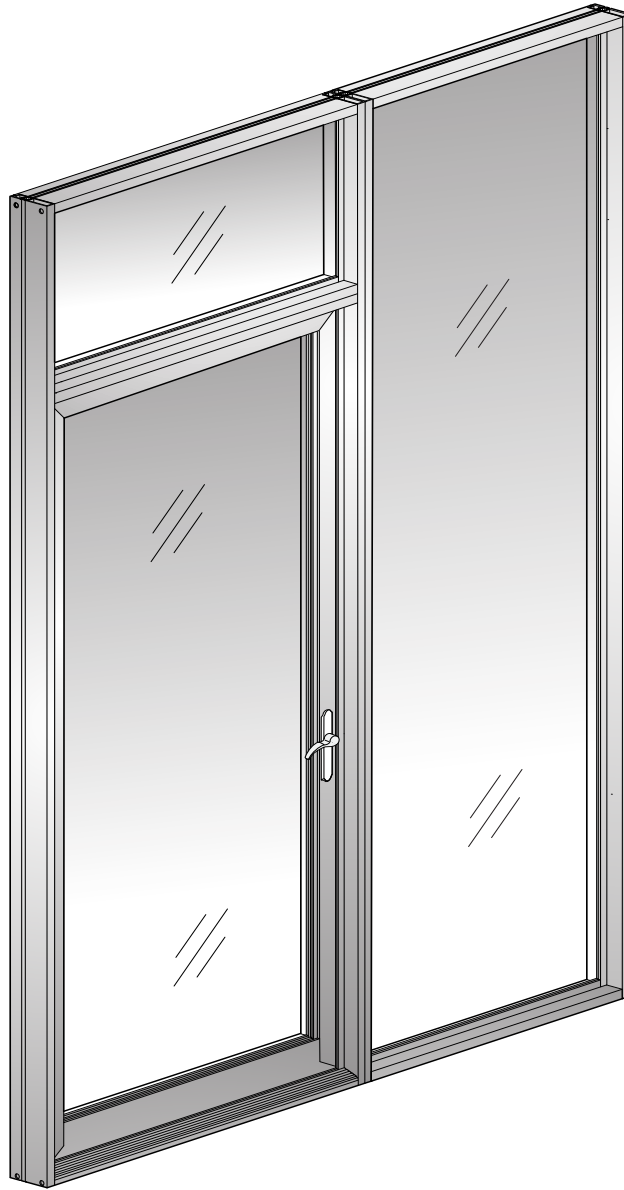


INSTALLATION INSTRUCTIONS

SERIES 900 TERRACE DOOR WITH TRANSOM AND SIDELITES



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

11M0172_REV_A

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.

ORDER OF ASSEMBLY AND INSTALLATION

Handling, Storage, and Protection of Aluminum	02
General Installation Notes.	03
Before Installation.	04
Glazing Instructions / Glazing the Door	05 - 06
Installation Preparation	07
Installation	07 - 09
Frame Alignment	08
Transom and Sidelite Fabrication	10 - 11
Transom and Sidelite Assembly.	12
Sidelite Attachment	13
Sidelite Attachment with Transom.	14
Transom and Sidelite Glazing	15
A.D.A. Compliant Installation	16
Door Handle Installation	17
Top Arm Adjustment	17
Optional Adjustment Hinge.	18
Swing Door Handle Operation	19

GENERAL INSTALLATION NOTES

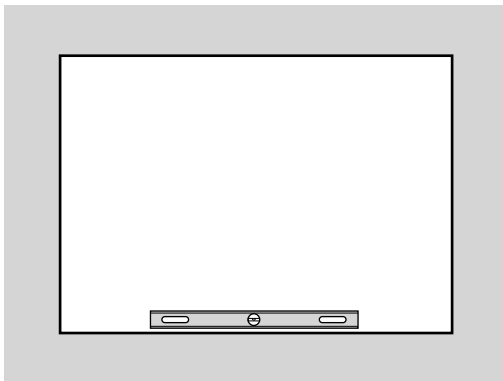
Recommended guidelines for all installations:

- 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. Install operable windows preglazed only.
- 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, 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.
- 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. WATER HOSE TEST.** As 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.
- 12. COORDINATION WITH OTHER TRADES.** Coordinate with the general contractor any sequence of the installation that involves other trades in the project (i.e. framing, 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.

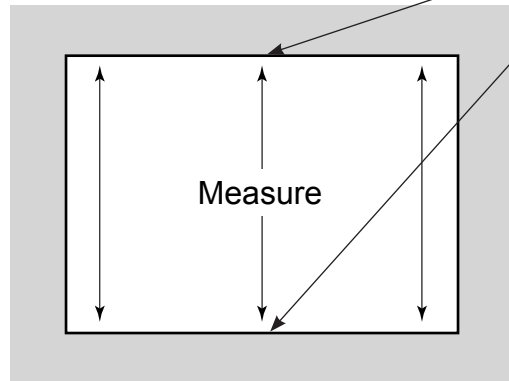
BEFORE INSTALLATION

1. The rough opening should be checked for the correct size as determined by tolerances listed in the architectural specifications and the shop drawings. **See DETAIL A.**
2. Verify rough opening size has 1/2" (12.7 mm) clearance in both width and height to the frame. Verify framing is plumb, straight, and true around rough opening. Measure the opening at each end and at the center, vertically and horizontally. Make corrections to openings as required. Measure opening diagonally to check squareness. Chip away concrete high points to flush and square any rounded corners.
3. Establish the face of the door line at the head, sill, and jambs. This reference is to be arrived at by using the architectural plans, general contractor's reference lines, and shop drawings.

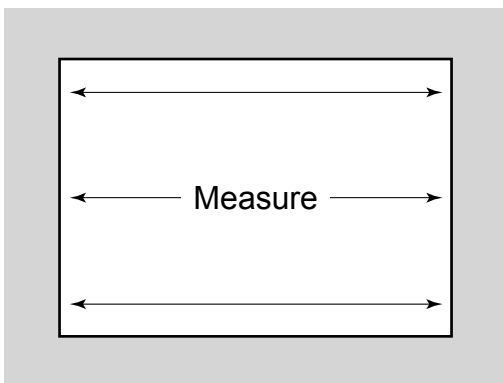
For proper operation of doubled doors, it is important that the brass receivers for the inactive panel, located in the head and sill, be in exact alignment.



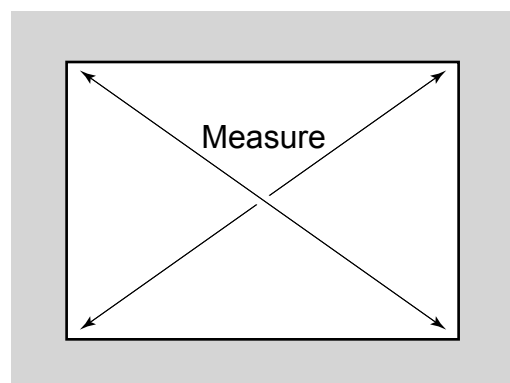
LEVEL



VERTICAL DIMENSION



HORIZONTAL DIMENSION



SQUARE

DETAIL A

NOTE: For proper door operation and drainage it must be installed PLUMB and LEVEL.

GLAZING INSTRUCTIONS

These instructions assume that the installer has adequate trade knowledge in aluminum glazing systems and aluminum entrance installation guidelines and procedures. This includes frame leveling and squaring techniques, surface cleaning for sealant application, and perimeter seal waterproofing. The following instructions give product specific installation information required to ensure proper product performance. In the event of adverse field installation conditions, it is the responsibility of the installer to contact U.S. Aluminum for recommendations and support prior to product installation.

GLAZING THE DOOR

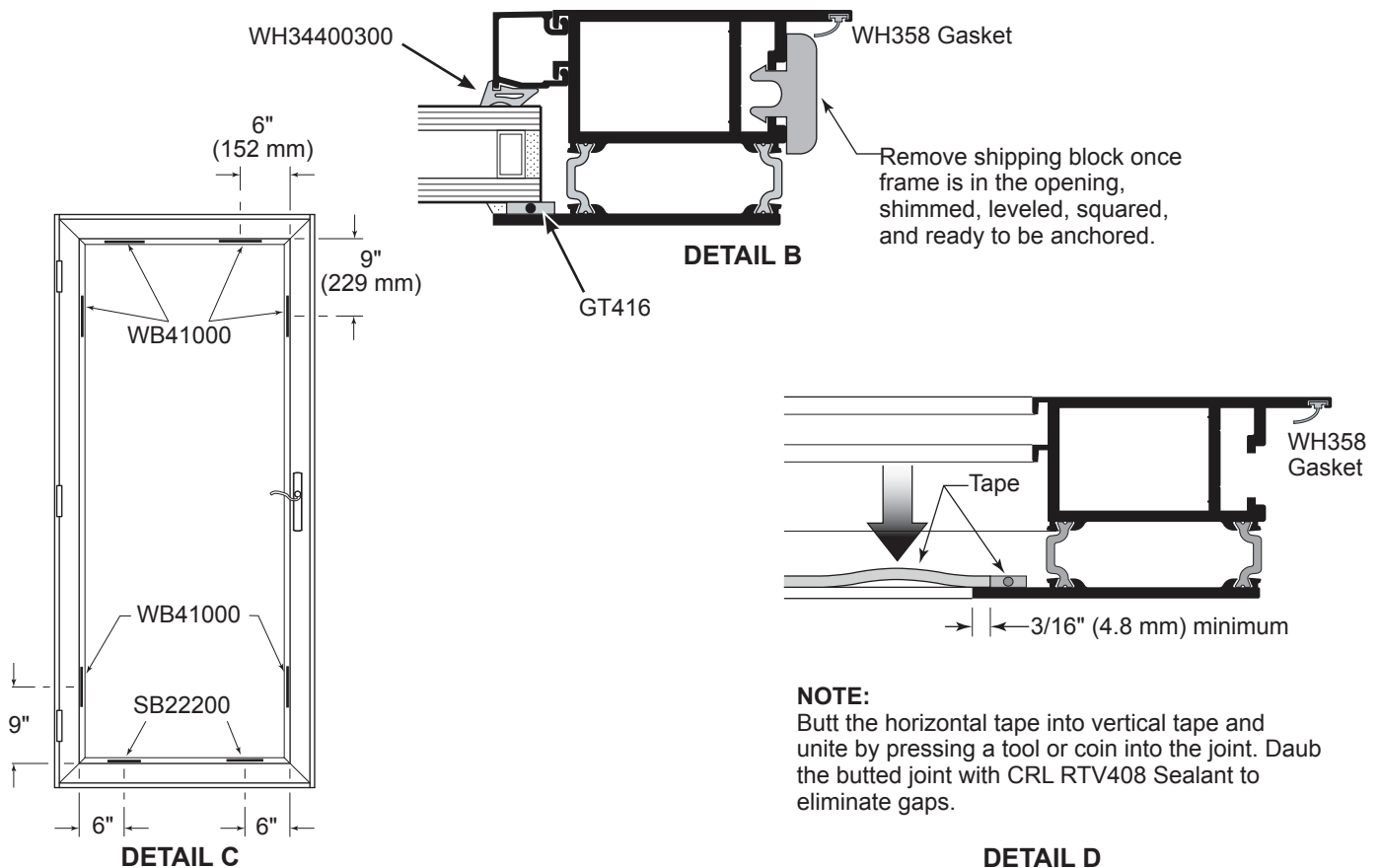
GLASS SIZE = Daylight Opening (D.L.O.) + 1" (25.4 mm)

NOTE: This formula does not take into account glass tolerances.

Consult glass manufacturer before ordering glass.

Inspect all received materials for damages during shipping prior to glazing or installation.

1. Remove temporary shipping blocks located at top and bottom rails and hinge and lock stiles.
See DETAIL B.
2. Clean glazing fins with solvent prior to applying pre-shimmed glazing tape.
3. Apply glazing tape Cat. No. 98418X12BL, 1/8" X 1/2", to stiles (D.L.O. + 1-1/8", 28.6 mm), inset 3/16" (4.8 mm) to allow for cap bead. Apply tape to the top and bottom rails, butting tight to the vertical tape, leaving an extra amount at each end to ensure a tight joint. **See DETAIL D.**
4. Place WB41000 Walk Blocks in door as shown in **DETAIL C.**
5. Cut wedge gasket to size. Gaskets should be cut 1/8" (3.2 mm) longer per foot of Daylight Opening to allow for shrinkage.



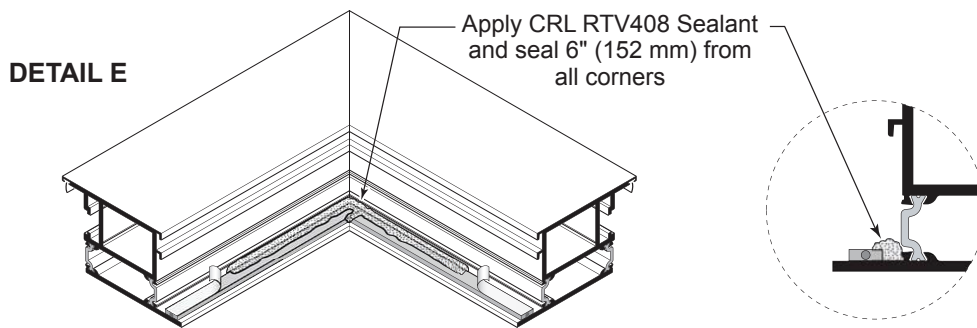
GLAZING THE DOOR (CONTINUED)

- Place SB22200 Setting Block as shown in **DETAIL C**.
- Clean glass edges with solvent. Avoid touching edges after cleaning.
- Prior to glazing, peel protective paper from the glazing tape. **DO NOT TOUCH** exposed tape surfaces with fingers or any tool. See **DETAIL F**.

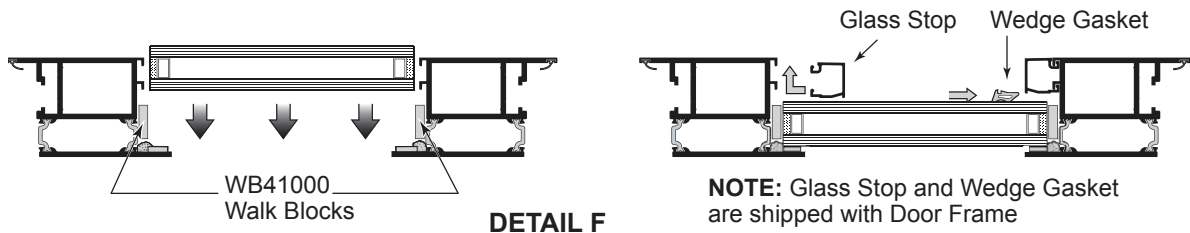
NOTE: Do not leave glazing tape surface unprotected, remove paper just prior to setting glass.

- Apply a 6" (152 mm) bead of CRL RTV408 Sealant at each corner of glazing tape. Sealant should fill reveal and cover approximately half of inside edge of tape as shown in **DETAIL E**.

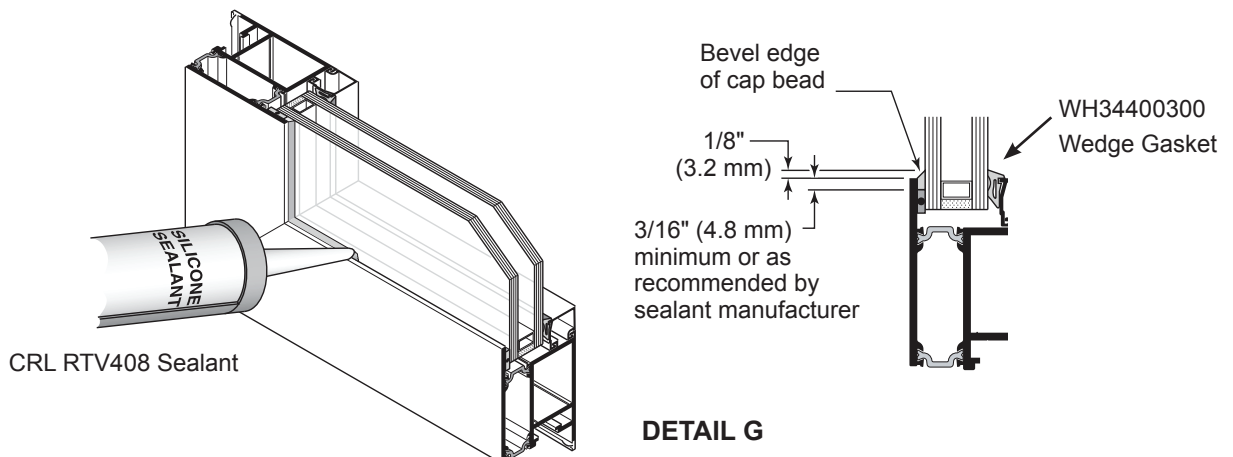
NOTE: Door should be glazed while sealant is wet.



- Place glass square into opening, pressing firmly against glazing tape. See **DETAIL F**.
- Install Glass Stops and Wedge Gaskets immediately. See **DETAIL F**.



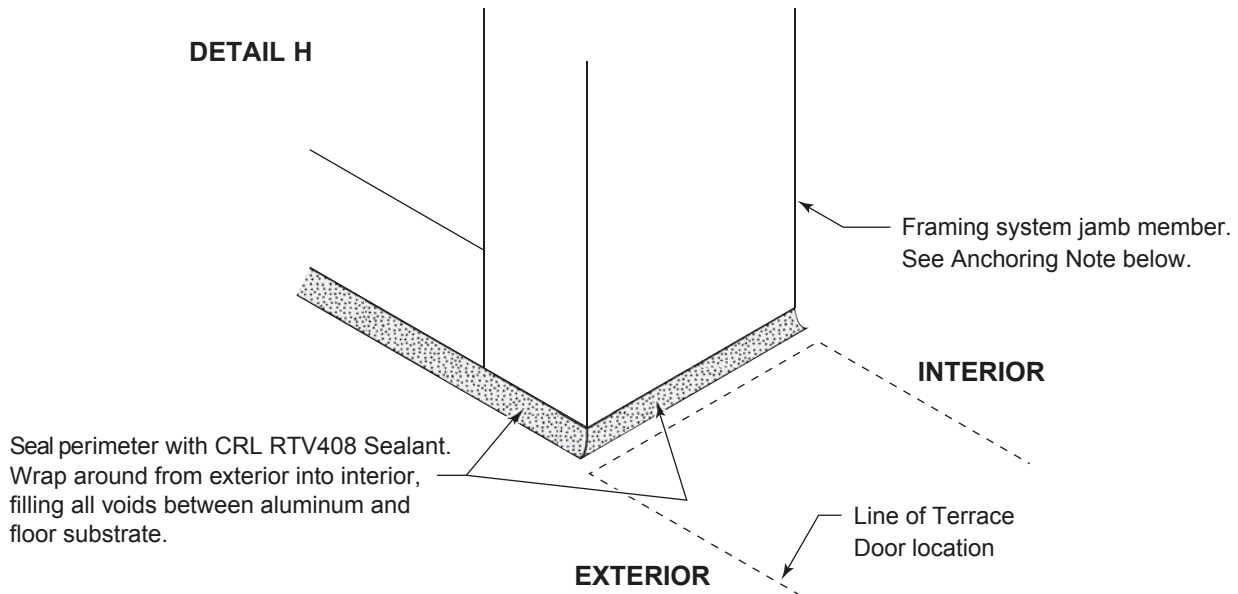
- Apply cap bead of CRL RTV408 Sealant a full perimeter between glazing fin and glass. Be sure to inject sealant full depth of recess. See **DETAIL G**.



INSTALLATION PREPARATION

1. If installing within a framing system, installer must make sure the perimeter sealant of the framing system is properly sealed. The perimeter seal must have full coverage from exterior to interior and be compatible with sealant to be used with terrace door installation. **See DETAIL H.**

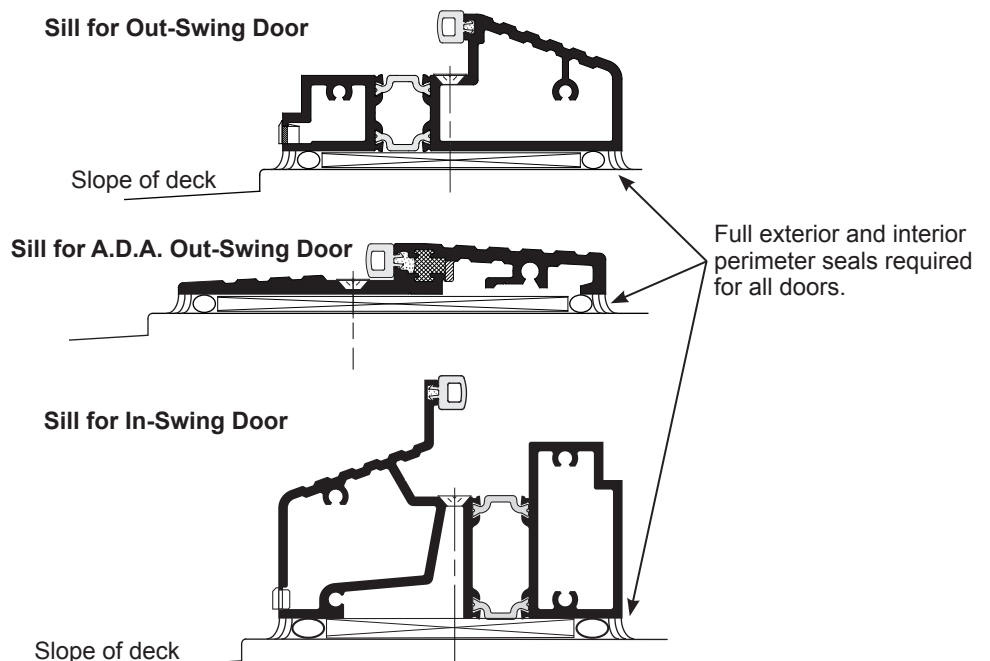
NOTE: Some conditions may require sill pan flashing within door and sidelite opening. Consult approved shop drawings for any flashing installation requirements.



INSTALLATION

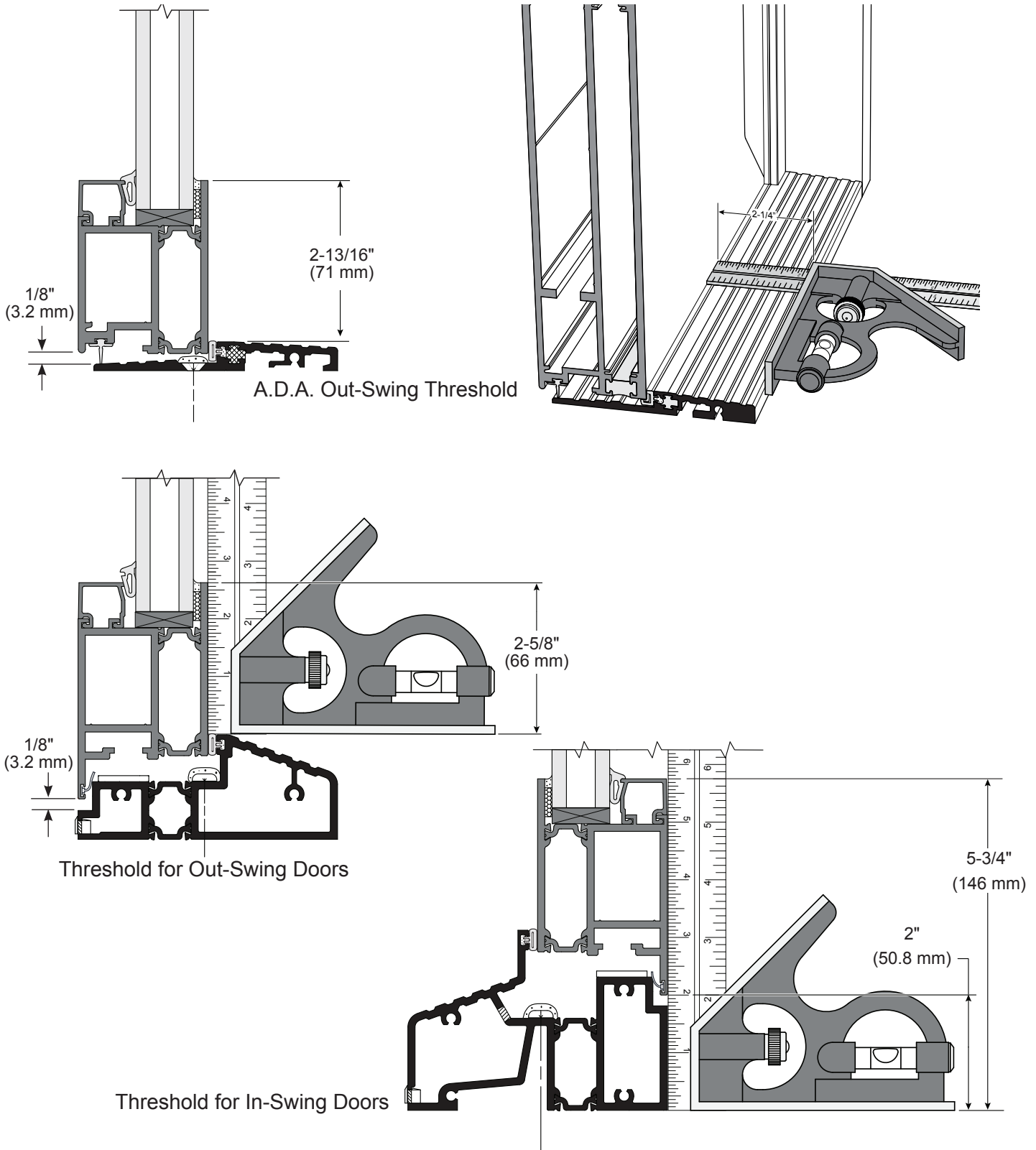
ANCHORING NOTE: Fasteners, substrate, and any surrounding system components that are to structurally support loads imposed on this product must be adequate in strength and workability. Consult U.S. Aluminum for anchoring recommendations.

To the right are the three Threshold styles offered for the Series 900 Terrace Door. A minimum of five shims are required under all Thresholds for proper support.



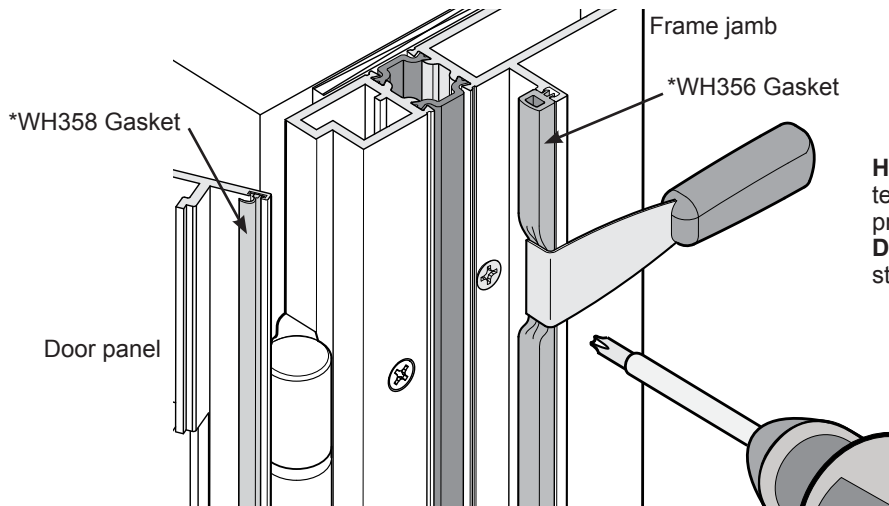
INSTALLATION (continued) - FRAME ALIGNMENT

Proper compression on the surrounding bulb gasket is crucial in keeping water out. There should be an 1/8" (3.2 mm) gap between the door leaf and the frame opening on all four sides. Check the height of the bottom rail with the threshold.



INSTALLATION (continued)

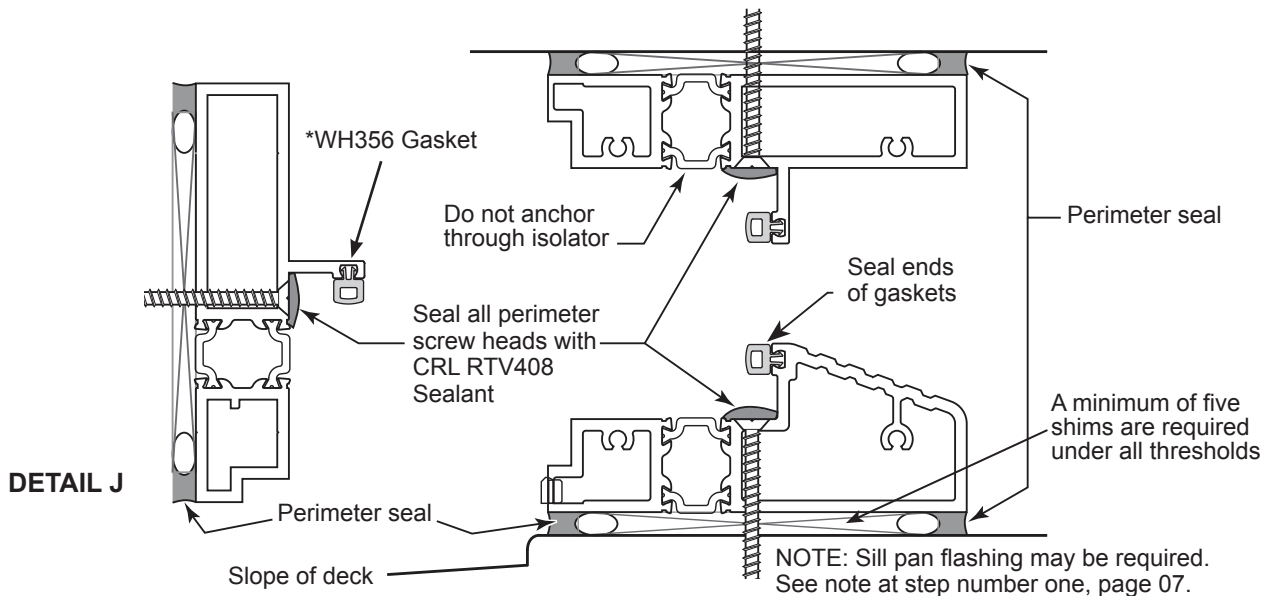
1. Install frame plumb and square. Shim frame as required. Shims are to be positioned at each fastener and hinge location.
2. Anchor the frame with #10 flat head screws (supplied by others) 18" (457 mm) O.C. length to be specified on approved shop drawings.



HELPFUL HINT: Compress gasket temporarily while installing fasteners to prevent damage to the gasket as seen in **DETAIL I**. Use caution not to mar the door stop gasket or the frame members.

DETAIL I

3. Seal over heads of each anchor screw and tool sealant smooth. **See DETAIL J.**
4. Apply perimeter seals continuously to the full perimeter of interior and exterior of door frame. Sealant must be compatible with perimeter sealant of any adjacent framing system. Refer to approved shop drawing for any job specific sealant requirements. Follow sealant manufacturer's guidelines for cleaning, surface preparation, and application.



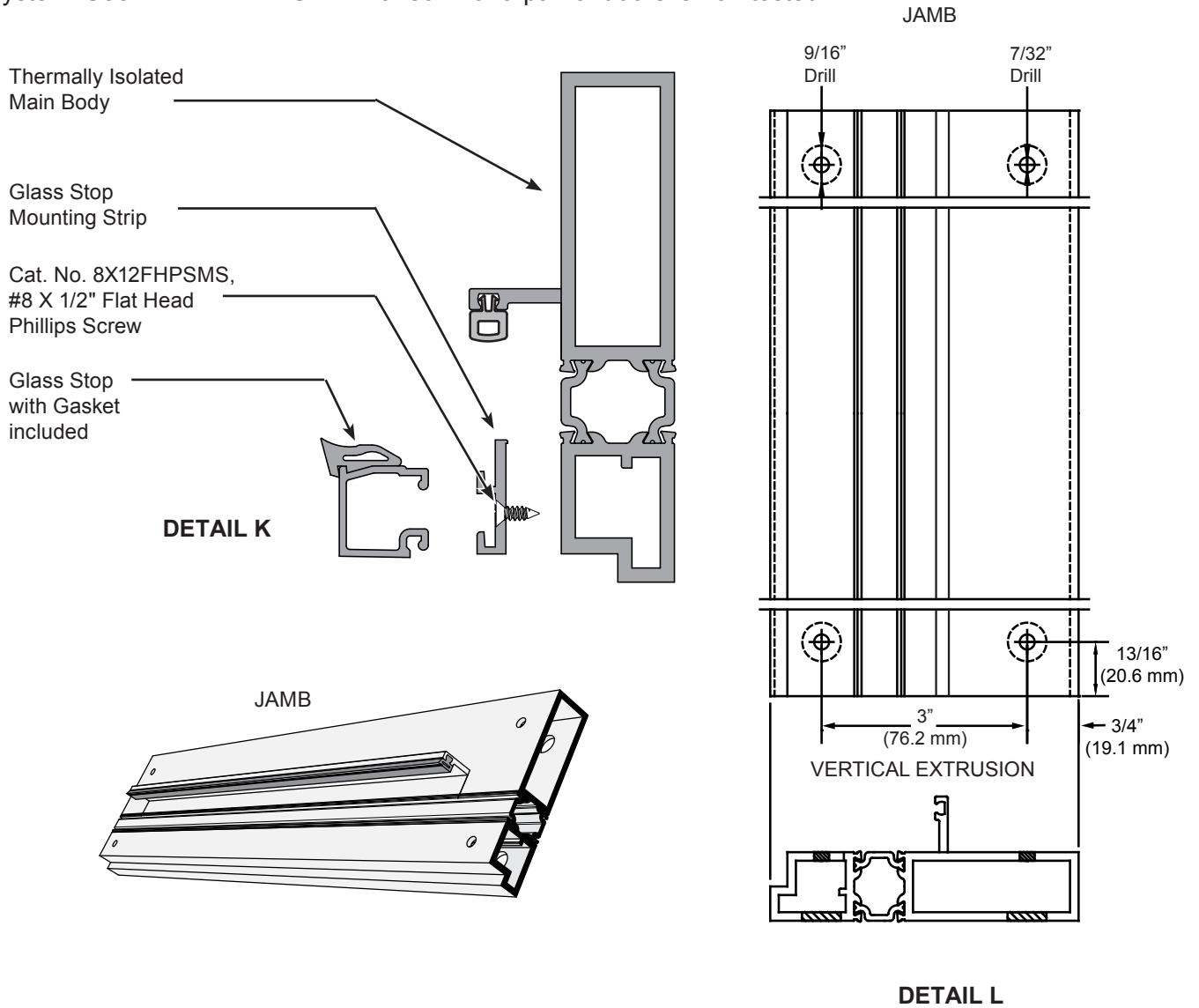
DETAIL J

Note: For A.D.A. Compliant Installation, see Page 16.

* In the event a replacement gasket is required, the full door perimeter seal should be replaced.

TRANSOM AND SIDELITE FABRICATION

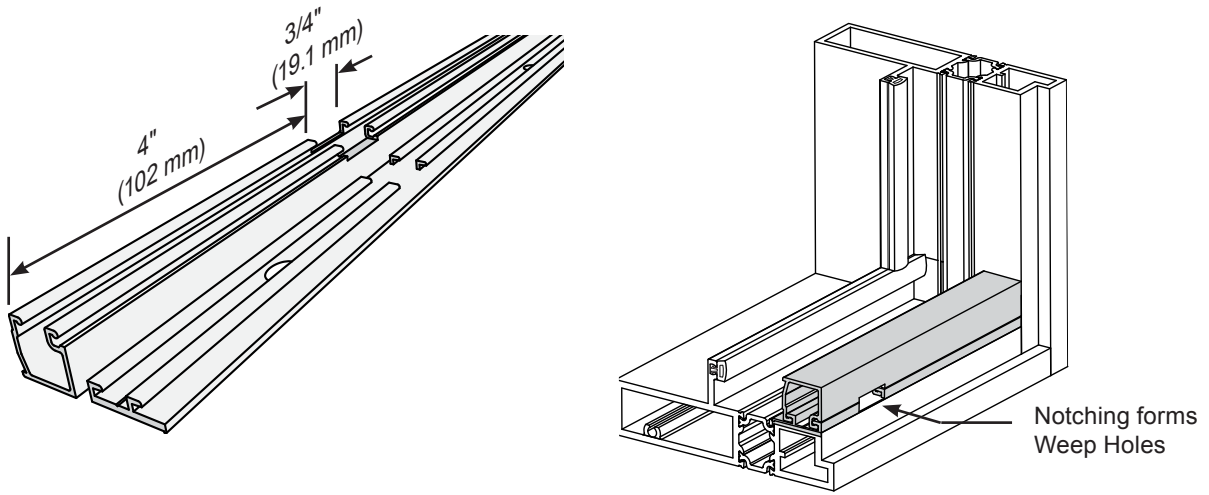
- Identify the components of the 900 Terrace Door Transom and Sidelite. Both use the same three-part system. **See DETAIL K.** **NOTE:** Transom for a pair of doors is non tested.



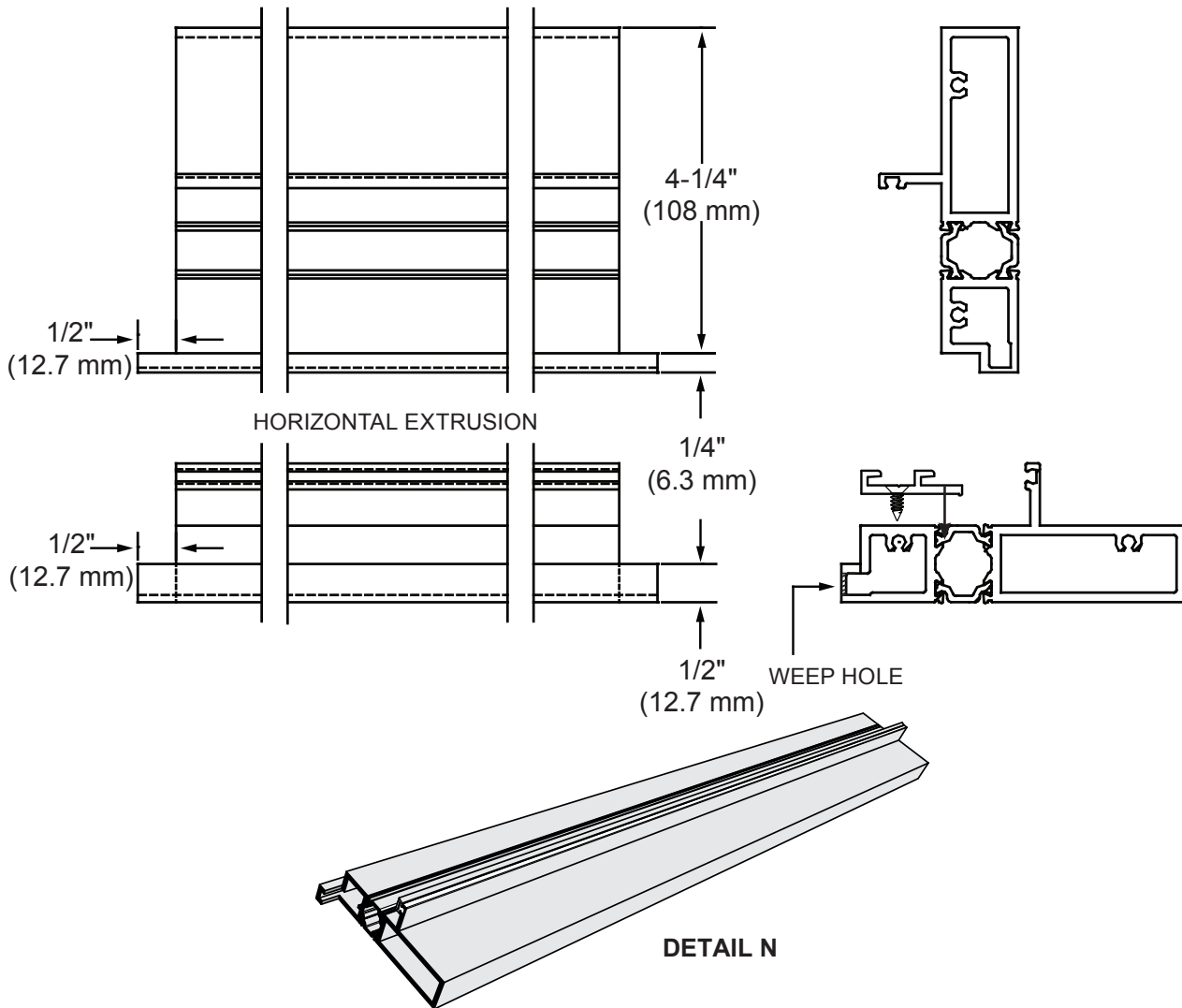
- Drill 9/16" access holes and 7/32" screw holes on each end of all vertical members. **See DETAIL L.**
- Notch each end of the vertical members as shown in **DETAIL M.**

TRANSOM AND SIDELITE FABRICATION (CONTINUED)

4. Notch the tabs on each end of all Glass Stops and Mounting Strips at sills, forming a weep hole when assembled. **NOTE:** Transom for a pair of doors is non tested.

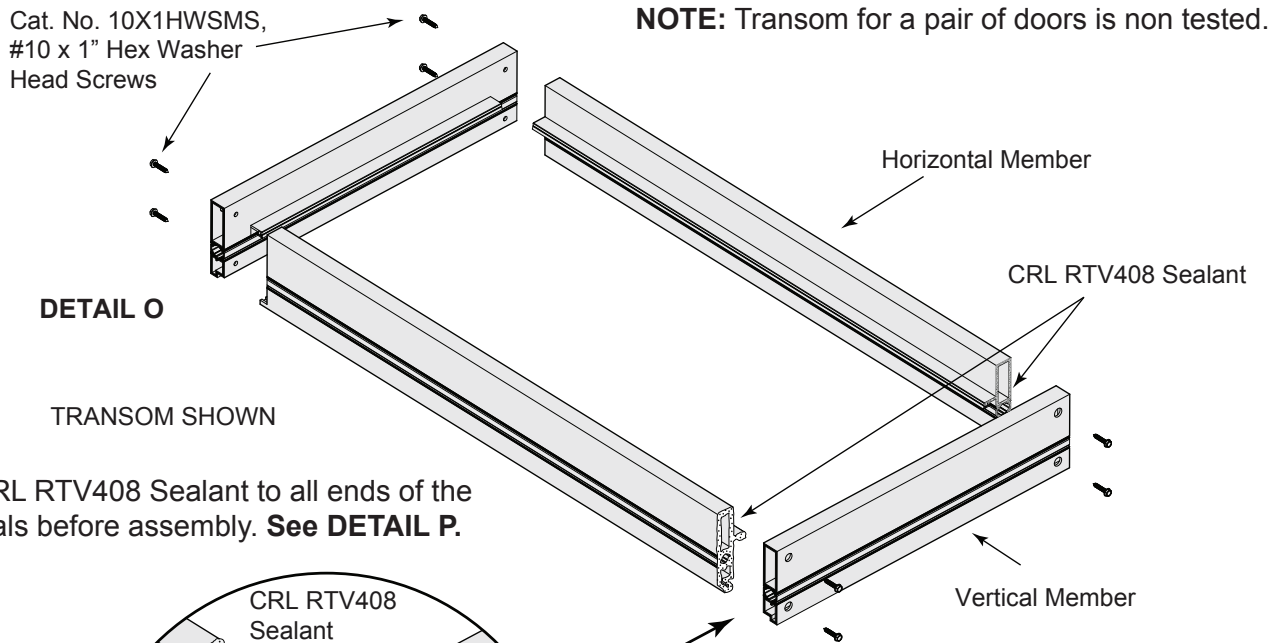


5. Notch each end of the horizontal members as shown in **DETAIL N**.

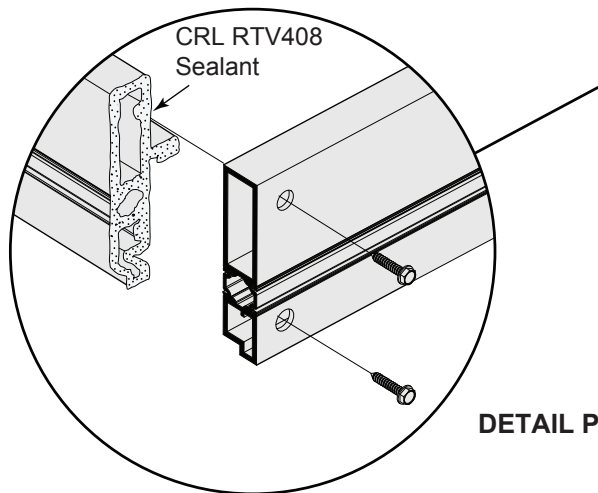


TRANSOM AND SIDELITE ASSEMBLY

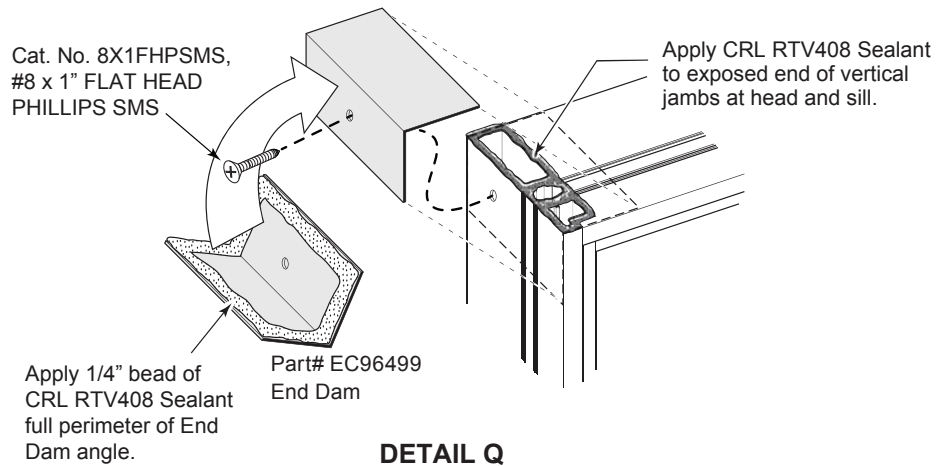
1. Assemble the vertical and horizontal members using Cat. No. 10X1HWSMS, #10 X 1" Hex Washer Head Screws. The procedure is the same for all transoms and sidelites. **See DETAIL O.**



2. Apply CRL RTV408 Sealant to all ends of the horizontals before assembly. **See DETAIL P.**



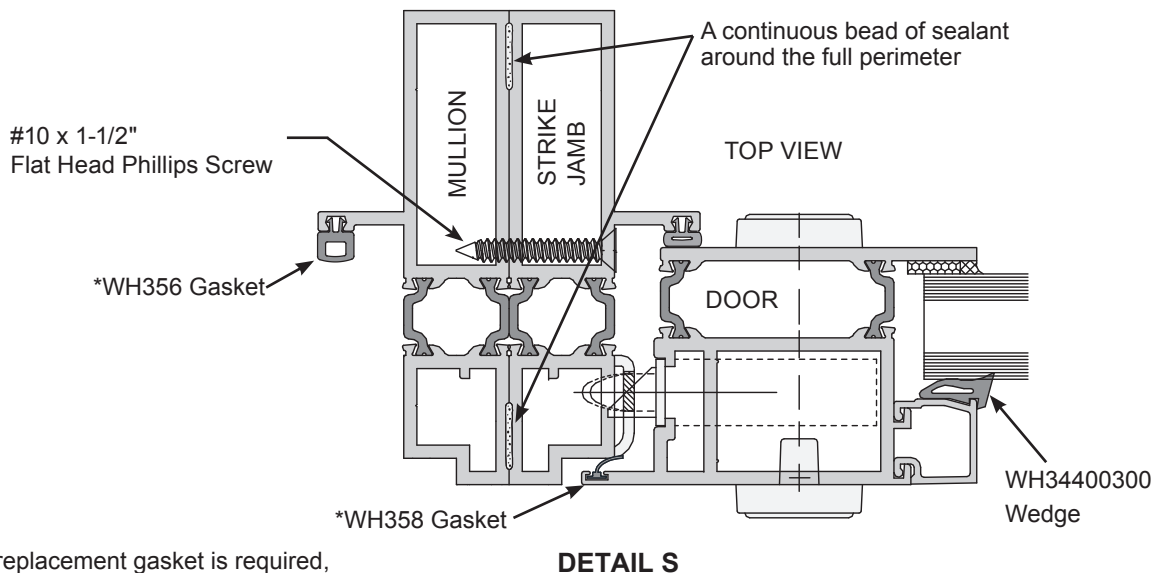
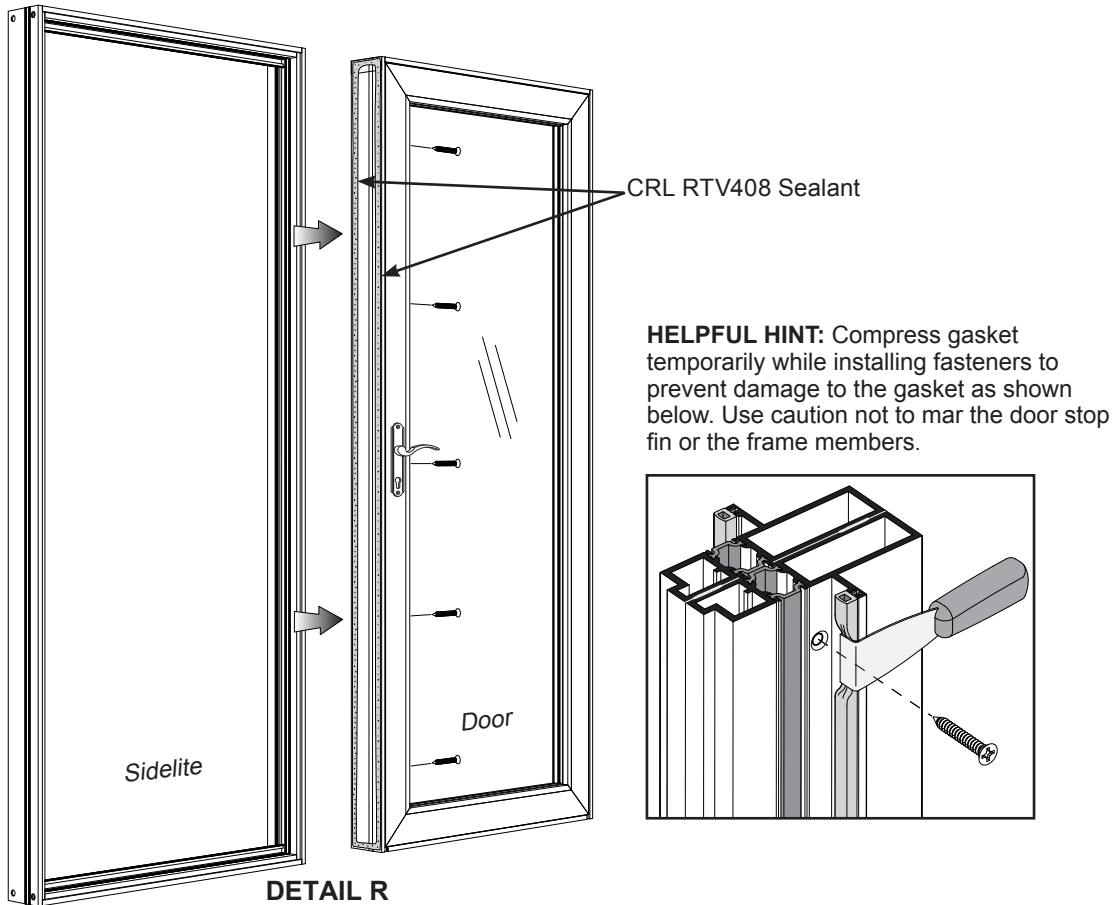
3. Install Corner Caps. Apply CRL RTV408 Sealant to top and bottom of jambs and EC96499 End Dams as shown in **DETAIL Q**. Secure with Cat. No. 8X1FHPSMS Screw. Seal over screw head.



SIDELITE ATTACHMENT

1. Run a perimeter bead on the adjacent door jamb with CRL RTV408 Sealant.
2. Align and clamp the sidelite mullion to the door strike jamb in place.
3. Going through the door frame, attach the sidelite with #10 X 1-1/2" Flat Head Screws, 12" O.C.
See **DETAIL R**.

NOTE: The screw heads should be countersunk and flush with the glazing channel. See **DETAIL S**.



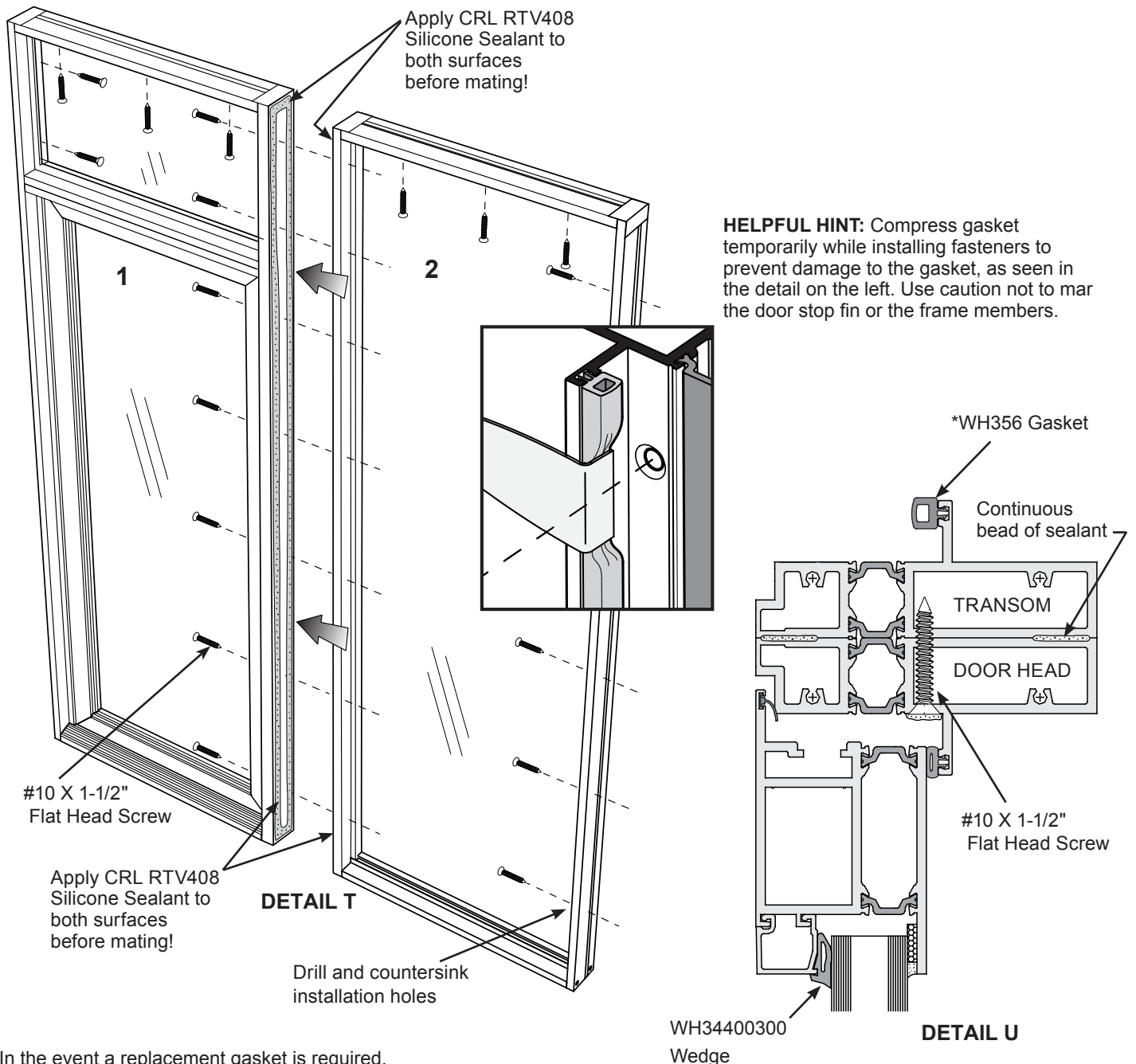
* In the event a replacement gasket is required, the full door perimeter seal should be replaced.

SIDELITE ATTACHMENT WITH TRANSOM

1. Apply CRL RTV408 Sealant to all mating surfaces. **See DETAIL T.**
2. Align and clamp the Transom in place.
3. Attach all components with #10 X 1-1/2" Flat Head Screws. Seal over all screw heads.

NOTE: The screw heads should be countersunk and flush with the glazing channel. **See DETAIL U.**

NOTE: Some conditions may require sill pan flashing within door and sidelite opening. Consult approved shop drawings for any flashing installation requirements.



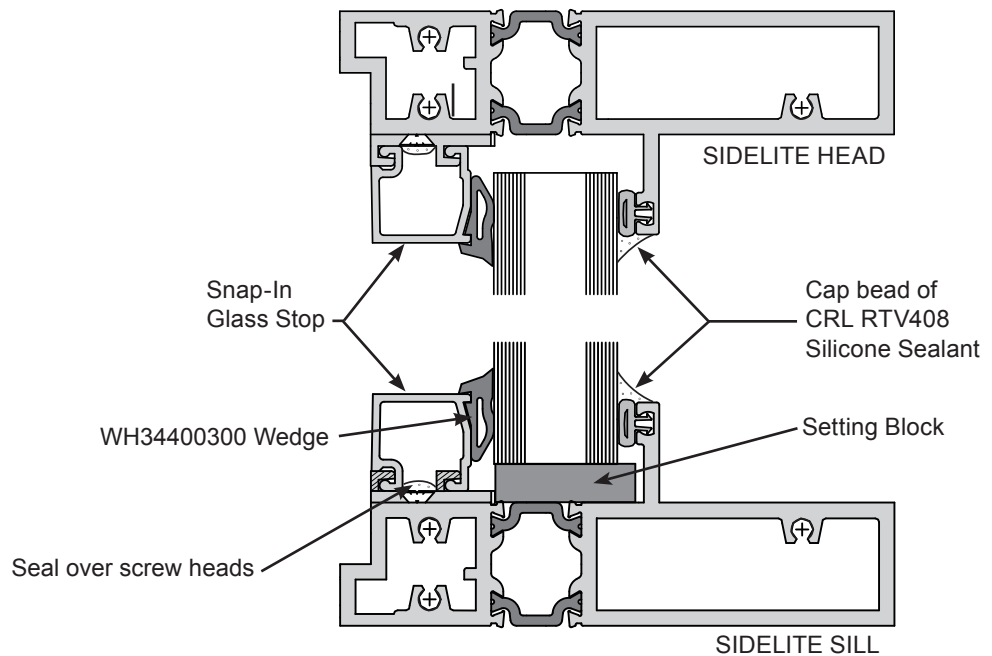
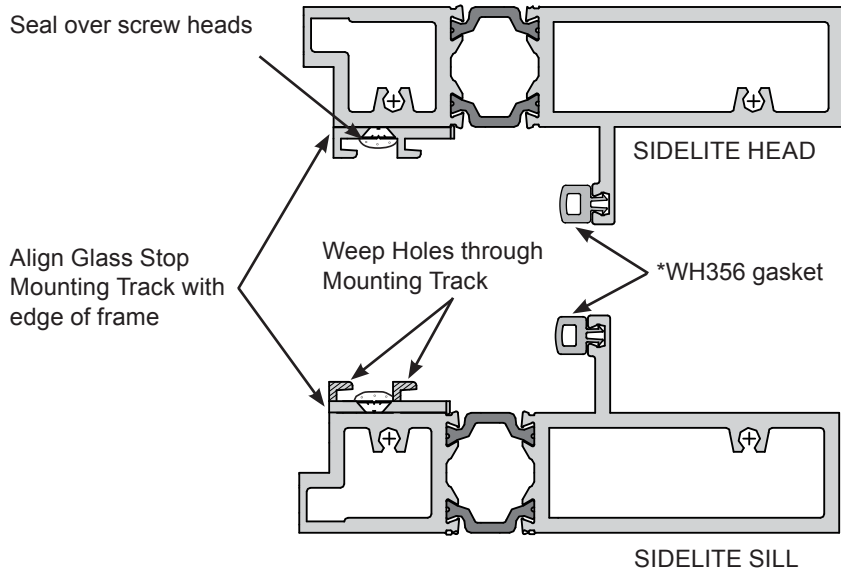
* In the event a replacement gasket is required, the full door perimeter seal should be replaced.

TRANSOM AND SIDELITE GLAZING

1. **DETAIL V** illustrates the horizontal members of a sidelite frame before glazing.
2. The illustration in **DETAIL W** shows the same sidelite now **completely glazed**.
3. Follow the Glazing Instructions on Page 05 for detailed procedure.

SIDE VIEWS

DETAIL V



DETAIL W

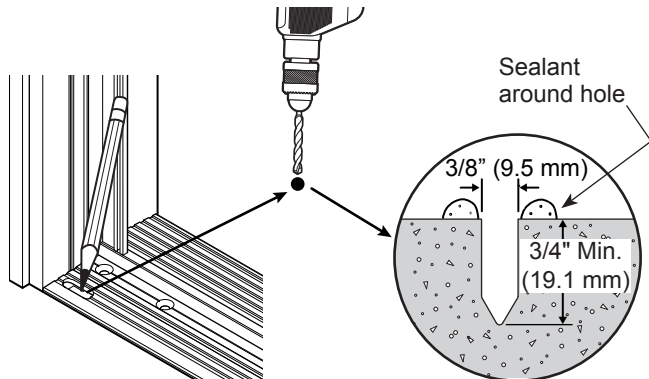
* In the event a replacement gasket is required, the full door perimeter seal should be replaced.

A.D.A. COMPLIANT INSTALLATION

1008.1.7 A.D.A. Thresholds. Thresholds at doorways shall not exceed 3/4" (19 mm) in height above the finished floor or landing for sliding doors serving dwelling units, or 1/2" (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than 1/4" (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical by two units horizontal (50 percent slope).

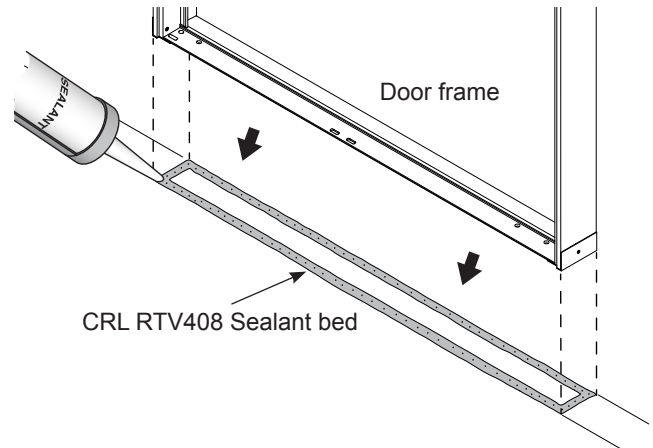
1. Stand door in position in rough opening. Hold in place with shims.
2. Plumb and square the jambs.

NOTE: When installing an optional A.D.A. Threshold, it is necessary to drill a hole in the floor for the shootbolt. Drilling is **not** necessary for non - A.D.A. Threshold.



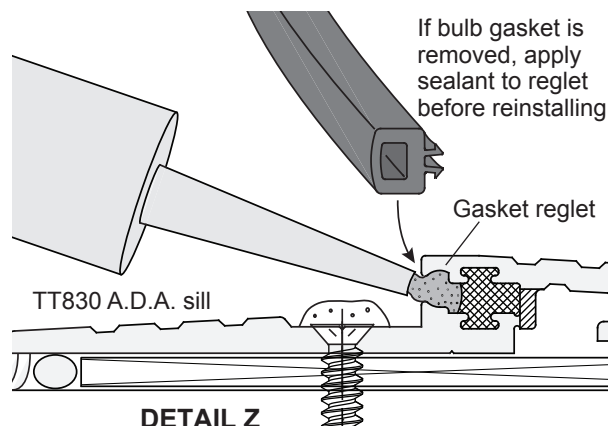
NOTE: If standing water is a concern, use a weep tube by others.

DETAIL X

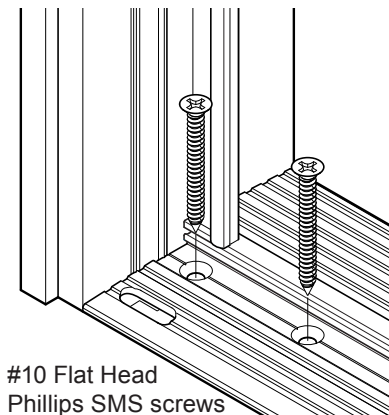


DETAIL Y

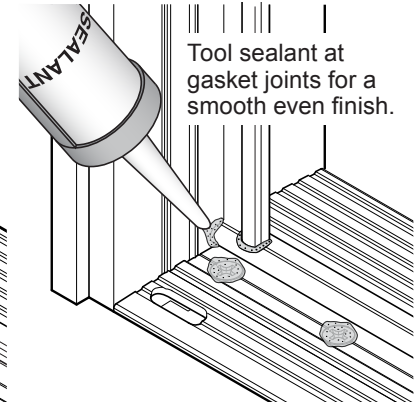
3. Mark placement for the shootbolt. Remove door to drill a hole 3/8" in diameter by minimum 3/4" (19 mm) deep into concrete. Drill any other mounting holes. **See DETAIL X.** Remove all debris from sill area for a proper sealing surface.
4. Apply a bead of CRL RTV408 Sealant along perimeter of threshold. Apply another bead of sealant around the shootbolt hole. Reinstall door into opening on top of sealant. **See DETAIL Y.**
5. If bulb gasket is removed from the sill or not installed yet, apply a bead of CRL RTV408 Sealant into gasket reglet prior to installing the gasket. **See DETAIL Z.**
6. Attach threshold with #10 Flat Head Phillips screws. Use CRL RTV408 to seal over screw heads and to seal butt ends of bulb gasket strips. **See DETAIL AA.** Tool sealant at gasket ends for a smooth finish. Allow sealant curing time before closing door.
7. Attach jambs to the opening. **See DETAIL I on page 09.**



DETAIL Z



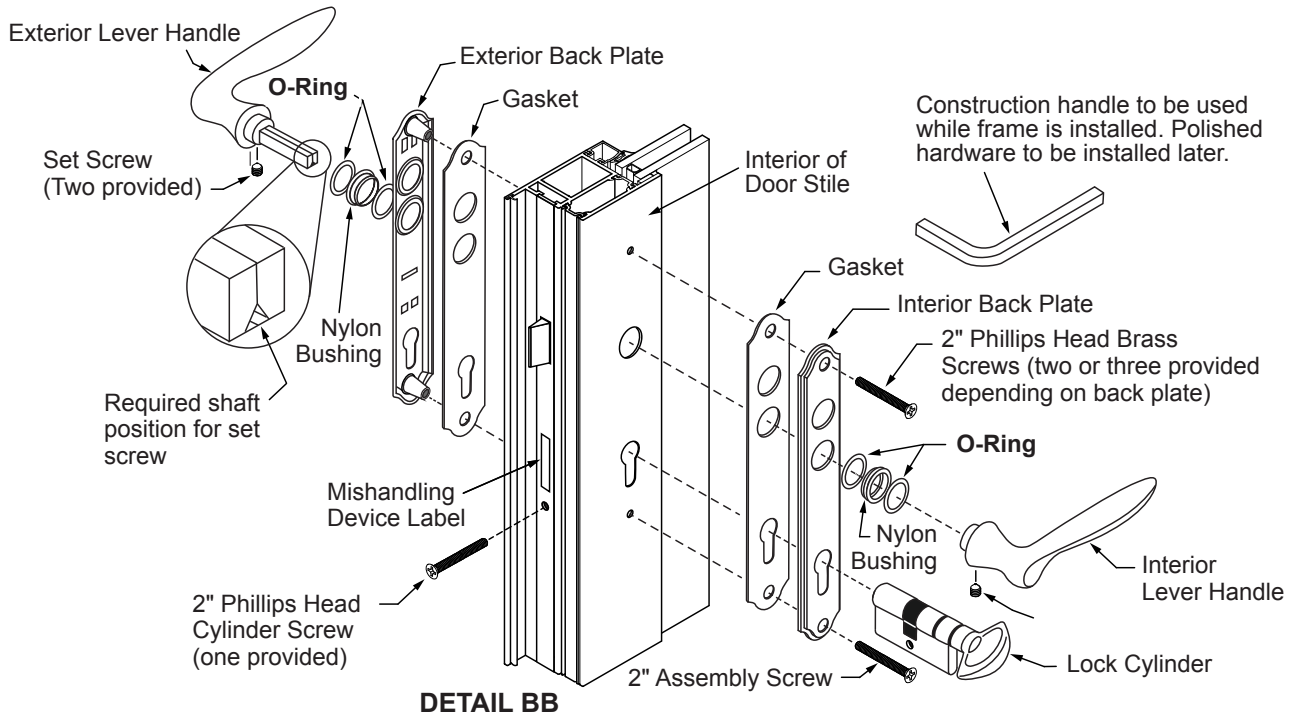
#10 Flat Head Phillips SMS screws



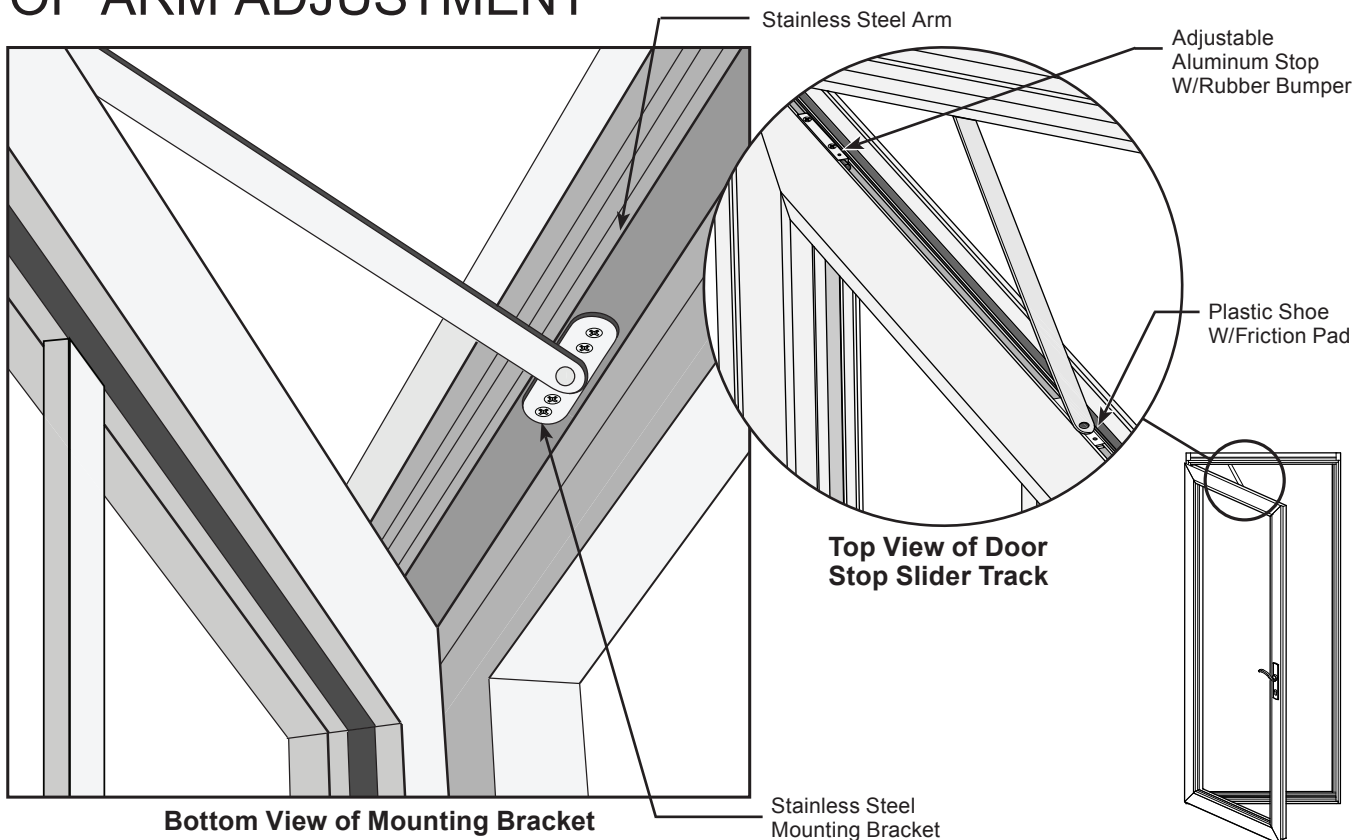
DETAIL AA

DOOR HANDLE INSTALLATION

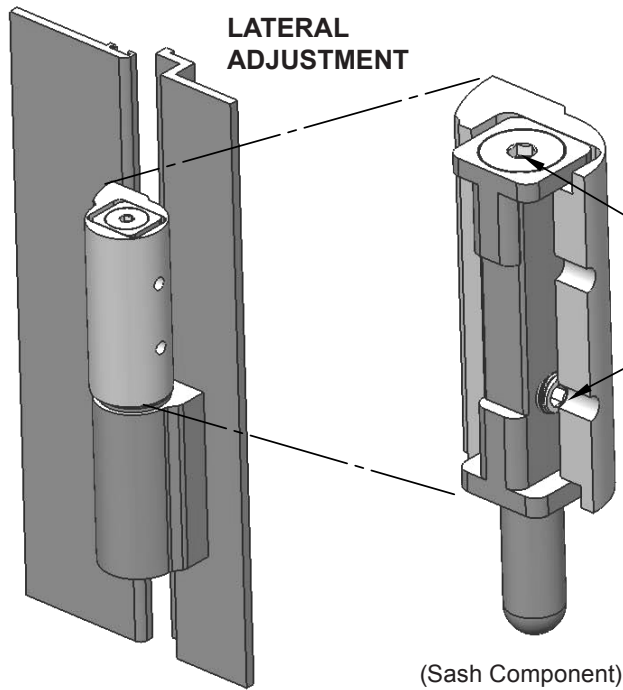
1. Install Lever Handle and Cover Plates as directed per hardware manufacturer's Service Installation Booklet included within hardware package. **DETAIL BB** shows exploded view.



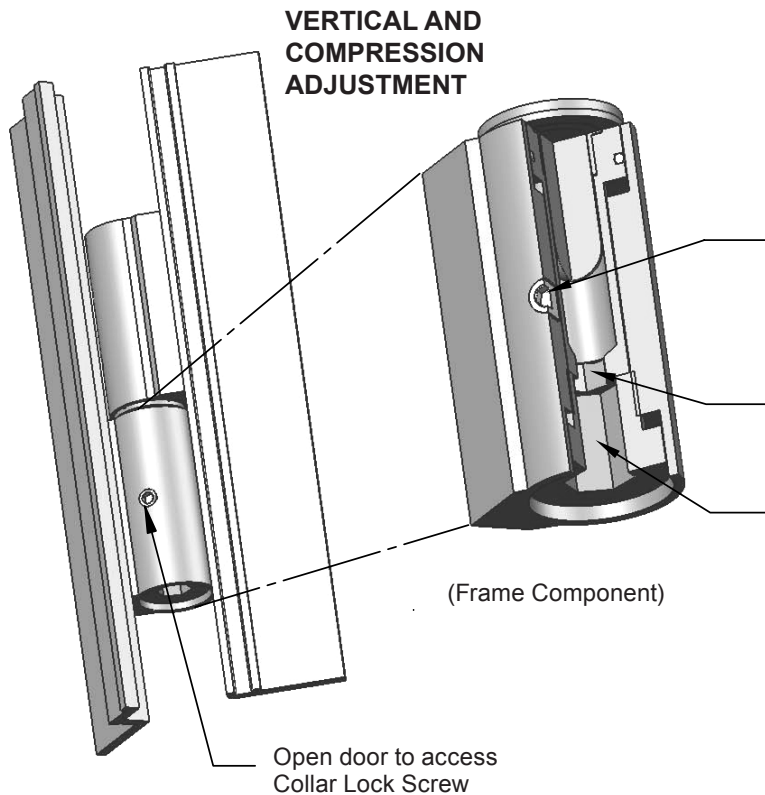
TOP ARM ADJUSTMENT



OPTIONAL ADJUSTABLE HINGE



1. Use a 5/32" Hex Wrench to loosen, but not remove, the Pin Screws on all hinges.
2. Using a 1/8" Hex Wrench, adjust the Set Screw (+/- .070") to the desired lateral location on the top and bottom hinges (not available on center hinges).
3. Re-tighten the Pin Screw on all hinges.



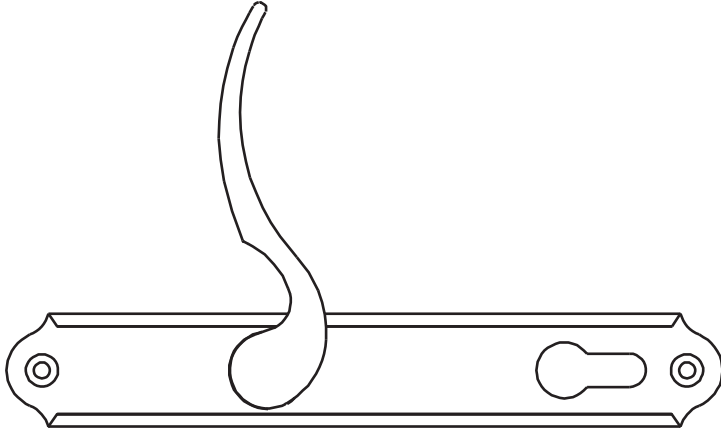
NOTE:

The Collar Lock Screws must be loosened on all hinges prior to making vertical and compression adjustments.

1. Open the door to access the Collar Lock Screw. Using a 1/8" Hex Wrench, loosen it a maximum of one turn.
2. To adjust the Hinge Collar Assembly, insert a 1/4" Hex Wrench and adjust (+/- .020") to the desired compression.
3. Using a 3/8" Hex Wrench, adjust the Collar Screw (+/- .093") to desired vertical location.
4. Re-tighten all Collar Lock Screws.

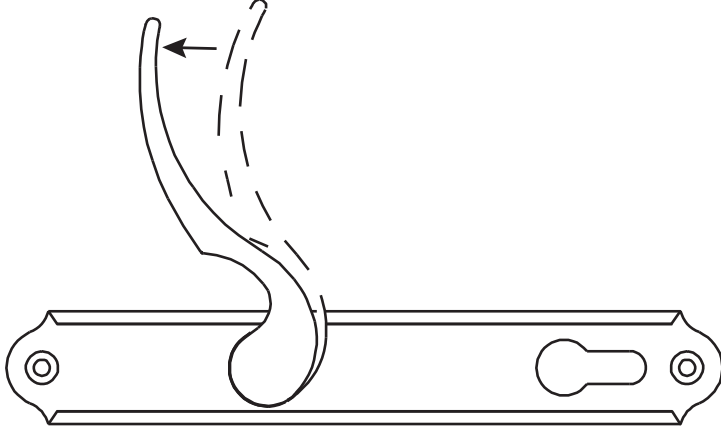
SWING DOOR HANDLE OPERATION INSTRUCTIONS

Handles and backplates vary in style



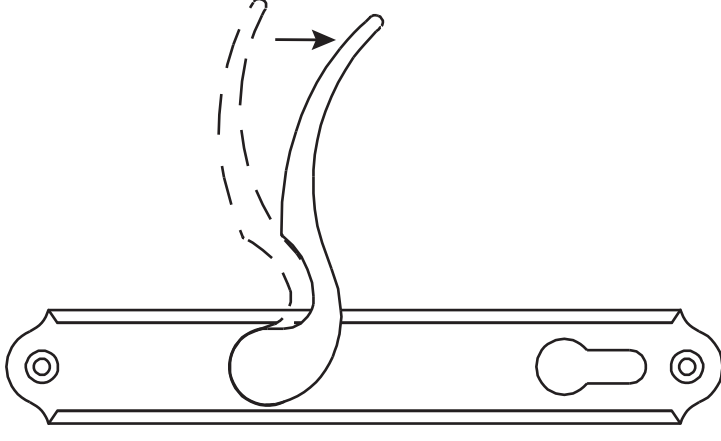
To lock an automatic system, push the door shut. Multi-points will engage automatically when the auto-release pin hits the strike plate mounted on the jamb.

Use a key or the thumbturn to engage the deadbolt after the multi-points are engaged.



To lock a manual system, lift the handle to engage the multi-points before engaging the deadbolt.

Use a key or the thumbturn to engage the deadbolt after the multi-points are engaged.



To open both automatic and manual systems, disengage the deadbolt with a key or the thumbturn, push the handle down until multi-points are retracted, and then open door.

NOTE: Activation of the multi-point hardware will remain the same regardless of handle style.