



# Pallet Racking

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# USER MANUAL



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ADVANCING INNOVATION

Creating a safe work environment  
**is our priority!**

# Pallet Racking

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# USER MANUAL



This manual contains:

- 1) Assembly and installation information
- 2) Maintenance information

Correct assembly, installation, use, and maintenance are critical to the safe operation of your storage rack system.

**ALL PERSONNEL WHO COME IN  
CONTACT WITH STORAGE RACKING  
SHOULD READ THIS MANUAL CAREFULLY!**

Keep this manual in a convenient location, for future reference, retraining, and orientation of new users of the product.

## A GUIDE FOR SAFETY SYMBOLS IN THIS BOOKLET



Figure 1

**DANGER:** is indicated by a red exclamation point within a red triangle, as shown in figure 1. These symbols denote situations which could cause damage, injury, or death.



Figure 2

**CAUTION:** is indicated by an orange exclamation point within a orange triangle, as shown in figure 2. These symbols indicate situations which require an extra measure of your attention.



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**Read these instructions before assembling or using your storage rack system.**

To obtain the maximum benefit from any storage rack system, and for the safety of those around the rack, the rack must be properly assembled and maintained. The information in this booklet will assist you in fulfilling your responsibility to provide a safe, properly maintained storage rack assembly.



#### ASSEMBLY INFORMATION



**Storage racks should be assembled only by trained personnel, experienced with proper rack assembly procedures.**



Improper rack assembly can not only cause poor performance of your system, but can also pose a safety hazard in your facility. If you are unfamiliar with rack assembly, you should contact Novalok or your professional rack assembly services. Novalok cannot provide guarantee or warranty coverage for any Victor system assembled by anyone other than a Novalok approved Installation Contractor.



**It is very important that the rack structure be installed in a plumb, level, and square condition.**

Since few floors are perfectly flat, shimming of the racks is frequently required. A four foot long carpenter's level is a good choice for checking level and plumb conditions on storage racks of average proportions.



**The rack structure should be assembled and used only as shown on Novalok's assembly drawings.**

**Changing the configuration (such as adjusting storage levels) can adversely affect the load carrying capacity and reduce the structural integrity of the rack system. Before adjusting the rack configuration, contact Novalok, to verify the safety and structural adequacy of the new configuration.**



**"Nut and Bolt" connections are to be tightened to a snug and secure condition.** The use of a torque wrench is recommended for consistency when assembling. Tightening to the point of crushing tubular components is to be avoided.



**Safety locks on bolt-less connections (SK2000 series) must be fully engaged through the beam connector and upright column connector holes.**

These safety locks help prevent accidental dislodgement of the load beams. The locks should engage automatically, however the beam needs to be fully seated, in the bottom of the teardrop shape connector hole.



**Beams must not be used with damaged or missing safety locks.** Extra safety locks are available from Novalok.



**Every column of each rack frame must be adequately anchored to a stable concrete floor.**

The normal anchor connection is one 1/2" diameter x 3-3/4" concrete expansion anchor per column, or as indicated on the Novalok installation drawings. Anchor bolts are not included with Victor rack systems unless specifically detailed on the Bill of Materials.



Since anchor bolts vary in strength if you are purchasing your own anchor bolts, contact Novalok for minimum anchor specifications for your installation. Since concrete floors vary greatly in design and load carrying capacity, Novalok cannot guarantee that a particular concrete slab is adequate to support a particular rack installation. The characteristics of the slab should be obtained from the building architect before the racks are specified, so that the rack supplier can design the rack to suit the slab.



**Do not install racks outdoors, unless specifically designed by Novalok for this purpose.**

Outdoor usage requires consideration of wind loads, snow loads, etc., which are not normally considered in rack design.



**Be cautious when intermingling new and existing parts.** Even components produced by the same manufacturer can vary in design. Many manufacturers offer a variety of basic designs (for example bolted and bolt-less connections), and basic designs are often altered slightly over the years to improve performance. These differences can adversely affect the overall performance and safety of a rack structure.

Many storage rack systems have such similar designs that a rack system can be assembled using parts from more than one manufacturer. However, since Novalok has no control over the quality of components designed and manufactured by other firms, any and all warranties and guarantees are made void if non-Novalok parts are used in conjunction with genuine Novalok parts.



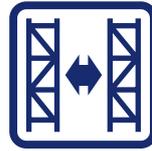
**Installation of "capacity plates" is strongly recommended to all users.**

These plates should identify the characteristics for which the rack was designed, such as load size, load weight, and rack configuration. These plates are very useful for communicating safe loading information to both present and future users. Several signs should be prominently located for easy visibility, and be permanently affixed to the rack structure. Risk Category stickers can be obtained from Novalok in conjunction with the Victor Novalok Racking Log book.



**NEVER climb on racks, during or after assembly. Storage racks are not designed to be stepped on or climbed on. A slip or fall may result in serious injury.** It is your responsibility

to communicate this important warning to all who come into the proximity of your storage rack.



**Allow adequate aisle spacing.** Aisles which are too narrow for the handling equipment, or are reduced the lifting equipment and the rack structure, and may cause a danger to pedestrian traffic.



**Maintain adequate clearances around loads.** These include those dictated by local fire codes (between loads in back to back rows, and overhead between the uppermost load and the roof structure). Also between adjacent loads horizontally, and between loads and rack horizontal and vertical members. Clearances which are too tight could increase fire risk, will decrease handling speed, and increase the likelihood of damage to rack components and/or loads.



**Install good lighting in every rack aisle.** Good lighting improves handling efficiency, prevents accidents, and reduces accidental damage to the rack structure.



**Install optional "column protectors" at aisle facing rack columns, and guard rails at ends of rack rows.**

These devices provide a visual and physical barrier against accidental handling equipment impacts. A variety of these guarding devices, available from Novalok, prevent accidents, and reduce accidental damage to the rack structure.



**DO NOT CUT, WELD, OR IN ANY OTHER WAY MODIFY ANY COMPONENT OF YOUR VICTOR STORAGE RACK.**

Such modifications may decrease the load carrying capability of the component, and the weakened component can jeopardize the integrity of the entire rack structure. Any modification of any component, except as performed or authorized in writing by Novalok Industries engineering personnel, will make null and void any warranties and guarantees.



**Use only pallets of the best quality.** Broken or cracked boards, protruding nails, and other deficiencies can cause palletized loads to fall from racks, or cause dynamic racks to become jammed and inoperable. For extra security, a variety of pallet supports are available from Novalok Industries.



**Perform regularly scheduled inspections (at least annually) and maintenance of the rack system. CHECK FOR:**

- ✓ All hardware (including anchors) is properly tightened.
- ✓ All beam safety locks operational and fully engaged.
- ✓ All racks plumb, level, and square.
- ✓ No dents, kinks, or otherwise damaged components on the racks.
- ✓ Load sizes and weights match original specifications from the manufacturer.



**Replace damaged or missing beam safety locks immediately!**

Do not use beams without safety locks. Unload damaged racks immediately, and contact Novalok for replacement parts (damage reduces capacity, creating the potential for collapse. Check finish, touch up chips or scratches, to prevent corrosion.



**Train the operators, and maintain the equipment they use in conjunction with the storage racks.**

Minimizing actual contact between the racks and the handling equipment is the most important factor affecting rack longevity. Educate rack users to avoid "impact loading" (dropping loads onto the rack), how to position loads for even distribution of load weight, report any rack damage etc.



**Do not overload any rack component, bay, or system.**

Your storage rack is designed to support a specific load weight, in a specific configuration. Should your load weights or sizes change, contact Novalok Industries before using the rack to store the new loads. Using your rack in any manner other than originally configured could lead to rack collapse and injury.



**Be certain that fork truck is equipped to protect operator from accidental crushing against storage rack, loads, and other objects.**

If operators would be exposed to such dangers, contact the manufacturer and/or reseller of the fork lift equipment, and demand that protective devices (such as a protective rear post on stand up type trucks) be immediately installed on the equipment to protect the operator.



**Be certain that fork trucks are equipped to protect the operator from accidental falls.**

Platforms upon which operators stand must be of a type that is approved by the lift equipment manufacturer and OSH. Operators should be restrained or otherwise protected from falling off of the equipment. If operators would be exposed to such dangers, contact the manufacturer and/or reseller of the lift equipment, and demand that protective devices be immediately installed on the equipment.



**Establish good housekeeping practices.**

Keep aisles clear of litter or obstructions, do not use aisles for floor stacking pallets. Keep aisle surfaces clean and free of grease and condensation, so handling equipment travel is not affected.



**Do you have any questions about your Victor rack, it's assembly, operation, or maintenance?**

We would be pleased to assist you. Please see the back cover of this booklet for contact details for Victor and Novalok Industries.





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operated company.

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