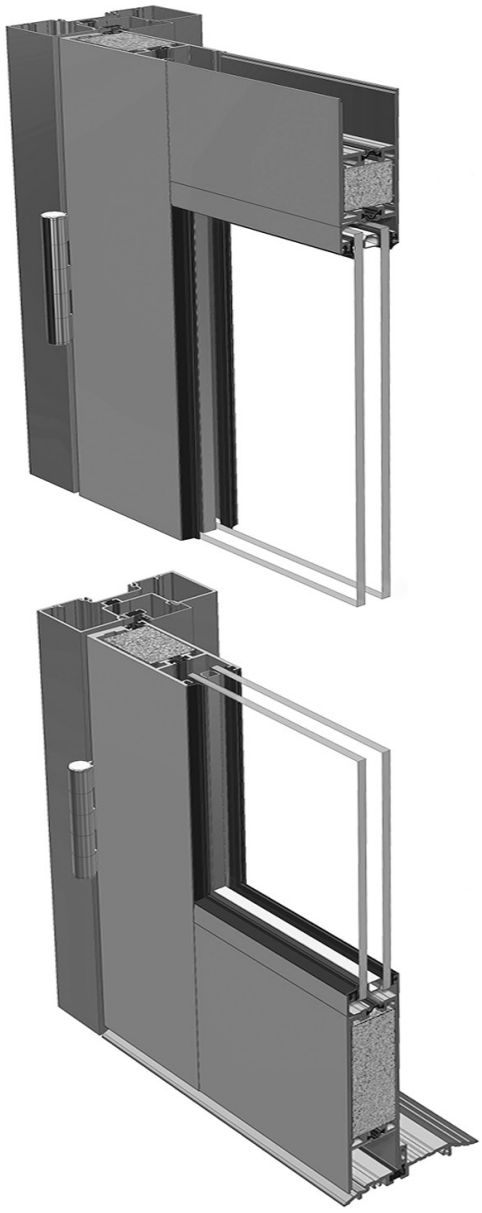
INSTALLATION INSTRUCTIONS

250T/AT, 400T/AT, AND 550T/AT
THERMAL ENTRANCE DOORS



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11M0331_REV A_01/25/19

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.
AII 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 C.R. Laurence/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, square, 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. **STEEL ANCHORS.** Steel anchors that weld to steel structure are normally line set before mullions are hung. Outstanding leg of anchors must be at 90° to offset lines. Mullion space should be held to ±1/32" (0.8). Anchor clips vary per job conditions. Follow approved shop drawings for size and location of clips.

5. **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.

6. **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.

7. **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 (CRL Cat. Nos. BC5GL or BC17A).

8. **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. This is required on every project.

9. **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.

10. **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.

11. **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.

12. **WATER HOSE TEST.** As soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m^2) a water hose test should be conducted in accordance with AAMA 501.2 specifications to check the installation. On all jobs the hose test should be repeated every 500 square feet (46.5 m^2) during the glazing operation.

13. **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.).

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.

GETTING STARTED

Introduction

Thank you for selecting the C.R. Laurence/U.S. Aluminum Thermal Entrance Doors. They have been engineered and built to our strict standards of quality and durability giving you the best aluminum framed door available. By following the instructions in this manual, we believe you will experience a trouble free installation of the system.

Should you have any question about this system or any other CRL products, please contact us at (800) 421-6144 or visit our website at **www.crlaurence.com.**

General Parts List

- ✔ Factory Assembled Thermal Door(s)
- ✔ Factory prepped Thermal Door Frame
- ✔ Hinging hardware - Offset or Pivot style
- ✔ Push/Pull hardware with security locks
- ✔ Adjustable Astragal for double doors
- ✔ Pressure-type glass stops and glazing vinyl
- ✔ Closer(s) and mounting hardware (optional)
- ✔ Panic Exit Device(s) (optional)

Tools and Supplies needed:

- ✔ 6 Ft. level
- ✔ Plastic Shims
- ✔ Silicone Sealant
- ✔ Drill Driver

SERIES 250AT, 400AT, AND 550AT GLASS FORMULAS FOR THERMAL DOORS WITH STANDARD AND 10" RAILS

GLASS HEIGHT FORMULAS FOR RAIL COMBINATIONS AND SPECIAL HEIGHT DOORS

FOR 250AT NARROW STILE DOORS

Example 1: 84" Door Opening Height with Butt Hinges or Offset Hinges and 1" (25 mm) Glass: Standard 2-7/8" Top Rail and 4-5/16" Bottom Rail with 1/2" Threshold.
FORMULA: 84" - [7"] = 77" Glass Height Size.
EXAMPLE 2: 84" Door Opening Height with Butt Hinges or Offset Hinges and 1" (25 mm) Glass: Standard 2-7/8" Top Rail and 10" Bottom Rail with 1/2" Threshold.
FORMULA: 84" - [12-11/16"] = 71-5/16" Glass Height Size.

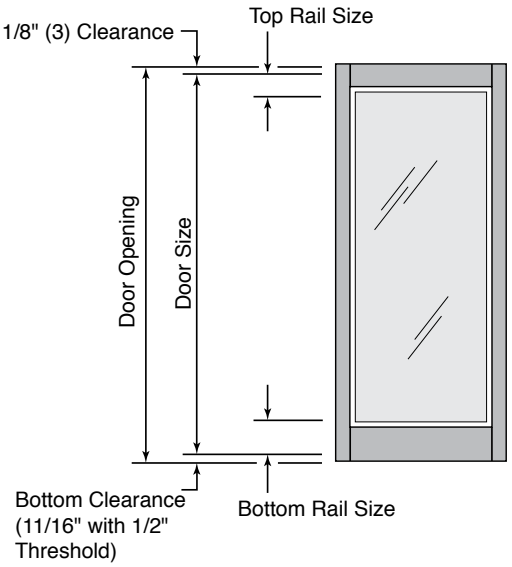
RAIL SIZES		DOOR CLEARANCES	
HT201	2-7/8"	**At Top Rail**	1/8"
HT101	4-5/16"	**At Bottom Rail**	11/16"@1/2" Threshold
WT201	6"		
JT650	7-1/4"		
WT196	10"		

FOR 400AT MEDIUM STILE DOORS

Example 1: 84" Door Opening Height with Butt Hinges or Offset Hinges and 1" (25 mm) Glass: Standard 6" Top Rail and 7-1/4" Bottom Rail with 1/2" Threshold.
FORMULA: 84" - [13-1/16"] = 70-15/16" Glass Height Size.
EXAMPLE 2: 84" Door Opening Height with Butt Hinges or Offset Hinges and 1" (25 mm) Glass: Standard Top Rail and 10" Bottom Rail with 1/2" Threshold.
FORMULA: 84" - [15-13/16"] = 68-3/16 " Glass Height Size.

FOR 550AT MEDIUM STILE DOORS

Example 1: 84" Door Opening Height with Butt Hinges or Offset Hinges and 1" (25 mm) Glass: Standard 4-5/16" Top Rail and 7-1/4" Bottom Rail with 1/2" Threshold.
FORMULA: 84" - [11-3/8"] = 72-5/8" Glass Height Size.
EXAMPLE 2: 84" Door Opening Height with Butt Hinges or Offset Hinges and 1" (25 mm) Glass: Standard 4-5/16" Top Rail and 10" Bottom Rail with 1/2" Threshold.
FORMULA: 84" - [14-1/8"] = 69-7/8" Glass Height Size.



GLASS WIDTH FORMULAS

DOORS WITH BUTT HINGES OR OFFSET PIVOTS

DOOR STILE		1" (25 mm) GLASS
SERIES 250AT NARROW STILE	SINGLE DOOR	DOOR OPENING MINUS 5-5/16"
	PAIR OF DOORS	DOOR OPENING DIVIDED BY 2, MINUS 5-5/16"
SERIES 400AT MEDIUM STILE	SINGLE DOOR	DOOR OPENING MINUS 7-13/16"
	PAIR OF DOORS	DOOR OPENING DIVIDED BY 2, MINUS 7-13/16"
SERIES 550AT WIDE STILE	SINGLE DOOR	DOOR OPENING MINUS 10-5/16"
	PAIR OF DOORS	DOOR OPENING DIVIDED BY 2, MINUS 10-5/16"

DOORS WITH GEARED HINGES

DOOR STILE		1" (25 mm) GLASS
SERIES 250AT NARROW STILE	SINGLE DOOR	DOOR OPENING MINUS 5-9/16"
	PAIR OF DOORS	DOOR OPENING DIVIDED BY 2, MINUS 5-9/16"
SERIES 400AT MEDIUM STILE	SINGLE DOOR	DOOR OPENING MINUS 8-1/16"
	PAIR OF DOORS	DOOR OPENING DIVIDED BY 2, MINUS 8-1/16"
SERIES 550AT WIDE STILE	SINGLE DOOR	DOOR OPENING MINUS 10-9/16"
	PAIR OF DOORS	DOOR OPENING DIVIDED BY 2, MINUS 10-9/16"

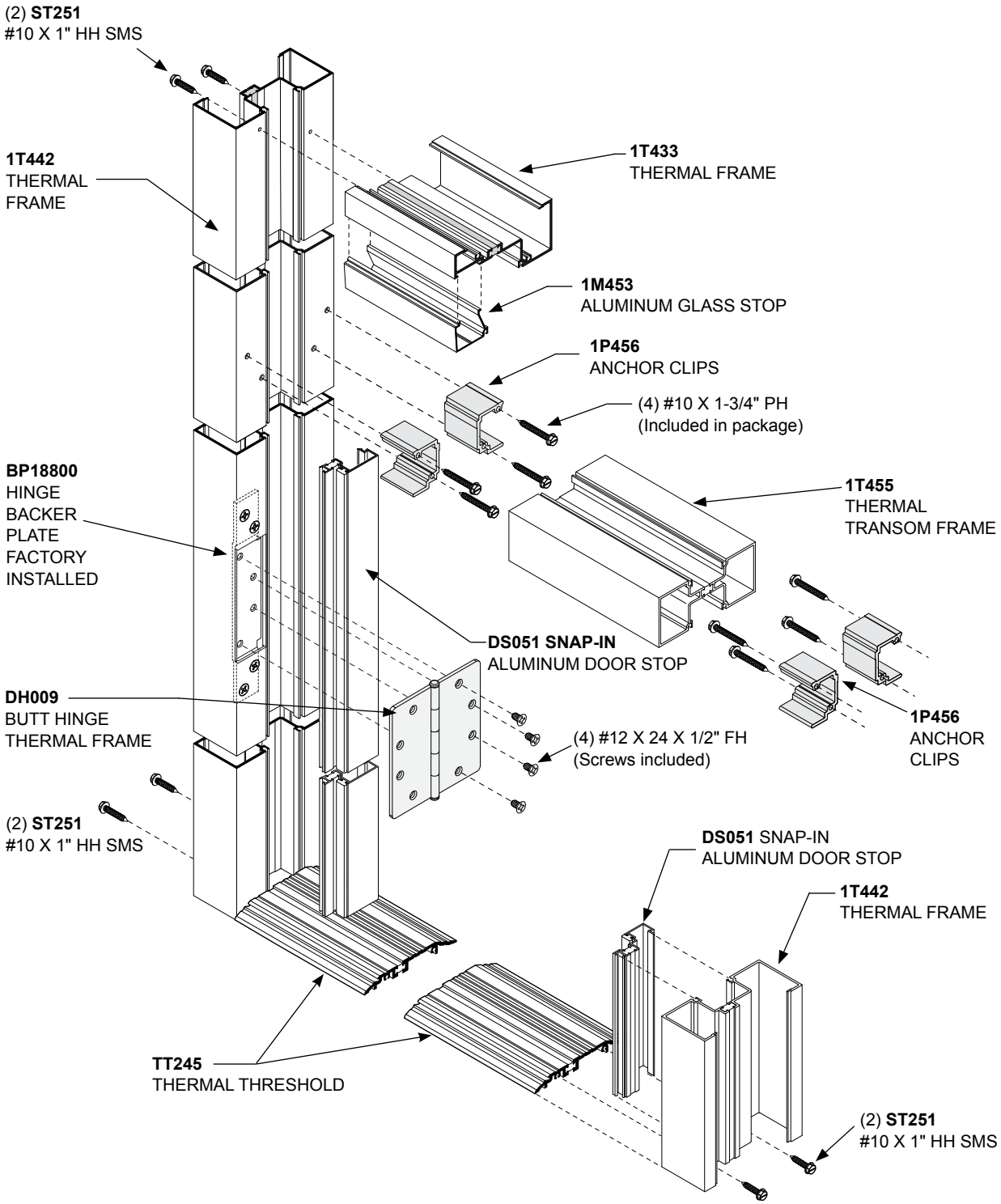
GLASS HEIGHT FORMULAS*

DOOR STILE	1" (25 mm) GLASS WITH STANDARD BOTTOM RAIL	1" (25 mm) GLASS WITH 10" BOTTOM RAIL
250T NARROW STILE	DOOR OPENING MINUS 7"	DOOR OPENING MINUS 12-11/16"
400T MEDIUM STILE	DOOR OPENING MINUS 11-3/8"	DOOR OPENING MINUS 14-1/8"
550T WIDE STILE	DOOR OPENING MINUS 13-1/16"	DOOR OPENING MINUS 15-13/16"

* Including 1/2" Threshold
"Door Opening" refers to D.L.O. (Day Light Opening) of the door frame and is standard throughout this manual.

FRAME UNIT FOR BUTT HUNG DOOR WITH SURFACE CLOSER

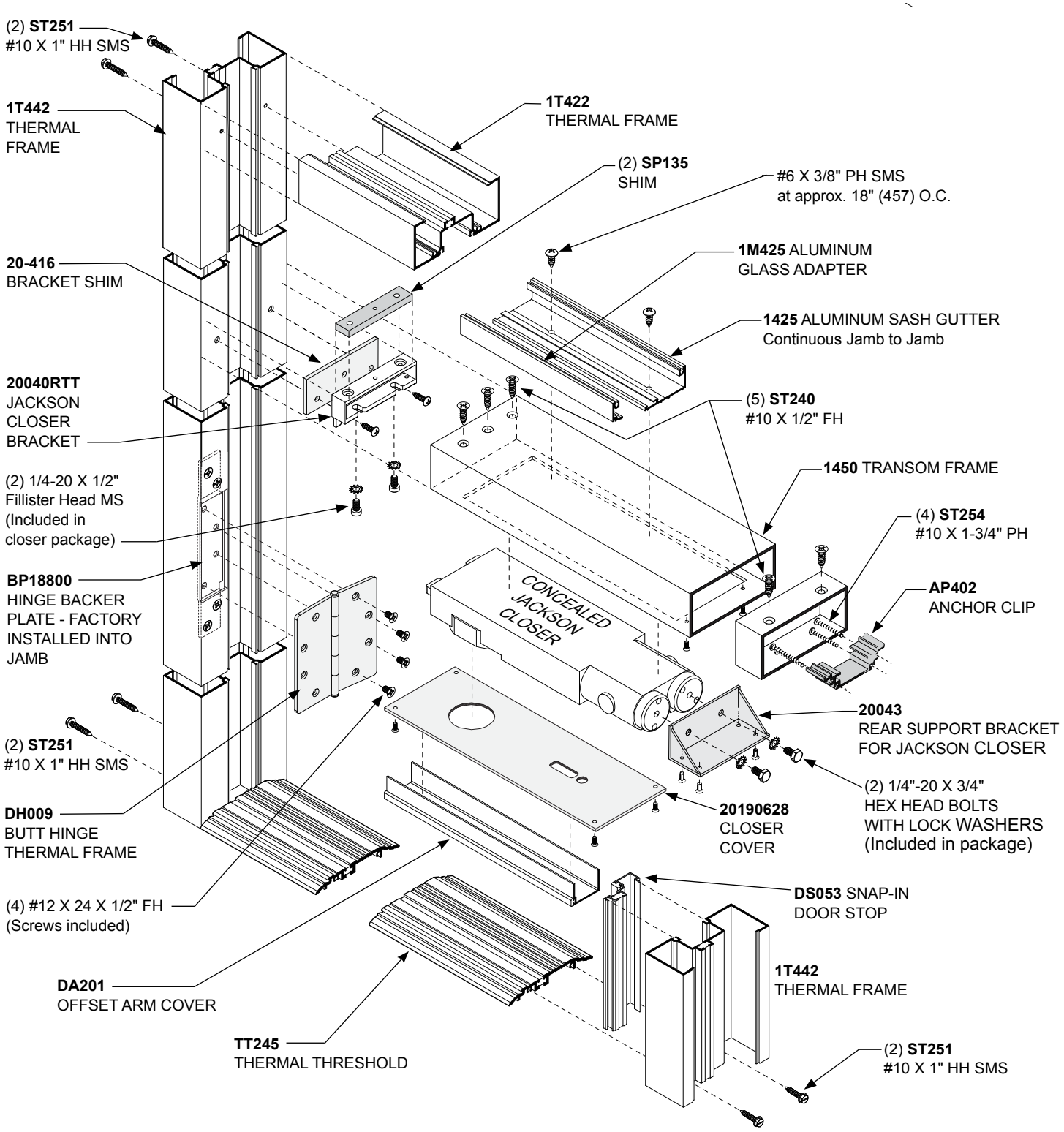
1T442 OPEN BACK FRAME SHOWN
TT461 SIMILAR



NOT TO SCALE

FRAME UNIT FOR BUTT HUNG DOOR WITH CONCEALED CLOSER AND OFFSET ARM

1T442 OPEN BACK FRAME SHOWN
TT461 SIMILAR

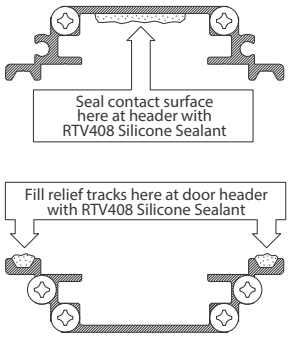


NOT TO SCALE

DOOR FRAME ASSEMBLY

ASSEMBLY INSTRUCTIONS:

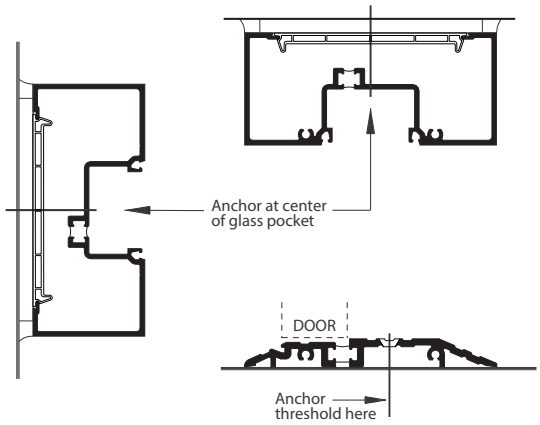
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional AF100 sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates 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).



DETAIL A

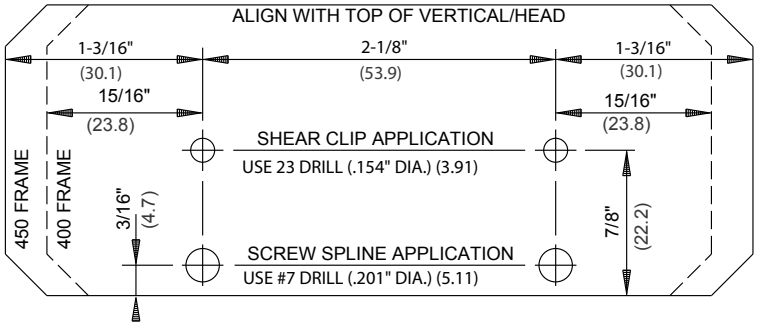
INSTALLATION INSTRUCTIONS:

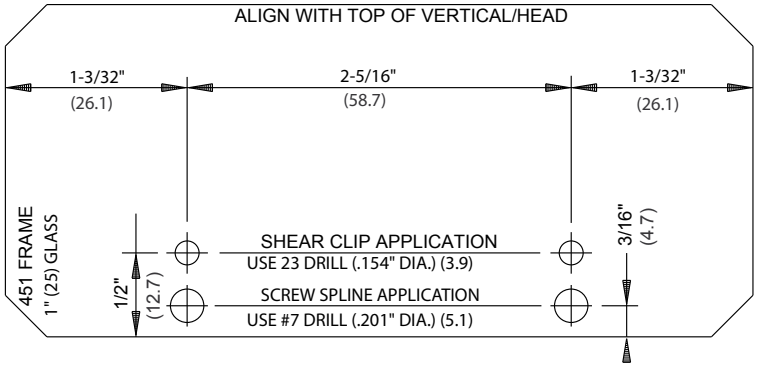
1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws starting 6" (152.4) from corners and not more than 24" (609.6) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. **See DETAIL B**
4. Install offset arm cover channel onto door header. Snap door stop with weatherstrip into jambs.
5. Attach sash to door header with ST135 #6 x 3/8" P.H. at 18" (457.2) O.C.
6. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom.
7. Install sash glazing bead.
8. Roll-in glazing gaskets for jambs and header.



DETAIL B

TEMPLATES ARE FOR EXTREME HEAD ONLY

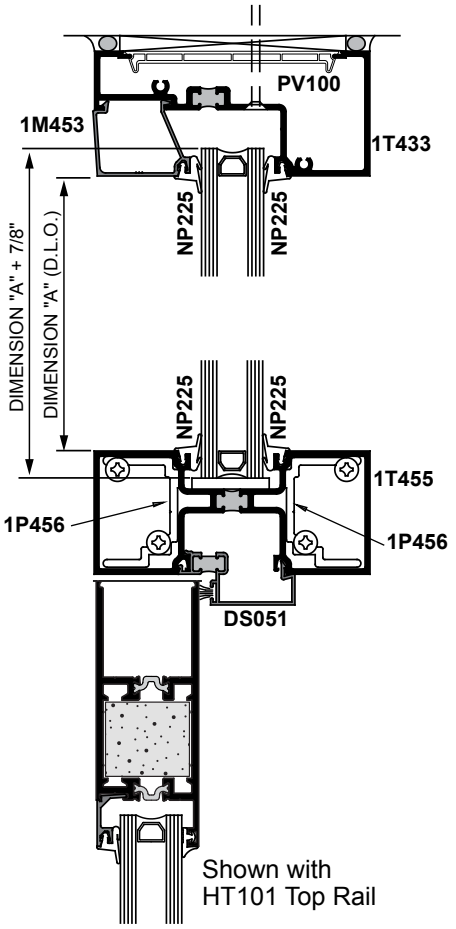




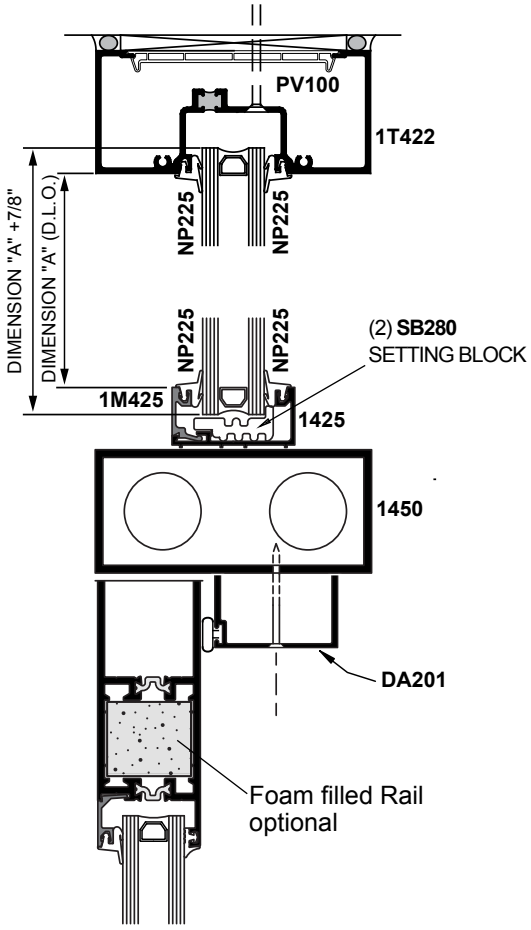
NOT TO SCALE

DOOR FRAME ASSEMBLY

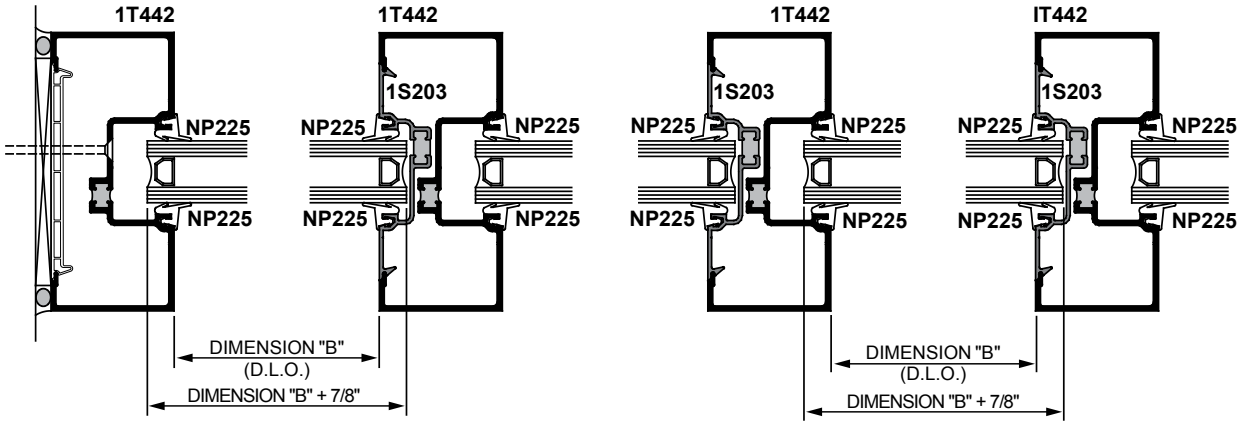
GLASS SIZE FORMULA AT TRANSOM



For Surface Mount Closer



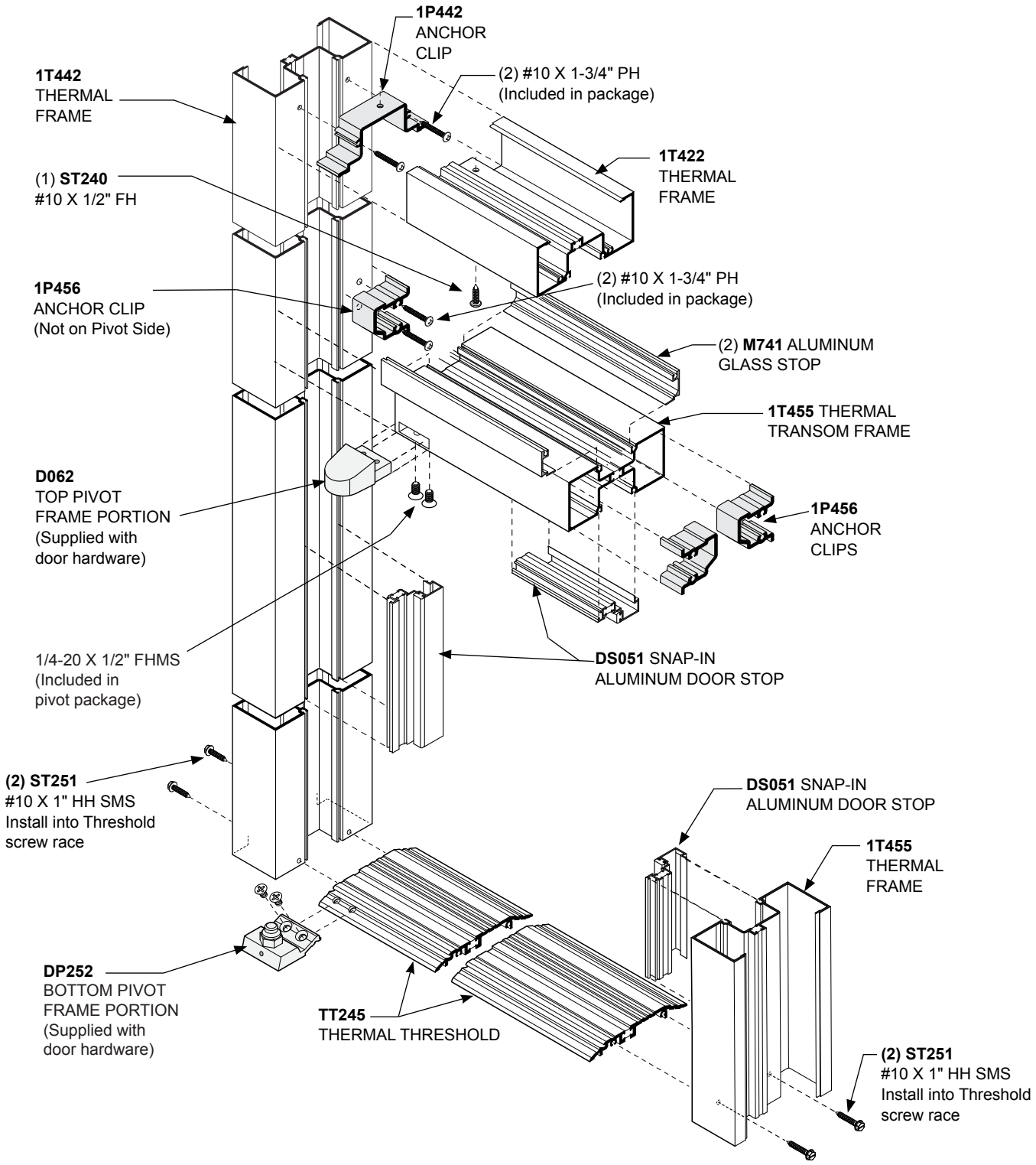
For Concealed Overhead Closer



NOT TO SCALE

FRAME UNIT FOR OFFSET PIVOTED DOOR WITH SURFACE CLOSER

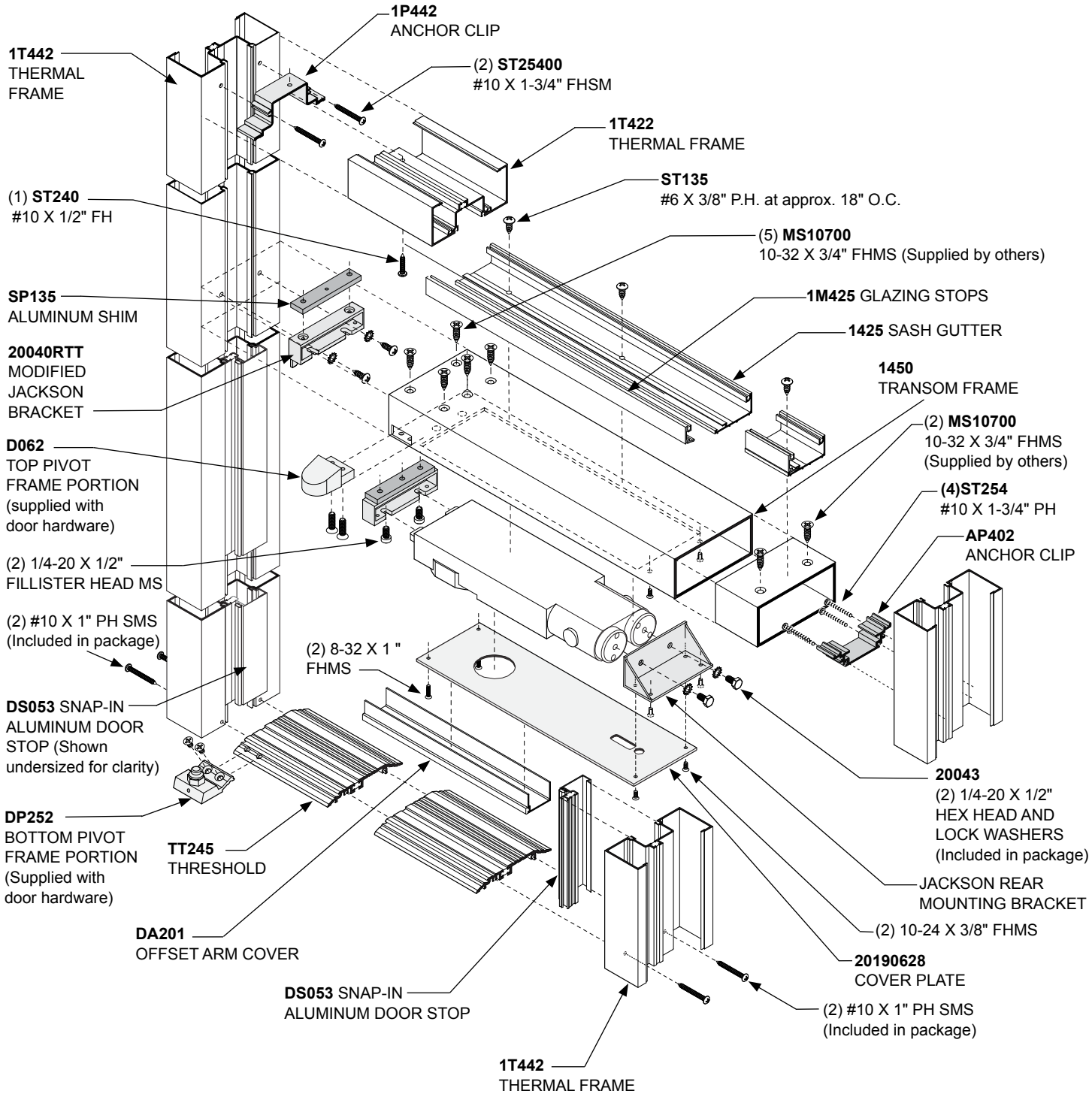
1T442 FRAME SHOWN
TT461 SIMILAR



NOT TO SCALE

FRAME UNIT FOR OFFSET PIVOTED DOOR WITH CONCEALED CLOSER AND OFFSET ARM

1T442 FRAME SHOWN
TT461 SIMILAR

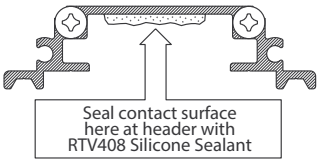


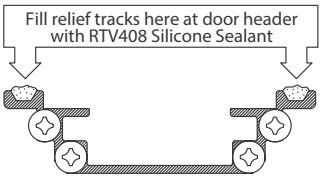
NOT TO SCALE

DOOR FRAME ASSEMBLY

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. Attach bottom pivot(s) to threshold, then attach threshold to assembly.
8. Install top pivot to door header.

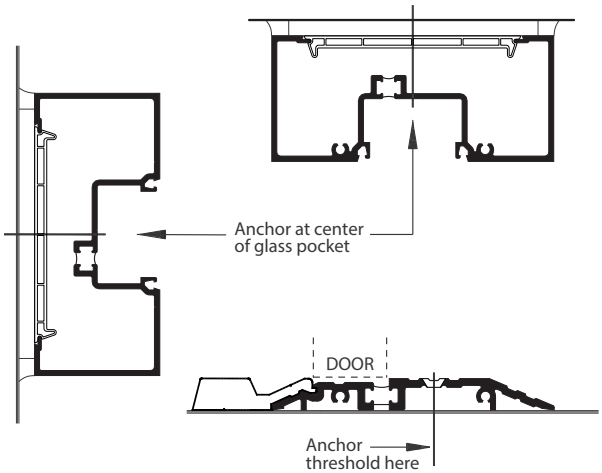




DETAIL A

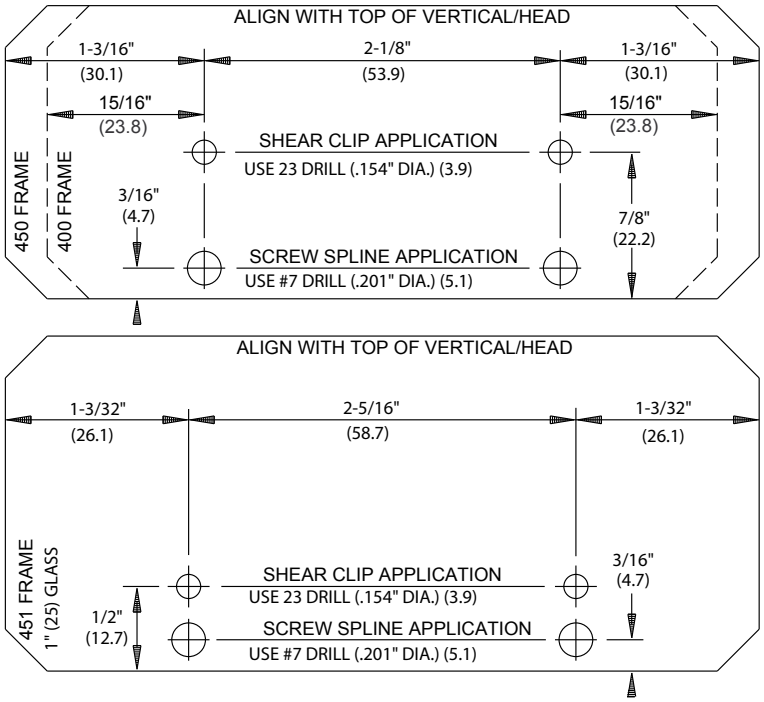
INSTALLATION INSTRUCTIONS:

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 24" (609.6) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. **See DETAIL B**
4. Snap door stops with weatherstrip into jambs and door header. Jamb stops run through.
5. For 1" (25) glazing, snap jamb sash into jambs. Jamb sash runs through.
6. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom.
7. Install sash glazing bead.
8. Roll-in glazing gaskets for jambs and header.



DETAIL B

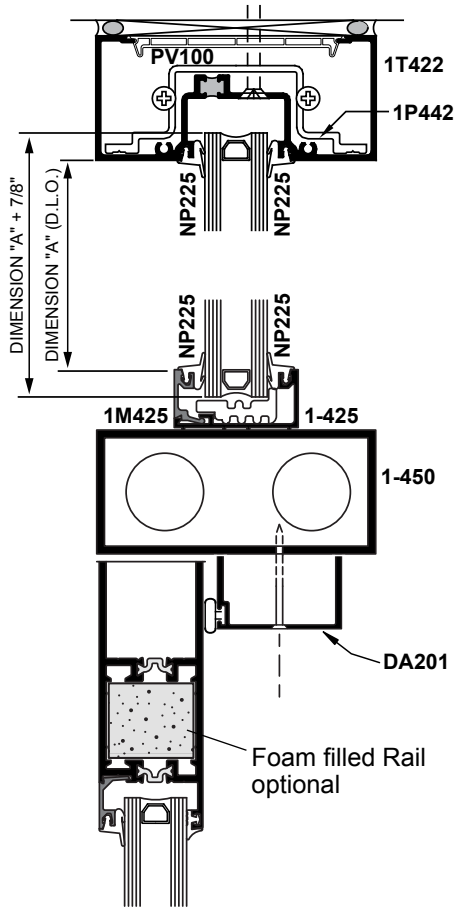
TEMPLATES ARE FOR EXTREME HEAD ONLY



NOT TO SCALE

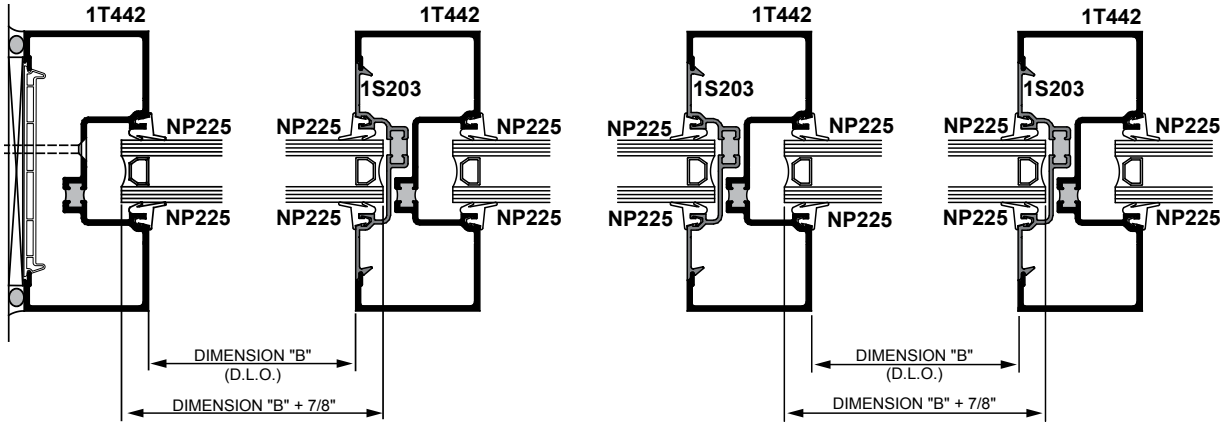
DOOR FRAME ASSEMBLY

GLASS SIZE FORMULA AT TRANSOM



For Both Surface Mount Closer and Concealed Overhead Closer

For Concealed Overhead Closer



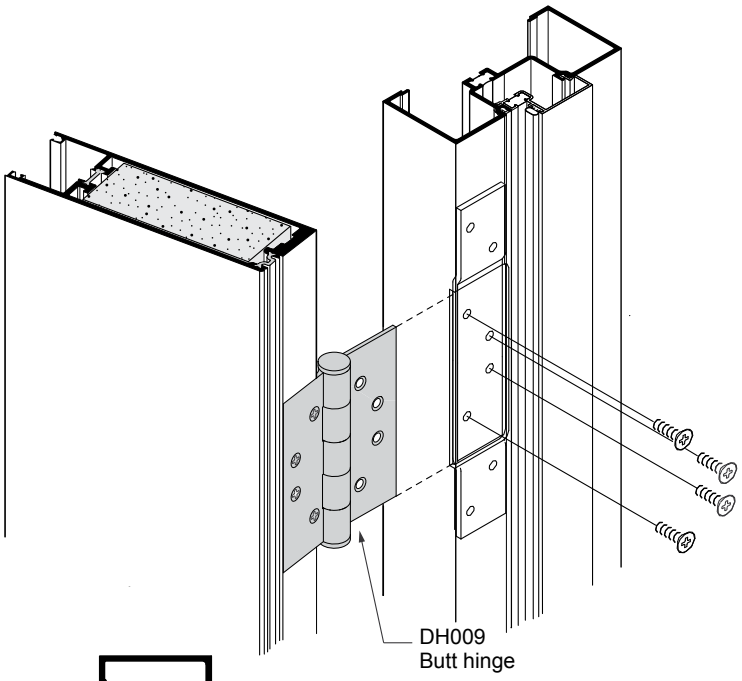
NOT TO SCALE

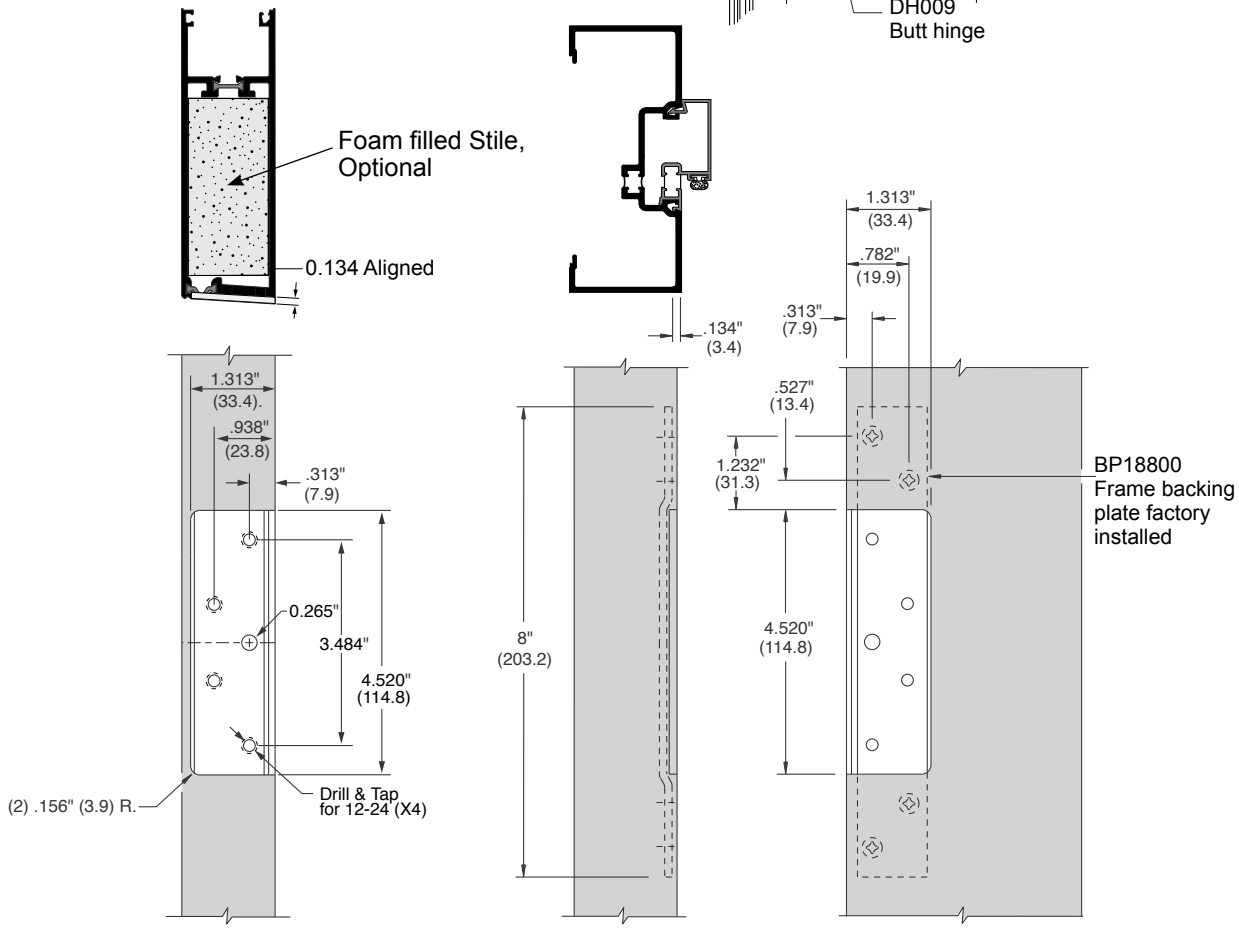
DH009 BUTT HINGE

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.



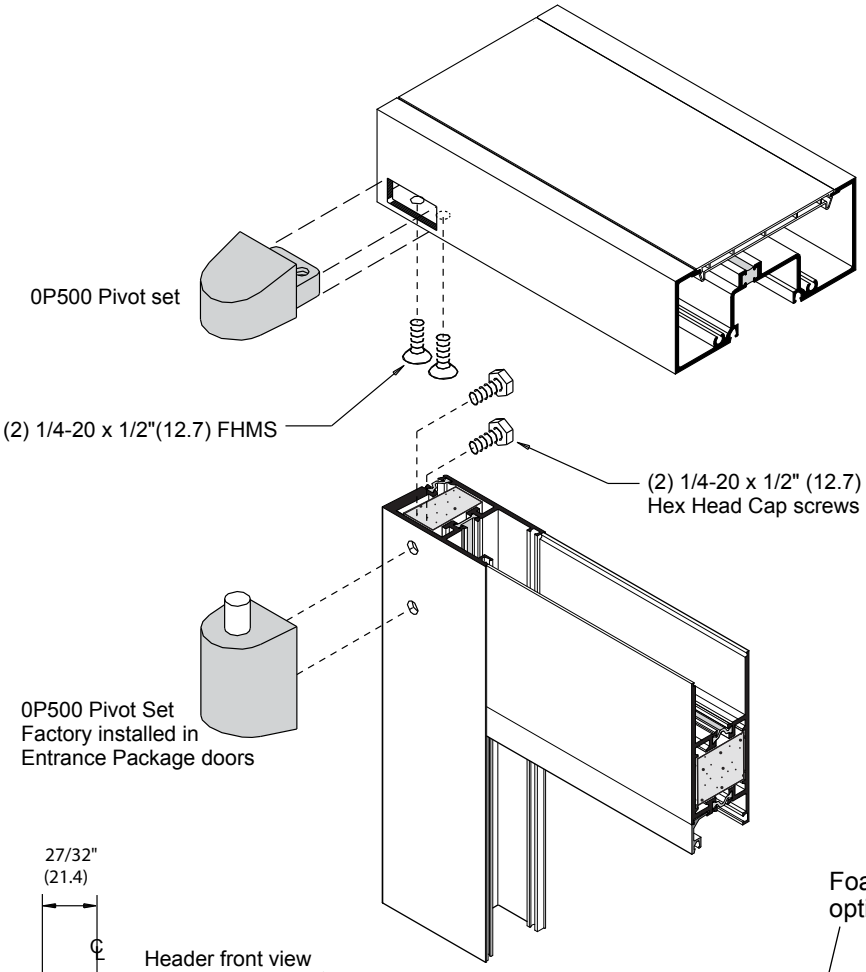


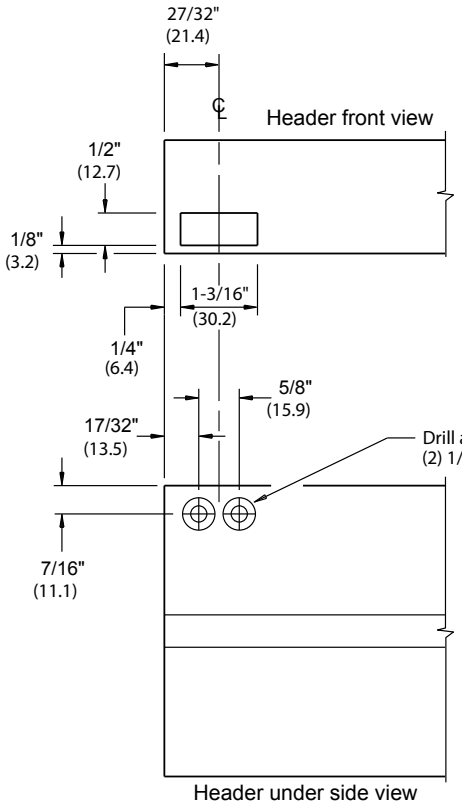
SIDE VIEW **FRONT VIEW** **SIDE VIEW**

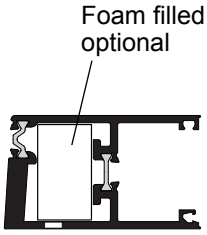
DOOR PREPARATION **FRAME PREPARATION**

NOT TO SCALE

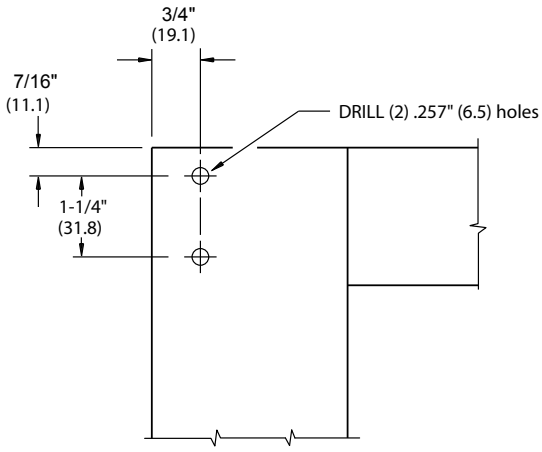
OFFSET PIVOT - TOP PORTION





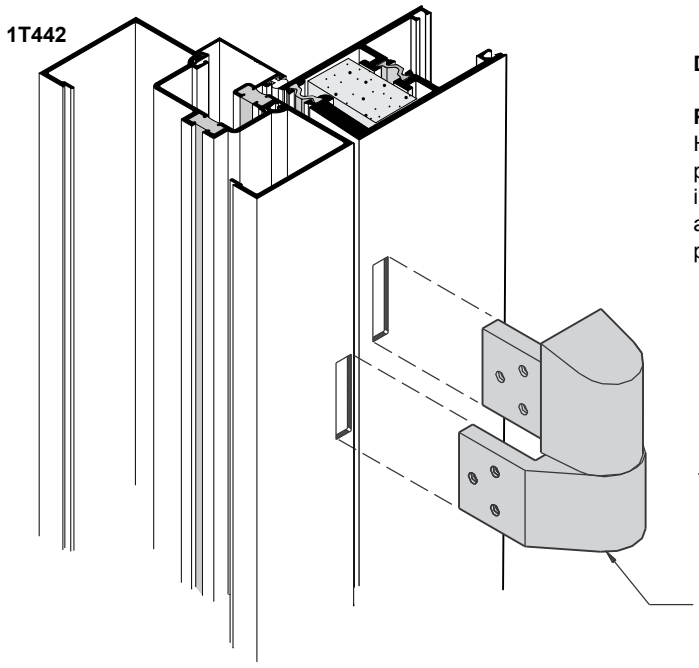


250-T STILE CROSS SECTION



NOT TO SCALE

DH322 INTERMEDIATE PIVOT

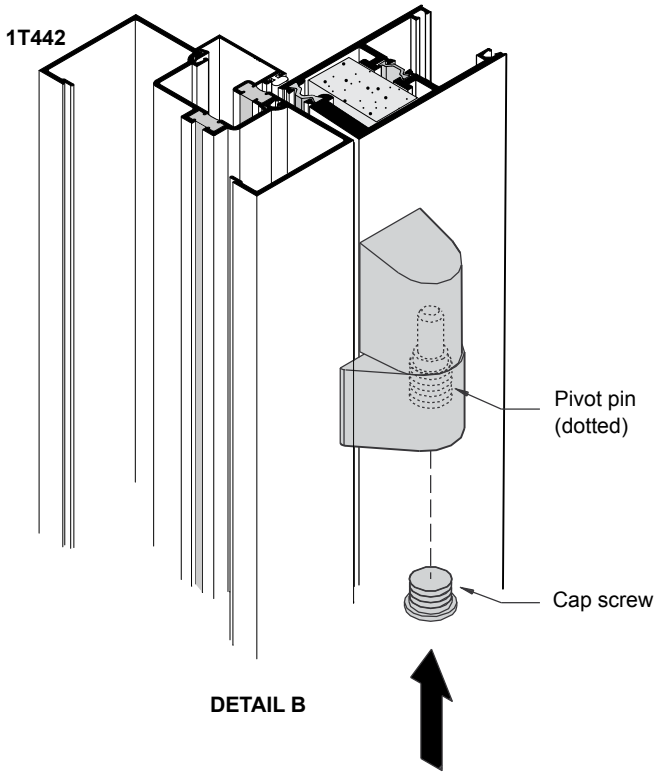


DETAIL A

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**

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



DETAIL B

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

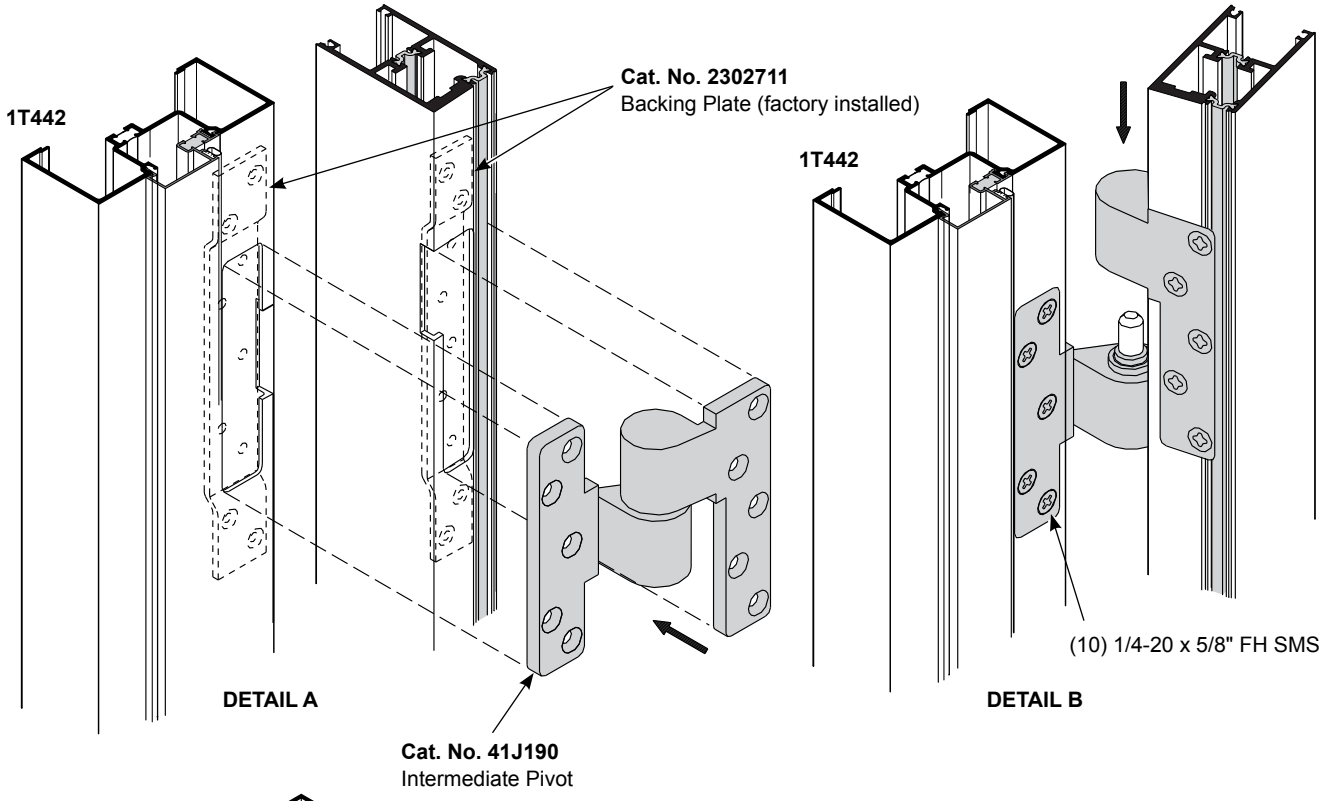
NOT TO SCALE

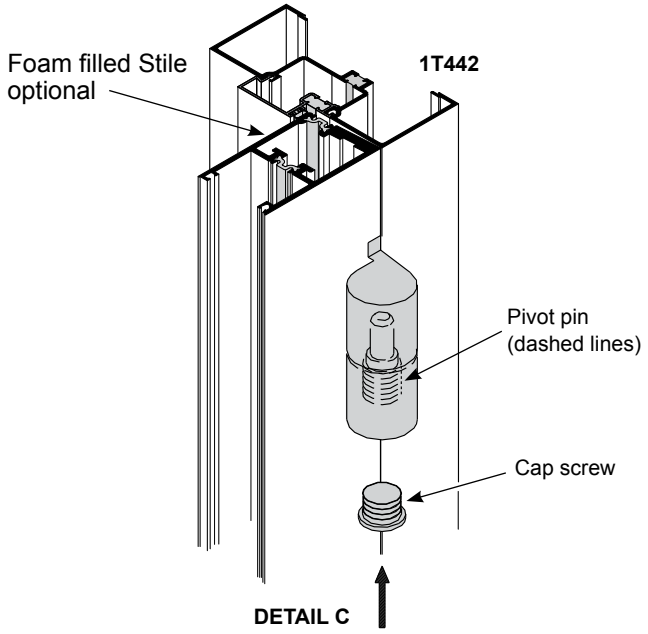
DH010 INTERMEDIATE PIVOT (RIXSON M19 SIMILAR)

Condition 1: Door can open to 180º.....USE PROCEDURE A, B, or C

Condition 2: Door can open more than 95º, but less than 180º.....USE PROCEDURE B or C

Condition 3: Door can open less than 95º.....USE PROCEDURE C





PROCEDURE A
Hang door on top and bottom pivots. Swing door open to 180º and install **Cat. No. 41J190** (assembled together) with (10) 1/4-20 X 5/8" FH SMS provided. **See DETAIL A**

PROCEDURE B
Do not install top pivot frame portion. Install pivot leaves on frame and door with screws provided. Place door upright in the 95º, or more, open position (to clear header). Lift door onto intermediate pivot pin and floor pivot. Hold down top pivot pin to install top pivot frame portion. **See DETAIL B**

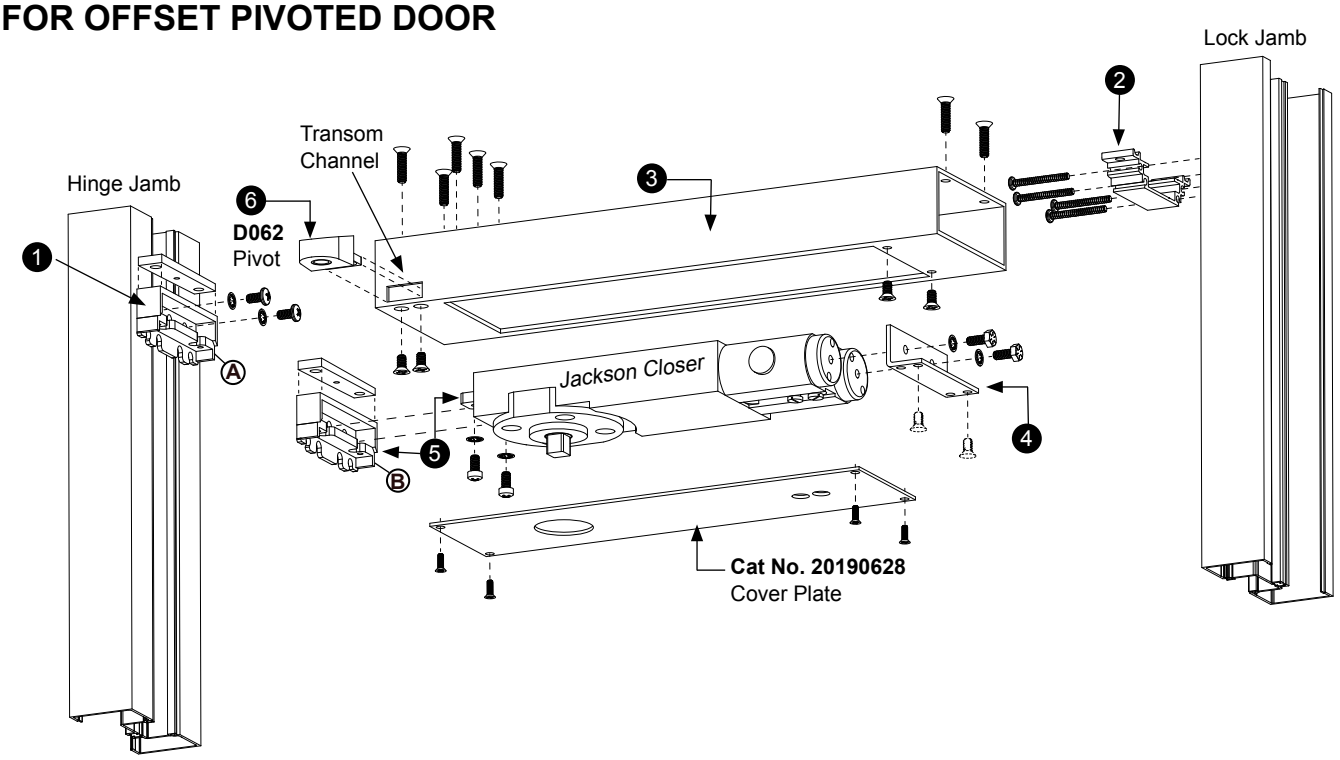
PROCEDURE C
Install pivot leaves on frame and door with screws provided. Remove cap screw from jamb portion of pivot and lower pin to clear. Hang door on top and bottom pivots. Raise pivot pin, as required and replace cap screw. **See DETAIL C**

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

NOT TO SCALE

DOOR FRAME ASSEMBLY

HEAD CONCEALED CLOSER FOR OFFSET PIVOTED DOOR



1. Attach the two Jackson Mounting Brackets and Shims, **Cat. No. 20040RTT** and **SP135**. The bracket Ⓐ is attached to the Hinge Jamb with the screws and lock washers provided in the kit. The bracket Ⓑ is installed onto the Head with (3) #10-32 X 3/4" FHMS. Match the hole pattern on the Head.

2. Attach an Anchor Clip, **Cat. No. AP402**, to the opposite Jamb with (4) #10 X 1-3/4" PHSMS. It should be level and in alignment with the Jackson bracket.

3. Place the Transom extrusion, **Cat. No. 1450**, over the bracket and anchor clip, align the holes and secure with (4) #10-32 X 3/4" FHMS.

4. Attach the Rear Mounting Bracket **Cat. No. 20043**, to the Jackson Closer using (2) 1/4-20 X 1/2" Hex Head Bolts and Lock Washers.

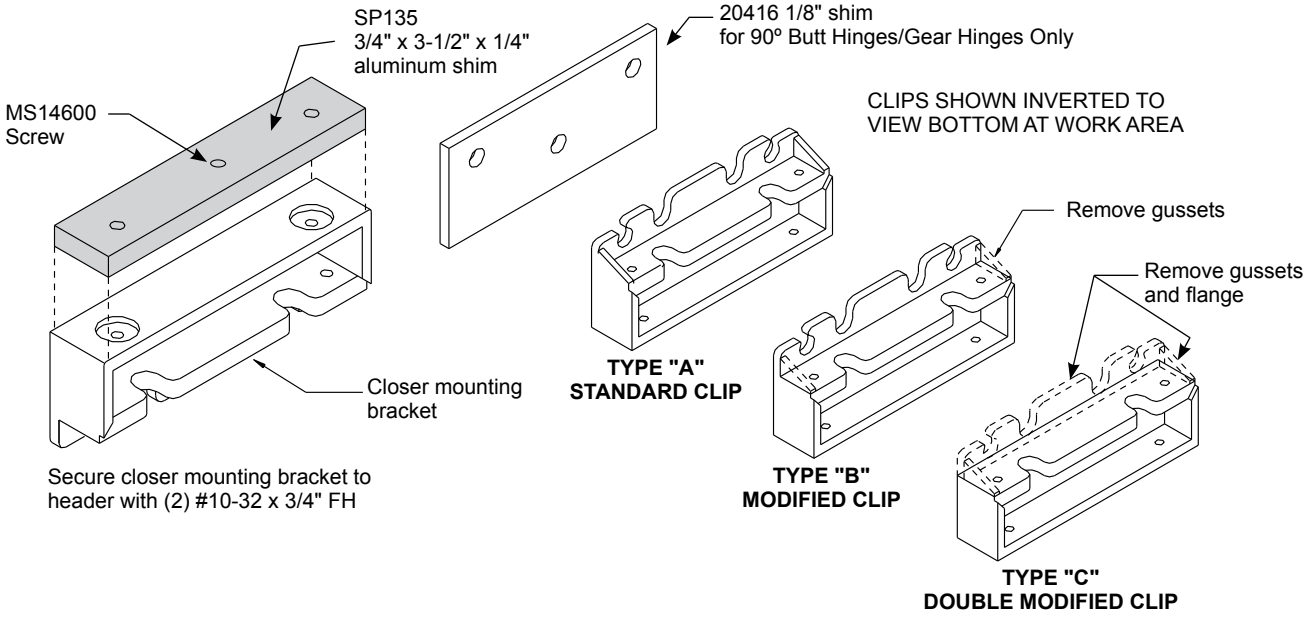
5. Insert the Jackson Closer into the Transom Channel, and set the front tabs onto the ledge of bracket Ⓑ installed in Step 1. Raise the Rear Mounting Bracket of the closer up and attach it to the Transom using (2) #10-24 X 3/8" Flat Head Machine Screws. Secure the Jackson Closer to Bracket Ⓑ with (2) 1/4"- 20 X 1/2" Filister Head Machine Screws and Lock Washers.

6. Attach the Top Pivot Frame portion, **Cat. No. D062**, through the notch in the Transom Channel using (2) 1/4-20 X 1/2" Flat Head Machine Screws. Finish by installing the Cover Plate, **Cat. No. 20190628** onto the bottom of the Transom Channel. Secure Plate with (2) 8-32 FHMS through the front tabs and (2) 10-24 FHMS, into the Rear Mounting Bracket.

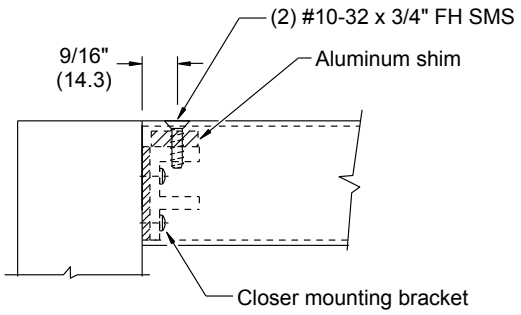
NOT TO SCALE

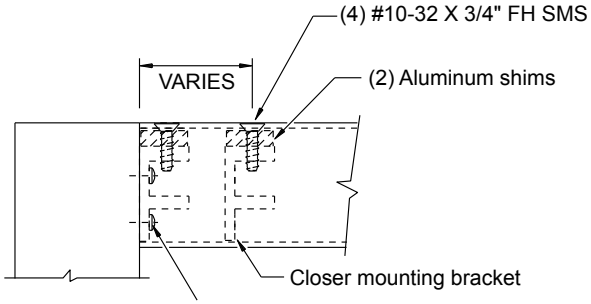
HEADER FOR JACKSON OVERHEAD CONCEALED CLOSER WITH OFFSET ARM

To mount closer into 2"(50.8) high headers a 1/4" (6.4) shim is required.
For balance of header installation see pages 47 through 55.

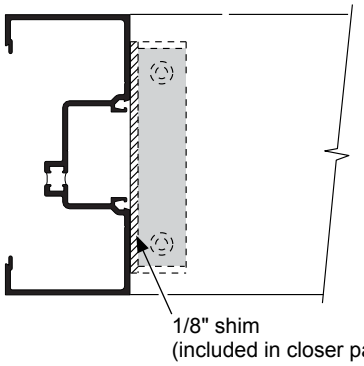


Secure closer mounting bracket to header with (2) #10-32 x 3/4" FH

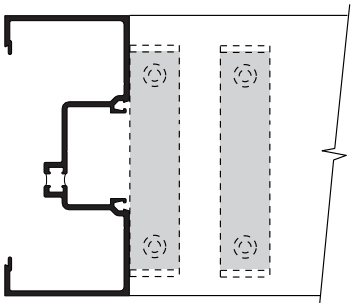




Header mounting bracket Option: **APK402** anchor clip may also be used to fasten header to jamb when using a Jackson closer with 105º swing HO and offset pivot.



JACKSON OHCC with butt hung door 90º swing and gear hung

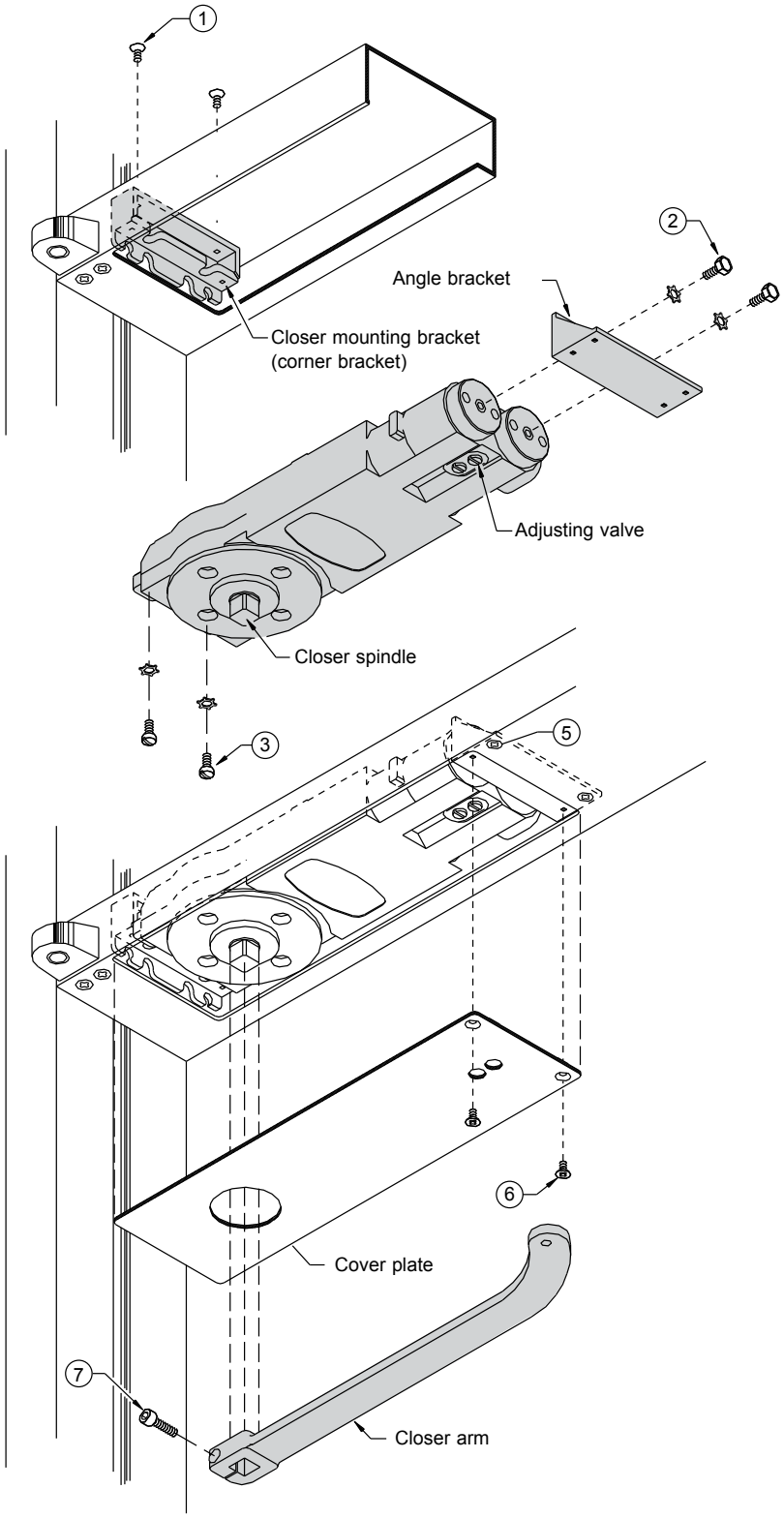


JACKSON OHCC with offset pivoted door

JACKSON OHCC with butt hung door 105º swing

NOT TO SCALE

JACKSON OVERHEAD CONCEALED CLOSER FOR OFFSET PIVOTED DOOR



1. Mount corner bracket into header with (2) 10-32 x 3/8" FH SMS. See pages 49 and 50 for bracket location.

2. Mount angle bracket to closer with (2) 1/4-20 x 1/2" Hex Head SMS and washers.

3. Install (2) 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 (2) 10-24 x 3/8" FH SMS. Tighten Fillister Head screws.

6. Install cover plate and secure to angle with (2) 10-24 x 3/8" FH SMS.

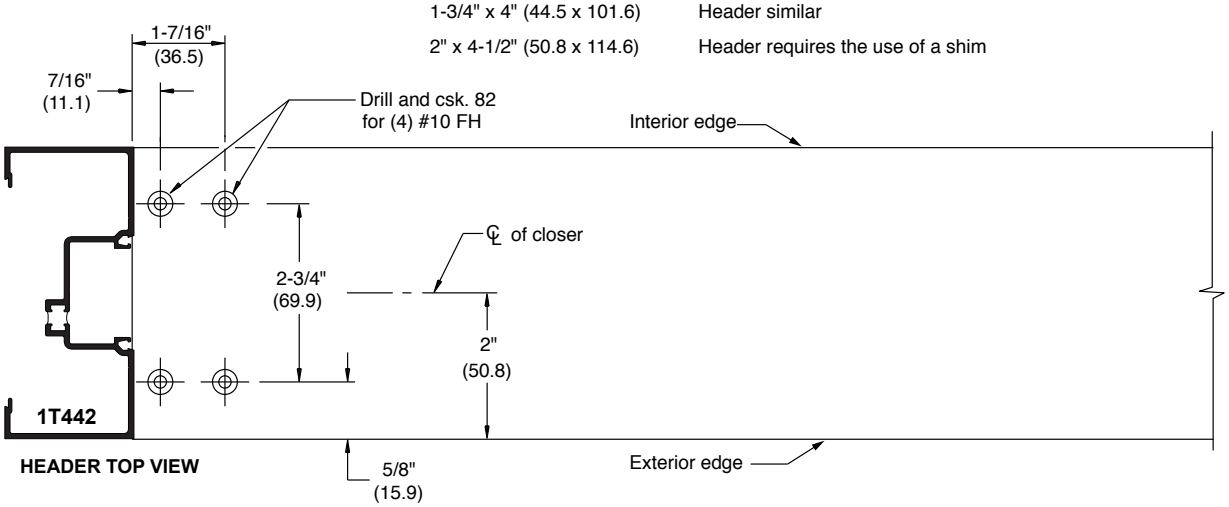
7. Mount arm on spindle and secure with 1/4-20 x 7/8" Socket Head Cap Screw.

NOT TO SCALE

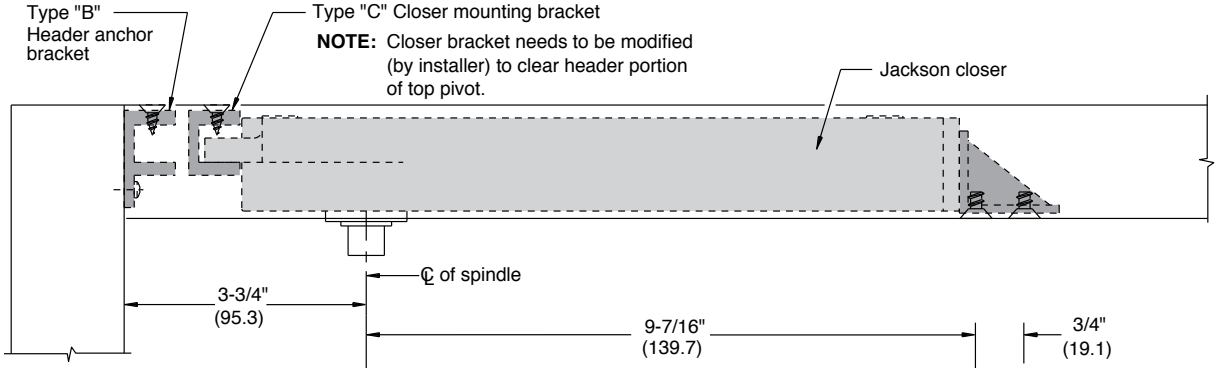
JACKSON OVERHEAD CONCEALED CLOSER FOR OFFSET PIVOTED DOOR WITH 90° SWING

HEADER PREPARATION

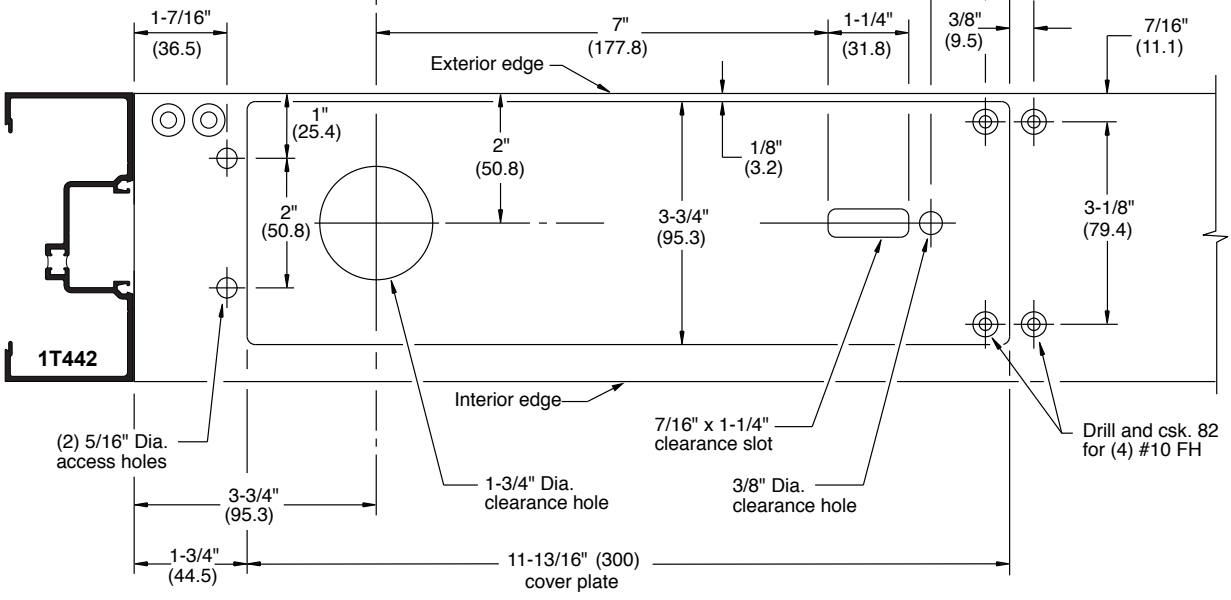
1-3/4" x 4-1/2" (44.5 x 114.3)	Header shown
1-3/4" x 4" (44.5 x 101.6)	Header similar
2" x 4-1/2" (50.8 x 114.6)	Header requires the use of a shim



HEADER TOP VIEW



HEADER SIDE VIEW



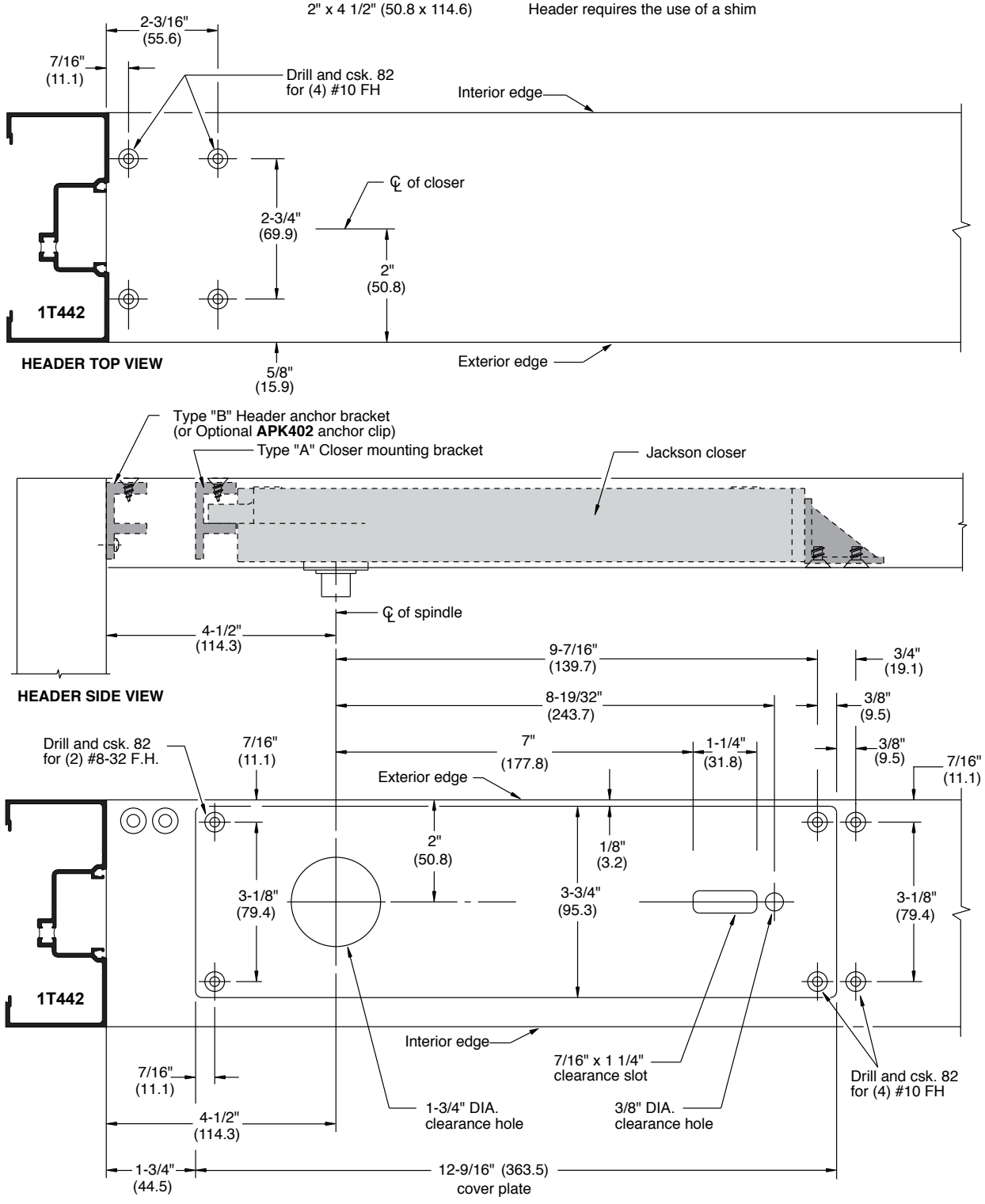
HEADER BOTTOM VIEW

NOT TO SCALE

JACKSON OVERHEAD CONCEALED CLOSER FOR OFFSET PIVOTED DOOR WITH 105° 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 114.6)	Header requires the use of a shim

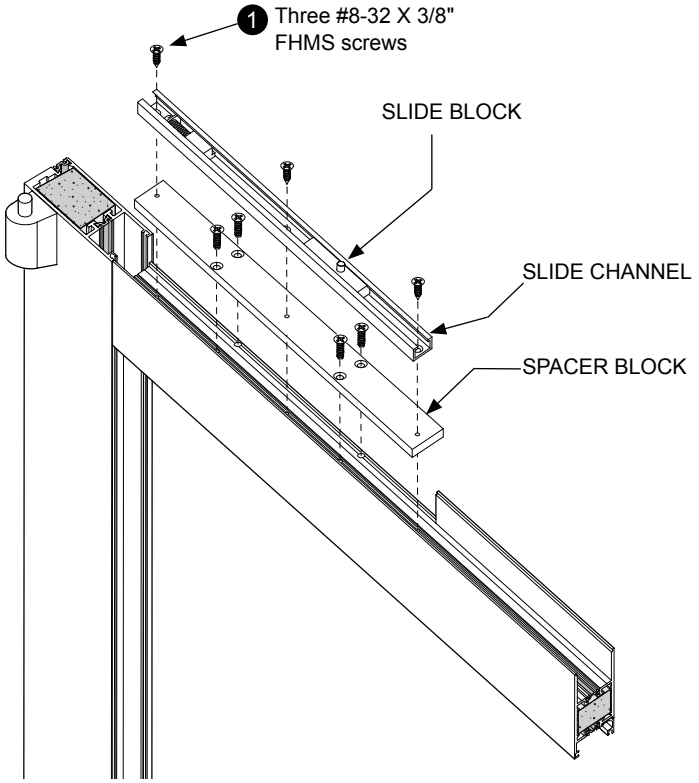


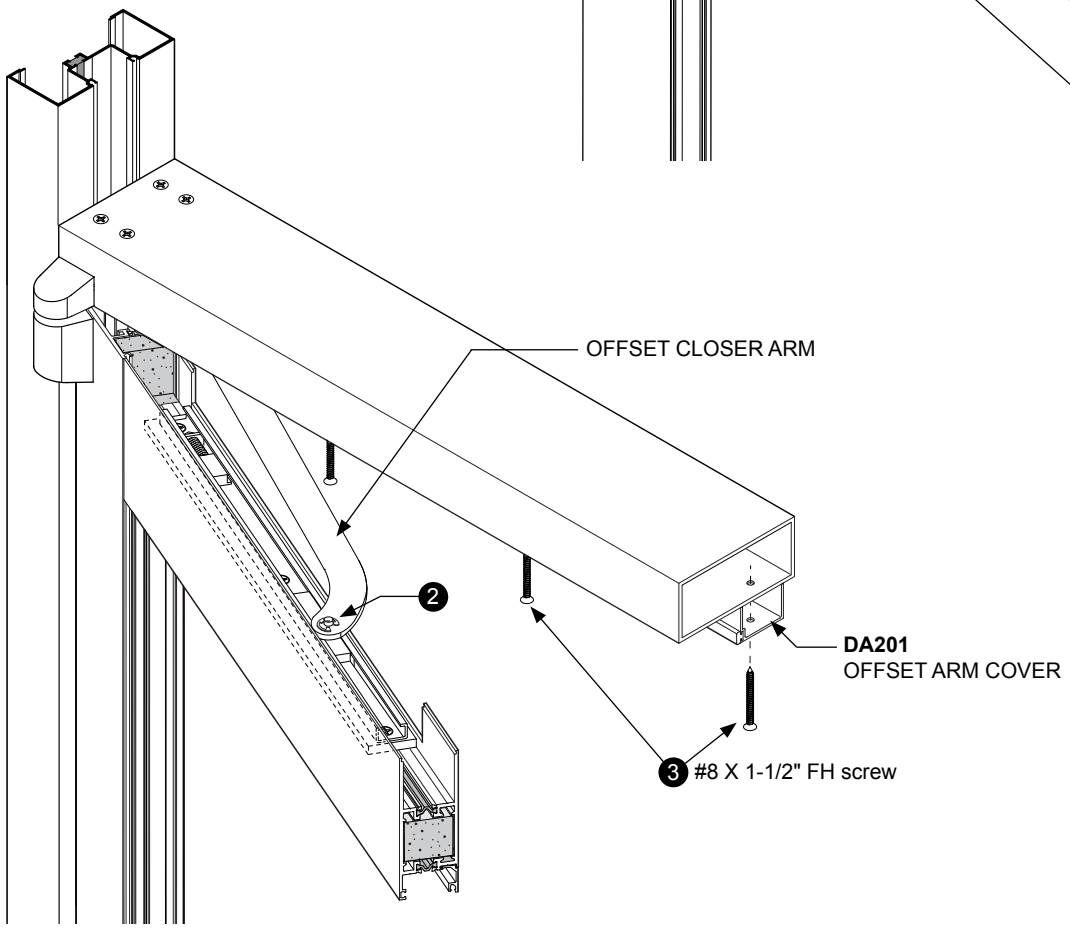
NOT TO SCALE

MOUNTING THE JACKSON HARDWARE TO AN OFFSET PIVOTED DOOR

(SAME PROCEDURE FOR BUTT HINGE DOORS)

1. ❶ Install Spacer Block into channel of top rail with four #10-24 X 5/8" FHMS. Mount Slide Channel with three #8-32 X 3/8" FHMS. Reverse Slide 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. ❷ Before positioning the Offset Closer Arm in the top rail, remove the Arm Pin Retainer with "C" clip pliers, swing door in the open position and slip Arm over Slide Pin and secure with Pin Retainer.
4. Adjust closer to desired door speed.
5. ❸ Install Arm Cover **DA201,** with #8 X 1-1/2" FH screws (provided)
6. Glaze door.

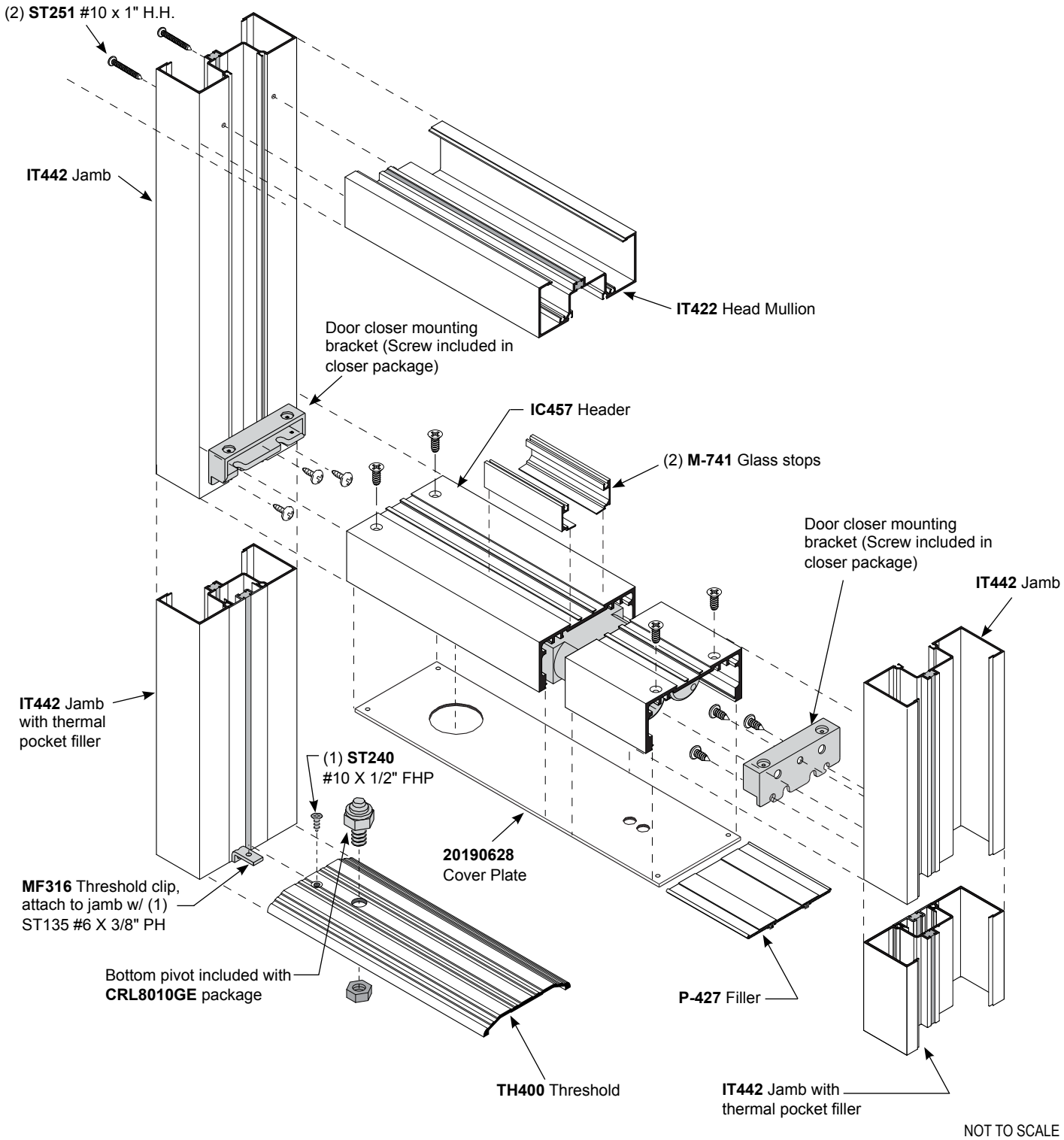




NOT TO SCALE

FRAME UNIT FOR CENTER HUNG DOOR WITH OVERHEAD CONCEALED CLOSER

CENTER HUNG DOOR AVAILABLE ONLY ON SERIES 250T/AT
1T442 OPEN BACK FRAME SHOWN

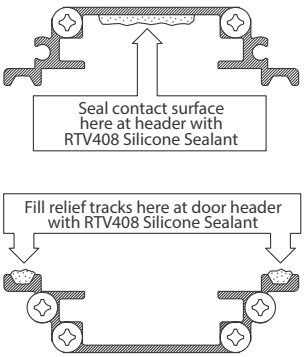


NOT TO SCALE

DOOR FRAME ASSEMBLY

ASSEMBLY INSTRUCTIONS:

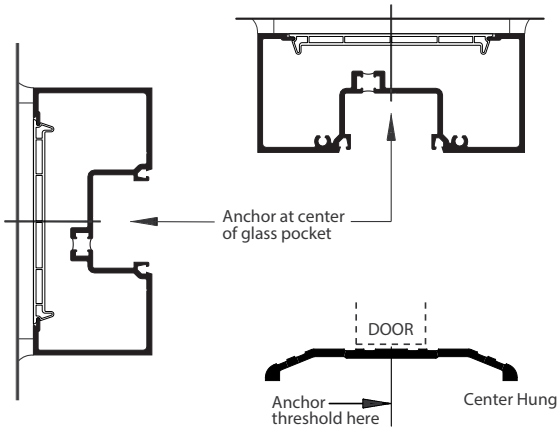
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional **AF100** sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates 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 bottom pivot in threshold.



DETAIL A

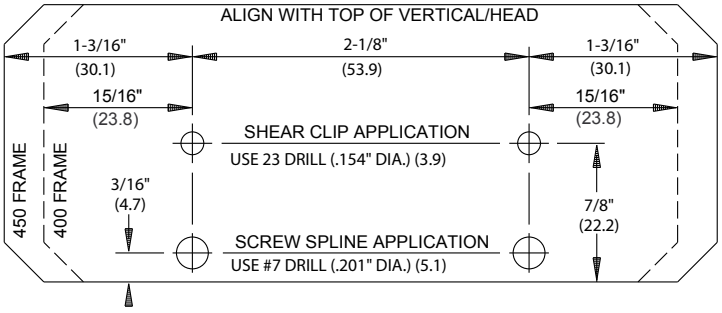
INSTALLATION INSTRUCTIONS:

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 24" (609.6) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. **See DETAIL B**
4. Install transom sash. Horizontal sash runs through at door door header. Vertical sash abutts over horizontal sash and is mitered at outside to allow for horizontal glazing bead installation. **See DETAIL C**
5. Attach sash to door header with #6 x 3/8" PH at 18" (457.2) O.C.
6. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom.
7. Install sash glazing bead.
8. Roll-in glazing gaskets for jambs and header.



DETAIL B

TEMPLATES ARE FOR EXTREME HEAD ONLY

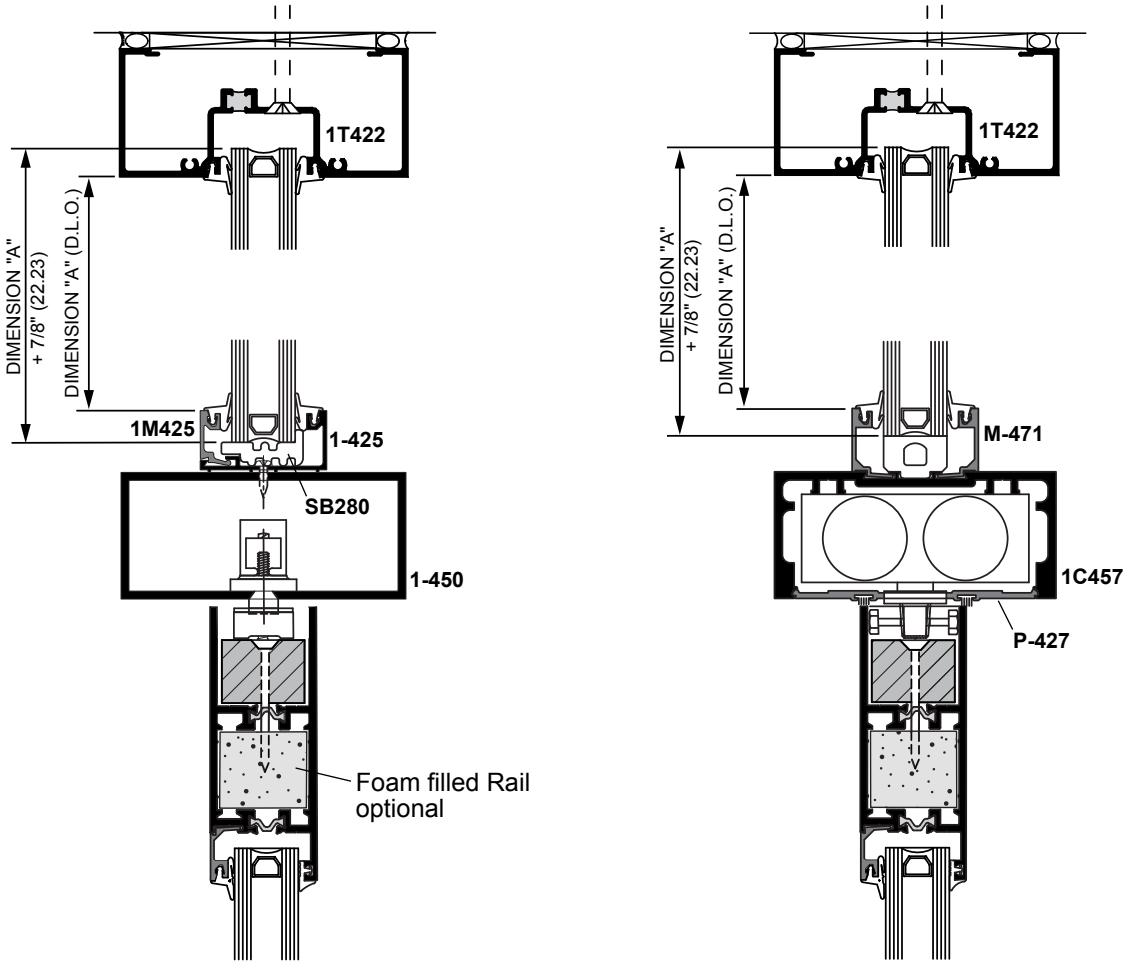


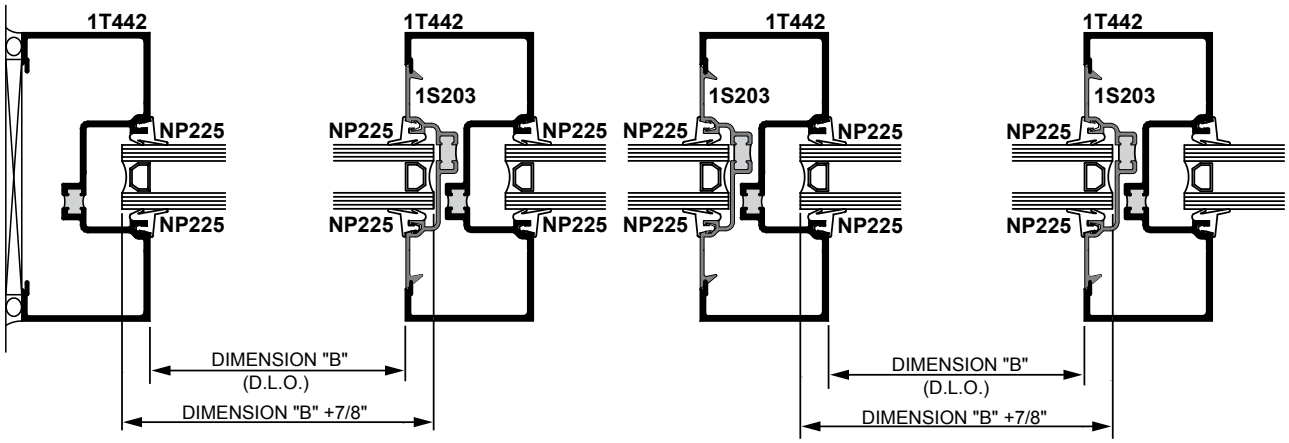
NOTE: Do not cut templates from this manual, templates are supplied inside frame boxes.

NOT TO SCALE

GLASS SIZE FORMULA AT TRANSOM

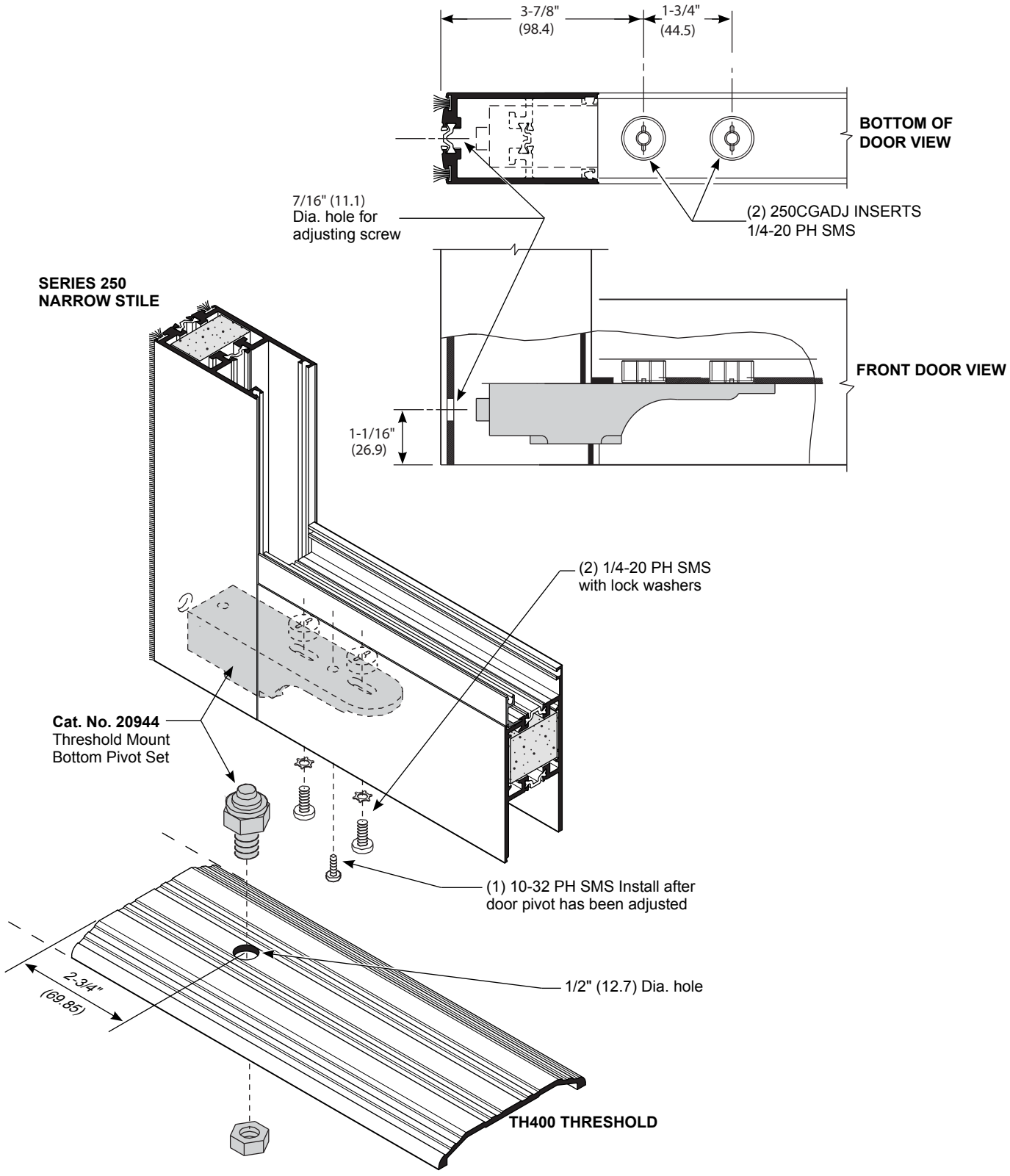
CENTER HUNG DOOR AVAILABLE ONLY ON SERIES 250AT





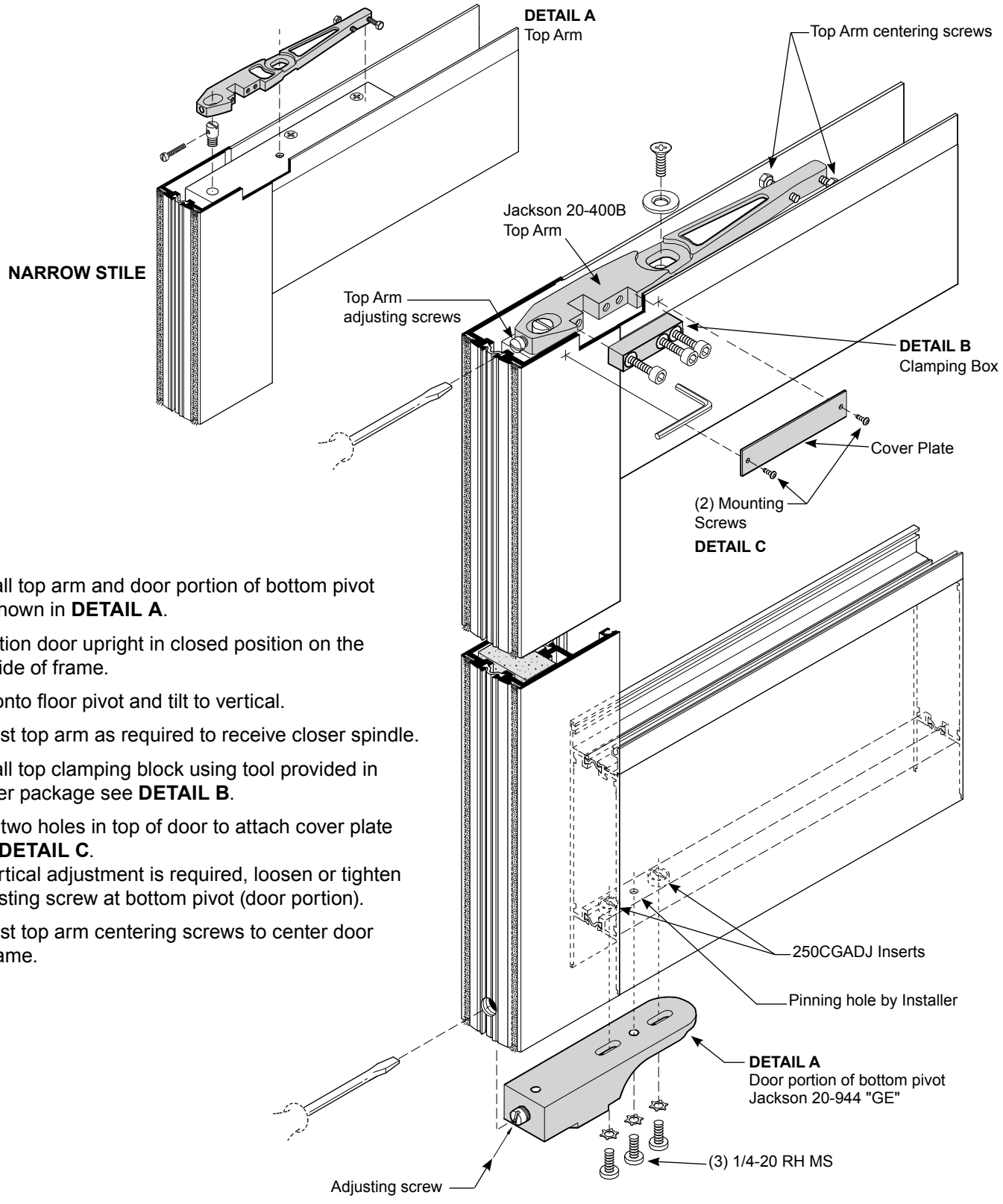
NOT TO SCALE

CENTER PIVOT-BOTTOM PORTION (JACKSON 20-944 "GE")



NOT TO SCALE

SIDE LOAD CENTER PIVOT DOOR WITH JACKSON OVERHEAD CONCEALED CLOSER

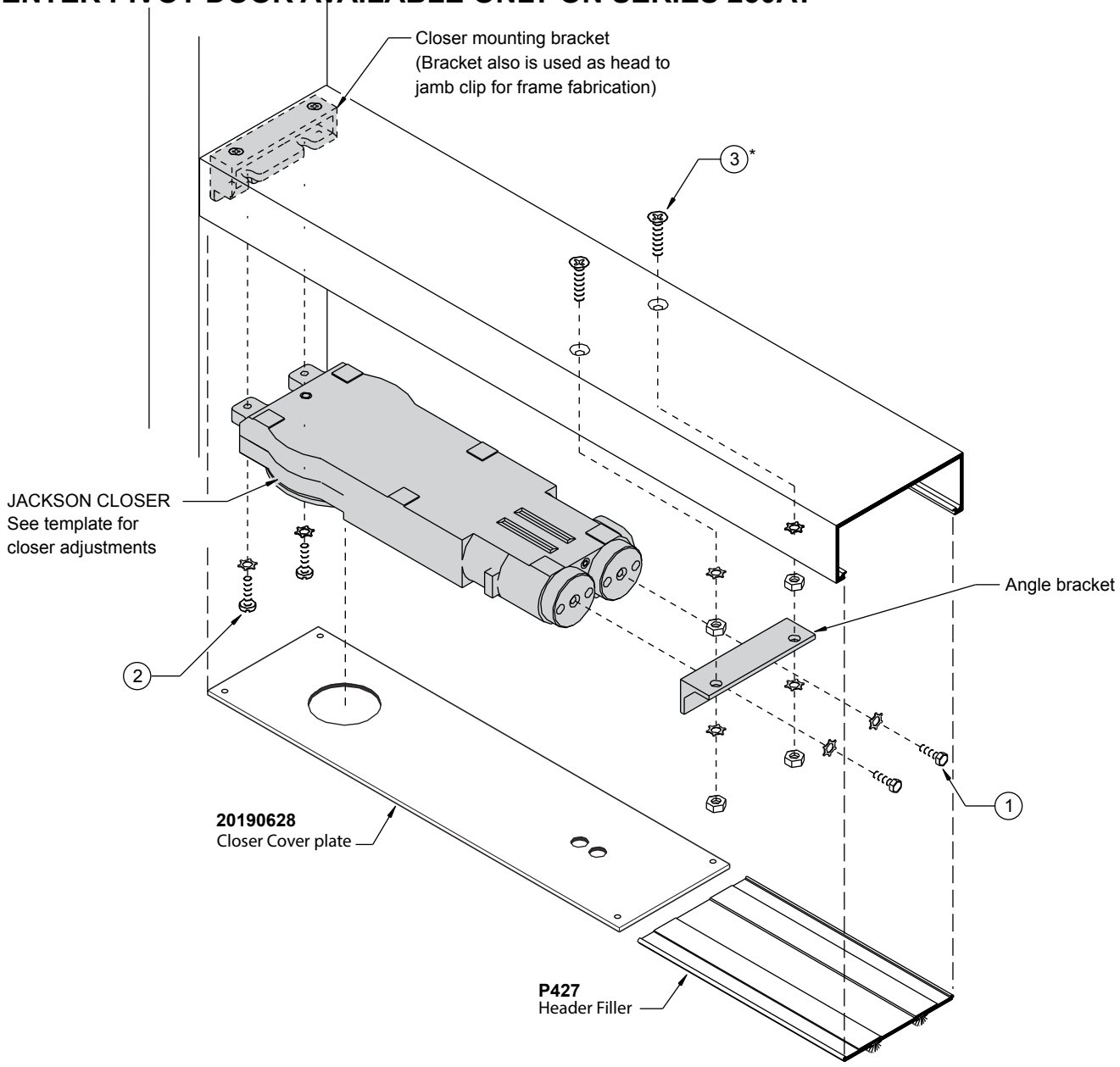


1. Install top arm and door portion of bottom pivot as shown in **DETAIL A**.
2. Position door upright in closed position on the outside of frame.
3. Lift onto floor pivot and tilt to vertical.
4. Adjust top arm as required to receive closer spindle.
5. Install top clamping block using tool provided 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

JACKSON OVERHEAD CONCEALED CLOSER FOR CENTER PIVOTED DOOR

CENTER PIVOT DOOR AVAILABLE ONLY ON SERIES 250AT



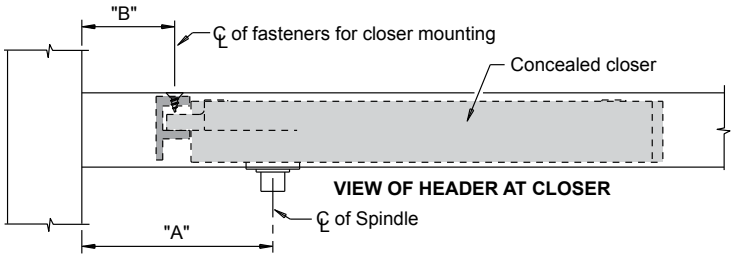
Closer mounting bracket is already installed (See FRAME UNITS installation instructions).

1. Mount angle bracket to closer with (2) 1/4-20 hex head SMS and (2) washers.
2. Install (2) 1/4-20 x 5/8" Fillister Head MS into lugs of closer. Do not tighten screws.
3. Install (2) 1/4-20 x 7/8" FH SMS* with (2) 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 with mounting screws using (2) nuts and washers.
5. Tighten Fillister Head screws used in step 2.
6. Install Closer cover plate and snap in filler plate.

NOT TO SCALE

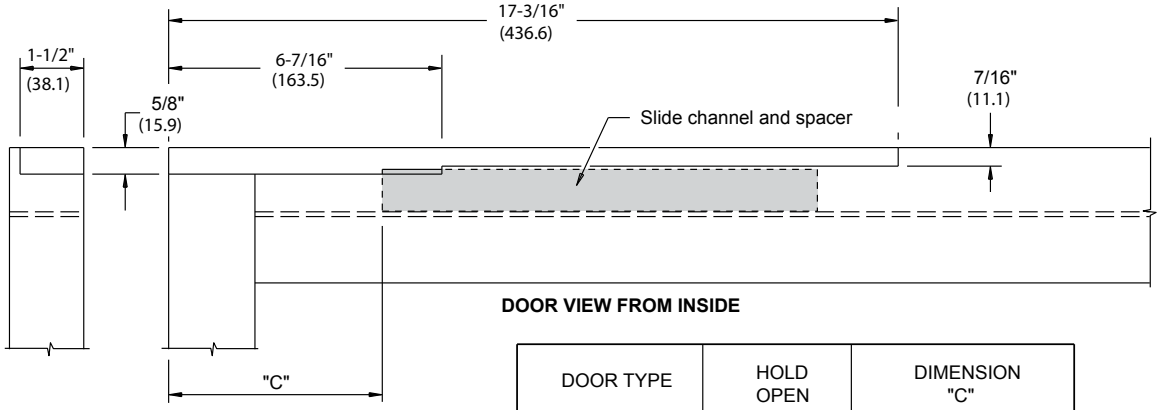
JACKSON OVERHEAD CONCEALED CLOSER

CLOSER LOCATION IN HEADER



DOOR TYPE	HOLD OPEN	DIMENSION "A"	DIMENSION "B"	REFERENCE PAGE
CENTER PIVOT	90° OR 105°	2-3/4" (69.9)	7/16" (11.1)	47
OFFSET PIVOT (OP500)	105°	4-1/2" (114.3)	2-3/16" (55.6)	49
	90°	3-3/4" (95.3)	1-7/16" (36.5)	50
BUTT HINGES	105°	3-3/4" (95.3)	1-7/16" (36.5)	52
	90°	2-7/8" (73.0)	9/16" (14.3)	53

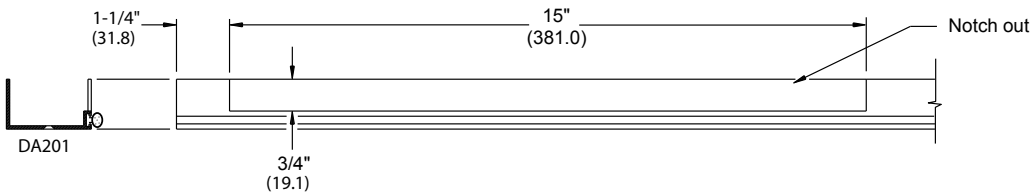
SLIDE CHANNEL LOCATION IN TOP RAIL FOR OFFSET ARM



DOOR VIEW FROM INSIDE

DOOR TYPE	HOLD OPEN	DIMENSION "C"
OFFSET PIVOT (0P500)	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)

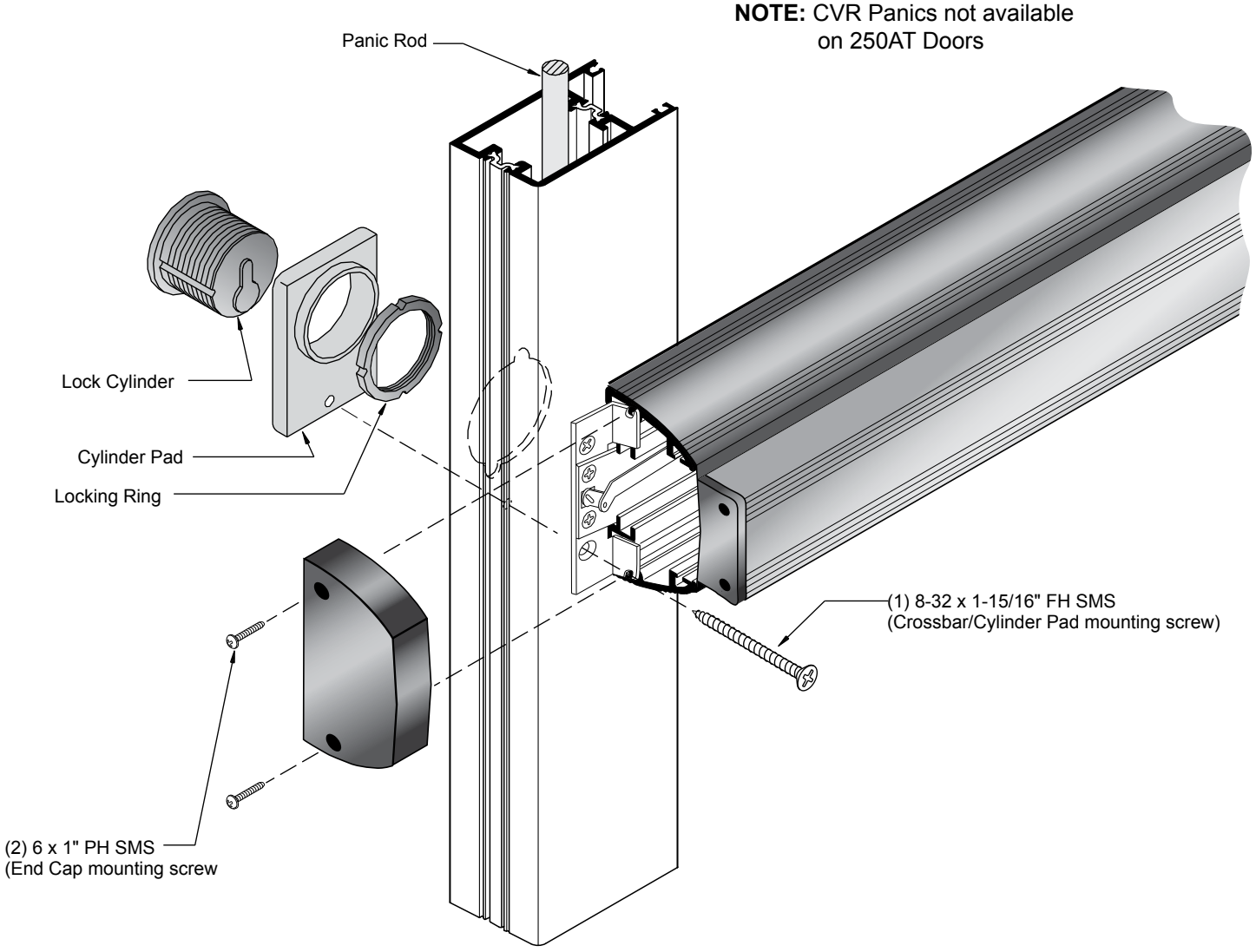
OFF-SET ARM COVER CHANNEL
RIGHT HAND SHOWN LEFT HAND OPPOSITE



NOT TO SCALE

PANIC DOORS CYLINDER REPLACEMENT BY OTHERS

NOTE: CVR Panics not available on 250AT Doors



Cylinder removal

1. Remove (2) screws from end of panic device and remove end cap.
2. Remove bottom crossbar/cylinder pad attachment screw as shown.
3. Turn cylinder and pad clockwise approximately 1/4 turn until cylinder releases.
4. Remove locking ring from cylinder and remove cylinder.

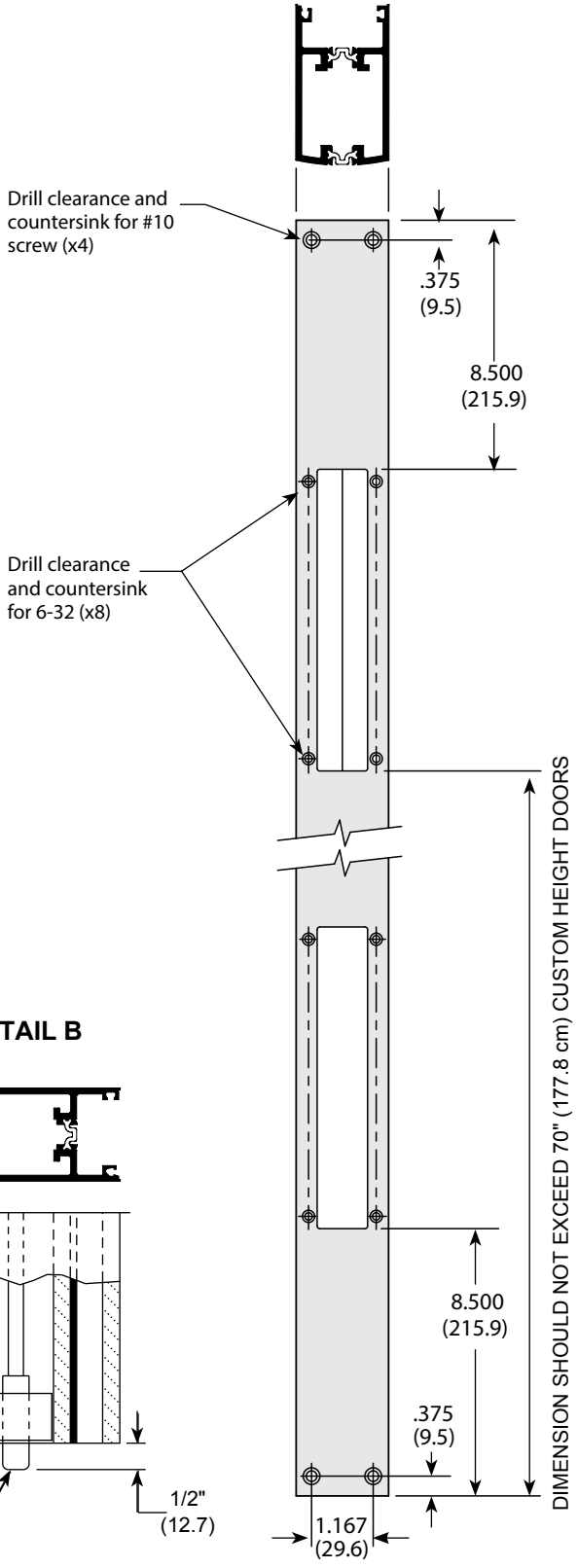
Cylinder installation

1. Place cylinder through cylinder pad and install locking ring.
2. Place cylinder into hole in stile and turn counterclockwise approximately 1/4 turn.
3. Check cylinder and panic device for proper operation.
4. Replace end cap onto panic device with (2) screws as shown.

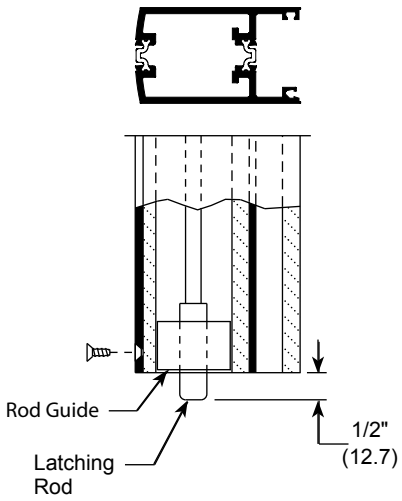
NOT TO SCALE

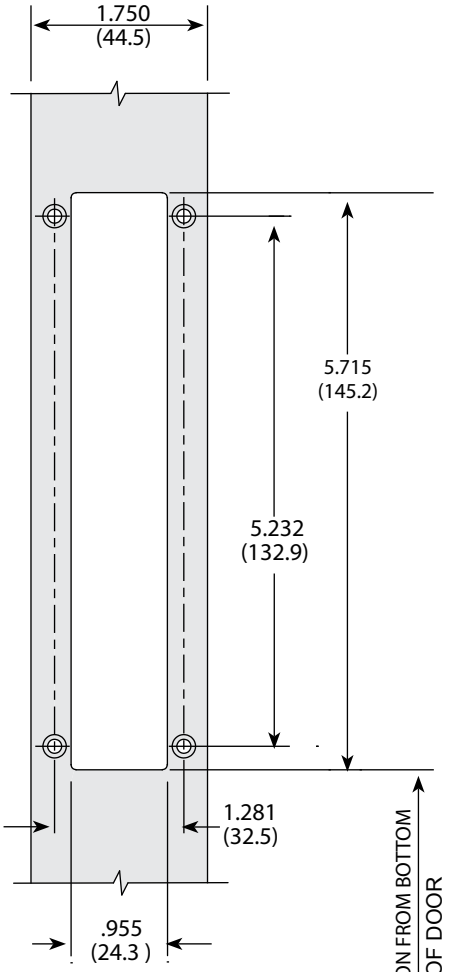
DH008 FLUSH BOLT

NARROW STILE SHOWN, MEDIUM AND WIDE STILES SIMILAR



DETAIL B





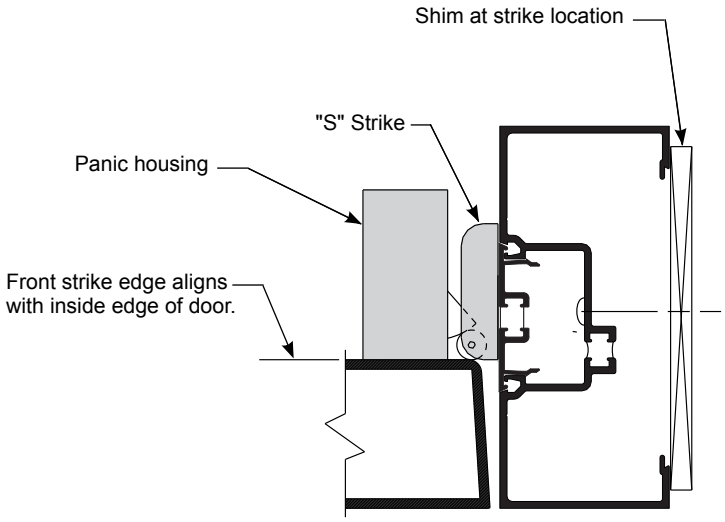
DETAIL C

NOTE: Top flush bolt cut-out location for door opening height of 84" (213.4 cm) or less should be 8-1/2" (21.59 cm) from top edge of door. See DETAIL A.

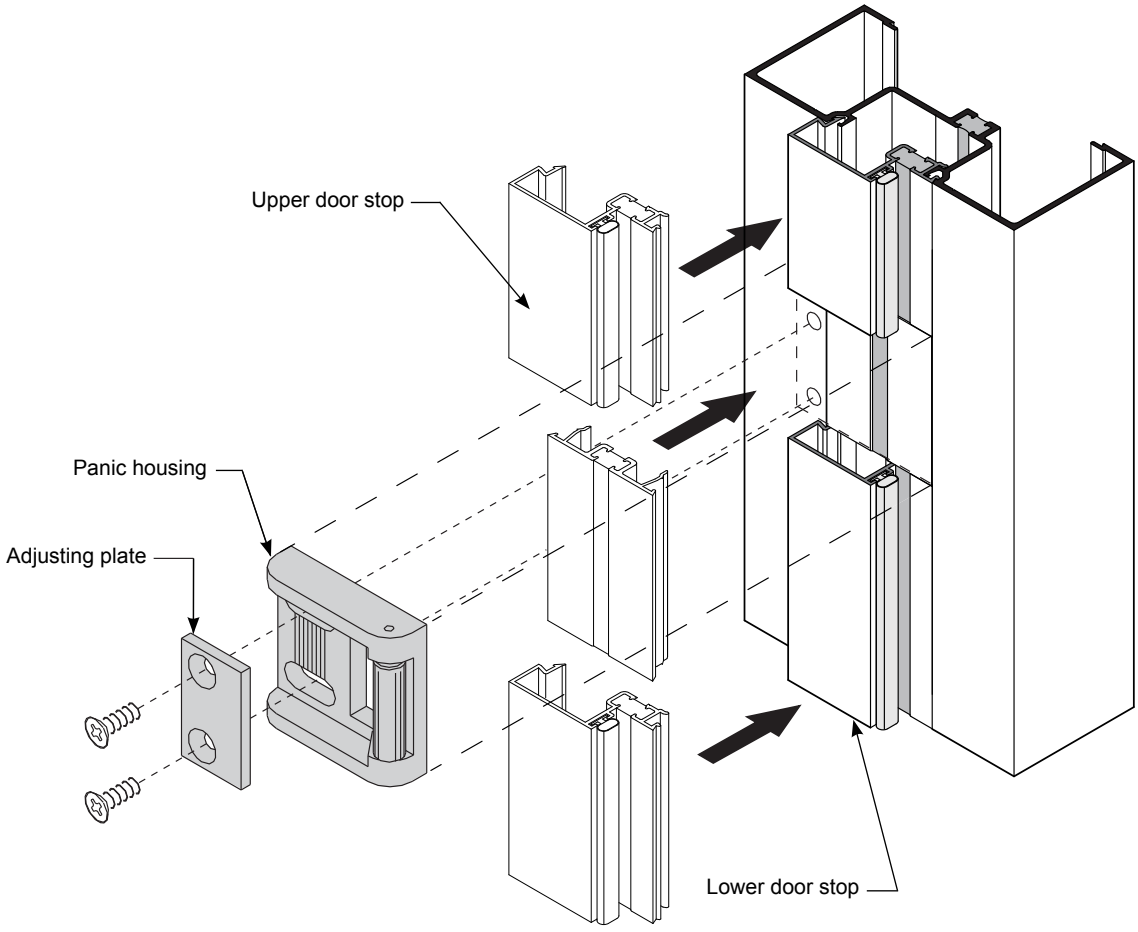
1. Install top and bottom flush bolts with (4) # 8 F. H. screws each.
2. Place each lever in the lock position.
3. Adjust flush bolt rods to extend 1/2" (12.7) beyond ends of door stile. See DETAIL B
4. Insert rod guides over rods and into stile at top and bottom. Secure guides with (1) # 8 FH screw each.
5. Flip levers to retract both flush bolts.

NOT TO SCALE

"PANIC DOORS" with JACKSON 1295 RIM PANIC



TOP VIEW

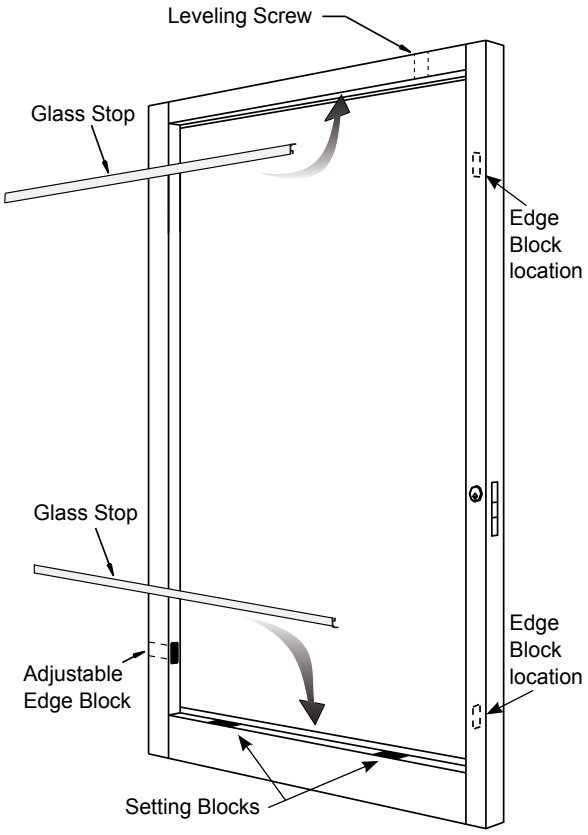


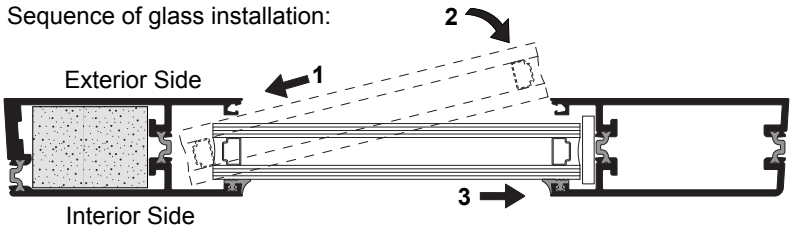
ISOMETRIC VIEW OF ASSEMBLY

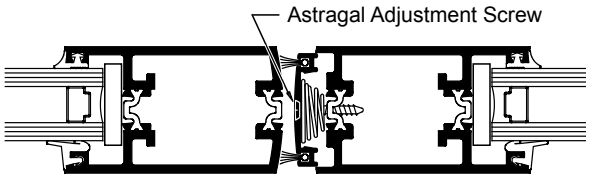
NOT TO SCALE

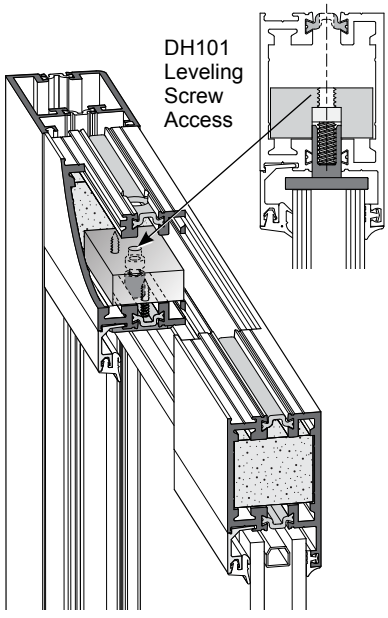
DOOR GLAZING INSTRUCTIONS

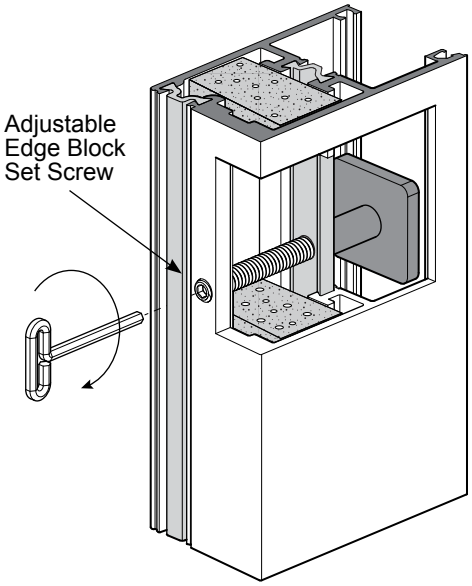
1. Door may be glazed either installed or laid horizontally. **NOTE:** Doors are more easily glazed in horizontal position. If glazing horizontally, leveling screw adjustments occur after hanging door.
2. Fully retract the adjustable leveling screw counter-clockwise to allow maximum clearance for the glass lite.
3. Install **NP252** glazing gaskets into reglets on the interior side of door only.
4. Install glass panel into frame by first angling the panel into the deep pocket. Swing the other end of the panel around and into the shallow pocket. Lower and center glass in opening resting bottom edge on setting blocks.
5. Snap-in the top and bottom rail glass stops. Follow with **NP225** glazing gaskets.
6. Turn leveling screw on top rail as required to maintain a uniform clearance between the door rail and header. Turn the adjustable edge block set screw clockwise to secure glass during shipment.
7. Adjust Astragal manually, using a screwdriver, to ensure brush contact with adjacent door. Do not use a power tool.
8. On all weather stripped door stiles, pull the string on the wool pile to release the brush fibers after the doors are installed.

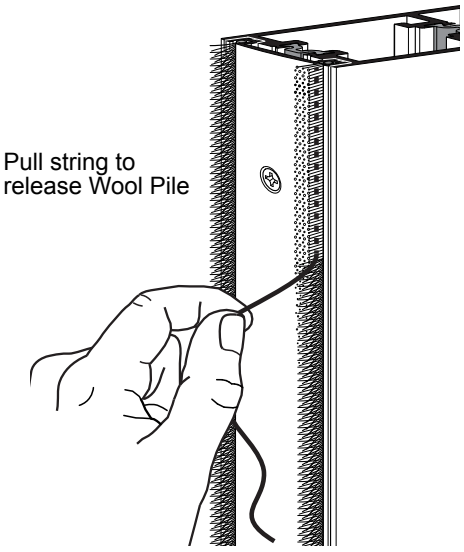








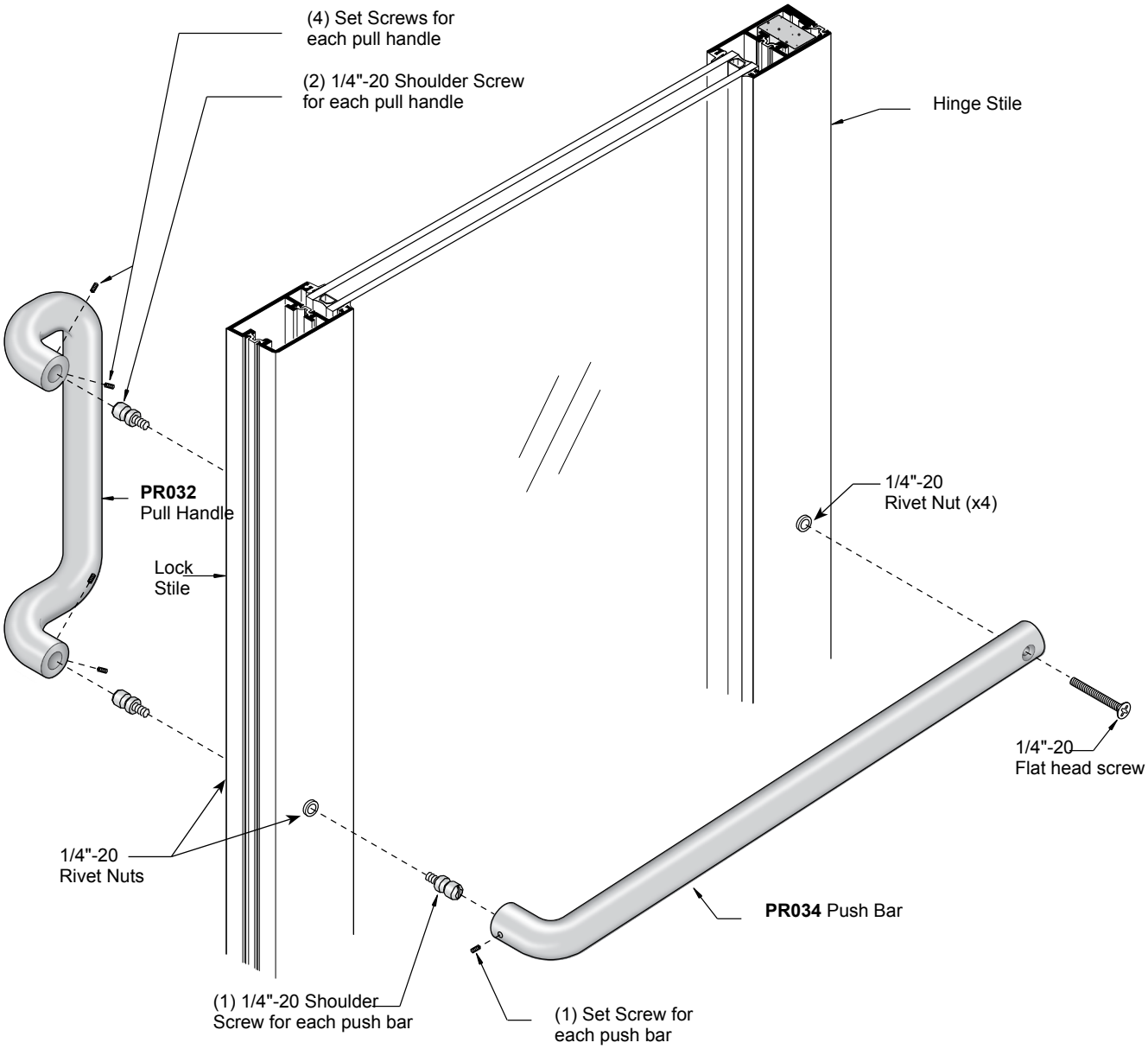




NOT TO SCALE

Astral II

PUSH BAR HARDWARE - OFFSET HUNG DOOR
TYPE "B" STANDARD PUSH/PULL FOR OFFSET DOORS



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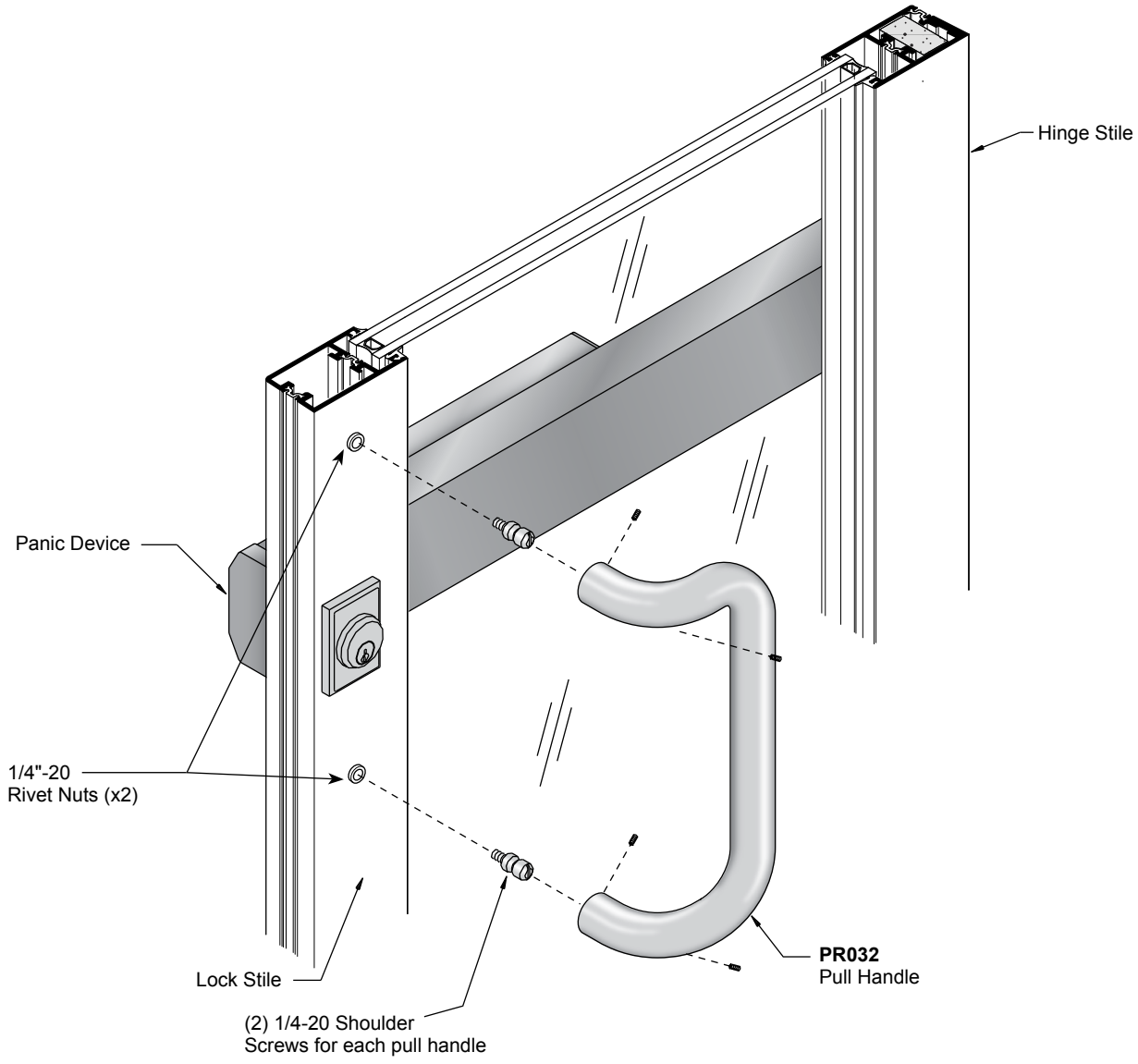
Astral II

PANIC DOOR HARDWARE



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This Concludes the Installation Manual for your product. We hope that this guide has been helpful. Should you need further assistance, our knowledgeable Technical Sales Department is available at no charge during regular business hours. Please have your Order Number ready before calling.

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