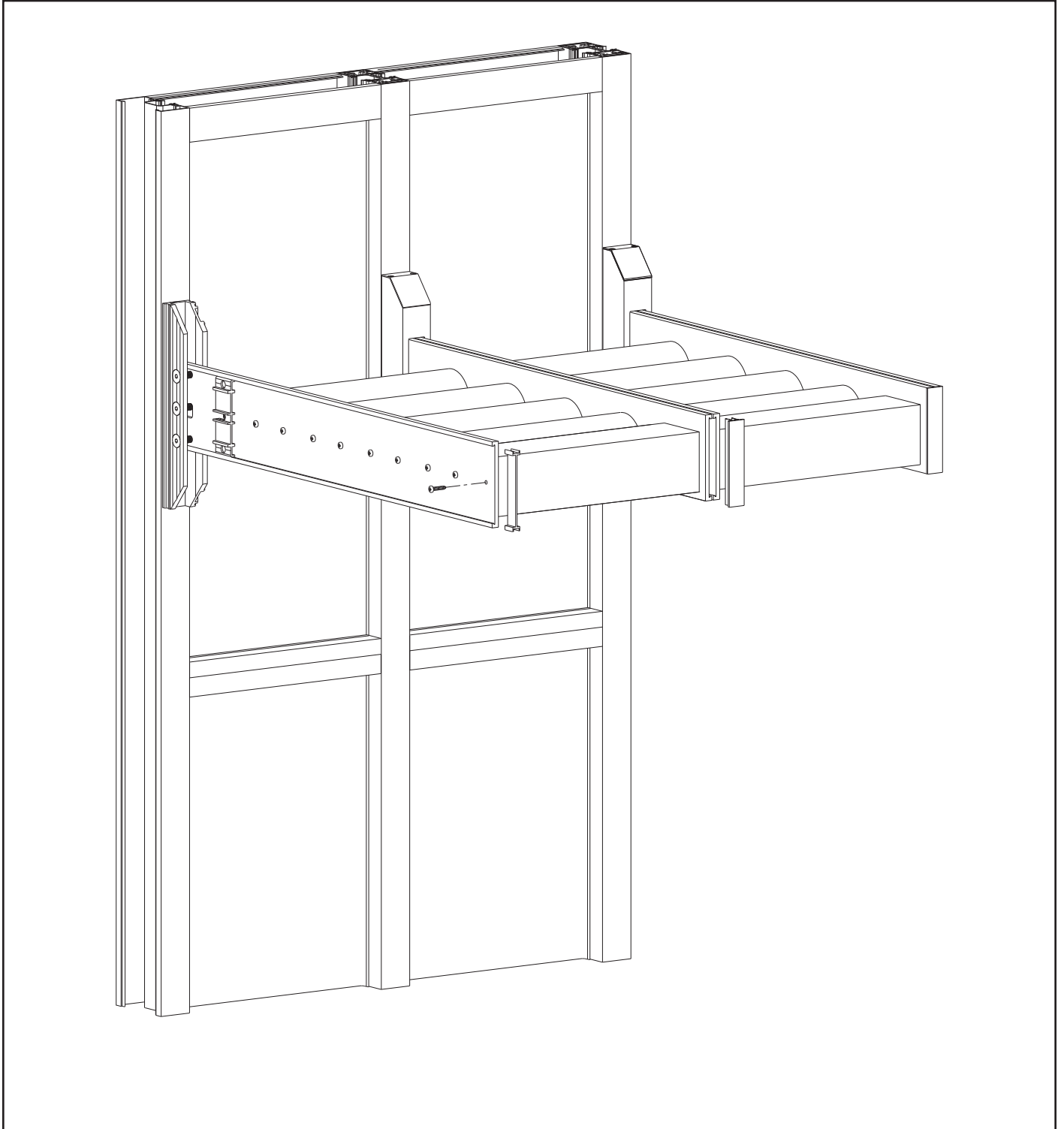


## ThermaShade® SunShade System for Storefront Concealed Anchor



### Installation Manual



Prior to fabrication and installation of the YKK AP ThermaShade® system, an engineering review **MUST** be completed. A qualified engineer must review the “combined load” information for the project to ensure proper selection of curtain wall and ThermaShade members.

Please maintain an executed copy of the document in your project file.

A blank copy of the document is contained in the ThermaShade price book and design manual section.












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## Installation Notes

1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used, be especially careful about striking the boxes when lifting or moving.
2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.
3. All materials should be checked for quality and quantity upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies and tools necessary for the installation.
4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.
5. Gather your shop drawings, materials, packing list, and this installation manual. Carefully review parts, location, the sequence it goes therein, when you glaze it and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.
6. Any material substitutions must be of equal or greater quality.
7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain sealants have been installed in strict accordance with the manufacturer's recommendations and specifications, including cleaning and priming all parts.
8. Remember to isolate, in an approved manner, all aluminum from uncured masonry or other incompatible materials.
9. System-to-structure fasteners are not supplied by YKK AP. Fasteners called out on shop drawings are to indicate minimum sizes for design loading.
10. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.
11. YKK AP storefront and/or curtain wall framing is typically completed before drywall, flooring and other products which may still be in process. Take the extra time to wrap and protect the work produced.
12. Cutting tolerances are plus zero, minus one thirty second unless otherwise noted.
13. Check our website, [www.ykkap.com](http://www.ykkap.com), for the latest installation manual update prior to commencing work.

## STOCK LENGTHS

 <p><b>3-1/2" Round</b> Louver or Fascia</p>	<b>E9-3705</b>	 <p><b>Wedge</b> 6" x 1-3/4" Fascia Only</p>	<b>E9-3711</b>
 <p><b>3" Round</b> Louver or Fascia</p>	<b>E9-3706</b>	 <p><b>2-1/4" Round</b> Louver Only</p>	<b>E9-3712</b>
 <p><b>3" Winged</b> Louver Only</p>	<b>E9-3707</b>	 <p><b>3-5/8" Airfoil</b> Louver Only</p>	<b>E9-3713</b>
 <p><b>6" Open Airfoil</b> Louver Only</p>	<b>E9-3708</b>	 <p><b>Square</b> 3-1/2" x 3-1/2" Louver or Fascia</p>	<b>E9-3714</b>
 <p><b>6" Airfoil</b> Louver Only</p>	<b>E9-3709</b>	 <p><b>Rectangular</b> 2-1/4" x 5" Fascia Only</p>	<b>E9-3715</b>
 <p><b>Angle</b> 5-3/4" x 4-1/4" Louver Only</p>	<b>E9-3710</b>		

## STANDARD OUTRIGGERS

Example:  
E1-3820L-0200 (Left)  
E1-3820R-0200 (Right)

	<b>Square End Bay Outrigger</b> Use for End Bay Condition Only	24" E1-3820L or R-0200 30" E1-3820L or R-0206 36" E1-3820L or R-0300
	<b>Square Intermediate Outrigger</b> Use with E9-3705 & E9-3714	24" E1-3821L or R-0200 30" E1-3821L or R-0206 36" E1-3821L or R-0300
	<b>Square Intermediate Outrigger</b> Use with E9-3705, E9-3706, E9-3707 & E9-3714	24" E1-3822L or R-0200 30" E1-3822L or R-0206 36" E1-3822L or R-0300
	<b>Square Intermediate Outrigger</b> Use with E9-3705, E9-3708, E9-3709, E9-3710 & E9-3714	24" E1-3823L or R-0200 30" E1-3823L or R-0206 36" E1-3823L or R-0300
	<b>Square Intermediate Outrigger</b> Use with E9-3705, E9-3714 & E9-3715	24" E1-3824L or R-0200 30" E1-3824L or R-0206 36" E1-3824L or R-0300
	<b>Square Intermediate Outrigger</b> Use with E9-3706, E9-3707 & E9-3715	24" E1-3825L or R-0200 30" E1-3825L or R-0206 36" E1-3825L or R-0300
	<b>Square Intermediate Outrigger</b> Use with E9-3708, E9-3709, E9-3710 & E9-3715	24" E1-3826L or R-0200 30" E1-3826L or R-0206 36" E1-3826L or R-0300
	<b>Rounded End Bay Outrigger</b> Use for End Bay Condition Only	24" E1-3840L or R-0200 30" E1-3840L or R-0206 36" E1-3840L or R-0300
	<b>Rounded Intermediate Outrigger</b> Use with E9-3705 & E9-3714	24" E1-3841L or R-0200 30" E1-3841L or R-0206 36" E1-3841L or R-0300
	<b>Rounded Intermediate Outrigger</b> Use with E9-3705, E9-3706 & E9-3707	24" E1-3842L or R-0200 30" E1-3842L or R-0206 36" E1-3842L or R-0300
	<b>Rounded Intermediate Outrigger</b> Use with E9-3705, E9-3708, E9-3709 & E9-3710	24" E1-3843L or R-0200 30" E1-3843L or R-0206 36" E1-3843L or R-0300
	<b>Rounded Intermediate Outrigger</b> Use with E9-3706 & E9-3707	24" E1-3844L or R-0200 30" E1-3844L or R-0206 36" E1-3844L or R-0300

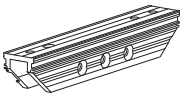

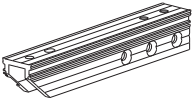
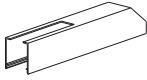
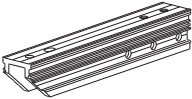
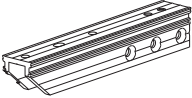

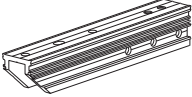
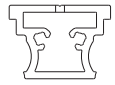

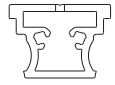

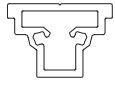

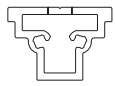



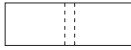

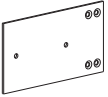

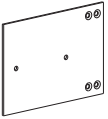
## STANDARD OUTRIGGERS

Example:  
E1-3860L-0200 (Left)  
E1-3860R-0200 (Right)

	<p><b>Wedge End Bay Outrigger</b> Use for End Bay Condition Only</p>	<p>24" E1-3860L or R-0200 30" E1-3860L or R-0206 36" E1-3860L or R-0300</p>
	<p><b>Wedge Intermediate Outrigger</b> Use with E9-3711 &amp; E9-3712</p>	<p>24" E1-3861L or R-0200 30" E1-3861L or R-0206 36" E1-3861L or R-0300</p>
	<p><b>Wedge Intermediate Outrigger</b> Use with E9-3711 &amp; E9-3713</p>	<p>24" E1-3862L or R-0200 30" E1-3862L or R-0206 36" E1-3862L or R-0300</p>
	<p><b>Curved End Bay Outrigger</b> Use for End Bay Condition Only</p>	<p>24" E1-3880L or R-0200 30" E1-3880L or R-0206 36" E1-3880L or R-0300</p>
	<p><b>Curved Intermediate Outrigger</b> Use with E9-3705, E9-3708 &amp; E9-3709</p>	<p>24" E1-3881L or R-0200 30" E1-3881L or R-0206 36" E1-3881L or R-0300</p>
	<p><b>Curved Intermediate Outrigger</b> Use with E9-3705</p>	<p>24" E1-3882L or R-0200 30" E1-3882L or R-0206 36" E1-3882L or R-0300</p>
	<p><b>Curved Intermediate Outrigger</b> Use with E9-3706 &amp; E9-3707</p>	<p>24" E1-3883L or R-0200 30" E1-3883L or R-0206 36" E1-3883L or R-0300</p>










Actual lengths are 1-1/2" longer than nominal.

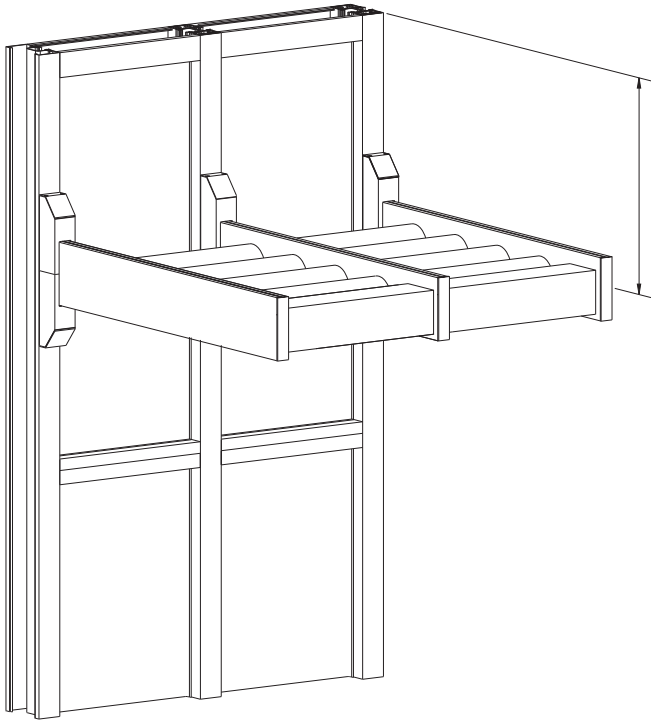
## ACCESSORIES

	<p><b>"Type A" Anchor Clip</b> Use with E9-1013, E9-1075, BE9-2553, BE9-2555, E9-0654, and BE9-0684</p>	<b>E1-3872</b>		<p><b>Mitered Face Cover</b> Use with E1-3872</p>	<b>E1-3870</b>
	<p><b>"Type B" Anchor Clip</b> Used at head &amp; right jamb location Use with E9-1013, E9-1075, BE9-2553 and BE9-2555</p>	<b>E1-3873</b>		<p><b>Mitered Face Cover</b> Use with E1-3873, E1-3874, E1-3875, and E1-3876</p>	<b>E1-3878</b>
	<p><b>"Type B" Anchor Clip</b> Used at head &amp; left jamb location Use with E9-1013, E9-1075, BE9-2553 and BE9-2555</p>	<b>E1-3874</b>		<p><b>Face Cover End Cap</b> Use with E1-3870, and E1-3878</p>	<b>E1-3871</b>
	<p><b>"Type B" Anchor Clip</b> Used at head &amp; right jamb location Use with E9-0654, and BE9-0684</p>	<b>E1-3875</b>		<p><b>Face Cover End Cap</b> Use with E1-3878</p>	<b>E1-3851</b>
	<p><b>"Type B" Anchor Clip</b> Used at head &amp; left jamb location Use with E9-0654, and BE9-0684</p>	<b>E1-3876</b>		<p><b>Mullion Reinforcement Sleeve</b> 36" Long Use with E1-3872</p>	<b>E1-3848</b>
	<b>Outrigger Spacer</b>	<b>E1-3803</b>		<p><b>Mullion Reinforcement Sleeve</b> 18" Long, Use with E1-3873 and E1-3874</p>	<b>E1-3849</b>
	<b>Outrigger Connector</b>	<b>E1-3804</b>		<p><b>Mullion Reinforcement Sleeve</b> 36" Long, for YES 45 XT Use with E1-3872</p>	<b>E1-3846</b>
	<b>Square Outrigger End Cap</b>	<b>E1-3805</b>		<p><b>Mullion Reinforcement Sleeve</b> 18" Long, for YES 45 XT, Use with E1-3873 and E1-3874</p>	<b>E1-3845</b>
	<p><b>Medallion</b> 3-1/2" Dia. Use with E1-3808</p>	<b>E1-3807</b>		<p><b>Steel Bar</b> 18" Long Use with E1-3873 and E1-3874</p>	<b>E1-3857</b>
	<p><b>Medallion Spacer w/ Slot</b> 3-1/2" Dia.</p>	<b>E1-3808</b>		<p><b>Steel Bar</b> 24" Long Use with E1-3872</p>	<b>E1-3858</b>
	<p><b>Medallion</b> 1" Dia. Use with E1-3810</p>	<b>E1-3809</b>		<p><b>Anchor Plate</b> for YES 45 FI, TU, &amp; XT</p>	<b>E1-3859</b>
	<p><b>Medallion Spacer</b> 1" Dia. Use with E1-3809</p>	<b>E1-3810</b>		<p><b>Anchor Plate</b> for YES 60 FI, TU, &amp; XT</p>	<b>E1-3799</b>

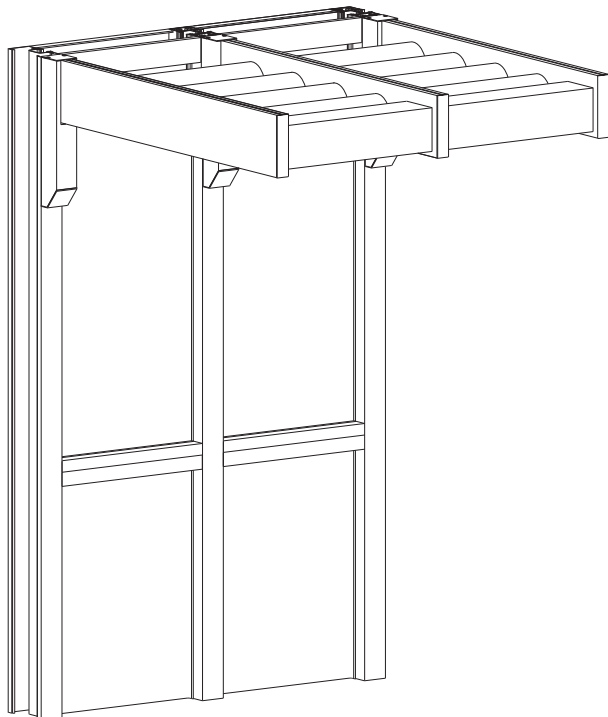


## FASTENERS

 <p><b>3/8" x 1-3/4" Bolt</b> Stainless Steel, For Attachment of Outrigger to Anchor Clip Three per Anchor Clip</p>	<p><b>FM-3828</b> <b>-SS</b></p>	 <p><b>3/8" x 1-1/4" Bolt</b>, Stainless Steel, For Attachment of Anchor Clip to YES 45 FI/TU Mullion</p>	<p><b>FM-3820</b> <b>-SS</b></p>
 <p><b>3/8" Jamb Nut</b> Stainless Steel, For Attachment of Outrigger to Anchor Clip</p>	<p><b>JM-3800</b> <b>-SS</b></p>	 <p><b>3/8" x 1" Bolt</b>, Stainless Steel For Attachment of Anchor Clip to YHS 50 FI/TU Mullion</p>	<p><b>HM-3816</b> <b>-SS</b></p>
 <p><b>#10 x 1" PHSMS Type AB</b> Stainless Steel, For Attachment of Louvers/Fascia to Outrigger</p>	<p><b>PC-1016</b> <b>-SS</b></p>	 <p><b>3/8" x 1" Bolt</b>, Stainless Steel For Attachment of Anchor Clip to YHS 50 FI/TU Mullion</p>	<p><b>FM-3816</b> <b>-SS</b></p>
 <p><b>#8 x 1/2" FHSMS Type AB</b> Stainless Steel, For Attachment of 2-1/4" Face Cover to Anchor Clip</p>	<p><b>FC-0808</b> <b>-SS</b></p>	 <p><b>#14 x 1" FHPSMS</b>, Zinc Plated Steel, For Attachment of Anchor Plate to Mullion</p>	<p><b>FC-1416</b></p>
 <p><b>3/8" x 1-1/4" Bolt</b>, Stainless Steel For Attachment of Anchor Clip to YES 45 FI/TU Mullion</p>	<p><b>HM-3820</b> <b>-SS</b></p>		

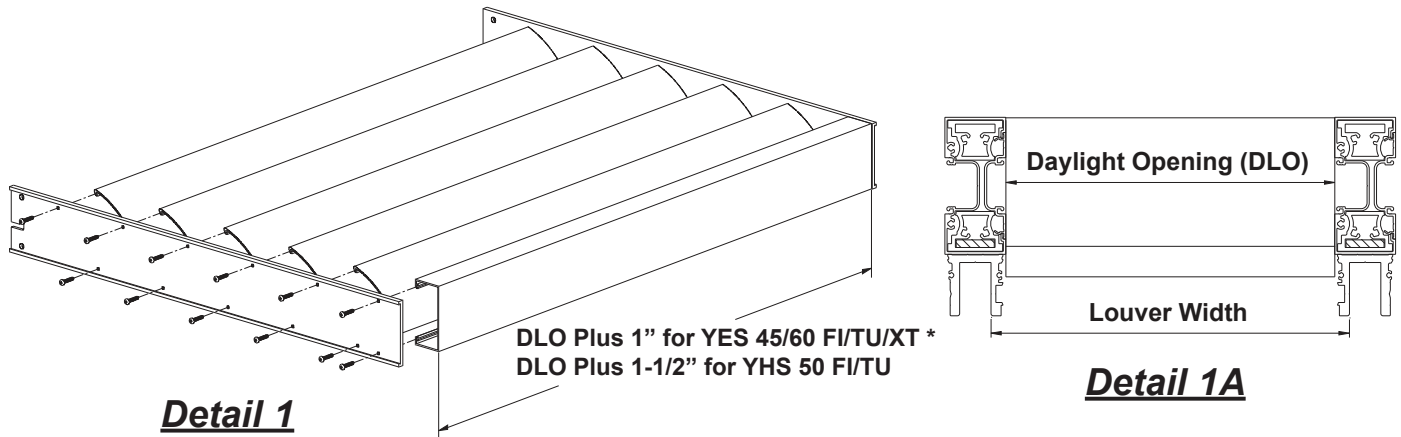
**THERMASHADE LOCATION OPTIONS****TYPE A**

- Outrigger and mullion anchor are located below the head.
- Requires standard "Type A" mullion anchors and covers.
- Can utilize Luminance<sup>®</sup> light shelf system.
- Horizontal can align with  $\zeta$  of outrigger.

**TYPE B**

- Outrigger and mullion anchor are located at the extreme head location, requiring "Type B" anchor and covers.

## THERMASHADE ASSEMBLY FABRICATION



### STEP 1 FABRICATION OF THERMASHADE ASSEMBLIES

**For proper anchoring of the outrigger at Type A locations:** The top of the outrigger must be a minimum of 3-1/2" to a maximum of 21-1/2" below the top of the head member.

**For proper anchoring of the outrigger at Type B locations:** The top of the outrigger must be 1/16" below the top of the head member.

#### Louver and Fascia Fabrication

-Cut louvers and fascia to storefront DLO plus 1" for YES 45/60 FI/TU/XT, and plus 1-1/2" for YHS 50 FI/TU as shown in **Detail 1**.

\* **Note:** For 2-1/4" wide YES 45 or YES 60 mullions, add 1/8" cut length at each mullion used.

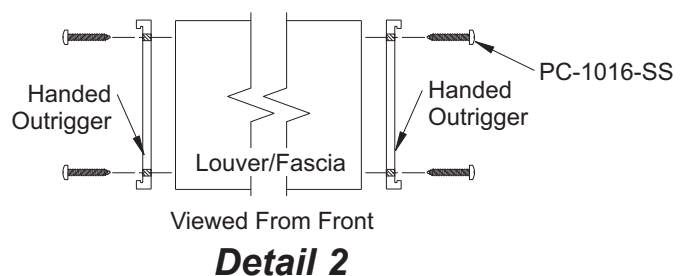
Refer to approved shop drawings for louver lengths for non-standard mullion widths.

If louvers and fascia are to be fabricated from field measurements, correct louver and fascia cut length can be determined by measuring from the inside right leg of the anchor clip to the inside left leg of the adjacent anchor clip (this is the proper louver width). See **Detail 1A**.

-Assemble the ThermaShade by fastening two (2) outriggers to the cut louvers and fascia. See **Detail 1**.

**Note:** Curved outriggers are produced from aluminum plate and are non handed. Square, rounded, and wedge outriggers are produced from extruded aluminum and are handed.

See **Detail 2** for proper alignment of extruded outriggers.



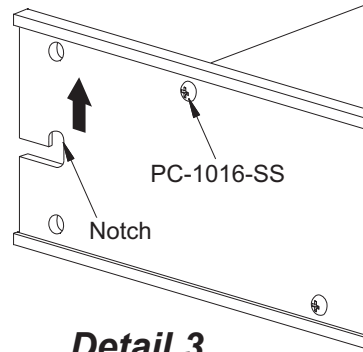
## THERMASHADE ASSEMBLY FABRICATION

### STEP 2

#### Intermediate Outrigger Assembly

- Attach louvers to the outriggers with PC-1016-SS screws by aligning pre-drilled holes in the outrigger with the screw splines of the louver.
- Ensure that the notch at the center of the outrigger points upward to prevent attaching the outriggers upside down. Do not tighten screws completely until all louvers and fascia are attached, then tighten all fasteners.

See **Detail 3**.



### STEP 3

#### Vertical Mullion Fabrication

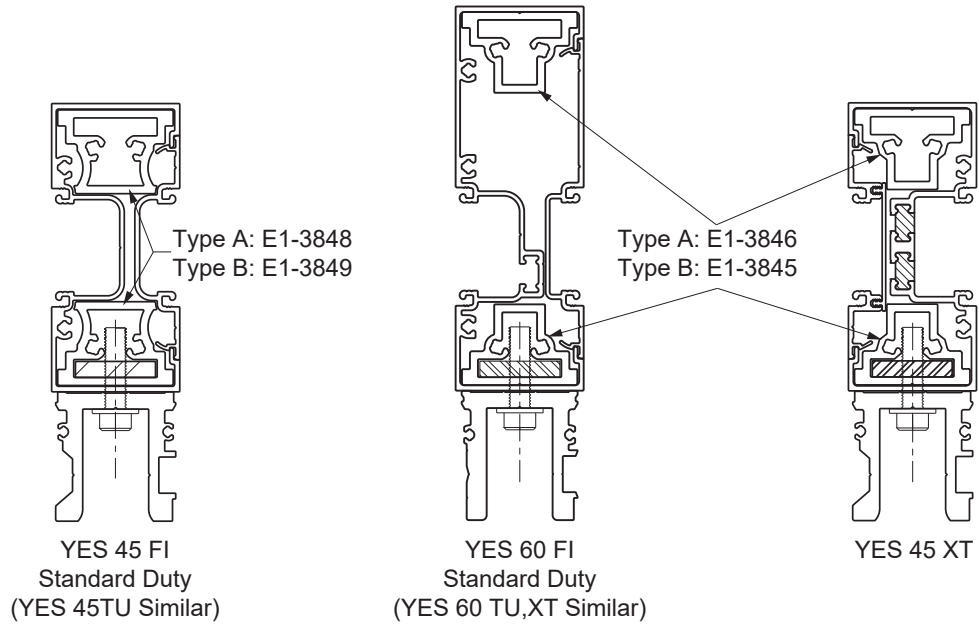
Vertical span and spacing with ThermaShade should be evaluated by a P.E., or consult YKK AP.

- For Standard Duty YES 45/60 FI/TU/XT, drill 0.406 diameter clear holes into the vertical mullions as shown in **Detail 5** on **Page 10**.
- For YHS 50 FI/TU & Heavy Duty YES 45/60 **Type A** locations (and if no steel bar is required), drill and tap 0.3125" holes into the vertical mullions as shown in **Detail 6A** on **Page 11**. If steel is required, drill 0.406" diameter clear holes into the vertical mullions.
- For YHS 50 FI/TU & Heavy Duty YES 45/60 **Type B** locations (and if no steel bar is required), drill and tap 0.3125" holes into the vertical mullions as shown in **Detail 6B** on **Page 11**. If steel is required, drill 0.406" diameter clear holes into the vertical mullions.

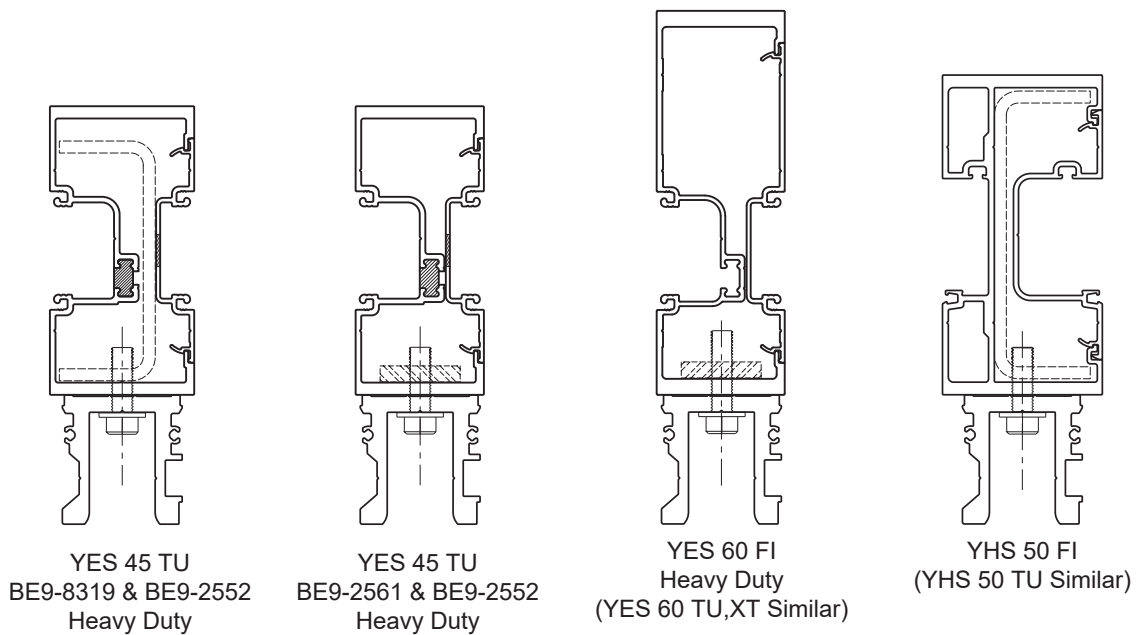
See **Detail 4** on **Page 9** for mullion options.

THERMASHADE ASSEMBLY FABRICATION

STEP 3 (cont'd)



**Detail 4**

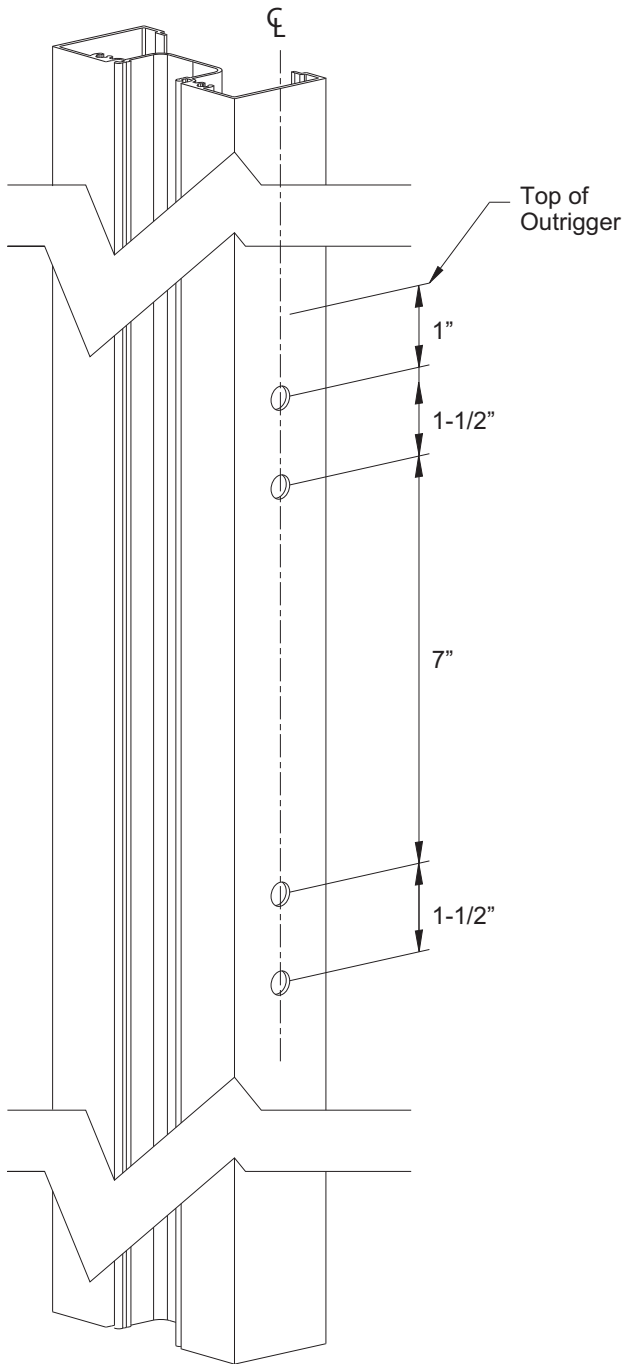


**STANDARD DUTY YES 45/60 FI/TU/XT VERTICAL  
MULLION FABRICATION**

YES 45 FI Shown, YES 45 TU/XT, YES 60 FI/TU/XT Similar

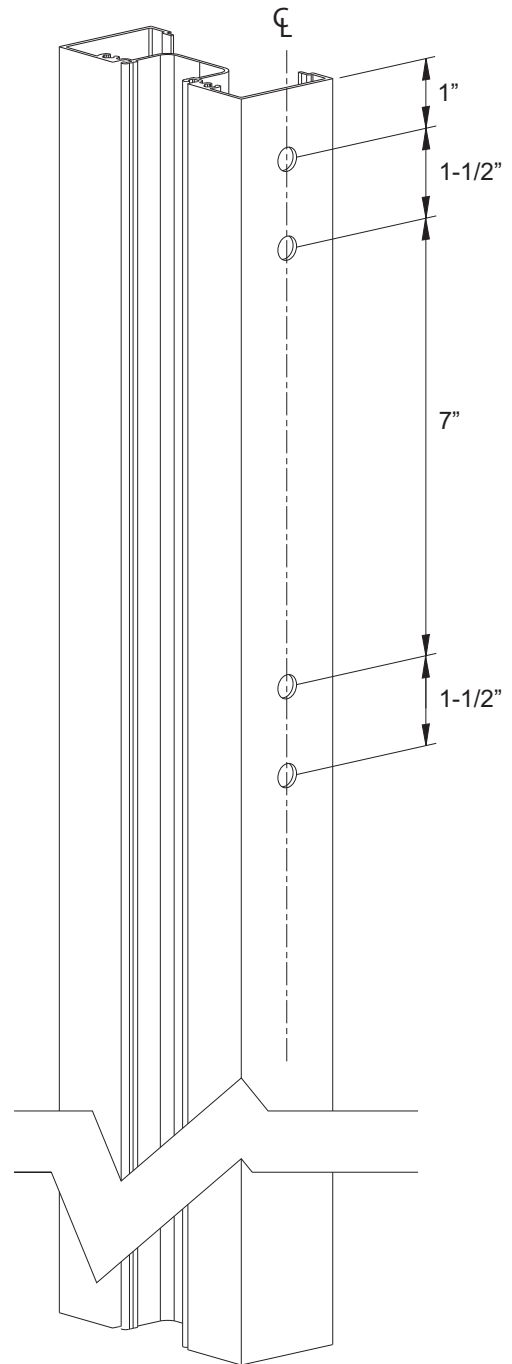
**STEP 3 (cont'd)**

**TYPE A**



**Detail 5A**

**TYPE B**



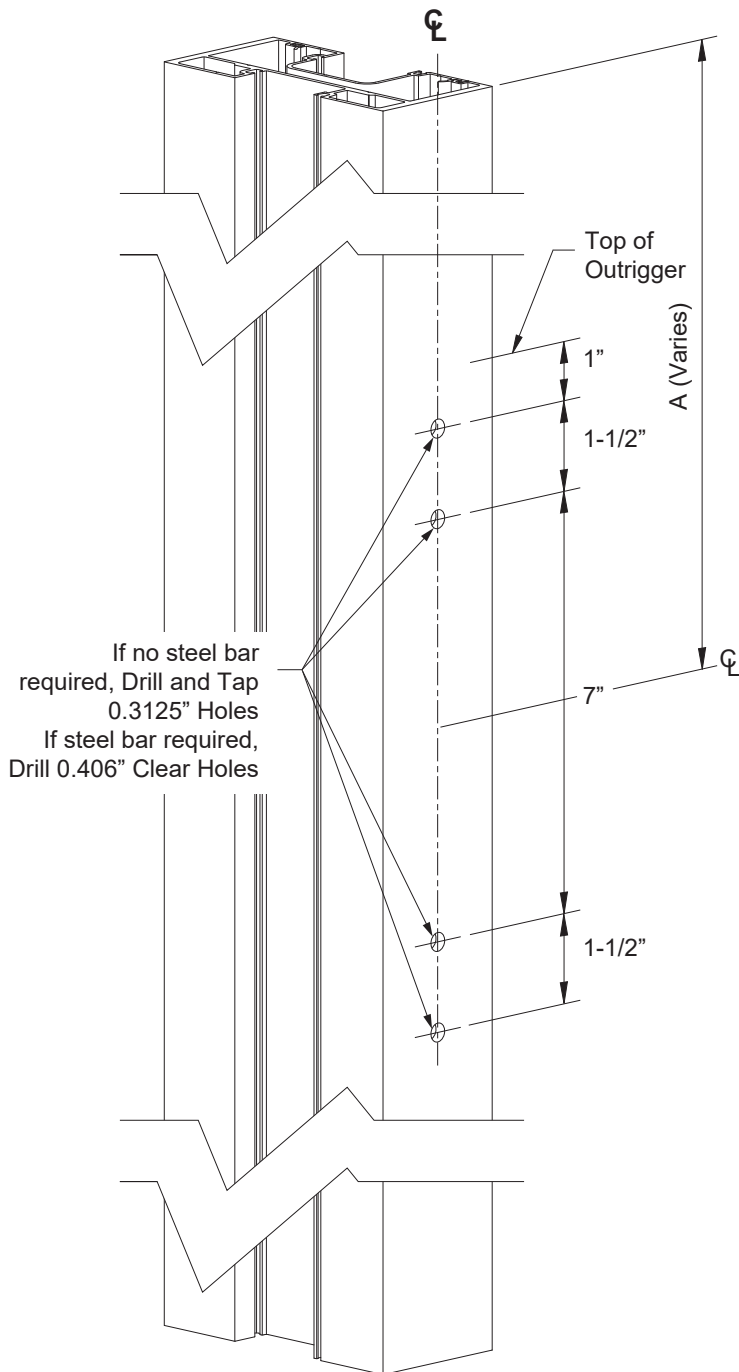
**Detail 5B**

**YHS 50 FI/TU & HEAVY DUTY YES 45/60 VERTICAL MULLION FABRICATION**

YHS 50 FI Shown, Others Similar

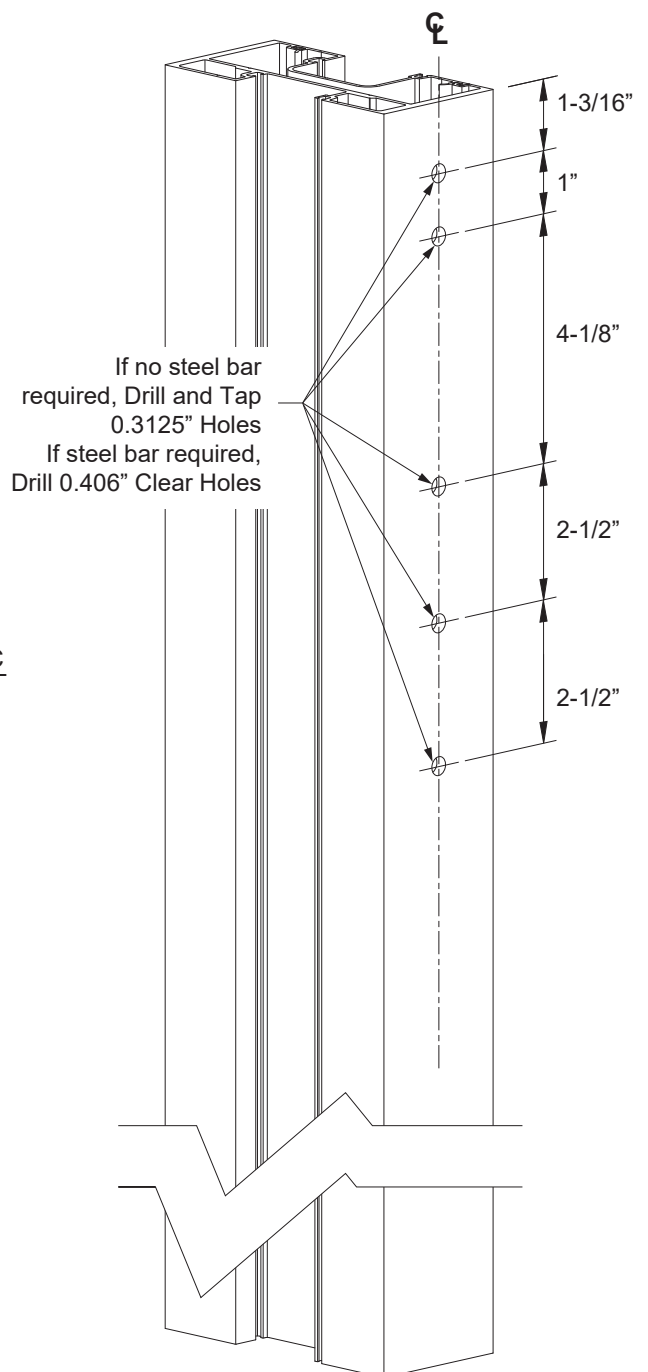
**STEP 3 (cont'd)**

**TYPE A**



**Detail 6A**

**TYPE B**



**Detail 6B**

## FABRICATE STEEL BAR E1-3858 and MULLION REINFORCEMENT E1-3848

### STEP 4

The ThermaShade for Storefront Type A application is for Outrigger & Anchor  $\varnothing$  locations that are located 6" to 24" from the top of the storefront vertical mullion.

For applications where the Outrigger & Anchor  $\varnothing$ 's are located 6"-12" from the top of the mullion, the 36" Mullion reinforcement Sleeve and the 24" long steel reinforcement sleeve will need to be cut. Refer to **Figure 1** for the length of the cut.

**Figure 1**

A = Reference Dimension from the top of mullion to  $\varnothing$  of outrigger & anchor.

B = Length of steel

C = Length of Mullion Reinforcement Sleeve (remove material from the top).

$$B = 12'' + A$$

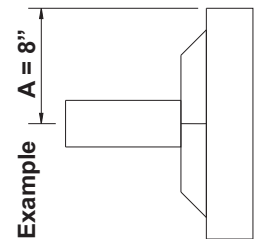
$$C = 12'' + A$$

**Example:**

$$A = 8''$$

$$B = 12'' + 8'' = 20''$$

$$C = 12'' + 8'' = 20''$$



For applications where the Outrigger & Anchor  $\varnothing$ 's are located 12"-24" from the top of the mullion, ONLY the 36" Mullion reinforcement Sleeve will need to be cut.

Refer to **Figure 2** for the length of the cut.

**Figure 2**

A = Reference Dimension from the top of mullion to  $\varnothing$  of outrigger & anchor.

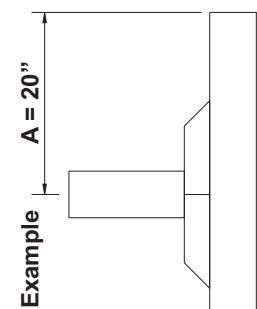
C = Length of Mullion Reinforcement Sleeve (remove material from the top).

$$C = 12'' + A$$

**Example:**

$$A = 20''$$

$$C = 12'' + 20'' = 32''$$



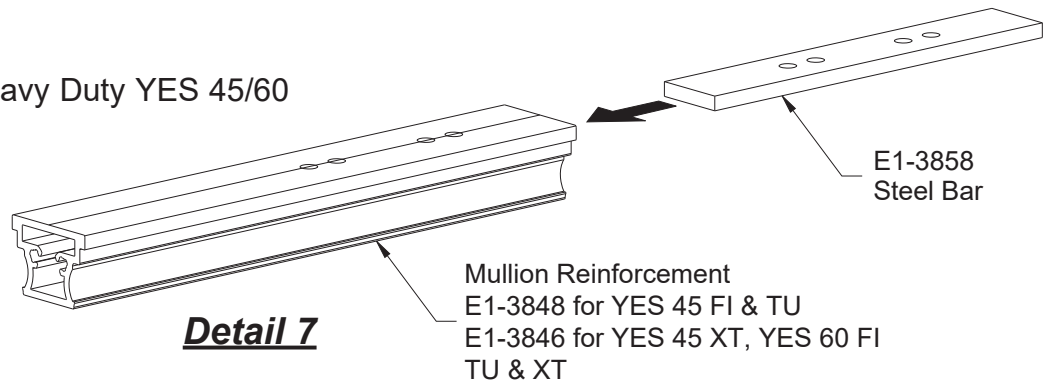
The ThermaShade for Storefront "Type B" application is for Outriggers located at the extreme top of the storefront vertical mullion. No additional fabrication is required.



## ANCHOR SYSTEM ASSEMBLIES

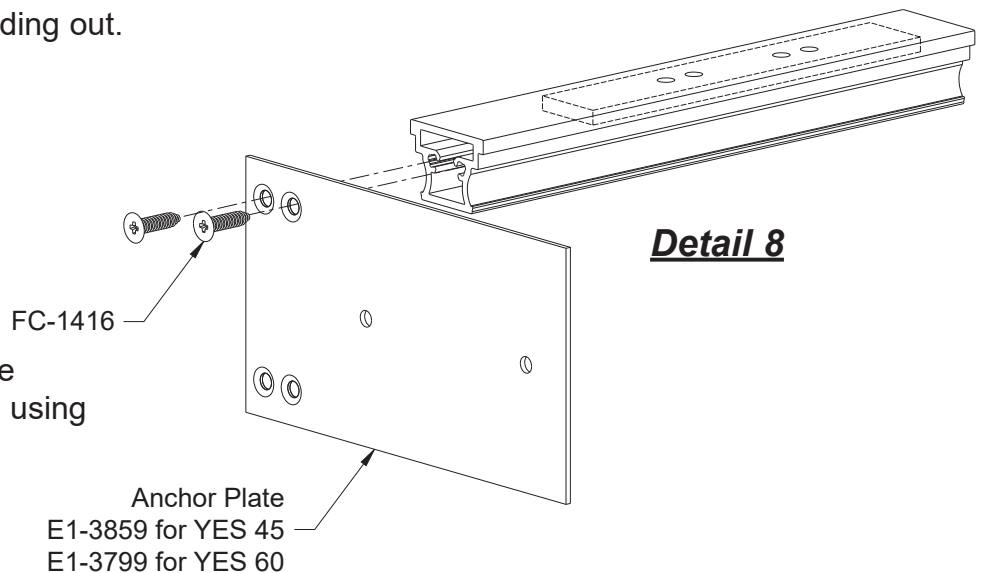
### STEP 5 ANCHOR PLATE ASSEMBLY FOR “TYPE A” CONDITIONS

**Note:**  
For YHS 50 FI/TU & Heavy Duty YES 45/60 applications, skip to **Step 6B** on **Page 16**.



- Slide the E1-3858 steel bar into the mullion reinforcement.
- Align holes and crimp or punch aluminum to prevent the steel bar from sliding out.

See **Detail 7**.



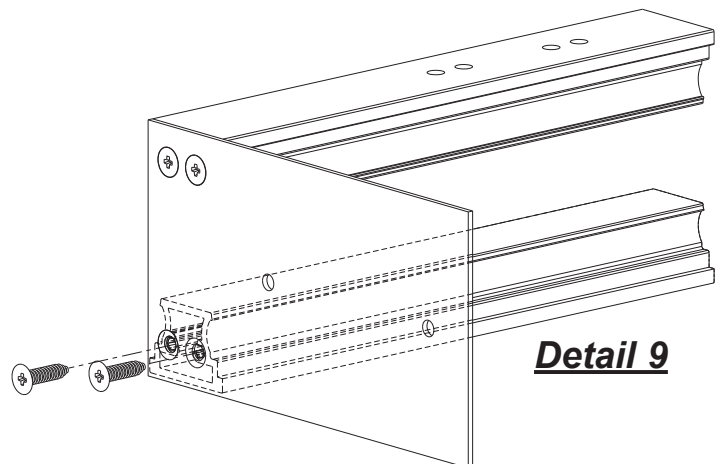
- Attach the anchor plate to the mullion reinforcement sleeve using (2) two FC-1416 fasteners.

See **Detail 8**.

- Attach the second mullion reinforcement sleeve to the E1-3859 anchor plate using (2) two FC-1416 fasteners.

See **Detail 9**.

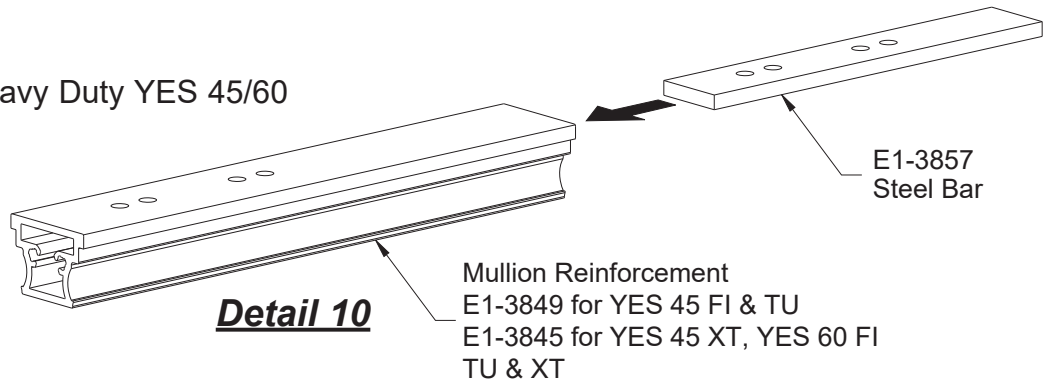
**For “Type B” conditions, see Step 5 on Page 14.**



## ANCHOR SYSTEM ASSEMBLIES

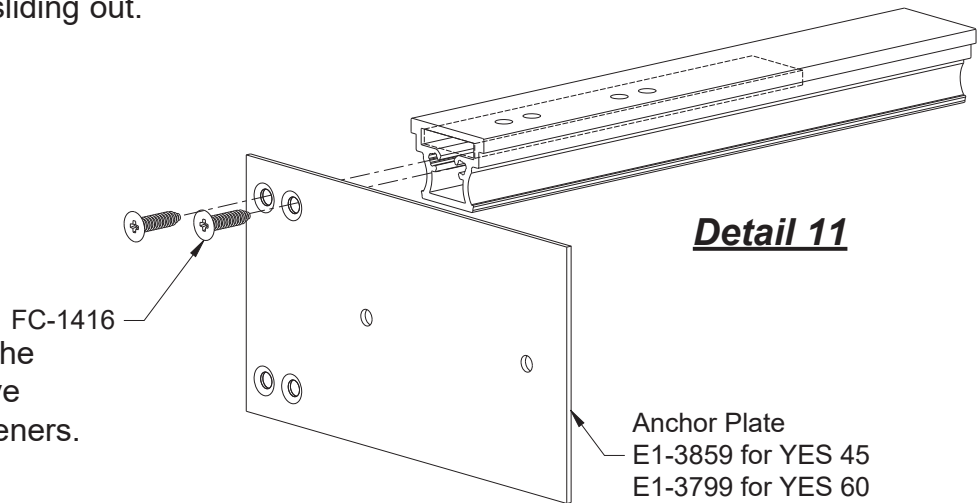
### STEP 5 ANCHOR PLATE ASSEMBLY FOR “TYPE B” CONDITIONS

**Note:**  
For YHS 50 FI/TU & Heavy Duty YES 45/60 applications, skip to **Step 6B on Page 16.**



- Slide the E1-3857 steel bar into the mullion reinforcement.
- Align holes and crimp or punch aluminum to prevent the steel bar from sliding out.

See **Detail 10.**

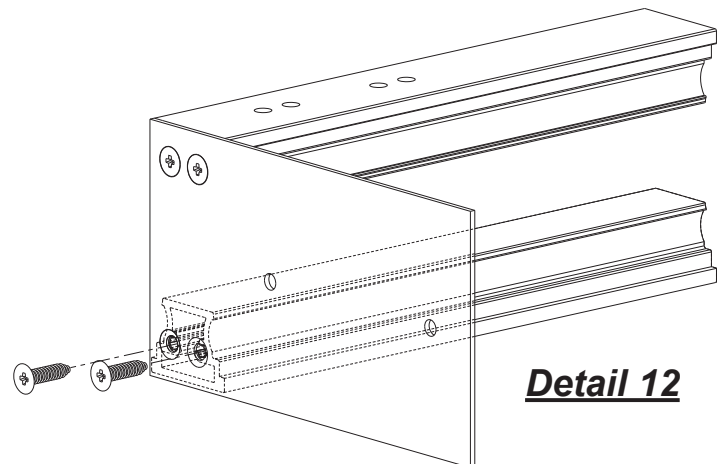


- Attach the anchor plate to the mullion reinforcement sleeve using (2) two FC-1416 fasteners.

See **Detail 11.**

- Attach the second mullion reinforcement sleeve to the E1-3859 anchor plate using (2) two FC-1416 fasteners.

See **Detail 12.**

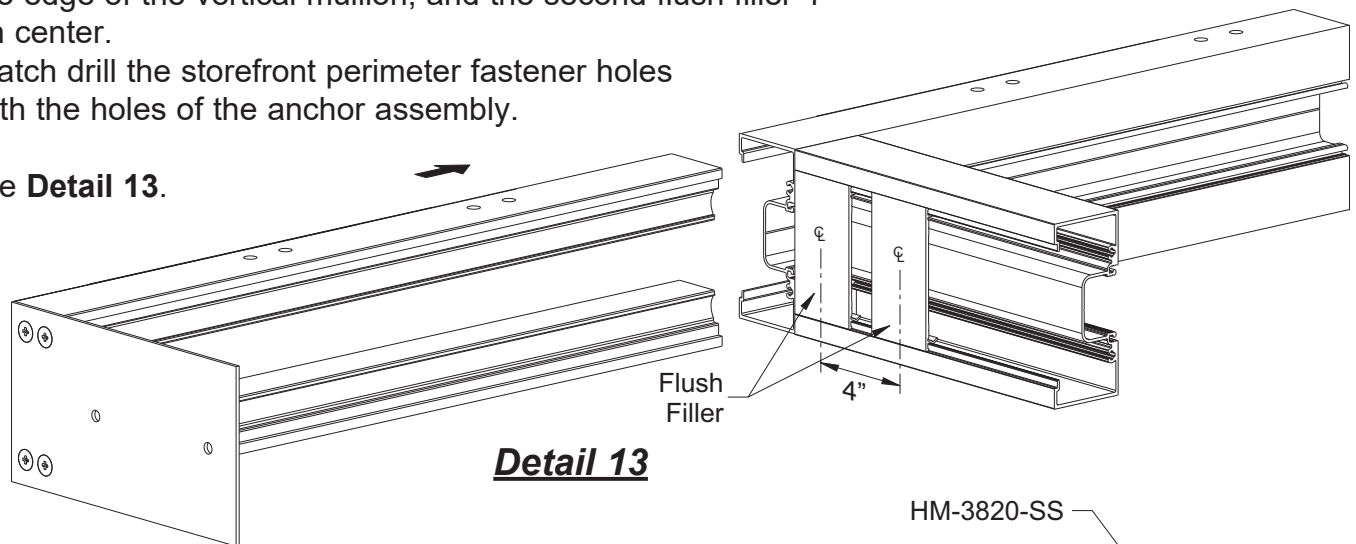


## ANCHOR SYSTEM ATTACHMENT

### STEP 5 (Cont'd) ANCHOR PLATE ASSEMBLY

- Prior to installing the anchor assembly, attach (2) two flush fillers to the head horizontal. Locate the first flush filler against the edge of the vertical mullion, and the second flush filler 4" on center.
- Match drill the storefront perimeter fastener holes with the holes of the anchor assembly.

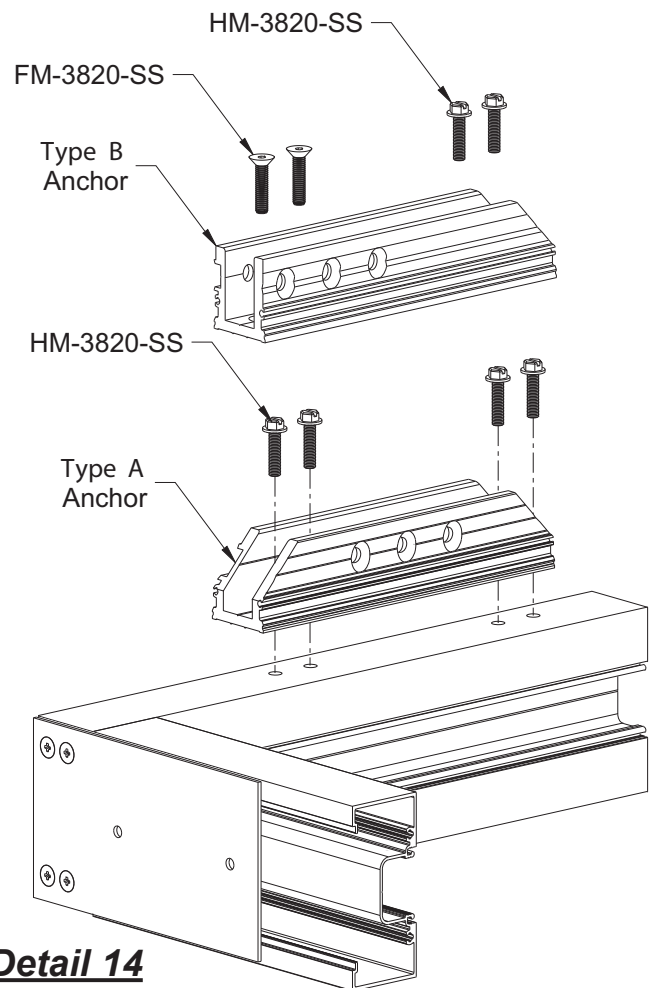
See **Detail 13**.



### STEP 6A ATTACH ANCHOR CLIP TO VERTICAL MULLION (FOR STANDARD DUTY YES 45/60 FI/TU/XT APPLICATIONS)

- Insert the first HM-3820-SS bolt into the slotted hole of the anchor clip.
- Before completely tightening the first bolt, adjust the anchor clip up or down in the slotted hole as needed until the clip is in the exact location required. After thoroughly checking the vertical alignment, snug the bolt until the anchor clip meets the mullion.
- Install the bolts into the remaining hole locations, beginning with the top bolt and working down. Tighten the bolts until the bolt head and the extrusion fit together tightly. DO NOT over-tighten.

See **Detail 14**.



## ANCHOR SYSTEM ATTACHMENT

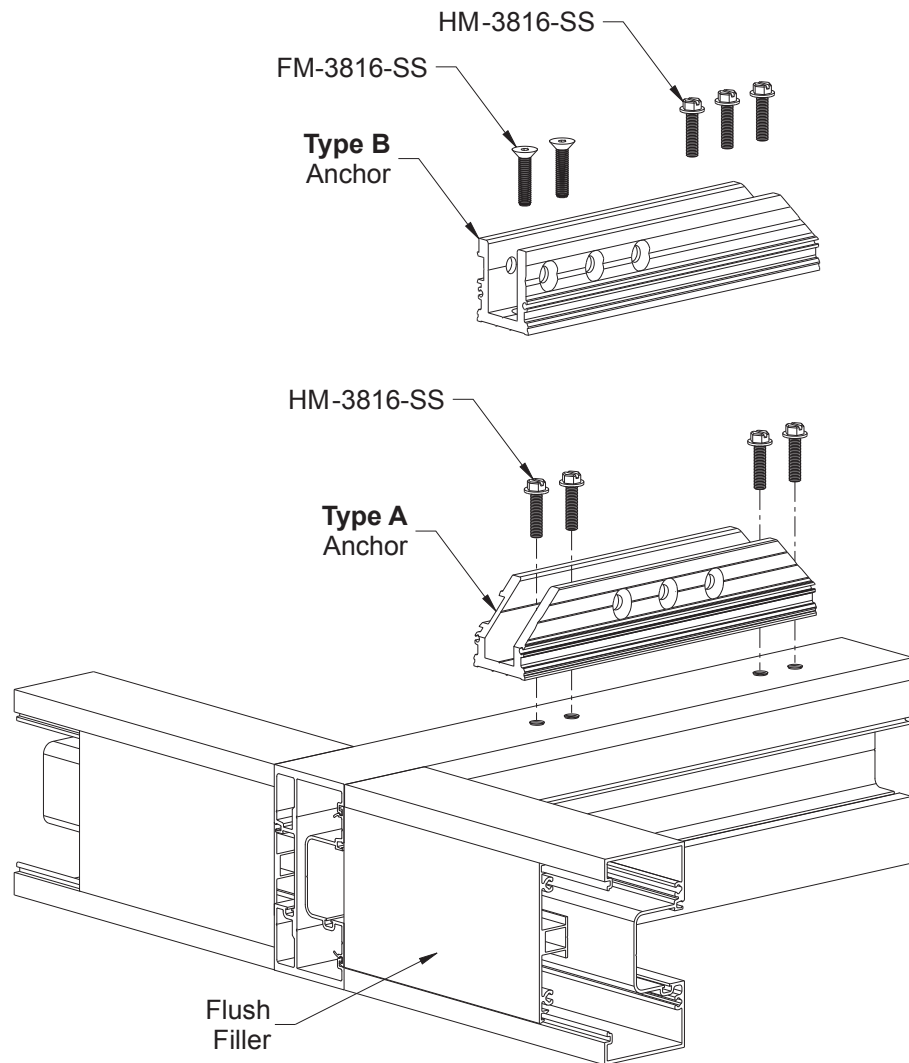
### STEP 6B

#### ATTACH ANCHOR CLIP TO VERTICAL MULLION

(FOR YHS 50 FI/TU & HEAVY DUTY YES 45/60 APPLICATIONS)

- Insert the first HM-3816-SS bolt into the slotted hole of the anchor clip.
- Before completely tightening the first lag bolt, adjust the anchor clip up or down in the slotted hole as needed until the clip is in the exact location required. After thoroughly checking the vertical alignment, bolt until the anchor clip meets the mullion.
- Install the bolts into the remaining hole locations, beginning with the top bolt and working down. Tighten the lag bolts until the lag screw head and the extrusion fit together tightly. DO NOT over-tighten.

See **Detail 15**.



**Detail 15**

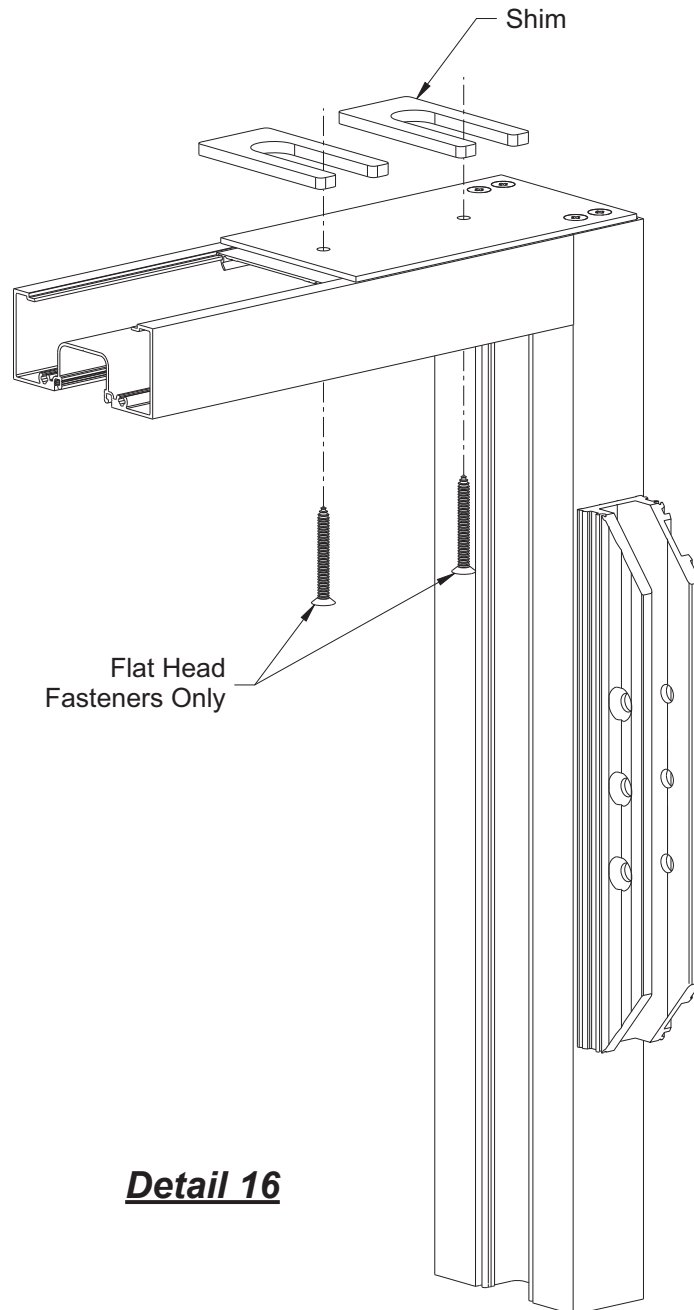
## ANCHOR SYSTEM ATTACHMENT

### STEP 7A STOREFRONT INSTALLATION (TYPICAL)

-Anchor storefront as shown in the storefront installation instructions and according to approved shop drawings and P.E. calculations.

For the 3/8" caulk joint at the head, be sure to include a 1/4" hard shim at each anchor plate fastener.

See **Detail 16**.



**Detail 16**

**OUTRIGGER PREPARATION**

**STEP 8  
PREPARE ANCHOR CLIPS**

- Apply a Loctite thread locking compound to the FM-3828-SS 3/8" x 1-3/4" through bolt.
- Align JM-3800-SS nut in the groove over the center hole, then insert the middle through bolt and tighten until the threads of the bolt are flush with the outside edge of the nut. This center bolt will be used to temporarily hang the ThermaShade assemblies during the installation process.

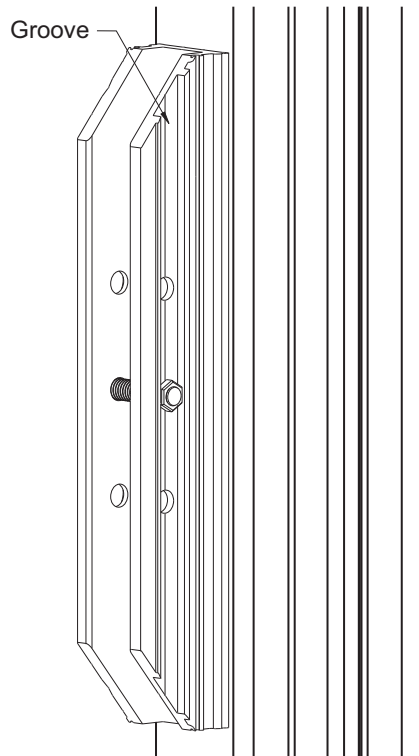
See **Details 17** and **18**.

**Glazing should be done prior to hanging ThermaShade assemblies.**

Insert Center 3/8" X 1-3/4"  
Hex Head Thru Bolt  
FM-3828-SS

JM-3800-SS

**Detail 17**



**Detail 18**

## OUTRIGGER PREPARATION

### STEP 9 INSTALLING OUTRIGGERS UNITS

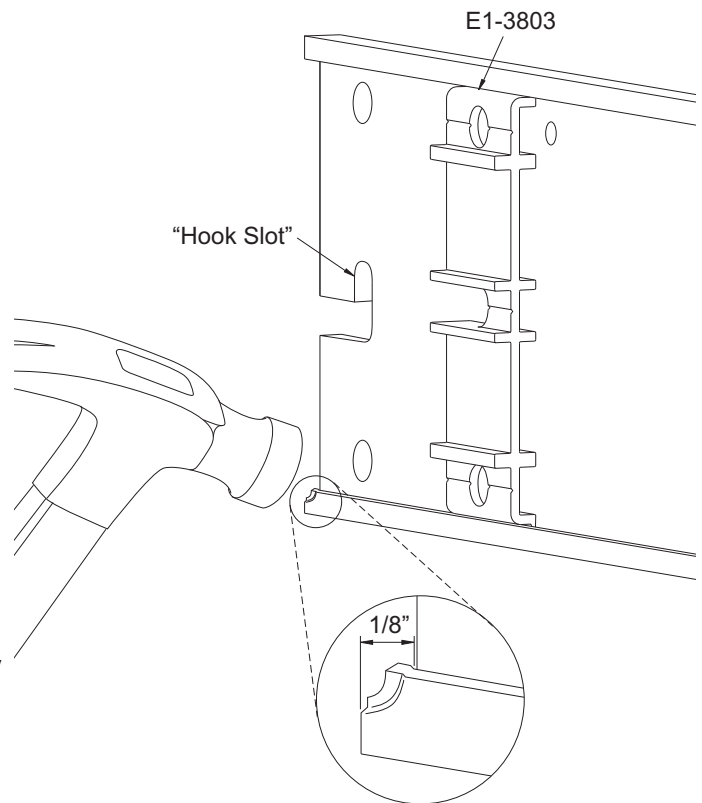
-Stack or lay outrigger assemblies as they will be installed. Spacers (E1-3803) can be pre-attached to ONE\* side of the outrigger assembly by sliding the spacer into the outrigger's track a few inches beyond the thru bolt holes in the outrigger. The spacer can then be kept from falling out by compressing the end of the outrigger slightly with vise grips or a hammer.

**\*Note:** The first assembly in the array requires installation of the E1-3803 spacer on both outriggers.

See **Detail 19**.

If the spacers are not installed prior to installing the ThermaShade assemblies, the spacers may be installed as the units go up. The following procedure will assume they are pre-attached.

**\*Note:** Each anchor clip requires 1 spacer to ensure proper spacing between outriggers.



**Detail 19**

## INSTALL THERMASHADE ASSEMBLIES

### STEP 9 (Cont'd)

#### INSTALLING OUTRIGGERS UNITS

- Position the assembly to align the outrigger hook slots with the middle through bolts. Slide the assembly over the through bolts until the hooks engage and the assembly hangs from the through bolts. See **Detail 20 A**.
- After the outrigger assemblies have been placed in this position, slide the spacer back over the bolt. See **Detail 20 B**.
- Continue to hang remaining ThermaShade assemblies onto the anchor clips in the same manner, making sure to slide the spacers into position for each unit.
- The remaining two anchor clip bolts can be inserted at any time during the installation sequence after two adjacent assemblies have been hung and aligned.

**Note:** For curved (plate type) outrigger, the E1-3803 spacer must be placed into position before the adjacent ThermaShade assembly is hung in place. Then insert two (2) 3/8" x 1-3/4" FM-3828-SS bolts.

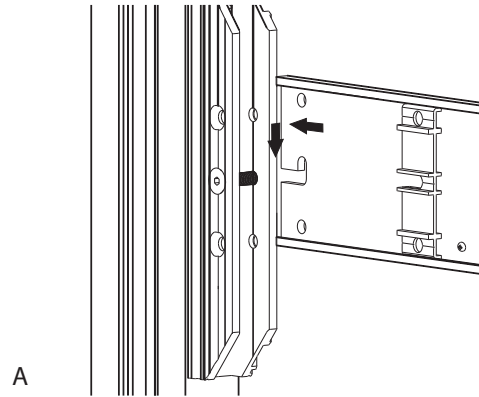
See **Detail 20**.

#### OUTRIGGER ALIGNMENT

- At the front of the adjacent outriggers, apply silicone sealant into bottom of outrigger tracks and slide the outrigger connector E1-3804 down the outrigger tracks approximately three to four inches. Check assemblies for level and tighten the three anchor bolts.

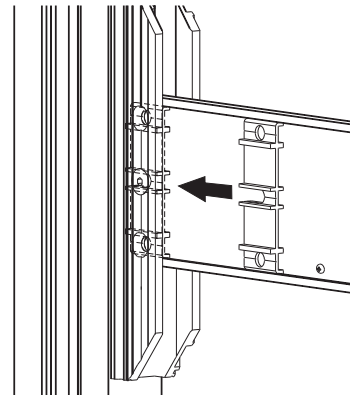
**Installation Tip:** Use a clamp to bring together two outriggers that may have become misaligned which would prevent the insertion of the outrigger connector.

See **Detail 21**.

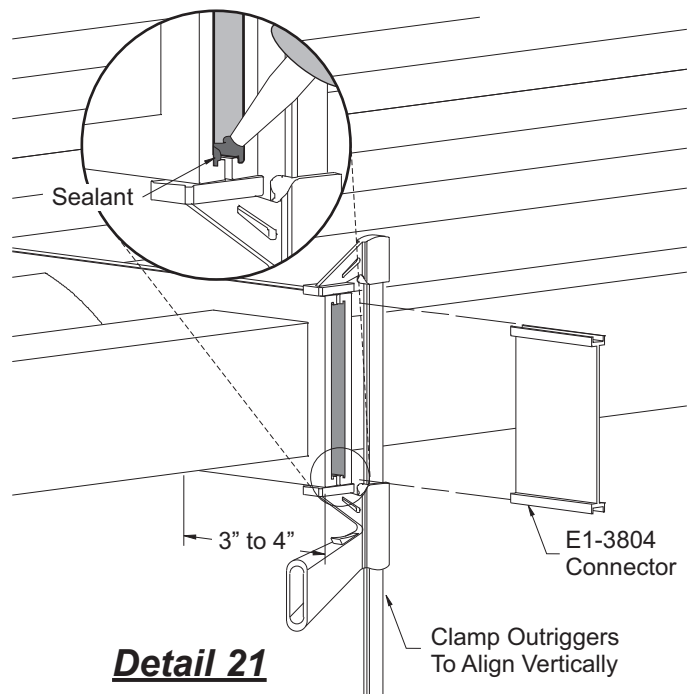


A

***Detail 20***



B



***Detail 21***



## INSTALL THERMASHADE ASSEMBLIES

### STEP 9 (Cont'd) INSTALLING OUTRIGGERS UNITS

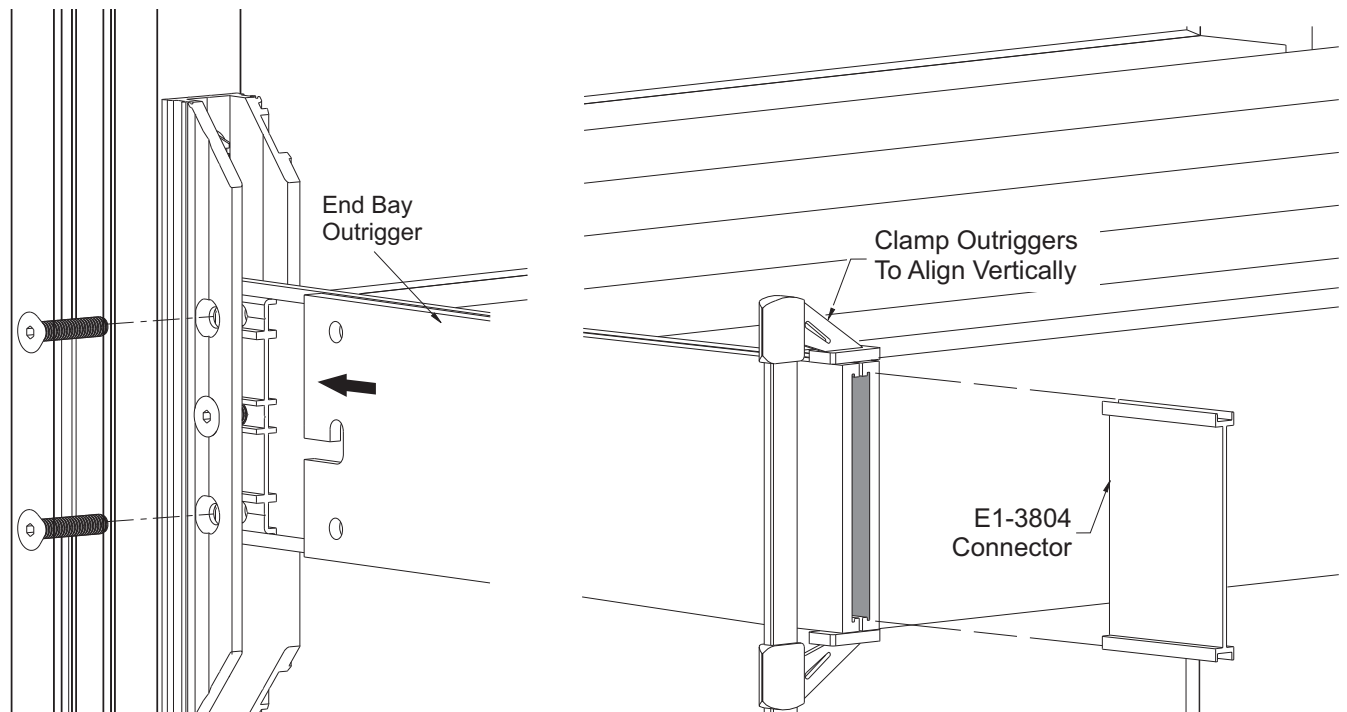
- Repeat above instructions for the remaining ThermaShade assemblies.
- After the assemblies are aligned, tighten all anchor clip thru-bolts.

### INSTALLATION OF END BAY OUTRIGGERS

End bay outriggers have three attachment holes to align with the anchor clip. End bay outriggers are used to “cap off” the end bay assembly.

- To complete the end bay assemblies, hang the end bay outrigger onto the outermost anchor clip.
- Insert the remaining two thru-bolts.
- Insert E1-3804 connector (see below).

See **Detail 22**.



**Detail 22**

- If optional medallions are used, see **Details 22 and 24** on **Page 21** for proper installation.

## INSTALL THERMASHADE ASSEMBLIES

### STEP 9 (Cont'd) INSTALL MEDALLIONS

**Note:**

Medallion E1-3809 and Medallion Spacer E1-3810 are required when using the wedge outrigger. Medallion E1-3807 and Medallion Spacer E1-3808 are optional for all other outriggers.

If medallions are to be used, the final intermediate and bay end outriggers must be fabricated to accept the medallion and spacer.

- Locate and drill a 0.281" diameter clear hole in the end bay outrigger.
- Locate, drill and tap a 0.213" diameter hole for a 1/4"-#20 thread at the same location in the adjoining intermediate outrigger.

**Note:** Mark each ThermaShade assembly by referencing the units to the shop drawings.

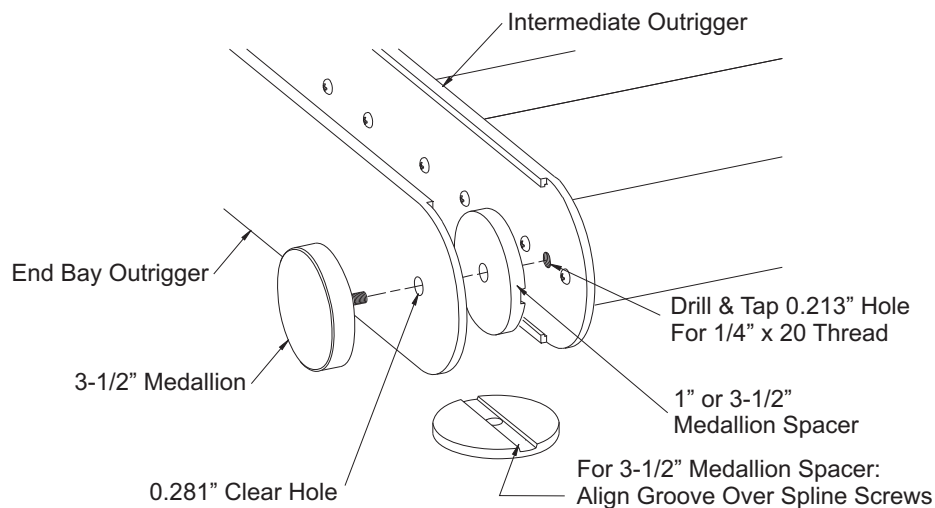
This will simplify installation and assure that the end bay assemblies will not be used in intermediate positions within the array.

- To install the medallion, insert the spacer between the outriggers and then insert the threaded post of the medallion through the clear holes in the end bay outrigger and the spacer. Rotate medallion counter clockwise until threads engage. Then rotate clockwise until snug.

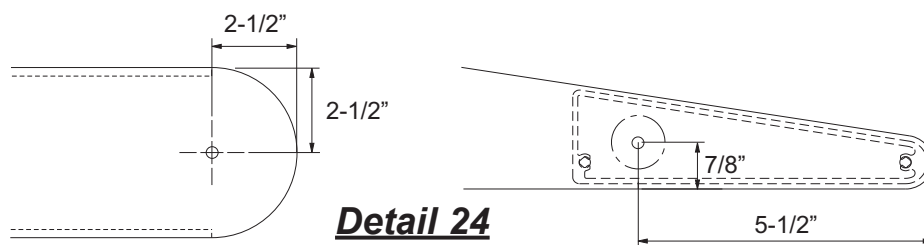
See **Detail 23**.

Locate medallions E1-3807 and E1-3809 as shown below.

See **Detail 24**.



**Detail 23**



**Detail 24**

## INSTALL FACE COVERS

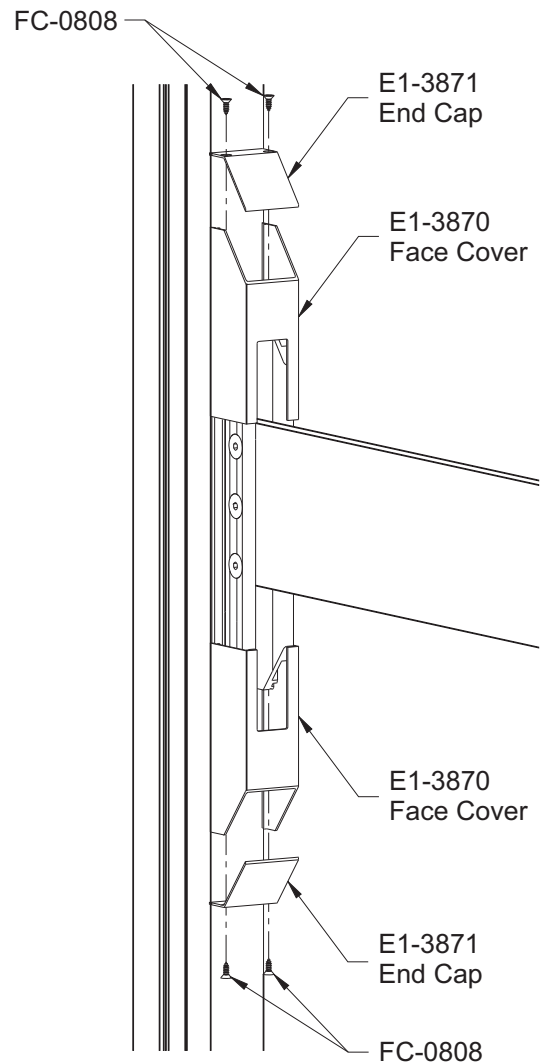
### STEP 10

#### INSTALL FACE COVERS AT TYPE A LOCATIONS

(Louvers and Fascia Removed for Viewing Purposes)

- Snap the bottom half of the E1-3870 face cover onto the anchor clip below the outrigger and slide the face cover up so the bottom of the face cover sits flush with the bottom of the anchor clip.
- Attach end cap E1-3871 to the bottom of the face cover using (2) two FC-0808-SS screws. The screws must be fastened to the screw splines of the anchor clip.
- Snap the top face cover onto the anchor clip above the outrigger and slide the face cover down so the top of the face cover sits flush with the top of the anchor clip.
- Attach end cap E1-3871 to the bottom of the face cover using (2) two FC-0808-SS screws. The screws must be fastened to the screw splines of the anchor clip.

See **Detail 25**.

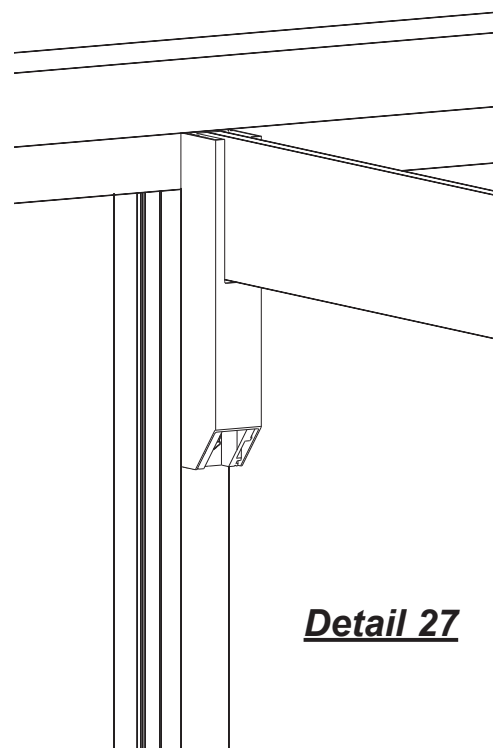
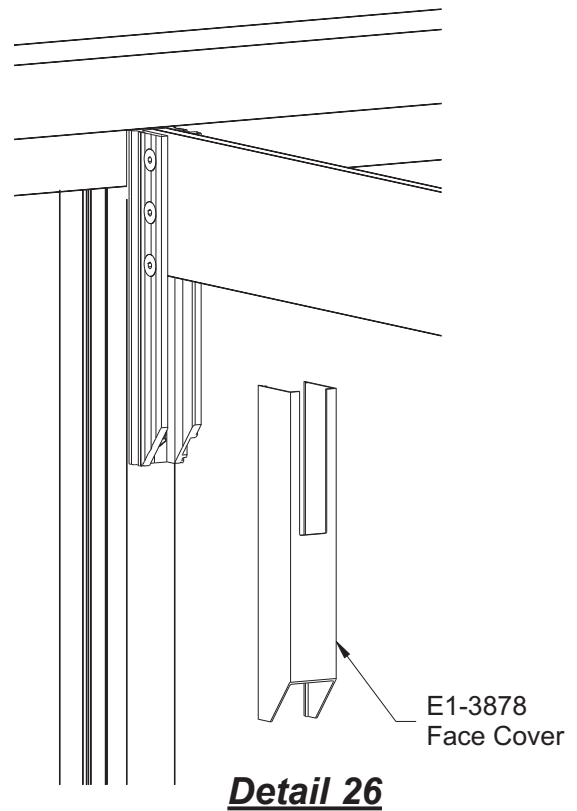


**Detail 25**

**INSTALL FACE COVERS****STEP 10 (Cont'd)****INSTALL FACE COVERS AT TYPE B LOCATIONS****(Louvers and Fascia Removed for Viewing Purposes)**

-Snap the face cover onto the anchor clip below the outrigger and slide the face cover up so the top of the face cover sits flush with the top of the anchor clip.

See **Details 26 and 27.**



## INSTALL FACE COVERS

### STEP 10 (Cont'd) INSTALL FACE COVERS AT TYPE B LOCATIONS (Louvers and Fascia Removed for Viewing Purposes)

-Attach end cap E1-3851 to the top and end cap E1-3871 to the bottom of the face cover using (2) two FC-0808-SS screws. The screws must be fastened to the screw splines of the anchor clip.

See **Detail 28**.

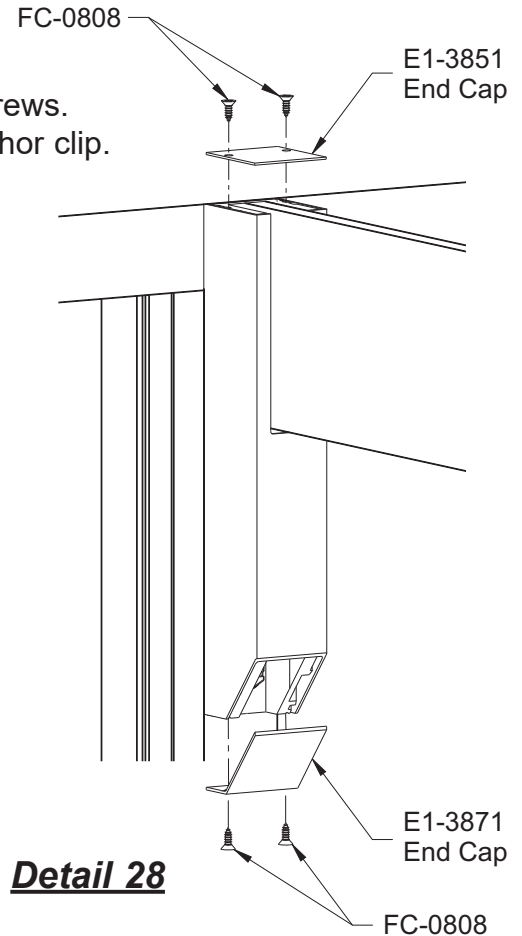
Note:

-If frame is set back into the building and the cap cannot be fastened into place, set the cap into place, applying silicone sealant under the cap. Center the cap and remove excess sealant.

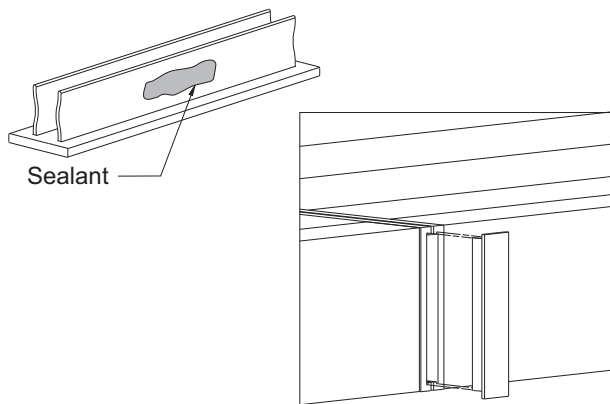
### Optional End Caps for Use With Square Outriggers Only:

-Apply a dab of sealant on the sides of the optional E1-3805 end cap and tap into place. E1-3804 outrigger connectors must be used when end caps are specified.

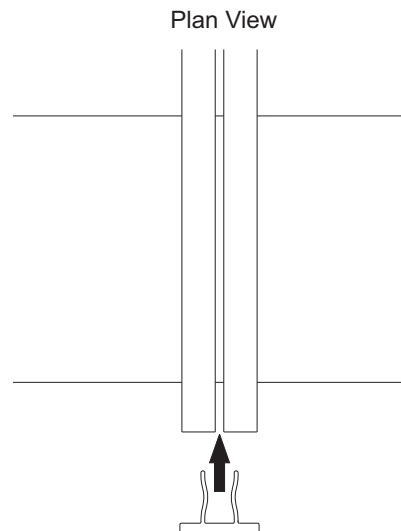
See **Detail 29**.



**Detail 28**



**Detail 29**



**REGLAZING INSTRUCTIONS****REGLAZING STOREFRONT WHERE APPLICABLE**

ThermaShade assemblies must be removed to allow access to glass for reglazing.

The adjacent assemblies must also be removed on both sides of the replaced glass to allow for setting. For example, three ThermaShade assemblies must be removed for one piece of glass, four removed for two, etc.

- If the E1-3805 optional end caps were used, pry them off of the front of the assemblies.
- If the E1-3804 outrigger connectors were used, slide them out the front of the outriggers.
- Carefully remove the snap on face covers above the outriggers on both sides of the broken glass area to expose the three through bolts.
- Loosen and remove the top and bottom bolts. Loosen the center bolt until finger-tight.
- At this point the outrigger can be lifted 3/8" and pulled away from the glass.

**Note:** After the glass has been replaced, follow the standard installation instructions for replacing the ThermaShade assemblies that had to be removed.





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