

Pallet Rack Installation and Assembly Guide

General Guidelines

The first guideline for assembling pallet racking is to follow any accompanying instructions regarding its assembly and use. Users should not assemble the components in any other way than the instructions direct. Manipulating the configuration can reduce the assembly's ability to bear loads. The directive to not customize the assembly also includes not modifying any of the components. These can also affect load-bearing capacities and can diminish the stability and structural integrity of the pallet racking. Modifying components also tends to void manufacturer warranties.

It is also important not to use the assembled pallet racking outdoors if it is designed for indoor use. The designers of pallet racking intended for indoor use usually do not factor weather elements such as wind, snow, and ice into their engineering plans, and these elements can detrimentally affect pallet racking that is not designed to withstand them.

Spacing and Orientation

There are a few important points about the spacing and orientation of pallet racking that users should bear in mind. First, the racking assembly should be perfectly vertical, perfectly level, and square. This requirement may seem too exacting considering that floors are often uneven, but shims can help to account for this and can help users achieve the precise standards that are needed to help ensure stable racking.

Those who plan to use multiple racking assemblies should make sure there is enough space between each assembly. Any lifting devices, such as forklifts, should have enough space to fully operate between each assembly. Inadequate spacing can result in lifting equipment dangerously colliding with assemblies.

Connections and Locks

Making sure all connections, locks, and anchors are secure is important to the structural integrity of pallet racking and to the safety of anyone in the vicinity of the racking. Users should tighten nuts and bolts to secure positions, but not the point that they bend any components. It is also critical to use safety locks for boltless connections. Some racking designs use safety locks to connect load beams to columns. These beams align with the connector holes, making it easy to affix them with the locks. Users should not employ beams with damaged safety locks or without any locks at all.

Preparing for Assembly

Keeping the general guidelines about pallet racking assembly in mind, the next step in the assembly process is to prepare for assembly. Good preparation, including inspecting the components, gathering tools, and measuring and laying chalk lines, helps the actual assembly

run more smoothly and increases the chances that the assembled pallet racking is stable and is safe to use.

Inspect Components

The first step in preparing for assembly is to inspect the components of the pallet racking. All of the components should be present and users should be able to verify this by cross-checking the available components with the packing list. It is also important to ensure that the shipping process did not damage any of the components. A bend or a crack in a component or a missing component can render the pallet racking unsafe to use, as it may not be able to bear as much weight as it should. If any components are missing or damaged, the consumer should notify the shipper immediately and suspend plans to assemble the racking until the shipper has rectified the situation.

Gather Tools

The table below lists all of the tools necessary to assemble pallet racking and describes the role of each tool.

Tool	Role
<u>Tape Measure</u>	A tape measure takes measurements to plot the dimensions of the racking and measure necessary aisle space, if applicable.
<u>Chalk Line</u>	A chalk line marks the points on the floor where the edges of the pallet racking are to go. The chalk line should outline the racking base(s).
<u>Lifting Device</u>	A lifting device holds the vertical supports of the racking in place while putting the beams in place. This can be a forklift or other people.
<u>Leveler</u>	A leveler ensures that the vertical supports stand at 90-degree angles and ensures that the beams can lay flat.
<u>Mallet</u>	A mallet fixes the load beams firmly into place so that the locks can secure them.

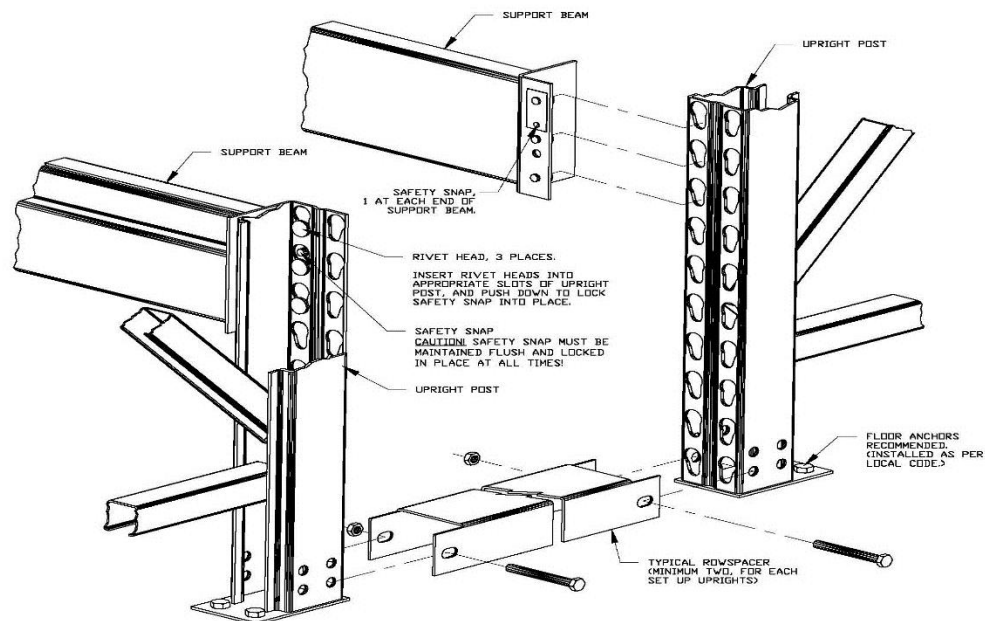
Those looking to anchor their pallet racking assemblies also need a hammer drill and compressed air to drive bolts into floors and/or walls. Anchoring pallet racking requires users to contact the architects of their buildings for the load-bearing specifications of the concrete in the floors and/or walls. Users should then communicate these specifications to pallet racking sellers to ensure that the racking meets these specifications.

Measure and Lay Chalk Lines

The last step in preparing to assemble pallet racking is to measure and lay chalk lines. Users should know the dimensions of the pallet racking that they are planning to assemble, and they should measure the length and width of the racking on the floor, making sure that the edges are evenly spaced from nearby walls. They can mark the spots where the corners of the racking are to go and the spots where uprights are to go along lines between the corners. They then can lay chalk lines to connect the corners of each racking assembly.

Assembling Pallet Racking

Now that users have made all of the necessary preparations, they are ready to assemble their pallet racking. Users should start with the first bay, then shim and plumb it for the proper angles, and move on to installing the remaining bays. Following this order helps to ensure successful assembly of pallet racking.



The First Bay

Start by standing one upright on the short outer edge of the base marked with chalk line. Next, they should put another upright on the spot marked for it along the length of the chalk-lined base. Standing uprights require a lifting device or other people. When the uprights are in place, users should mark the spots on the uprights where the beams are to go. Next, they should put the rivets of one side of the first beam into the marked slots on one upright and fix them into place with the locking devices. After this, they should repeat with the other side of the first beam.

Shim and Plumb

With the first bay in place, shim and plumb the uprights for the proper angles on the uprights and beams. A leveler helps to determine whether there is any slope to the beams and whether the uprights are leaning. If this is the case, users can place shims of various sizing under the feet of the uprights until they are plumb, or standing completely vertical. A slight lean of 1/8-inch over four feet is generally acceptable, though it is best to consult the manufacturer's specifications on this matter.

The Remaining Bays

Once the initial bay is plumb, it is time install the other beams on it and then assemble the remaining bays. This is simply a matter of repeating the process for the first bay, making sure that every subsequent bay is also plumb before moving on to the next one.

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