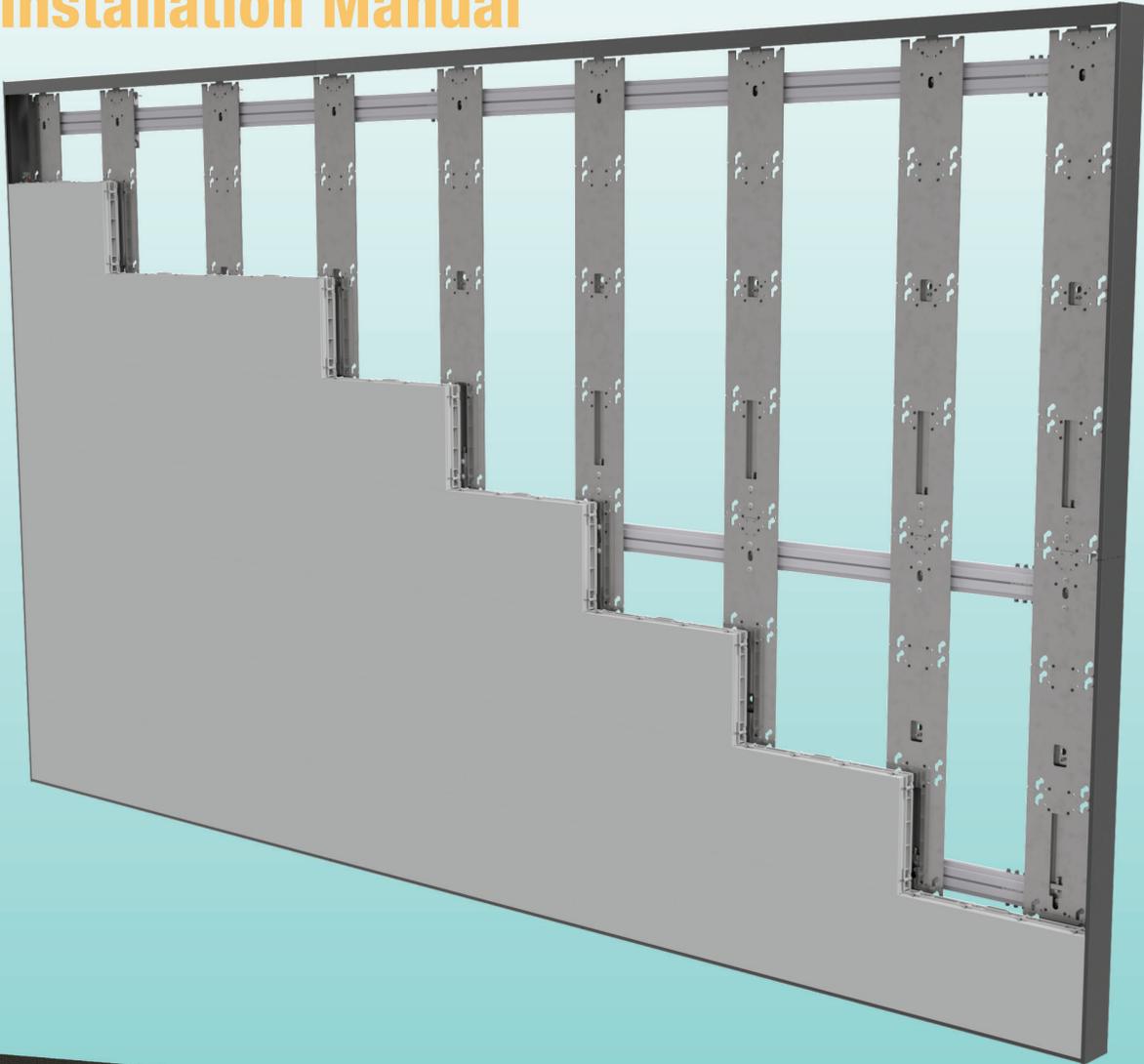


 DRAPER®

FOUNDATION™

Installation Manual



for



LSCB Series

FORM: FDN_LGLSCB_Inst23

Important Safety Information

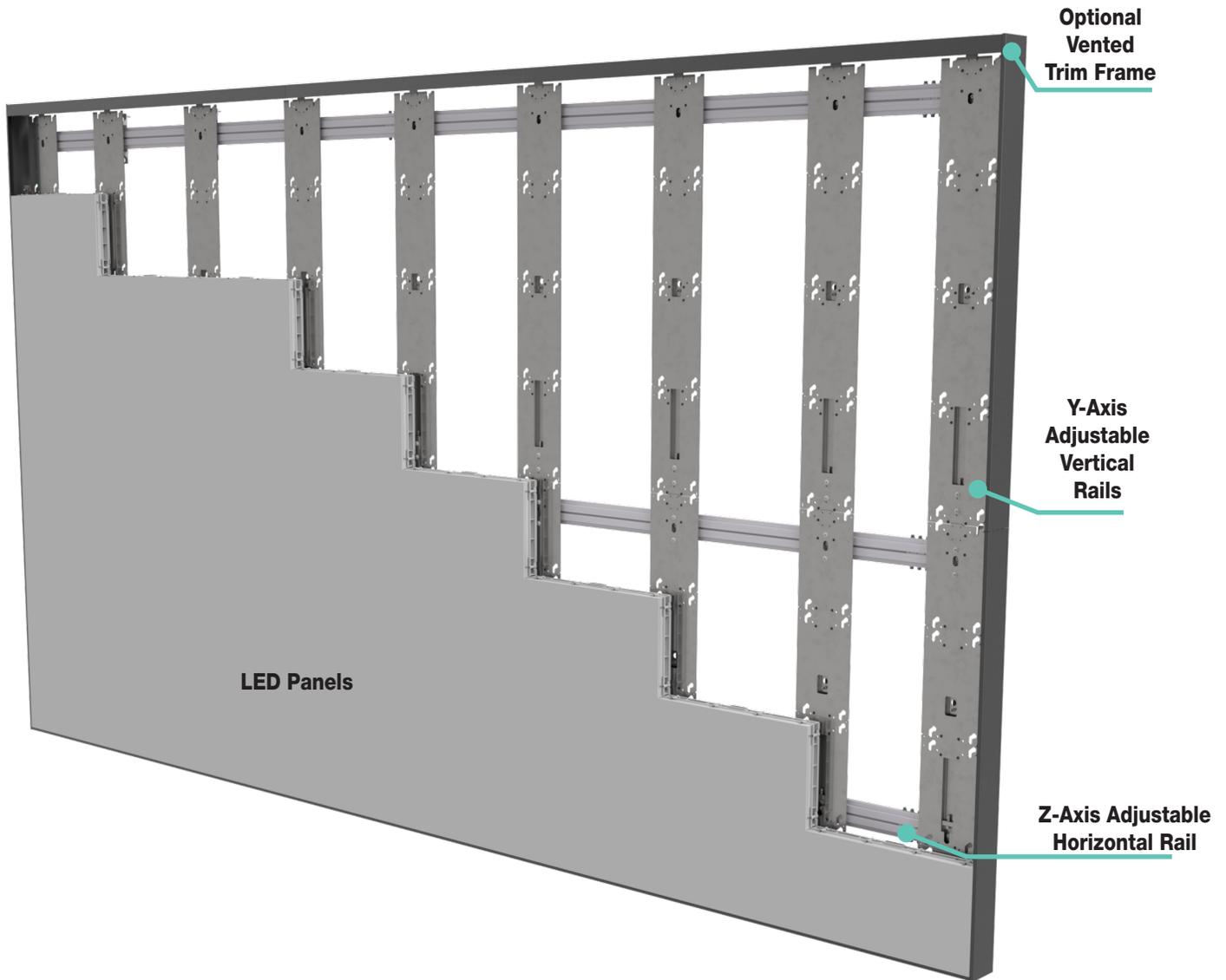


Improper installation and use of Foundation for LED Panels can result in serious injury or death. Primarily, injuries can occur when the Foundation for LED Panels falls due to imprecise installation, mishandling of the Foundation for LED Panels during installation or installation on an insufficient wall or ceiling structure. Please use extreme care.

1. Please read the following installation guidelines thoroughly and follow them carefully. Failure to do so may cause product to fall or otherwise fail, and could result in serious injury.
2. Installation and use of any video wall display should be conducted with approved clearances for operating and servicing the display along with adequate ventilation for cooling. Consult your display manufacturer for operation, ventilation, and servicing conditions and requirements. Draper does not make recommendations related to proper operation of any display nor will Draper accept liability for a display which fails due to improper installation, use, or ventilation.
3. Installation and calibration of the Foundation for LED Panels should only be performed by an authorized, qualified, and experienced professional. In particular, electrical work and wiring [indicated in diagram by dashed lines] must be completed only by a qualified professional electrician who has read this manual completely and is familiar with the construction and operation of this equipment and the hazards involved.
4. Turn off power and any nearby equipment or cables carrying electricity before connecting switches, wires, controls, or electrical components.
5. Do not affix the unit to wall or ceilings that have inadequate strength to permanently hold the unit during use. It is the owner's and installer's responsibility to confirm the wall to which the unit attaches is sufficient to permanently hold the weight and stress loads of the unit at all times. Draper, Inc., is not responsible for improper installation, application, testing or workmanship related to the product at place of installation.
6. It is the installer's responsibility to make sure appropriate fasteners are used for mounting.
7. All brackets and other hardware must be installed level. Foundation for LED Panels must be level and square.
8. Never leave the area while operating the Foundation for LED Panels during installation, maintenance, or normal operation, unless it is secure and safe.
9. Before testing or operation, carefully inspect the entire area and areas underneath to be sure no persons or objects are in the area.
10. During testing or operation, carefully watch the surrounding area for any potential safety concerns including nearby persons or objects.
11. After installation, the entire system should be carefully tested to ensure safe and normal operation. Extreme care should be taken during testing to remain clear of moving parts to avoid possible injury.
12. Operation of Foundation for LED Panels should be performed only by authorized and qualified personnel, who have been trained in the safe and effective operation of the Foundation for LED Panels & understand its safety features.
13. The safety features of the Foundation for LED Panels should never be disabled, bypassed or overridden. The system should not be operated until all safety features are properly and completely installed, calibrated and tested.
14. Foundation for LED Panels may need to comply with local, state or district rules and regulations, in particular when installed in schools. All applicable rules and regulations should be reviewed before installation and use.
15. Failure to precisely follow installation guidelines invalidates all warranties.
16. Custom products/installations may not be reflected in this manual. Call Draper, Inc., if you have questions about the installation of custom products or any questions about your installation.

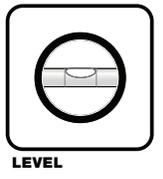
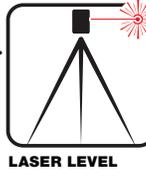
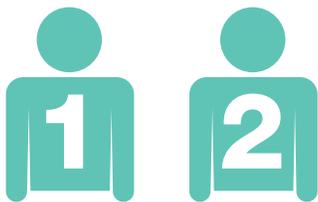
Before Beginning Installation

1. Look for any job site conditions that could interfere with installation or operation of the system.
2. Read carefully and be sure to understand all installation instructions and all related operations manuals. These instructions are intended to be a guide for the installer and owner. They should be followed closely and combined with the expertise of experienced qualified installers. Draper, Inc., is not responsible for improper installation, application, testing or workmanship related to the product at place of installation. Please retain all instructions for future use.
3. Open cartons lengthwise.
4. Locate and lay out all pieces.
5. Inspect all boxes to make sure you have received the proper Foundation for LED Panels and parts.
6. If you have any difficulties with installing, servicing or operating your Foundation for LED Panels, call your dealer or Draper, Inc., 765 987-7999.



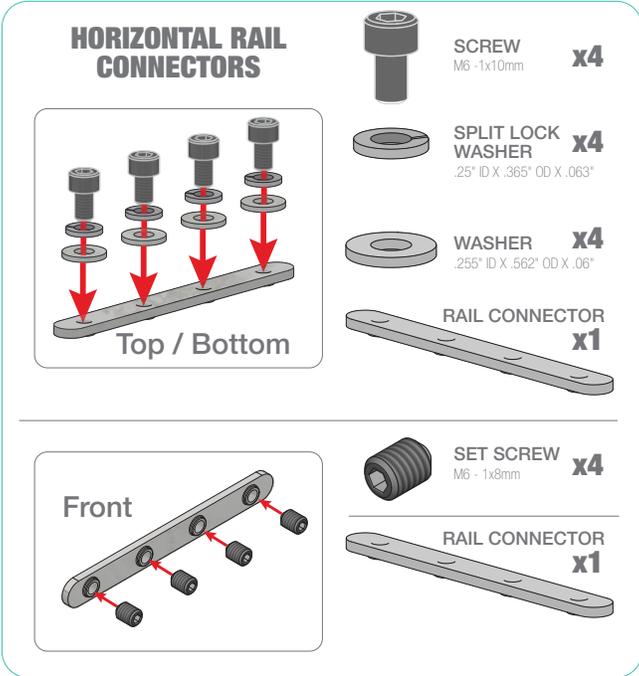
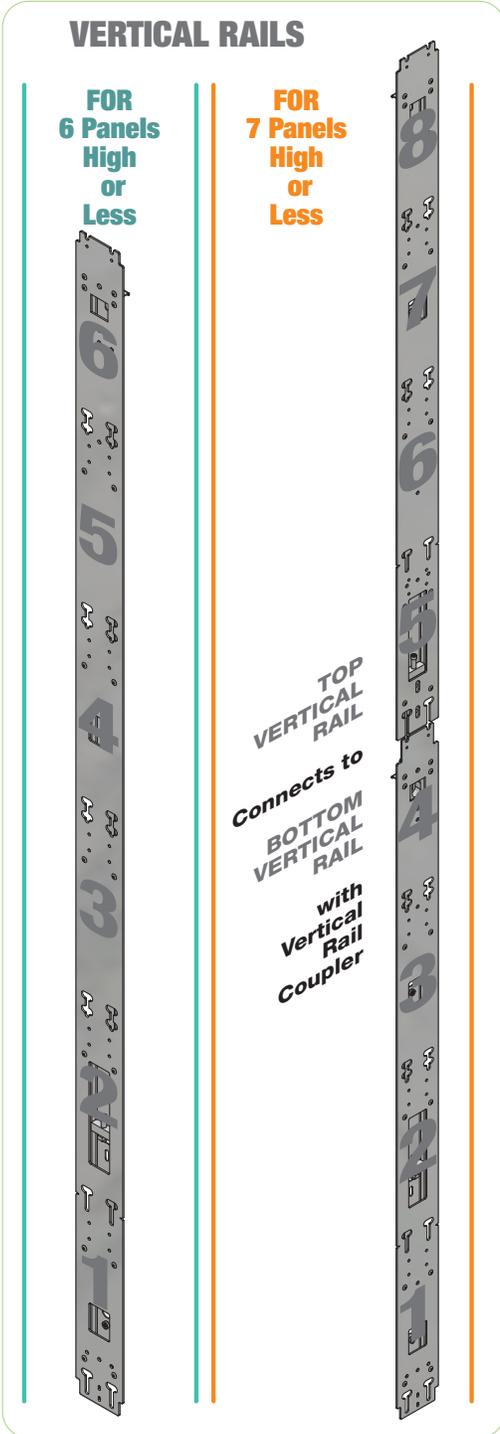
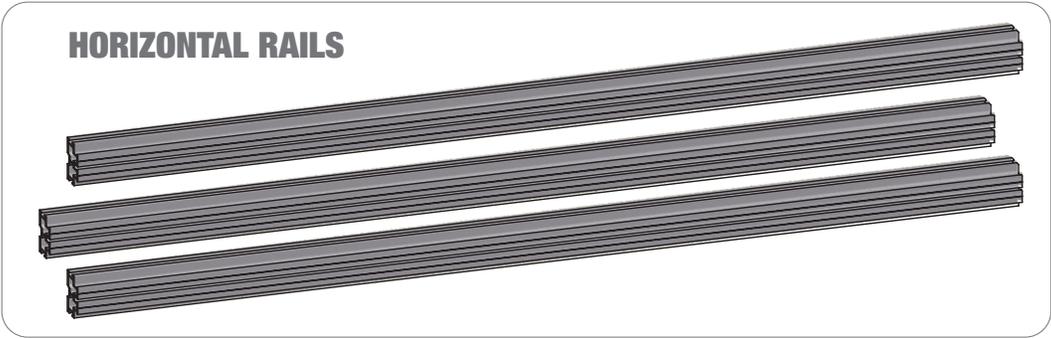
Section 1 - Personnel and Tools Required

PERSONNEL REQUIRED

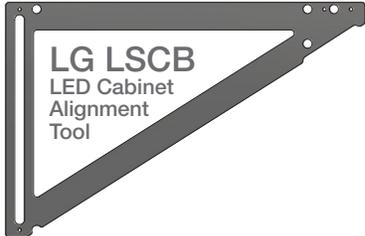


If you have any difficulties installing or servicing your Foundation for LED Panels, call your dealer or Draper, Inc.

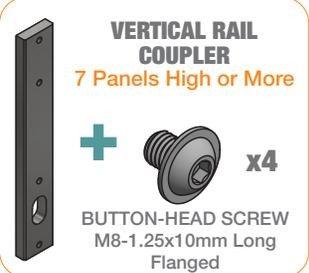
Section 2 - Components



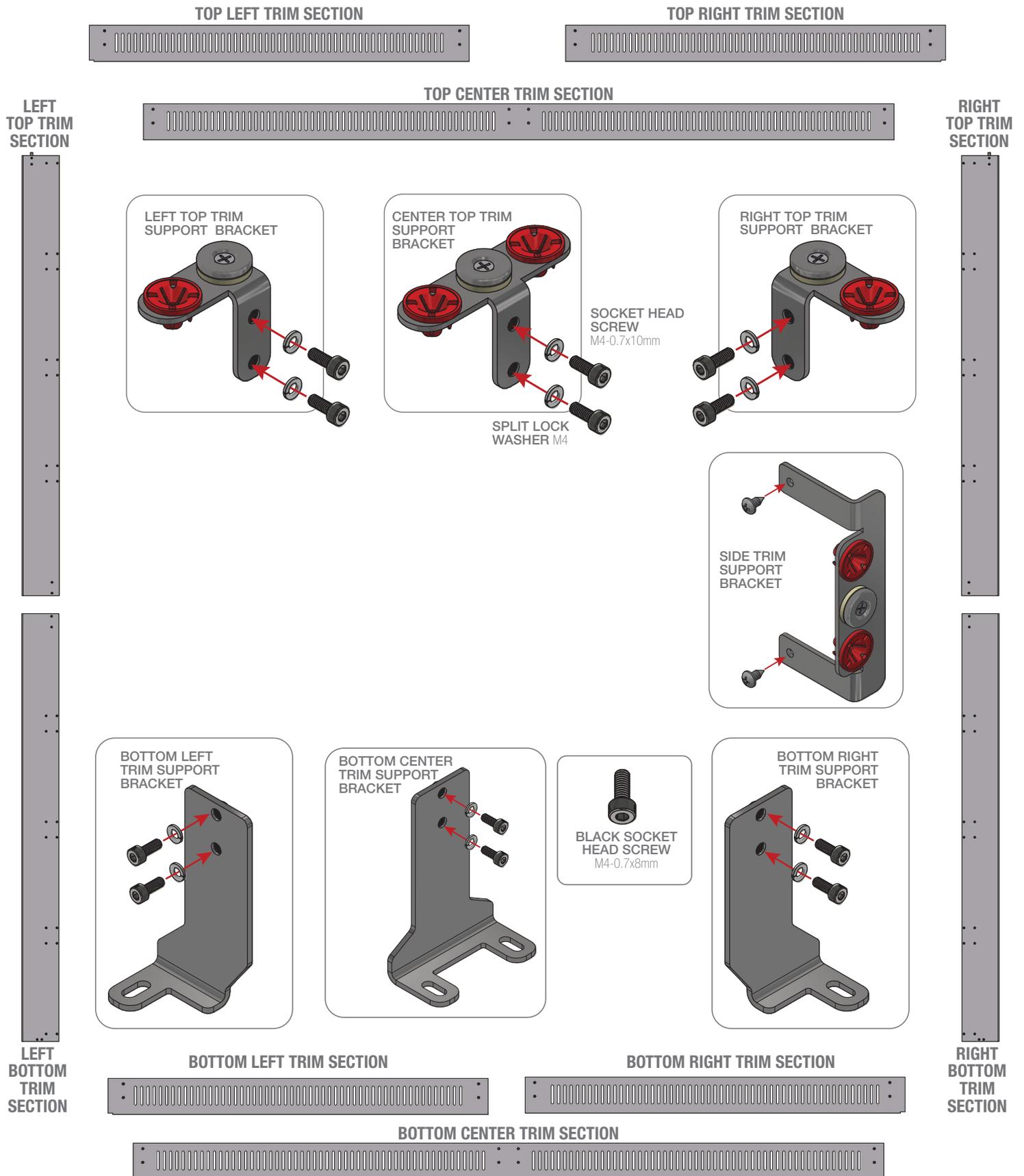
LED MOUNTING & ALIGNMENT



(Not Included)



Section 2 (continued) - Trim Frame Components



Section 3 - **Determining Horizontal Mounting Location**

Section 3.1 - For LED arrays up to 6 panels high - 2 Horizontal Rails

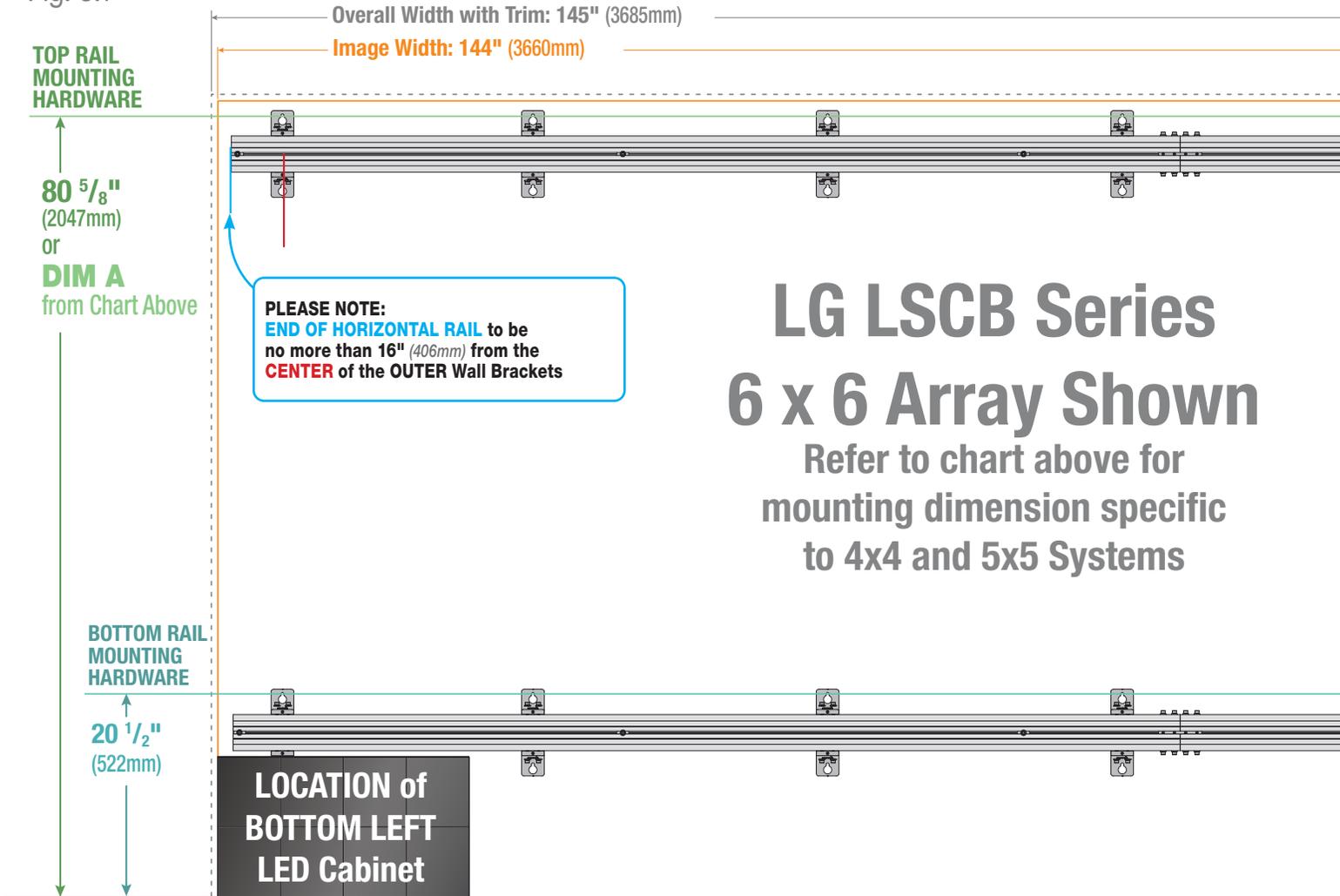
The Foundation Wall Brackets must be securely anchored to the wall. If mounting to drywall/gypsum board wall, all mounting hardware (by others) must be anchored to a vertical stud. If mounting to a brick or block wall, the brackets must be evenly spaced no more than 32" (813mm) apart. In the drawings showing in this manual, the bracket spacing is 24" unless specified otherwise.

The example below is for a 6 x 6 Array. Other standard 2 rail array sizes (4x4 & 5x5) are shown in the table at right.

1. Mark the location of the **Bottom Left Corner** of the **viewing area**.
2. From the mark made in step 1, measure up **19 1/4" (490mm)** and draw a level horizontal line the width of the LED display.
This is the top mounting hole location of the **WALL MOUNTING BRACKET FOR THE BOTTOM HORIZONTAL RAIL** (see Mounting Bracket Detail at right).
3. Use the chart at right to determine the proper value for **Dim A**.
From the mark made in step 1, measure up (*Dimension A from chart at right*) and draw a level horizontal line the width of the LED display.
This is the top mounting hole location of the **WALL MOUNTING BRACKET FOR THE TOP HORIZONTAL RAIL** (see Mounting Bracket Detail at right).

The fully assembled Horizontal Rails (see section 4) will be hung from them in Section 5.

Fig. 3.1



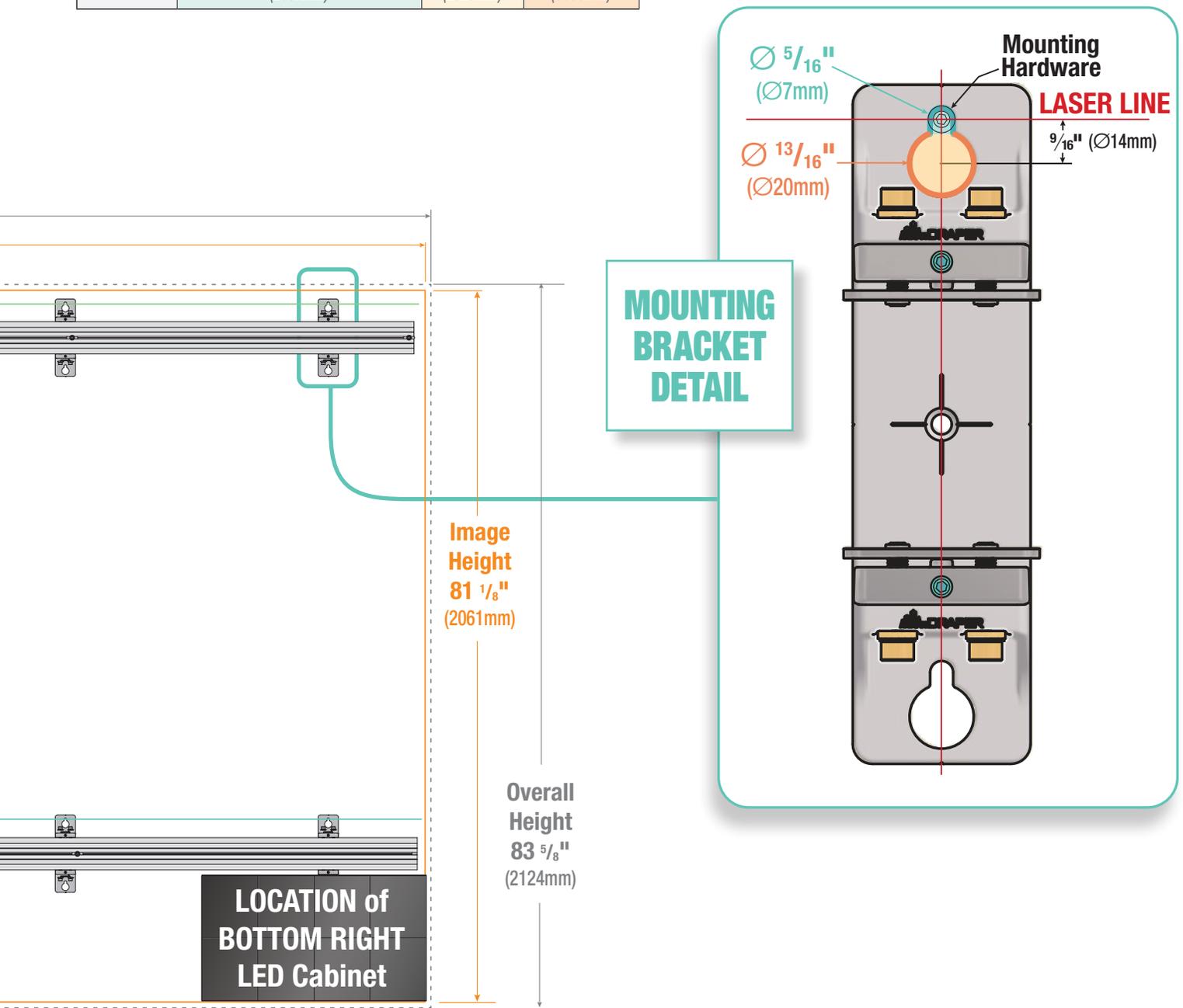
START HERE

- LOCATE BOTTOM LEFT of **Image Area** ———
- or
- LOCATE BOTTOM LEFT of **Trim** - - - - -

NOTE: If installing trim, you must allow 1 5/16" (33mm) of clearance around the

STANDARD ARRAY MOUNTING DIMENSIONS

Array Size	DIM A	FINAL VIEWING AREA	
	Vertical distance from Bottom Left to Top Rail Mounting Hardware	HEIGHT	WIDTH
4x4	52 7/16" (1332mm)	53 5/32" (1350mm)	94 1/2" (2400mm)
5x5	65 23/32" (1670mm)	66 7/16" (1688mm)	118 1/8" (3000mm)
6x6	79 1/32" (2007mm)	79 23/32" (2025mm)	141 23/32" (3600mm)



outside of the image area.

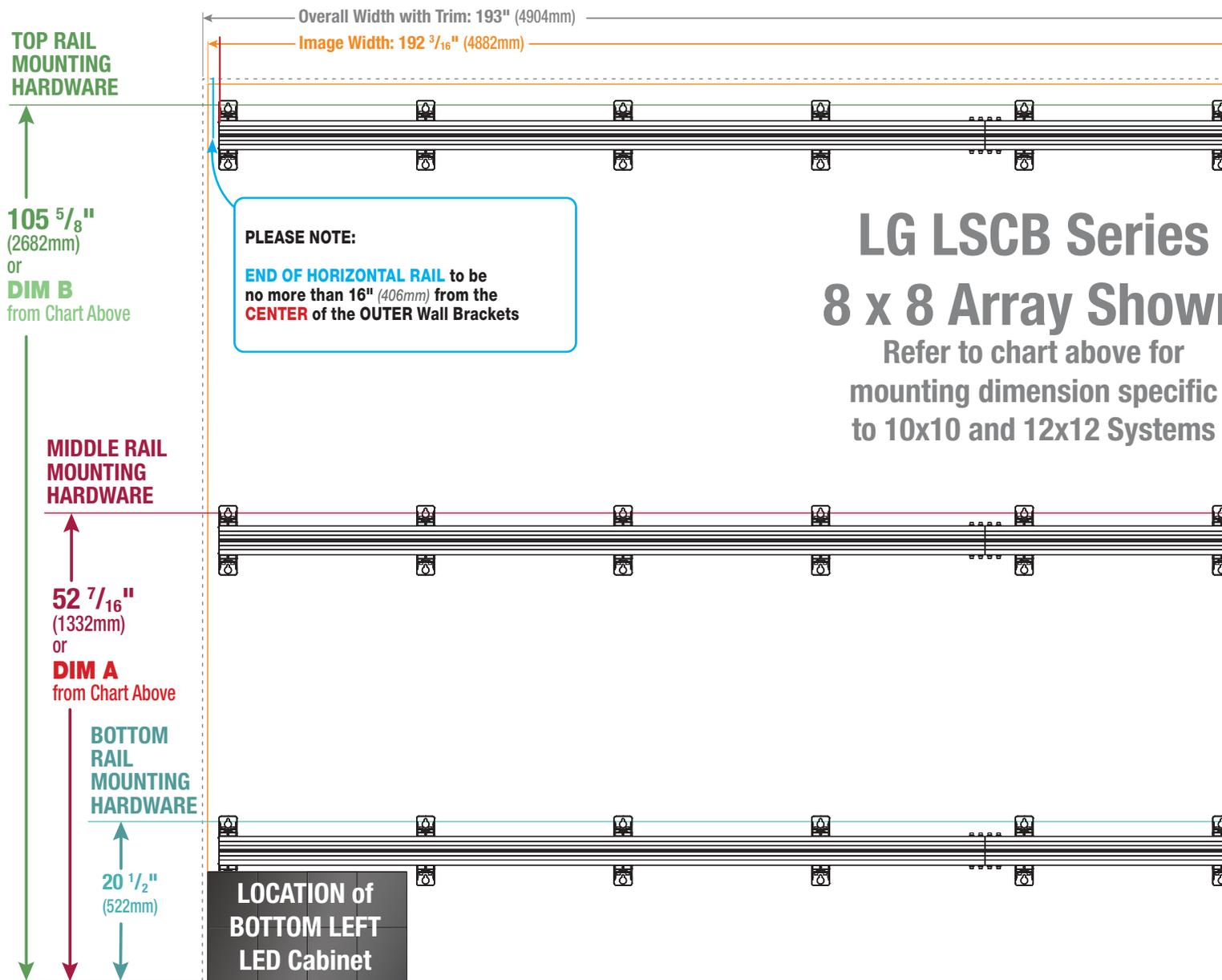
Section 3.2 - For LED arrays 7 panels or higher - 3 Horizontal Rails

The Foundation Wall Brackets must be securely anchored to the wall. If mounting to drywall/gypsum board wall, all mounting hardware (by others) must be anchored to a vertical stud. If mounting to a brick or block wall, the brackets must be evenly spaced no more than 32" (813mm) apart. If installing trim, you must allow 1 5/16" (33mm) of clearance around the outside of the VIEWING AREA.

The example below is for a 8 x 8 Array. Dimensions for other standard 3 rail array sizes (10x10 and 12x12) are shown in the table at right.

1. Mark the location of the **Bottom Left Corner** of the viewing area.
2. From the mark made in step 1, measure up **20 1/2" (522mm)** and draw a level horizontal line the width of the LED display.
This is the top mounting hole location of the **WALL MOUNTING BRACKET FOR THE BOTTOM HORIZONTAL RAIL** (see Mounting Bracket Detail at right).
3. From the mark made in step 1, measure up **52 7/16" (1332mm)** and draw a level horizontal line the width of the LED display.
For 10x10 or 12x12 arrays, use the chart at right to determine the proper value for **Dim A**.
4. From the mark made in step 1, measure up **105 5/8" (2700mm)** and draw a level horizontal line the width of the LED display.
This is the top mounting hole location of the **WALL MOUNTING BRACKET FOR THE TOP HORIZONTAL RAIL** (see Mounting Bracket Detail at right).
For 10x10 or 12x12 arrays, use the chart at right to determine the proper value for **Dim B**.

The fully assembled Horizontal Rails (see section 4) will be hung from them in Section 5.



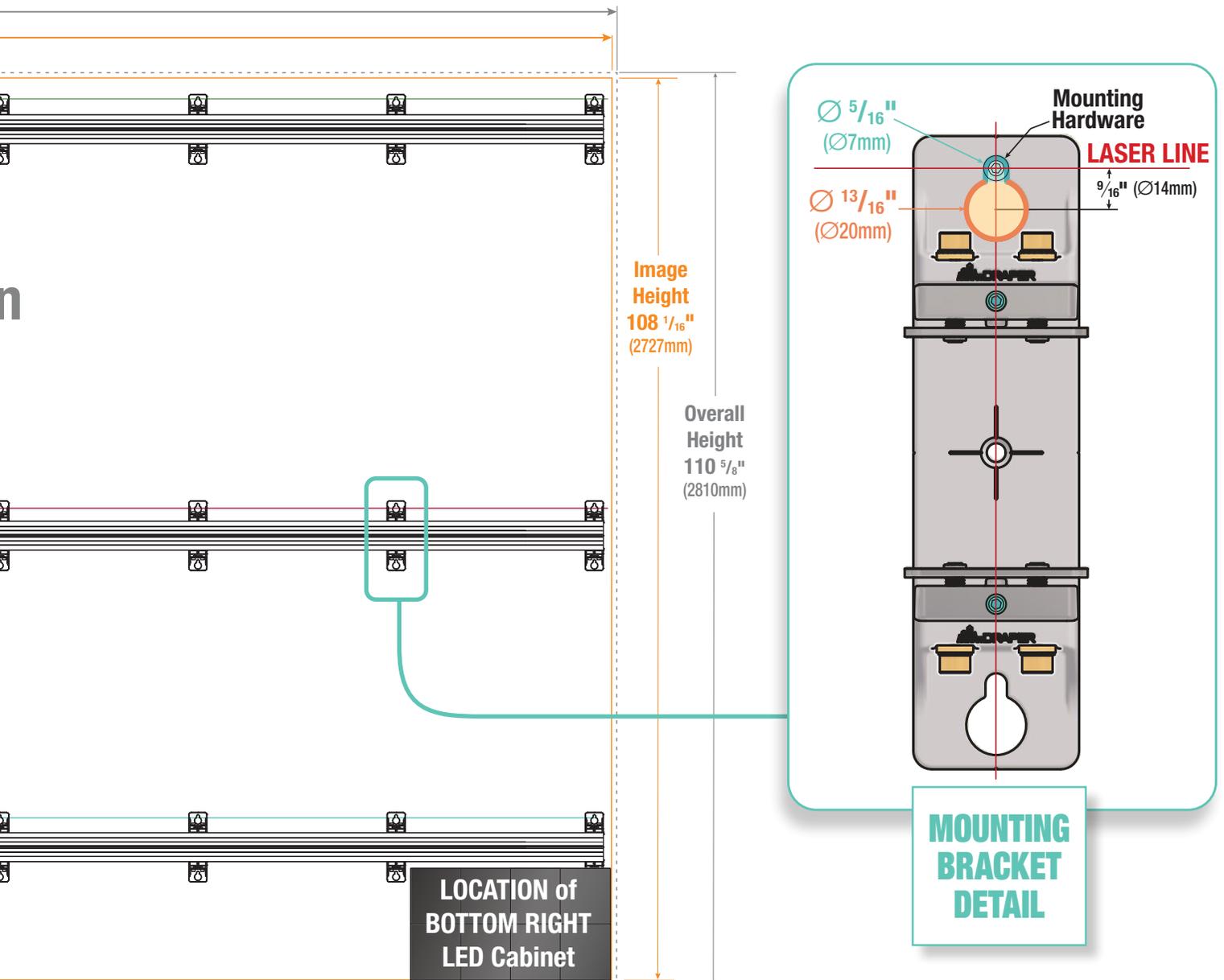
LG LSCB Series
8 x 8 Array Show
 Refer to chart above for mounting dimension specific to 10x10 and 12x12 Systems

START HERE
 LOCATE BOTTOM LEFT of Image Area ———
 or
 LOCATE BOTTOM LEFT of Trim - - - - -

NOTE: If installing trim, you must allow 1 5/16" (33mm) of clearance around the

STANDARD ARRAY MOUNTING DIMENSIONS

Array Size	DIM A	DIM B	FINAL VIEWING AREA	
	Vertical distance from Bottom Left of Array to Middle Rail Mounting Hardware	Vertical distance from Bottom Left of Array to Top Rail Mounting Hardware	HEIGHT	WIDTH
8x8	52 ⁷ / ₁₆ " (1332mm)	106 ⁵ / ₁₆ " (2700mm)	108 ¹ / ₁₆ " (2747mm)	189" (4800mm)
10x10	65 ²³ / ₃₂ " (1670mm)	132 ⁷ / ₈ " (3375mm)	135 ¹ / ₈ " (3433mm)	236 ¹ / ₄ " (6000mm)
12x12	79 ¹ / ₃₂ " (2007mm)	159 ⁷ / ₁₆ " (4050mm)	162 ¹ / ₈ " (4119mm)	283 ¹ / ₂ " (7200mm)



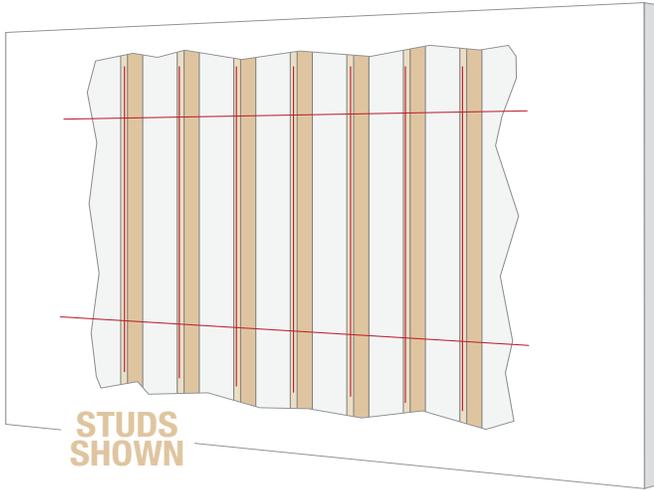
ound the outside of the image area.

Section 3.2 - Marking Vertical Mounting locations

Section 3.2.1 - WOOD/METAL STUD INSTALLATION

1. Locate the wall studs and mark their location at the intersection of the lines drawn in Section 3.1.

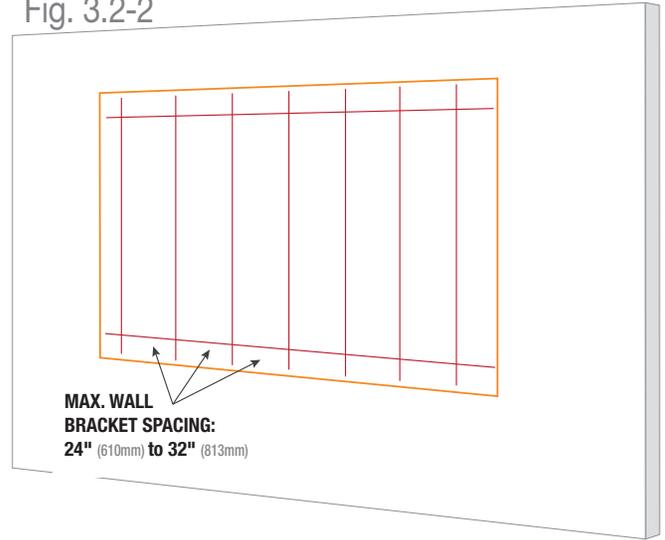
Fig. 3.2-1



Section 3.2.2 - CONCRETE, BLOCK OR BRICK INSTALLATION

1. Draw vertical lines spaced 24" (609mm) to 32" (813mm) apart.

Fig. 3.2-2

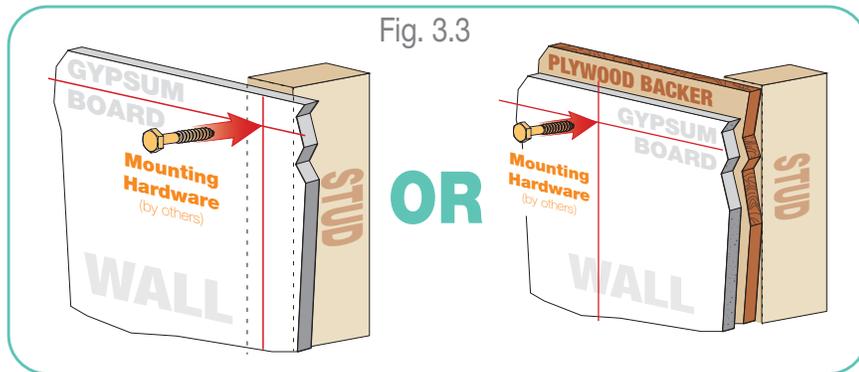


Section 3.3 - Attaching Mounting Hardware (by Others) to Wall

1. Loosely attach the wall mounting hardware (provided by others) to the wall at the outer four corners of the grid created in Sections 3.1 & Section 3.2. Ensure the head of the hardware is at least 1/2" (12mm) off the surface of the wall.

The assembled Horizontal Rails will be hung from these in SECTION 5 - Hanging Horizontal Rails.

Fig. 3.3

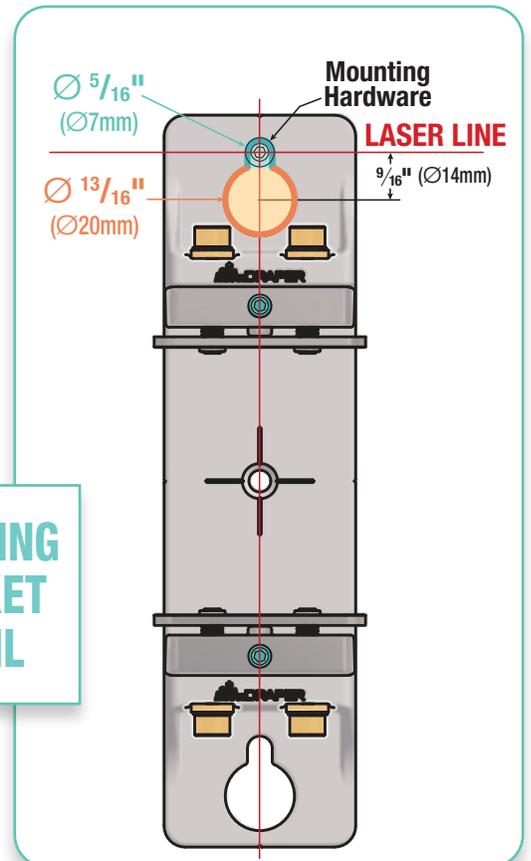


**MOUNTING LAG SCREW
BY OTHERS MIN: .25" x 1.75" L**

Must attach to studs or 1/2" Plywood Backer



Please Note: It is the responsibility of the installer to select mounting hardware appropriate for the mounting surface

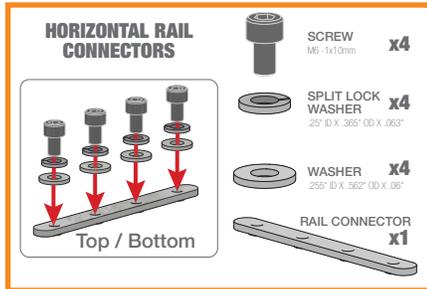


Section 4 - Assembling Horizontal Rails

The horizontal rails must be assembled prior to being secured to the wall.

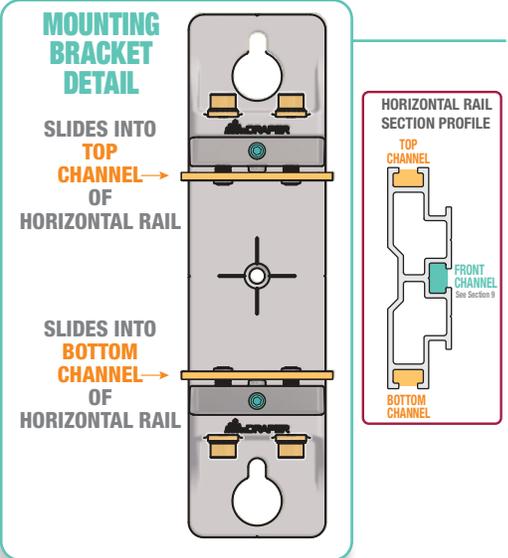
A complete Horizontal Rail consists of Wall Mounting Brackets engaged in both TOP and BOTTOM Channels of extruded rail sections (see MOUNTING BRACKET DETAIL at right).

Horizontal rail sections are extended in length using 3 Horizontal Rail Connectors per splice.



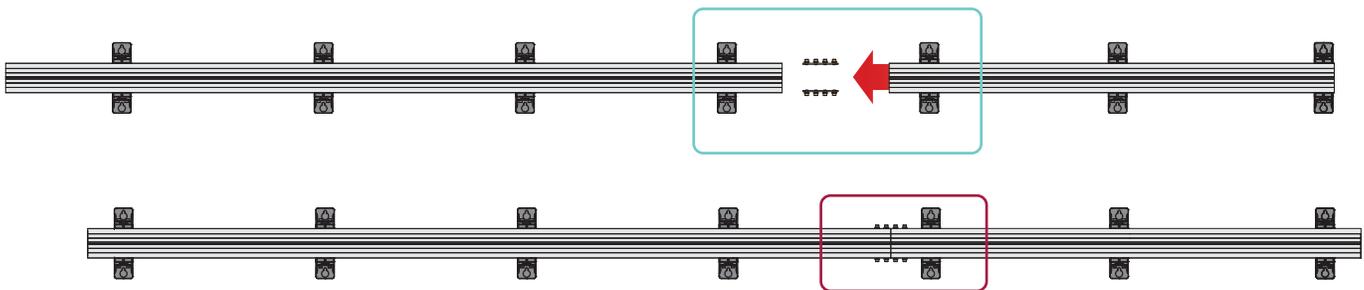
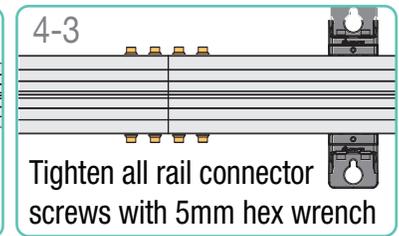
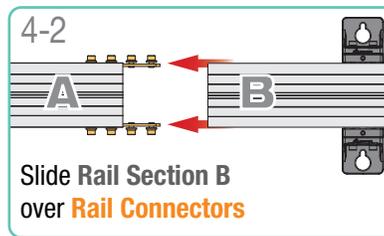
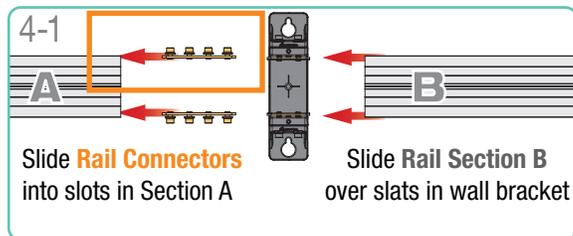
Please Note:
Only the TOP and BOTTOM rail connectors will be used to assemble the rails.

Front Rail Connector will be installed later in Section 9.



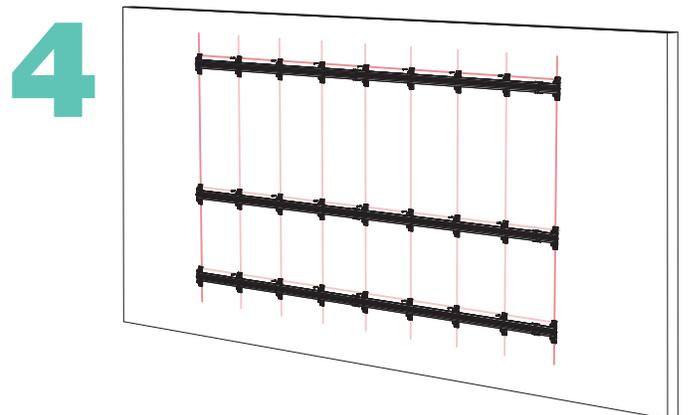
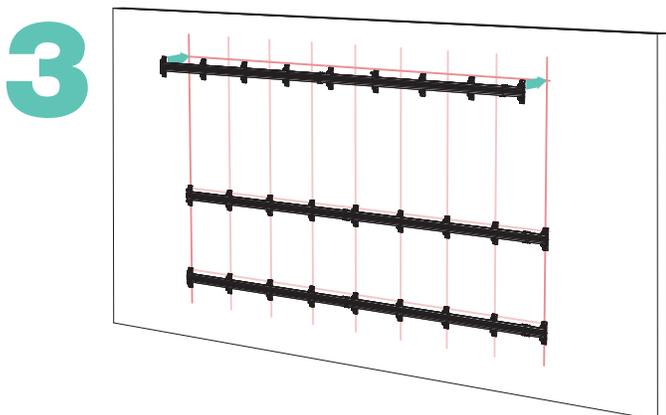
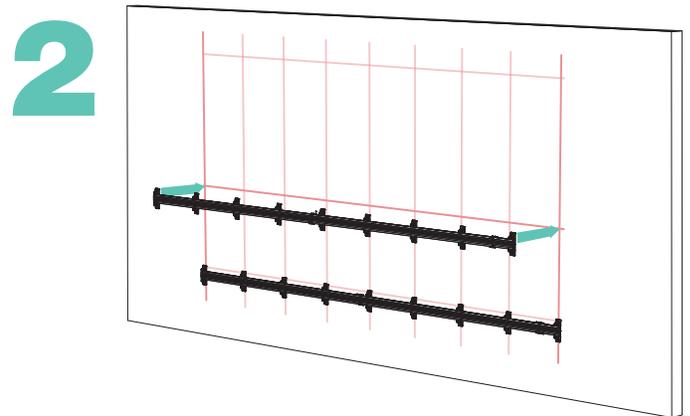
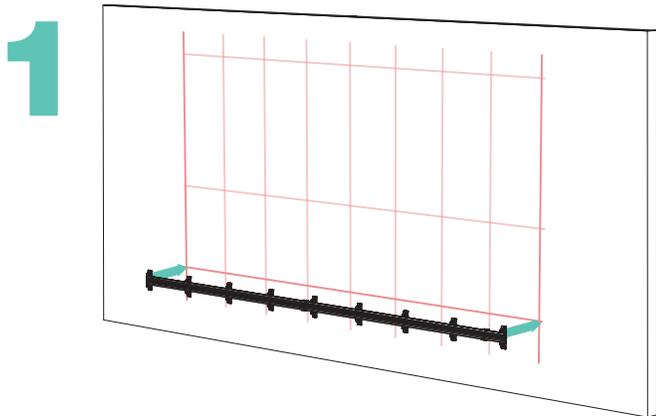
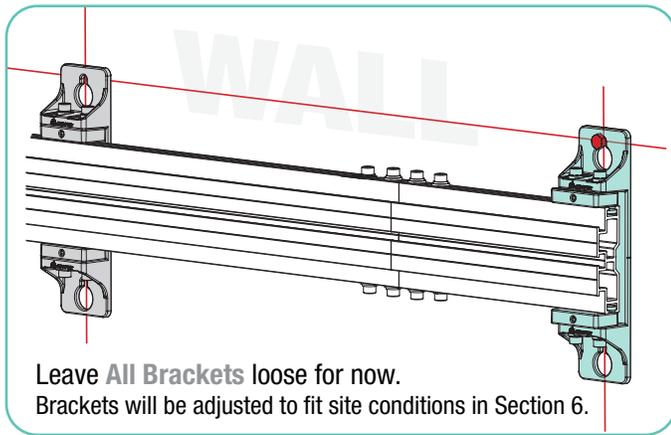
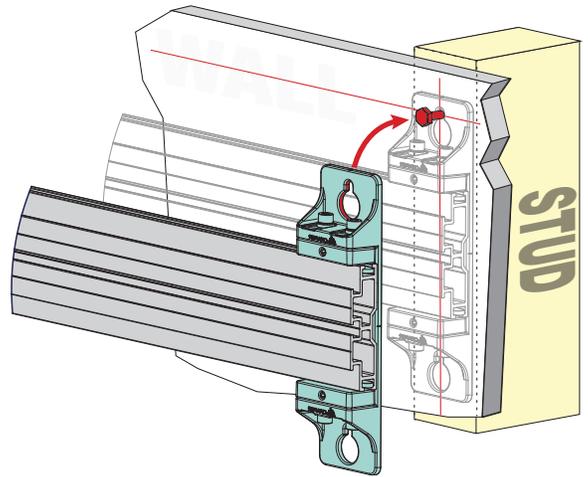
See chart above for the suggested number of wall brackets required per rail and splice locations.

To assemble the Horizontal rails:



Section 5 - **Hanging Horizontal Rails**

1. Using the top keyhole slots of the outer wall mounting brackets, hang the **BOTTOM** horizontal rail on the pre-installed mounting hardware (see Section, 3 Step 5).
2. Using the top keyhole slots of the outer wall mounting brackets, hang the **MIDDLE** horizontal rail on the pre-installed mounting hardware.
3. Using the top keyhole slots of the outer wall mounting brackets, hang the **TOP** horizontal rail on the pre-installed mounting hardware.
4. Leave all brackets loose for now. Brackets will be adjusted to fit site conditions in Section 6 - Adjusting and Aligning Horizontal Rails.



Section 6 - **Adjusting and Aligning Horizontal Rails**

1. Push the wall brackets against the wall where they will be mounted. Depending on the flatness of the wall some brackets may not touch the wall (see Fig. 6-1).

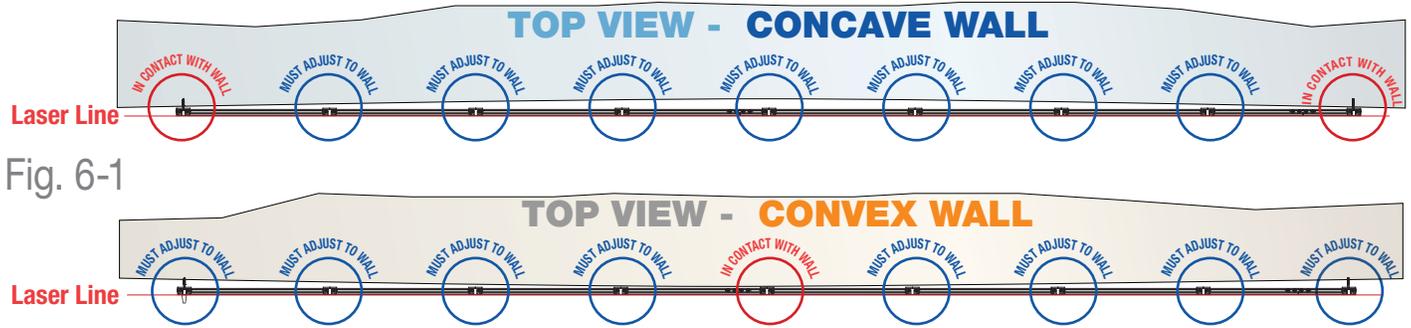
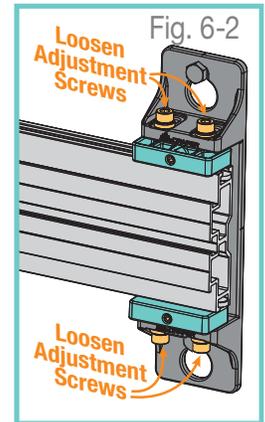


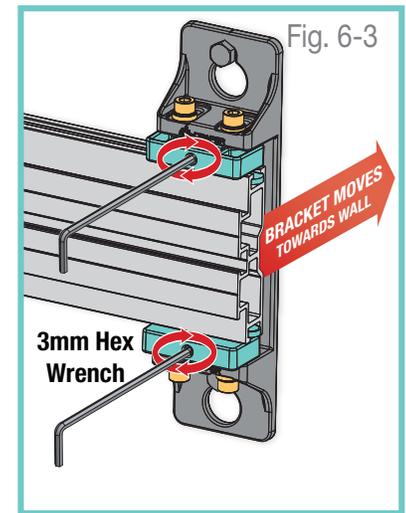
Fig. 6-1

2. For any wall brackets not touching the wall (see BLUE CIRCLES ABOVE) use a 5mm Hex Wrench to loosen the four (4) locking screws on the top and bottom of each bracket (See Fig. 6-2).



3. Using a 3mm Hex Wrench, turn the two (2) adjustment set screws on each wall mounting bracket. Adjust the wall bracket back until it touches the wall (see Fig. 6-3).

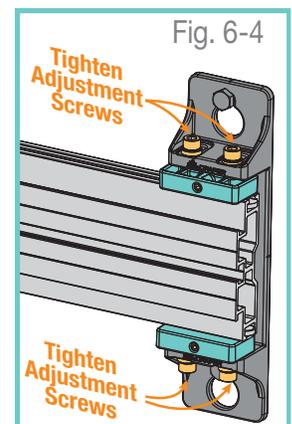
PLEASE NOTE: Take care not to adjust too far and force any wall brackets off the wall that were touching it. A level or straight edge can also be laid across the front face of the horizontal rail between 3 or more wall brackets to ensure the rail is straight.



4. Leaving the wall brackets free floating, shine a laser line parallel to the desired viewing surface of the LED wall and close to the horizontal rails.

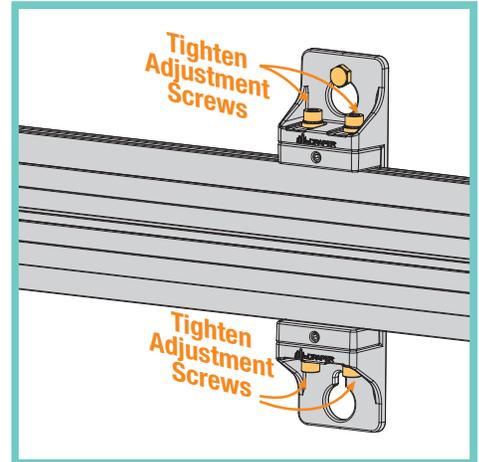
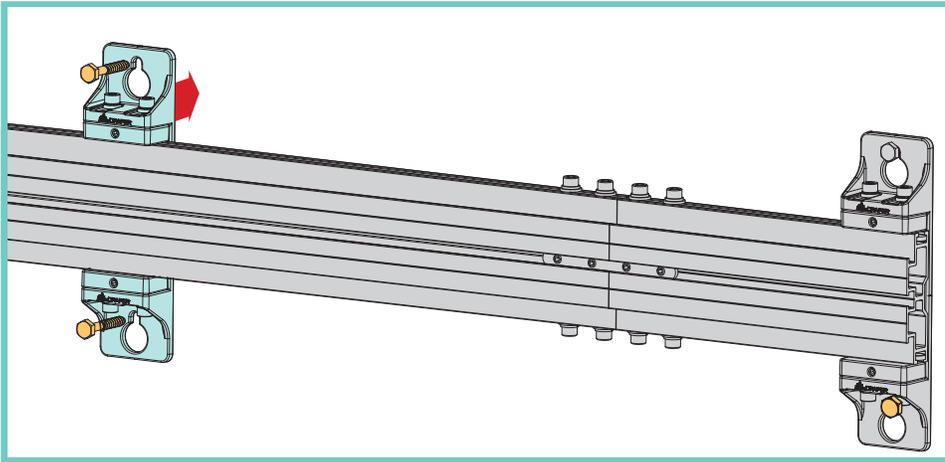
5. Using a tape measure check the distance from the laser line to the horizontal rail at each wall bracket, and adjust any wall brackets until all measurements match.

6. Once all brackets are in contact with the wall, and the horizontal rails are perfectly straight, tighten all adjustment screws.



Section 7 - **Securing Inner Wall Brackets**

1. Secure each bracket to the wall with the appropriate mounting hardware.
2. Check the distance from the laser line at each wall bracket to ensure nothing moved while fastening to the wall. Adjust if necessary.
3. Carefully tighten all four (4) locking screws on the top and bottom of each wall mounting bracket.

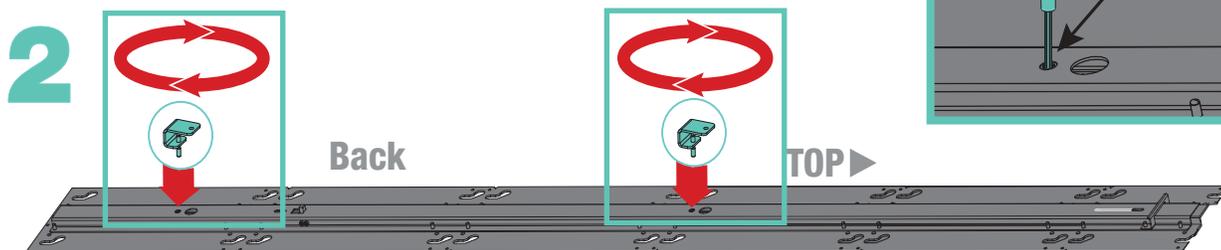


Section 8 - **Attaching Wall Adjuster Brackets to Vertical Rails**

1. Attach the Differential Screw to the Wall Adjustment Bracket.

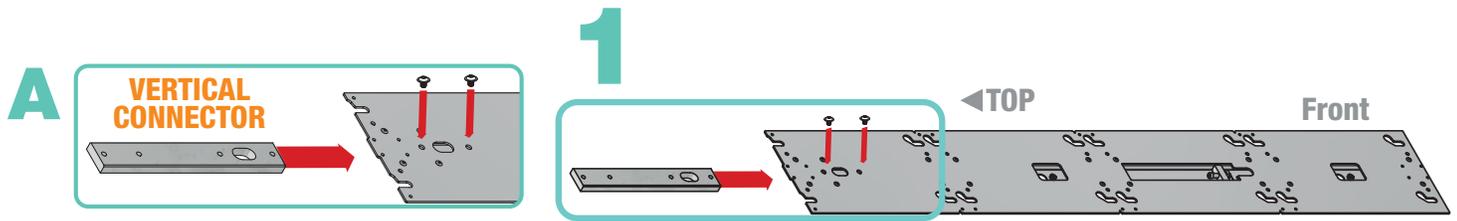


2. Attach two (2) Wall Adjuster Brackets to the back side using a 3mm hex wrench.



Section 8.2.1 - Lower Section of Vertical Rail Assembly

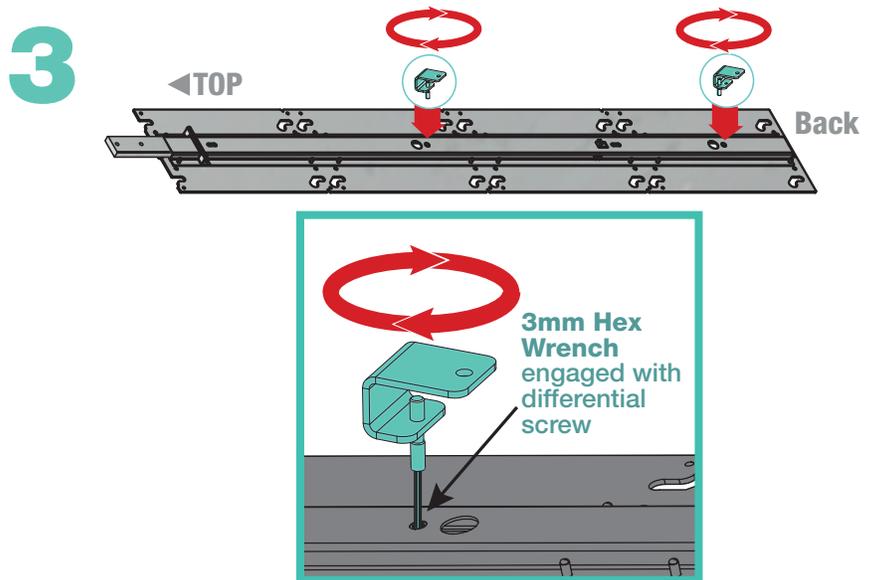
1. Insert Vertical Connector into TOP of the Lower Vertical Rail section and secure with provided hardware (3mm Hex Wrench).



2. Turn the Lower Vertical Rail section over.



3. Attach two (2) Wall Adjuster Brackets to the back side using a 3mm hex wrench.

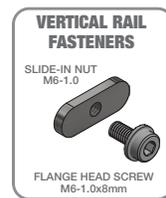
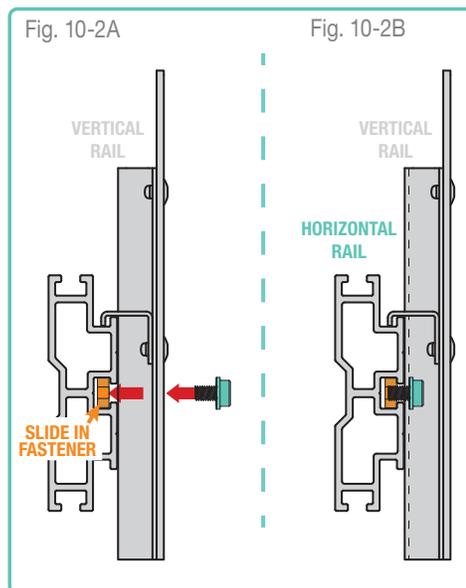
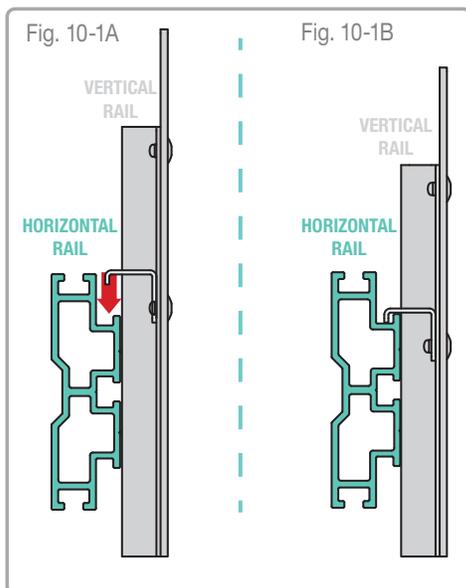
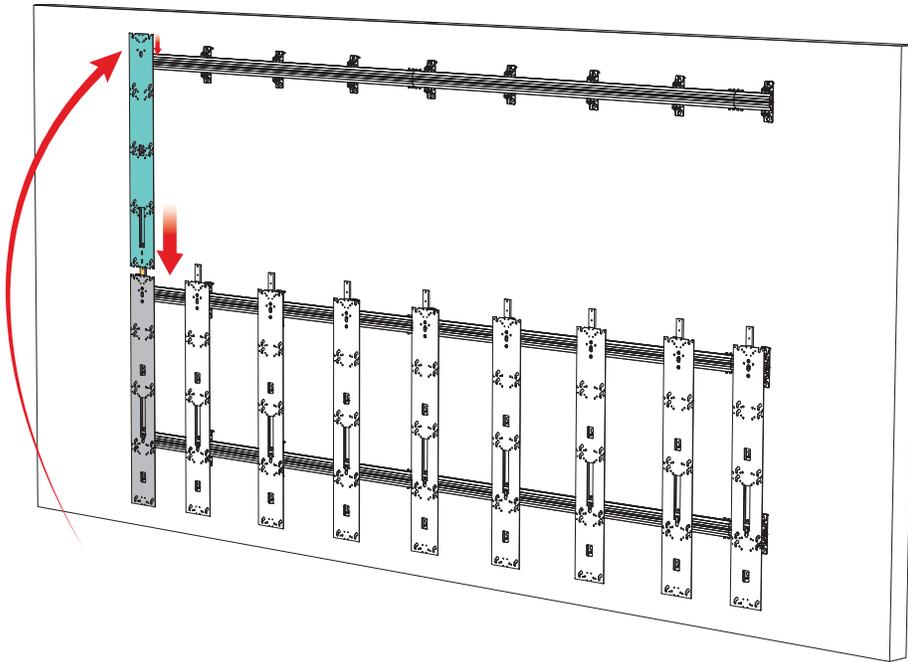




Section 9 - **Attaching Vertical Rails**

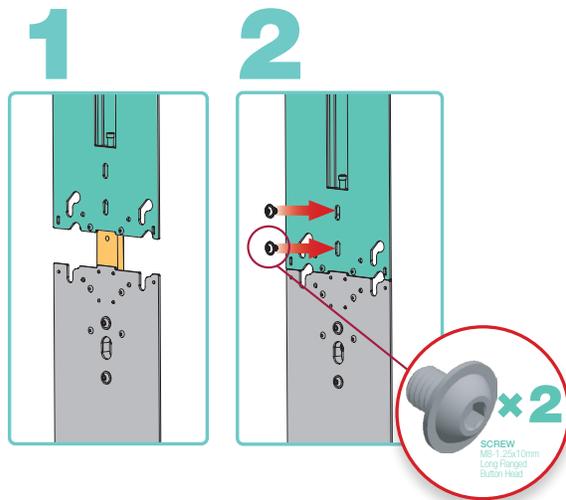
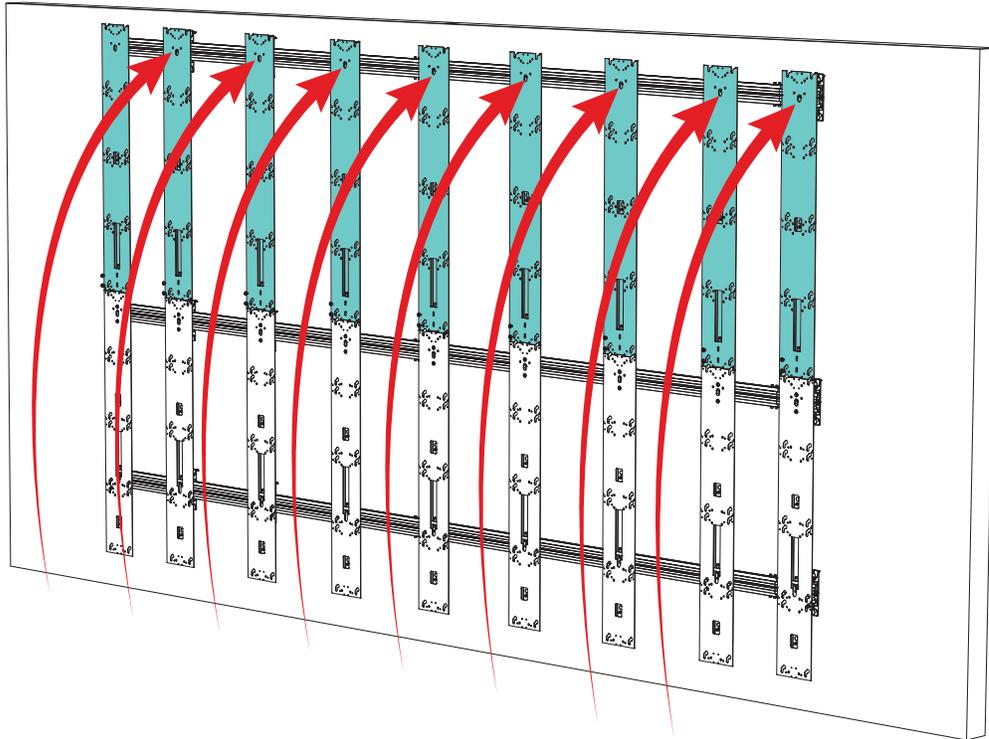
Section 9.1 - Attaching Bottom Vertical Sections

1. Lift each Vertical Rail and position it on the middle rail.
2. Let the Vertical Rail hanger rest on the horizontal rail.
3. Slide the fastener nut from Section 8 into position and loosely attach with the provided hardware.
4. Work from left to right until all bottom **Vertical Rails** are attached.



Section 9.2 - Attaching Top Vertical Sections

1. Lift each Top Section of Vertical Rail and slide it onto the connector on the bottom section.
2. Let the Vertical Rail hanger rest on the top horizontal rail and secure it loosely with provided hardware..
3. Slide the fastener nut from Section 8 into position on the bottom rail and loosely attach with the provided hardware.
4. Work from left to right until all top Vertical Rails are attached.



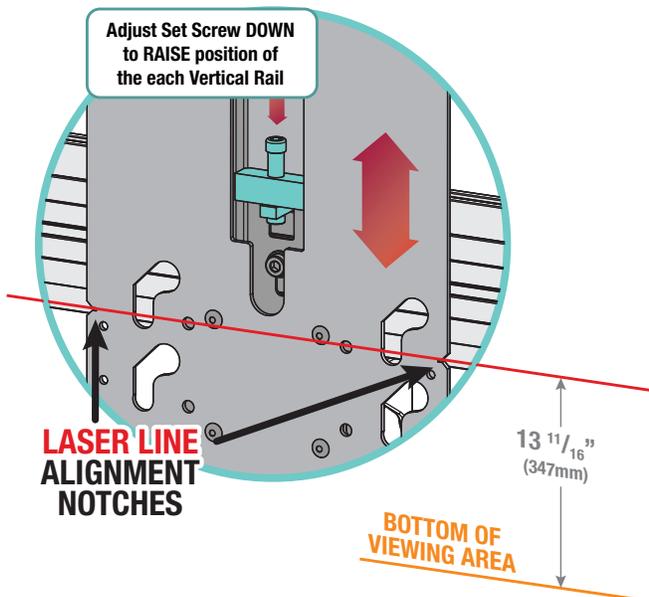
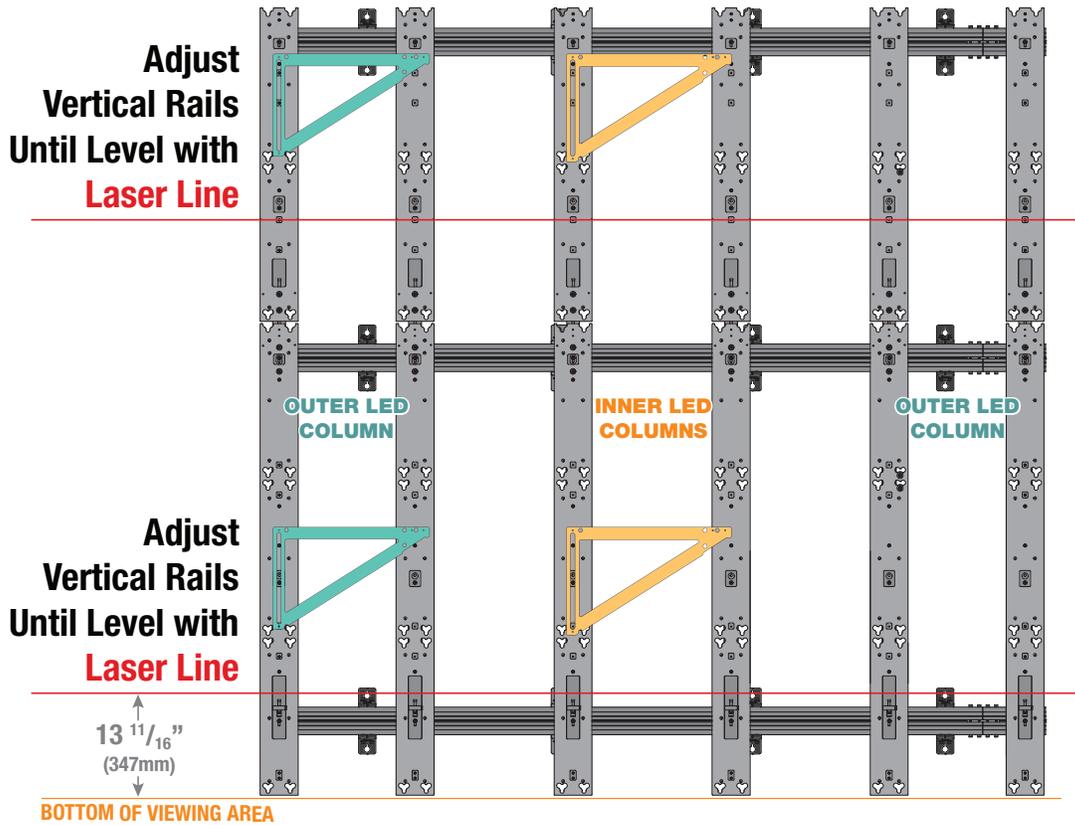


Section 10 - **Adjusting Verticals**

Section 10.1 - Y - Axis Adjustment

1. Locate the highest Vertical Rail and shine a laser level line across utilizing the laser level notch.
2. Use a 5mm hex wrench to raise each Vertical Rail until they are all level.

Please note: All Vertical Rails must be aligned and level with each other.



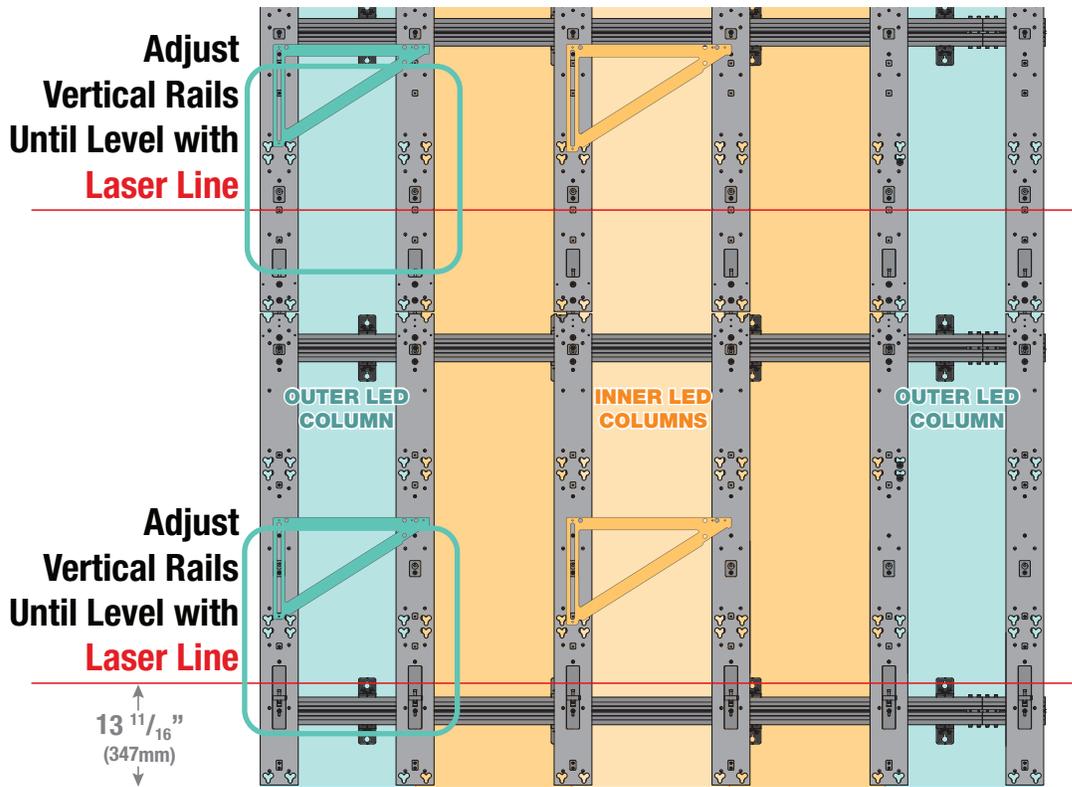
Section 10.2 - X - Axis Adjustment (Squaring Verticals with provided Alignment Tool)

1. Shine a laser line at the left edge of the structure and check that the first Vertical Rail is square with the floor. To adjust, loosen the fasteners installed in Section 10, Step 3 and slide the Vertical Rail along the Horizontal Rail until. Tighten fasteners when the first vertical is square.
2. Attach the two (2) alignment tools to the vertical rail positioned in step 1.

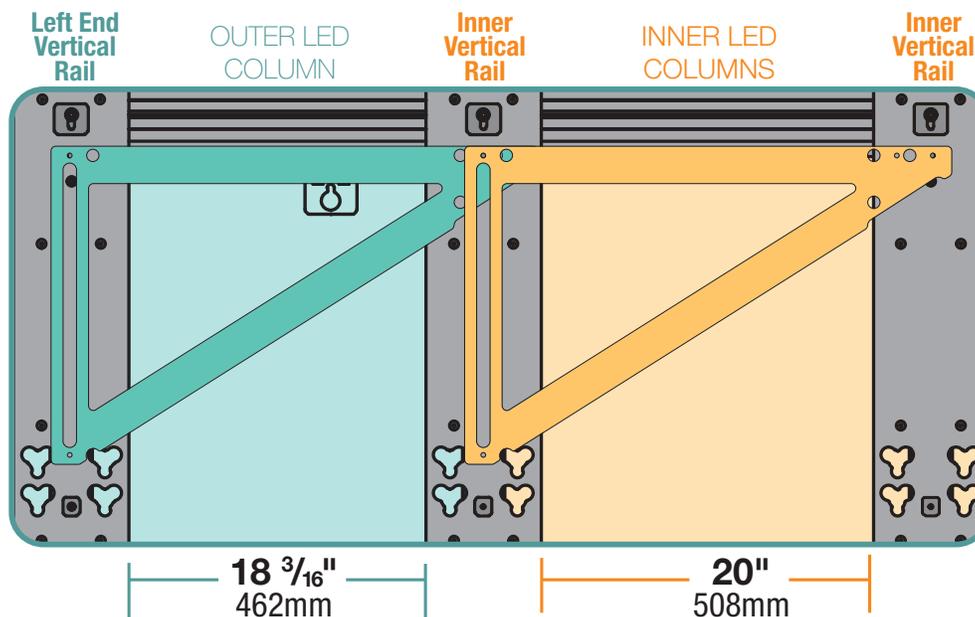
Using Side A of the alignment tool insert the pins into the corresponding alignment holes on the first vertical rail at the top and bottom locations.

3. Adjust the position of the next vertical rail in order for the alignment pin on each tool to align with the corresponding alignment hole in the vertical rail.
4. Tighten the second vertical rail mounting screws.

Note: Use Side A of the alignment tool for the last vertical rail alignment procedure.



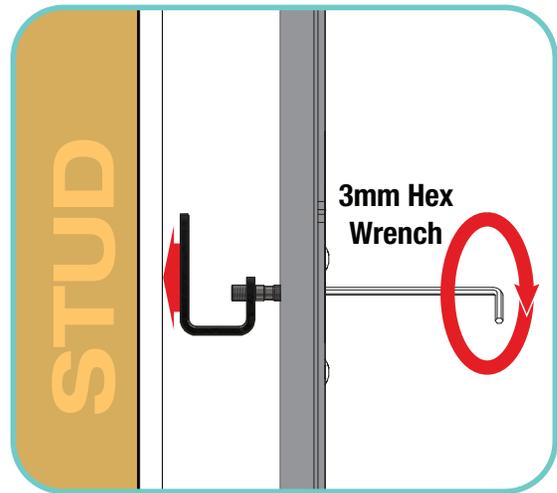
NOTE: 2 LED Alignment Tools are provided. Multiple placements are shown.



Section 10.3 - Z - Axis Adjustment

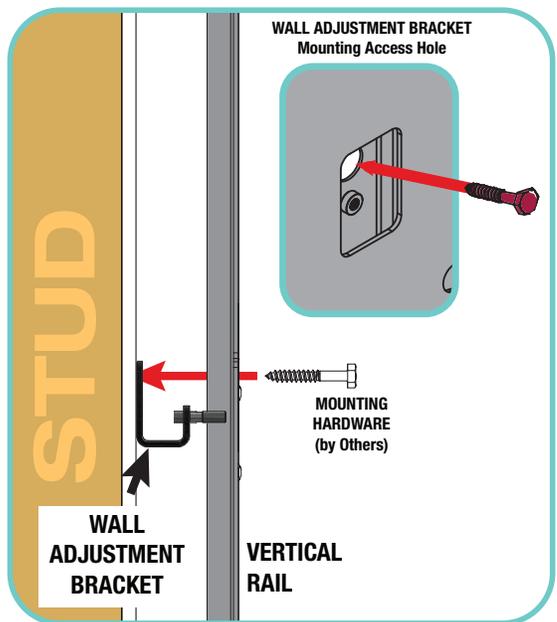
1. Using a 3mm hex wrench, adjust each Wall Adjuster Bracket until it contacts the wall.

Fig. 10.3-1



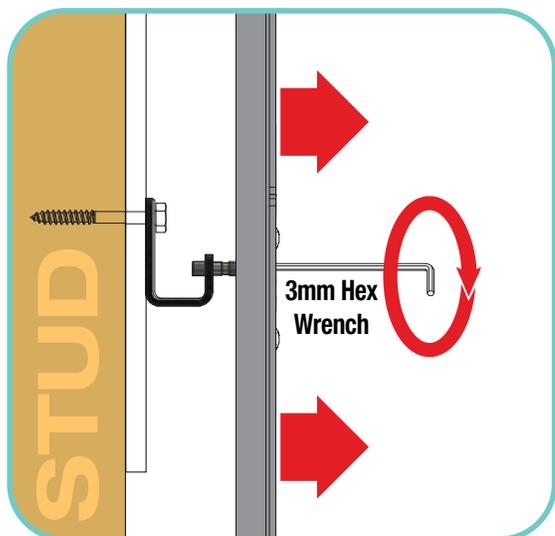
2. Use the clearance hole in the vertical rail to allow for a socket to drive a lag screw (by others) into the wall.

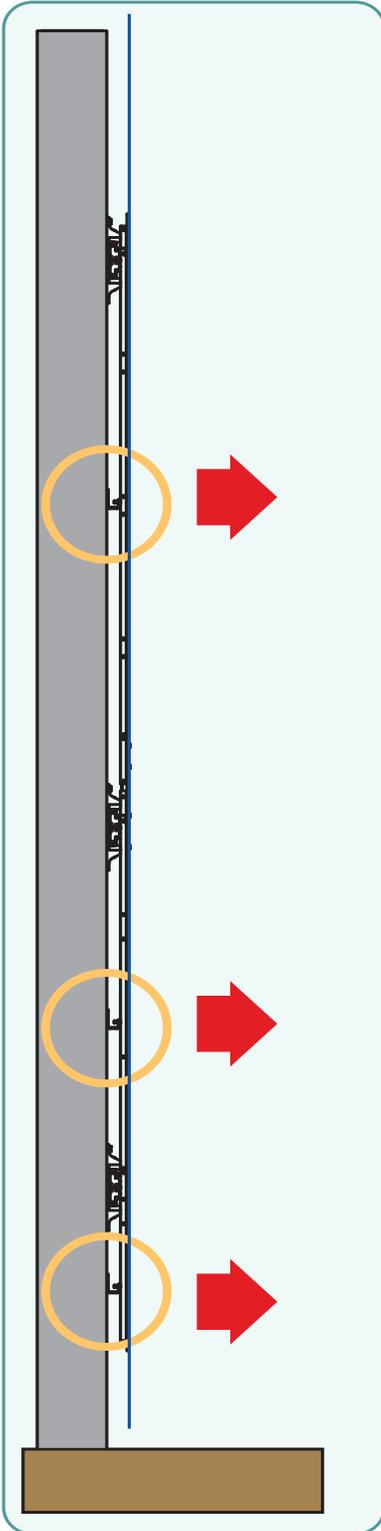
Fig. 10.3-2



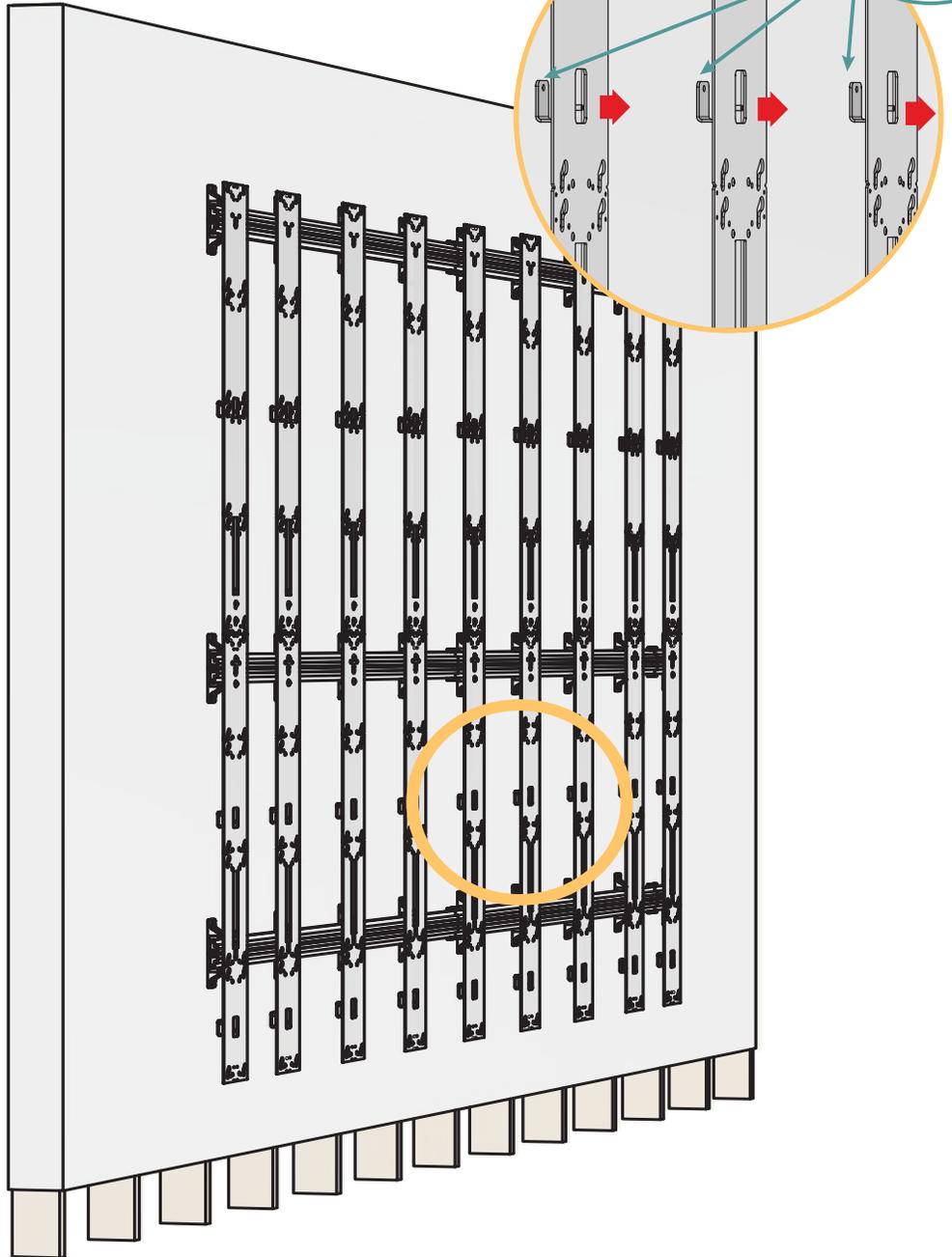
3. Rotate the differential screw to push or pull the vertical rail to be straighter if required.

Fig. 10.3-3



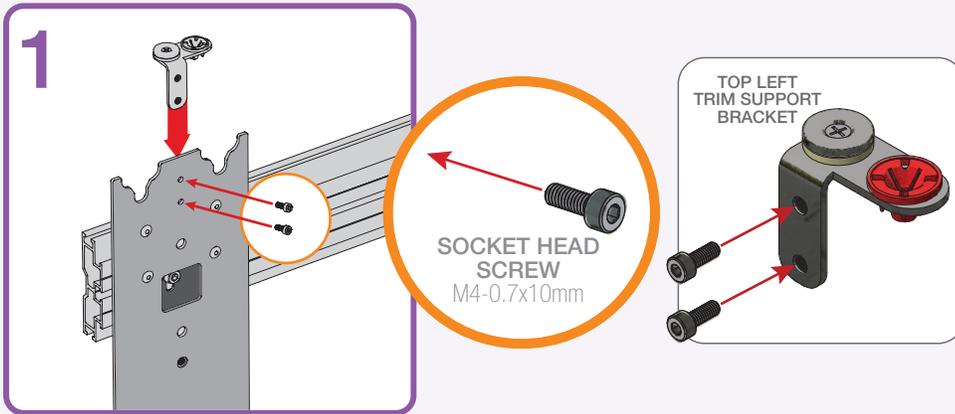


**Adjust Wall Adjustment Brackets
Until All Vertical Rails are flush.
Bubble Level recommended.**

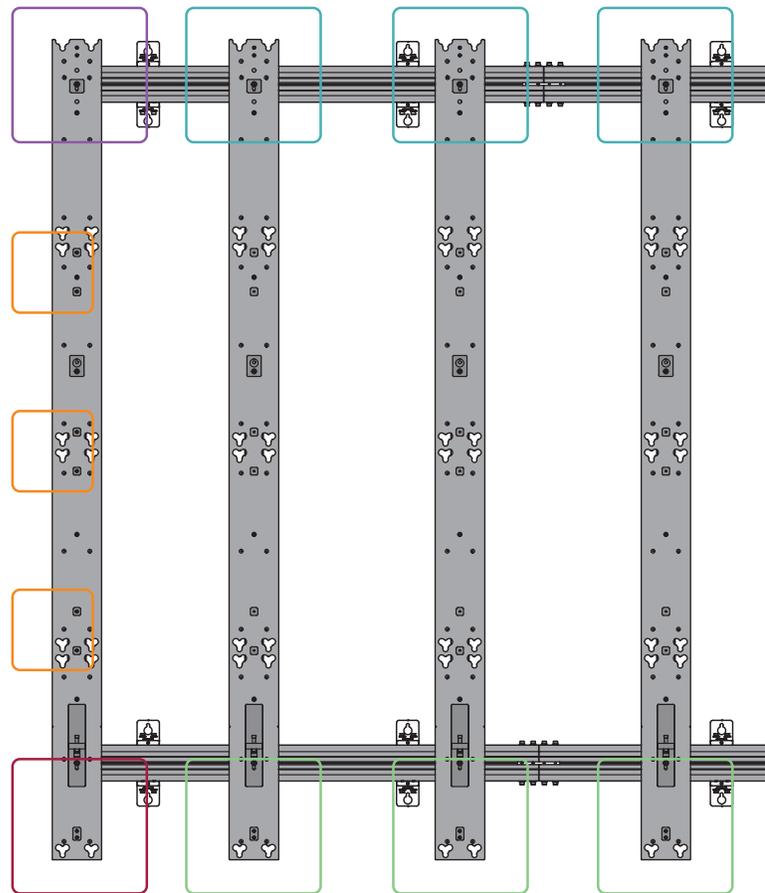
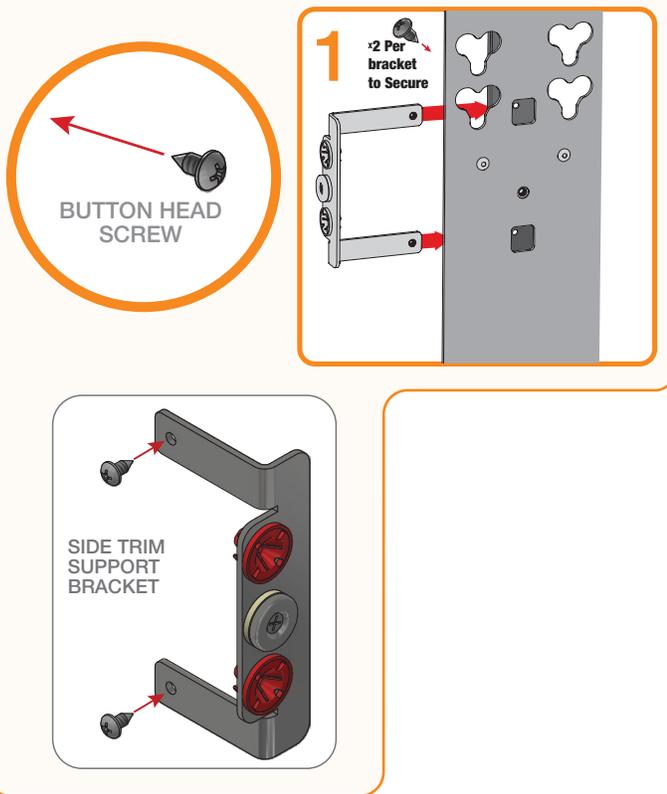


Section 11 - Attaching Trim Brackets

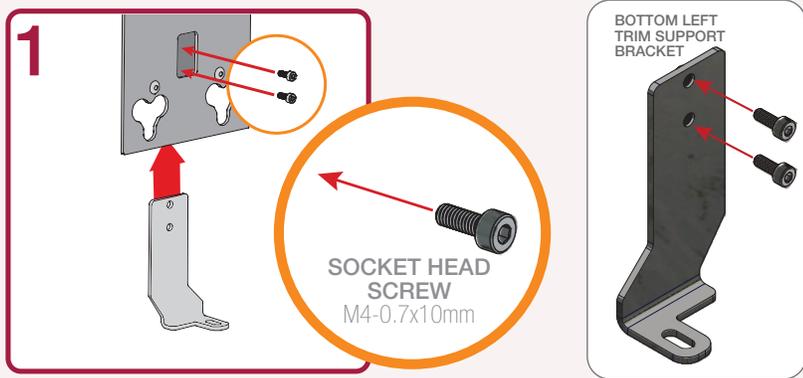
Section 11.1 - Installing Center Top Trim Brackets



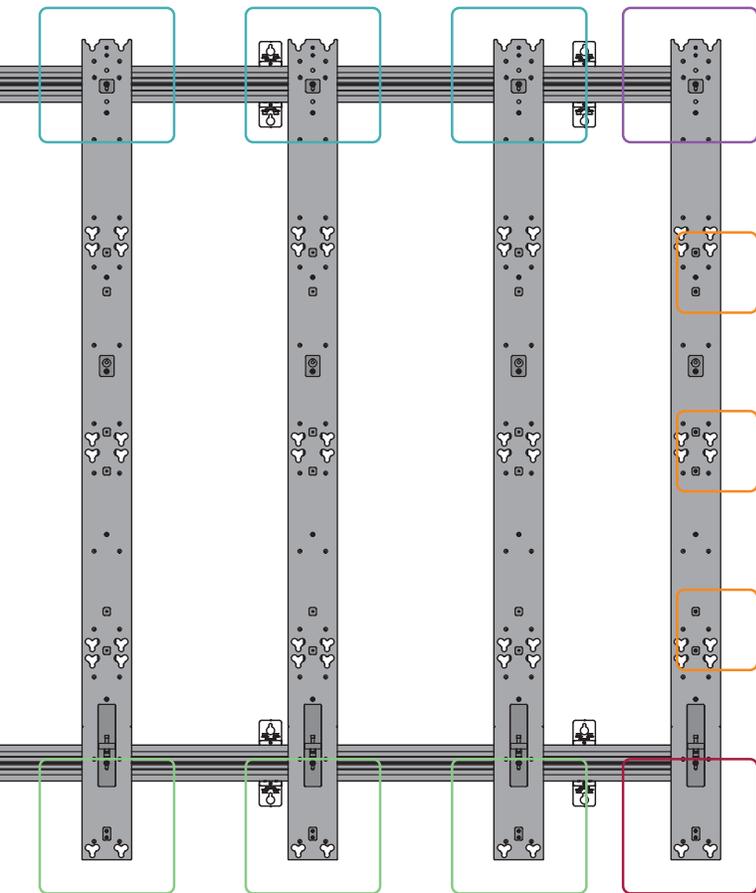
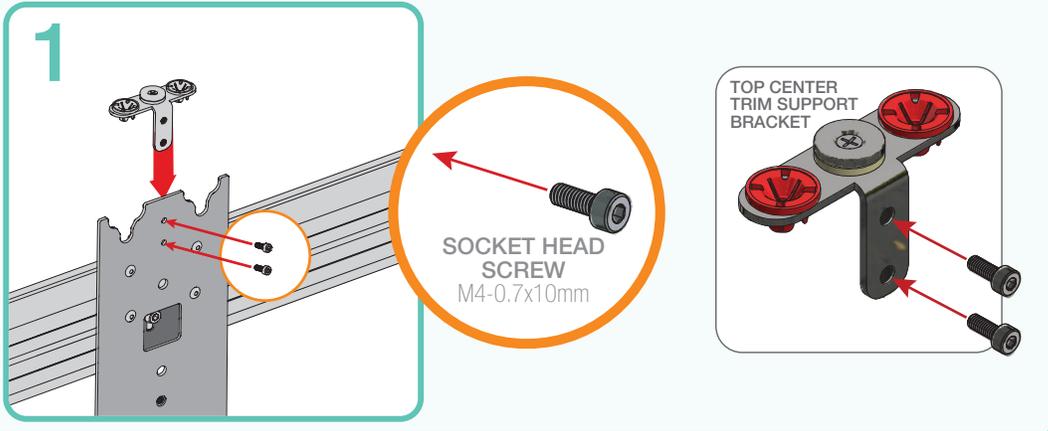
Section 11.3 - Installing Side Trim Brackets



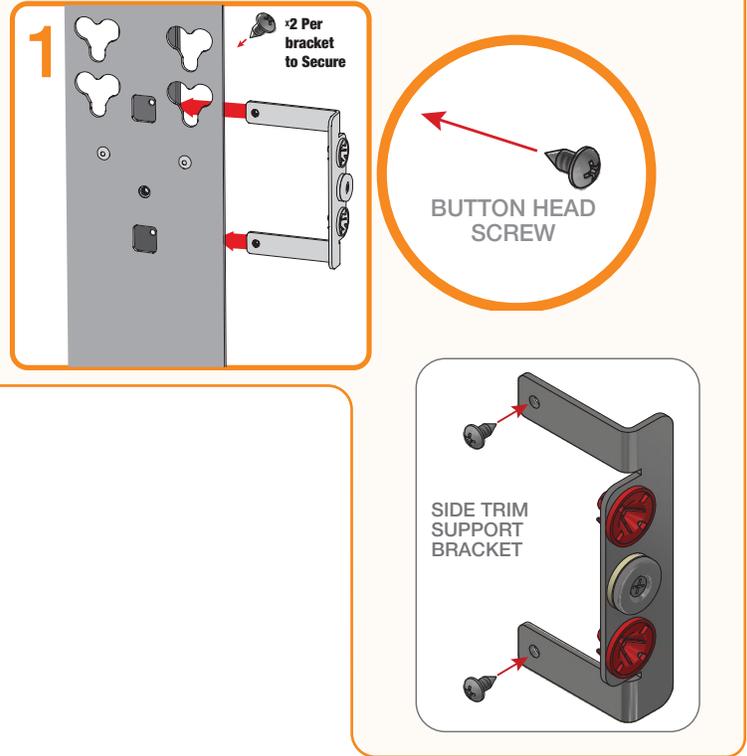
Section 11.4 - Installing Outer Bottom Trim Brackets



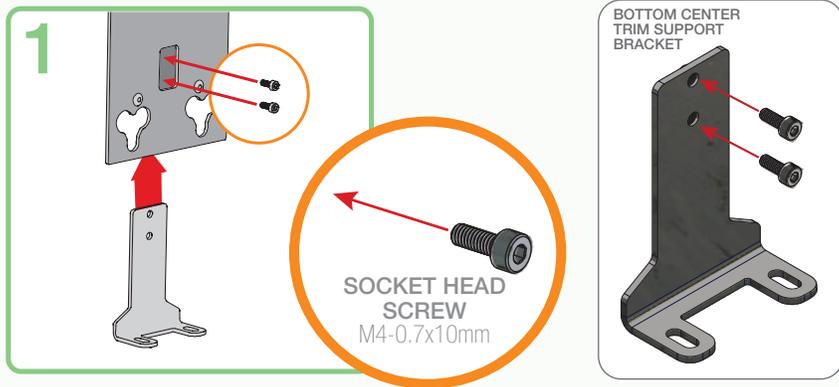
Section 11.2 - Installing Center Top Trim Brackets



Section 11.3 - Installing Side Trim Brackets



Section 11.5 - Installing Center Bottom Trim Brackets



Section 12 - **Attaching LED Panels LED Cabinets**

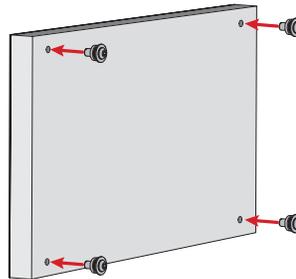
Section 12.1 - Attaching Spring-Loaded Fasteners

1. Replace the mounting bolts (pre-installed by LED manufacturer) in the LED cabinet with the provided Spring Loaded mounting studs.

LED MOUNTING STUDS



x4 per Panel

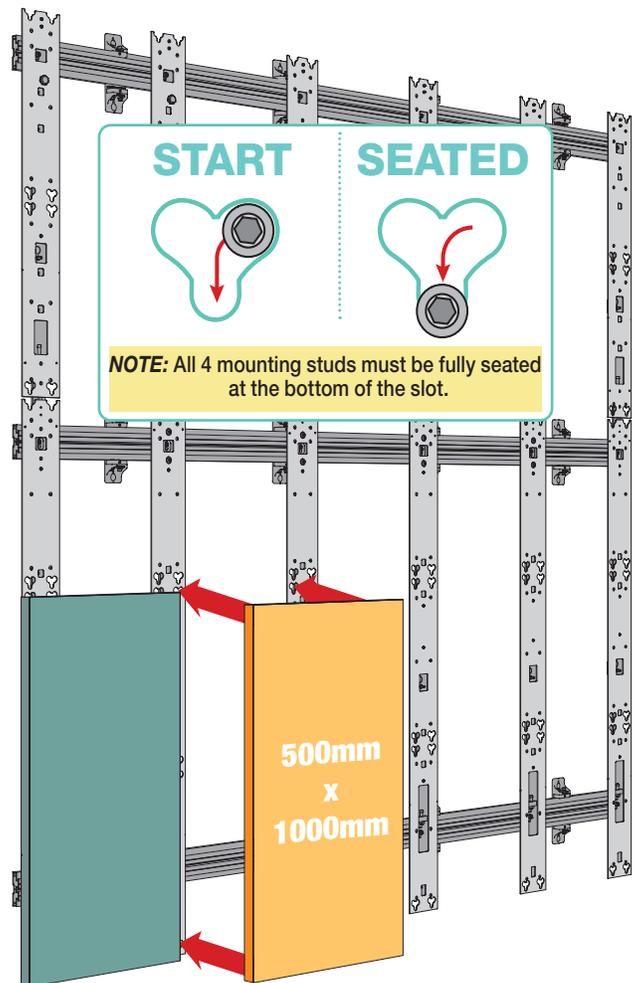
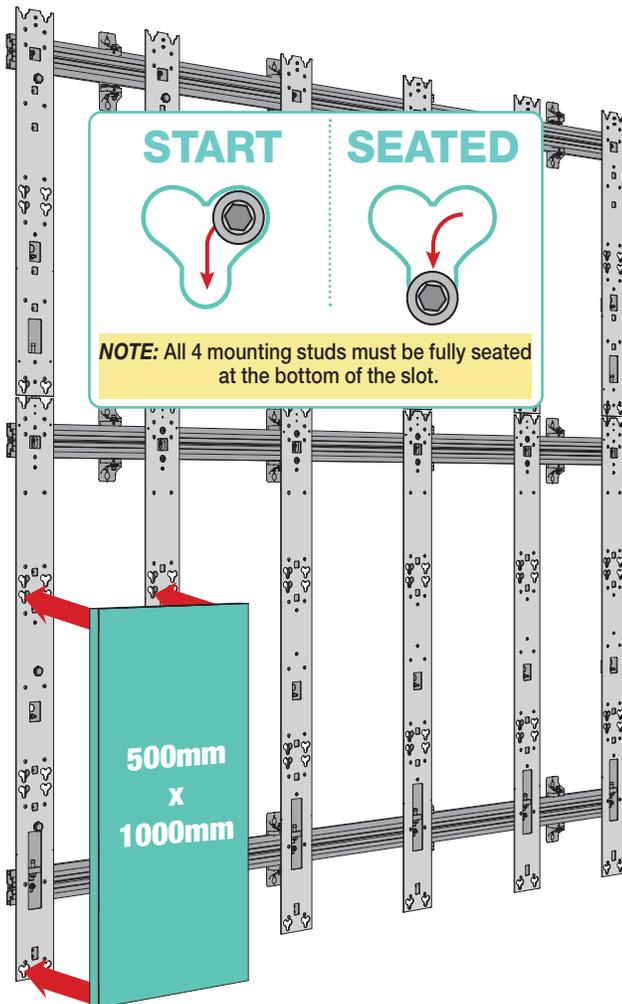


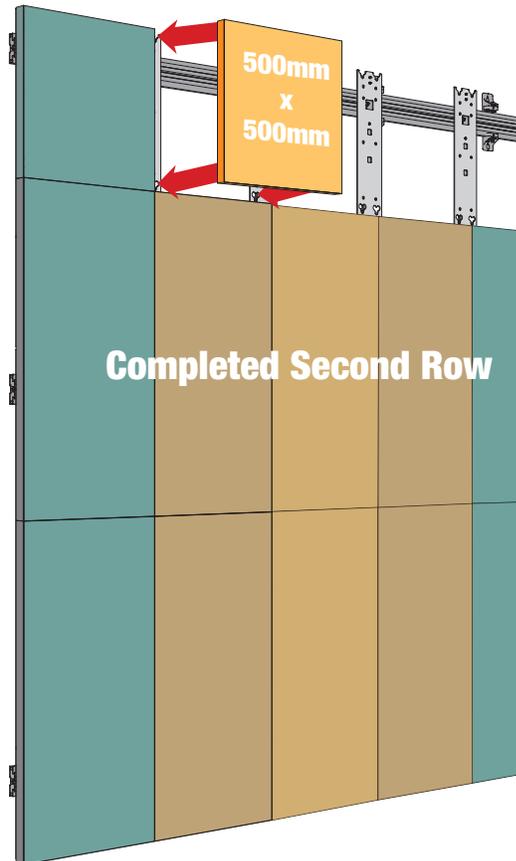
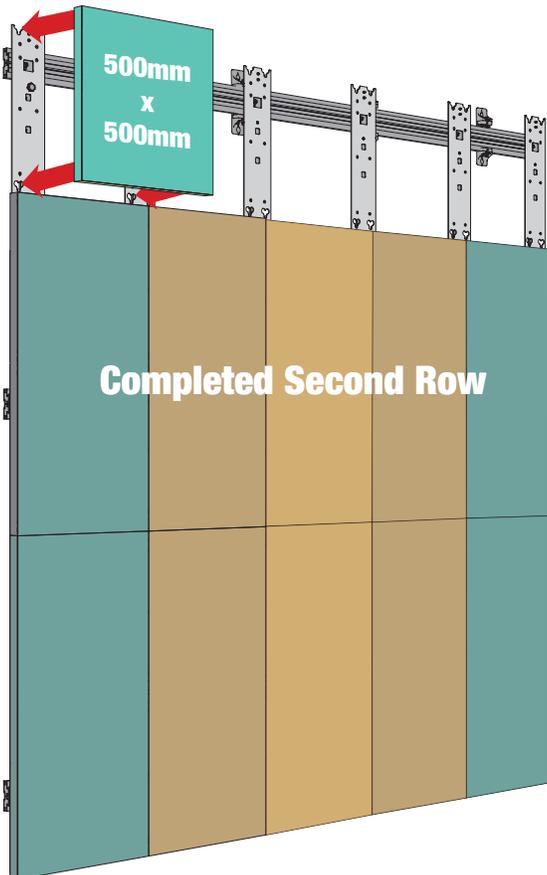
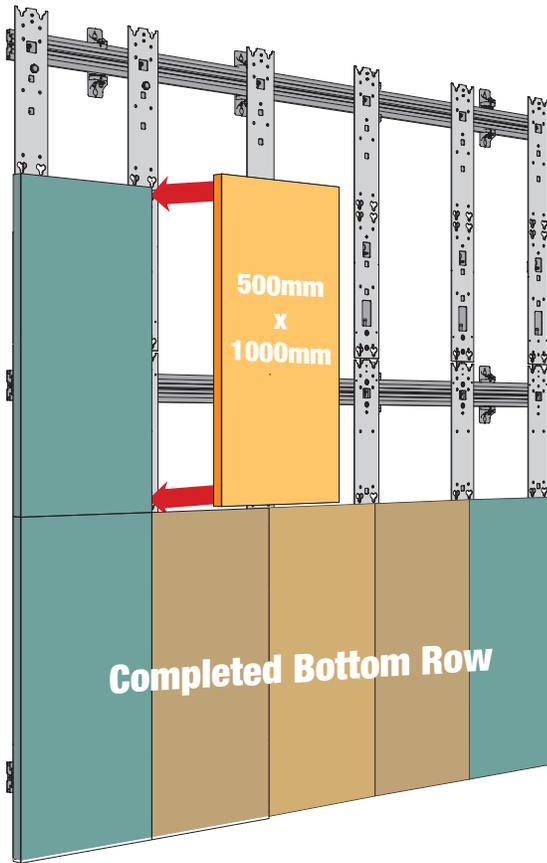
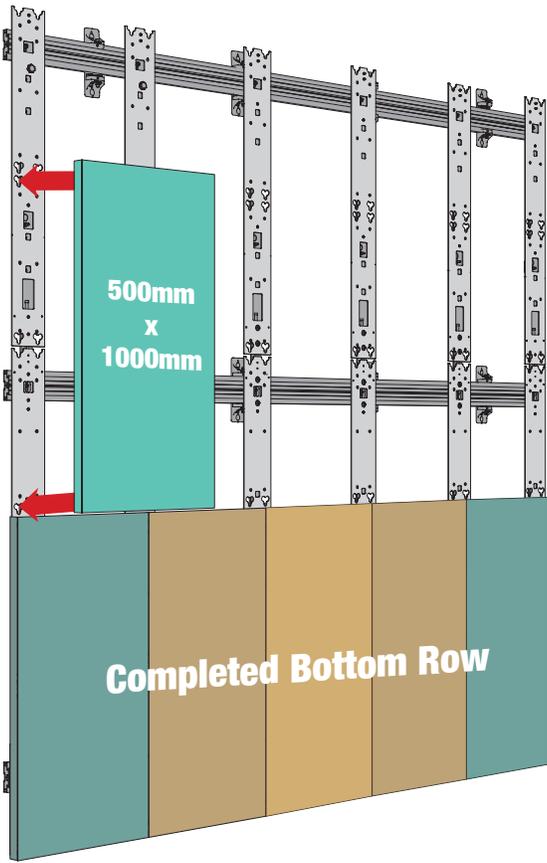
Section 12.2 - Attaching LED Panels

1. Starting in the bottom left corner, insert the four (4) Spring-Loaded Mounting studs into the angled slots on the vertical rail as shown.

The head of the studs will engage with the back side of the vertical rail and the spring washer will remain on the front face (does not fit through the slot). Once the head of all 4 studs are fully inserted, lower the panel into the final location.

2. Attach the next LED cabinet direct to the right of the first. Continue until the first row is complete.
3. Working from left to right, attach the row of LED cabinets.
4. Continue until all LED cabinets are installed.

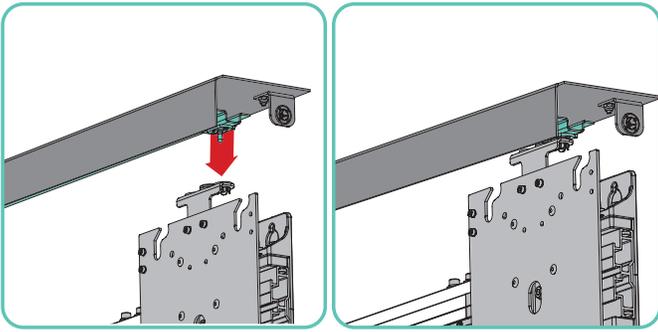




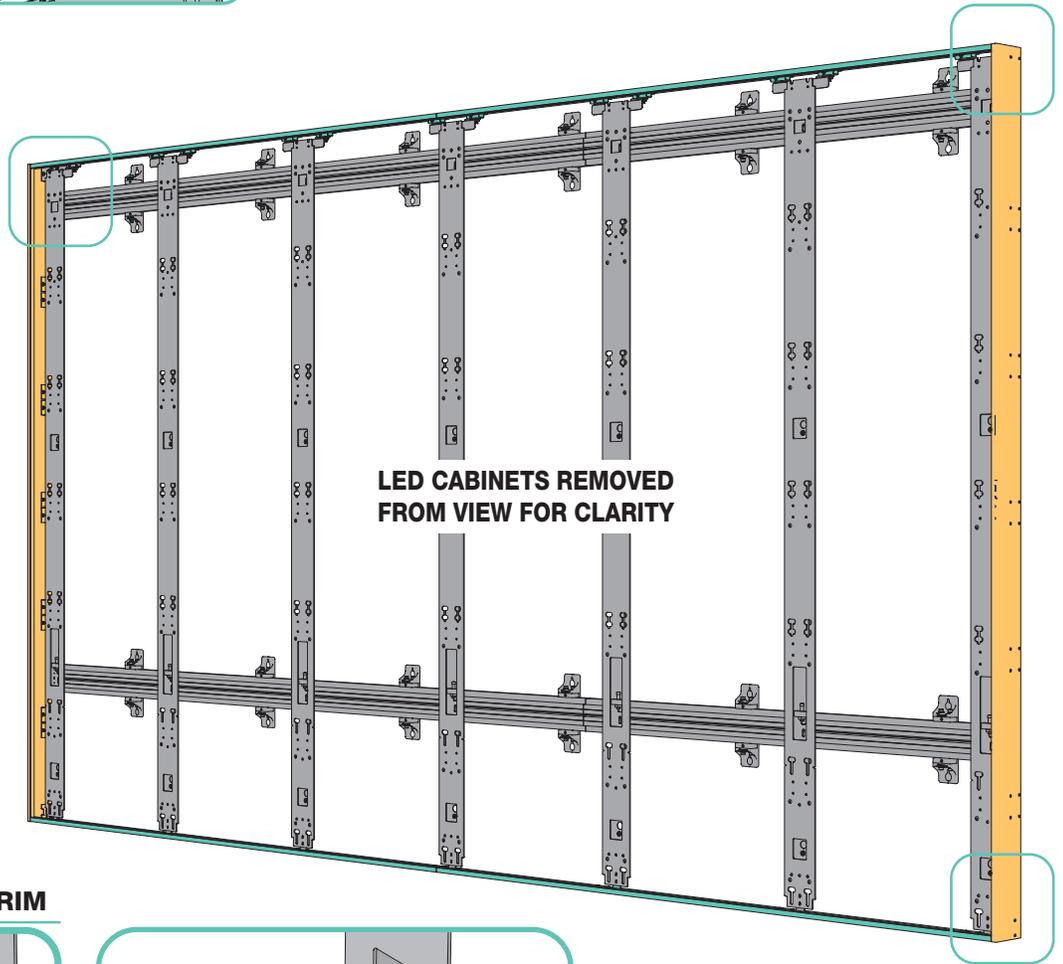
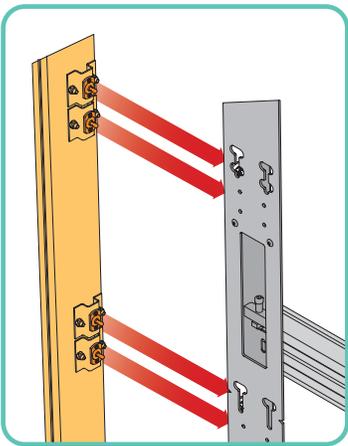
Section 13 - Attaching Trim to Trim Brackets

TOP CORNERS: Top Trim First, Then SIDE TRIM

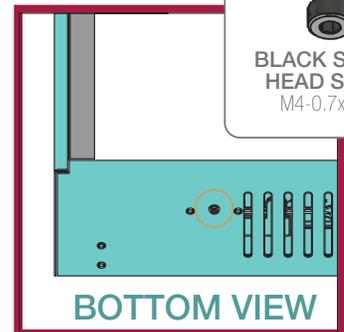
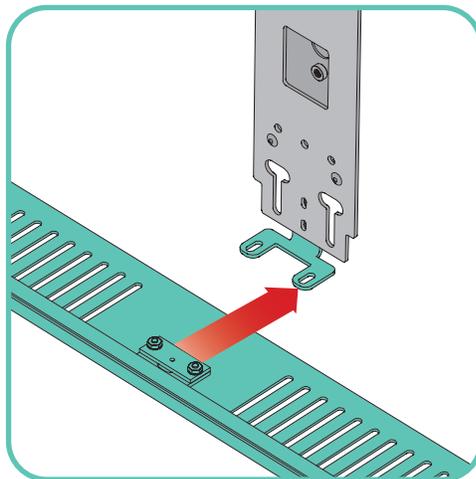
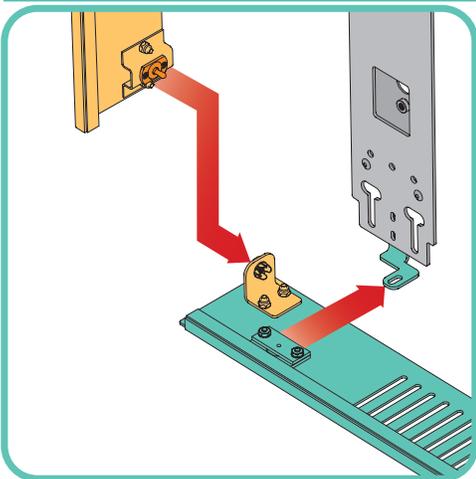
TOP TRIM



SIDE TRIM Attaches LAST



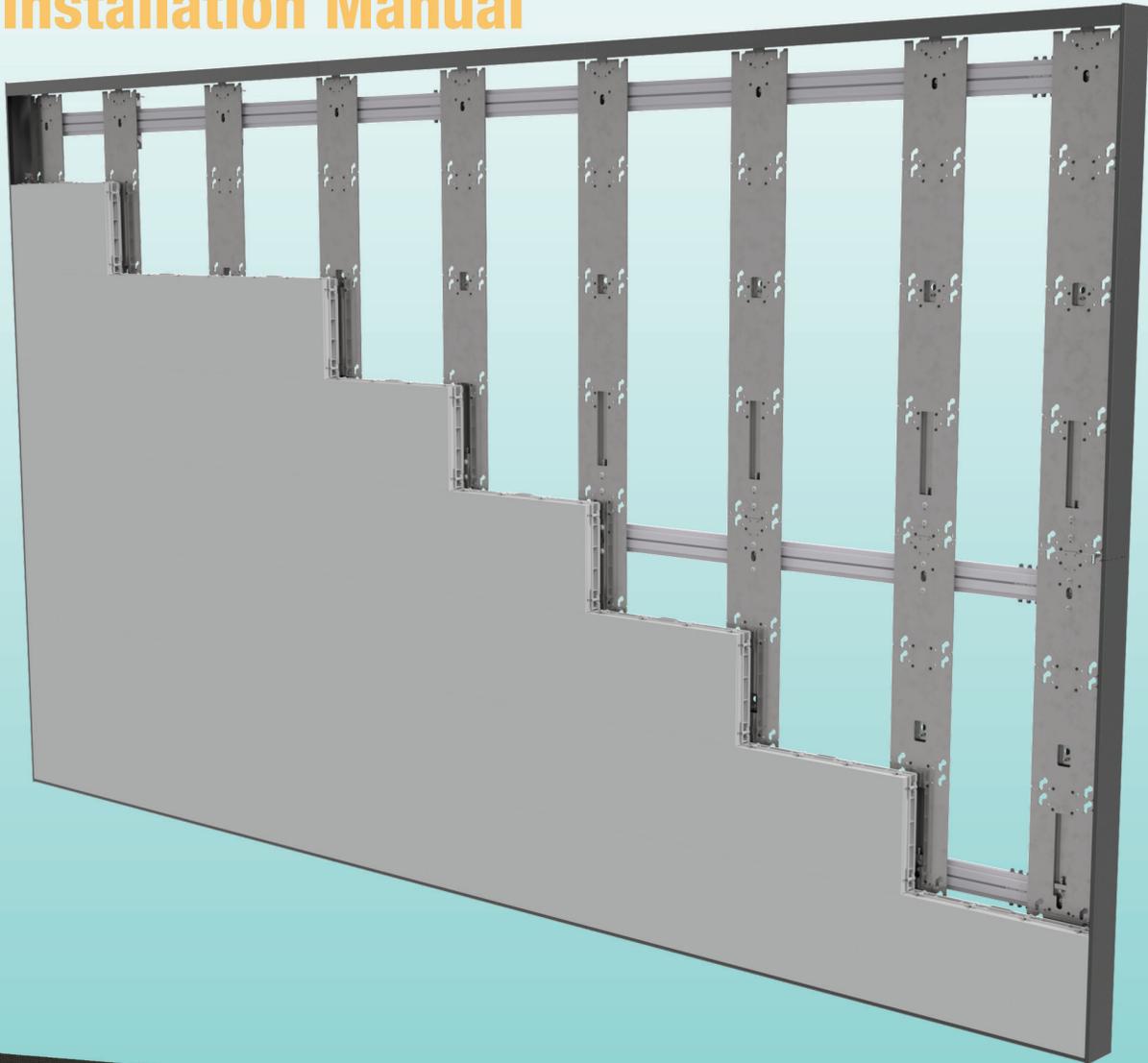
BOTTOM CORNERS: Bottom Trim First, Then SIDE TRIM



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Installation Manual



for



LSCB Series