

INSTALLATION INSTRUCTIONS

SERIES FFN1, FFM1, AND FFW1 PLATINUM FULL FRAMED DOORS



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HANDLING, STORAGE, AND PROTECTION OF ALUMINUM

The following precautions are recommended to protect the material against damage. Following these precautions will help ensure early acceptance of your products and workmanship.

A. HANDLE CAREFULLY.

All aluminum materials at job site must be stored in a safe place, well removed from possible damage by other trades. Cardboard wrapped or paper interleaved materials must be kept dry.

B. CHECK ARRIVING MATERIALS.

Check for quantity counts and keep records of where various materials are stored.

C. KEEP MATERIALS AWAY FROM WATER, MUD, AND SPRAY.

Prevent cement, plaster, or other materials from damaging the finish.

D. PROTECT THE MATERIALS AFTER ERECTION.

Protect erected frame with polyethylene or canvas splatter screen. Cement, plaster, terrazzo, other alkaline solutions, and acid based materials used to clean masonry are harmful to the finish. ***If any of these materials come in contact with the aluminum, immediately remove with water and mild soap.***

The rapidly changing technology within the architectural aluminum products industry demands that U.S. Aluminum reserve the right to revise, discontinue or change any product line, specification or electronic media without prior written notice.

NOTE: Dimensions in parentheses () are millimeters unless otherwise noted.

GENERAL INSTALLATION 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. Note any field verified notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.
- 2. INSTALLATION.** All materials are to be installed plumb, level, and true.
- 3. BENCH MARKS.** All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
 - a) The plane of the wall in reference to offset lines provided on each floor.
 - b) The finish floor lines in reference to bench marks on the outer building columns.
 - c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.
- 4. FIELD WELDING.** All field welding must be adequately shielded to avoid any splatter on glass or aluminum. Results will be unsightly and/or structurally unsound. 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 with (full or incidental), including other sealant surfaces. It is the sole responsibility of the glass company to consult the sealant manufacturer for recommendations regarding 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. This is required on every project.
- 8. FASTENING.** Within the body of these instructions "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners refer to the shop drawings or consult the fastener supplier.
- 9. BUILDING CODES.** Due to the diversity in state/provincial, local, and federal laws and codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building codes and laws. U.S. Aluminum exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.
- 10. EXPANSION JOINTS.** Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gaps between expansion members should be based on temperature at time of installation.
- 11. RACK TEST.** As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m²) a rack test should be conducted in accordance with AAMA 502-08 specifications to check the installation. On all jobs the rack test should be repeated every 500 square feet (46.5 m²) during the glazing operation.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor any sequence with other trades which offset curtain wall installation (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.).
- 13. 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.
- 14. JOB SITE ESSENTIALS.** See pages 22 and 23.

PRODUCT DETAILS

FFN1 NARROW STILE DOOR

STILES	TOP RAIL	BOTTOM RAIL	APPLICATION
3" (76)	4" (102)	4" (102)	LIGHT TO MODERATE
A.D.A. Bottom Rail Option		10" (254)	A.D.A.

FFM1 MEDIUM STILE DOOR

STILES	TOP RAIL	BOTTOM RAIL	APPLICATION
4-1/16" (103)	5" (127)	5" (127)	MODERATE TO HEAVY
A.D.A. Bottom Rail Option		10" (254)	A.D.A.

FFW1 WIDE STILE DOOR

STILES	TOP RAIL	BOTTOM RAIL	APPLICATION
5-9/16" (141)	10" (254)	10" (254)	HEAVY TRAFFIC
A.D.A. Bottom Rail Option		10" (254)	A.D.A.

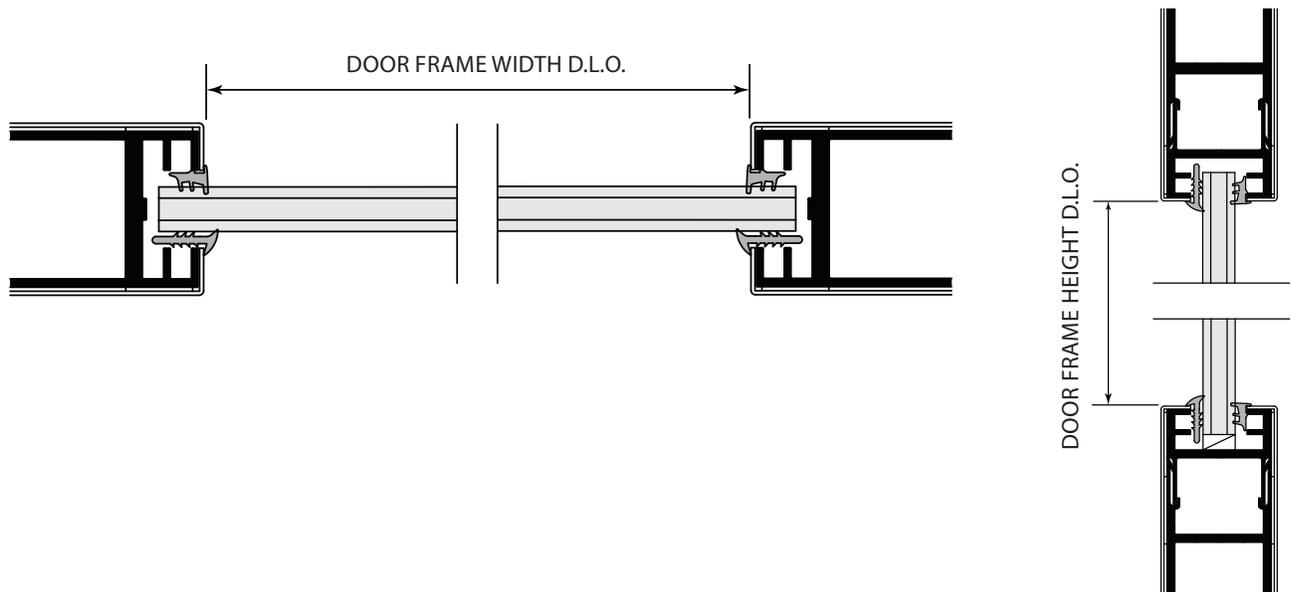
GLASS WIDTH FORMULAS

DOOR STILE	1/4" AND 1" GLASS	1/2" AND 3/4" GLASS
FFN1 NARROW STILE	DOOR FRAME WIDTH D.L.O. PLUS 7/8" (22)	DOOR FRAME WIDTH D.L.O. PLUS 1" (25.4)
FFM1 MEDIUM STILE	DOOR FRAME WIDTH D.L.O. PLUS 7/8" (22)	DOOR FRAME WIDTH D.L.O. PLUS 1" (25.4)
FFW1 WIDE STILE	DOOR FRAME WIDTH D.L.O. PLUS 7/8" (22)	DOOR FRAME WIDTH D.L.O. PLUS 1" (25.4)

GLASS HEIGHT FORMULAS

DOOR STILE	1/4" AND 1" GLASS	1/2" AND 3/4" GLASS
FFN1 NARROW STILE	DOOR FRAME HEIGHT D.L.O. PLUS 7/8" (22)	DOOR FRAME HEIGHT D.L.O. PLUS 7/8" (22)
FFM1 MEDIUM STILE	DOOR FRAME HEIGHT D.L.O. PLUS 7/8" (22)	DOOR FRAME HEIGHT D.L.O. PLUS 7/8" (22)
FFW1 WIDE STILE	DOOR FRAME HEIGHT D.L.O. PLUS 7/8" (22)	DOOR FRAME HEIGHT D.L.O. PLUS 7/8" (22)

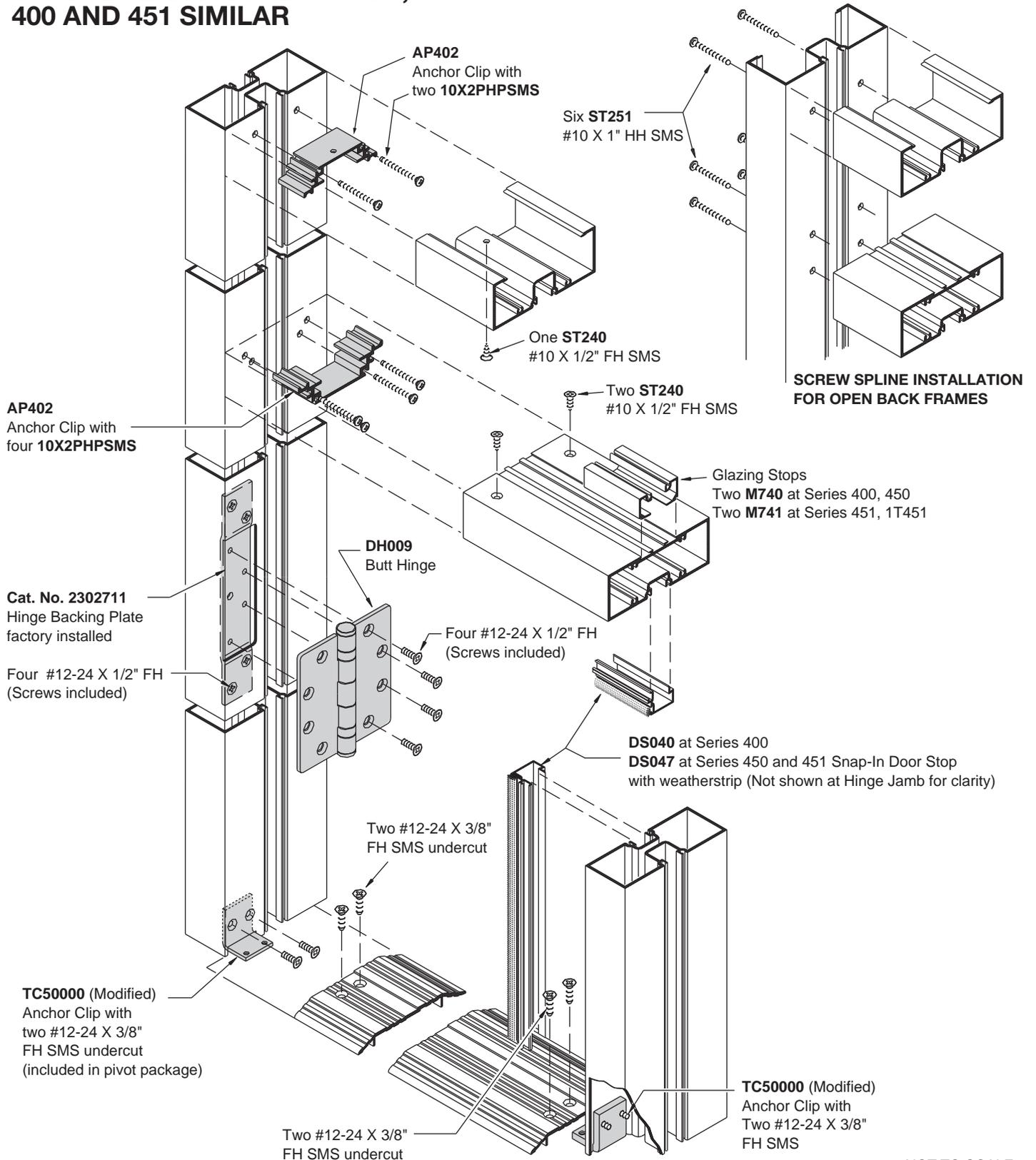
"Door Opening" refers to D.L.O. (Daylight Opening) of the door frame and is standard throughout this manual.



NOT TO SCALE

FRAME UNIT FOR BUTT HUNG DOOR WITH SURFACE CLOSER

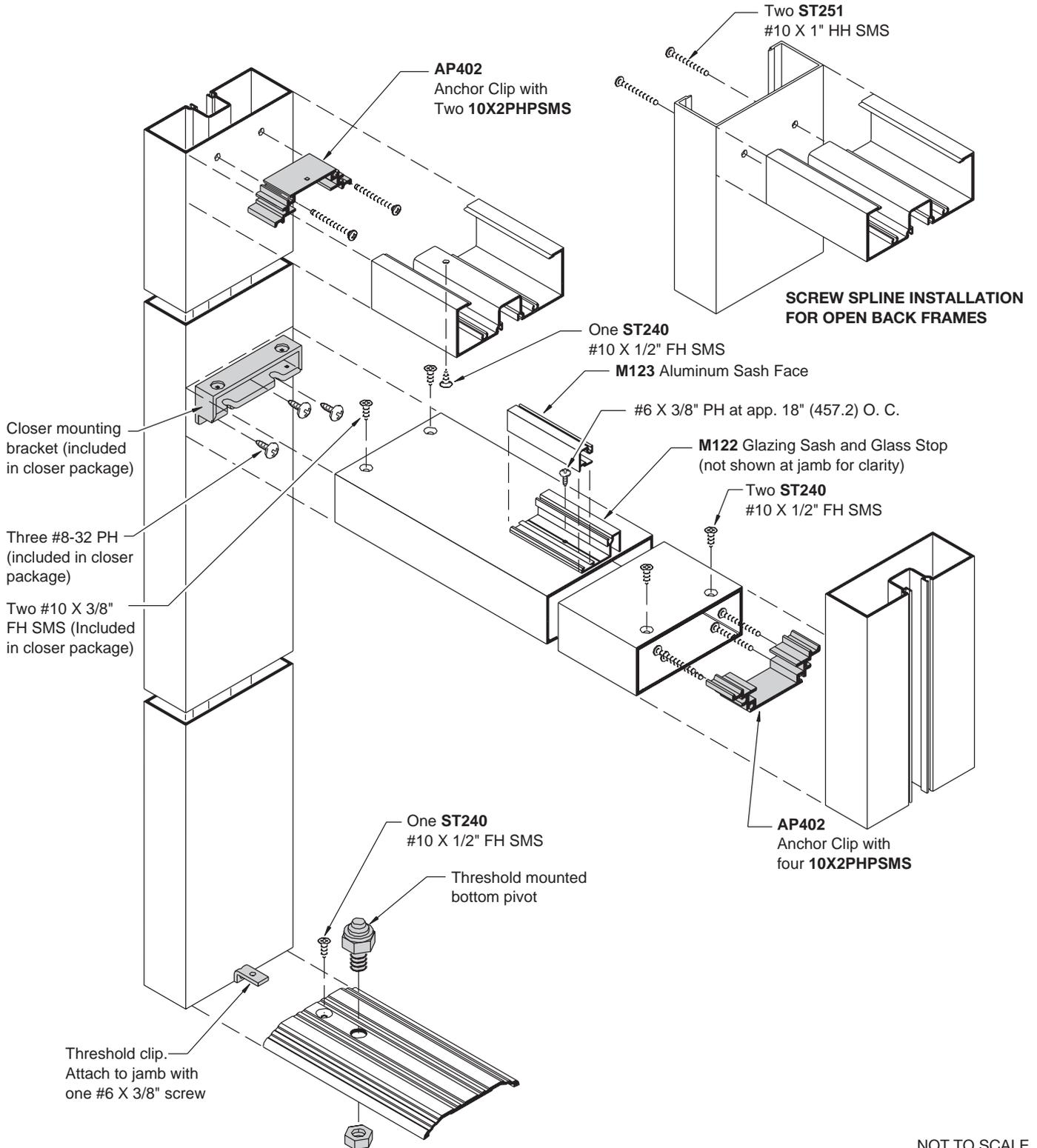
450 TUBULAR FRAME SHOWN;
400 AND 451 SIMILAR



NOT TO SCALE

FRAME UNIT FOR CENTER HUNG DOOR WITH OVERHEAD CONCEALED CLOSER

450 TUBULAR FRAME SHOWN;
400 AND 451 SIMILAR

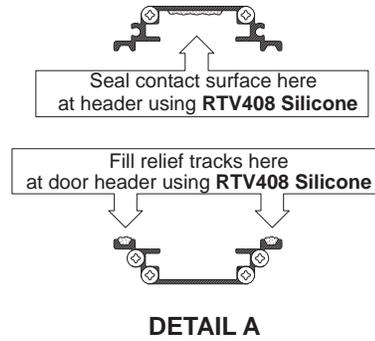


NOT TO SCALE

SERIES FFN1, FFM1, AND FFW1 PLATINUM FULL FRAMED DOORS

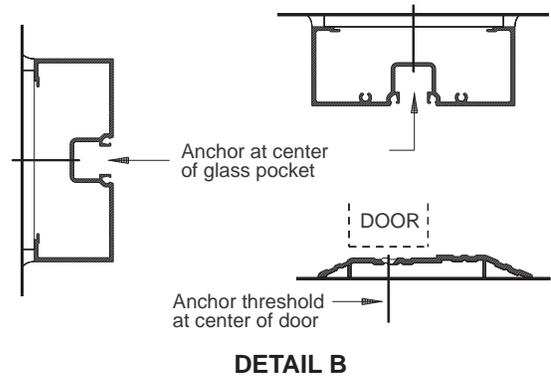
ASSEMBLY INSTRUCTIONS:

1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. [When using optional **AF100** sill flashing, allow 1/4" (6.4) shim space at top of frame].
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates from instructions. Align edge of template with top of vertical and drill holes for head clips.
4. Attach anchor clips for head, door header, and threshold to jambs with provided screws.
5. Butter contact surface of anchor clips with **RTV408 Silicone Sealant**. See **DETAIL A**
6. Assemble head and door header to jambs as shown.
7. Install hinges to door jamb(s).

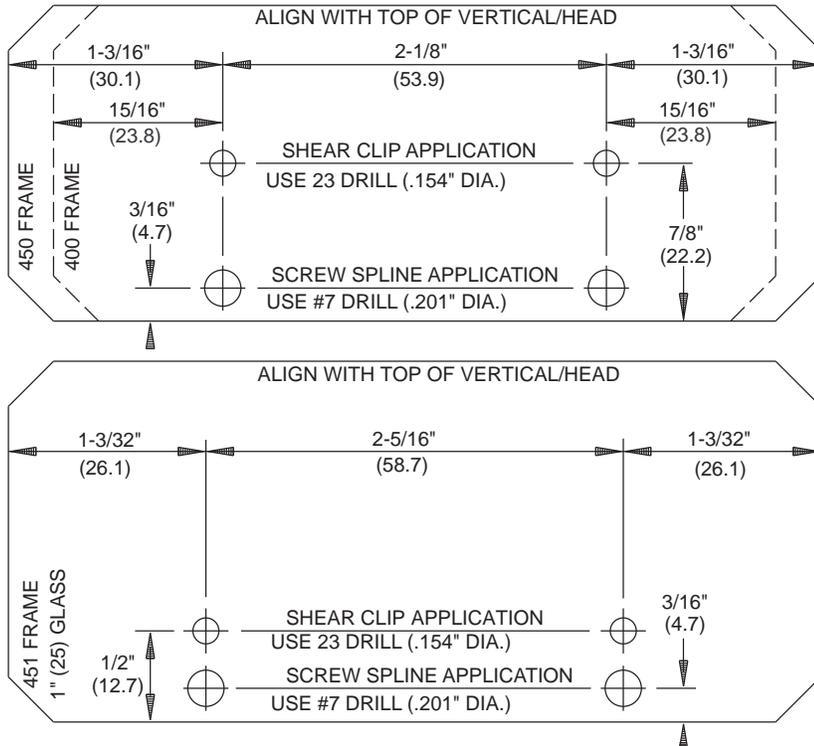


INSTALLATION INSTRUCTIONS:

1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws starting 6" (152.4) from corners and not more than 36" (914.4) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. See **DETAIL B**
4. Snap door stop with weatherstrip into jambs and door header. Jamb stops run through.
5. Place setting blocks in door header at quarter or eighth points as required, and glaze transom. Glazing sash is required vertically at Series 451 transom.
6. Install glass stops with glazing gaskets on both sides of glass.
7. Roll-in glazing gaskets for jambs and header.



TEMPLATES ARE FOR EXTREME HEAD ONLY

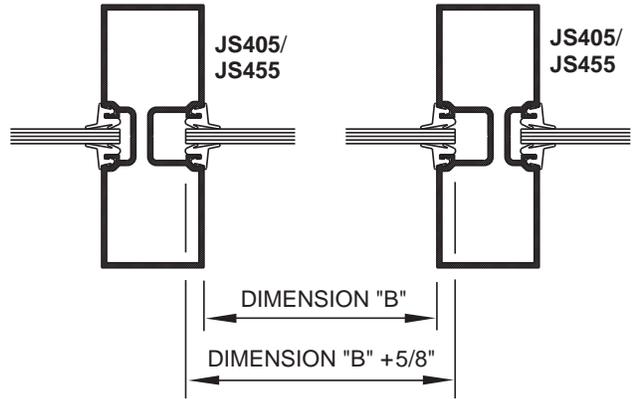
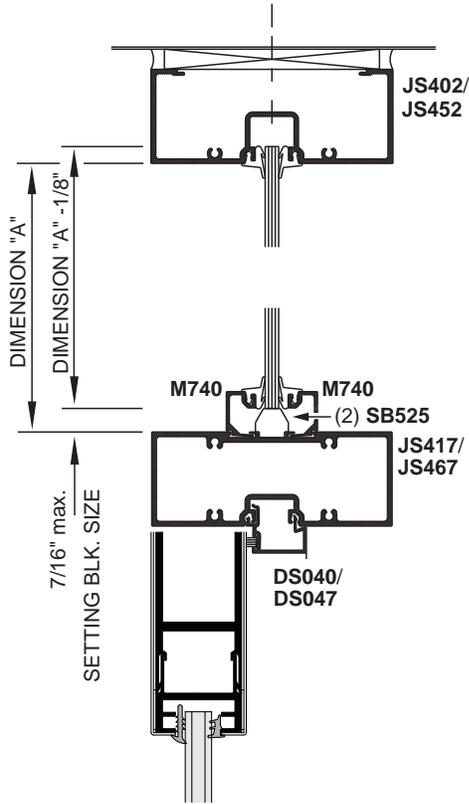


NOTE: Do not cut templates from this manual, templates are supplied inside frame boxes.

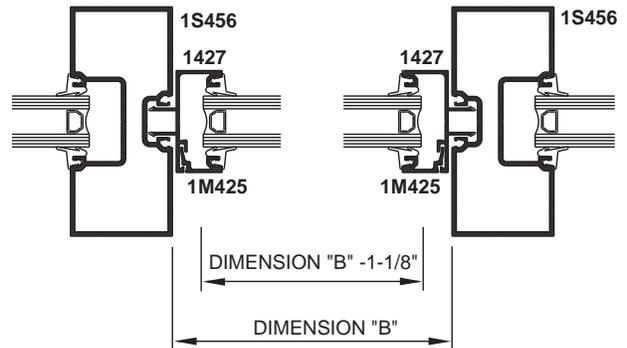
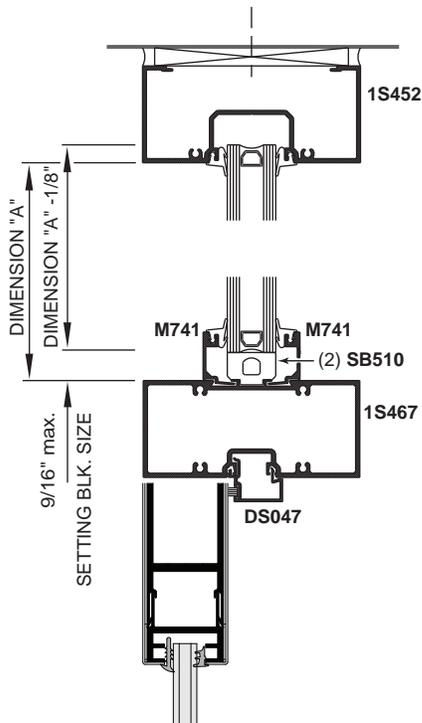
NOT TO SCALE

GLASS SIZE FORMULA AT TRANSOM

DOOR AND FRAME PREPARATION SERIES 400 AND 450

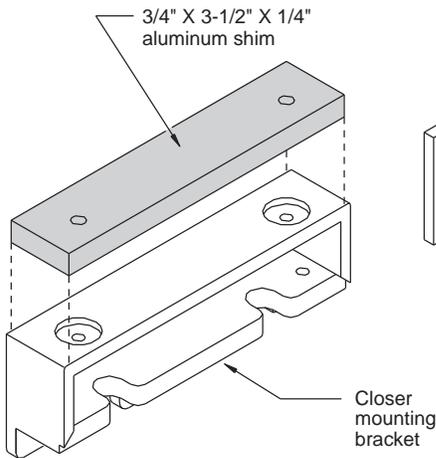


SERIES 451

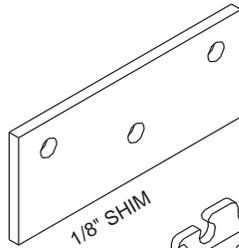


NOT TO SCALE

HEADER FOR JACKSON OVERHEAD CONCEALED CLOSER WITH OFFSET ARM

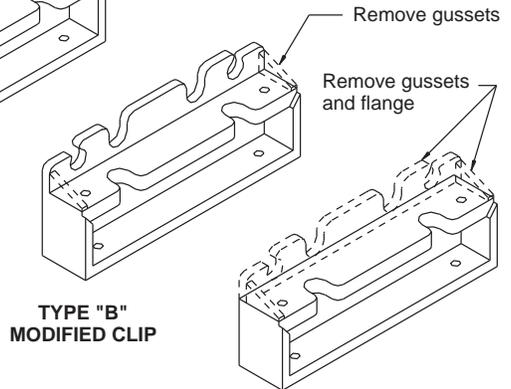


Secure closer mounting bracket to header with two #10-32 X 3/4" FH SMS



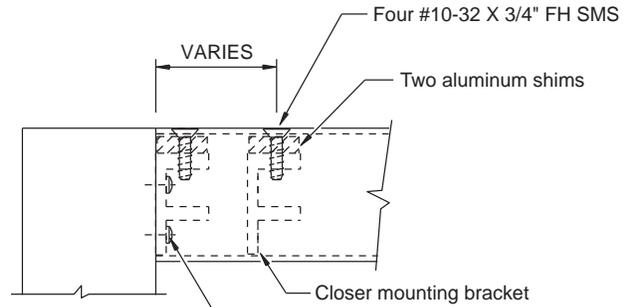
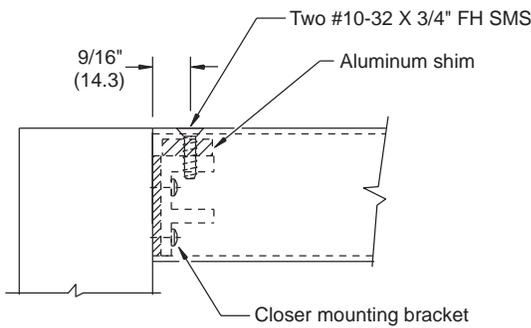
CLIPS SHOWN INVERTED TO VIEW BOTTOM AT WORK AREA

TYPE "A" STANDARD CLIP

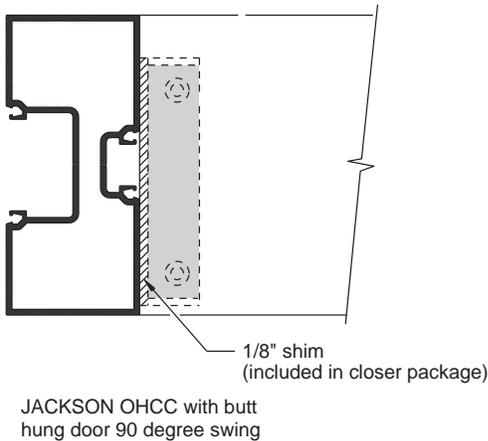


TYPE "C" DOUBLE MODIFIED CLIP

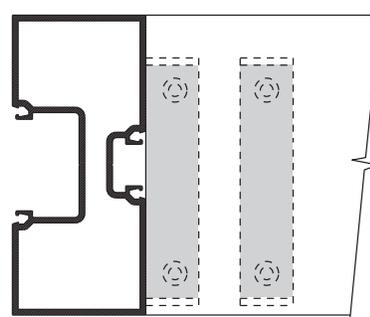
NOTE: To mount closer into 2" (50.8) high headers a 1/4" (6.4) shim is required.



Header mounting bracket
Option: **AP402** anchor clip may also be used to fasten header to jamb when using a Jackson closer with 105 degree swing hold open and offset pivot.



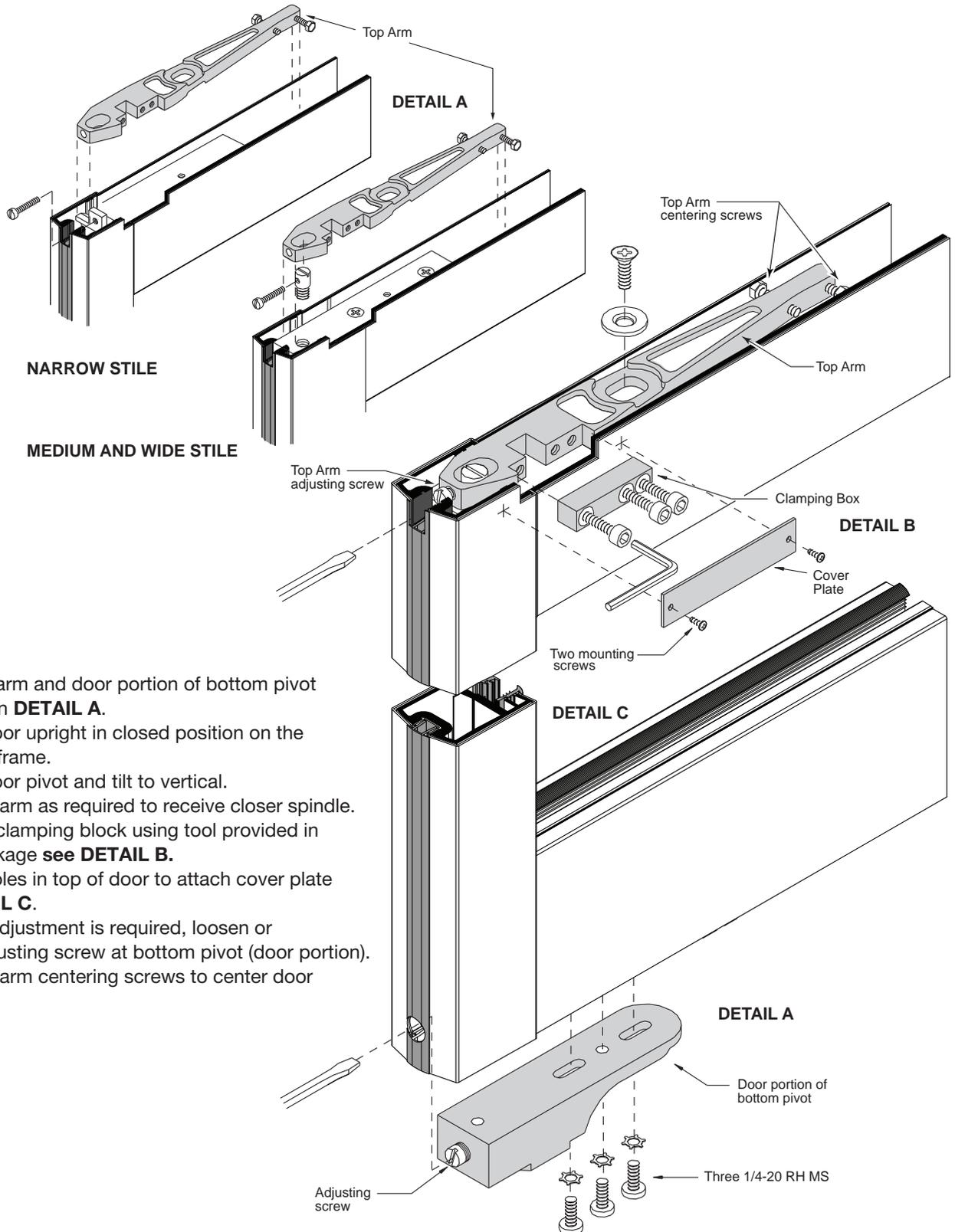
JACKSON OHCC with butt hung door 90 degree swing



JACKSON OHCC with offset pivoted door
JACKSON OHCC with butt hung door 105 degree swing

NOT TO SCALE

SIDE LOAD CENTER PIVOT DOOR WITH JACKSON OVERHEAD CONCEALED CLOSER



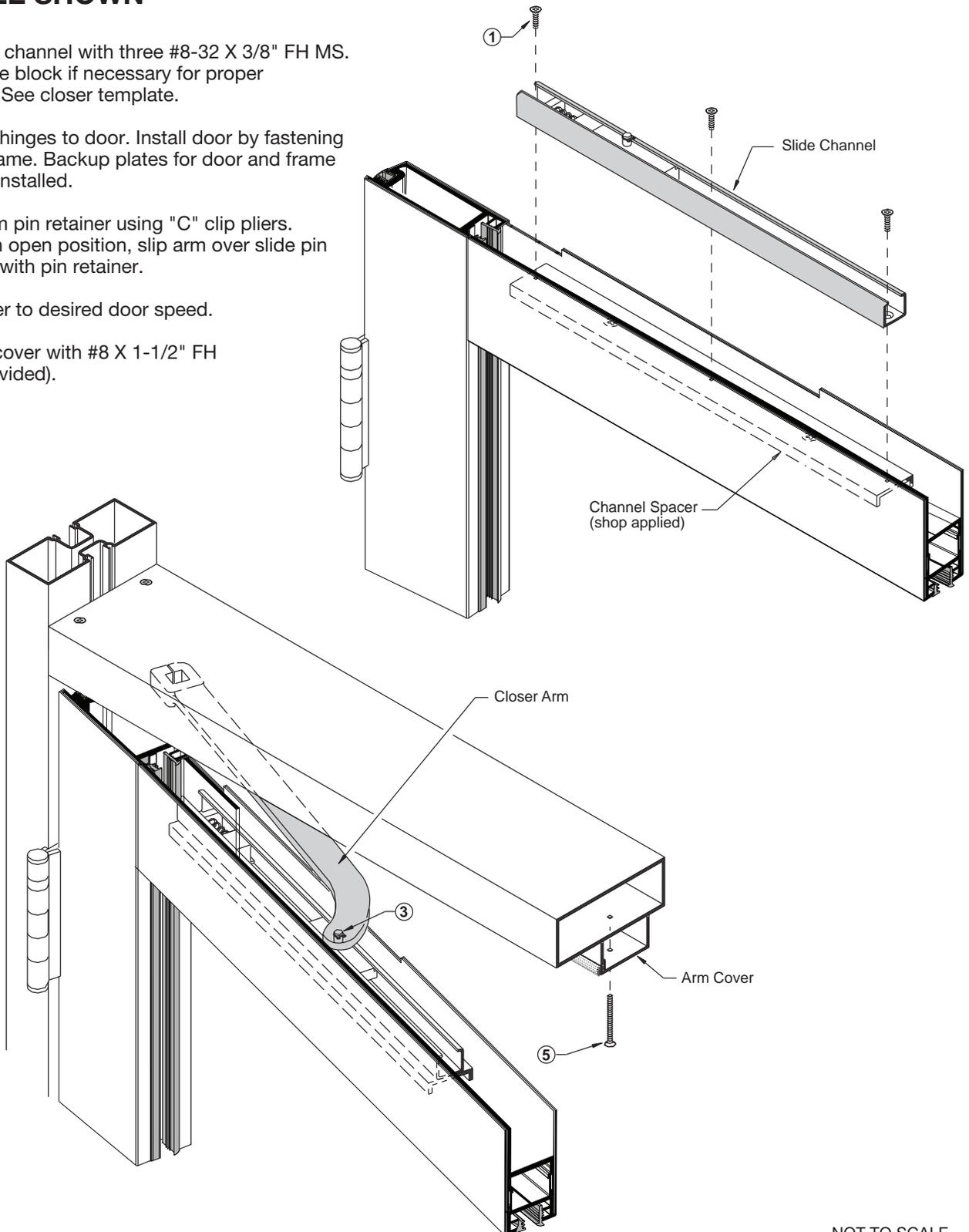
1. Install top arm and door portion of bottom pivot as shown in **DETAIL A**.
2. Position door upright in closed position on the outside of frame.
3. Lift onto floor pivot and tilt to vertical.
4. Adjust top arm as required to receive closer spindle.
5. Install top clamping block using tool provided in closer package **see DETAIL B**.
6. Drill two holes in top of door to attach cover plate **see DETAIL C**.
If vertical adjustment is required, loosen or tighten adjusting screw at bottom pivot (door portion).
7. Adjust top arm centering screws to center door in frame.

NOT TO SCALE

BUTT HINGE DOOR WITH JACKSON OVERHEAD CONCEALED CLOSER

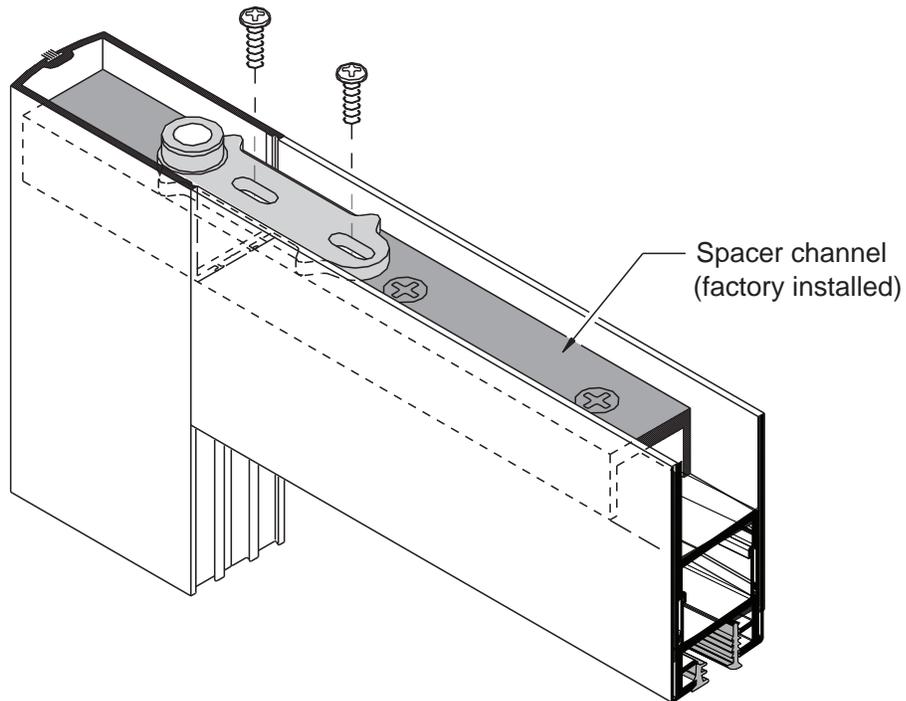
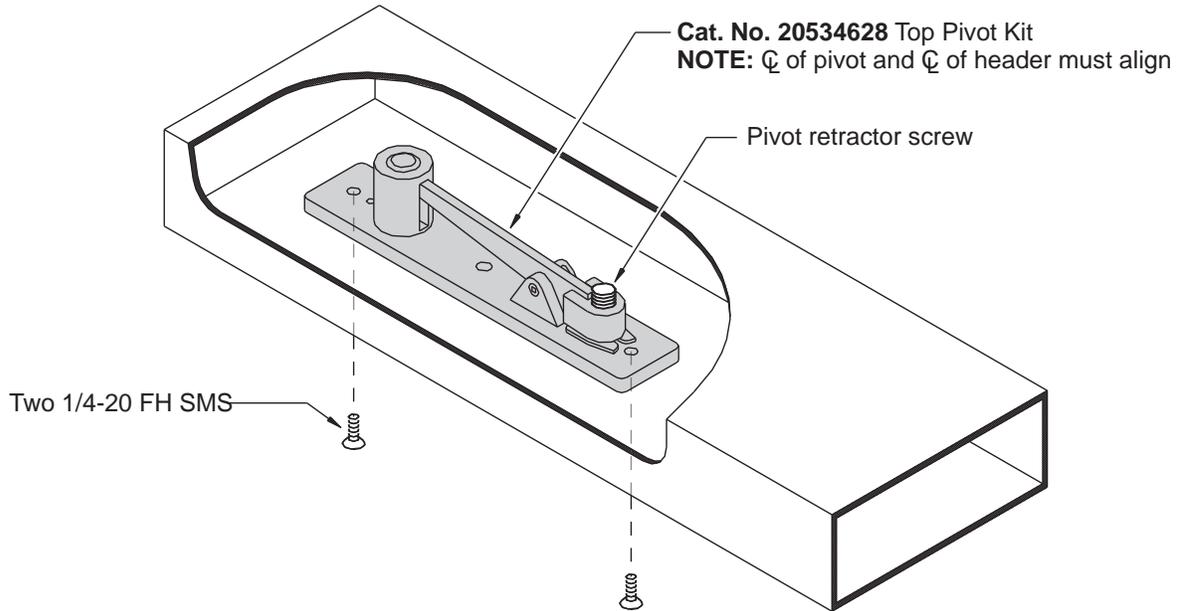
90 DEGREE SHOWN

1. Mount slide channel with three #8-32 X 3/8" FH MS. 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 arm pin retainer using "C" clip pliers. With door in open position, slip arm over slide pin and secure with pin retainer.
4. Adjust closer to desired door speed.
5. Install arm cover with #8 X 1-1/2" FH screws (provided).



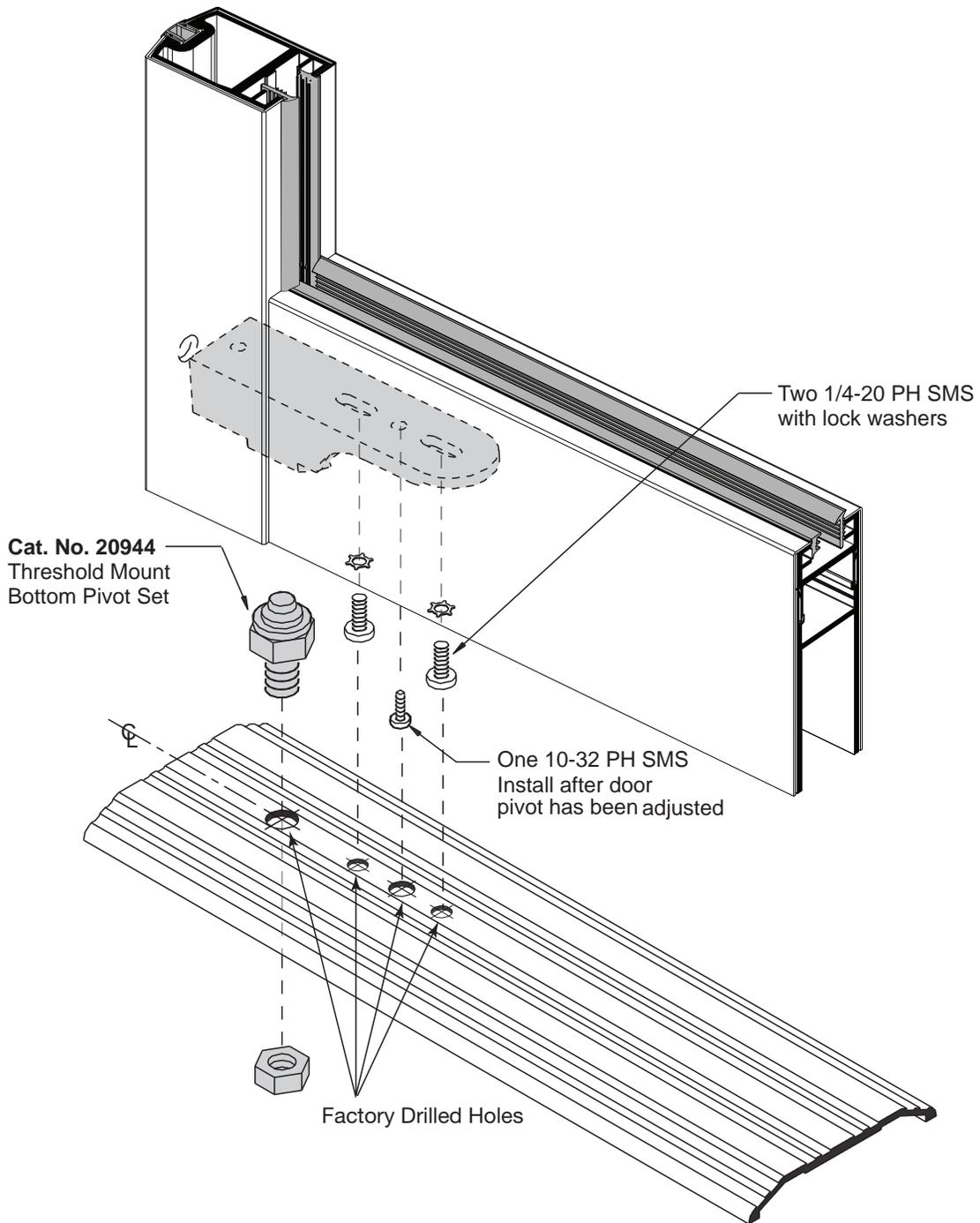
NOT TO SCALE

CENTER PIVOT - TOP PORTION FOR SURFACE CLOSER OR FLOOR CLOSER



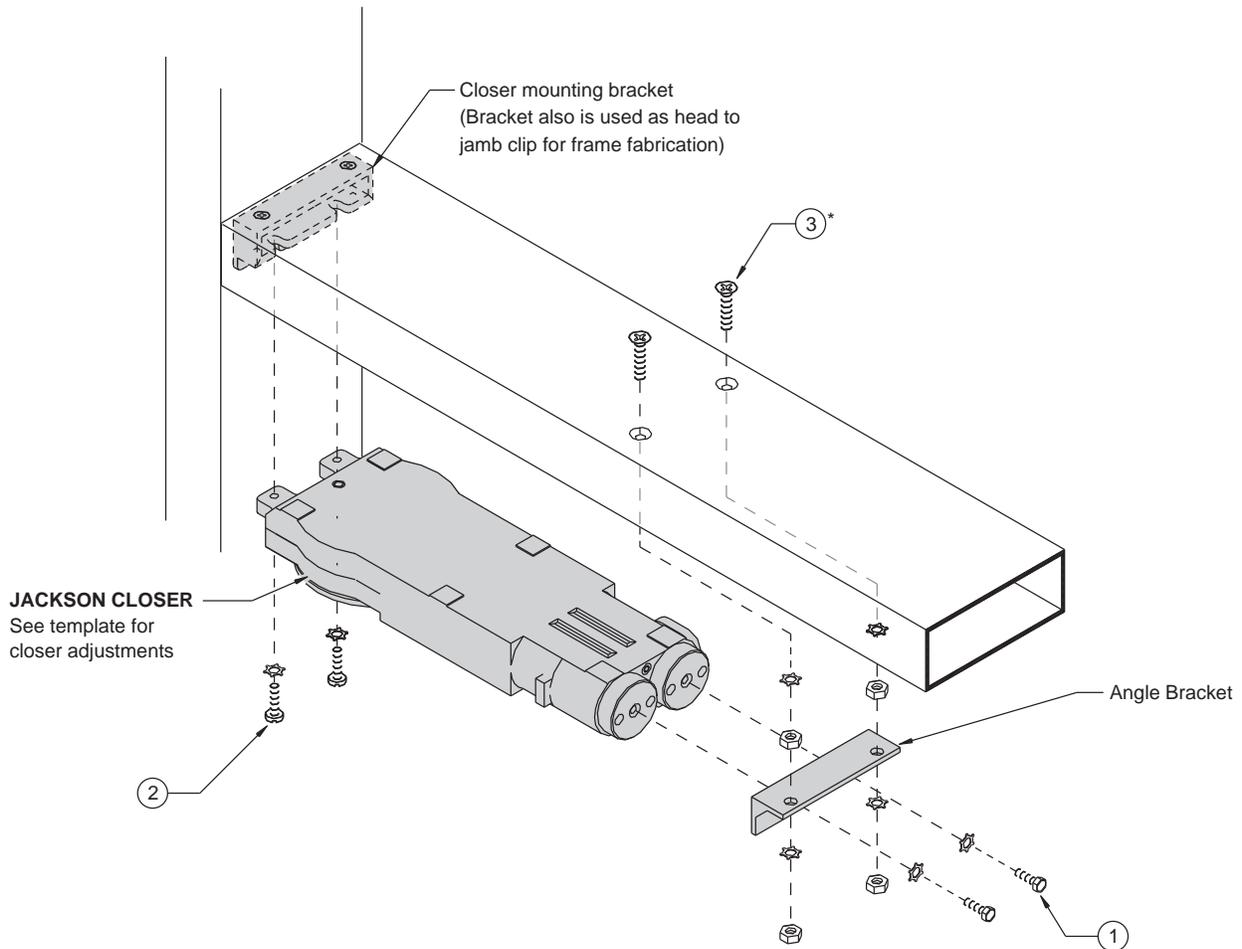
NOT TO SCALE

CENTER PIVOT - BOTTOM PORTION



NOT TO SCALE

JACKSON OVERHEAD CONCEALED CLOSER FOR CENTER PIVOT DOOR



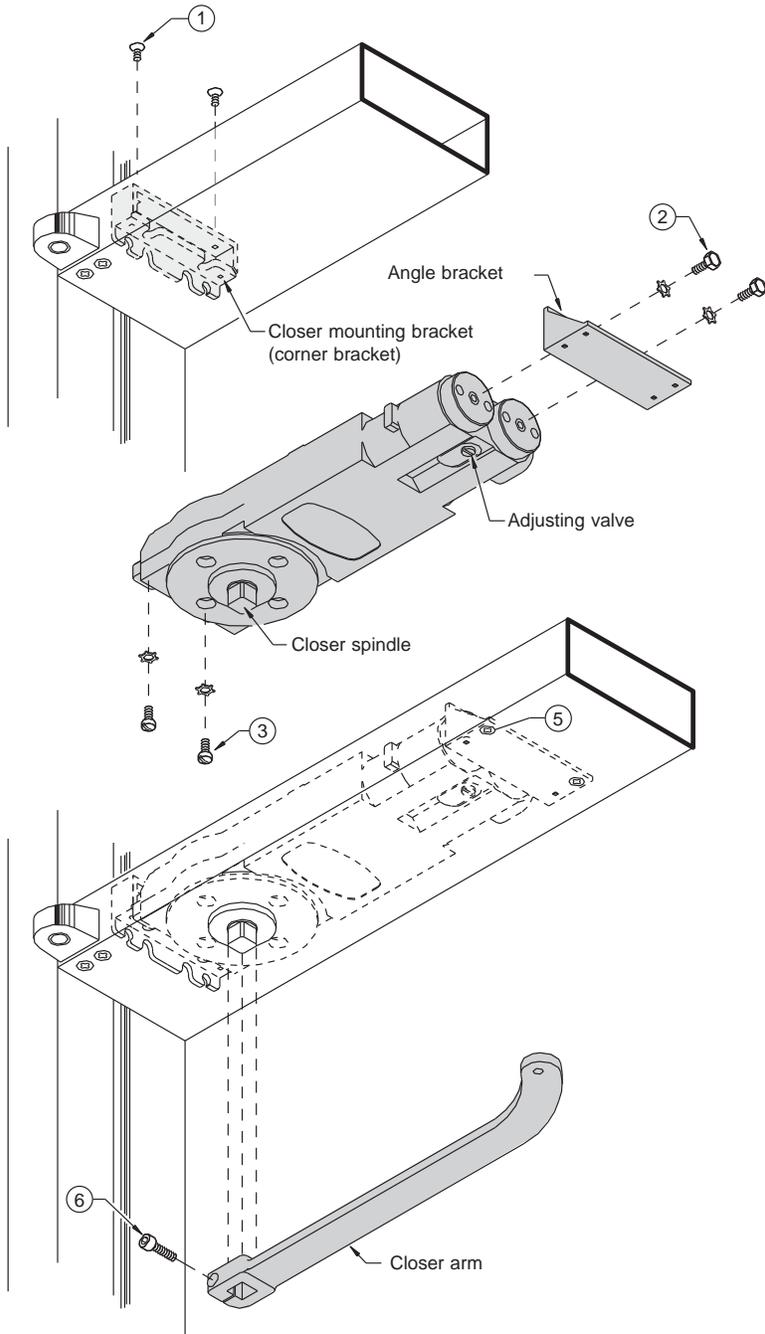
Closer mounting bracket is already installed (See FRAME UNITS installation instructions).

1. Mount angle bracket to closer with two 1/4-20 hex head SMS and two washers.
2. Install two 1/4-20 X 5/8" Fillister Head MS into lugs of closer. Do not tighten screws.
3. Install two 1/4-20 X 7/8" FH SMS* with two 1/4-20 nuts and washers in header.
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 two nuts and washers.
5. Tighten Fillister Head screws.

*For 2" X 4-1/2" header, longer screws are provided.

NOT TO SCALE

JACKSON OVERHEAD CONCEALED CLOSER FOR OFFSET PIVOT DOOR



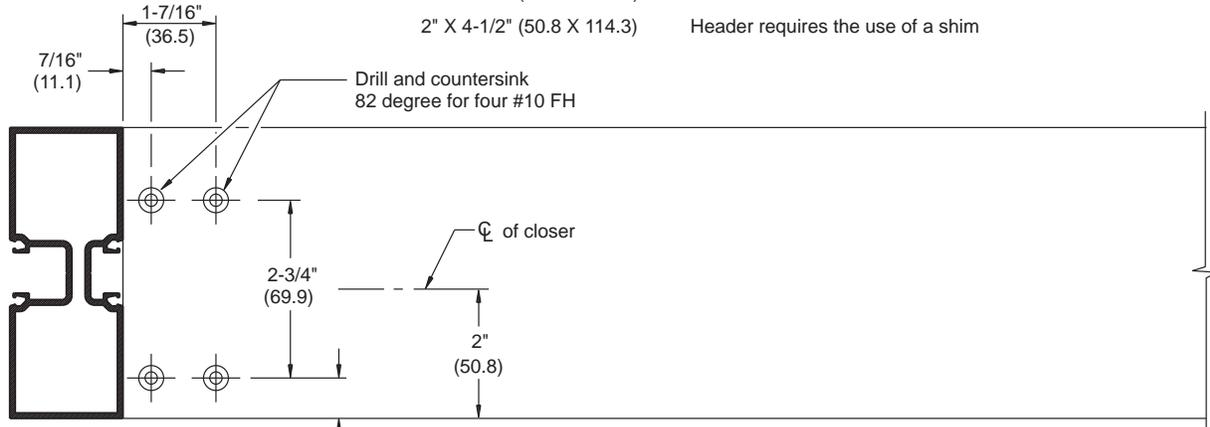
1. Mount corner bracket into header with two 10-32 X 3/8" FH SMS.
2. Mount angle bracket to closer with two 1/4-20 X 1/2" Hex Head SMS and washers.
3. Install two 1/4-20 X 1/2" Fillister Head SMS with washers into lugs of closer. Do not tighten screws.
4. Set closer onto header and align angle bracket holes with holes in header. Closer lugs shall rest on corner bracket.
5. Fasten angle bracket to header with two 10-24 X 3/8" FH SMS. Tighten Fillister Head screws.
6. Mount arm on spindle and secure with 1/4-20 X 7/8" Socket Head Cap Screw.

NOT TO SCALE

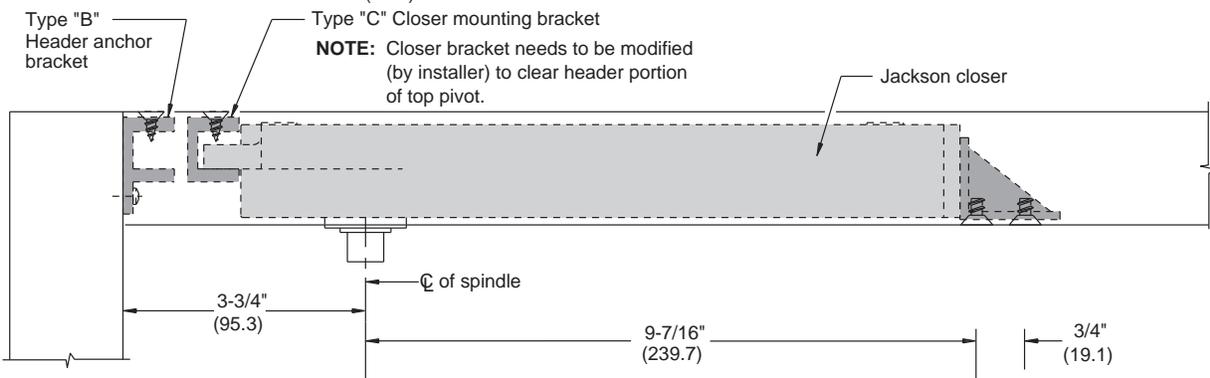
JACKSON OVERHEAD CONCEALED CLOSER FOR OFFSET PIVOT DOOR WITH 90 DEGREE SWING

HEADER PREPARATION

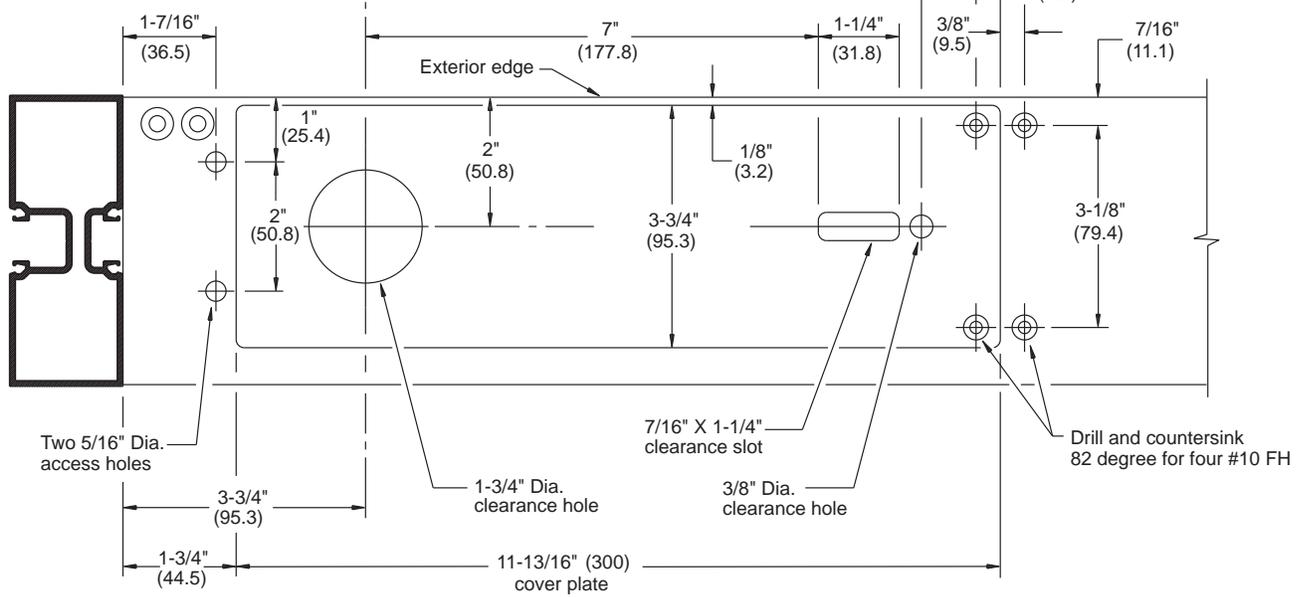
- 1-3/4" X 4-1/2" (44.5 X 114.3) Header shown
- 1-3/4" X 4" (44.5 X 101.6) Header similar
- 2" X 4-1/2" (50.8 X 114.3) Header requires the use of a shim



HEADER TOP VIEW



HEADER SIDE VIEW



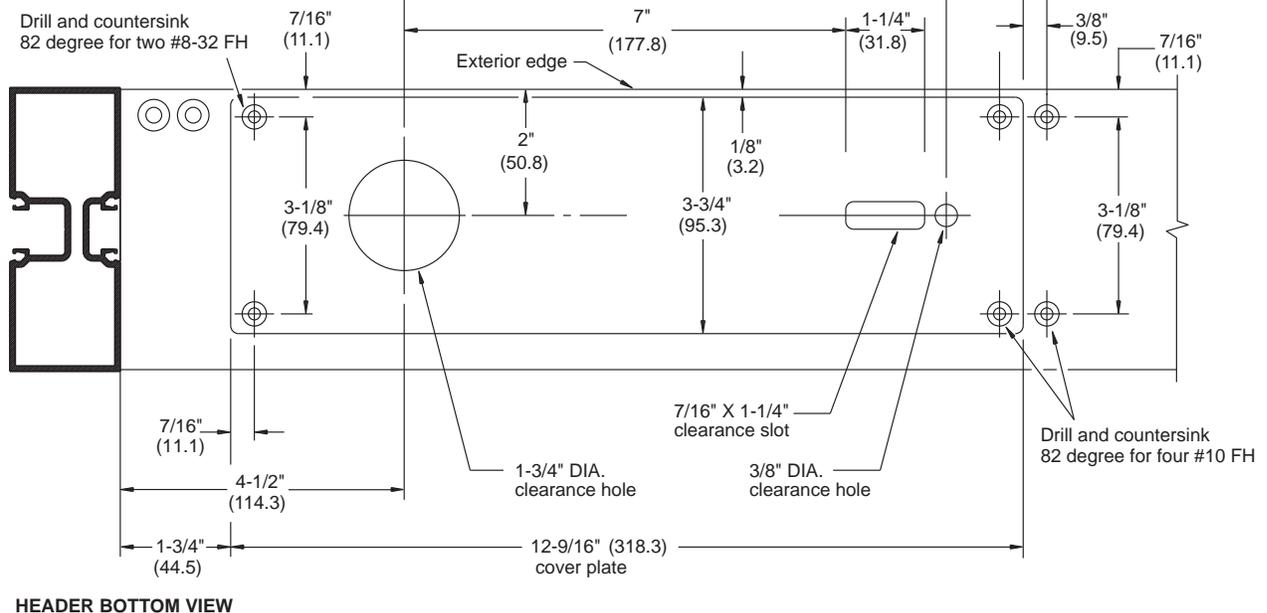
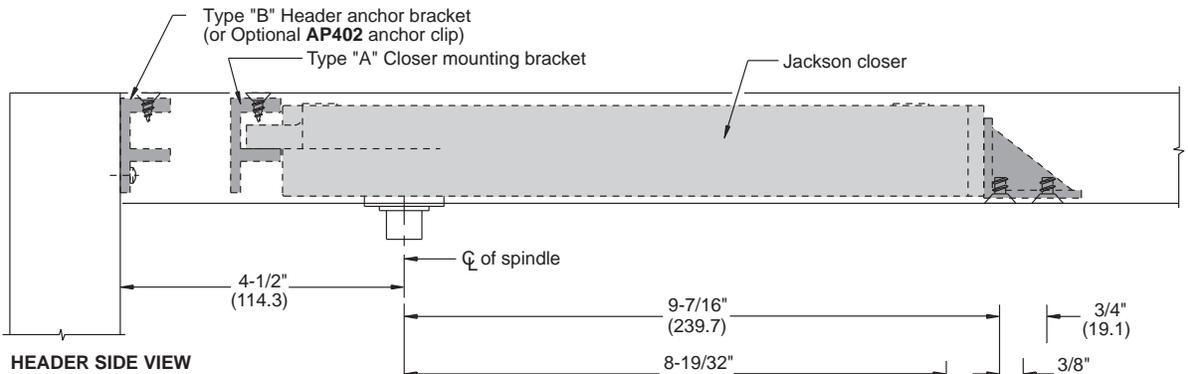
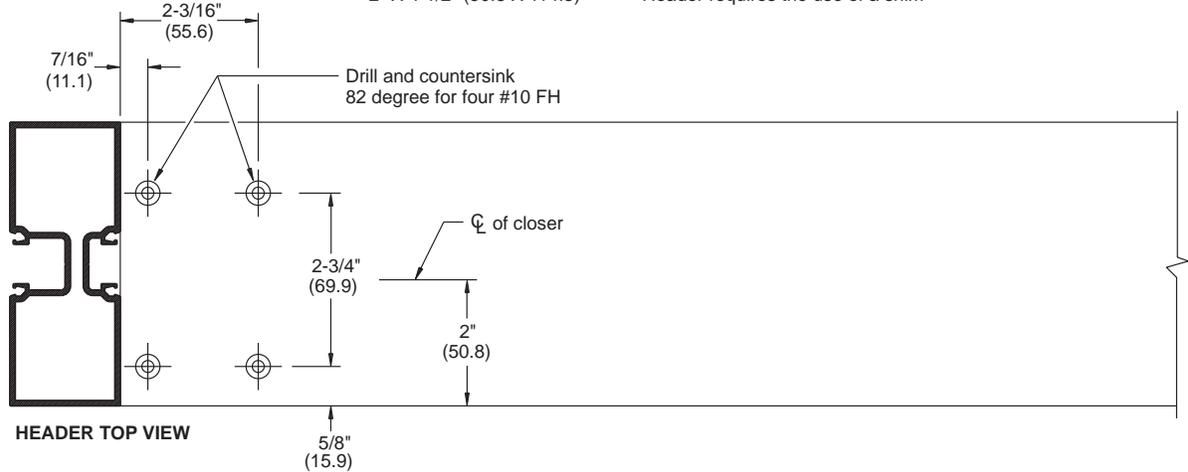
HEADER BOTTOM VIEW

NOT TO SCALE

JACKSON OVERHEAD CONCEALED CLOSER FOR OFFSET PIVOT DOOR WITH 105 DEGREE SWING

HEADER PREPARATION

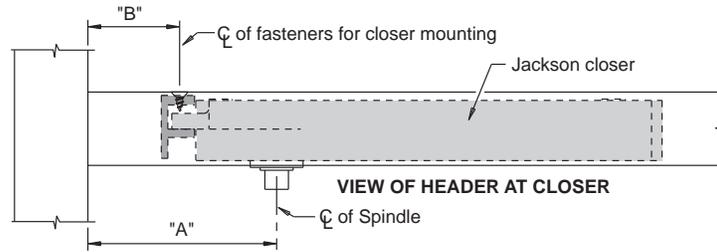
- 1-3/4" X 4-1/2" (44.5 X 114.3) Header shown
- 1-3/4" X 4" (44.5 X 101.6) Header similar
- 2" X 4-1/2" (50.8 X 114.3) Header requires the use of a shim



NOT TO SCALE

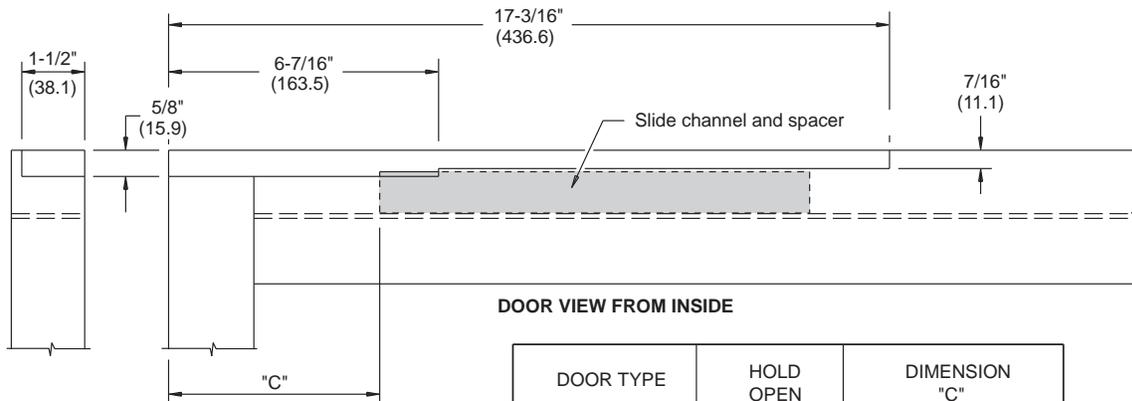
JACKSON OVERHEAD CONCEALED CLOSER

CLOSER LOCATION IN HEADER



DOOR TYPE	HOLD OPEN	DIMENSION "A"	DIMENSION "B"
CENTER PIVOT	90° OR 105°	2-3/4" (69.9)	7/16" (11.1)
OFFSET PIVOT (OP400)	105°	4-1/2" (114.3)	2-3/16" (55.6)
	90°	3-3/4" (95.3)	1-7/16" (36.5)
BUTT HINGES	105°	3-3/4" (95.3)	1-7/16" (36.5)
	90°	2-7/8" (73.0)	9/16" (14.3)

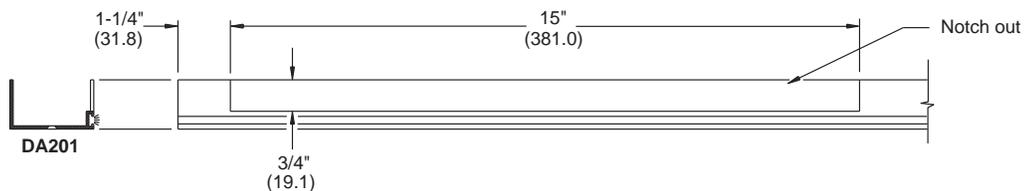
SLIDE CHANNEL LOCATION IN TOP RAIL FOR OFFSET ARM



DOOR TYPE	HOLD OPEN	DIMENSION "C"
OFFSET PIVOT (OP400)	90°	4-15/16" (125.4)
	105°	4-11/16" (119.1)
BUTT HINGES	90°	4-1/16" (103.2)
	105°	3-7/8" (98.4)

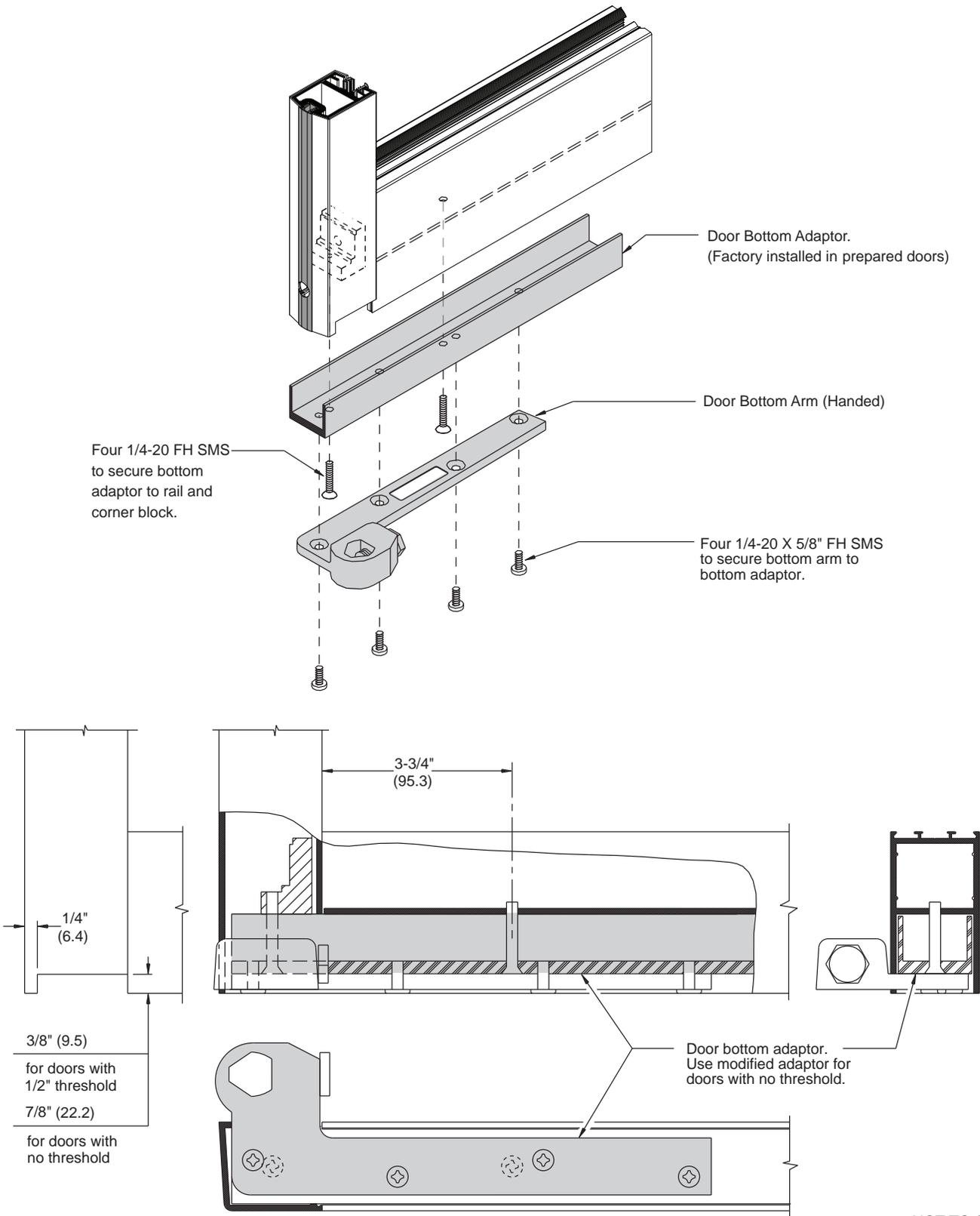
OFFSET ARM COVER CHANNEL

RIGHT HAND SHOWN; LEFT HAND OPPOSITE



NOT TO SCALE

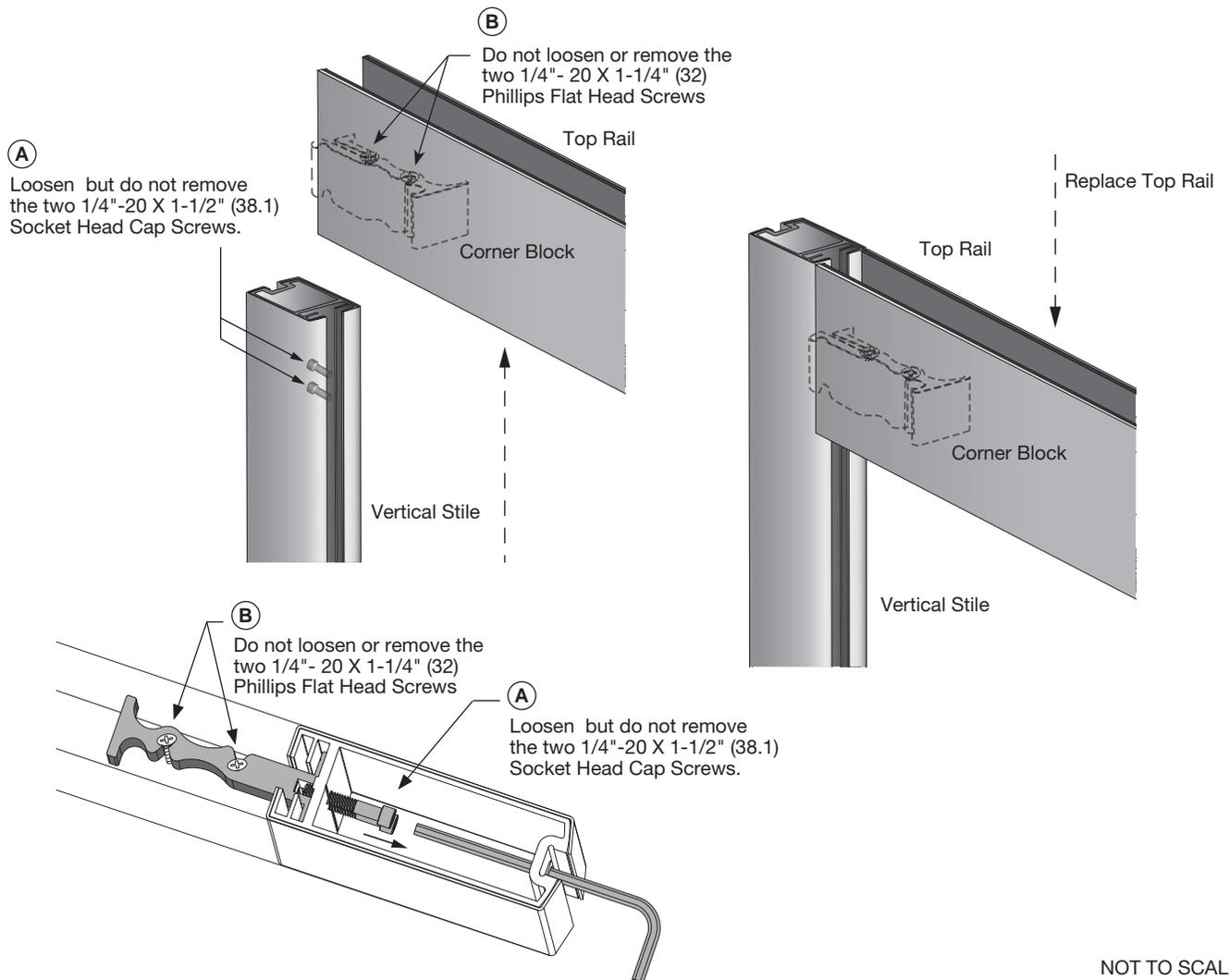
OFFSET PIVOT DOOR - FLOOR CLOSER BOTTOM ARM FOR RIXON FLOOR CLOSURE (DOR-O-MATIC SIMILAR)



NOT TO SCALE

DOOR GLAZING INSTRUCTIONS

1. Remove the Brush Weatherstrip or Weatherseal from the Door Stiles.
2. **(A)** Back out the two 1/4"-20 X 1-1/2" (38.1) Socket Head Cap screws just enough to release the Corner Blocks that secure them to the Vertical Stiles. **NOTE:** Do not loosen them all of the way.
 - (B)** Do not loosen or remove the two 1/4"-20 X 1-1/4" (32) Phillips Flat Head screws that hold the Corner Blocks to the Top Rail. **NOTE:** The Corner Blocks must remain attached to the Top Rail when removed.
3. Using a rubber mallet, tap the Top Rail up until it is free from the door frame. This will allow access to the glazing pockets.
4. Temporarily apply tape or plastic shims to each side of glass pocket edges to prevent the glass from scratching.
5. Slide the glass down and into the glazing pockets. Be sure that the Bottom Rail has two setting blocks located at one quarter points.
6. Remove protective covering in Step 4 from pocket edge. Replace the Top Rail and tighten Allen screws.
7. As you install Glazing Gaskets, start with the interior Glazing Gasket first. Then the exterior Glazing Gasket.



NOT TO SCALE



JOB SITE ESSENTIALS

Helpful Tools and Supplies for Installing CRL-U.S. Aluminum Entrances, Storefronts, Windows, and Curtain Wall Systems



CRL 95C Silicone Building Sealant



CRL RTV408 Neutral Cure Silicone



CRL 33S Acetic Cure Silicone Sealant



CRL M64 Smooth Texture Modified Polyurethane Construction Sealant



CRL M66 Grainy Texture Modified Polyurethane Construction Sealant



CRL12:1 Ratio Strap Frame Caulking Gun CAT. NO. GA1203



CRL BOCBR Series Open Cell Backer Rod



CRL Backer Rod Roller Tool CAT. NO. SBRR



CRL Vacuum Cup CAT. NO. S338



CRL Saint-Gobain/Norton V2100 Thermalbond® Structural Glazing Spacer Tape



CRL PHS Series Plastic Horseshoe Shims



CRL Digital Laser Level Tool CAT. NO. 406065



CRL Cordless Screwdriver CAT. NO. LD823



CRL 10" Portable Miter Saw CAT. NO. LS1040



CRL 10" Nordic 100 Tooth Carbide Tipped Saw Blade CAT. NO. CSB10X100AX



CRL 10" Cougar 100 Tooth Carbide Tipped Saw Blade CAT. NO. CT10X100



CRL Door Jack CAT. NO. DJ1



CRL Complete Set of Seven All Stainless Steel Spatulas CAT. NO. AB958G



CRL Hard Hat CAT. NO. ES3452



CRL Soft-Face Power Hitter CAT. NO. ST57532

SERIES FFN1, FFM1, AND FFW1 PLATINUM FULL FRAMED DOORS



**CRL Bond Breaker Tape
CAT. NO. 827T34**



**CRL Glass Cutter
CAT. NO. TC17B**



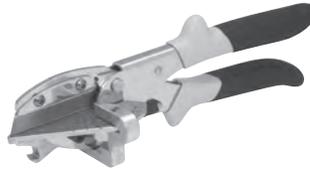
**CRL Running Pliers
CAT. NO. PPG1**



**CRL Utility Knife
CAT. NO. K82**



**CRL Gasket Roller
CAT. NO. VR10**



**CRL Gasket Cutter
CAT. NO. MC80N**



**CRL Glass Cleaner
CAT. NO. 1973**



**CRL Glass Wipes
CAT. NO. 1550**



**CRL 96" Phenolic Straight Edge
CAT. NO. SEP96**



**CRL Glazier's Rule Holder
CAT. NO. RH670**



**CRL 48" Phenolic L Square
CAT. NO. L48**



**CRL Spring Clamp
CAT. NO. JC3202HT**



**CRL 25' Tape Measure
CAT. NO. 54225**



**CRL Glass Marking Pencil
CAT. NO. GM44**



**CRL Belt Sander
CAT. NO. LD321**



**CRL Glass Grinding Belts
CAT. NO. CRL3X21120X**



**CRL Gloves
CAT. NO. KF1TL**



**CRL Utility Knife Blades
CAT. NO. 1992C**



**CRL Cordless Driver/Drill
CAT. NO. LD147**



**CRL All Terrain Dolly
CAT. NO. ATD1**