FRONT LINE
ALUMINUM SYSTEMS

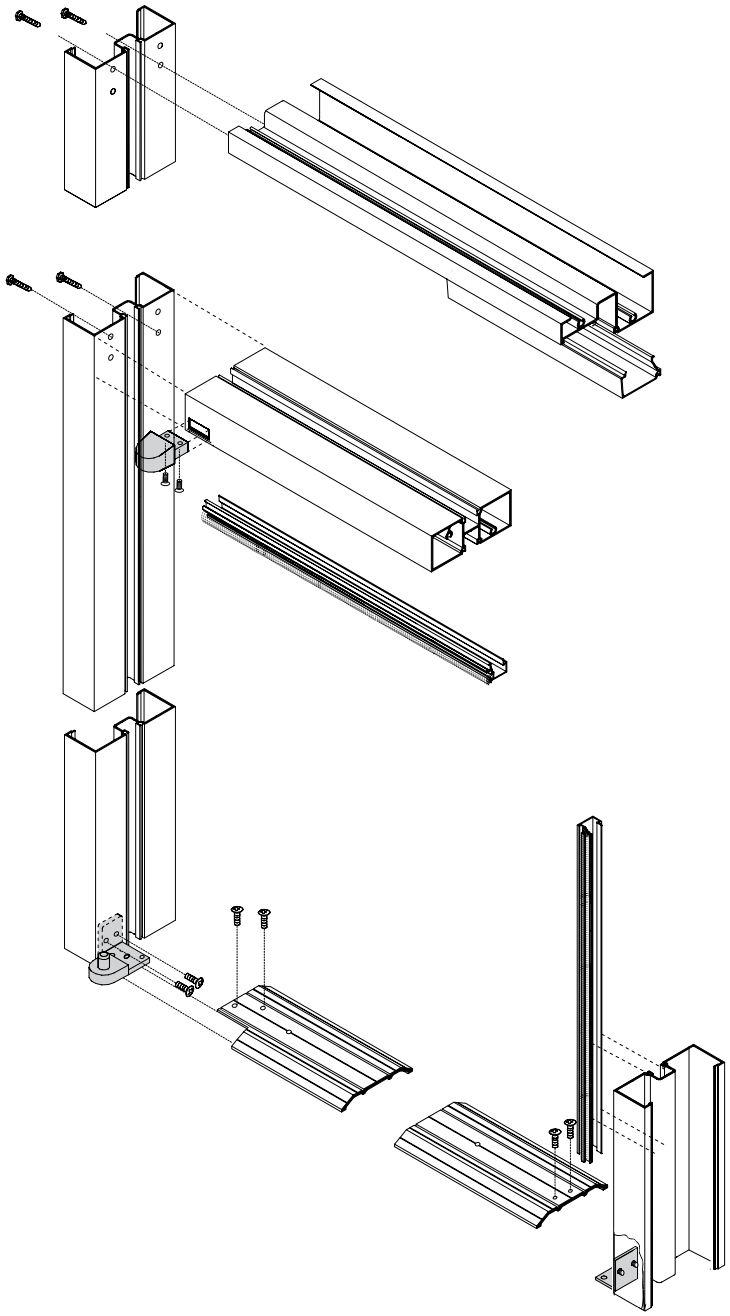
FL200 • FL300

FRAMES and ENTRANCE DOORS

213•380•500

INSTALLATION INSTRUCTIONS

Frames and Entrance Doors



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July 2014

FRAMES and ENTRANCES
FL200 & FL300 Frames
Series 213, 380 & 500 Entrance Doors

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

TABLE OF CONTENTS

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 -

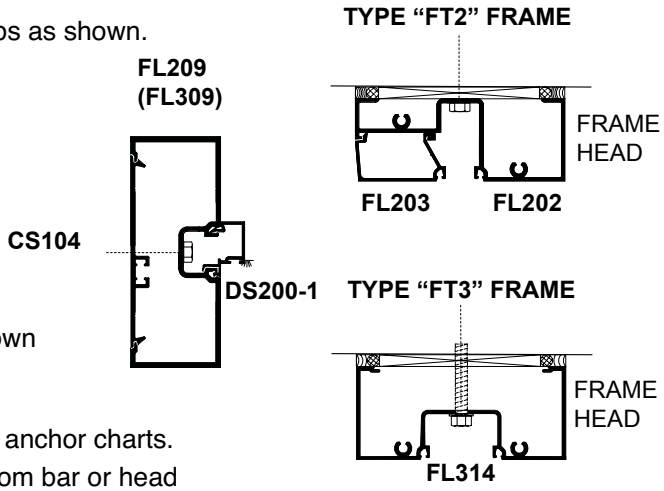
11. **WATER HOSE TEST.** After a representative amount of the storefront system has been glazed (500 square feet) and the sealant has cured, a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. This test should be repeated every 500 square feet 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.

TYPICAL FRAME ASSEMBLY & INSTALLATION

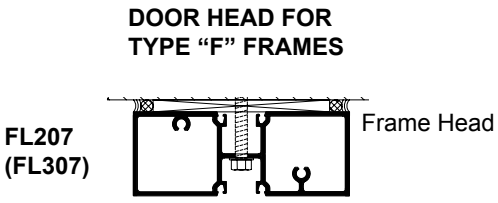
ASSEMBLY:

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.

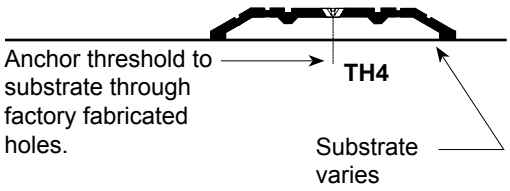


INSTALLATION:

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.

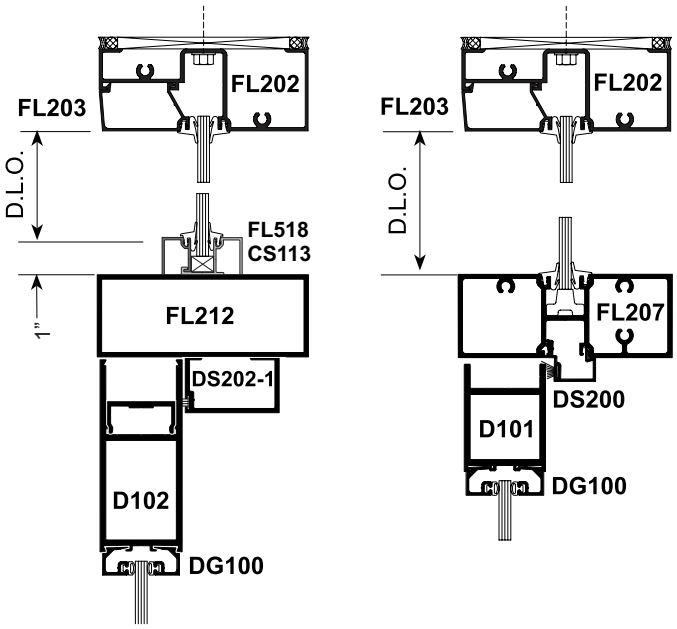


*See pages **8, 10, 11,** for C.O.C. headers and transom bars.



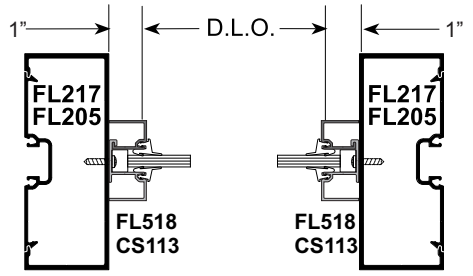
TRANSOM GLASS SIZE FORMULA

TYPE "FT2" FRAME



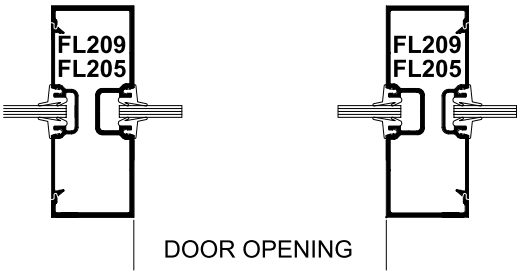
FL200 Transom Bar Offset Hung Doors

Glass Height = D.L.O. +5/8"



FL200 Center Pivot

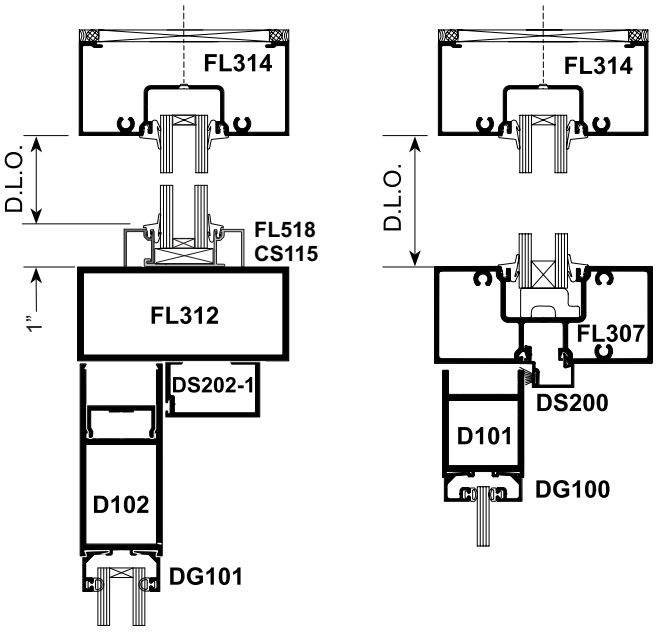
Glass Width = Door Opening minus (-3/4")



FL200 Offset Hung

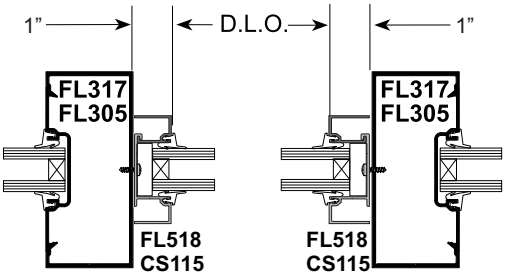
Glass Width = Door Opening +5/8"

TYPE "FT3" FRAME



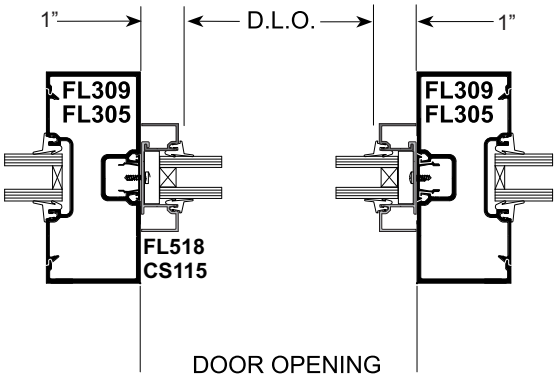
FL300 Transom Bar Offset Hung Doors

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



FL300 Center Pivot

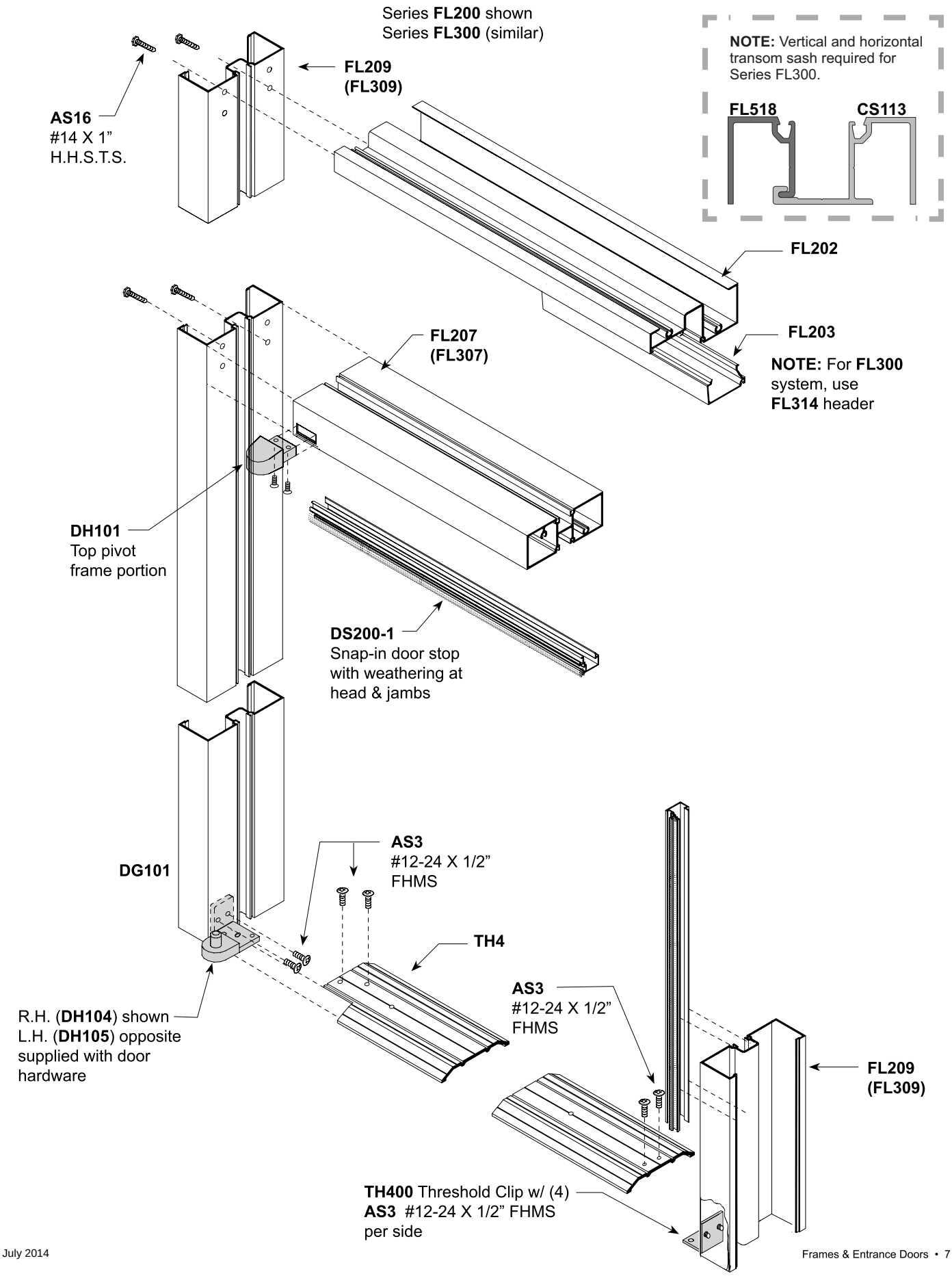
Glass Width = Door Opening minus (-1")



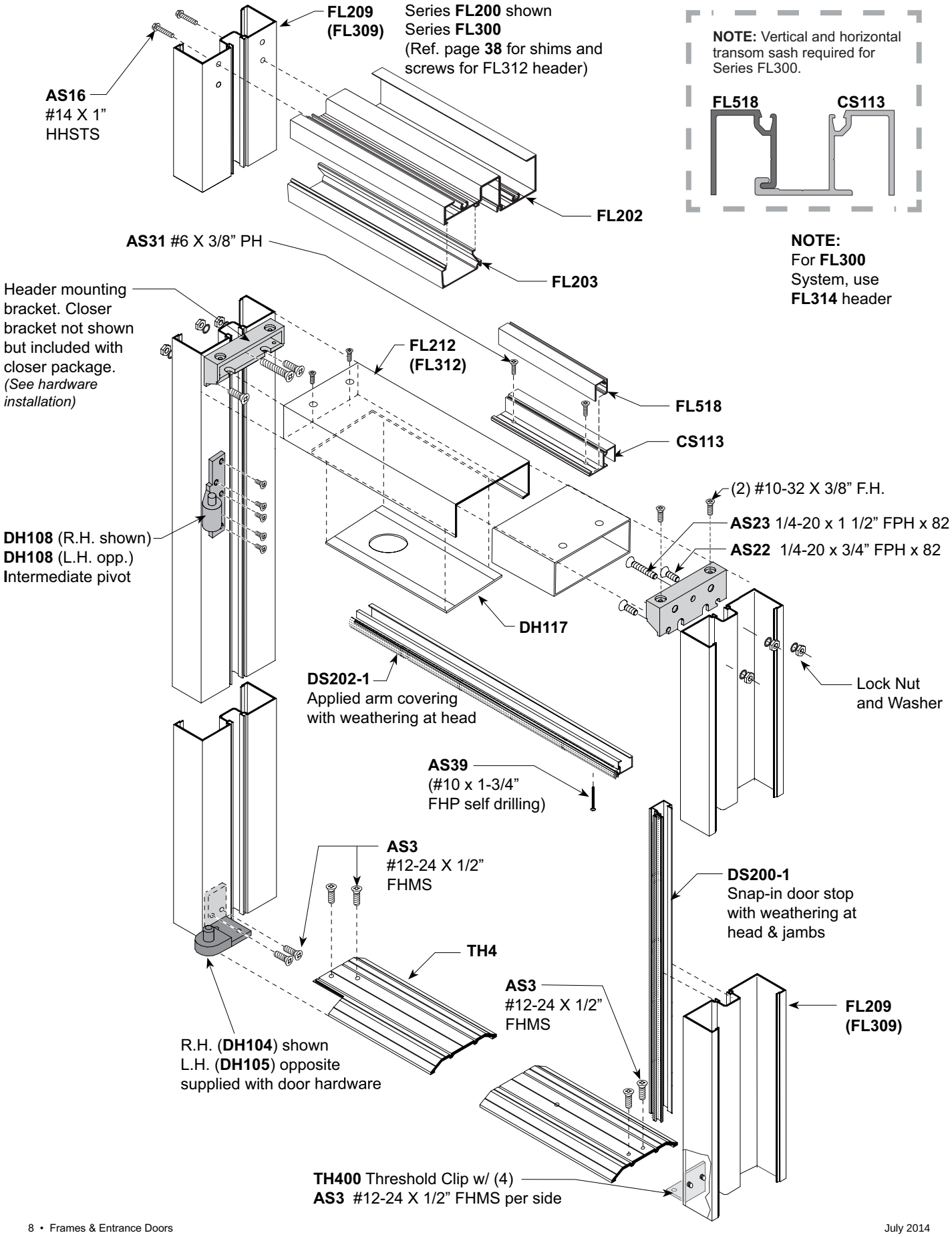
FL300 Offset Hung

Glass Width = Door Opening minus (-1")

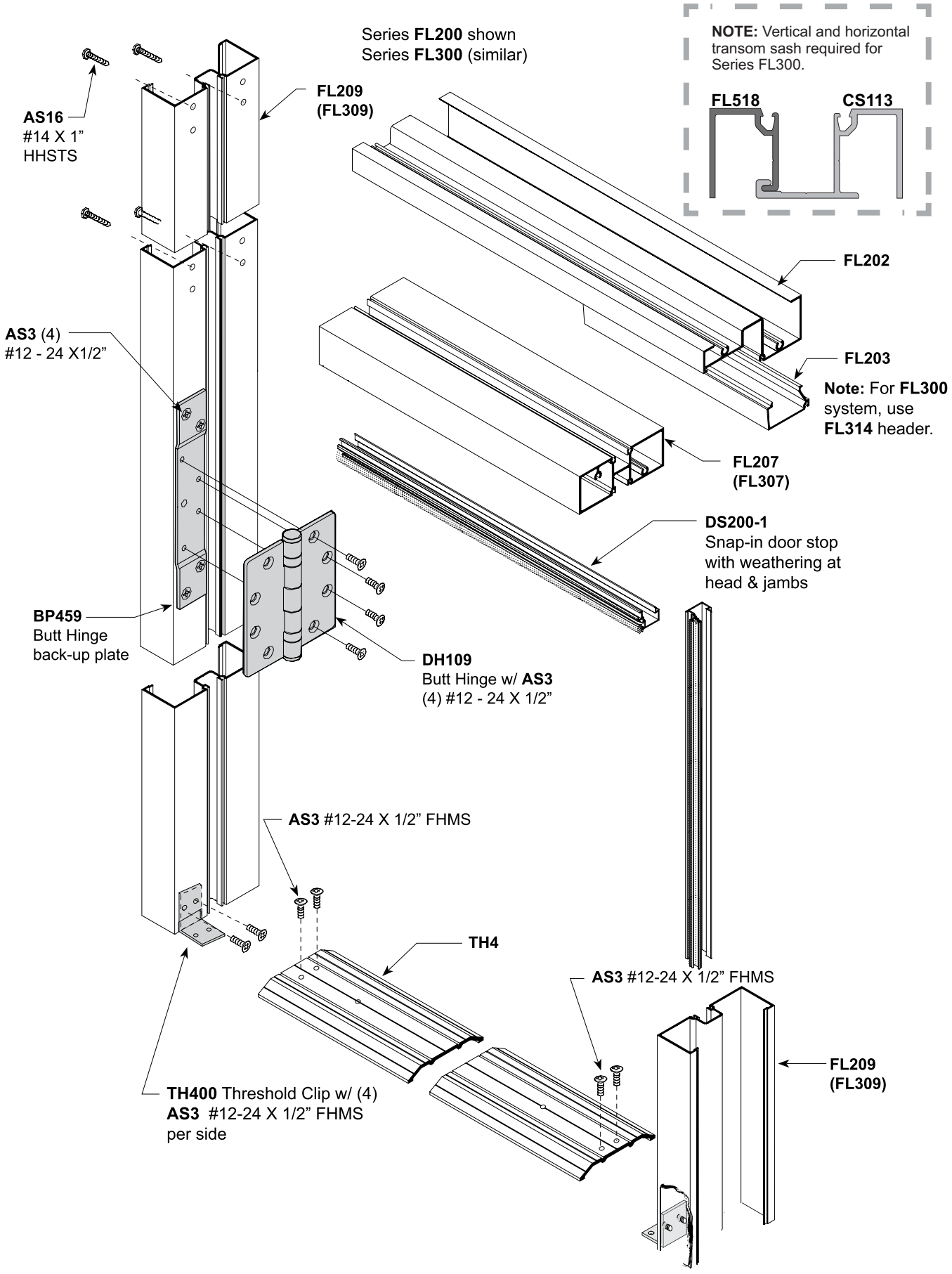
FRAME FOR OFFSET PIVOTED DOOR WITH SURFACE CLOSER



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

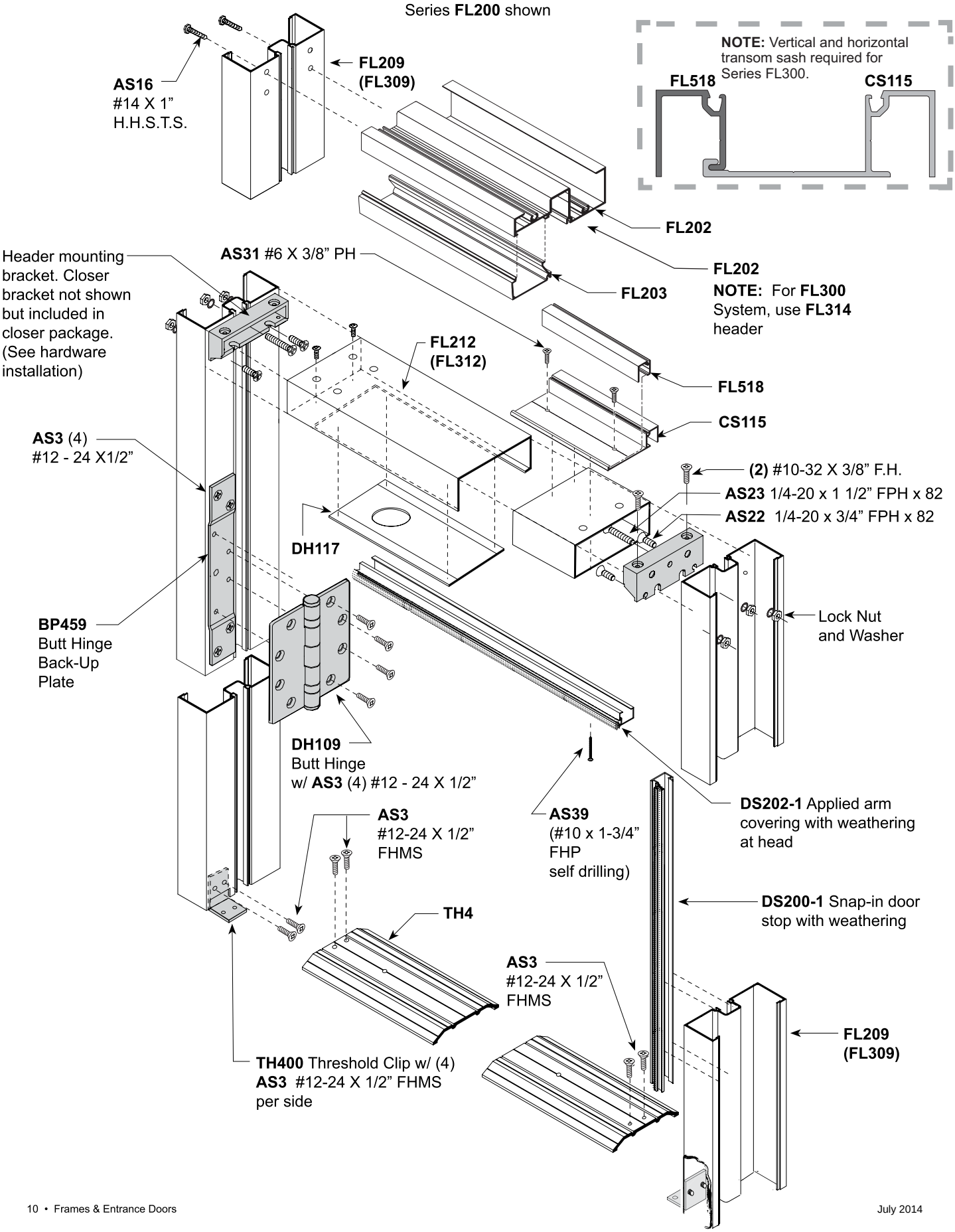


OPEN BACK FRAME AND TRANSOM FOR BUTT HUNG DOOR WITH SURFACE CLOSER



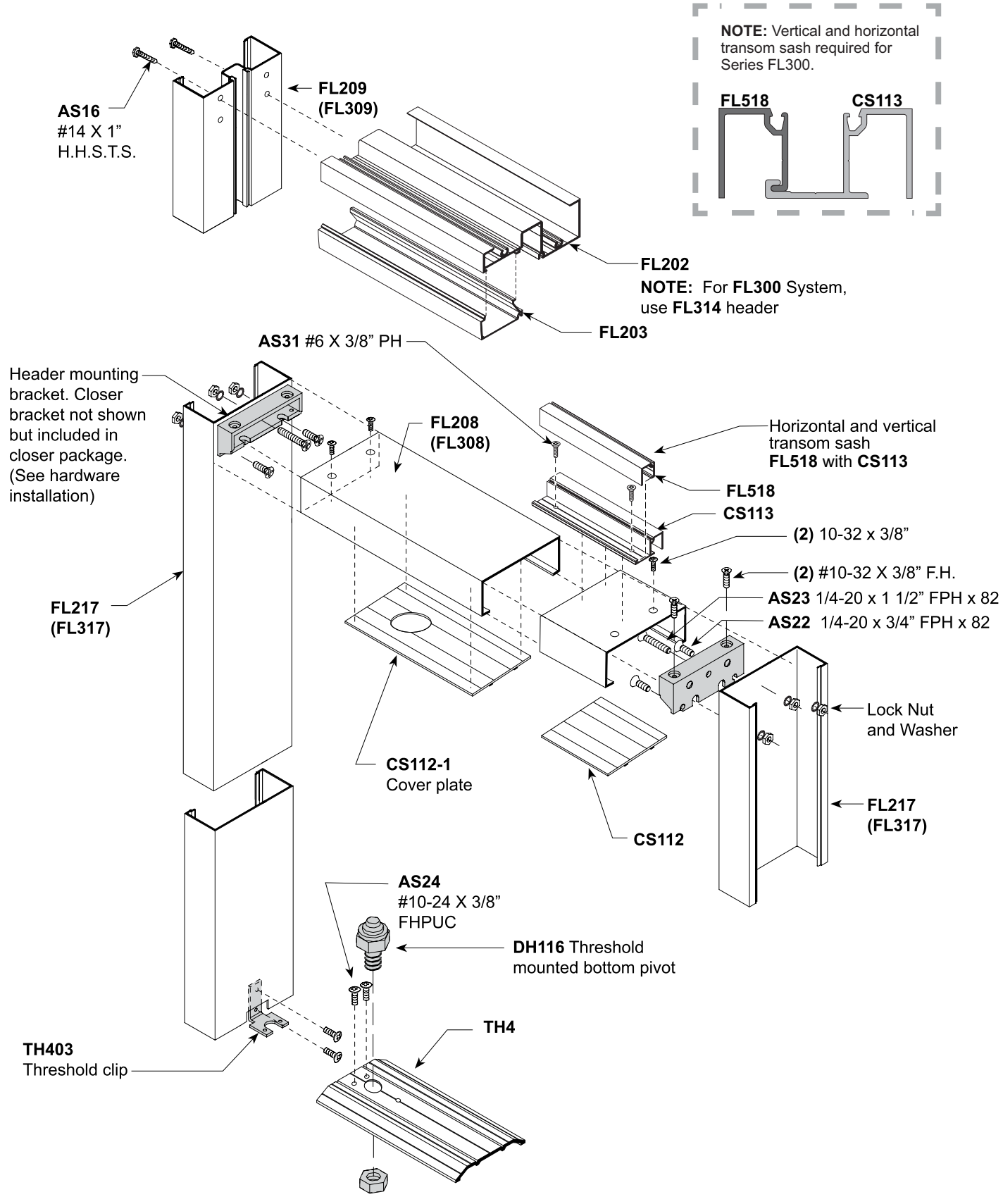
FRAME FOR OFFSET BUTT HUNG DOOR WITH C.O.C. AND OFFSET ARM

Series **FL200** shown



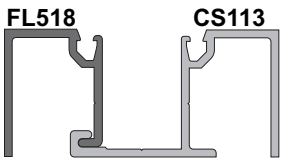
FRAME FOR CENTER PIVOTED DOOR WITH C.O.C.

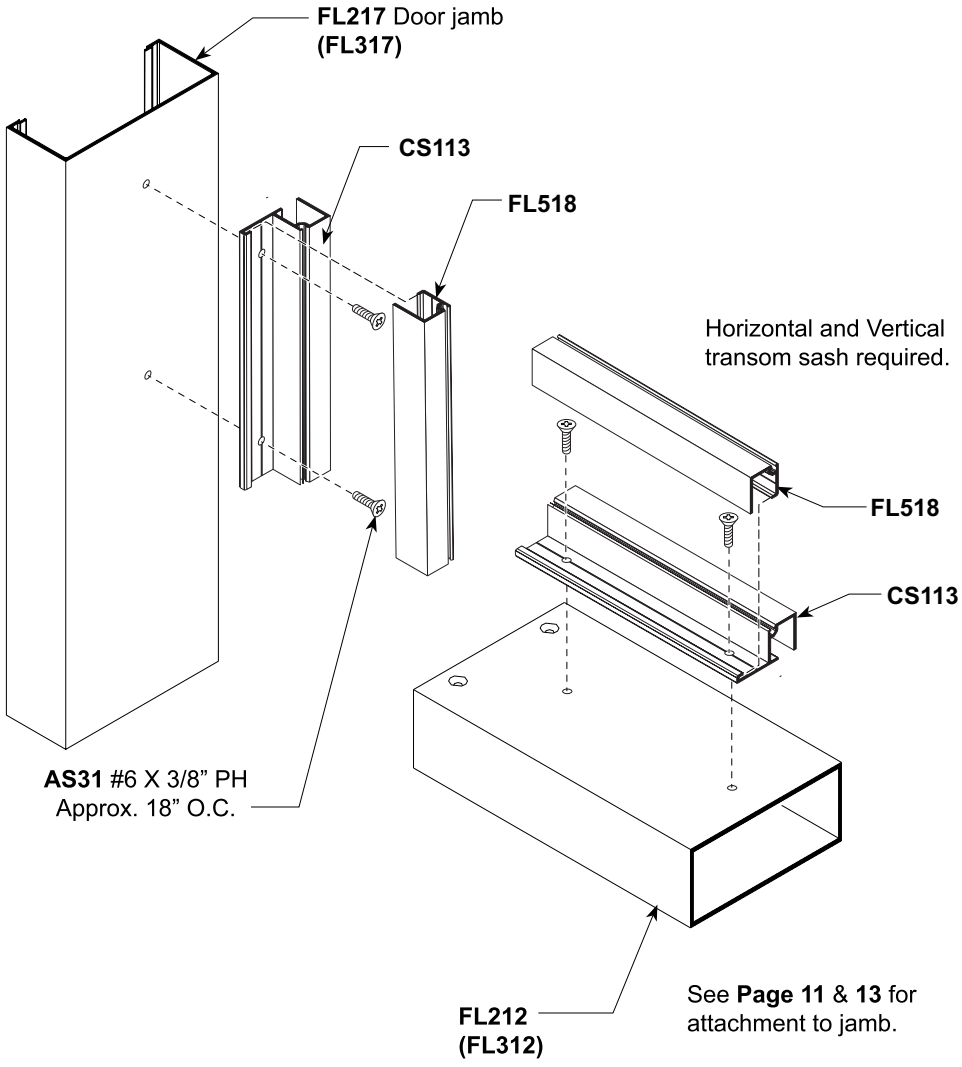
Series **FL200** shown



FRAMES FOR CENTER HUNG DOORS WITH TUBULAR HEADER

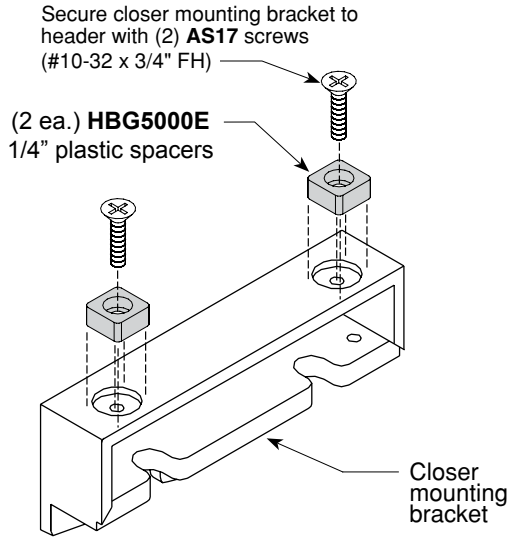
NOTE: Vertical and horizontal transom sash required for Series FL300.

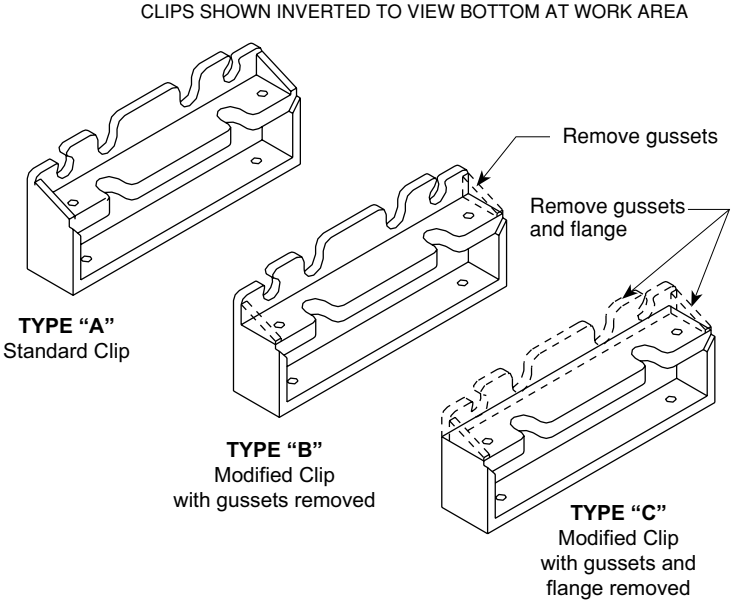


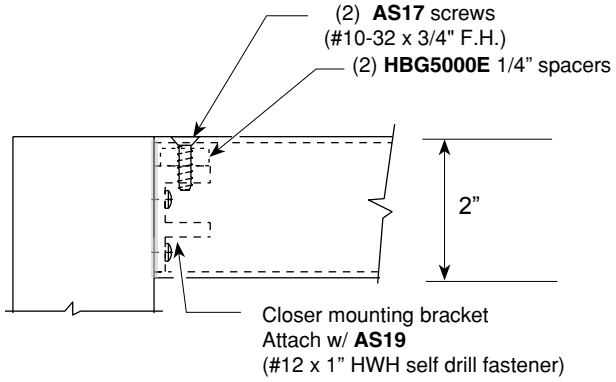


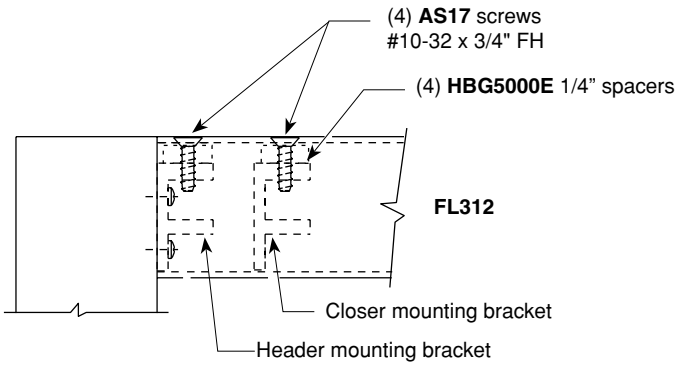
HEADER FOR C.O.C. WITH OFFSET ARM FOR FL300 SERIES

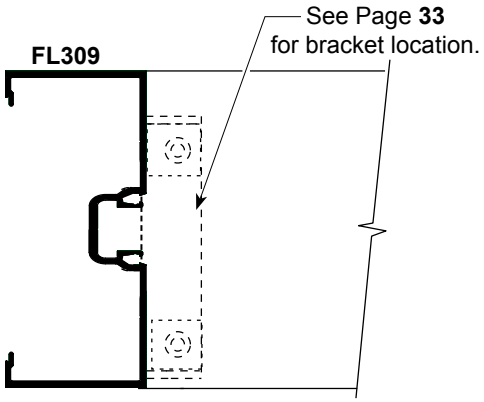
To mount closer into 2" high headers, **HBG5000E** 1/4" plastic spacers are required.
For balance of header installation, see pages **33** through **39**.



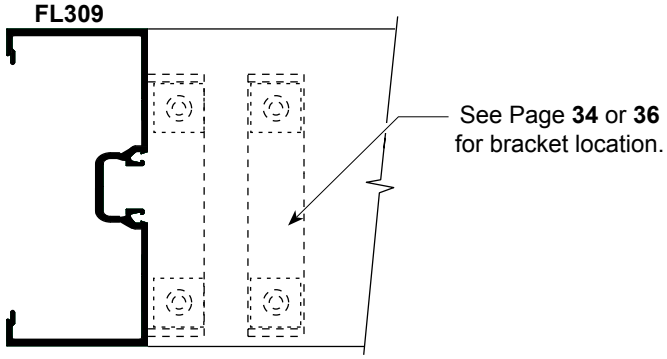






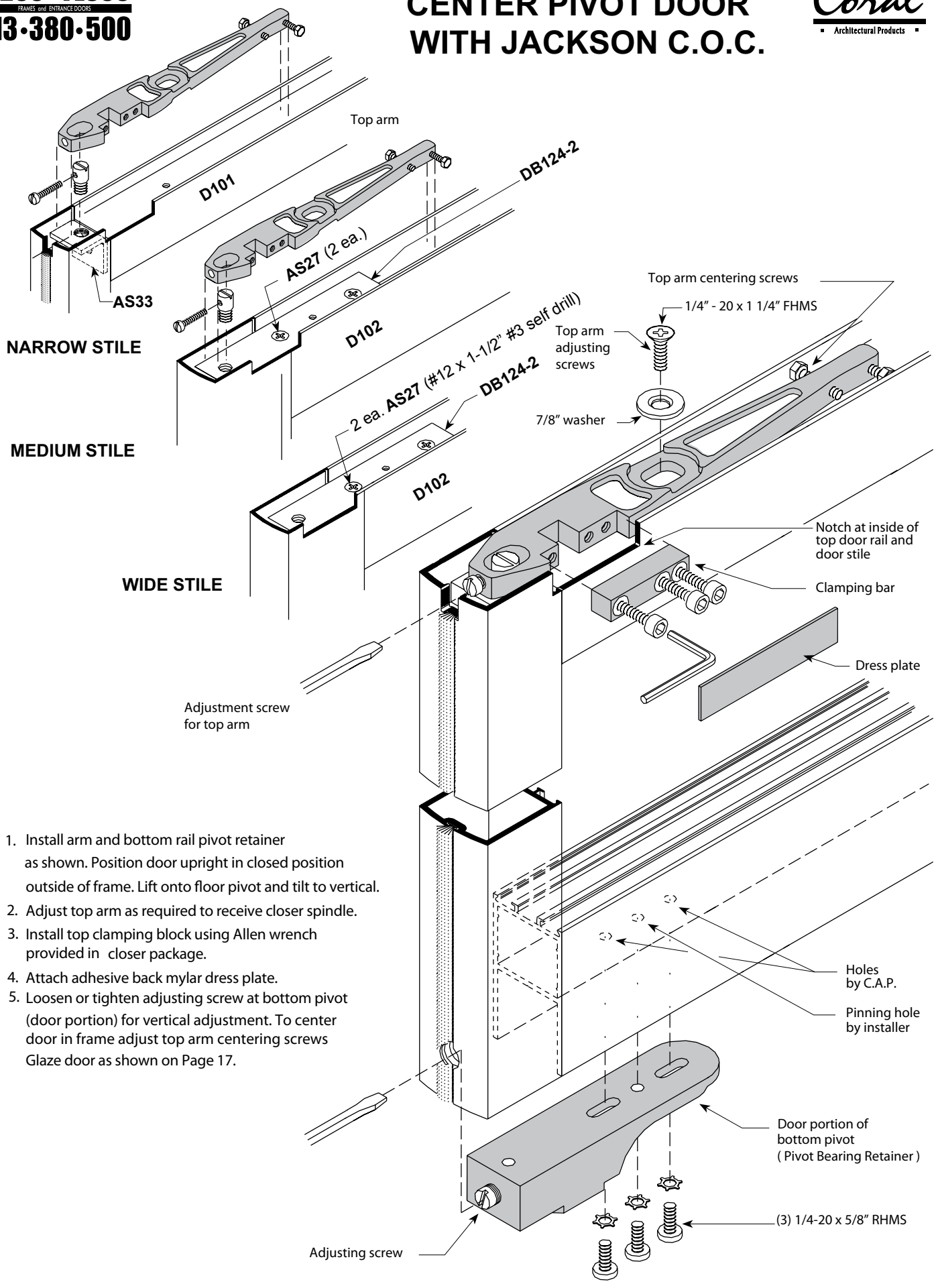


90° swing
for offset pivot door



105° swing
for offset pivot or butt hung door

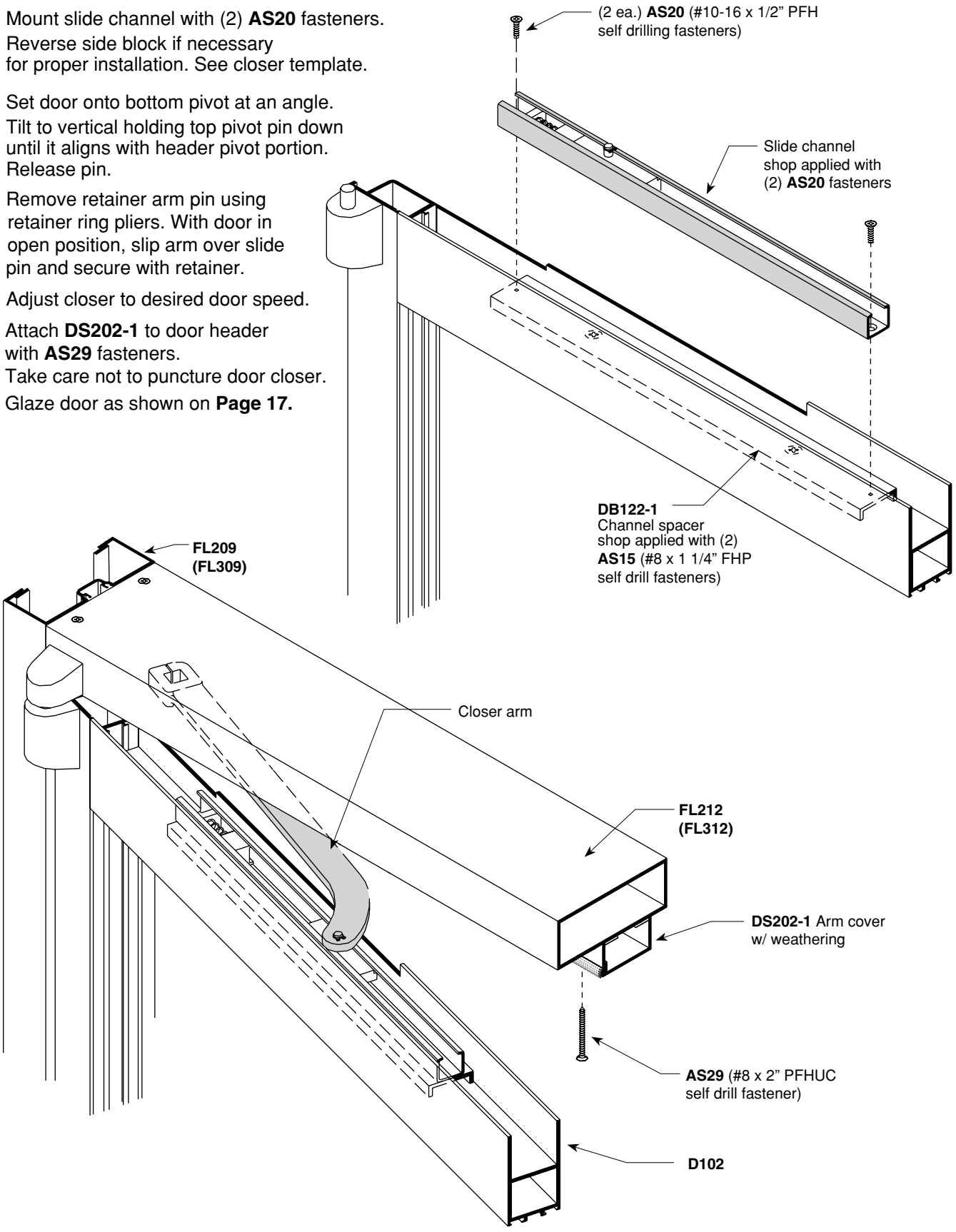
CENTER PIVOT DOOR WITH JACKSON C.O.C.



1. Install arm and bottom rail pivot retainer as shown. Position door upright in closed position outside of frame. Lift onto floor pivot and tilt to vertical.
2. Adjust top arm as required to receive closer spindle.
3. Install top clamping 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 referance **Pages 33** and **34**.

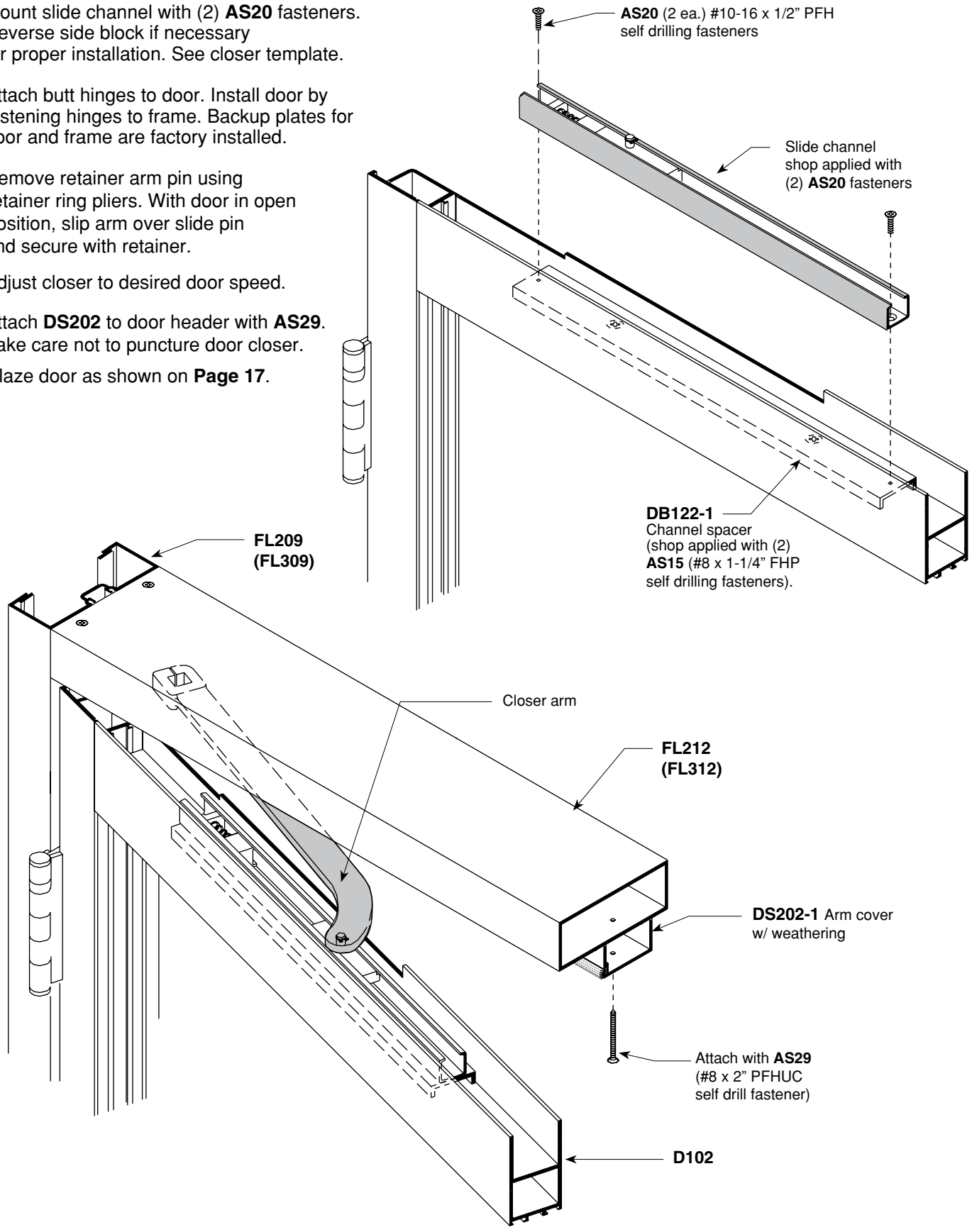
1. Mount slide channel with (2) **AS20** fasteners. Reverse side block if necessary for proper installation. See closer template.
2. Set door onto bottom pivot at an angle. Tilt to vertical holding top pivot pin down until it aligns with header pivot portion. Release pin.
3. Remove retainer arm pin using 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.**



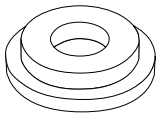
BUTT HINGE DOOR WITH C.O.C.

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**.



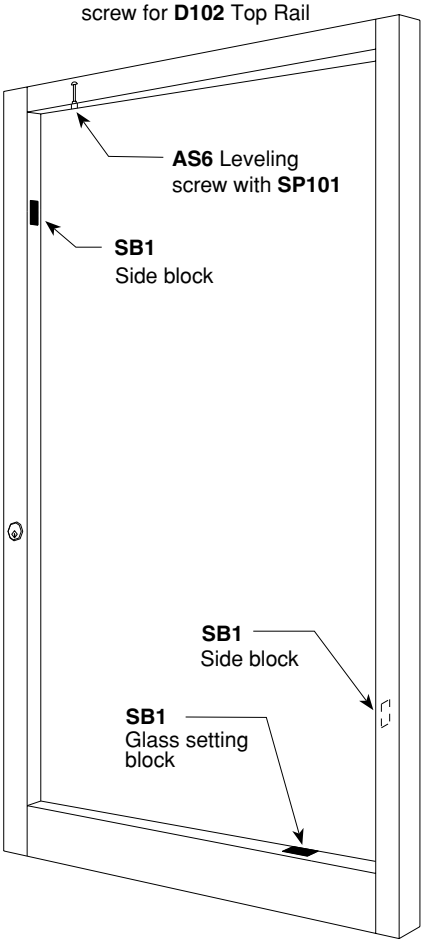
DOOR GLAZING INSTRUCTIONS



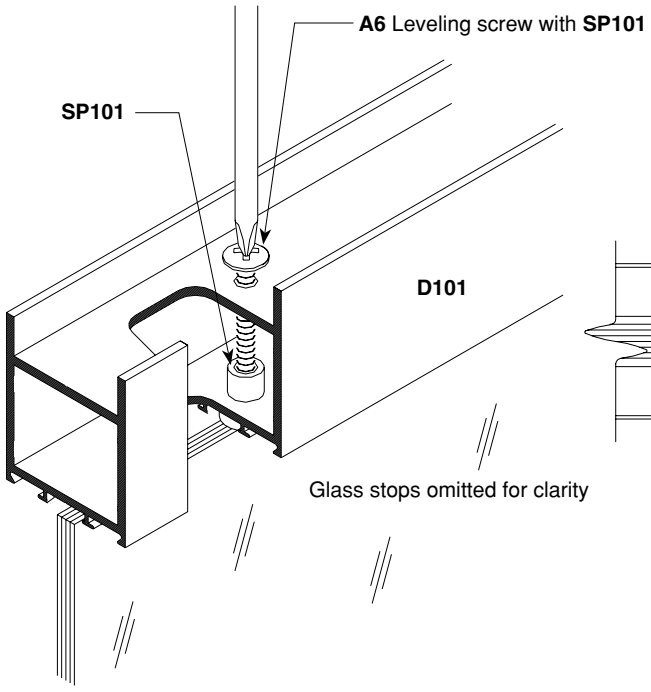
* If 1" Glass Is Being Glazed Into Door, Install **SP102** Plastic Tip Over **SP101**

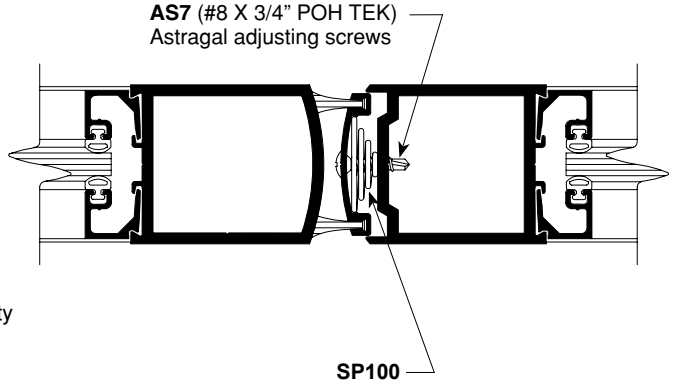
SP102

NOTE: Use **AS9** Leveling screw for **D102** Top Rail

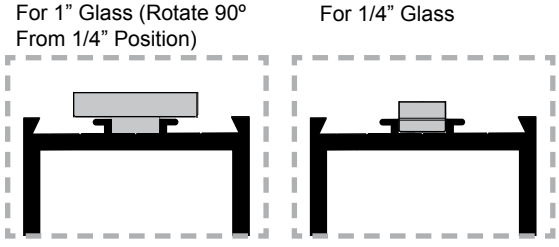


1. Raise leveling screw to maximum retracted position.
2. Install vertical glass stops on one side of door only.
3. Center glass in opening resting on setting blocks.
4. Snap-in remaining glass stops.
5. Turn leveling screw to obtain a uniform clearance between top rail and header.
6. Adjust astragal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

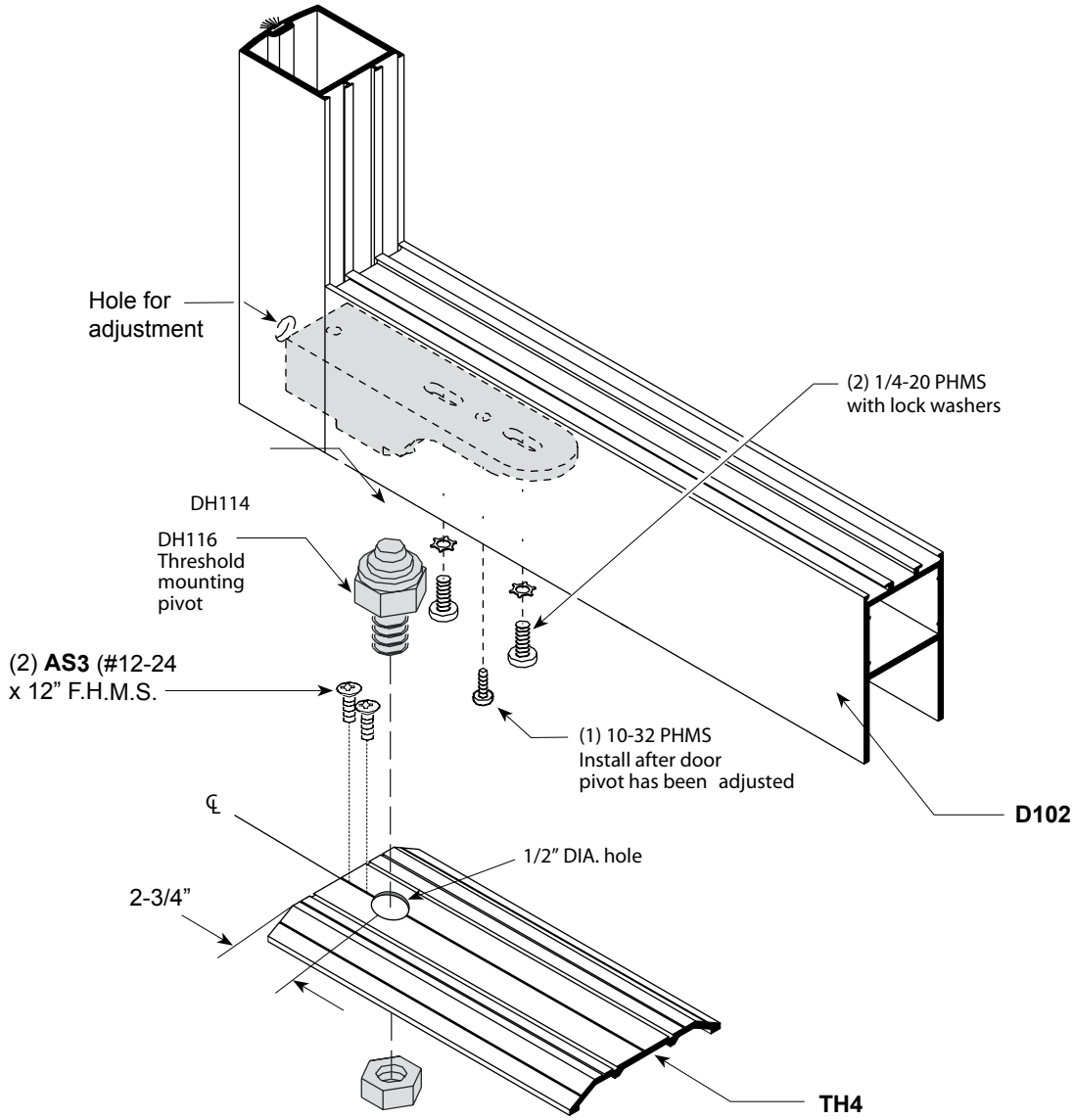


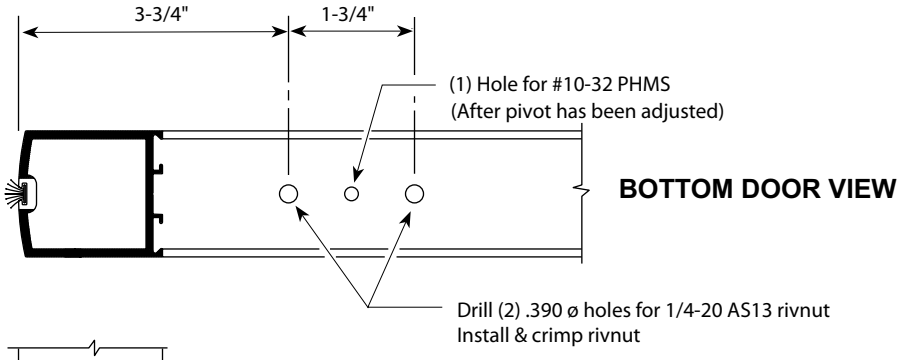


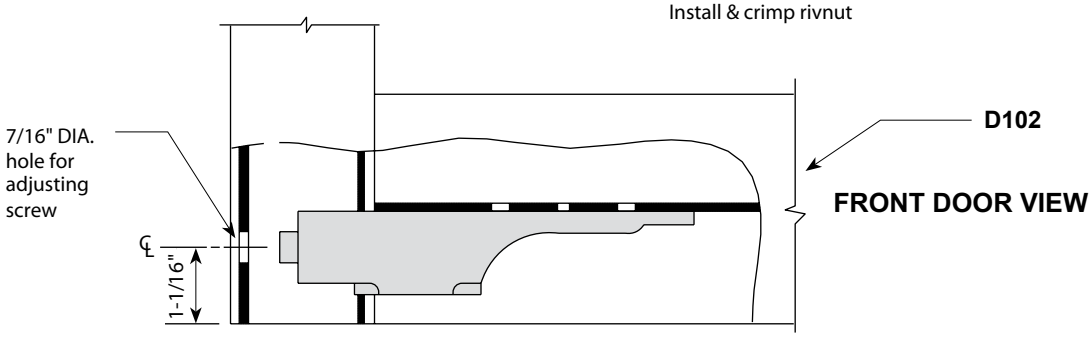
SB1 Side Block (Inverted for Clarity) & Setting Block



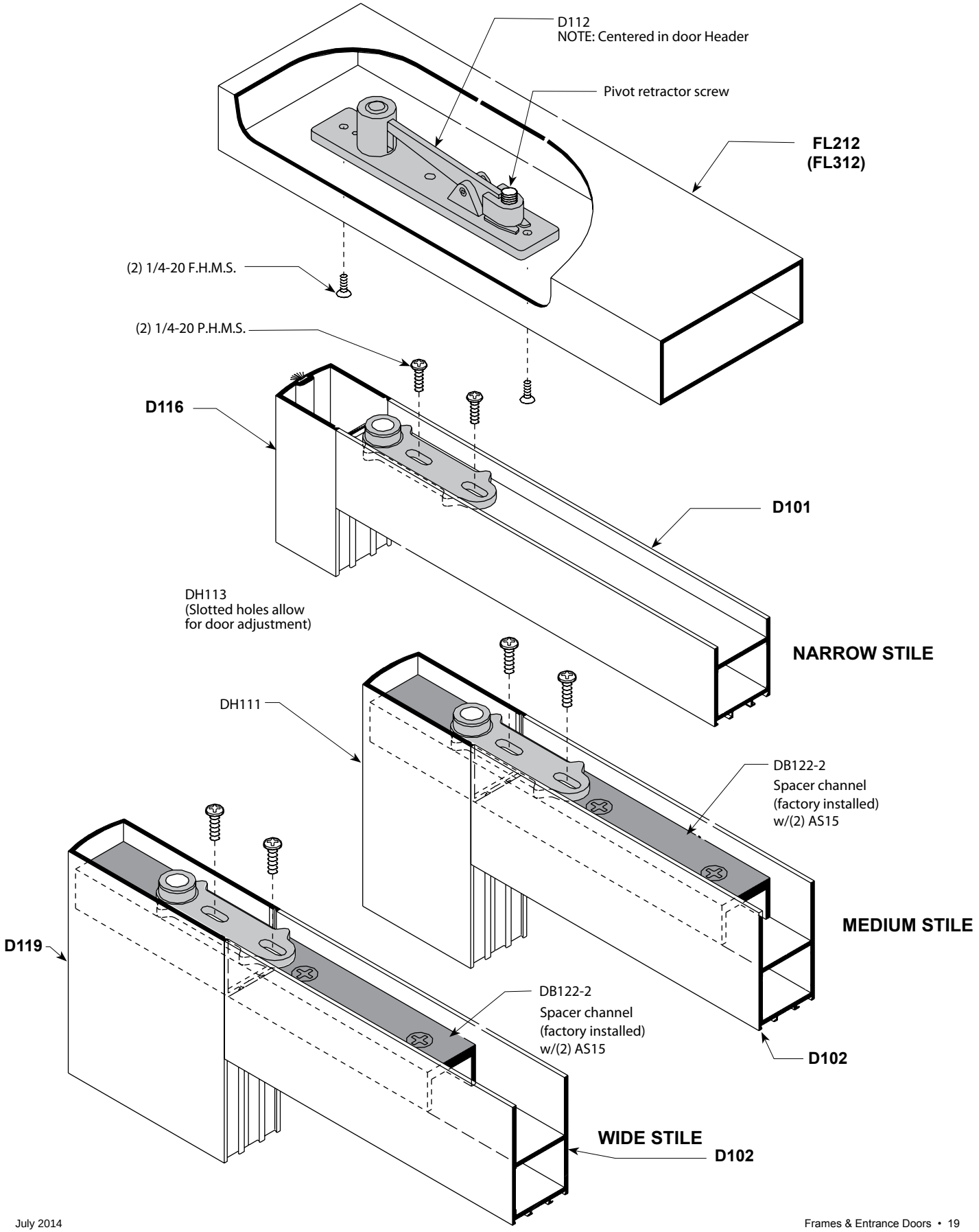
CENTER PIVOT - BOTTOM PORTION





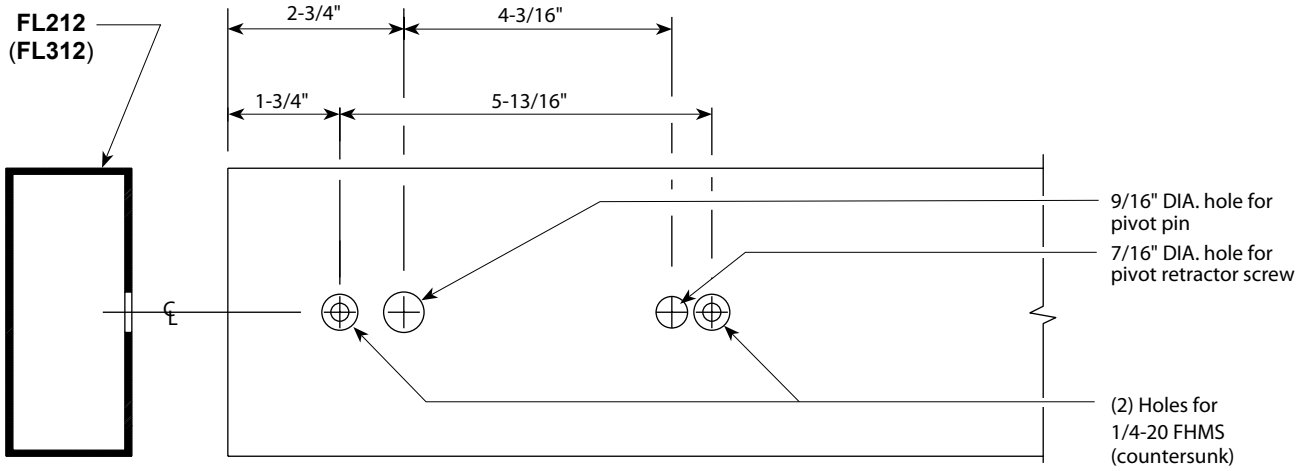


CENTER PIVOT - TOP PORTION FOR SURFACE CLOSER OR FLOOR CLOSER

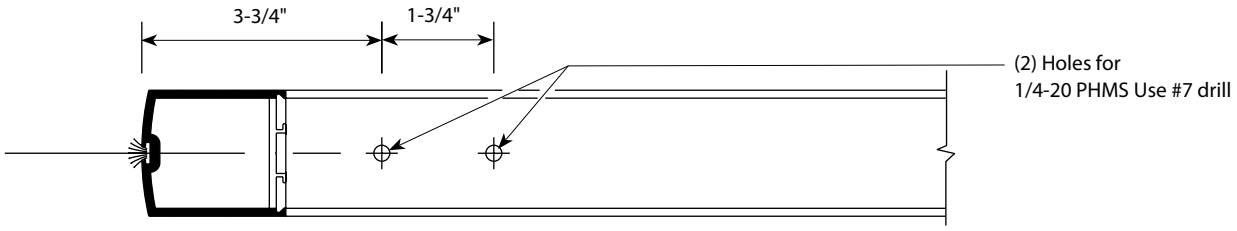


CENTER PIVOT - BOTTOM RAIL FOR MEDIUM & WIDE STILE DOORS

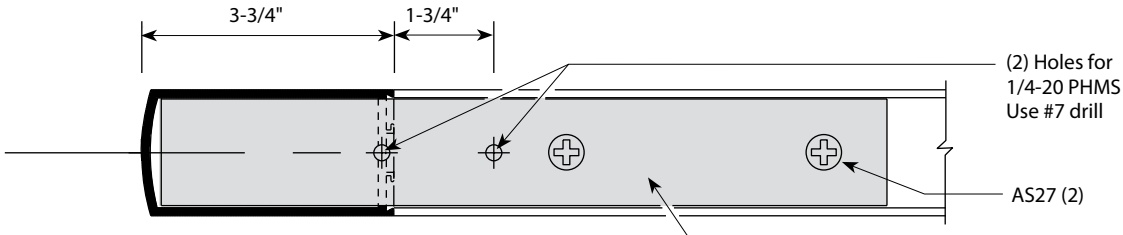
Reference Page 18 for isometric views



BOTTOM VIEW OF DOOR HEADER

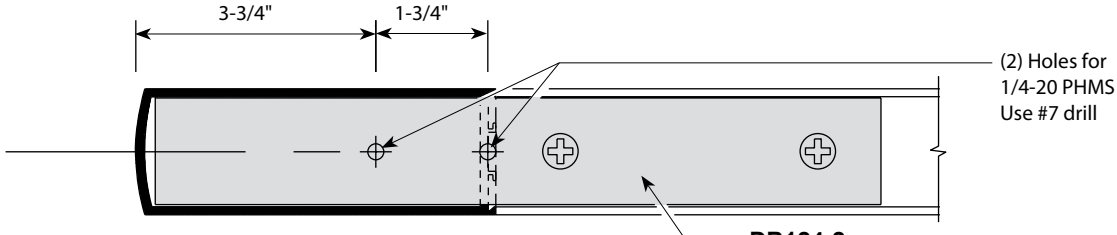


TOP VIEW OF NARROW STILE



TOP VIEW OF MEDIUM STILE

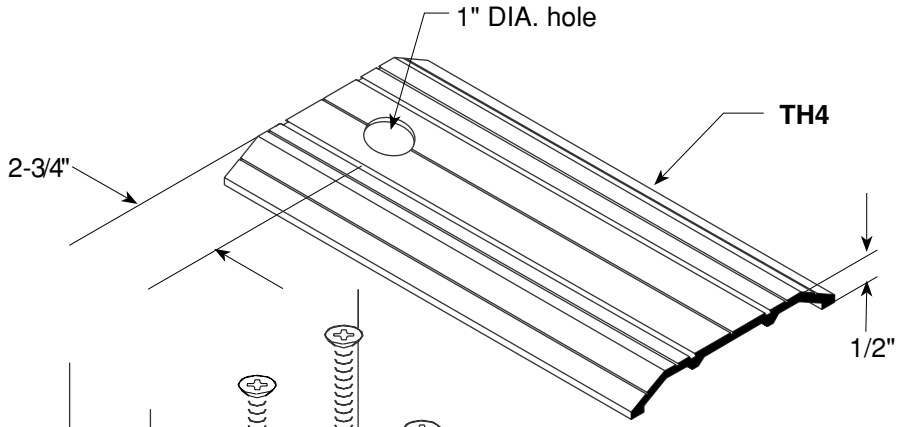
DB124-2
Shim Channel
(Factory Installed)
with (2) AS27 (#12 x 1-1/2" #3 FHP self drilling fasteners)

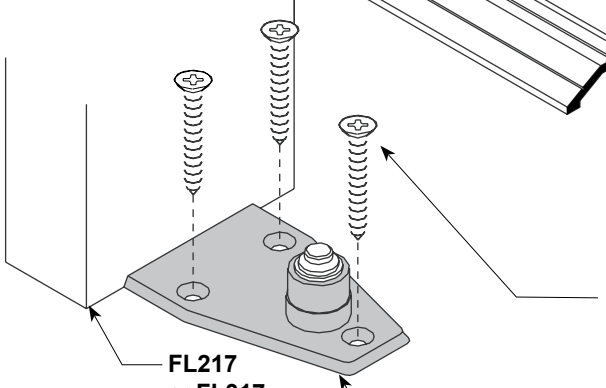


TOP VIEW OF WIDE STILE

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

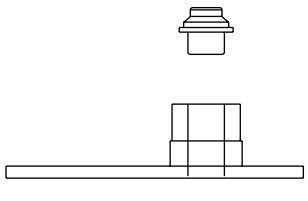
CENTER PIVOT - BOTTOM PORTION



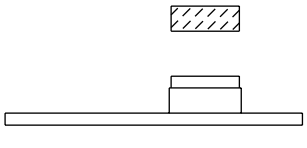


Note: Door jamb must be anchored to structure near bottom.
TH400 clip may be modified for attachment.

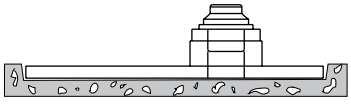
For conditions where lower threshold or no threshold is used, floor mounted pivot should be cut down as shown:



1. Knock out pivot pin



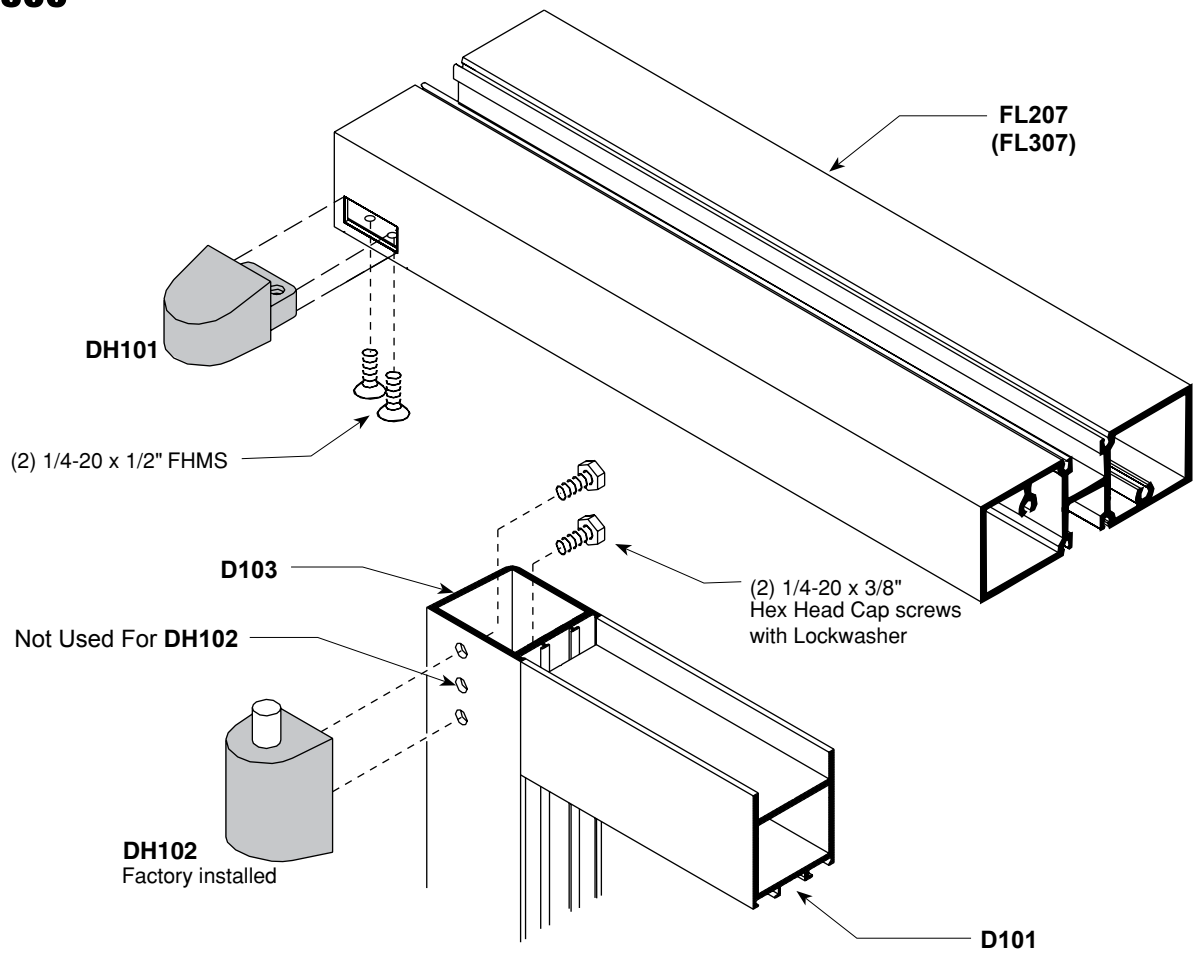
1. Cut pivot down as required to provide 3/16" clearance at bottom of door.

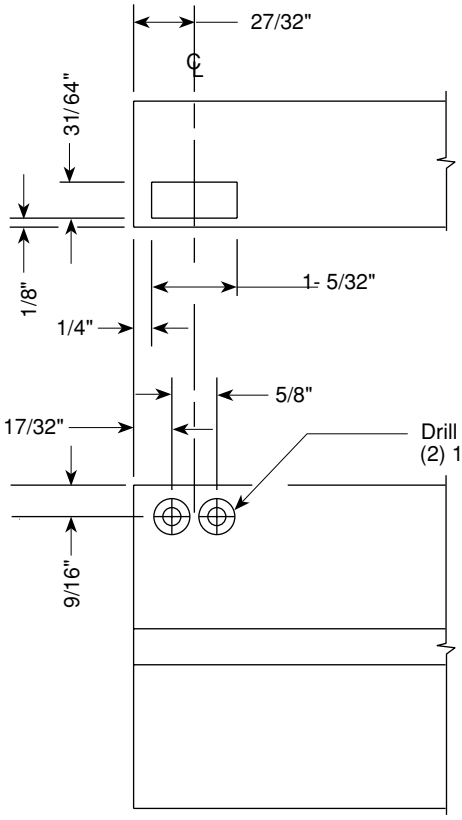


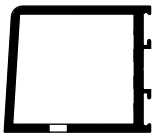
3. Reinstall pivot pin.

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

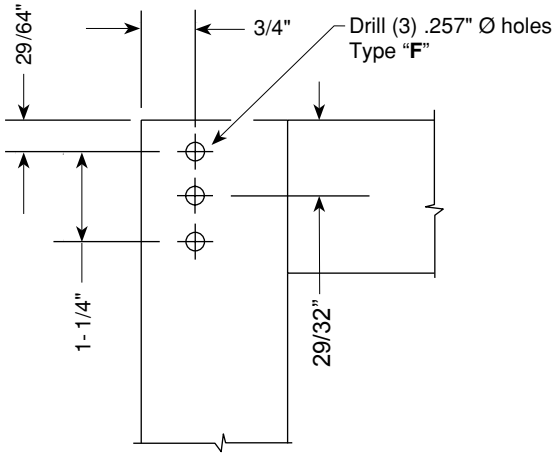
OFFSET PIVOT - TOP PORTION



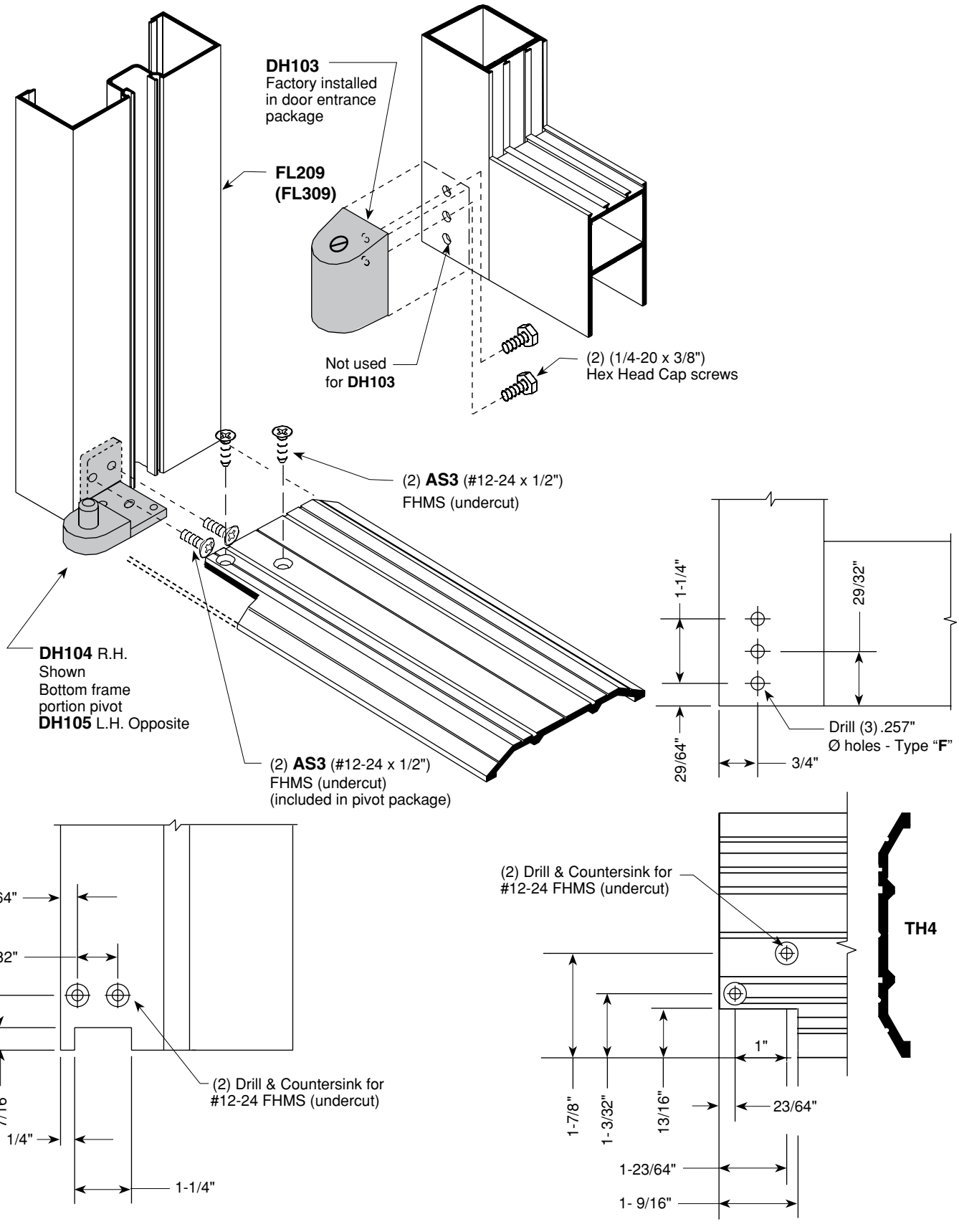




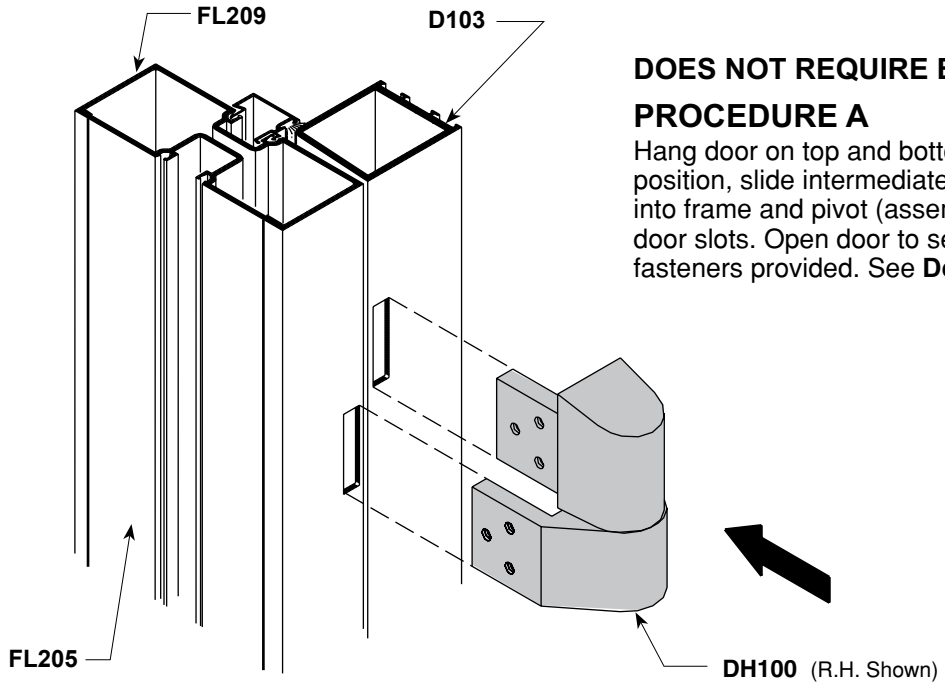
CROSS SECTION



OFFSET PIVOT - BOTTOM PORTION



SLOT TYPE
OFFSET PIVOT - TOP PORTION

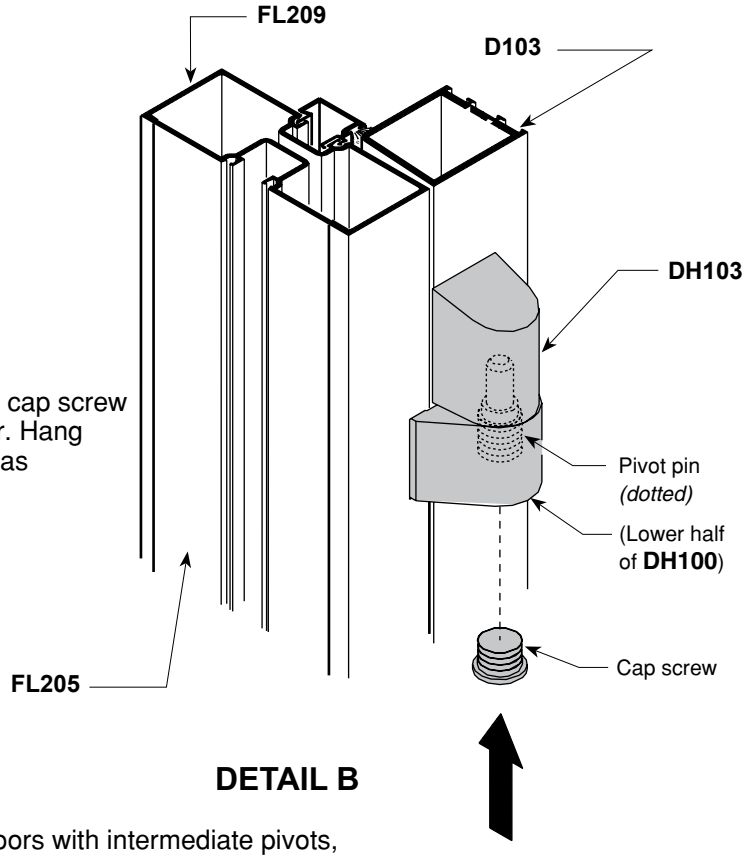


DETAIL A

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**



DETAIL B

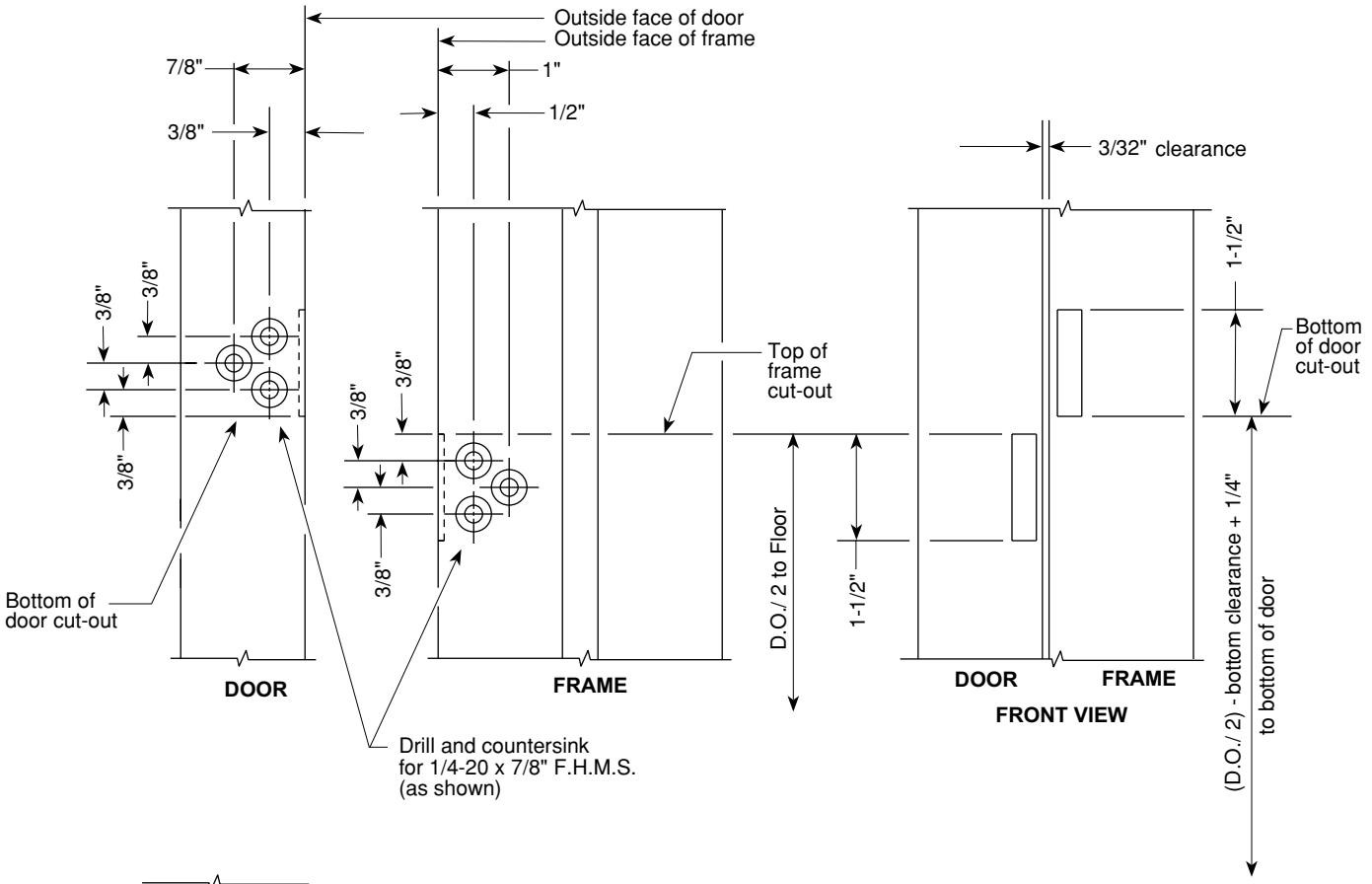
ALTERNATE INTERMEDIATE DOOR AND FRAME PIVOT

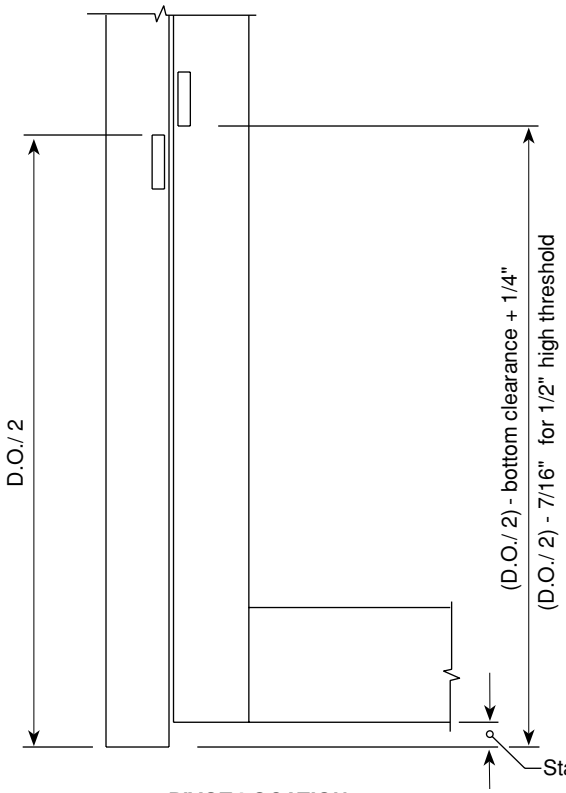
PROCEDURE B

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**

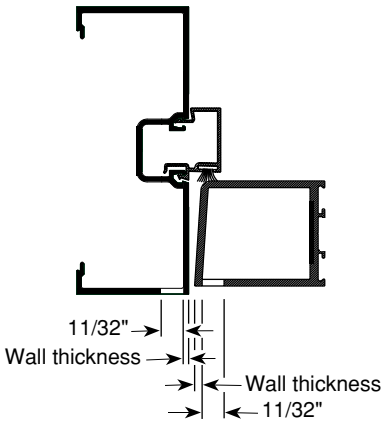
To remove existing doors with intermediate pivots, remove cap screw and lower pivot pin to clear.

DOOR AND FRAME PREPARATION



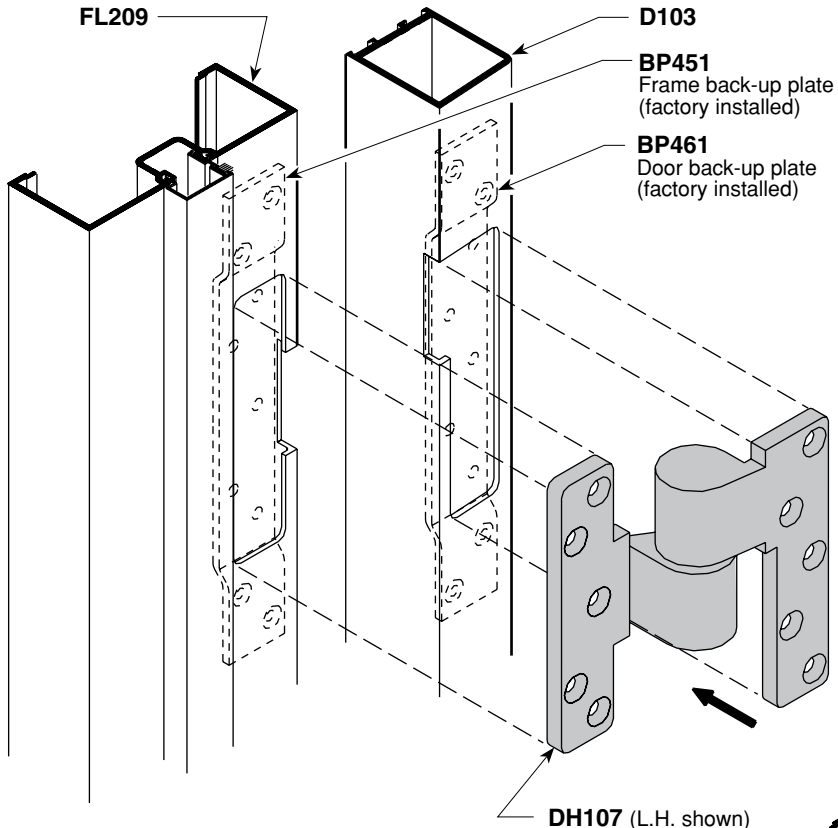


PIVOT LOCATION
FOR STANDARD AND SPECIAL SIZE DOORS



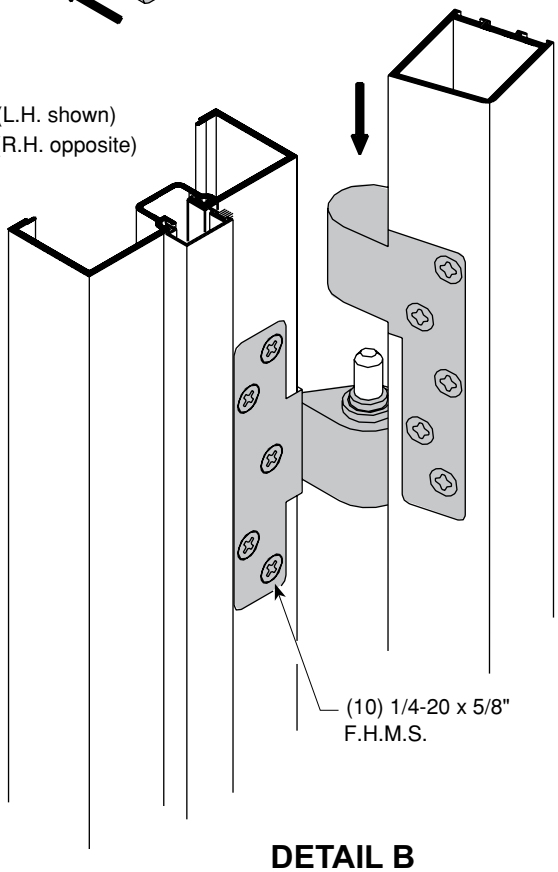
CROSS SECTION OF DOOR AND FRAME

DOOR AND FRAME PREPARATION
INTERMEDIATE OFFSET PIVOT



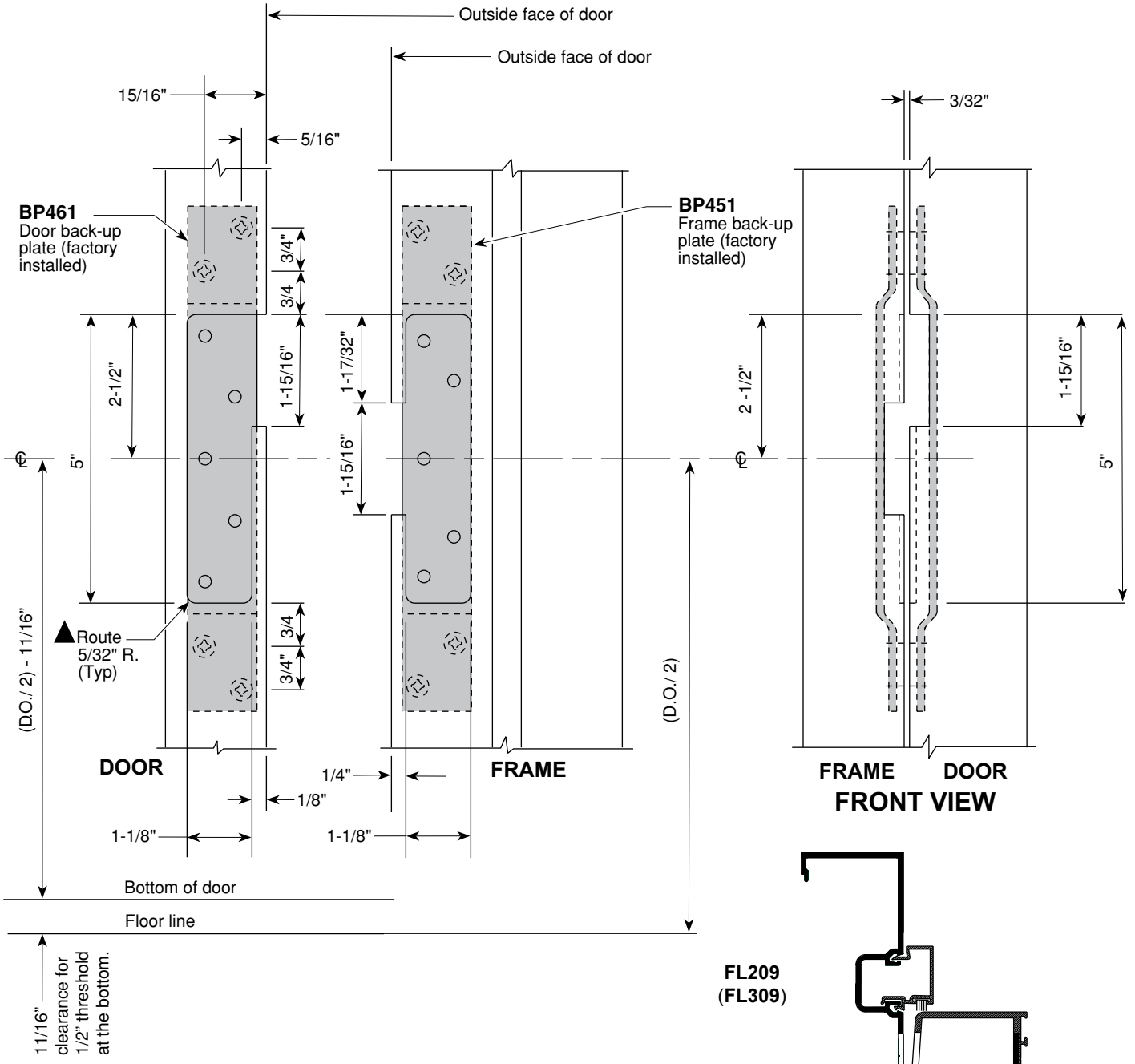
DETAIL A

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



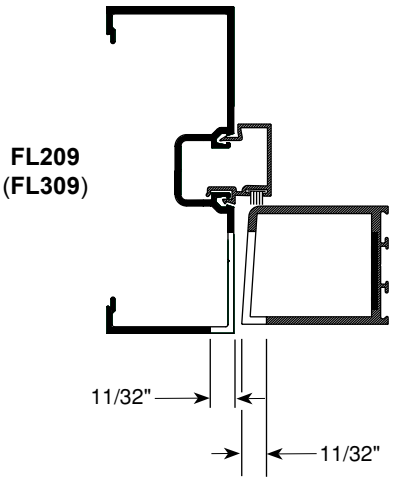
DETAIL B

INTERMEDIATE PIVOT



DOOR AND FRAME
SHOWN AT 180º OPEN CONDITION

FRONT VIEW



CROSS SECTION
DOOR AND FRAME

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

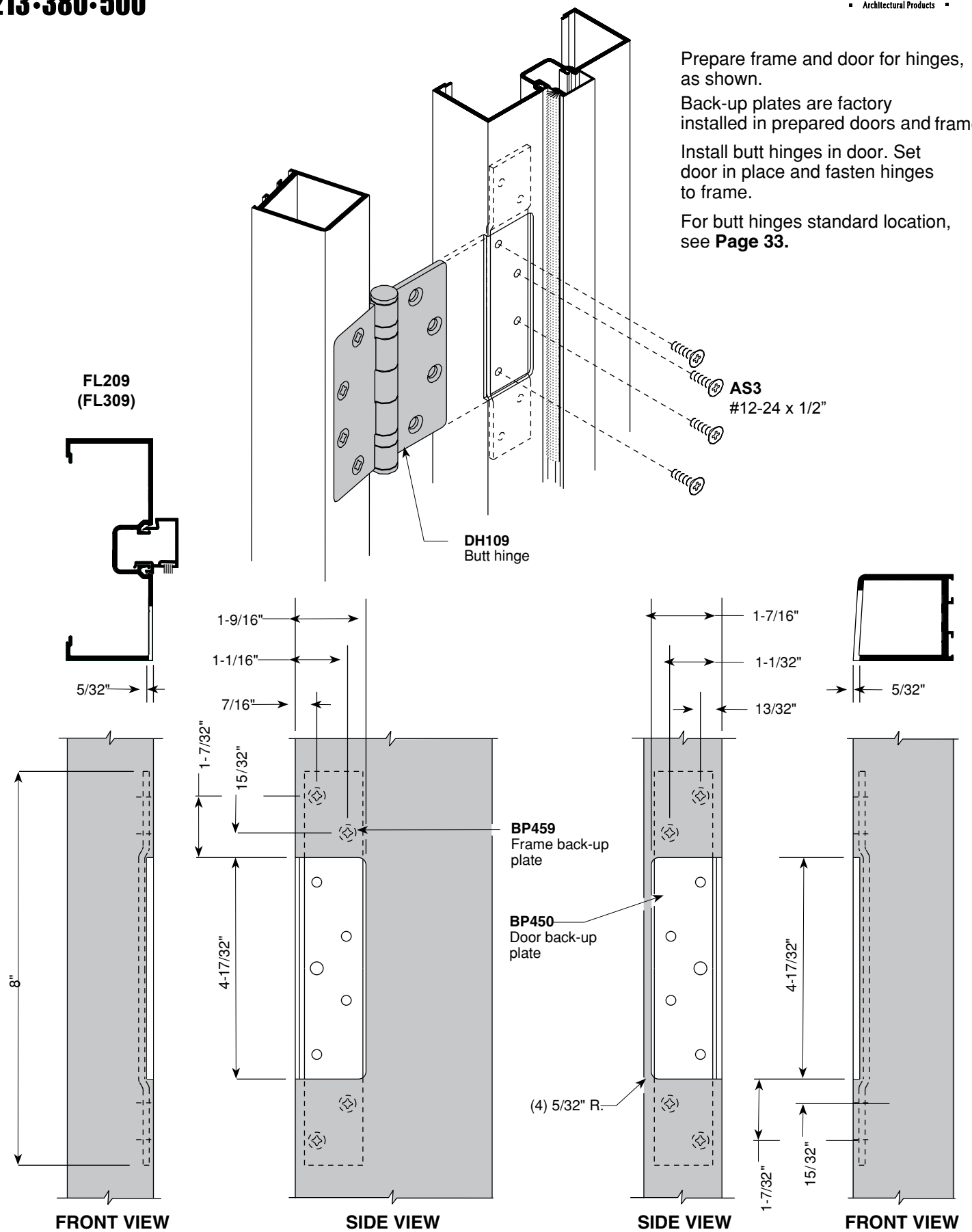
BUTT HINGE

Prepare frame and door for hinges, as shown.

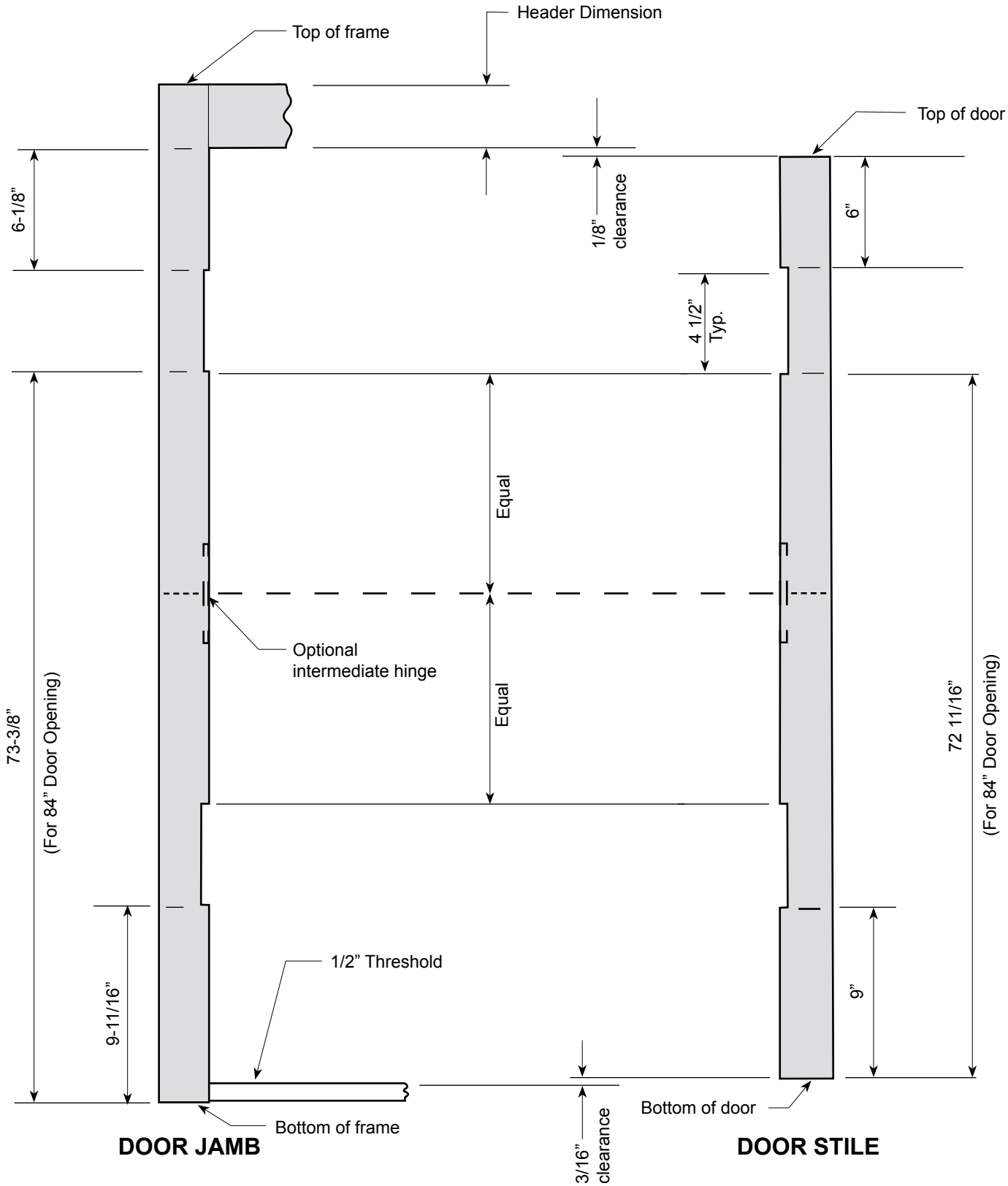
Back-up plates are factory installed in prepared doors and frames.

Install butt hinges in door. Set door in place and fasten hinges to frame.

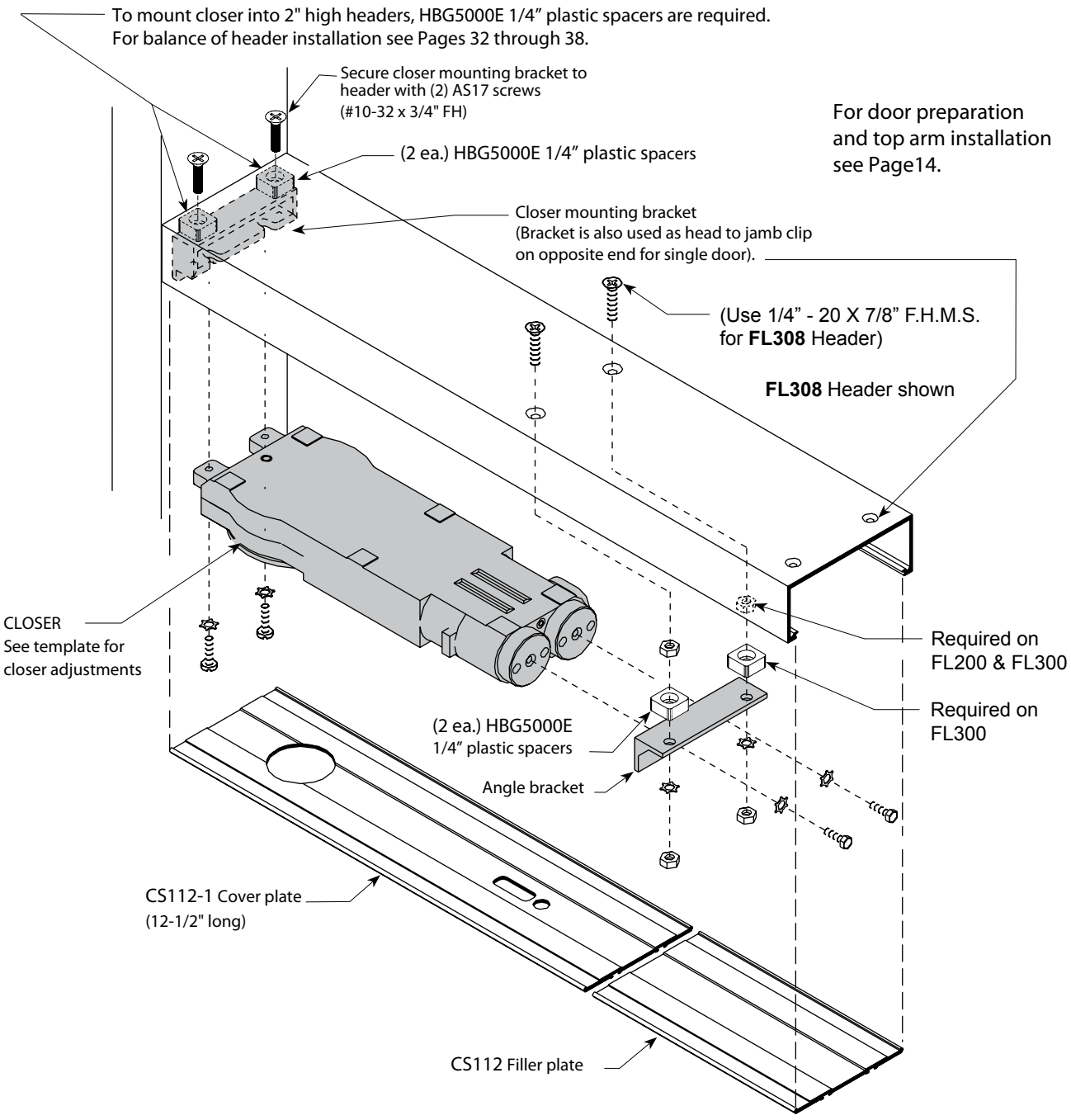
For butt hinges standard location, see **Page 33.**



STANDARD DH109 BUTT HINGE LOCATION



C.O.C. FOR CENTER PIVOTED DOOR



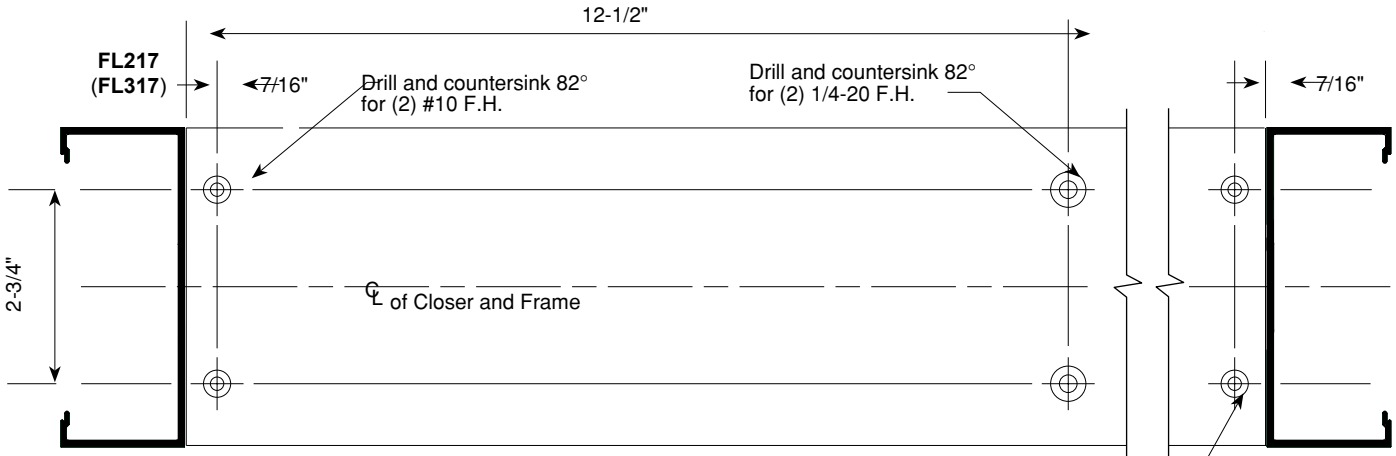
Closer mounting bracket is already installed (See FRAME UNITS installation instructions).

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

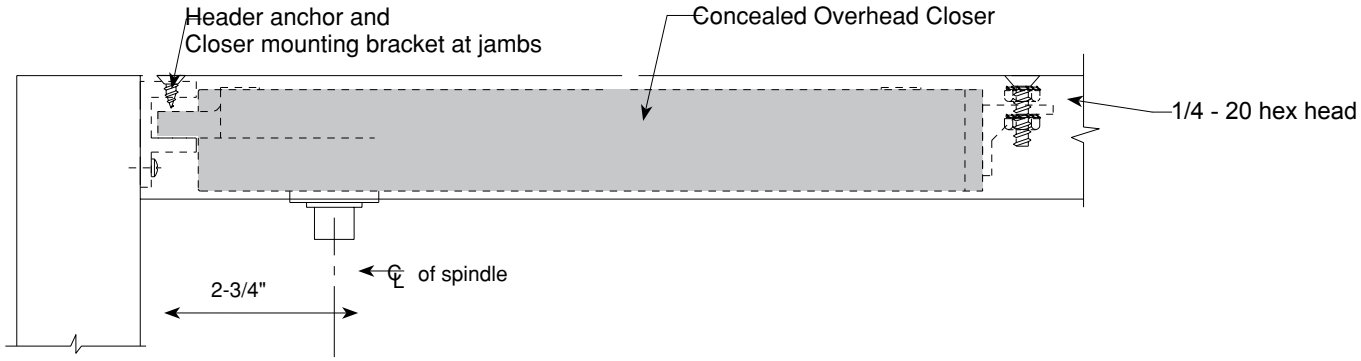
FL312 2" x 4-1/2" Header similar



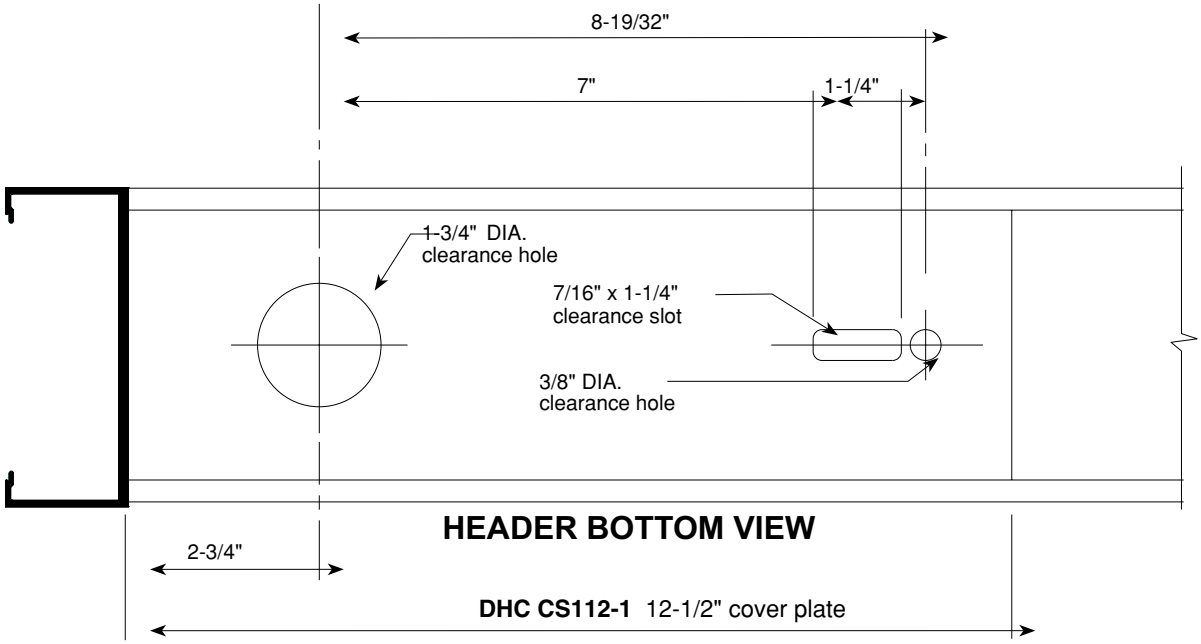
HEADER TOP VIEW

Drill and countersink
82° for (2) 1/4-20 F.H.
(single door)

Note: For bracket type required see **Page13.**



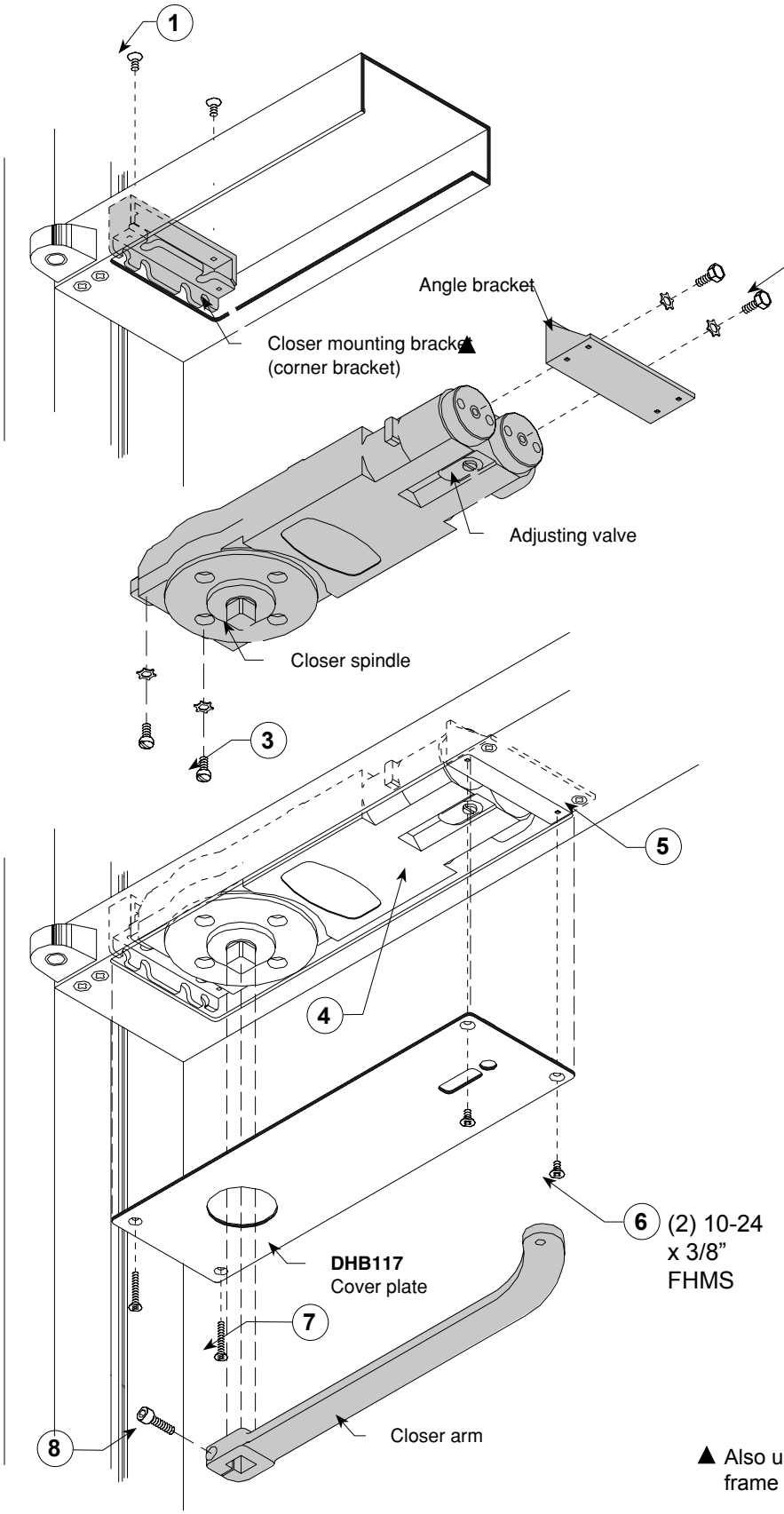
HEADER SIDE VIEW



HEADER BOTTOM VIEW

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

For door preparation and slide channel installation see **Page15.**



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.

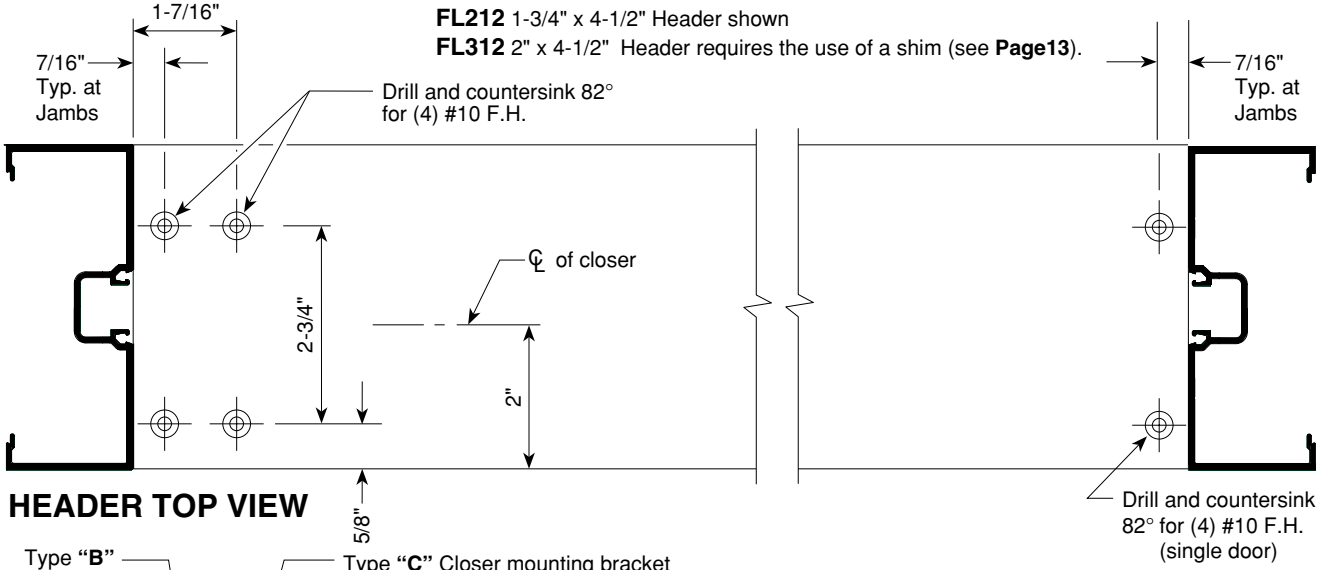
8. Mount arm on spindle and secure with 1/4-20 x 7/8" Socket Head Cap Screw.

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

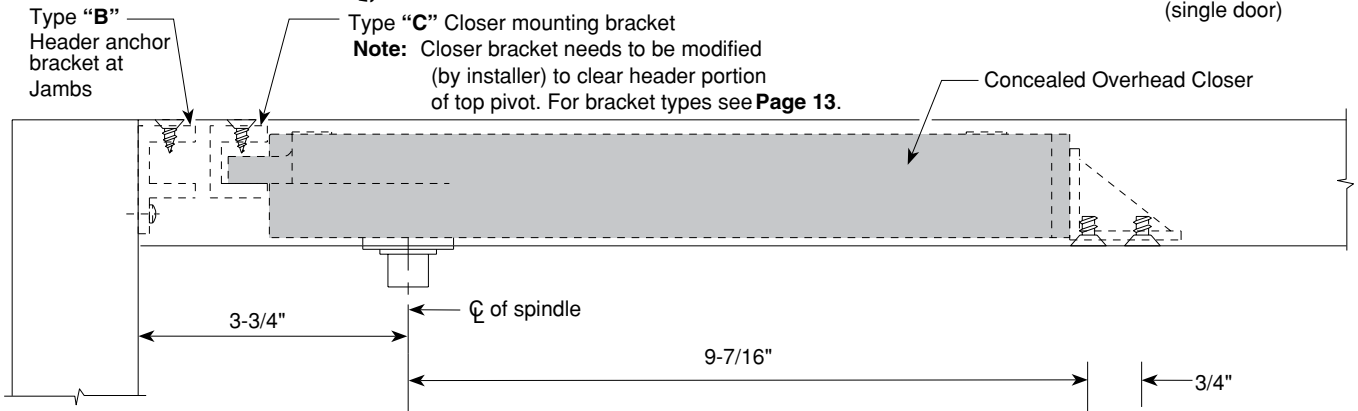
C.O.C. FOR OFFSET PIVOTED DOOR WITH 90º SWING

Header Preparation

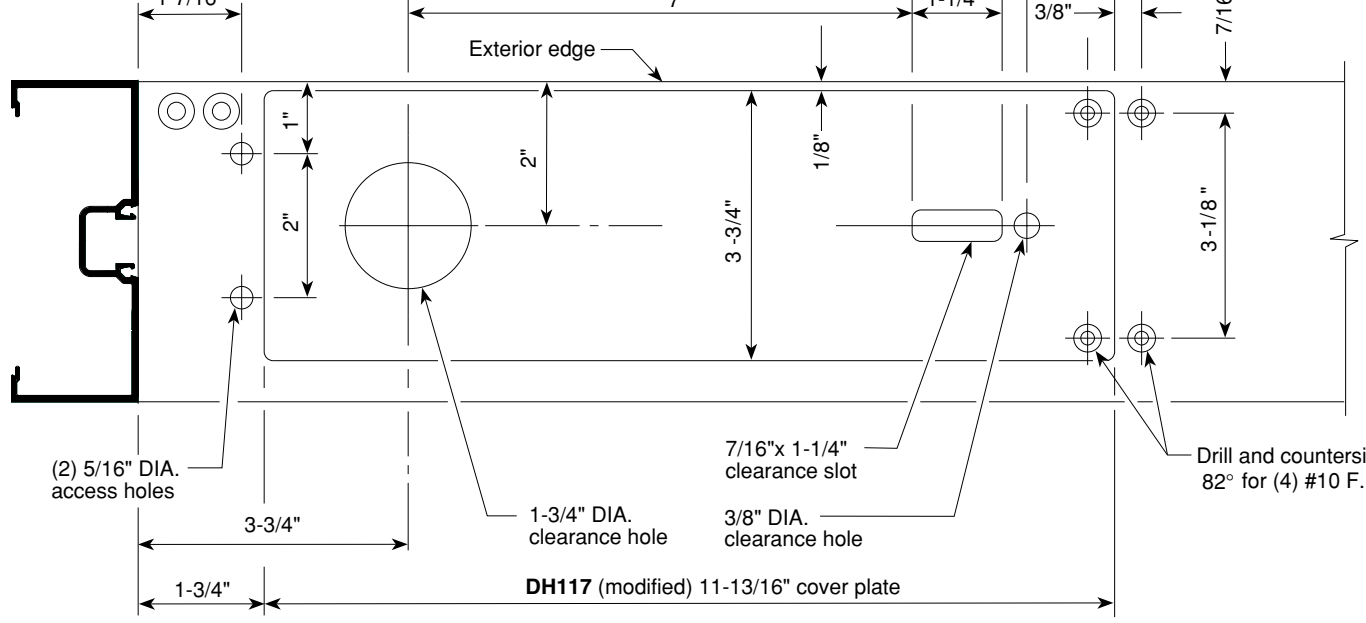
FL212 1-3/4" x 4-1/2" Header shown
FL312 2" x 4-1/2" Header requires the use of a shim (see **Page13**).



HEADER TOP VIEW



HEADER SIDE VIEW



HEADER BOTTOM VIEW

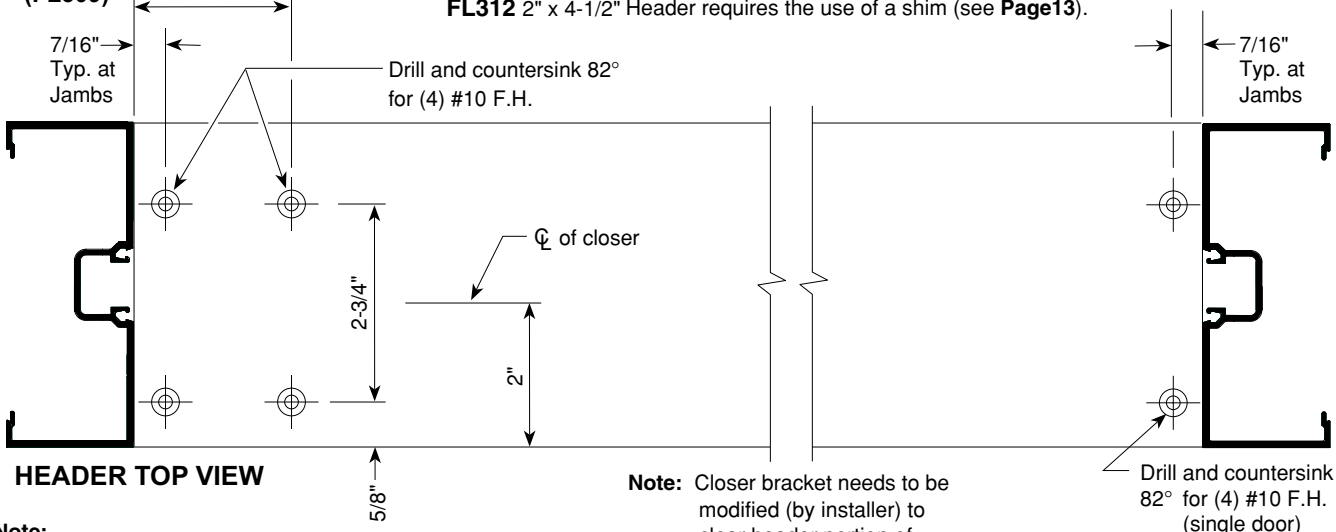
C.O.C. FOR OFFSET PIVOTED DOOR WITH 105º SWING

Header Preparation

FL209 (FL309)

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**).

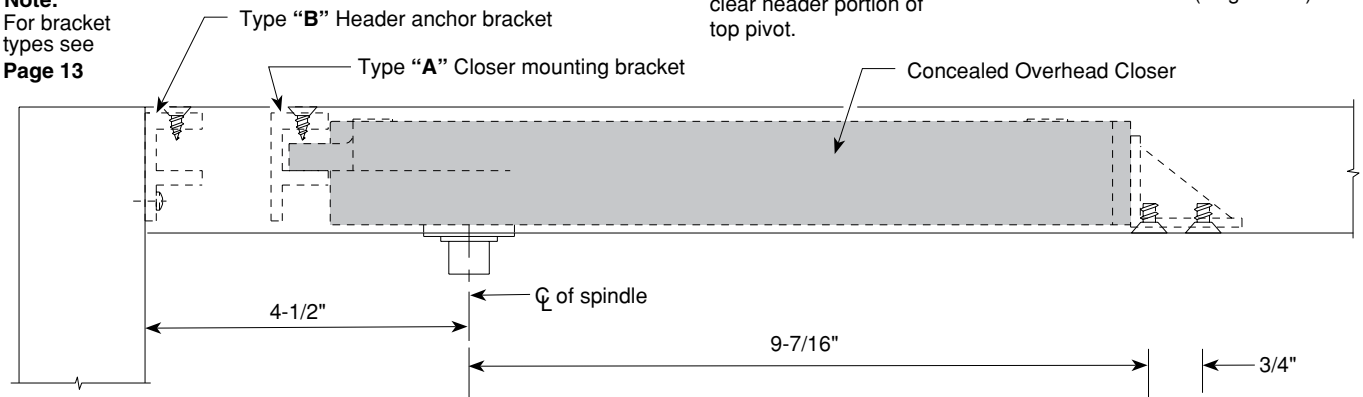


HEADER TOP VIEW

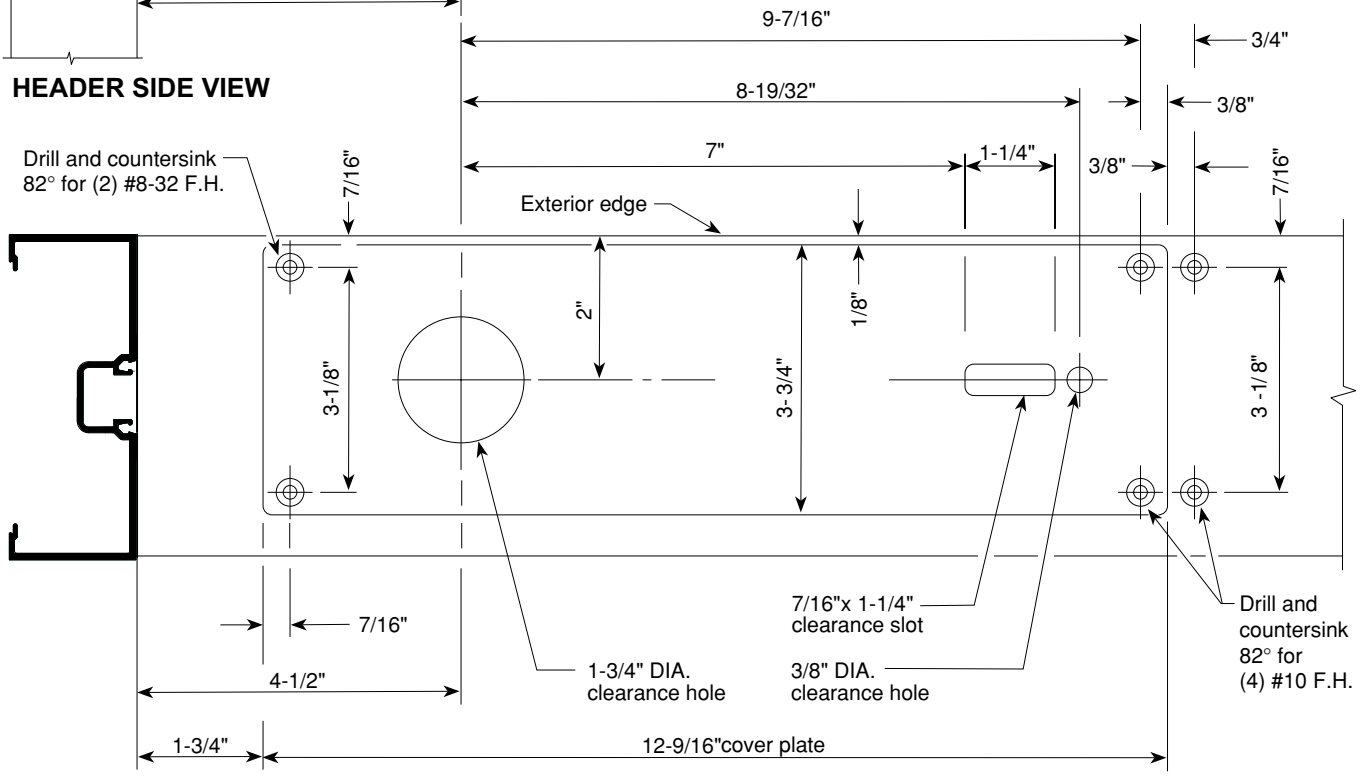
Note: Closer bracket needs to be modified (by installer) to clear header portion of top pivot.

Drill and countersink 82° for (4) #10 F.H. (single door)

Note: For bracket types see **Page 13**



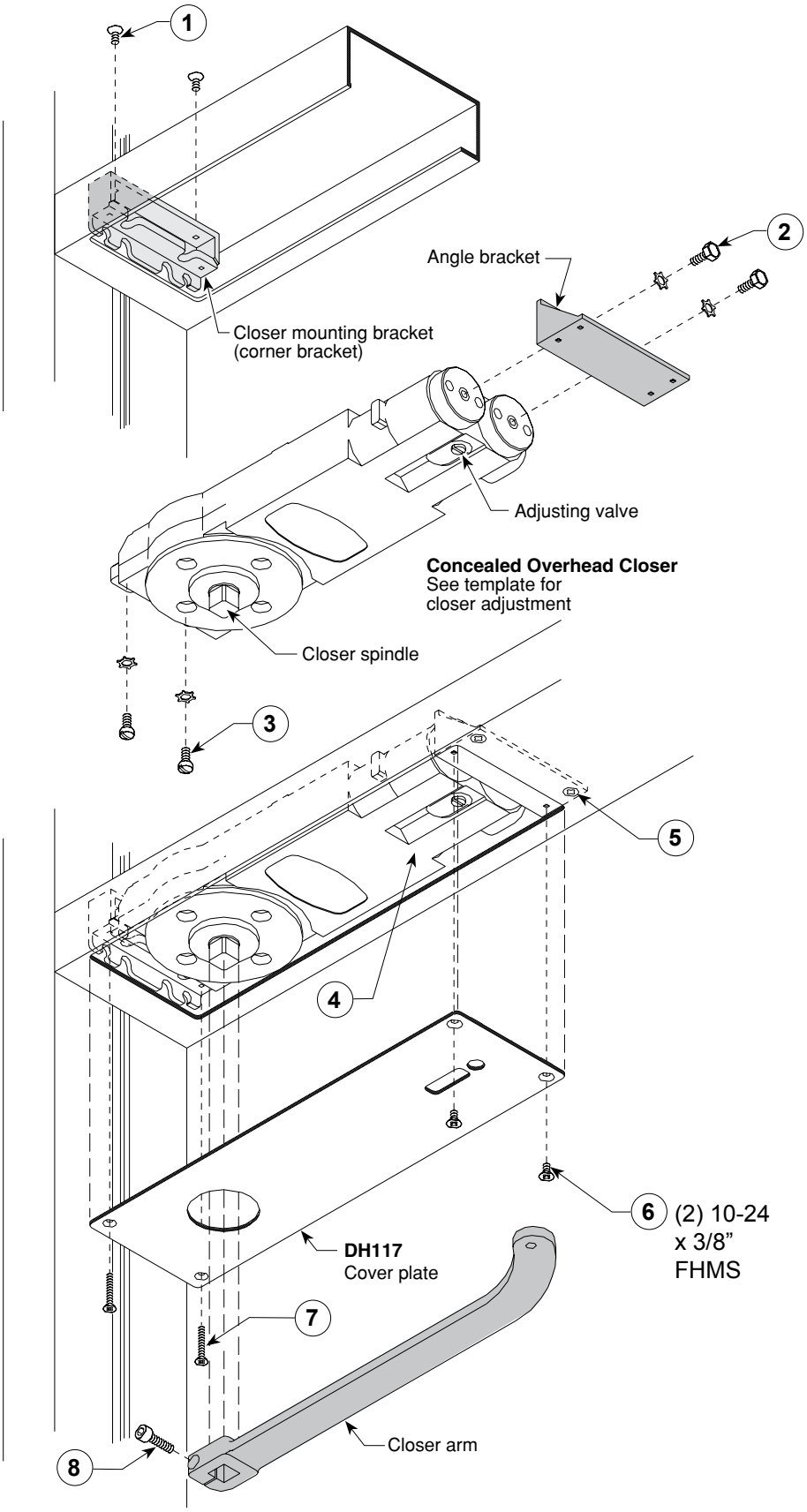
HEADER SIDE VIEW



HEADER BOTTOM VIEW

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

For door preparation and slide channel installation see **Page16 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.

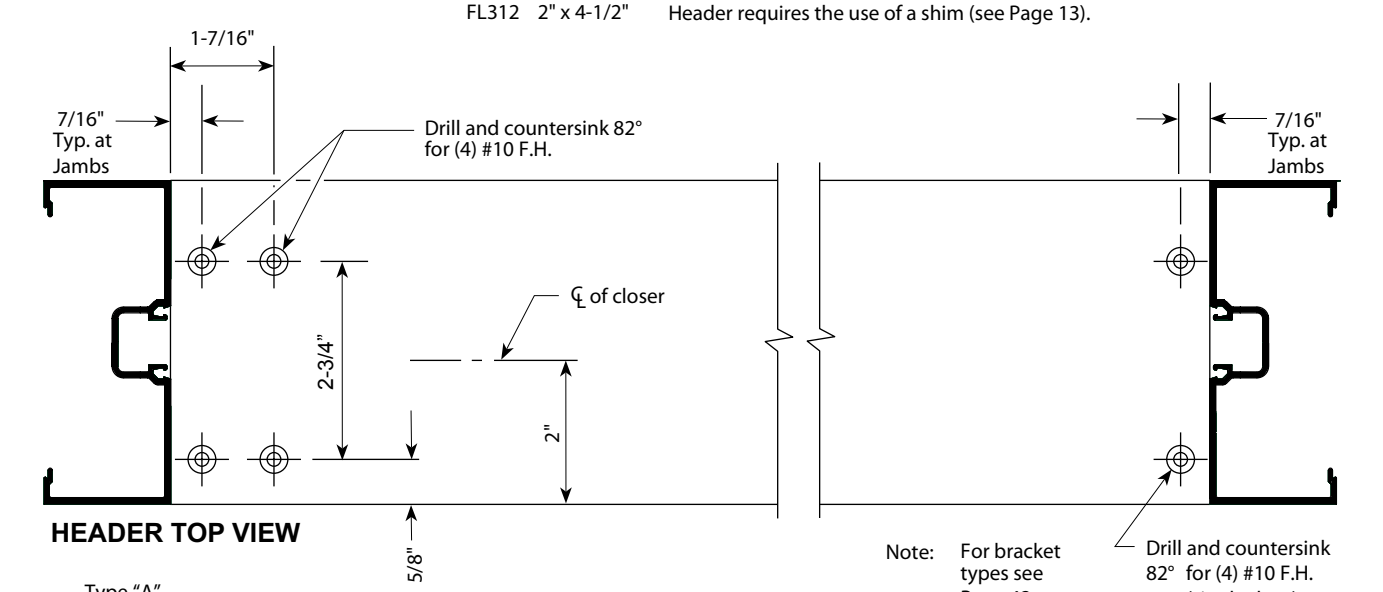
7. Attach cover plate to closer at hinge side with (2) 8-32 x 1" FHMS fasteners included with cover plate.

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 105º SWING

Header Preparation

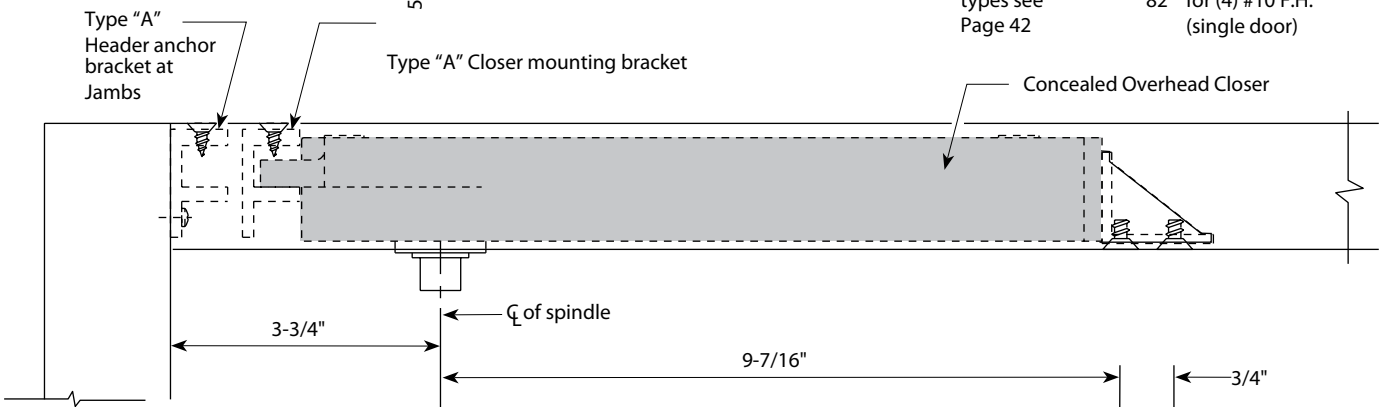
FL212 1 3/4" X 4-1/2" Header shown
FL312 2" x 4-1/2" Header requires the use of a shim (see Page 13).

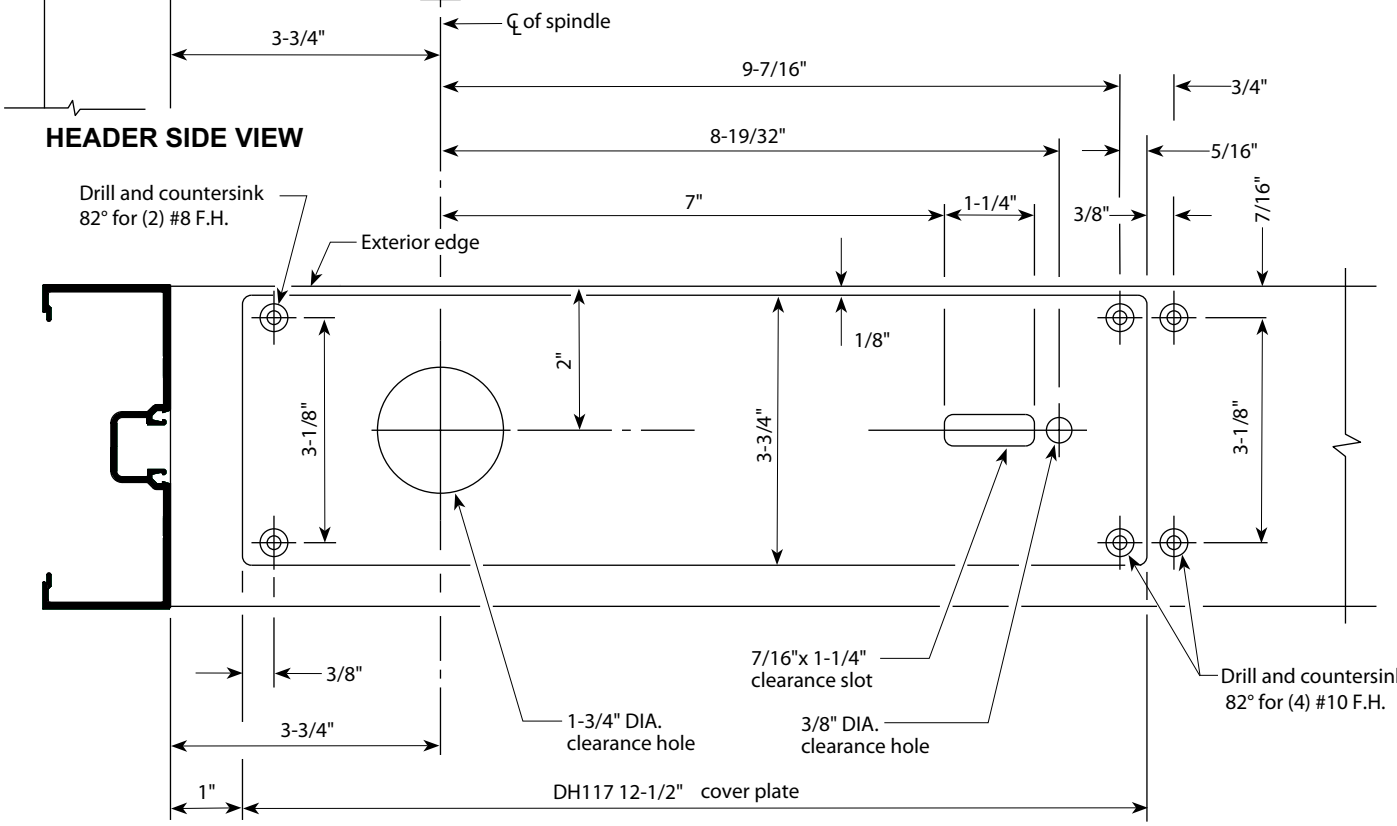


HEADER TOP VIEW

Note: For bracket types see Page 42

Drill and countersink 82° for (4) #10 F.H. (single door)

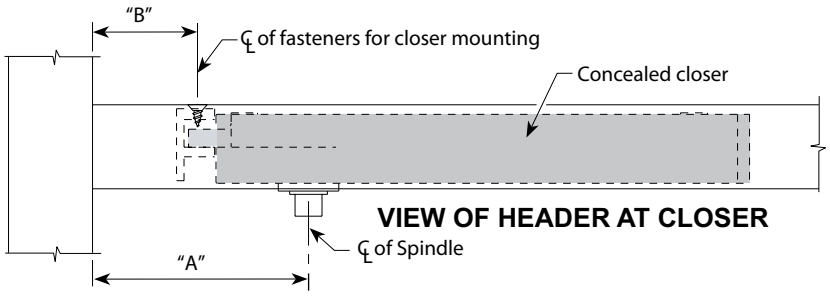




HEADER SIDE VIEW

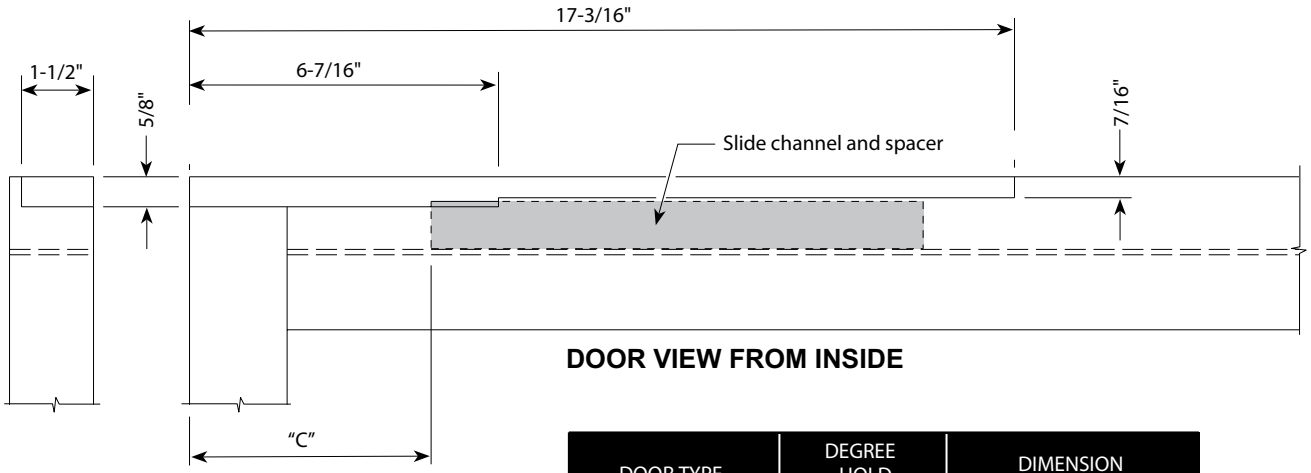
HEADER BOTTOM VIEW

C.O.C.
Closer Location in Header



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

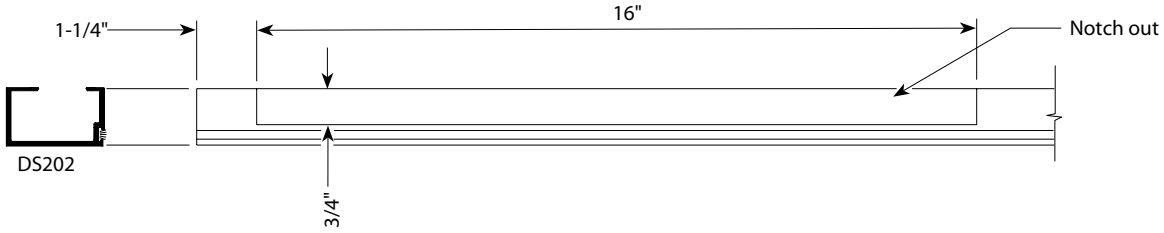
SLIDE CHANNEL LOCATION IN TOP RAIL FOR OFFSET ARM



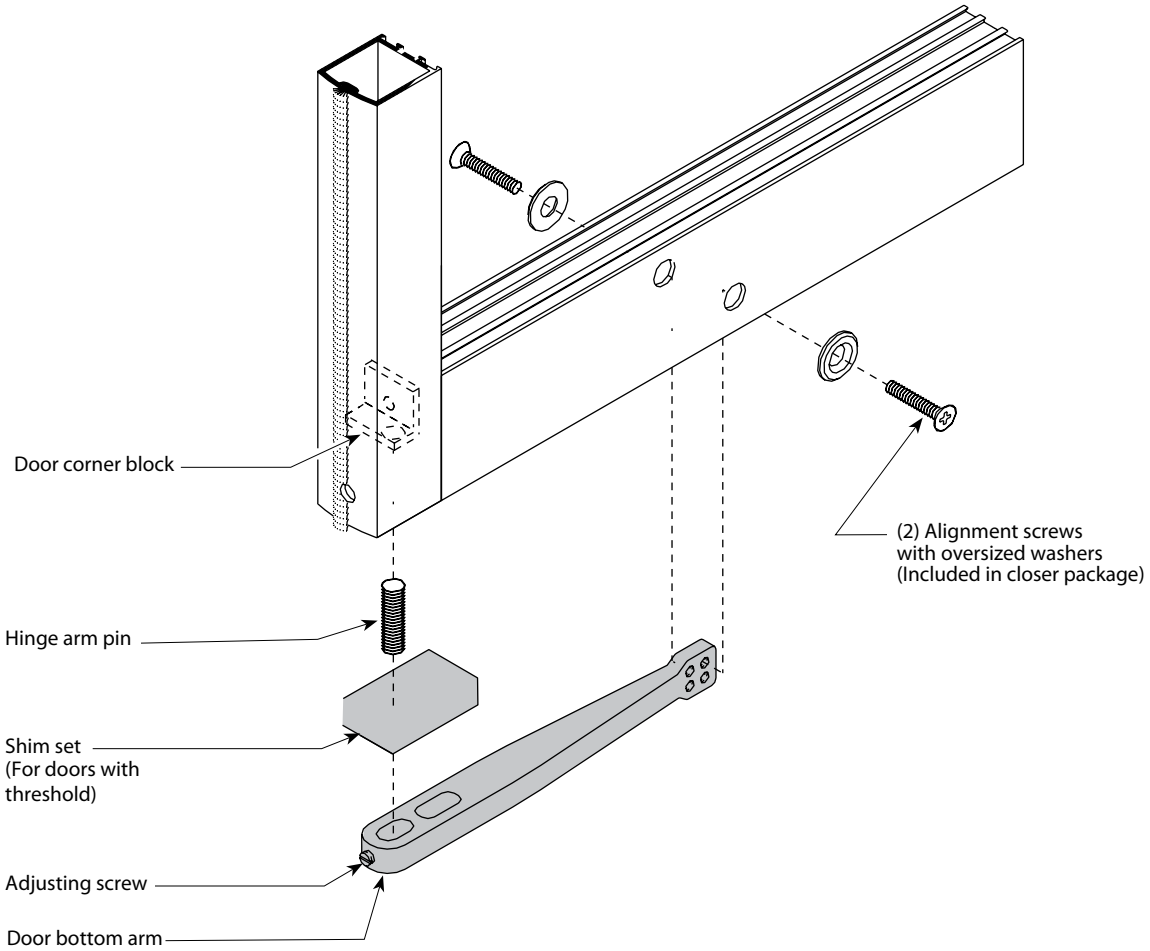
DOOR VIEW FROM INSIDE

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

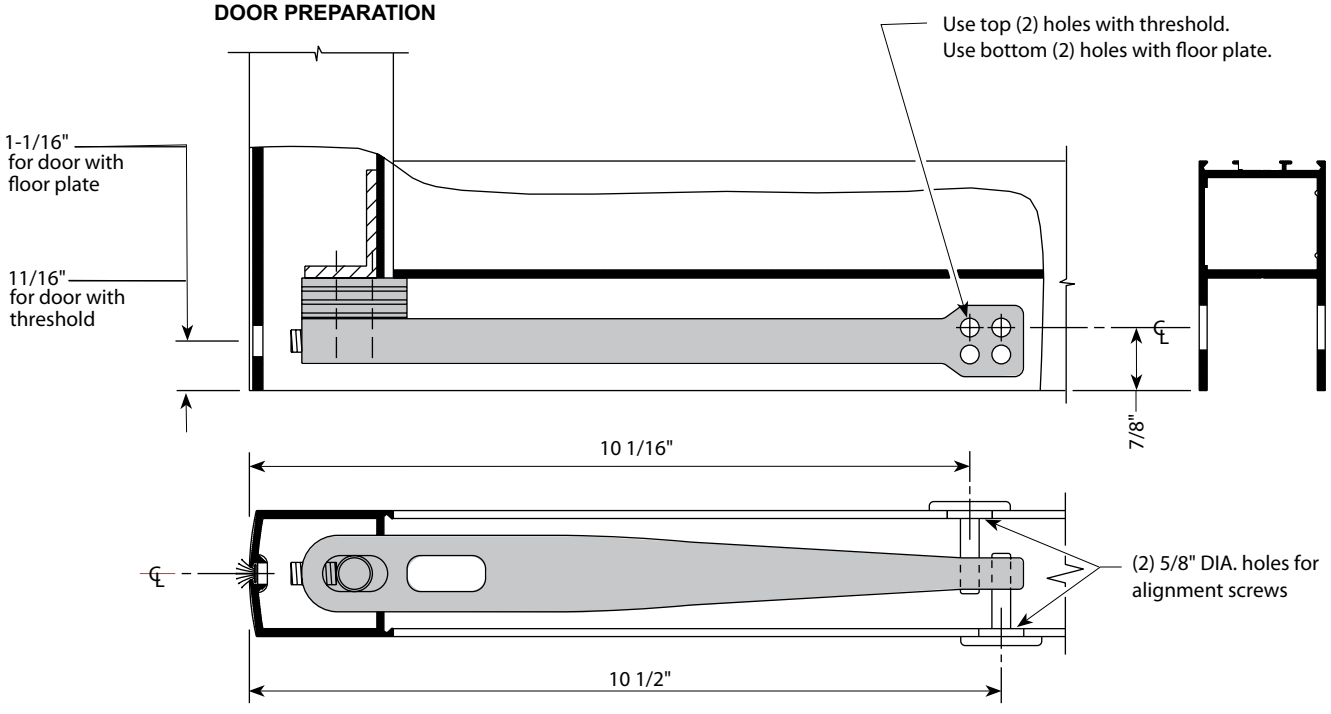
OFF-SET ARM COVER CHANNEL
LEFT HAND SHOWN RIGHT HAND OPPOSITE



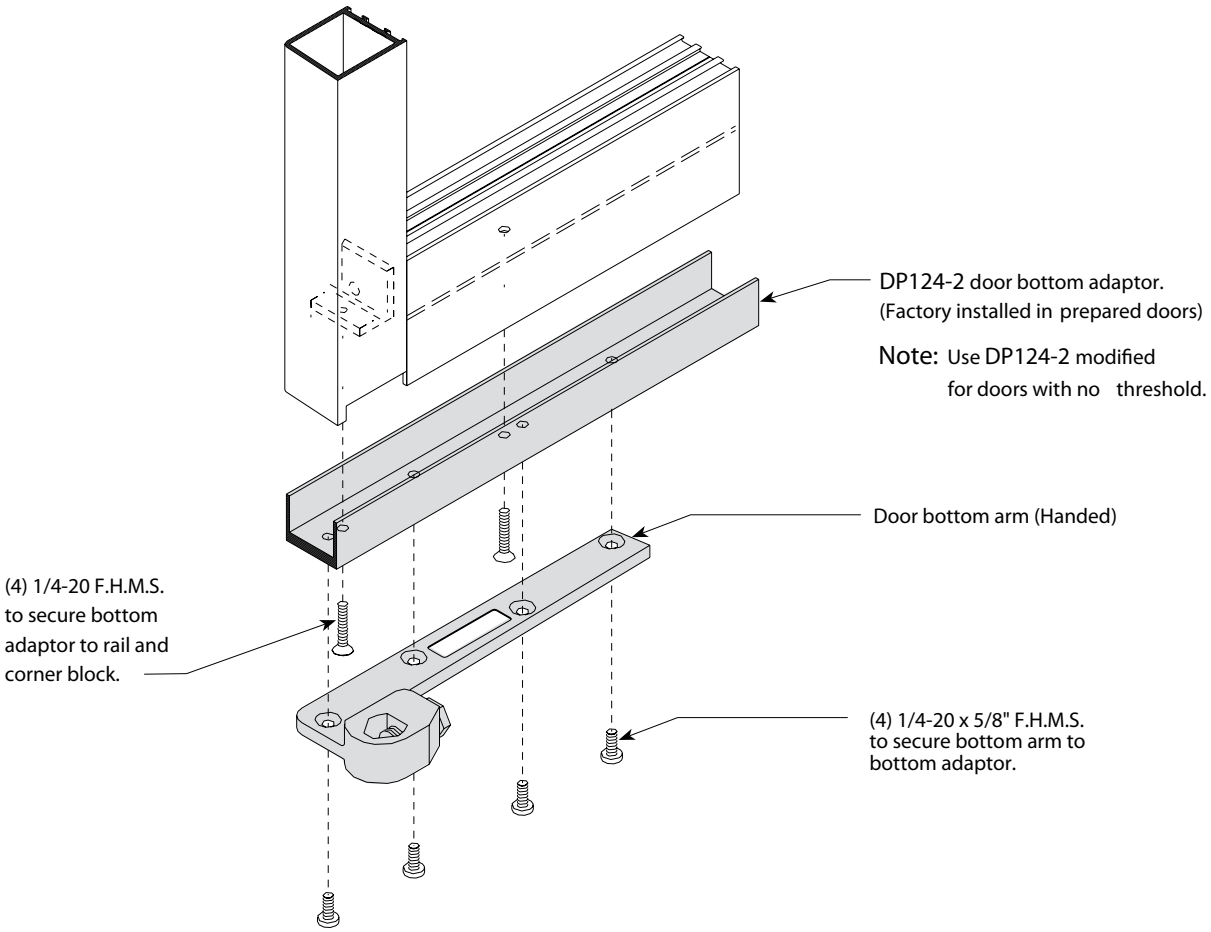
CENTER PIVOTED DOOR - FLOOR CLOSER
BOTTOM ARM FOR RIXON
OR DOR-O-MATIC FLOOR CLOSER

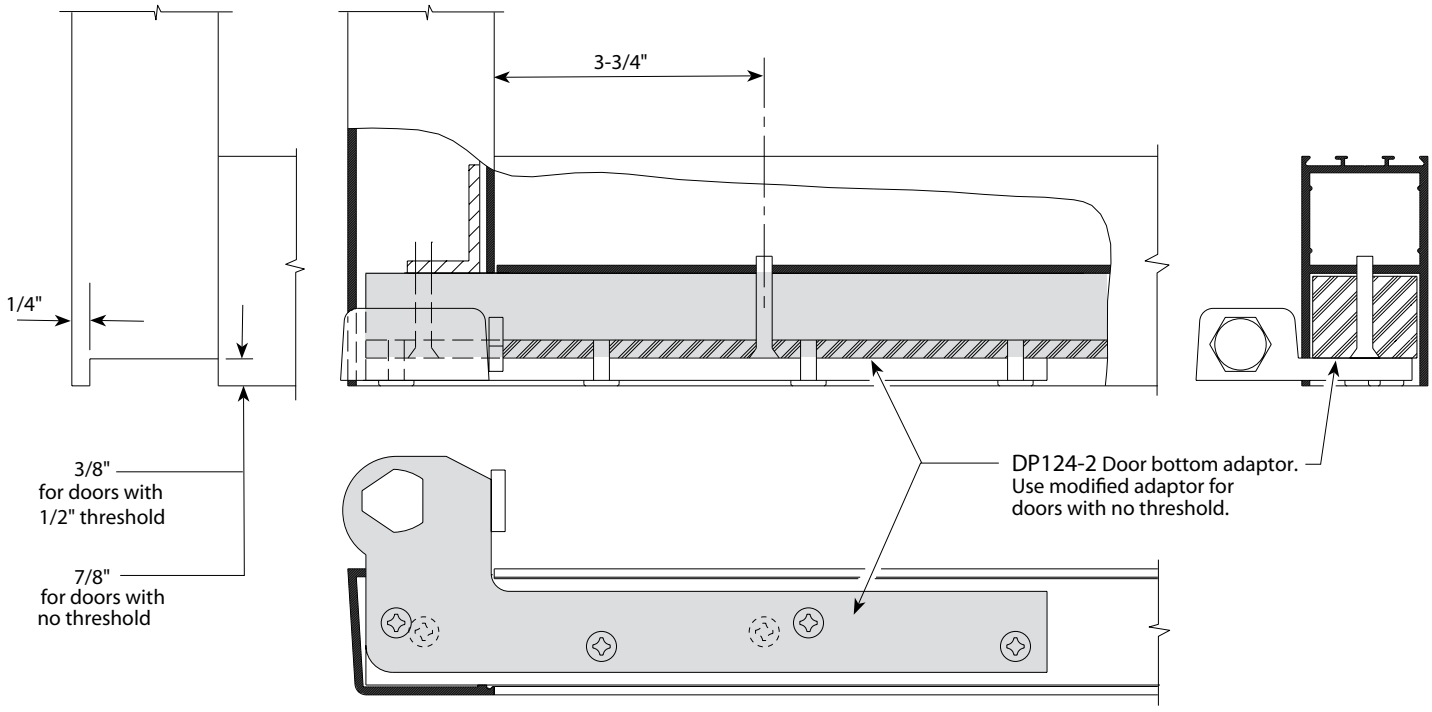


DOOR PREPARATION



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

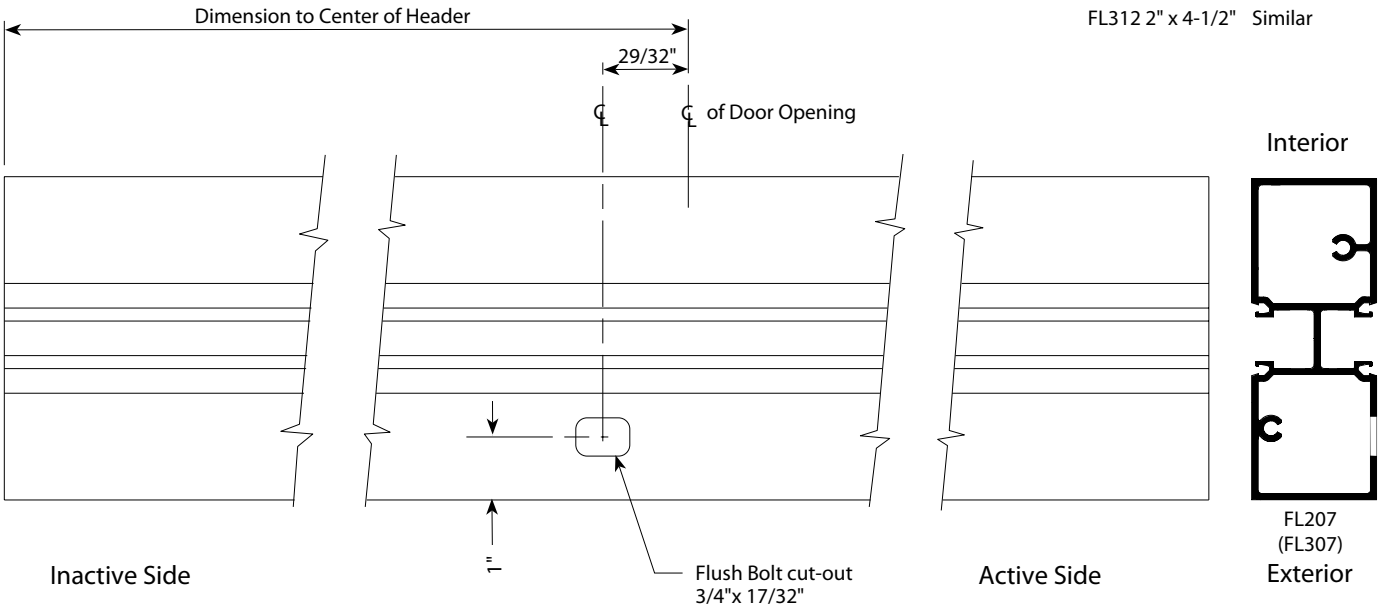




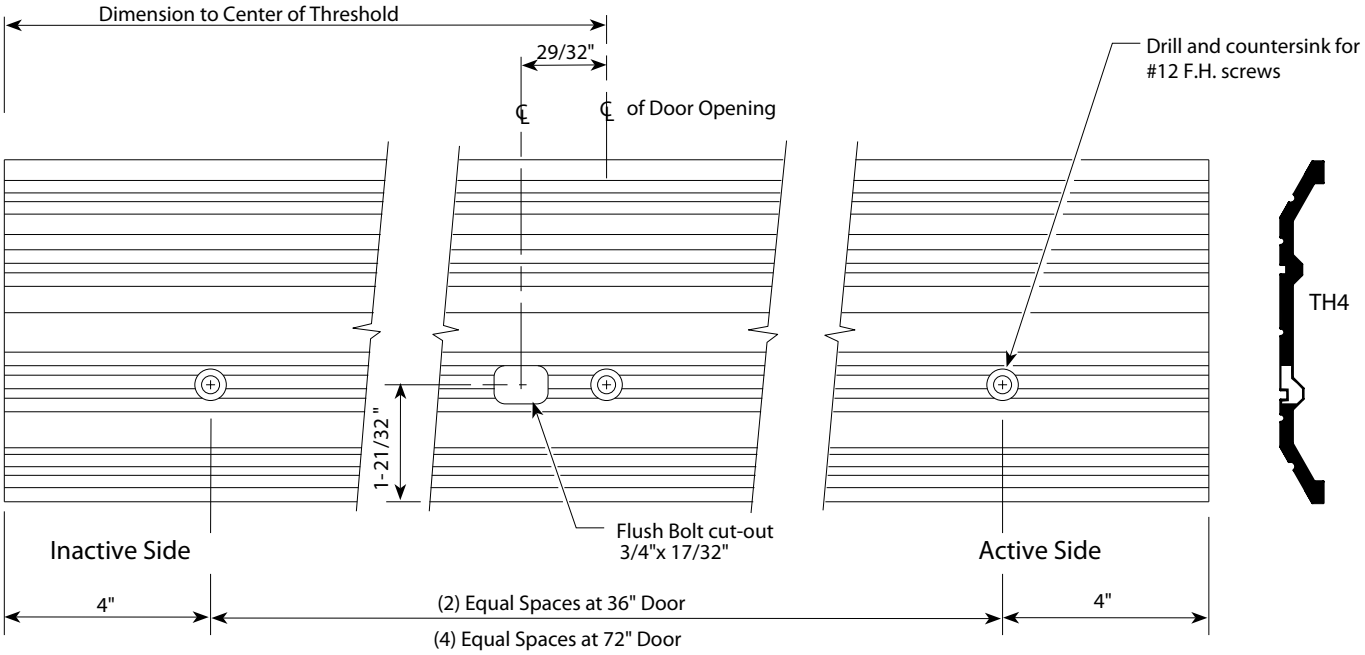
FLUSH BOLT STRIKE LOCATIONS

HEADER FABRICATION

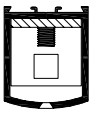
FL207 1-3/4" X 4-1/2" Header shown
FL312 2" x 4-1/2" Similar



THRESHOLD FABRICATION
(END FABRICATION NOT SHOWN)



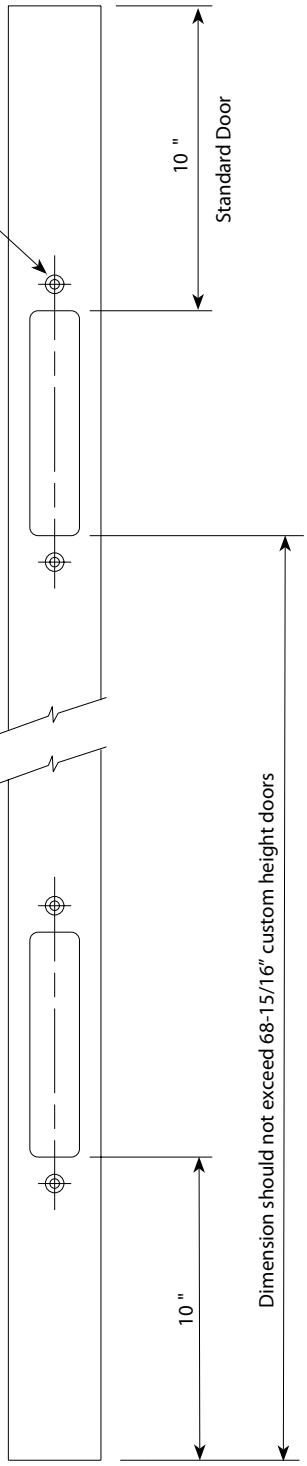
FLUSH BOLT



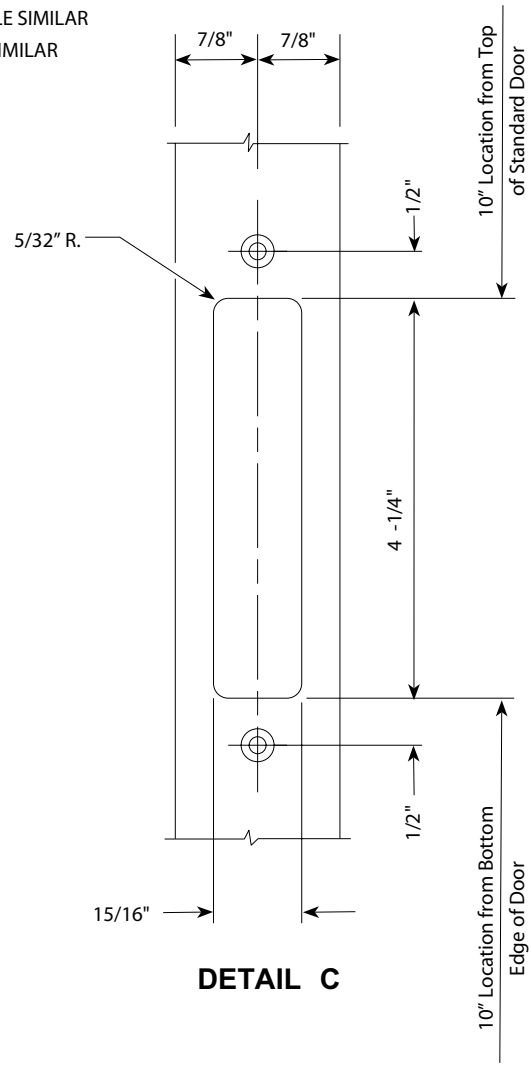
D104 NARROW STILE SHOWN
D111 MEDIUM STILE SIMILAR
D119 WIDE STILE SIMILAR

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

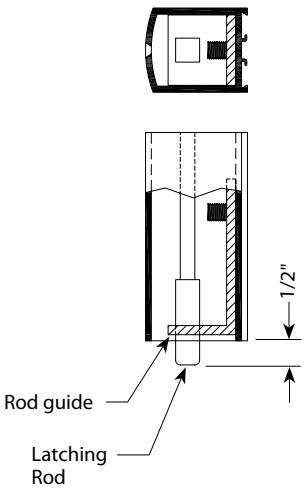


DETAIL A



DETAIL C

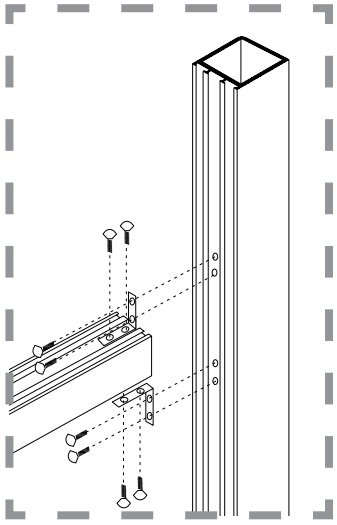
DETAIL B

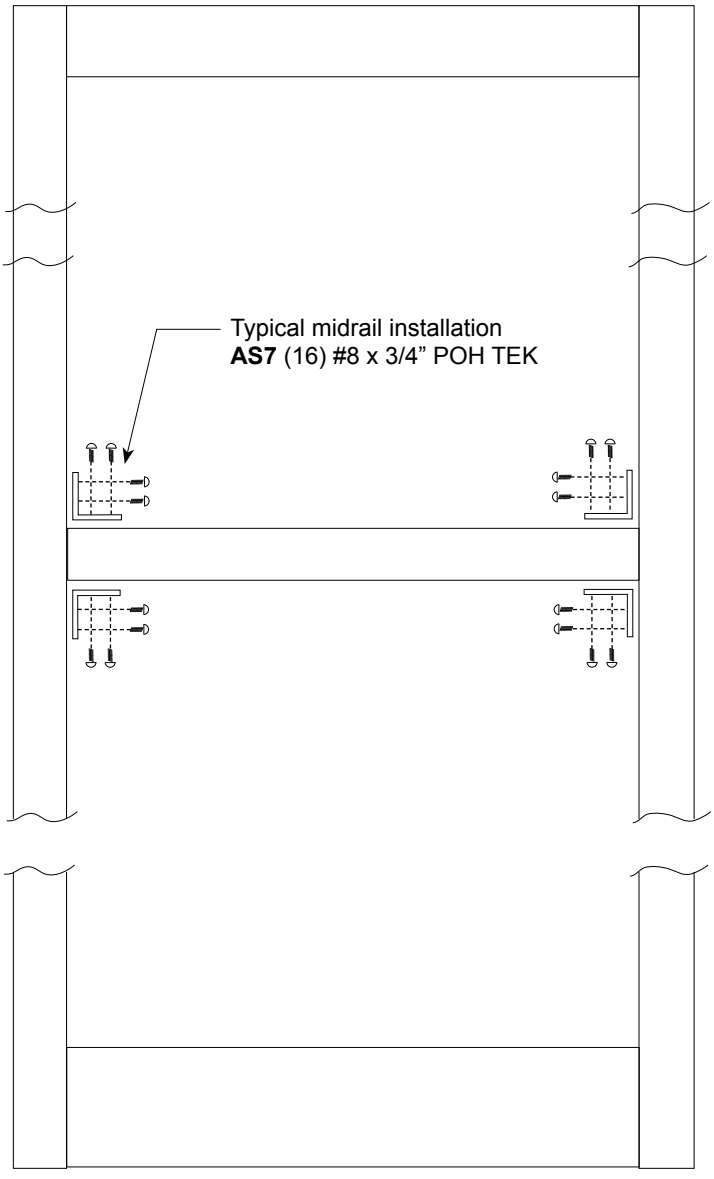


Note: Top flush bolt cut-out location for door opening height of 84" or less should be 10" from top of door stile. See DETAIL A

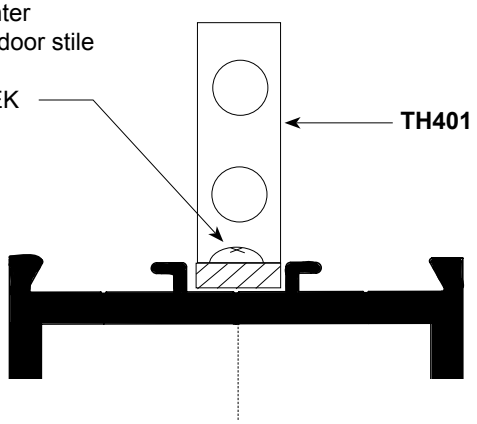
1. Insert flush bolts through cut in nose of door stile and push latching rod through corner plate hole.
2. Attach top and bottom flush bolts with (2) # 8 F. H. screws each.
3. Place each lever in the lock position.
4. Adjust flush bolt rods to extend 1/2" beyond ends of door stile. See DETAIL B
5. Flip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

MUNTIN OR MIDRAIL INSTALLATION WITH TH401 BRACKET

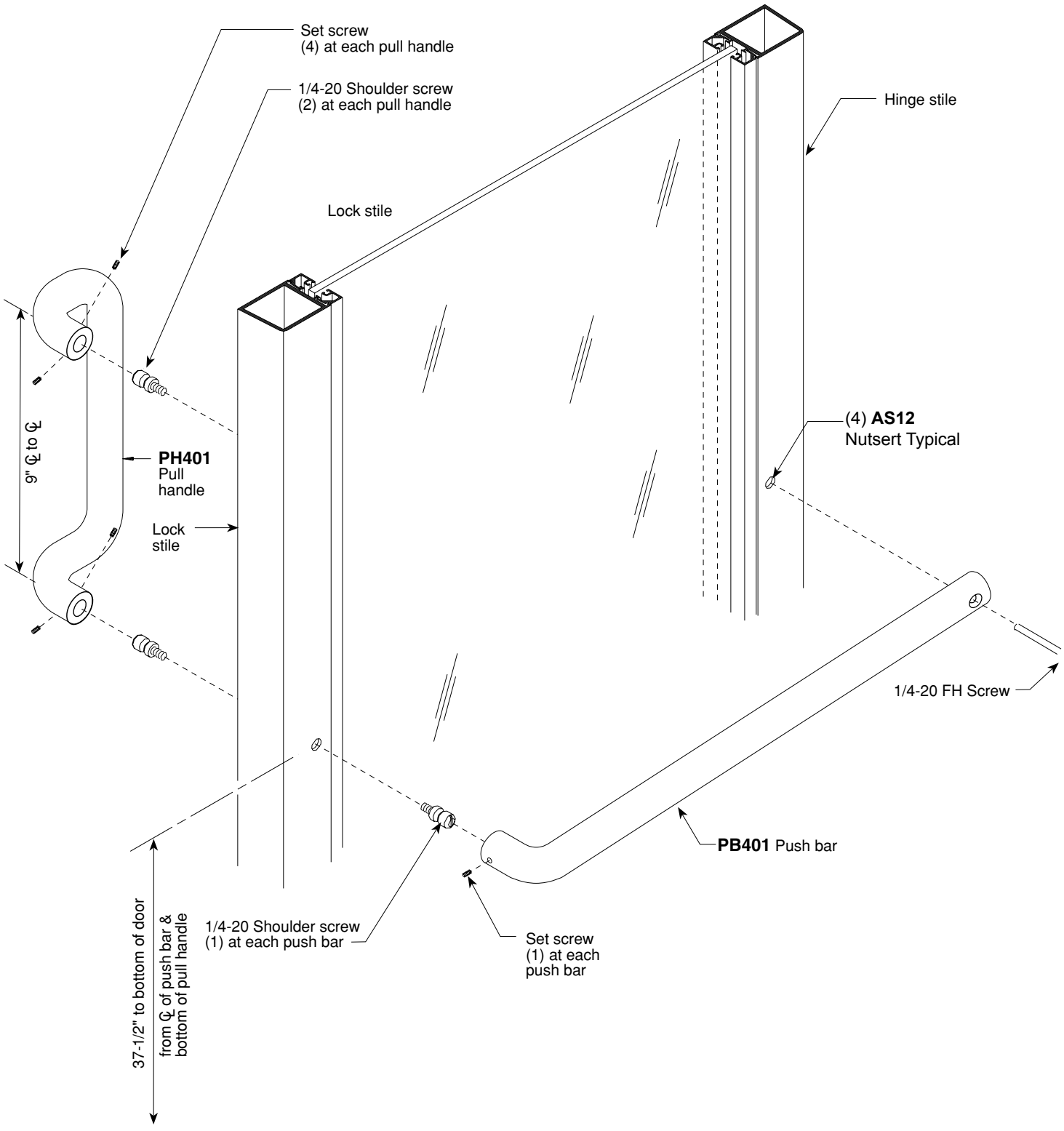




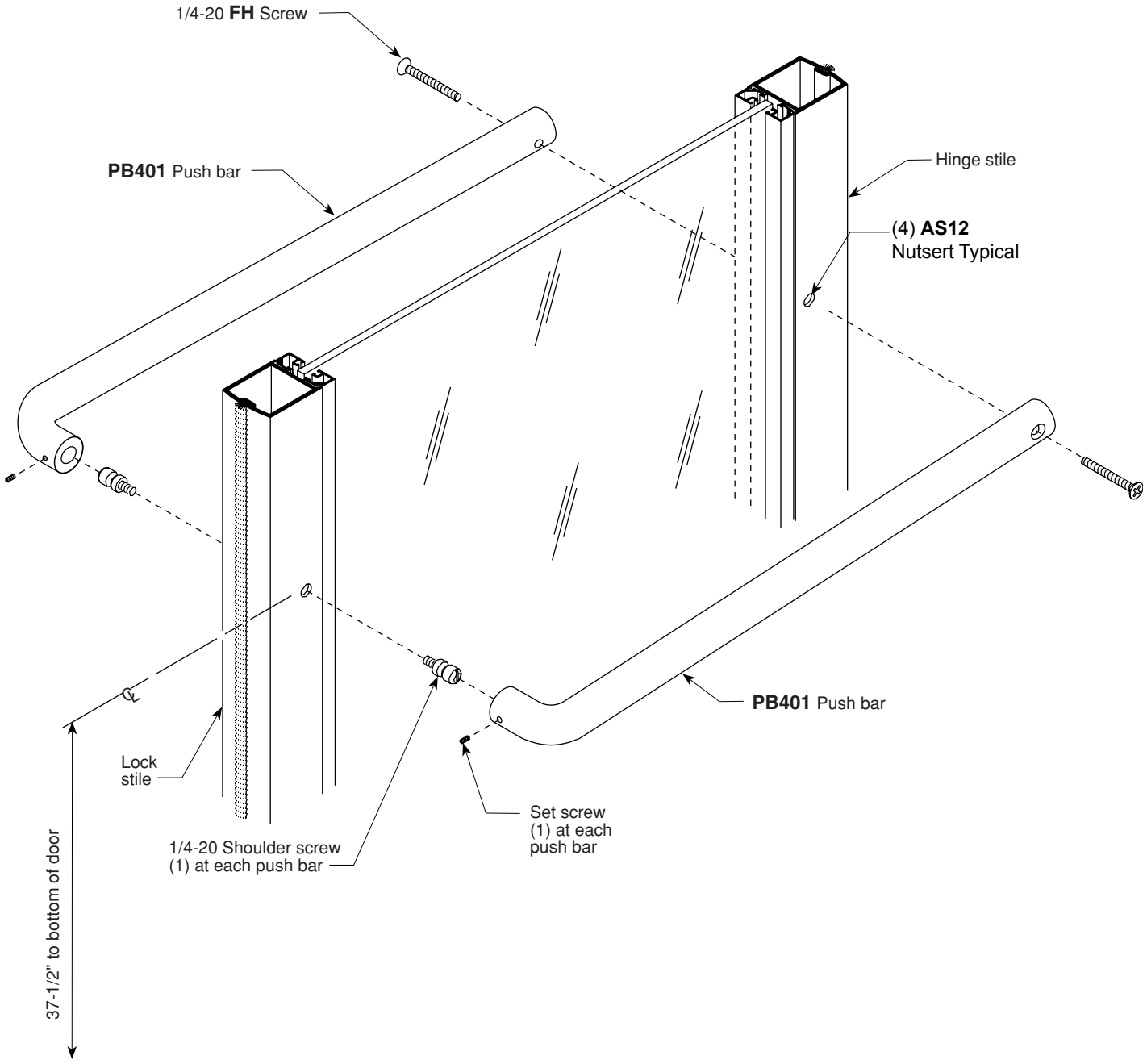
Position bracket in center channel and attach to door stile and mid rail with **AS7** #8 x 3/4” POH TEK



OFFSET HUNG DOOR HARDWARE SET
DH400 (OPTIONAL)

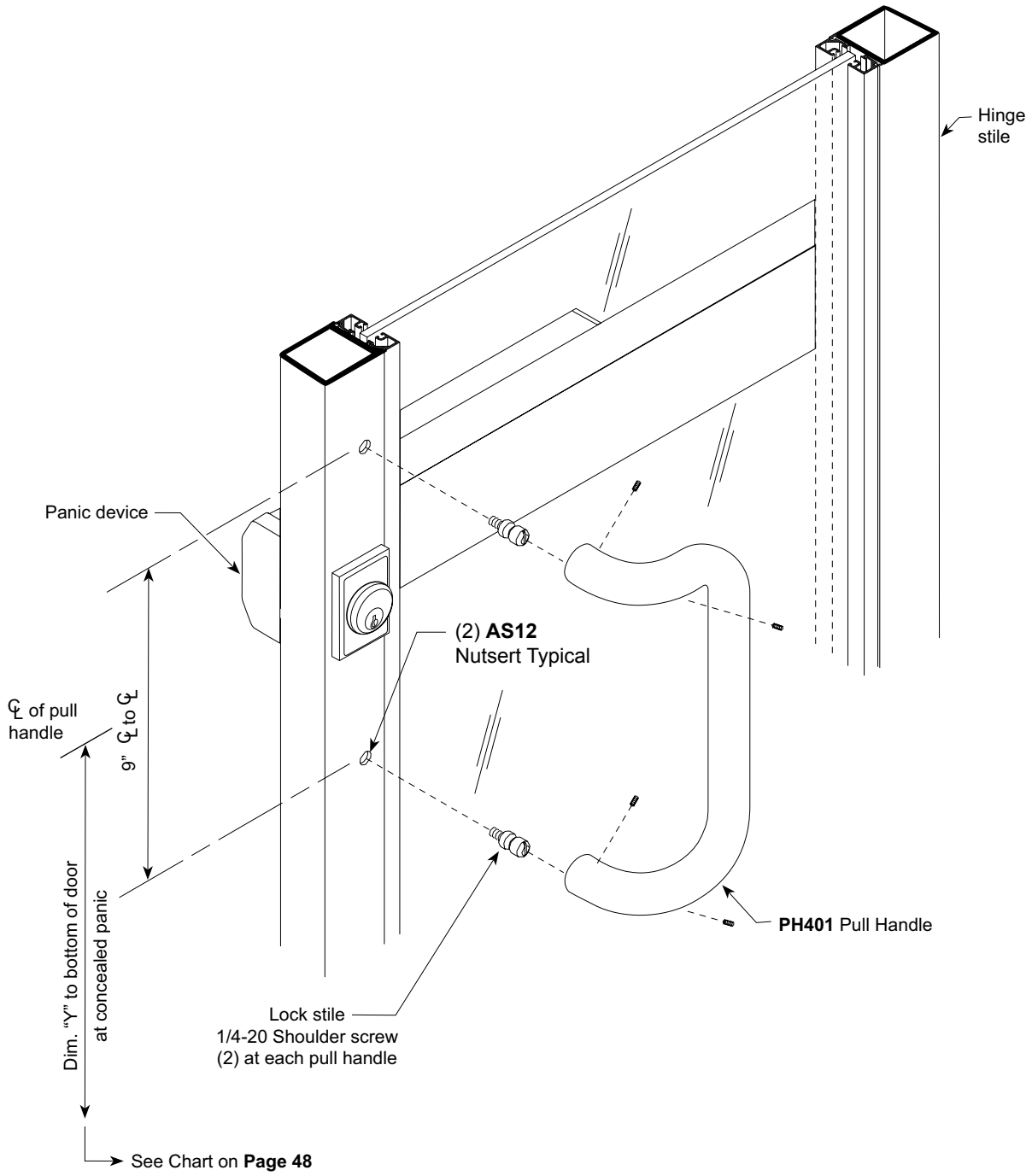


CENTER HUNG DOOR HARDWARE SET
DH401 (OPTIONAL)



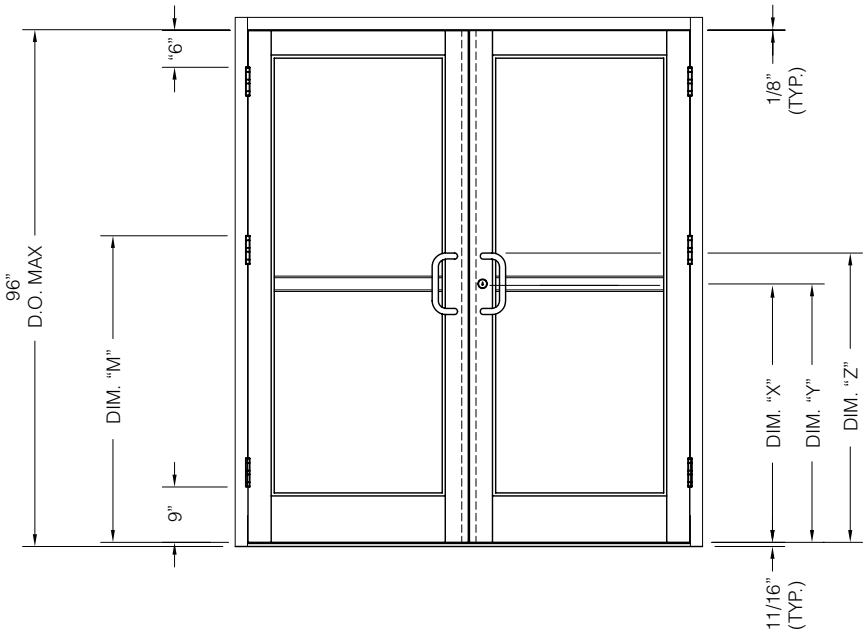
PULL HARDWARE SET FOR PANIC DOOR

DH40P (STANDARD FOR PANIC DOORS)



See Chart on **Page 48**

STANDARD HARDWARE LOCATIONS



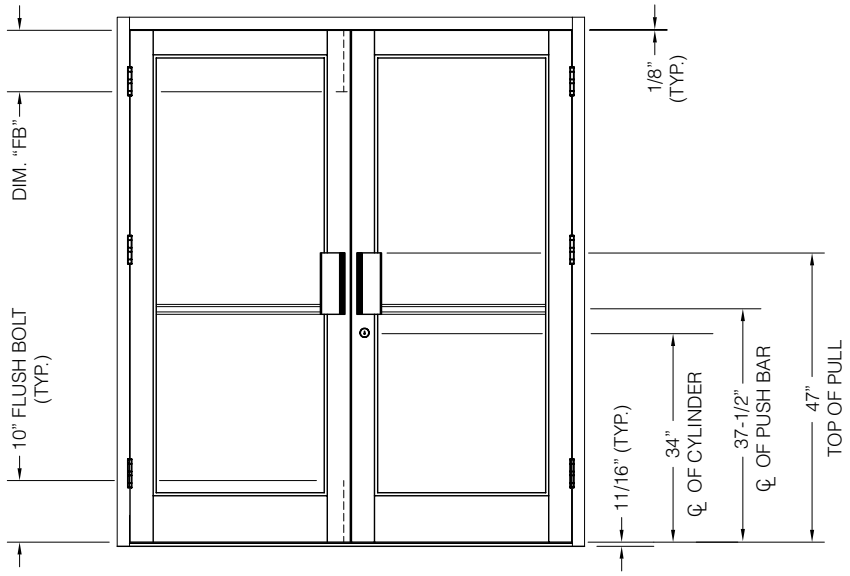
INTERMEDIATE HINGE & PIVOT LOCATION

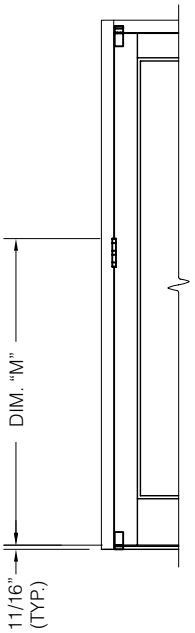
D.O. HEIGHT	DIM. "M"	
	BUTT HUNG	OFFSET PIVOT
84"	45-11/32"	44-3/32"
96"	51-11/32"	50-3/32"

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" ℄ OF CYLINDER	DIM "Y" ℄ 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"