

# AIS Matrix Installation Instructions

(Rev February 2011)

## Main Guide

The Main Matrix Installation Guide contains all of the current installation guides for Matrix product. This guide is a compilation of many others, and as such, there are mixed formats.

## Guide Sections / Identification Numbers

Each installation topic has it's own identification number, which can be used to request additional copies. Below is a listing of the individual sections, which are listed in the top right hand corner of each page.

Note: Installation instructions ship with orders automatically. As a result, you may receive multiple copies of the smaller sections. For example, if you have a sliding door on a Matrix order, the Sliding Door instructions are included in the Main guide, but will also ship individually as their own set with the door.

**Main Matrix  
Instructions  
P-MXINSTRUCT01**

**Mid Tile Retainers  
P-MXINSTRUCT06**

**Matrix FIT  
P-MXINSTRUCT03**

**Sliding Door &  
Top Track Bar  
P-M2RPSINSTRUC**

**Matrix Veneer  
P-MXINSTRUCT05**

**Sliding Door Lock Kit  
P-M2RPSLINSTRUC**

**Matrix Linear Top Trim  
P-MXINSTRUCT09**

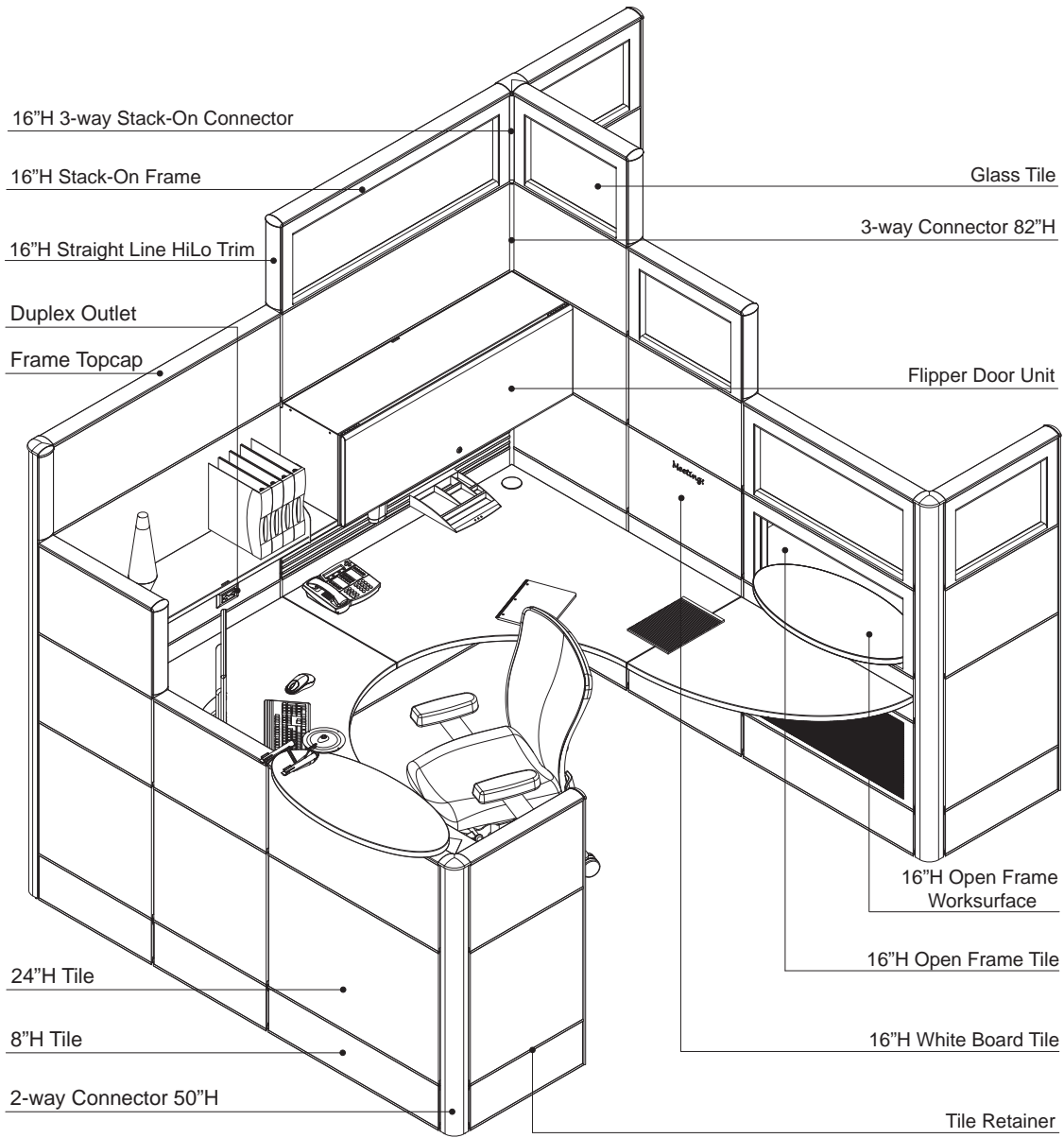
## Assistance

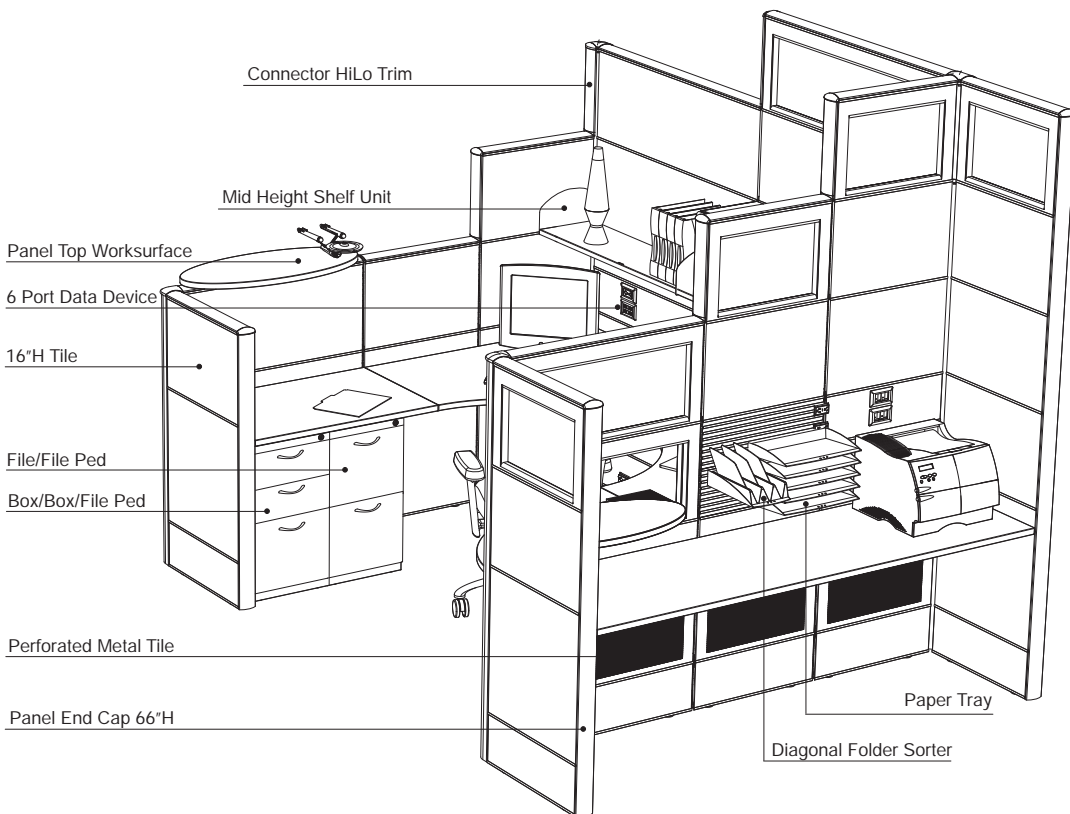
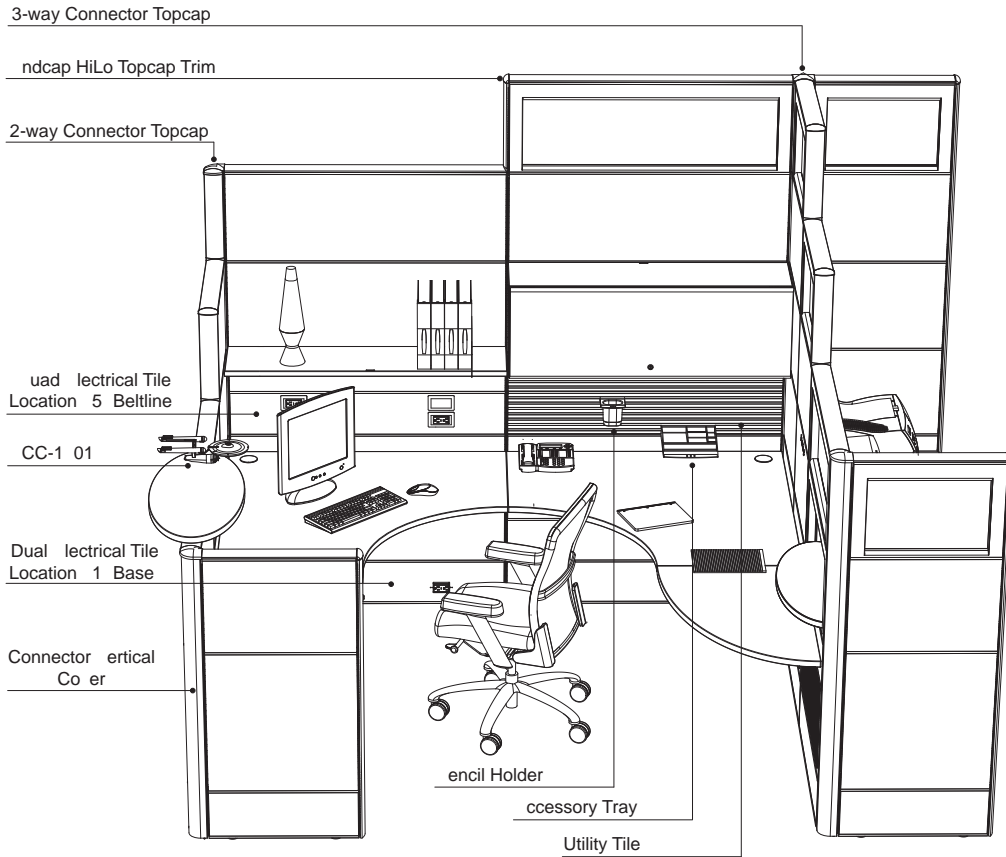
Need help? Please feel free to call AIS directly with questions at 1-800-434-7400

**Customer Service:** Assistance with orders, shipping, finishes and general information.

**Design:** Assistance with questions in regards to symbols, specification, application and general information.

**Field Services:** Assistance with installation, field modifications, general project management and information.




























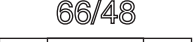

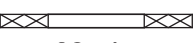

## Tools Needed

- 1) Cordless drill with #2 Phillips drive tip
- 2) 7/16 Socket driver for cordless drill
- 3) 5/32 allen driver for cordless drill
- 4) Ratchet with 7/16 socket
- 5) Allen wrench set
- 6) Phillips Screw Driver #1 and #2
- 7) Flathead #1 and #2
- 8) Mallet
- 9) Level
- 10) Tape Measure

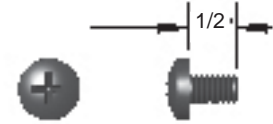
## Sequence of Installation

- 1) Assemble panel frames and stack on frames per print.
- 2) Level frames.
- 3) Install all powerways per print.
- 4) Install all basefeeds, jumpers, and outlets per print. \*Base feeds must be fed through electrical tile before hardwire connection.
- 5) Install all Mid Tile Retainers per Elevation Prints.
- 6) Install Fabric Tile Retainers on all FABRIC tiles 24" and up.
- 7) Install Glass Tile Inserts per elevation prints.
- 8) Install all tiles per elevation prints.
- 9) Engage Fabric Tile Retainers on tall fabric tiles.
- 10) Install Electrical Outlet Trim Bezels.
- 11) Install all topcaps, hilos and endcaps.
- 12) Install shelving and flipper door units.
- 13) Install tasklights.
- 14) Install worksurface supports.
- 15) Stage and level structural peds to worksurface support heights.
- 16) Install worksurfaces.
- 17) Final check and clean.

## AIS Matrix Installation Drawing Symbols

	Powerway Location #1 Lower Position		Power/Data Pole
	Powerway Location #1 Upper Position		Ceiling Feed
	Double Powerway Assembly Location #3		Connector HILO Trim 16" □
	Double Powerway Jumper 12"		Straightline HILO Trim 16"
	Duplex Outlet Line 1		End Cap 66 inch High
	Duplex Outlet Blank Cover		4 Way, 90 degree Connector, 66" high
	6 Port Data Service		3 Way, 90 degree Connector, 66" high
	Double Powerway Jumper 12"		2 Way, 90 degree Connector, 66" high
	Panel to Panel Jumper 18"		4 Way, 90 degree Connector, Stack On, 16" high
	Extended Panel to Panel Jumper 21"		3 Way, 90 degree Connector, Stack On, 24" high
	Pass Thru Jumper 48"		2 Way, 90 degree Connector, Stack On, 8" high
	Vertical Transition Jumper 32" Delta		Frame 66 high x 48 wide
	Side Mount Base Feed		Stack On Frame 16 high x 48 wide
	Receptacle Mounted Base Feed		

#8-32 x 1/2" PANHEAD  
#2 PHILLIPS DRIVE



Use for Mounting Powerways,  
Tile Retainers and Base Feeds.

1/4-20 x 4" HEX HEAD BOLT



Use for Straight Frame to  
Frame Connections

1/4-20 x 2 1/4" HEX HEAD BOLT



Use for 90 Degree Frame  
Connections

1/4-20 Tinnerman Nut



Pre-installed on Connectors and  
Frames for Frame Connection

1/4-20 Button Head  
5/32 Allen Drive



Use for bolting Stack On  
Bayonettes to Frames

Main Matrix

STRAIGHT FRAME CONNECTIONS - Line up frames next to each other. Make sure both frames are at approximately the same height. This may require adjusting glides.

Locate Frame Connection Holes (Fig 1 & 2). Using 1/4-20 x 4 inch hex bolts, bolt frames together by inserting bolt through both frames and threading into Tinnerman Nut on opposing frame. Tighten bolt to approx (100) inch lbs torque, or 12 volt drill on medium torque.

IMPORTANT - Place first bolt at top of frame below first electrical chase hole. This hole is round and will align frames vertically. SLOTS AT ALL OTHER HEIGHTS MAKE IT EASY TO BOLT FRAME TOGETHER QUICKLY. HOWEVER, WITH A STRAIGHT CONNECTION INVOLVING A HIGH FRAME AND A LOW FRAME, SPECIAL CARE MUST BE TAKEN TO KEEP HANGER SLOTS ALIGNED WHILE TIGHTING BOLTS.

TIP: Tinnerman Nuts may have moved during shipping. Center Tinnerman Nuts on Frame Connection Hole by briefly inserting #2 phillips screw driver through frame hole into nut. Let Tip of screwdriver "center" nut.

TIP: Thread Bolt at top of frame first but do not tighten. Thread bolt at bottom and two in middle, then tighten all bolts.

CAUTION: Be sure bolt is properly threaded into nut before tightening to avoid cross-stripping. (Fig 3)

**Note:**

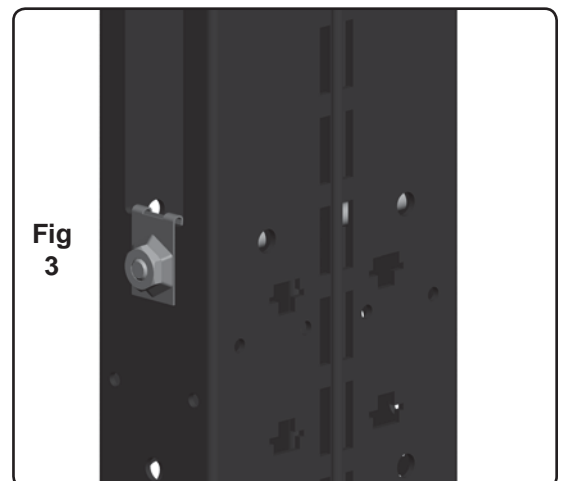
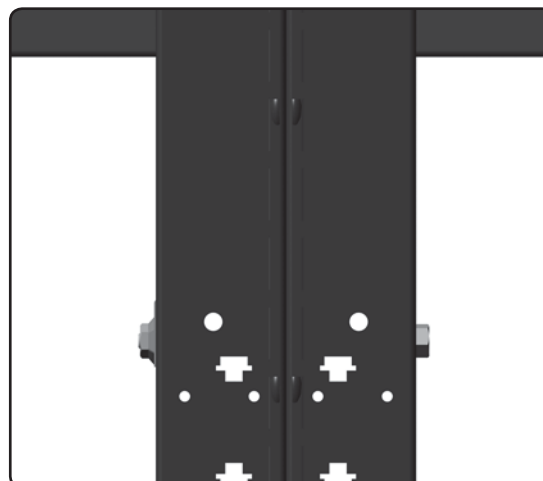
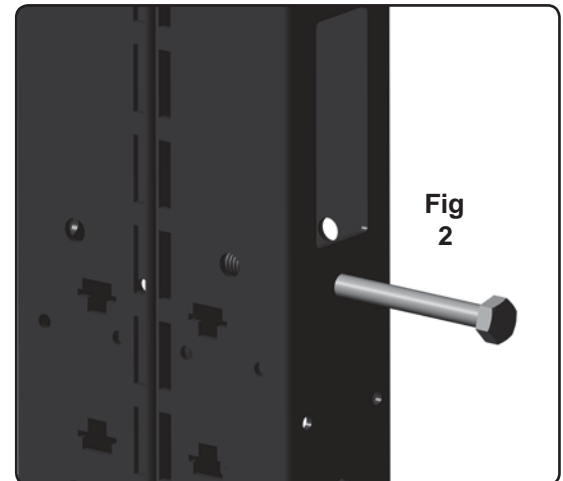
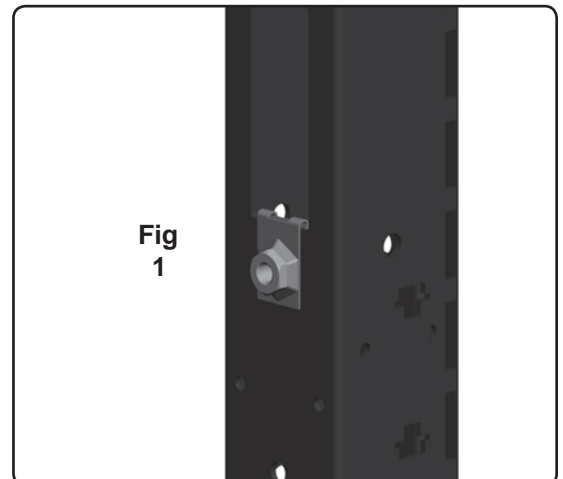
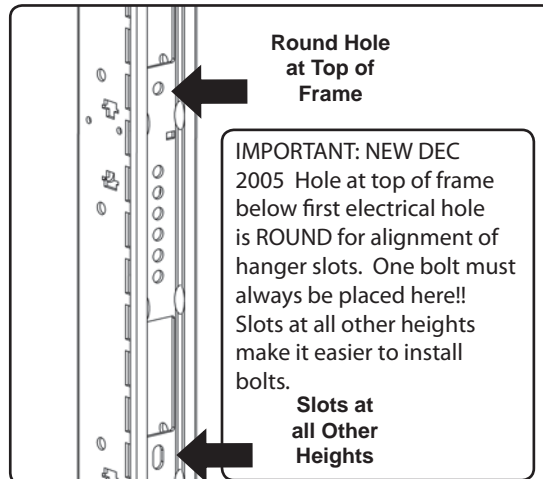
82 High = 5 bolts  
50 - 66 High = 4 bolts  
34 - 42 High = 3 bolts

**Note:**

Frame Connection Hole (top) OR Slots (All Others) are immediately below Electrical Chase Hole

**Note:**

Frames ship with Tinnerman Nuts on ONE SIDE only. Installers may be required to remove some Tinnermans if both edges have nuts or if connecting to a 2-way, 3-way or 4-way connector.



90 DEGREE FRAME CONNECTIONS - Line up connector with frame.

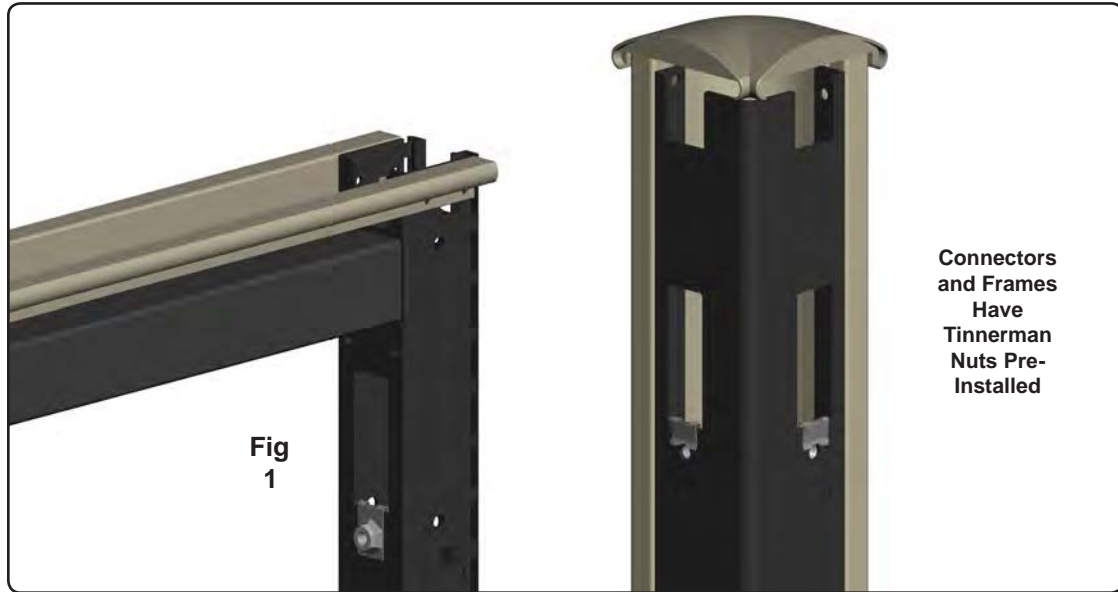
Locate Frame Connection Holes (Fig 1). If connection hole ON FRAME is occupied by a Tinnerman Nut, remove nut by sliding it up off the hole. (Fig 2).

Using 1/4-20 x 2 1/4 inch hex bolts, bolt frames together by inserting bolt through frame and threading into Tinnerman Nut ON CONNECTOR. Tighten bolt to approx (100) inch lbs torque, or 12 volt drill on medium torque.

TIP: Tinnerman Nuts may have moved during shipping. Center Tinnerman Nuts on Connector Hole by briefly inserting #2 phillips screw driver through connector hole into nut. Let Tip of screwdriver "center" nut.

TIP: Thread Bolt at top of connector first but do not tighten. Thread bolt at bottom and two in middle, then tighten all bolts.

CAUTION: Be sure bolt is properly threaded into nut before tightening to avoid cross-stripping. (Fig 3)



**Note:**  
82 High = 5 bolts  
50 - 66 High = 4 bolts  
34 - 42 High = 3 bolts

**Note:**  
Frame Connection Hole is immediately below Electrical Chase Hole



**Note:**  
Frames ship with Tinnerman Nuts on ONE SIDE only. Installers may be required to remove some Tinnermans if both edges have nuts or if connecting to a 2-way, 3-way or 4-way connector.



Main Matrix

**TIP:** Tinnerman Nuts may have moved during shipping. Center Tinnerman Nuts on Frame Connection Hole by briefly inserting #2 Phillips screw driver through frame hole into nut. Let Tip of screwdriver "center" nut.

**Note:** Stack-On Frames MAY be RETROFIT over cables run in topcap channel. USE CAUTION to avoid damaging cables.

**CAUTION:** Be sure bolt is properly threaded into nut before tightening to avoid cross-stripping. (Fig 3)

**CAUTION:** BE CAREFUL OF DATA CABLES RUN IN TOPCAP CHANNEL.

**Important:** POWERWAYS mounted in the top frame location may have to be loosened temporarily to allow Stack On Bayonettes to slide into base frame vertical.

**Note:** Glass Tiles MAY NOT SPAN between a base frame and a Stack Frame. Use Glass above or below horizontal.

**Note:** Frames ship with Tinnerman Nuts on ONE SIDE only. Installers may be required to remove some Tinnermans if both edges have nuts or if connecting to a 2-way, 3-way or 4-way connector.

**STACK-ON FRAME CONNECTIONS** - Remove Top Tile Retainers on frame on which Stack-On-Frame is to be installed by removing factory installed (8) 8-32 x 1/4 inch pan head screws (Fig 1).

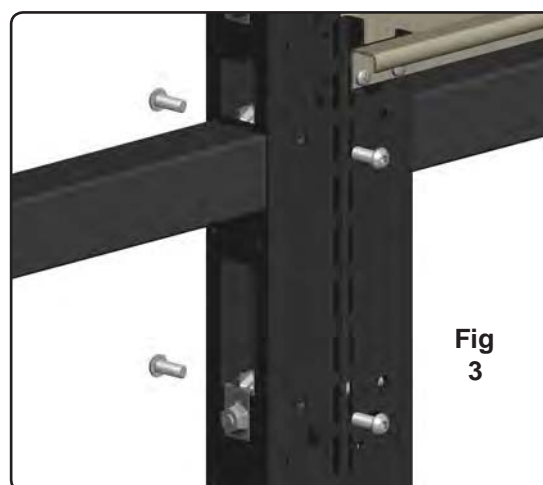
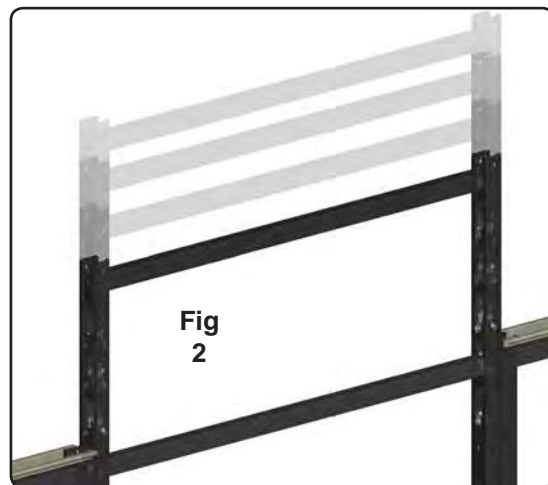
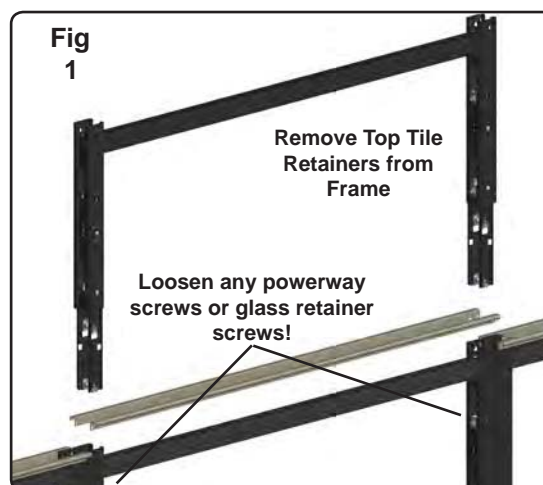
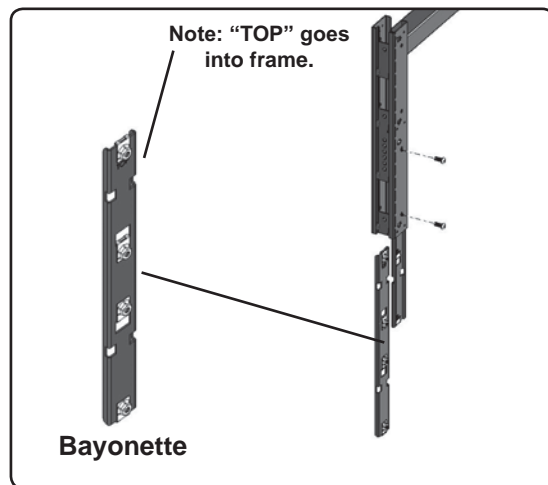
~Insert (2) "Bayonettes" INTO Stack Frame Verticals and bolt onto front face and back face as shown.

(2) Bayonettes per side (4) total per Stack Frame

~Insert Stack Frame Bayonettes into the tops of the base frame vertical supports and slide down until Stack Frame Vertical is resting on the top of the Base Frame Vertical. (Fig 2).

~Insert (8) 1/4-20 x 5/8 inch Button Head Screws with 5/32 allen drive through holes in base frame (Fig 3) and thread on TINNEMAN NUTS on Stack Frame Bayonettes. Tighten bolt to approx 50 inch lbs torque or 12 volt drill on low torque.

~Install Top Tile Retainers from base frame on the top of the Stack-On-Frame. Dress frame with tiles and trim as needed.



STACK-ON CONNECTORS - Stack-On Connectors sit directly on top of base connectors and bolt to Stack On Frames (Fig 1) using the connector installation procedure on page 4.

~After installation, remove Base Connector Vertical Cover by LOOSENING pressure screws at bottom of connector cover (Fig 2) and the nuts at the inside top (Fig 3). Slide cover UP approximately 3/4 inch to get it off the bottom hooks (Fig 4). Then pull bottom of cover OUT slightly and slide DOWN off top bolt heads (Fig 5).

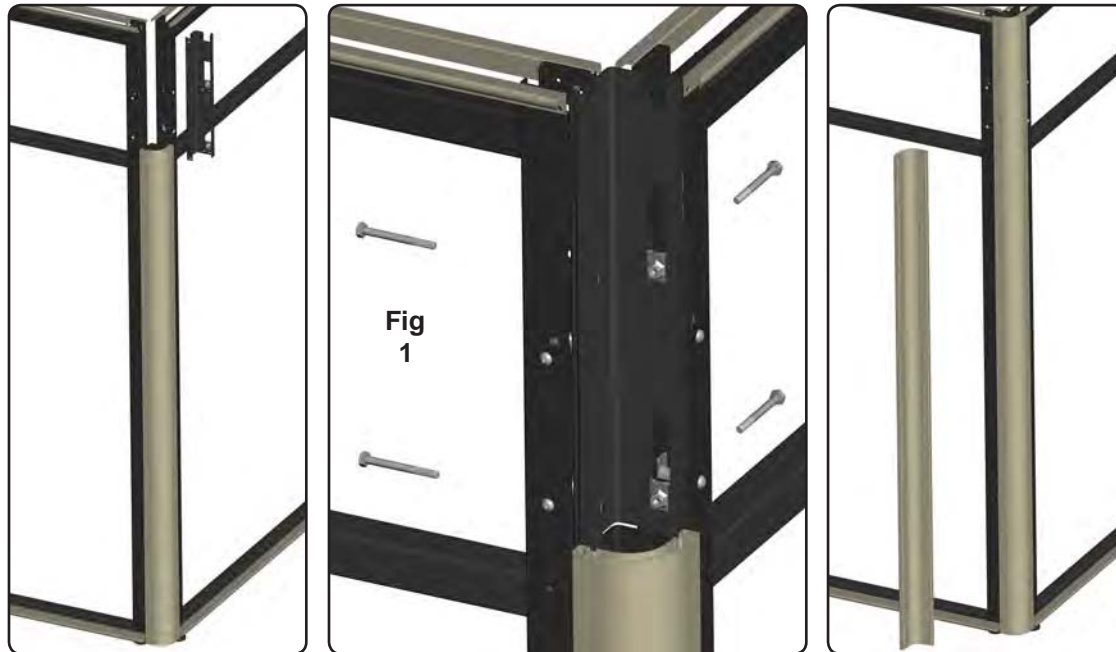
~Move #10 hex head bolts from top of base connector to top of Stack-On Connector. Install new, taller vertical cover that matches total new height of connector using reverse of procedure described above to remove cover.

~IMPORTANT - DISTANCE FROM TOP OF CONNECTOR COVER TO TOP OF CONNECTOR BODY MUST BE 1/4 INCH. Procedure is the same for 3-way and 4-way stack on connectors, with the exception that 4-ways don't have vertical covers.

**Note:**

Frames ship with Tinnerman Nuts on ONE SIDE only. Installers may be required to remove some Tinnermans if both edges have nuts or if connecting to a 2-way, 3-way or 4-way connector.

**CAUTION:** Do not over tighten vertical cover top nuts or bottom screws (Fig 2 & 3).

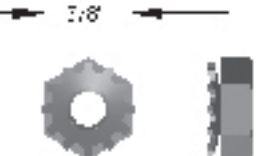


**#10-32 HEX HEAD BOLT**



Use (2) per 2-way & 3way vertical covers. (Fig 3)

**#10-32 KEPNUT**



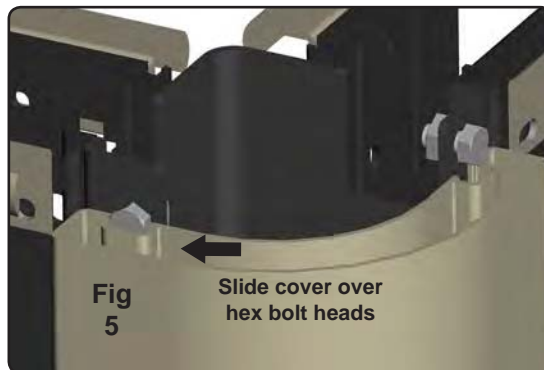
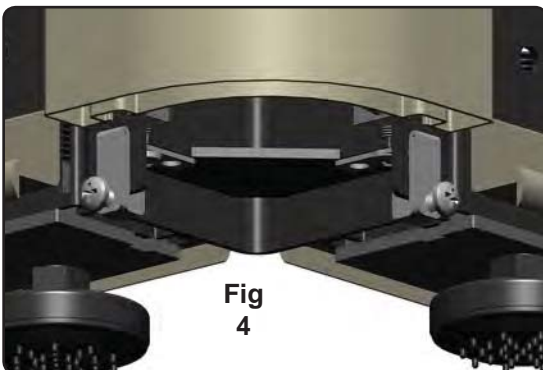
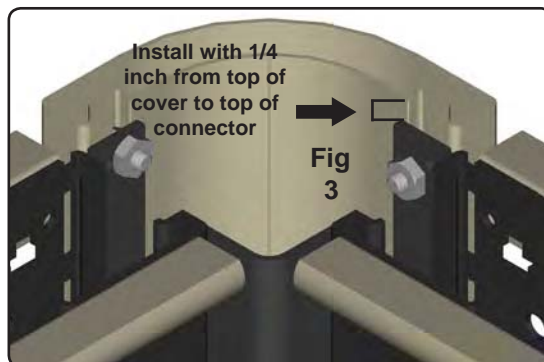
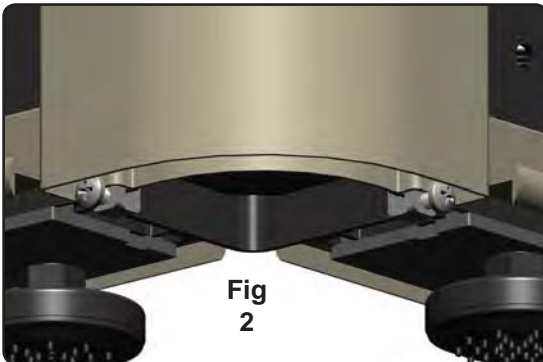
Use (2) per 2-way & 3way vertical covers.(Fig 3)

**K**

**#8-32 x 3/8" FLATHEAD #2 FLATHEAD DRIVE**



Use (2) per 2-way & 3way vertical covers.(Fig 4)

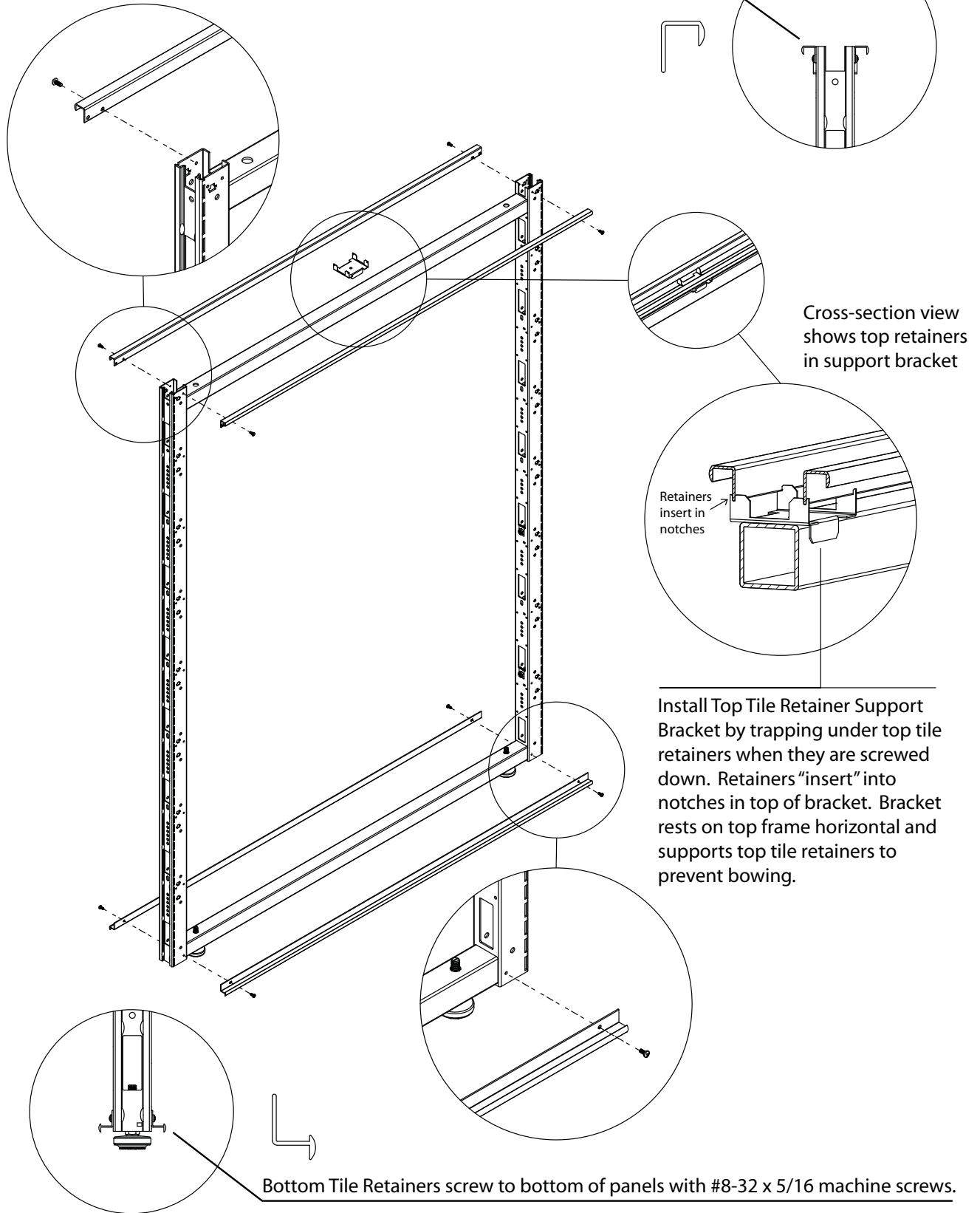




# Matrix Frame with Radius Trim

## Top and Bottom Tile Retainer Installation

Top Tile Retainers screws to top of both sides of frame with 8-32 x 5/16 machine screws.



**Matrix Frame with Linear Trim - Topcap Installation**

**NOTE:** 2-way, 3-way, 4-way, Endcap and Hilo Die cast Topcaps are pre-assembled at factory. They are shown "exploded" for illustration only.

**STEP 1 -** Fasten the Linear Top Tile Retainer (1) to Frame (3) using #8-32 x 1/2" Pan Head Thread Rolling Screws-Label "Type C" (2).



**STEP 2 -** Install all ENDCAPS (5) and STRAIGHT HILOS (4) on frame ends by engaging clips into large rectangular holes on frame sides. **NOTE - ENDCAPS AND STRAIGHT HILO VERTICALS HAVE RAISED CHANNEL ON BACK.**



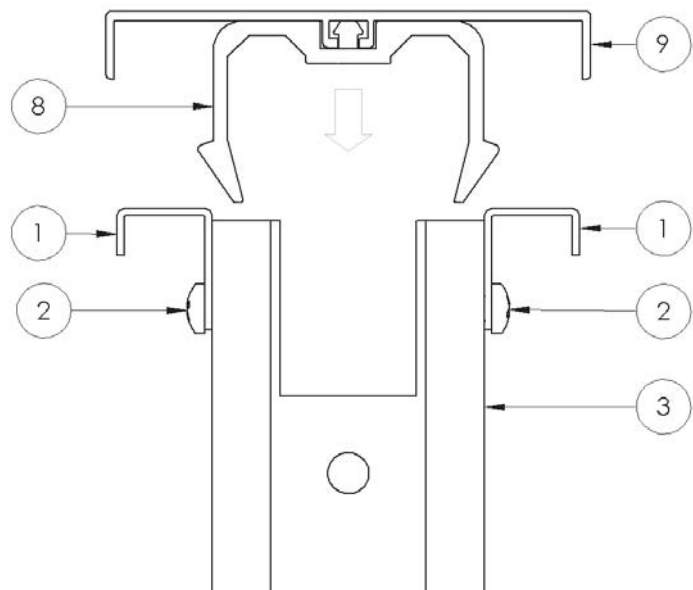
Endcap/straight Hilo Extrusion

**STEP 3 -** Install all CORNER HILOS (10) onto all connectors. by engaging clips into large rectangular holes on frame sides. **NOTE - CORNER HILOS HAVE FLAT BACK.**



Corner Hilo Extrusion

**STEP 4 -** Press the Topcap Assembly (9) into place over Linear Top Tile Retainer (1). Topcap clips (8) will snap over retainers.



*Note Page - Blank*

Electrical installation instructions apply to both the 8 wire and 10 wire electrical systems.

**TIP:** When installing (1) pass thru jumper and (1) panel to panel jumper thru any 2-way, 3-way, or 4-way connection, place panel to panel thru hole first and then install steel pass thru.

**IMPORTANT:** Be sure locking clip on powerways is fully engaged when installing jumpers.

#10 x 3/8" PANHEAD  
#2 PHILLIPS DRIVE



Use this screw to mount powerway bars.

**IMPORTANT:** Frames that are connected electrically (ie jumpers) must be bolted together per frame installation instructions!

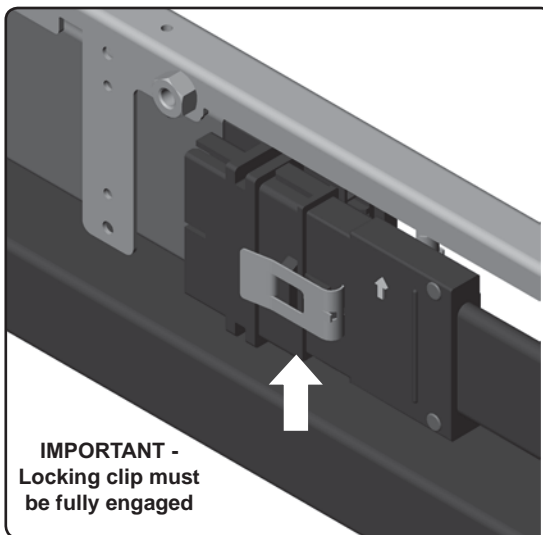
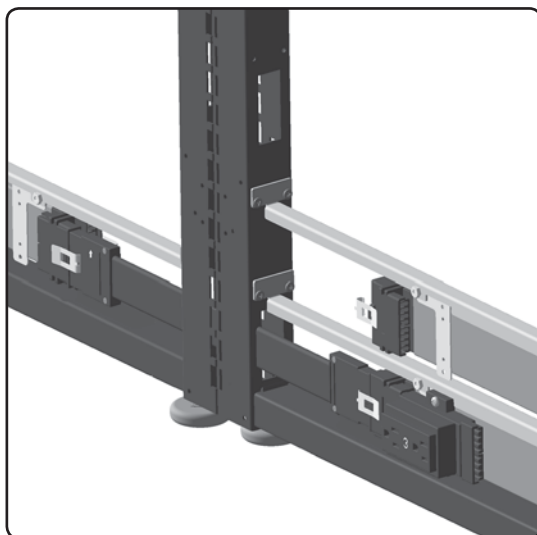
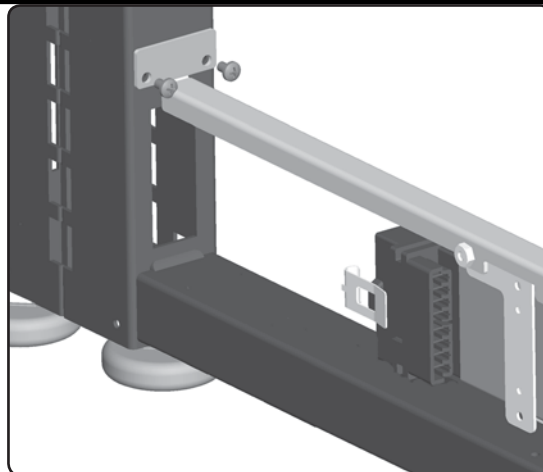
**TIP:** When installing METAL passthrough cables through 90 degree corners, INSTALL EACH END THROUGH OUTSIDE OF CONNECTOR WITH COVER OFF, rather than trying to snake cable from one side to the other. (Fig 2)

**ELECTRICAL** - To install the **Powerway Assembly**, line up the 4 holes in the powerway mounting bar with the 4 holes in the panel frame verticals (on both the left and right sides of the panel.)

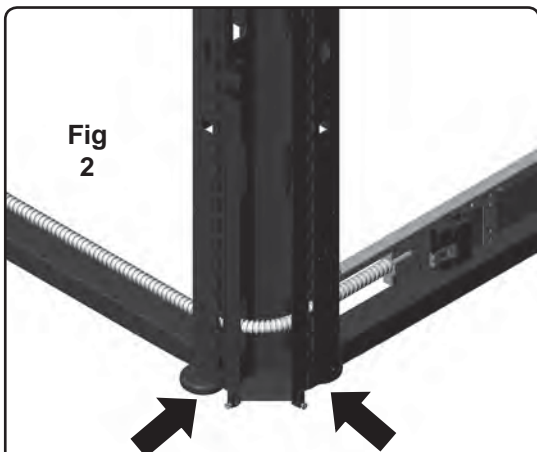
Screw mounting bar to panel frame verticals with #10 x 3/8 inch long pan head sheet metal screw with #2 phil-lips drive. The inside of each panel frame vertical has a repeating pattern of one large rectangular electrical pass through hole with 2 sets of 2 holes above the pass through hole. This pattern repeats every 8 inches.

Each 8 inch increment can accommodate 2 powerway assemblies suspended one above the other. **SINGLE POWERWAY SHOULD BE ALIGNED WITH RACEWAY HOLE.**

To install **Jumpers**, locate jumper mounting locations at the ends of each powerway. Each end can accommodate 2 jumpers. Simply align jumper terminal with powerway terminal and insert until jumper bottoms out. **IMPORTANT** - Be sure **LOCKING CLIP** is engaged over catch on jumper. **FAILURE TO DO SO COULD RESULT IN FIRE AND INJURY.**



**IMPORTANT -**  
Locking clip must be fully engaged



**INSTALL METAL CABLES FROM OUTSIDE OF CONNECTOR.** Connector covers are factory installed and WILL NEED TO BE REMOVED. See Fig 2-5 on page 5.

**TIP:** When installing (1) pass thru jumper and (1) panel to panel jumper thru any 2-way, 3-way, or 4-way connection, place panel to panel thru hole first and then install steel pass thru jumper.



Use Vertical Jupmers to connect powerways hung at different heights. Shown here is Location 1 Lower to Location 5 Lower.

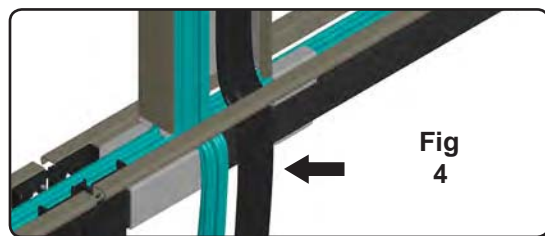
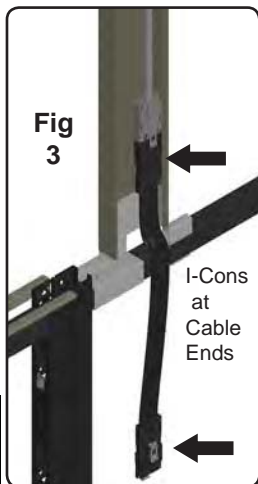
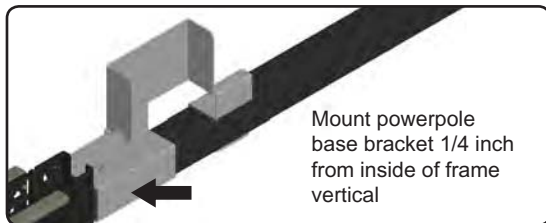
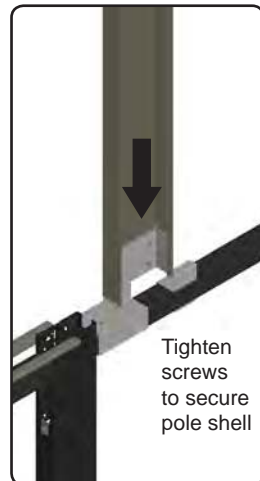
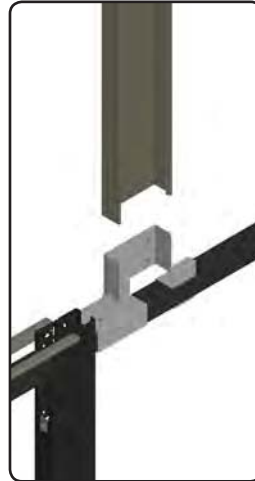
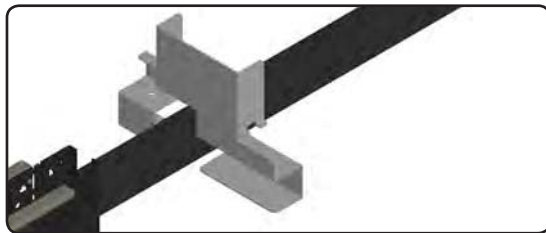
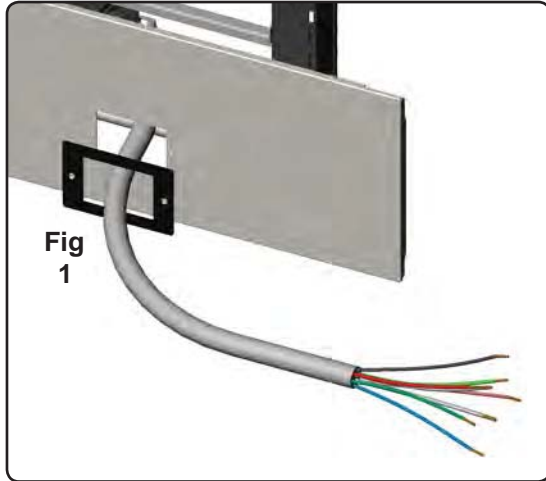
**RECEPTACLE MOUNT BASE FEED** - Screw **Receptacle Mounted Base Feed** into place with (1) #8-32 x 1/2" panhead machine screw. Base feed Screw **MUST BE USED**.

**IMPORTANT** - End of base feed with exposed wires **MUST BE RUN THROUGH ELECTRICAL TILE duplex hole BEFORE** hardwiring to building power. (Fig 1)

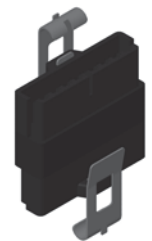
**POWERPOLE AND CEILING FEED** - Remove top tile retainers for frame where pole is to be installed. (Fig 2) Install powerpole base bracket as shown and tighten 1/4-20 set screws in bracket to secure to frame. Slide pole shell over base bracket and tighten 8-32 x 3/8 set screws in bracket to secure shell. **Connect Ceiling Feed to I-Connector to 21 inch Extended Panel to Panel Jumper to I-Connector** to a SPECIFIED pass-through jumper which will continue the power run, and lay in pole cavity. **FIBERGLASS JUMPER MUST LAY AT FRAME HORIZONTAL.** SEE FIG 3. Re-install Top Tile Retainers with fiberglass cable **BETWEEN** frame horizontal and retainer. (Fig 4). Install Pole Cover by snapping onto shell. Install **SPECIAL SIZED FRAME TOPCAP AND SHORT CUTOUT TOPCAP** around pole. (Fig 5)

**IMPORTANT :** End of base feed with exposed wires **MUST BE RUN THROUGH ELECTRICAL TILE duplex hole BEFORE** hardwiring to building power. (Fig 1)

**IMPORTANT:** Be sure locking clip on powerways is fully engaged when installing jumpers, ceiling feeds and I-Connectors.



I-Connector



Used to connect Ceiling feed to fiberglass cable and then fiberglass cable to pass through cable. (Fig 3)

Note: Data cables will need to be spread out and draped over frame horizontal so that they don't interfere with the back of tile to be installed.

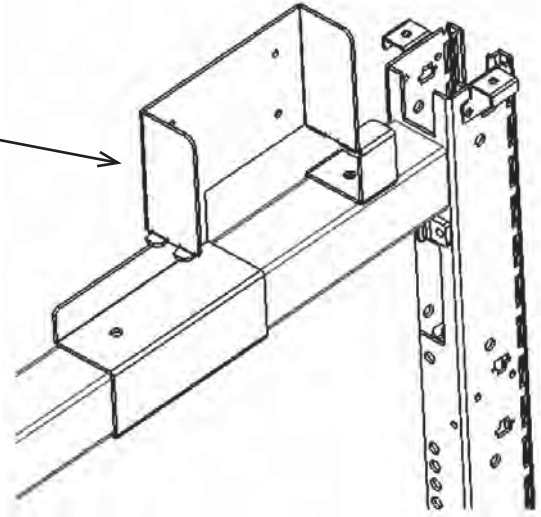
Note: Fiberglass Electrical Cable must be installed such that cable is between Top Tile retainer and frame horizontal.

**IMPORTANT:** Frames that are connected electrically (ie jumpers) must be bolted together per frame installation instructions!

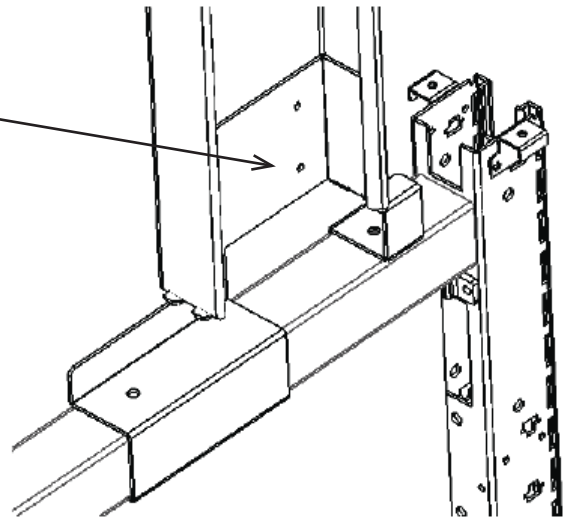


Linear Power Pole (Updated March 2010)

1. Install Power Pole Bracket on Upper Horizontal 1 1/2" from vertical

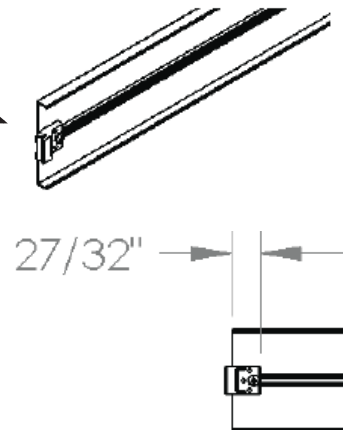


2. Attach Power Pole body to bracket and tighten set screw

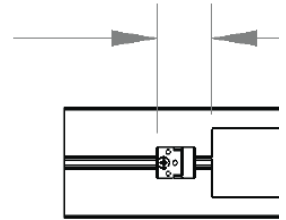
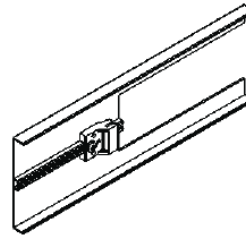


3. Run Cables and Power Through Pole as Needed

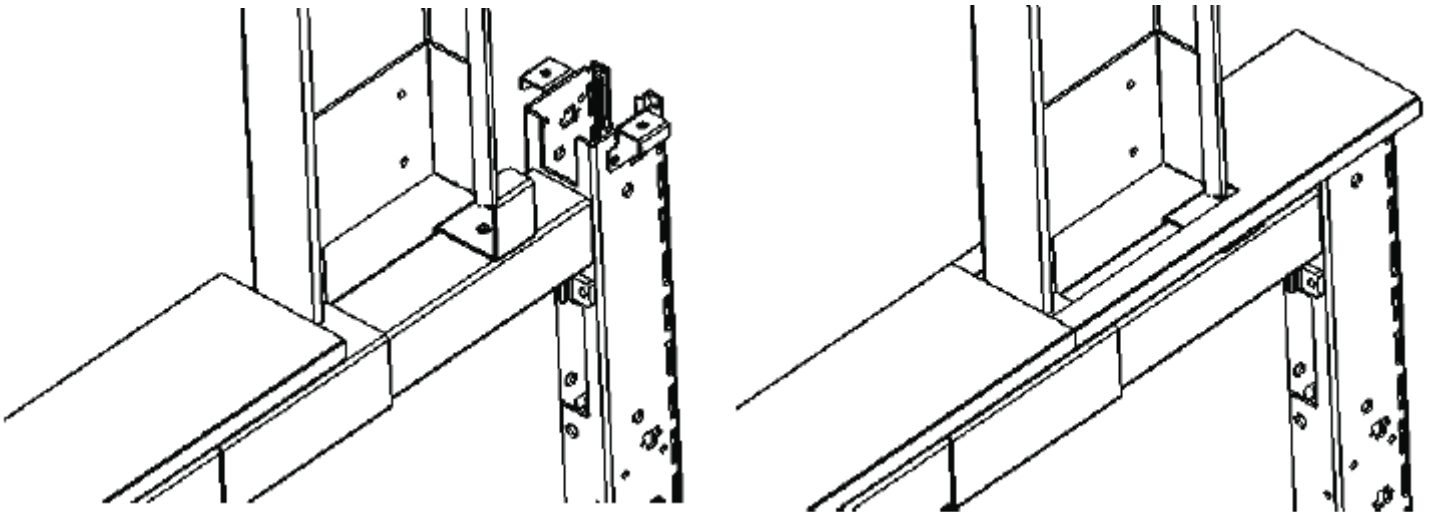
4. Attach bracket to long section of top cap as needed with set screw (27/32" from end)



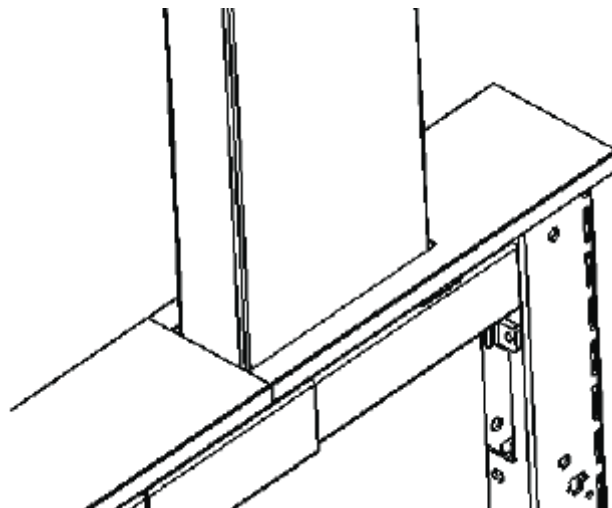
5. Attach bracket to short section of top cap as needed with set screw (1 17/32" from end)



6. Install Long Top Cap on Frame and Short Top Cap on Other Side



7. Snap Pole Cover Into Place

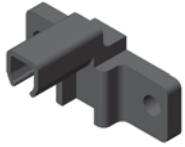


**TIP:** Install glass inserts before moving frames against walls as top glass retainer must be screwed from both sides of frame.

**GLASS TILE INSERT INSTALLATION:** Locate electrical pass through hole which is nearest the bottom of where the insert will be suspended. Insert Mid Bottom Glass Holders into the electrical hole so that the "slots" on the holder "hooks" onto the bottom edge of the electrical hole. (Fig 1) Repeat on the other side of the frame.

On the glass, place the Top Insert Retainers over the top edge of the glass on the upper left and right corners. (Fig 2) Rotate glass up between frame verticals and screw Top Insert Retainers to frames with 8-32 Pan Head screws. (Fig 3)

Glass Insert Top Retainer



Used at the top of all glass inserts, left and right

Glass Insert Mid Bottom Retainer



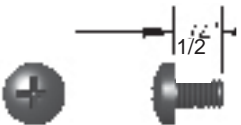
Used at the bottom of glass inserts mounted at top or middle of frame

Glass Insert Lower Bottom Retainer



Used at the bottom of glass inserts mounted at bottom of frame

#8-32 x 1/2" PANHEAD  
#2 PHILLIPS DRIVE



Use for Mounting Glass Insert Holders

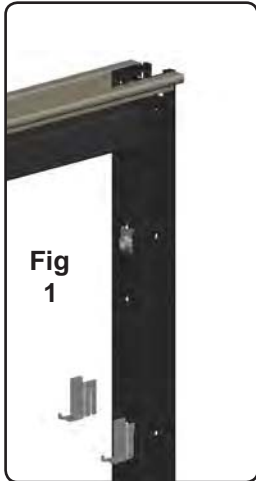


Fig 1

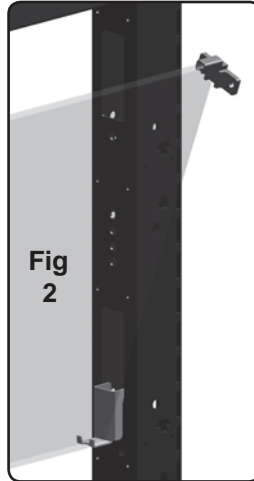


Fig 2

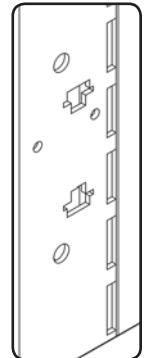


Fig 3

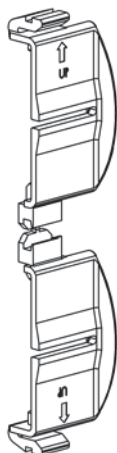


**MID TILE RETAINER INSTALLATION** - To mount **MID Tile Retainers**, locate appropriate Mid Tile Retainer hole pattern (2 Hat Shaped holes) at each 8 inch increment of panel height. For instance, if you are mounting a 24 inch tall tile at the bottom of the frame, you will mount a Mid Tile Retainer 24 inches up spanning across from the left vertical support to the right.

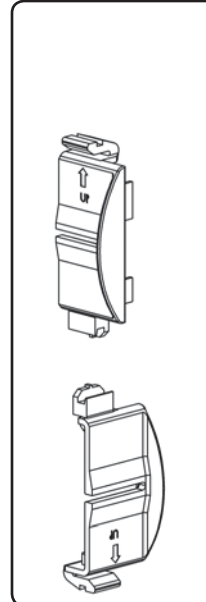
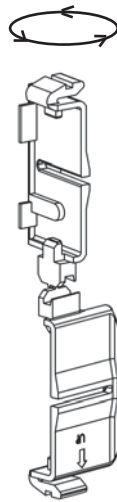
**Break Tile Retainer Clip PAIR** (Below) in half as shown below. Clips are molded together for ease of shipping pairs. Once apart, there is a left and a right clip, identifiable by an "L" or "R" molded into the side of the clip.



Left and Right clip are shipped attached. Twist to separate.



Twist to Separate

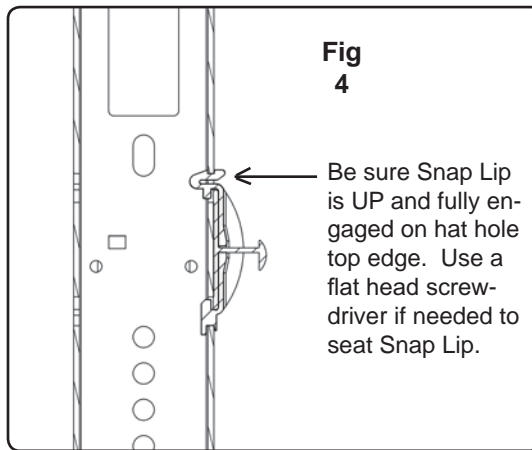
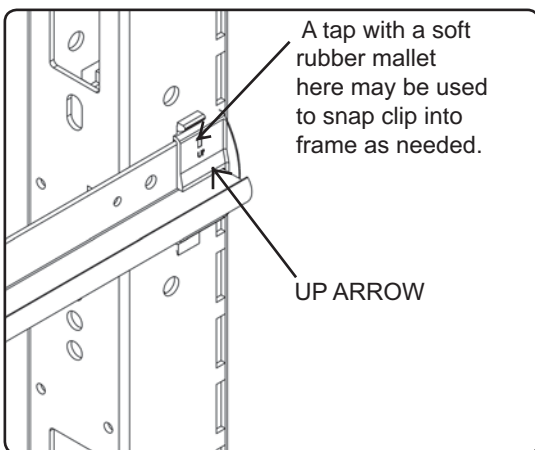
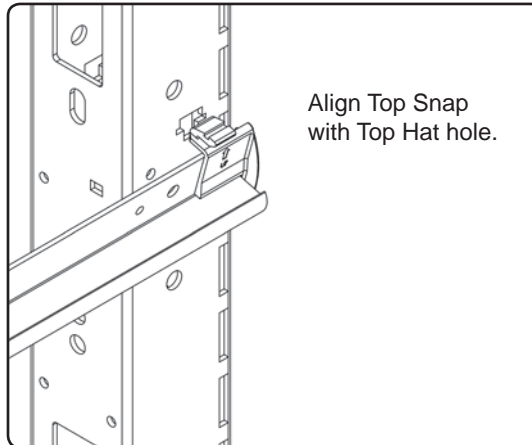
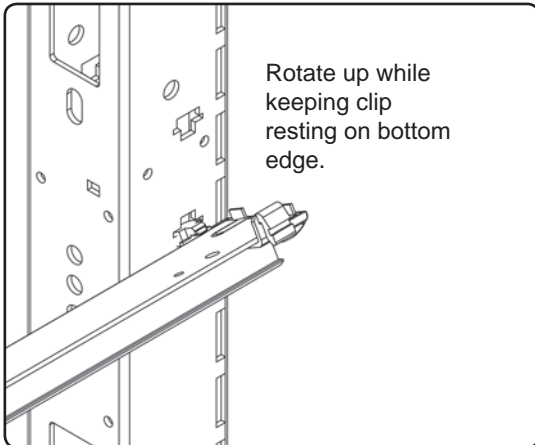
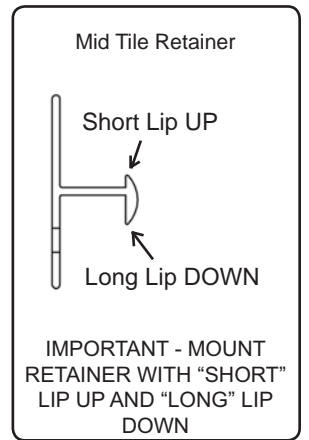
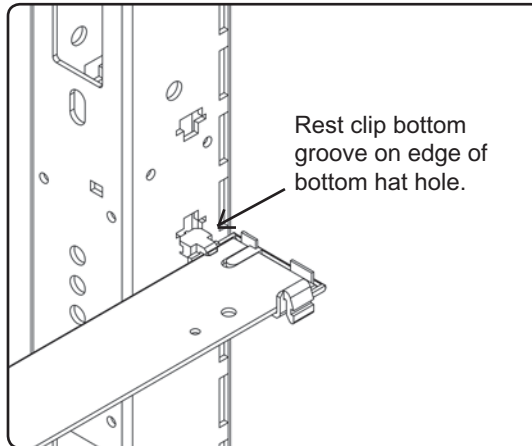
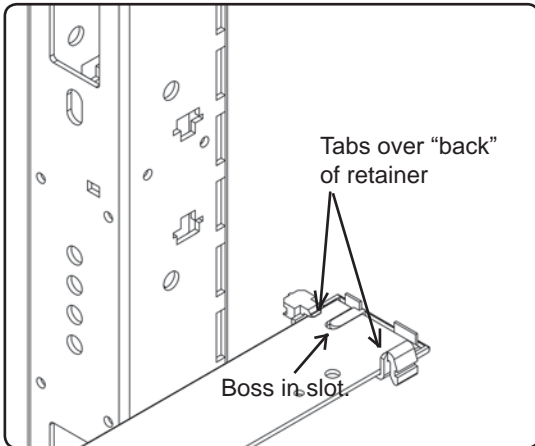
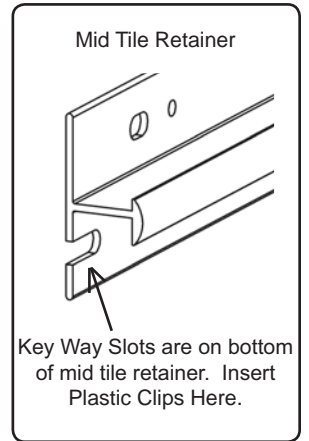
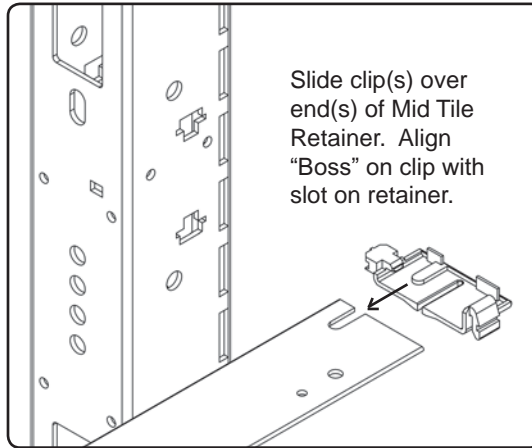


Left Hand Clip



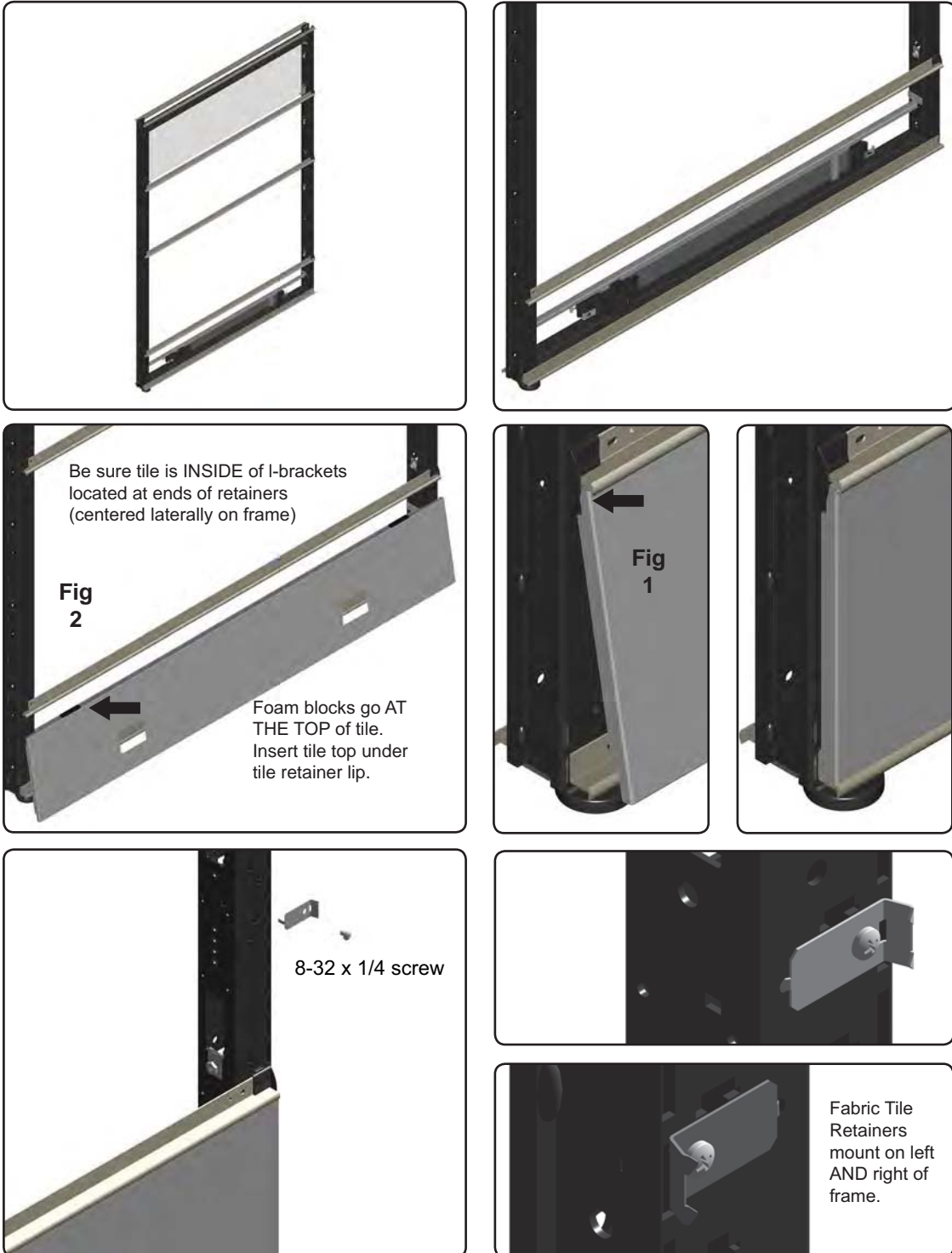
Right Hand Clip

Mid Tile Retainer Installation (Cont') - Slide Right Hand Clip over right hand side of Mid tile Retainer as shown below, aligning Key Way Slot with Boss on clip as shown below. Repeat on Left Side. With clips held to the end of the Mid Tile Retainer, rest bottom of clips on the bottom edge of the "Hat" holes. With clips resting on edge, rotate retainer 90 degrees up until top of clips snaps into top Hat hole. A flat head screwdriver blade or a tap with a soft rubber mallet may be used to engage clips fully. Be sure "snap" at top of clip is UP and engaged on top edge of top hat hole as shown in Fig 4.



**TILE INSTALLATION** - Mid Tile Retainers are required BETWEEN every tile indicated on the elevations print. (See Previous page). All Matrix tiles are installed by inserting top of tile under lip of the Tile Retainer (horizontal aluminum extruded bar) above where tile is to be installed. CENTER TILE ON FRAME and rotate bottom of tile inward above lip of tile retainer below tile installed. BE SURE TILE IS BETWEEN SIDE WALLS OF MID TILE RETAINER L-Clips located at the ends of each tile retainer. (Fig 1). LIGHTLY PUSH TILE DOWN to seat tile approximately 1/8 inch down into bottom channel. METAL AND LAMINATE TILES have foam blocks on the top of the tile which act as springs to push the tile down into place and act as anti-dislodgement for the tile. (Fig 2)

**FABRIC TILE RETAINERS** - Must be installed on ALL FABRIC TILES 24 - 64 high. These brackets screw to frame at various heights to PREVENT TALLER FABRIC TILES FROM BOWING out in the middle. Screw fabric tile retainers as shown at various points along tall tile edge using 8-32 x 1/4 screw.

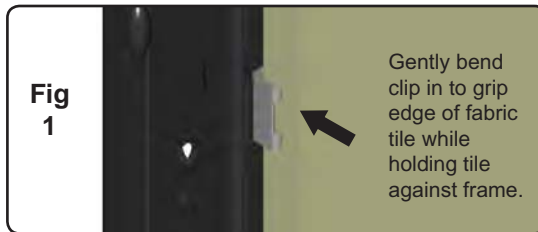




**FABRIC TILE RETAINERS (CONT')** - With Fabric Tile Retainers screwed at various points along vertical edges of tall fabric tile location per previous page, Install fabric tile into tile retainers as per tile installation procedure. **BE SURE FABRIC TILE IS FULLY INSERTED INTO BOTTOM TILE RETAINER.**

ONCE FABRIC TILE IS SEATED IN BOTTOM TILE RETAINER, FABRIC TILE RETAINERS MUST BE "BENT" in to "grip" the edge of fabric tile as described in the following 2 steps.

- 1) PUSH and HOLD MIDDLE OF FABRIC TILE AGAINST FRAME.
  - 2) Using a #1 flathead screwdriver, GENTLY bend fabric tile retainer over to "grip" edge of fabric tile. (Fig 1)
- IMPORTANT - BE SURE NOT TO OVERBEND AND DIMPLE TILE EDGE.**



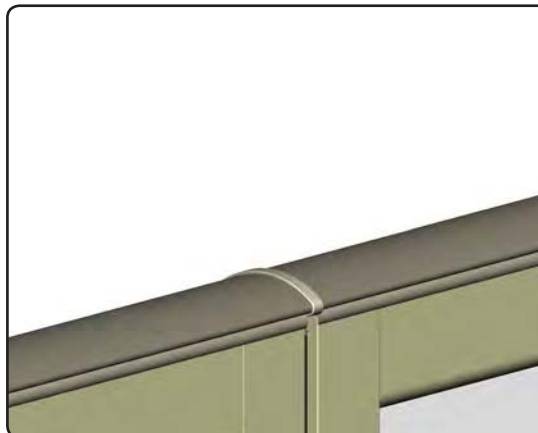
**IMPORTANT** - When bending/actuating fabric tile retainers, be sure not to overbend and dimple tile edge.

**Note:**  
24 - 40 high fabric tiles should get 1 fabric tile retainer on left AND right side of tile at about the vertical mid-point of tile.  
  
48 - 64 high fabric tiles should get 3 fabric tile retainers on left AND right side of tile at 1/4 up, 1/4 down, and in the middle.



**Note:**  
Glass Tiles Install like every other tile. Refer to previous pages to see how to install glass inserts.

**MATRIX TRIM INSTALLATION** - Matrix trim is designed to interlock with diecast parts. Shown below, a 180 degree topcap connector is required between topcaps in a straight line. Topcaps are "trapped" by CONNECTOR topcaps at 2-way, 3-way, 4-way intersections, Installing the 180 requires "angling" the topcaps up to trap the part. See Below.



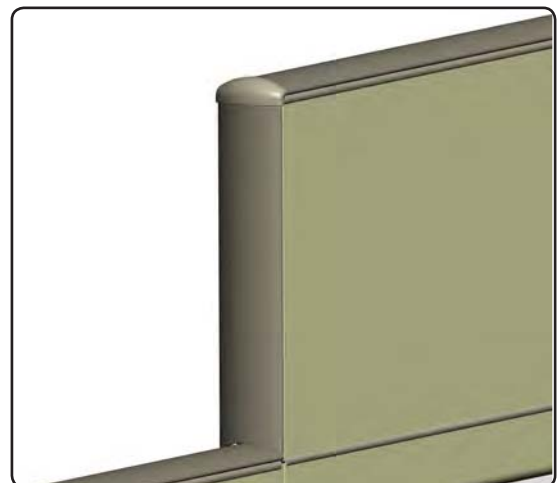
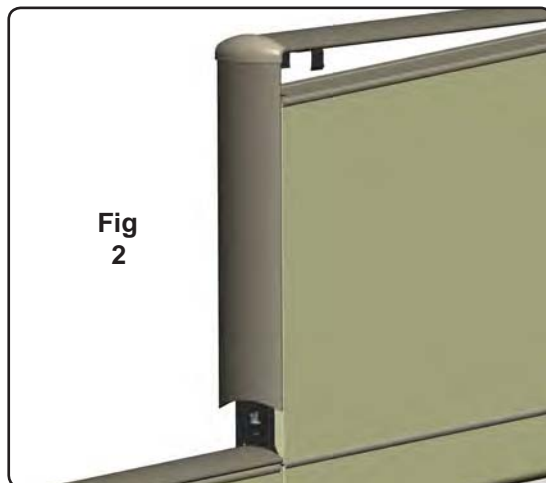
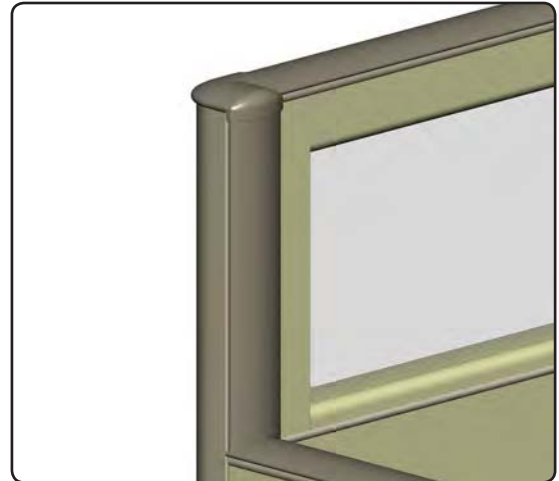
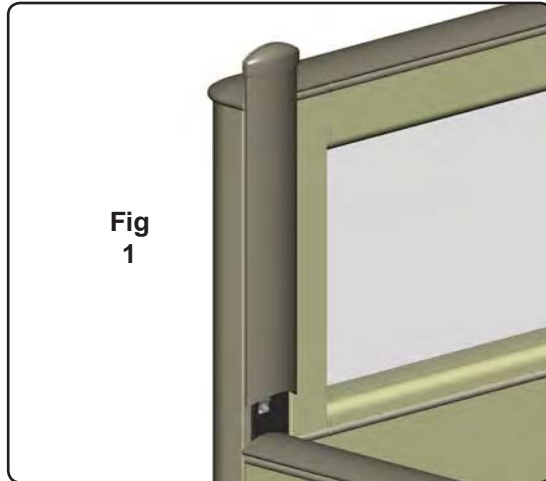
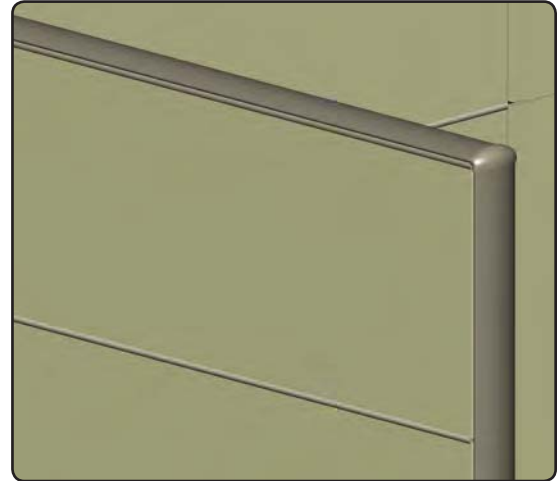
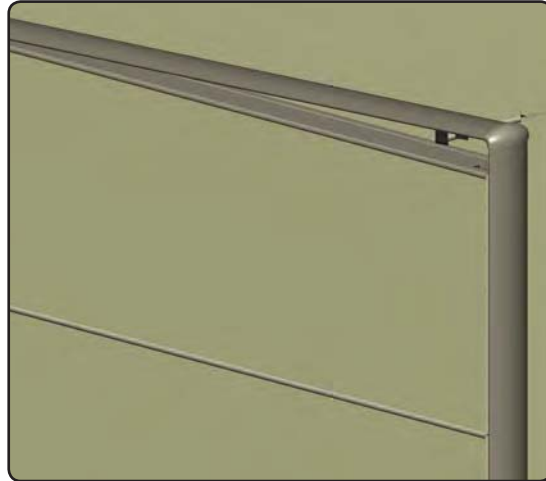
**Note** - Make sure Diecast 180 degree connector is inserted into topcaps fully to stops, and bottom lip is centered between frames after installation.

**MATRIX TRIM INSTALLATION** - Matrix trim is designed to interlock with diecast parts. Endcaps and Hilos ship with the Diecast topcaps pre-installed. Installing an Endcap or Straight hilo requires lifting adjacent topcap and pressing end of topcap into diecast Endcap Topcap and engaging Endcap on frame while holding frame topcap into endcap. See Below. There are 2 types of HILO trim, specified by the situation. HILO situations at a 90 degree connector require a Connector Hilo Trim Kit (Fig 1). HILOS in a straight line require a Straight Line HILO trim kit (Fig 2).

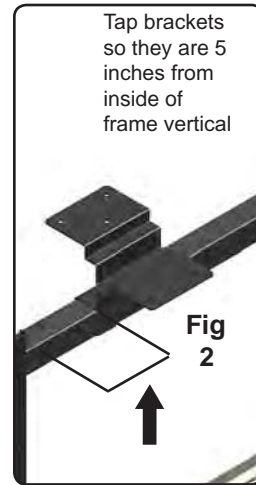
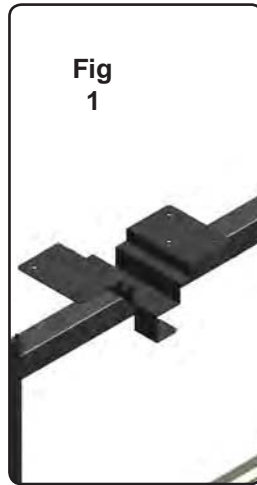
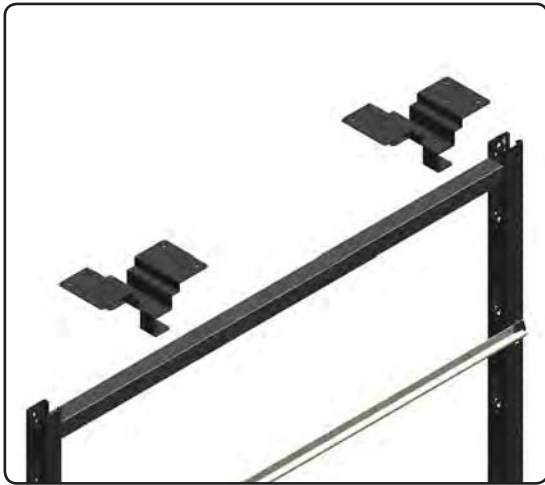
Endcaps and both Hilo types install on frames by hooking riveted retainer clips onto ELECTRICAL CHASE HOLE IN FRAMES OR CONNECTORS. There are 2 SLOTS on retainer clips. The "outboard" Slot/Hook is for future matrix product connections. Use "Inboard" Hook/Slot for described installations. (Fig 3)



**Note:**  
Use Slot indicated to mount Endcaps and Hilos in ELECTRICAL CHASE HOLE in connector or Frame. See Below.



**PANEL TOP WORKSURFACE INSTALLATION** - Remove Top Tile Retainers from frame on which panel top worksurface is to be installed. Install Panel Top Worksurface Support Brackets by laying over frame horizontal and "twisting" into place. (Fig 1) SLIDE BRACKETS SO THAT END OF BRACKET IS 5 INCHES FROM FRAME VERTICAL, (Fig 2). Install PANEL TOP WORKSURFACE TILE RETAINERS on frame where top tile retainers were. These special top retainers have slots in them where the wings on the countertop bracket are. Install Frame Topcap. Center Panel Top Worksurface over brackets and screw down with worksurface screws.



**Note:**  
Screwing brackets to Frame Horizontal is not necessary, as brackets will be secured when worksurface is mounted.



**Note:**  
Special Top Tile Retainers are included with kit for Panel top worksurfaces which have "slots" in them for Worksurface brackets.

**OPEN FRAME WORKSURFACE INSTALLATION** - For Open Frame Worksurface installation mount open frame countertop brackets to the vertical frame at powerway hole locations with (8) #8-32 x 1/4" panhead machine screws with #2 phillips drive. Then mount the Mid Tile Retainers, Open Frame Tile and then worksurface, in that order.



**Matrix 1 to Matrix 2 Frame Connection** - You can connect the latest version of Matrix frame to the previous version with the use of an adapter bracket. (Fig 1)

**IMPORTANT:**  
You cannot connect a matrix 2 connector to a Matrix 1 frame. YOU MUST ALWAYS HAVE A MATRIX 2 FRAME IN THE CONNECTION IN ORDER TO USE THE CONNECTOR M1 TO M2 ADAPTER.

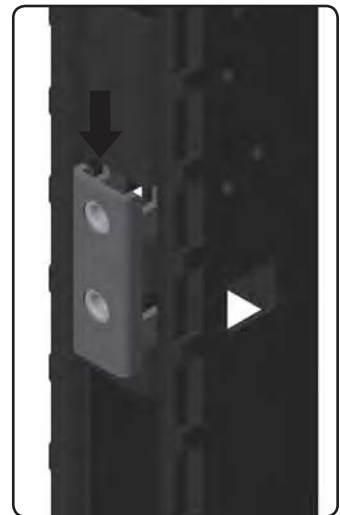
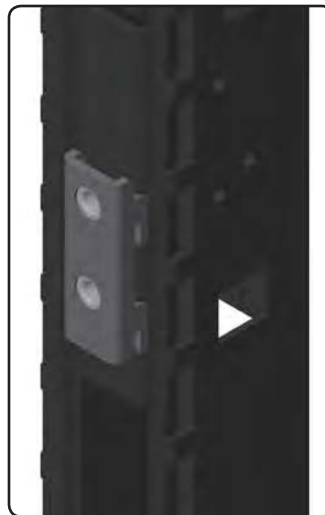
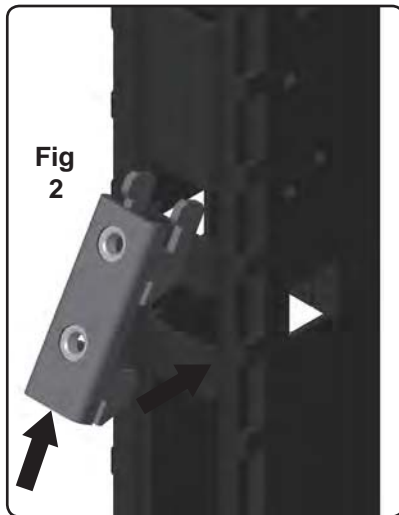
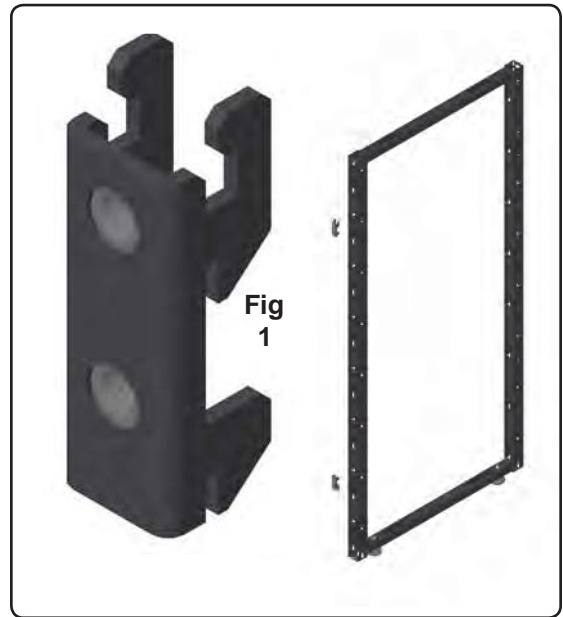
**IMPORTANT:** Each adapter kit contains 2 adapter brackets, for top and bottom. The adapter brackets are mounted one way at the top, and the opposite way at the bottom to prevent dislodging the frames. See Below.

**AT THE TOP OF THE FRAME**

Insert the "Hooked" shaped protrusions on the adapter bracket into the C-clip holes located on the Matrix Version 1 frame as shown fig 2. Insert bracket up at an angle, rotate bottom in, and tap down with hammer to seat teeth on the lower wall of the lower c-clip hole.

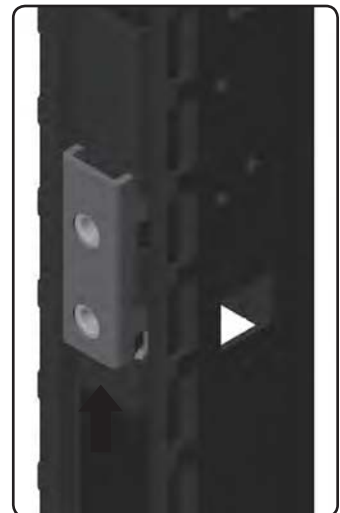
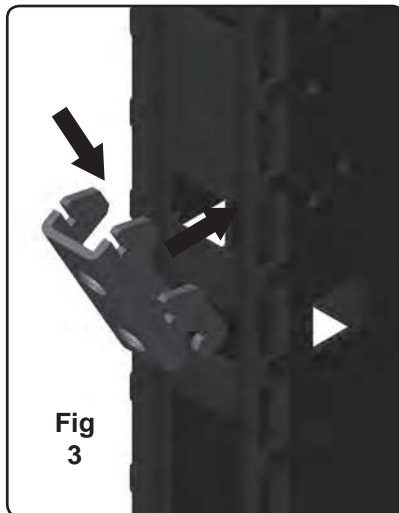
**AT THE BOTTOM OF THE FRAME**

Insert the "Hooked" shaped protrusions on the adapter bracket into the C-clip holes located on the Matrix Version 1 frame as shown fig 3. Insert bracket DOWN at an angle, rotate TOP in, and tap UP with hammer to seat teeth on the UPPER wall of the UPPER c-clip hole.



**IMPORTANT:**  
Tap brackets with hammer to fully engage on frame

**Note:**  
At top bracket is "right side up".



**IMPORTANT:**  
BRACKETS MOUNT TO MATRIX 1 FRAMES AND CONNECTORS

**Note:**  
At bottom Bracket is inserted "upside-down"



**Matrix 1 to Matrix 2 Frame Connection** - Level both frames so that HANGER FRAME SLOTTED CHANNELS ARE ALIGNED. This may require raising the Matrix 1 frame up approximately 1/2 inch.

1/4-20 x 2 1/4" HEX HEAD



Use for M1 to M2 Straight Connections

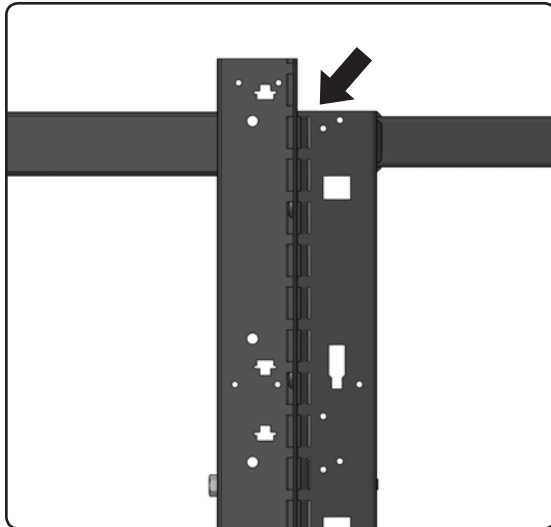


Butt frames together.

Insert bolt through the Hole indicated and thread into the TOP HOLE of the bracket. Do not tighten yet.

TOP OF FRAME  
Use Third Hole from top in the 4 hole pattern on the inside of the M2 frame.

**IMPORTANT:**  
You cannot connect a matrix 2 connector to a Matrix 1 frame. YOU MUST ALWAYS HAVE A MATRIX 2 FRAME IN THE CONNECTION IN ORDER TO USE THE CONNECTOR M1 TO M2 ADAPTER.



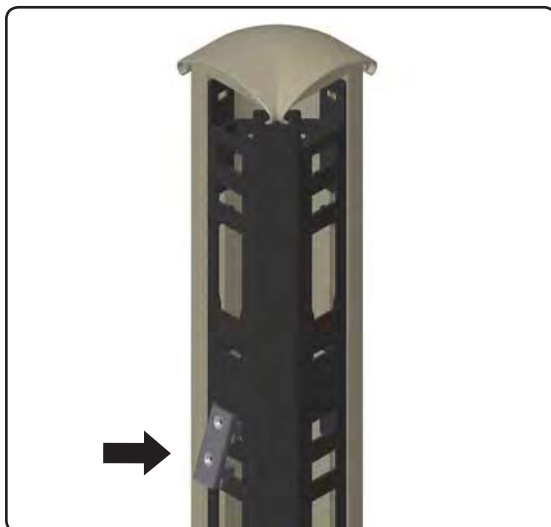
Repeat procedure at bottom, inserting into the same hole at the bottom of frame and threading into the TOP HOLE on the upside down adapter bracket and tighten down both bolts.

BOTTOM OF FRAMES  
Use Third Hole from top in the 4 hole pattern on the inside of the M2 frame.

**Note:**  
Matrix 1 frames are shorter than Matrix 2 frames. Also, the frames will not align at the bottom. The Matrix 2 frame sits lower than the Matrix 1 frame.

**HOWEVER, ONCE TOPCAPS AND TILES ARE INSTALLED, THE FINISHED LOOK IS IDENTICAL.**

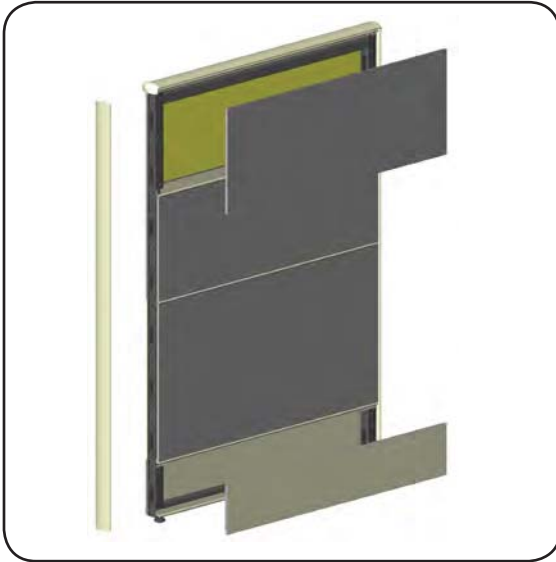
**USE HANGER FRAME SLOTS AS THE GUIDE FOR ALIGNING THE FRAMES.**



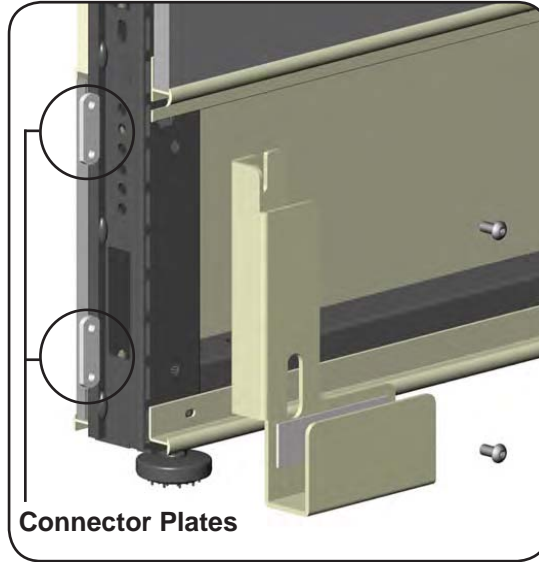
**Note:**  
Use the same procedure as described to assemble Matrix 1 connectors to Matrix 2 frames. Each connector will receive 2 adapter brackets in the same C-clip holes as the Matrix 1 frames.



Step 1



Step 2

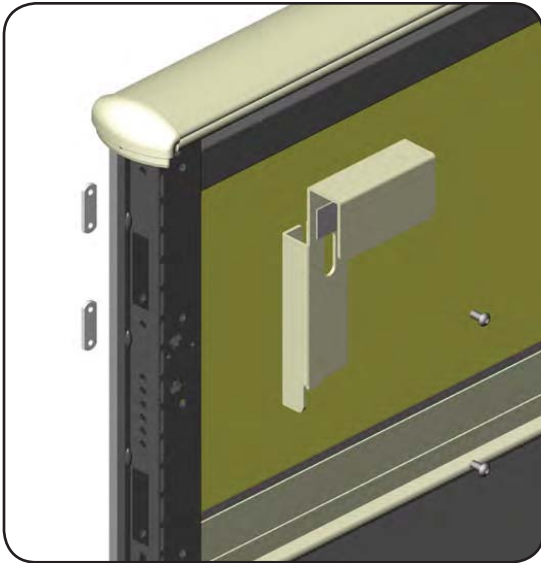


Connector Plates

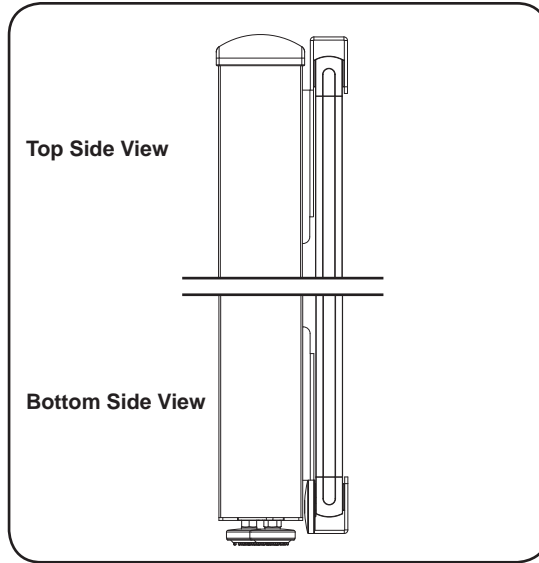
Step 1 - Remove end cap, top tile, and bottom tile. (Optional) Remove topcap for easier installation of top bracket.

Step 2 - Attach bottom bracket to Matrix frame using (2) 1/4 - 20 button head screws with (2) connector threaded plates. Place connector threaded plates inside of the Matrix frame from the side. Do not fully tighten screws to allow for bracket adjustment during final steps of installation.

Step 3

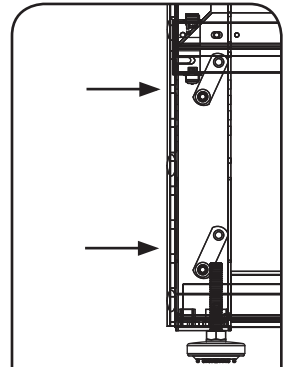


Step 4



Top Side View

Bottom Side View

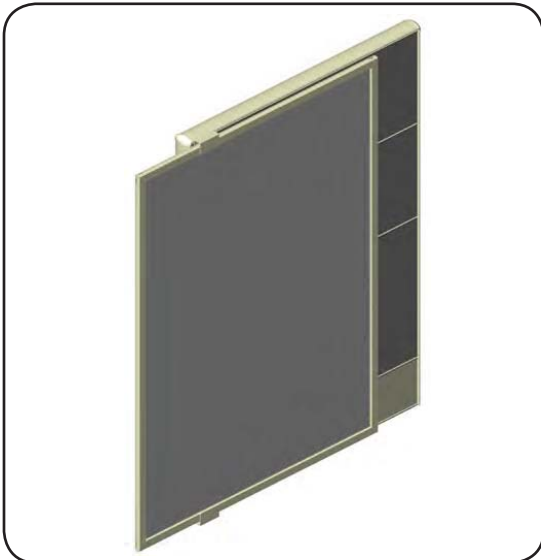


Tip - Hold connector threaded plate inside Matrix vertical, align with hole, and tighten. Inner frame wall will prevent plate from spinning.

Step 3 - Follow the same procedure as Step 2 in attaching top bracket. (Optional) Remove topcap for easier installation of top bracket. Do not fully tighten screws to allow for bracket adjustment during final steps of installation.

Note - Top and Bottom bracket are a mirror image of each other and may be reversed for mounting on opposite side of panel.

Step 5



Step 6

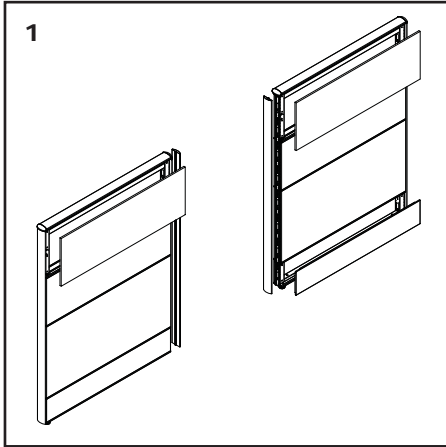


Step 4 - Remove front wheel from sliding door. Bring door parallel to the panel and check space between top and bottom brackets. Adjust brackets to desired fit, remove door, and tighten screws on both brackets. Now you can install removed tiles, endcap, and (optional) topcap.

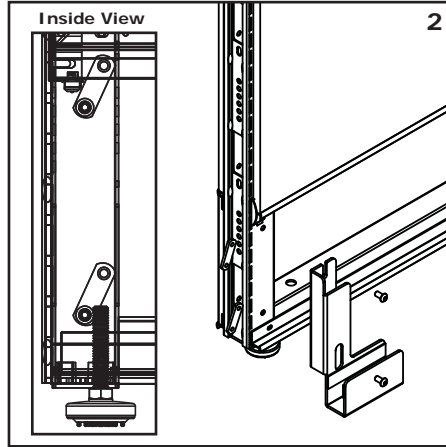
Step 5 - Place door between brackets and slide from back to front.

Step 6 - Re-attach front wheel from inside view of door.

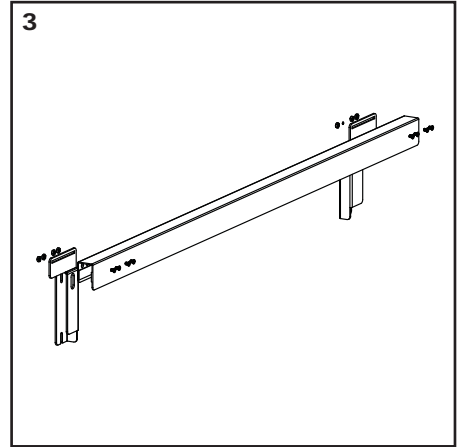
**Step 1** - Remove end cap from both frames. For easier installation of the top track bar you may also remove the top and bottom tiles (optional).



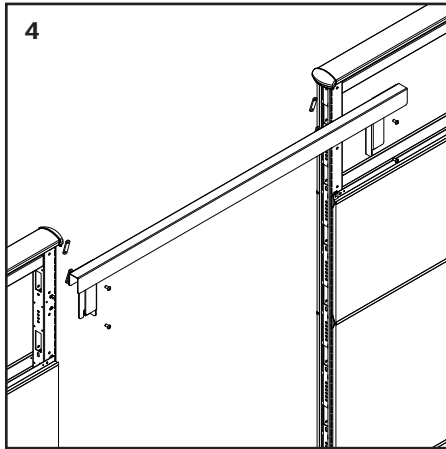
**Step 2** - Using (2) 1/4-20 button head screws and (2) connector threaded plates, attach bottom bracket to frame. From the side place threaded plates inside of the frame. **Note:** Do not fully tighten screws for bracket adjustment is needed during final steps of installation.



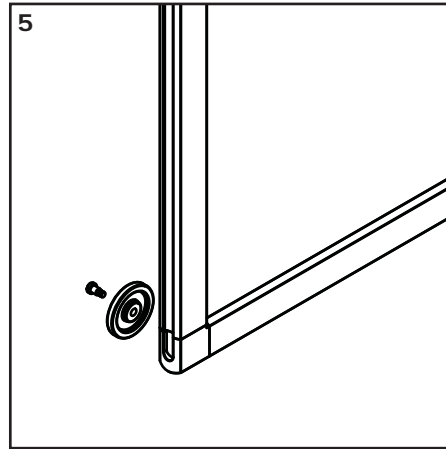
**Step 3** - Using (4) #10-32 flat head screws and (4) #10-32 hex nuts, attach brackets to top bar. Be sure to mount the brackets flush to the end of the track bar assembly.



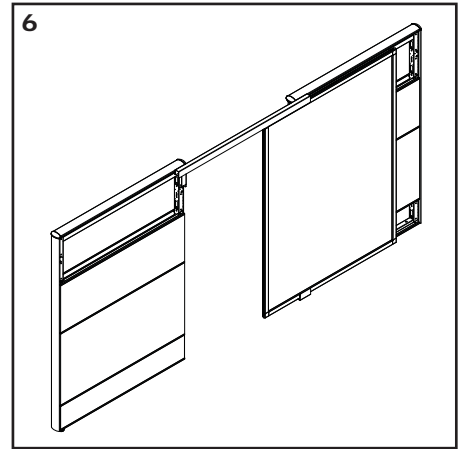
**Step 4** - Using (4) 1/4-20 button head screws and (4) connector threaded plates, attach top track bar assembly. From the side place threaded plates inside of the frame. **Note:** Do not fully tighten screws for top bar assembly adjustment is needed during final steps of installation.



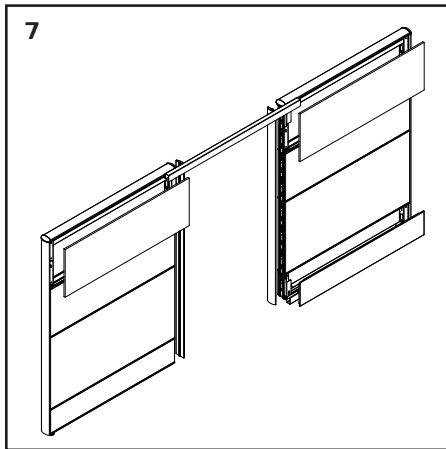
**Step 5** - Remove front wheel from the sliding door.



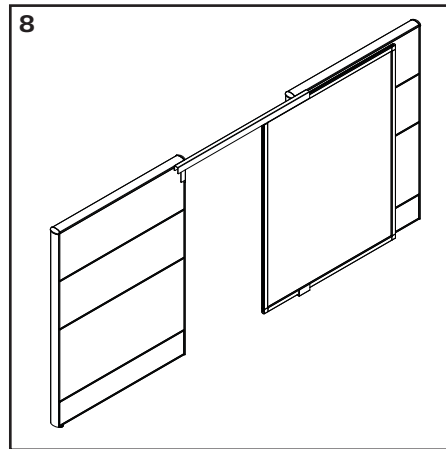
**Step 6** - Bring door parallel the frame and check the space between the bottom bracket and top track bar. Adjust bracket and top bar to desired fit. Remove door and tighten all screws.



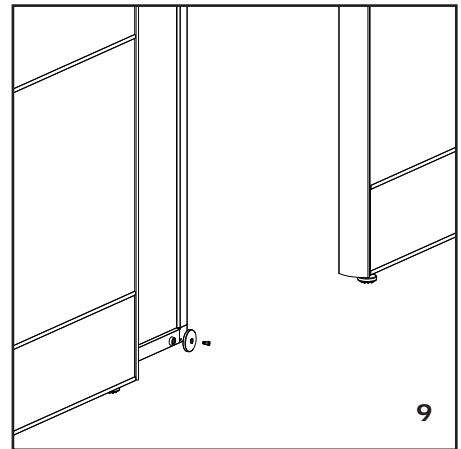
**Step 7** - Re-install endcaps and tiles.



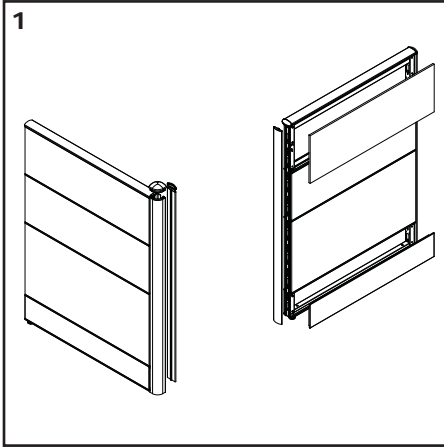
**Step 8** - Place door between bottom bracket and top track bar and slide from back to front.



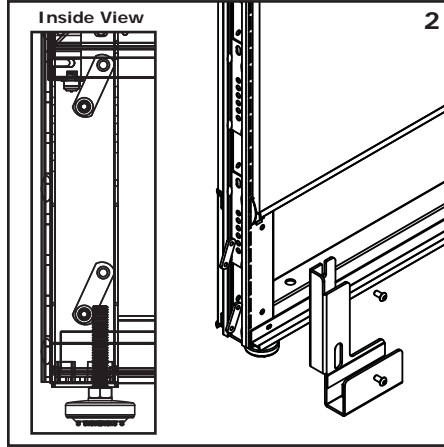
**Step 9** - Re-attach front wheel from inside view of door.



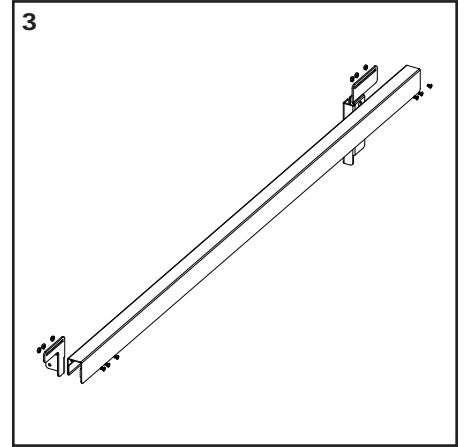
**Step 1** - Remove end cap from both frames. For easier installation of the top track bar you may also remove the connector topcap and the top and bottom tiles (optional).



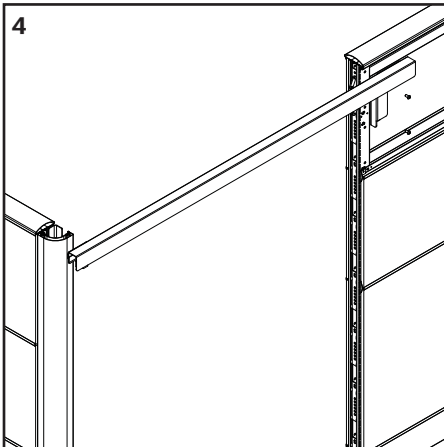
**Step 2** - Using (2) 1/4-20 button head screws and (2) connector threaded plates, attach bottom bracket to frame. From the side place threaded plates inside of the frame. **Note:** Do not fully tighten screws for bracket adjustment is needed during final steps of installation.



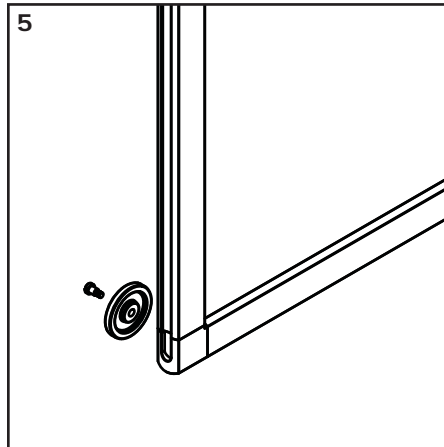
**Step 3** - Using (3) #10-32 flat head screws and (3) #10-32 hex nuts, attach brackets to top bar. Be sure to mount the brackets flush to the end of the track bar assembly.



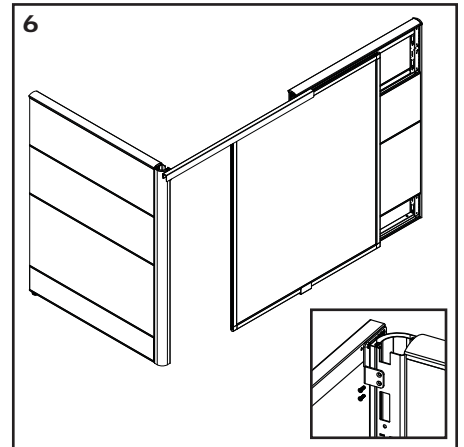
**Step 4** - Using (2) 1/4-20 button head screws and (2) connector threaded plates, attach top track bar assembly. From the side place threaded plates inside of the frame. **Note:** Do not fully tighten screws for top bar assembly adjustment is needed during final steps of installation.



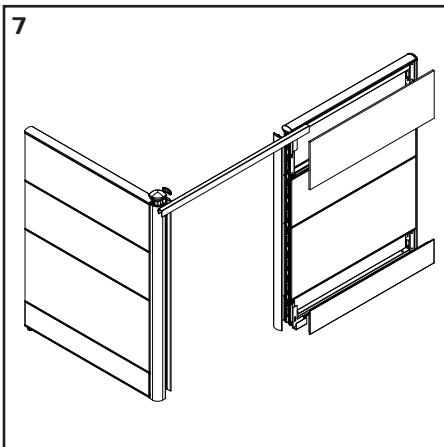
**Step 5** - Remove front wheel from the sliding door.



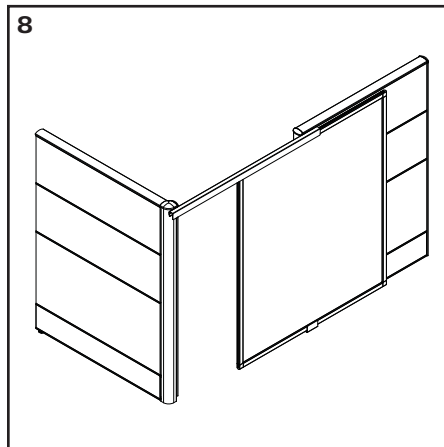
**Step 6** - Bring door parallel the frame and check the space between the bottom bracket and top track bar. Adjust bracket and top track bar to desired fit. Using a 9/16 or 1/8 drill bit and the bracket on the top track bar as a guide, drill 2 holes in the 2-way post connector. Using (2) #8-11/16 phillips flat head self tapping screws, attach other side of top track bar. Remove door and tighten all screws.



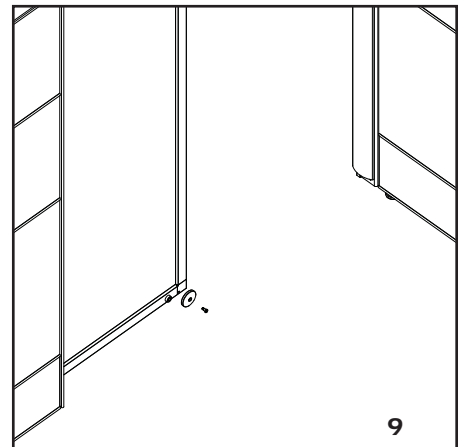
**Step 7** - Re-install endcaps and tiles.



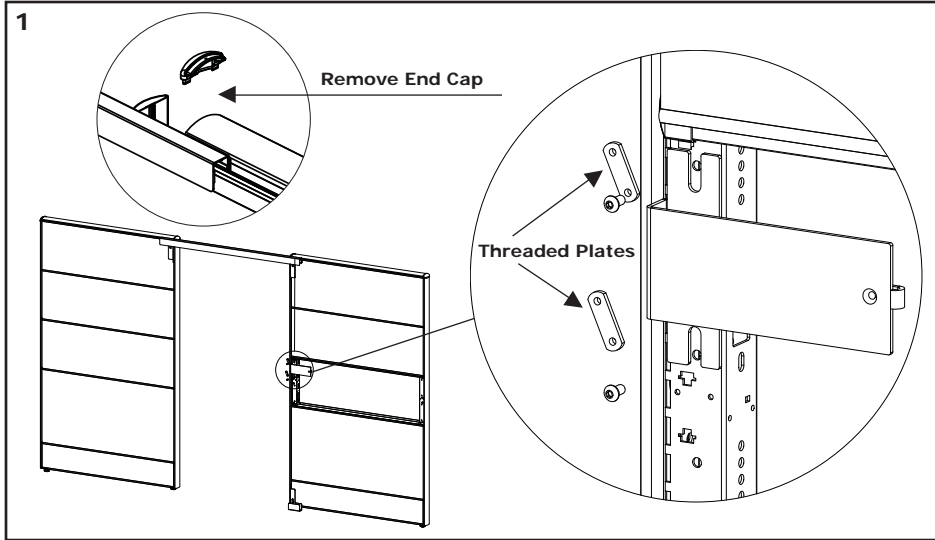
**Step 8** - Place door between bottom bracket and top track bar and slide from back to front.



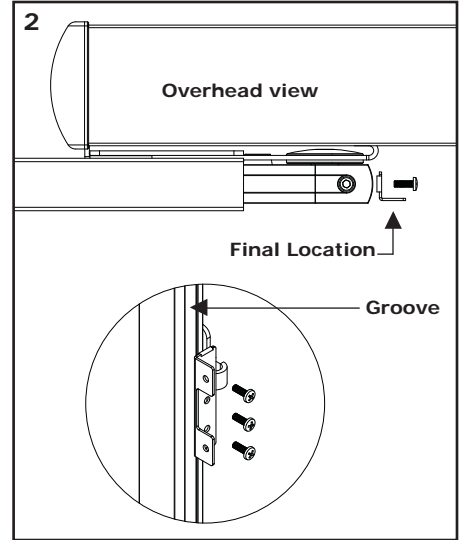
**Step 9** - Re-attach front wheel from inside view of door.



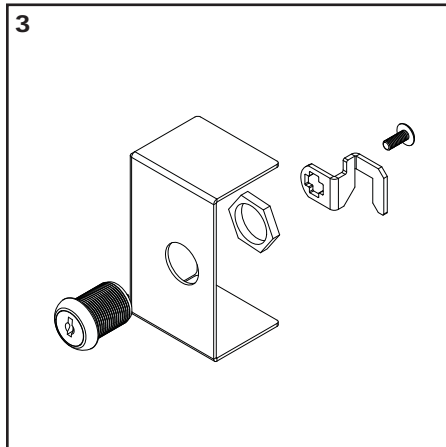
**Step 1** - Remove door from panel frame by removing front wheel and bumper and sliding door out of top and bottom brackets so door is completely off the panel frame. Remove End Cap from panel frame and the tiles on both side of the panel frame where the Lock Bracket will be installed. Using (2) 1/4-20 button head screws with (2) Threaded Plates, attach Lock Bracket via the pilot holes on the panel frame at desired height (28" or 29" from floor). **Note:** The Threaded Plates mount on the inside of the frame channel by access through the electrical hole on the frame (similar installation procedure with the Top and Bottom Brackets for the Sliding Door).



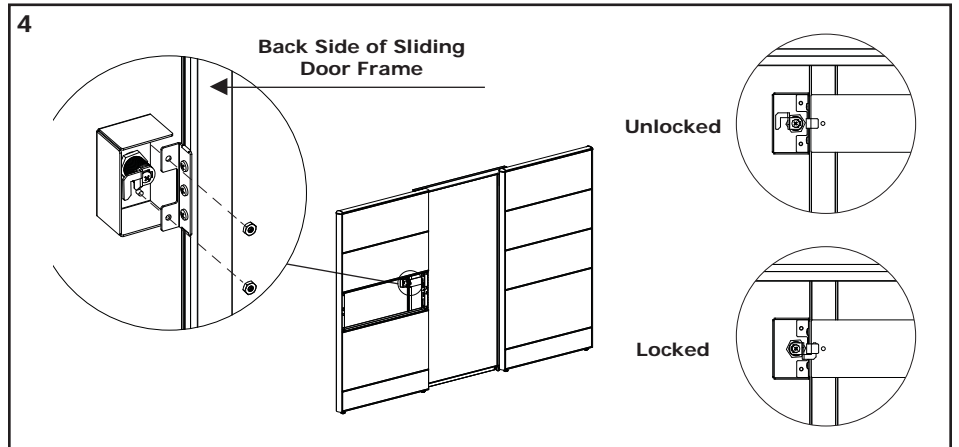
**Step 2** - Place sliding door between brackets and slide from front to back. Re-install front wheel and bumper. Using (3) #8-1/2" drill point screws, attach "L" Bracket to groove on the sliding door. **Important:** "L" Bracket and Lock Bracket must be mounted at same height from floor.



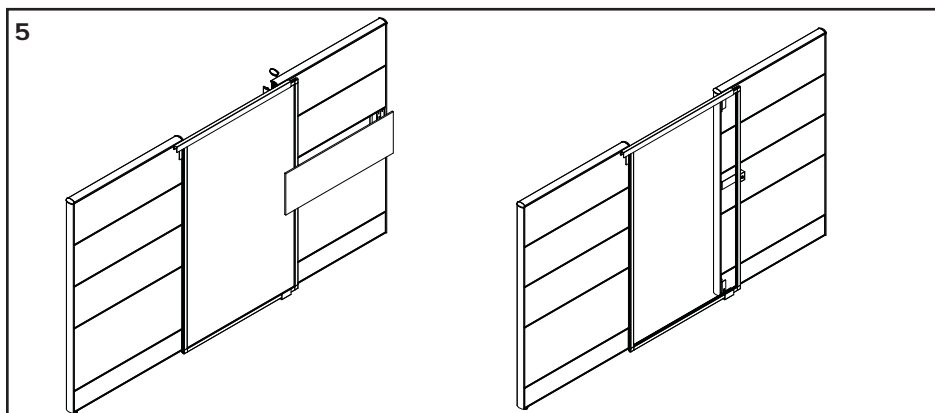
**Step 3** - Install Cam and Core Cylinder on Lock Cover.

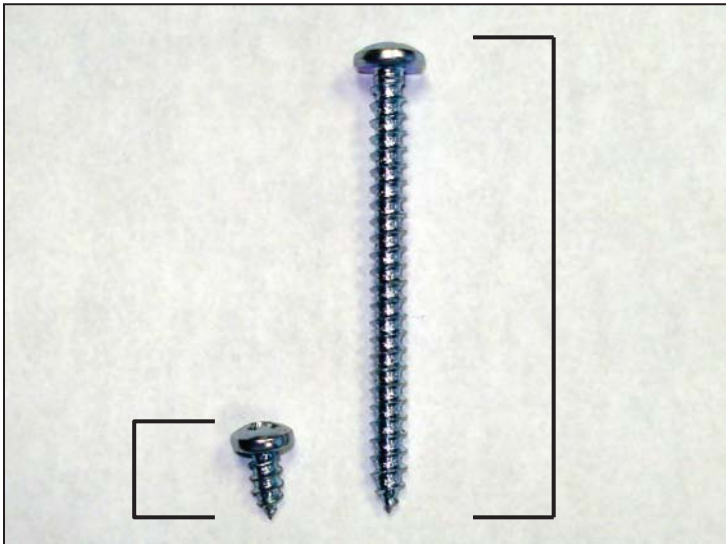


**Step 4** - Using (2) #8 hex nuts, install the Lock Cover Assembly to the "L" Bracket. This can be done with access from inside of the panel frame since the tiles have been removed at this location.

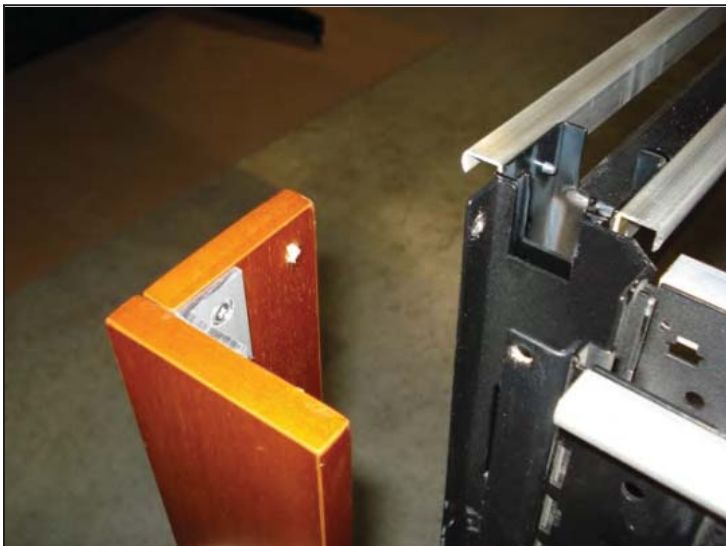


**Step 5** - Re-install End Cap and the front and back tiles to the panel frame.





Matrix veneer trim installation uses 2 screw lengths.  
**FAILURE TO USE EXACT SCREWS PROVIDED** will damage the veneer product.  
 Short Screw (A) = #8 Pan Head Sheet Metal Screw, #2 Phillips Drive, ½ inch long from TOP of head to tip.  
 Long Screw (B) = #10 Pan Head Sheet Metal Screw, #2 Phillips Drive, 2 3/8 inch long from TOP of head to tip.



Install top tile retainers per standard Matrix install instructions. NOTE TRIM MUST BE INSTALLED WITH TILES REMOVED. In most cases, connector covers will be preinstalled at factory. However, covers may need to be removed for data routing. Simply line up the predrilled holes at the top of the connector body with the holes in the top of the cover....



Using Screw A, screw cover to connector body. DO NOT over-torque screws. One screw at top on right....

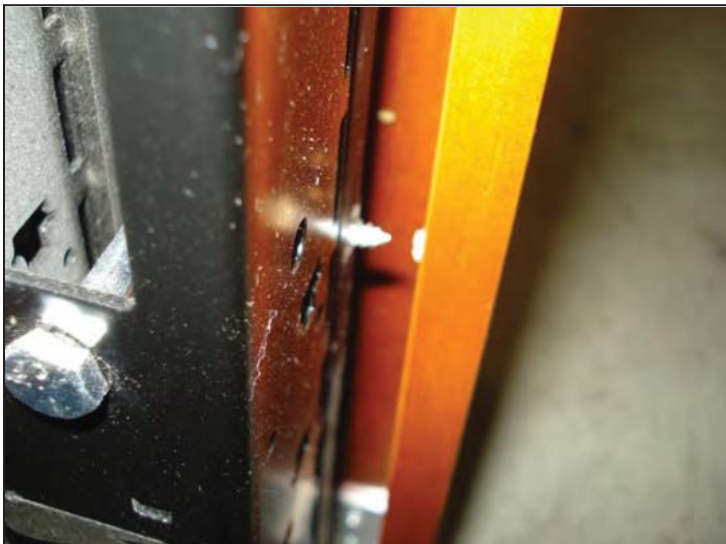




One Screw A at top on left.....



For bottom of connector locate pre-drilled relief holes on "inside" corner of connector body. Holes are ½ inch holes. Insert Screw A on extended #2 Phillips "shank" or hand screwdriver though hole and then through hole on the far side of connector as shown below...Tilting the vertical cover slightly to see screw emerge is acceptable.



Screw A will align with a predrilled hole on cover. Screw cover on. Do not over torque screws. Repeat on opposite side of connector.



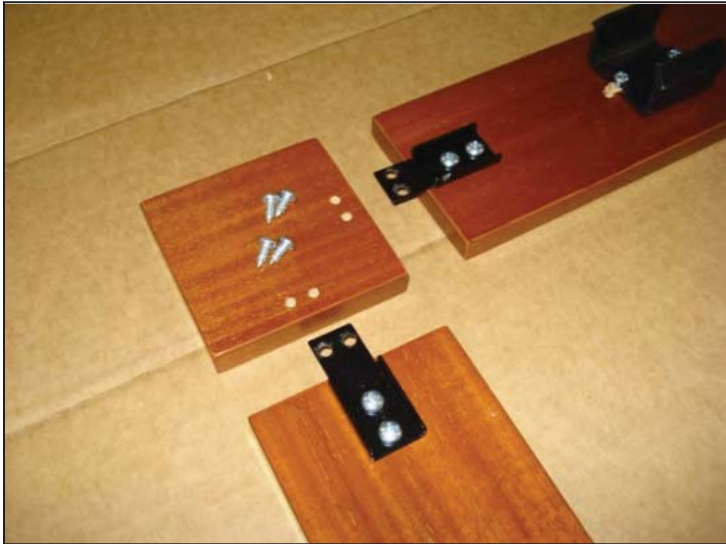
Cover should sit flush and plum on connector body as shown.



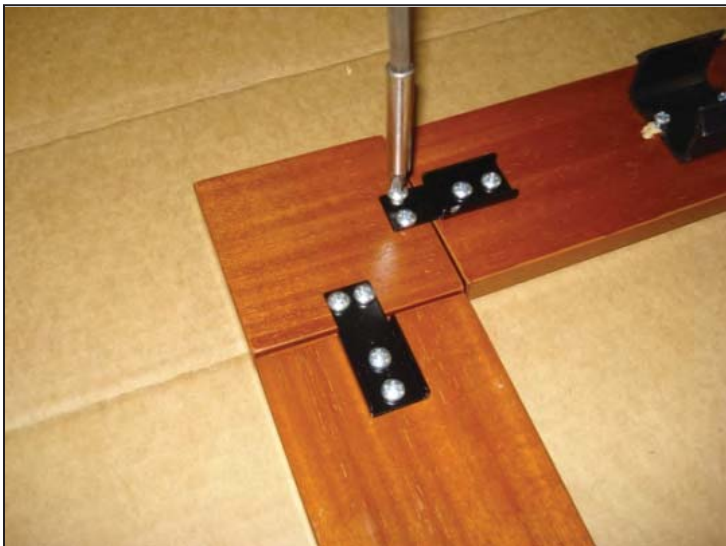
Covers on 2-way 90/120/135 and 3-way 90 degree install in exact same manner. **NOTE: COVERS WILL ALWAYS ALIGN FLUSH WITH TOP OF CONNECTOR BODY.**



Topcaps will come from factory preassembled with splice plates and clips.



Each type of connector (2-way, 3-way, 4-way) has a corresponding "cap" as shown at left. Align holes in cap with holes splice plates from topcaps adjacent to connector. NOTE: When building assemblies, note the disposition (left or right) of the topcap arrangement and consider that you are screwing the topcaps together UPSIDE-DOWN .



Using Screw A, screw topcaps to Connector Cap as shown. Do not over-torque screws.



Gently lift topcap assembly and place on top of panel frames. Note, some connections may require more than 2 topcaps. BE SURE TO SUPPORT TOPCAPS PROPERLY FROM BELOW TO PREVENT SPLICE PLATES BENDING AND DAMAGE TO VENEER PARTS....

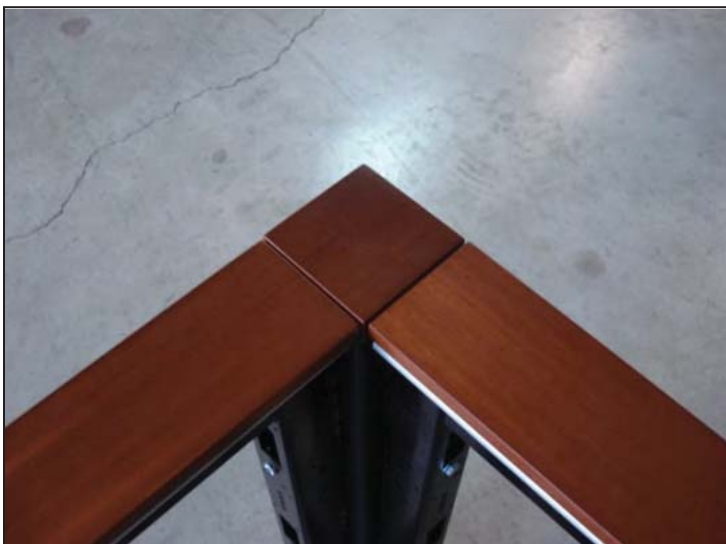




With topcap assembly resting on top tile retainers, apply pressure above clips to “snap” topcaps on to frames as shown.



Be sure topcaps are flush with top tile retainers. Note, Radius Retainers and Linear Retainers function the same way.



View of Installed topcaps from above. Be sure topcaps are centered properly on frames.



View of topcap assembly from side. Note that topcaps **EXTEND** out over connector cover. This is the proper position. Vertical covers are designed to align with tile faces.



For Endcap assembly, note that topcaps must **ALREADY BE INSTALLED**. Align top of endcap with top of installed topcap.....



Insert **LONG SCREW**, Screw B, into standard connection hole approx 8 inches down from top of frame, immediately below top electrical chase cut-out. This may require removal of sheetmetal captured nut from inside of frame. Align tip of screw with predrilled hole in endcap and attach endcap...





Plum endcap and repeat the last step in the middle and at the bottom of the endcap. Cap should remain flush at top. However, should endcap require adjustment, loosen screws and adjust and retighten.

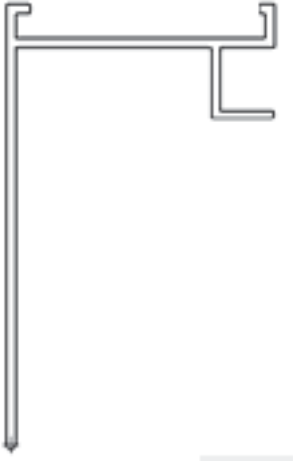


View of finished endcap. Note level of topcap and endcap.

## AIS FIT Installation Instructions – April 2007

## I) Gather together the FIT parts

## A. Base Extrusion



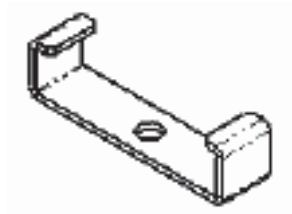
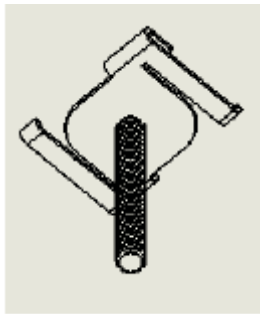
## B. Cover Extrusion



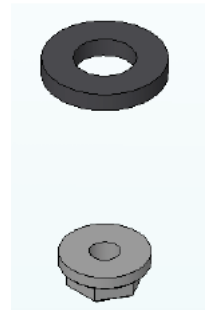
## C. Filler Extrusion



## D. Ceiling Spacer (if needed)

E. Ceiling grid hanhers (for 1" wide grid,  
other sizes special order)

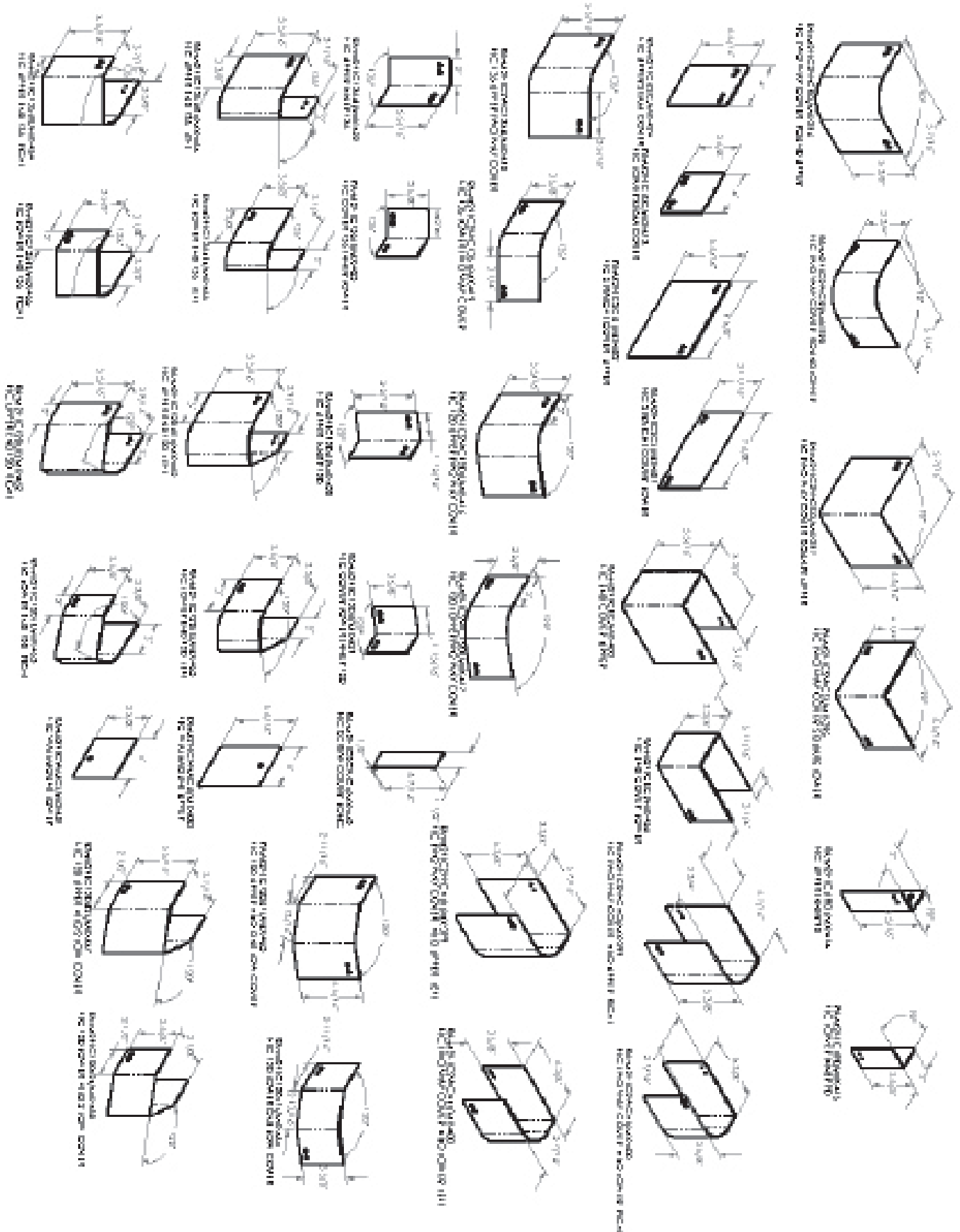
## F. Wide nut &amp; Washer



## G. 8-32x1 1/4" flat head tek screw (Self drilling screw)

## H. Corner and joined covers as needed per job (see next sheet)

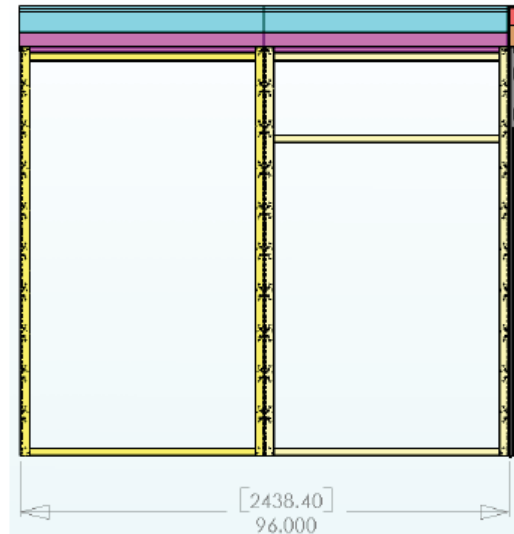
# Corner and joined covers



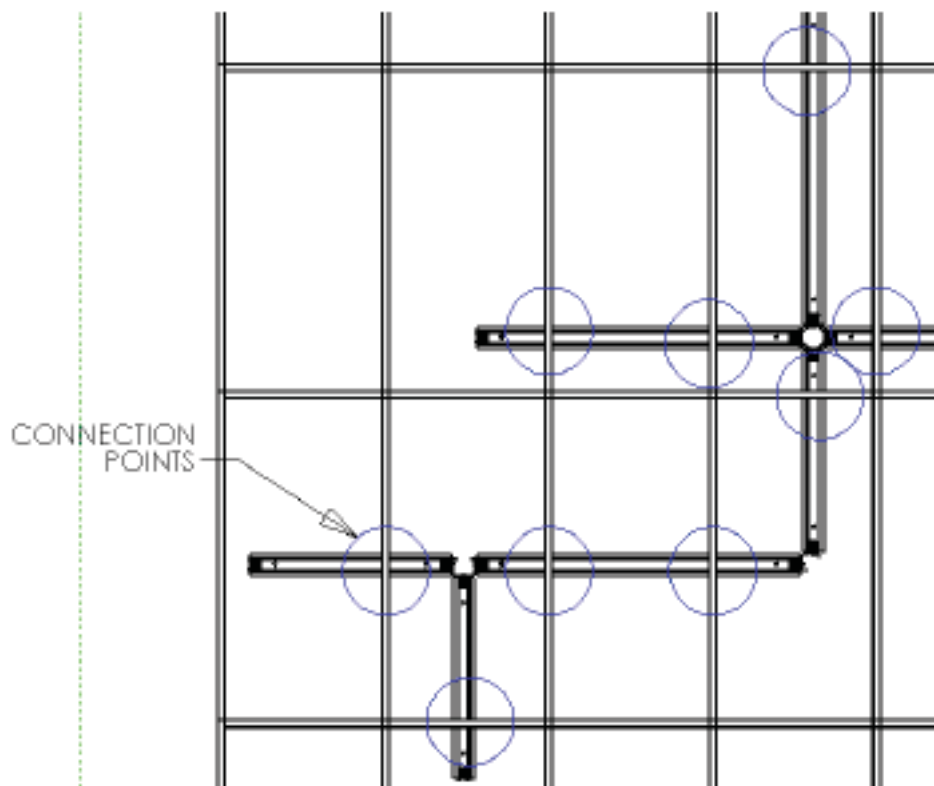
# Corner and joined covers

NOTE: See Design Training guide on FIT for better visual examples. The above is only a quick reference of general shapes.

- II) **IF EXTRUSIONS NOT PRE-CUT, MEASURE EXTRUSION LENGTH NEEDED**
- A. Base extrusion should be cut as long as possible. Distance is determined by measuring outer frame edge to outer frame edge. The base extrusions can go over 3 way connectors if needed, the filler can not. The cover extrusion can if it is a hilo condition only.
- B. Maximum length per extrusion is 114"
- C. At least 2 connection points to ceiling grid should be available per extrusion.



- III) **IF EXTRUSIONS NOT PRE-CUT, CUT EXTRUSIONS TO LENGTH**
- A. The extrusion needs to be cut as square as possible.
- IV) **DETERMINE HOLE LOCATIONS FOR HANGERS**
- A. Hangers will be located where the ceiling grid crosses the FTC extrusions.
- B. The location should be marked on the top of each extrusion.



- V) **DRILL HOLES FOR HANGERS IN BASE EXTRUSION**  
A. A 1/2" hole saw should be used for the hanger holes.

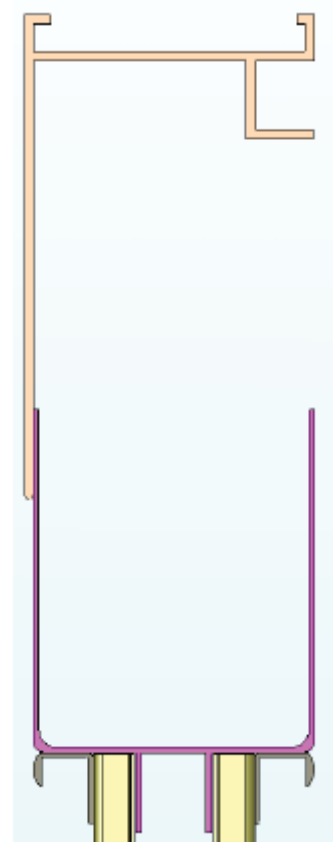


- VI) **INSTALL HANGERS ON CEILING GRID**  
A. Twist the hangers onto the grid beams until they snap in place.  
B. Note: if the dropped ceiling has recessed tiles, place the ceiling spacer between the grid and the base extrusion over the stud of the hanger. Call AIS for more instructions if needed.





- VII) **MOUNT BASE EXTRUSION TO CEILING ON HANGERS WITH WIDE NUTS**
- A. Place base extrusion on top of the frames it will cover.
  - B. Confirm the hole locations will match up with the hangers.
  - C. Lift one end of the extrusion up so the end hanger goes through its hole.
  - D. Use the wide nut with washer on that hanger to hold the extrusion in place.
  - E. Lift the other end of the extrusion so the other hangers go through the holes.
  - F. Use the wide nut and washer on that hanger to hold the extrusion up on both ends
  - G. Place the other wide nuts and washers on the other hangers.
  - H. Tighten all wide nuts so the extrusion is firmly held against the ceiling.

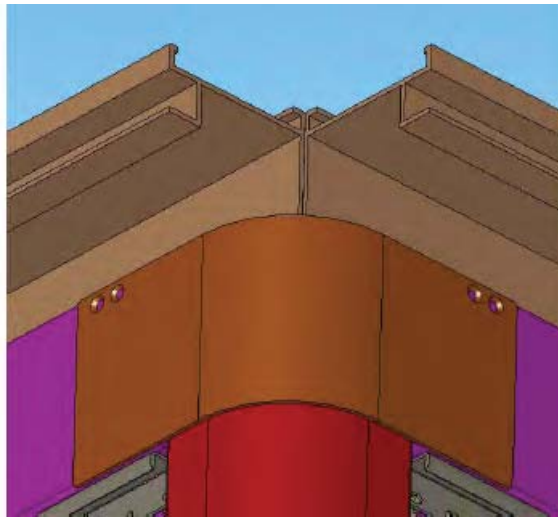


- VIII) **PLACE FILLER EXTRUSION ON TOP OF FRAMES**

- IX) **SCREW FILLER EXTRUSION IN FROM BELOW WITH SELF DRILLING SCREWS**  
A. Screws go from inside of top tile retaining extrusion into bottom of filler.



- X) **PLACE LOWER SHROUD COVERS (CORNER OR FLAT) ON FILLER EXTRUSION AND SCREW IN PLACE WITH SELF DRILLING SCREWS**

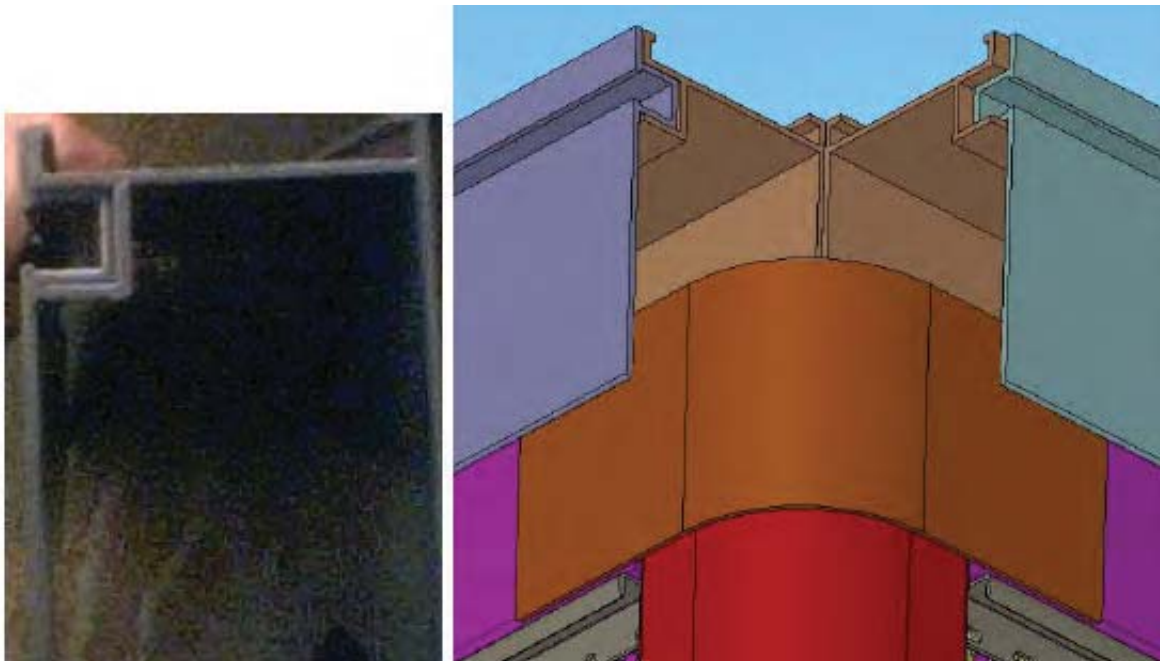


- XI) **DRILL SCREW HOLES IN COVER EXTRUSION**  
A. 1/4" holes should be placed 2" in from each end as well as in the center of the length.



**XII) PLACE COVER EXTRUSIONS**

- A. Make sure the cover extrusion fits fully in the base extrusion over its entire length.
- B. The cover extrusions should go over the lower shroud covers (corner or straight)

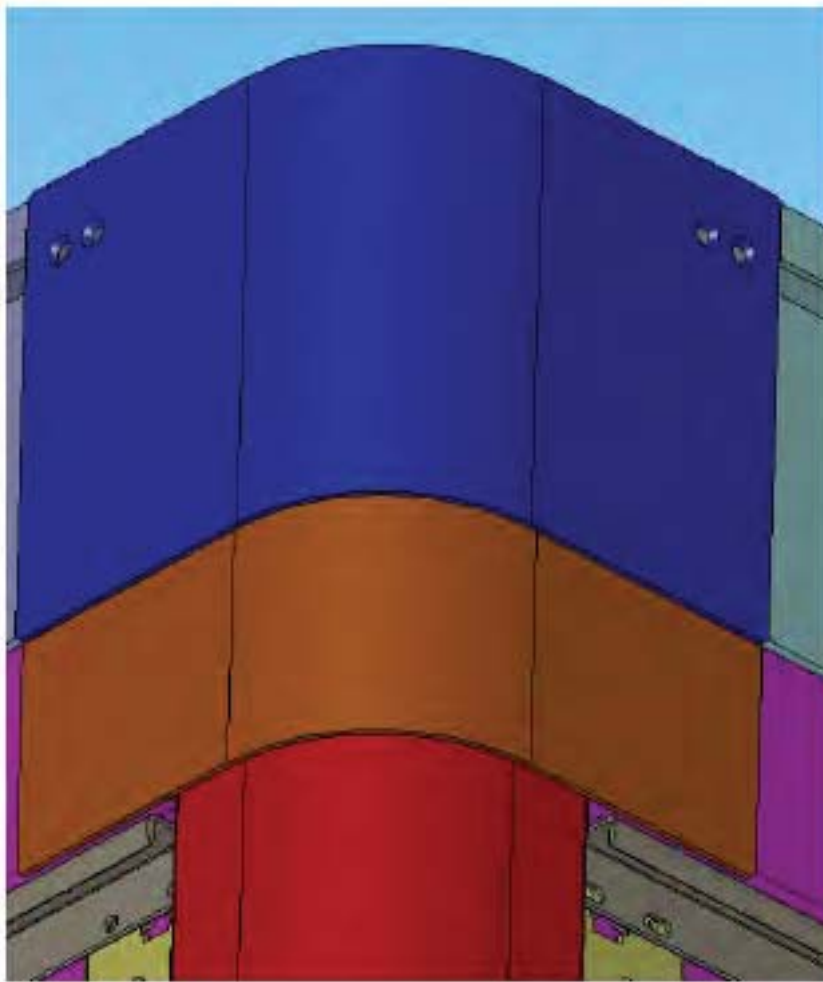
**XIII) USE SELF DRILLING SCREWS IN COVER HOLES TO HOLD ON COVER**

- A. Make sure the cover extrusion remains fully seated while screws are tightened.

**XIV) PLACE OUTER TWO WAY COVERS OVER OUTER SIDE OF EXTRUSION**

- A. Make sure covers are even and square to extrusions.





- XV) **USE SELF DRILLING SCREWS TO HOLD ON COVER**  
A. Make sure cover is held tight to extrusions while being screwed down.
- XVI) **PLACE INNER TWO WAY COVERS OVER INSIDE SIDE OF EXTRUSION**  
A. Make sure covers are even and square to extrusions.
- XVII) **USE SELF DRILLING SCREWS TO HOLD ON COVER**  
A. Make sure cover is held tight to extrusions while being screwed down
- XVIII) **USE TOUCH UP PAINT TO COVER SCREW HEADS SO THEY BLEND IN WITH THE EXTRUSIONS.**