



Installation & Maintenance Manual

CARGO CLIMBING NETS

HD & CN SERIES

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.

INSTALLATION INSTRUCTIONS: CN & HD CARGO NETS

OVERVIEW:

Indoor cargo nets are designed to provide and improve climbing ability combining many strength, movement, special and coordination skills. They are specifically fabricated to hang 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 installation is not recommended.

TYPES OF CARGO NETS:

Jammar offers two different styles of cargo nets with slightly different construction and attachment methods. Both styles are offered in either 9" or 12" squares. These instructions include details to install either style cargo net. Construction of each net is as follows:

- **CN Series Nets:** Rugged 3/4" diameter poly rope climbing cargo net with approximately 4' of lanyard on the top of the net for tying the net onto the ceiling support structure. "CN9" nets have 9" squares whereas "CN12" nets have 12" squares.
- **HD Series Nets:** "Heavy Duty" high quality 3/4" non-stretch polypro rope cargo net with 4" ID spliced eyeloops on the top of the net to easily pass the ceiling support structure through the eyeloops. "HD9" nets have 9" squares whereas "HD12" have 12" squares.

CHOOSING THE PROPER CARGO NET HEIGHT:

Nets are offered in 10', 12', 14', and 18' heights and different widths. Custom sizes are also available. Choose the net which best fits your activity area and ceiling height. Most nets are anchored to a suspended pipe. The higher the net, the closer to the ceiling your suspended pipe for net attachment will be. Remember cargo net climbing is a supervised activity which means that you control the height which your students ascend based on age and ability via verbal instructions or visual markers.

CHOOSING THE PROPER LOCATION TO BE INSTALLED:

Nets must be hung from structurally safe framework which will exceed any load placed on the net. Most beam and ceiling framework in institutional buildings will meet this criteria, however, always confirm this with you building plans and/or building engineer. You will want to raise your net up out of the reach or path of other students or activities when the net is not in use so select an area accordingly. Locate the net no further than your net height size away from the wall. This allows a pulley installed up on the wall to retract the net towards the ceiling and out of the way (refer to Jammar's Net Hoist Systems, RN-1 or WLBH-2, for additional information). Do not place the net too close to a wall where objects on the wall can injure or interfere with a climber. Do not climb the side of the net near a wall if it is too close to supervise and spot easily. You will need at least five (5) ceiling attachments for a suspended pipe style net installation. This spreads the weight and keeps the pipe from bowing. CN and HD nets are intended for indoor use and should not be used outdoors.



INSTALLATION INSTRUCTIONS: CN & HD CARGO NETS

CARGO NET SUPPORT STRUCTURE / MATERIALS:

Climbing nets can be installed as shown in Figure 1 & 2 or hung from any structurally safe existing framework. The typical pipe installation must be supported by cable or other hanging devices which are strong enough to exceed the maximum load applied to the net at any given time. Installation must be made around or to smooth surfaces to eliminate excessive wear at connecting points.

If necessary, Jammarmfg or your local dealer can provide all necessary hardware to install your indoor cargo climbing net on a typical exposed I-beam ceiling. Jammarmfg offers complete installation packages or individual pipe, hardware, chain, or cable. Contact Jammarmfg or your local dealer for additional information. Be prepared to provide your "beam to floor" measurements and any additional building information that may be applicable. Refer to page 7 for standard kits and individual component part numbers applicable to the CN and HD indoor cargo climbing nets.

Materials required to attach your indoor cargo climbing net can also be sourced independently. Because there are so many different ceiling heights, ceiling frameworks, etc., exact hanging hardware must be determined on-site. Pipe can be procured at local electrical, plumbing, or fence supply houses. Always allow for at least a 5:1 safety factor when selecting and purchasing hardware. All hardware and hanging devices must be rated to a minimum of 1000 lbs. Values below are minimum quantities and should be used as a guideline:

- a. 5* or more beam attachments (such as Jammarmfg's A-312 beam clamps or permanent forged eyebolts). This must be determined by purchaser and / or installer in accordance to your ceiling structure type. Wood or concrete framework require more specific attachment hardware. Consult experienced installation engineer.
- b. 1 length of steel pipe, 2 feet longer than the net width (minimum pipe size shall be 1-1/2" steel pipe (1.900 O.D. 0.145" wall thickness). Larger diameter and thicker wall pipe can also be used. Must be purchased locally.
- c. 5* forged eyebolts for suspending the pipe from the building structure.
- d. 2 eyebolts for each end of the pipe to diagonal anchor each side of the cargo net.
- e. 5* cable or chain assemblies to suspend the pipe from the ceiling structure (3/8" chain with quick links, 1/4" cable with compression sleeves and quick links, or 1/4" cable with cable clamps).

** Indicates the minimum requirement based on suggested amount for 10', 12' and 14' wide nets. More supports can be added to these nets if desired and more supports are recommended for larger width nets.*

RESPONSIBLE SAFE WORK LOADS & ALLOWABLE LIMITS

Allow for at least a 5:1 safety ratio

300 lb per climber

1000 lb per climbing net (proper spotting and supervision required for each climber)



INSTALLATION INSTRUCTIONS: CN & HD CARGO NETS

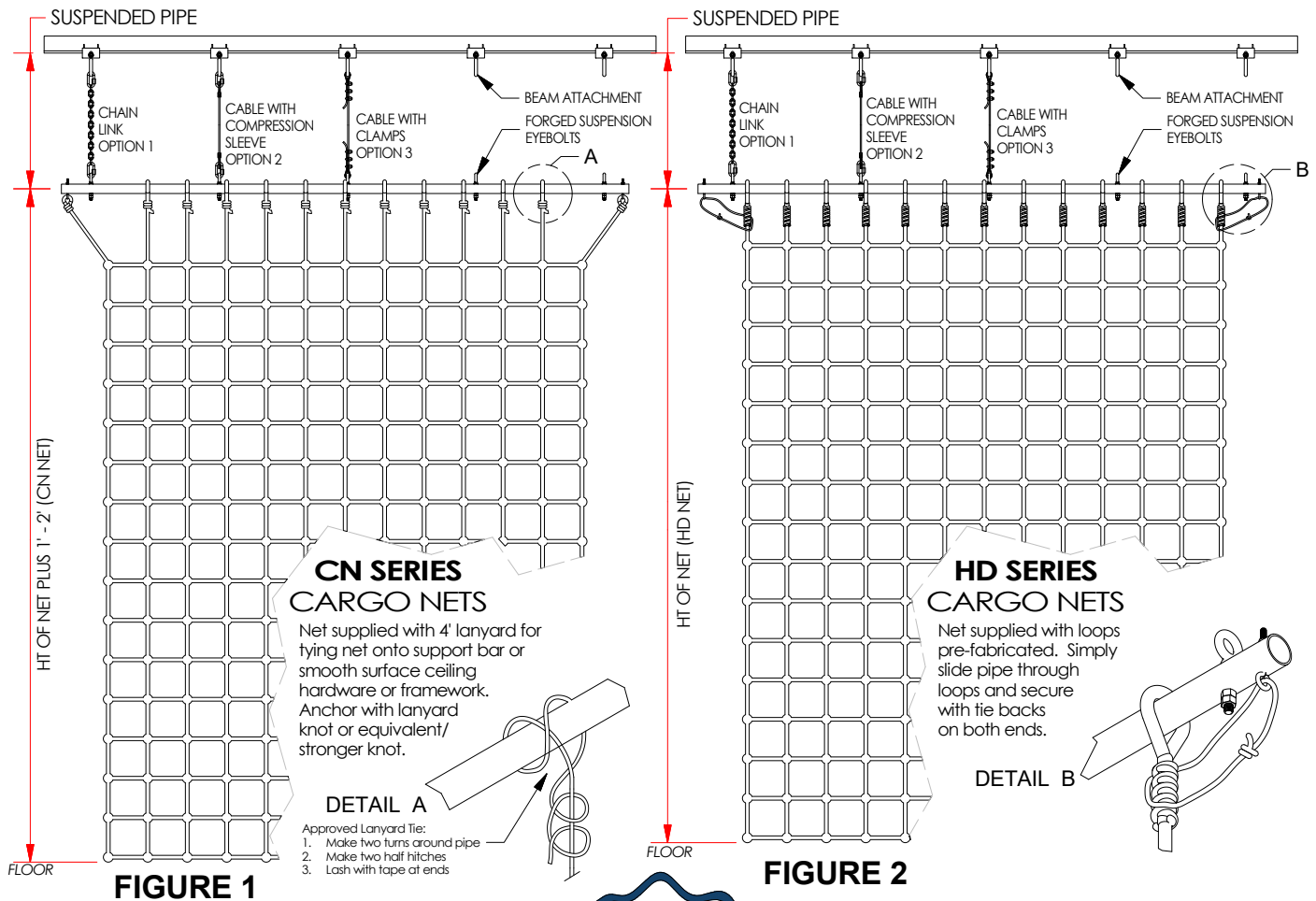
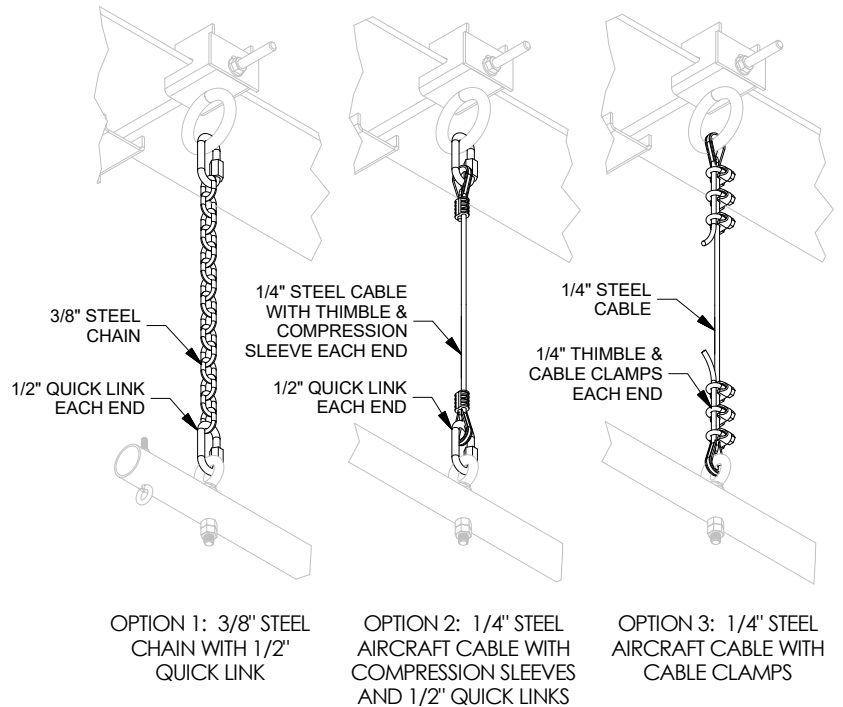
HANGING METHODS FOR CN SERIES AND HD SERIES CARGO NETS:

STEP 1: FABRICATE SUPPORT PIPE:

- Install 5 (min) evenly spaced suspension eyebolts on pipe all facing in the same direction. The end eyebolts should be installed 12" inward from each end of the pipe. The middle eyebolts should then be installed evenly spaced.
- Install 2 tie down eyebolts on each end of the pipe, facing in the opposite direction of the suspension eyebolts.

STEP 2: CEILING ATTACHMENT:

Using the support pipe as a template, install the beam clamps with the same spacing as the support eyebolts. All support (chain/cables) must be vertical when fully installed.



INSTALLATION INSTRUCTIONS: CN & HD CARGO NETS

STEP 3: NET ATTACHMENT:

HD Net Attachment:

If you are installing an HD series cargo net with eyeloops on top of the net, attach the net at this point by sliding the pipe through 4" I.D. eyeloops evenly and tie down the top corners, as illustrated in Figure 2.

CN Net Attachment:

If you are hanging a CN series net, you can tie the net to the pipe at this step or wait until the pipe is hung as illustrated in Figure 1 and described in Step 5.

STEP 4: CONNECTING SUSPENDED PIPE TO CEILING FRAMEWORK:

Connect the pipe to the ceiling via cable or chain. This can be done several different ways:

OPTION 1, STEEL CHAIN (3/8" MINIMUM):

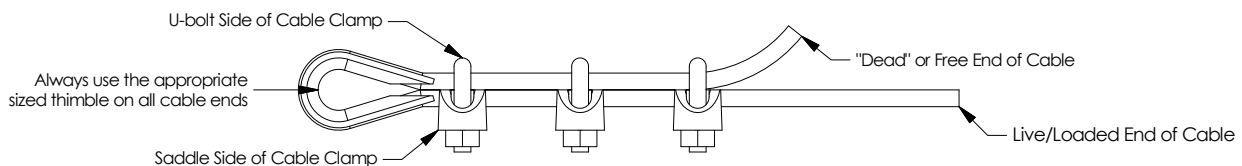
- Method A: Determine chain length and attach each chain to the ceiling attachment via quick links. Bring pipe up to the chain and attach via quick links. Count chain links to ensure correct and equal lengths. You can adjust the net height after the net is attached by the same chain link counting method.
- Method B: Attach the chain to the pipe via quick links and bring the chain with the pipe attached up to the ceiling hardware and connect via quick links.

OPTION 2 OR 3, STEEL CABLE (1/4" MINIMUM):

- Method A: Using 1/4" (minimum) flexible steel cable, determine length needed and have an eyeloop on the 5 (minimum) cables swaged or spliced on each end, such as nicopress compression sleeves. Attach the cable to the ceiling hardware via quick links. Bring the pipe up to the cable and attach via quick links. Or use an alternative method of attaching the pipe first and ceiling hardware last.
- Method B: Using 1/4" (minimum) flexible steel cable, splice the cable directly onto the ceiling and pipe eyebolts using 1/4" wire rope cable clamps. NOTE: you will need extra (at least 18") of cable on each end to make the eyeloop attachment and connection.

***IMPORTANT INSTALLATION NOTE* Correct use of wire rope clamps ("Never Saddle a Dead Horse")**

For efficient holding power, the wire rope cable clamps must be installed correctly. The u-bolt portion of the cable clamp must be installed on the dead or short end of the cable and the saddle portion of the cable clamp must be installed on the live or long end of the cable, as illustrated in Figure 3. Wrong installation of even one clamp greatly reduces the efficiency of the connection up to 40%. For maximum holding power, clamps should be installed 6 to 7 wire rope diameters apart (i.e. for 1/4" diameter steel cable, install the cable clamps 1 1/2" to 1 3/4" apart from each other). Never use cable clamps to connect two straight lengths of rope.



OTHER METHODS:

- When standard methods of hanging a climbing net are not practical, other methods of attachment can be done. Ensure that the climbing nets are installed on smooth and round components, hardware, and or surfaces. Routine inspections are required. Consult an experienced installation engineer.



INSTALLATION INSTRUCTIONS: CN & HD CARGO NETS

NOTE: All hardware and hanging devices must be rated to exceed the maximum load the climbing ropes will experience. All hardware and hanging devices must be rated at a minimum 1000 lb load capacity. All hardware used should be Grade 5 or better (refer to Figure 4). Routine inspections should be done to any and all equipment. If draping chain or cable over open joist trusses or bar joists, be sure to insulate rub areas and specify flexible (no crimp) cable. A cargo net is a relatively inexpensive piece of equipment and generates countless movement challenges. Be sure to inspect routinely and replace periodically.

STEP 5: CN NET ATTACHMENT:

If installing a CN series cargo net, tie the net to the pipe as shown in Figure 1, Detail A. The net should touch or drape on the floor. The net should drape on mats when placed under the net and climbing area.

*** END OF INSTALLATION PROCEDURE ***

COMMON PARTS LIST

JAMMAR AVAILABLE HANGING KITS / PARTS FOR INDOOR CARGO CLIMBING NETS:

- **CNHH-1**, Complete net hanging hardware and structure package for 10', 12' or 14' wide nets. Kit includes (1) UHB-1014, (5) A-312 beam clamps, (10) L-1 quick links, and 63' of 3/8" steel chain.
- **UHB-1014**, Universal telescoping hanging bar to adjust to fit any 10', 12', 14' wide nets. Kit includes all pipe and eyebolts.
- **CNP-10**, 12' Long, 1-1/2" OD pipe with 5 evenly spaced eyebolts for 10' wide net
- **CNP-12**, 14' Long, 1-1/2" OD pipe with 5 evenly spaced eyebolts for 10' wide net
- **CNP-14**, 16' Long, 1-1/2" OD pipe with 5 evenly spaced eyebolts for 10' wide net
- **CNP-18**, 20' Long, 1-1/2" OD pipe with 7 evenly spaced eyebolts for 10' wide net
- **A-312**, Adjustable beam clamp
- **A-1**, Wood beam clamp
- **A-2**, 3-1/2" OD pipe clamp.
- **A-3**, Wood beam clamp
- **A-4**, Concrete beam clamp
- **L-1**, 1/2" Quick links
- **WC-2**, Wire cable assembly
- **WC-AF**, Wire cable by the foot
- **CPF-1**, 3/8" Steel chain by the foot
- **IKIT-1014**, eyebolt kit for 10-14' wide cargo net bars (for 1-1/2" or 2" OD pipe only)
- **IKIT-18**, eyebolt kit for 18' cargo net bars (for 1-1/2" or 2" OD pipe only)

JAMMAR AVAILABLE ACCESSORIES FOR INDOOR CARGO CLIMBING NETS:

- **RN-1**, Net hoist system
- **WLBH-2**, Net hoist system, with wood lock box
- **MLBH-1**, Net hoist system, with metal lock box
- **SIGN-1**, Authorized personnel only signage
- **FP-50 / FP-89 / FP-90**, Floor anchors
- **FP-100**, Floor anchor with brass cover plate, for floating wood floors
- **NTD-6**, Net tie downs, applicable for any floor anchor system



INSTALLATION INSTRUCTIONS: CN & HD CARGO NETS

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 net. Having several thick landing mats placed around nets 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 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 to access all the documents applicable to your Jammar equipment.

Climbing 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). 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 net for any fraying or disassembling. Similar to you ceiling suspended basketball, baseball, curtain equipment, annual inspection should be completed on any permanently mounted equipment. Annual inspections 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. If equipped, retract the equipment or the ceiling 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.



INSTALLATION INSTRUCTIONS: CN & HD CARGO NETS

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.

PROJECT NAME:	_____
PROJECT NUMBER:	_____
PROJECT LOCATION:	_____ _____

DEALER NAME:	_____
DEALER CONTACT:	_____ _____

INSTALLER NAME:	_____
INSTALLER CONTACT:	_____ _____

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

GENERAL POLICY ON WARRENTY INFORMATION

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SHEET 8 OF 8

