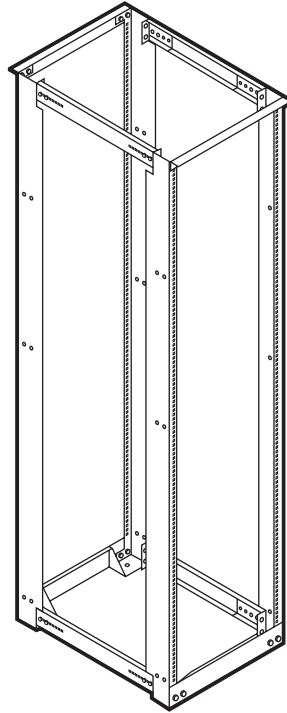




# Freedom Rack with M6 Adjustable Rails and Freedom Rack Accessories



The Freedom Rack with M6 Adjustable Rails (product code RM490A-R2) not only provides a solid framework for storing your equipment, it's also fully depth-adjustable to best fit your devices. This installation guide describes how to assemble the rack and how to install its Vented Equipment Shelf (RM491-R2) and Equipment Support Bracket (RM492-R2). If you ordered just the Freedom Rack, besides this installation guide, you should have received the following parts:

- (4) Steel uprights with 3" (7.6-cm) channel.
- (2) Top angles.
- (2) Base pieces.
- (4) Three-piece depth spacers (each with two side brackets and a center bracket).
- (36) each (although only 28 are required for assembly):  $\frac{3}{8}$ "-16 x  $\frac{3}{4}$ " hex-head bolts and  $\frac{3}{8}$ " split lockwashers.
- (4) of each for each depth spacer ([16] of each total):  $\frac{1}{4}$ "-20 x  $\frac{5}{8}$ " carriage bolts,  $\frac{1}{4}$ "-20 hex nuts, and  $\frac{1}{4}$ " flat washers.

To assemble these parts into the Freedom Rack, you'll need two box-end wrenches, one  $\frac{7}{16}$ " and one  $\frac{9}{16}$ ".

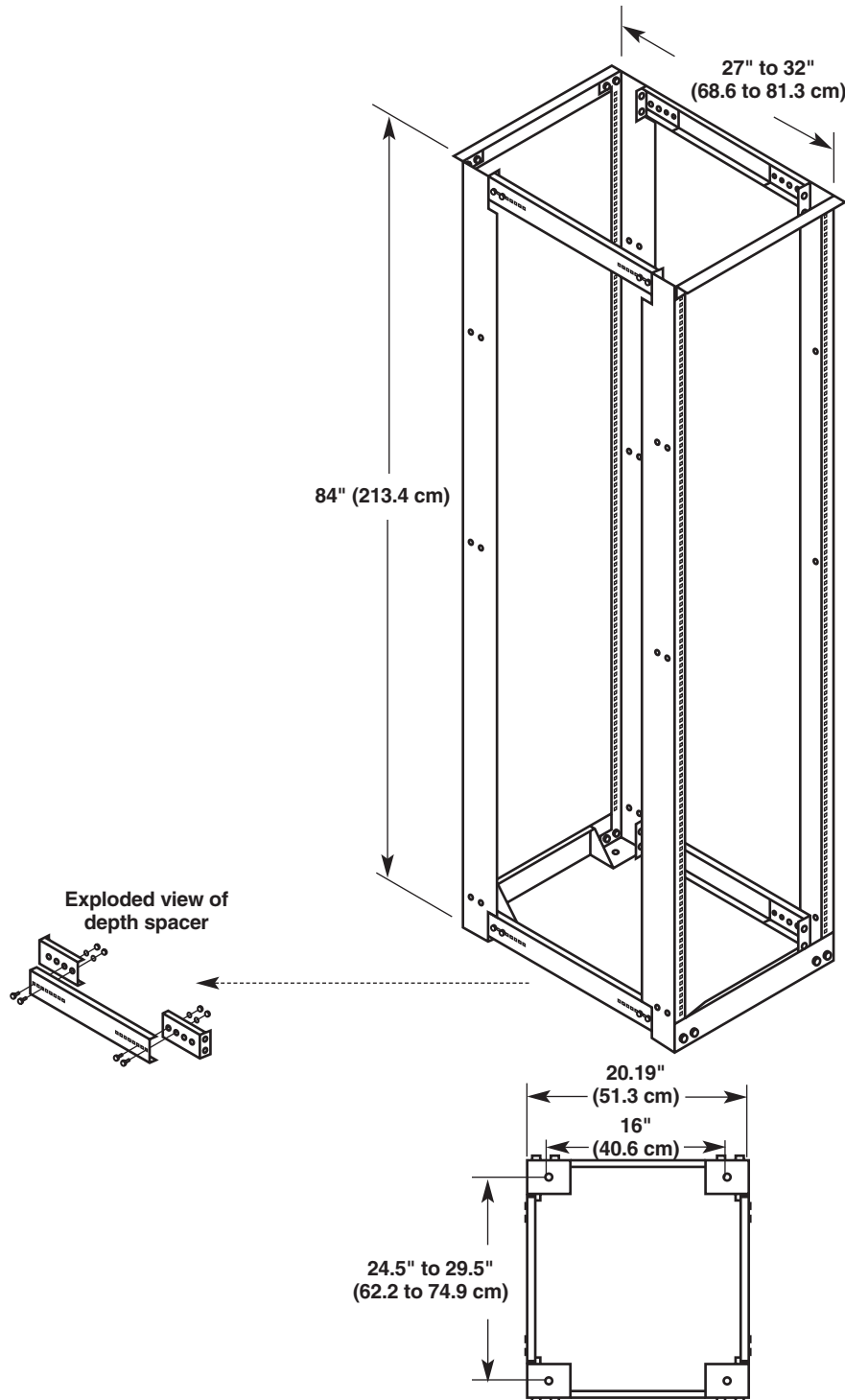
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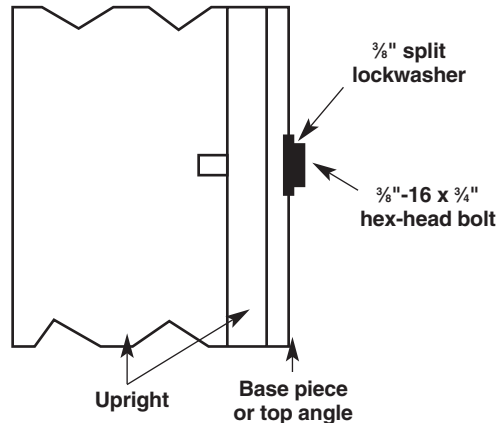
## FREEDOM RACK WITH M6 ADJUSTABLE RAILS AND FREEDOM RACK ACCESSORIES

The Freedom Rack with M6 Adjustable Rails measures 84"H x 20.19"W (213.4 x 51.3 cm) when fully assembled, and can be adjusted in increments of  $\frac{1}{2}$ " (1.3 cm) to any depth from 27" to 32" (68.6 to 81.3 cm). (The rack's actual total depth will be between 30" and 35" [76.2 and 88.9 cm] because the flanges of the top angles protrude 1.5" [3.8 cm] from the front and back of the rack.) The illustrations below show how the rack should look, assuming that the base pieces are oriented toward the inside of the rack.

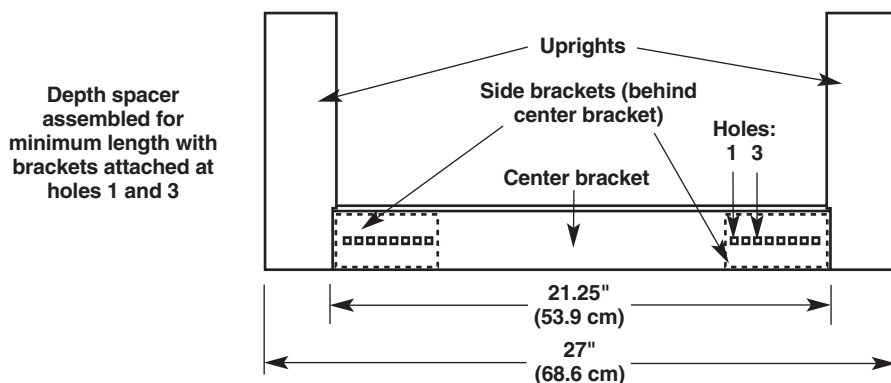


## Assembling and Installing the Freedom Rack with M6 Adjustable Rails (RM490A)

1. Place two of the four uprights on a flat surface, approximately 20" (50.8 cm) apart. The upright channels should face inward.
2. Place one of the two base pieces at the bottom of the uprights, aligning the four holes of the base with the corresponding holes in each upright. Position this piece so that its bottom mounting flanges face what will be the *inside* of the rack (along the main flange of the uprights—inward only). Loosely attach the base piece to the uprights using four of the hex-head bolts and split lockwashers (finger-tighten only).



3. Place one of the two top angles on the uprights, aligning the two mounting holes of the top angle with the holes of the uprights. The top angles must face what will be the *outside* of the rack. Loosely attach the top angle to the uprights using two of the hex-head bolts and split lockwashers (finger-tighten only).
4. Repeat steps 1 through 3 to attach the second pair of uprights to the second base and the second top angle. Make sure that the second base piece is positioned the same way as the first, so that either both base pieces are facing outward or both are facing inward.
5. Assemble the four depth spacers. Each spacer is comprised of three brackets: one long center bracket and two shorter side brackets. Adjust each spacer assembly to 5.75" (14.6 cm) less than the total depth required to allow for the depth of the two rack uprights—each 2.875" (73 cm) deep at the base, 3" (7.6 cm) deep above that. Use four each of the carriage bolts, hex nuts, and flat washers to assemble each spacer. Align each of the shorter brackets inside the longer bracket, counting the holes of the longer bar from the center outward, as shown below. Depending on how deep you want the rack to be, attach the side brackets to the center bracket at the corresponding pair of holes, as listed in the table at the top of the next page.



## FREEDOM RACK WITH M6 ADJUSTABLE RAILS AND FREEDOM RACK ACCESSORIES

Use these holes	For this depth:
1 and 3	27" (68.6 cm, minimum)
2 and 4	28" (71.1 cm)
3 and 5	29" (73.7 cm)
4 and 6	30" (76.2 cm)
5 and 7	31" (78.7 cm)
6 and 8	32" (81.3 cm, maximum)

- When all four depth spacers are assembled, place the two upright assemblies on their sides with the top angles directed away from each other. Attach spacers to the top and bottom of the uprights, loosely fastening them to the holes in the uprights with  $\frac{3}{8}$ "-16 x  $\frac{3}{4}$ " hex-head bolts and split lockwashers; bolts should be applied with the threads penetrating the space in the uprights' channels.
- Turn the rack on its other side and repeat step 6 to connect the remaining spacers to the rack.
- Tighten all bolts. **IMPORTANT NOTE:** Do *not* exceed 20 foot-pounds (27.1 n-m or 2.7 kg-force-m) of torque when tightening screws!
- Stand the rack up and place it in the desired location.

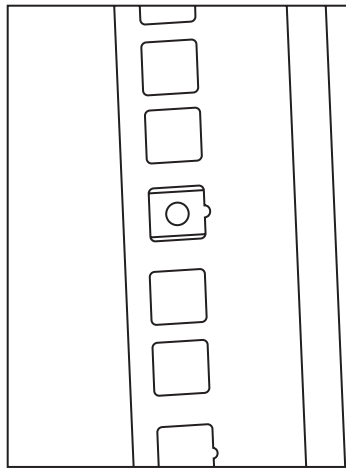
This completes the assembly of your Freedom Rack. We recommend that you anchor the rack to the floor; this should be done by an authorized professional in a safe and authorized location, so you should consult with your facilities personnel about it.

## Installing the M6 Freedom Vented Equipment Shelf 32"D (RM491-R2) or M6 Freedom Equipment Support Bracket (RM492-R2)

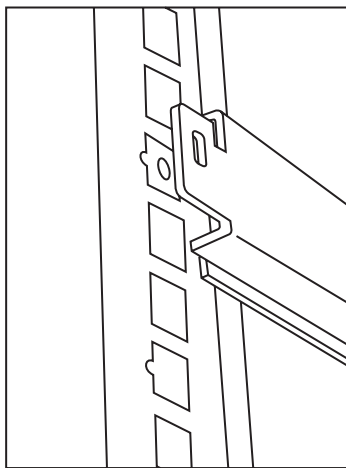
The bracket is designed to fit across the front or (most often) the rear of the rack and support heavy, deep equipment. It comes with two 12-24 screws. It measures 1.4"H x 19"W x 2"D (3.6 x 48.3 x 5.1 cm) and it contributes 100 lb. (45.4 kg) of opposite-end support (in the rear if the main support is in the front, or vice versa) for devices mounted in the rack. The shelf consists of front and rear brackets and a flat shelf that sits on top of them; it also comes with four 12-24 screws and four canoe clips. It measures 1.9"H x 19"W x 32.5"D (4.8 x 48.3 x 82.6 cm) and has a carrying capacity of 200 lb. (90.7 kg).

Take all of the following steps to install the shelf. Take steps 1 through 3 to install the bracket.

1. Insert a pair of cage nuts (not included) in matching cutouts in the left and right rails of an appropriate rack space in the front or rear of the Freedom Rack.

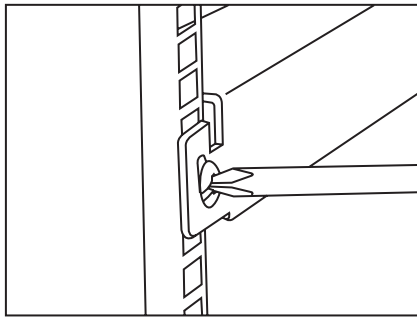


2. Position the M6 Freedom Bracket (or the M6 Freedom Shelf's front or rear bracket) so that (a) the screwholes in the bracket's flanges are parallel to the screwholes in the cage nuts, and (b) the legs of the flanges fit in the cutouts above and below the cage nuts.



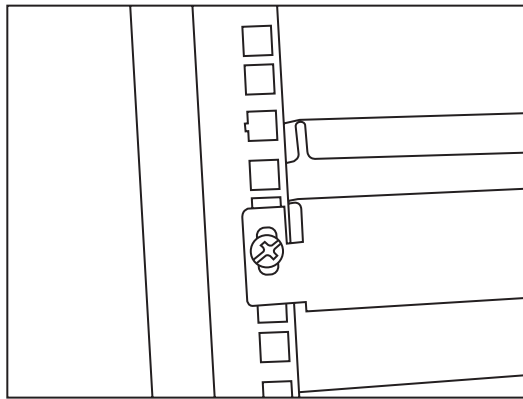
## FREEDOM RACK WITH M6 ADJUSTABLE RAILS AND FREEDOM RACK ACCESSORIES

- Slide the flange legs into the cutouts and insert two of the 12-24 screws included with the M6 Freedom Shelf or Bracket (which are *all* of the screws included with the bracket) through the screwholes in the left and right flanges and cage nuts. Tighten the screws to secure the bracket in place.

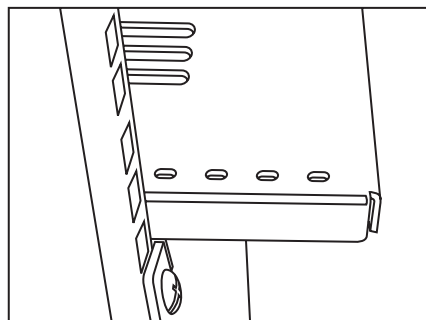


This concludes the installation of the M6 Freedom Bracket. Proceed with steps 4 through 6 for the shelf only:

- Repeat steps 1 through 3 for the other bracket.
- Lay the flat surface of the shelf on top of the brackets with the bent edges pointing downward.

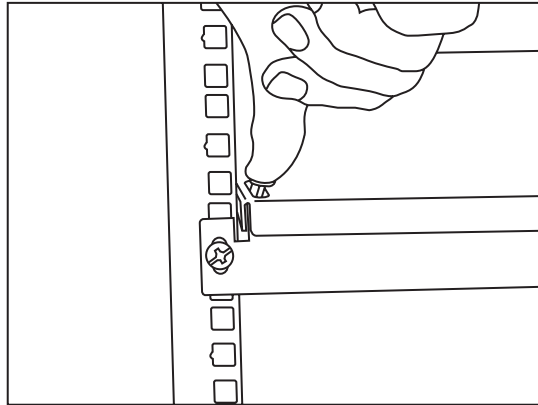


If the flat surface of the shelf is deeper than the distance between the brackets, it can be mounted flush with the front or back of the Freedom Rack, or centered so that it protrudes slightly from both the front and back.



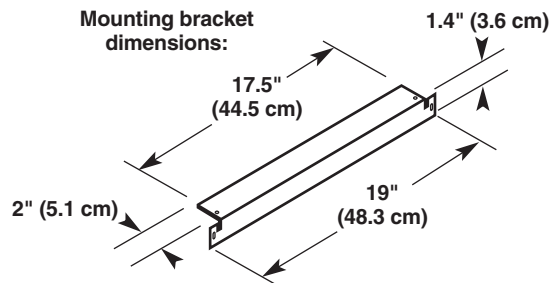
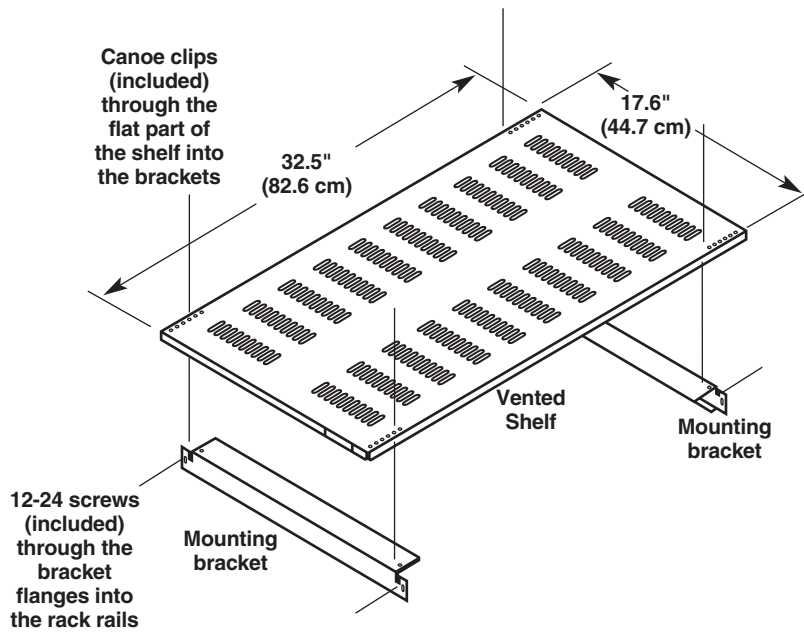
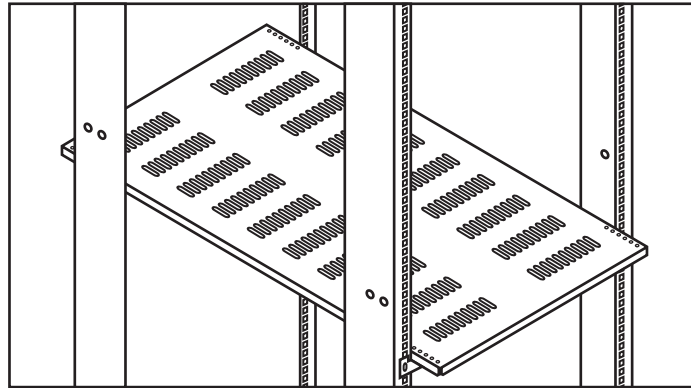
## FREEDOM RACK WITH M6 ADJUSTABLE RAILS AND FREEDOM RACK ACCESSORIES

- Align the holes along the sides of the flat surface of the shelf with the holes in the tops of the brackets. To secure the shelf in place, push two of the four included plastic canoe clips through the flat part of the shelf into the front bracket (one on the right side, one on the left), then push the other two into the rear bracket.



This concludes the installation of the M6 Freedom Shelf. Refer to the illustration on the next page.

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