



## Installation & Maintenance Manual

# WHB-SERIES

## WALL MOUNTED HANGING BARS

### GENERAL POLICY ON WARRENTY INFORMATION

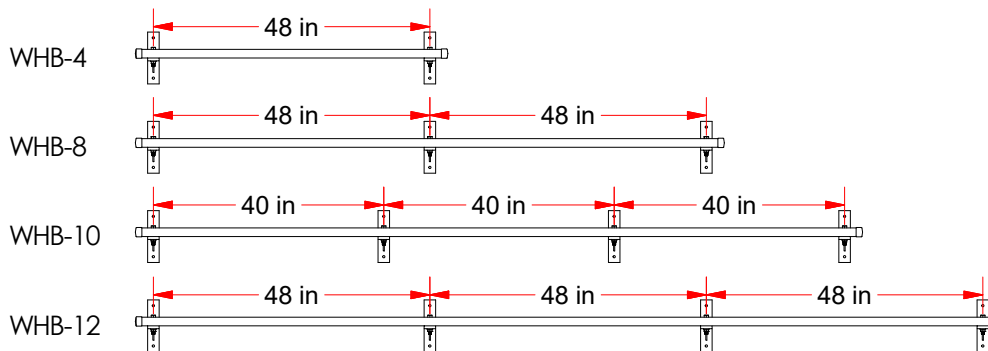
JAMMAR Manufacturing Company Inc. provides you with the finest equipment possible. All products are fabricated from top-quality materials and made to our own high standards in our own facilities. JAMMAR'S guarantee is as follows: Seller warrants to the customer that the products herein sold are free of defects in material and workmanship for a period of one (1) year from date hereof. This warranty is Seller's sole warranty here under and does not cover, and is intended to exclude any liability on the part of the Seller whether under this warranty or under any warranty implied by law, for any indirect or consequential damages for breach hereof or thereof. Any and all warrants implied by law shall be limited to one (1) year from the date hereof. Seller's sole obligation under this warranty shall be to repair, or at its option, replace, at its expense, any defective part or parts. Buyer must receive Seller's written approval to return part or parts from inspection and no charges for repair will be accepted by Seller without its written authorization. Seller specifically excludes any warranty expressed or implied for any product which has been manufactured according to buyer's own design, prints, or specifications. Installation of our products is the responsibility of the Buyer who assumes any liability for damage to property or injury. While every attempt is made to embody the highest degree of protection in all equipment, we cannot, however, guarantee freedom from injury. The user assumes all risk of injury due to use. All merchandise is sold on this condition, which no representative of the company can waive or change. Equipment should be inspected periodically by user for damage and wear and tested for stability. All sporting and PE activities carry the risk of injury to the participants. Improperly maintained equipment and inadequately supervised programs are significant contributing factors. All equipment must be thoroughly inspected and maintained to reduce the risk to the users.

## OVERVIEW:

The Wall Mounted Hanging Bars (WHB) Series is a simple method for attaching climbing ropes, ladders, or cargo nets for younger, beginner level climbers. They are specifically fabricated to mount directly to a structural wall as described in the instructions and used in a physical education atmosphere requiring supervision, spotting and mats etc., the same as in any gymnastic or equipment utilizing program. Modification and/or use other than intended and/or alternative instructions is not recommended.

The WHB Series is offered in four standard sizes as seen in Figure 1 (custom sizes available):

- WHB-4, 4' Wide Wall Hanging Bar with 2 Wall Brackets
- WHB-8, 8' Wide Wall Hanging Bar with 3 Wall Brackets
- WHB-10, 10' Wide Wall Hanging Bar with 4 Wall Brackets
- WHB-12, 12' Wide Wall Hanging Bar with 4 Wall Brackets



**FIGURE 1**

## APPROVED HANGING EQUIPMENT:

The WHB Series allows flexibility to hang various types of climbing accessories on the wall mounted bars. Jammarmfg offers a variety of climbing ropes, climbing ladders, or cargo nets to choose from. The style and number of accessories is determined by the customer and is dependent on the length of the hanging bar. Jammarmfg recommends allowing 18-24" spacing between accessory for safety. Cargo nets can be oriented vertically or at a slight angle. Angled cargo nets are custom and require additional installation of floor anchors (refer to specific floor anchor installation instructions for additional information).

## CHOOSING THE PROPER LOCATION TO BE INSTALLED:

The WHB Series must be installed to a safe structural wall which will exceed any load placed on the bar. If necessary, consult your building plans and/or building engineer. Locate the bar where there is no wall obstacles such as fire extinguishers, fire alarms, electrical switches, windows, etc. which may injure the climber or get damaged from climbers. Keep in mind that the climbers may contact the wall inadvertently or with their shoes to gain leverage. Jammarmfg recommends locating the hanging bar above protective wall padding for added safety to the climbers.



### WALL STRUCTURE REQUIREMENTS:

The WHB Series Wall Hanging Bars are considered permanently installed structures. The hanging bars must only be installed on walls capable of supporting the system. Jammarmfg is not responsible for the structural integrity of the wall. When sourcing and specifying wall anchors, always allow for a 5:1 safety ratio. Below are the loading requirements for each type of accessory for the hanging bars:

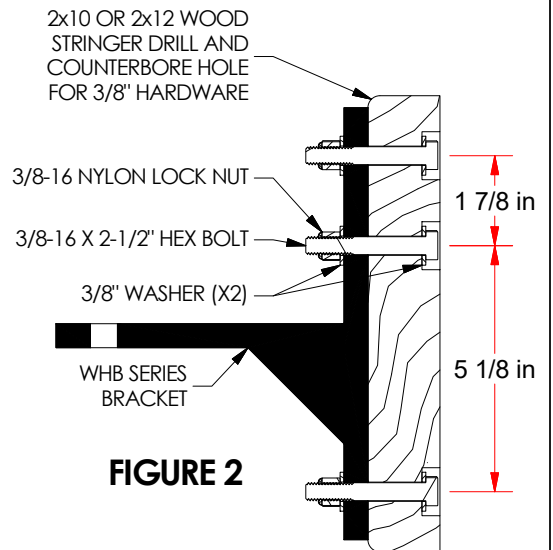
### WHB Series Load Requirements

- 300 lbs for Each Climbing Rope
- 300 lbs for Each Climbing Ladder
- 1000 lbs for Each Cargo Net

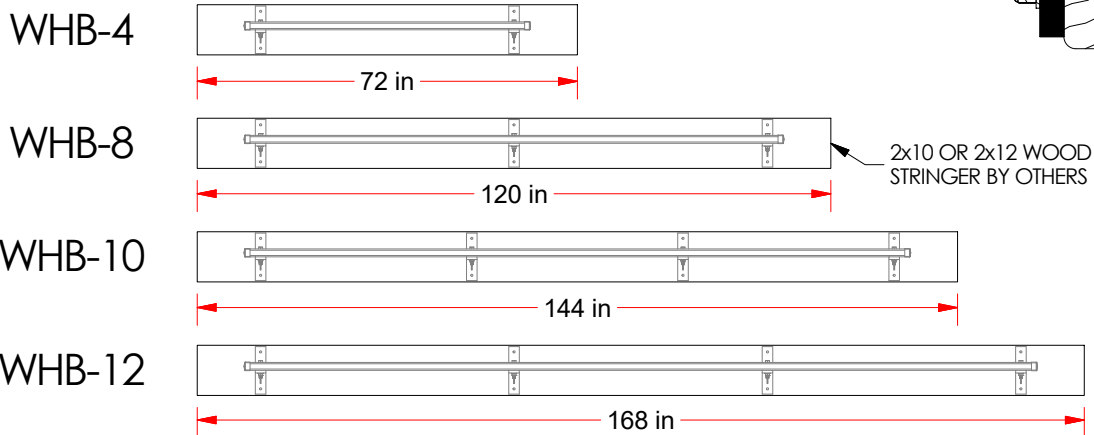
### METHODS OF ATTACHMENT:

#### Option 1 (Recommended): Wood Stringer Attachment

Jammarmfg recommends installing the hanging bars using 2x10 or 2x12 wood stringers. This will allow the easiest installation and will allow flexibility to the installer to locate the wall anchors in the preferred locations. The assembly can be preassembled on the ground and can be easily raised, leveled, and secured on the wall. The wood stringers are supplied by others. All hardware to attach the brackets to the wood stringer is supplied by others. Refer to Figure 2 for proper way of securing the brackets to the wood stringers and Figure 3 for the wood stringer length requirements.



**FIGURE 2**



**FIGURE 3**

#### Option 2: Direct Bracket Attachment

In lieu of wood stringers, the wall brackets can be directly mounted to the wall structure. This method of installation requires precision and planning to ensure the brackets are installed in the exact locations required. If this method is desired, it is best to install the two end brackets first, utilizing the bar to automatically locate the middle brackets. All hardware to attach the brackets to the wall is supplied and specified by others.



## WALL COMPOSITION AND RECOMMENDED ANCHORS:

Below are the most common wall types and the respective recommended wall anchors. These examples are intended as a reference guide only. Type, size, and quantity of wall anchors should be specified by an architect, structural engineer, and/or contractor. All wall anchors are supplied by others. Jammarmfg recommends at least two wall anchors per wall brackets for wood stringer attachment or three anchors per bracket on direct bracket attachment.

### Solid Concrete or Grout-Filled Block Walls:

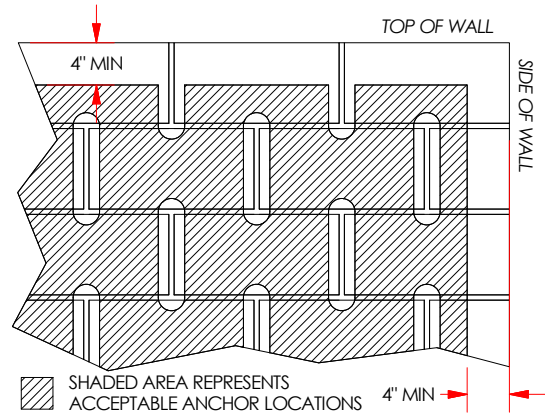
Thru-bolting is the preferred method of anchoring. Stud anchors, screw anchors, or double expansion anchors are also acceptable. Refer to Figure 4 for allowable anchor locations in block wall.

**Hollow Block Walls:** Heavy-duty tumble toggles are the preferred method of anchoring. Concrete block injectable adhesive anchors are also acceptable.

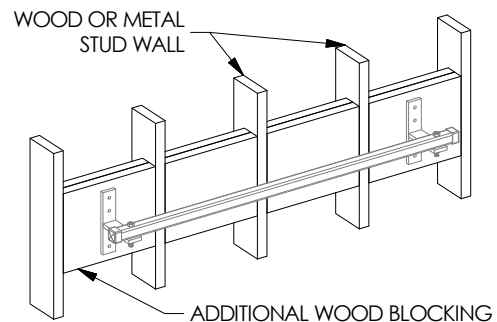
**Wood Stud Wall:** Jammarmfg recommends additional wood blocking to be installed in the wall for attachment to absorb any lateral loading; refer to Figure 5. Direct attachment to the vertical wood studs may result in the wall to deflect, compromising the integrity of the wall or surface cracks of the gypsum wall. Thru-bolting is the preferred method of anchoring. Wood lag screws are also acceptable.

**Metal Stud Wall:** Jammarmfg requires additional wood blocking to be installed in the wall for attachment to absorb any lateral loading; refer to Figure 5. Direct attachment to a metal stud wall is strictly prohibited. Thru-bolting is the preferred method of anchoring. Wood lag screws are also acceptable.

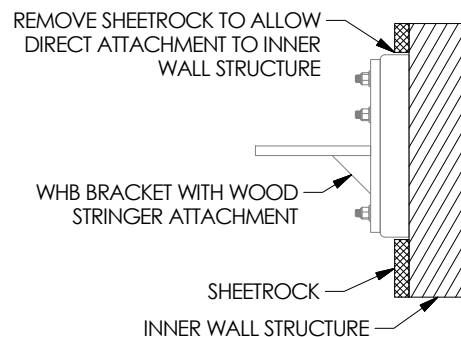
**Gypsum Board (a.k.a. Sheetrock):** Whenever attaching to a gypsum board wall (a.k.a. sheetrock), it is highly recommended that the gypsum board is removed to allow direct attachment of the hanging bar to the inner wall structure. Failure to do so will compress the gypsum board, and may result in an unsecure attachment that may loosen over time.



**FIGURE 4: ALLOWABLE ANCHOR LOCATIONS IN CONCRETE BLOCK WALLS**



**FIGURE 5: DETAIL OF ADDITIONAL WOOD BLOCKING IN WOOD OR METAL STUD WALL**

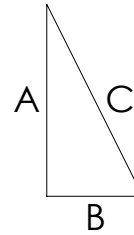


**FIGURE 6: DETAIL OF SHEETROCK REMOVAL**



## DETERMINING THE PROPER MOUNTING HEIGHT:

The mounting height of the hanging bar is dependent on the equipment hanging on the bar and the preference of the end user. Determine if the equipment is intended to be used vertically, at an angle, or in both orientations. Always account for the protective floor padding. For angled applications, use the formula in Figure 7 to calculate the mounting height.



To determine mounting height for angled applications, use the following formula:

$$A^2 + B^2 = C^2$$

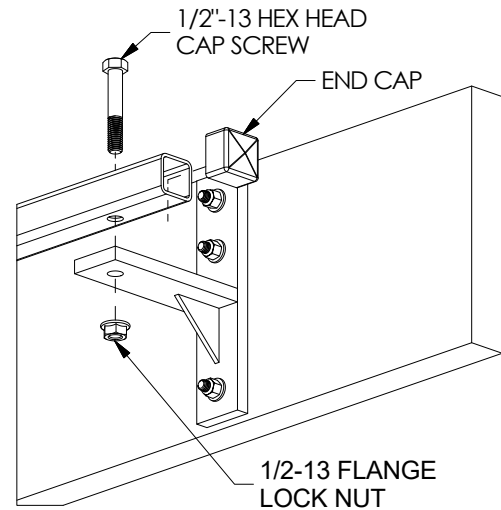
**FIGURE 7**

## FINAL ASSEMBLY:

With all the brackets mounted on the wall, assemble the bar to the brackets with the supplied 1/2" Grade 8 hardware. Be mindful of the climbing accessories before assembling the entire bar. Install any accessory with factory-supplied loops prior to installing the hanging bar.

Climbing ropes, ladders, or nets are supplied with either lanyard ends that must be tied in the field or with factory-supplied loops.

- Lanyard: Tie off any accessory with the appropriate lanyard knot
- Loops: Slide loops onto free end of bar
- Loops & Carabiners: Pass loop over the bar and attach back onto itself via carabiners



**FIGURE 8**



**OPERATION, CARE, MAINTENANCE, & INSPECTION:**

Any and all climbing activities require the use of mats, spotting, and supervision. Mats are probably the single most important ingredient to any activity using equipment to prevent serious injury when accidents may occur. An 8" or 12" soft landing mat must be used under and around each climber and other matting around the climbing equipment. Having several thick landing mats will make instruction much easier and more innovative. These mats are versatile and can be used in many capacities. Please note that an 8" thick landing mat is NOT the same as (4) 2" mats stacked on top of each other. Please ensure all climbers are safe when using any climbing equipment.

Jammar offers additional documentation which provides guidance for proper cargo climbing rope, ladder, or net use for beginner, intermediate, and advanced climbers. Jammar also offers guidance to the instructors for proper safety awareness, spotting techniques, and fun climbing activities. If not already provided, visit [www.jammarmfg.com](http://www.jammarmfg.com) to access all the documents applicable to your Jammar equipment.

Climbing ropes, ladders, and nets are extremely durable and will give years of rugged use. It is important, however, not to drag nets on floor or around corners, etc. which may snag individual rope fibers (particularly the CN nets). Ropes, ladders, and nets are handmade and each individually inspected. If you notice any small individual fibers or if a strand pull does occur simply open rope jacket and work stand back into middle of rope. Small fibers can simply be trimmed with scissors. Nets are relatively speaking inexpensive and at signs of wear downgrade and/or replace.

It is the responsibility of the owner to periodically inspect any climbing equipment. Ensure that all components are fully intact and rigidly attached to the building structure. Inspect the equipment for any fraying or disassembling. Annual inspection should be completed on any permanently mounted equipment and should be completed just prior to any heavy use schedule of events. If any component is suspect or any component is damaged, DO NOT USE the equipment until it is repair or replaced. When not in use, store the equipment up and out of reach or cone off and tag the area to ensure no one utilizes the equipment.

For further information regarding any Jammar equipment and / or appropriate safety matting, please contact your dealer or contact Jammar at 860-848-1113 (phone) or 860-848-9302 (fax).

KEEP THESE INSTRUCTIONS AND REVIEW PERIODICALLY.



## RECORD OF INSTALLATION

Upon completion of installation, the Dealer and/or Installer must turn all documentation and applicable information over to the general contractor / customer / end user. The Dealer and/or installer must train the general contractor / customer / end user proper use of the equipment and advise of any maintenance and inspection that must occur. Please fill out the form below before turning over any equipment.

<b>PROJECT NAME:</b>	_____
<b>PROJECT NUMBER:</b>	_____
<b>PROJECT LOCATION:</b>	_____

<b>DEALER NAME:</b>	_____
<b>DEALER CONTACT:</b>	_____

<b>INSTALLER NAME:</b>	_____
<b>INSTALLER CONTACT:</b>	_____

<b>SCOPE OF WORK:</b>	_____
<i>PROVIDE BRIEF DESCRIPTION OF ALL JAMMAR EQUIPMENT INSTALLED</i>	_____

### GENERAL POLICY ON WARRENTY INFORMATION

JAMMAR Manufacturing Company Inc. provides you with the finest equipment possible. All products are fabricated from top-quality materials and made to our own high standards in our own facilities. JAMMAR'S guarantee is as follows: Seller warrants to the customer that the products herein sold are free of defects in material and workmanship for a period of one (1) year from date hereof. This warranty is Seller's sole warranty here under and does not cover, and is intended to exclude any liability on the part of the Seller whether under this warranty or under any warranty implied by law, for any indirect or consequential damages for breach hereof or thereof. Any and all warrants implied by law shall be limited to one (1) year from the date hereof. Seller's sole obligation under this warranty shall be to repair, or at its option, replace, at its expense, any defective part or parts. Buyer must receive Seller's written approval to return part or parts from inspection and no charges for repair will be accepted by Seller without its written authorization. Seller specifically excludes any warranty expressed or implied for any product which has been manufactured according to buyer's own design, prints, or specifications. Installation of our products is the responsibility of the Buyer who assumes any liability for damage to property or injury. While every attempt is made to embody the highest degree of protection in all equipment, we cannot, however, guarantee freedom from injury. The user assumes all risk of injury due to use. All merchandise is sold on this condition, which no representative of the company can waive or change. Equipment should be inspected periodically by user for damage and wear and tested for stability. All sporting and PE activities carry the risk of injury to the participants. Improperly maintained equipment and inadequately supervised programs are significant contributing factors. All equipment must be thoroughly inspected and maintained to reduce the risk to the users.

