Boyd
Let's Shine.

STOREFRONT INSTALLATION INSTRUCTIONS

General Notes

1. Check contract documents and shop drawings. Understand and clarify any field verify notes and approvals of drawings and products to be familiar with the project. Installation instructions are intended to be a reasonable guideline for installation of the product as based on testing and common conditions. Conditions on a project may vary, and deviations or special instructions should be defined in the shop drawings. Shop drawings should take precedence and define project materials and installation.
2. All materials need to be inventoried to be certain everything required for installation isaccounted for.
3. Materials need to be installed plumb, level, and true.
4. Work from project-defined benchmarks like center column lines, finished floors, or mullion spacing as defined by the architectural drawings and the general contractor.
5. All sealants need to be compatible with all materials. The glazing contractor and/or general contractor are responsible for supplying sealants and submitting any sealant compatibility and performance documentation.
6. Isolation of dissimilar materials like aluminum and uncured concrete should be prepared for. Use a heavy bituminous paint, zinc chromate coating, or approved equal to isolate incompatible materials.
7. Protection and cleaning of materials are responsibilities of the glazing and general contractors. (Reference AAMA documentation and care and maintenance.)
8. Interpreting compliance of the fenestration products used on the project with federal, state, and local building codes is the responsibility of the architect, owner, and customer. Boyd Aluminum is only a material supplier.
9. Boyd Aluminum is the material supplier of the fenestration product defined in the drawings and contract documents. Only fasteners and accessories within the system are supplied. Anchors, sealants, and fasteners to the surrounding conditions should be defined on the shop drawings and are normally the responsibility of the glazing contractor.
10. Due to changing fenestration parameters and evolving product lines, Boyd Aluminum reserves the right to change detailing and documentation commensurately without notification.

BOYD ENTRANCES

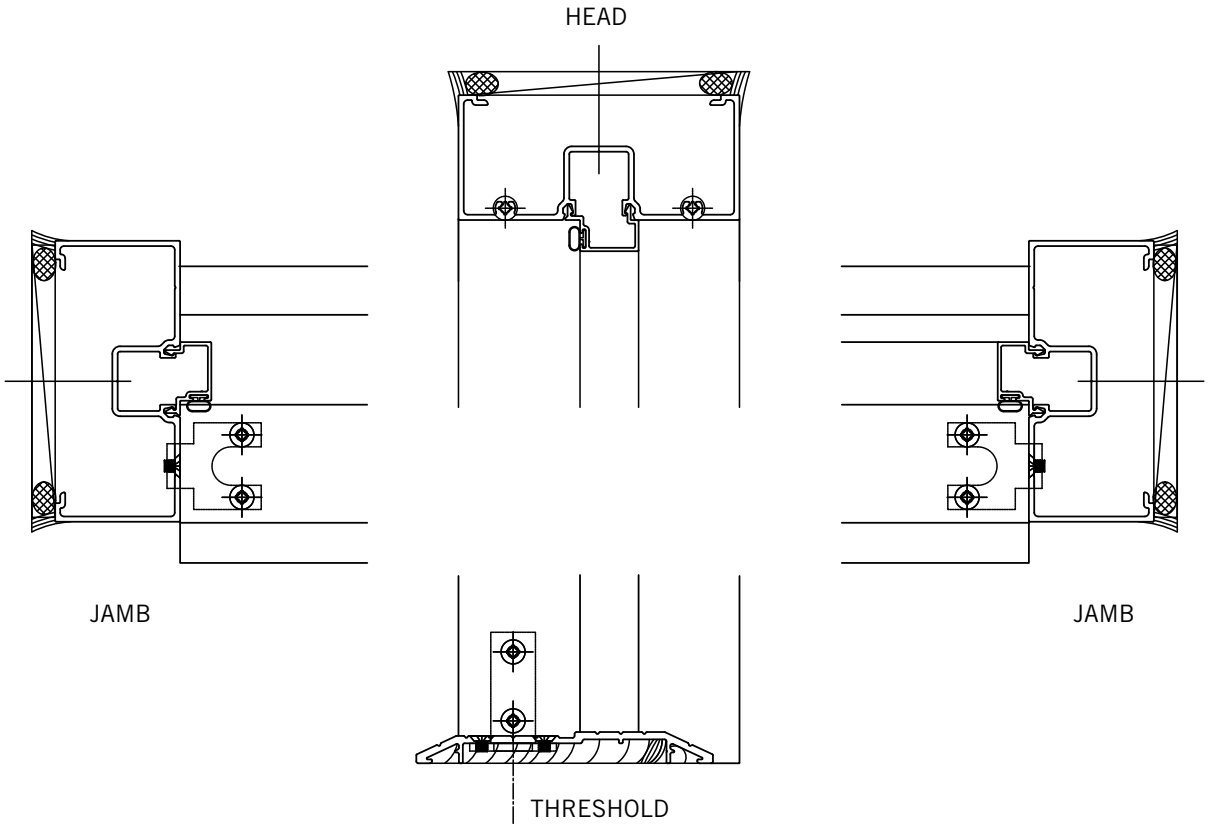
1. Boyd Entrance systems are designed to offer a wide range of installation options. Review the frames with your project hardware requirements to ensure the options are compatible.
2. The use of a Loctite type product is recommended for hardware installation. Some items may already be prepared with Loctite.
3. Installation instructions are based on stocked hardware options. Special hardware may require further review.
4. Boyd offers blank doors and frames for customers to pick their own hardware options.
5. Boyd can fabricate to customer-supplied hardware if frames and stiles are compatible. Boyd will only fabricate to hardware supplied. Boyd will not replace or be responsible for missing pieces or fabrication incompatible with those pieces.
6. Boyd fabrication from templates may be done, but there are absolutely no guarantees that the fabrication will be compatible without physical hardware.

STOREFRONT ENTRANCE FRAMES

Frame #1: Butt hinge and Continuous hinge frame (see *Figure A*) (frame layouts).

Note: The butt hinge and continuous hinge frames without a transom use an open frame header that has a screw boss that may interfere with pivot installation.

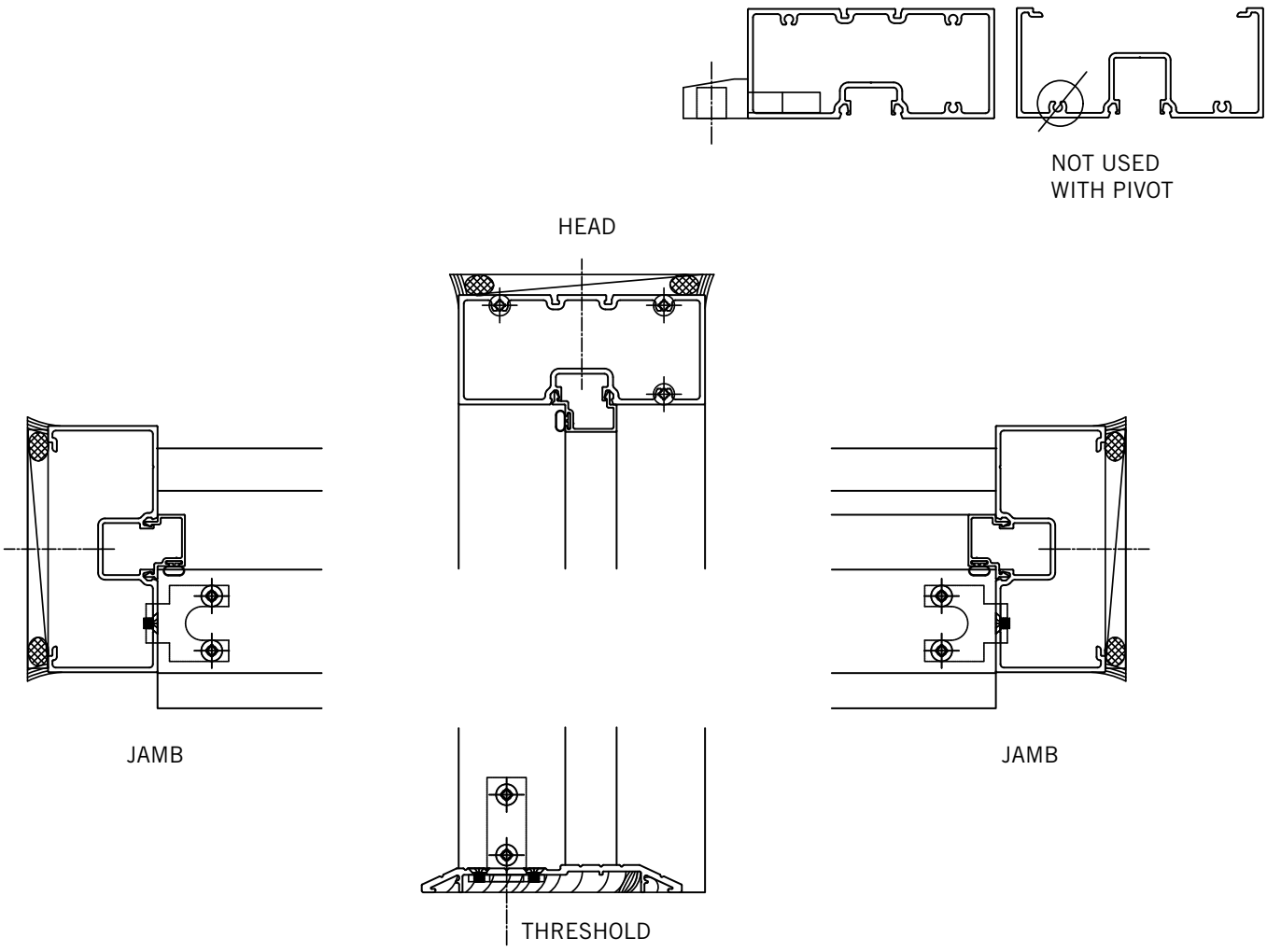
Figure A
Butt Hinge / Continuous Hinge Frame



Frame #2: Offset pivot frame (see *Figure B*).

- The offset pivot frame uses a header that omits the screw boss that interferes with the pivot installation.

Figure B
Offset Pivot Frame



Frame #3: Transom frame (see *Figures C & D*) (show transom glazing deducts).

- The transom frame is compatible with multiple hinge options.
- Transom frame options can include ¼" or 1" glazing options.

Figure C
1" Glazing Transom Frame

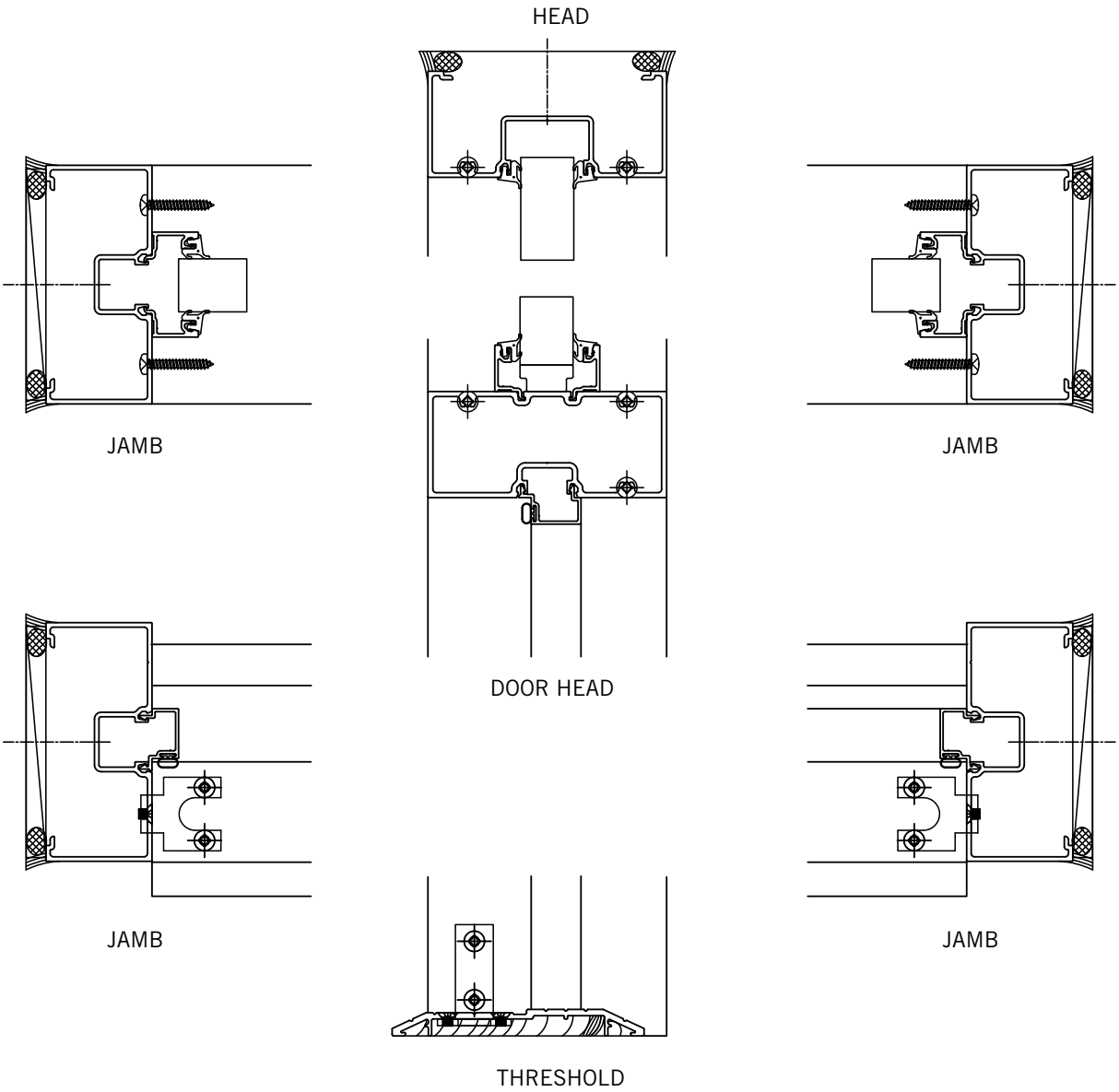
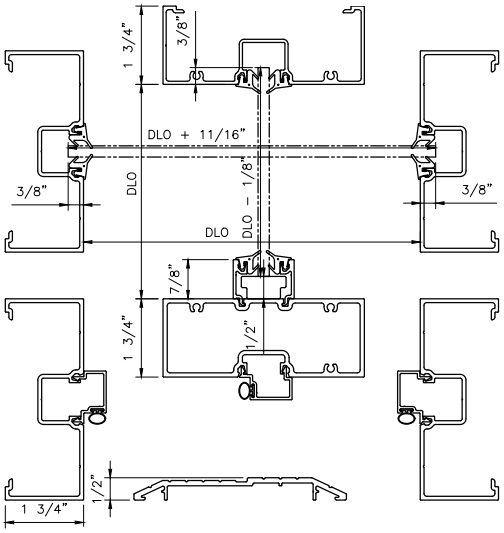
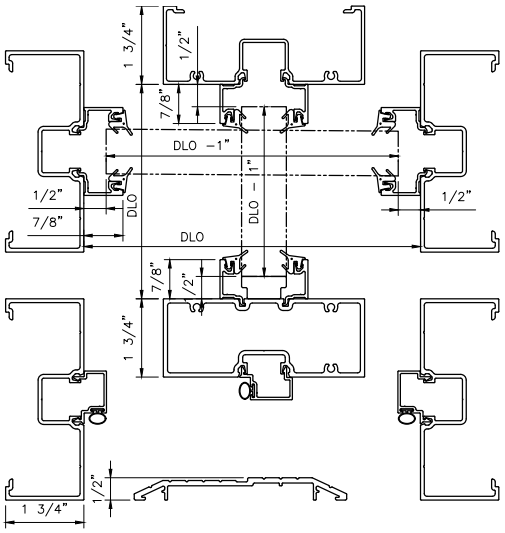


Figure D-1
1 ¾" Standard Frames

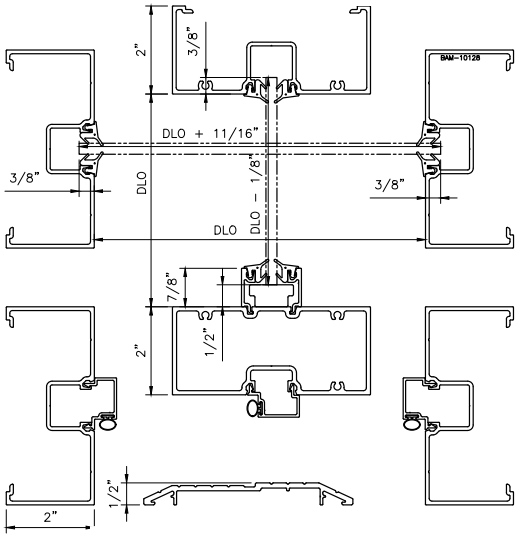


¼" GLAZING
TRANSOM FRAME

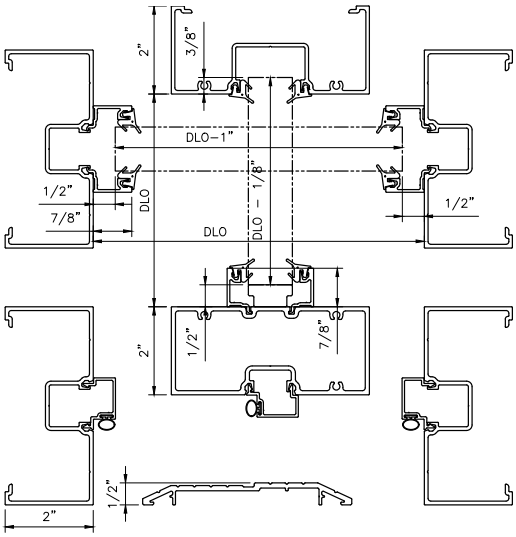


OPTIONAL 1" GLAZING
TRANSOM FRAME

Figure D-2
2" Standard Frames



¼" GLAZING
TRANSOM FRAME



OPTIONAL 1" GLAZING
TRANSOM FRAME

Frame #4: Transom tube frame (see *Figures E & F*) (show transom glazing deducts).

- The transom tube is designed to be compatible with concealed overhead closures.
- The transom tube is assembled using shear block assembly at the tube location.
- The transom frame is compatible with multiple hinge options.
- Transom tube frame options can include ¼" or 1" glazing options.

Figure E
1" Glazing Tube Transom Frame

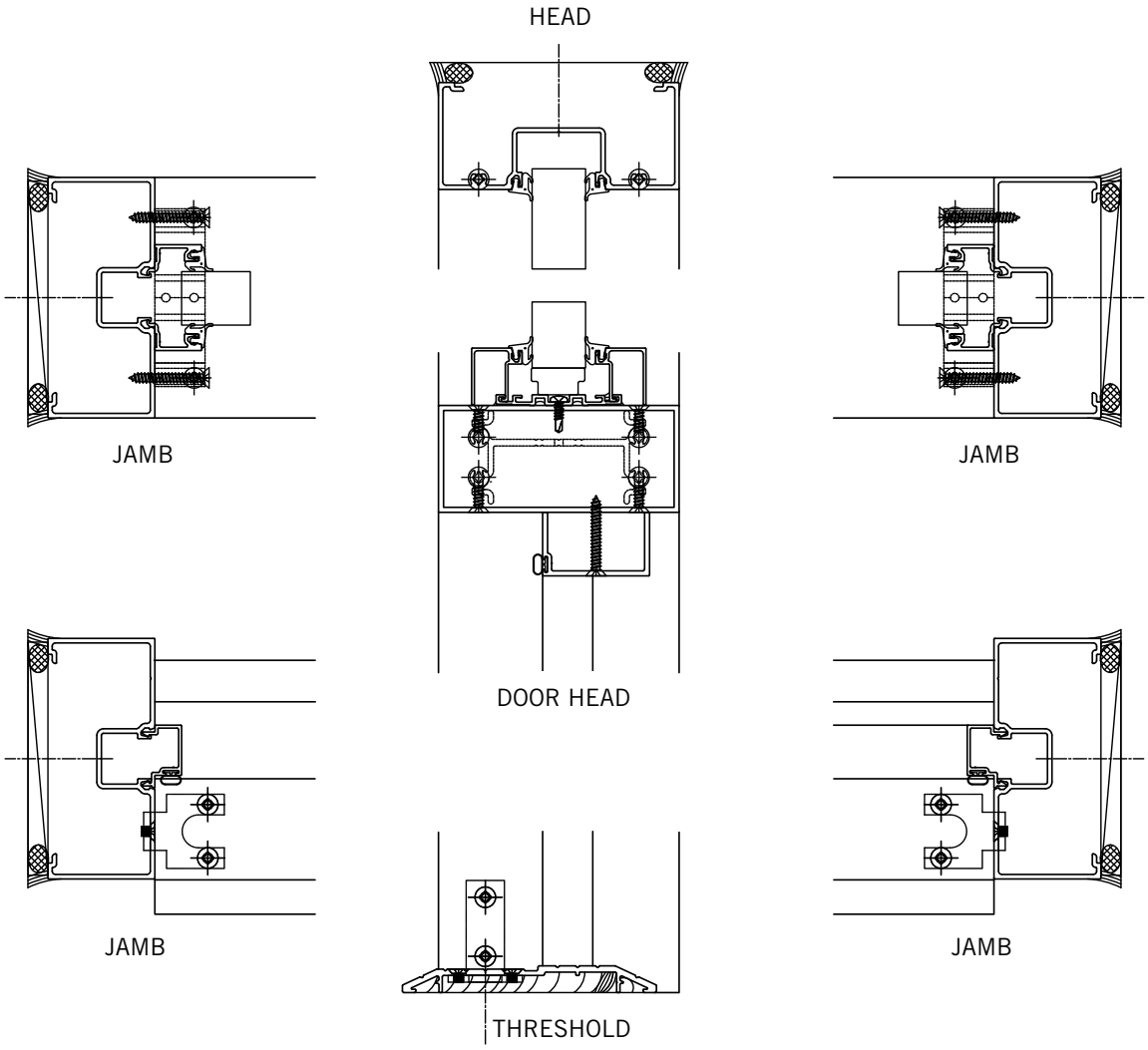
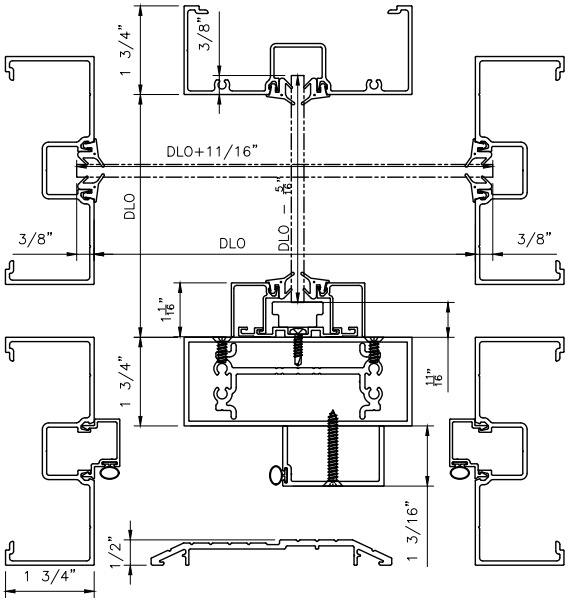
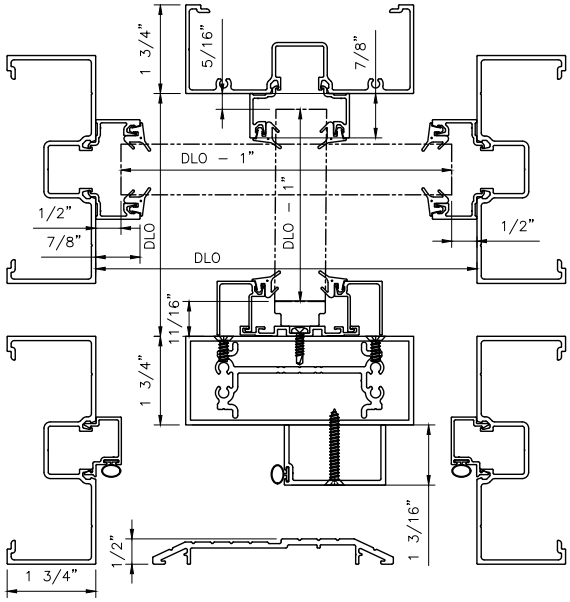


Figure F-1
1 ¾" Standard Tube Frames

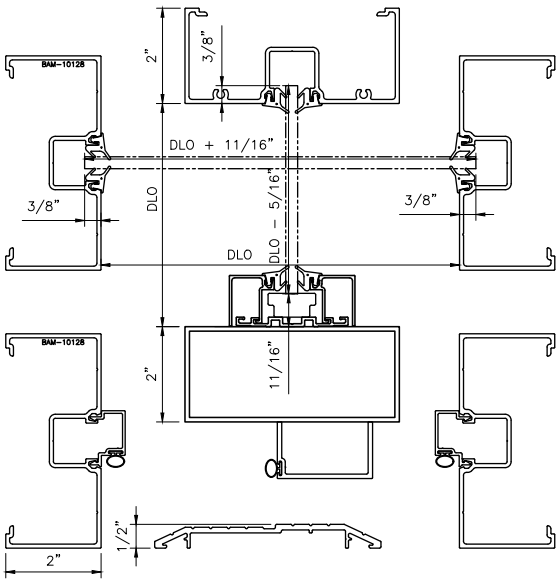


¼" GLAZING TUBE
HEADER FRAME

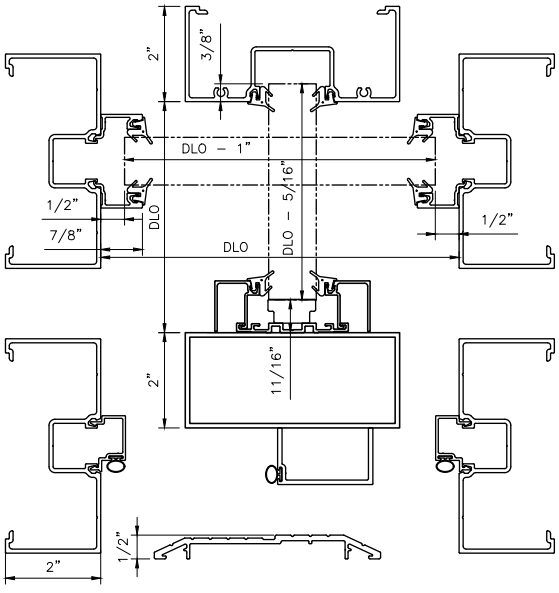


1" GLAZING TUBE
HEADER FRAME

Figure F-2
2" Standard Tube Frames



¼" GLAZING TUBE
HEADER FRAME

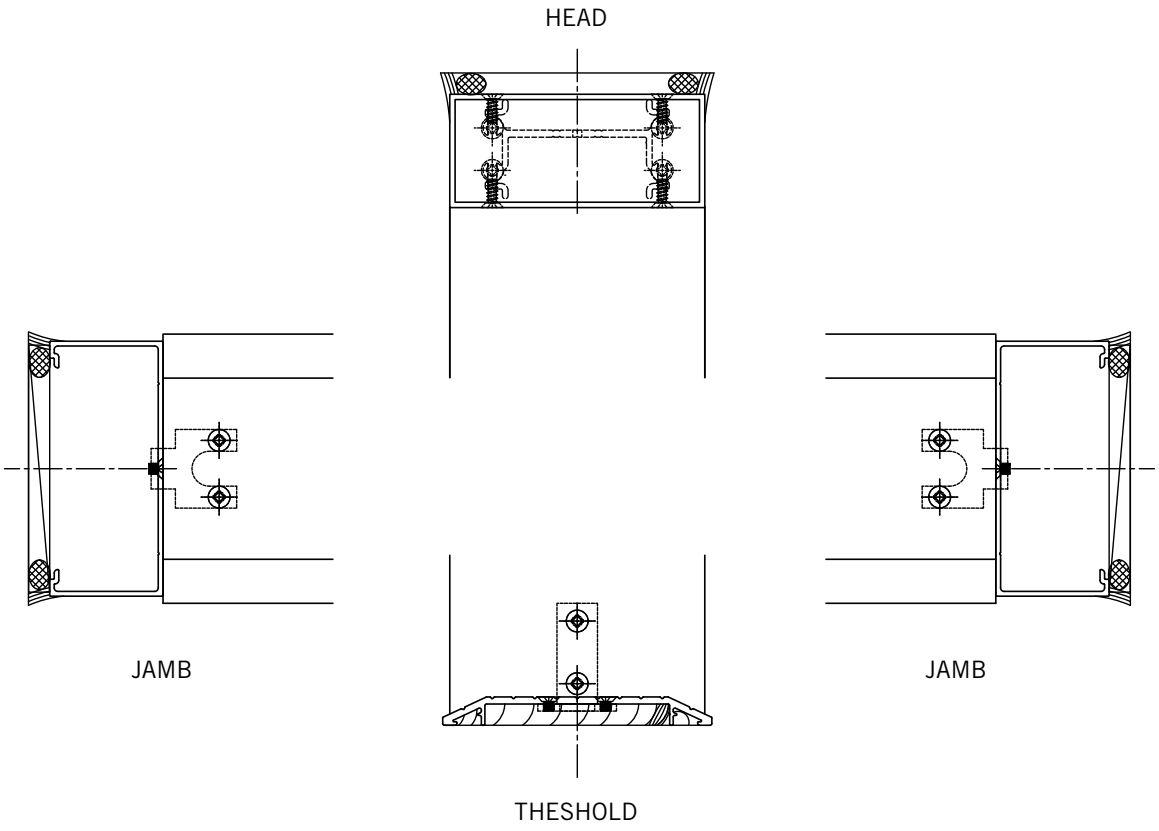


1" GLAZING TUBE
HEADER FRAME

Frame #5: Center set frame (see *Figure G*).

- The center set frame is designed to be used with the double acting door option.

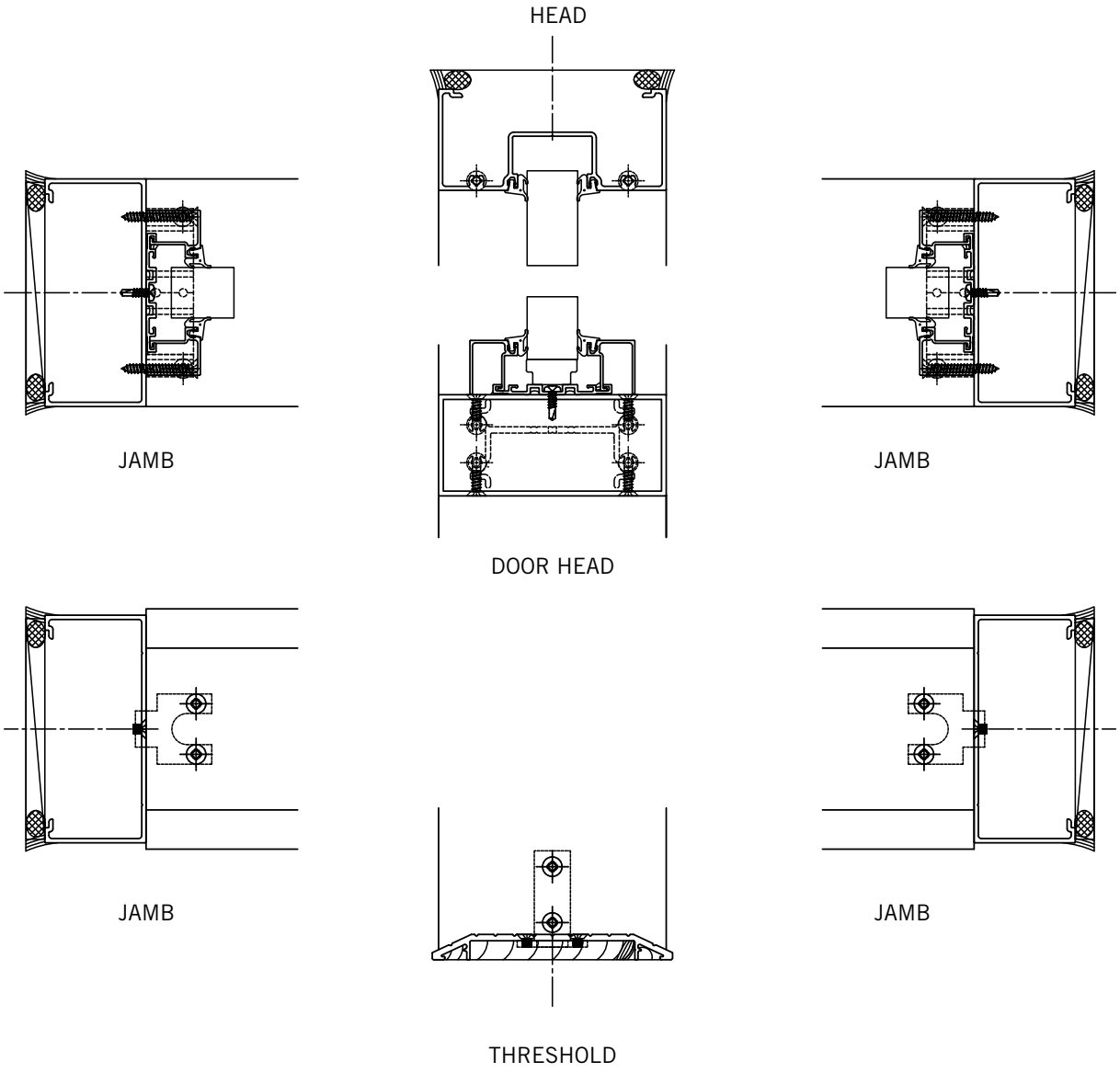
Figure G
Center Set Frame



Frame #6: Center set transom frame (see *Figure H*) (show transom glazing deducts).

- Transom frame options can include ¼" or 1" glazing options.

Figure H
Center Set Transom Frame



BUTT HINGE FRAME UNIT ASSEMBLY

(Exploded Butt Hinge Frame)

1. Verify opening size.
2. Assemble head and door jambs with #10 screws as shown, butter the frame header edges with sealant (see *Figure J*).
3. Door stops must be removed/not installed prior to assembly.
4. Clip the threshold sill into the frame as shown with Loctite.
5. Install hinges with Loctite.
6. Apply sealant from the front edge of the threshold location to just inside the back (inside) edge of the threshold. Continue applying the sealant along the length of the threshold and back to the front at the opposite end. Also apply the sealant around all anchor points.
7. Set the frame into the opening plumb and square. Block and anchor the entrance frame to prevent movement on hardware mullions.
8. Fill the frame jams with sealant to channel water out of the stops as shown (see *Figure K*).
9. Fill anchor holes in the threshold with sealant, then anchor with ¼" FH fasteners.
10. Block and anchor the frame through the stop pocket @ 4" – 6" from the corners and 16" O.C. <Or> as superseded by drawings and/or calculations. If using filler, fasteners may offset (see *Figure L*).
11. Anchoring hardware attachment points must be plumb and level.
12. Snap in the vertical door stops and then the horizontal stops with sealant in the reglet. Seal the corners.
13. Clean the frame.

Figure J
Butt Hinge Frame

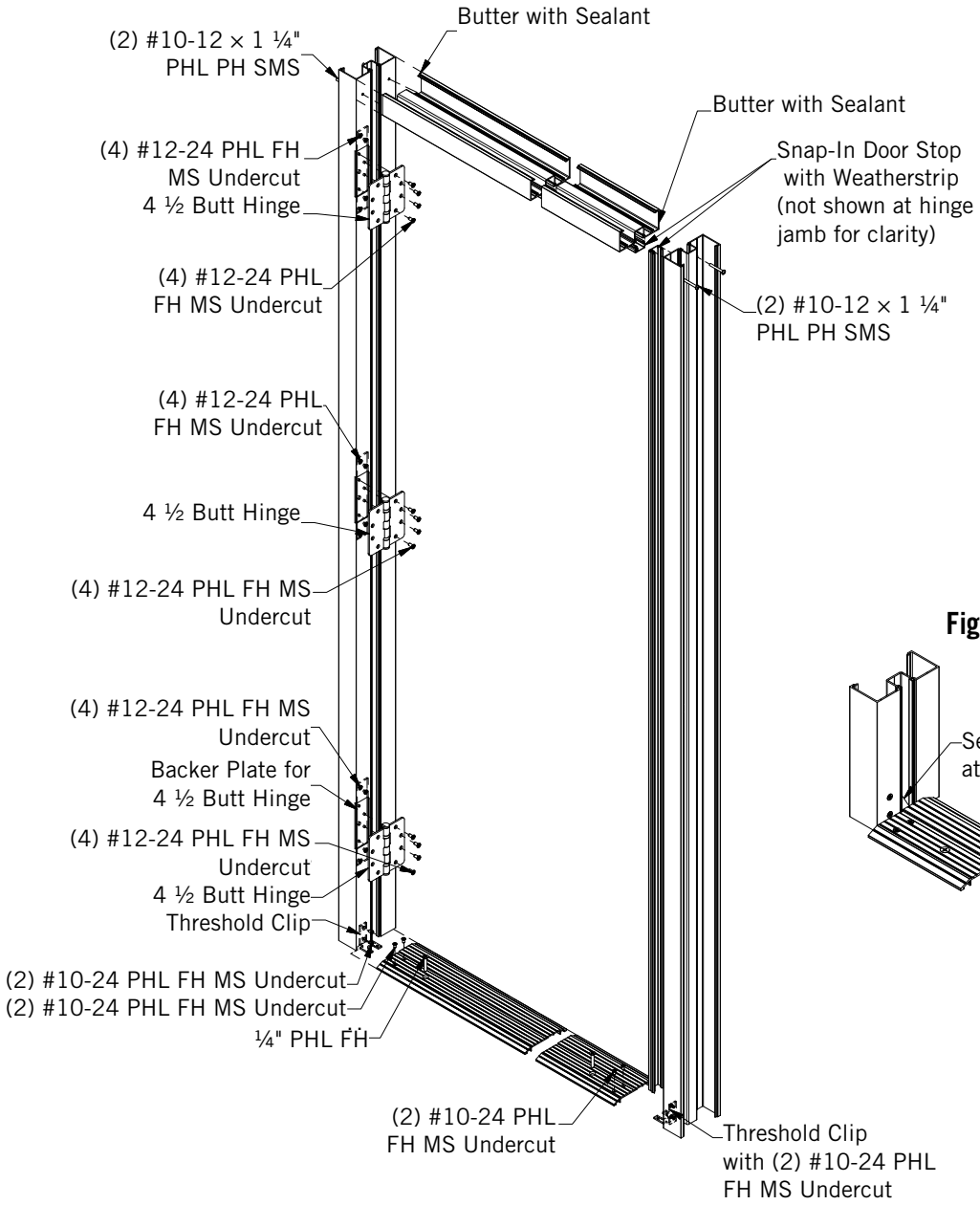


Figure K

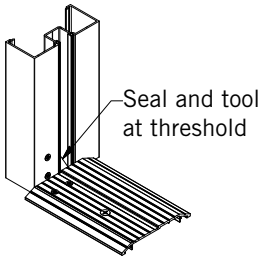


Figure L-1

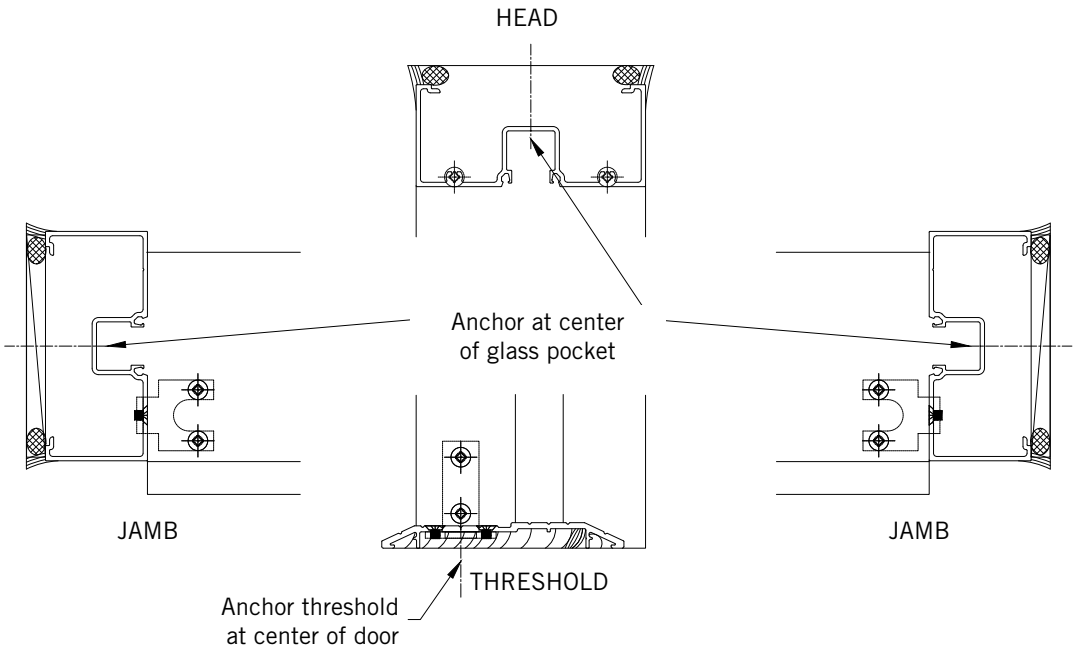


Figure L-2
Offset Fasteners

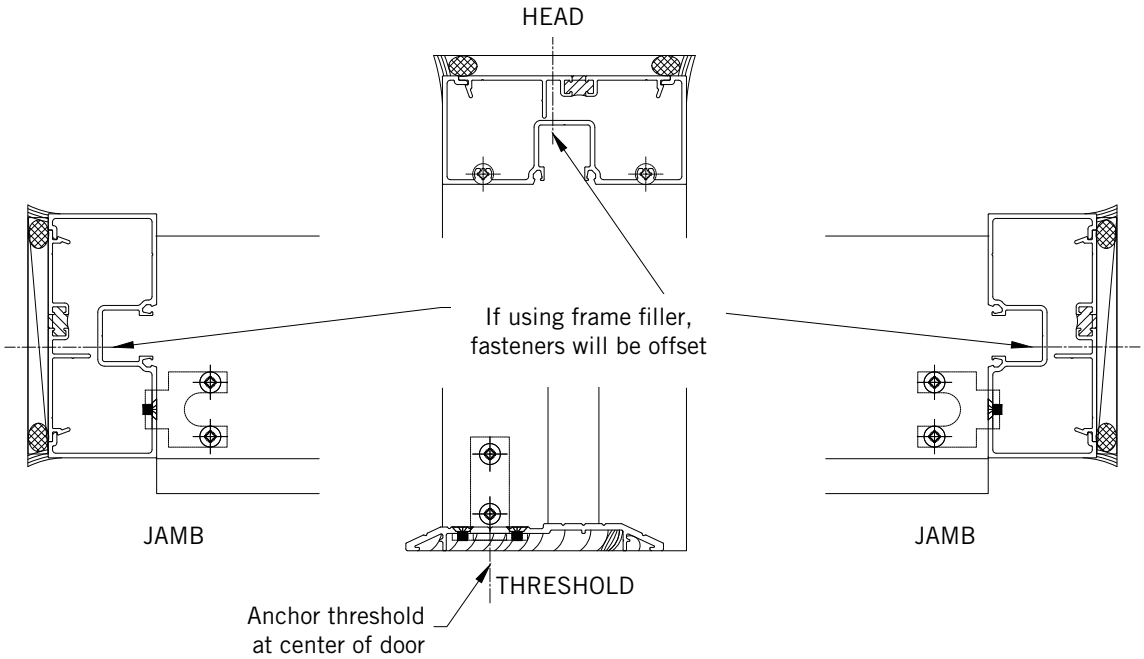
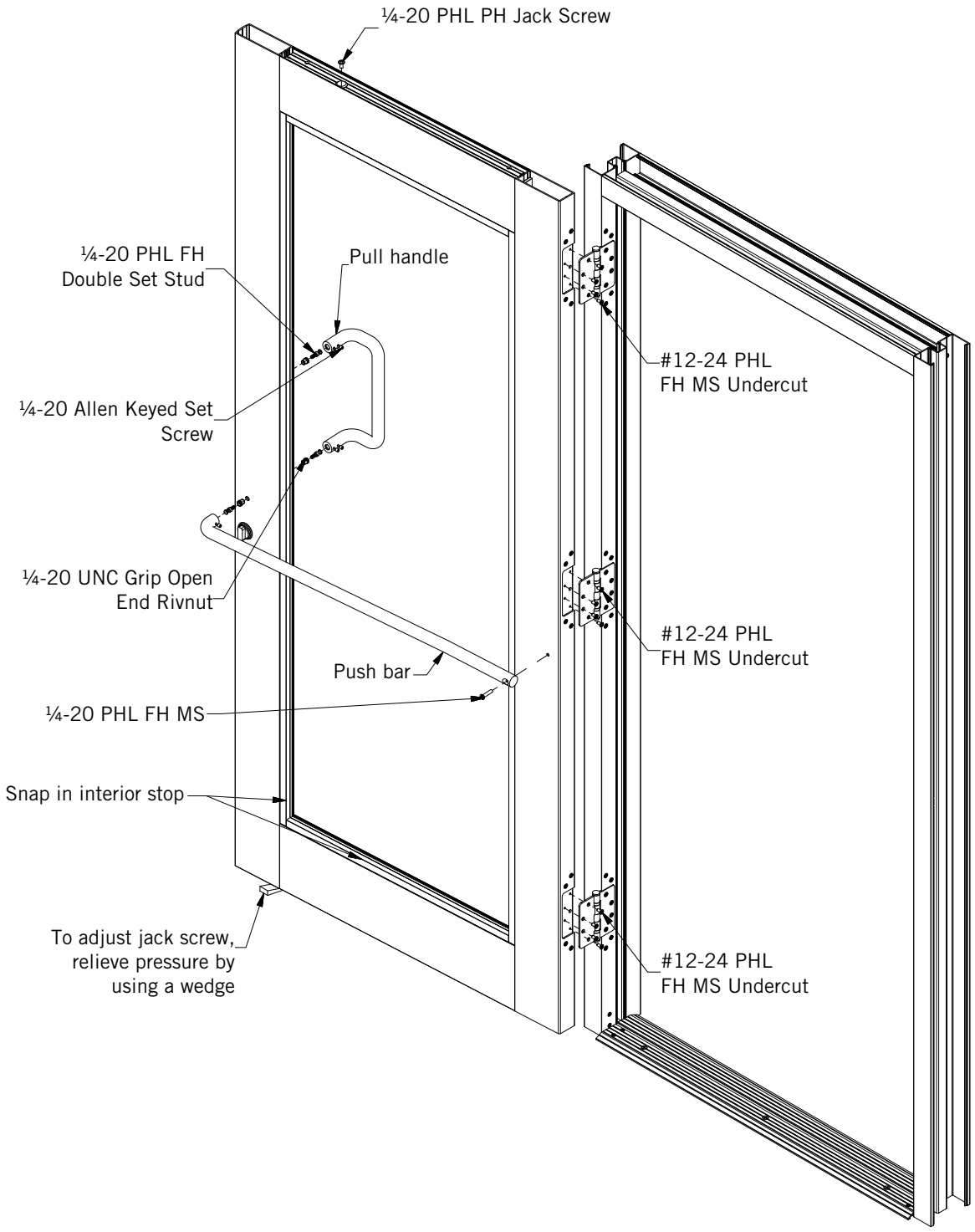


Figure M
Butt Hinge Frame



HANG DOOR - HINGE

1. Check the frame to be sure it is plumb and square.
2. Inspect the door leaf for damage.
3. Glazing a door on a table is easier, see *Figure N*, but it can be done vertically as well (see *Figure O*).
4. Install the door snap in the interior stop. Seal the corners (see *Figure P*).
5. Check to see that the jack screw is not screwed down too far.
6. Set the glass.
7. Snap in the exterior bead. Verticals run through and may require a trim to miss welds (see *Figure P*).
8. Attach the push bar, ensuring that it is level and square.
9. Attach the handle.
10. Position the door and fasten the hinges using Loctite.
11. To adjust the jack screw, place a wedge under the door to relieve pressure. Snug the jack screw gently to avoid breaking the glass. Seal the key screw hole and snap on the jack screw hole plug.
12. Clean the door and frame.

Figure N

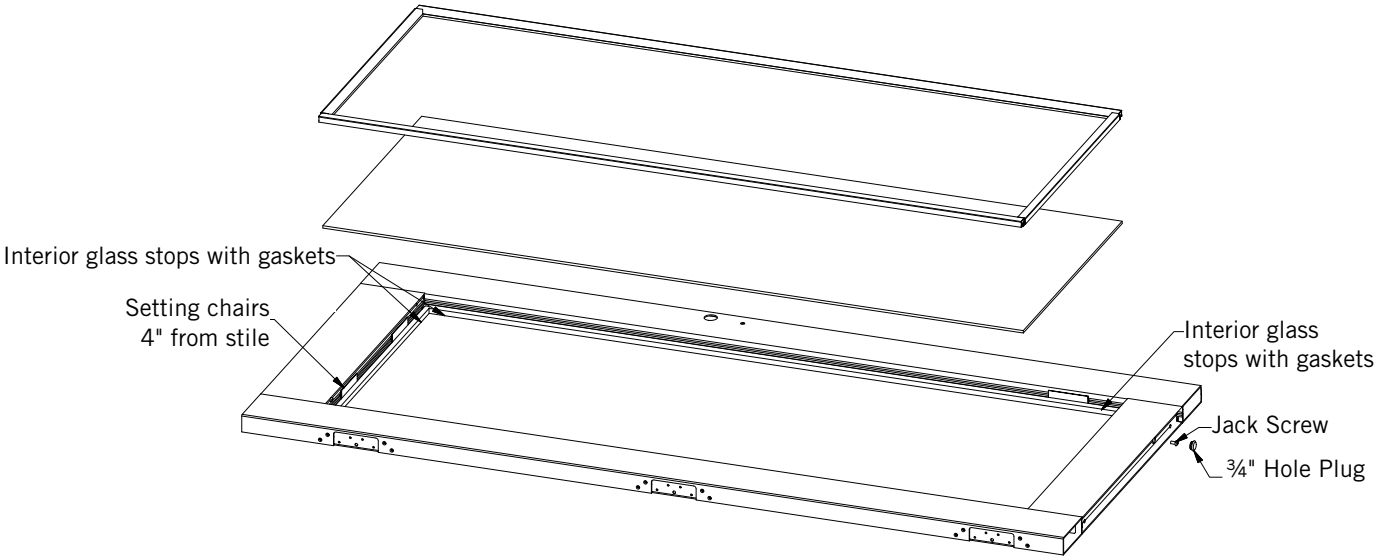

Interior glass stops with gaskets
Setting chairs
4" from stile
Interior glass
stops with gaskets
Jack Screw
¾" Hole Plug

Figure O

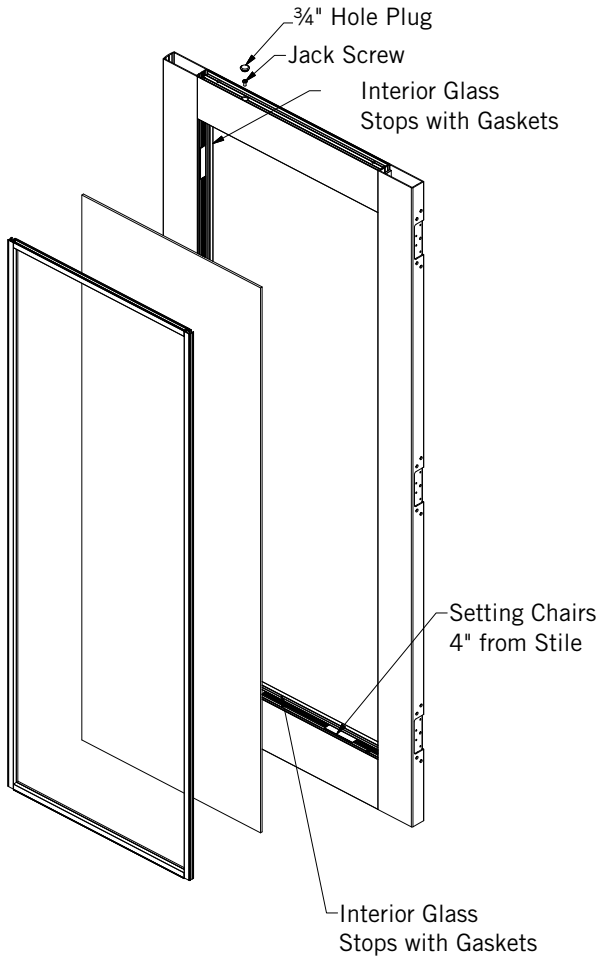
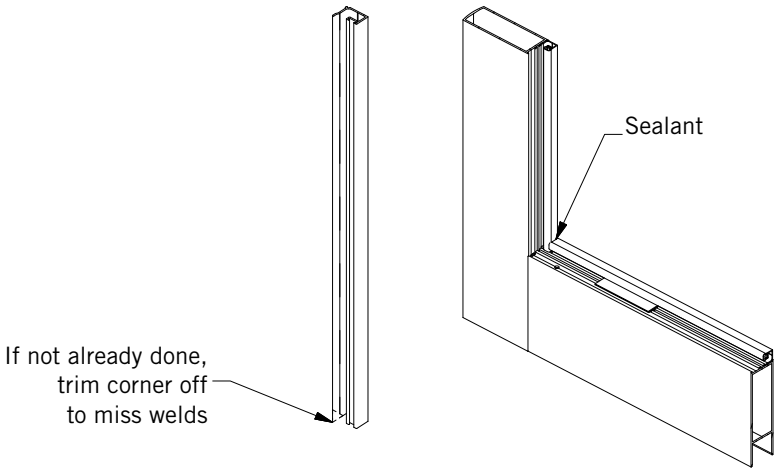


Figure P



PIVOT HINGE FRAME UNIT ASSEMBLY

(Exploded Pivot Frame)

1. Verify the opening size.
2. Assemble the head and door jambs with #10 screws as shown and butter the frame header edges with sealant (see *Figure Q*).
3. Door stops must be removed/not installed prior to assembly.
4. Install the threshold sill clip into the frame with Loctite as shown. Note: Half of the base pivot may be the threshold clip on a pivot hinged frame.
5. Install the header pivot with Loctite.
6. Apply sealant from the front edge of the threshold location to just inside the back (inside) edge of the threshold. Continue applying the sealant along the length of the threshold and back to the front at the opposite end. Also apply the sealant around all anchor points.
7. Set the frame into the opening plumb and square. Block and anchor the entrance frame to prevent movement.
8. Block and anchor the pivot and set the threshold in sealant with a ¼" FH fastener through the fastener holes provided (see *Figure R*).
9. Fill the frame jams with sealant to channel water out of the stops as shown (see *Figure S*).
10. Block and anchor the frame through the stop pocket @ 4" – 6" from the corners and 16" O.C. <Or> as superseded by drawings and/or calculations. If using filler, fasteners may offset (see *Figure R*).
11. Anchoring hardware attachment points must be plumb and level.
12. Snap in the vertical and then the horizontal door stops with sealant in the reglet. Seal the corners.
13. Clean the frame.

Figure Q
Offset Pivot Hinge Frame

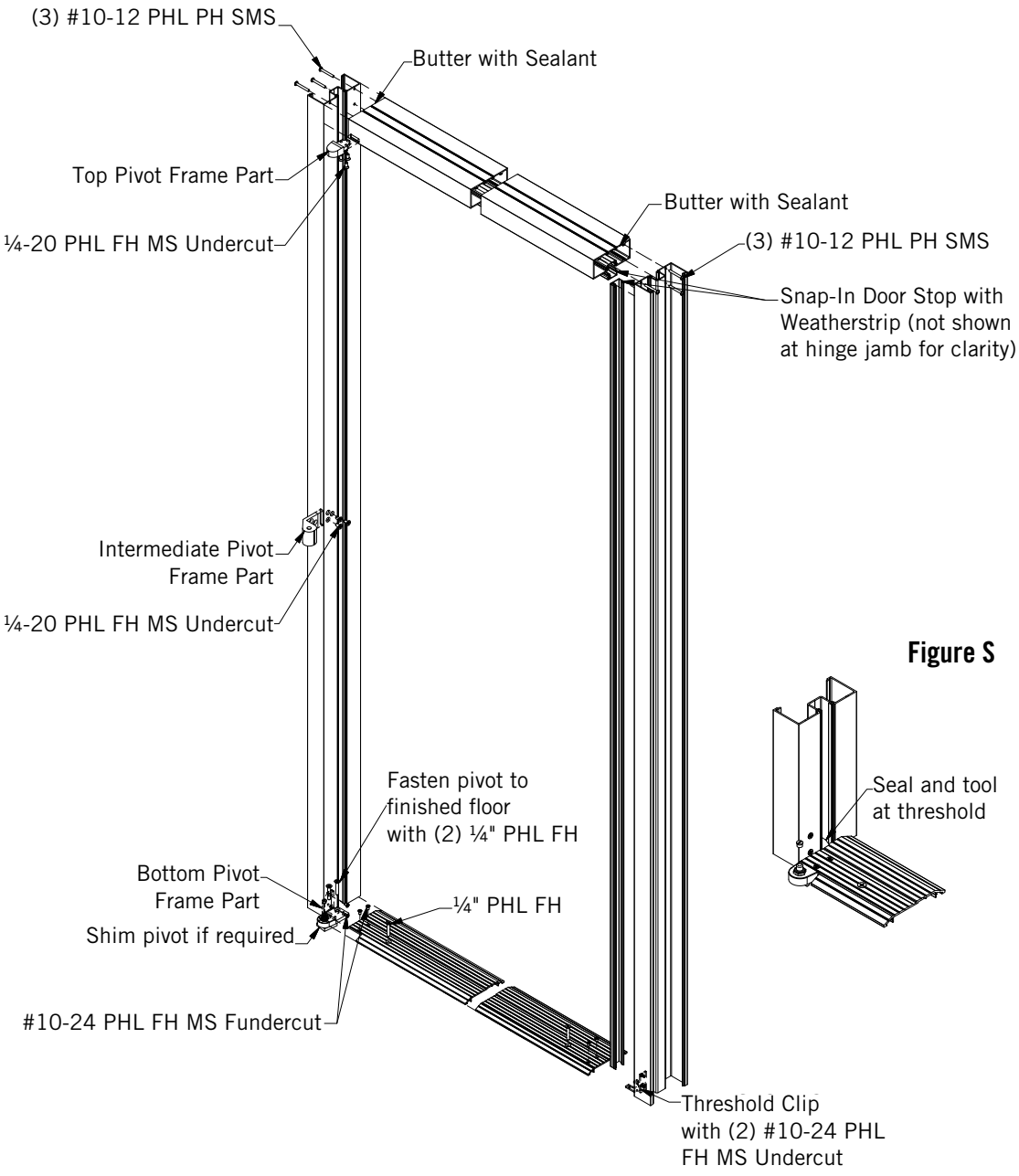


Figure S

Figure R-1

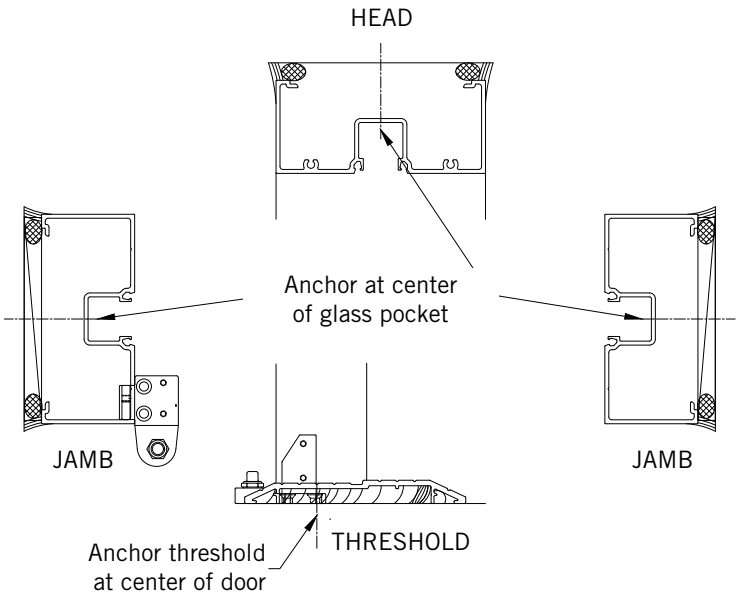
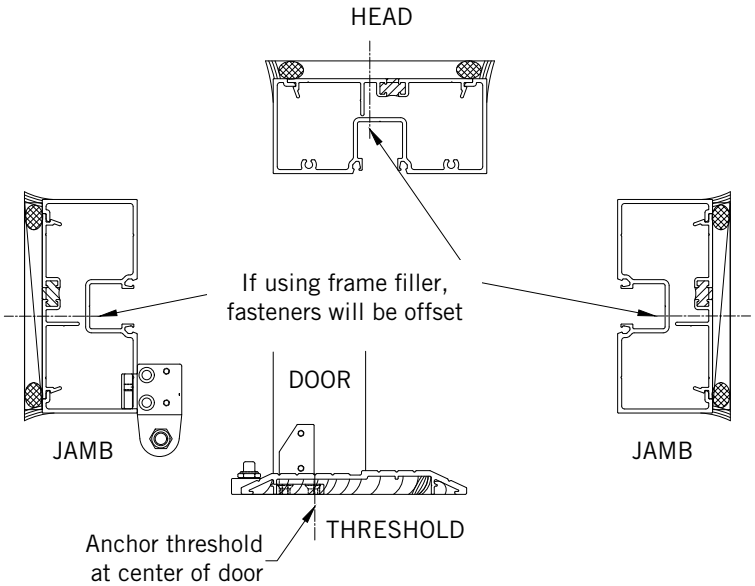


Figure R-2
Offset Fasteners



HANG DOOR - PIVOT

1. Check the frame to be sure it is plumb and square.
2. Inspect the door leaf for damage.
3. Glazing a door on a table is easier (see *Figure N*), but it can be done vertically as well (see *Figure O*).
4. Install the door snap-in interior stop. Seal the corners (see *Figure P*).
5. Check to see that the jack screw is not screwed down too far.
6. Set the glass.
7. Snap in the exterior bead. Verticals run through and may require a trim to miss welds (see *Figure P)*.
8. Level and square attach the push bar.
9. Attach the handle.
10. Install the pivots using Loctite (see *Figure T*).
11. If the intermediate pivot is installed, you will need to remove the cover and retract it (see *Figure V*).
12. Position the door and adjust the lower pivot stud and set the pin screw.
13. Depress the head pin in the upper pivot (see *Figure U*).
14. If a final adjustment is needed, remove the cover on the lower pivot if available for a final adjustment.
15. Snug down the intermediate pivot and replace the cover.
16. To adjust the jack screw, place a wedge under the door to relieve pressure. Snug the jack screw gently to avoid breaking the glass. Seal the key screw hole snap on the jack screw hole plug.
17. Clean the door and frame.

Figure T
Offset Pivot Hinge Frame

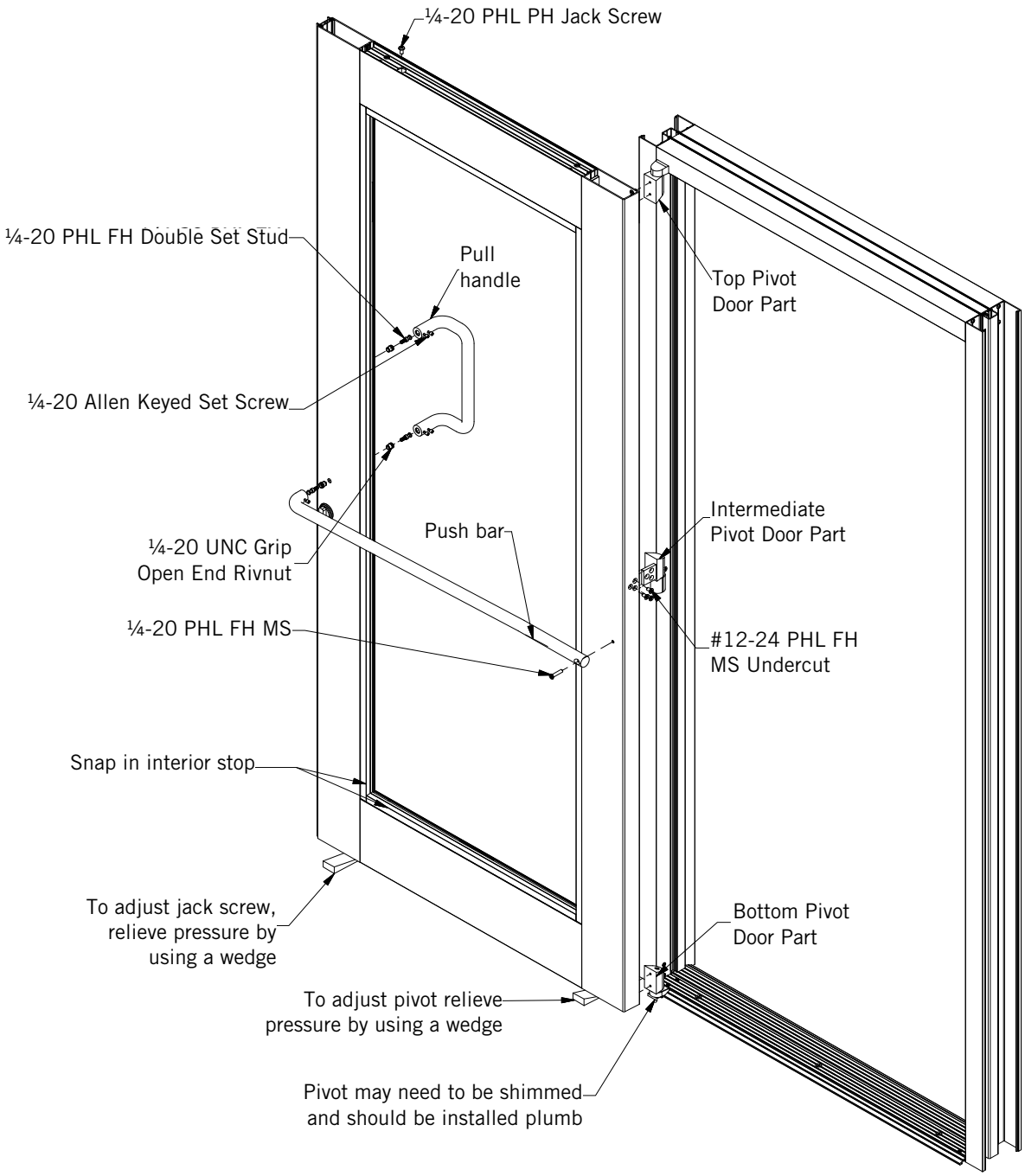


Figure U
Top Pivot

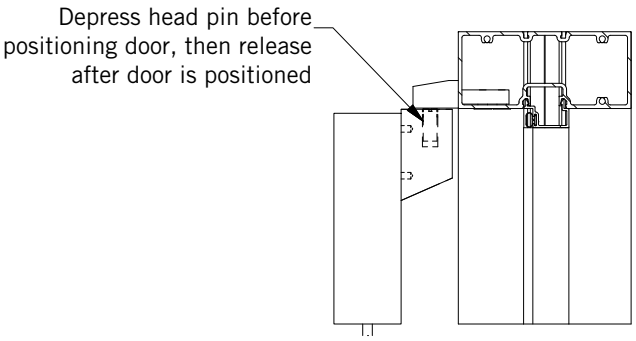


Figure V
Intermediate Pivot

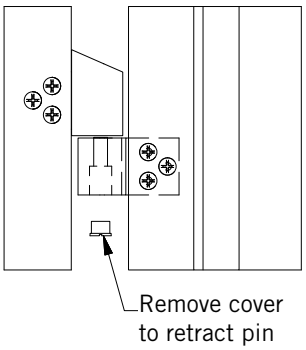
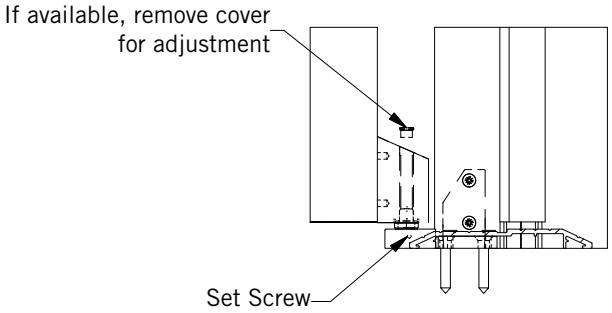


Figure W
Bottom Pivot



TRANSOM FRAME UNIT ASSEMBLY

(Exploded Transom Frame)

1. Verify the opening size.
2. Assemble the head, horizontal, and door jambs with #10 screws as shown and butter the frame header edges with sealant (see *Figure X*).
3. Door stops must be removed/not installed prior to assembly.
4. Clip the threshold sill into the frame as shown with Loctite. Note: Half of the base pivot may be the threshold clip on a pivot hinged frame (see *Figure Y*).
5. Install pivots or hinges with Loctite.
6. Set the frame into the opening plumb and square. Block and anchor the entrance frame to prevent movement on the hardware mullions.
7. Block and anchor the pivot and set the threshold in sealant with ¼" FH fasteners through the fastener holes provided (see *Figure Z*).
8. Fill the frame jams with sealant to channel water out of the stops as shown (see *Figure Y*).
9. Block and anchor the frame through the stop pocket @ 4" – 6" from corners and 16" O.C. <Or> as superseded by drawings and/or calculations. If using filler, fasteners may offset (see *Figure Z*).
10. Anchoring hardware attachment points must be plumb and level.
11. Snap in the vertical and then the horizontal door stops with sealant in the reglet. Seal the corners.
12. Install the interior transom sash in thin sealant.
13. Seal the corners and place the transom setting blocks @ ⅛ – ¼-point locations (see *Figure AA*).
14. Set the glass in transom. Install the glazing wedge.
15. Clean the frame.
16. Install the door (see *Figure BB*). Refer to *Figures N & O* for glazing.
17. Clean the door and frame.

Figure X
Transom Pivot Frame

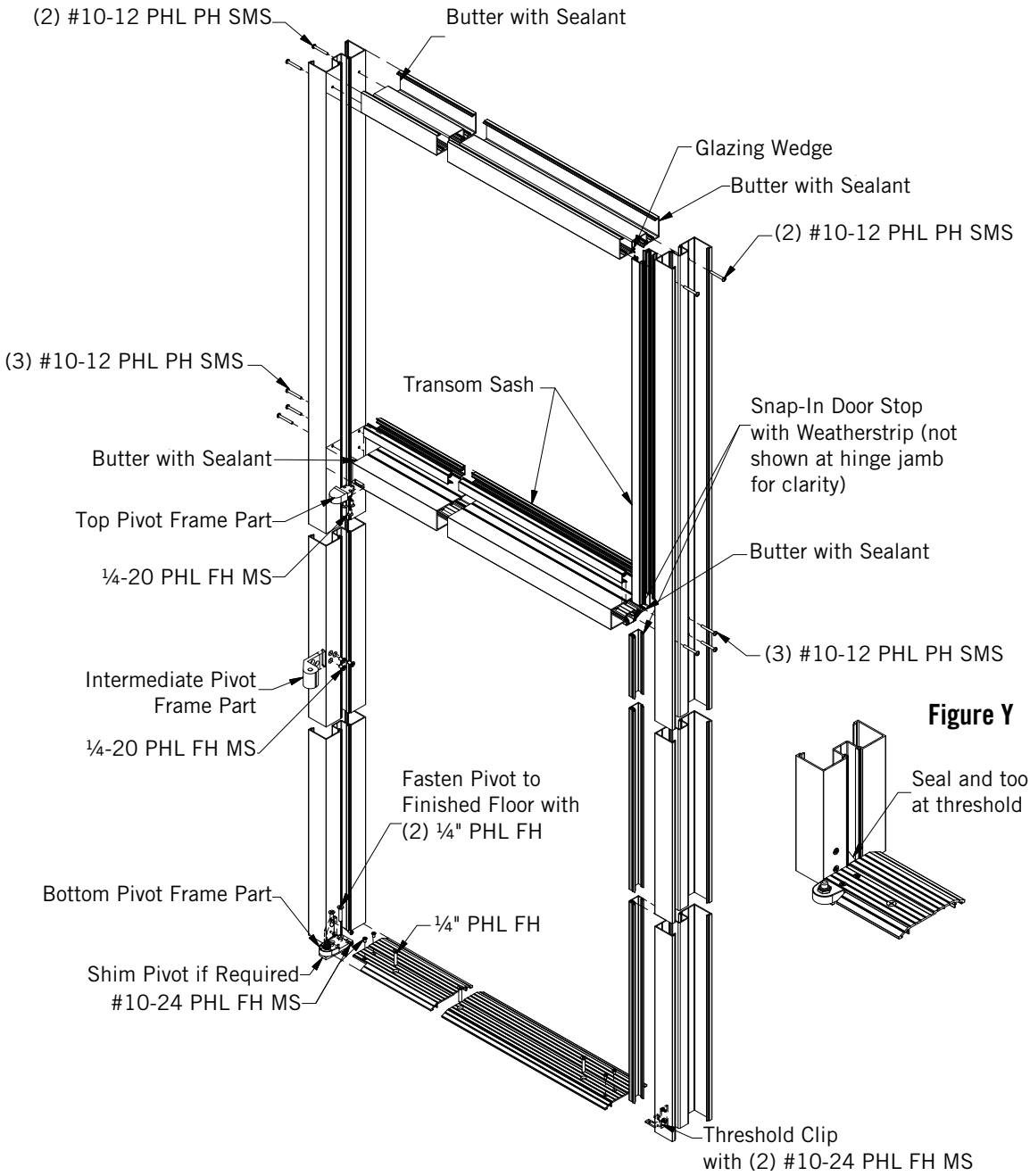


Figure Y

Figure Z-1

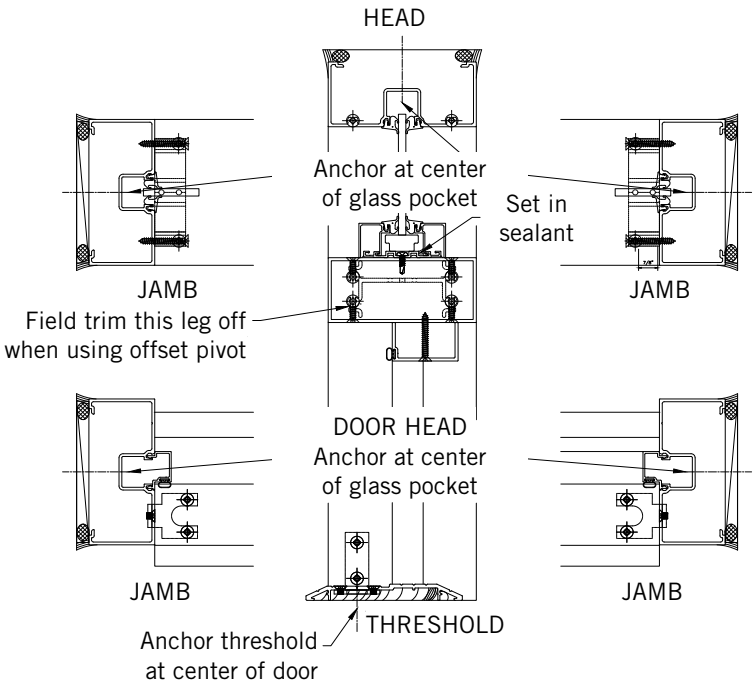


Figure Z-2
Offset Fasteners

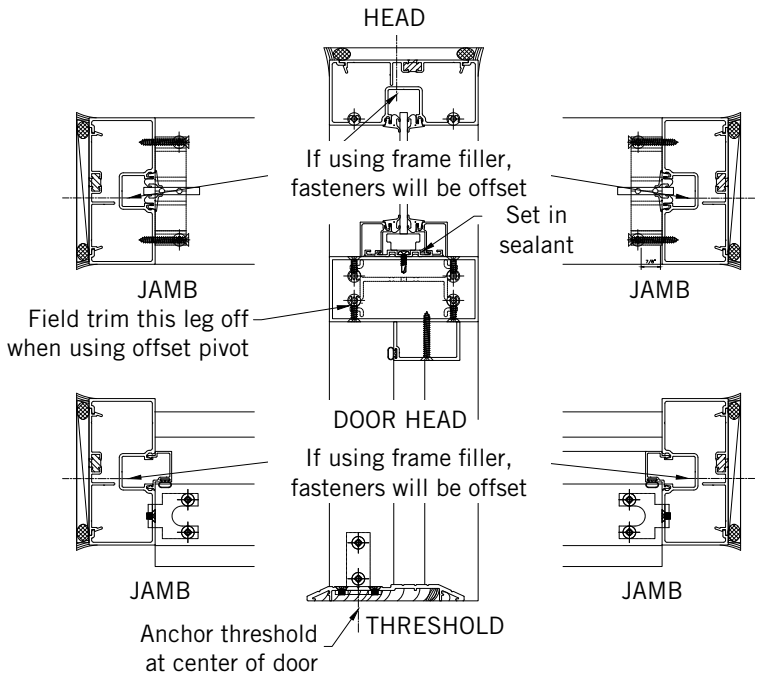


Figure AA

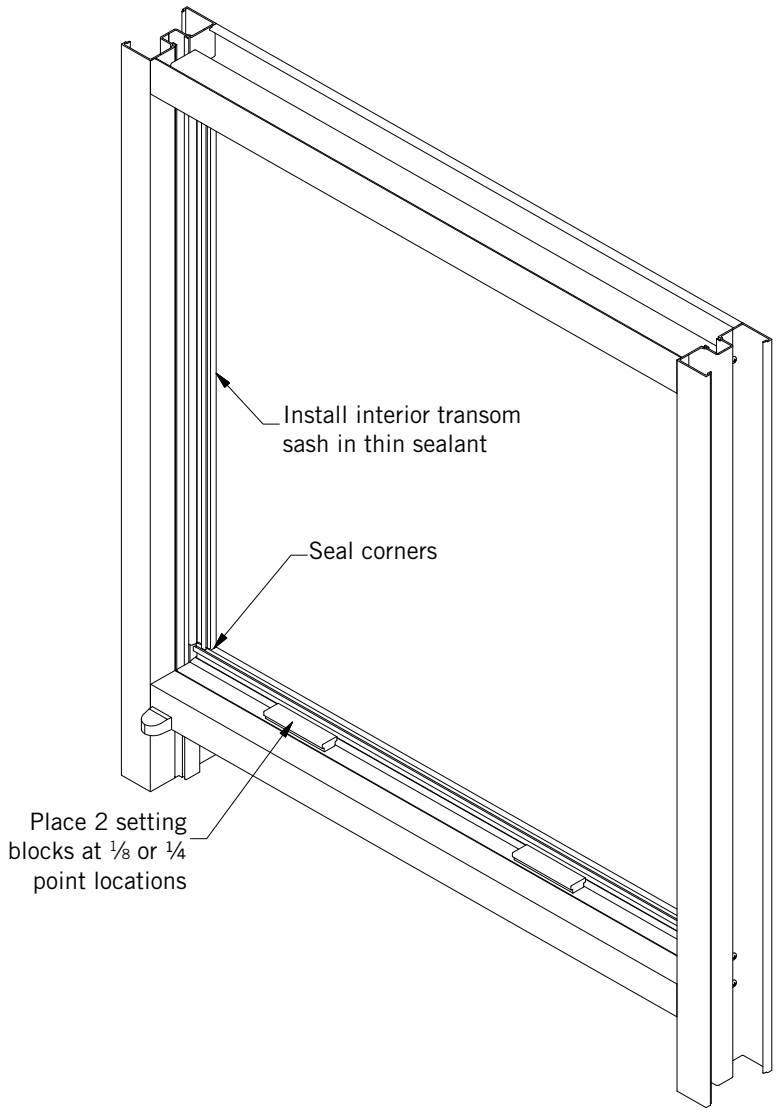
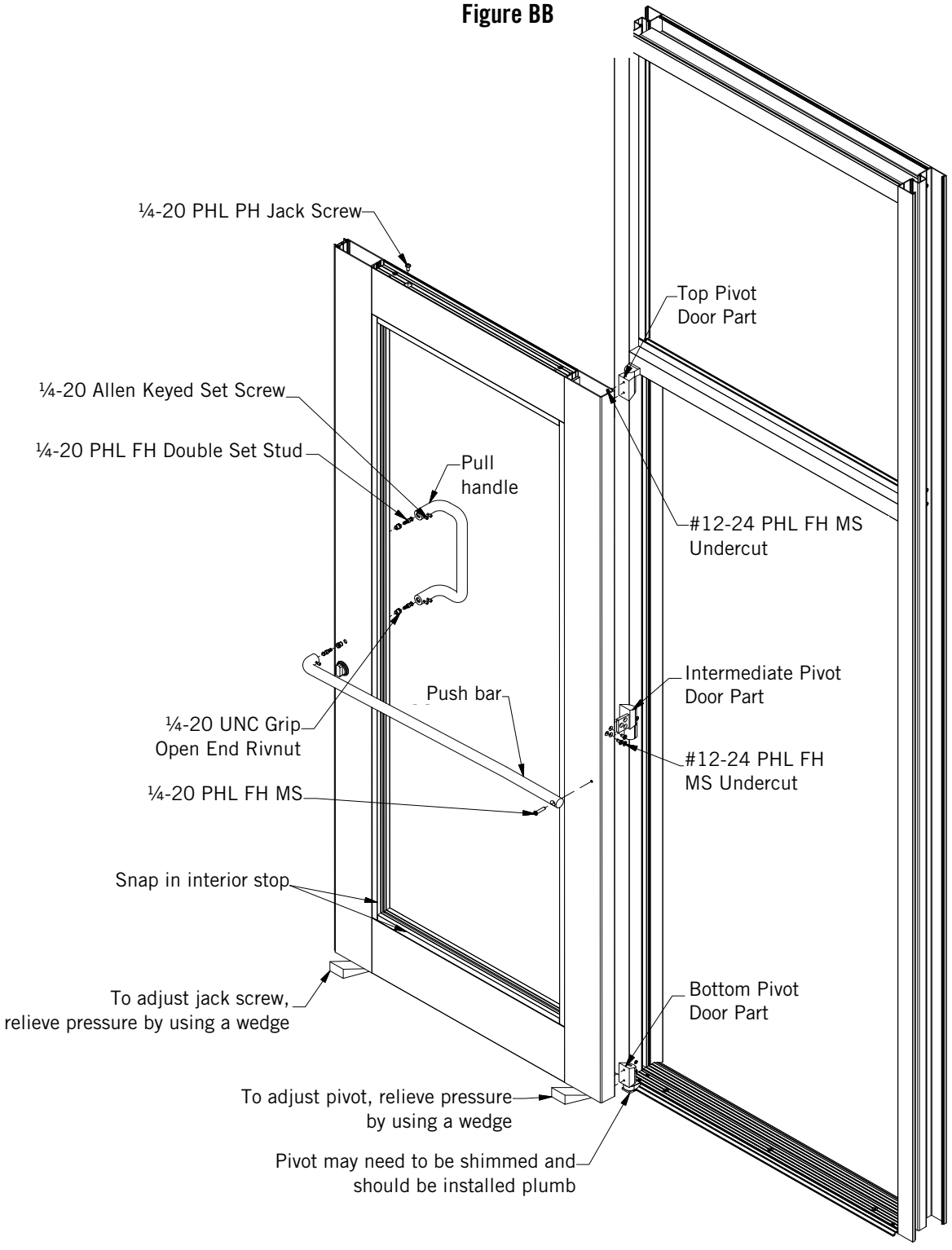

Install interior transom sash in thin sealant
Seal corners
Place 2 setting blocks at ⅛ or ¼ point locations

Figure BB


¼-20 PHL PH Jack Screw
Top Pivot Door Part
¼-20 Allen Keyed Set Screw
¼-20 PHL FH Double Set Stud
Pull handle
#12-24 PHL FH MS Undercut
Intermediate Pivot Door Part
Push bar
¼-20 UNC Grip Open End Rivnut
#12-24 PHL FH MS Undercut
¼-20 PHL FH MS
Snap in interior stop
To adjust jack screw, relieve pressure by using a wedge
Bottom Pivot Door Part
To adjust pivot, relieve pressure by using a wedge
Pivot may need to be shimmed and should be installed plumb

TRANSOM TUBE FRAME UNIT ASSEMBLY

(Exploded Transom Tube Frame)

1. Verify the opening size.
2. Assemble the head and the horizontal with shear blocks, and install the door jambs with #10 screws, as shown. Butter the frame header edges with sealant. If using an offset pivot, shear block will need to be field modified (see *Figures CC & DD*).
3. Door stops must be removed/not installed prior to assembly.
4. Clip the threshold sill into the frame as shown with Loctite. Note: Half of the base pivot may be the threshold clip on a pivot hinged frame.
5. Install the pivots or hinges with Loctite.
6. Set the frame into the opening plumb and square. Block and anchor the entrance frame to prevent movement on the hardware mullions.
7. Block and anchor the pivot and set the threshold in sealant anchor with ¼" FH fasteners through the fastener holes provided (see *Figure EE*).
8. Fill the frame jams with sealant to channel water out of the stops as shown (see *Figure FF*).
9. Block and anchor the frame through the stop pocket @ 4" – 6" from corners and 16" O.C. <Or> as superseded by drawings and/or calculations. If using filler, fasteners may offset (see *Figure EE*).
10. Anchoring hardware attachment points must be plumb and level.
11. Do not install the door stops at this point.
12. Install the interior transom sash in thin sealant.
13. Seal the corners and place the transom setting blocks @ ⅛ – ¼-point locations (see *Figure AA*).
14. Set the glass in the transom. Install the glazing wedge.
15. Clean the frame.
16. Install the concealed overhead closure.
17. Install 105-degree pivot (see *Figure GG*).
18. Install 105-degree butt hinge. Refer to Butt hinge frame *Figure J*.
19. Install the arm cover (see *Figure GG*).
20. Trim and install the vertical door stops.
21. Install the door (see *Figure GG*). Refer to *Figures N & O* for glazing.
22. Attach the arm and adjust per hardware instructions (see *Figure GG*).
23. Clean the door and frame.

Figure CC
Transom Tube Frame

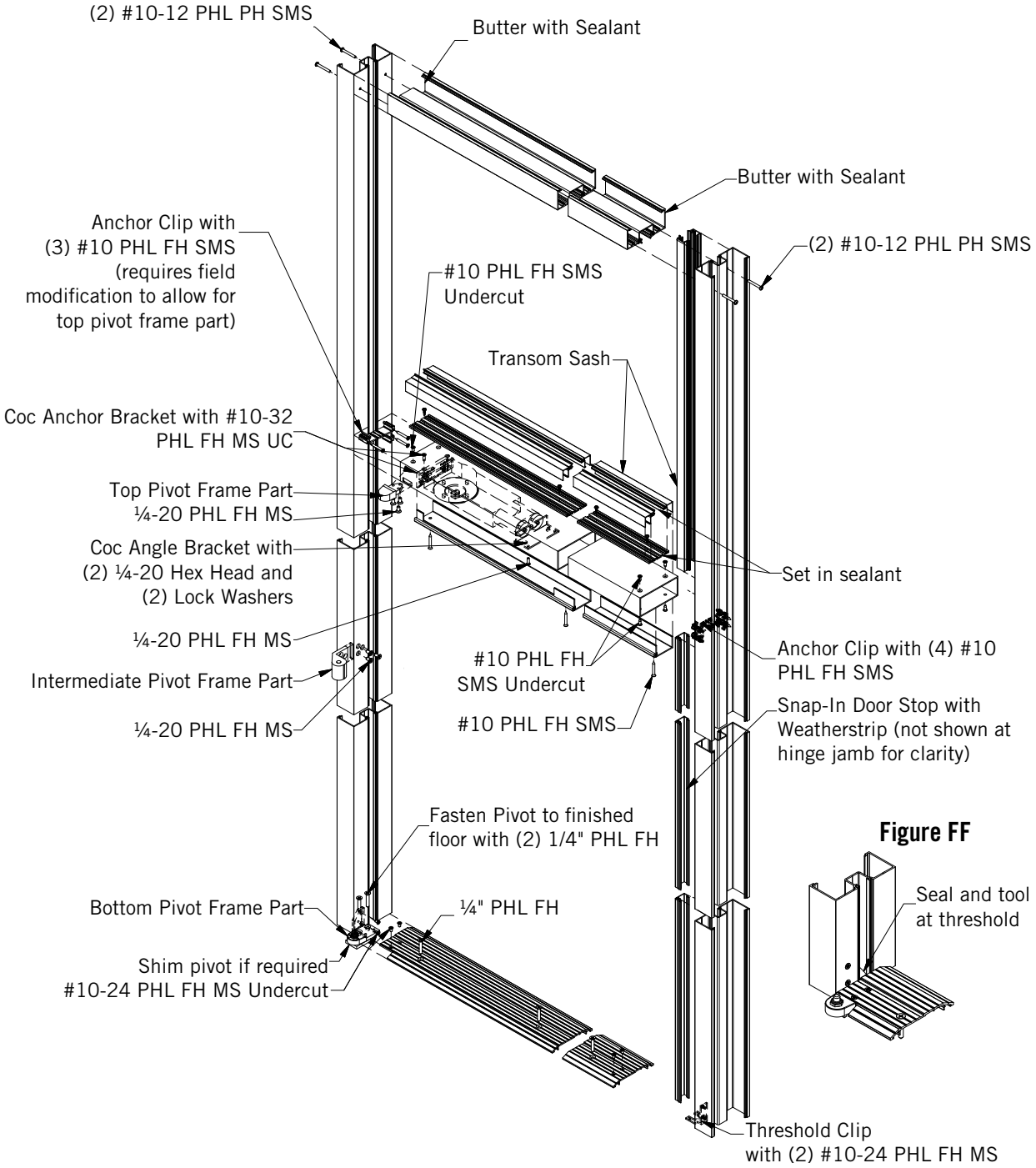


Figure FF

Figure DD

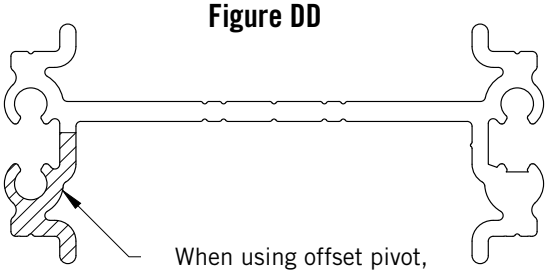


Figure EE-1

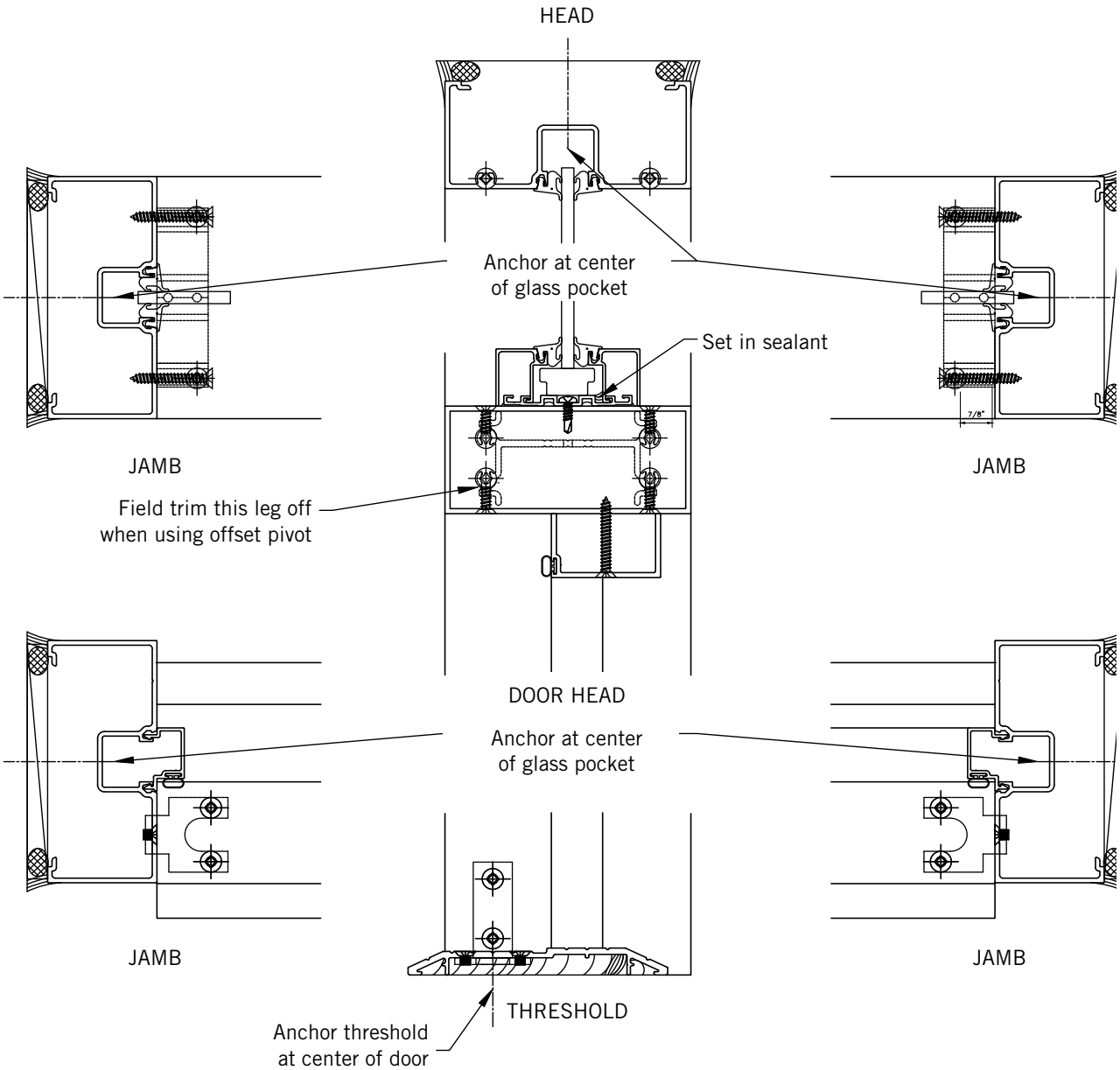


Figure EE-2

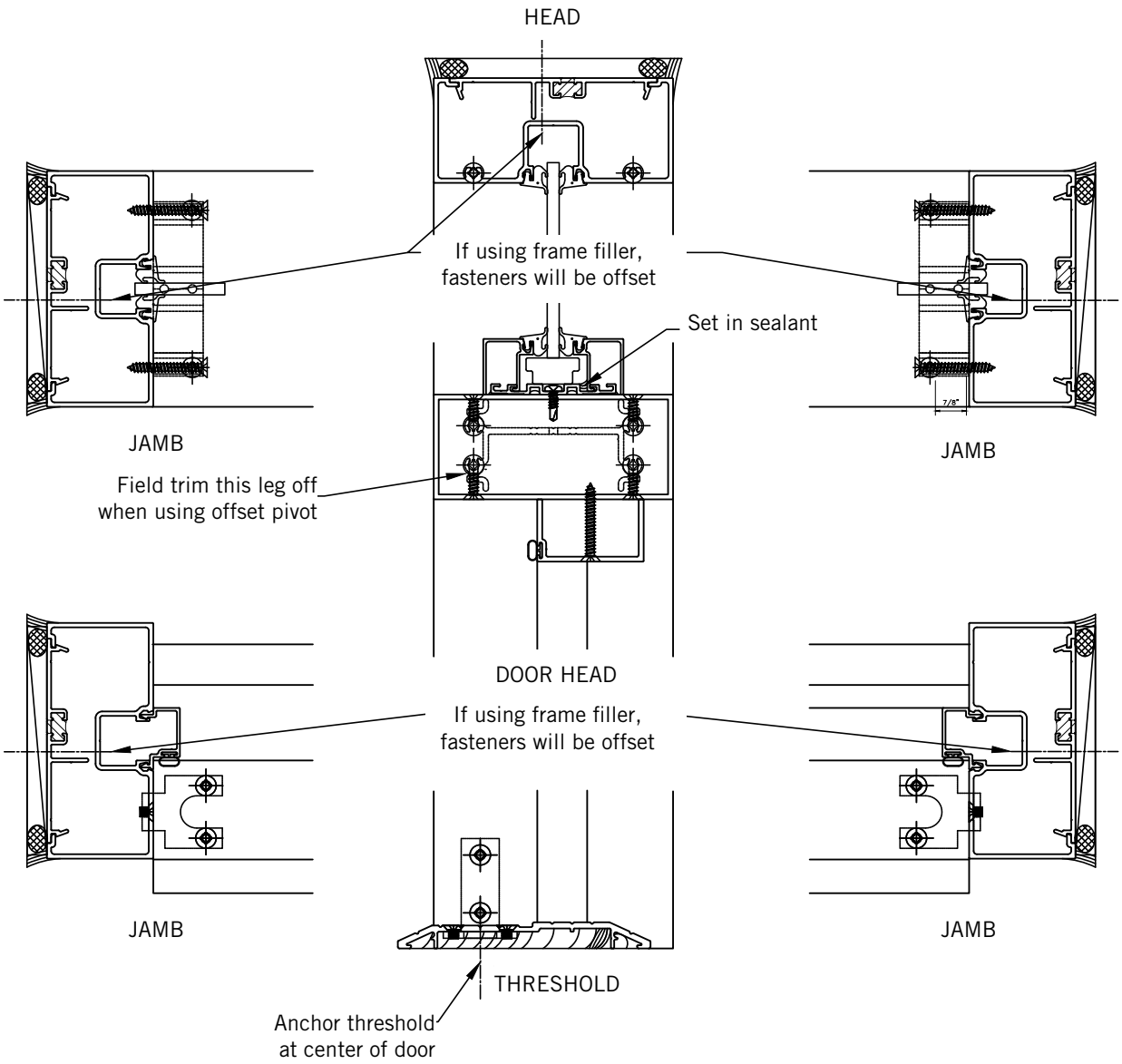
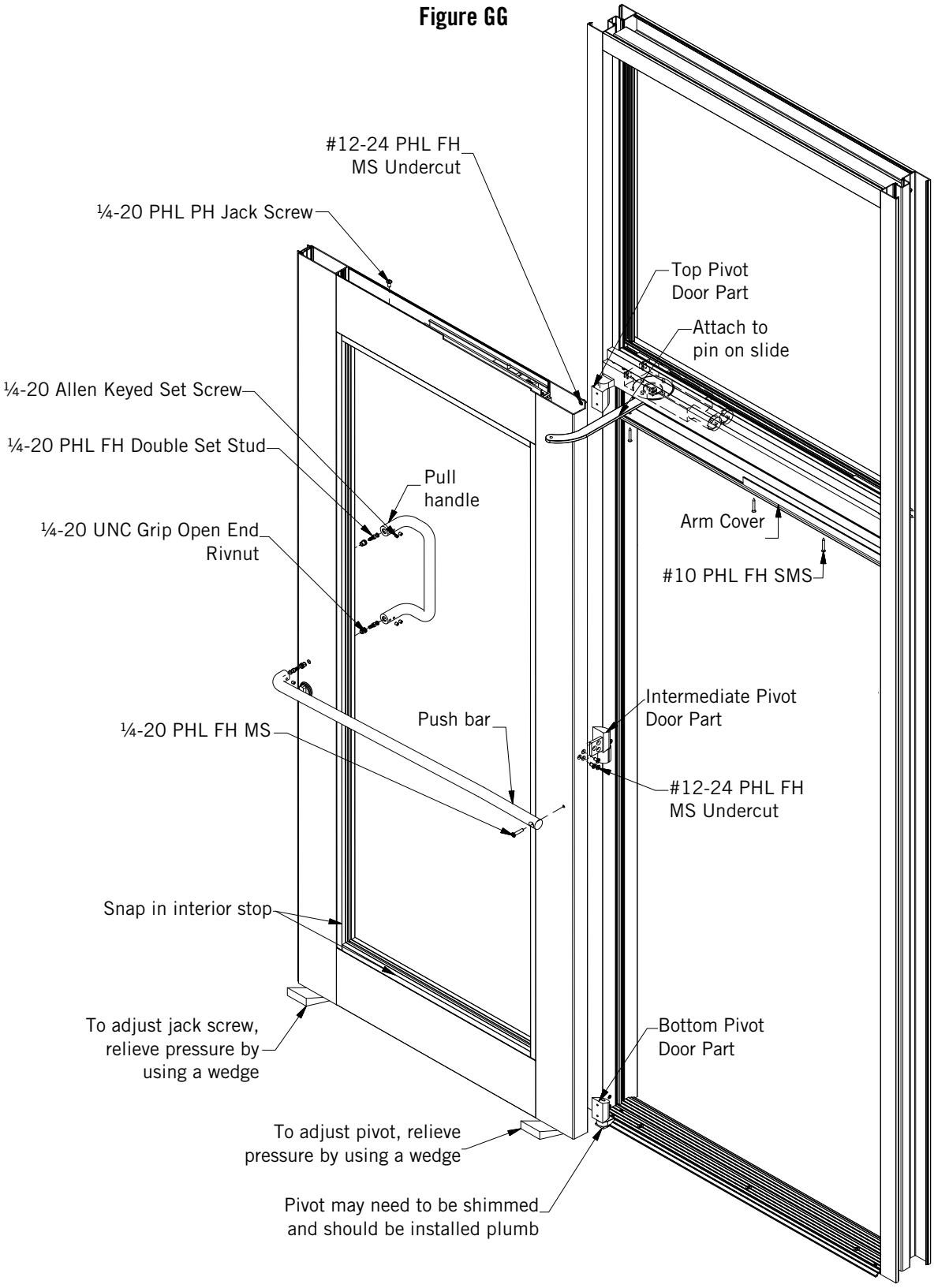

HEAD
If using frame filler,
fasteners will be offset
Set in sealant
JAMB
JAMB
Field trim this leg off
when using offset pivot
DOOR HEAD
If using frame filler,
fasteners will be offset
JAMB
JAMB
THRESHOLD
Anchor threshold
at center of door

Figure GG


#12-24 PHL FH
MS Undercut
¼-20 PHL PH Jack Screw
Top Pivot
Door Part
Attach to
pin on slide
¼-20 Allen Keyed Set Screw
¼-20 PHL FH Double Set Stud
Pull
handle
¼-20 UNC Grip Open End
Rivnut
Arm Cover
#10 PHL FH SMS
Intermediate Pivot
Door Part
Push bar
¼-20 PHL FH MS
#12-24 PHL FH
MS Undercut
Snap in interior stop
To adjust jack screw,
relieve pressure by
using a wedge
Bottom Pivot
Door Part
To adjust pivot, relieve
pressure by using a wedge
Pivot may need to be shimmed
and should be installed plumb

SUB-SILL SIDELITE TO DOOR FRAME

Cut the Sub-Sill to Size

- The sub-sill is a horizontal that runs across the entire base of the opening to collect and expel water from the system.
- Cut your sub-sill to the frame width figured in Step 1+ any width you allowed for shimming and sealant.
- The minimum width of the sub-sill is the frame size (FS) + .25".
- Sub-sills longer than 24-feet long must be spliced together. Expansion may require more frequent splicing and expansion mullions per project requirements.

Drill Weep Holes in Sub-Sill and Apply End Dams

- Drill 2 weep holes .25" diameter 24" on center at the sub-sill. (Min. 2 per lite, 6" from verticals).
- Before fastening in the end dam, make sure you butter sealant to the end of the sub-sill so it bonds with the end dam.
- Screw the end dam to the sub-sill using two #10 x ½ PHL FH SMS.
- Make sure after fastening in the end dam that you apply sealant on the head of the screws to tool and seal all openings.

Figure LL
Sub-Sill