

### Pre-Assembly & Installation Considerations



**Jaken storage rack products should be assembled only by trained personnel, experienced with proper rack assembly procedure.**

Improper storage rack assembly not only can cause poor performance of your storage system, but also cause safety hazards in your facility. Preparation is essential before beginning the installation. All applicable instructions should be reviewed and follows.



**All Jaken storage rack products should be assembled carefully and appropriately with Jaken's assembly instructions.**

Assembly instructions may be obtained from Jaken at [www.jaken.com](http://www.jaken.com) or your distributor. If you are unfamiliar with rack assembly, you may contact your distributor to obtain contact information for professional rack assembly services in your area.

**Assembly area should be cleaned and clear of all materials and debris before installation.** Aisle and area around the storage rack unit should be swept clean before any moving vehicles are allowed to operate in the aisles around the storage rack units.



**Storage rack unit should be installed level, plumb and square.** Since few floors are perfectly flat, shimming is required for rack installation. A Four foot long carpenter's level is a proper instrument to check level and plumb conditions on storage racks of average proportions. The maximum out of plumbness of 1/8 inch for every 4 feet of height is acceptable unless specifies by the installation instructions).



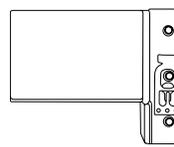
**Nut and Bolt connections should be tightened to a snug and secure condition.** 60 foot-pounds is typical for tightening 1.2" diameter hardware.



**Do not install the storage rack unit outdoors.** Do not store storage rack products outdoor prior to installation. Rack should not be installed outdoors unless specified for outdoor use. Outdoor use requires consideration of wind and snow effects, which are not considered in rack design. Standard paint for indoor rack may not sufficient for outdoor environment.



**Storage Rack products should be installed on an adequate concrete floor. Anchoring your storage rack unit to the concrete floor is recommended.** Every column footplate of each storage rack unit should be properly anchored to the floor with at least one 1/2" diameter x minimum 2 1/2" concrete expansion anchor. Some installations require heavier or additional anchorage due to seismic, wind, load considerations or requirements from local government. Hand loaded storage rack units under 8 feet tall may be unanchored.



**Safety clips must be carefully engaged through the beam connector and column connector holes.** This safety clips prevent accidental displacement of the load beams.

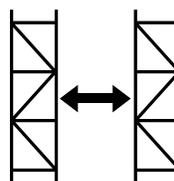
The clips should engage automatically when the beam pins fully seated in the bottom of the teardrop shape connector hole. **Damaged or missing safety clips beams must not be used.** Extra safety clips are available from Jaken.



**Do not expose your storage rack units to corrosive or harsh material or abnormal humidity.** This may cause deterioration of the surface paint and result in premature corrosion.



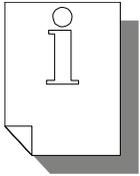
**Install sufficient lighting in every rack aisle.** Adequate lighting assists handling efficiency, aids in reducing rack unit damage and prevents accidents.



**Allow adequate aisle spacing.** Aisle widths must be compatible with the handling equipment. Too narrow aisle may increase the danger of collision between the equipment and the rack unit, which may decrease the rack's capacity to carry load, and may cause danger to pedestrian traffic.



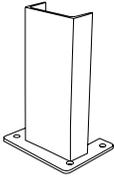
**Maintain adequate clearance around loads.** Horizontal and vertical clearances are essential to a safe storage rack system and safety, including fire risk. Sufficient clearance will prevent damaged to the rack, improve material handling efficiency in and out of the rack. Recommended clearances are at least 4" horizontally between loads and rack column and at least 5" vertically between loads and rack beam.



**Installation of Capacity Information Plates is strongly recommended.** These plates should include load size, maximum load weight, rack configuration and other rack characteristics information. Recommended size of the plates is at least 50 square inches. These plates should be placed permanently in a visible location by the workers and should be reviewed in case of any modifications.



**Do not cut, weld or modify any of the storage rack components.** Any modification may reduce the load capacity of the components and damaged the integrity of the rack structure, therefore causing a safety hazard. Any modification to any storage rack components will void any warranties and guarantees provided by Jaken Co., Inc.



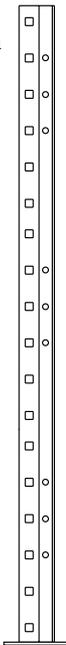
**Install optional Column Guards.** These guards provide visual and physical barrier against accidental collisions. Consider these guards on high traffic and vulnerable areas. These column guards are available for purchase at Jaken or your distributor.



**Do not climb on racks, during or after installation.** Storage racks are not designed may cause serious injury. It is your responsibility to notify this important warning to all who work within the proximity of your storage rack by training and appropriate signage.

### Upright Component Key

Upright Column



**Horizontal Support**  
Identifiable by the shorter length.  
Length is stamped onto the support.



**Diagonal Support**  
Identifiable by the longer length.  
Length is stamped onto the support.



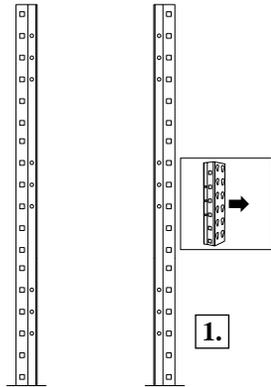
**Bolt & Nut Pair**  
Includes M8 Hex Nut and serrated lock-nut.

### Upright Component Breakdown

Upright Height	# of Columns	# of Horizontal Supports	# of Diagonal Supports	# of Bolt and Nut Pairs
96"	2	3	2	20
120"	2	3	2	20
144"	2	4	3	28
180"	2	5	4	36
192"	2	5	4	36
216"	2	5	4	36
240"	2	6	5	44
288"	2	7	6	52

### Upright Assembly

Before Pallet Rack can be installed, Rack uprights must be assembled.

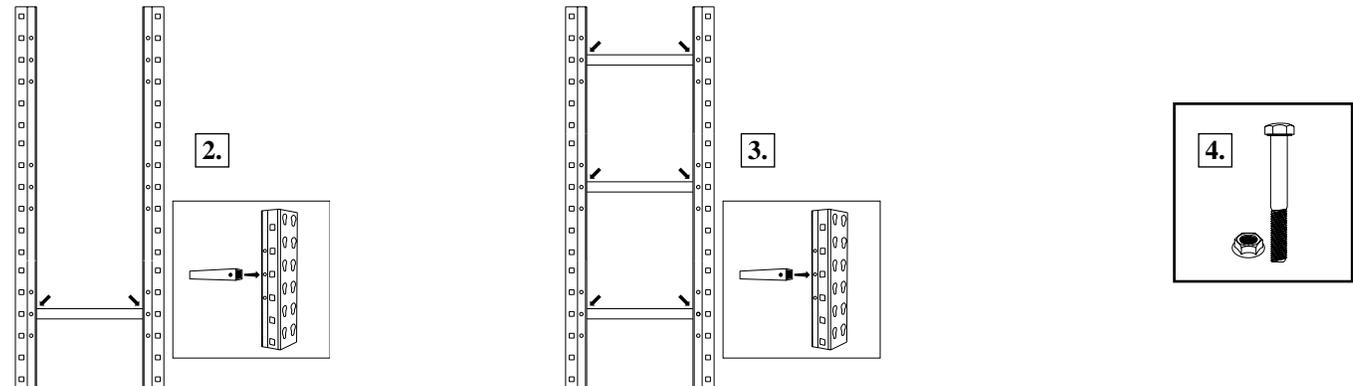


**Step 1**

Lay 2 upright columns parallel to each other with tear drops facing outward and in similar directions (fig. 1). Ideally columns should be elevated off the ground for easy assembly.

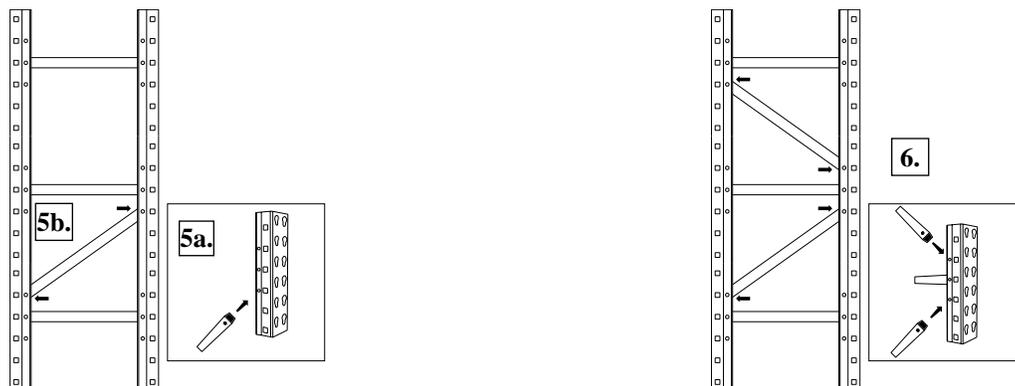
**Step 2**

Starting from one end and working your way up, install each horizontal support adjoining the two parallel upright columns (fig. 2). Horizontal supports are to be installed into the center holes of each 3 hole pairing along the length of the columns (fig. 3). Use a set of M8 bolt and serrated lock-nut (fig. 4) to secure each end of a bar to a column. At this time do not fully tighten the bolts and nuts so that some flexibility may be maintained to help with the installation of remaining supports.



**Step 3**

Between each horizontal support a diagonal support must be installed. Starting from the bottom of the upright, use the first hole located above the first horizontal support for diagonal support placement (fig.5a). Place the opposite end of the diagonal support on the first hole located below the next horizontal support (fig.5b). Secure the support to the upright with a set of bolt and nut for each hole on each end. At this time do not fully tighten the bolts and nuts so that some flexibility may be maintained for the installation of the rest of the diagonal supports. Begin to insert diagonal supports in between the remaining horizontal supports in opposing positions to complete the unit (fig. 6).



Step 4

With all horizontal and angle supports in place, tighten all nuts and bolts for final assembly.

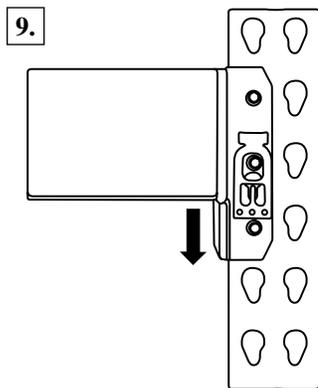
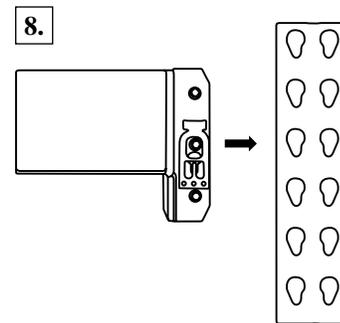
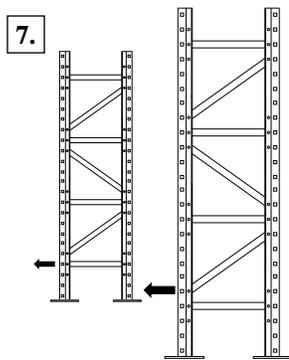
Step 5

Repeating steps 1-4, finish assembling all uprights necessary for pallet rack installation.

### Pallet Rack Assembly

Step 6

To start a row, stand two uprights in proper pre-designated position with bottom of the lowest diagonal bar facing aisles (fig. 7). Then place beam between upright frames to position them (fig. 8).



Step 7

At desired height, lower the beam into the tear drops of each upright. Beam must enter the slots simultaneously until each safety clip is fully engaged into position (fig. 9). Use a rubber mallet if needed to get beam into a locked position.

Step 8

Repeat step 7 for remaining beams to be installed onto the starter unit. Ensure starting unit is square before attaching any additional units.

Step 9

You can continue adding units by standing upright frames and beams to complete each unit until a row is completed.

Step 10

When anchoring to floor, we recommend 1/2" bolt size anchors attached at foot plate of posts.