

# SERIES 5600

## CENTER TONGUE SUNSHADE CLIP

### INSTALLATION MANUAL



Part NO. YWSS

February 2013

WHERE WINDOWS ARE JUST THE BEGINNING®



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**NOTE: THESE INSTALLATION INSTRUCTIONS ARE A SUPPLEMENT TO THE APPROVED SHOP DRAWINGS AND ARE TO BE USED IN CONJUNCTION WITH THOSE DRAWINGS.**

### Minimizing Condensation

Note: Please reference EFCO's "Understanding Condensation" brochure which can be obtained through your EFCO representative.

Condensation will form on any surface when unfavorable conditions (interior temperature and relative humidity and exterior temperature) are present. When the formation of excessive condensation is a concern, it is highly recommended that a design professional is utilized to perform an analysis of the shop drawings to recommend the best possible installation methods. Please contact your EFCO representative for information on EFCO's Thermal Analysis Services.

Many current installation practices lead to an increase in the possibility of the formation of condensation. Though not all inclusive, the list of examples below illustrates conditions under which condensation is likely to occur:

1. Bridging system thermal break with non-thermally broken metal flashing or lintels that are exposed to the exterior
2. System exposure to cold air cavities
3. Interior relative humidity levels not maintained at recommended levels, see EFCO's "Understanding Condensation" brochure
4. Inadequate separation between system and surrounding condition at perimeter
5. Product combinations during the shop drawing stage that result in bridging thermal breaks of one or all products involved

## **SECTION I: GENERAL NOTES**

- I HANDLING / STORING / PROTECTING ALUMINUM-** The following precautions are recommended to assure early acceptance of your products and workmanship.
- A. HANDLE CAREFULLY-** Store with adequate separation between components so the material will not rub together. Store material off the ground. Protect materials against weather elements and other construction trades.
  - B. KEEP MATERIAL AWAY FROM WATER, MUD, AND SPRAY -** Prevent cement, plaster, and other materials from coming into contact with and damaging the finish. Do not allow moisture to be trapped between the finished surface and the wrapping material.
  - C. PROTECT MATERIALS AFTER ERECTION-** Wrap or erect screens of plastic sheeting over material. Cement, plaster, terrazzo, and other alkaline materials are very harmful to the finish and need to be removed with soap and water before hardening. Under no circumstances should these materials be allowed to dry or permanent staining will occur.
- II GENERAL GUIDELINES-** The following practices are recommended for all installations:
- A. REVIEW APPROVED SHOP DRAWINGS –** Become thoroughly familiar with the project. Shop drawings govern when conflicting information exists in these installation instructions.
  - B. INSTALL ALL FRAMING MATERIAL PLUMB, LEVEL, AND TRUE –** Proper alignment and relationships to benchmarks and column centerlines, as established by the architectural drawings and the general contractor, must be maintained.
  - C. THE SEQUENCE OF ERECTION SHOULD BE COORDINATED WITH THE PROJECT SUPERINTENDENT TO PREVENT DELAYS AND MINIMIZE THE RISK OF MATERIAL DAMAGE. NOTE: IF PRESET ANCHORS ARE REQUIRED, COORDINATE AND SUPERVISE ANCHOR PLACEMENT WITH THE GENERAL CONTRACTOR.**
  - D.** Verify that all job site conditions and accompanying substrates receiving the installation are in accordance with the contract documents. If deviations occur, notification must be given **IN WRITING** to the general contractor and differences resolved before proceeding further with the installation in the questionable area.

## **SECTION I: GENERAL NOTES CONTINUED**

- E.** Prevent all aluminum from coming in direct contact with masonry or dissimilar materials by means of an appropriate primer
- F.** Follow the EFCO framing installation and glazing instructions.
- G.** Verify contents of all material shipments received upon arrival. Verify quantity and correct finishes. **NOTIFY EFCO IMMEDIATELY OF ANY DISCREPANCIES OR DAMAGE, THAT MAY HAVE OCCURRED.**
- H.** Throughout these instructions the term "**SEALANT**" will appear. For the purposes of these instructions, sealant is to be defined as the following:

SEALANT - A weather resistant, gunnable liquid filler which when dry provides a resilient, flexible ( $\pm$  50% movement capability) air and water seal between similar and dissimilar materials.

All sealant must meet **FEDERAL SPECIFICATION TT-S-001543A, TT-S-00230C, AND ASTM C 920, CLASS 25.**

**BUTYL SEALANT-** A nonskinning, nonhardening material (**NAAMM Reference Standard 5C-1**)

**NOTE:** All sealant must be compatible with all surfaces on which adhesion is required, including other sealant surfaces. All frame surfaces should be clean, dry, dust, and frost free. If a primer is required, it must be applied to clean surfaces. All perimeter substrates shall be clean and properly treated to receive sealant.

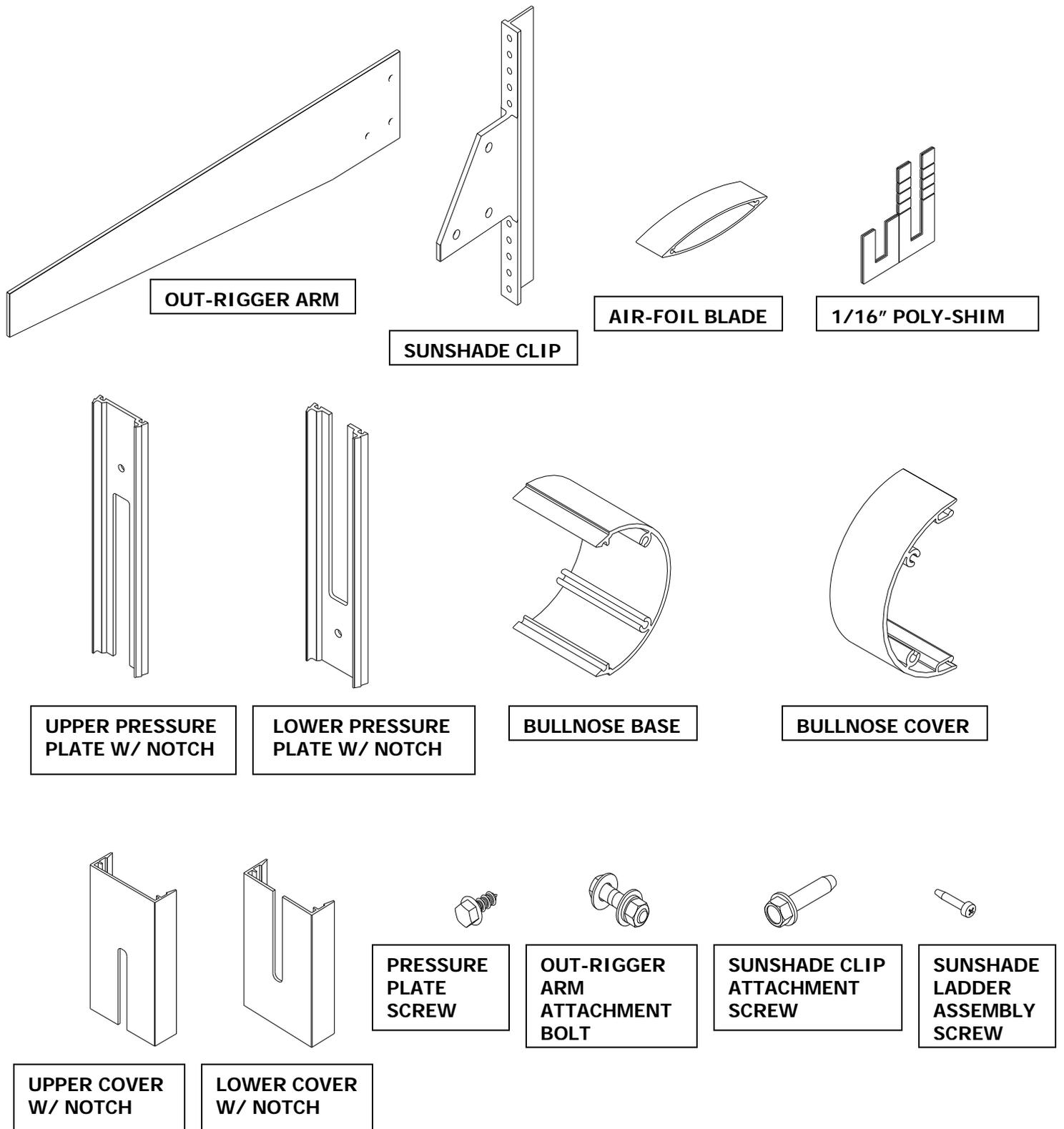
This system is designed and has been tested to utilize butyl or silicone sealants at all internal joineries, i.e., joint plugs, gasket intersections, etc.

Regardless of the sealant used, the customer should contact the sealant manufacturer to determine compatibility and adhesion. Follow sealant manufacturer's proper application procedures and quality assurance programs for weather sealing.

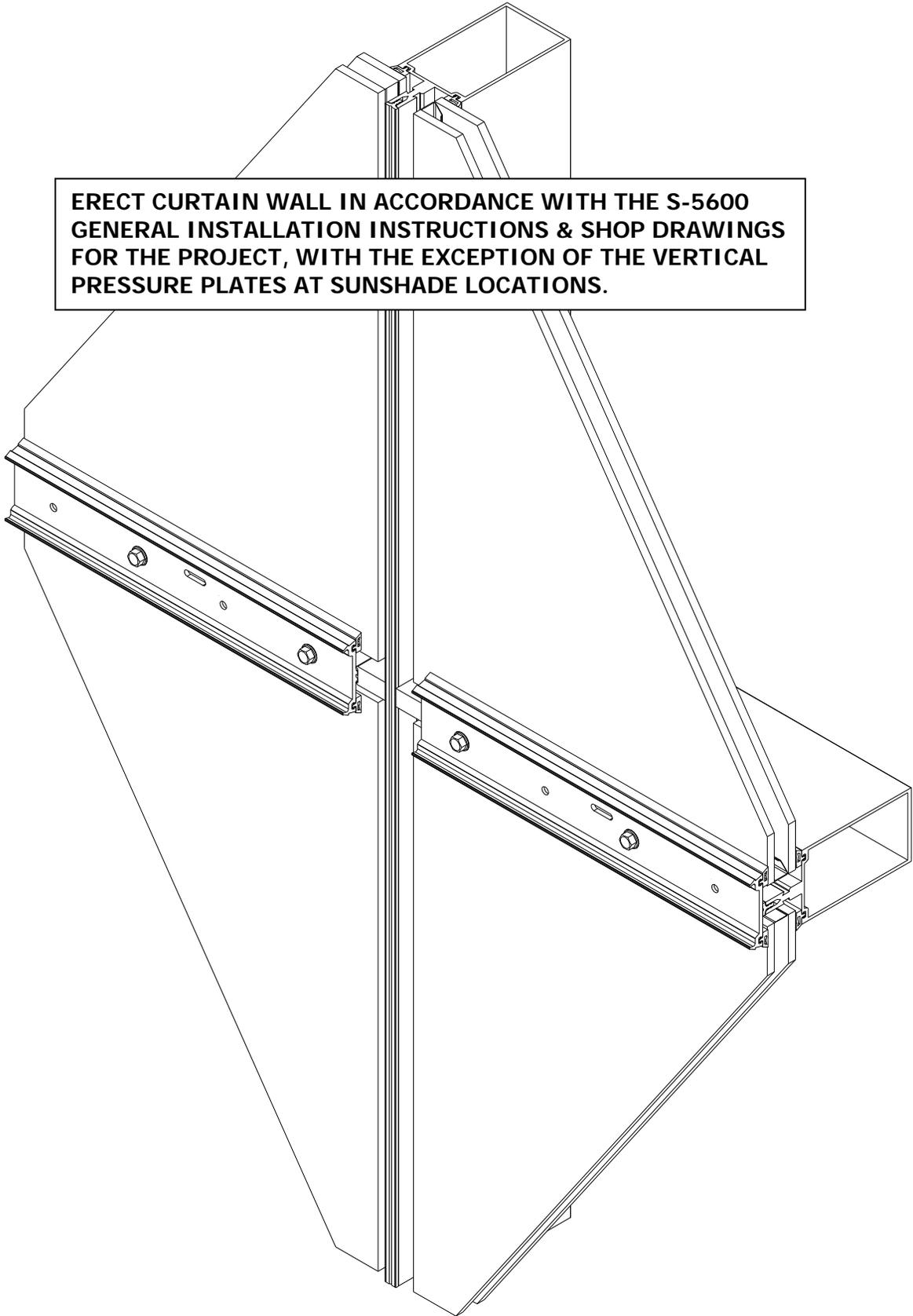
Maintain caulk joints as shown in the approved shop drawings. Unless specified otherwise, most sealant manufacturers recommend a 3/8" minimum perimeter caulk joint. A 3/4" minimum joint is recommended at the head condition to accommodate thermal expansion and contraction. A 3/4" minimum joint is required at the jamb conditions to accommodate installation.

Anchoring surfaces of perimeter construction must be level and plumb within the adjustable limits of the head, jamb, and sill framing.

# **SECTION II: PARTS IDENTIFICATION**

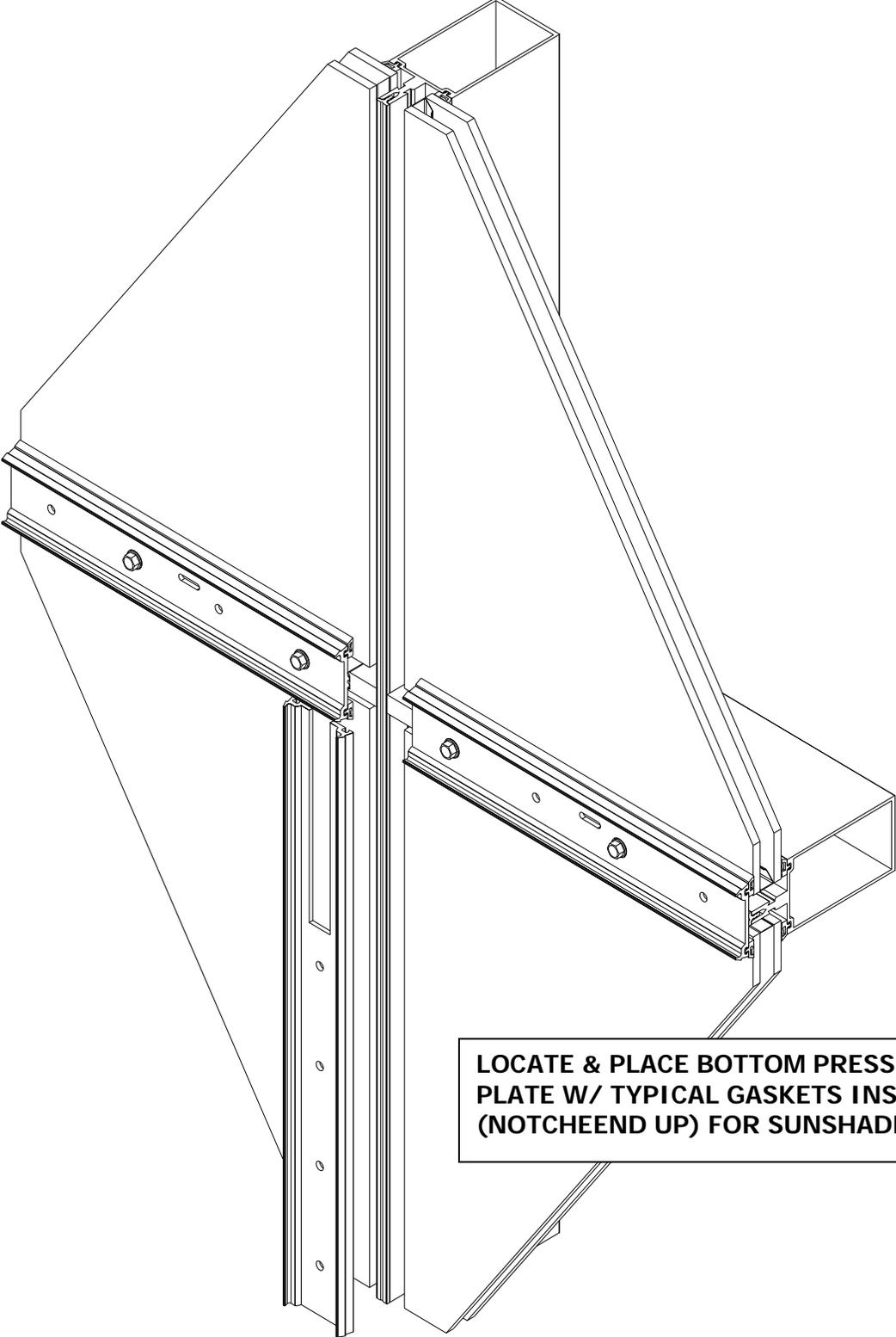


# **SECTION III: SUNSHADE CLIP ATTACHMENT**



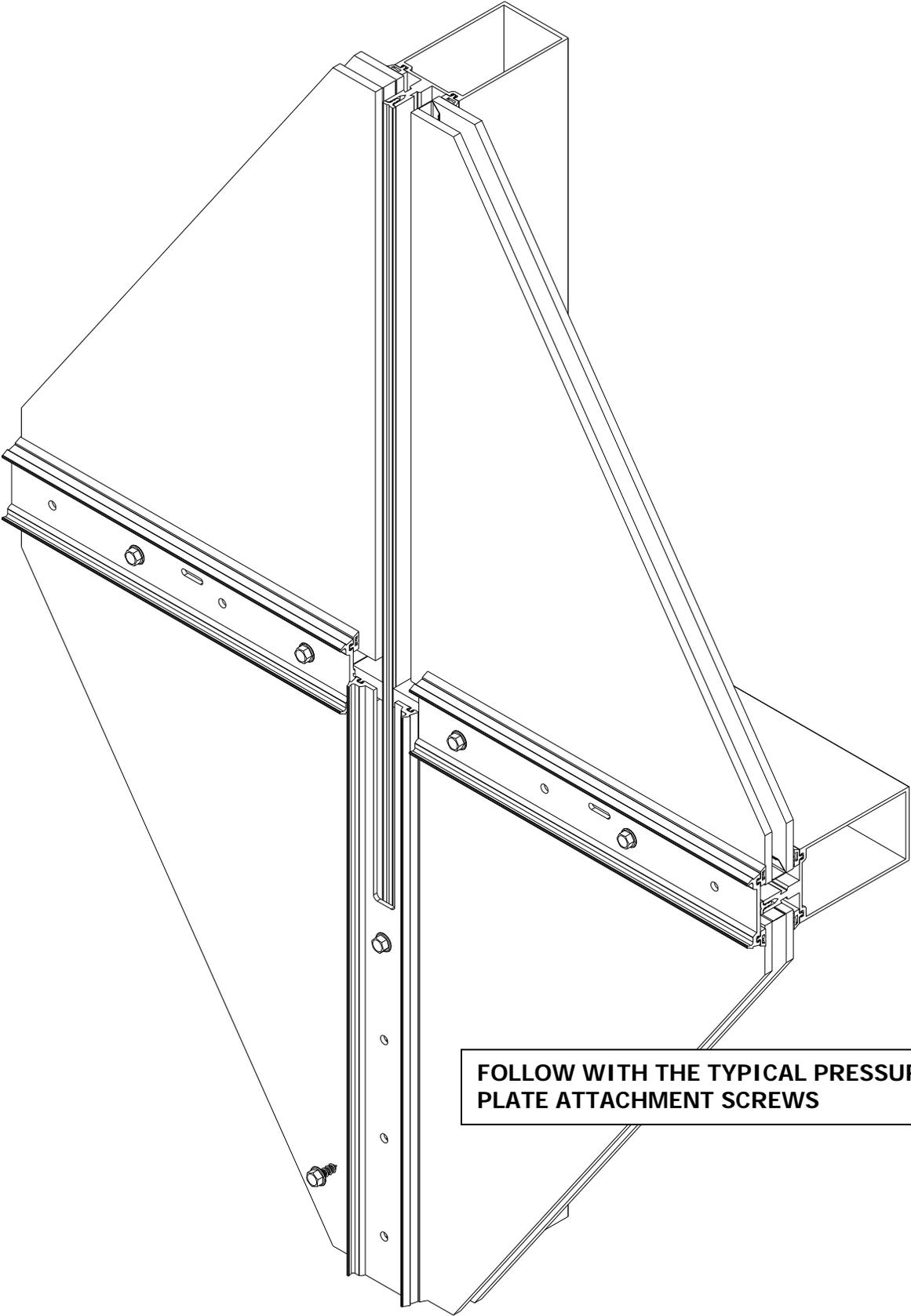
**ERECT CURTAIN WALL IN ACCORDANCE WITH THE S-5600 GENERAL INSTALLATION INSTRUCTIONS & SHOP DRAWINGS FOR THE PROJECT, WITH THE EXCEPTION OF THE VERTICAL PRESSURE PLATES AT SUNSHADE LOCATIONS.**

**SECTION III: SUNSHADE CLIP ATTACHMENT**



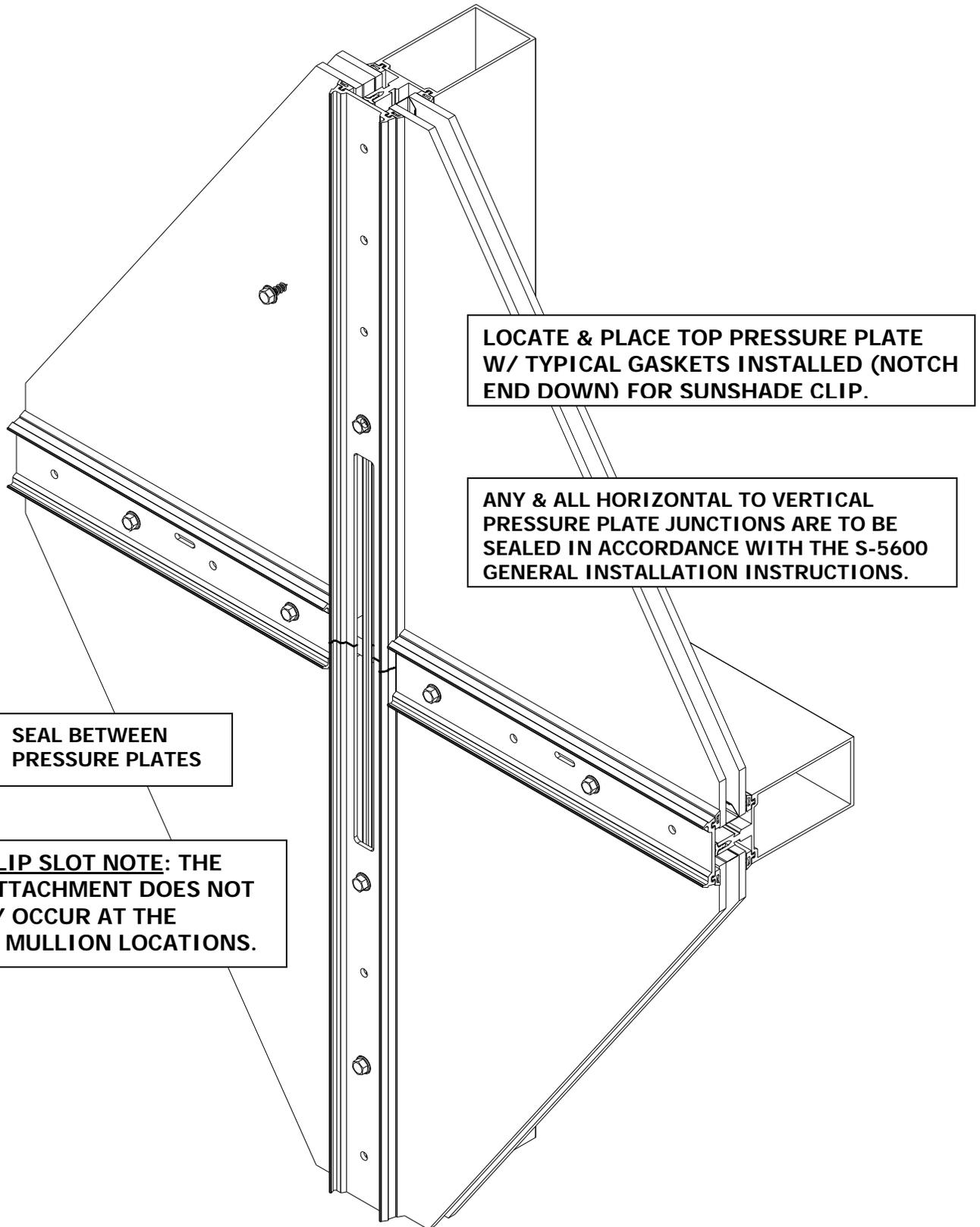
**LOCATE & PLACE BOTTOM PRESSURE  
PLATE W/ TYPICAL GASKETS INSTALLED  
(NOTCHEEND UP) FOR SUNSHADE CLIP.**

**SECTION III: SUNSHADE CLIP ATTACHMENT**



**FOLLOW WITH THE TYPICAL PRESSURE  
PLATE ATTACHMENT SCREWS**

## **SECTION III: SUNSHADE CLIP ATTACHMENT**



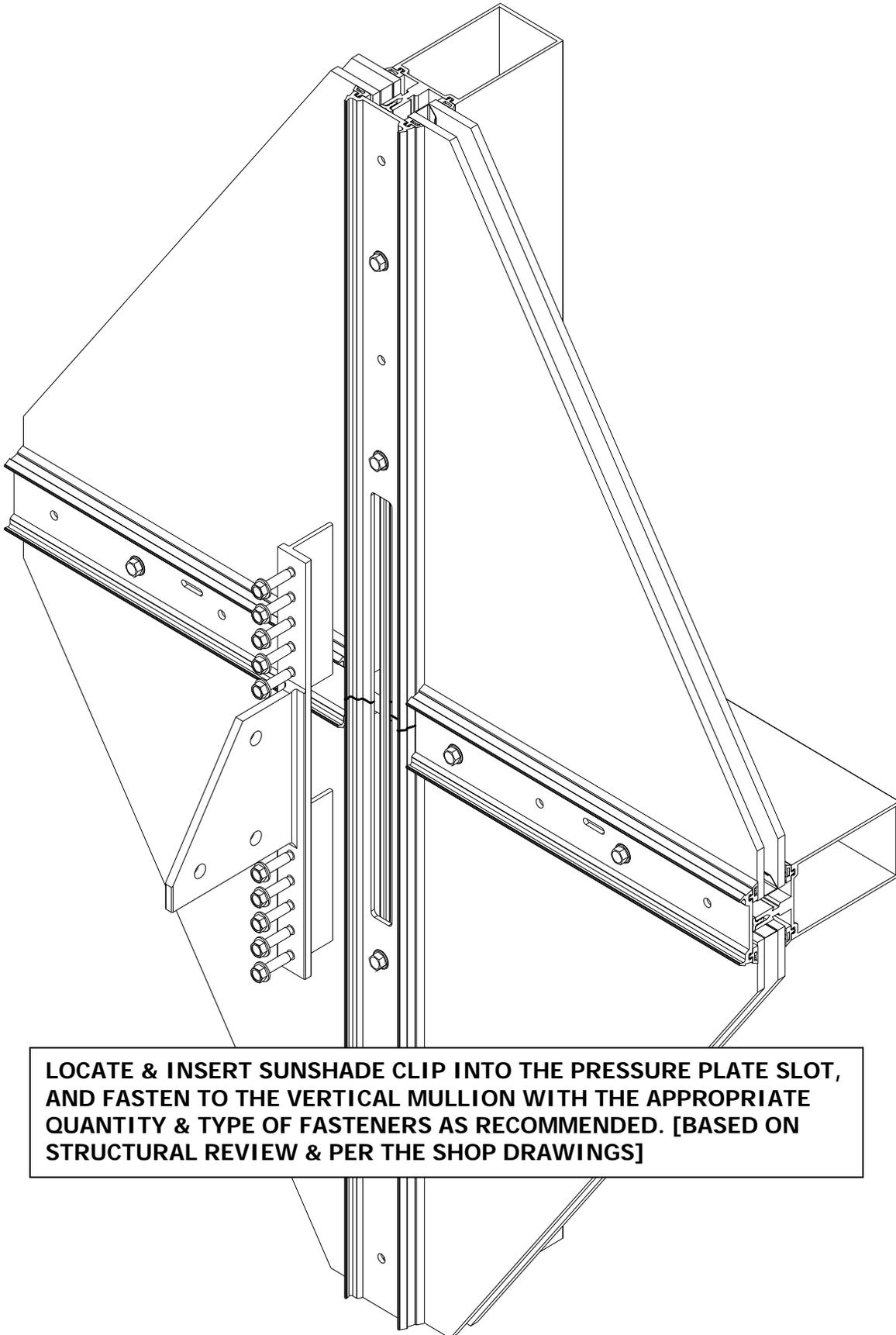
**LOCATE & PLACE TOP PRESSURE PLATE W/ TYPICAL GASKETS INSTALLED (NOTCH END DOWN) FOR SUNSHADE CLIP.**

**ANY & ALL HORIZONTAL TO VERTICAL PRESSURE PLATE JUNCTIONS ARE TO BE SEALED IN ACCORDANCE WITH THE S-5600 GENERAL INSTALLATION INSTRUCTIONS.**

**SEAL BETWEEN PRESSURE PLATES**

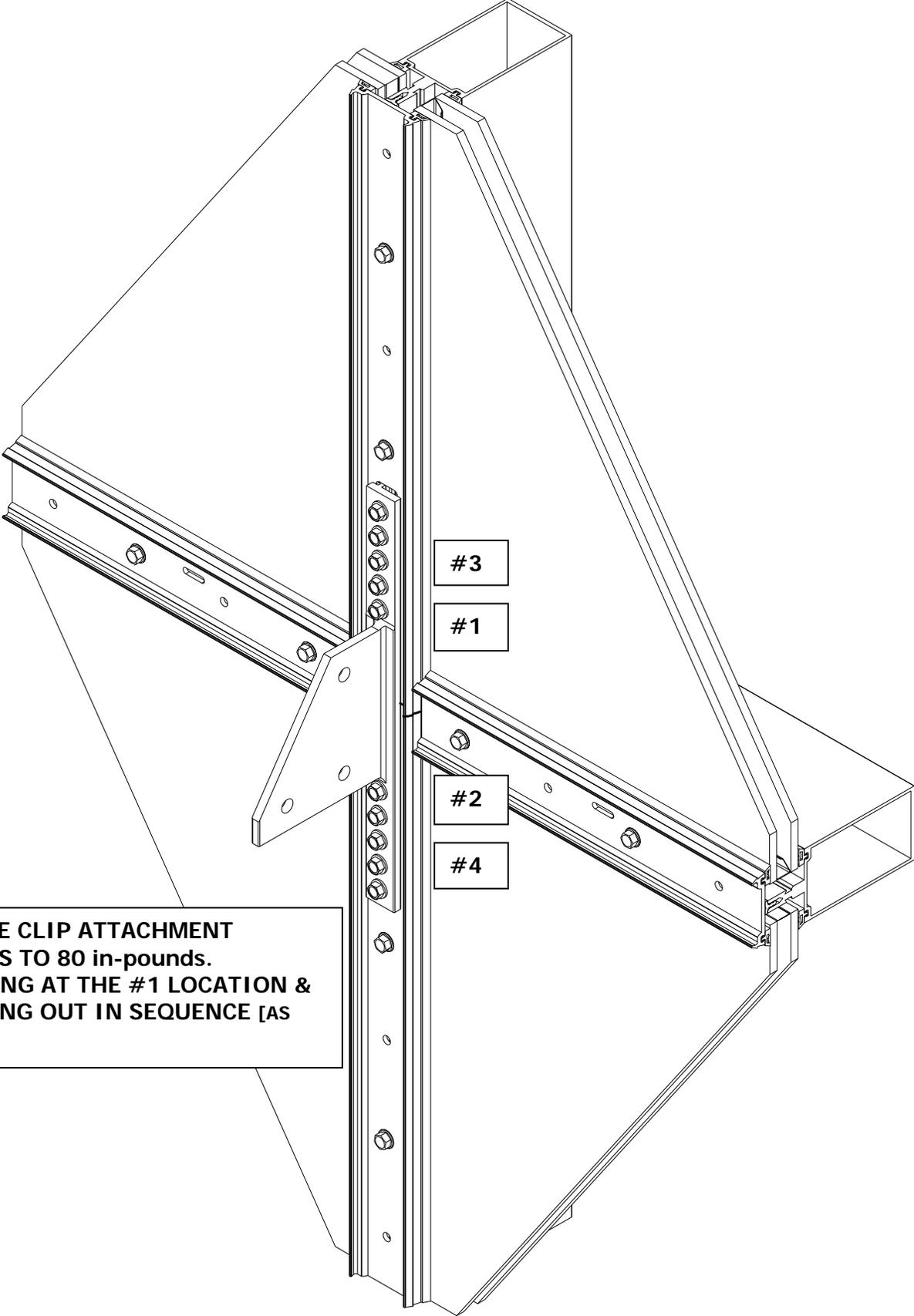
**SUNSHADE CLIP SLOT NOTE: THE SUNSHADE ATTACHMENT DOES NOT NECESSARILY OCCUR AT THE HORIZONTAL MULLION LOCATIONS.**

## **SECTION III: SUNSHADE CLIP ATTACHMENT**



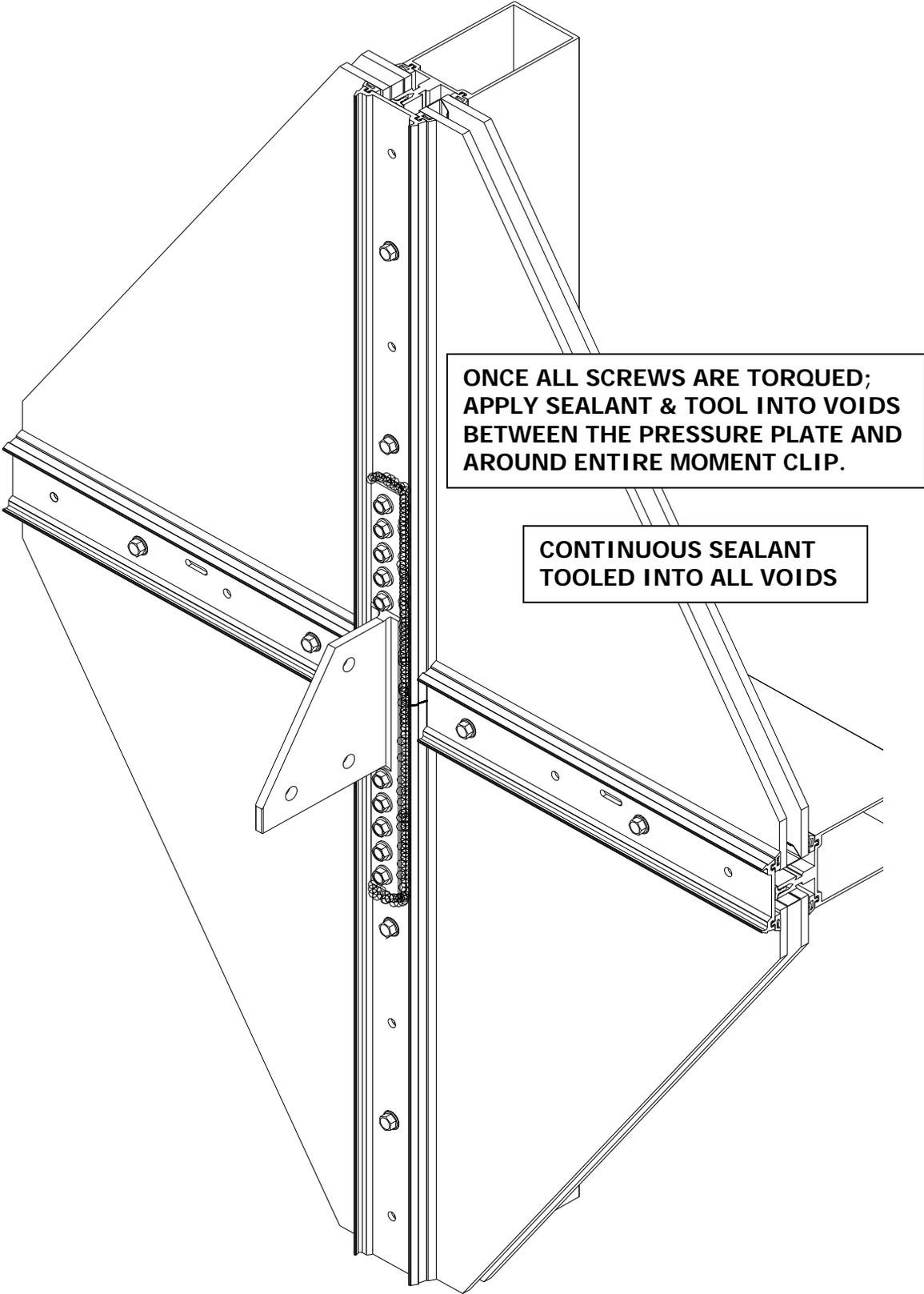
**LOCATE & INSERT SUNSHADE CLIP INTO THE PRESSURE PLATE SLOT, AND FASTEN TO THE VERTICAL MULLION WITH THE APPROPRIATE QUANTITY & TYPE OF FASTENERS AS RECOMMENDED. [BASED ON STRUCTURAL REVIEW & PER THE SHOP DRAWINGS]**

**SECTION III: SUNSHADE CLIP ATTACHMENT**

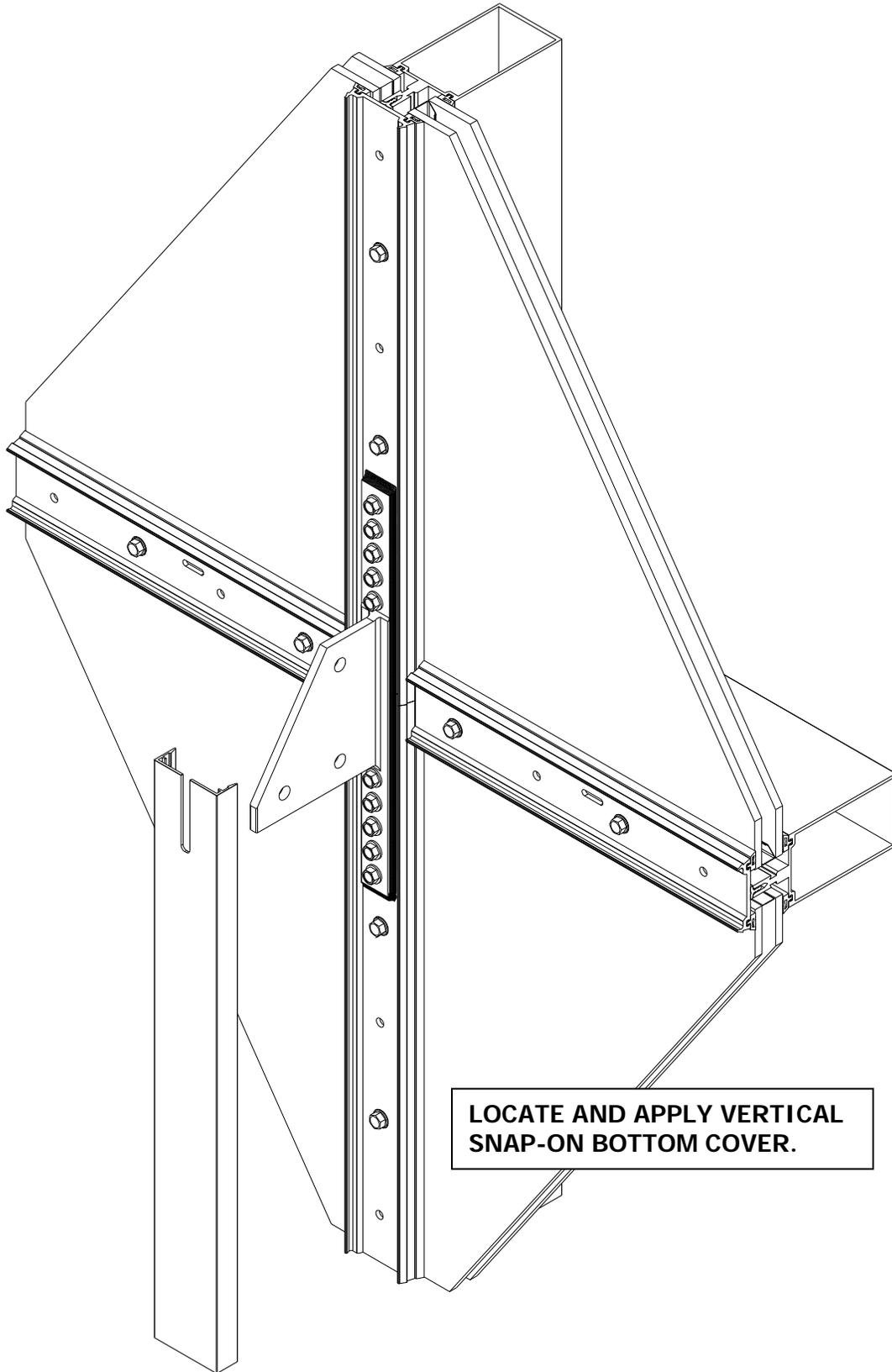


**TORQUE CLIP ATTACHMENT  
SCREWS TO 80 in-pounds.  
STARTING AT THE #1 LOCATION &  
WORKING OUT IN SEQUENCE [AS  
NOTED].**

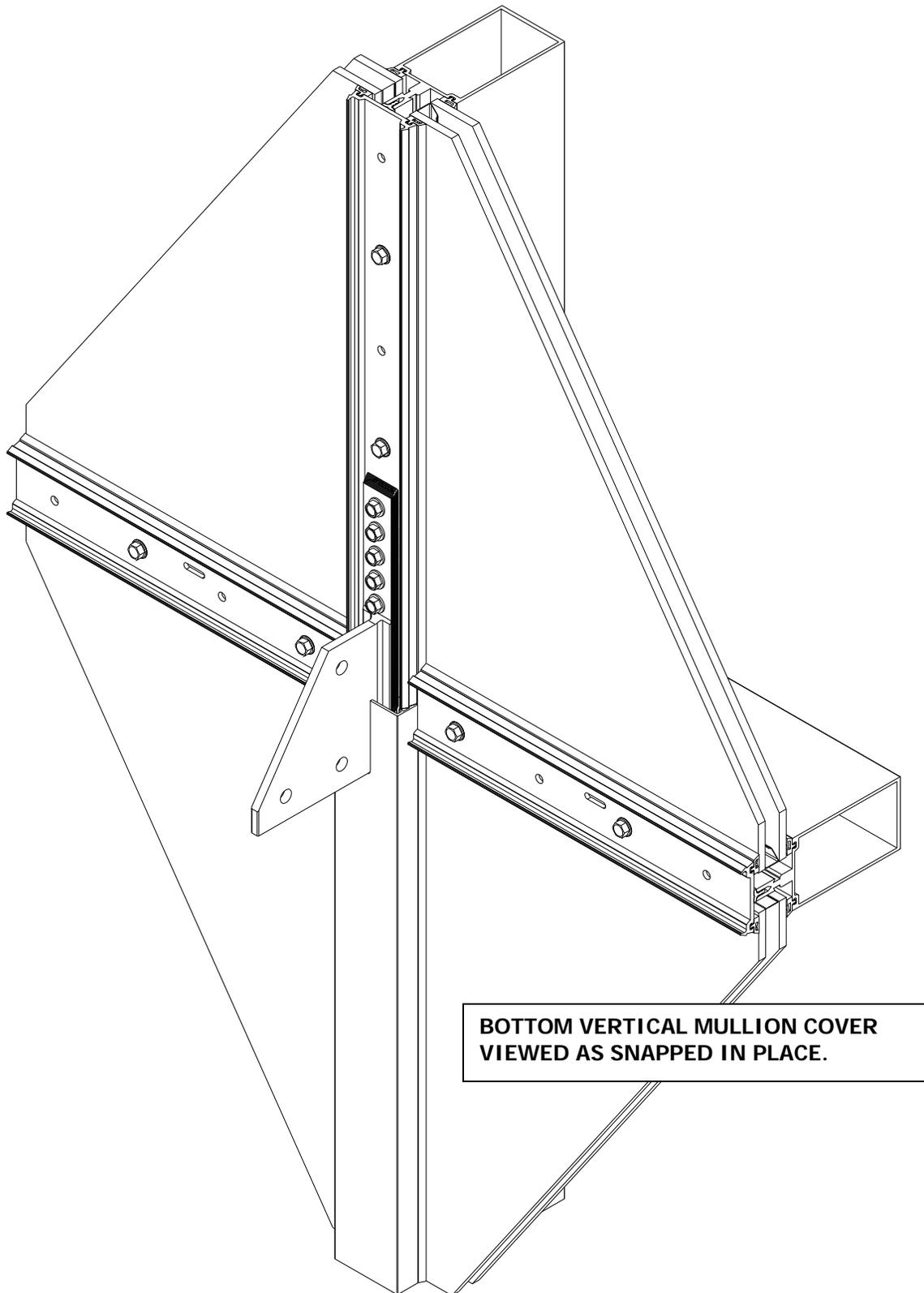
**SECTION IV: SUNSHADE CLIP SEALING**



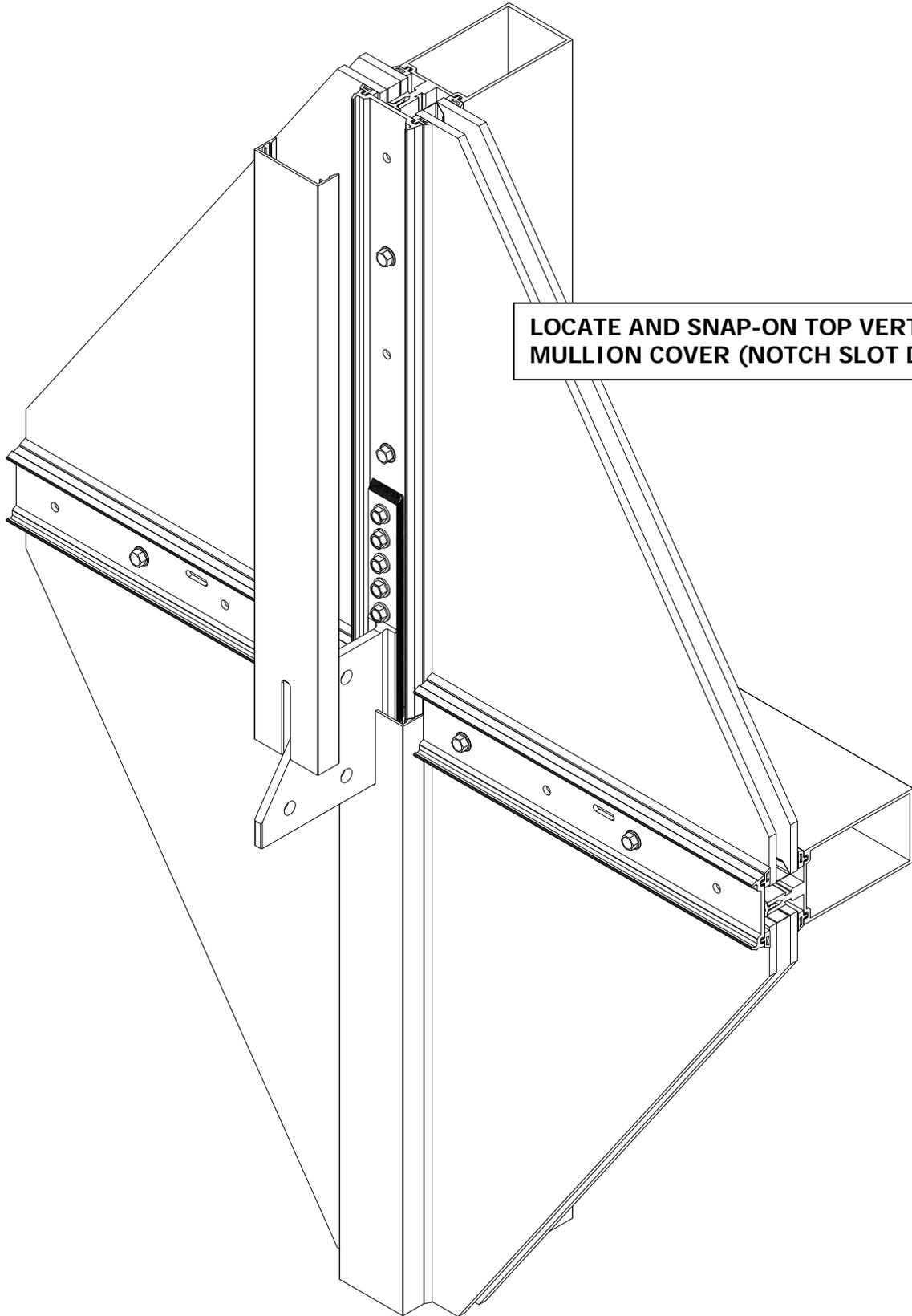
# **SECTION V: VERTICAL SNAP COVER INSTALLATION**



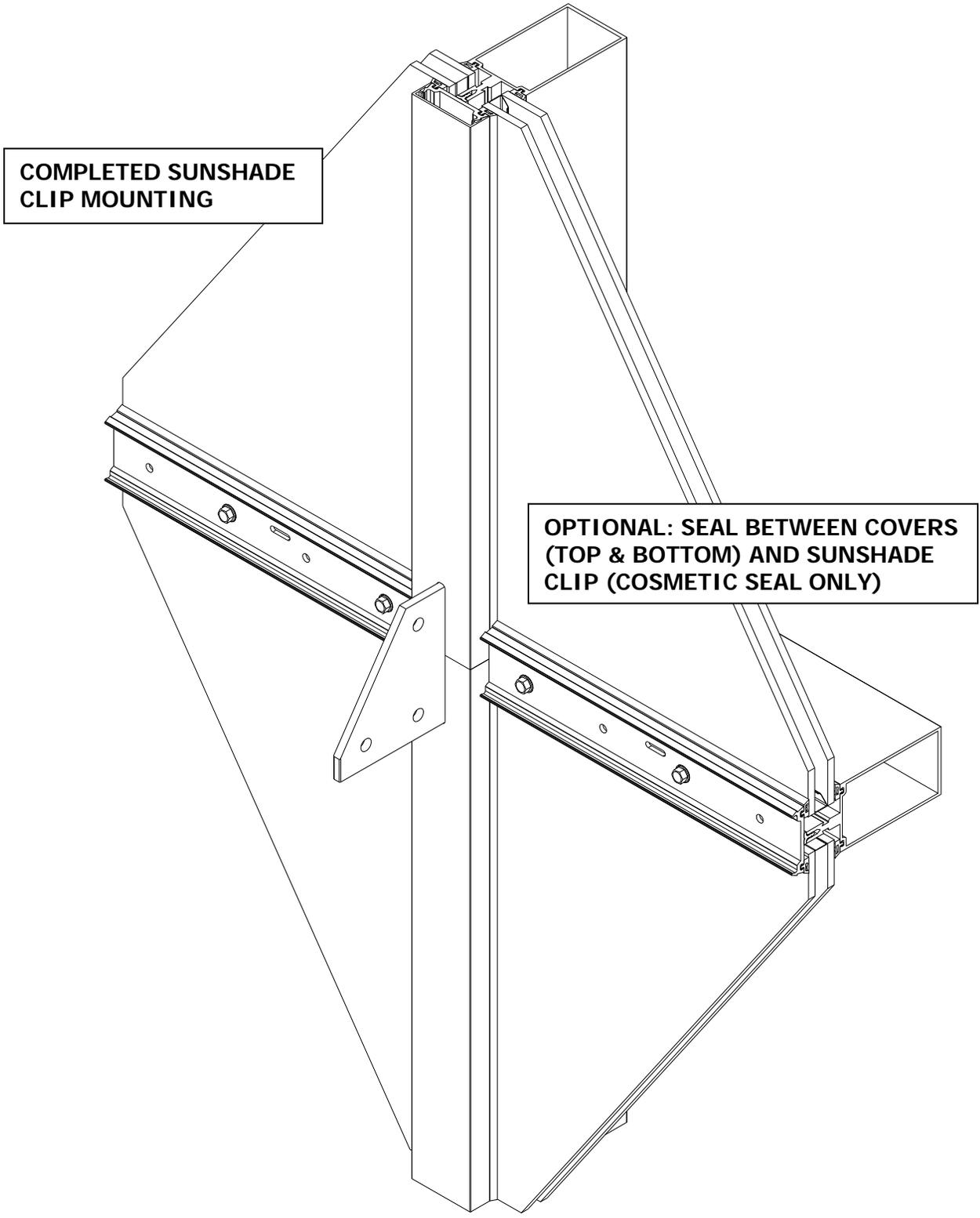
# **SECTION V: VERTICAL SNAP COVER INSTALLATION**



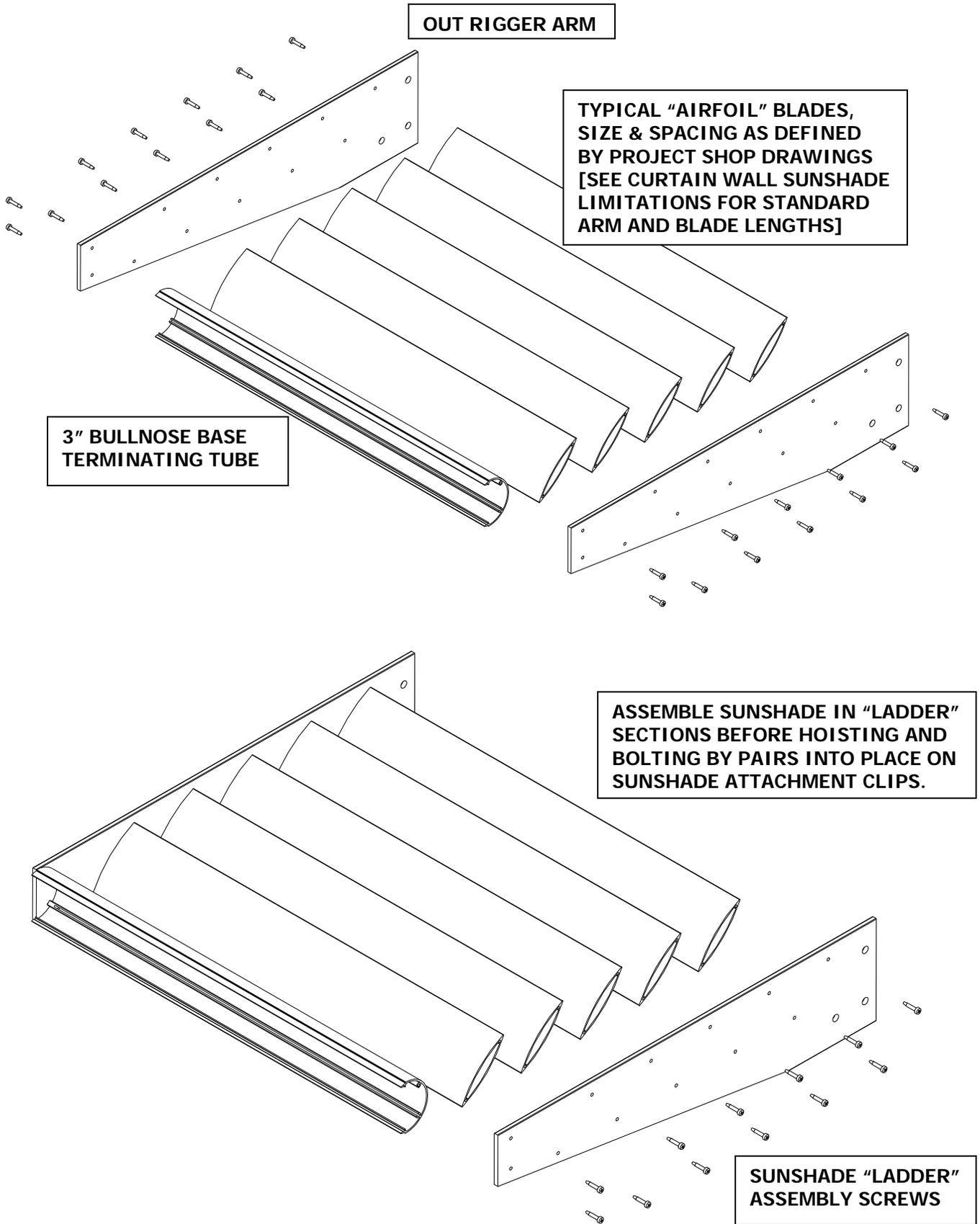
# **SECTION V: VERTICAL SNAP COVER INSTALLATION**



**SECTION VI: COMPLETED SUNSHADE CLIP ATTACHMENT**



# SECTION VII: SUNSHADE "LADDER" ASSEMBLY



OUT RIGGER ARM

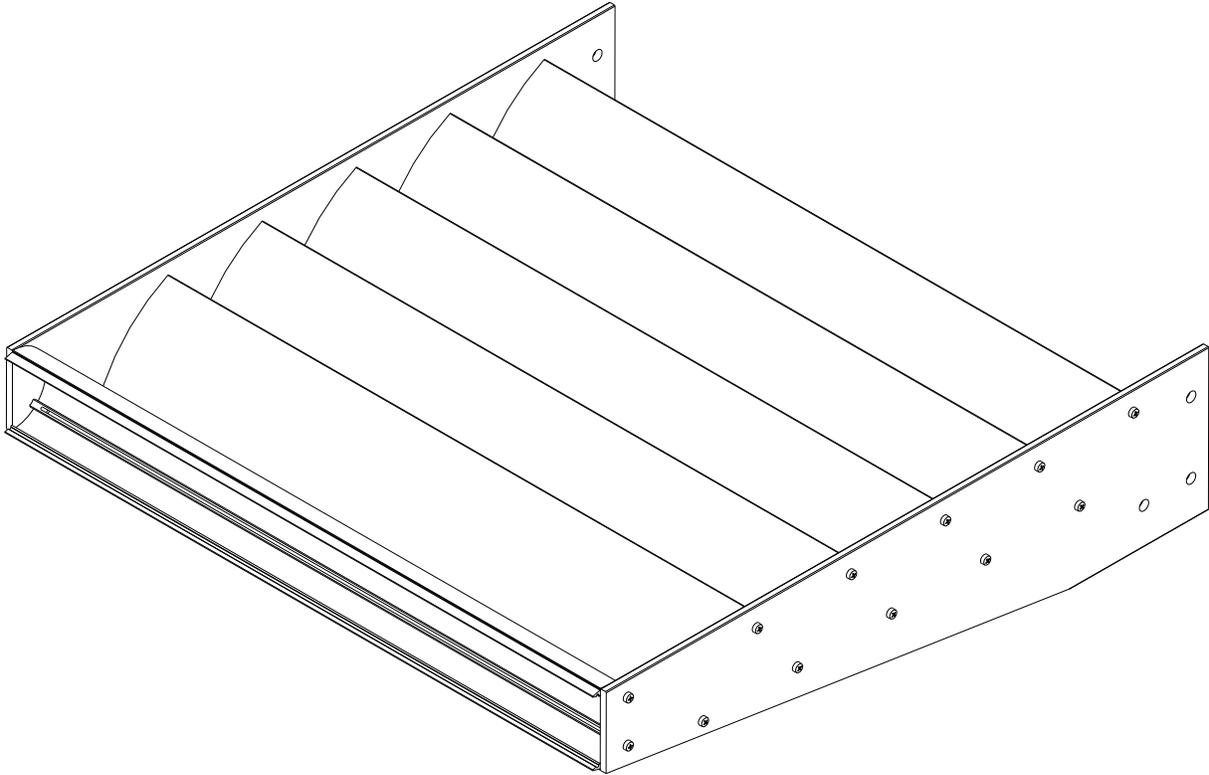
TYPICAL "AIRFOIL" BLADES,  
SIZE & SPACING AS DEFINED  
BY PROJECT SHOP DRAWINGS  
[SEE CURTAIN WALL SUNSHADE  
LIMITATIONS FOR STANDARD  
ARM AND BLADE LENGTHS]

3" BULLNOSE BASE  
TERMINATING TUBE

ASSEMBLE SUNSHADE IN "LADDER"  
SECTIONS BEFORE HOISTING AND  
BOLTING BY PAIRS INTO PLACE ON  
SUNSHADE ATTACHMENT CLIPS.

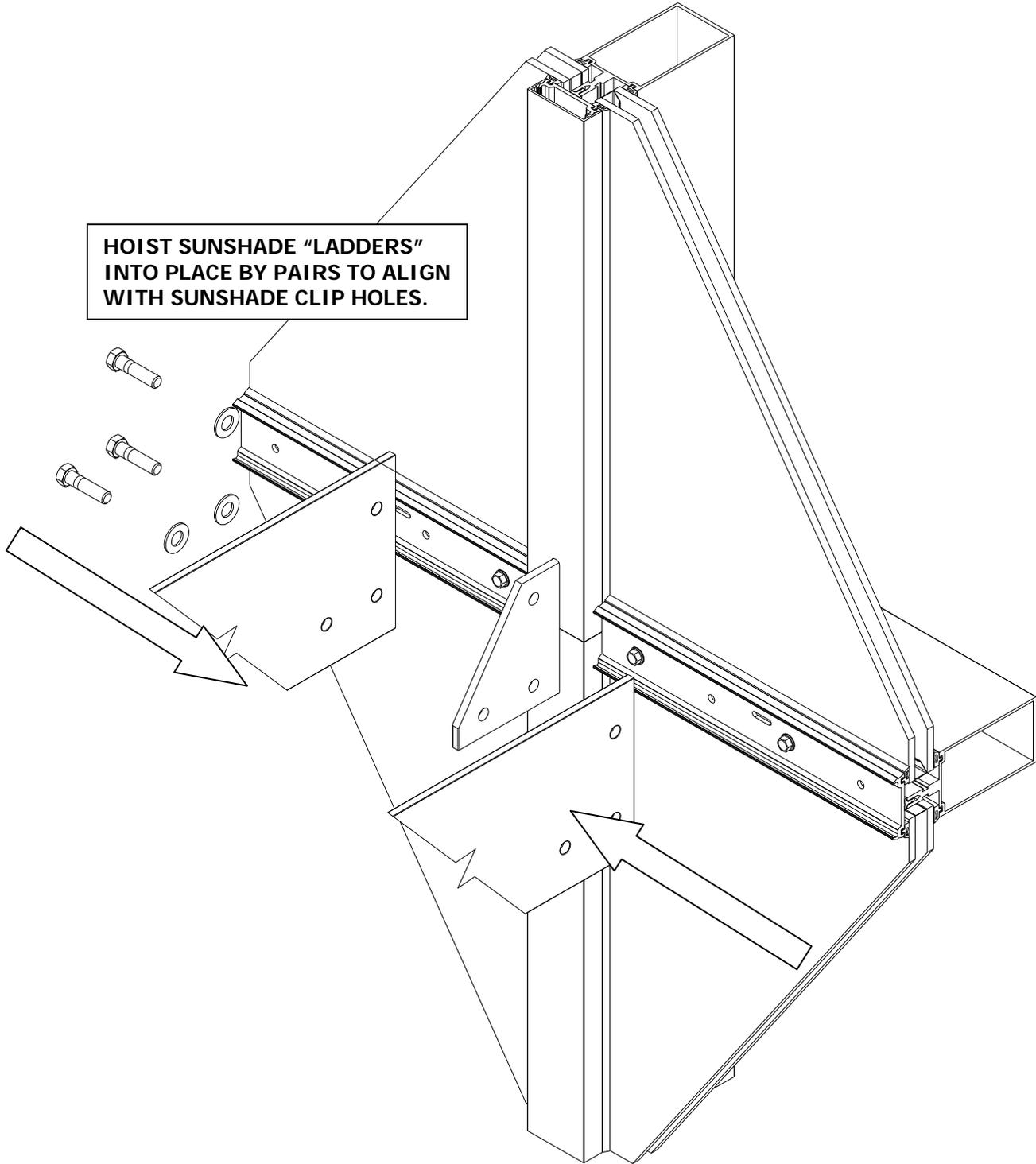
SUNSHADE "LADDER"  
ASSEMBLY SCREWS

**SECTION VII: SUNSHADE “LADDER” ASSEMBLY**

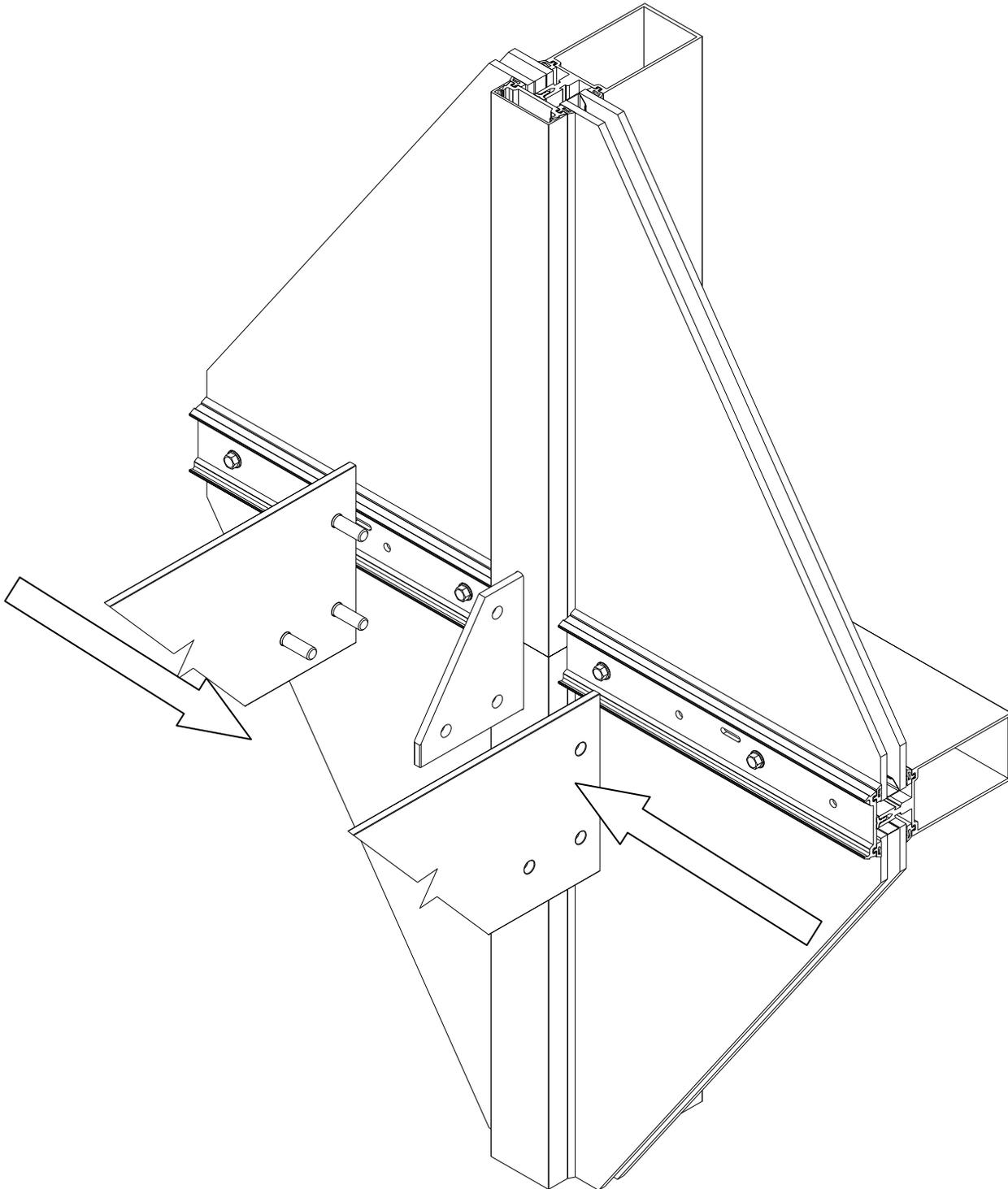


COMPLETED SUNSHADE “LADDER” SECTION

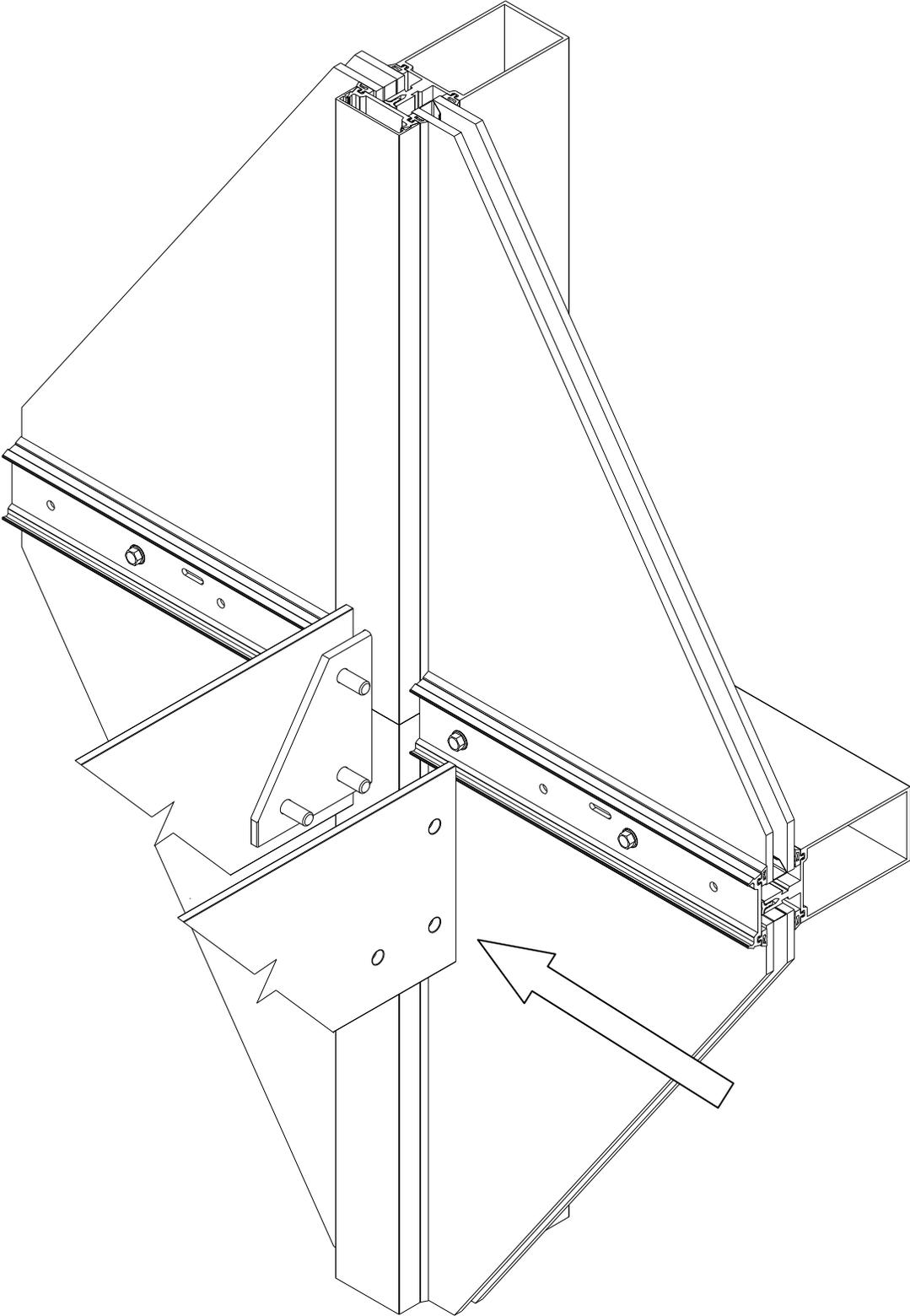
# **SECTION VIII: SUNSHADE “LADDER” ATTACHMENT**



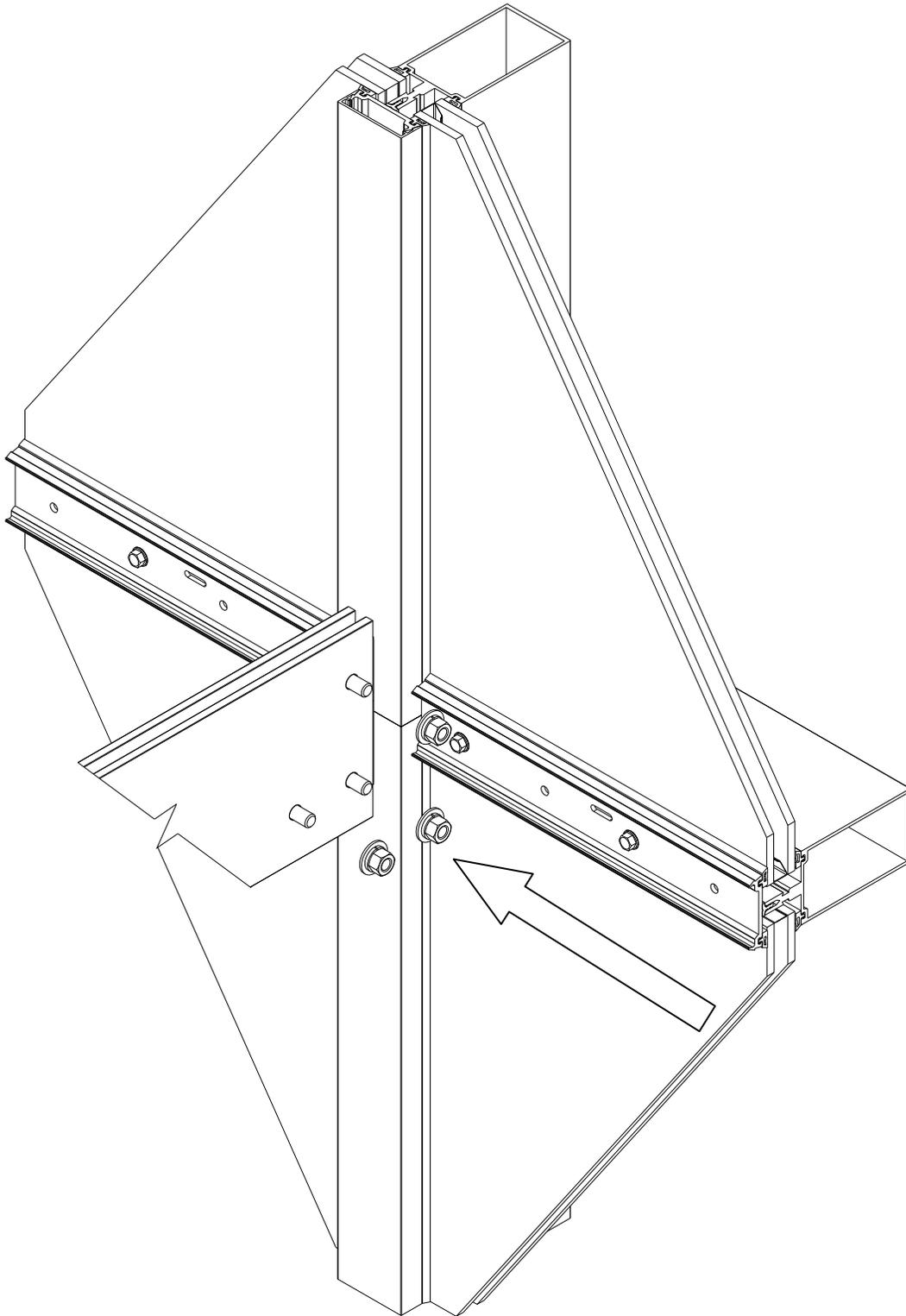
**SECTION VIII: SUNSHADE “LADDER” ATTACHMENT**



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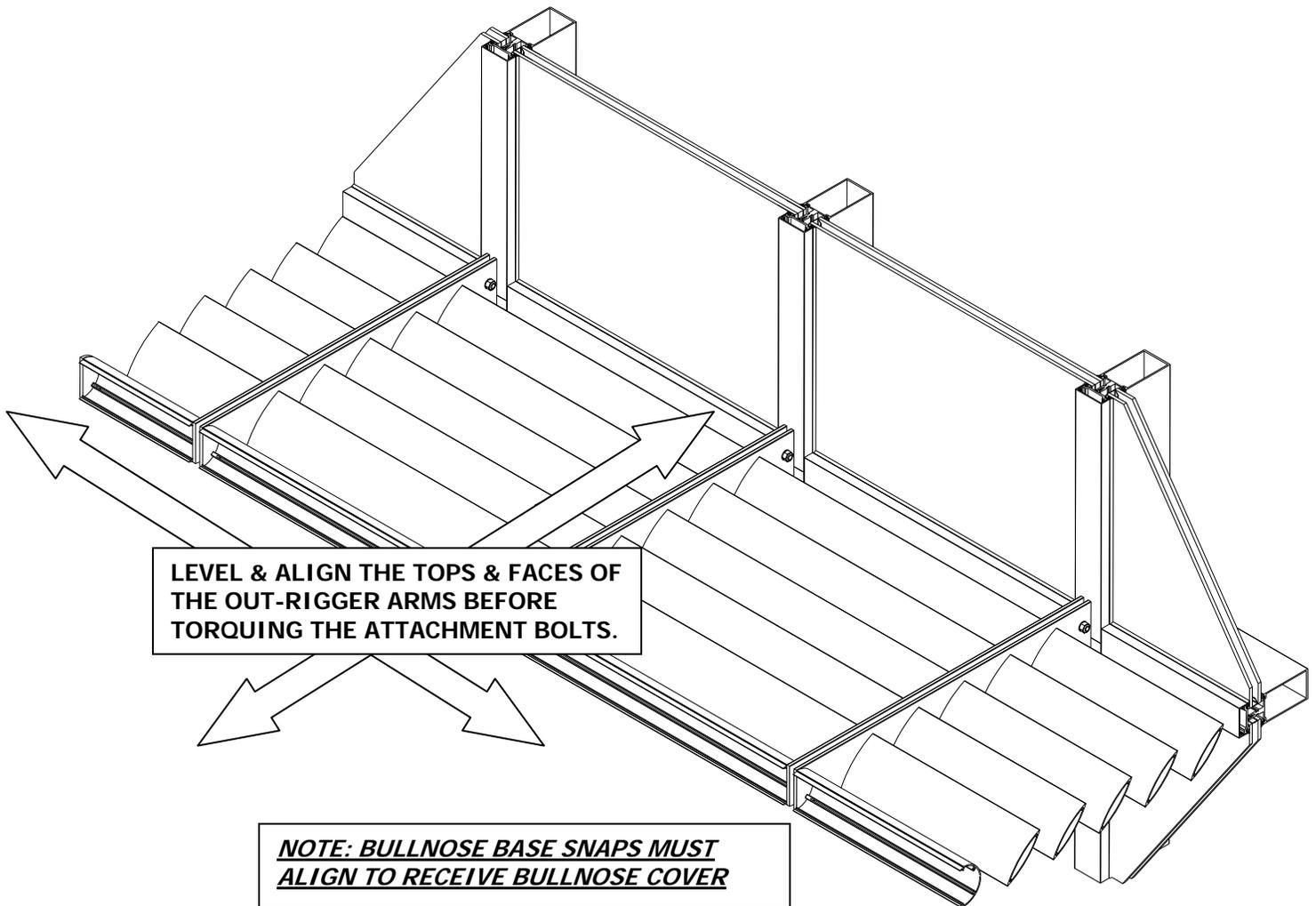
## **SECTION VIII: SUNSHADE “LADDER” ATTACHMENT**

**CONTINUE WITH SUNSHADE  
“LADDER” ATTACHMENTS DOWN THE  
LENGTH OF THE SUNSHADE RUN.**

**EFCO DESIGNS THE SUNSHADE  
“LADDER” LENGTHS TO REQUIRE  
MINIMAL SHIMS. HOWEVER, POLY-  
SHIMS WILL NEED TO BE INSERTED  
AS REQUIRED BETWEEN THE CLIP  
& THE OUTRIGGER ARM.**

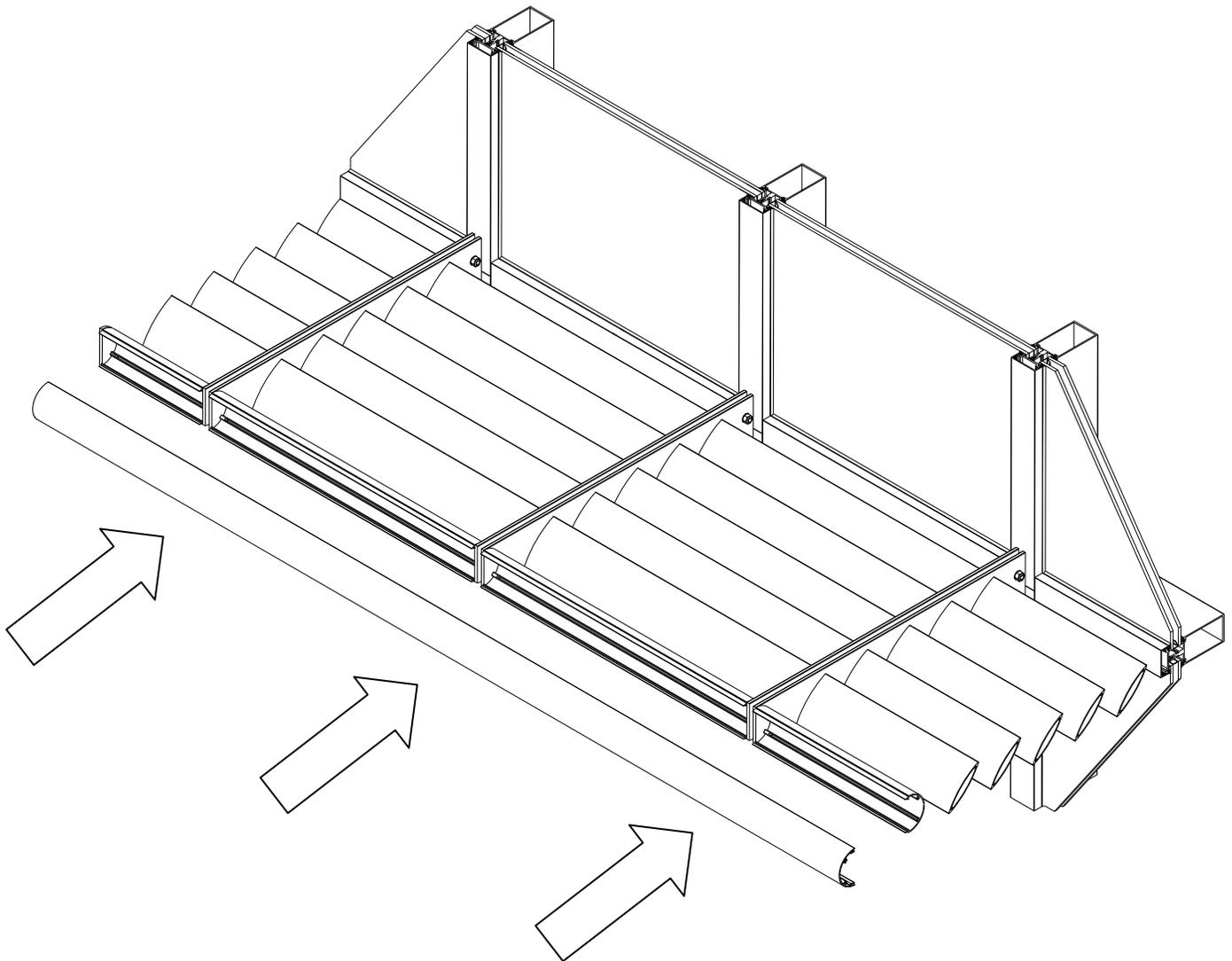
**ONLY FINGER TIGHTEN THE ATTACHMENT BOLTS  
UNTIL THE FULL RUN IS IN PLACE. ALIGNMENT OF  
THE SUNSHADE “LADDER” SECTION MUST BE  
COMPLETED ONE SECTION AT A TIME BEFORE THE  
BOLTS ARE TIGHTENED TO A NOMINAL 80 IN \* LB.**

# **SECTION IX: SUNSHADE LEVELING & ALIGNMENT**



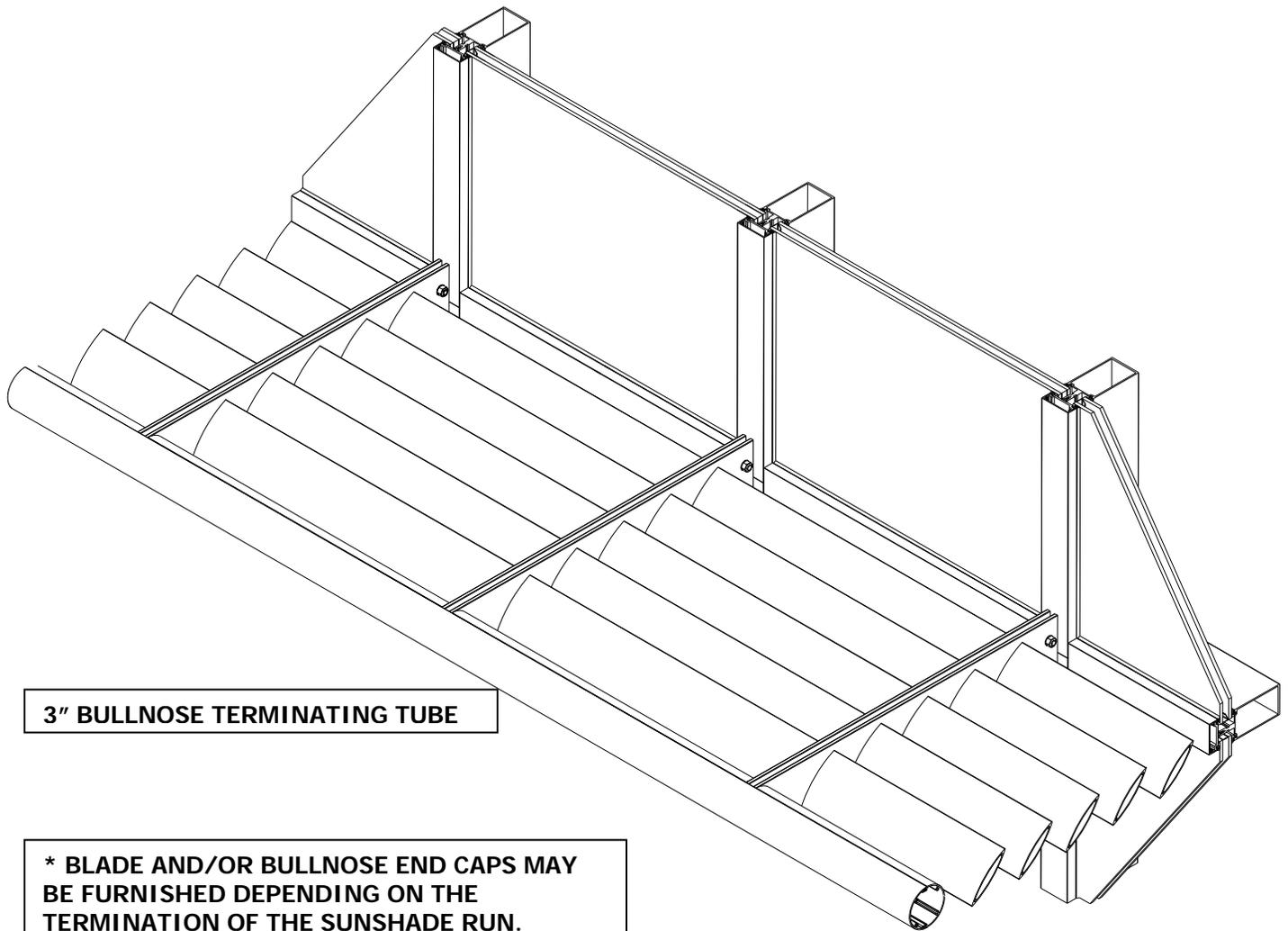
SERIES 5600 CENTER TONGUE SUNSHADE CLIP INSTALLATION MANUAL 6/2012

## **SECTION X: SNAP-ON CONTINUOUS BULLNOSE COVER**



**SNAP-ON THE BULLNOSE COVER: DEPENDING ON THE LENGTH OF THE RUN AND THE ACCURACY OF SUNSHADE LADDER LEVELING ALIGNMENT; USE OF "C" CLAMPS MAY BE NECESSARY. BE CAREFUL TO PROTECT THE FINISH FROM BEING MARRED BY THE "C" CLAMPS AS THEY ARE TIGHTENED TO ENGAGE THE SNAP. ON LONG RUNS, IT IS HIGHLY RECOMMENDED TO PIN THE COVER BY MATCH DRILLING THROUGH THE TOP-SIDE SNAP AND RUNNING A COUPLE OF #6 SCREWS NEAR THE MID-POINT OF THE RUN.**

# **SECTION X: SNAP-ON CONTINUOUS BULLNOSE COVER**



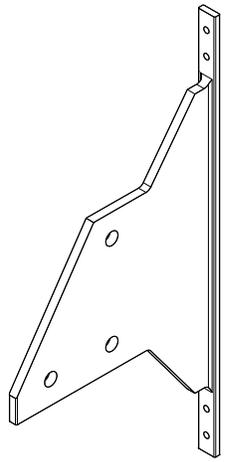
**3" BULLNOSE TERMINATING TUBE**

**\* BLADE AND/OR BULLNOSE END CAPS MAY BE FURNISHED DEPENDING ON THE TERMINATION OF THE SUNSHADE RUN. TYPICALLY THESE CAPS ARE SCREW APPLIED LAST TO DRESS THE EXPOSED ENDS OF THE SUNSHADE BLADES / BULLNOSE. REFER TO THE PROJECT SHOP DRAWINGS FOR SPECIFIC SUNSHADE TERMINATING DETAIL (S).**

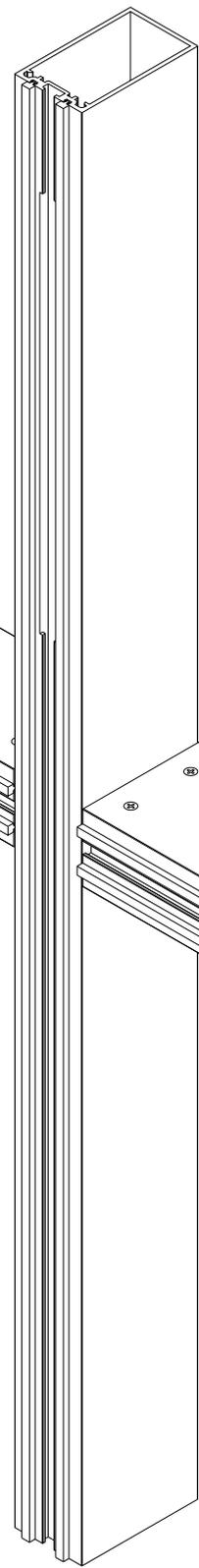
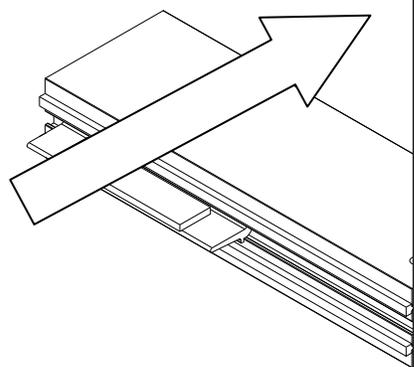
**END CAPS OPTIONAL \***

# **SECTION XI: SUNSHADE CLIP ATTACHMENT AT** **S.S.G. VERTICAL MULLION**

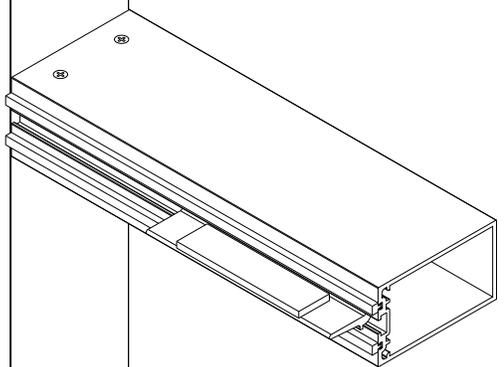
**INSERT THE S.S.G. SUNSHADE CLIP INTO THE TEMPORARY RETAINER RACE. [INSERT BY EITHER NOTCHING THE RETAINER RACE AS SHOWN, OR BY SLIDING THE CLIP IN FROM THE END OF THE MULLION]**



**S.S.G. SUNSHADE CLIP**



**VERTICAL S.S.G. MULLION**

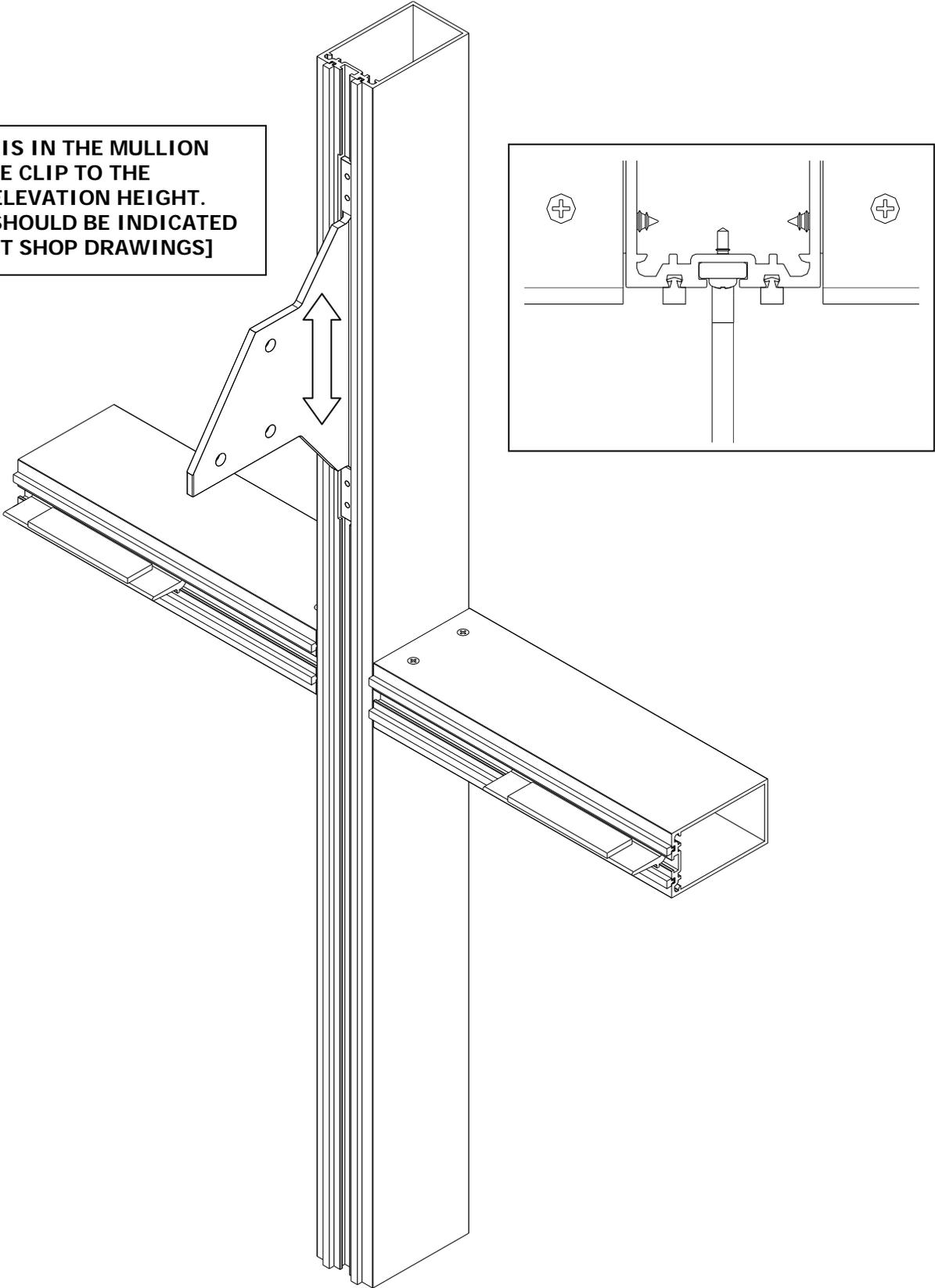


**HORIZONTAL S.S.G. MULLION**

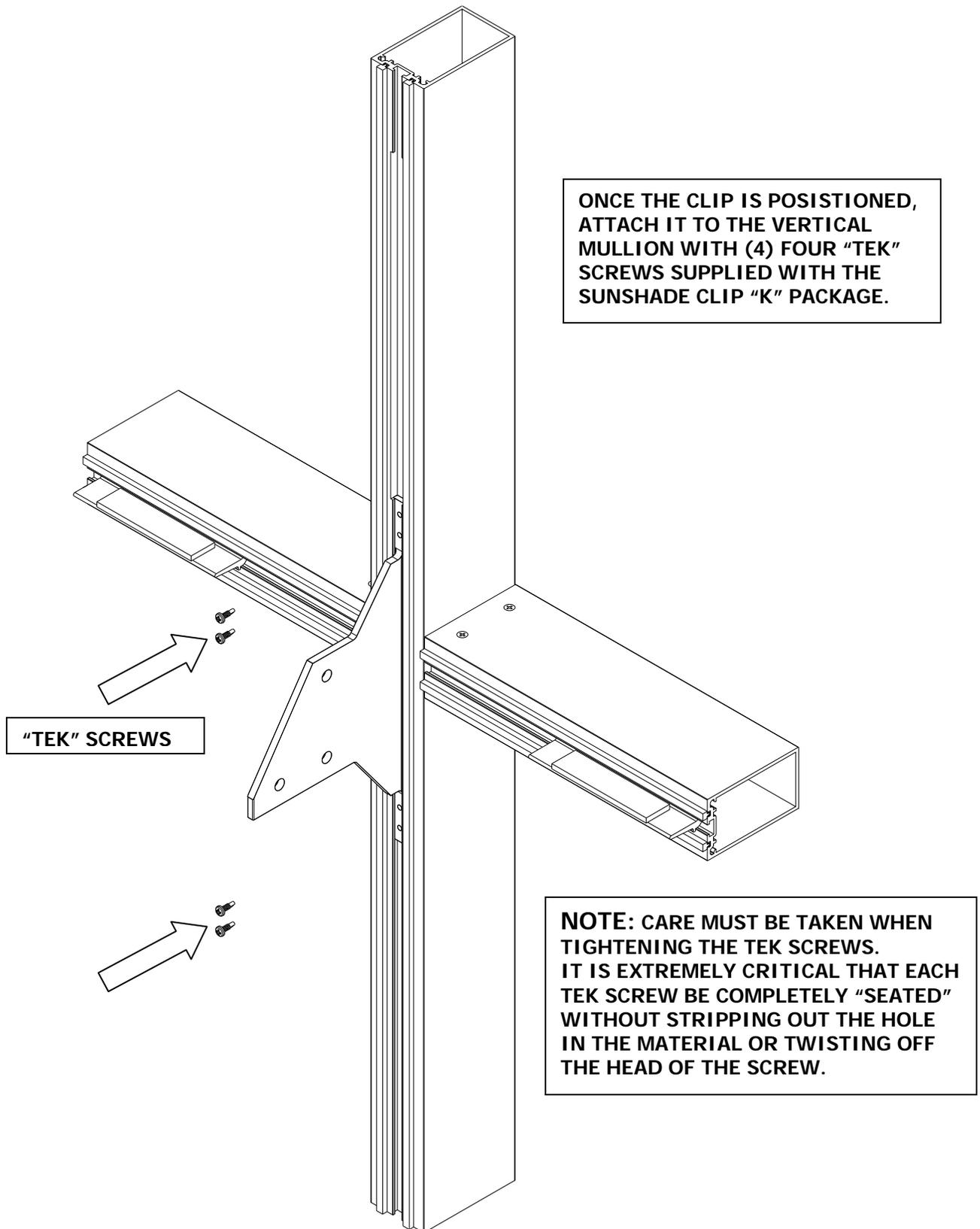
**GLAZING CHAIR WITH SETTING BLOCK**

# SECTION XI: SUNSHADE CLIP ATTACHMENT AT S.S.G. VERTICAL MULLION

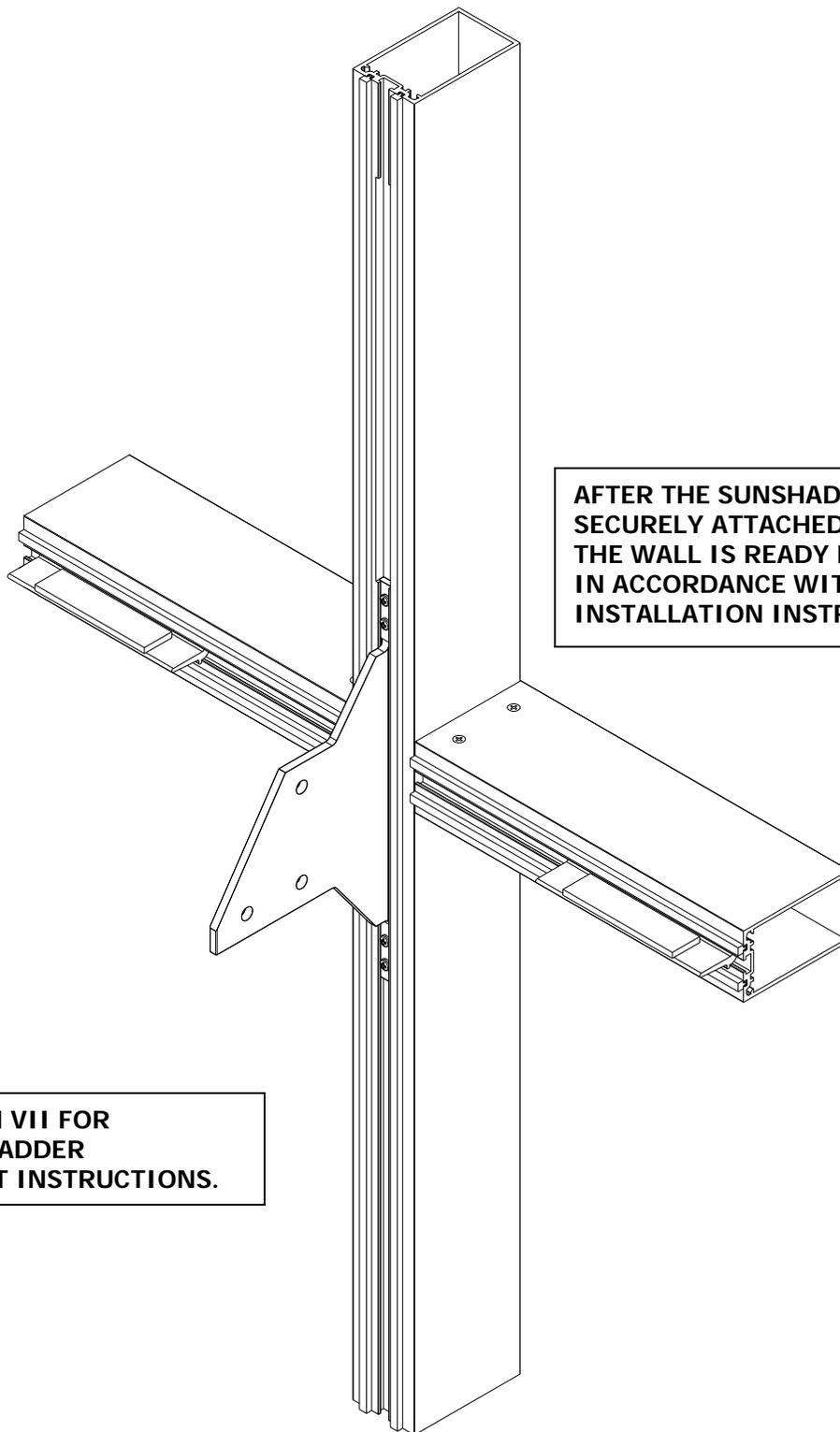
ONCE THE CLIP IS IN THE MULLION RACE, SLIDE THE CLIP TO THE APPROPRIATE ELEVATION HEIGHT. [THIS HEIGHT SHOULD BE INDICATED ON THE PROJECT SHOP DRAWINGS]



## **SECTION XI: SUNSHADE CLIP ATTACHMENT AT** **S.S.G VERTICAL MULLION**



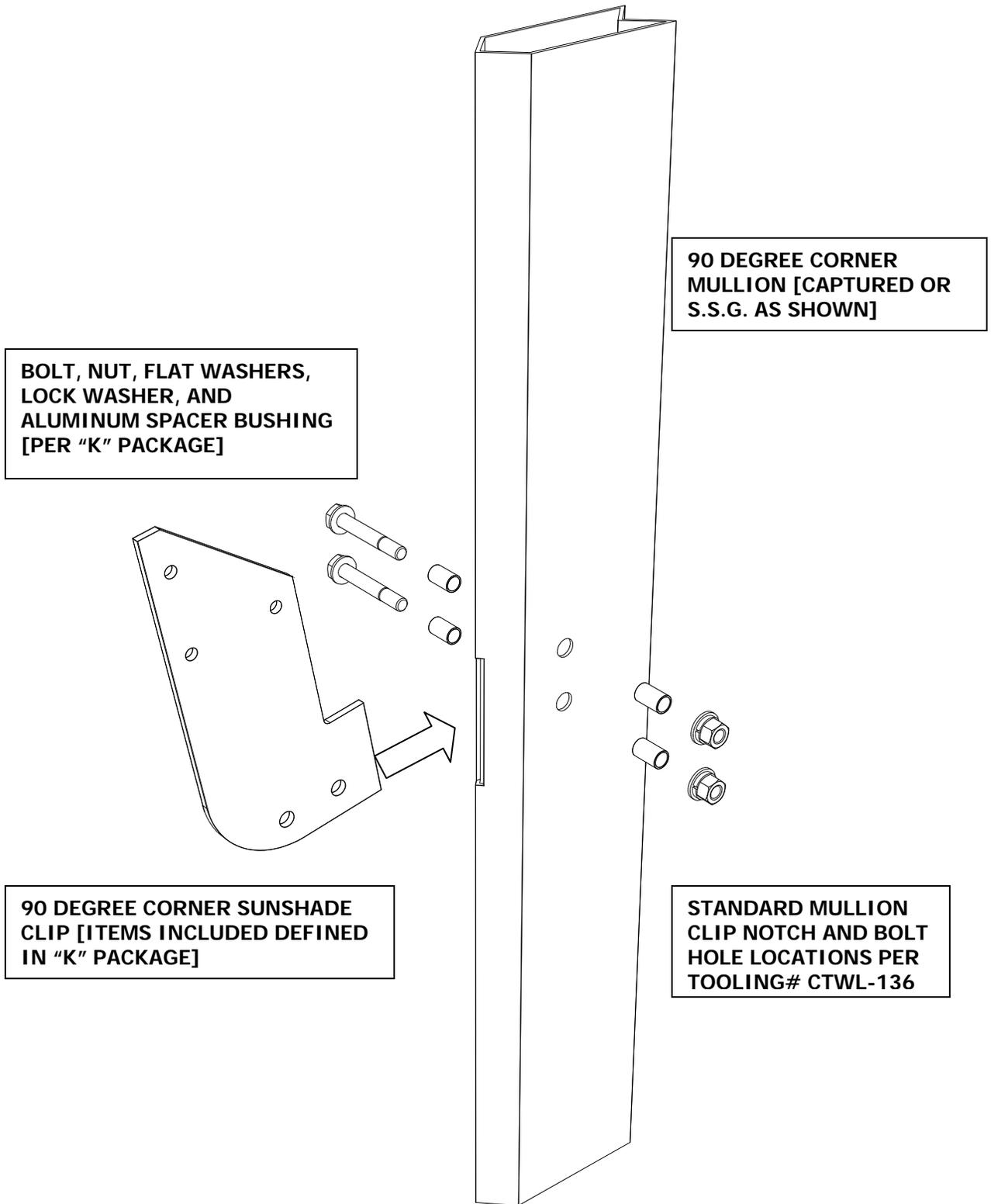
# **SECTION XI: SUNSHADE CLIP ATTACHMENT AT S.S.G VERTICAL MULLION**



**AFTER THE SUNSHADE CLIP IS  
SECURELY ATTACHED TO THE MULLION,  
THE WALL IS READY FOR COMPLETION  
IN ACCORDANCE WITH THE STANDARD  
INSTALLATION INSTRUCTIONS.**

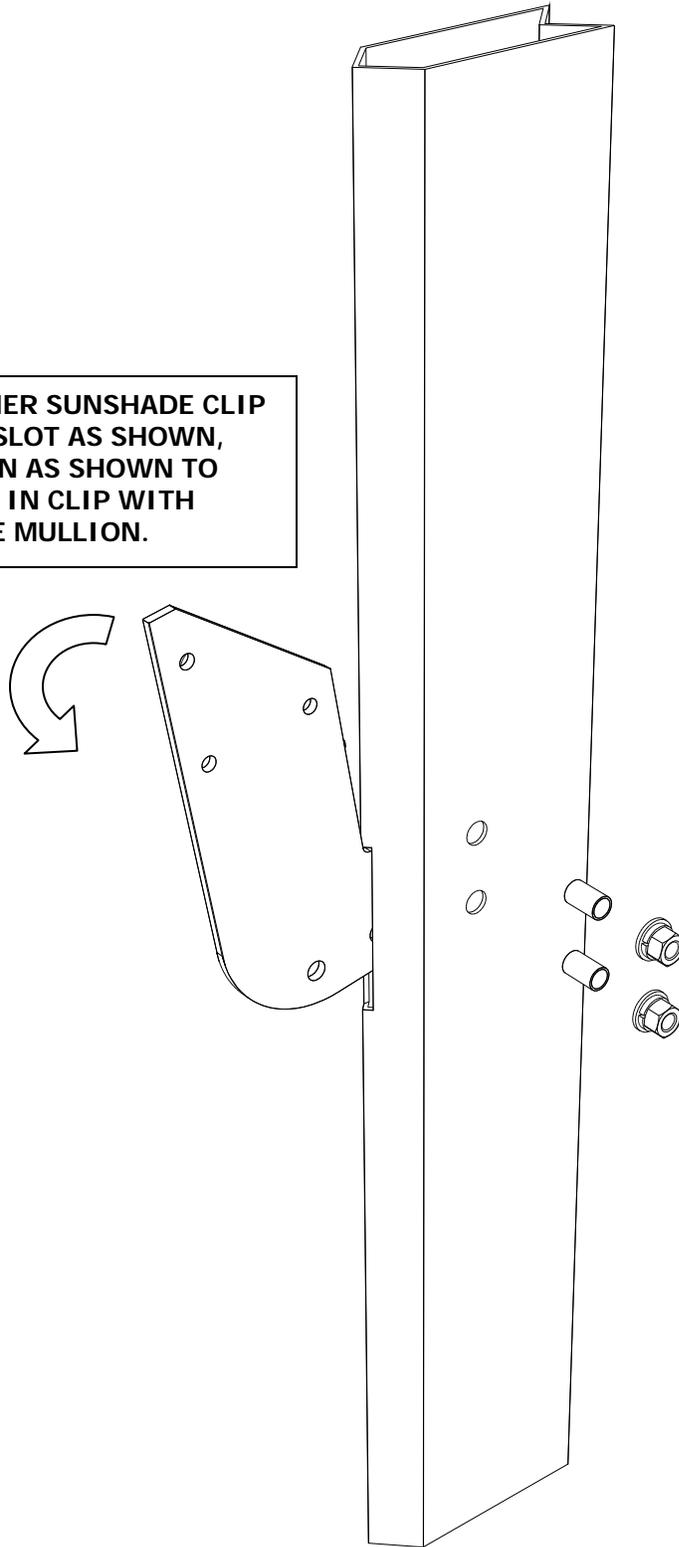
**SEE SECTION VII FOR  
SUNSHADE LADDER  
ATTACHMENT INSTRUCTIONS.**

# **SECTION XII: SUNSHADE CLIP ATTACHMENT AT VERTICAL 90 DEGREE MULLION**



## **SECTION XII: SUNSHADE CLIP ATTACHMENT AT VERTICAL 90 DEGREE MULLION**

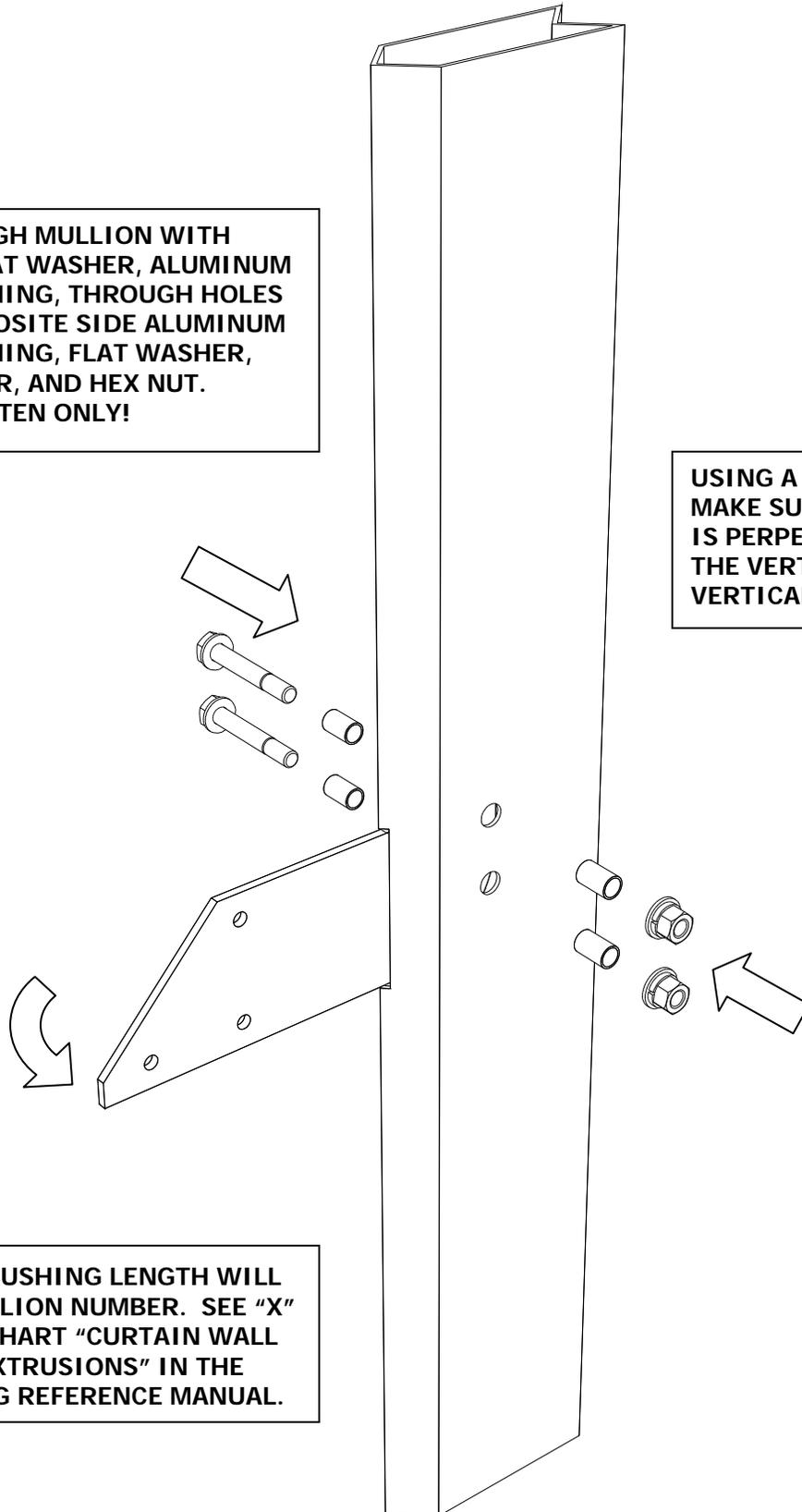
INSERT CORNER SUNSHADE CLIP  
IN MULLION SLOT AS SHOWN,  
ROTATE DOWN AS SHOWN TO  
ALIGN HOLES IN CLIP WITH  
HOLES IN THE MULLION.



## **SECTION XII: SUNSHADE CLIP ATTACHMENT AT VERTICAL 90 DEGREE MULLION**

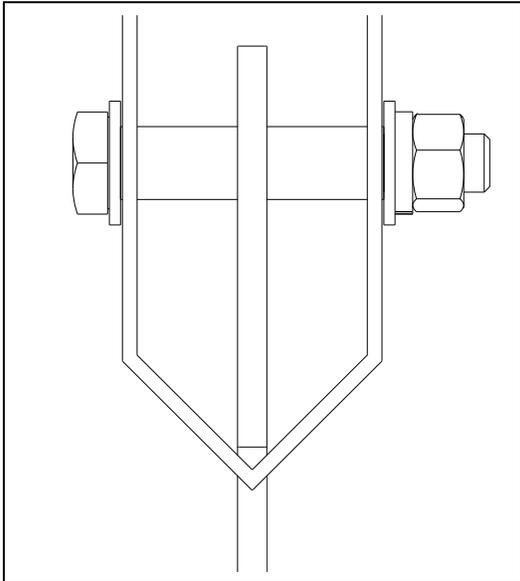
**BOLT THROUGH MULLION WITH  
STACK OF FLAT WASHER, ALUMINUM  
SPACER BUSHING, THROUGH HOLES  
IN CLIP, OPPOSITE SIDE ALUMINUM  
SPACER BUSHING, FLAT WASHER,  
LOCK WASHER, AND HEX NUT.  
FINGER TIGHTEN ONLY!**

**USING A TRI-SQUARE  
MAKE SURE THE CLIP  
IS PERPENDICULAR TO  
THE VERTEX OF THE  
VERTICAL MULLION**

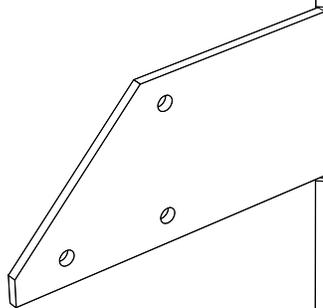


**NOTE: THE BUSHING LENGTH WILL  
VARY BY MULLION NUMBER. SEE "X"  
LENGTH ON CHART "CURTAIN WALL  
SUNSHADE EXTRUSIONS" IN THE  
ENGINEERING REFERENCE MANUAL.**

## **SECTION XII: SUNSHADE CLIP ATTACHMENT AT VERTICAL 90 DEGREE MULLION**



**TORQUE THE THROUGH BOLTS TO 80  
IN/LBS. AND SEAL THE VOID AROUND  
THE CLIP AND MULLION WITH SEALANT.**

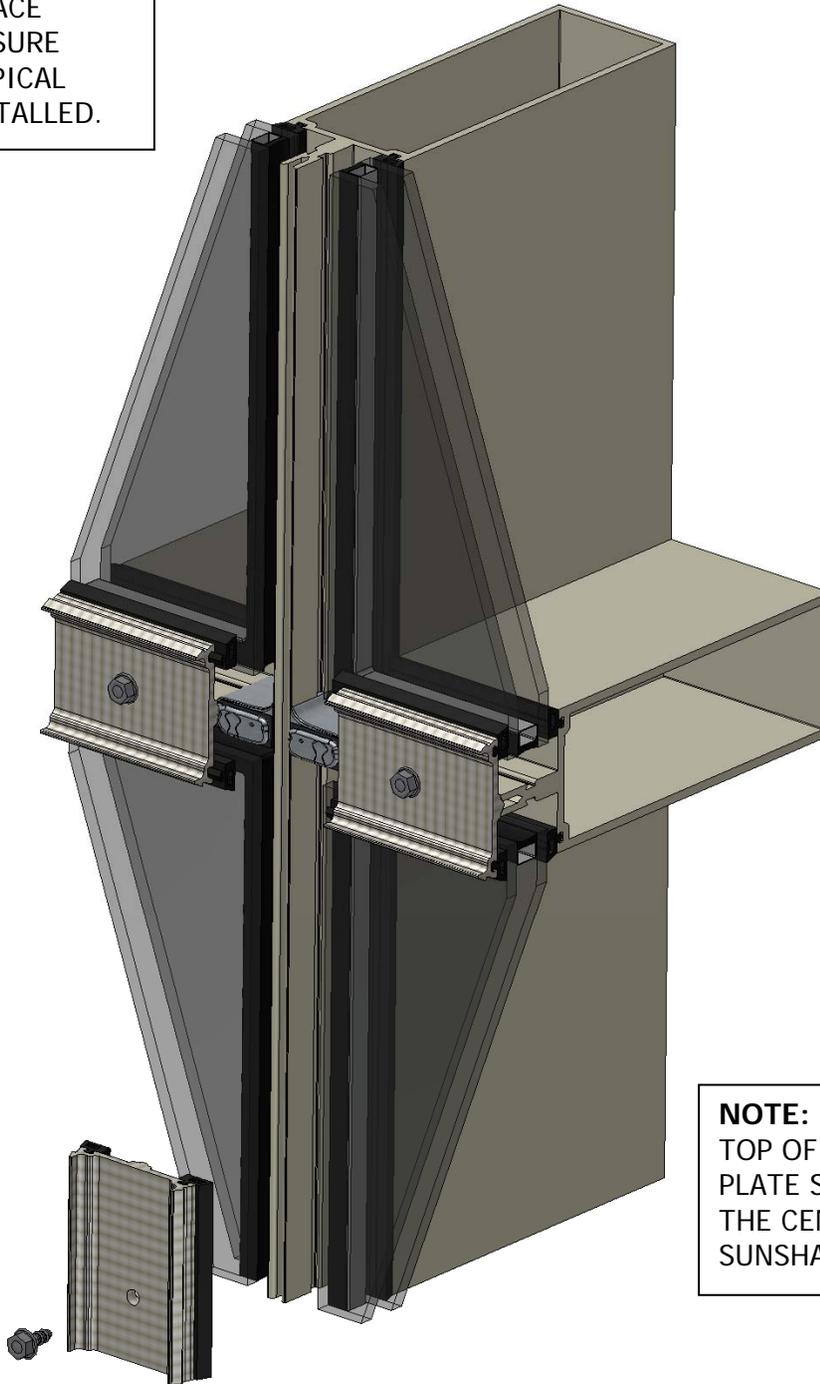


**AFTER THE 90 DEGREE CORNER  
SUNSHADE CLIP IS SECURELY  
ATTACHED, THE WALL IS NOW  
READY FOR COMPLETION IN  
ACCORDANCE WITH THE  
STANDARD CURTAIN WALL  
INSTALLATION INSTRUCTIONS.**

**END OF INSTRUCTION**

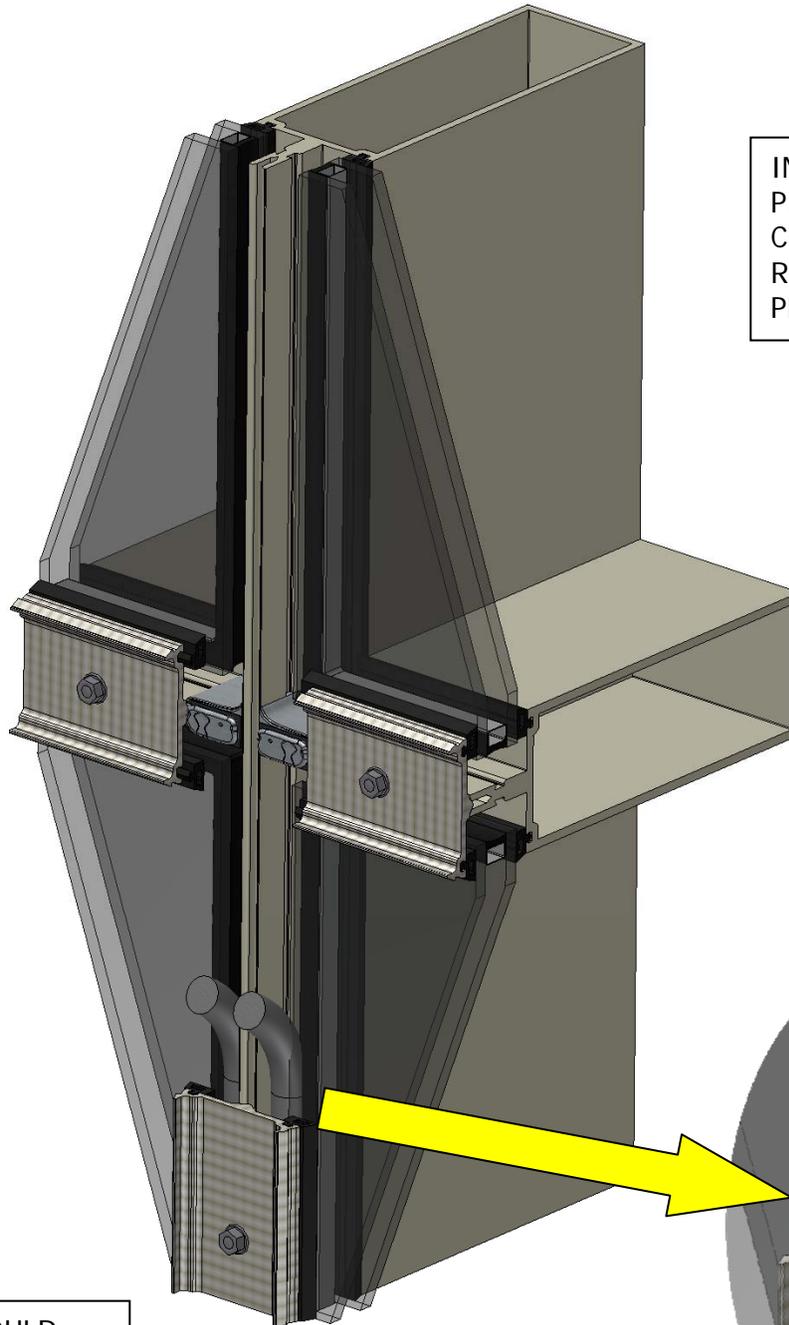
**SECTION XIII: SUNSHADE CLIP ATTACHMENT UTILIZING  
BUTT JOINTED 2½' OUTRIGGER CLIP**

LOCATE & PLACE  
LOWER PRESSURE  
PLATE W/ TYPICAL  
GASKETS INSTALLED.



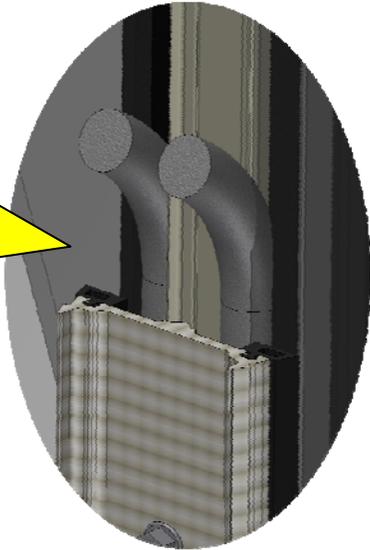
**NOTE:**  
TOP OF LOWER PRESSURE  
PLATE SHOULD BE 6½" BELOW  
THE CENTERLINE OF THE  
SUNSHADE OUTRIGGER CLIP.

**SECTION XIII: SUNSHADE CLIP ATTACHMENT UTILIZING  
BUTT JOINTED 2½' OUTRIGGER CLIP**



INSERT TWO 3" LONG  
PIECES OF ¾"  
CLOSED CELL BACKER  
ROD BEHIND LOWER  
PRESSURE PLATE.

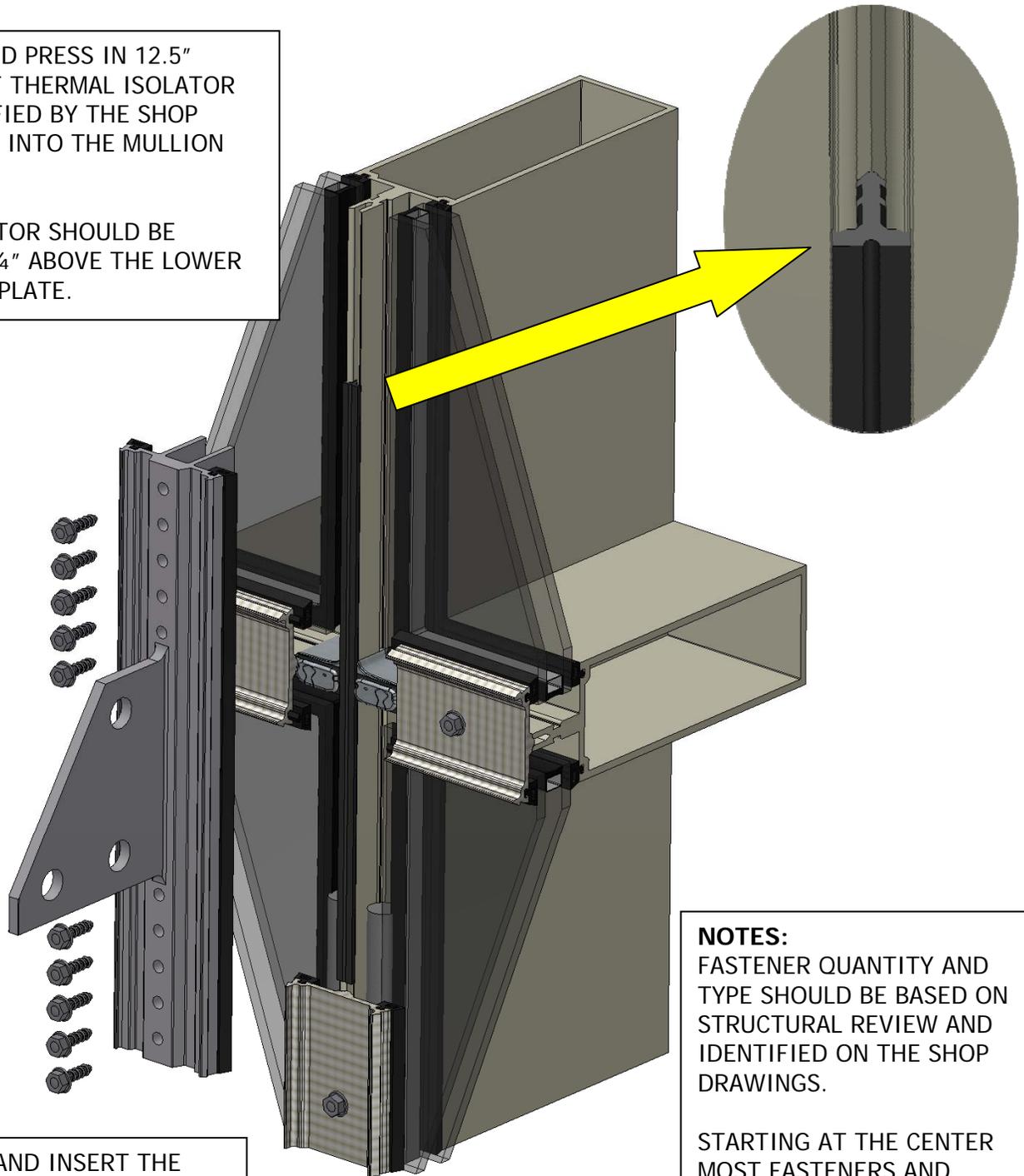
BACKER ROD SHOULD  
EXTEND ABOVE LOWER  
PRESSURE BY 1" TO 2".



## **SECTION XIII: SUNSHADE CLIP ATTACHMENT UTILIZING BUTT JOINTED 2½" OUTRIGGER CLIP**

LOCATE AND PRESS IN 12.5" LENGTH OF THERMAL ISOLATOR AS IDENTIFIED BY THE SHOP DRAWINGS INTO THE MULLION TONGUE.

THE ISOLATOR SHOULD BE LOCATED ¼" ABOVE THE LOWER PRESSURE PLATE.



LOCATE AND INSERT THE SUNSHADE CLIP ¼" ABOVE THE LOWER PRESSURE PLATE PER THE SHOP DRAWINGS.

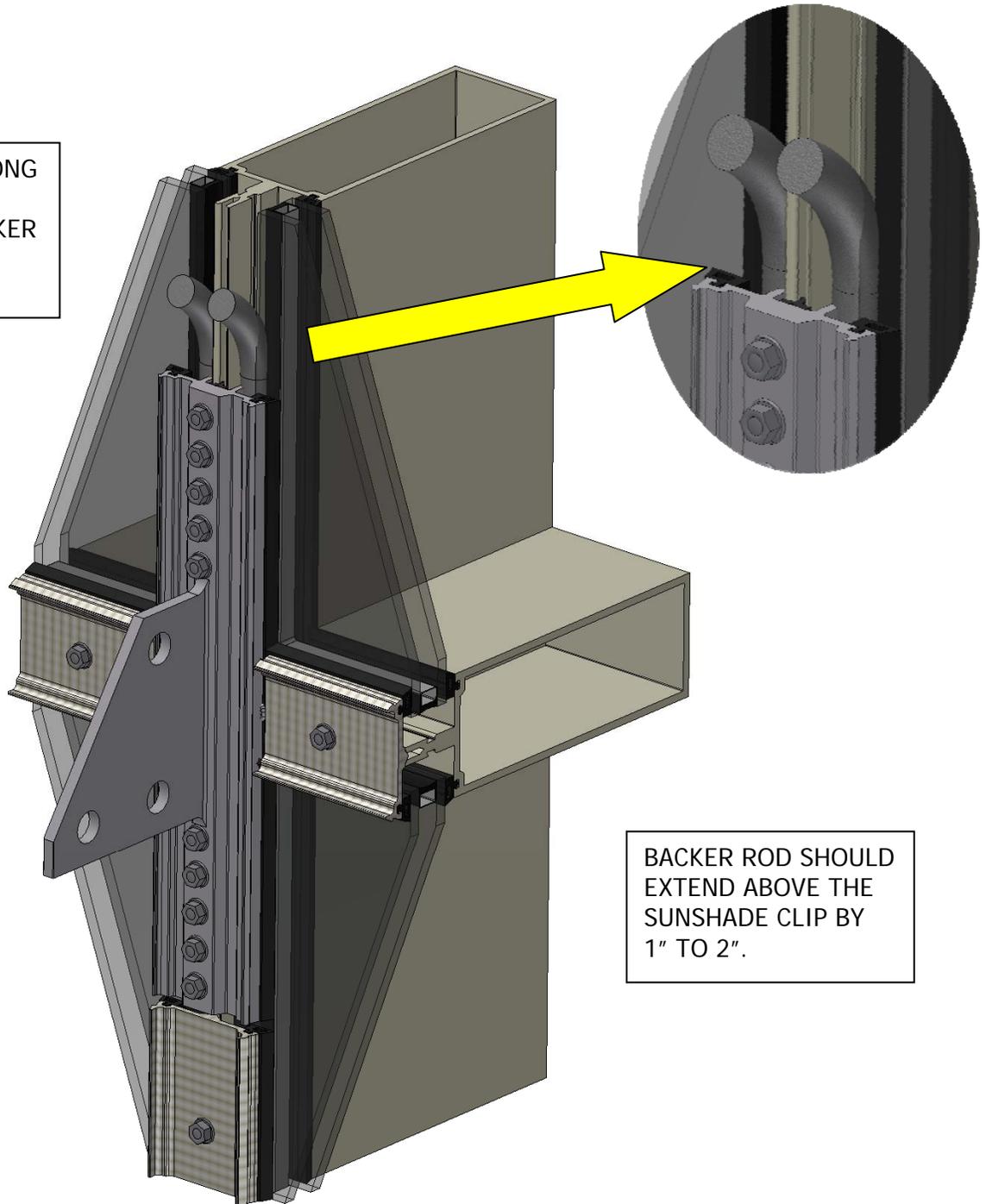
**NOTES:**

FASTENER QUANTITY AND TYPE SHOULD BE BASED ON STRUCTURAL REVIEW AND IDENTIFIED ON THE SHOP DRAWINGS.

STARTING AT THE CENTER MOST FASTENERS AND WORKING OUTWARDS TORQUE EACH FASTENER TO 80 INCH-POUNDS.

## **SECTION XIII: SUNSHADE CLIP ATTACHMENT UTILIZING BUTT JOINTED 2½" OUTRIGGER CLIP**

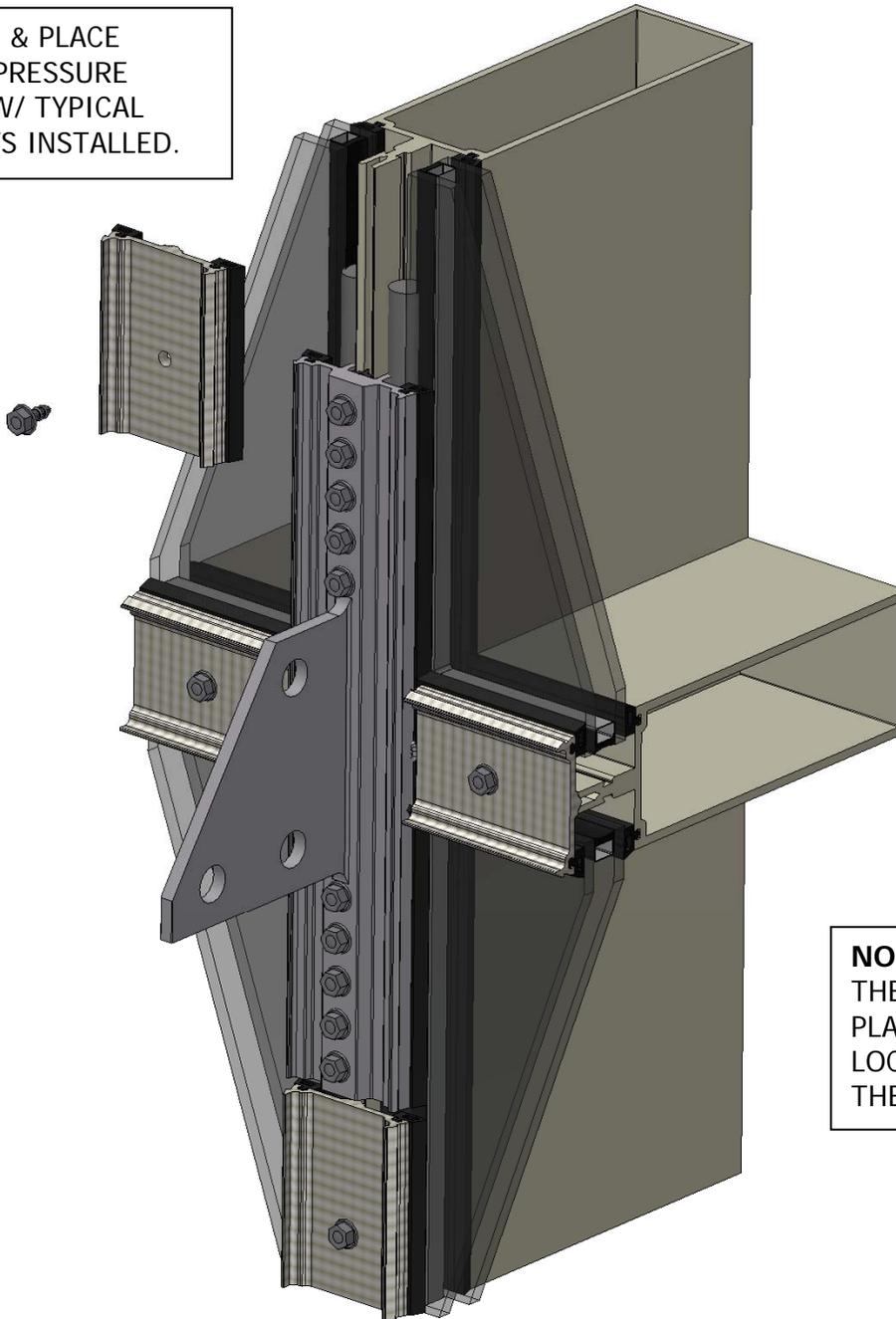
INSERT TWO 3" LONG  
PIECES OF ¾"  
CLOSED CELL BACKER  
ROD BEHIND  
SUNSHADE CLIP.



BACKER ROD SHOULD  
EXTEND ABOVE THE  
SUNSHADE CLIP BY  
1" TO 2".

## **SECTION XIII: SUNSHADE CLIP ATTACHMENT UTILIZING BUTT JOINTED 2½" OUTRIGGER CLIP**

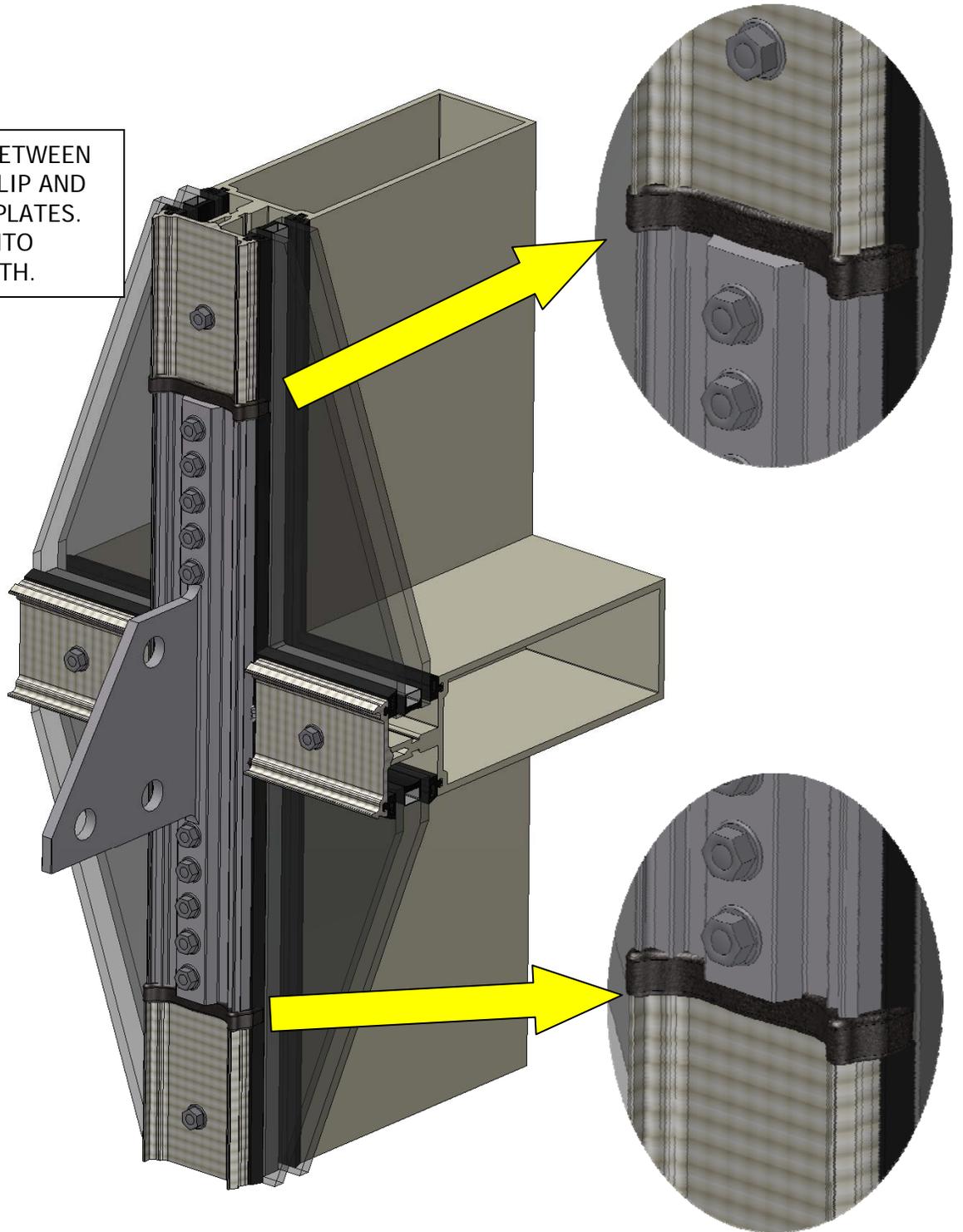
LOCATE & PLACE  
UPPER PRESSURE  
PLATE W/ TYPICAL  
GASKETS INSTALLED.



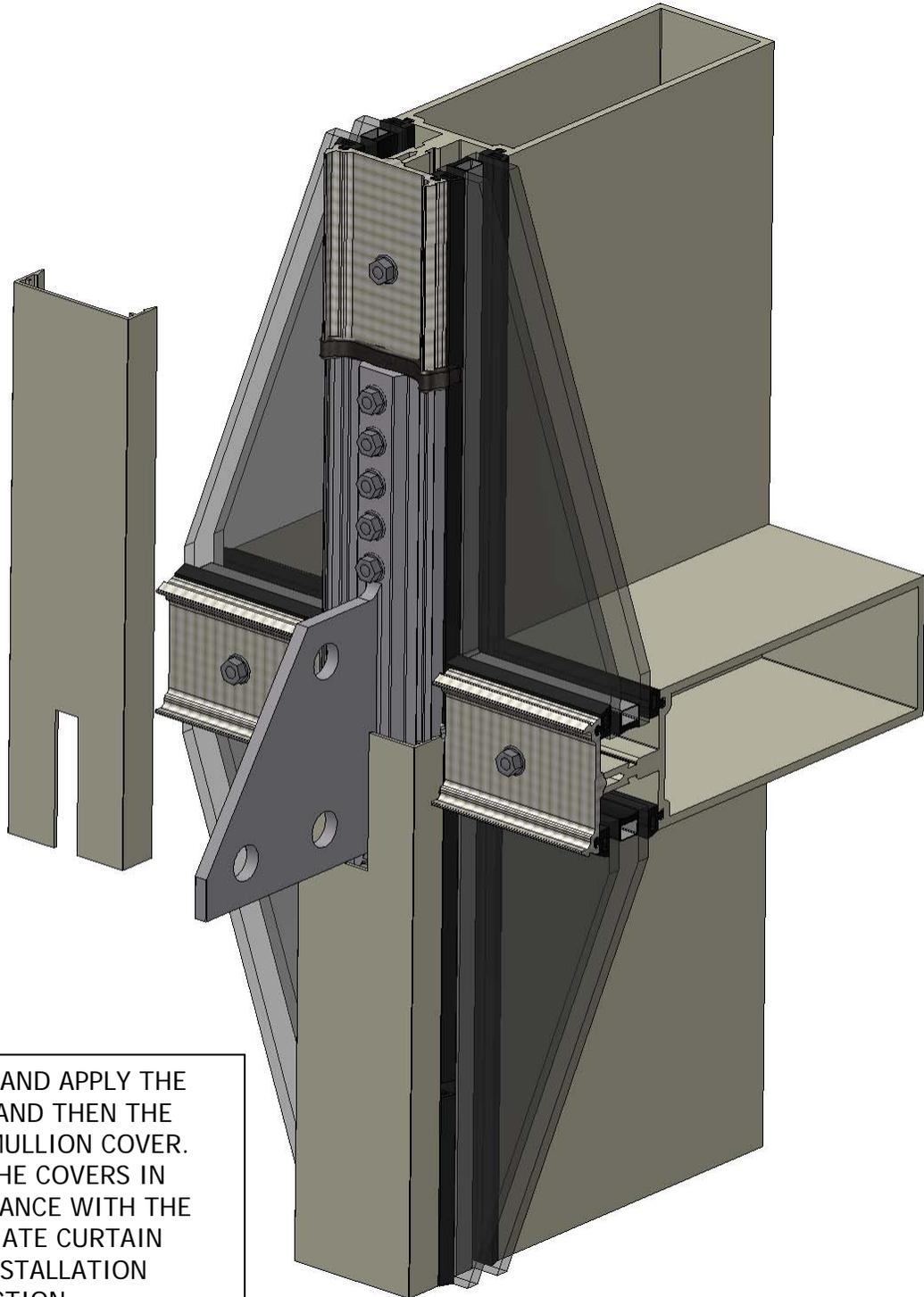
**NOTE:**  
THE UPPER PRESSURE  
PLATE SHOULD BE  
LOCATED ¼" ABOVE  
THE SUNSHADE CLIP.

## **SECTION XIII: SUNSHADE CLIP ATTACHMENT UTILIZING BUTT JOINTED 2½” OUTRIGGER CLIP**

APPLY SEALANT BETWEEN THE SUNSHADE CLIP AND BOTH PRESSURE PLATES. TOOL SEALANT INTO JOINT AND SMOOTH.



**SECTION XIII: SUNSHADE CLIP ATTACHMENT UTILIZING  
BUTT JOINTED 2½' OUTRIGGER CLIP**



LOCATE AND APPLY THE LOWER AND THEN THE UPPER MULLION COVER. APPLY THE COVERS IN ACCORDANCE WITH THE APPROPRIATE CURTAIN WALL INSTALLATION INSTRUCTION