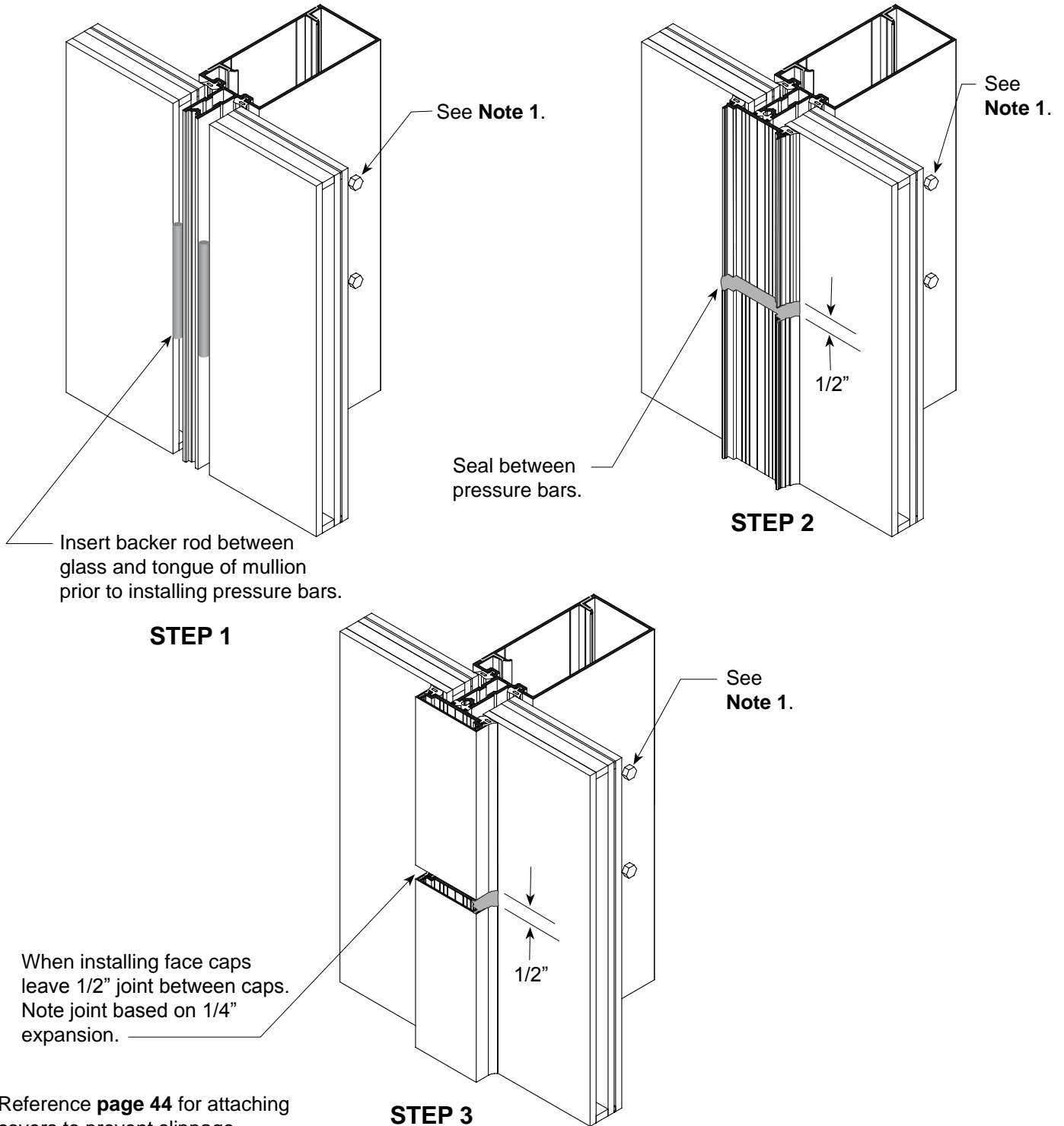
STEP 1.



FRAME INSTALLATION

Vertical Mullion Splicing

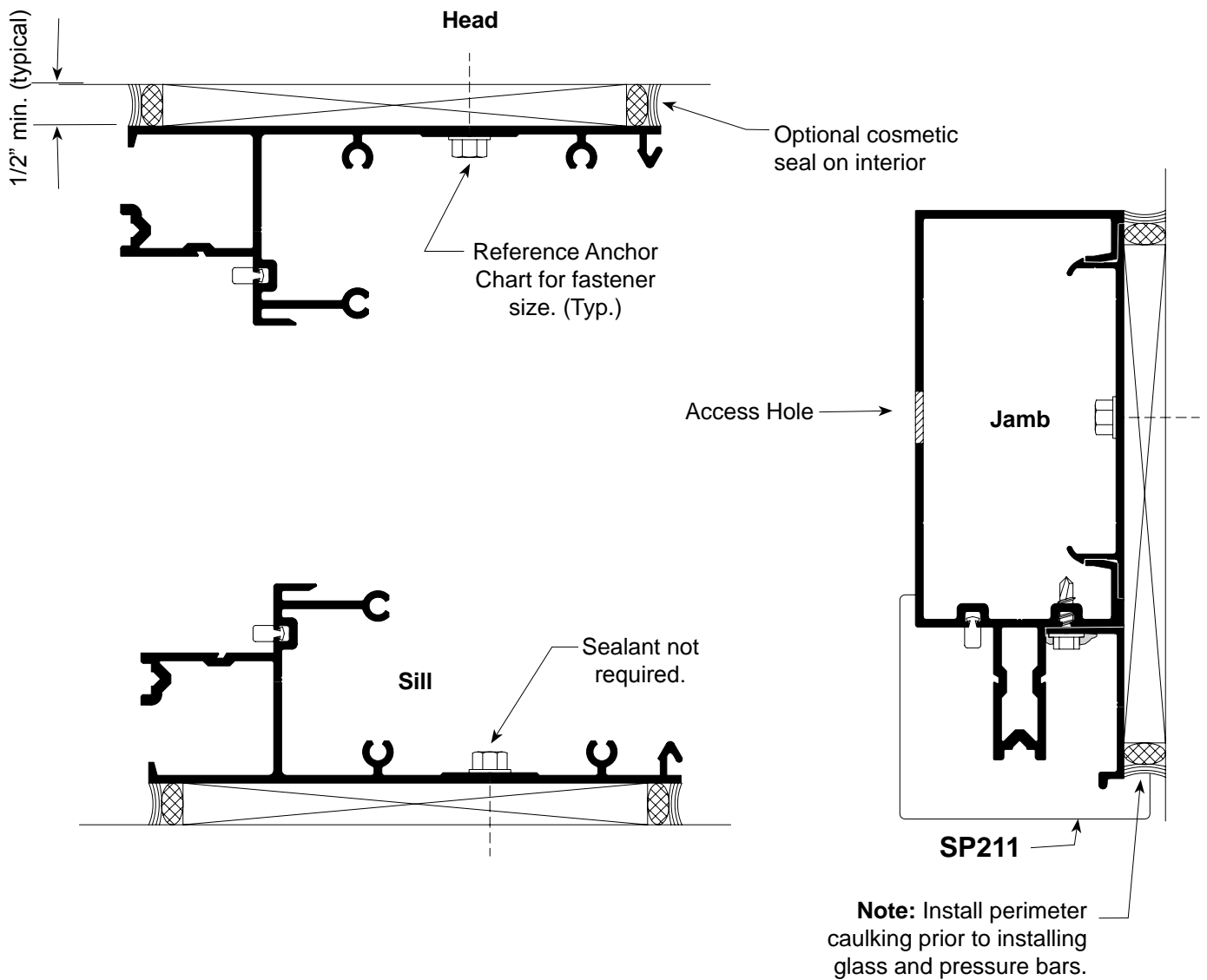
Note 1: *Do not install fasteners on upper half for expansion anchors.*



Reference **page 44** for attaching covers to prevent slippage at splice locations.

FRAME INSTALLATION Perimeter Sealant Locations

STEP 1. Once all frames are installed and the system has been anchored to the substrate, apply weather seal around the entire perimeter. See details below for the correct location of the perimeter sealant and backer rod. **Interior** cosmetic seal is optional.



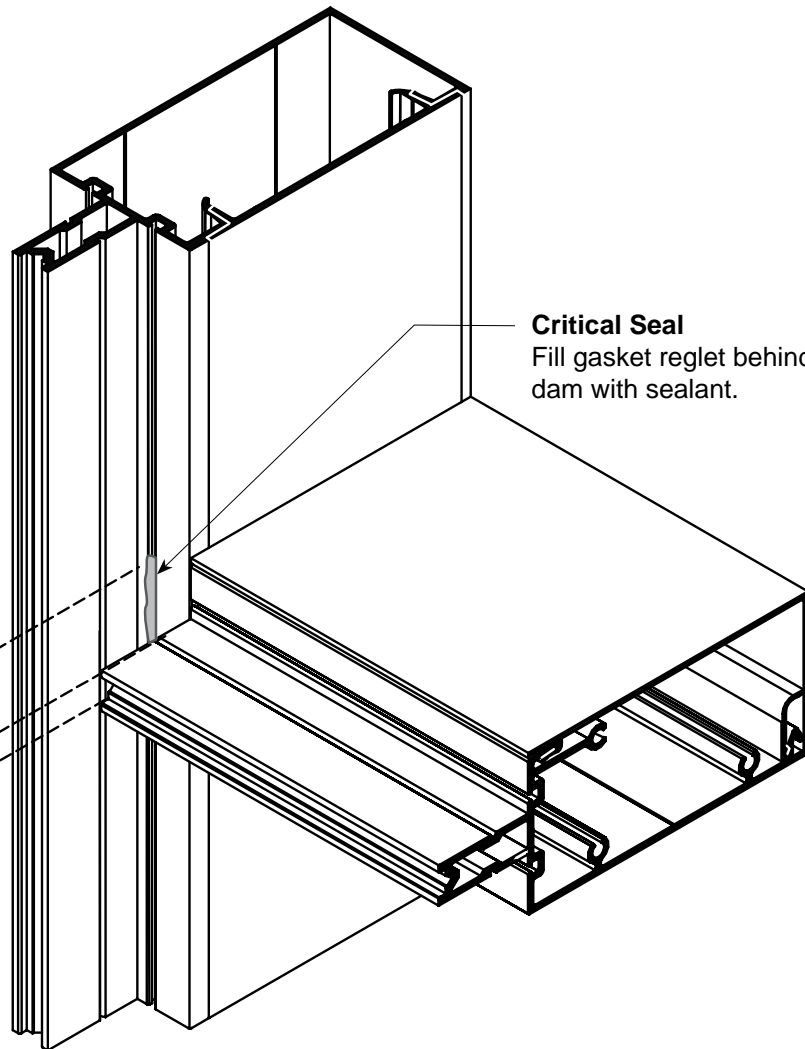
FRAME INSTALLATION End Dams

Critical Seal
Apply sealant to all three contact surfaces prior to installation as shown.

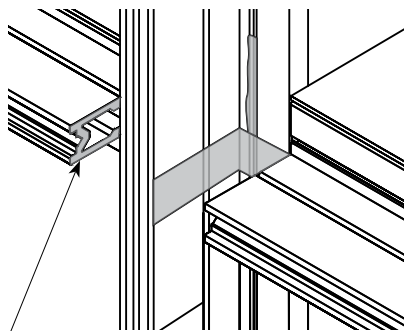
Critical Seal
Fill gasket reglet behind end dam with sealant.

SP204
End Dam

Note:
SP204 End Dam required on all joints (head, sill, intermediate horizontals)

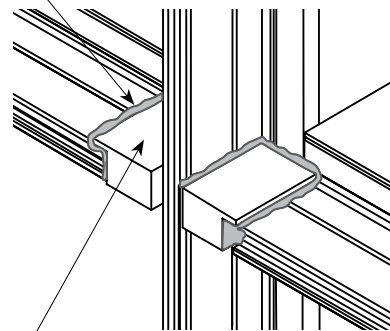


Force sealant into gasket reglet.



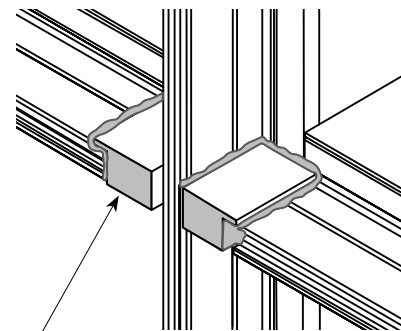
Seal along tongue of horizontal across face and tongue of mullion before installing **SP204** end dams.

STEP 1



Tool sealant along top of end dam to form a water tight seal.

STEP 2

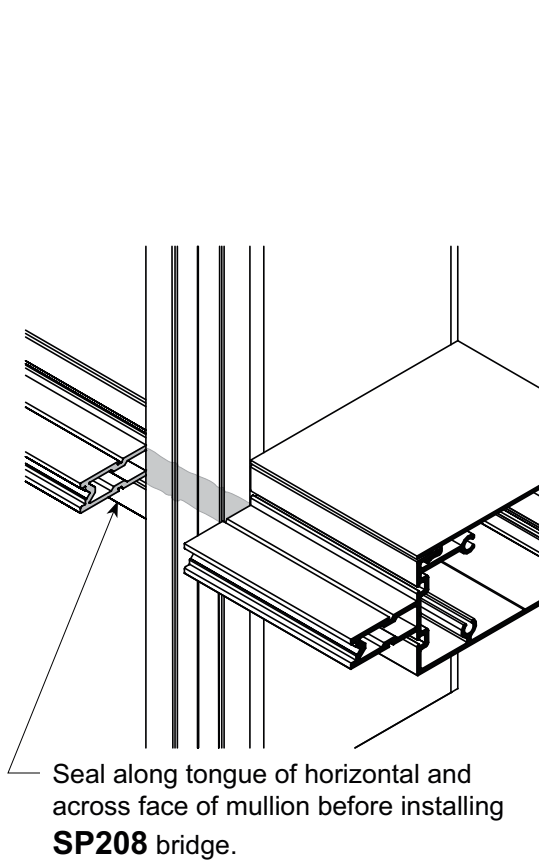
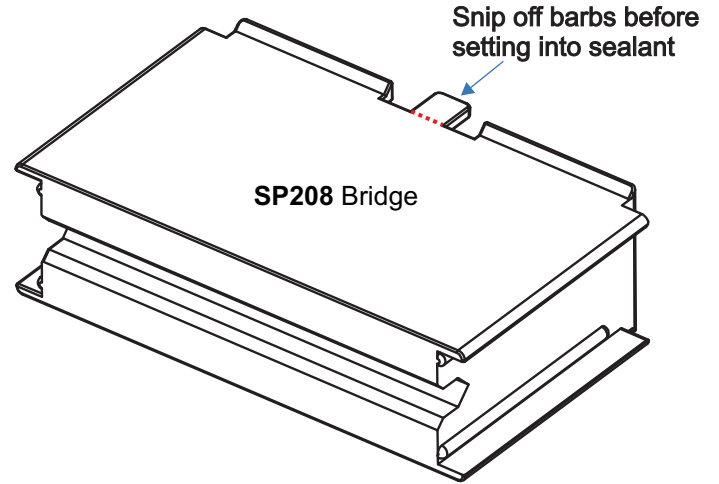
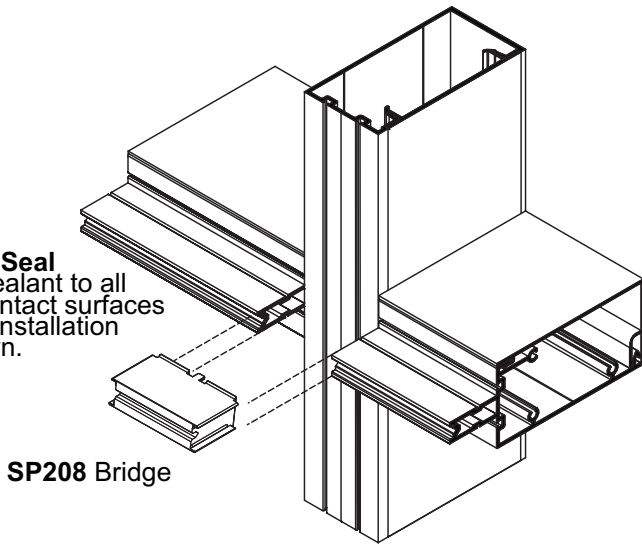


Apply sealant to face of end dam just prior to installing vertical pressure bar.

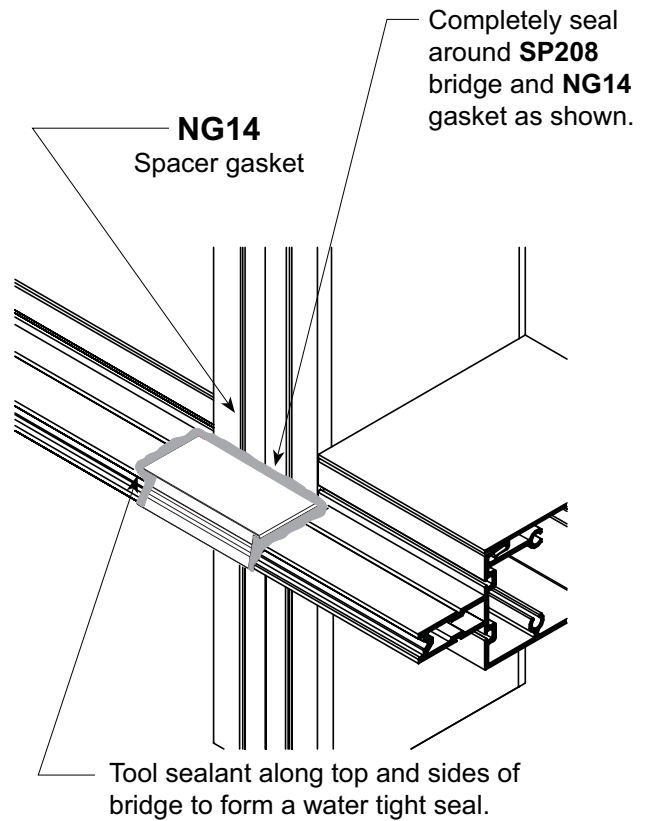
STEP 3

B.G. FRAME INSTALLATION Bridges

Critical Seal
Apply sealant to all three contact surfaces prior to installation as shown.



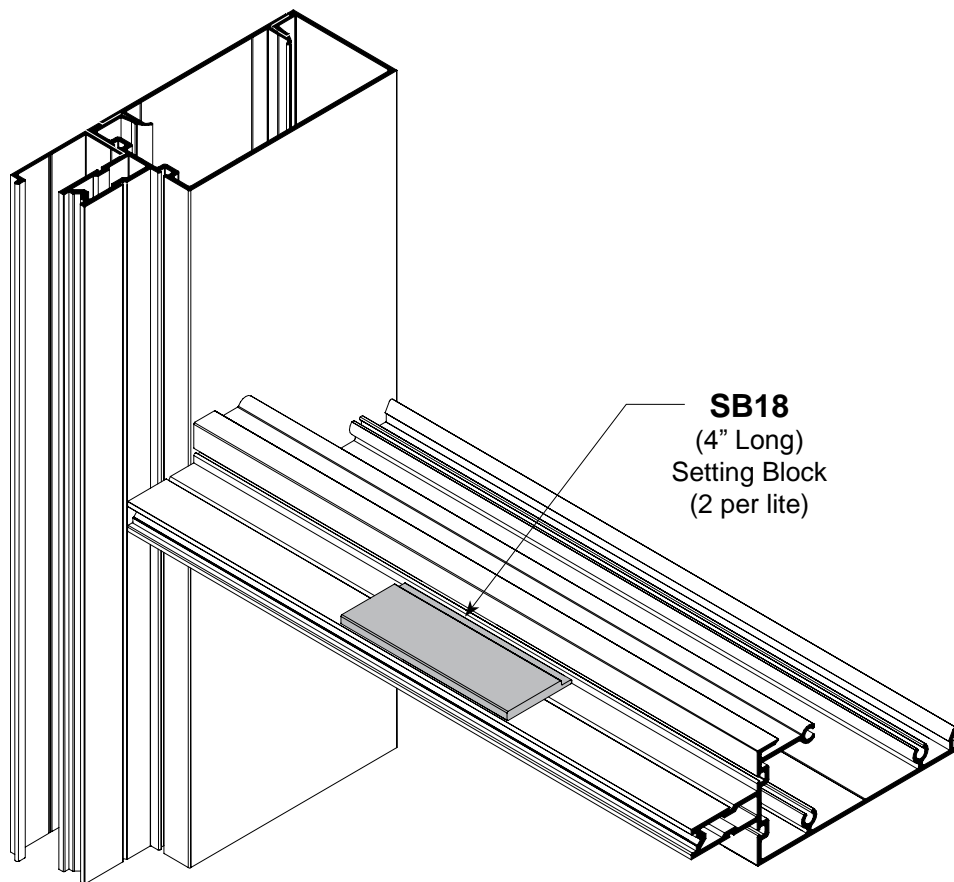
STEP 1.



STEP 2.

GLAZING Setting Block Installation

Locate two setting blocks on each sill and intermediate horizontal member as shown. Reference **Dead Load Charts** for this system in *Architectural Detail* book and/or shop drawings for correct location based on glass size.



GLASS SIZE FORMULAS Captured and B.G. Mullions

Glass Sizes for Captured System:

Glass Width and Height = D.L.O. + 1-1/2 ”

Glass Sizes for Butt Glazed System: (See Detail A below)

Glass Height = D.L.O. + 1-1/2 ”

Glass Width (Butt Glaze on Both Sides) = D.L.O. + 2”

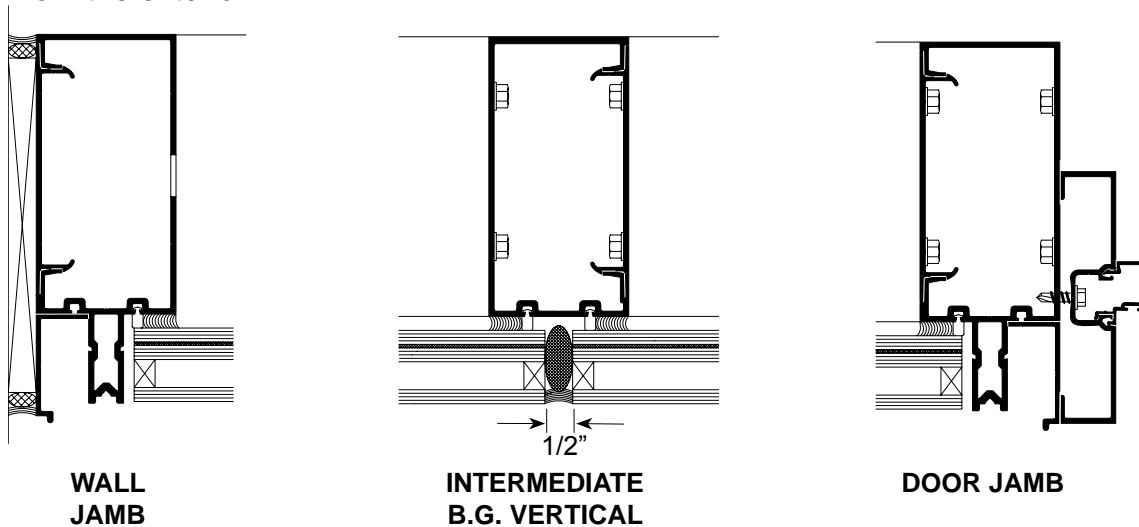
Glass Width (Butt Glaze on One Side and
Captured on the Other Side) = D.L.O. + 1-3/4”

Glass Width at 90° Corner:

With Captured Intermediate Vertical = D.L.O. + 1-1/2 ”

With B.G. Intermediate Vertical = D.L.O. + 1-3/4”

Note: Glass tolerances are not addressed in the above formulas. Consult the glass manufacturer for glass tolerances prior to ordering. Structural silicone must be applied from the interior and weatherseal from the exterior.



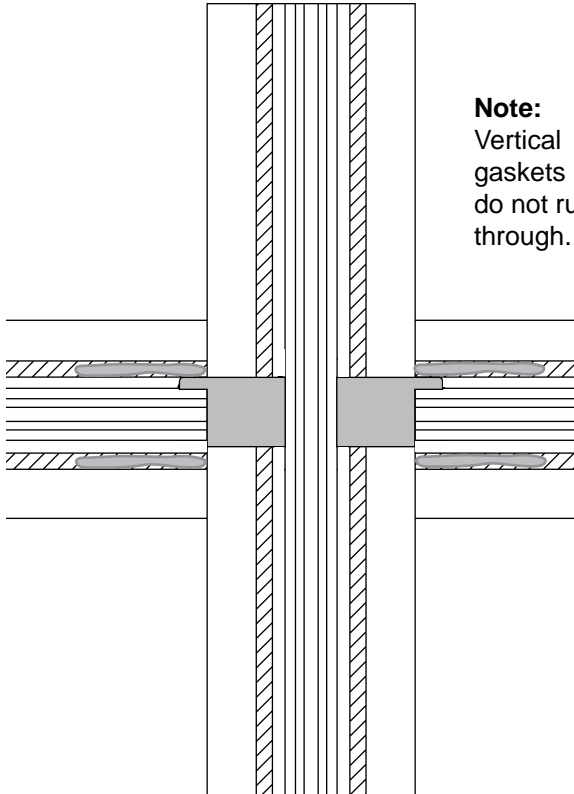
Detail A

GLAZING

Sealant at Interior Gasket Corners

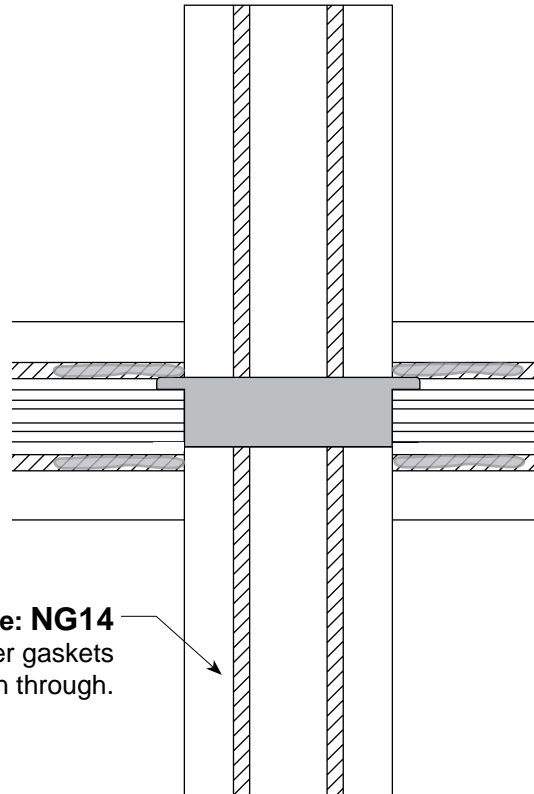
Note:
NG14 Gasket
is cut D.L.O. + 1-1/4"

Note:
Vertical
gaskets
do not run
through.



Detail A
Captured

Note: NG14
spacer gaskets
run through.



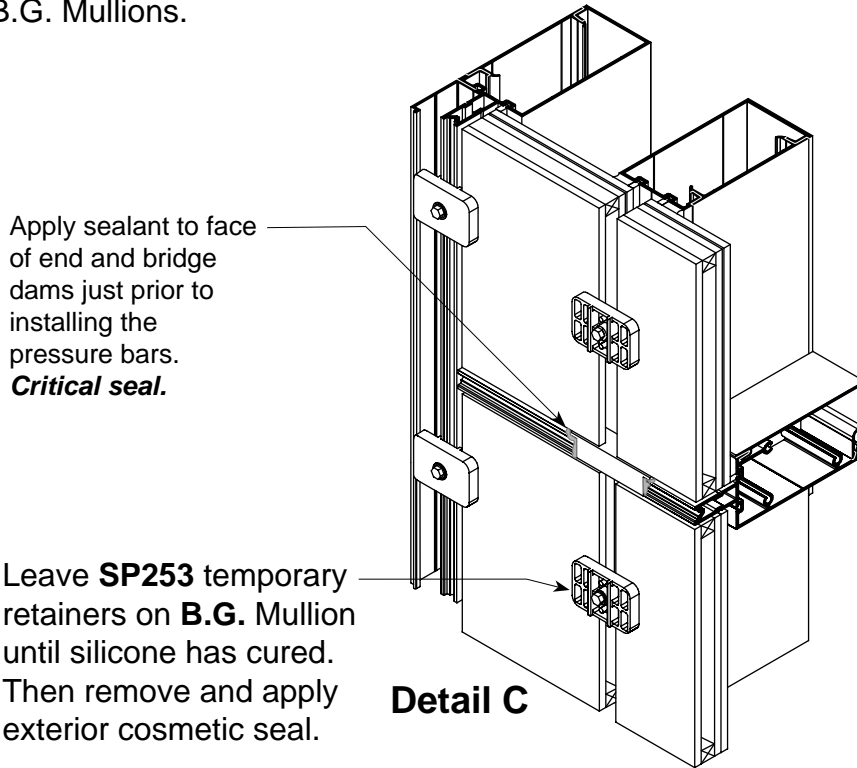
Detail B
B.G.

GLAZING

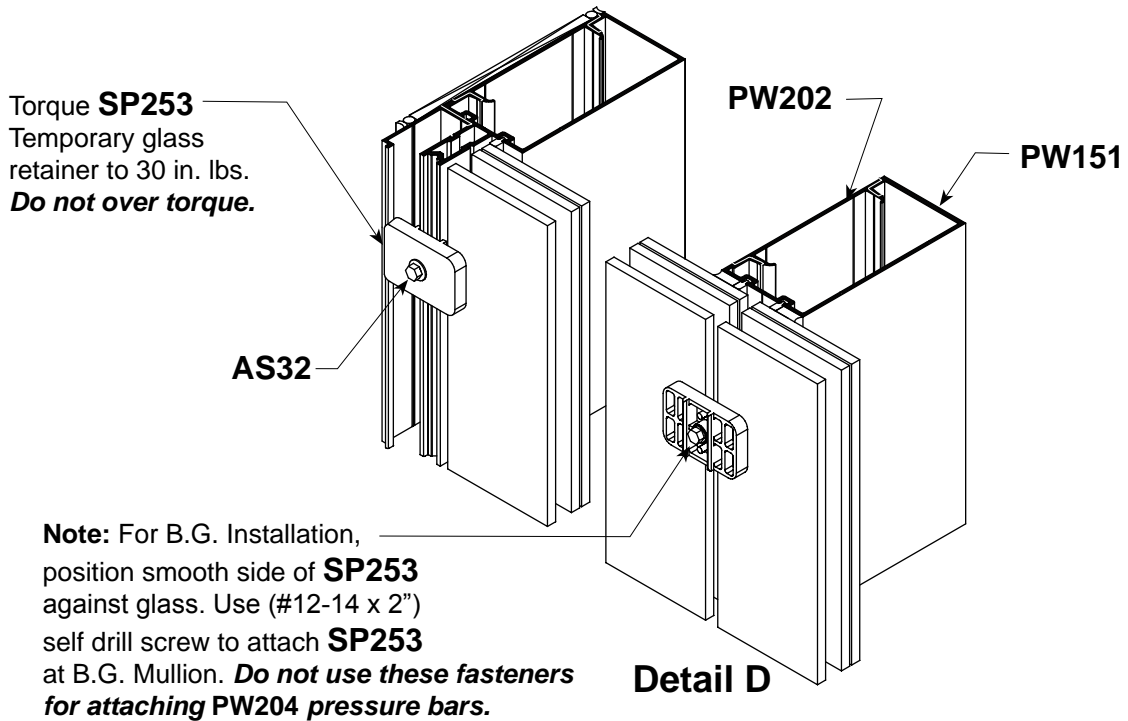
Glass Installation

Step 1.

Install glass and center in opening. Retain glass with **SP253** temporary retainers. Retainers should remain in place until structural silicone has fully cured on B.G. Mullions.



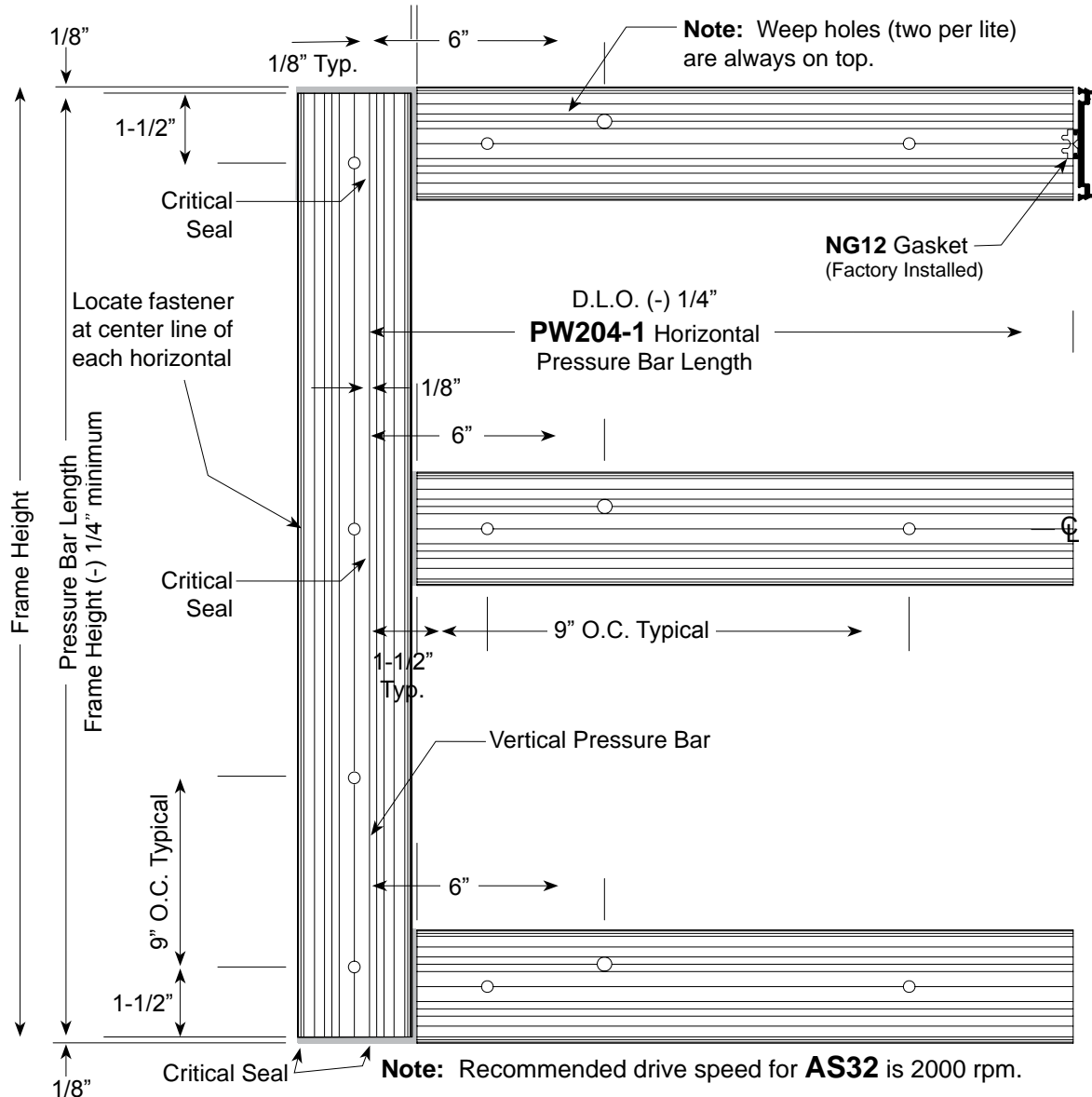
Note: Remove temporary retainers one mullion at a time and install **PW204-1** pressure bars. Do not rely on temporary retainers to hold glass for extended periods. **SP253** temporary retainers should be saved and reused.



Note: For B.G. Installation, position smooth side of **SP253** against glass. Use (#12-14 x 2") self drill screw to attach **SP253** at B.G. Mullion. **Do not use these fasteners for attaching PW204 pressure bars.**

GLAZING Pressure Bar Installation - Captured

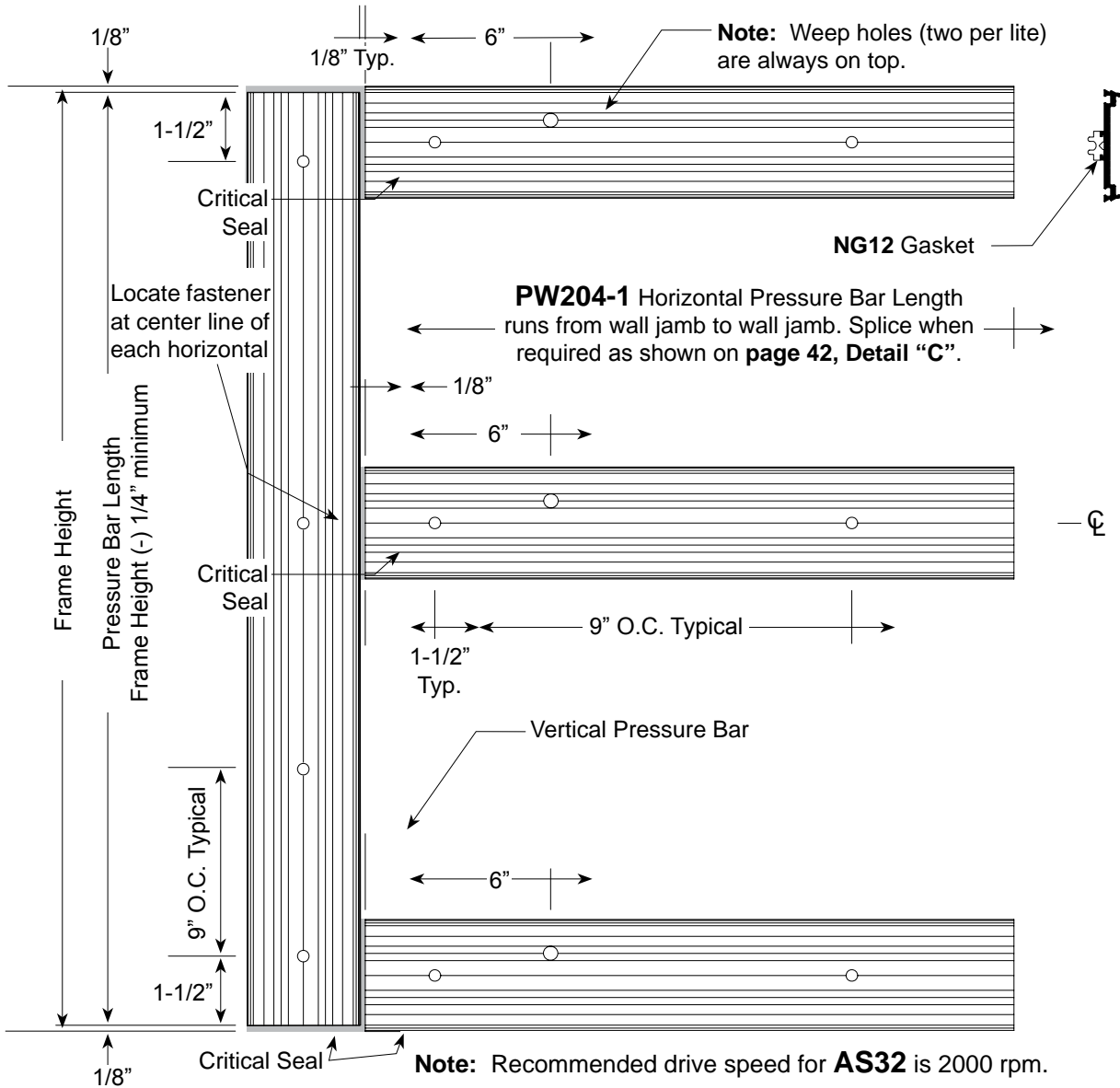
Install **AS32** vertical pressure bar fasteners from bottom to top and horizontal pressure bar fasteners from center outward. Make sure one fastener is located 1-1/2" maximum from vertical/horizontal joint intersections to ensure proper pressure over end dams. **While installing pressure bar fasteners, take care not to disengage NG12 pressure bar spacer.**



- Step 1.** Attach vertical pressure bars leaving a 1/8" gap at top and bottom with **AS32** (#12 x 1-1/4" HWH #3 self-drilling fasteners). Using electrically powered hand held drill/driver, torque **AS32** fasteners to 85-90 in. lbs. If using battery power tools, *it is recommended that installer frequently check for accurate torque settings, as battery power will diminish over time.*
- Step 2.** Center horizontal pressure bars in opening leaving a 1/8" gap at each end and attach.
- Step 3.** Upon completion of pressure bars installation and just prior to installing face covers, seal all gaps at intersection of vertical/horizontal pressure bar joints and tool the sealant.

GLAZING Pressure Bar Installation - B.G.

Install **AS32** vertical pressure bar fasteners from bottom to top and horizontal pressure bar fasteners from center outward. Make sure one fastener is located 1-1/2" maximum from vertical/horizontal joint intersections to ensure proper pressure over end dams. **While installing pressure bar fasteners, take care not to disengage NG12 pressure bar spacer.**



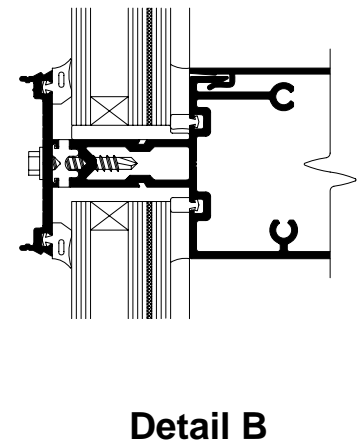
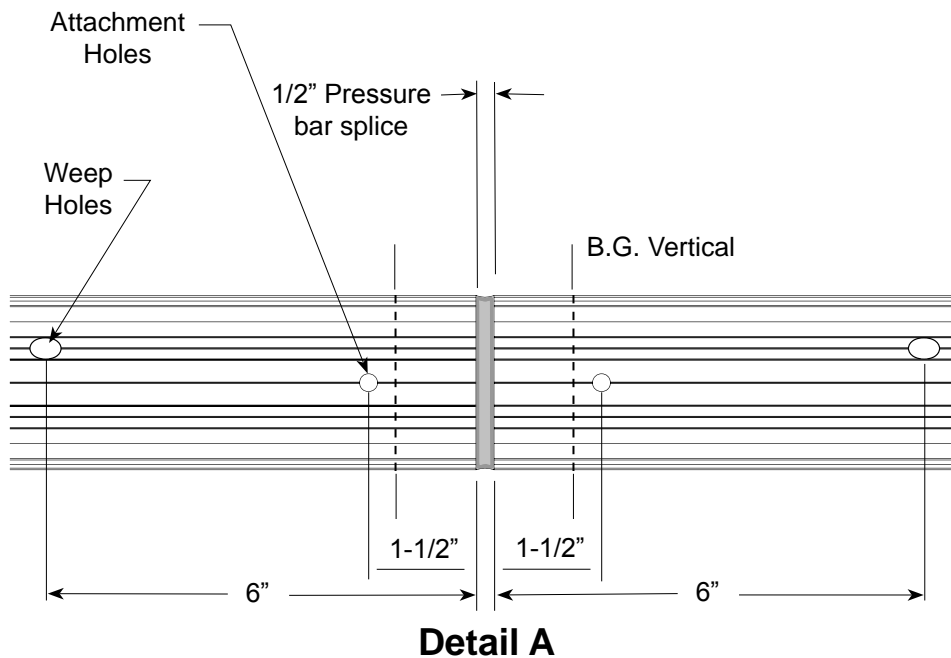
Step 1. Remove temporary retainers one mullion at a time. Attach vertical pressure bars leaving a 1/8" gap at top and bottom with **AS32** (#12 x 1-1/4" HWH #3 self-drilling fasteners). Using an electrically powered hand held drill/driver, torque **AS32** fasteners to 85-90 in. lbs. If using battery power tools, *it is recommended that installer frequently check for accurate torque settings, as battery power will diminish over time.*

Step 2. Center horizontal pressure bars in opening leaving a 1/8" gap at each end and attach.

Step 3. Upon completion of pressure bars installation and just prior to installing face covers, seal all gaps at intersection of vertical/horizontal pressure bar joints and tool the sealant.

PRESSURE BAR INSTALLATION At B.G. Mullions

1. Remove temporary retainers one vertical at a time and install pressure bars using **AS32** (#12 x 1-1/4" HWH #3 self-drilling fasteners) and a cordless adjustable clutch driver/drill with a 3/8" driver. Torque fasteners to 85-90 inch pounds. Periodically check the torque setting on the adjustable clutch driver/drill.
Note: Recommended drive speed for **AS32** is 2000 rpm.
2. Install wall jamb pressure bar fasteners from bottom to top and horizontals from center outward. Locate **AS32** fasteners 1-1/2" maximum from vertical/horizontal intersections to ensure proper pressure over end and bridge dams.
Reference **Step 8, page 12**.
3. Remove temporary retainers from horizontals, one bay at a time, and center horizontal pressure bars in opening leaving 1/8" gaps at ends and 1/2" at splice joints. Attach with **AS32** fasteners, reference **page 41** and **Detail "A"** below.
4. Upon completion of pressure bars installation and just prior to installing face covers, seal all gaps at intersection of vertical/horizontal pressure bar joints and tool the sealant.
5. Seal between pressure bar & face cover splices. Keep sealant away from face cover snap area.

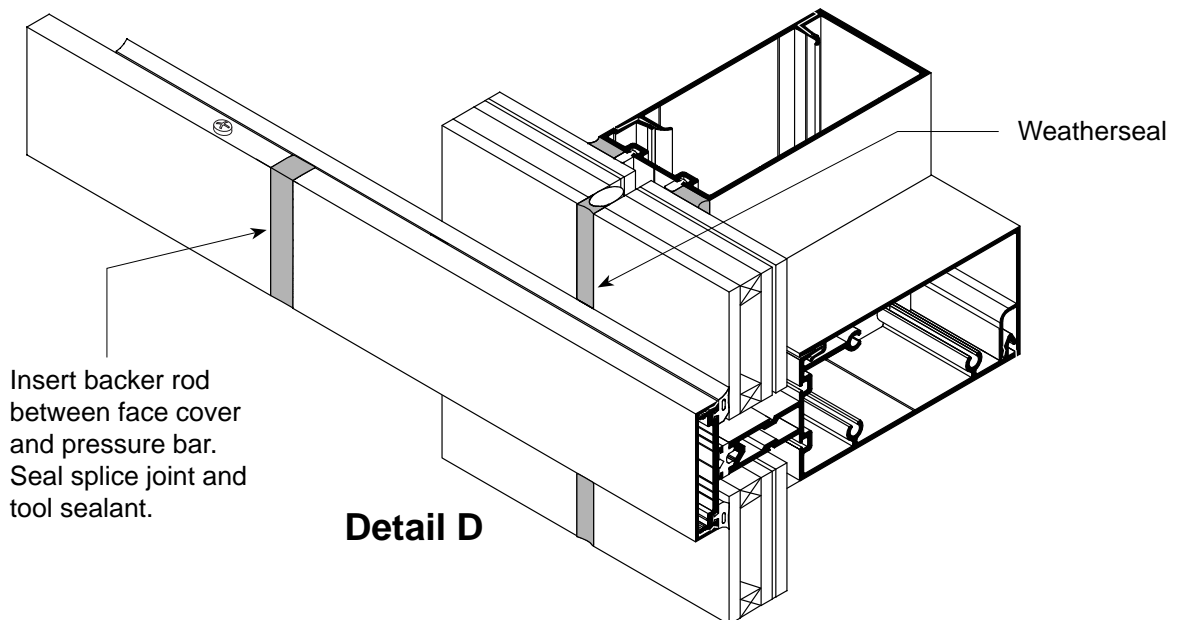
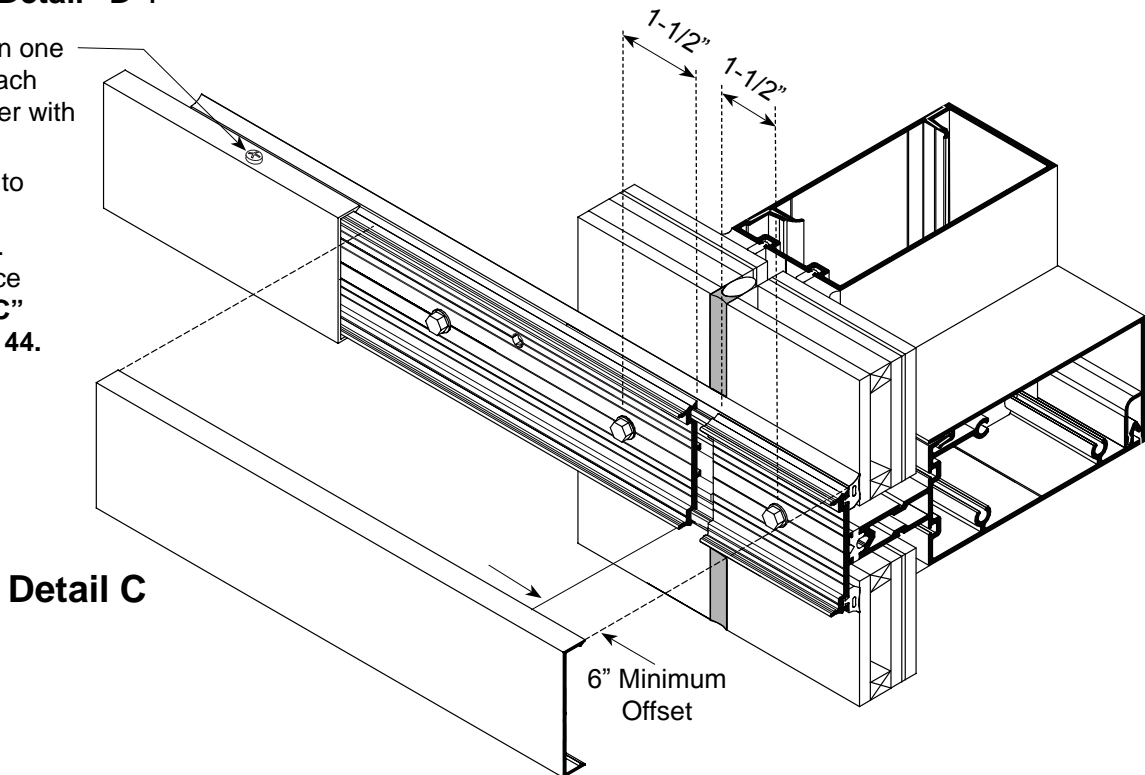


Pressure bar splicing & sealing at B.G. Mullions
(Intermediate Horizontal shown; Head & Sill similar)

HORIZONTAL FACE COVER Splice Joints - B.G. Installation

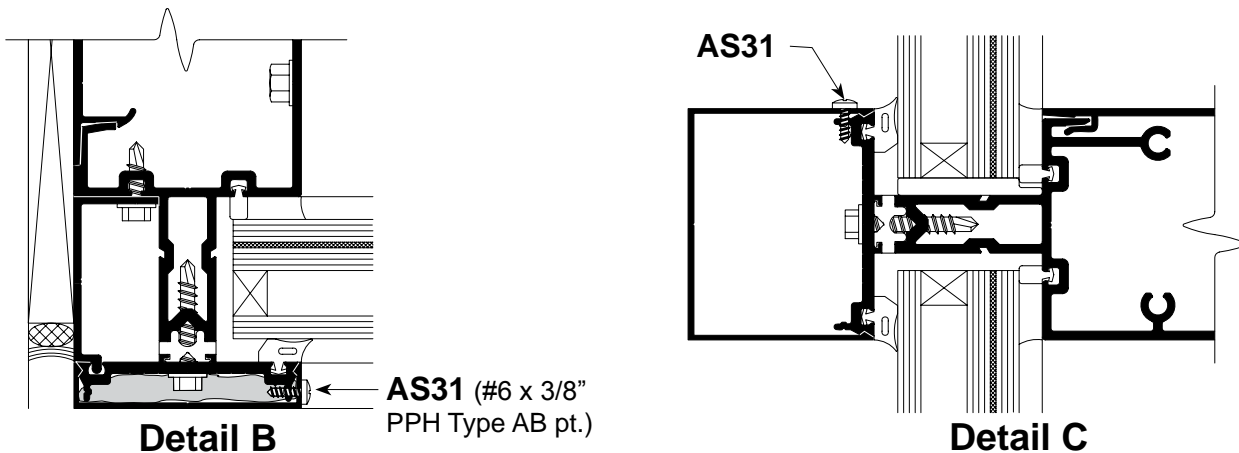
1. Locate 1/2" wide splice joints at center line of vertical members.
2. Do not align face cover splices directly over pressure bar splices. Offset 6" minimum.
See **Detail "C"**.
3. Set backer rod between face cover and pressure bars at joint and seal. Tool sealant.
See **Detail "D"**.

Note: Pin one end of each face cover with **AS31** fastener to prevent slippage. Reference **Detail "C"** on page 44.

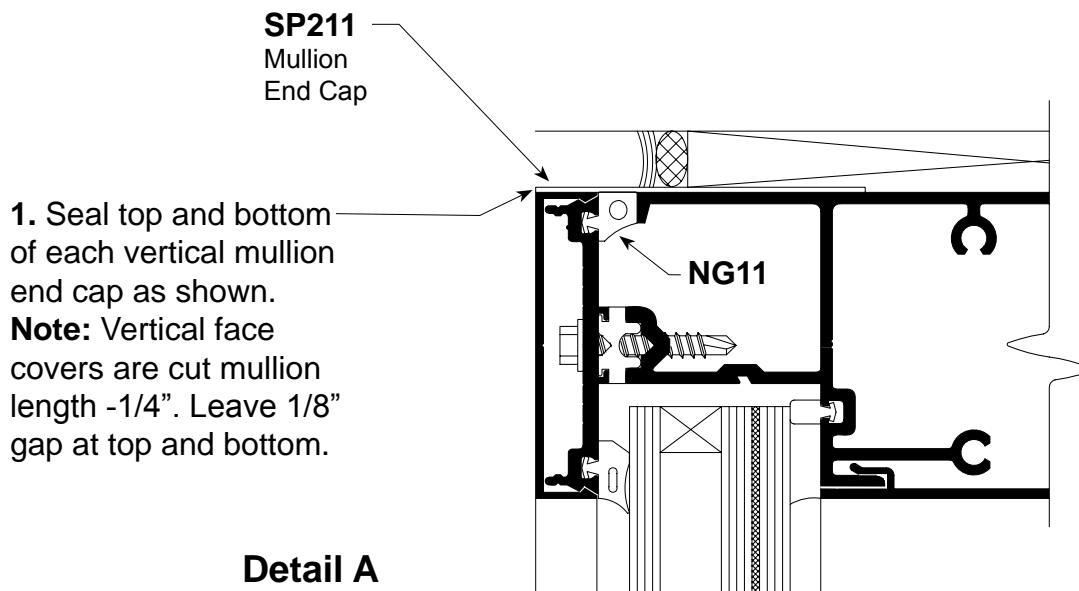


FACE COVER INSTALLATION

1. Care must be taken to prevent damage of face covers during installation. Use a piece of wood such as 2" x 4" approximately 8-10" long and a 3" diameter Stanley 3 lb. Compo-Cast dead blow soft face hammer.
2. Install vertical face covers first. Do not displace top and bottom mullion caps when installing face covers. Pinning of vertical face cover is required to prevent slippage. Use one **AS31** on each side per cut length, concealed behind horizontal face cover as shown. See **Detail B**.
3. Install snap-in horizontal face covers with the weep holes located on the bottom side.
4. Horizontal face covers exceeding 1-1/2" in depth must be pinned on top side with **AS31** fastener to prevent disengagement. Locate one fastener at mid-point for 3-5 ft. lengths. On longer lengths, locate at 3'-0" O.C. See **Detail C**.



SEALING MULLION END CAPS Top and Bottom (Top Shown - Bottom Similar)

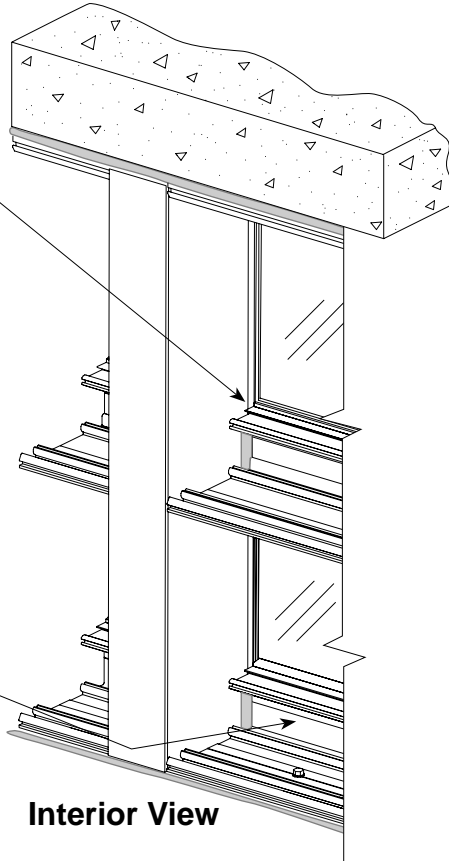


INTERIOR TRIM INSTALLATION

Checking Joinery Seals and Anchor Bolts

Step 1. Check seals at all vertical/horizontal joints and reseal if required.

Step 2. Check all perimeter anchor bolts to make sure they are installed and secure.

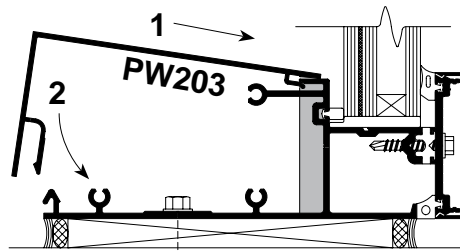


Interior View

Note: Interior trim covers may be omitted in spandrel areas when not visible from interior.

Detail A

Step 3. Insert **PW203** interior trim cover into receiver and snap downward into place. Use dead blow mallet and wooden block as required. Take care not to ding or bend cover.



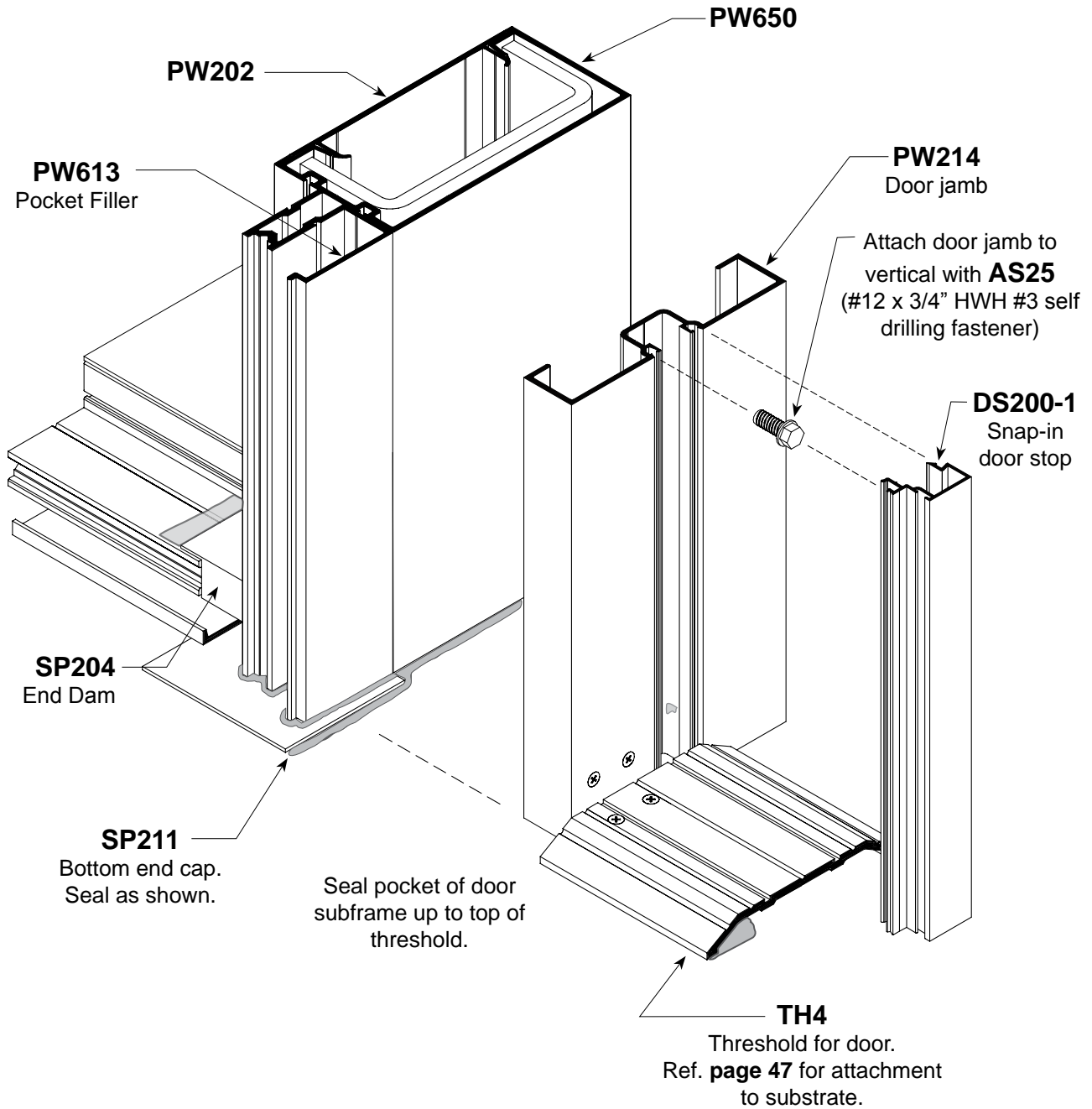
Detail B

Sill shown, head and horizontal similar.

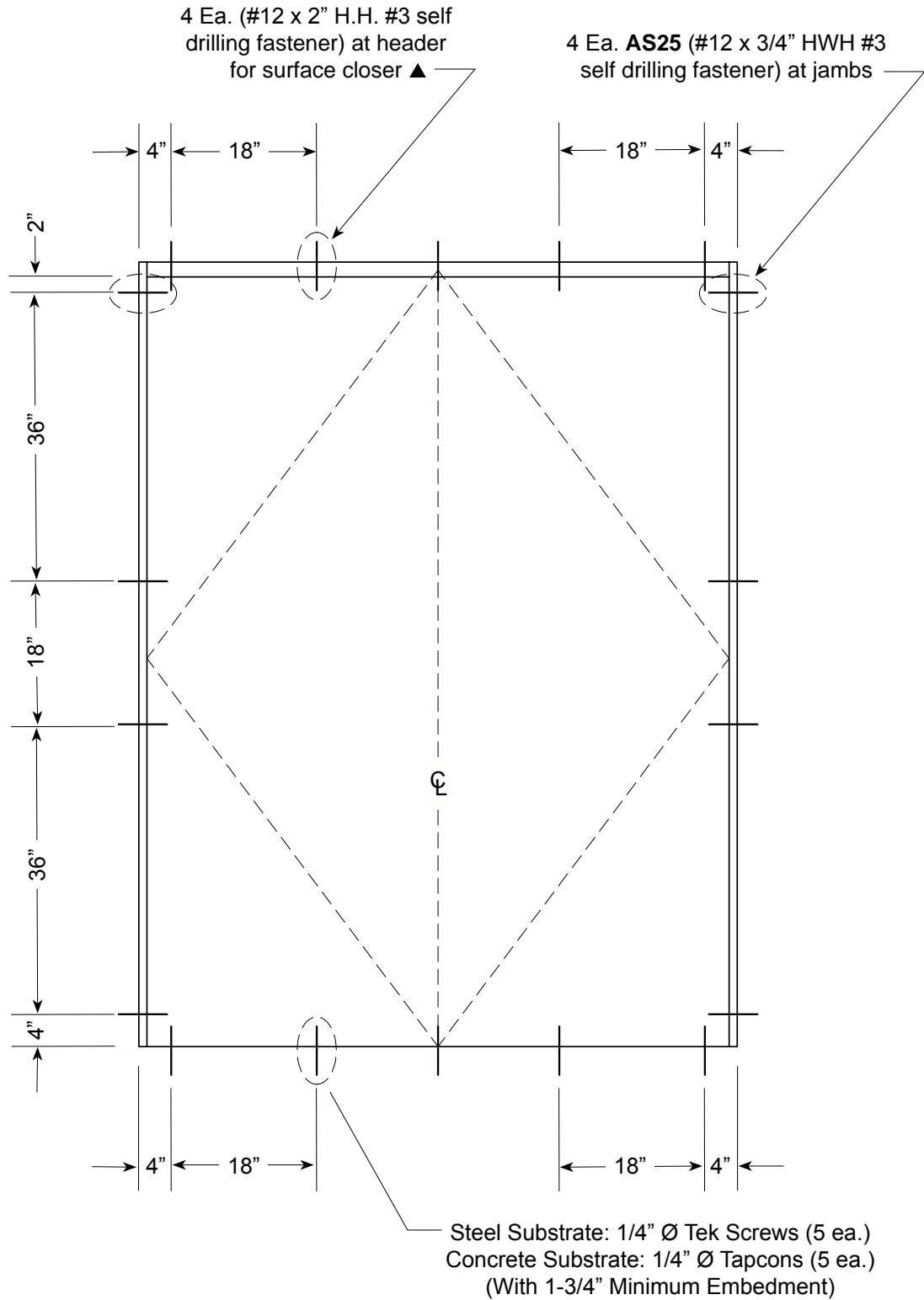
Exterior View

ENTRANCE SUBFRAMES

Note: Refer to **FRAMES & ENTRANCES** section of this manual for additional fabrication and installation instructions. Entrance Frames may be installed simultaneously with Curtain Wall or after Curtain Wall installation has been completed.



SUBFRAME FASTENER CHART





Scale: 3" = 1'-0"

Entrances

