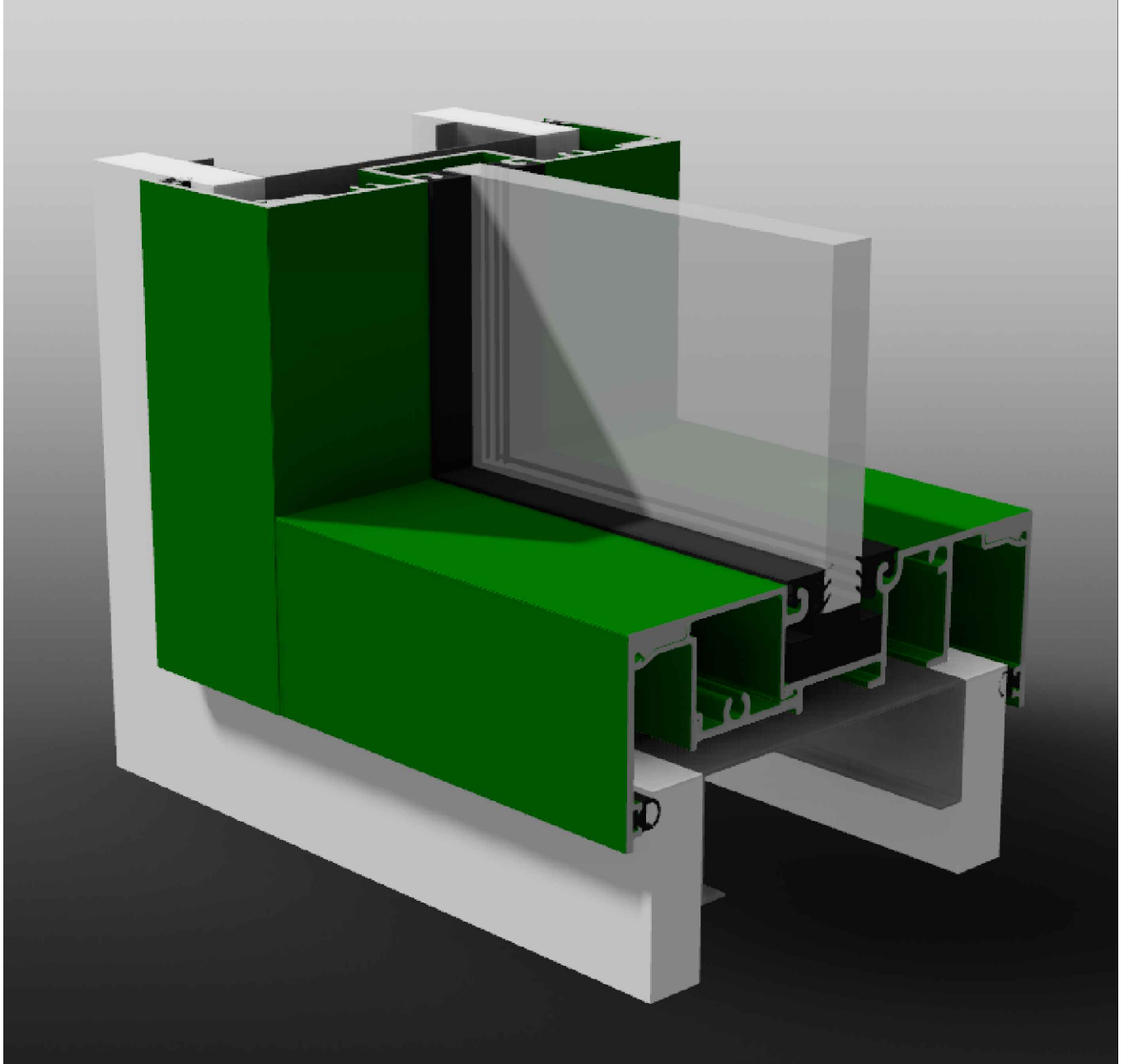


TUBELITE®

DEPENDABLE

**LEADERS IN ECO-EFFICIENT STOREFRONT,
CURTAINWALL AND ENTRANCE SYSTEMS**



INT 67 INTERIOR STOREFRONT

INSTALLATION INSTRUCTIONS

3056 Walker Ridge Dr. NW, Suite G ◊ Walker, MI 49544 ◊ 800-866-2227

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GENERAL CONSTRUCTION NOTES

1. These instructions cover typical product application, fabrication, installation and standard conditions and are general in nature. They provide useful guidelines, but the final shop drawings may include additional details specific to the project. Any conflict or discrepancies must be clarified prior to execution.
2. Materials stored at the job site must be kept in a safe place protected from possible damage by other trades. Stack with adequate separation so materials will not rub together and store off the ground. Cardboard or paper wrapped materials must be kept dry. Check arriving materials for quantity and keep a record of where various materials are stored.
3. All field welding must be done in accordance with AISC guidelines. All aluminum and glass should be shielded from field welding to avoid damage from weld splatter. Results will be unsightly and may be structurally unsound. Advise general contractor and other trades accordingly.
4. Coordinate protection of installed work with general contractor and/or other trades.
5. Coordinate sequence of other trades which affect framing installation with the general contractor (e.g. fire proofing, back up walls, partitions, ceilings, mechanical ducts, HVAC, etc.).
6. General contractor should furnish and guarantee bench marks, offset lines and opening dimensions. These items should be checked for accuracy before proceeding with erection. Make certain that all adjacent substrate construction is in accordance with the contract documents and/or approved shop drawings. If not, notify the general contractor in writing before proceeding with installation because this could constitute acceptance of adjacent substrate construction by others.
7. Isolate all aluminum to be placed directly in contact with masonry or other incompatible materials with a heavy coat of zinc chromate or bituminous paint. Fasteners attaching framing to building structure are typically not provided by Tubelite.
8. All framing members, entrances and other materials are to be installed plumb, level, and true with regard to established bench marks, column center lines, or other working points established by the general contractor and checked by the erector, installer, and/or glazing contractor.
9. Cleaning of exposed aluminum surfaces should be done per AAMA recommendations.
10. Care must be taken when assembling aluminum framing components. Over tightening any fastener may cause stripping or fastener failure. Tubelite recommends the use of clutched drivers to provide satisfactory tightening of the screw while preventing over torque. The use of impact drill motors is not recommended due to the absence of a clutch device.
11. Check www.tubeliteinc.com for any installation instruction updates.

GENERAL CONSTRUCTION NOTES**QUICK REFERENCE CHECKLIST**

1. Select desired trim method (A, B or C) and use throughout installation.
2. Make sure shim gap is maintained around perimeter and make sure opening is square.
3. Glass bites must be equal on all sides.
4. Double check anchor size and location against installation instructions or approved shop drawings.

GLASS SIZE CALCULATION

(Glass size accounts for 3/8" bite into mullion. See approved shop drawings)

$$\text{Glass size} = \text{D.L.O.} + 3/4"$$

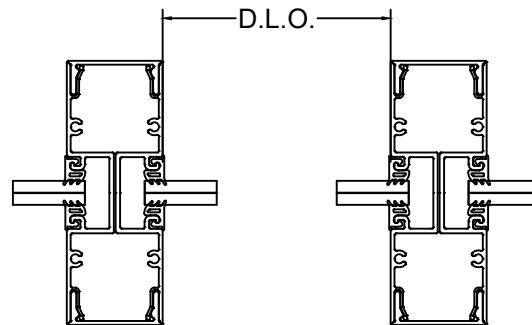

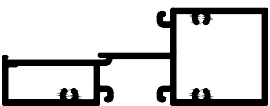



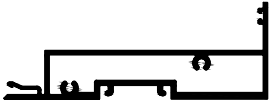
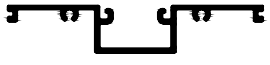





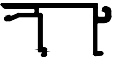


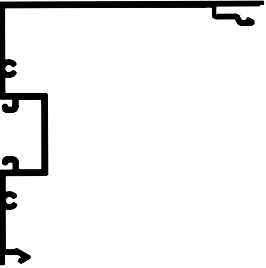
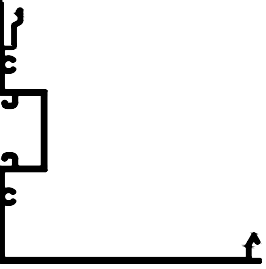


Fig.5.1

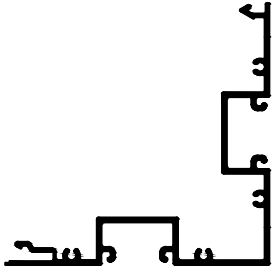








HORIZONTAL/VERTICAL EXTRUSIONS

SHAPE	DESCRIPTION	PART No.
	HEAD, JAMB, VERTICAL	E6701
	FLOOR SILL/ INTERMEDIATE HORIZONTAL	E6702
	GLASS STOP FOR E6702	E6703
	HD INTERMEDIATE VERTICAL MALE	E6704
	HD INTERMEDIATE VERTICAL FEMALE	E6705
	DOOR JAMB	E6706
	DOOR JAMB FILLER	E6707
	STANDARD DOOR STOP (1-3/4" DOOR W/ 3/16" REVEAL)	E6708
	FLUSH DOOR STOP (1-3/4" DOOR WITH NO REVEAL)	E6722
	POCKET FILLER (GLASS DOOR APPLICATIONS)	E6727













HORIZONTAL/VERTICAL EXTRUSIONS

SHAPE	DESCRIPTION	PART No.
	DOOR HEAD WITH TRANSOM	E6709
	WALL SILL	E6711
	WALL SILL GLASS STOP	E6712
	WALL TRIM	E6713
	INTERMEDIATE VERTICAL TRIM	E6714
	INT 67 CORNER POST	E6715
	INT 67 CORNER POST	E6716




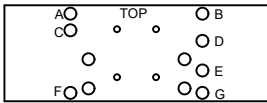
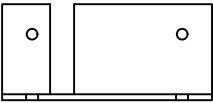
HORIZONTAL/VERTICAL EXTRUSIONS ACCESSORIES

SHAPE	DESCRIPTION	PART No.
	THREE WAY CORNER ADAPTOR	E6723
	CHANNEL GLAZED HEAD	E6717
	CHANNEL GLAZED SILL	E6718
	TRANSOM GUTTER	E6719
	TRANSOM STOP	E6720
	TRANSOM VERTICAL STOPS	E6710
	#12-14 x 1-1/2" HEX WASHER TEK FASTENER (GENERAL ASSEMBLY SCREW)	S419
	1/4-20 x 1" TEK FASTENER (CLOSER REINFORCEMENT SCREW)	S457
	#10-16 x 5/8" TEK FASTENER (TRANSOM ANCHORING SCREW)	S445

ACCESSORIES

SHAPE	DESCRIPTION	PART No.
	STANDARD GLAZING GASKET	P2728
	GLAZING GASKET (OPTIONAL GREY SILICONE)	P2728S
	GLAZING GASKET (OPTIONAL INFILL)	P6744
	GLAZING GASKET (OPTIONAL INFILL)	P2428
	GLAZING GASKET (OPTIONAL INFILL)	P478
	GLAZING GASKET (OPTIONAL GREY SILICONE)	P478S
	GLAZING GASKET (OPTIONAL INFILL)	P4500
	GLAZING GASKET (OPTIONAL GREY SILICONE)	P4500S
	WEDGE GASKET (USED IN GLAZING CHANNEL PROFILES)	P2538
	BULB GASKET (USED ON TRIM)	P2511
	BULB GASKET (OPTIONAL GREY SILICONE)	P2511S
	PILE WEATHERING (ENTRANCE WEATHERING)	P013A

ACCESSORIES

SHAPE	DESCRIPTION	PART No.
	CLOSER REINFORCEMENT PLATE	P6721
	SETTING BLOCK (MODIFIED FOR CHANNEL SILL)	P2950
	SETTING BLOCK (FOR TRANSOM)	P1912
	DRILL FIXTURE	P6740
	FLOOR ANCHOR	P6723

ELEVATION and WALL SECTION

The INT 67 was designed as an interior-use storefront for drywall capture allowing for modular installation.

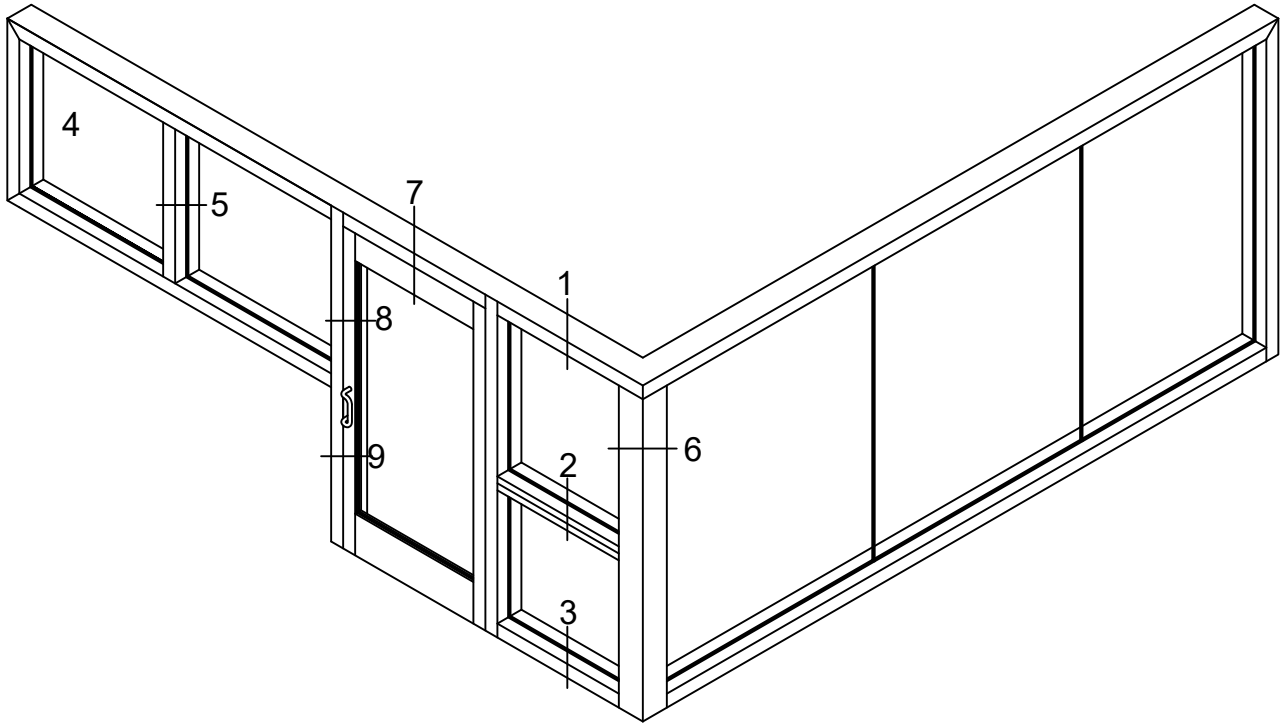
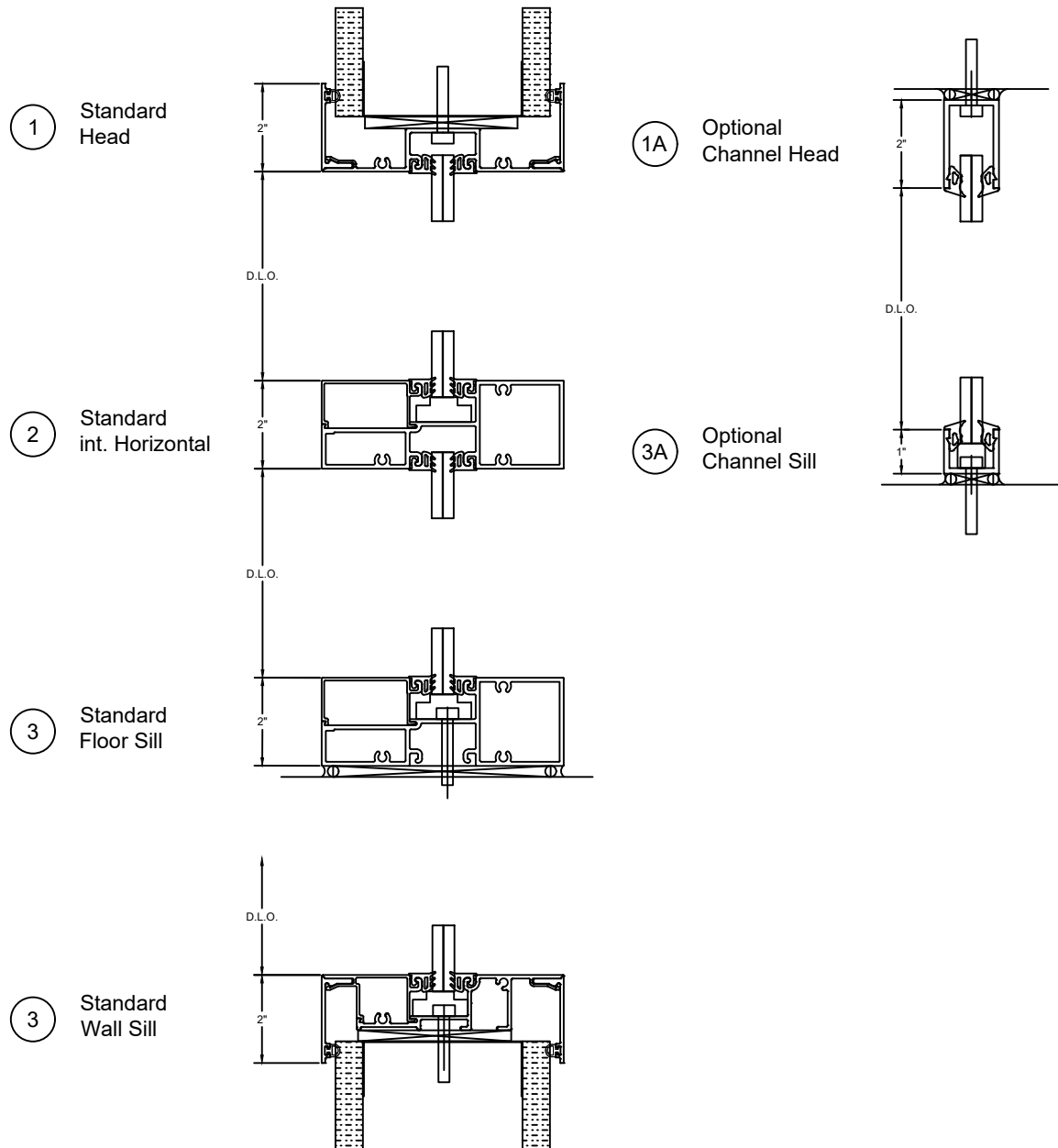


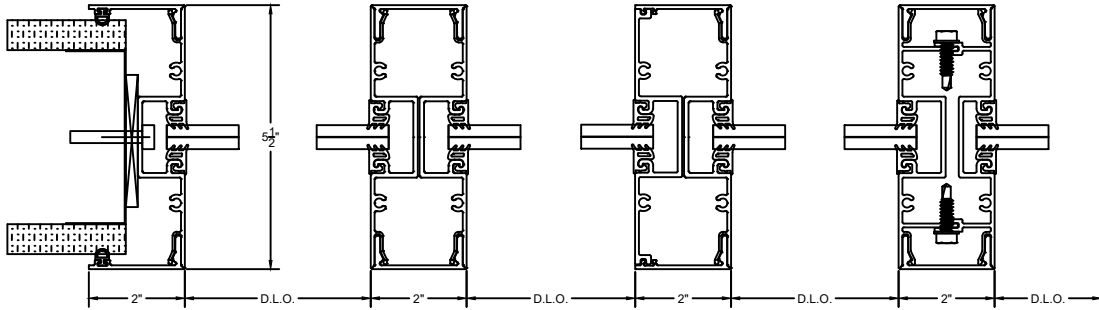
Fig.12.1

TYPICAL HORIZONTAL DETAILS



Contact www.tubeliteinc.com for additional system extrusions for enhanced project applications.

TYPICAL VERTICAL DETAILS

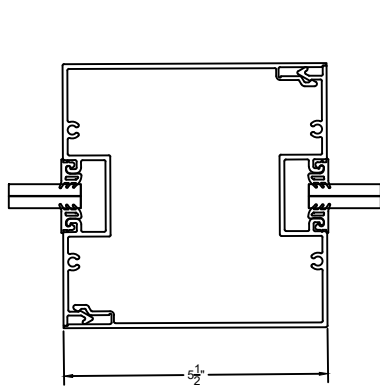


4 Standard Jamb

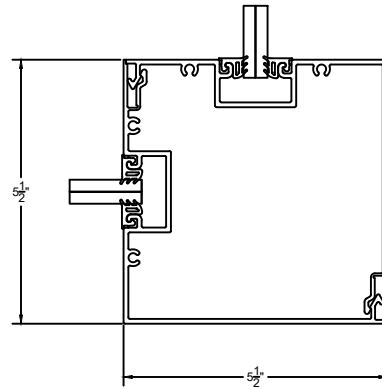
5 Standard Int. Vertical

5A Optional Int. Vertical

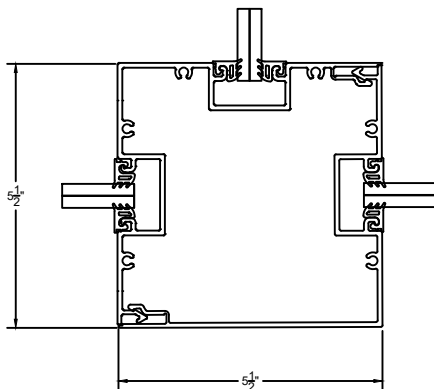
5B Optional HD Int. Vertical



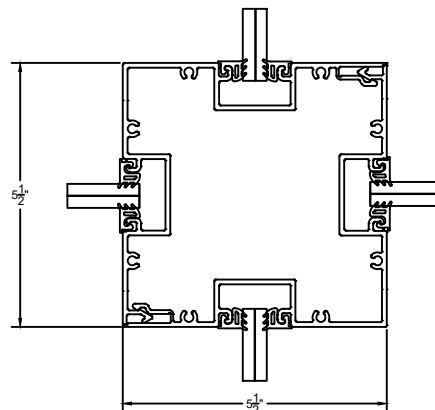
5C Optional Int. Vertical



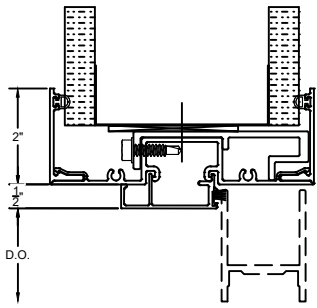
6 Standard Corner



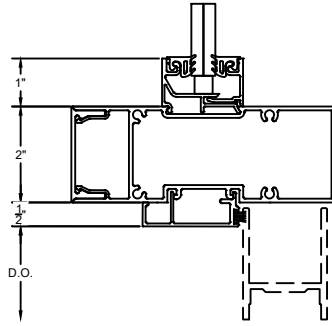
6A Optional 3-Way Corner



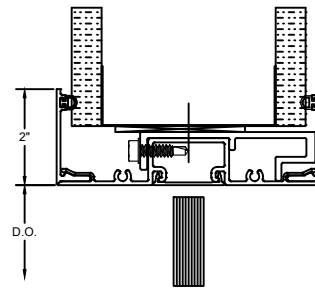
6 Optional 4-Way Corner



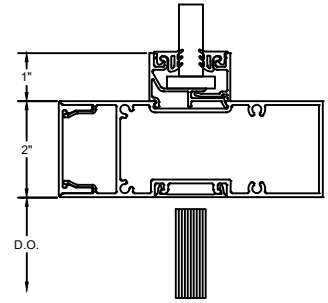
4 Standard Head



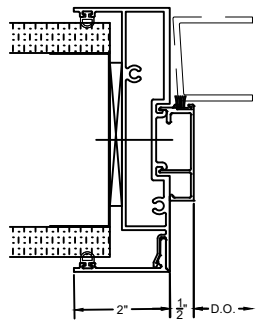
4 Standard Head



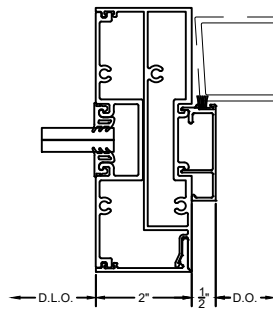
4 Optional Head



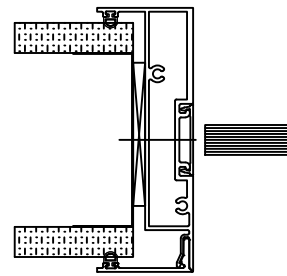
4 Optional Head



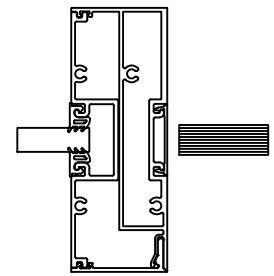
9 Standard Jamb



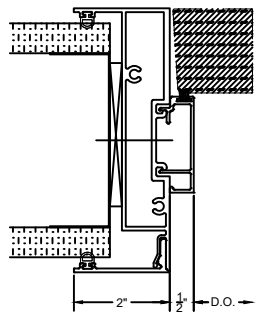
8 Standard Jamb



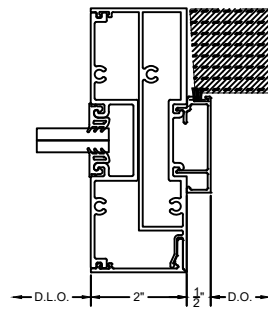
9 Optional Jamb



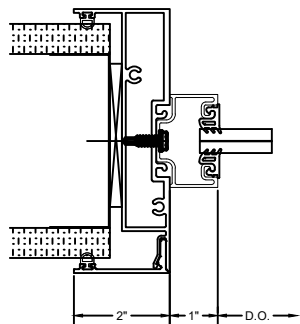
8 Optional Jamb



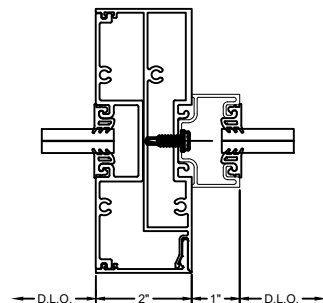
9A Standard Jamb (Wood Door)



8A Standard Jamb (Wood Door)



9B Standard Transom Jamb



8B Standard Transom Jamb

FRAME FABRICATION

Step 1: Determine Frame Size

Frame Squareness

- A. Make sure the opening is square and plumb. Measure each diagonal of the opening. **SEE Fig.1.1.**

Frame width

- B. Measure the width of the opening at the top, middle, and bottom. Select the smallest of these dimensions and subtract the shim gap width per approved shop drawings (recommended 1/4" shim at jambs). **SEE Fig.1.2.**

Frame Height

- C. Measure the height of the opening at several points along the entire width of the opening. Select the smallest of these dimensions and subtract the shim gap per approved shop drawings (recommended 1/4" shims at sill and head). **SEE Fig.1.3.**

Please note: Trim will extend beyond rough opening.

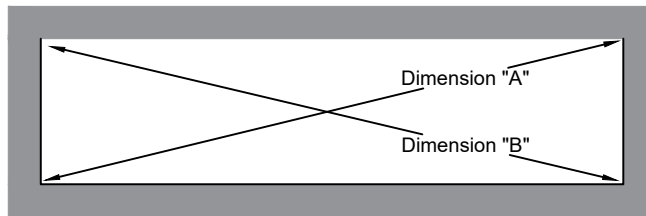


Fig.1.1
Dimension "A" = "B"

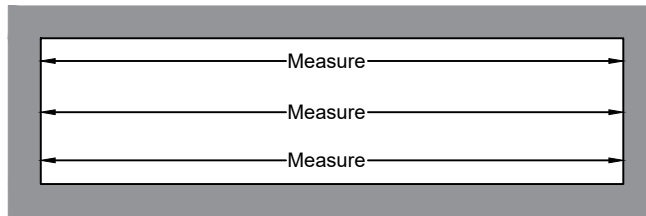


Fig.1.2

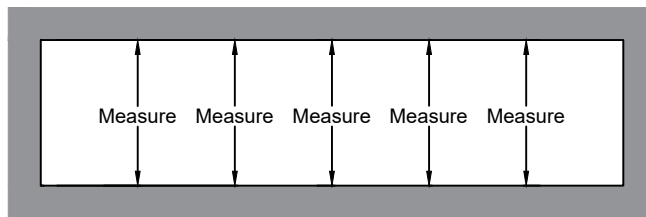
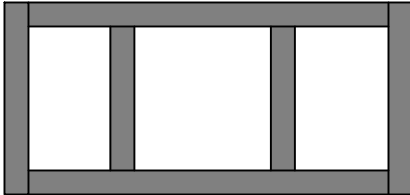


Fig.1.3

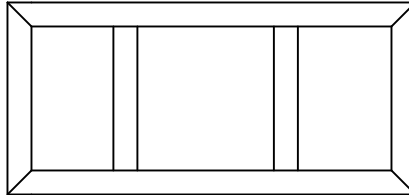
**FRAME FABRICATION - TRIM
CONFIGURATION 'A'**

Step 2: Select Trim configuration

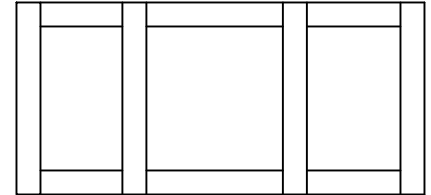
There are several trim configurations that will determine how the framing is cut and assembled. The instructions will follow the recommended method for fabrication and assembly. Trim configuration 'A' is recommended because it requires the least amount of coping and cutting. The other trim configurations are shown after the glazing process. Contact Tubelite Engineering at Engineering@Tubeliteinc.com for additional assistance.



Trim Configuration A (Recommended)



Trim Configuration B



Trim Configuration C

Trim Configuration 'A':

Step 3: Cut material

1: Cut Verticals

Vertical Jamb

1. Cut the vertical jambs to frame height.

Frame height = Rough opening minus shim gap top and bottom

Intermediate vertical

2. Cut intermediate verticals to frame height minus 1".

2: Cut Horizontals

Head

1. For a vertical jamb to vertical jamb condition cut the head to D.L.O. width. (One lite opening)
2. For a vertical jamb to intermediate vertical conditions cut the head extrusion to D.L.O. plus 3/4".
3. For an intermediate vertical to intermediate vertical condition cut the head to D.L.O. plus 1-1/2".

Sill

1. Cut to D.L.O. width.

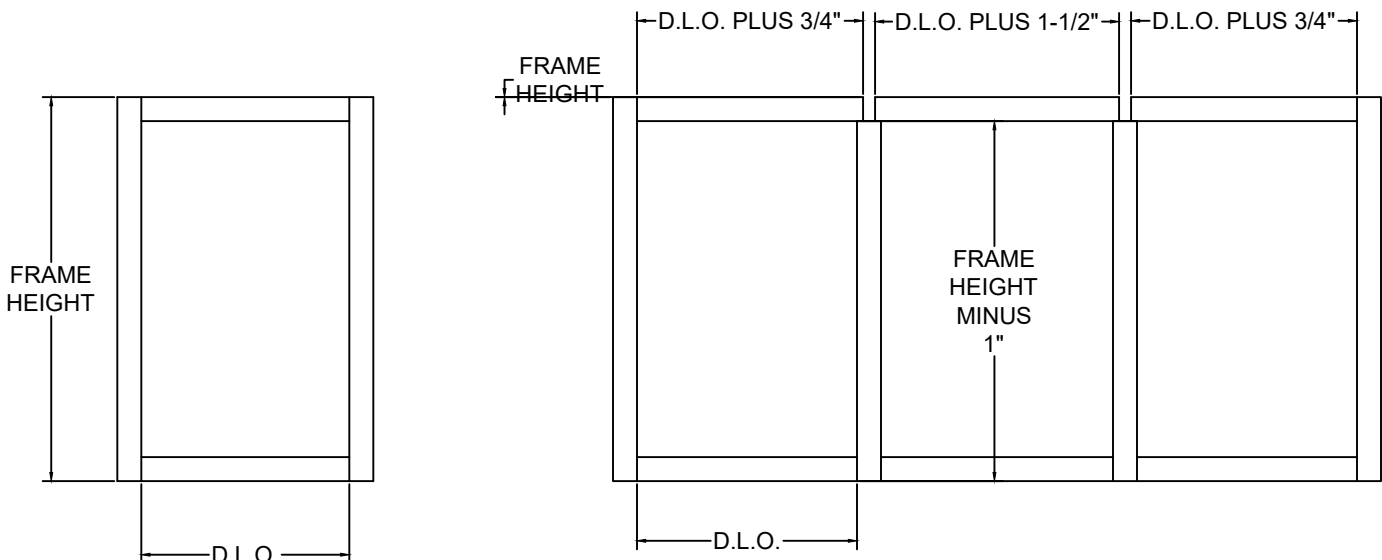


FIG 3.1
FRAMING MEMBERS SHOWN WITHOUT TRIM

DEPENDABLE

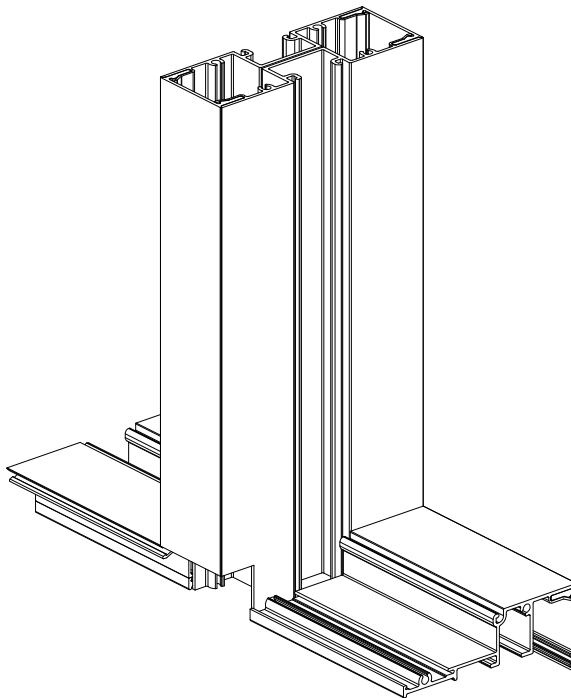
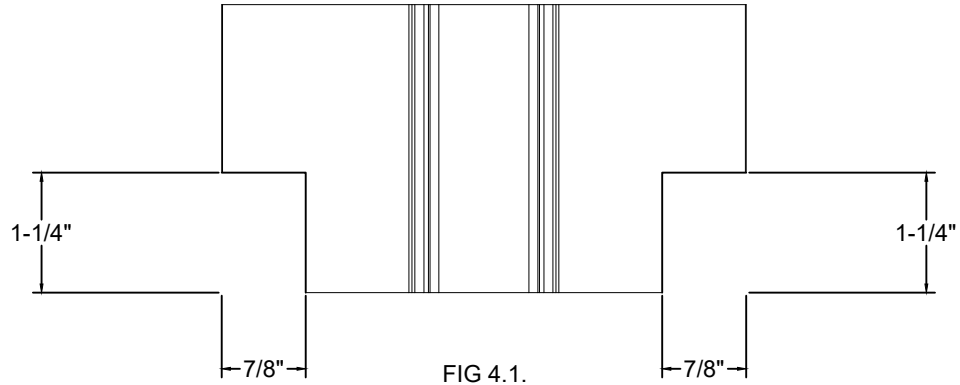
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FRAME FABRICATION - TRIM CONFIGURATION 'A'

Step 4: Make relief cuts as needed

Relief cuts on verticals

1. When using the wall sill make a relief cut on the vertical framing pieces, See figure 4.1. This relief cut allows for the trim to run continuous across the sill.



**FRAME FABRICATION - TRIM
CONFIGURATION 'A'**

Step 5: Prepare framing for assembly.

To prepare the framing use drill fixture P6740. Please note: The pins outside of the glass pocket pins are threaded and removable to allow for a variety of hole combinations. If the threaded pins are lost, a 1/4"-20 machine screw can be used as a substitute.

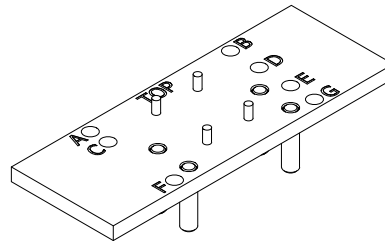
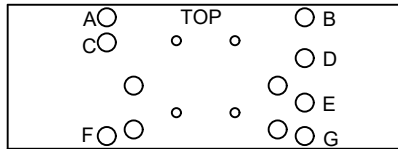


Fig.5.1

Perimeter Jamb

Head

- A. Place the threaded pins in the holes as shown in Fig. 5.2a. Finger tighten.
- B. Place the drill fixture so that the TOP of the drill fixture is facing towards the Sill. Ensure that the threaded pins are facing the mullion.
- C. Place the drill fixture so the upper set of threaded pins are touching the top of the mullion as shown below in figure 5.2b.
- D. Once the fixture is set, drill holes A and B with a 1/4" drill bit.

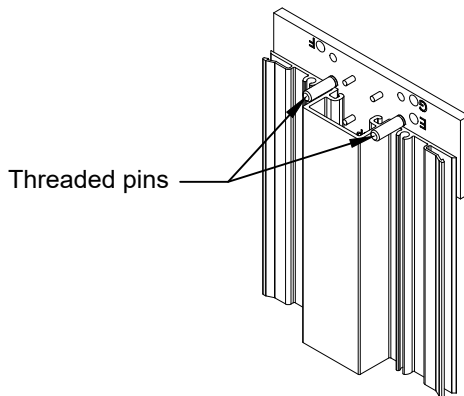


Fig.5.2a

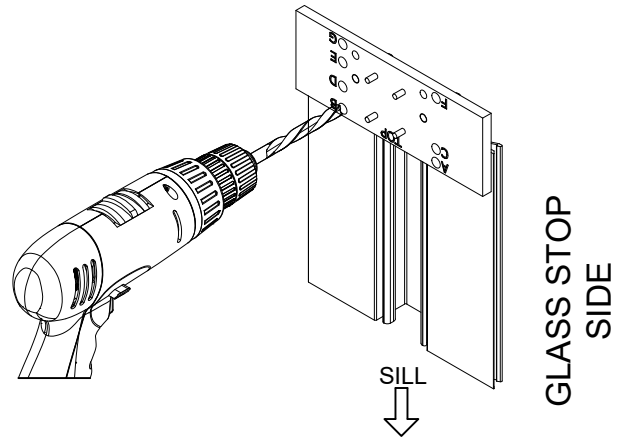


Fig.5.2b

Intermediate horizontals and floor sill

- A. Remove the threaded pins.
- B. Place the drill fixture so that the TOP of the drill fixture is facing the head of the framing.
- C. Mark where the top of the intermediate horizontals and/or floor sill will be located.
- D. Align drill fixture so the marked line matches the top of the drill fixture. If you are preparing the vertical for the sill, align bottom of fixture with sill location.
- E. Drill holes A, G, and F with 1/4" drill bit.

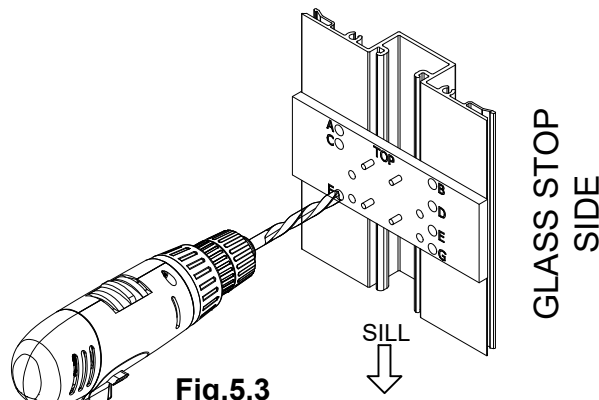


Fig.5.3

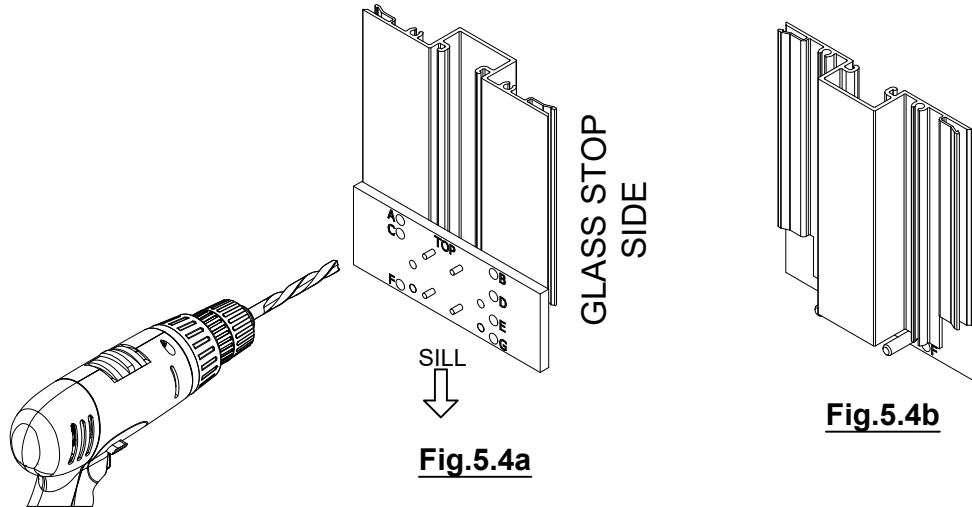
FRAME FABRICATION - TRIM CONFIGURATION 'A'

Step 5: Prepare framing for assembly (cont.)

Vertical Jamb (Cont.)

Wall Sill

- A. Place threaded pins in lower hole set as shown in Fig. 5.4b.
- B. Place the fixture so the TOP of the fixture is facing the head. Ensure the threaded pins are facing the mullion.
- C. Place the fixture so that the bottom set of threaded pins are touching the bottom of the mullion as shown below in figure 5.4a.
- D. Once the fixture is set, drill holes E and C with 1/4" drill bit.

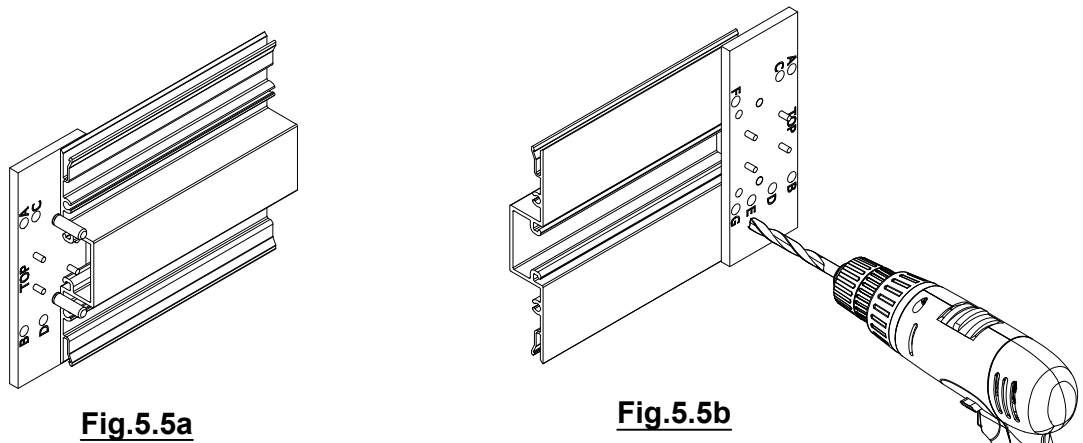


Intermediate Verticals

The head will attach to the vertical using the screw spines of the intermediate verticals. For the intermediate horizontals, floor sill, and wall sill use the previously mentioned preparation steps. To prep the head follow the steps listed below.

Head

- A. To prep the head, start at the end where the intermediate vertical will be attached. If intermediate verticals are on both sides, the head member must be prepped on both ends.
- B. Set threaded pins in the upper hole set per Fig. 5.5a. Make sure lower threaded pins are removed.
- C. Place the drill fixture so that the TOP is pointed away from the material.
- D. Slide the fixture so that the pins rest on the head as shown below.
- E. Drill holes F and G with 1/4" drill fixture per Fig. 5.5b.



FRAME FABRICATION - TRIM CONFIGURATION 'A'

Step 6: Assemble Framing

- A. Assemble the framing units with the S419 frame screw as shown in figure 6.1. Single and multiple lite elevations require different assembly configurations. Refer to the drawings below for assembly notes.

The elevation shown below is for a jamb to jamb configuration. (Single lite opening)

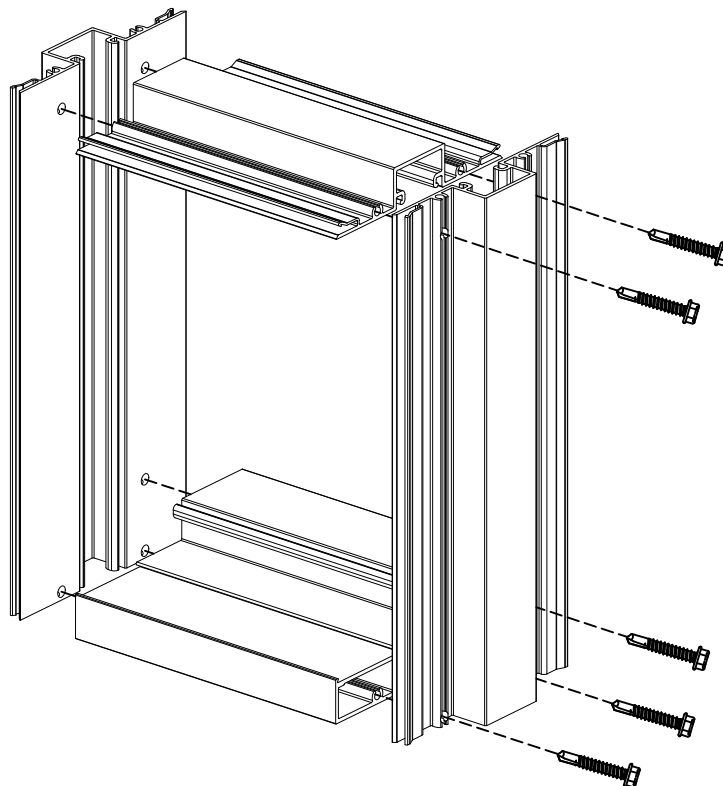
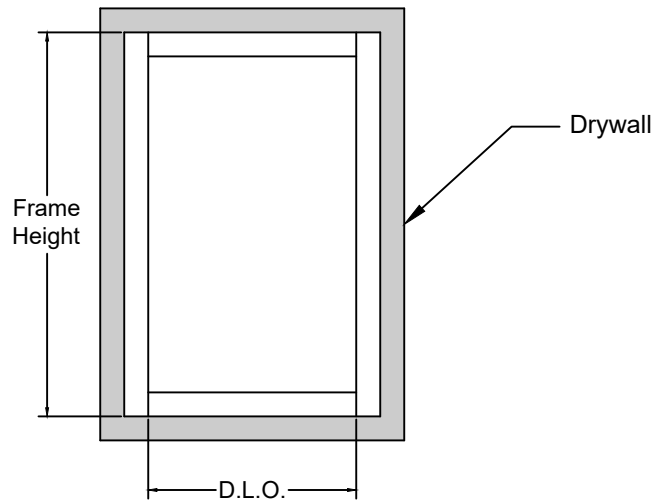


Fig.6.1

FRAME FABRICATION - TRIM CONFIGURATION 'A'

Step 6: Assemble Framing

B. Below is a jamb to intermediate vertical configuration in a multiple lite opening.

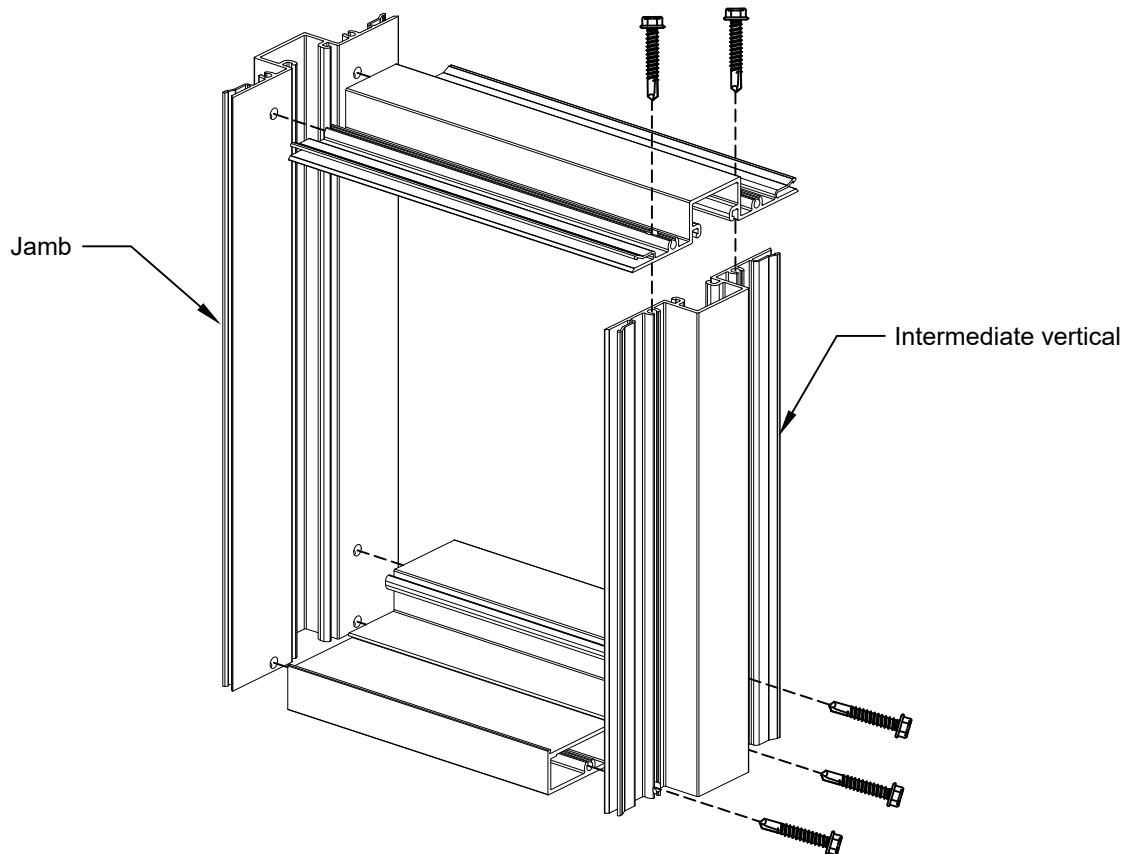
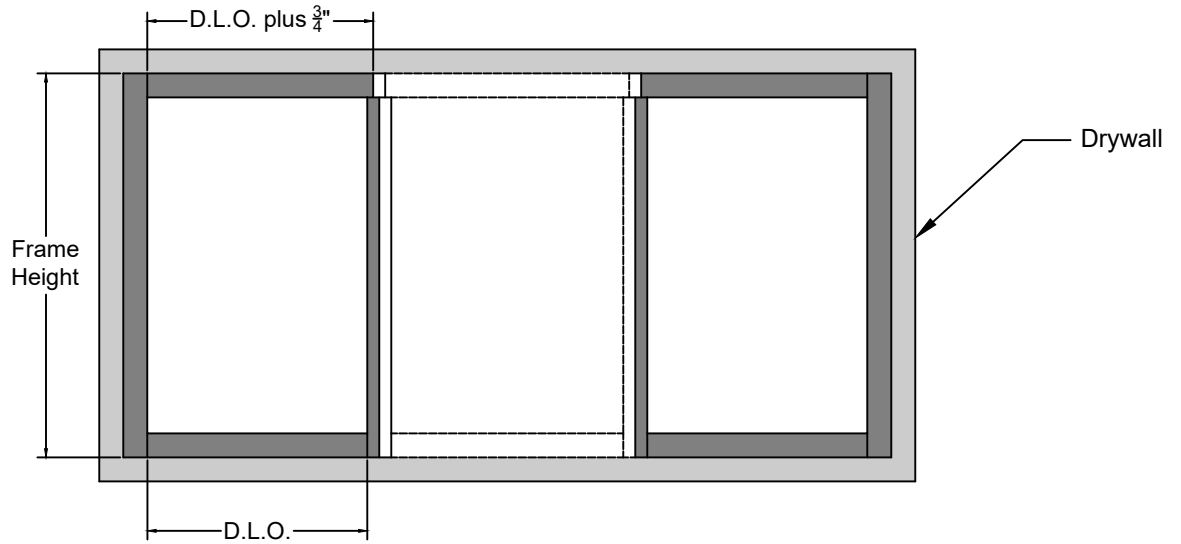


Fig.6.2

FRAME FABRICATION - TRIM CONFIGURATION 'A'

Step 6: Assemble Framing

C. Below is an intermediate vertical to intermediate vertical configuration in a multiple lite configuration.

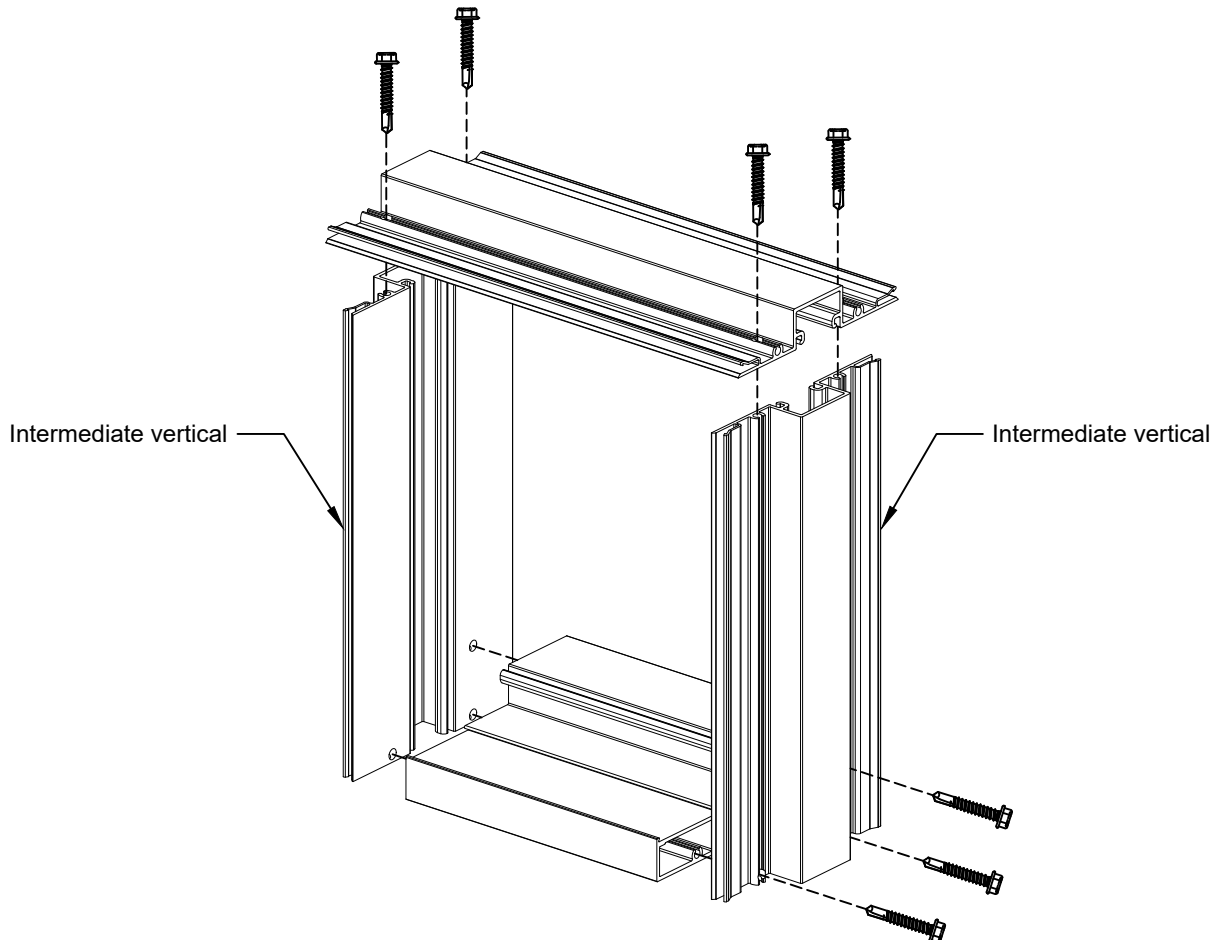
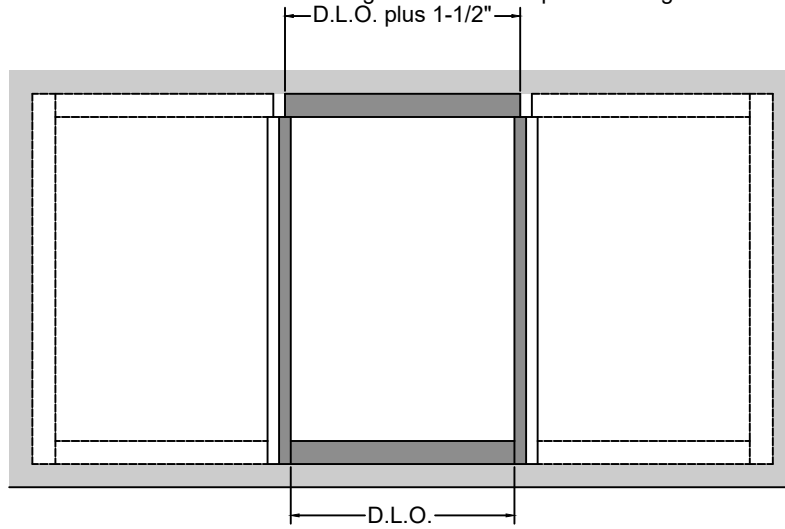


Fig.6.3

FRAME FABRICATION - TRIM CONFIGURATION 'A'

Step 7: CUTTING TRIM

A. Vertical Jamb Trim:

$$\text{Vertical jamb trim} = \text{vertical D.L.O.} + 4''$$

B. Intermediate vertical trim:

$$\text{INT. Vert Trim} = \text{Vertical D.L.O. (Wall Sill)}$$

$$\text{INT. Vert Trim} = \text{Vertical D.L.O.} + 2'' \text{ (Floor Sill)}$$

C. Horizontal trim: Horizontal trim is only needed at the sill when using the wall sill. The head will always need the horizontal trim. When using a corner mullion, use the corner mullion instructions to determine length of trim.

$$\text{Head / sill trim} = (\text{sum of horizontal D.L.O. widths}) + (\text{sum of intermediate vertical widths})$$

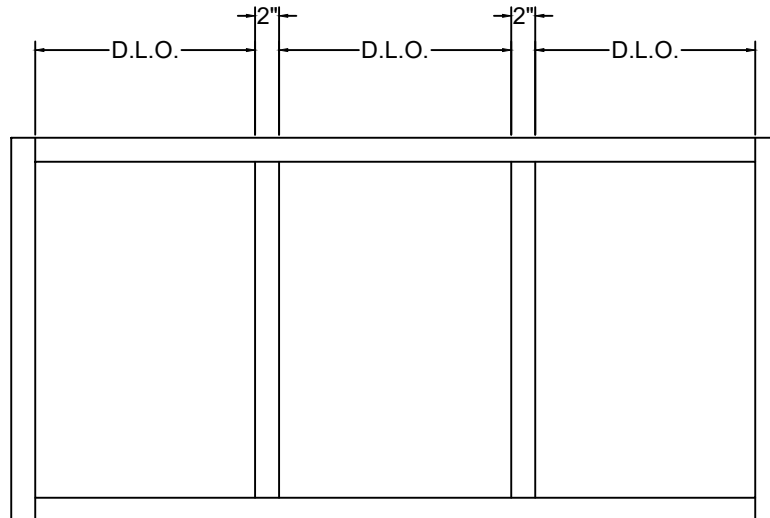


Fig.7.1

D. Cope vertical jamb trim: On the vertical jamb trim remove 1-1/2" off of the dart at all locations where the trim will go over a wall.

NOTE: No cope is required when using a floor sill.

E. Once the trim pieces are prepped install the P2511 gasket into the reglet. Gaskets may be omitted for tight wall conditions. Cut P2511 to trim length.

$$\text{Gasket length} = \text{Trim length}$$

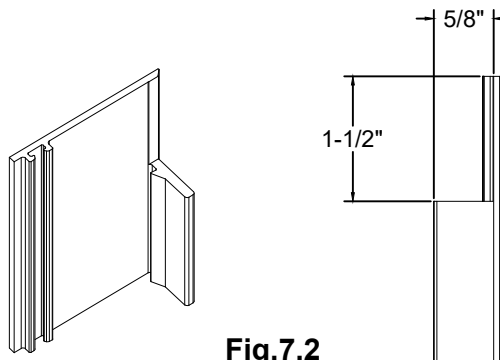


Fig.7.2

FRAME INSTALLATION

Step 8: Installing frames in opening

NOTE: Check D.L.O. and diagonal dimensions every four bays to ensure correct spacing and frame squareness.

- A. Before installing framing check wall thickness dimensions.
- B. Place framing into the rough opening. Be sure to check for the correct spacing around the edges. Please note: It is recommended that one side of trim is installed before placing into the rough opening. This will help center the framing in the opening.

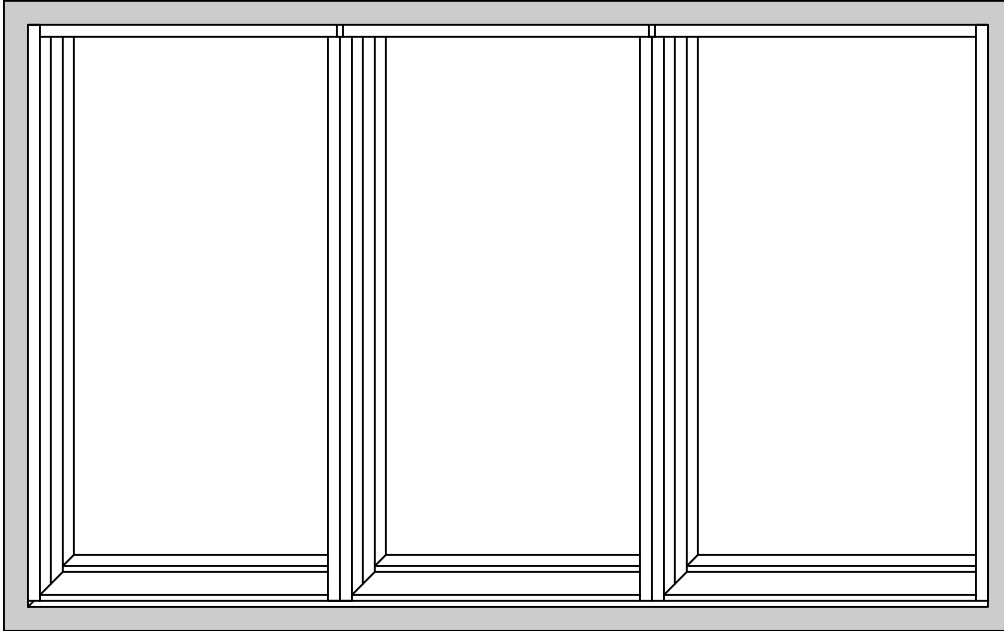


Fig.8.1

- C. Shim the framing so that the entire frame is level across all lites. Ensure all horizontal profiles align.

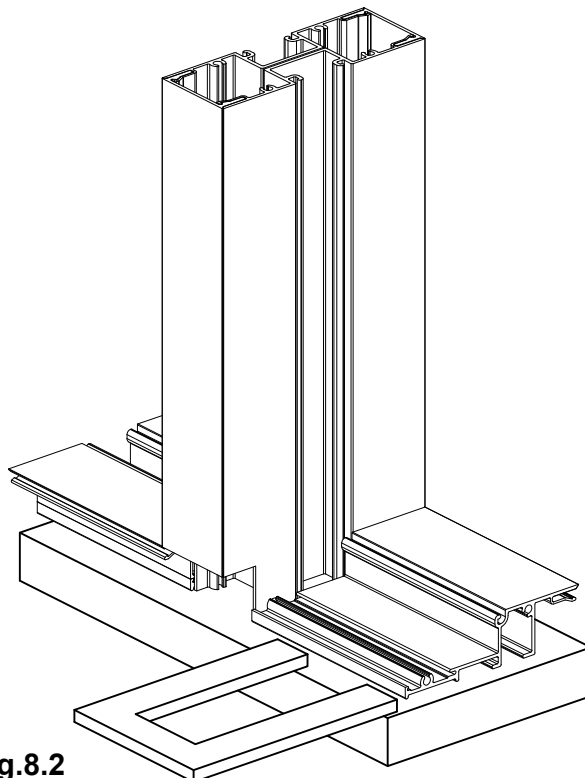


Fig.8.2

FRAME INSTALLATION

Step 8: Install elevation (Cont.)

- A. If needed, slightly crimp snap engagement along verticals to ensure vertical trim does not slide once installed.
- B. **TRIM IS DIFFICULT TO REMOVE ONCE ENGAGED.** Be sure to align trim before fully engaging trim to frame. Apply trim along the vertical jambs and head to secure framing in the opening.
- C. If using the wall sill apply trim along the non-glass stop side. The trim along the glass stop side will be applied after the framing is gl

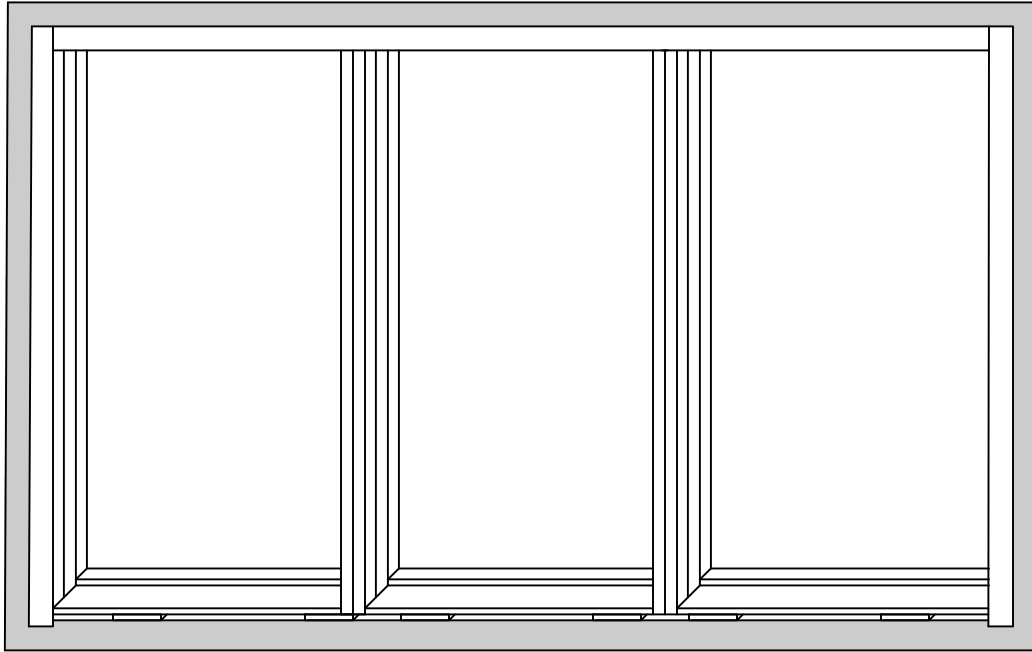


Fig.8.3

- D. Apply intermediate vertical trim.
- E. Install anchor fasteners per shop drawings. Typical arrangement is shown below.

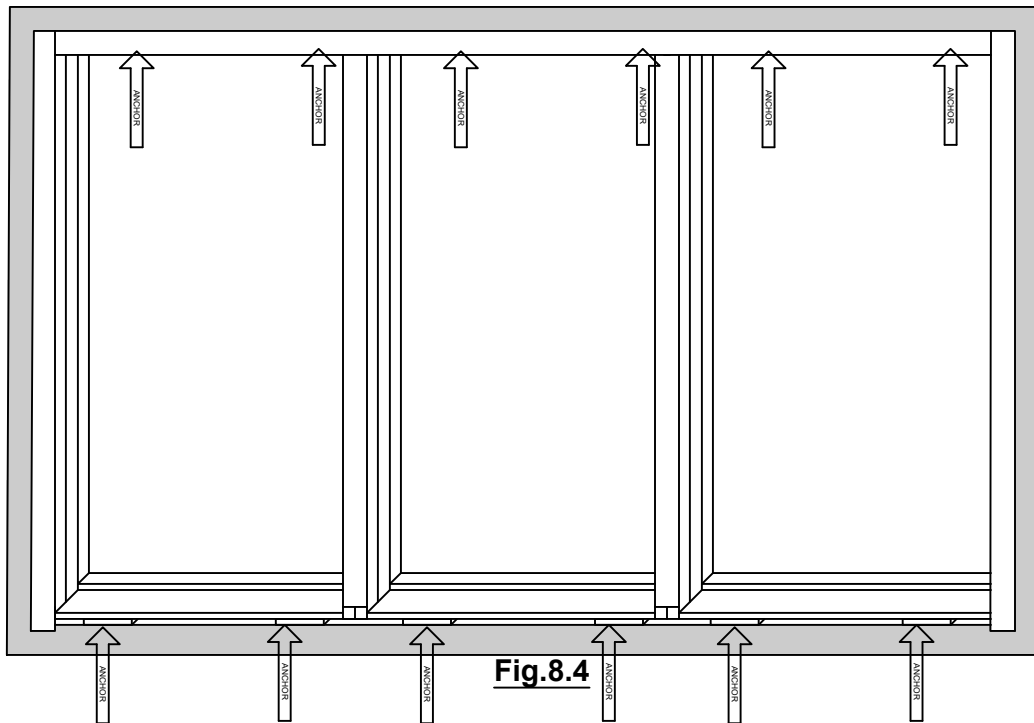


Fig.8.4

GLAZING

Step 9: Glazing Preparation and installation

A. Cut and install the gaskets on the side of the framing opposite glass stops.

1. Cut the vertical gaskets to D.L.O. + 1/8" per foot.
2. Install the vertical gaskets.
3. Cut the horizontal gaskets to D.L.O. + 1/8" per foot.
4. Install the horizontal gaskets tight against the vertical gaskets.

B. Install the glass

1. Install glass into the framing as shown in Fig. 9.1.
2. Position setting blocks under the glass at quarter points (2 setting blocks per lite) or as required.
3. Lower glass onto the setting blocks.



Fig.9.1

C. Install glass stops. See Fig. 9.2.

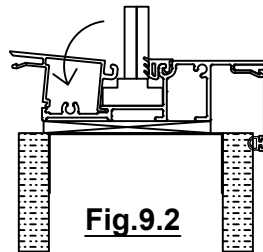


Fig.9.2

D. Cut and install gaskets

1. Cut the vertical gaskets to D.L.O. + 1" + 1/8" per foot.
2. Install the vertical gaskets.
3. Cut the horizontal gaskets to D.L.O. + 1/8" per foot.
4. Install horizontal gaskets tight against the vertical gaskets.

E. At the wall sill condition install horizontal trim. See Fig. 9.3.

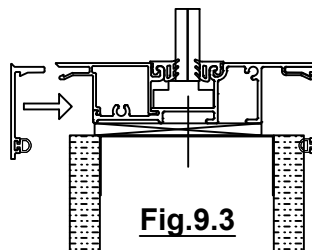


Fig.9.3

ENTRANCE FRAMING

ENTRANCE FRAMING PREP

Door frames are cut and prepped by Tubelite. Field modifications are listed below for various conditions

Door Frame Without Transom

- A. Door jambs are coped at factory to fit around the wall condition at the head. See figure 10.1.

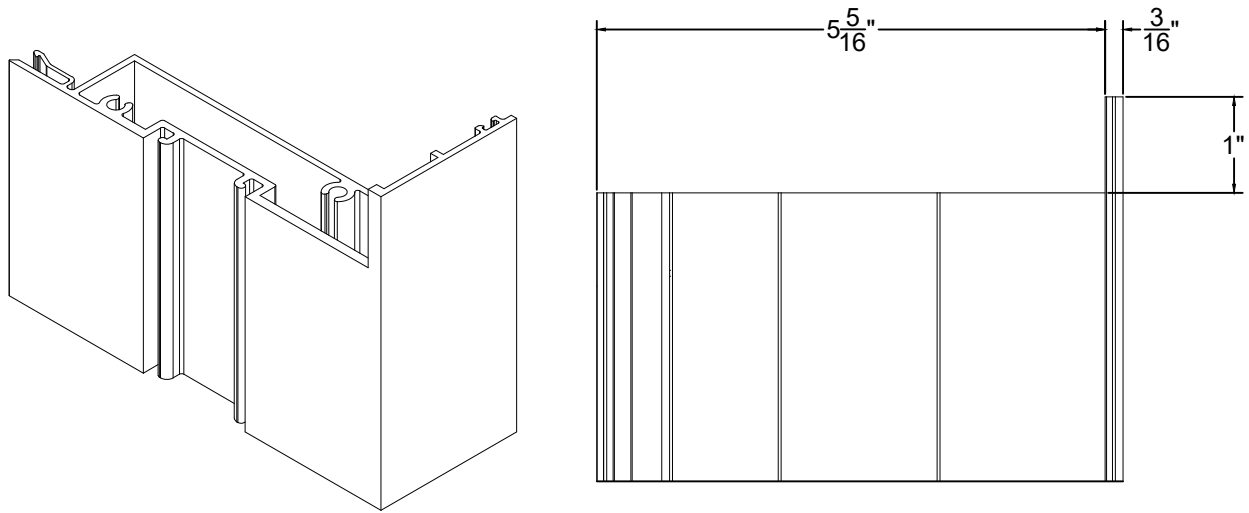


Fig.10.1

- B. Remove the threaded pins from drill fixture.
- C. To prep the door jambs for the head rotate the drill fixture so that the TOP of the fixture is facing down towards the sill.
- D. Measure the distance from the bottom of the frame to what should be the correct door head height. Mark a line. Make sure that the line is 2" down from the top of the jamb.
- E. With the fixture facing downward, place the fixture so that the TOP is lined up with the drawn line. The top corner of the fixture should line up with the top of the mullion. See Fig 10.2.
- F. Drill holes A and B with a 1/4" drill bit.

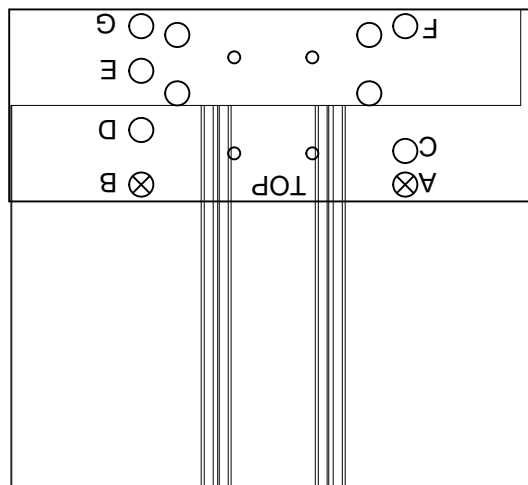
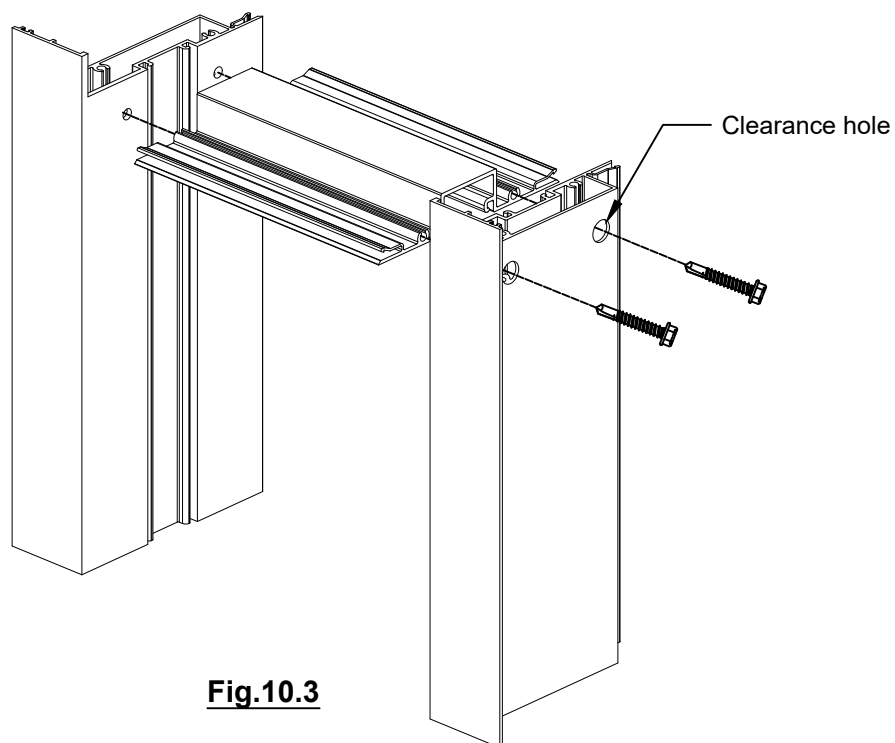


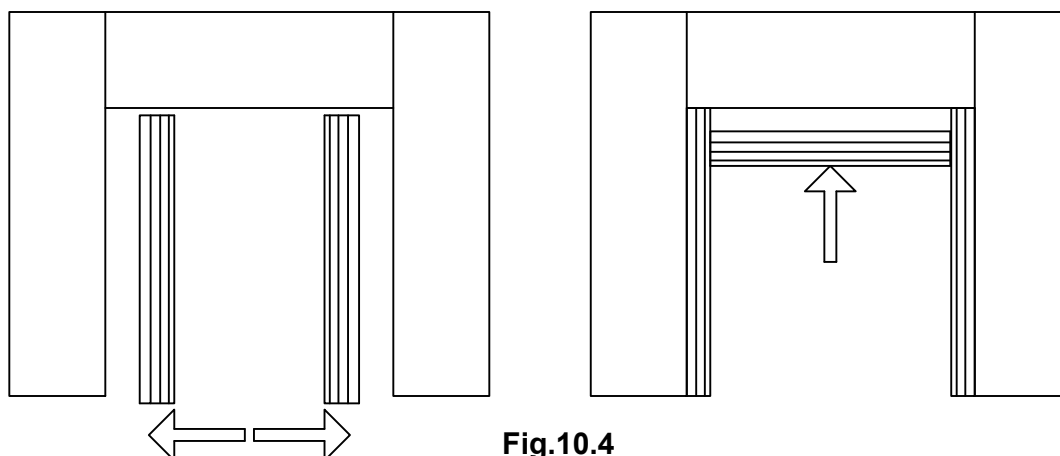
Fig.10.2

ENTRANCE FRAMING**ENTRANCE FRAMING (Continued)****Door Frame Without Transom**

3. Clearance holes on back side of the door jambs are prepped at factory. NOTE: The drill fixture can be used to drill through both walls to center these holes.
4. Attach the head to jambs via screw splines using the S419 frame screw. See figure 10.3.

**Fig.10.3**

Once the framing is assembled and secured, install door stops and install doors. Refer to door instructions. See figure 10.4.

**Fig.10.4**

ENTRANCE FRAMING

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CURTAINWALL AND ENTRANCE SYSTEMS

ENTRANCE FRAMING PREP (continued)

Door Frame with Transom

- A. The frame jambs will need to be coped to fit around the wall condition at the head. Use the illustration below as a guide for measurements.

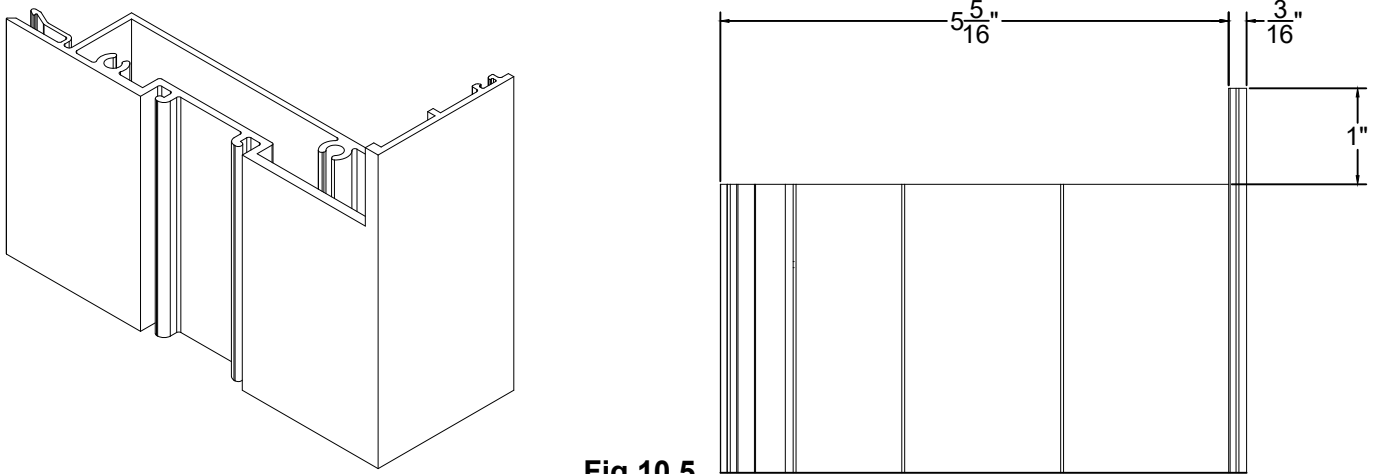


Fig.10.5

- Remove the threaded pins from drill fixture.
- To prep the door jambs for the head rotate the drill fixture so that the TOP of the fixture is facing down towards the sill.
- Measure the distance from the bottom of the frame to what should be the correct door head height. Mark a line. Make sure that the line is 2" down from the top of the jamb.
- With the fixture facing downward, place the fixture so that the TOP is lined up with the drawn line. The top corner of the fixture should line up with the top of the mullion. See Fig 10.6.
- Drill holes A and B with a 1/4" drill bit.

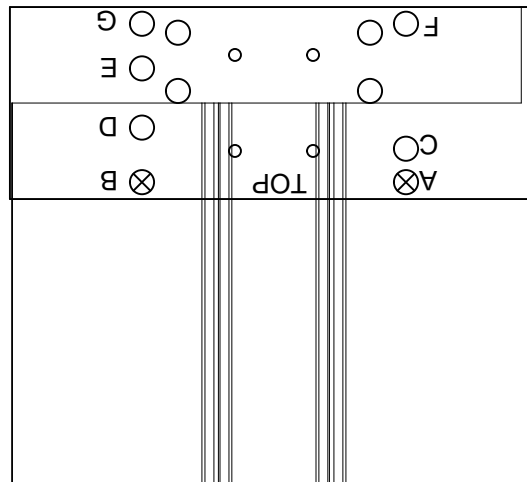
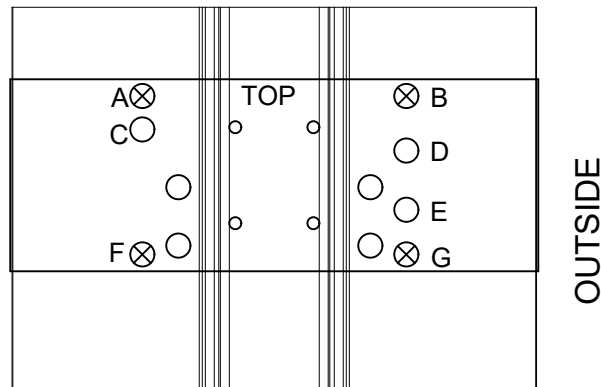


Fig.10.6

ENTRANCE FRAMING**ENTRANCE FRAMING (Continued)****Door Frame with Transom**

2. Remove the threaded pins from the drill fixture.
3. Place the drill fixture so that the "TOP" is facing the head. Line up the bottom of the door header.
4. Drill Holes A, B, F, and G with a 1/4" drill bit.

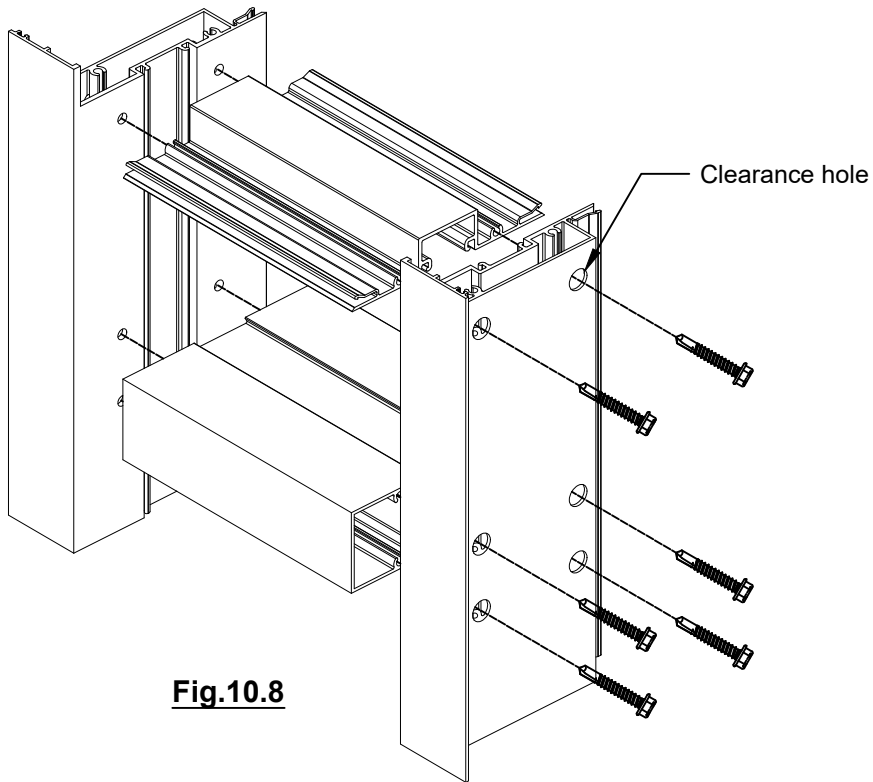
**Fig.10.7**

ENTRANCE FRAMING

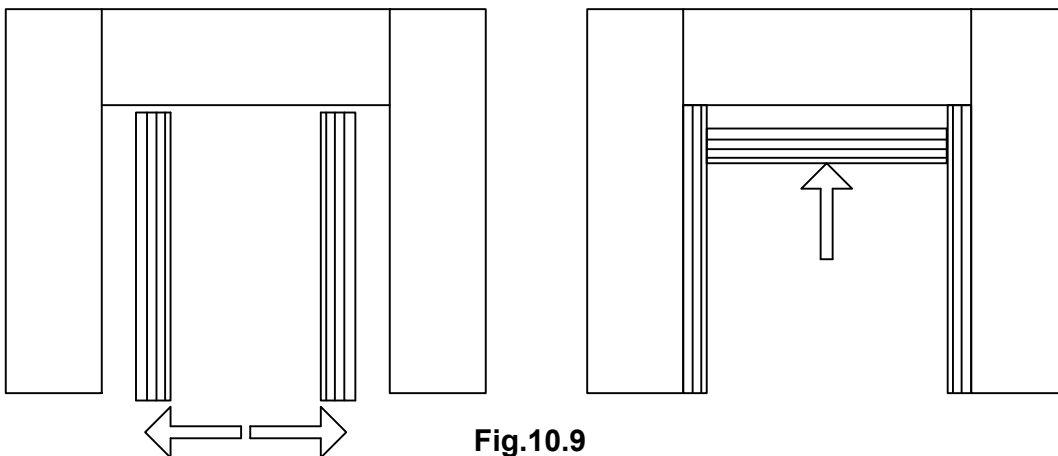
ENTRANCE FRAMING PREP (continued)

Door Frame with Transom (continued)

- l. Drill clearance holes on the back side of the door jamb.
- j. Attach door and transom head to jambs via screw splines using the S419 frame fastener. See figure 10.8.

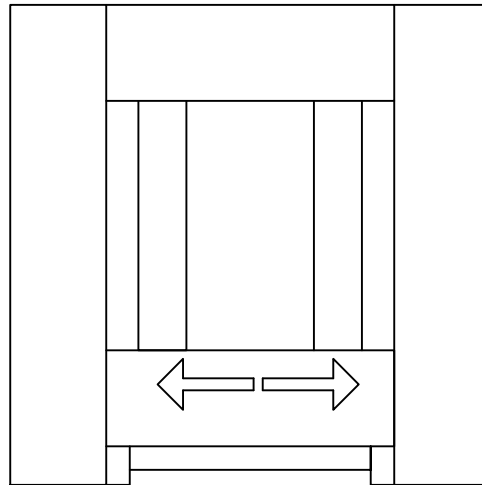


- K. Once the framing is assembled and secured, attach the door stops and install doors. Refer to door instructions. See figure 10.9.

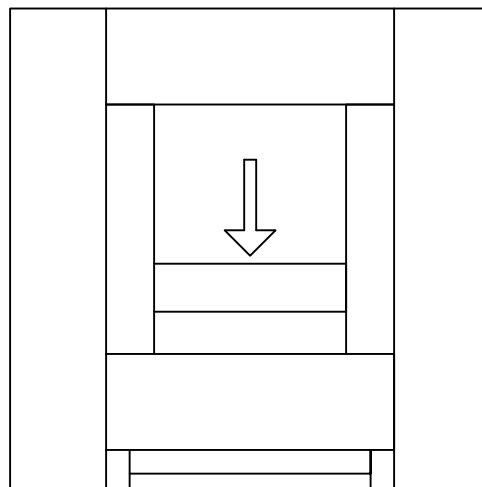


ENTRANCE FRAMING**ENTRANCE FRAMING (Continued)****Door Frame with Transom. (Continued)**

- .. Attach the vertical transom glass stops using two S445 per stop.

**Fig.10.10**

4. Attach the transom gutter E6719 by using the dove tail feature in the top of the door header.

**Fig.10.11****Transom Glazing instructions**

- Once the transom gutters are installed around the frame, follow the glazing installation instructions to glaze the transom lite.

DEGLAZING

Step 11: Deglazing

Hard floor sill and/or intermediate horizontal (Figure 11.1)

- A. In the event that a lite needs to be deglazed that is using the floor sill, remove exterior glazing gaskets.
- B. Remove glass stop by pressing the face of the stop and slightly lifting.

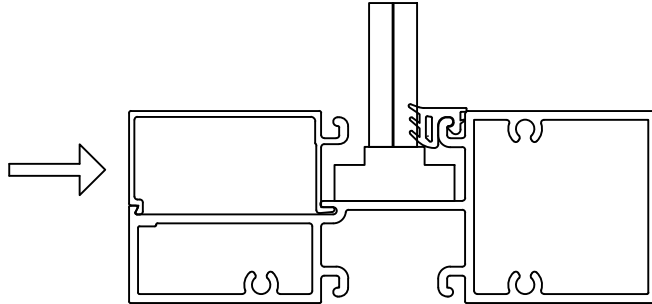


Fig.11.1

Drywall Sill (Figure 11.2)

- A. In the event that a lite needs to be deglazed that is using the wall sill, start by removing the gasket on the glass stop . If the trim is running continuous across several lites you will need to remove gaskets from the sill of each of the other lites.
- B. Once the gasket is removed, hit the bottom of the trim to dislodge the glass stop on the sill
- C. Once dislodged pull the trim and glass stops out of the frame.
- D. Slide trim off of glass stops and replace glass stops to lites not being removed.

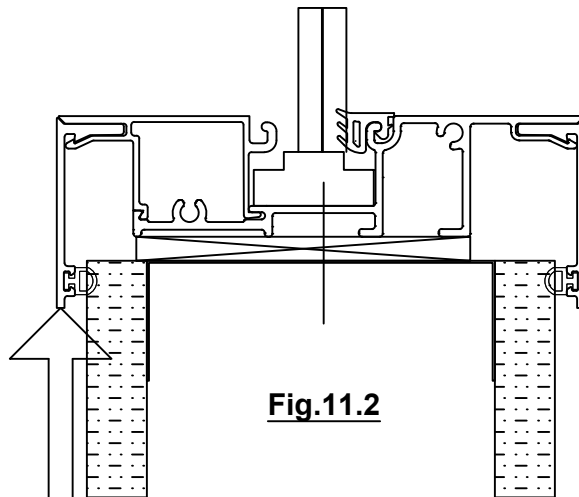
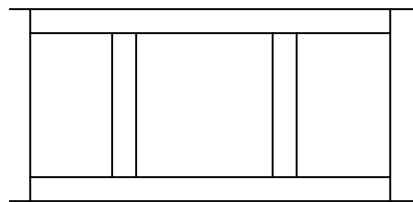


Fig.11.2

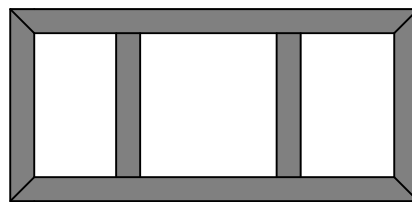
FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 2: Select Trim configuration

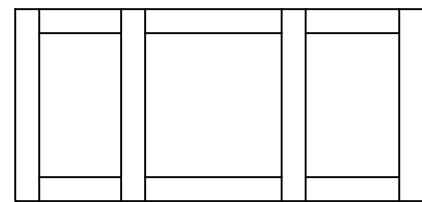
There are several trim configurations that will determine how the framing is cut and assembled. The instructions will follow the recommended method for fabrication and assembly. Trim configuration 'A' is recommended because it requires the least amount of coping and cutting. The other trim configurations are shown after the glazing process.



Trim Configuration A (Recommended)



Trim Configuration B



Trim Configuration C

Trim configuration 'B':

Step 3: Cut material

Verticals

Vertical Jamb

1. Cut the vertical jambs to frame height.

Intermediate vertical

2. Cut Intermediate verticals to frame height minus 1".

Horizontals

Head

1. For a vertical jamb to vertical jamb condition cut the head to the D.L.O. width.
2. For vertical jamb to intermediate vertical conditions cut the head extrusion to D.L.O. plus 3/4".
3. For intermediate vertical to intermediate vertical conditions cut the head to D.L.O. plus 1 - 1/2".

Sill

1. Cut to D.L.O. width.

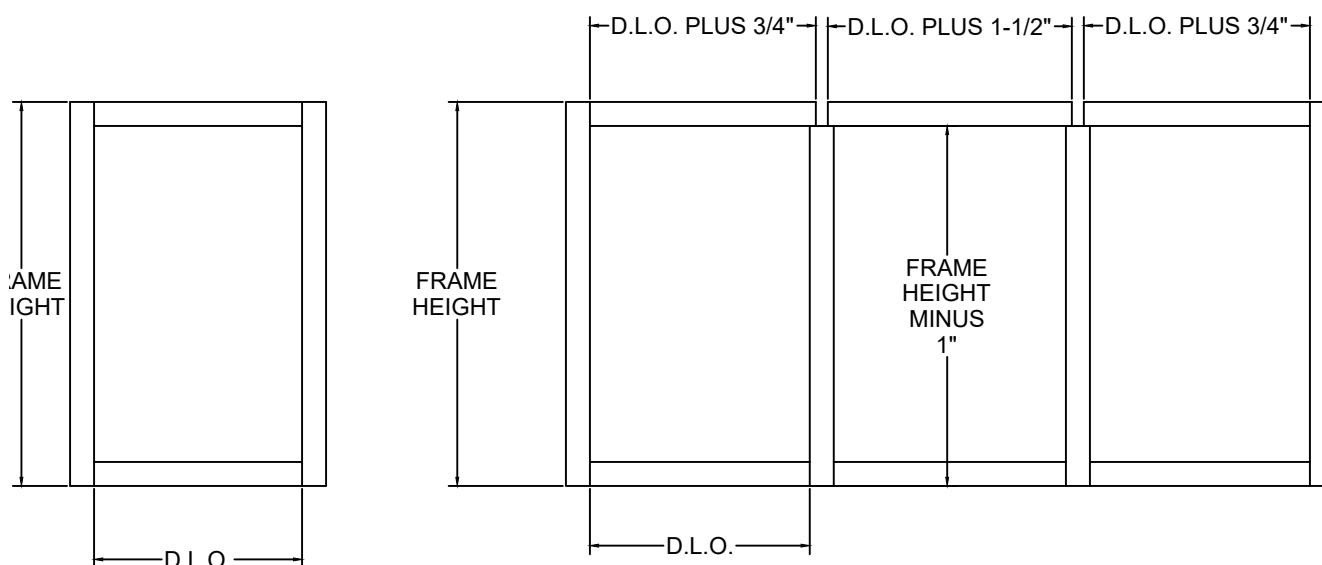


Fig.3B.1

FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 4: Relief cuts

1: Relief cuts on verticals

1. For the wall sill conditions make a relief cut on the vertical framing pieces, See figure 4B.2 AND 4B.3. This relief cut allows the trim to run continuously across the sill and meet at the mitered corner.

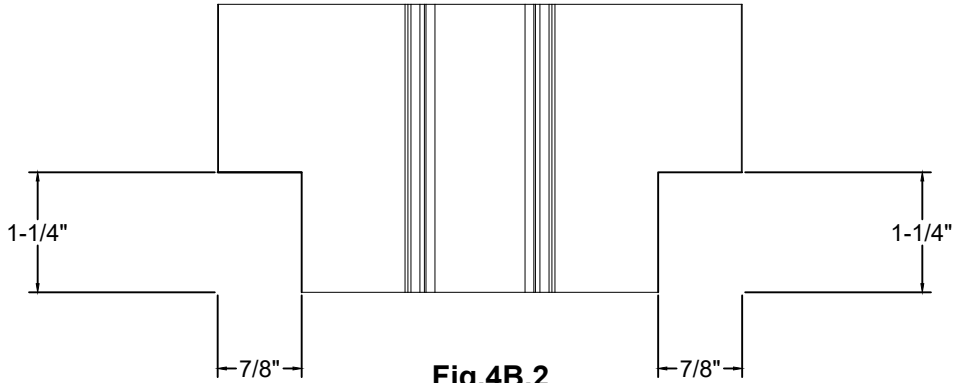


Fig.4B.2

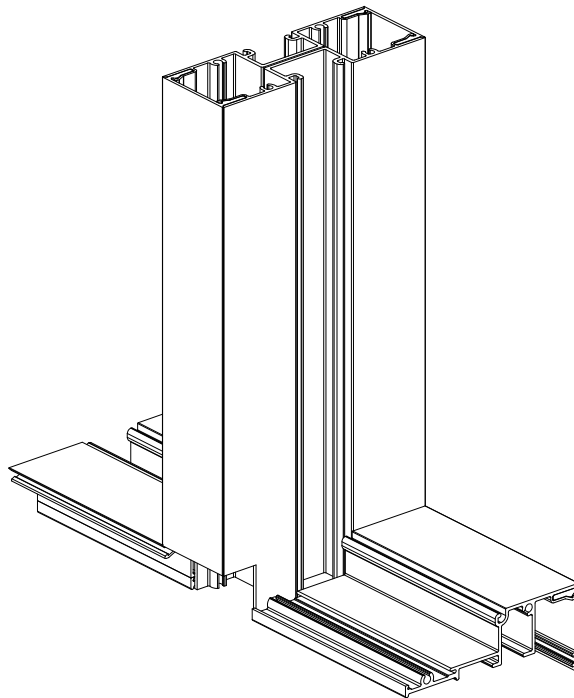


Fig.4B.3

FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 4: Relief cuts

1: Relief cuts on verticals

2. At the vertical jambs the verticals will need to be trimmed similar to the wall sill. This relief cut is to allow for the trim to meet at a mitered corner.

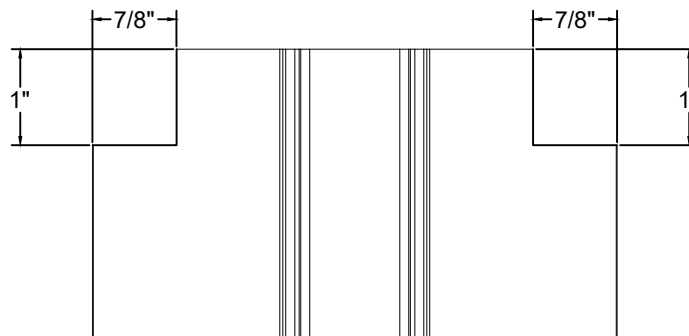


Fig.4B.3

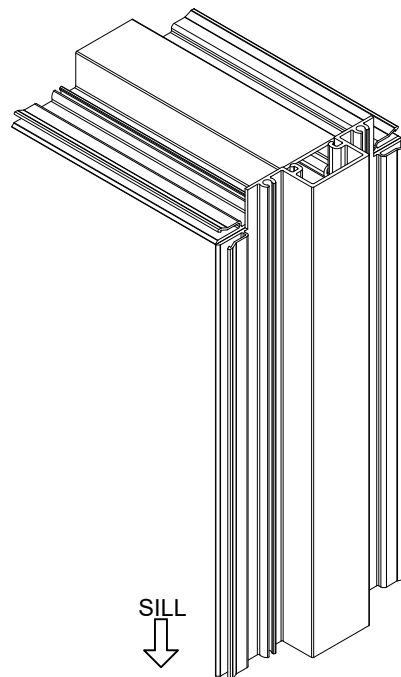
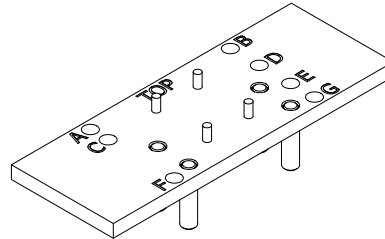
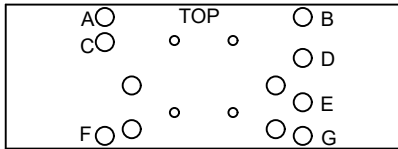


Fig.4B.4

FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 5: Prepare framing for assembly.

To prepare the framing use drill fixture P6740. Please note: The pins outside of the glass pocket pins are removable to allow for a variety of hole combinations. If the removable pins are lost a 1/4"-20 machine screw can be used as a substitute.



Vertical Jambs

Head

- Place the threaded pins in the holes as shown in Fig. 5B.1b. Finger tighten.
- Place the drill fixture so that the TOP of the drill fixture is facing towards the sill. Ensure that the threaded pins are facing the mullion.
- Place the drill fixture so the upper set of threaded pins are touching the top of the mullion as shown below in Figure 5B.1b.
- Once the fixture is set drill holes A and B with a 1/4" drill bit.

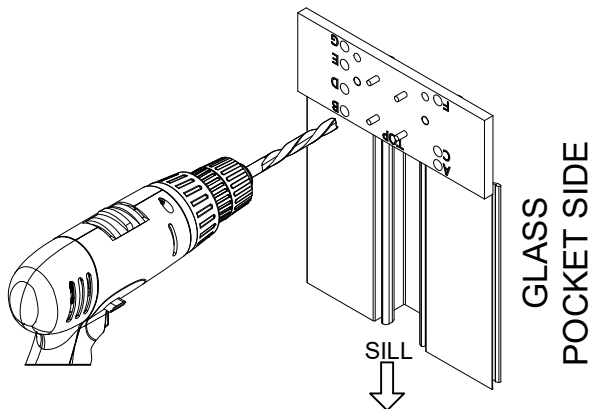


Fig.5B.1a

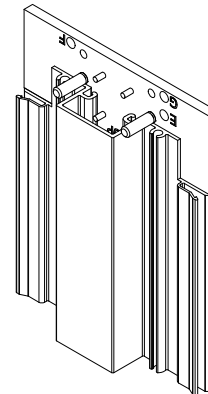


Fig.5B.1b

Intermediate horizontals and floor sill

- Remove the threaded pins.
- Place the drill fixture so that the TOP of the drill fixture is facing the head of the framing.
- Mark where the top of the intermediate horizontals and/or floor sill are to be located.
- Align drill fixture so the marked line matches the top of the drill fixture. If you are preparing the vertical for the sill, align bottom of fixture with sill location.
- Drill holes A, G, and F with 1/4" drill bit.

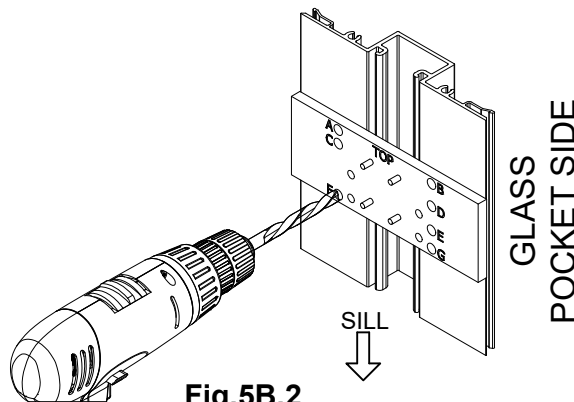


Fig.5B.2

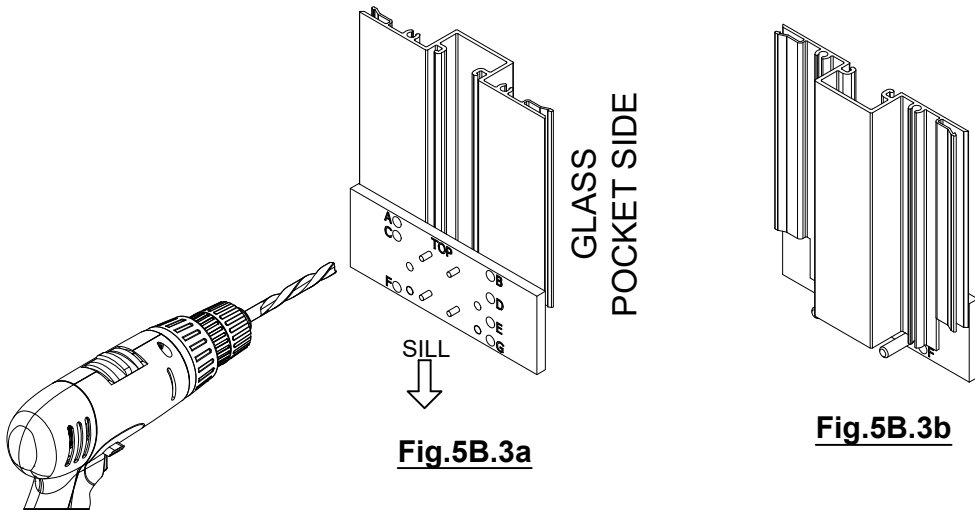
FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 5: Prepare framing for assembly (cont.)

Vertical Jamb

Wall Sill

- A. Place threaded pins in lower hole set as shown in Fig. 5B.3b.
- B. Place the fixture so the TOP of the fixture is facing the head. Ensure the threaded pins are facing the mullion.
- C. Next place the fixture so that the bottom set of threaded pins are touching the bottom of the mullion as shown below in figure 5B.3a.
- D. Once fixture is as shown below drill holes E and C with 1/4" drill bit.

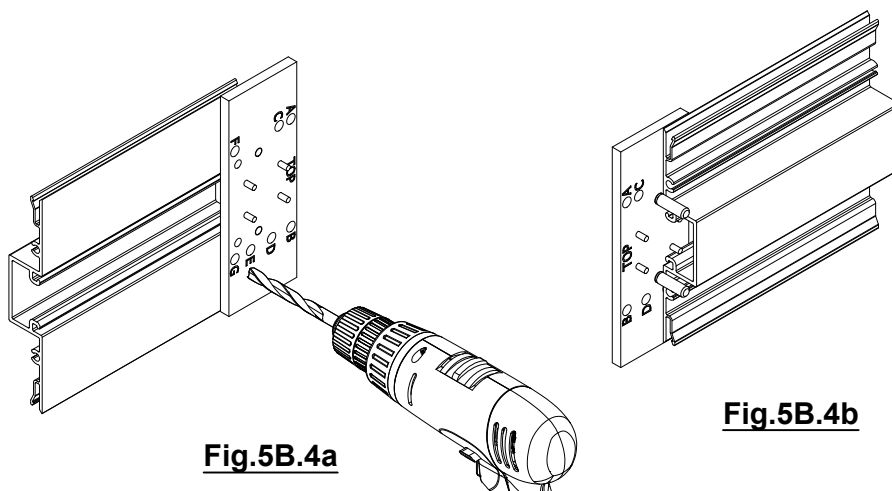


Intermediate Vertical

The head will attach to the vertical using the screw splines of the intermediate verticals. For the intermediate horizontals, floor sill, and wall sill use the previously mentioned preparation steps. To prep the head follow the steps listed below.

Head Mullion

- A. To prep the head, start at the end where the intermediate vertical will be attached. If intermediate verticals are on both sides, the head member must be prepped on both ends.
- B. Set threaded pins in the upper hole set per Fig. 5B.4b. Make sure the lower threaded pins are removed.
- C. Place the drill fixture so that TOP is pointed away from the material.
- D. Slide the fixture so that the pins rest on the head as shown below.
- E. Drill holes F and G with 1/4" drill fixture per Fig. 5B.4a.



FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 6: Assemble Framing

- A. Assemble the framing units with the S419 frame screw and the screw splines shown on the mullions. Single and multiple lite elevation require different assembly configurations refer to the drawings below for assembly notes.

The elevation shown below is for a jamb to jamb configuration. (single lite punched opening)

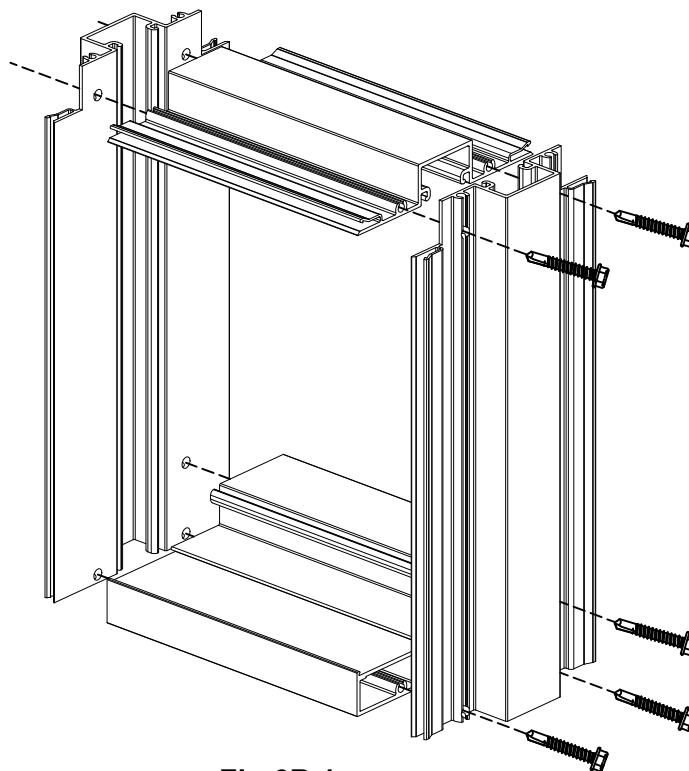
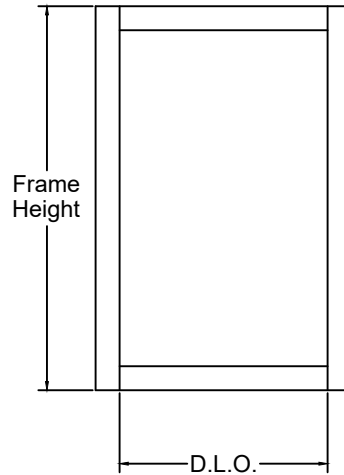


Fig.6B.1

**FRAME FABRICATION - TRIM
CONFIGURATION 'B'**

Step 6: Assemble Framing

Below is a jamb to intermediate vertical configuration in a multiple lite opening.

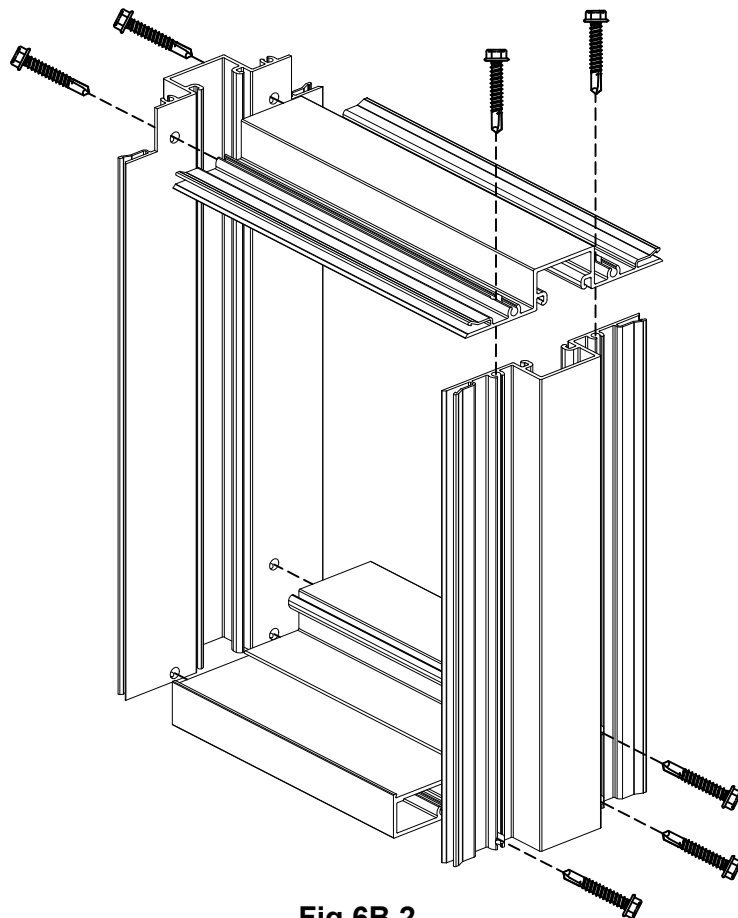
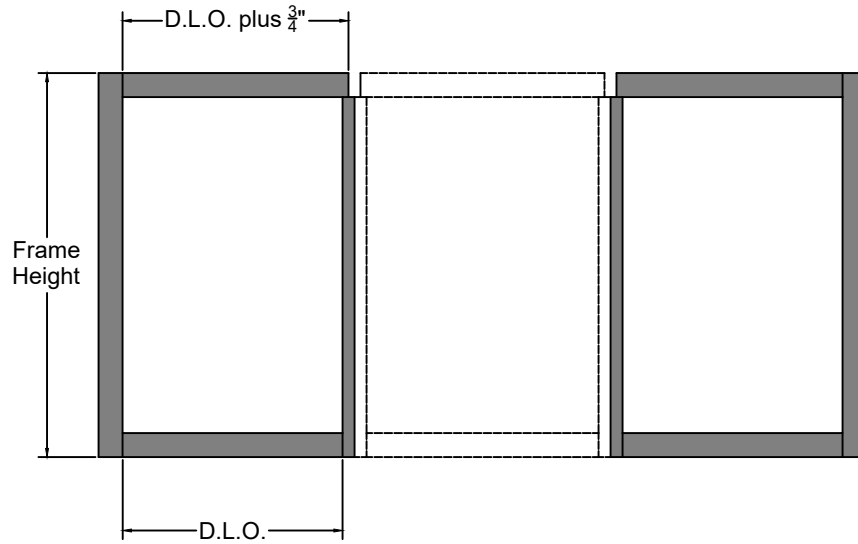


Fig.6B.2

FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 6: Assemble Framing

Below is an intermediate vertical to intermediate vertical configuration in a multiple lite configuration.

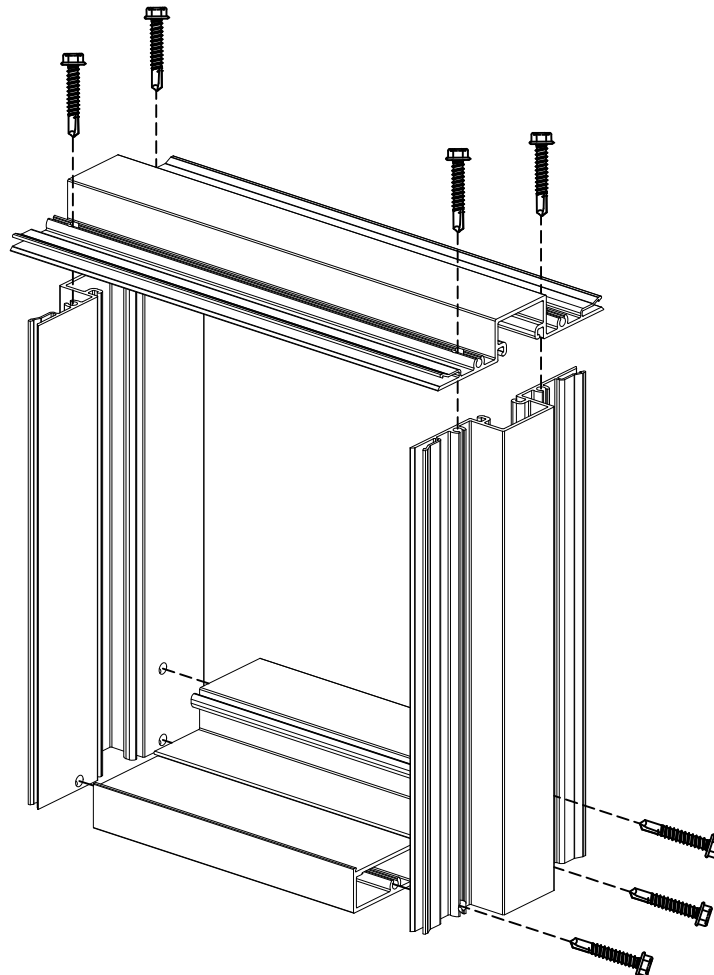
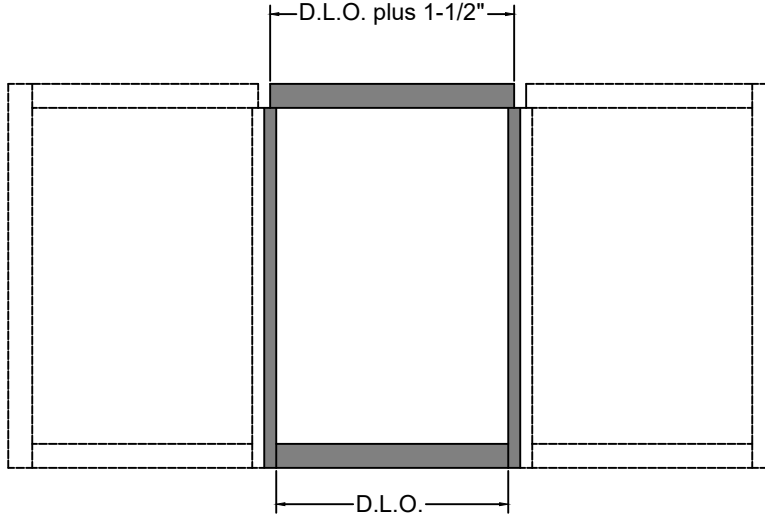


Fig.6B.3

FRAME FABRICATION - TRIM CONFIGURATION 'B'

Step 7: CUTTING TRIM

- A. Vertical jamb trim: To cut the vertical jamb trim first confirm if you are using a wall sill or a floor sill. If using the floor sill, only the head will need to be mitered. The wall sill will need to have the miter on both ends of the trim. The equation listed below is for the outside edge of the trim.

$$\text{Vertical Jamb Trim} = \text{vertical DLO} + 4''$$

Miter the trim at a 45 degree angle.

- B. Intermediate vertical trim: To cut the intermediate vertical trim first confirm if you are using the wall sill or a floor sill. The intermediate vertical trim will not have any miter cuts.

$$\text{INT. Vert Trim} = \text{Vertical D.L.O. (Wall Sill)}$$

$$\text{INT. Vert Trim} = \text{Vertical D.L.O.} + 2'' \text{ (Floor Sill)}$$

- C. Horizontal trim: To cut the trim for the head and/or wall sill, take the sum of all of the horizontal D.L.O. widths plus the width of each vertical (this includes jambs). Horizontal trim is only needed when using the wall sill. The head will always need the horizontal trim. When using a corner mullion, use the corner mullion instructions to determine length.

$$\text{Head / sill trim} = \text{Sum of horizontal D.L.O. widths} + (\text{sum of vertical widths})$$

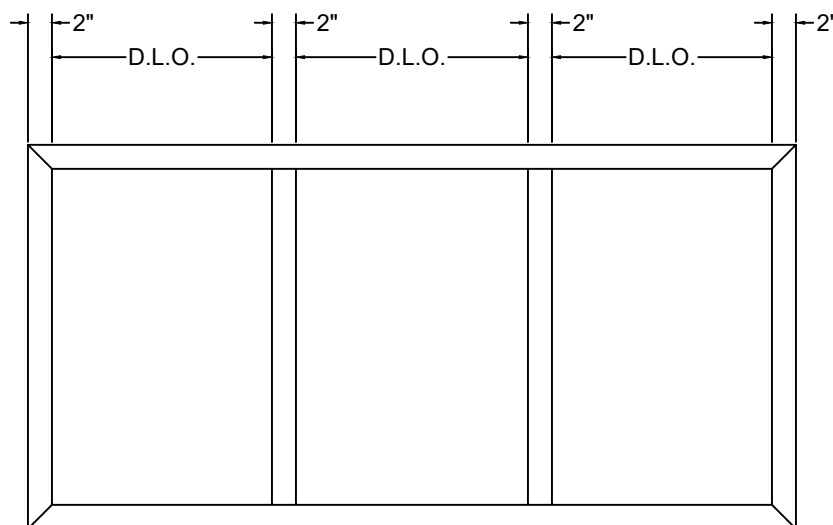


Fig.7B.1

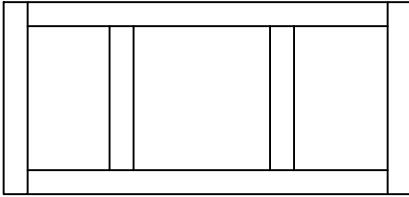
- D. Once the trim pieces are prepped add the P2511 gasketing to the reglet.
 E. Ensure the miter cuts line up on the frame prior to installation.

NOTE: Trim is difficult to remove once snapped in place.

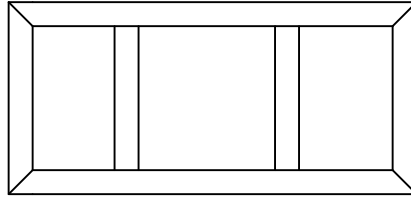
FRAME FABRICATION - TRIM CONFIGURATION 'C'

Step 2: Select Trim configuration

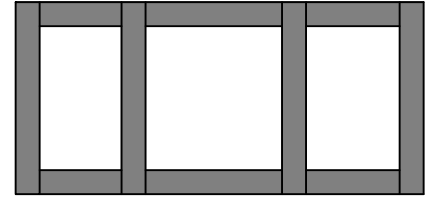
There are several trim configurations that will determine how the framing is cut and assembled. The instructions will follow the recommended method for fabrication and assembly. This method is recommended because it requires the least amount of coping and cutting. The other trim configurations are shown after the glazing process. If you have any questions please contact tubelite engineering at ENGINEERING@Tubeliteinc.com.



Trim Configuration A (Recommended)



Trim Configuration B



Trim Configuration C

Method C:

Step 3: Cut material

1: Cut Verticals

1. Cut all verticals to frame height.

2: Cut Horizontals

1. Cut to D.L.O. width.

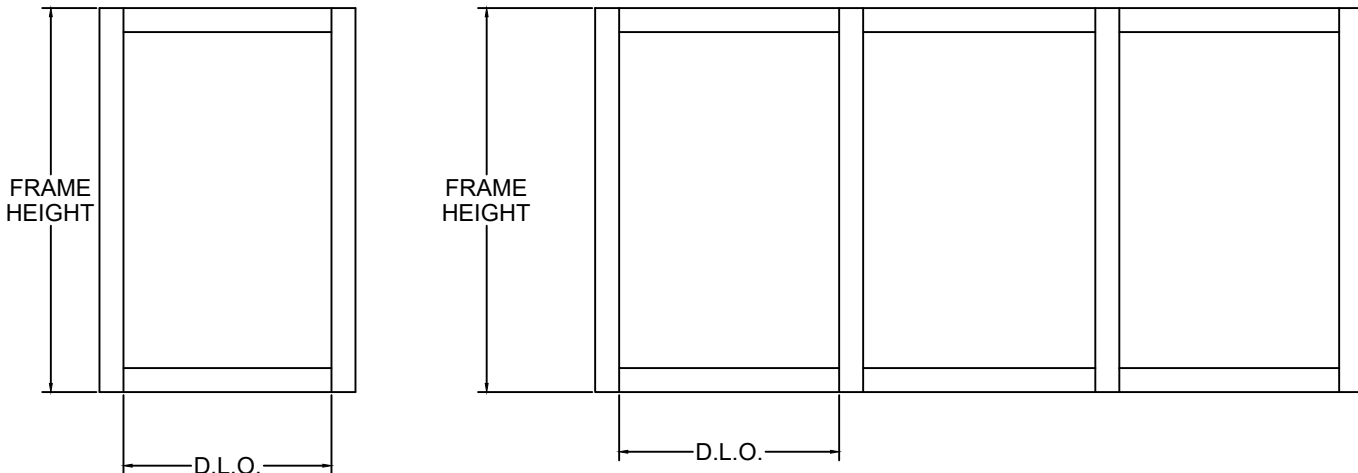
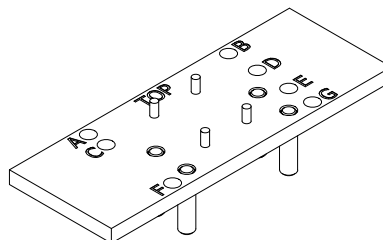
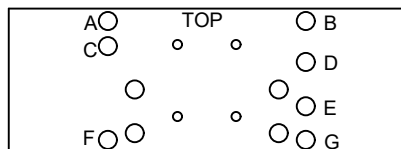


Fig.4B.4

FRAME FABRICATION - TRIM CONFIGURATION 'C'

Step 5: Prepare framing for assembly.

To prepare the framing use drill fixture P6740. Please note: the pins outside of the glass pocket pins are removable to allow for a variety of hole combinations. If the pins are lost, a 1/4"-20 machine screw can be used as a substitute



Vertical Jamb

Head

- Place the threaded pins in the holes as shown in Fig. 5C.2a. Finger tighten.
- Place the drill fixture so that the TOP of the drill fixture is facing towards the sill. Ensure that the threaded pins are facing the mullion.
- Place the drill fixture so the upper set of threaded pins are touching the top of the mullion as shown below in figure 5C.2b.
- Once the fixture is set, drill holes A and B with a 1/4" drill bit.

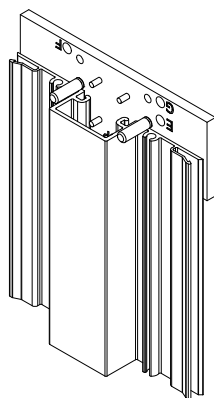


Fig.5C.2a

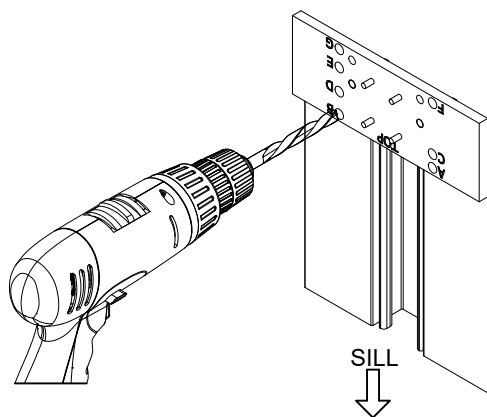


Fig.5C.2b

Intermediate horizontals and floor sill

- Remove the threaded pins.
- Place the drill fixture so that the TOP of the drill fixture is facing the head of the framing.
- Mark where the top of the intermediate horizontals and/or floor sill will be.
- Align the drill fixture so the marked line matches the top of the drill fixture. If you are preparing the verticals for the sill, align the bottom of the fixture with the sill location.
- Drill holes A, G, and F with 1/4" drill bit.

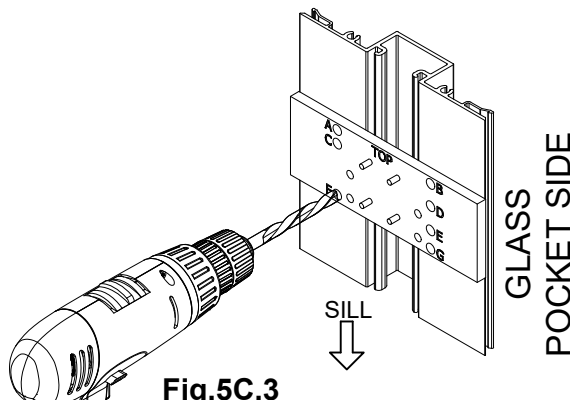


Fig.5C.3

FRAME FABRICATION - TRIM CONFIGURATION 'C'

Step 5: Prepare framing for assembly (cont.)

Vertical Jamb (Cont.)

Wall Sill

- A. Place threaded pins in lower hole set as shown in Fig. 5C.4a.
- B. Place the fixture so the TOP of the fixture is facing the head. Ensure the threaded pins are facing the mullion.
- C. Place the fixture so that the bottom set of threaded pins are touching the bottom of the mullion as shown below in figure 5C.4b.
- D. Once the fixture is set, drill holes E and C with 1/4" drill bit.

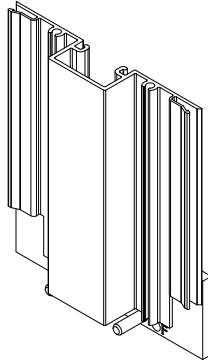


Fig.5C.4a

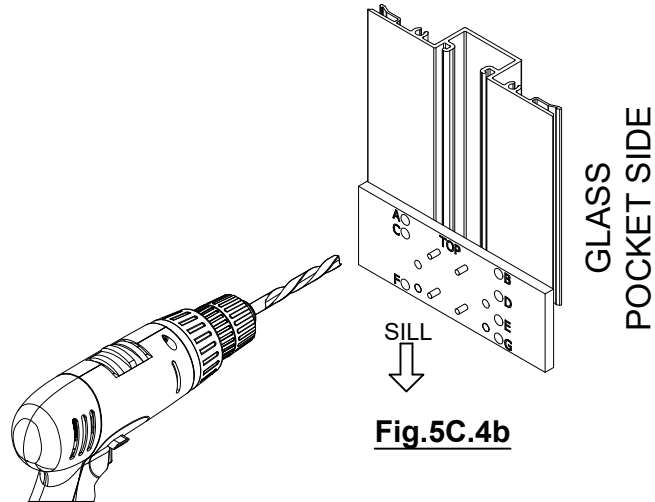


Fig.5C.4b

FRAME FABRICATION - TRIM CONFIGURATION 'C'

Step 6: Assemble Framing

- A. Assemble the framing units with the S419 frame screw as shown in figure 6C.1. Single and multiple lite elevations require different assembly configurations. Refer to the drawings below for assembly notes.

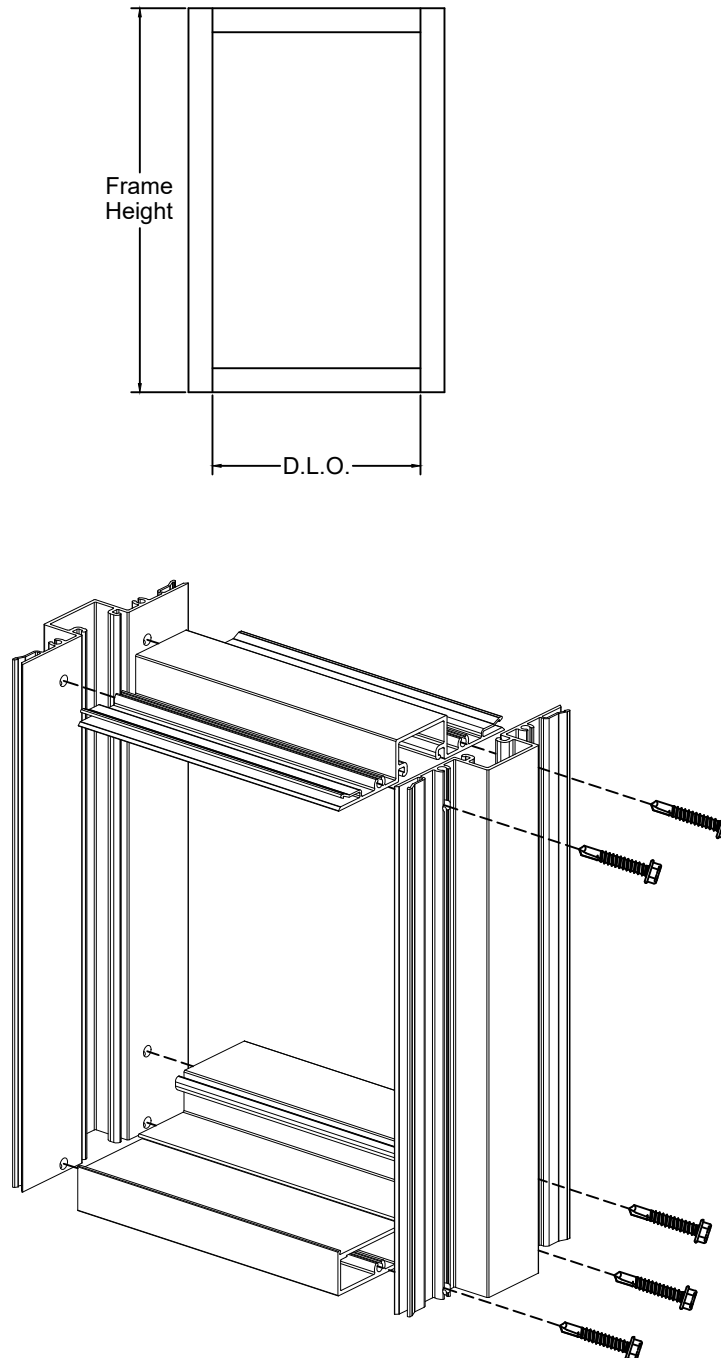


Fig.6C.1

FRAME FABRICATION - TRIM CONFIGURATION 'C'

Step 7: CUTTING TRIM

- A. Vertical trim: Cut the vertical jamb trim to vertical D.L.O. plus 4".

$$\text{Vertical Jamb Trim} = \text{vertical D.L.O.} + 4"$$

- B. Head & sill trim: Cut the trim to the horizontal D.L.O. NOTE: Trim is only needed at the wall sill. The head will always need trim.

$$\text{Head / sill trim} = \text{D.L.O. width}$$

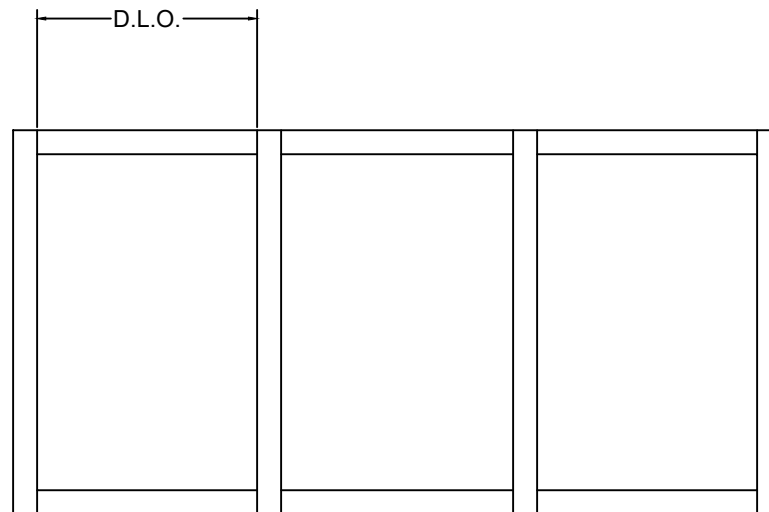


Fig.7C.1

- C. Cope Vertical Jamb Trim: On the vertical trim remove 1-1/2" off of the dart at all locations where the trim will go over a wall. For a wall sill remove the dart from each end of the trim.
- D. Once the trim pieces are prepped install the P2511 gasket into the reglet. If installing into an oversized wall the gaskets can be removed to make space.

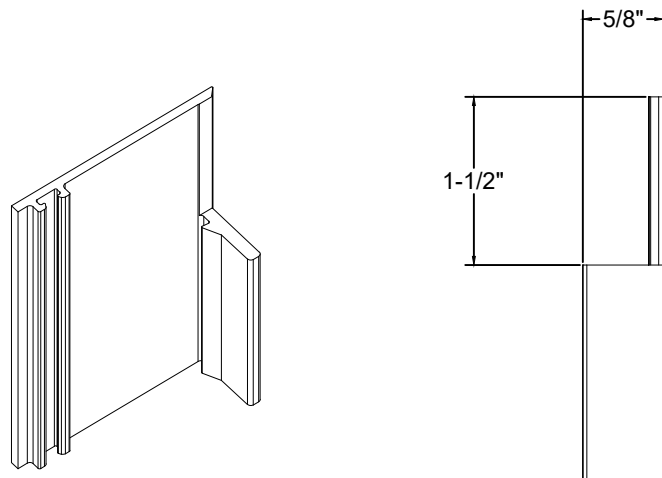


Fig.7C.2

FRAME FABRICATION CORNERS

Step 6: Corner Prep

Floor sill and wall sill conditions are prepped differently. Refer to correct instructions for each below. Please note that the head will use the same method of attachment as the intermediate horizontal in trim methods A and B.

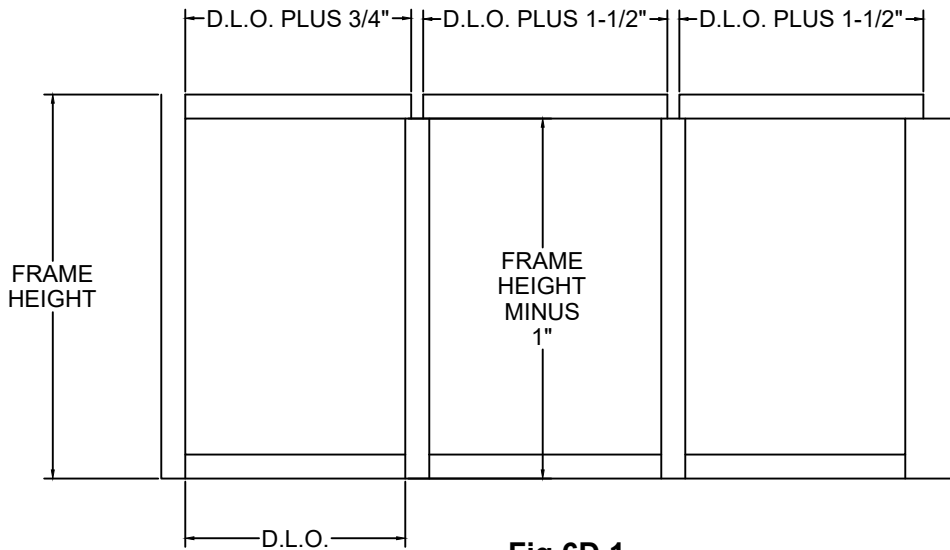
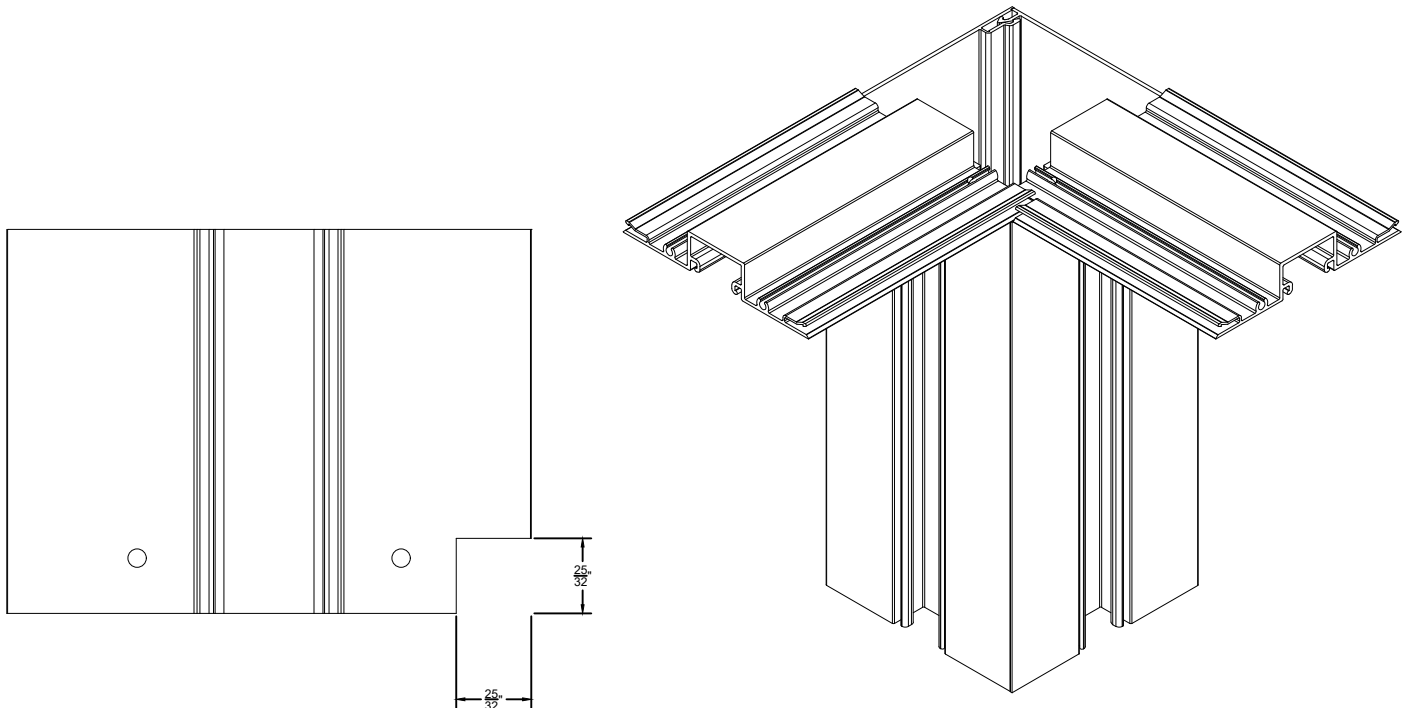


Fig.6D.1

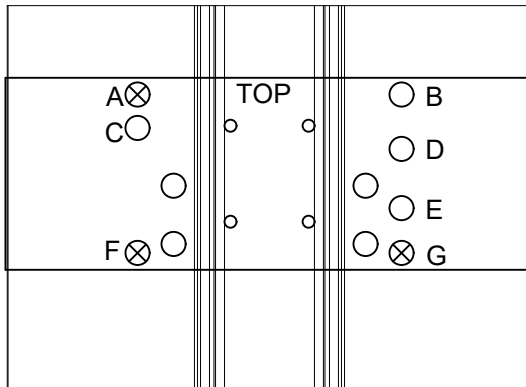
- A. Head Prep:** In order for the corner pieces to fit together one section of the head will need to be coped. Please see the illustration below for dimensions on the relief cut



Step 6: Corner Prep

Floor sill and intermediate horizontal

- A. Remove the threaded pins.
- B. Place the drill fixture so that the TOP of the drill fixture is facing the head of the framing.
- C. Mark where the top of the intermediate horizontals and/or floor sill will be located.
- D. Align drill fixture so the marked line matches the top of the drill fixture. If you are preparing the vertical for the sill, align bottom of fixture with sill location.
- E. Drill holes A, G, and F with 1/4" drill bit.



OUTSIDE

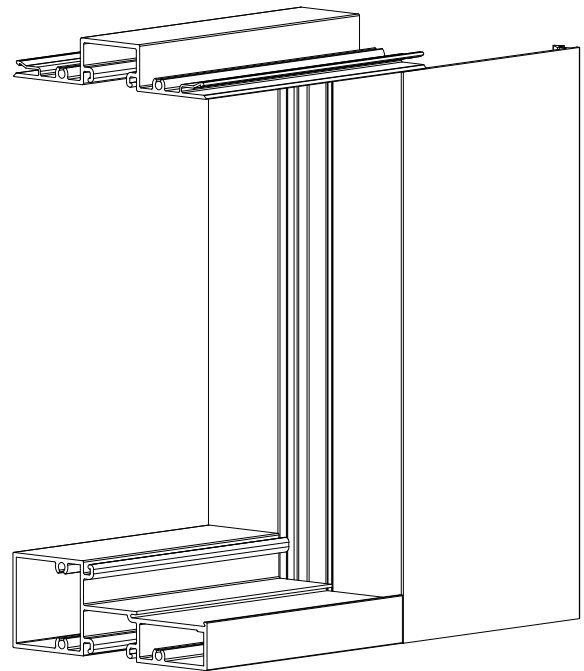


Fig.6D.2

FRAME FABRICATION CORNERS

Step 6: Corner Prep (CONT.)

Wall Sill prep

- A. If using the wall sill make relief cuts on the vertical framing pieces, as shown below. This relief cut is to allow for the trim to run continuous across the sill.

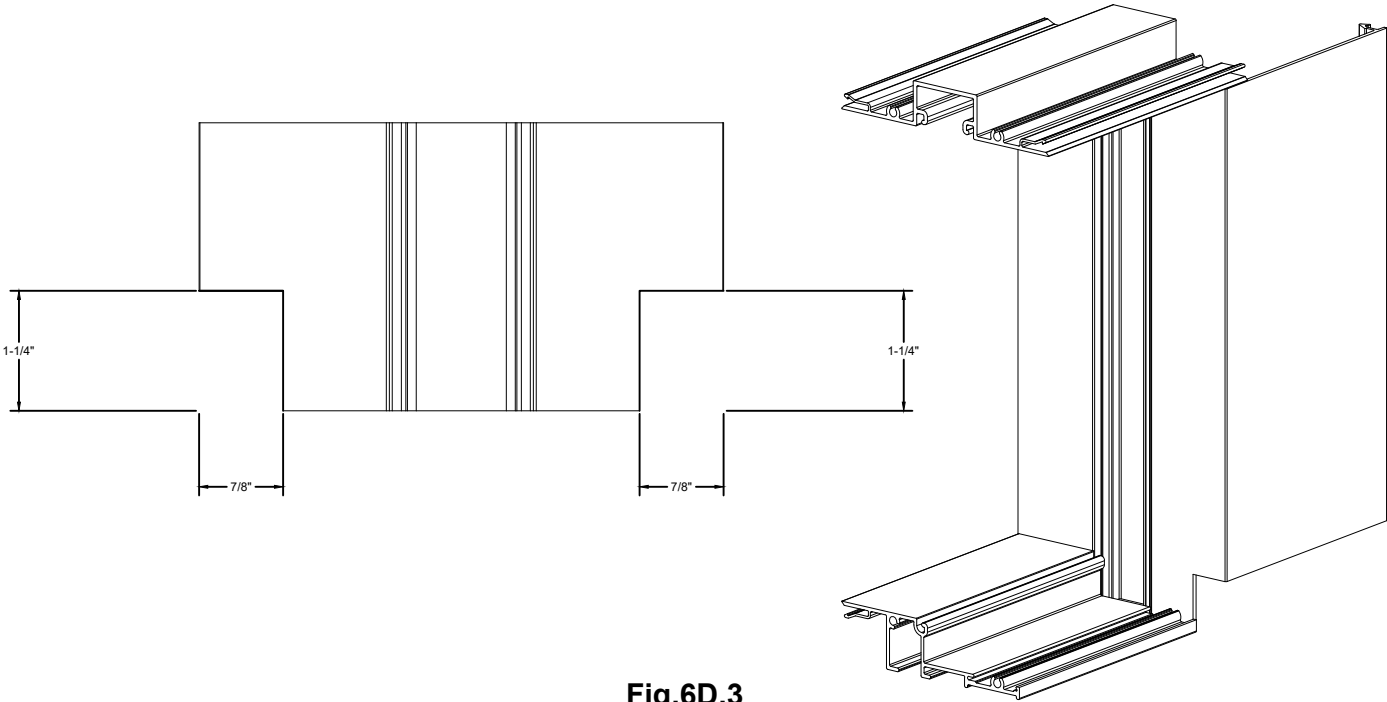


Fig.6D.3

- B. Once the corner is prepped, place the threaded pins in to the lower hole set.
- C. Place the fixture so the TOP of the fixture is facing the head. Ensure the threaded pins are facing the mullion.
- D. Next place the fixture so that the bottom set of threaded pins are touching the bottom of the mullion as shown below.
- E. Once fixture is set drill holes E and C with 1/4\" drill bit.

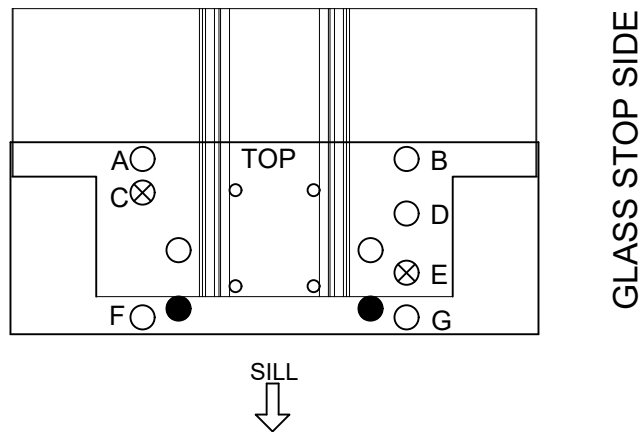


Fig.6D.4

FRAME FABRICATION CORNERS

Step 6: Corner Prep (CONT.)

Head Mullion

- A. To prep the head, start with the end where the intermediate vertical will be located.
- B. Place the drill fixture so that TOP is adjacent to where the intermediate vertical will be. Remove the lower threaded pins. Slide the fixture so that the pins rest on the head as shown below.
- C. Drill holes F and G with 1/4" drill fixture.

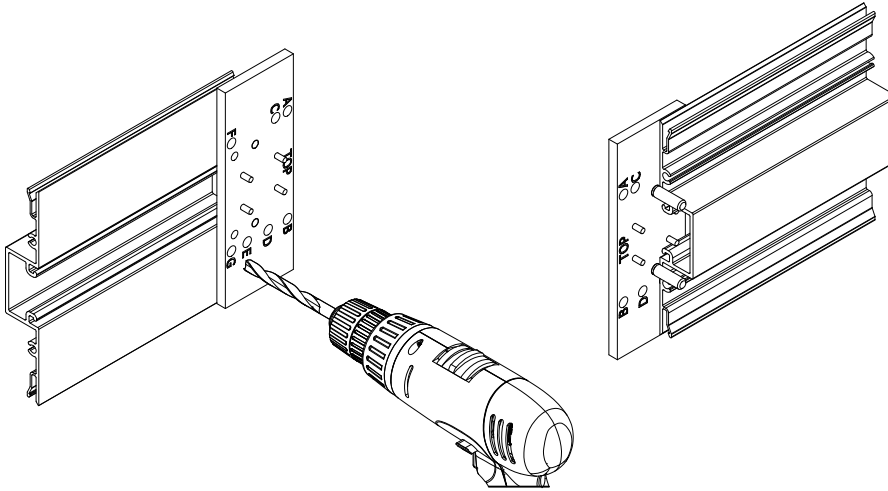


Fig.6D.5

FRAME FABRICATION

Step 6: Corner Prep (CONT.)

- A. Assemble the framing units with the S419 frame screw as shown in figure 6D.6. Single and multiple lite elevations require different assembly configurations. Refer to the drawings below for assembly notes. Please use installation details from your selected method to attach the other vertical member to the corner.

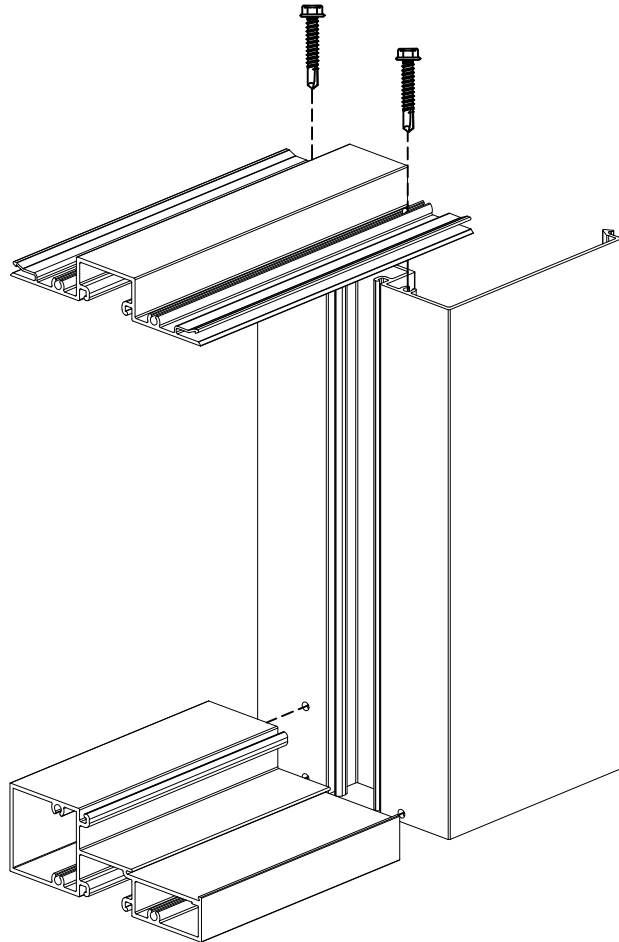


Fig.6D.6

Trim:

- A. For the trim at the outside of a corner use the trim method previously selected (A, B or C) and use the formulas shown below to determine cut length. It is recommended that the trim meets at a miter at the outside of the corner

Method A horizontal trim = Sum of horizontal D.L.O. widths + (sum of intermediate verticals widths) + (width of each corner)

Method B horizontal trim = Sum of horizontal D.L.O. widths + (sum of intermediate vertical and jamb widths) + (width of each corner)

Method C horizontal trim = Horizontal D.L.O. width + 5.5" (to cover the corner)

- B. For the trim at the inside of a corner use the trim method previously selected (A, B, or C) and use the formulas shown below to determine cut length. It is recommended that the trim meets at a miter at the corner

Method A horizontal trim = Sum of horizontal D.L.O. widths + (sum of intermediate verticals widths)

Method B horizontal trim = Sum of horizontal D.L.O. widths + (sum of intermediate vertical and jamb widths)

Method C horizontal trim = Horizontal D.L.O. width

FRAME FABRICATION

Step #: Closer Reinforcement Plate - Non Transom Frames

A reinforcement plate is needed to ensure proper anchoring for the closer arm. This is done by using P6721. To install, follow the instructions below.

- A. Place the P6721 on the frame header in the location where the closer arm will be mounted.
- B. Once in place install the framing into the opening being sure to leave the trim at the head off of the door frame to allow access to the reinforcement plate.
- C. Adjust P6721 location as needed then secure the anchor plate by installing two S457's 4" apart.

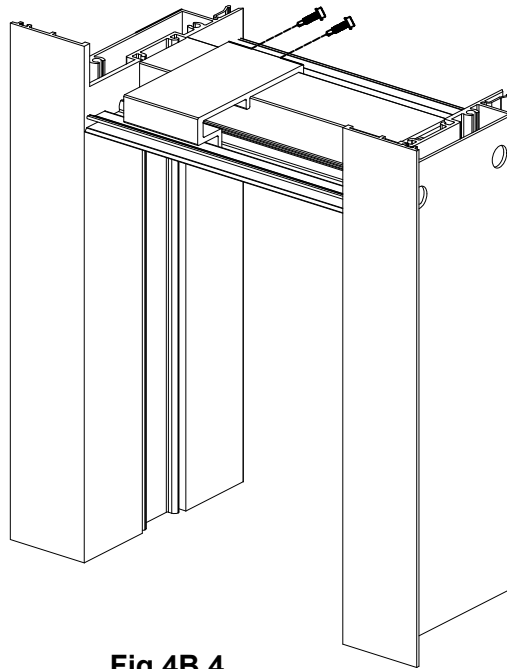


Fig.4B.4

- D. Install trim pieces and attach mounting screws through Trim into anchor plate