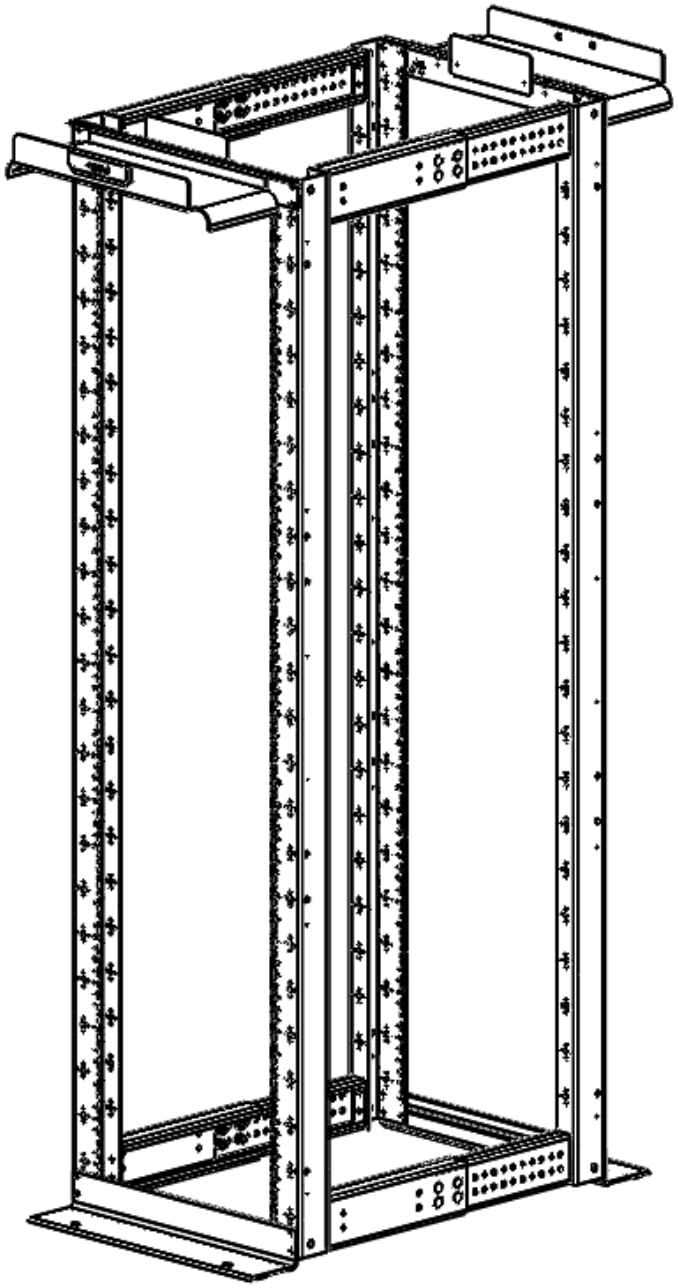
Installation Guide for the Mighty Mo 20® 7 & 8 FT Adjustable Depth Racks



Safety and Warning

An exclamation mark inside a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

ATTENTION:

- Improper use of this product may lead to serious injury. Read and understand all instructions for proper installation and use of this product.
- Wear proper safety equipment to prevent injuries.
- Do not attempt to unload or move the Racks by yourself. Make sure to have sufficient personnel and equipment to safely move this product.
- Load heavy equipment at the bottom of the cabinets first. To maintain cabinet stability, load ½ of the total equipment weight in the bottom 1/3 of the cabinet. Do not exceed maximum load capacity. Load capacity information is in Product Features section.
- Ensure that the floor has a structural load capacity that will support the weight of the Rack loaded with equipment.
- Some parts of the racking system may not be effectively bonded to the Protective Earth Terminal (PET). If these parts need to be bonded to the PET it should be done in accordance with Article 250 of the National Electrical Code.
- Rack is intended for use in ambient temperatures of 0º C to 60º C.
- Minimum spacing between equipment and the cabinet shall be maintained in accordance with the National Electric Code, ANSI C2 and NFPA 70.

Sécurité et avertissement

Un point d'exclamation à l'intérieur du triangle est destiné à alerter l'utilisateur de la présence d'instructions importantes sur l'opération et la maintenance dans la documentation accompagnant l'appareil.

ATTENTION:

- Une mauvaise utilisation de ce produit peut entraîner des blessures graves. Toutes les instructions sont à lire et à comprendre pour une installation et utilisation adéquate de ce produit.
- Portez des équipements de sécurité appropriés pour éviter toutes blessures.
- Ne pas tentez pas de décharger ou de déplacer les armoires par vous-mêmes. Assurez-vous d'avoir suffisamment de personnel et de matériel afin de déplacer ce produit en toute sécurité..
- Chargez d'abord l'équipement lourd au fond de l'armoire. Pour maintenir la stabilité de l'armoire, charger la moitie du poids total de l'équipement dans le tiers inférieur de l'armoire. Ne pas dépasser la capacité de charge maximale. Les informations sur la capacité de charge sont inclus dans la section « Caractéristiques du Produit ».
- Veillez à ce que le sol ait une capacité de charge structurelle qui pourra supporter le poids de l'armoire chargé avec l'équipement.
- Certaines parties du système de rayonnage ne peuvent pas être efficacement liées à la borne de terre (« Protective Earth Terminal »). Si ces pièces doivent être liées à la borne de terre, cela doit être fait conformément à l'article 250 du Code National de l'Electricité (National Electric Code).
- L'armoire est destinée à être utilisée dans des températures ambiantes allant de 0°C à 60°C.
- L'espacement minimum entre les équipements et l'armoire doit être maintenue en conformité avec le Code National de l'Electricité (National Electric Code), ANSI C2 et NFPA 70.

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Product Features:

- **Rack Space and Overall Height:**
  - 45U (84.00”) & 51U (96.00”)
- **EIA Mounting and Rack Width:**
  - 19” EIA (23.75”)
  - 23” EIA (27.75”)
- **Rack Depths:**
  - 21” to 32” & 31” to 42” in 1” increments
- **Vertical Mounting Rails:**
  - EIA patterned 0.375” square holes
- **Load ratings:**
  - UL Rating (2416): 2,000 lbs. (907 kg) static (23” EIA assembly is NOT UL Rated)
- **Colors:**
  - Black
  - White

Hardware and Tools

Required Tools and Hardware (2 people are recommended to safely assemble a Rack)

- **Unpacking**
  - Utility Knife

- **Rack Assembly and Set-up**
  - 9/16” Socket or Wrench
  - 1/2” Deep Socket or Wrench
  - 5/16” Socket or Wrench
  - Torque Wrench (9/16” socket & 1/2” deep socket)
  - Level
  - Square
  - Tape Measure
  - Securing Hardware (NOT SUPPLIED)
  - Grounding lug & Hardware (NOT SUPPLIED)

Unpacking and Handling

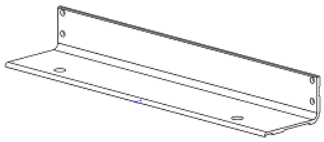
Delivery

Check shipping box for signs of damage. If there are any signs of damage do not except delivery and report it immediately!

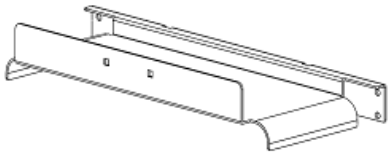
Unpacking

- Using the utility knife, carefully cut open the end of the box and remove the contents:

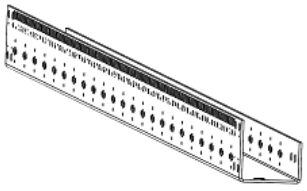
(2) Base Angle



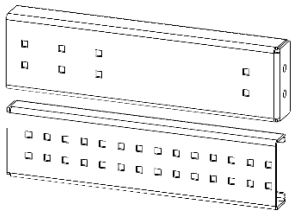
(2) Waterfall



(4) Mounting Rail (2 left & 2 right)



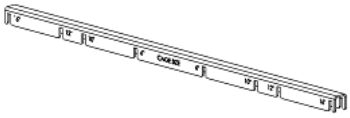
(4) Adjustable Horizontal Rail Set



(2) Legrand Badge

(2) Separator Plate

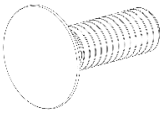
(3) Rack Spacer



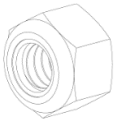
(2) Hardware Kit

8 sets/Kit

(16) 5/16-18 Carriage Bolts

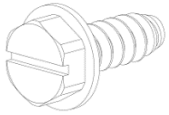


(16) 5/16-18 Lock-Nuts

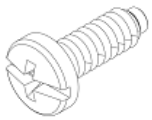


(16) 5/16 Flat Washers

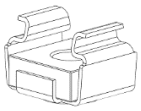
(4) #10 Screw



(50) #12-24 Screw



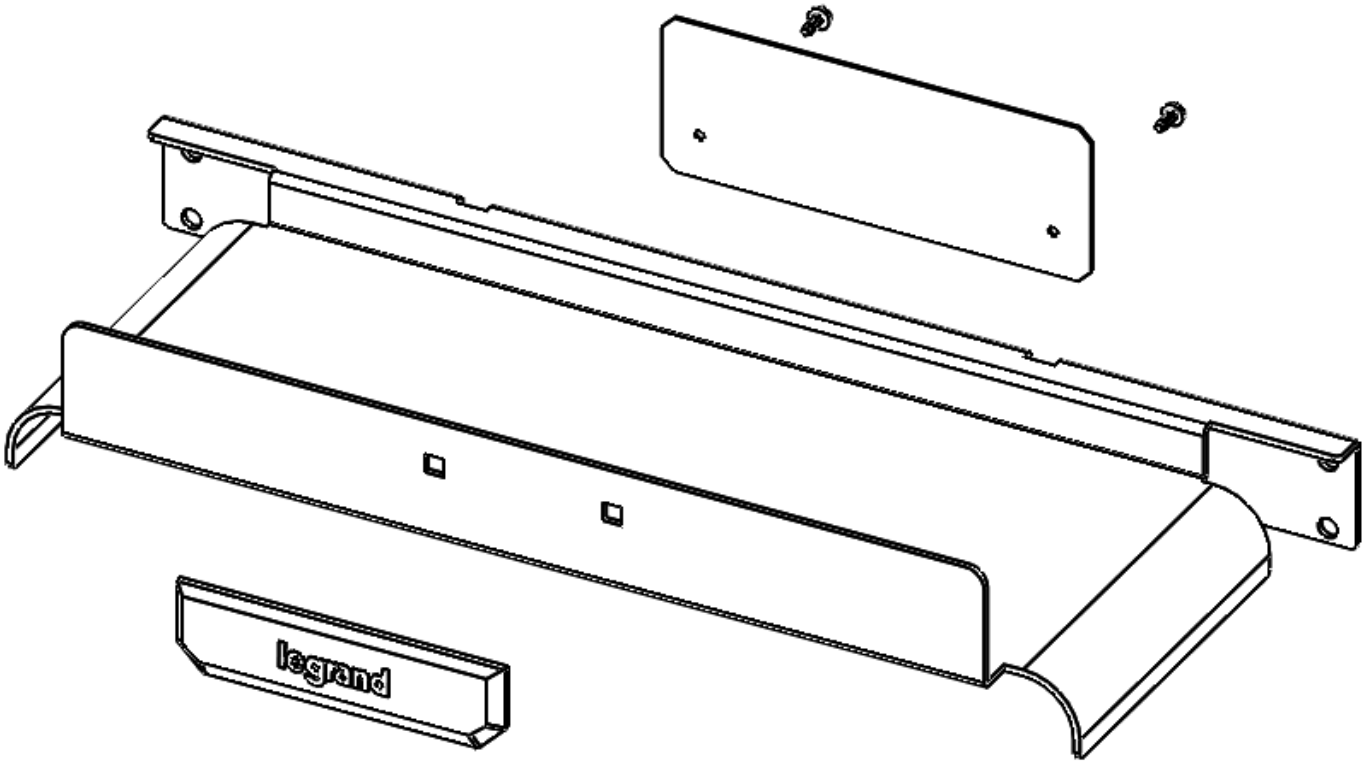
(50) #12-24 Cage Nut



Assembling the Rack

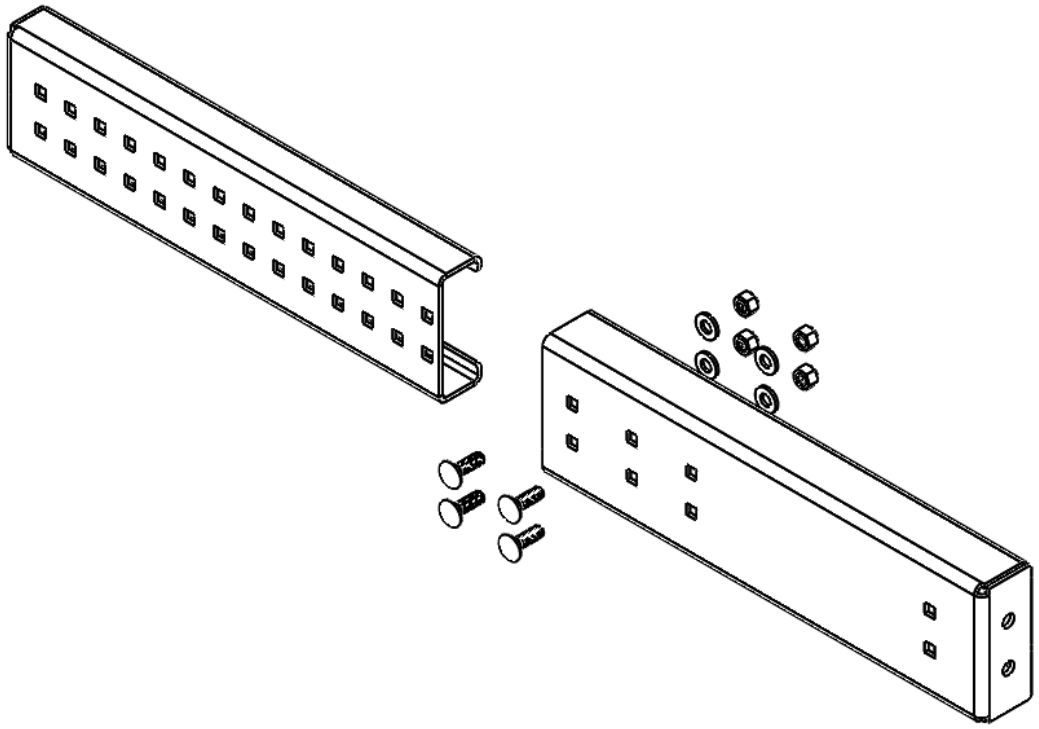
Waterfall Sub-Assembly (2X):

Install the snap-in Legrand Badge and Separator Plate onto the Waterfall. Separator Plate installs with #10 Screws. Maximum load rating for each Waterfall is 30 lbs (13.5 kg).

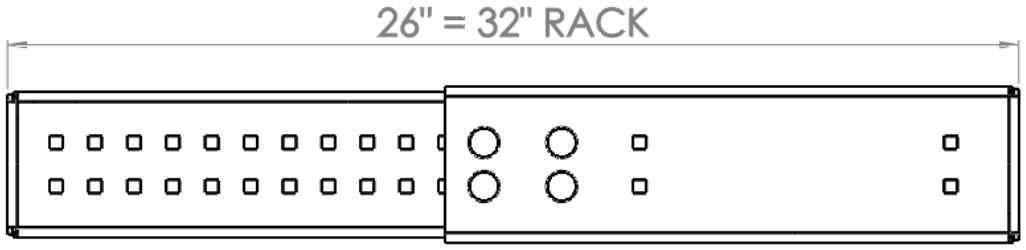


Adjustable Horizontal Rail Sub-Assembly (4X):

Using the carriage bolts, lock-nuts, and washers assemble the outer rail to the inner rail.



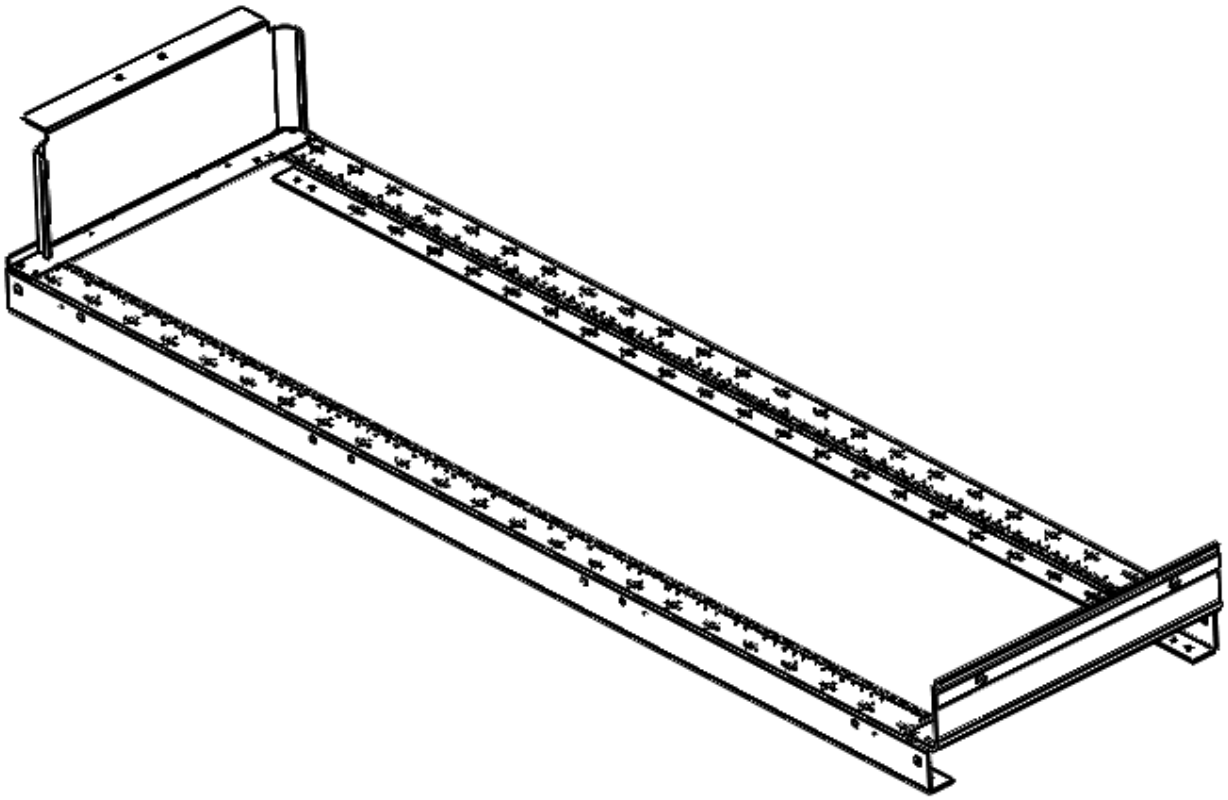
Set to the desired Rack Depth. Sub-Assembly will be 6” less than final Rack Depth.



Tighten bolts to 15 ft-lbs (20 Nm).

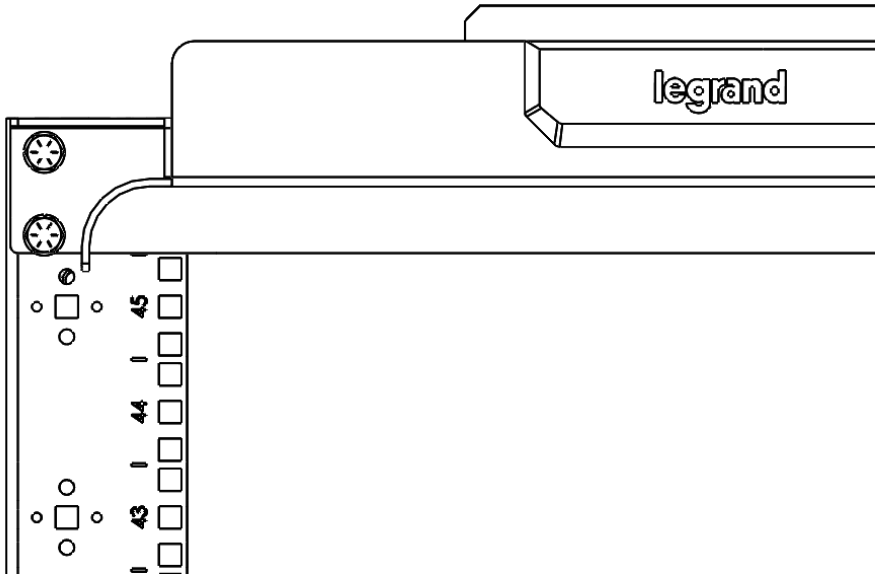
Mounting Rail Sub-Assembly (2X):

Find a flat area large enough to assemble the Mounting Rail Sub-Assembly. Lay-out (1) Left and (1) Right Mounting Rail, (1) Waterfall Assembly, and (1) Base Angle.

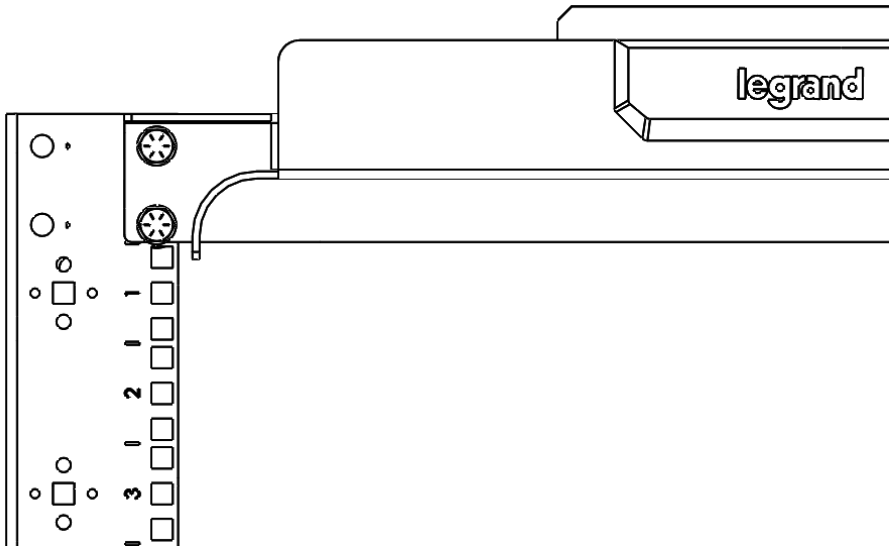


Mounting Rail Sub-Assembly (cont.):

MM20 Racks can be assembled several different ways to accommodate your specific needs. They can be assembled as either 19” or 23” EIA mounting. Rack Unit numbers can be oriented with #1 at the bottom or at the top. Ensure both rails are oriented the same way.



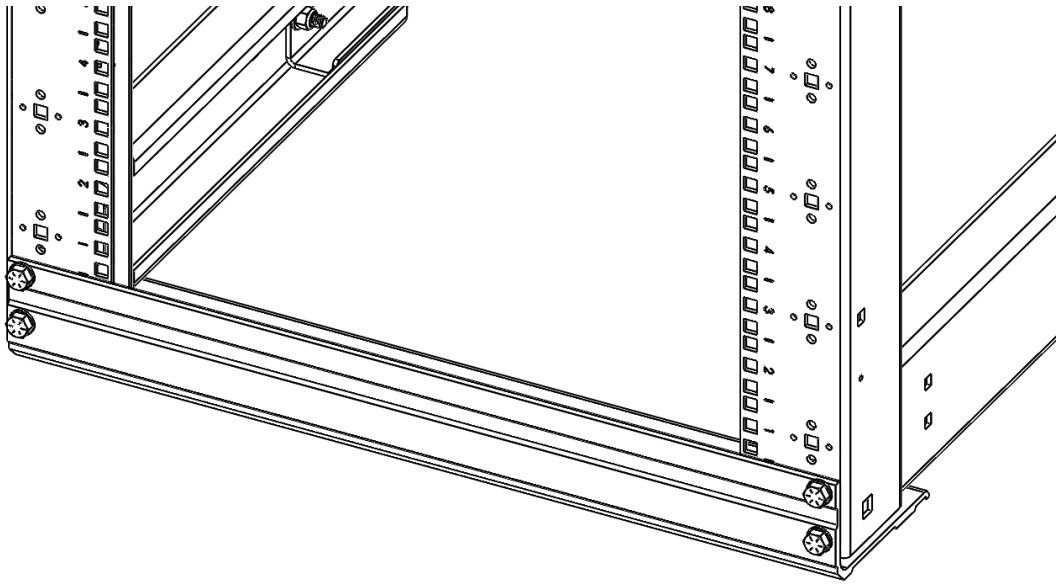
19” EIA with Rack Unit #1 at bottom



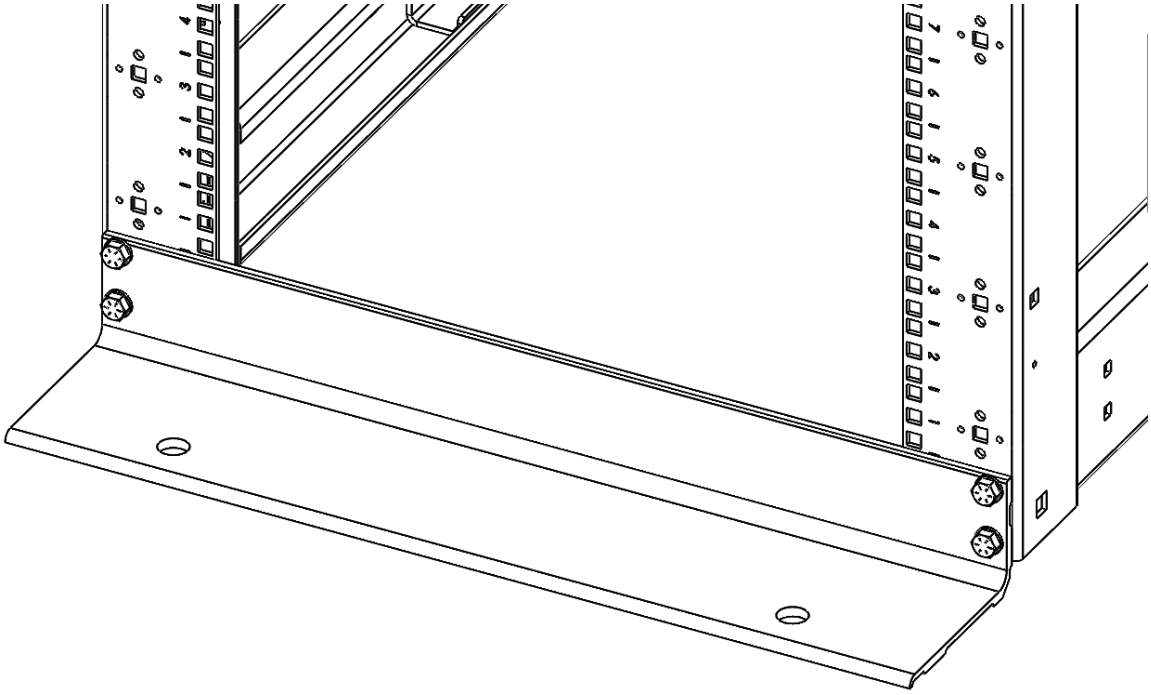
23” EIA (no UL rating) with Rack Unit #1 at the top

Mounting Rail Sub-Assembly (cont.):

Base Angles can be oriented inward or outward.



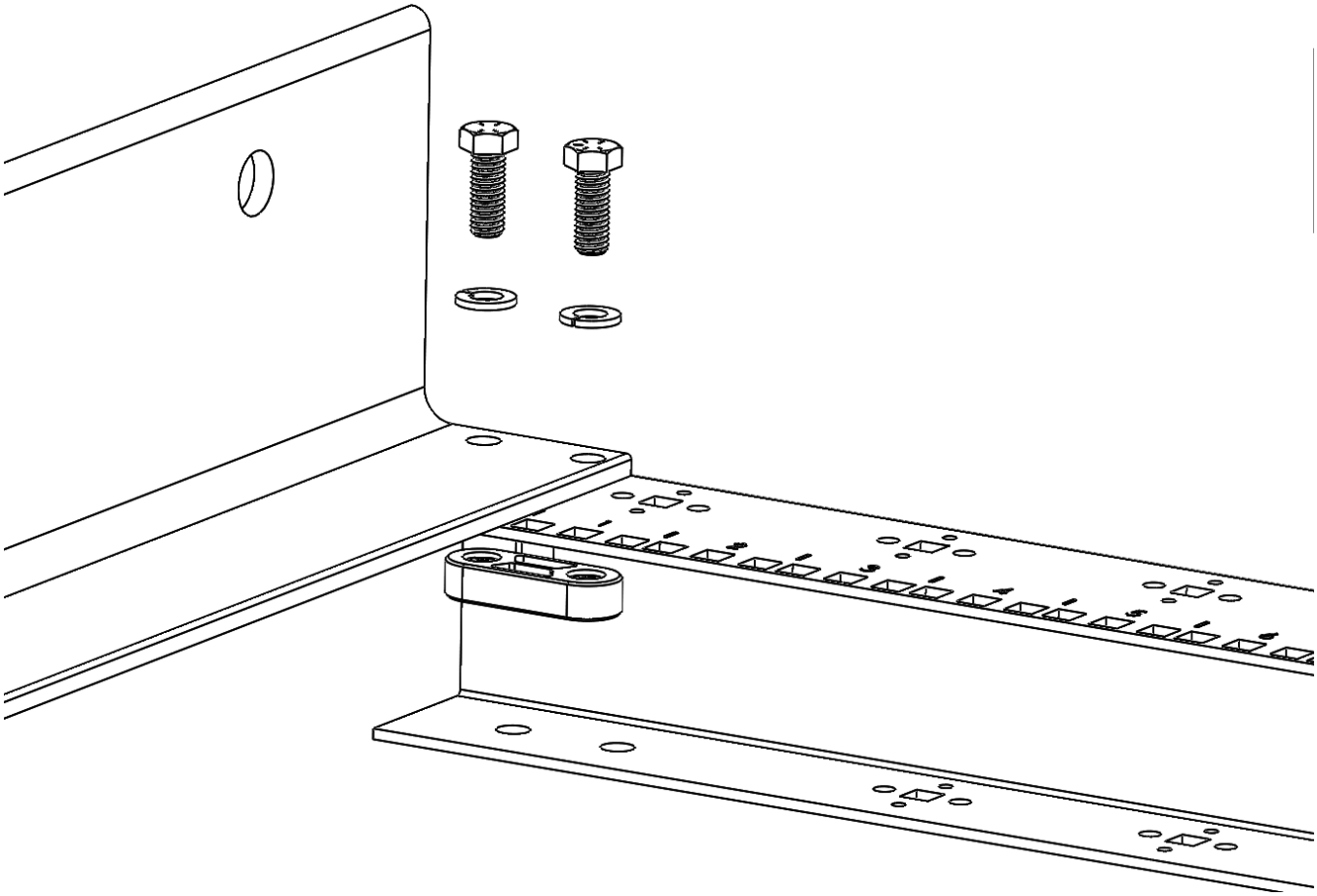
Inward



Outward

Mounting Rail Sub-Assembly (cont.):

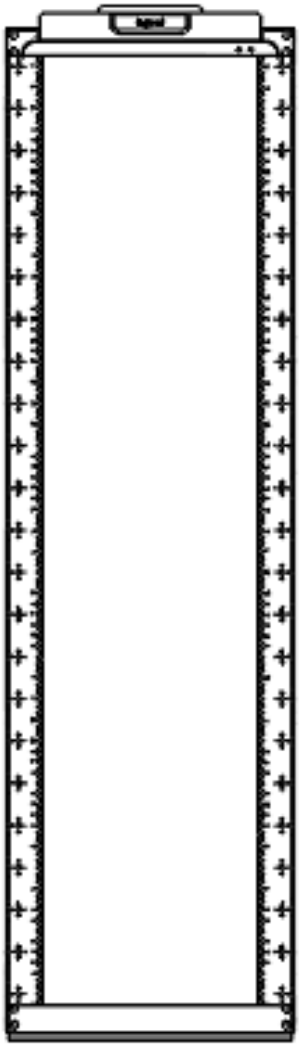
Use Bolts, Lock Washers & Speednuts from the Hardware Kit to Assemble the Mounting Rail Sub-Assembly. Do not tighten.



Mounting Rail Sub-Assembly (cont.):

When all the hardware is installed square the assembly. There are two ways to ensure the sub-assembly is square:

1) Measure assembly diagonally corner-to-corner. Measurements should be equal.
2) Place a square in all 4 corners.

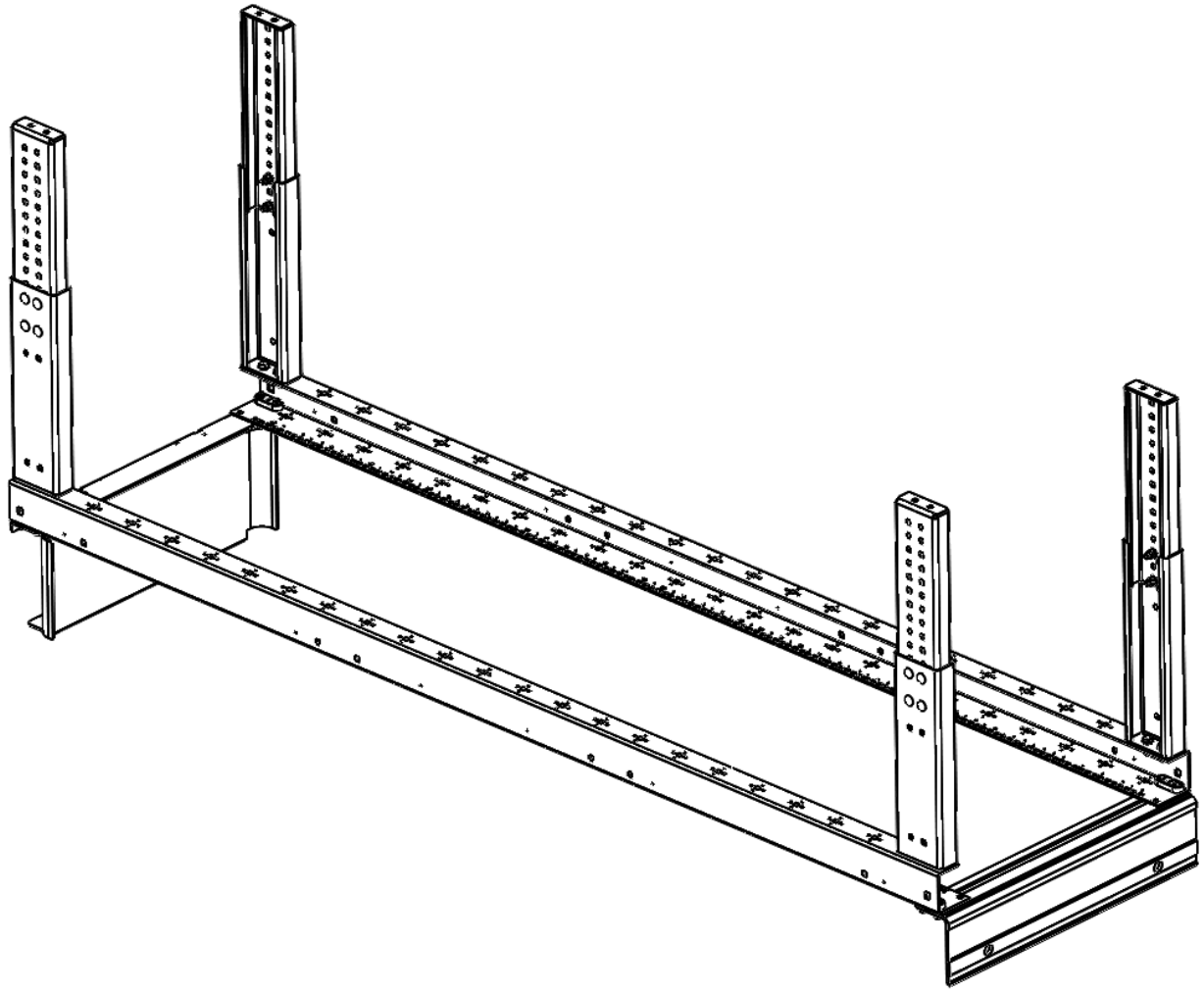


When the sub-assembly is square, tighten ALL bolts to 15 ft-lbs (20 Nm). Confirm it is still square.

Assemble Adjustable Horizontal Rail Sub-Assembly to Mounting Rail Sub-Assembly (4X):

Flip one of the Mounting Rail Sub-Assemblies over. Install (1) Adjustable Horizontal Rail Sub-Assemblies in each

corner.

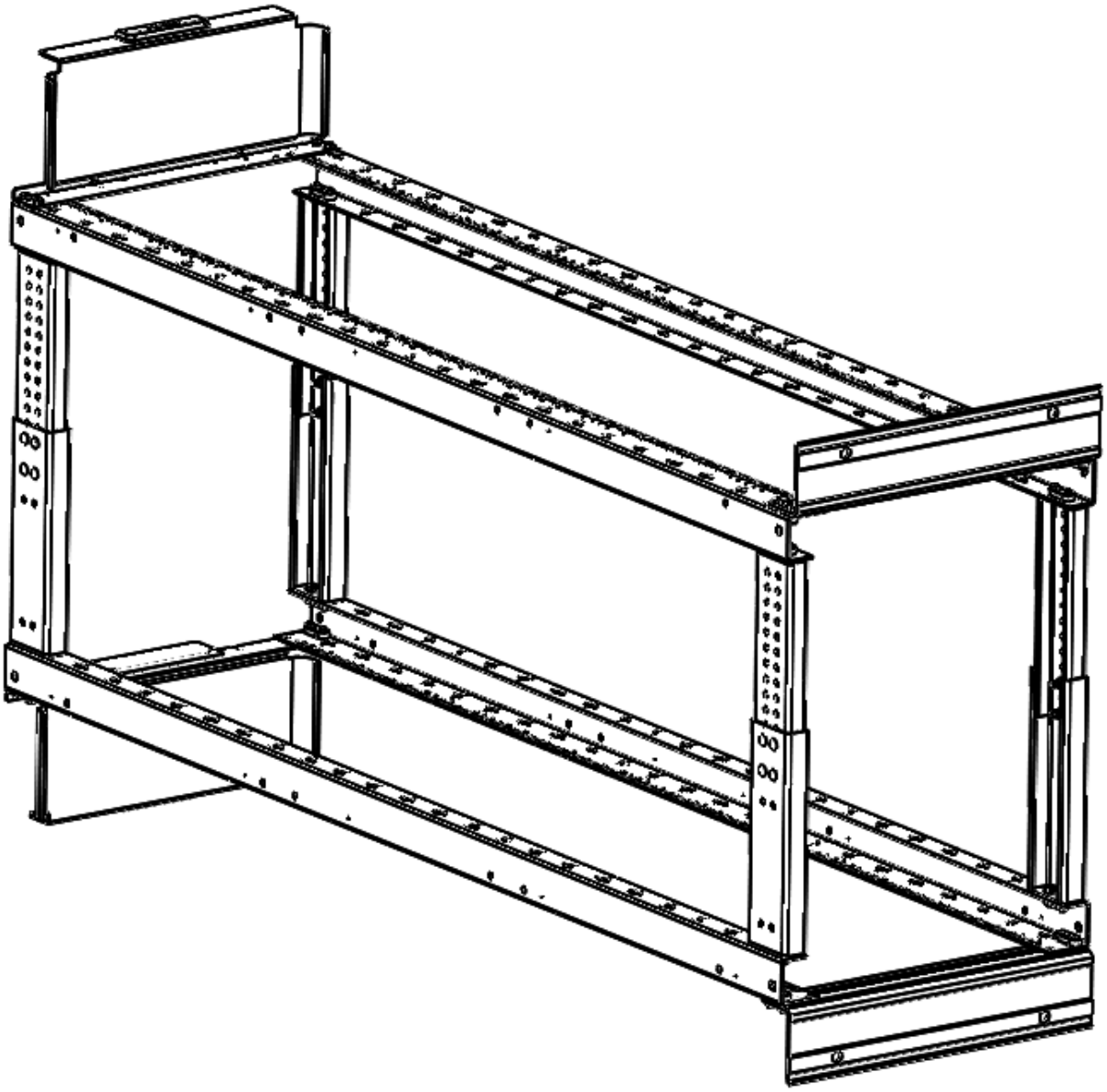


Assemble Adjustable Horizontal Rail Sub-Assembly to Mounting Rail Sub-Assembly (cont.):

Lightly tighten bolts – DO NOT TORQUE YET!

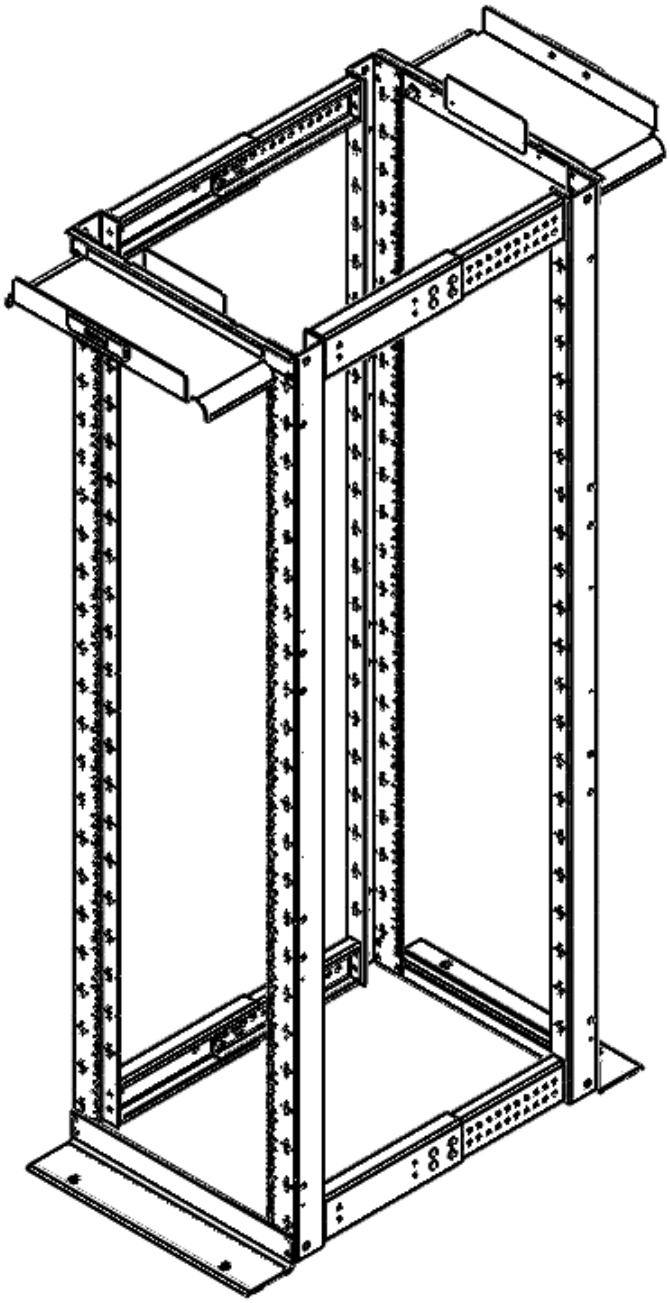
Assemble Adjustable Horizontal Rail Sub-Assembly to Mounting Rail Sub-Assembly (cont.):

Place the other Mounting Rail Sub-Assembly on top of the Horizontal rails and repeat attaching with hardware.

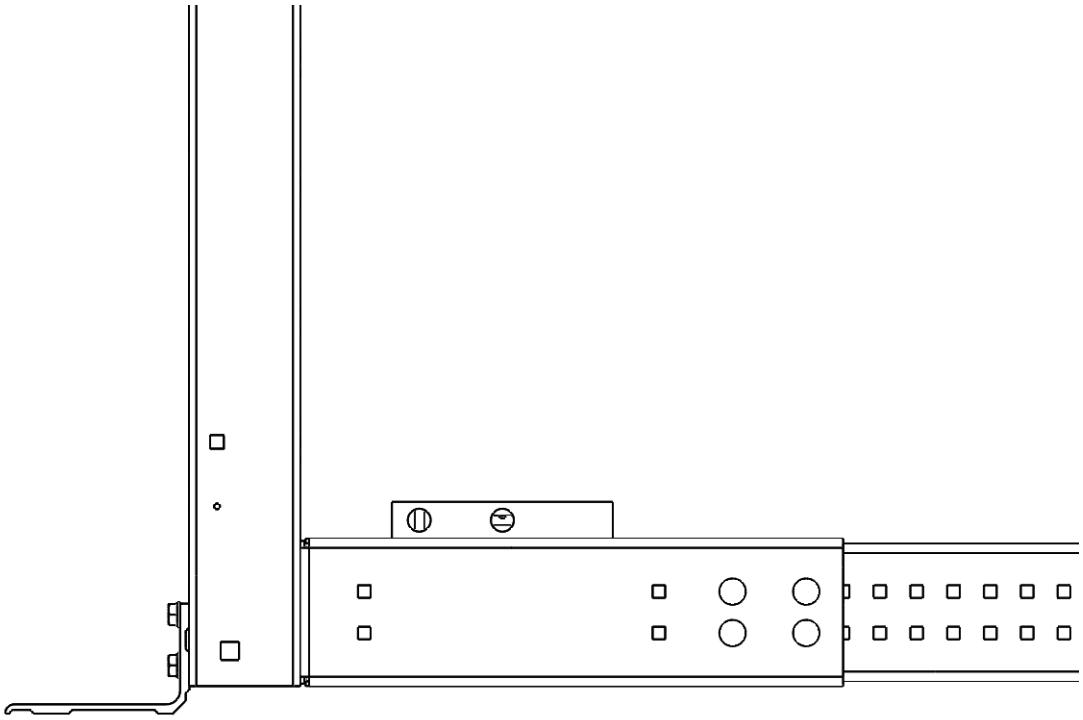


Final Assembly:

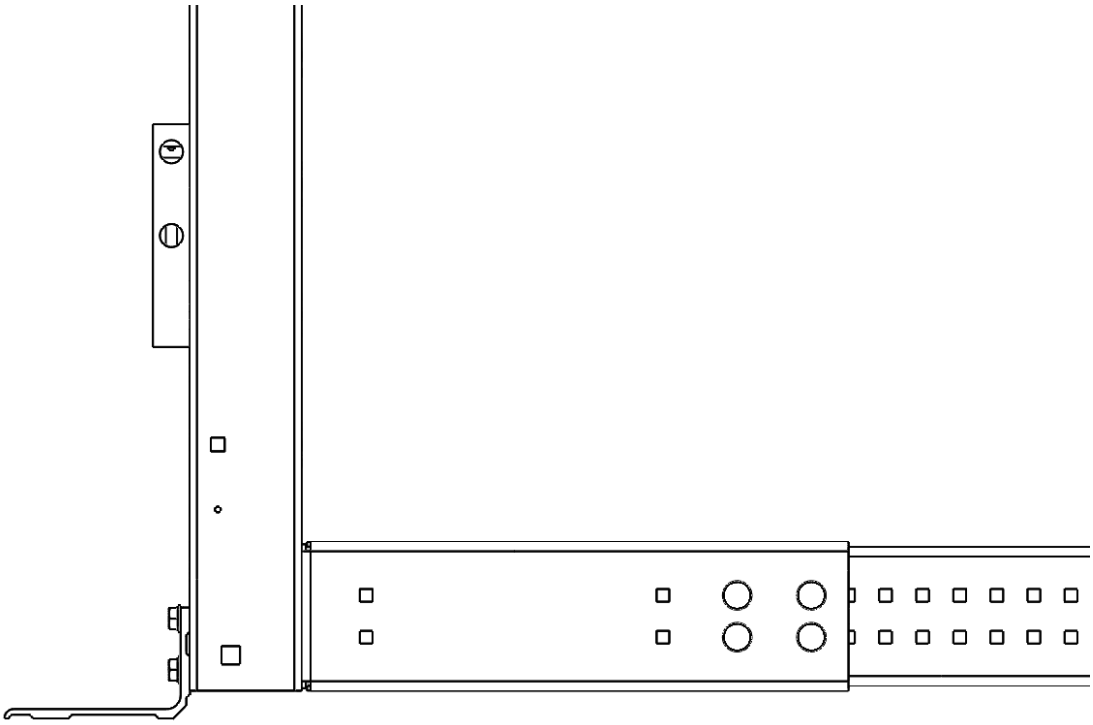
Move Rack to upright position. Make sure the floor is level and flat. Check the Rack for “Level” and “Plum”. Tighten ALL hardware to 15 ft-lbs (20 Nm).



Final Assembly (cont.):



Level

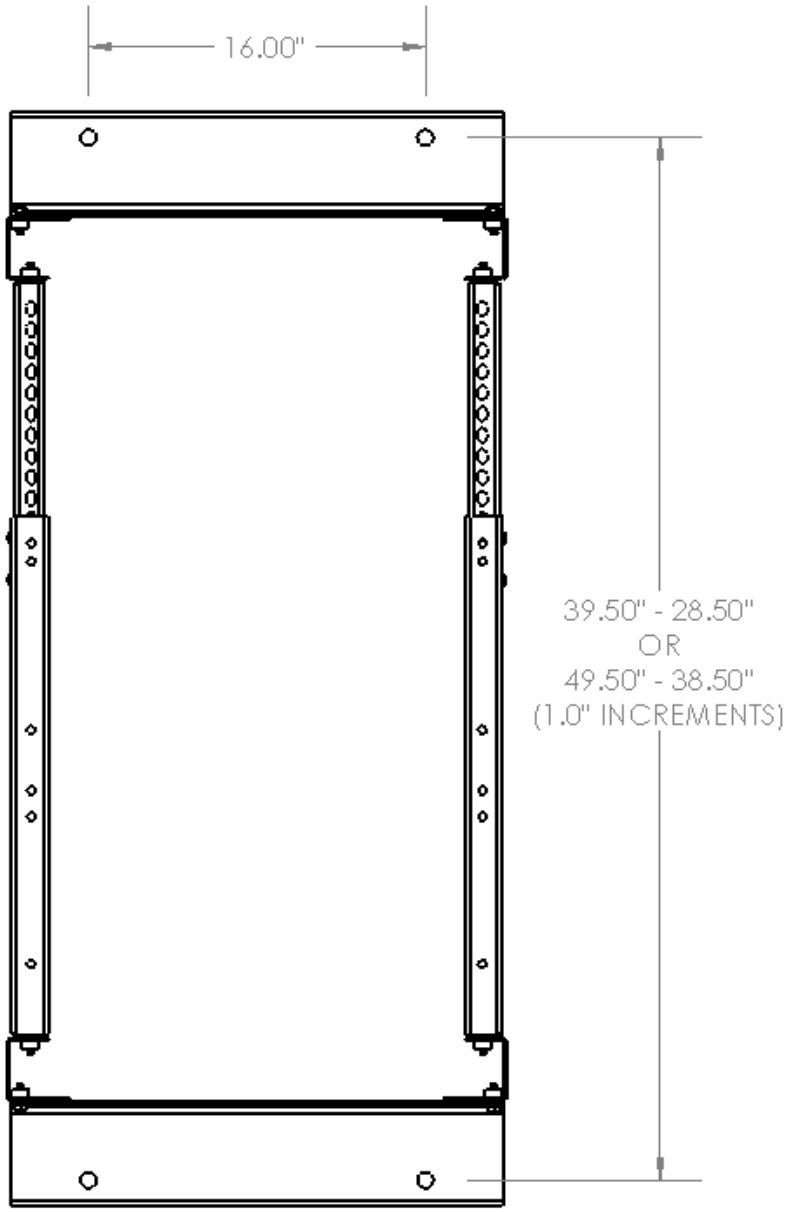


Plum

Securing Rack:

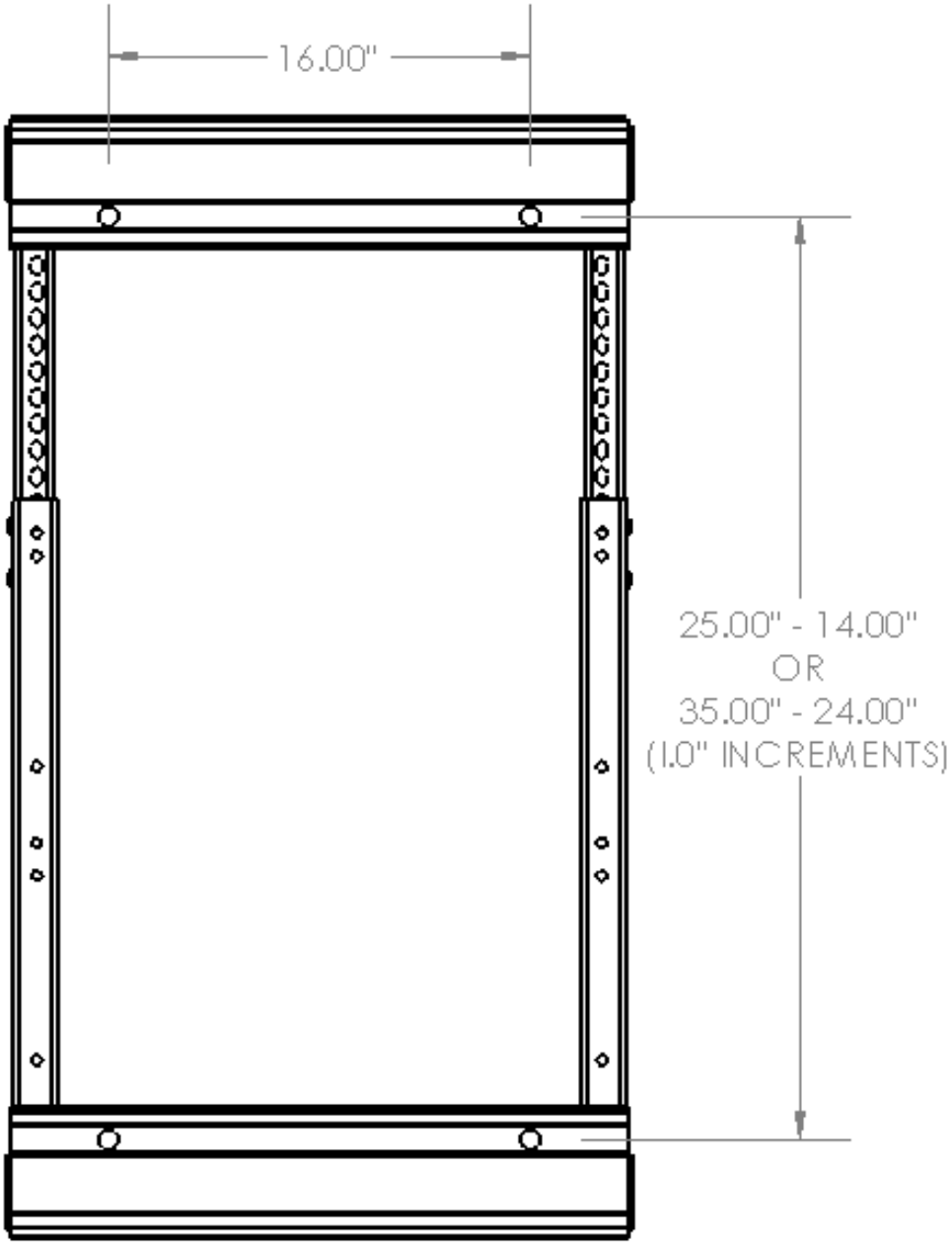
Move Rack to the desired location. Secure to the floor

using 3/4” holes in Base according to floor type and local building codes. Hole pattern will depend on Base Mounting and Adjustable Rail/Rack Depth.



Base Outward

Securing Rack (cont.):



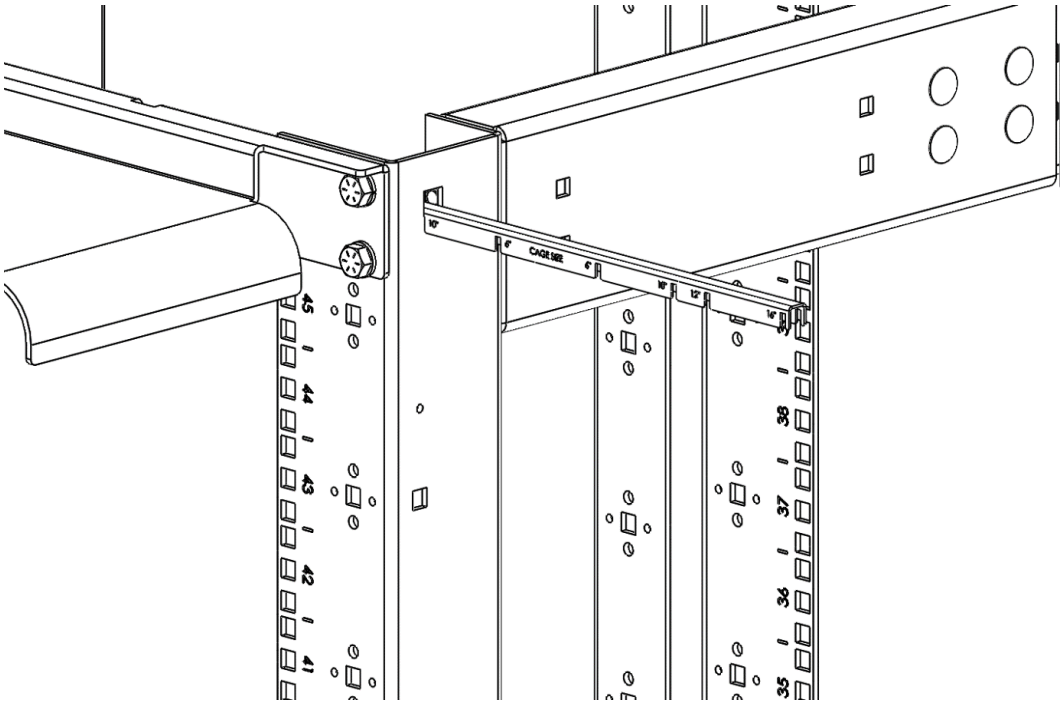
Base Inward

Securing Racks with Vertical Cable Managers:

To secure a row of Racks with VCMs between them it is important to maintain proper spacing between the Racks.

Legrand Supplies three Multi-Rack Spacers with each Rack.

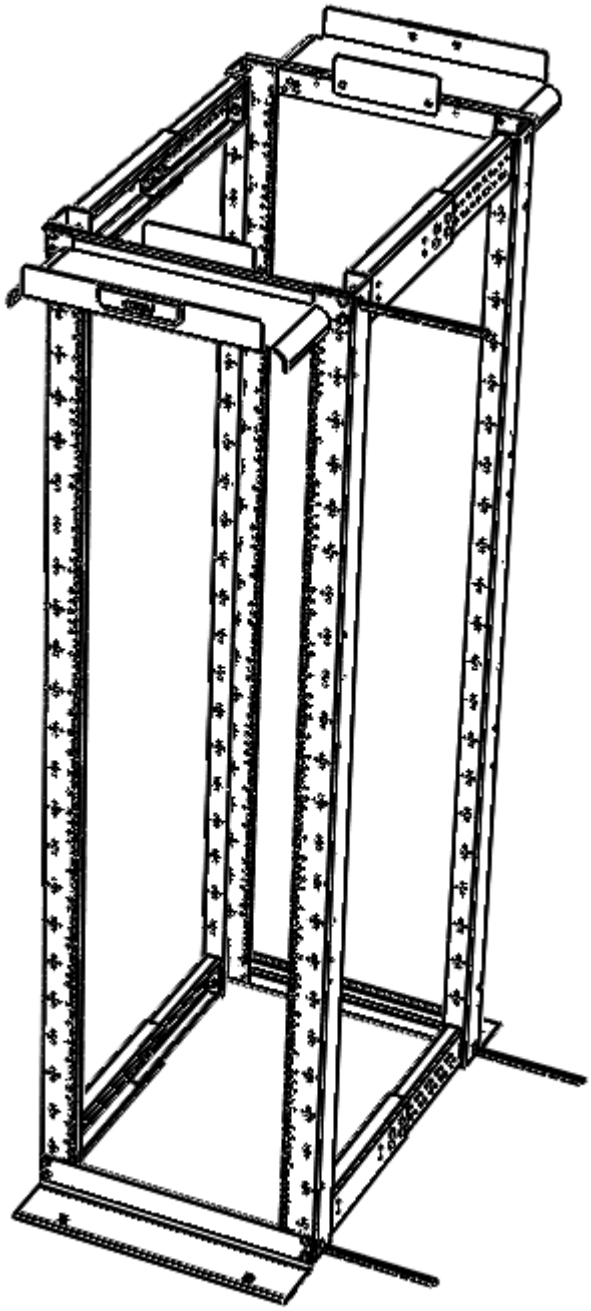
The numbers indicate the size of the MM20VMD or MM20VMS being used. This allows securing the Racks as well as any preliminary work needed on the Racks before VCMs are mounted making those tasks easier and unobstructed.



A square hole is provided top and bottom on the side of the Mounting Rail for the Spacer.

Securing Racks with Vertical Cable Managers (cont.):

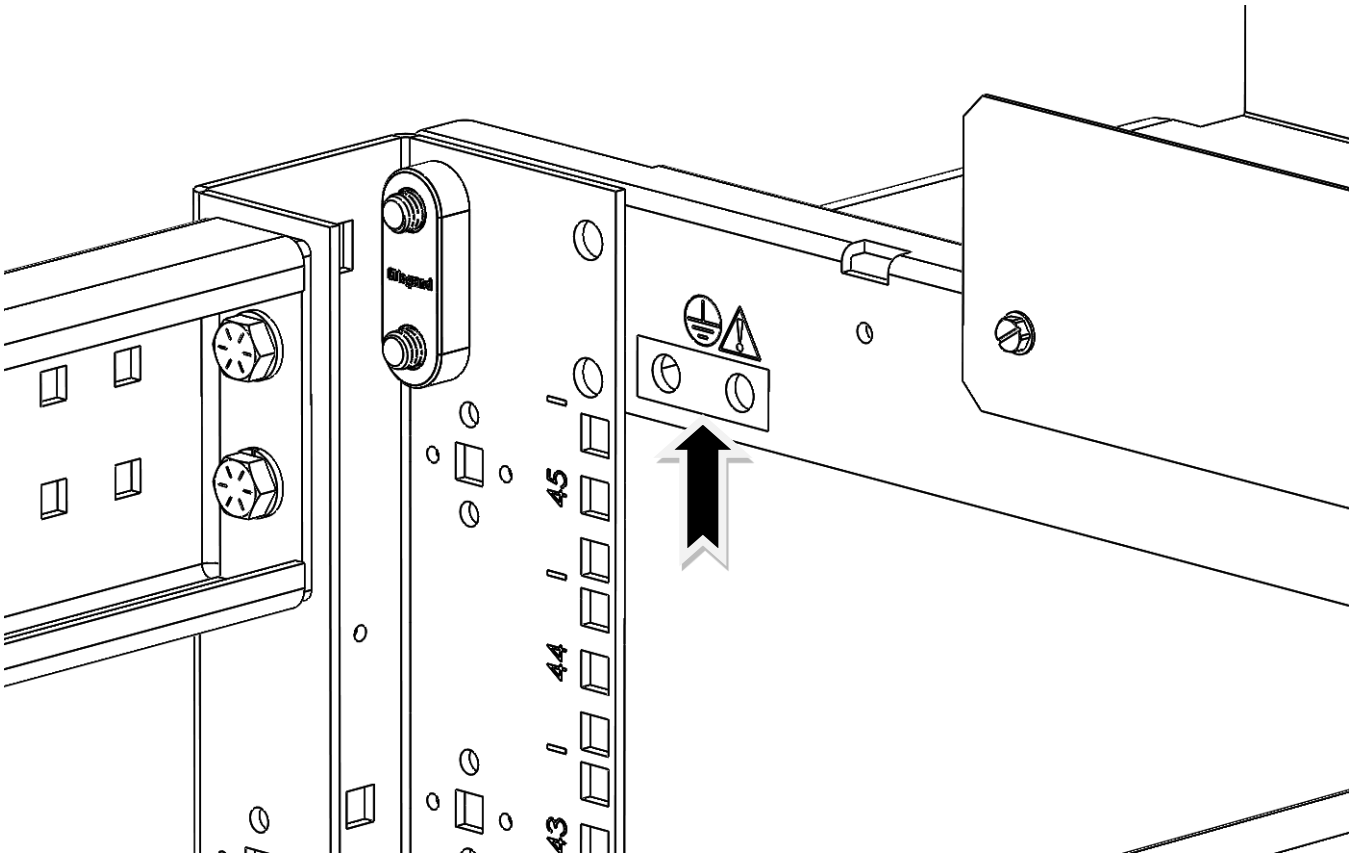
The recommended placement of the Spacers is Top and bottom in the front (where VCM will mount) and bottom in the rear to keep the Racks parallel.



Grounding the Rack (PET):

There are two locations to attach Protective Earth Terminal; top of the Rack front and rear (located on the back of the Waterfalls). They are 3/8” holes spaced 1” apart for

standard two-hole lug connectors such as the CL2LB series.



All frame components bond to each other on assembly, tested to UL 2416. PET Ground is accomplished by the installer and needs to adhere to Article 250 of the National Electrical Code, ANSI C2 and NFPA 70 where applicable.

ATTENTION:

The following parts are not effectively bonded to the protective earth

terminal: shelves, baffles, blanking panels, cable managers. If these parts need to be bonded to the protective earth terminal it must be performed by the installer in accordance with Article 250 of the National Electrical Code.

ATTENTION:

Les pièces suivantes ne sont pas effectivement liées à la borne de terre de protection: les rails du rack, les étagères, les baffles, les panneaux d'obturation, les gestionnaires de câbles. Si ces pièces doivent être liées à la borne de terre de protection, cela doit être fait par un installateur conformément à l'article 250 du Code national de l'électricité (National Electric Code).