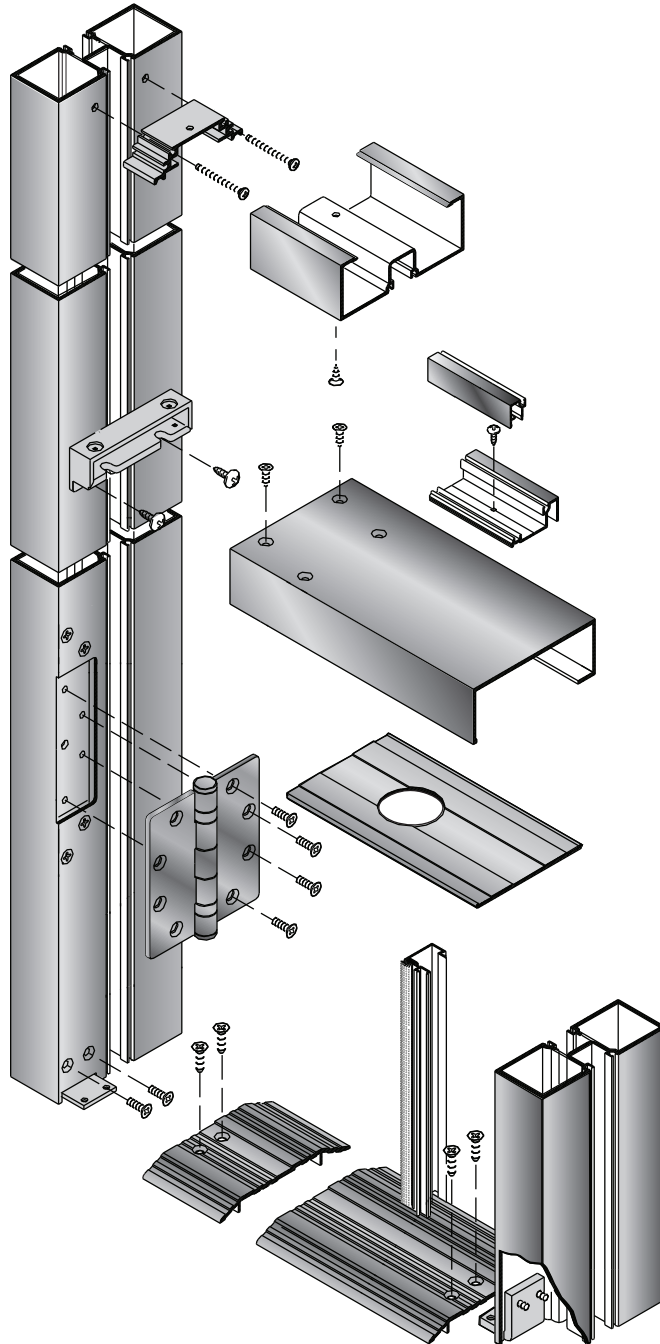


INSTALLATION INSTRUCTIONS

SERIES 800, 850 DURAFRONT DOORS



Phone: (800) 262-5151 • Fax: (866) 262-3299
crlaurence.com • usalum.com • crl-arch.com

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.***

NOTE: Any modifications, other than those specified in this document, could result in this product's failure to meet UL safety ratings and void the manufacturer's warranties.

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.

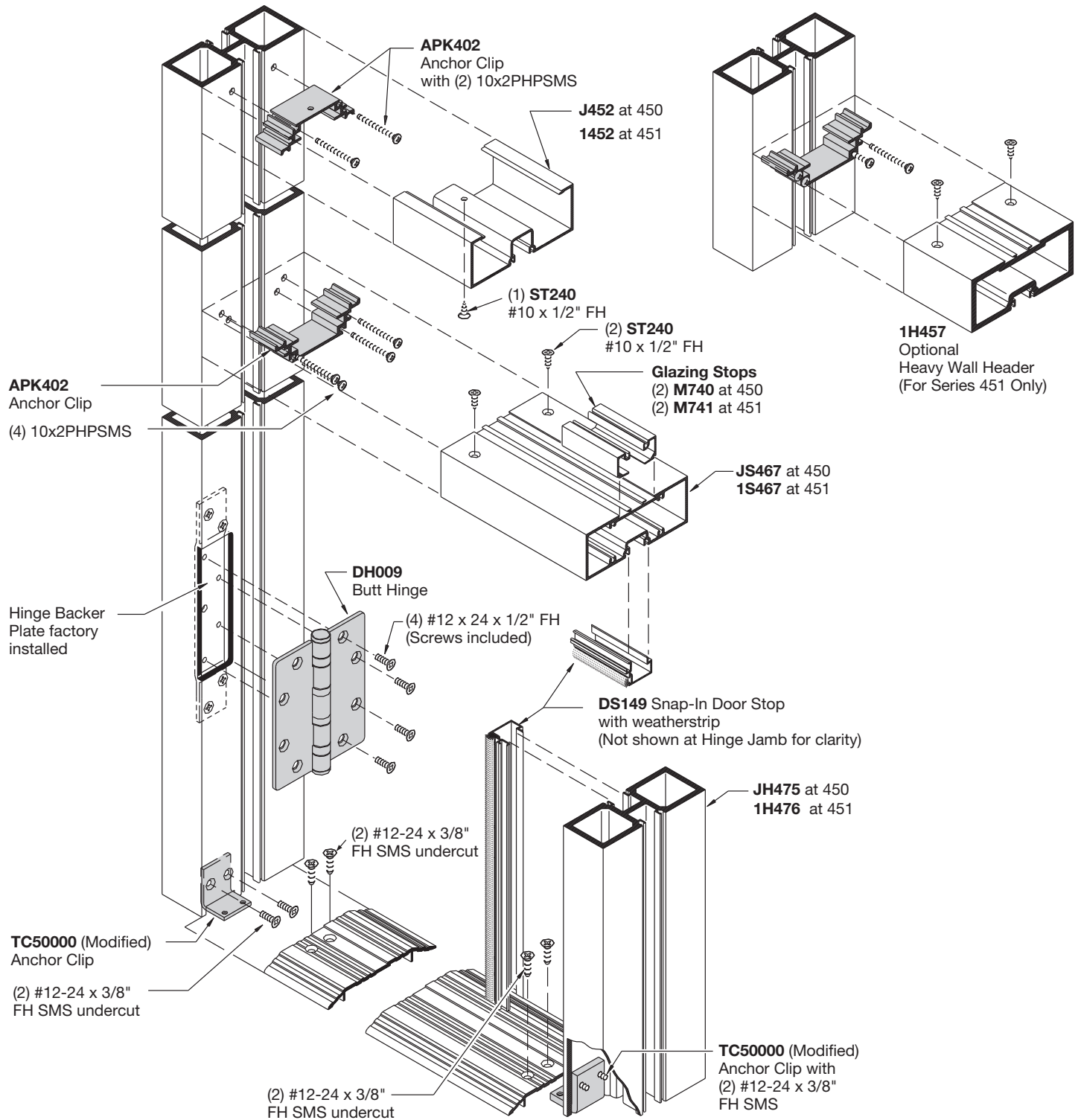
GENERAL INSTALLATION NOTES

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 $\pm 1/32"$ (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.
- 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.** Soon as a representative amount of the wall has been glazed (500 square feet or 46.5 m²) 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 m²) 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.

FRAME UNITS FOR BUTT HUNG DOORS WITH SURFACE CLOSERS

450 SHOWN, 451 SIMILAR

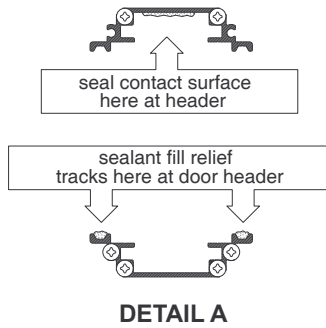


NOT TO SCALE

DOOR FRAME ASSEMBLY

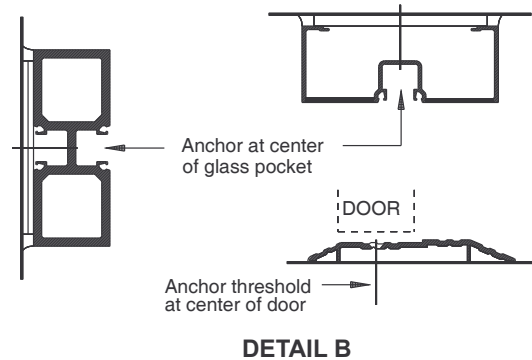
ASSEMBLY INSTRUCTIONS:

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 sealant. **See DETAIL A.**
6. Assemble head and door header to jambs as shown.
7. Install hinges to door jamb(s).

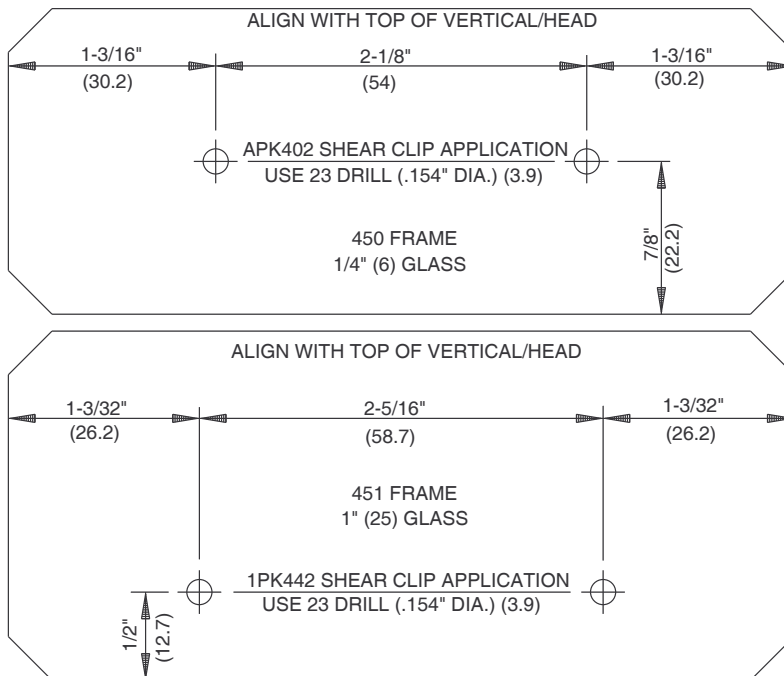


INSTALLATION INSTRUCTIONS:

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. For 1" (25) glazing, snap jamb sash into jambs.
6. Roll-in glazing gaskets for jambs and header.



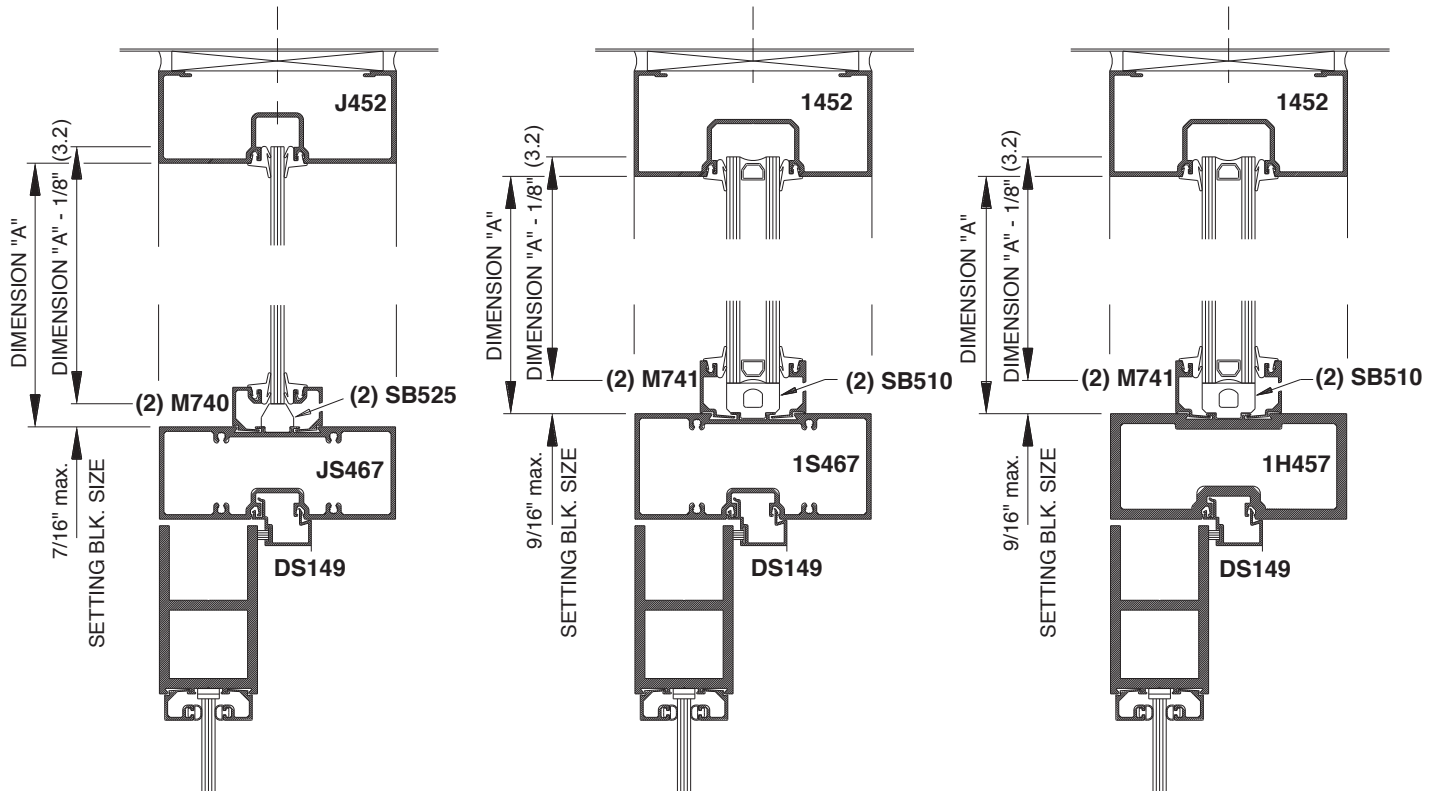
TEMPLATES ARE FOR EXTREME HEAD ONLY



NOT TO SCALE

DOOR FRAME ASSEMBLY

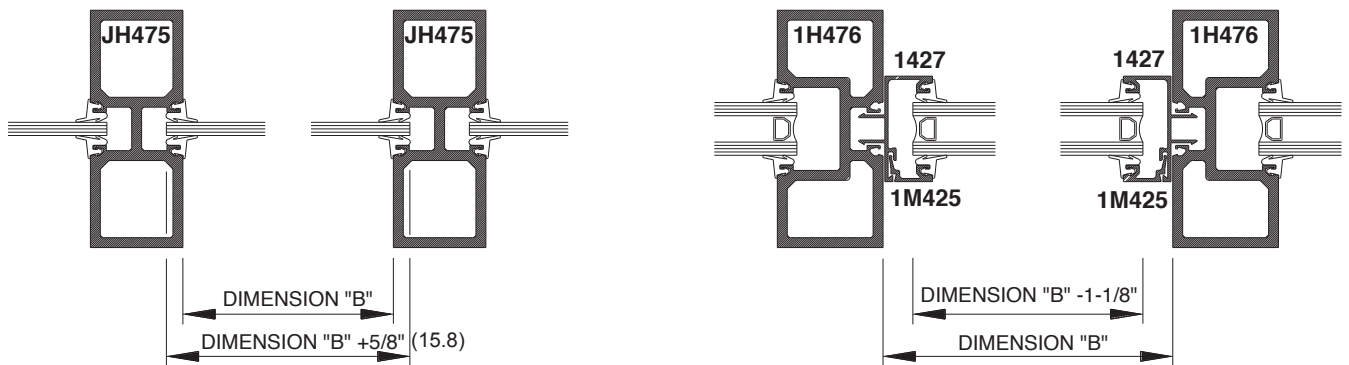
GLASS SIZE FORMULA AT TRANSOM



450 SERIES

451 SERIES

451 SERIES (OPTIONAL)



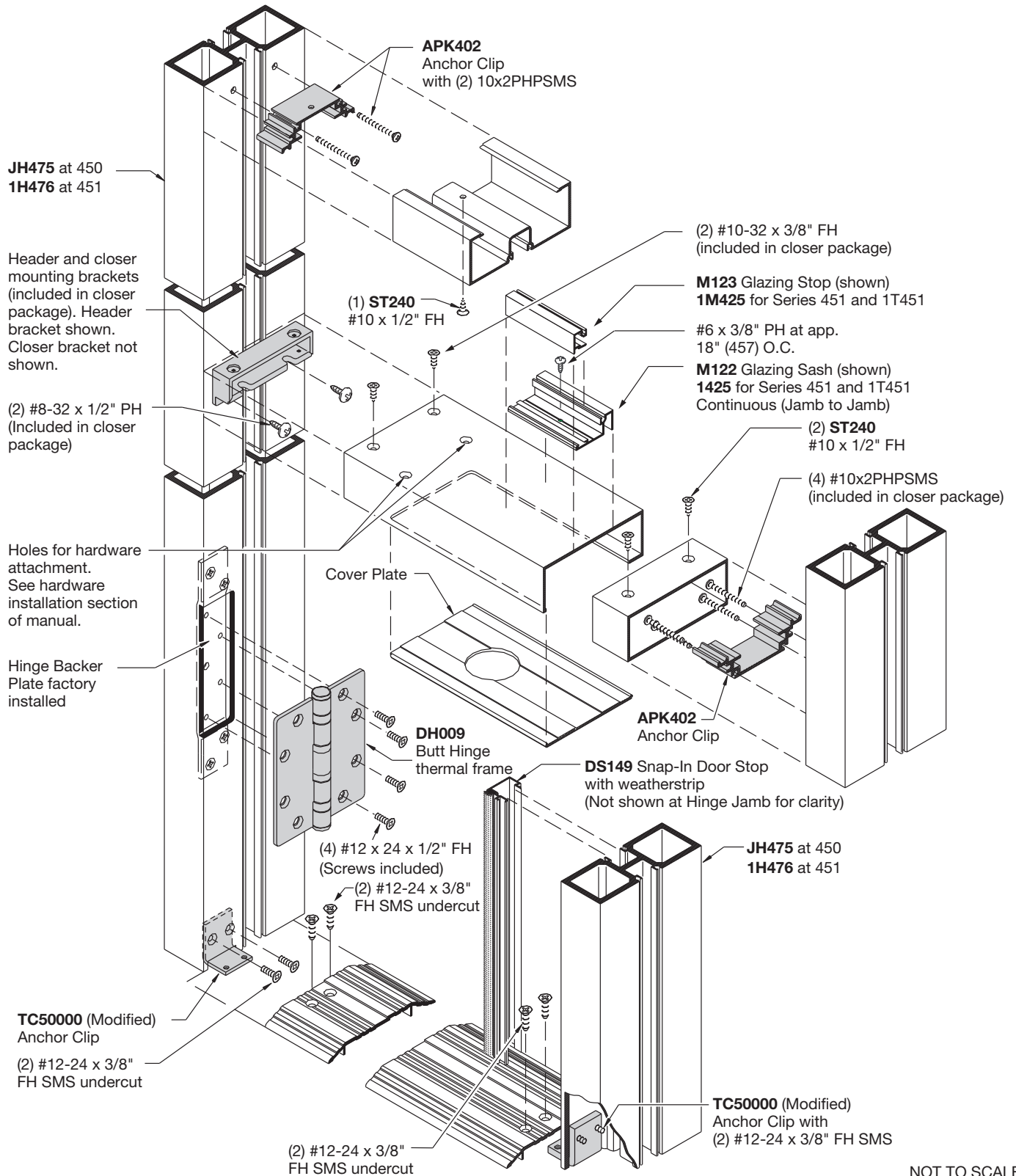
450 SERIES

451 SERIES

NOT TO SCALE

FRAME UNITS FOR BUTT HUNG DOORS WITH OVERHEAD CONCEALED CLOSERS

450 SHOWN, 451 SIMILAR



NOT TO SCALE

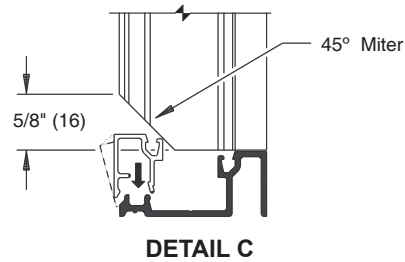
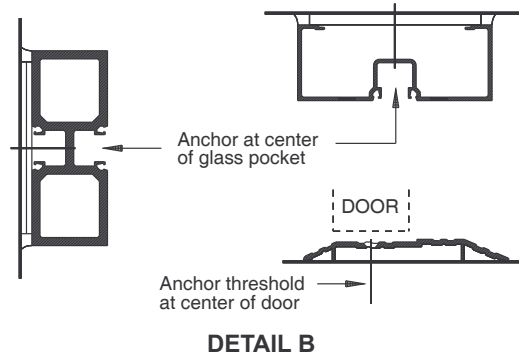
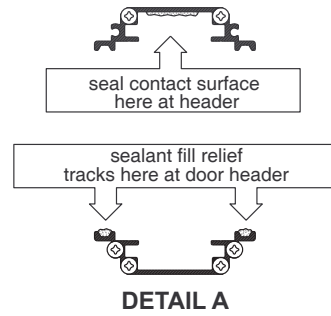
DOOR FRAME ASSEMBLY

ASSEMBLY INSTRUCTIONS:

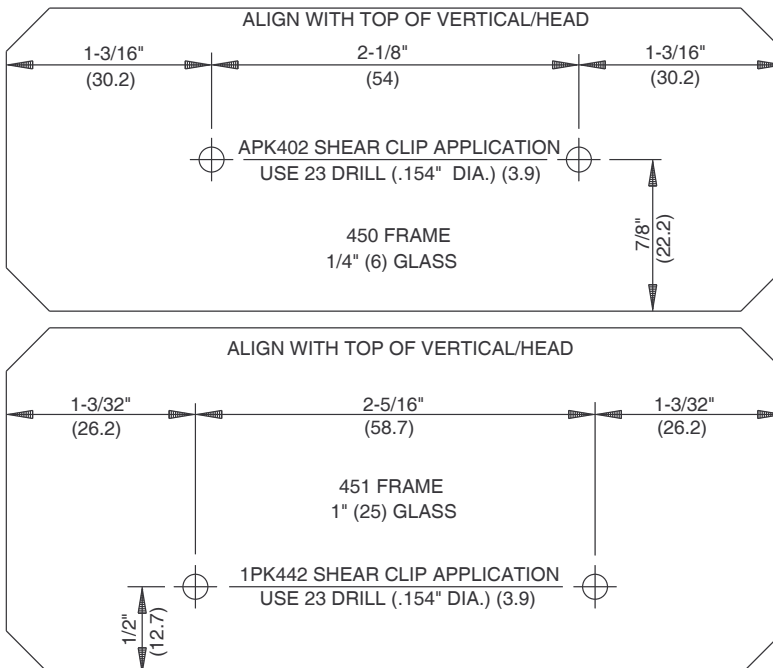
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional **AF100** sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates 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 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. Install offset arm cover channel onto door header. Snap door stop with weatherstrip into jambs.
5. Install transom sash. Horizontal sash runs through at door header. Vertical sash is mitered at outside to allow for horizontal glazing bead installation. **See DETAIL C.**
6. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom. For 1" (25) glazing, snap jamb sash into jambs.
7. Install sash glazing bead.
8. Roll-in glazing gaskets for jambs and header.



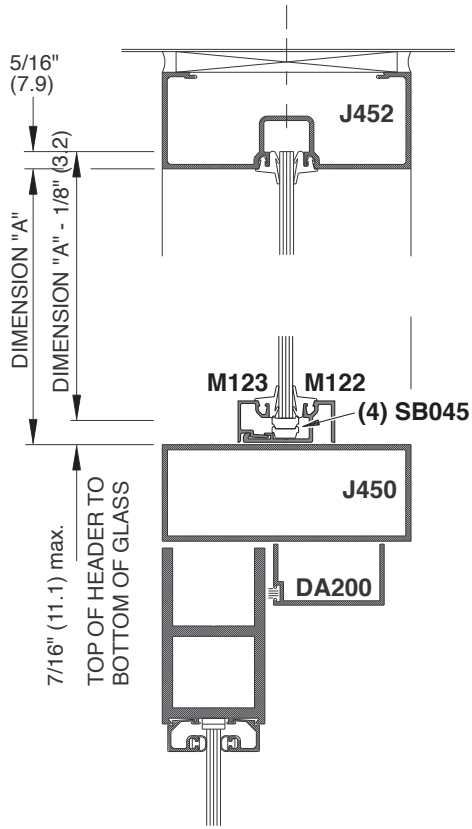
TEMPLATES ARE FOR EXTREME HEAD ONLY



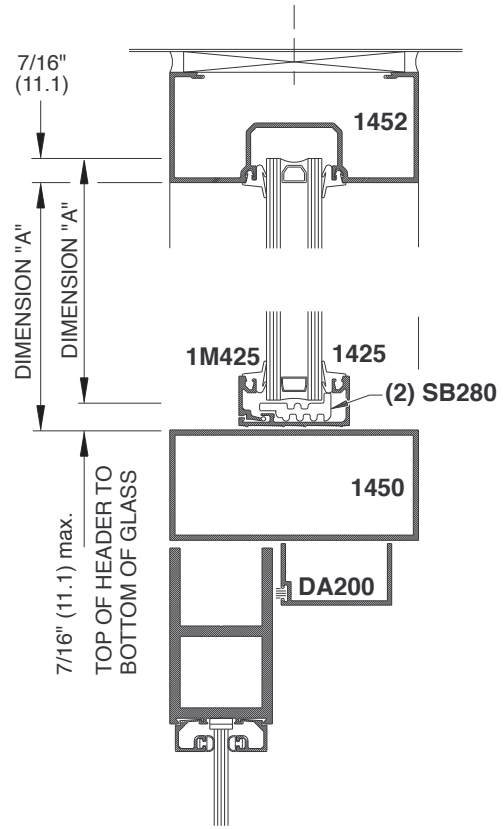
NOT TO SCALE

DOOR FRAME ASSEMBLY

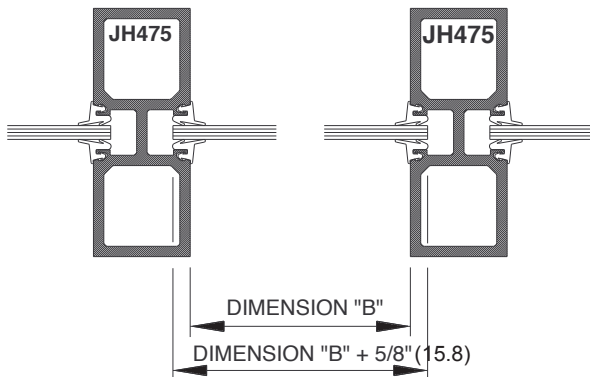
GLASS SIZE FORMULA AT TRANSOM



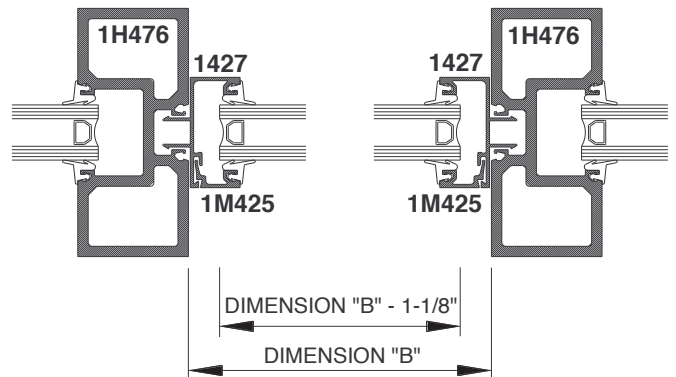
450 SERIES



451 SERIES



450 SERIES

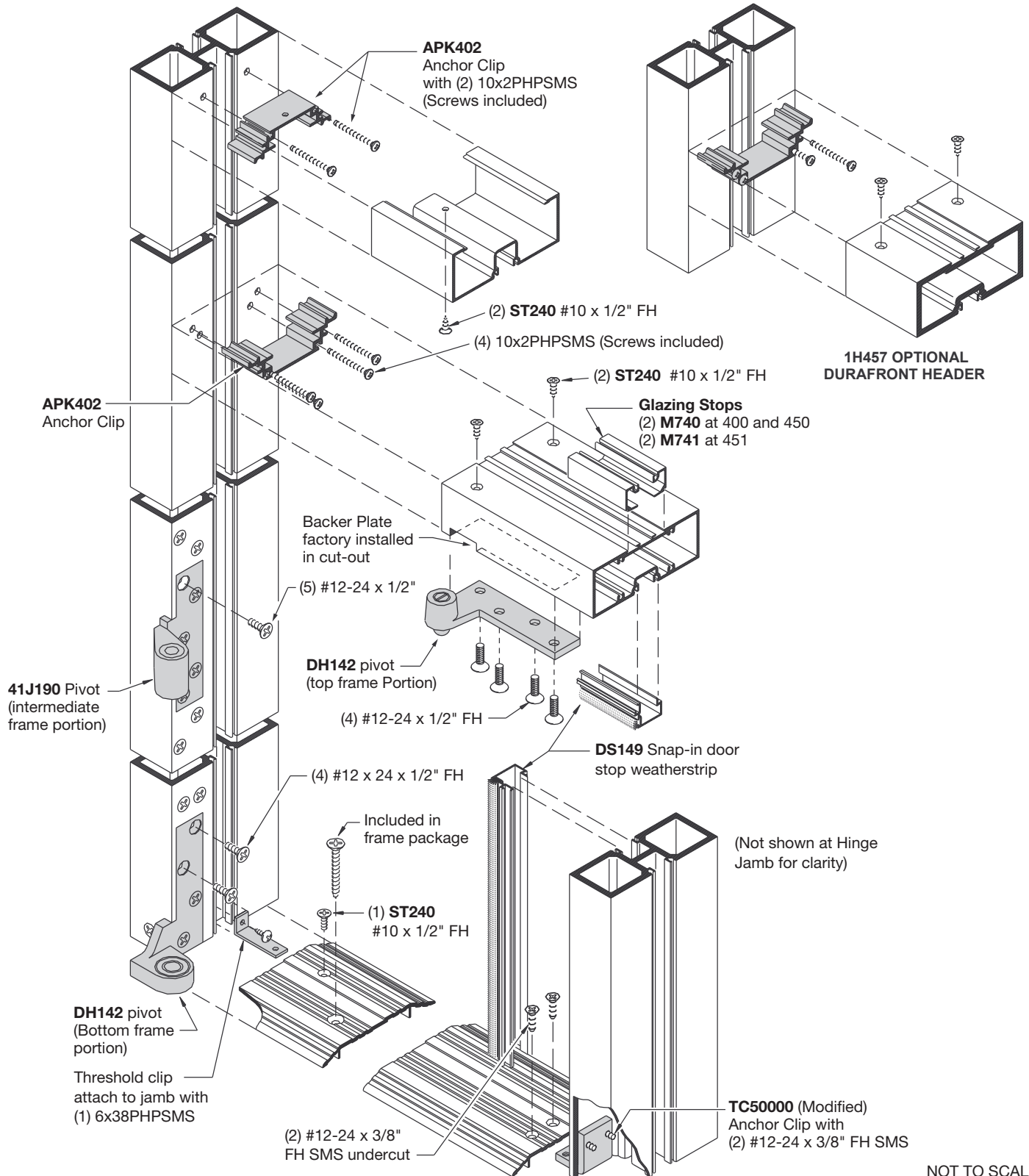


451 SERIES

NOT TO SCALE

FRAME UNITS FOR OFFSET PIVOT HUNG DOORS WITH SURFACE CLOSERS

450 SHOWN, 451 SIMILAR



NOT TO SCALE

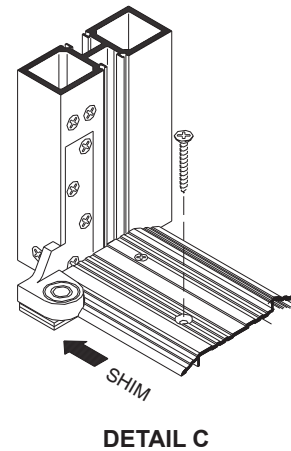
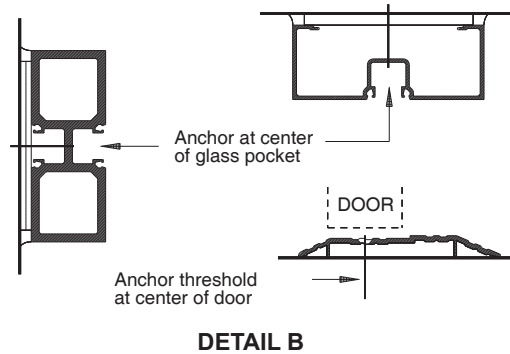
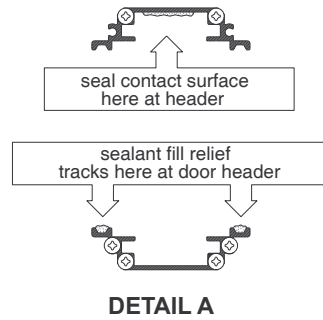
DOOR FRAME ASSEMBLY

ASSEMBLY INSTRUCTIONS:

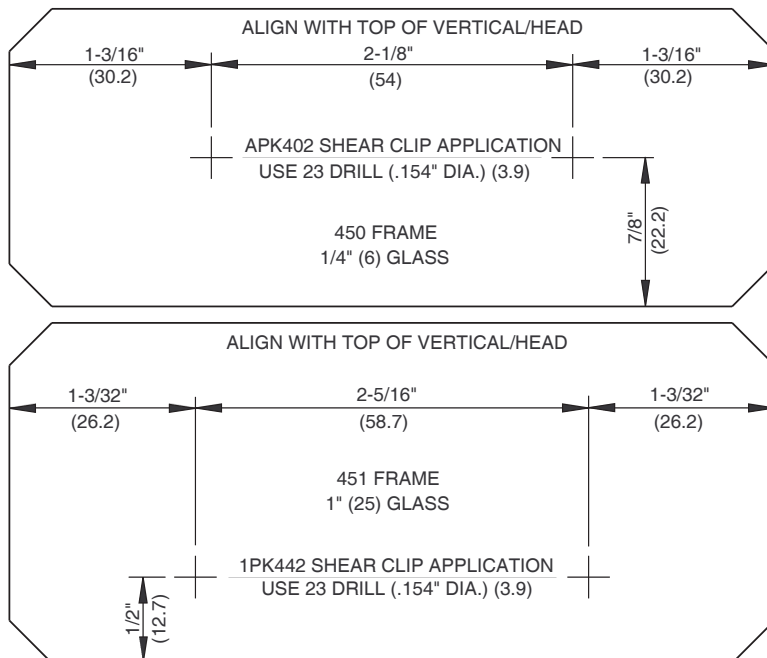
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional **AF100** sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates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

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. If pivot is not supported by finished floor, shim as required.
5. Install offset arm cover channel onto door header. Snap door stop with weatherstrip into jambs.
6. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom. Snap jamb sash into jambs, jamb sash runs through.
7. Install sash glazing bead.
8. Roll-in glazing gaskets for jambs and header.



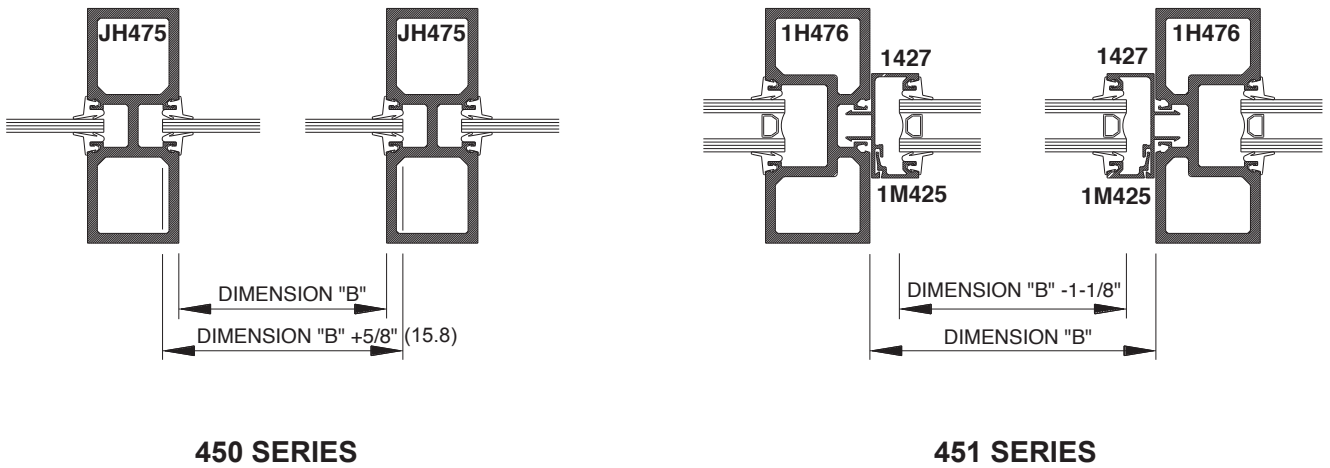
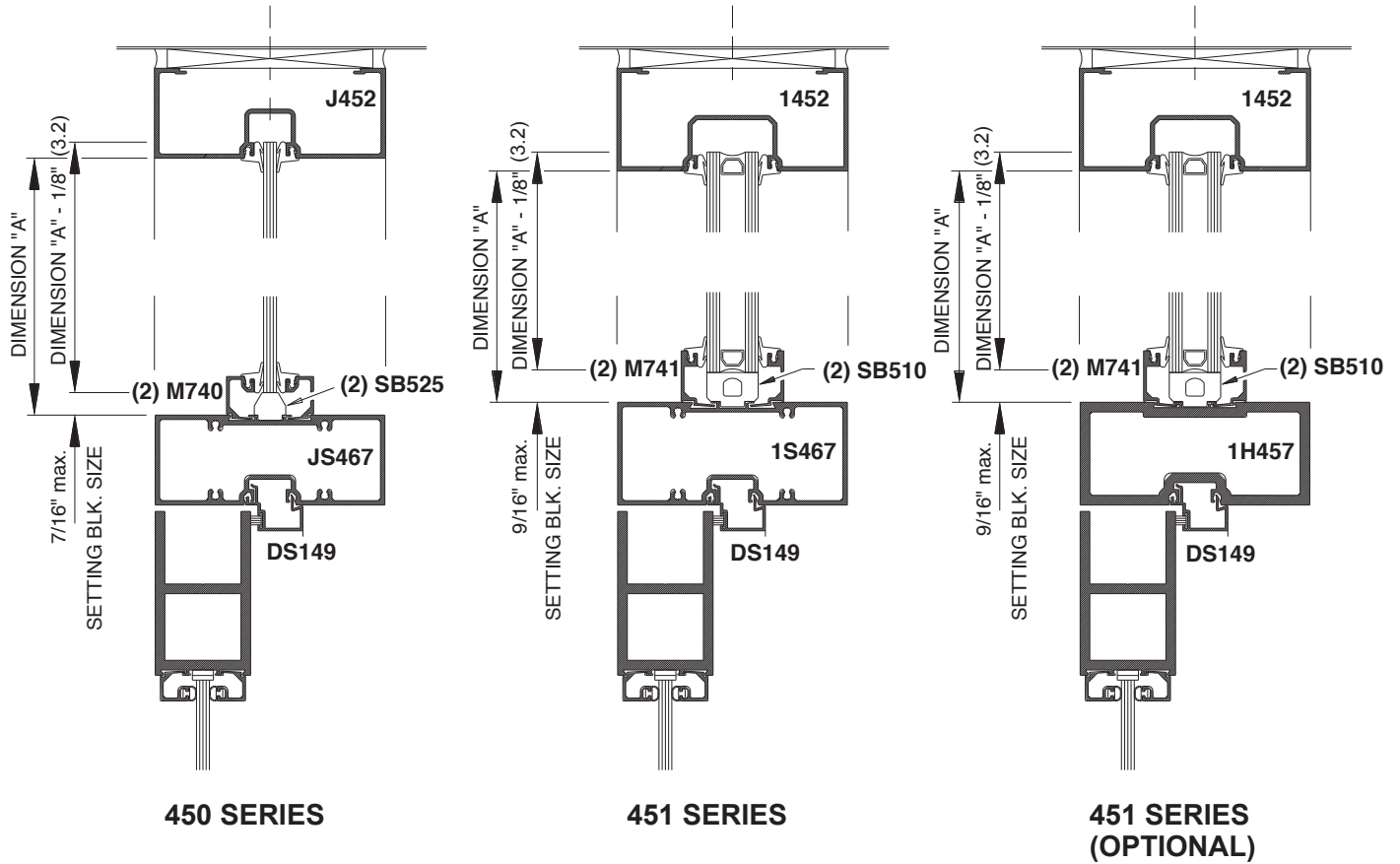
TEMPLATES ARE FOR EXTREME HEAD ONLY



NOT TO SCALE

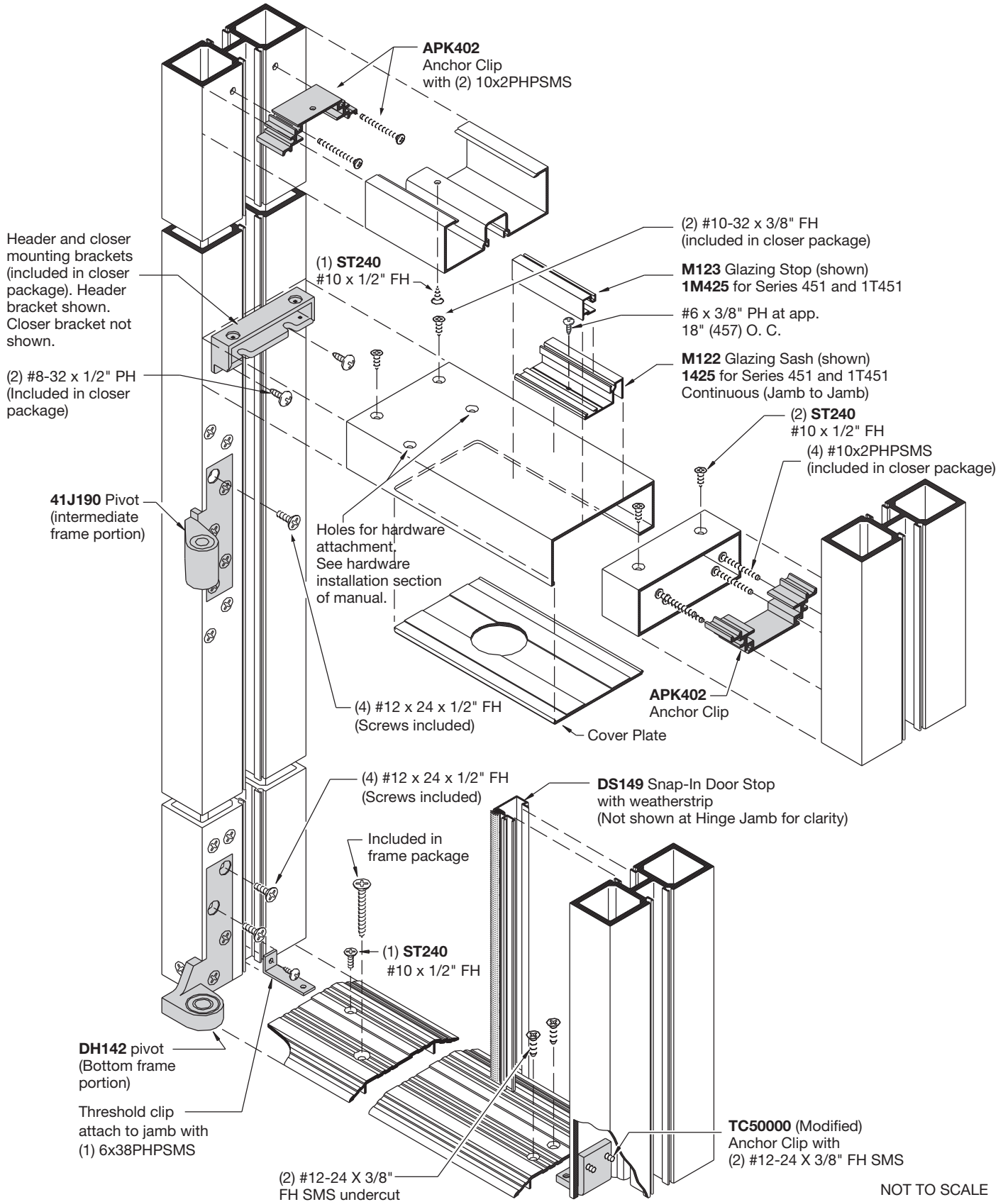
DOOR FRAME ASSEMBLY

GLASS SIZE FORMULA AT TRANSOM



NOT TO SCALE

FRAME UNITS FOR OFFSET PIVOT DOOR WITH SURFACE CLOSER



NOT TO SCALE

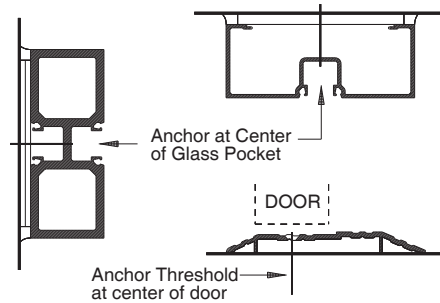
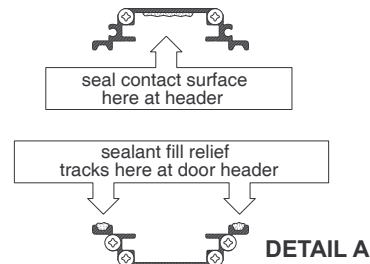
DOOR FRAME ASSEMBLY

ASSEMBLY INSTRUCTIONS:

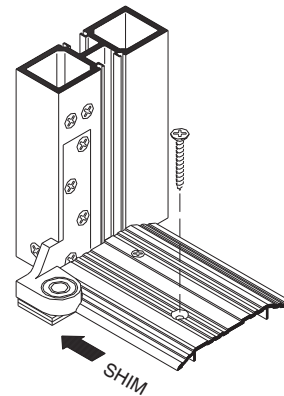
1. Verify opening size. Allow for 1/4" (6.4) shim and caulk space at sides, and 1/2" (12.7) space at top of frame. (When using optional **AF100** sill flashing, allow 1/4" (6.4) shim space at top of frame).
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates 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 sealant. **See DETAIL A.**
6. Assemble head and door header to jambs as shown.
7. Attach bottom pivot(s) to jamb(s), and attach threshold to assembly.
8. Install top pivot to door header.

INSTALLATION INSTRUCTIONS:

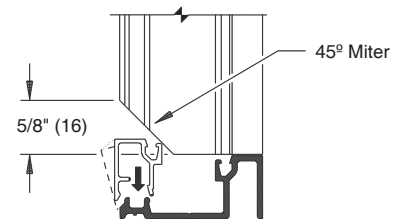
1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws starting 6" (152.4) from corners and not more than 36" (914.4) O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. **See DETAIL B.**
4. If pivot is not supported by finished floor, shim as required. **See DETAIL C.**
5. Snap door stops with weatherstrip into jambs and door header. Jamb stops run through.
6. Install transom sash. Horizontal sash runs through. Vertical sash is mitered at outside to allow for horizontal glazing bead installation. **See DETAIL D.**
7. Place glass setting blocks in door header at quarter or eighth points as required and glaze transom. For 1" (25) glazing, snap jamb sash into jambs.
8. Install interior and exterior glass stops in header.
9. Roll-in glazing gaskets for jambs and header.



DETAIL B

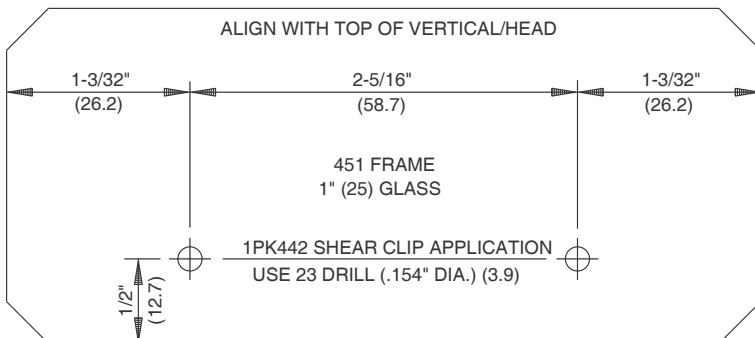
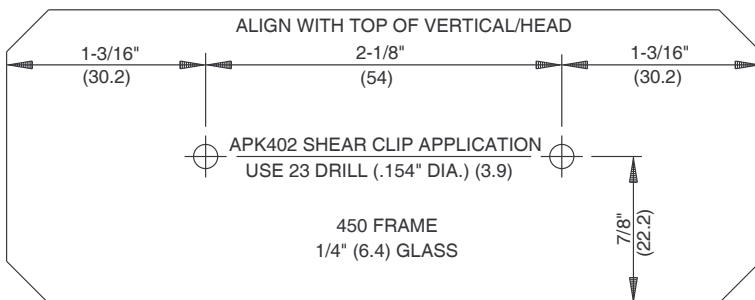


DETAIL C



DETAIL D

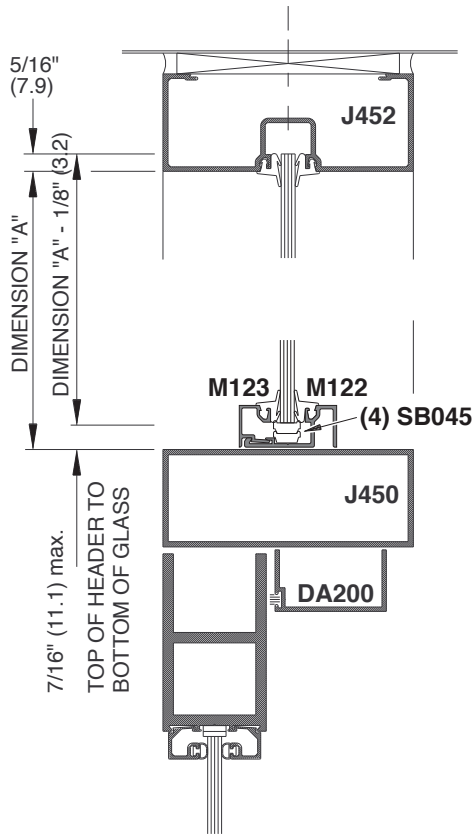
TEMPLATES ARE FOR EXTREME HEAD ONLY



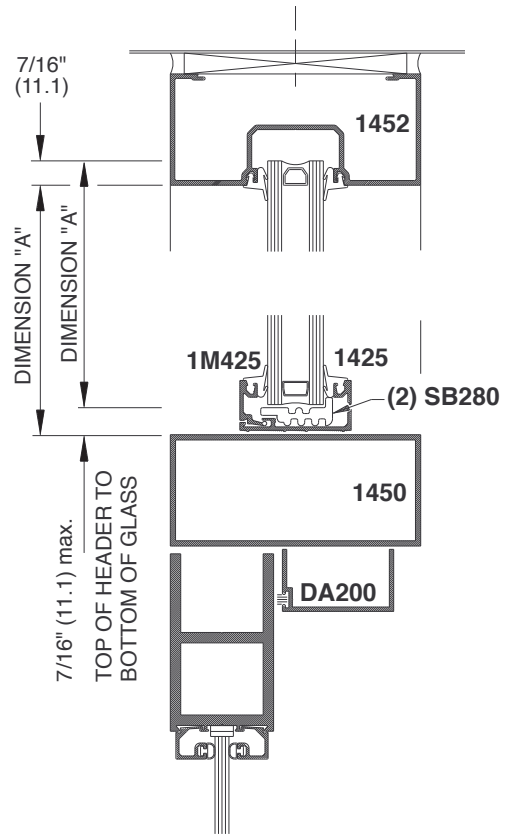
NOT TO SCALE

DOOR FRAME ASSEMBLY

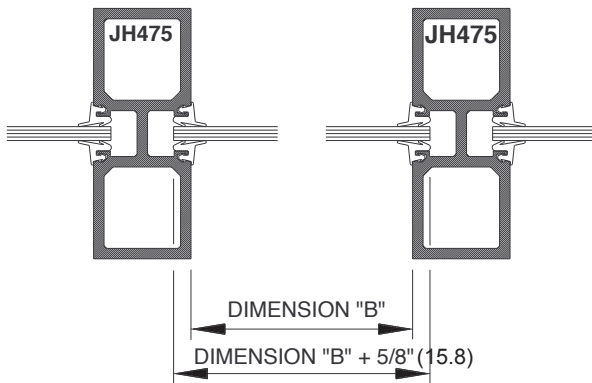
GLASS SIZE FORMULA AT TRANSOM



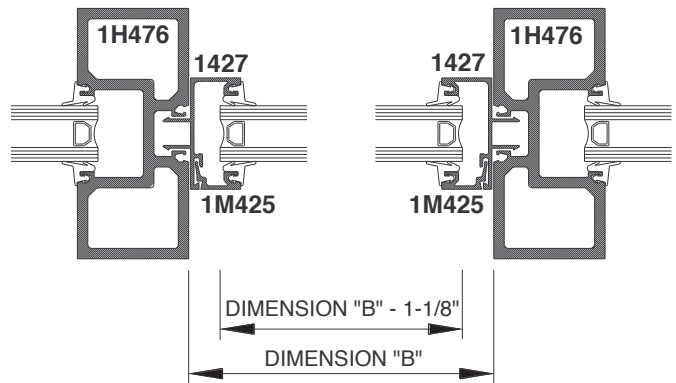
450 SERIES



451 SERIES



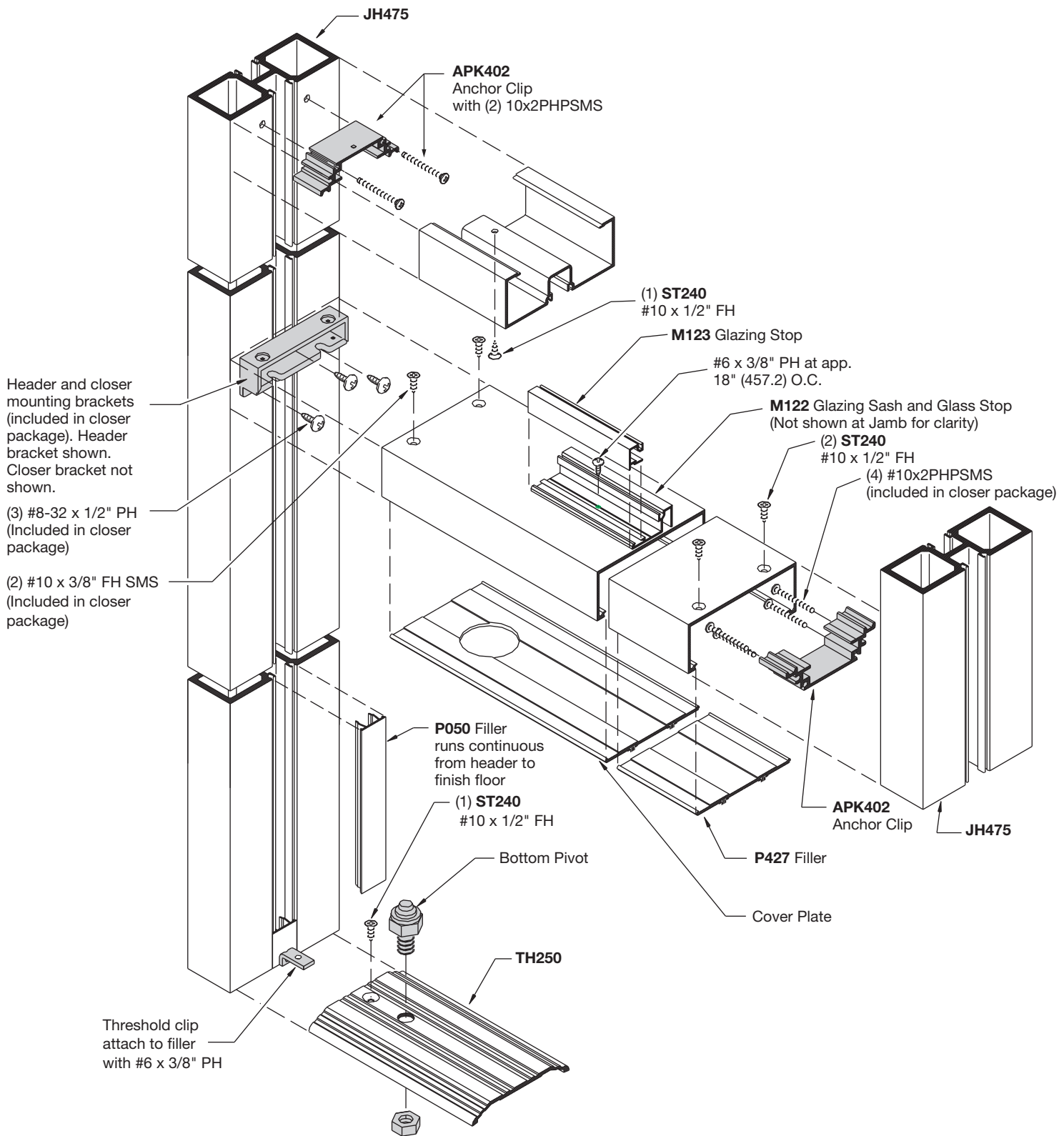
450 SERIES



451 SERIES

NOT TO SCALE

FRAME UNITS FOR CENTER PIVOT DOOR WITH OVERHEAD CONCEALED CLOSER



NOT TO SCALE

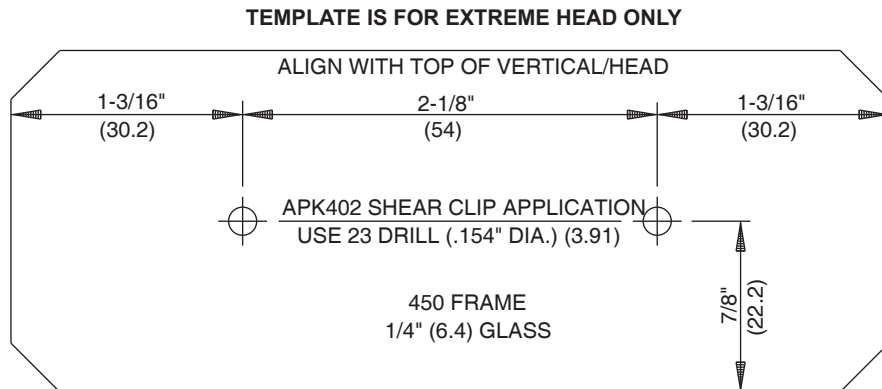
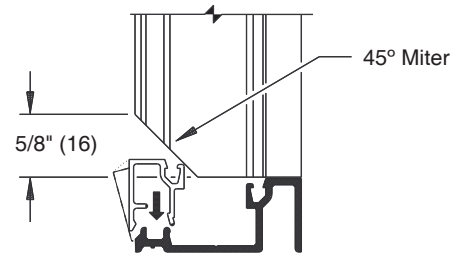
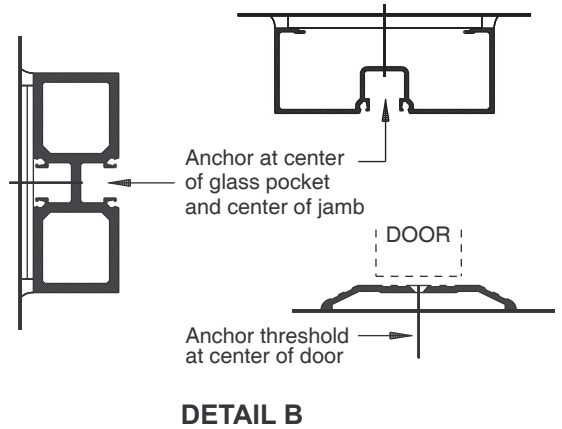
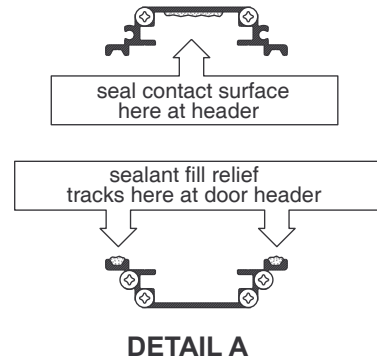
DOOR FRAME ASSEMBLY

ASSEMBLY INSTRUCTIONS:

1. Verify opening size. Allow for 1/4" shim and caulk space at sides, and 1/2" space at top of frame. (When using optional **AF100** sill flashing, allow 1/4" 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 sealant. **See DETAIL A.**
6. Assemble head and door header to jambs as shown.
7. Install bottom pivot in threshold.

INSTALLATION INSTRUCTIONS:

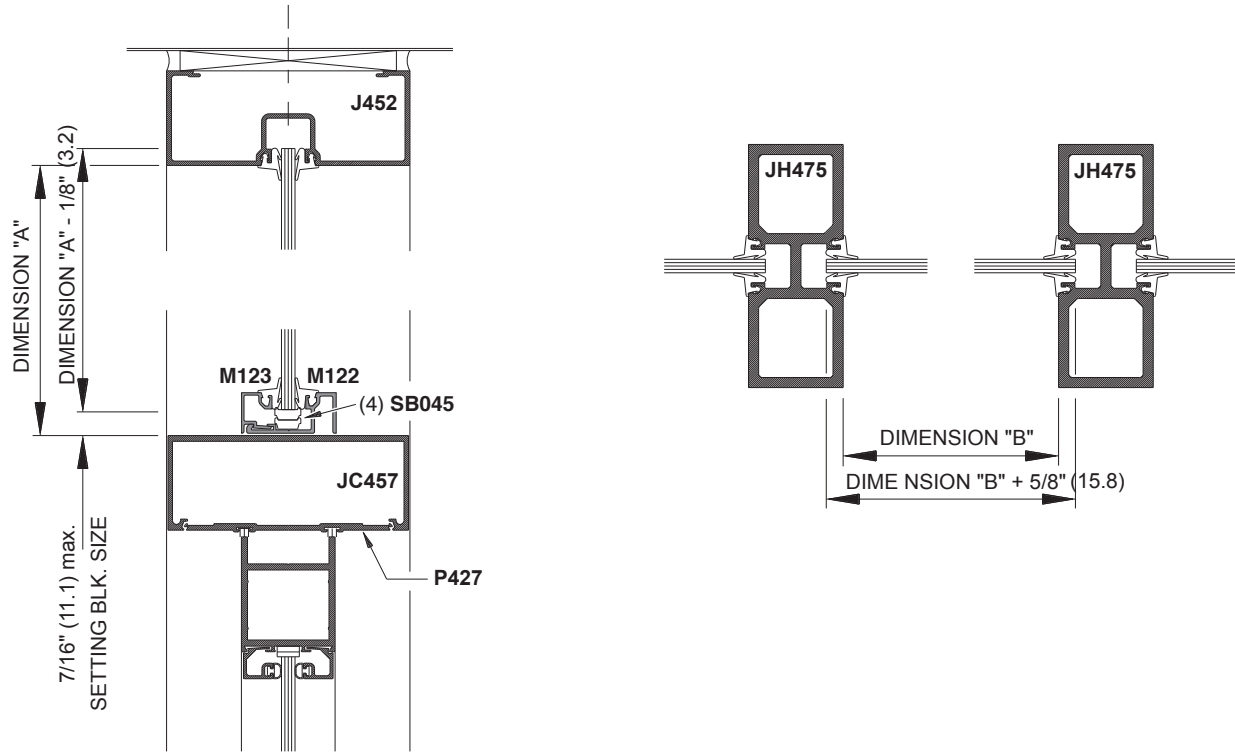
1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws, starting 6" from corners and not more than 36" O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. **See DETAIL B.**
4. Install transom sash. Horizontal sash runs through at door header. Vertical sash abuts over horizontal sash and is mitered at outside to allow for horizontal glazing bead installation. **See DETAIL C.**
5. Place glass setting blocks in door header at quarter or eighth points, as required and glaze transom.
6. Install exterior glass stops.
7. Roll-in glazing gaskets for jambs and header.



NOT TO SCALE

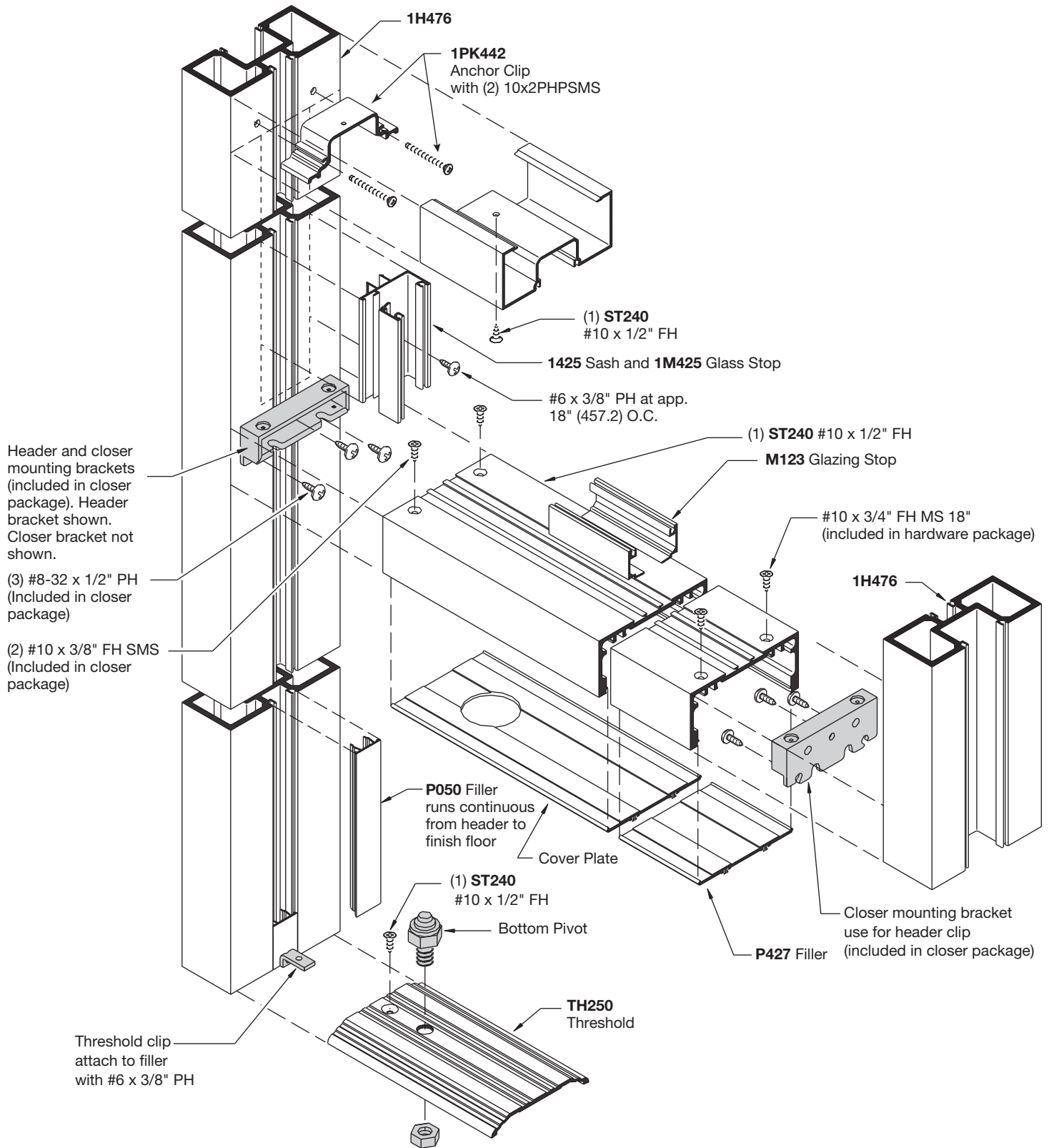
DOOR FRAME ASSEMBLY

GLASS SIZE FORMULA AT TRANSOM
(OPEN BACK FRAME SHOWN; TUBULAR SIMILAR)



NOT TO SCALE

FRAME UNITS FOR CENTER PIVOT DOOR WITH OVERHEAD CONCEALED CLOSER

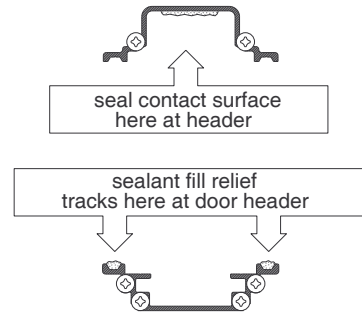


NOT TO SCALE

DOOR FRAME ASSEMBLY

ASSEMBLY INSTRUCTIONS:

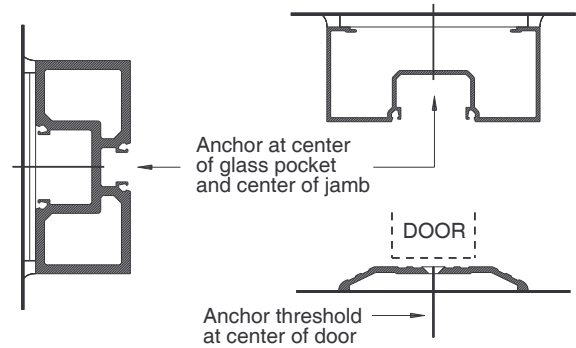
1. Verify opening size. Allow for 1/4" shim and caulk space at sides, and 1/2" space at top of frame. (When using optional **AF100** sill flashing, allow 1/4" shim space at top of frame)
2. If required, cut off top of vertical jambs to adjust frame to desired height.
3. Cut templates from instructions. 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 screws provided.
5. Butter contact surface of anchor clips with sealant. **See DETAIL A**
6. Assemble head and door header to jambs as shown.
7. Install bottom pivot on threshold.



DETAIL A

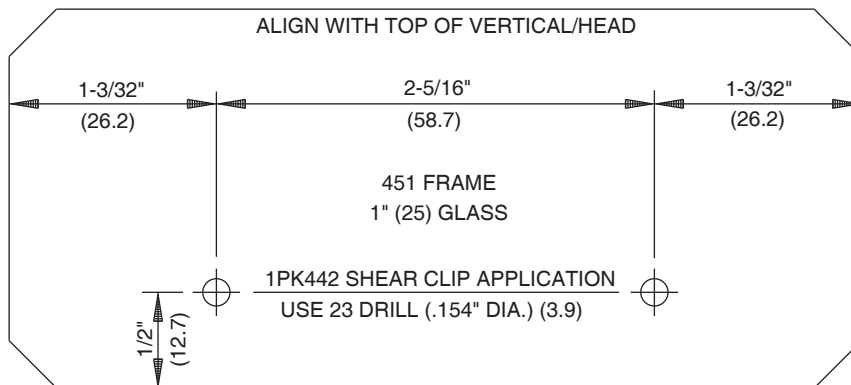
INSTALLATION INSTRUCTIONS:

1. Set frame into opening plumb and square.
2. Drill holes for #12 installation screws, starting 6" from corners and not more than 36" O.C.
3. Secure jambs and head to opening and threshold to floor with #12 screws. **See DETAIL B**
4. Install transom jamb sash with #6 X 3/8" P.H. screws at 18" O.C. (Jamb sash runs through). Then snap in interior glass stop at header. (Header glass stops run between)
5. Locate setting blocks in door header at quarter or eighth points as required, and glaze transom.
6. Install exterior glass stop at door header first, then install side stops.
7. Roll-in glazing gaskets for jambs and header.



DETAIL B

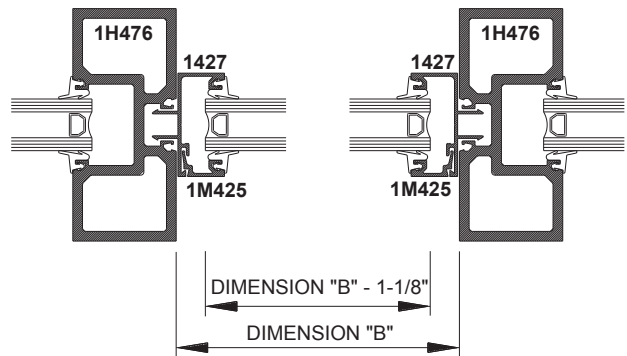
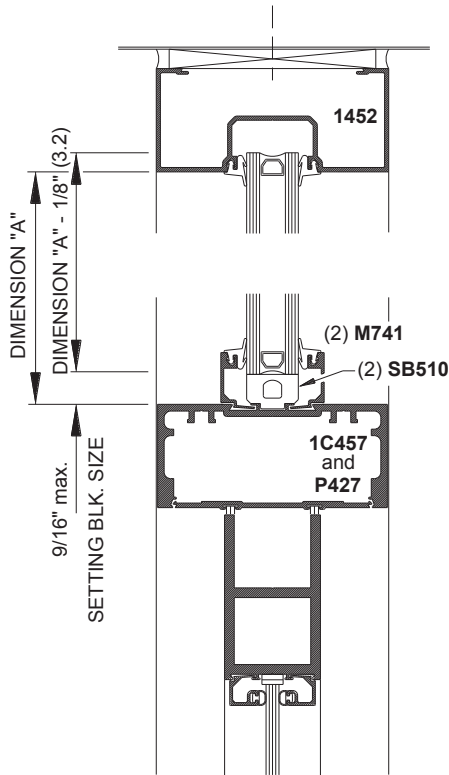
TEMPLATE IS FOR EXTREME HEAD ONLY



NOT TO SCALE

DOOR FRAME ASSEMBLY

GLASS SIZE FORMULA AT TRANSOM



NOT TO SCALE