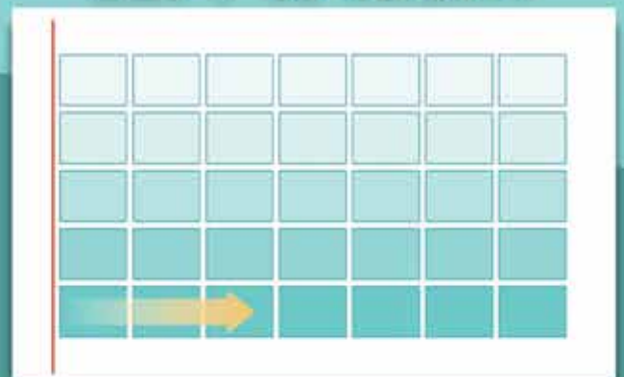# DRAPER®
FOUNDATION™
Installation Manual

Unilumin
UPanels

LEFT to RIGHT

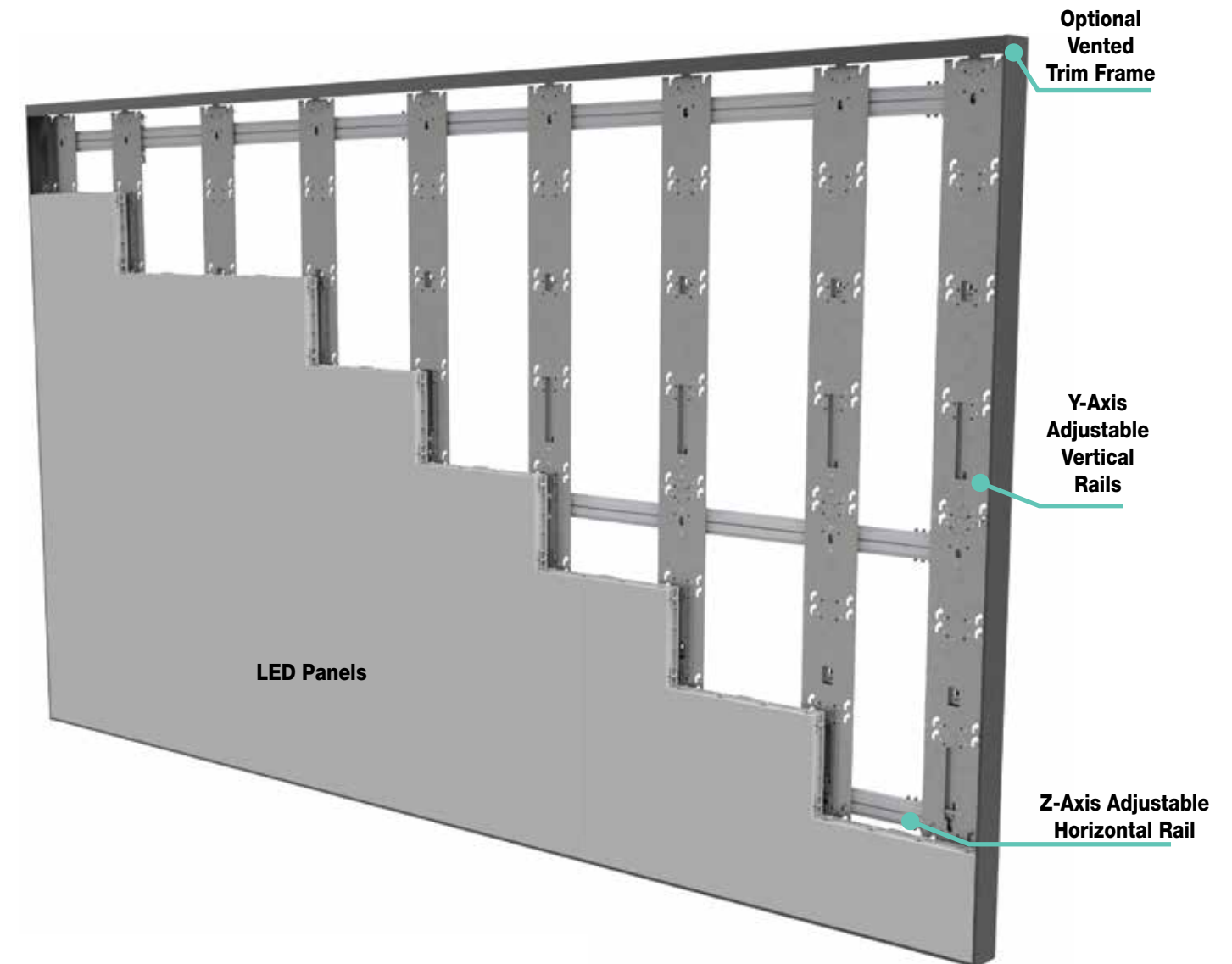# Important Safety Information

⚠ WARNING ⚠

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 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.

3. Turn off power and any nearby equipment or cables carrying electricity before connecting switches, wires, controls, or electrical components.

4. 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.

5. It is the installer's responsibility to make sure appropriate fasteners are used for mounting.

6. All brackets and other hardware must be installed level. Foundation for LED Panels must be level and square.

7. Never leave the area while operating the Foundation for LED Panels during installation, maintenance, or normal operation, unless it is secure and safe.

8. Before testing or operation, carefully inspect the entire area and areas underneath to be sure no persons or objects are in the area.

9. During testing or operation, carefully watch the surrounding area for any potential safety concerns including nearby persons or objects.

10. 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.

11. 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.

12. 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.

13. 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.

14. Failure to precisely follow installation guidelines invalidates all warranties.

15. 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.
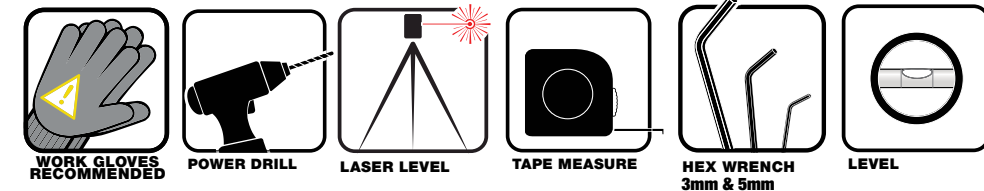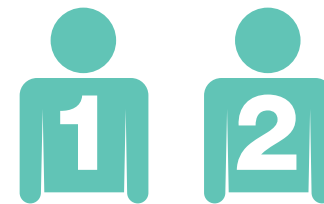
Before Beginning Installation

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 as 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.


Overview

Optional Vented Trim Frame

Y-Axis Adjustable Vertical Rails

LED Panels

Z-Axis Adjustable Horizontal Rail

Section 1 - **Personnel and Tools Required**

PERSONNEL REQUIRED

1   2

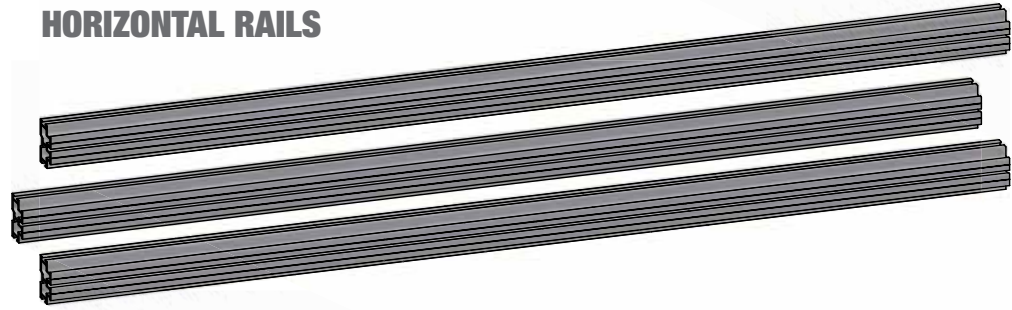WORK GLOVES RECOMMENDED | POWER DRILL | LASER LEVEL | TAPE MEASURE | HEX WRENCH 3mm & 5mm | LEVEL

If you have any difficulties installing or servicing your Foundation for LED Panels, call your dealer or Draper, Inc.
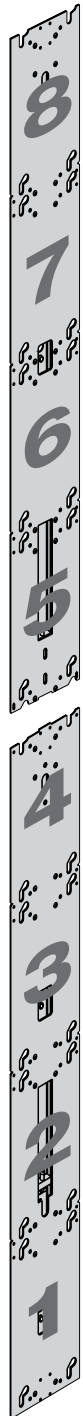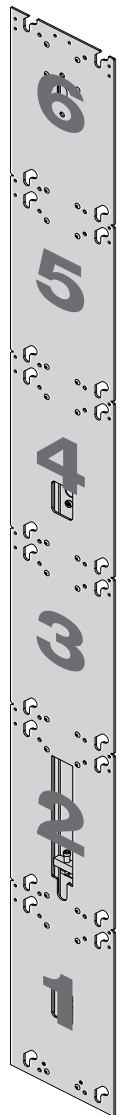
Section 2 - **Components**
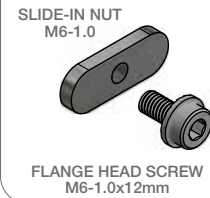
WALL MOUNTING BRACKETS
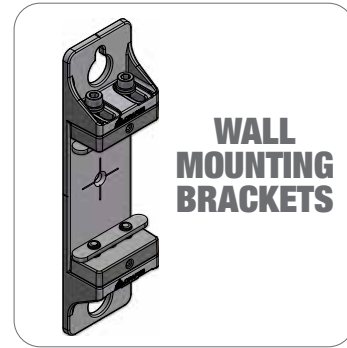
HORIZONTAL RAILS

VERTICAL RAILS

FOR 6 Panels High or Less
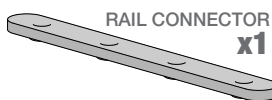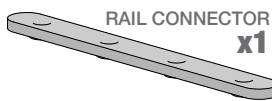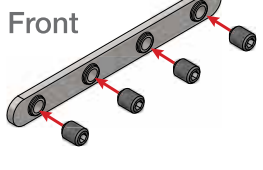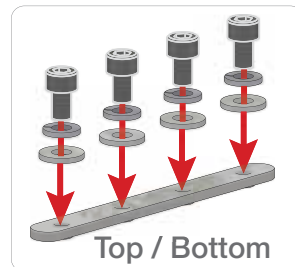
FOR 7 Panels High or Less

TOP VERTICAL RAIL

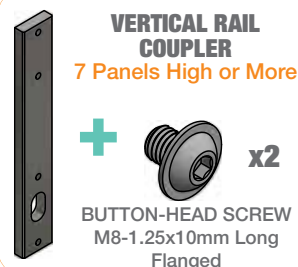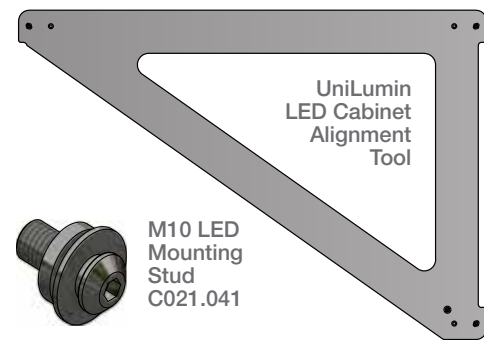*Connects to*

BOTTOM VERTICAL RAIL

with Vertical Rail Coupler

VERTICAL RAIL FASTENERS

SLIDE-IN NUT
M6-1.0

FLANGE HEAD SCREW
M6-1.0x12mm

WALL ADJUSTMENT BRACKETS

Differential Screw
3mm Hex Wrench

PLUM ALIGNMENT PIN

HORIZONTAL RAIL CONNECTORS

SCREW
M6 -1x10mm   x4

SPLIT LOCK WASHER
.25" ID X .365" OD X .063"   x4

WASHER
.255" ID X .562" OD X .06"   x4

Top / Bottom

RAIL CONNECTOR   x1

Front

SET SCREW
M6 - 1x8mm   x4

RAIL CONNECTOR   x1

LED MOUNTING & ALIGNMENT

UniLumin LED Cabinet Alignment Tool

M10 LED Mounting Stud
C021.041

UniLumin Upanel LED Cabinets
(Not Included)

VERTICAL RAIL COUPLER
7 Panels High or More

+ BUTTON-HEAD SCREW
M8-1.25x10mm Long Flanged   x2

Component	Part #	Standard Array Size					
		4 X 4	5 X 5	6 X 6	8 X 8	10 X 10	12 X 12
LED Panels	By Others	16	25	36	64	100	144
WALL MOUNTING BRACKETS	C002.1603	8	10	12	24	30	36
WALL ADJUSTERS							
Wall Adjuster Bracket	C002.1604.02SA	10	12	14	27	33	39
Differential Socket Screw: M6 - 1x32.6mm	C020.725	10	12	14	27	33	39
HORIZONTAL RAILS							
90" (2286mm) Horizontal Rail	C285.062.001	0	2	2	0	6	8
93" (2362mm) Horizontal Rail	C285.062.002	2	0	0	6	0	0
Horizontal Rail Section (length varies)	C285.062 Length	0 0mm	2 688mm	2 1297mm	0 0mm	3 1453mm	3 388mm
HORIZONTAL RAIL CONNECTOR - Top/Bottom							
Washer: .255"ID X .562"OD X .06"	C013.012	10	28	30	75	81	111
Split Lock Washer: .25" ID X .365"OD X .063"	C013.028	10	28	30	75	81	111
Screw: M6 - 1x10mm	C020.729	0	16	16	48	48	72
HORIZONTAL RAIL CONNECTOR - Front							
Horizontal Rail Connector	C162.032	0	6	6	18	18	27
Set Screw: M6 - 1x8mm	C020.728	0	8	8	24	24	33
VERTICAL RAIL FASTENERS							
Slide-In Nut: M6	C018.165	10	12	14	27	33	39
Flanged Socket Head Screw: M6 - 1x9mm	C020.735	10	12	14	27	33	39
LED ALIGNMENT & ATTACHMENT TOOLS							
M10 Spring Loaded LED Mounting Stud	C021.041	64	100	144	256	400	576
LED Plum Alignment Pin	C032.126	6	6	6	9	9	9
LED Alignment Tool	C202.039	2	2	2	2	2	2
VERTICAL RAILS							
Vertical Rail Coupler	C010.588	0	0	0	9	11	13
Flanged Button Head Screw: M8 - 1.25x10mm	C020.727	0	0	0	36	44	52
Vertical Rail: 4 High Array / Lower for 8 High Array	C056.070SA	5	0	0	9	0	0
Vertical Rail: 5 High Array / Lower for 10 High Array	C056.071SA	0	6	0	0	11	0
Vertical Rail: 6 High Array / Lower for 12 High Array	C056.072SA	0	0	7	0	0	13
Vertical Rail: Upper for 8 High Array	C056.074SA	0	0	0	9	0	0
Vertical Rail: Upper for 10 High Array	C056.075SA	0	0	0	0	11	0
Vertical Rail: Upper for 12 High Array	C056.076SA	0	0	0	0	0	13

Section 2 *(continued)* - **Trim Frame Components**

TOP LEFT TRIM SECTION

TOP RIGHT TRIM SECTION

LEFT TOP TRIM SECTION

TOP CENTER TRIM SECTION

RIGHT TOP TRIM SECTION

SOCKET HEAD SCREW
M4-0.7x10mm

SPLIT LOCK WASHER
M4

TOP & SIDE TRIM ATTACHMENT BRACKET

BLACK SOCKET HEAD SCREW
M4-0.7x10mm

BOTTOM TRIM ATTACHMENT BRACKET
Single - C002.1728

LEFT BOTTOM TRIM SECTION

RIGHT BOTTOM TRIM SECTION

BOTTOM LEFT TRIM SECTION

BOTTOM RIGHT TRIM SECTION

BOTTOM CENTER TRIM SECTION

Trim Component	Part #	Standard Array Size					
		4 X 4	5 X 5	6 X 6	8 X 8	10 X 10	12 X 12
TOP/SIDE TRIM BRACKETS							
Top Trim Support Bracket	C002.1639.02SA	3	3	3	4	5	6
Trim Attachment Bracket (Top & Side)	C002.1609SA	11	14	17	23	29	36
Screw: M4 - 0.7x10mm	C020.621	32	40	48	64	82	94
Split Lock Washer: M4	C013.196	32	40	48	64	82	94
BOTTOM TRIM BRACKETS							
Bottom Trim Attachment Bracket	C002.1638.02SA	5	6	7	9	11	13
Screw: M4 - 0.7x8mm Black Oxide	C020.739	4	4	4	6	8	8
TRIM SECTIONS							
TRIM - TOP CENTER	C287.346SA	0	0	0	1	2	0
TRIM - TOP CENTER	C287.347SA	0	0	0	0	0	2
TRIM - TOP LEFT	C287.348SA	1	0	0	0	0	0
TRIM - TOP LEFT	C287.349SA	0	1	1	1	1	1
TRIM - TOP RIGHT	C287.350SA	1	1	0	0	0	0
TRIM - TOP RIGHT	C287.351SA	0	0	1	1	1	1
TRIM - LT SIDE	C287.325SA	1	0	0	0	0	0
TRIM - LT SIDE	C287.326SA	0	1	0	0	0	0
TRIM - LT SIDE	C287.327SA	0	0	1	0	0	0
TRIM - LEFT SIDE BOTTOM	C287.328SA	0	0	0	1	0	0
TRIM - LEFT SIDE BOTTOM	C287.329SA	0	0	0	0	1	0
TRIM - LEFT SIDE BOTTOM	C287.330SA	0	0	0	0	0	1
TRIM - LEFT SIDE TOP	C287.332SA	0	0	0	1	0	0
TRIM - LEFT SIDE TOP	C287.333SA	0	0	0	0	1	0
TRIM - LEFT SIDE TOP	C287.334SA	0	0	0	0	0	1
TRIM - RIGHT SIDE BOTTOM	C287.335SA	0	0	0	1	0	0
TRIM - RIGHT SIDE BOTTOM	C287.336SA	0	0	0	0	1	0
TRIM - RIGHT SIDE BOTTOM	C287.337SA	0	0	0	0	0	1
TRIM - RIGHT SIDE TOP	C287.339SA	0	0	0	1	0	0
TRIM - RIGHT SIDE TOP	C287.340SA	0	0	0	0	1	0
TRIM - RIGHT SIDE TOP	C287.341SA	0	0	0	0	0	1
TRIM - RIGHT SIDE	C287.343SA	1	0	0	0	0	0
TRIM - RIGHT SIDE	C287.344SA	0	1	0	0	0	0
TRIM - RIGHT SIDE	C287.345SA	0	0	1	0	0	0
TRIM - BOTTOM CENTER	C287.318SA	0	0	0	1	2	0
TRIM - BOTTOM CENTER	C287.319SA	0	0	0	0	0	2
TRIM - BOTTOM LEFT	C287.320SA	1	0	0	0	0	0
TRIM - BOTTOM LEFT	C287.321SA	0	1	1	1	1	1
TRIM - BOTTOM RIGHT	C287.322SA	1	1	0	0	0	0
TRIM - BOTTOM RIGHT	C287.323SA	0	0	1	1	1	1

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 evenl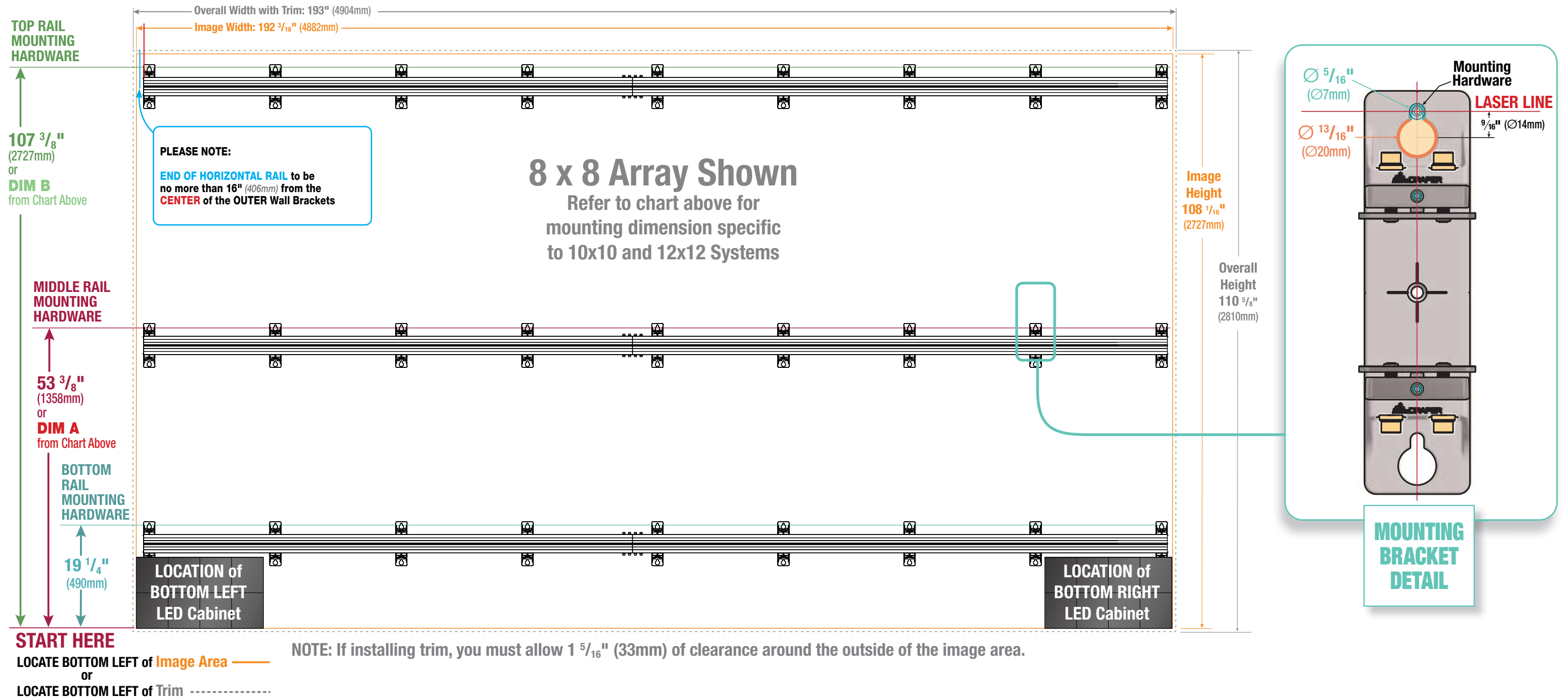y spaced no more then 32" *(813mm)* apart. In the drawings showing in this manual, the bracket spacing is 24" unless specified otherwise.

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 ¼" *(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.

STANDARD ARRAY MOUNTING DIMENSIONS

Array Size	DIM A - Vertical distance from Bottom Left of to Top Rail Mounting Hardware	FINAL VIEWING AREA	
		HEIGHT	WIDTH
4x4	53 ⅜" *(1357mm)*	54" *(1374mm)*	96 1/16" *(2440mm)*
5x5	67" *(1704mm)*	67 ½" *(1714mm)*	120" *(3050mm)*
6x6	80 ⅝" *(2047mm)*	81 ⅛" *(2061mm)*	144" *(3660mm)*

Fig. 3.1

Overall Width with Trim: 145" (3685mm)

Image Width: 144" (3660mm)

TOP RAIL MOUNTING HARDWARE

80 ⅝" (2047mm) or **DIM A** from Chart Above

PLEASE NOTE:
END OF HORIZONTAL RAIL to be no more than 16" *(406mm)* from the CENTER of the OUTER Wall Brackets

6 x 6 Array Shown
Refer to chart above for mounting dimension specific to 4x4 and 5x5 Systems

Image Height 81 ⅛" (2061mm)

BOTTOM RAIL MOUNTING HARDWARE

19 ¼" (490mm)

LOCATION of BOTTOM LEFT LED Cabinet

LOCATION of BOTTOM RIGHT LED Cabinet

Overall Height 83 ⅝" (2124mm)

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 outside of the image area.

∅ 5/16" (∅7mm)

9/16" (∅14mm)

∅ 13/16" (∅20mm)

Mounting Hardware

LASER LINE

9/16" (∅14mm)

MOUNTING BRACKET DETAIL

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 then 32" *(813mm)* apart.

The example below is for a 8 x 8 Array. Dimensions for other standard 3 rail array sizes *(10x10 and 12x2)* **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 ¼" *(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. From the mark made in step 1, measure up 53 ⅜" *(1358mm)* and draw a level horizontal line the width of the LED display.
   For 10x10 or 12x 12 arrays, use the chart at right to determine the proper value for **Dim A**.

4. From the mark made in step 1, measure up 107 ¹¹⁄₃₂" *(2727mm)* 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 12x 12 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.**

STANDARD ARRAY MOUNTING DIMENSIONS

Array Size	DIM A Vertical distance from Bottom Left of Array to Middle Rail Mounting Hardware	DIM B Vertical distance from Bottom Left of Array to Top Rail Mounting Hardware	FINAL VIEWING AREA HEIGHT	WIDTH
8x8	53 ⅜" (1358mm)	107 ⅜" (2727mm)	108 ¹⁄₁₆" (2747mm)	192 ³⁄₁₆" (4882mm)
10x10	67" (1704mm)	134 ⁷⁄₁₆" (3413mm)	135 ⅛" (3433mm)	240 ¼" (6102mm)
12x12	80 ⅝" (2047mm)	161 ¹³⁄₃₂" (4100mm)	162 ⅛" (4119mm)	288 ½" (7322mm)

Overall Width with Trim: 193" (4904mm)
Image Width: 192 ³⁄₁₆" (4882mm)

TOP RAIL MOUNTING HARDWARE

107 ³⁄₈" (2727mm) or DIM B from Chart Above

PLEASE NOTE:
END OF HORIZONTAL RAIL to be no more than 16" *(406mm)* from the CENTER of the OUTER Wall Brackets

8 x 8 Array Shown
Refer to chart above for mounting dimension specific to 10x10 and 12x12 Systems

Image Height 108 ¹⁄₁₆" (2727mm)

Overall Height 110 ⅝" (2810mm)

MIDDLE RAIL MOUNTING HARDWARE

53 ³⁄₈" (1358mm) or DIM A from Chart Above

BOTTOM RAIL MOUNTING HARDWARE

19 ¹⁄₄" (490mm)

LOCATION of BOTTOM LEFT LED Cabinet

LOCATION of BOTTOM RIGHT LED Cabinet

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 outside of the image area.

⌀ ⁵⁄₁₆" (⌀7mm)
⌀ ¹³⁄₁₆" (⌀20mm)

Mounting Hardware
LASER LINE
⁹⁄₁₆" (⌀14mm)

MOUNTING BRACKET DETAIL

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

STUDS SHOWN
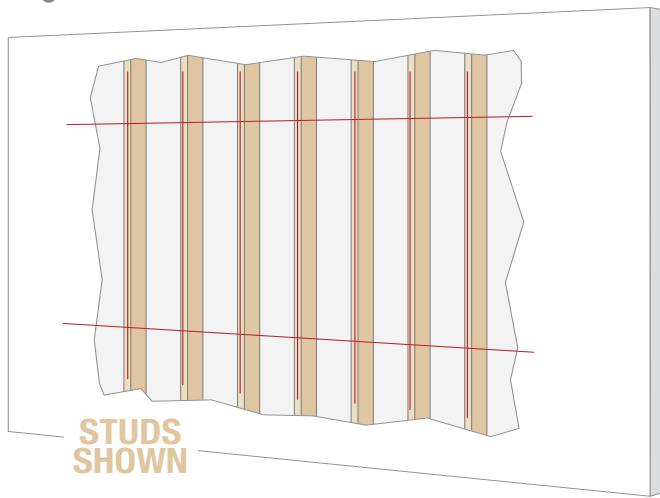
Section 3.2.2 - CONCRETE, BLOCK OR BRICK INSTALLATION

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

Fig. 3.2-2

MAX. WALL
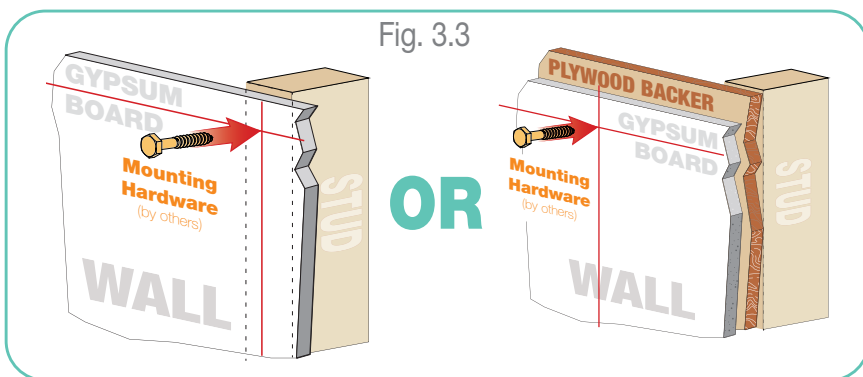BRACKET SPACING:
24" (610mm) **to 32"** (813mm)
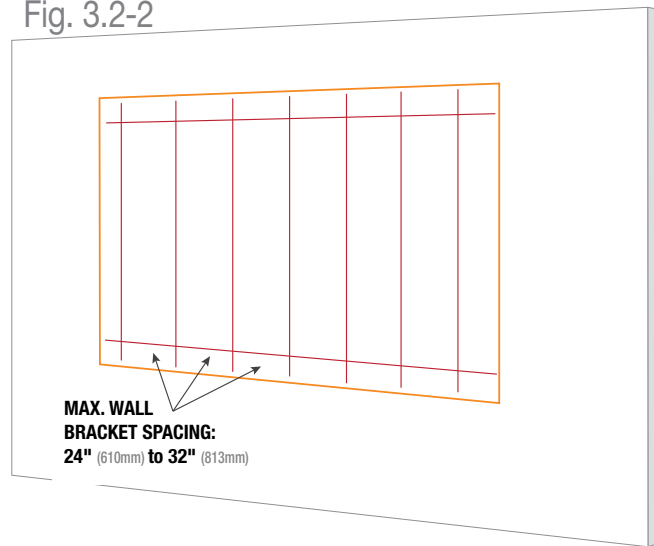
Section 3.3 - *Attaching Mounting Hardware* (by Others) *to Wall*

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 ½"*(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

GYPSUM BOARD
Mounting Hardware (by others)
WALL
STUD

OR

PLYWOOD BACKER
Mounting Hardware (by others)
GYPSUM BOARD
WALL
STUD

Ø ⁵/₁₆" (Ø7mm)
Ø ¹³/₁₆" (Ø20mm)

Mounting Hardware
LASER LINE
⁹/₁₆" (Ø14mm)

MOUNTING BRACKET DETAIL

MOUNTING LAG SCREW
BY OTHERS MIN: .25" x 1.75" L
Must attach to studs or 1/2" Plywood Backer

MIN: .25" x 1.75" L
HEX HEAD LAG SCREW
BY OTHERS
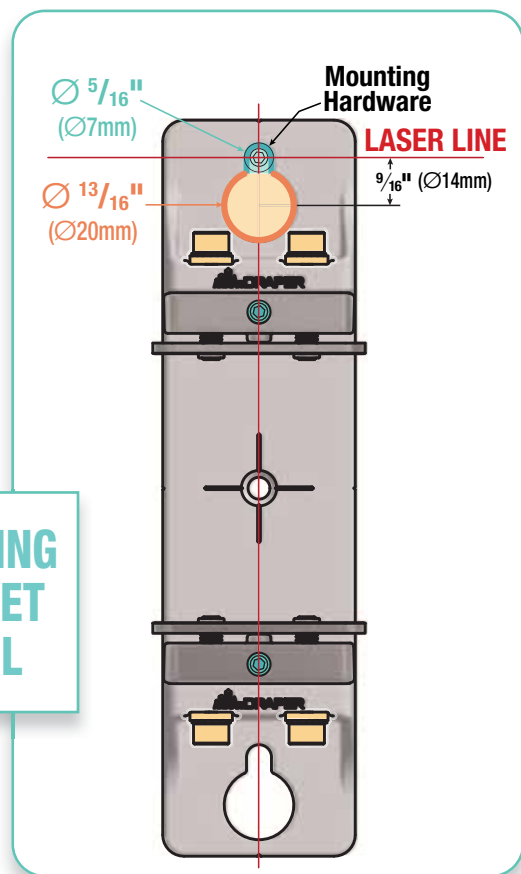
Please Note: It is the responsibility of the installer to select mounting hardware appropriate for the mounting surface

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.

MOUNTING BRACKET DETAIL
SLIDES INTO **TOP CHANNEL** OF HORIZONTAL RAIL
SLIDES INTO **BOTTOM CHANNEL** OF HORIZONTAL RAIL

HORIZONTAL RAIL SECTION PROFILE
TOP CHANNEL
FRONT CHANNEL See Section 9
BOTTOM CHANNEL

HORIZONTAL RAIL CONNECTORS
SCREW M6 -1x10mm x4
SPLIT LOCK WASHER .25" ID X .385" OD X .063" x4
WASHER .255" ID X .562" OD X .06" x4
RAIL CONNECTOR x1
Top / Bottom

5mm
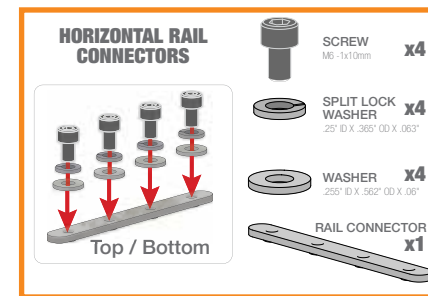
Please Note:
Only the TOP and BOTTOM rail connectors will be used to assemble the rails.

Front Rail Connector will be installed later in Section 9.
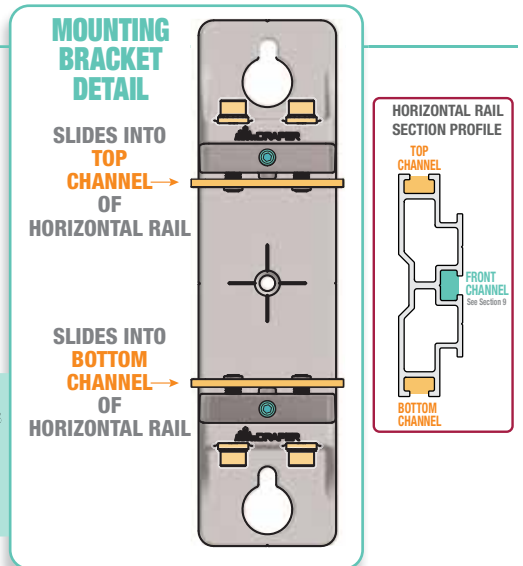
See chart above for the suggested number of wall brackets required per rail and splice locations.

STANDARD ARRAY SIZES - SUGGESTED BRACKETS REQUIRED & SPLICE LOCATIONS

1 2 3 **4** PANELS WIDE

1 2 3 4 **5** PANELS WIDE

1 2 3 4 5 **6** PANELS WIDE

1 2 3 4 5 6 7 **8** PANELS WIDE

1 2 3 4 5 6 7 8 9 **10** PANELS WIDE

1 2 3 4 5 6 7 8 9 10 11 **12** PANELS WIDE
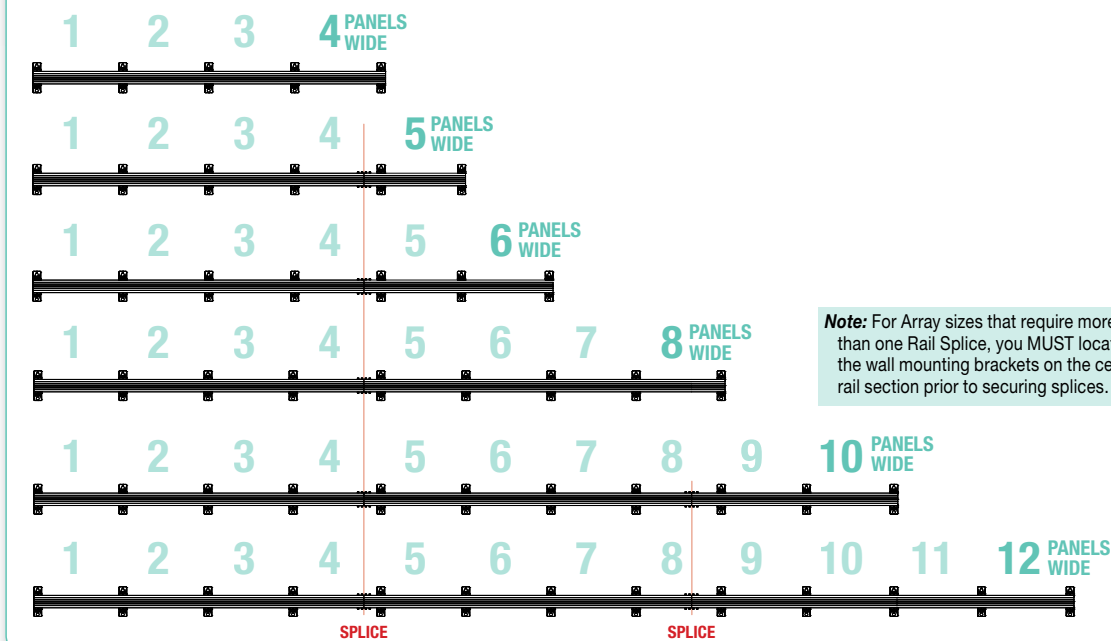
SPLICE   SPLICE

Note: For Array sizes that require more than one Rail Splice, you MUST locate the wall mounting brackets on the center rail section prior to securing splices.

To assemble the Horizontal rails:

4-1
A
B
Slide **Rail Connectors** into slots in Section A
Slide **Rail Section B** over slats in wall bracket

4-2
A   B
Slide **Rail Section B** over **Rail Connectors**

4-3
Tighten all rail connector screws with 5mm hex wrench
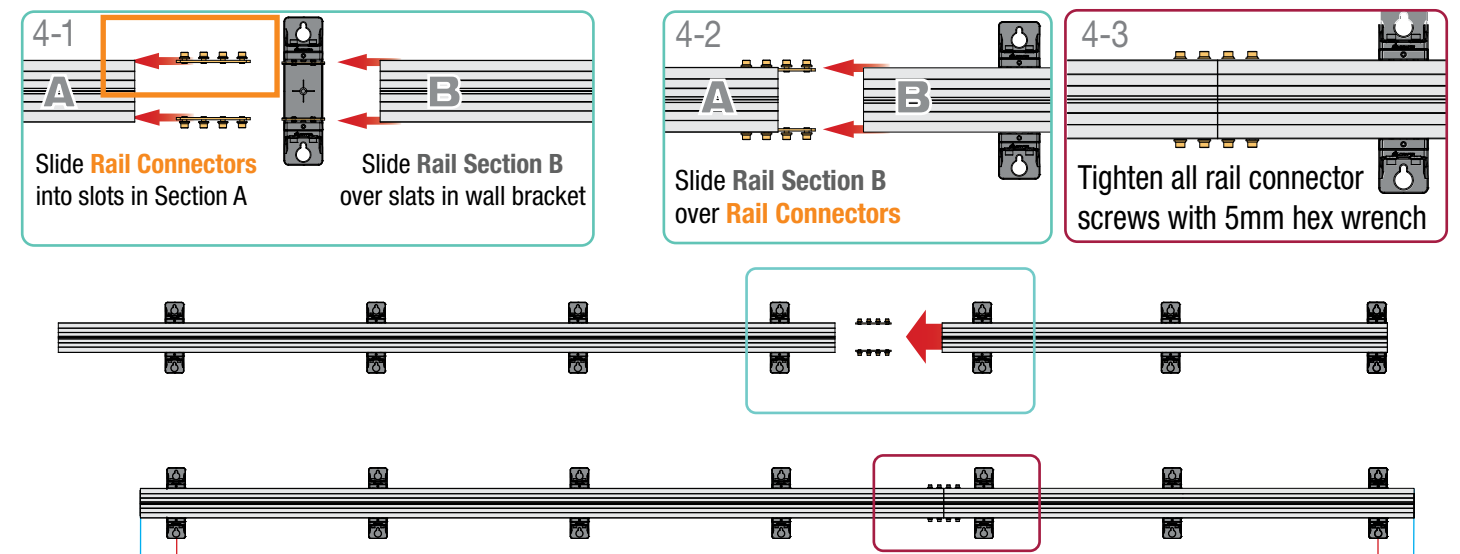
Section 5 - **Hanging Horizontal Rails**

Section 5.1 - For LED arrays up to 6 panels high - 2 Horizontal Rails

1. Using the top keyhole slots of the two outer wall mounting brackets, hang the bottom horizontal rail on the pre-installed mounting hardware *(see Section 3, Step 5)*.
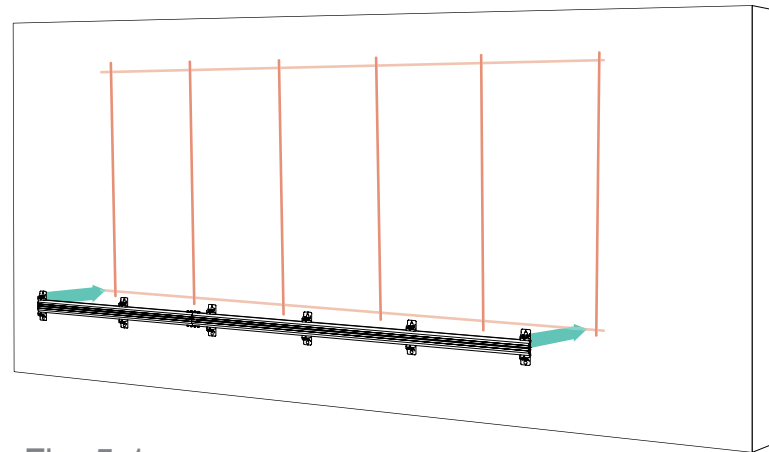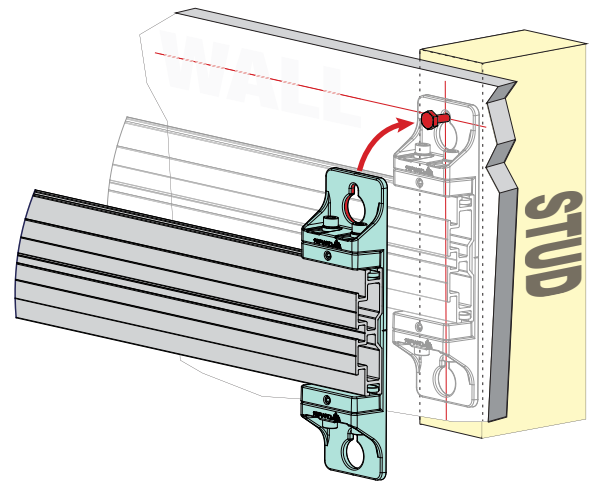
Fig. 5-1

2. Using the top keyhole slots of the outer wall mounting brackets, hang the top horizontal rails on the pre-installed mounting hardware.
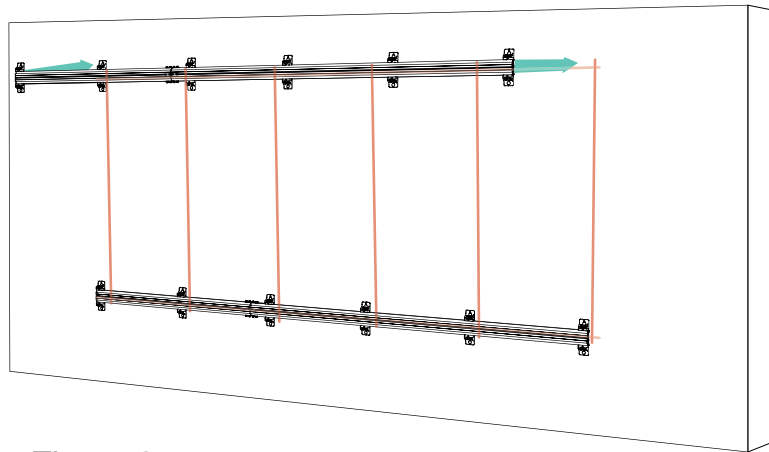
Fig. 5-2

3. Secure the outer wall mounting brackets on each end of the horizontal rails onto the wall. Leave the inner brackets loose for now.
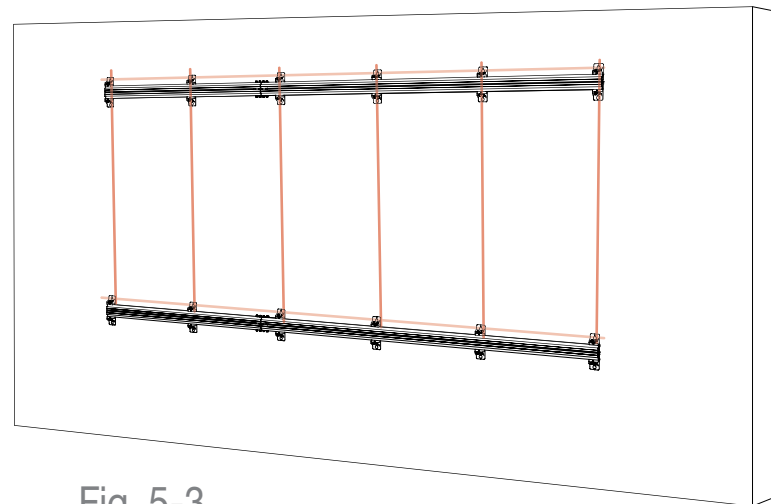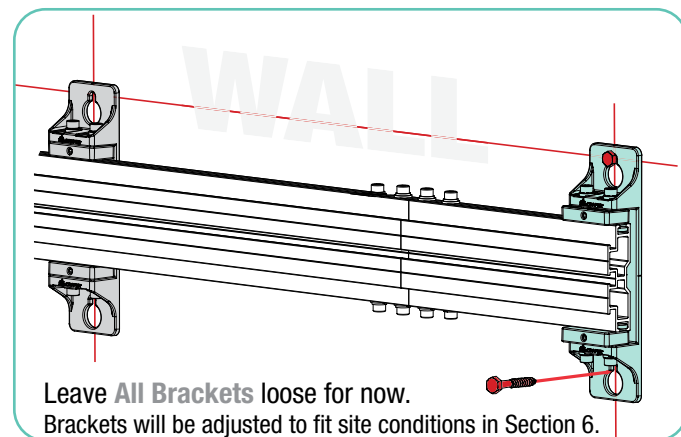
Leave **All Brackets** loose for now.
Brackets will be adjusted to fit site conditions in Section 6.

Fig. 5-3

Section 5.2 - For LED arrays 7 panels or higher - 3 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. Secure the outer wall mounting brackets on each side of the horizontal rails. Leave the inner brackets loose for now.
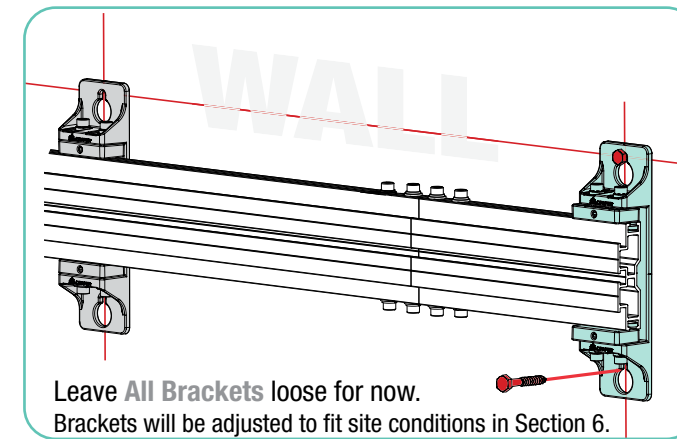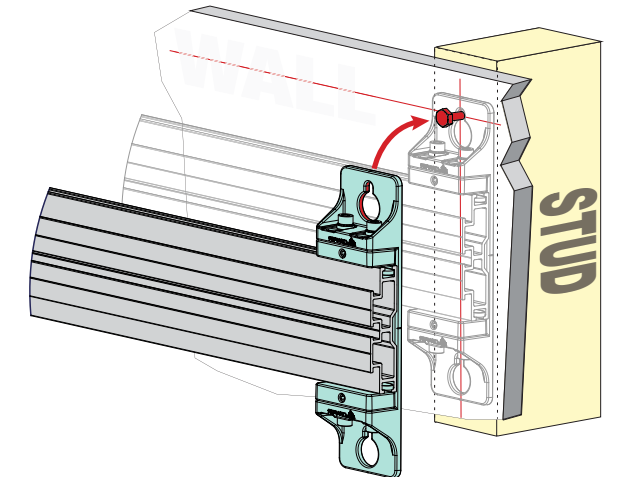
Leave **All Brackets** loose for now.
Brackets will be adjusted to fit site conditions in Section 6.

1

2

3

4
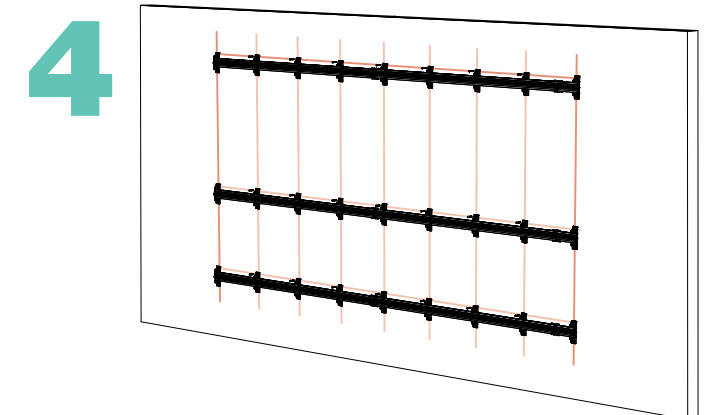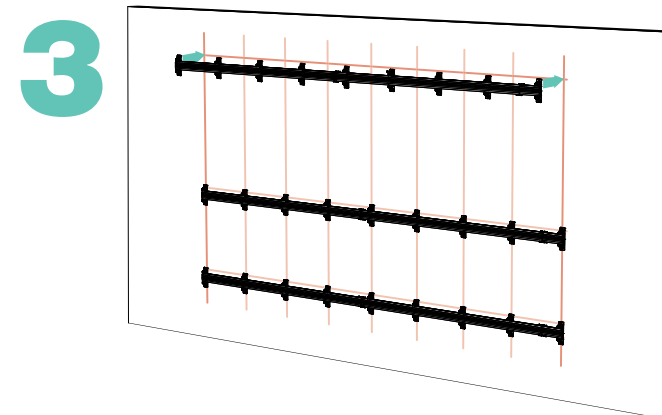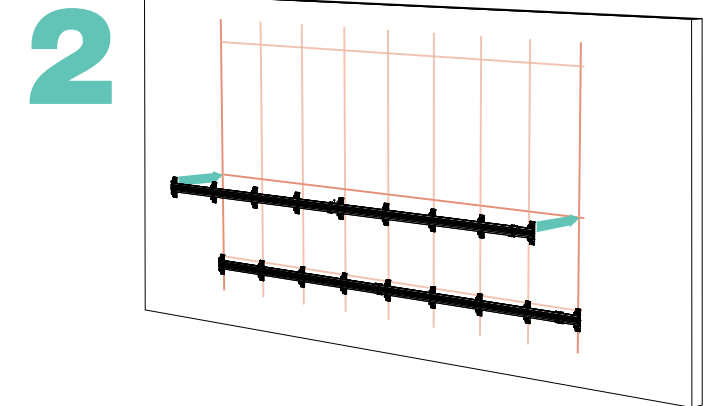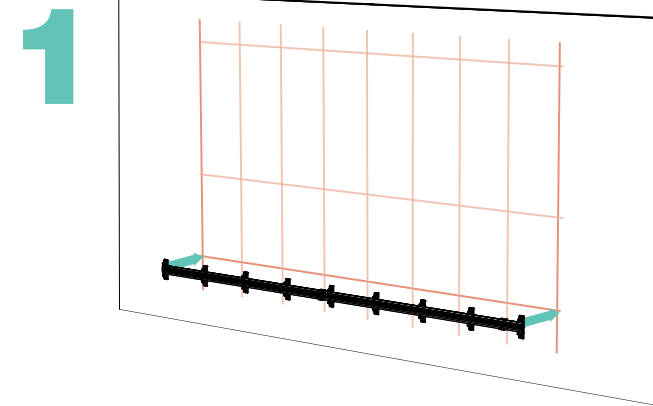
Section 6 - **Adjusting and Aligning Horizontal Rails**

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)*.

TOP VIEW - CONCAVE WALL

Laser Line

TOP VIEW - CONVEX WALL

Laser Line

Fig. 6-1
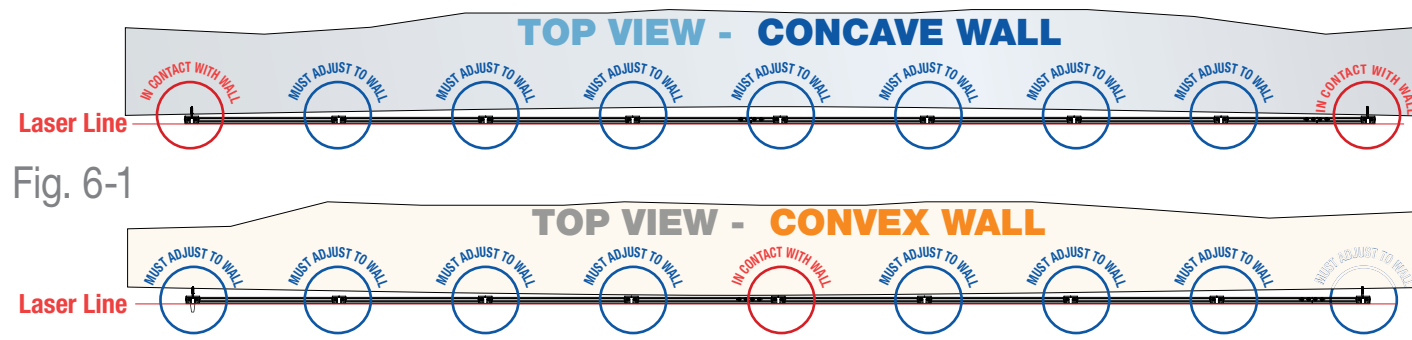
2. For any wall brackets not touching the wall *(see BLUE CIRCLES ABOVE)* use a 5mm Hex Wrench to loosen the four *(4)* locking screws on the top and bottom of each bracket *(See Fig. 6-2)*.

Fig. 6-2

Loosen Adjustment Screws

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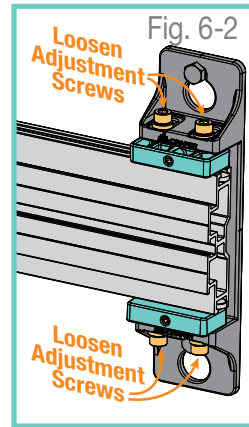
3. Using a 3mm Hex Wrench, turn the two *(2)* adjustment set screws on each wall mounting bracket. Adjust the wall bracket back until it touches the wall *(see Fig. 6-3)*.

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.

Fig. 6-3

BRACKET MOVES TOWARDS WALL

3mm Hex Wrench
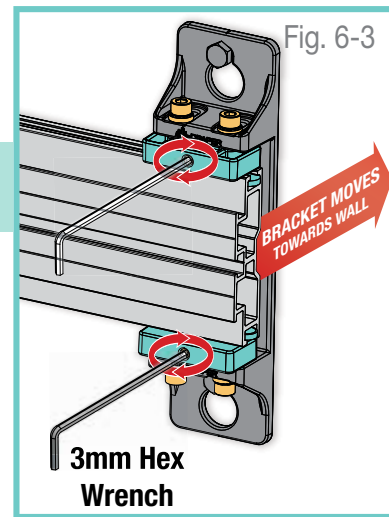
4. Leaving the wall brackets free floating, shine a laser line parallel to the desired viewing surface of the LED wall and close to the horizontal rails.

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.

Fig. 6-4

Tighten Adjustment Screws

Tighten Adjustment Screws
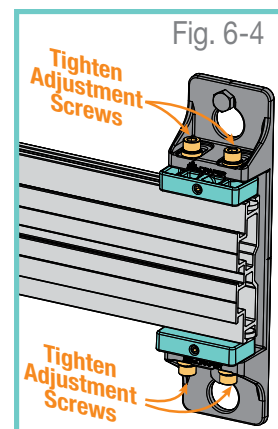
Section 7 - **Securing Inner Wall Brackets**

1. Using a 3mm Hex Wrench adjust all remaining wall mounting brackets. Ensure that each bracket is flush to the wall and secure to the wall with the appropriate mounting hardware.

2. Carefully tighten all four *(4)* locking screws on the top and bottom of each wall mounting bracket.

3. Repeat steps 1 and 2 until all brackets are plum and secured in place.

Tighten Adjustment Screws

Tighten Adjustment Screws
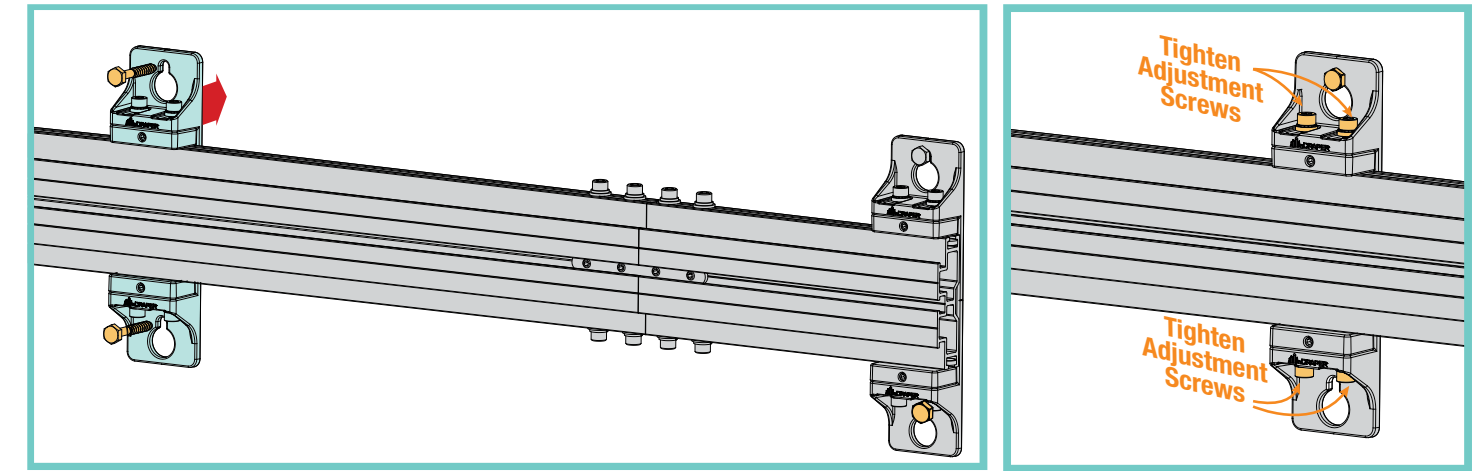
Section 8 - **Attaching Wall Adjuster Brackets to Vertical Rails**

WORK GLOVES RECOMMENDED

Section 8.1 - For LED arrays up to 6 panels high - 2 Horizontal Rails

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

1

WALL ADJUSTER BRACKET ASSEMBLY

Attach Differential Screw using 3mm Hex Wrench

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

2

Back

TOP ▶

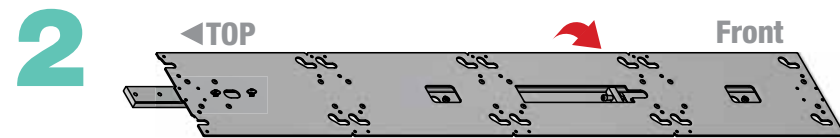3mm Hex Wrench engaged with differential screw

WORK GLOVES RECOMMENDED
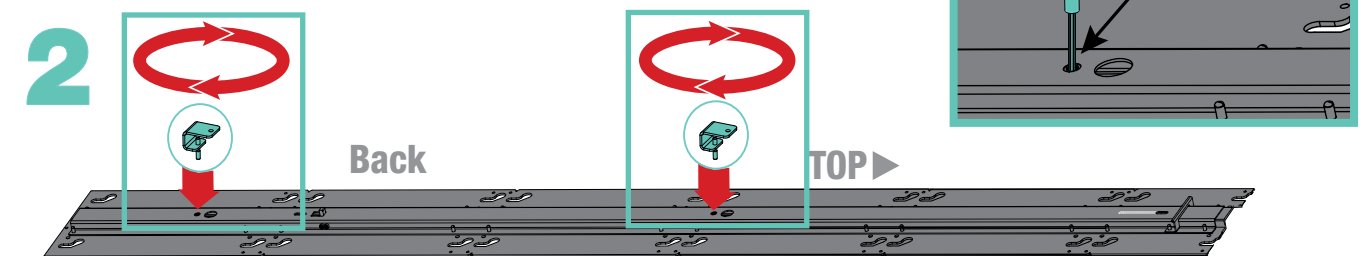
Section 8.2 - Vertical Rail Assembly - For LED arrays 7 panels or higher - 3 Horizontal Rails

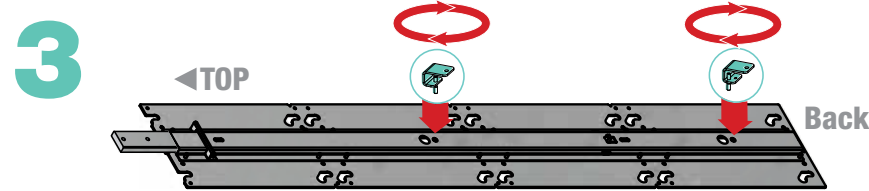### Section 8.2.1 - Lower Section of Vertical Rail Assembly

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

×2

SCREW
M5-1.25x10mm
Long Flanged
Button Head

A VERTICAL CONNECTOR

1

◄TOP   Front
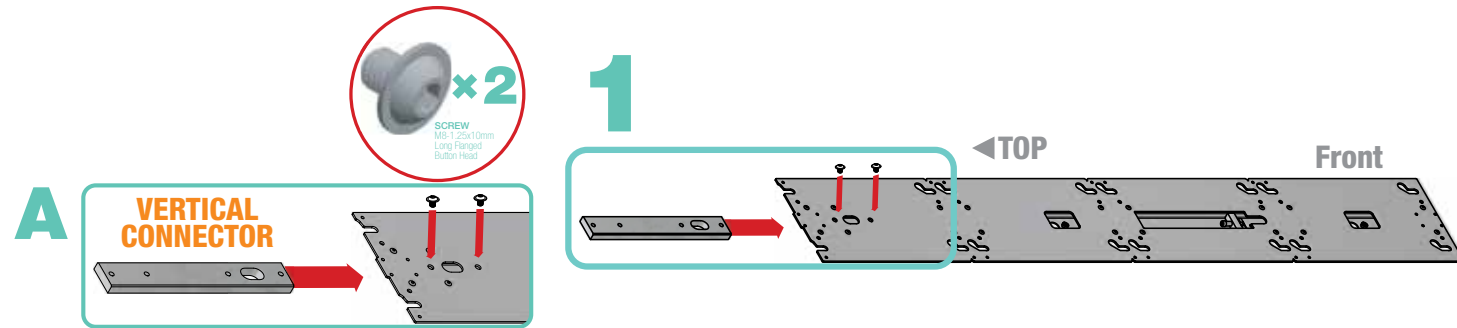
2. Turn the Lower Vertical Rail section over.

2

◄TOP   Front

TURN OVER

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

3

◄TOP   Back

Section 8.2.2 - Upper Section of Vertical Rail Assembly

1. Attach one *(1)* Wall Adjuster Bracket to the back side using a 3mm hex wrench.

3mm Hex Wrench engaged with differential screw
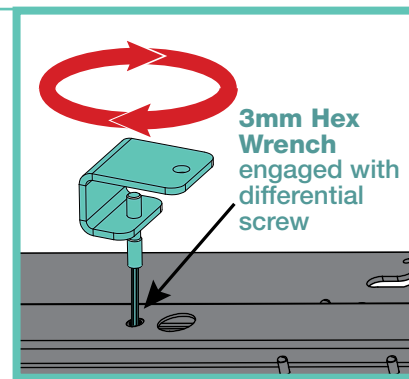
Section 9 - **Inserting Front Rail Connector and Vertical Rail Fasteners**

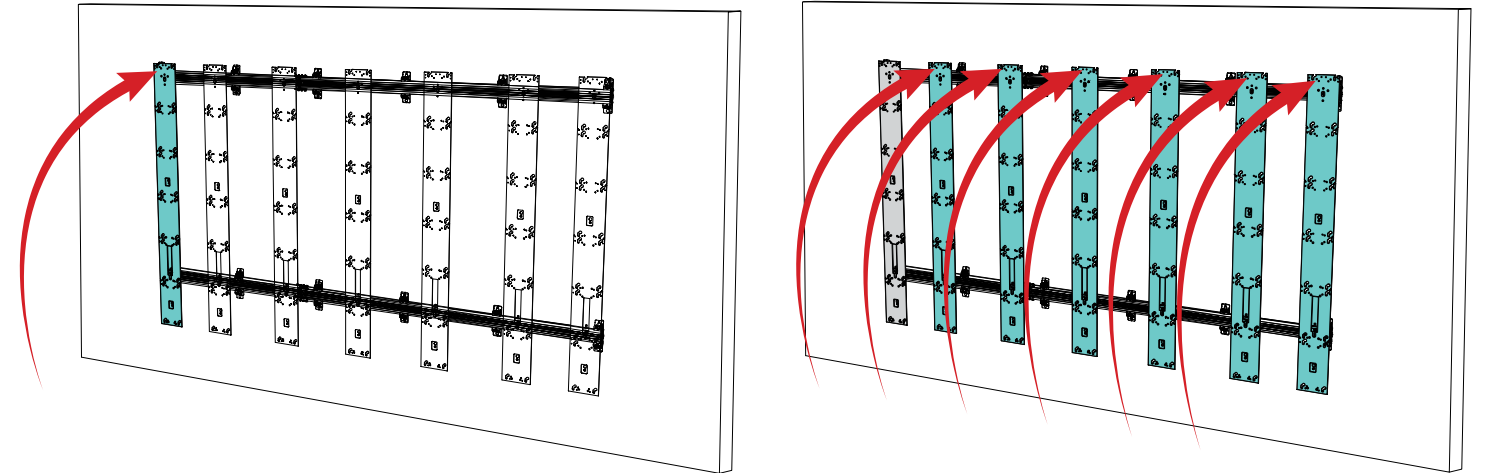### Section 9.1 - For LED arrays up to 6 panels high - 2 Horizontal Rails

1. Insert horizontal rail connector and vertical rail fasteners into the top and bottom horizontal rails.

4x4 5 Vertical Rails

1 2 3 4 5

1 2 3 4 5

1   2   3   4   5

Eventual location of Vertical Rails shown

5x5 6 Vertical Rails

1 2   3 4 5 6
Rail Connector (FRONT)

1 2   3 4 5 6
Rail Connector (FRONT)

Splice

1   2   3   4   5   6

Eventual location of Vertical Rails shown

6x6 7 Vertical Rails

1 2 3   4 5 6 7
Rail Connector (FRONT)

1 2 3   4 5 6 7
Rail Connector (FRONT)

Splice

1   2   3   4   5   6   7

Eventual location of Vertical Rails shown
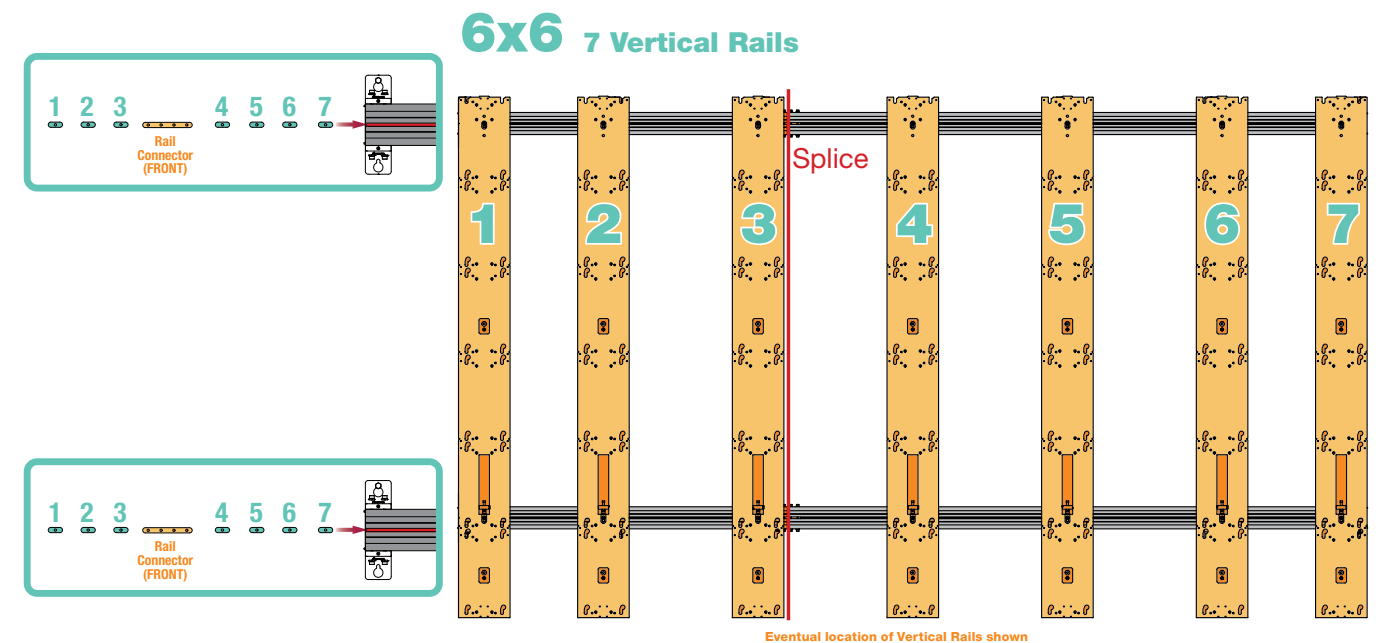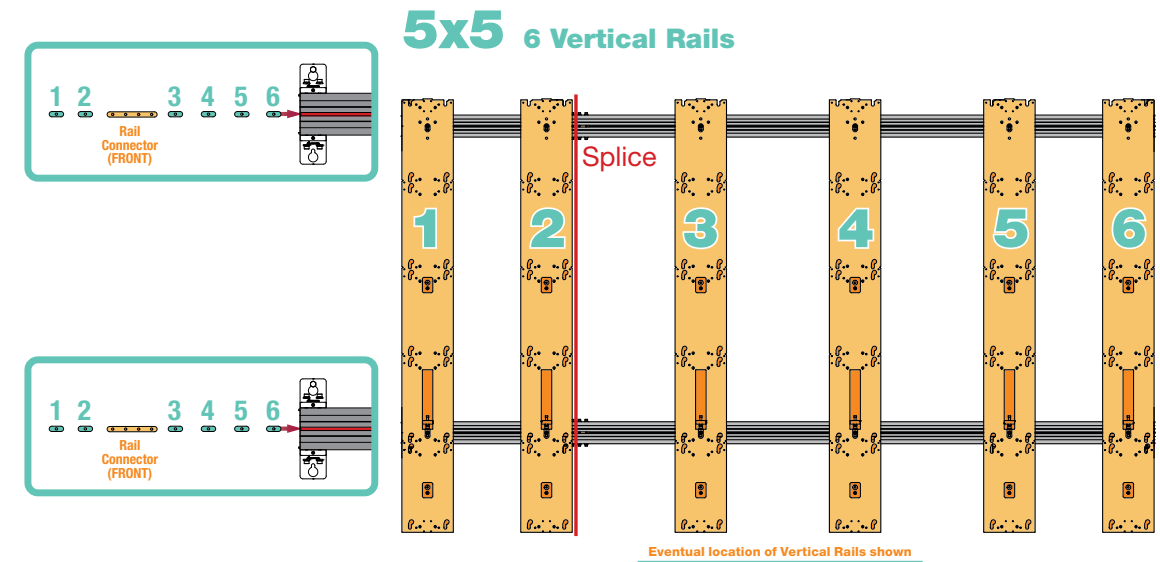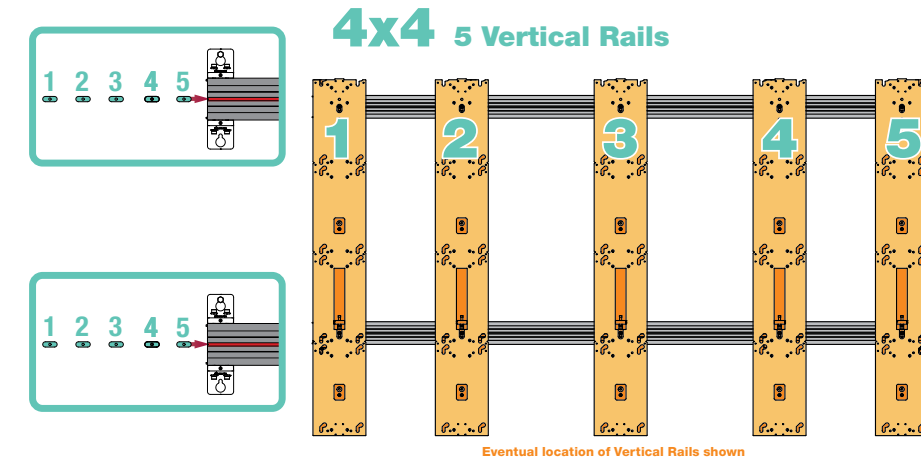
Section 9.2 - For LED arrays 7 panels or higher - 3 Horizontal Rails

1. Insert horizontal rail connector and vertical rail fasteners into the top, middle and bottom horizontal rails.

8x8 9 Vertical Rails

Splice   Splice

Eventual location of Vertical Rails shown

10x10 11 Vertical Rails

Splice   Splice

Eventual location of Vertical Rails shown

12x12 13 Vertical Rails

Splice   Splice   Splice

Eventual location of Vertical Rails shown

WORK GLOVES RECOMMENDED
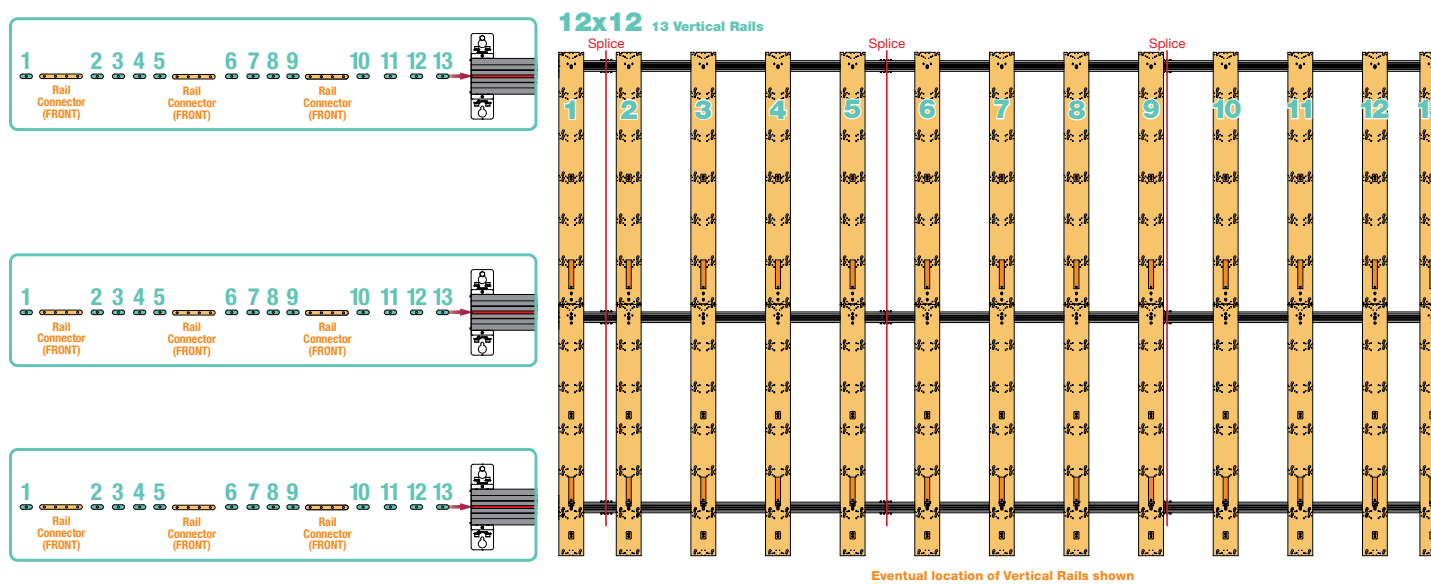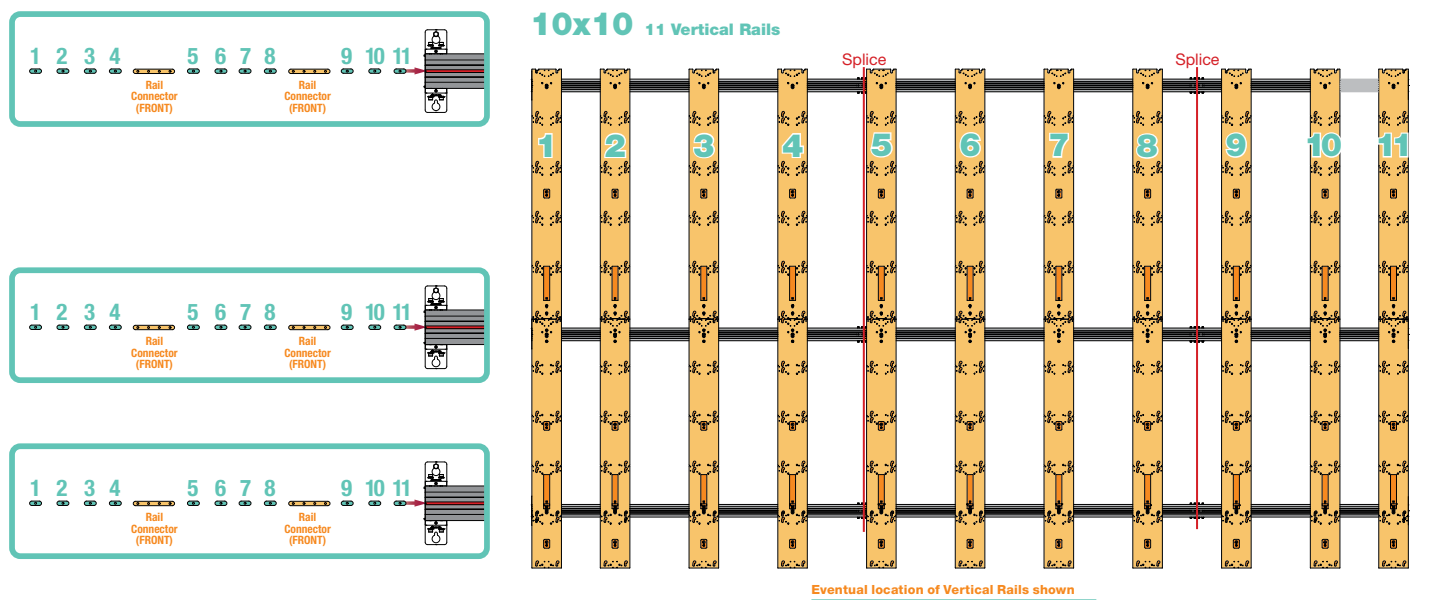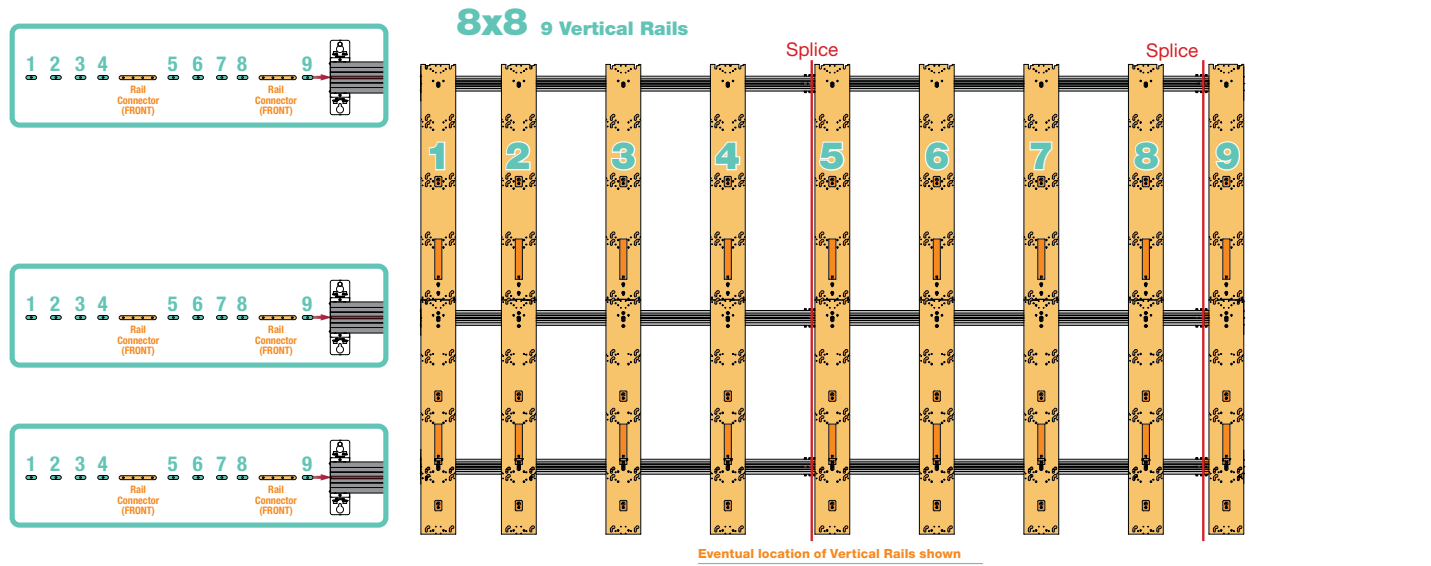
Section 10 - **Attaching Vertical Rails**

Section 10.1 - For LED arrays up to 6 panels high - 2 Horizontal Rails

1. Hang the Vertical Rails on the top horizontal rail and space evenly.

2. Using a 5mm hex wrench, slide the fastener nuts *(from Section 9)* into position and attach using the supplied M6x12 hardware.

Fig. 10-1A   Fig. 10-1B   Fig. 10-2A   Fig. 10-2B

VERTICAL RAIL

VERTICAL RAIL

VERTICAL RAIL

VERTICAL RAIL

HORIZONTAL RAIL

HORIZONTAL RAIL

HORIZONTAL RAIL

SLIDE IN FASTENER

VERTICAL RAIL FASTENERS

SLIDE-IN NUT M6-1.0

FLANGE HEAD SCREW M6-1.0x8mm
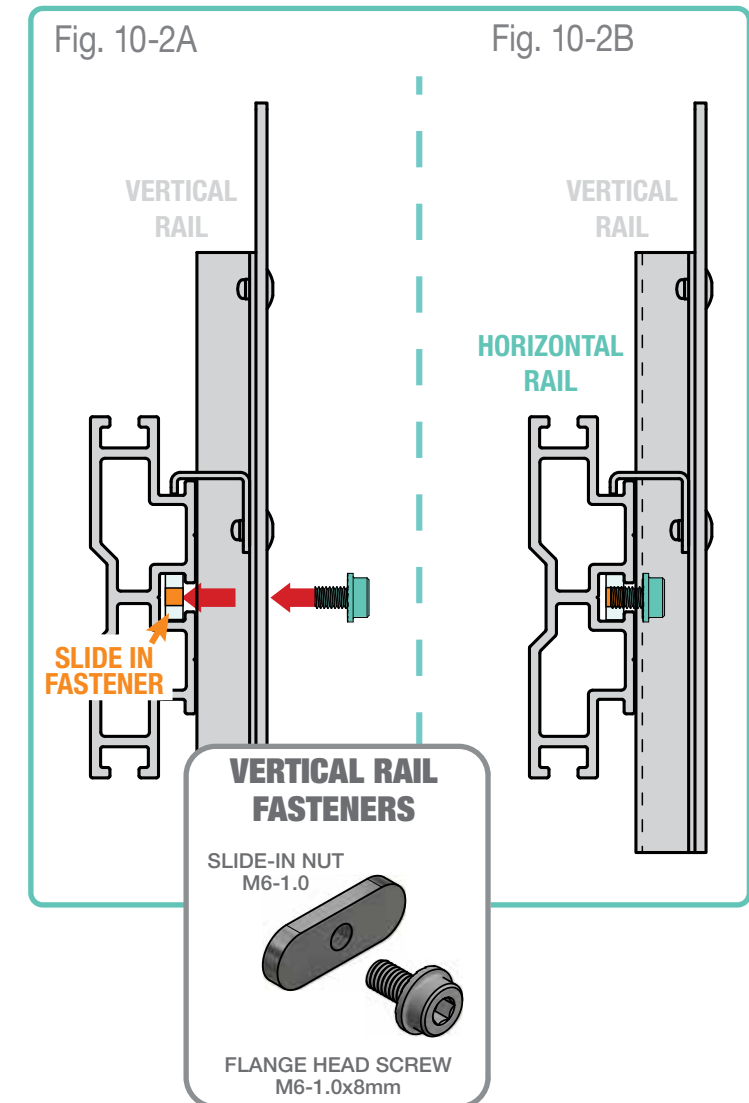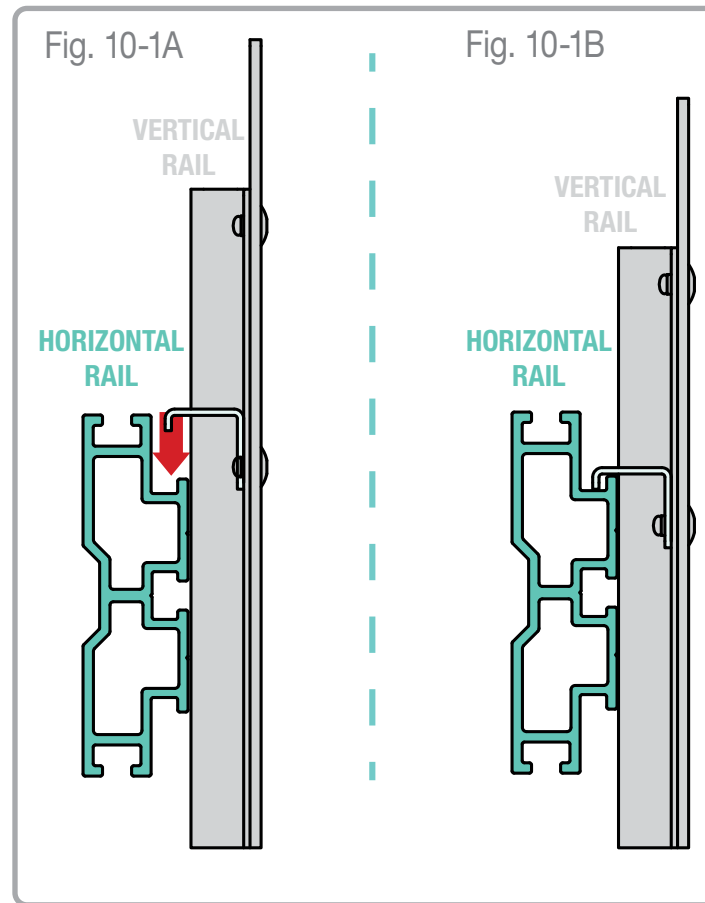
Section 10.2 - For LED arrays 7 panels or higher - 3 Horizontal Rails

Section 10.2.1 - 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.
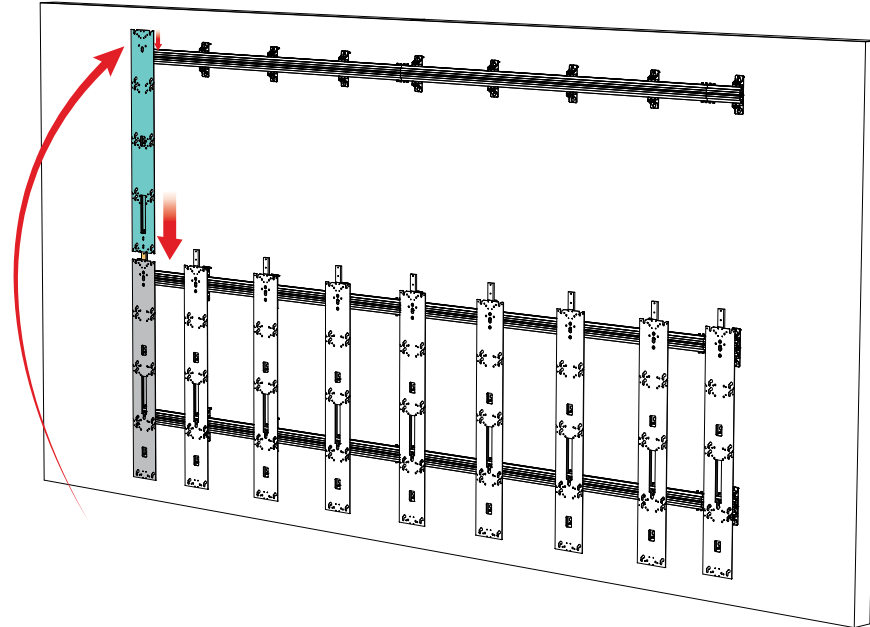
Section 10.2.2 - Attaching Top Vertical Sections

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.

WORK GLOVES RECOMMENDED
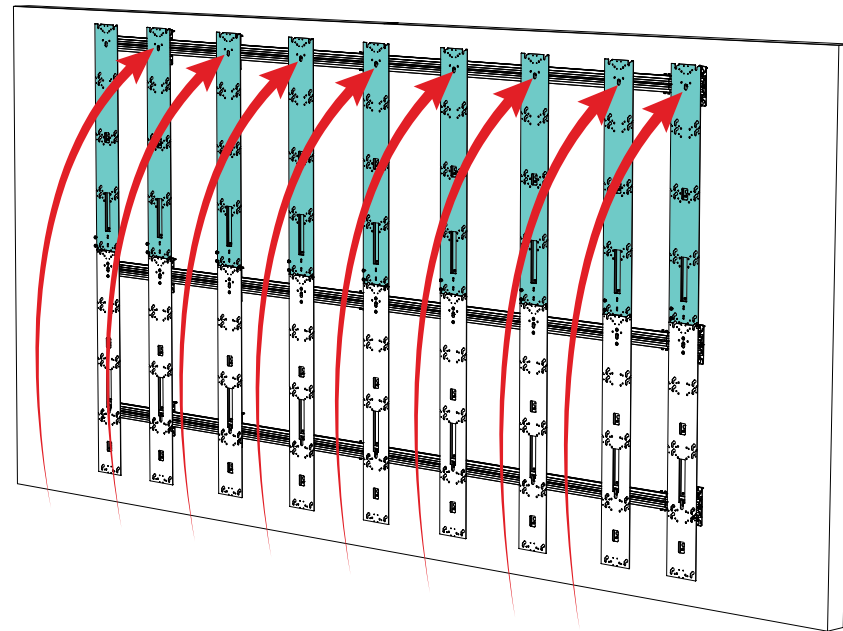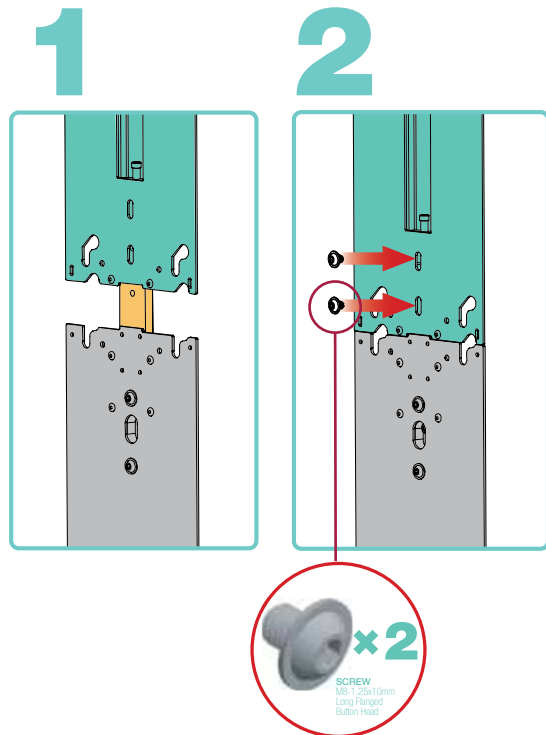
Section 11 - Adjusting Verticals

Section 11.1 - Y - Axis Adjustment

Section 11.1.1 - For LED arrays up to 6 panels high - 2 Horizontal Rails

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 the are all level.

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

Section 11.1.2 - For LED arrays 7 panels or higher - 3 Horizontal Rails

Each Vertical Rail section *(upper and lower)* **has its own adjustment set screw.**

1. Locate the highest Vertical Rail and shine a laser level line across utilizing the laser level notch.

2. Beginning with the Lower Sections, use a 5mm hex wrench to raise each Vertical Rail until they are all level.

3. Repeat Steps 1 and 2 on the Upper Sections of each Vertical Rail.
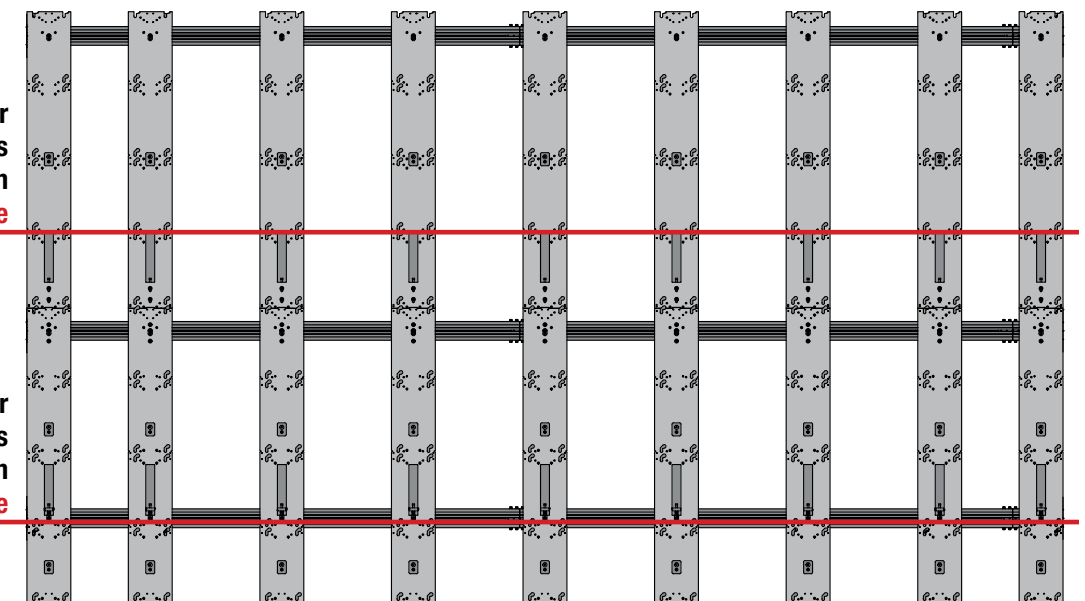
Please note: All Vertical Rails must be

Adjust Set Screw DOWN to RAISE position of the each Vertical Rail

LASER LINE ALIGNMENT NOTCHES

Adjust
Vertical Rails
Until Level with
Laser Line

14 $^{11}/_{32}$ ”
(364.4mm)

BOTTOM OF VIEWING AREA
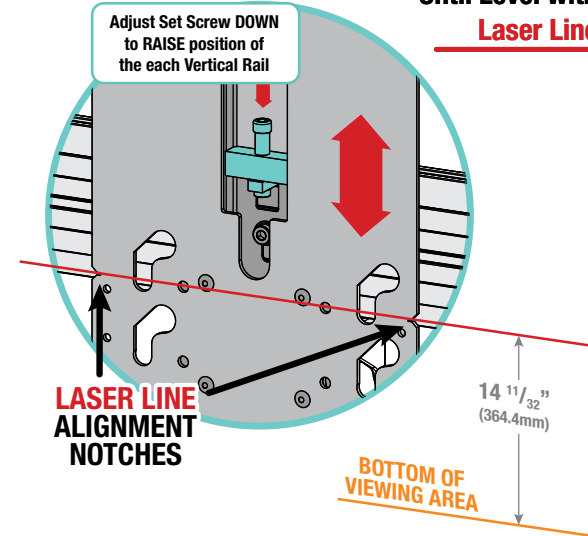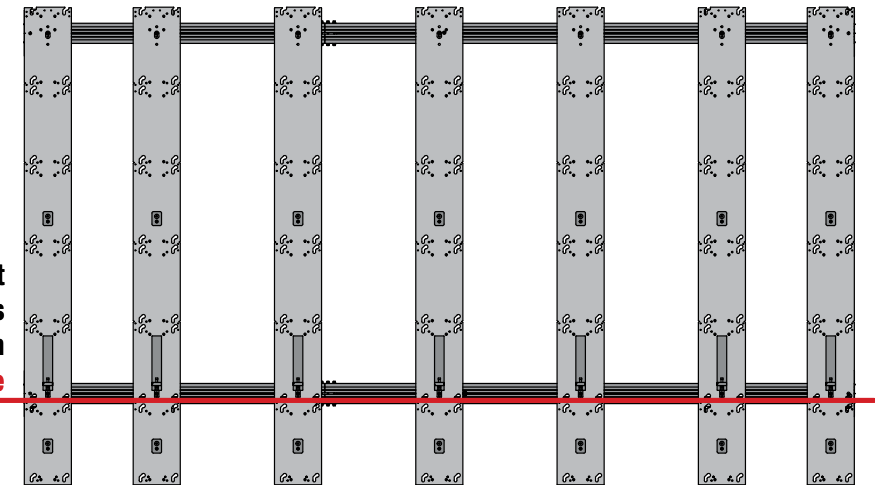
Adjust Upper
Vertical Rails
Until Level with
Laser Line

Adjust Lower
Vertical Rails
Until Level with
Laser Line

aligned and level with each other.

Section 11.2 - X - Axis Adjustment *(Squaring Verticals with provided Alignment Tool)*

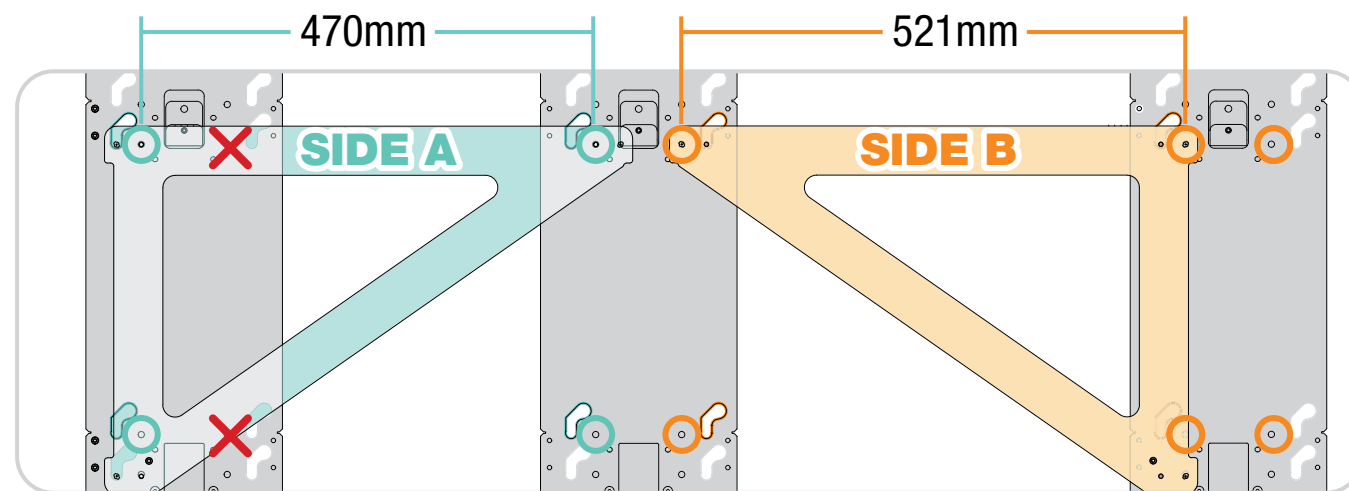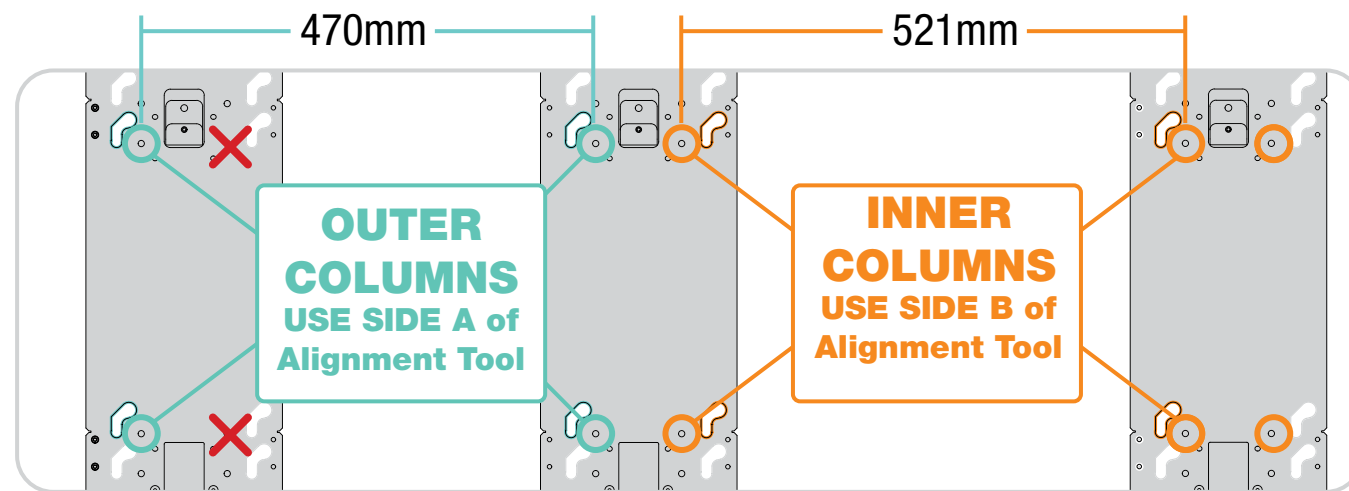### Section 11.2.1 - For LED arrays up to 6 panels high - 2 Horizontal Rails
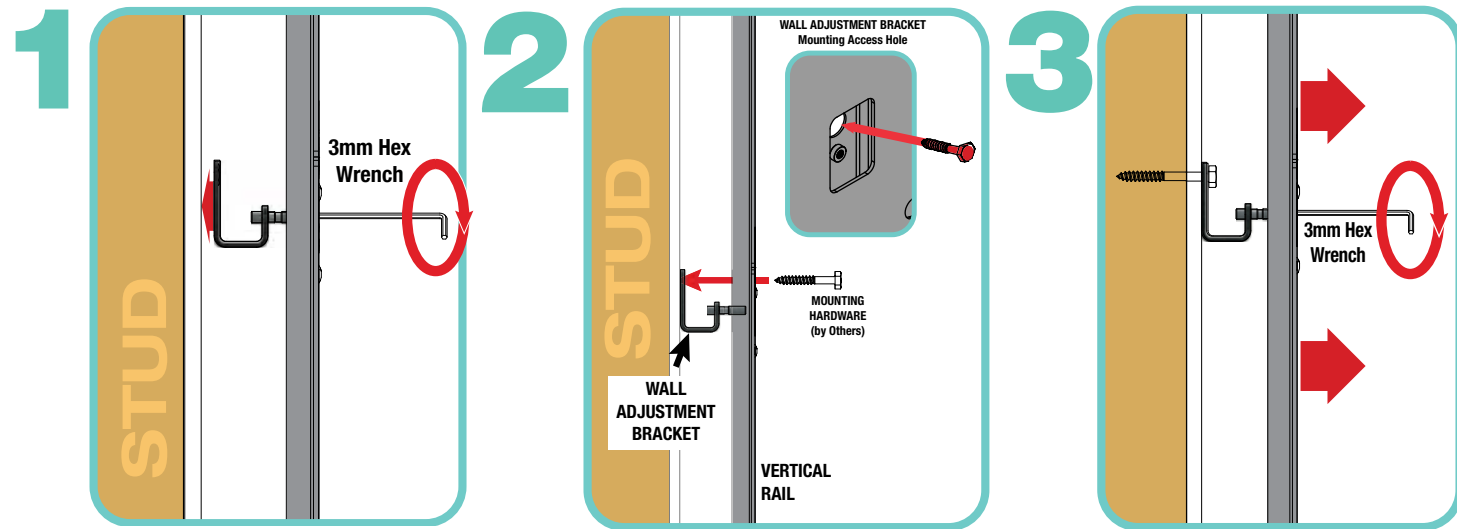
1. Shine a laser line at the left edge of the structure and check that the first Vertical Rail is square with the floor. To adjust, loosen the fasteners installed in Section 10, Step 3 and slide the Vertical Rail along the Horizontal Rail until. Tighten fasteners when the first vertical is square.

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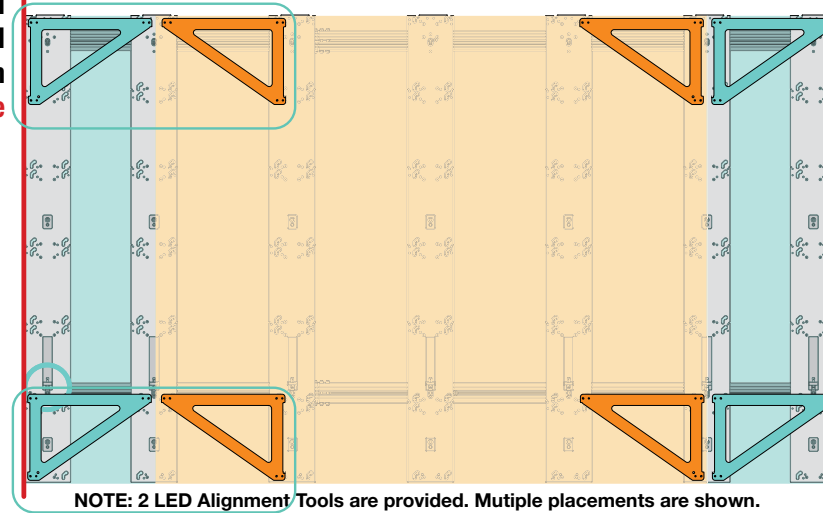
Note: Use Side A of the alignment tool for the last vertical rail alignment procedure.

Adjust Vertical Rails Until Plum with Laser Line

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

470mm   521mm

OUTER COLUMNS
USE SIDE A of Alignment Tool

INNER COLUMNS
USE SIDE B of Alignment Tool

470mm   521mm

SIDE A   **SIDE B**

Section 11.2.2 - For LED arrays 7 panels or higher - 3 Horizontal Rails

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 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.

5. Remove alignment tools and re-attach each using side B to the 3rd vertical rail using the corresponding alignment holes at the top and bottom of the rail.

6. Adjust the position of the 3rd vertical rail so that the pin on the end of the tool aligns with the corresponding hole on the 2nd vertical rail.

7. Tighten the mounting screws on the 3rd mounting rail and repeat the process moving across the structure from left to right.

**Adjust Vertical Rails Until Plum with Laser Line**

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

470mm   521mm

OUTER COLUMNS
USE SIDE A of Alignment Tool

INNER COLUMNS
USE SIDE B of Alignment Tool

470mm   521mm

SIDE A   **SIDE B**
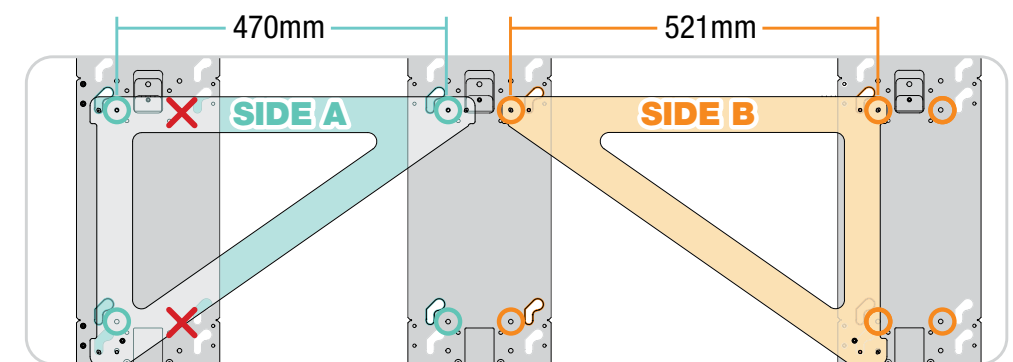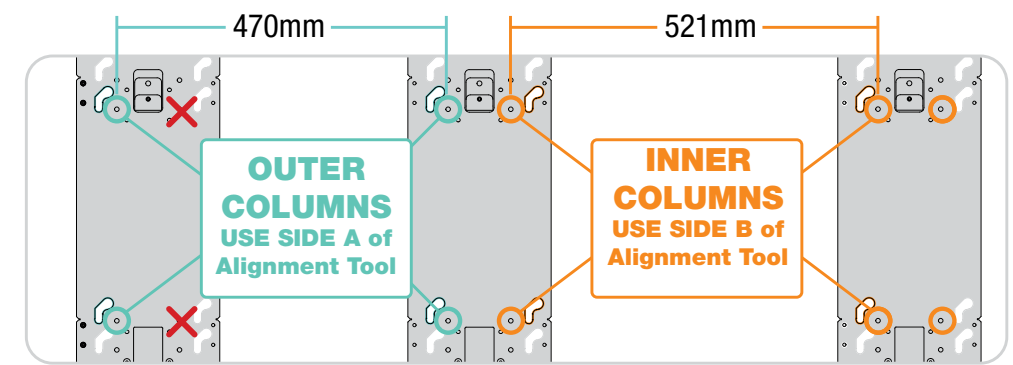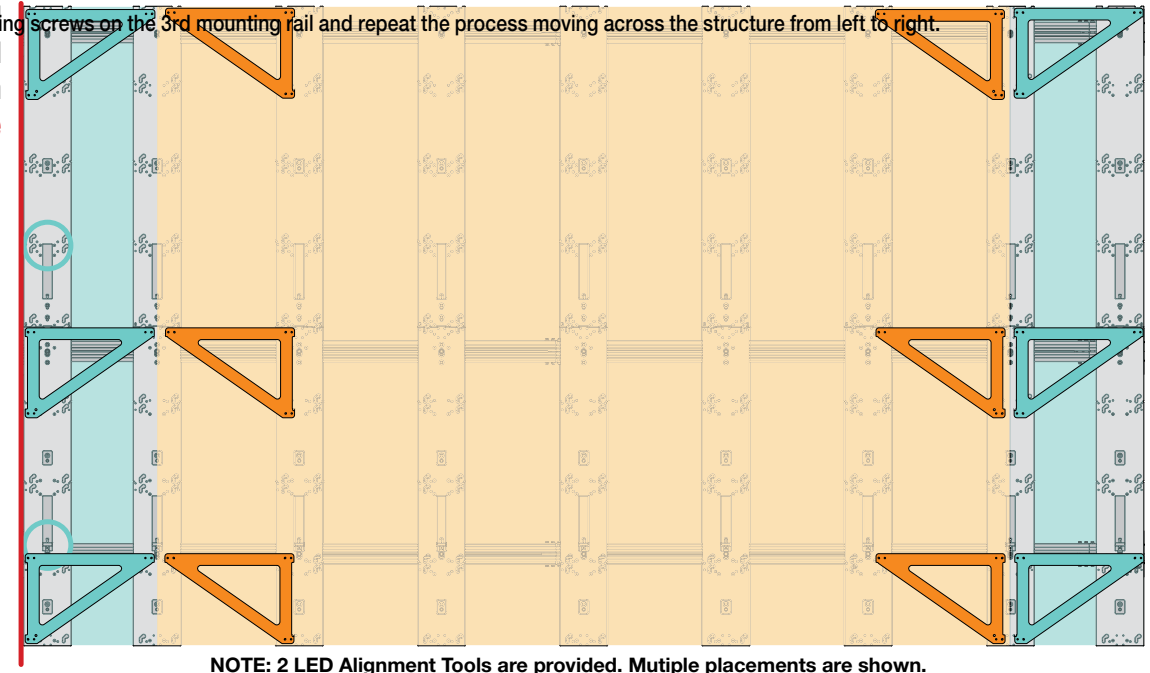
Section 11.3 - Z - Axis Adjustment

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

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

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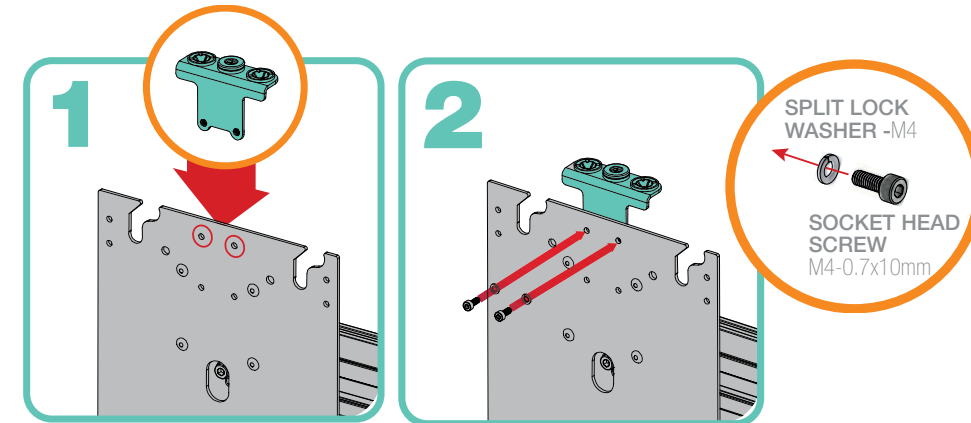

1 3mm Hex Wrench STUD

2 STUD WALL ADJUSTMENT BRACKET Mounting Access Hole / MOUNTING HARDWARE (by Others) / WALL ADJUSTMENT BRACKET / VERTICAL RAIL

3 3mm Hex Wrench

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

WALL ADJUSTMENT BRACKETS / Differential Screw 3mm Hex Wrench
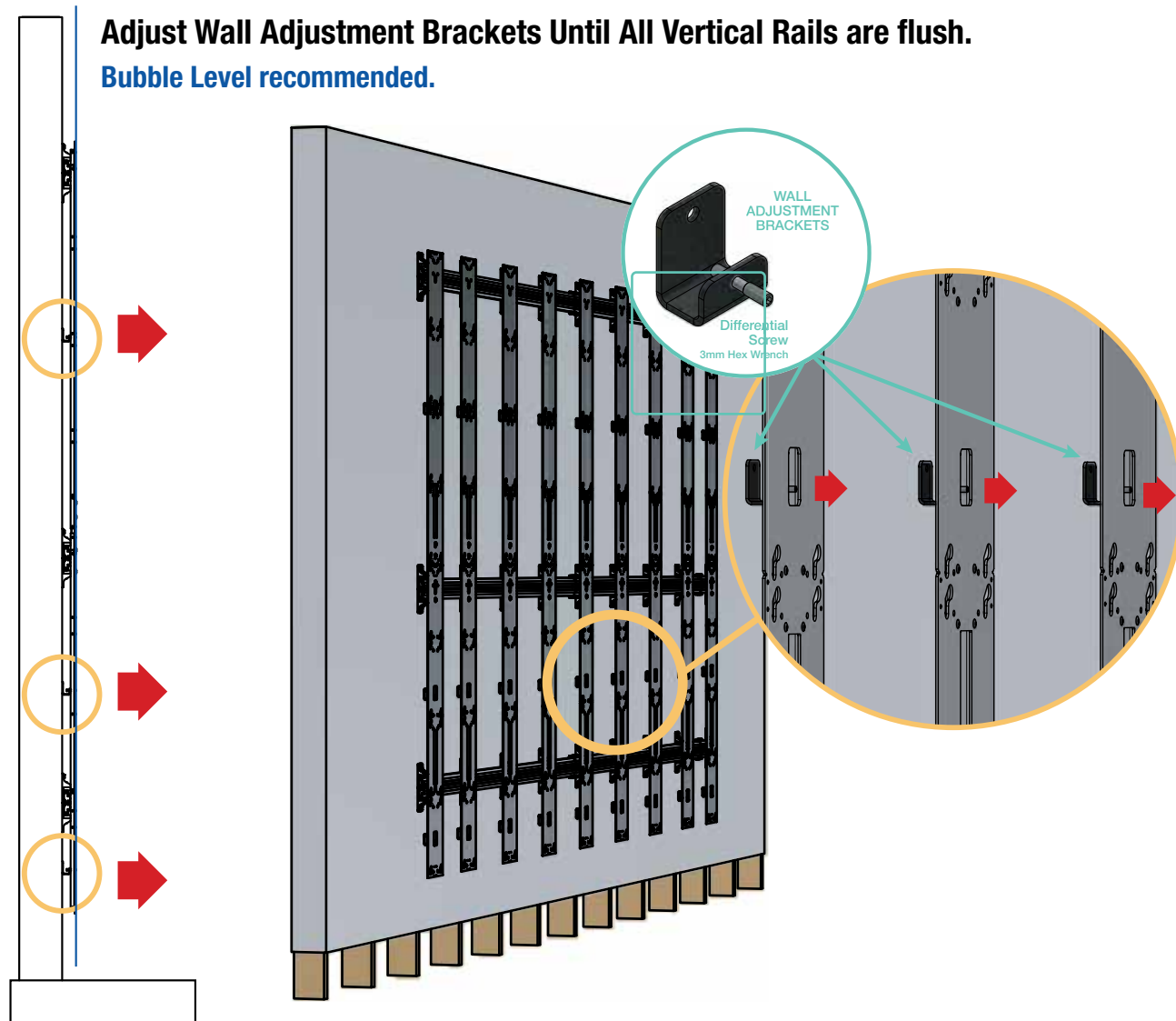
Section 12 - **Attaching Trim Brackets**

Section 12.1 - Installing TOP Trim Brackets

1

2 SPLIT LOCK WASHER - M4 / SOCKET HEAD SCREW M4-0.7x10mm

Section 12.2 - Installing Side Trim Brackets

1

2 SPLIT LOCK WASHER - M4 / SOCKET HEAD SCREW M4-0.7x10mm
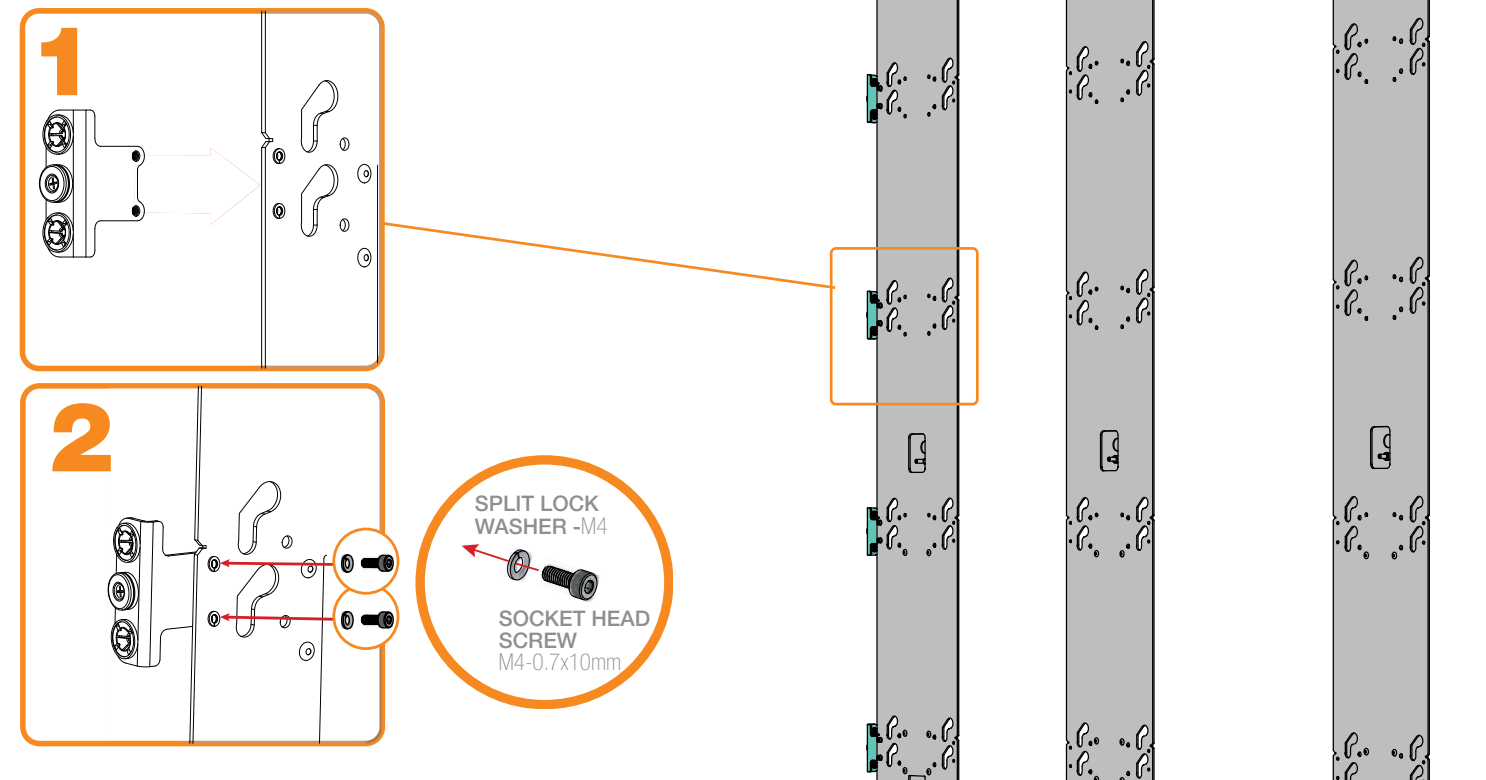
Section 12.4 - Installing Bottom Trim brackets

1

2

SPLIT LOCK WASHER -M4

SOCKET HEAD SCREW
M4-0.7x10mm
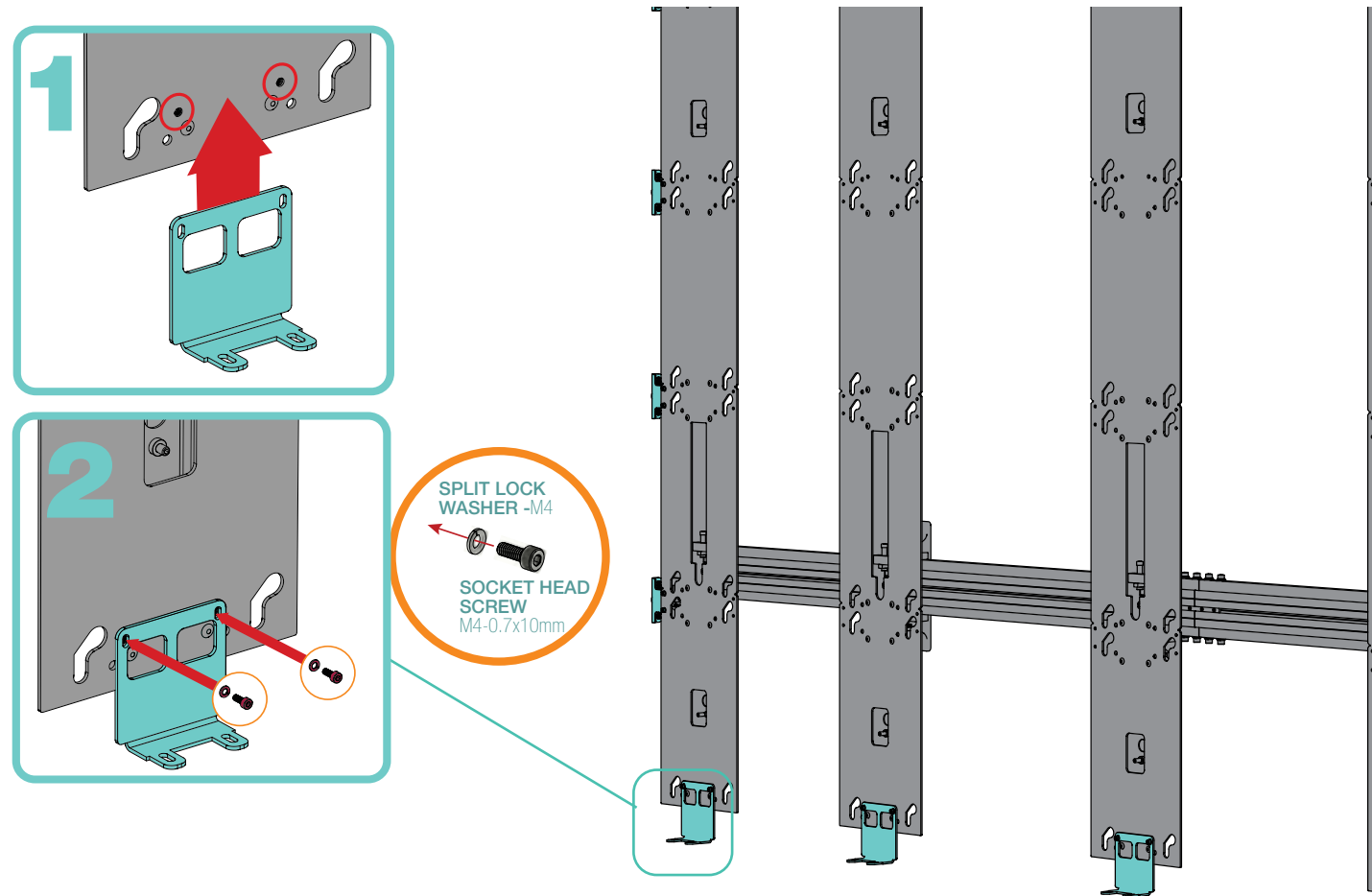
Section 13 - **Installing Bottom Trim** *(must be done prior to LED Installation)*

Section 13.1 - Installing BOTTOM Trim Sections

BOTTOM TRIM

1

2

BOTTOM VIEW

SOCKET HEAD SCREW
M4-0.7x8mm
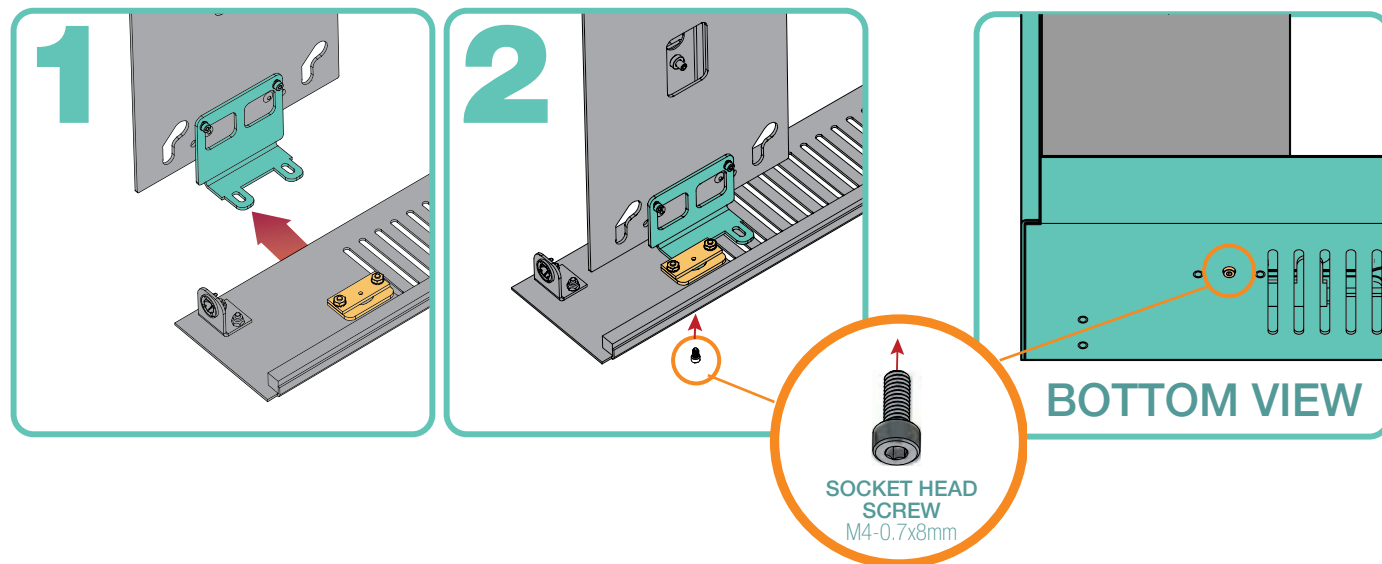
Section 14 - **Attaching LED Panels LED Cabinets**

NOTE: All trim brackets and the Bottom Trim Panels MUST be installed *(Section 13)* **before installing LED CABINETS**

Section 14.1 - 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.

M10 Spring-Loaded LED Mounting Stud

4 per panel
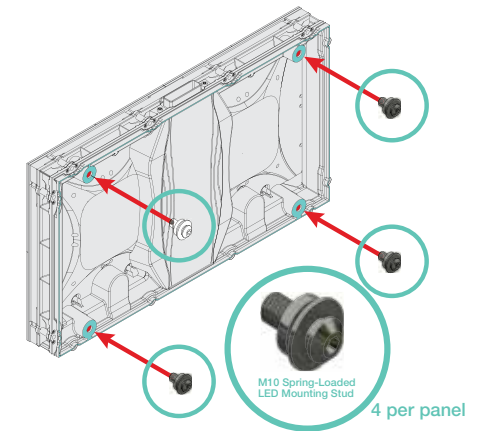
Section 14.2 - Attaching LED Panels

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.

LED PANEL PLACEMENT OUTER COLUMNS
(Left & Right Sides)

LED CABINET Mounting Holes

Right Side
START   SEATED

NOTE: All 4 mounting studs must be fully seated at the bottom of the slot.

FRONT VIEW

BACK VIEW
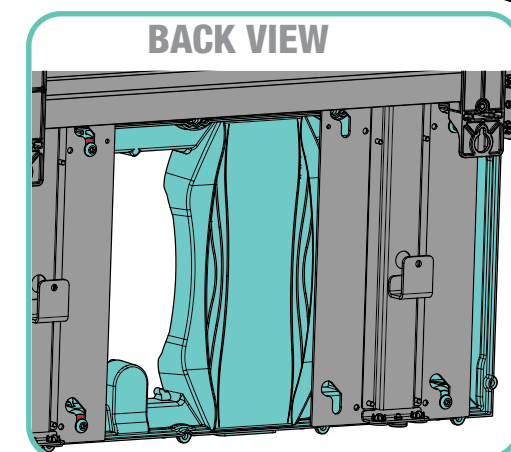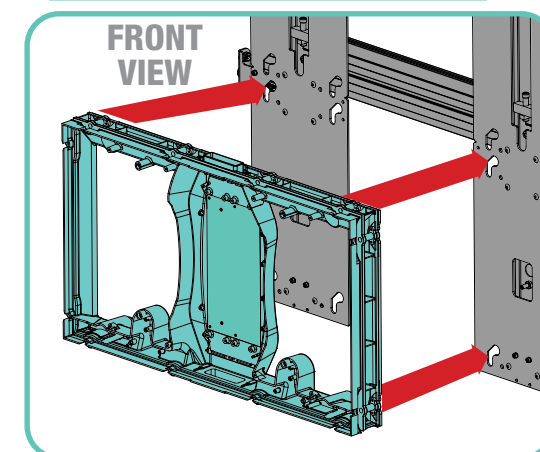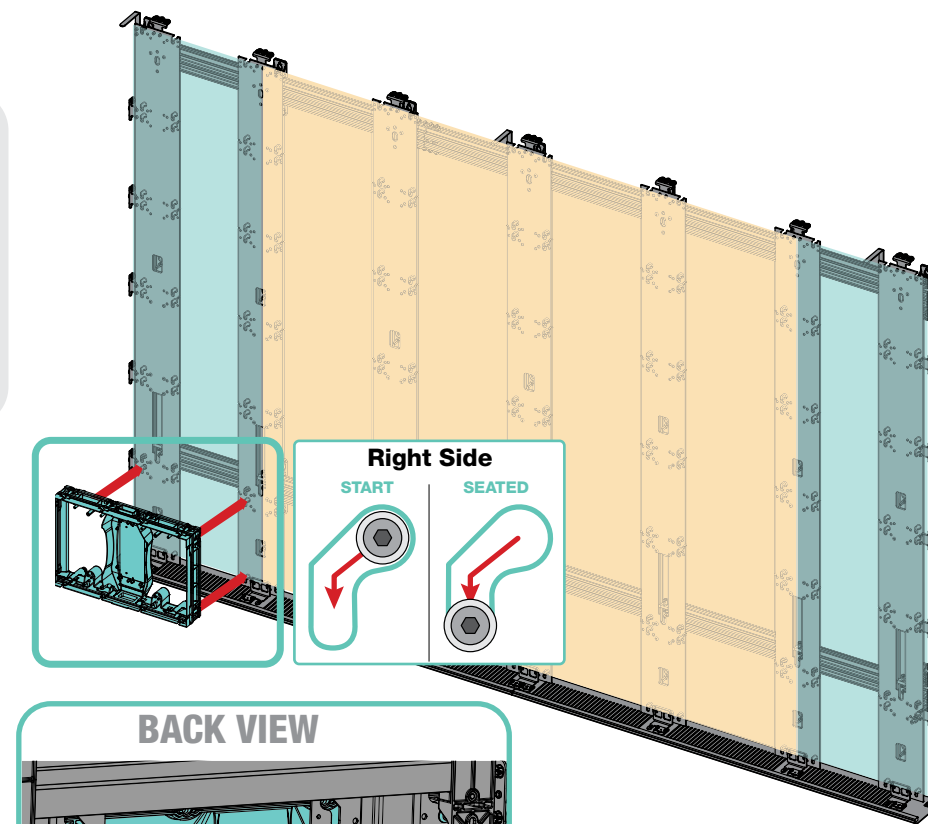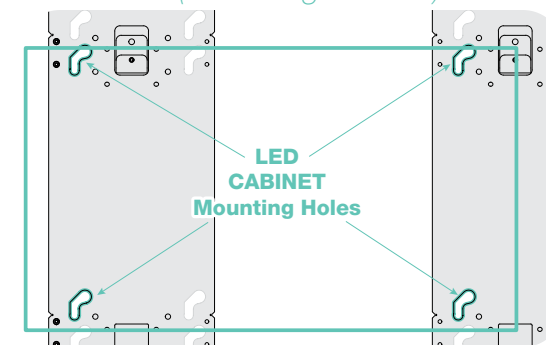
2. Attach the next LED cabinet direct to the right of the first. Continue until the first row is complete.

3. Working from left to right, attach the row of LED cabinets.

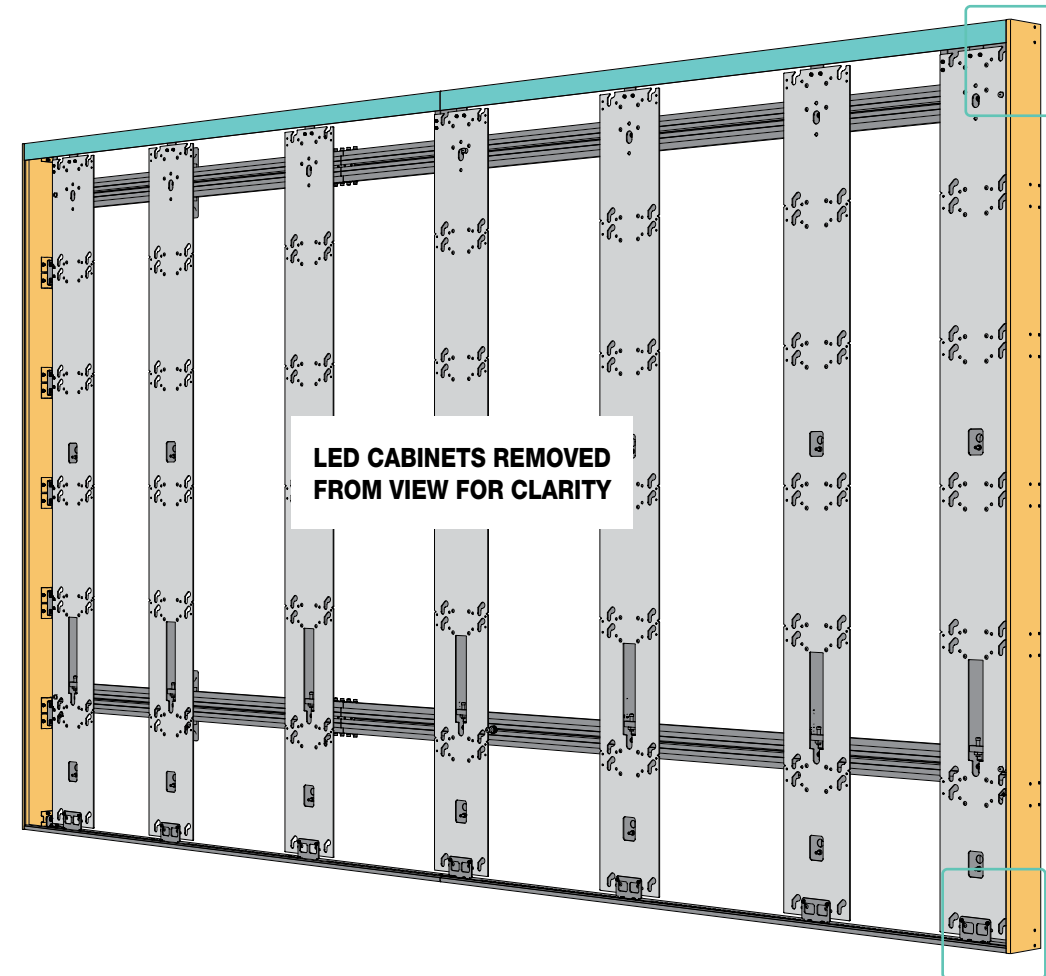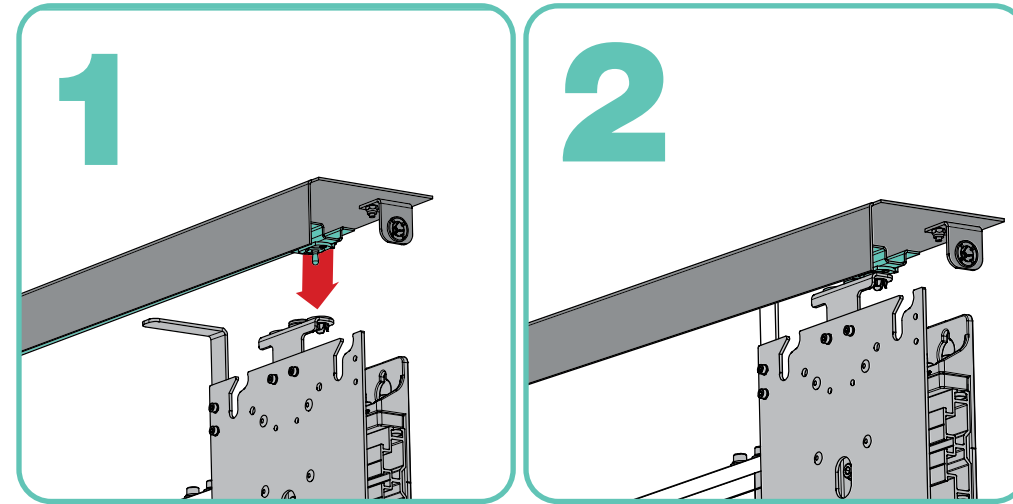**4.** Continue until all LED cabinets are installed.
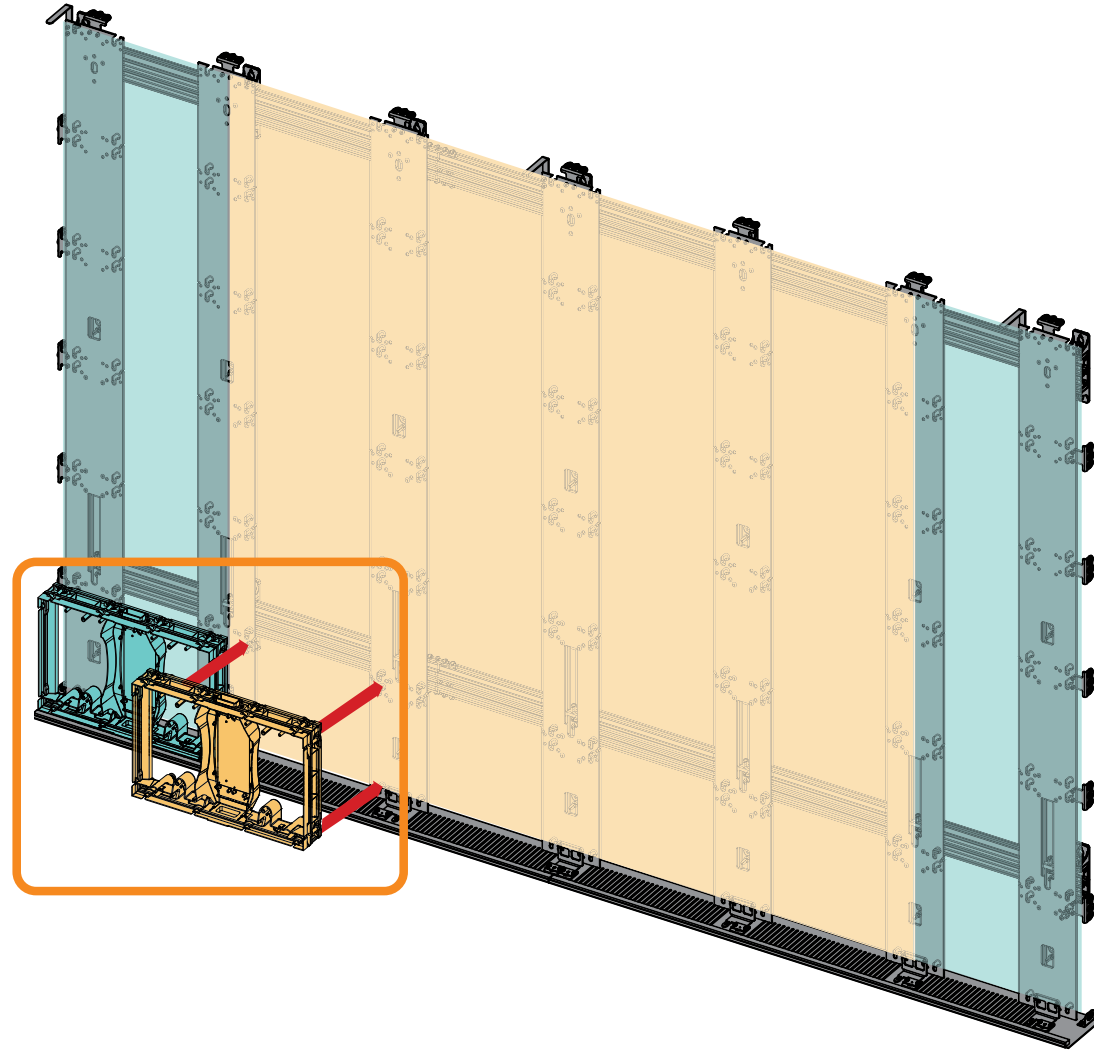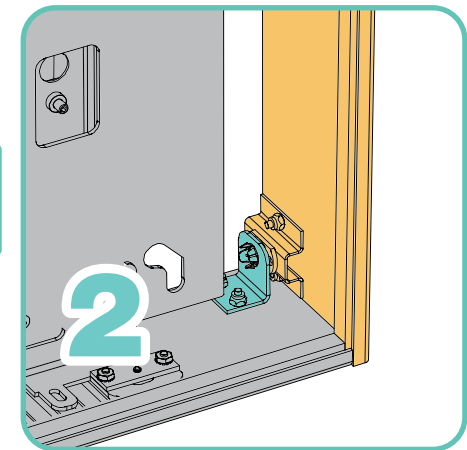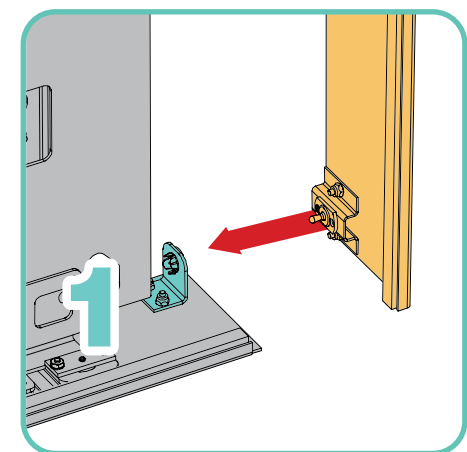

LED PANEL PLACEMENT INNER COLUMNS

LED CABINET Mounting Holes
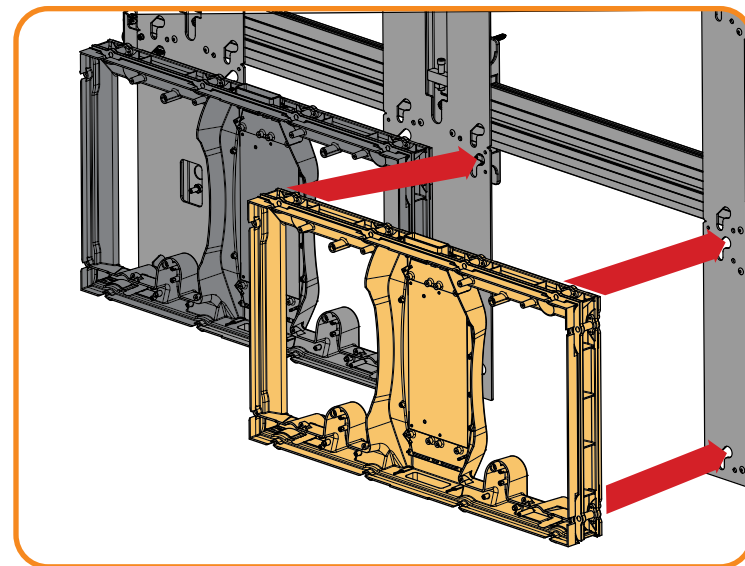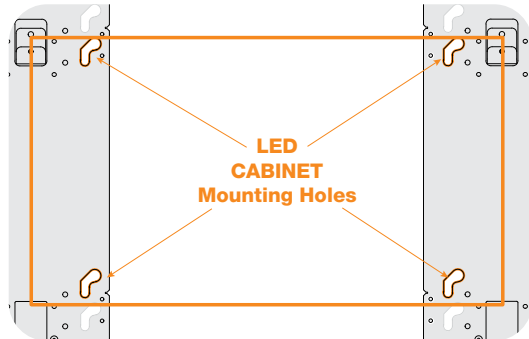
Section 15 - **Attaching Trim to Trim Brackets**

TOP TRIM

1

2

LED CABINETS REMOVED FROM VIEW FOR CLARITY

SIDE TRIM

1

2

DRAPER® FOUNDATION™

for

BARCO

XT Series