



RIDG-U-RAK[®]
STORAGE SYSTEMS

A GENERAL INSTALLATION GUIDE FOR
RIDG-U-RAK
Selective Storage Rack Systems



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IMPORTANT INFORMATION

- **This Ridg-U-Rak selective rack installation guide document supersedes any previous published Ridg-U-Rak selective rack installation guides.**
- **All Ridg-U-Rak storage racks must be installed by trained professionals experienced with proper installation procedures. Installation personnel must also read and understand these installation guidelines. Ridg-U-Rak explicitly disclaims any responsibility for damage or injuries resulting from interpretation or use of this installation guide.**
- **Do not install racks outdoors, unless specifically designed by Ridg-U-Rak for such an application and environment.**
- **All Ridg-U-Rak racks must be installed on a concrete floor. The floor must be structurally adequate to support the storage rack design loads and able to accept the installation of anchors. Ridg-U-Rak accepts no responsibility or liability for the floor design or performance. The floor should be level so that a plumb installation of the rack can be achieved. If the floor is not level and has a slope, contact Ridg-U-Rak immediately and DO NOT start the installation.**
- **Never mix Ridg-U-Rak product with product from other manufacturers or used racking in the same installation unless specifically designed and approved by Ridg-U-Rak.**
- **Selective storage rack is not designed for use as scaffolding or for any type of human support. Never climb on the rack at any time. It is the installer's responsibility to meet current OSHA requirements for personal fall arrest.**
- **Never cut, weld or modify any rack component during installation unless approved and specified in writing by Ridg-U-Rak engineering.**
- **Never install damaged or compromised rack components.**

INTRODUCTION

This document is a procedural guide only, and is intended to be used as a reference for installing a new Ridg-U-Rak selective storage rack system. This guide is not a guideline for removal or demolition of existing racking systems. Due to the numerous types of storage rack systems, the installer must thoroughly review this guide and all instructions, bills of material, and Ridg-U-Rak installation drawings prior to starting. By doing so, you will provide yourself with a basic understanding on how to install a Ridg-U-Rak storage system. Some rack system designs may be unique, driven by a variety of factors. Understanding these

differences is critical in determining the best procedure for erecting the system. A well-executed and properly installed system will ultimately depend on the experience of the installation crew and how well they understand the specific system configuration and characteristics. Any questions regarding the above information should be brought to the attention of Ridg-U-Rak prior to the start of installation.

PRIOR TO INSTALLATION

- Ensure that all members of the installation crew are trained with regard to proper installation procedures and safety protocol necessary for creating a safe working environment. Many customers enforce their own safety program and installers must also adhere to the requirements of the customer's safety program, along with any federal, state, or local guidelines.
- It is important to use the packing list provided to verify all items have been received. If provided, "Supplemental Drawing(s)" may be used to identify and locate components in the system. Do not, under any circumstances, use hardware other than that which is specified. If drawings are not provided refer to the accessories tab on the Ridg-U-Rak website to determine the correct hardware for all connections.
- Determine the installation location of the racks within the building. Completely inspect the area verifying building column locations and checking for any other types of obstructions such as piping, electrical panels, ducts, lights, doorways, etc. Building column locations should be noted, and if there are any places where aisle widths are compromised or interference with the rack system is apparent, the installer should notify the onsite contact person. Prior approval must be obtained from Ridg-U-Rak if it becomes necessary to modify the configuration of the racks in any way.
- A good installation begins with accurate and straight chalk lines to lay out the floor. Establish the correct starting point, using a tape measure and a chalk line. This reference starting point is critical as it establishes the base location for the entire grid pattern that will be used for locating the racks. Squareness of the grid pattern must be maintained.
- At no time shall a bay of rack be preassembled on the floor and then lifted into place as a complete assembly. This method may damage the rack components.

START INSTALLATION

- Fully erect the first bay of rack ensuring that the beam elevations are correct. The starter bay must be plumb in both the down-aisle and the cross-aisle directions to a maximum deviation of $H''/480$ (1/4" in 10') over the rack frame height. Frame base plate shims may be required to achieve proper plumbness. Square the rack bay and align it with the chalk lines on the floor. Once the first rack bay is plumb and square, all connection hardware can be tightened and all beam-to-column connections and locking devices checked for proper engagement. Use of a plumb bob from the top of the frame column to the floor or laser equipment is recommended. Ridg-U-Rak does NOT recommend the use of a carpenter level to determine plumb conditions as they are not as accurate.

- Recommended tightening torque values for Grade 5 hardware unless specified otherwise:
 - 3/8" Dia. = 23 ft-lb.
 - 7/16" Dia. = 37 ft-lb.
 - 1/2" Dia. = 57 ft-lb.
- While the above values are recommended, tightening torque should never be applied to the point of crushing any of the connecting members.

ANCHORING

- Once the first bay of rack is plumb, square and aligned it can be anchored to the floor. Many installations require specific types, sizes and quantities of anchors. This information is typically detailed on the Ridg-U-Rak installation drawings. These anchoring details are to be followed by the installer. In the absence of such details, it is the installer's responsibility to ensure that the anchoring used will meet all structural and code requirements for the application. If unsure, contact Ridg-U-Rak engineering for guidance.
- The installer should refer to the anchor bolt manufacturer's instructions for proper installation information and torque values for the anchors.
- Anchors are to be installed perpendicular to the baseplate surface, with an installation tolerance of +/- 6 degrees.
- Ridg-U-Rak requires that all rack frames be anchored to the concrete floor, regardless of height. A minimum of one 1/2" diameter anchor per rack column should be used with a minimum nominal embedment of 2 1/2".

INSTALLATION OF REMAINING BAYS

- The remaining bays can now be installed making sure that the rows are properly aligned with the chalk line and that all frames remain square and plumb (maximum deviation of H"/480 over the rack height) in both the down-aisle and the cross-aisle directions. The rest of the rack row can be set up prior to anchoring.
- Once the rack row is complete and verified to meet the configuration, square, plumb and alignment requirements, all frames of the remaining bays are to be anchored and the beam-to-column connections and locking devices checked for proper engagement, the same as the first bay.
- Never attempt to pull a rack into plumb after fasteners or anchors have been tightened or use excessive force to plumb a rack. This could bend or otherwise damage the rack members.
- Periodically check square, plumb and alignment as the rack installation proceeds.
- Never leave an unanchored rack unattended.

ACCESSORIES

- For back-to-back row installations, row spacers should be installed as the row is erected. When possible, the row spacers should be installed at a level that is near an elevation of a horizontal brace of the frame. The top row spacer should be installed near the top horizontal brace of the frame. The remaining row spacers can be uniformly spaced, but still keeping them at or near a frame horizontal brace.
- All accessories, including crossbars or wire decking, should be installed after the rack row frame and beam installation is complete, all bolts tightened, and anchors installed. Any wire decks that are non-waterfall and any crossbars not engaging beams slots, must be secured in place so they cannot fall between the beams.

INSPECTION

- Throughout the installation process, the rack installer should periodically inspect the racks to ensure that proper installation procedures and the Installation Drawings have been followed and that racks remain properly square, plumb and aligned, and that no rack components have been damaged during the installation.

FURTHER INFORMATION

- These installation guidelines cover the installation of new Ridg-U-Rak selective rack. The proper installation of the rack is the responsibility of the installer. The installation is not covered by any warranty from Ridg-U-Rak.
- For more information on storage racks, the user should refer to the following:

Rack Manufacturer's Institute
8720 Red Oak Blvd., Suite 201
Charlotte, NC 28217-3992.

<http://www.mhi.org/rmi>

Referenced Docs: <https://www.mhi.org/publications>

RMI Specifications – ANSI MH16.1

RMI Planning and Use Guidance Document

Rack Safety Blog: <http://www.rmiracksafety.org/>

If questions still exist, contact Ridg-U-Rak for technical support at 814-725-8751