

⚠ WARNING This equipment should not be installed, operated or maintained by any person who has not read and understood all the contents of this manual. Failure to read and comply with the contents of this manual can result in serious bodily injury or death, and/or property damage. Record the code and serial number in the space provided below.

Code Number: _____

Serial Number: _____

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1.0 Important Information and Warnings

1.1 Terms and Summary

This manual provides important information for personnel involved with the installation, operation and maintenance of this product. Although you may be familiar with this or similar equipment, it is strongly recommended that you read this manual before installing, operating or maintaining the product.

Danger, Warning, Caution and Notice – Throughout this manual there are steps and procedures that can present hazardous situations. The following signal words are used to identify the degree or level of hazard seriousness.

- ⚠ DANGER** Danger indicates an imminently hazardous situation which, if not avoided, **will** result in **death or serious injury**, and property damage.
- ⚠ WARNING** Warning indicates an imminently hazardous situation which, if not avoided, **could** result in **death or serious injury**, and property damage.
- ⚠ CAUTION** Caution indicates a potentially hazardous situation which, if not avoided, **may** result **minor or moderate injury** or property damage.
- NOTICE** Notice is used to notify people of installation, operation, or maintenance information which is important but not directly hazard-related.

⚠ CAUTION

These general instructions deal with the normal installation, operation, and maintenance situations encountered with the equipment described herein. The instructions should not be interpreted to anticipate every possible contingency or to anticipate the final system, crane, or configuration that uses this equipment. For systems using the equipment covered by this manual, the supplier and owner of the system are responsible for the system's compliance with all applicable industry standards, and with all applicable federal, state, and local regulations/codes.

Record your clamp's Code and Serial Number (see Section 3) on the front cover of this manual for identification and future reference to avoid referring to the wrong manual for information or instructions on installation, operation, inspection, maintenance, or parts.

Use only Harrington authorized replacement parts in the service and maintenance of this clamp.

⚠ WARNING

Equipment described herein is not designed for and **MUST NOT** be used for lifting, supporting, or transporting people, or for lifting or supporting loads over people.

Equipment described herein should not be used in conjunction with other equipment unless necessary and/or required safety devices applicable to the system, crane, or application are installed by the system designer, system manufacturer, crane manufacturer, installer, or user.

Modifications to upgrade, rerate, or otherwise alter this equipment shall be authorized only by the original equipment manufacturer.

If equipment is used as a below-the-hook lifting device, refer to ANSI/ASME B30.20, "Safety Standard for Below-the-Hook Lifting Devices". As an above-the-hoist device, refer to applicable portion of ANSI/ASME B30.16.

Clamps used to handle hot molten material may require additional equipment or devices. Refer to ANSI Z241.2, "Safety Requirements for Melting and Pouring of Metals in the Metalcasting Industry".

Failure to read and comply with any one of the limitations noted herein can result in serious bodily injury or death, and/or property damage.

NOTICE

It is the responsibility of the owner/user to install, inspect, test, maintain, and operate a clamp in accordance with ANSI/ASME B30.20, "Safety Standard for Below-the-Hook Lifting Devices" and ANSI/ASME B30.16, "Safety Standard for Overhead Hoists". If the clamp is installed as part of a total lifting system, such as an overhead hoist, crane or monorail, it is also the responsibility of the owner/user to comply with the applicable ANSI/ASME B30 volume that addresses that type of equipment.

It is the responsibility of the owner/user to have all personnel that will install, inspect, test, maintain, and operate a clamp read the contents of this manual and applicable portions of ANSI/ASME B30.20, "Safety Standard for Below-the-Hook Lifting Devices", ANSI/ASME B30.16, "Overhead Hoists (Underhung)" and OSHA Regulations. If the clamp is installed as part of a total lifting system, such as an overhead hoist, crane or monorail, it is also the responsibility of the owner/user to comply with the applicable ANSI/ASME B30 volume that addresses that type of equipment.

If the clamp owner/user requires additional information, or if any information in the manual is not clear, contact Harrington or the distributor of the clamp. Do not install, inspect, test, maintain, or operate this clamp unless this information is fully understood.

A regular schedule of inspection of the clamp in accordance with the requirements of ANSI/ASME B30.20 and ANSI/ASME B30.16 should be established and records maintained.

2.0 Technical Information

2.1 Specifications

2.1.1 Operating Conditions and Environment:

Temperature Range: -4° to +140°F
(-20°C to +60°C)

Humidity: 100% or less

This is not underwater device.

Material: No special materials such as spark resistant.

Do Not Use: In an alkaline/acidic or an organic solvent/explosive atmosphere.

2.1.2 Clamp Specifications:

Product Code*	UBC010	UBC020	UBC030	UBC050	UBC100
Capacity (Ton)	1	2	3	5	10
Flange Range (in)	3.00 to 7.50	3.00 to 7.50	4.00 to 12.00	4.00 to 12.00	6.00 to 13.25
Max. Beam Flange Thickness (in)	0.83	0.83	1.00	1.00	1.75
Net Weight (lbs)	8	9	19	22	55

*Prefix of "T" in the product code denotes that the beam clamp is black in color.

3.0 Preoperational Procedures

3.1 Mounting Location

- 3.1.1 **⚠WARNING** When used as a suspension device, ensure that the suspension and the supporting structure is adequate to support the clamp, the hoist and its loads. If necessary consult a professional that is qualified to evaluate the adequacy of the suspension location and its supporting structure.
- 3.1.2 **⚠WARNING** When used as a below the hook lifting device, ensure that the load's attachment point is able to support the weight of the load and the load is able to withstand the gripping force of the clamp without deforming or breaking.

3.2 Optional Suspender

- 3.2.1 Refer to Parts List in section 8.0 for installation of optional suspender parts.

3.3 Mounting/Using the Clamp

- 3.3.1 Mount the beam clamp to a supporting structure over work area. Position the jaws over the lower beam flange and tighten the clamp by rotating the clamp handle clockwise to secure it in place.
- 3.3.2 For use of the clamp as a lifting device, suspend the clamp from the hoist bottom hook. Position the load in between the jaws and tighten the clamp by rotating the handle clockwise. Be sure that the load is fixed in between the clamp jaws securely. The clamp should be attached to the load at a place to ensure the load is evenly distributed and balanced.
- 3.3.3 **⚠WARNING** Ensure that the fixed suspension point rests on the center of the hook's saddle and that the hook's latch is engaged.
- 3.3.4 Ensure the clamp is securely positioned and tightened. Ensure the lock nut is present at the end of the threaded rod, and at least 1 thread is exposed.

3.4 Preoperational Checks and Trial Operations

- 3.4.1 **⚠WARNING** Confirm the adequacy of the rated capacity for all clamps and all other components of lifting system before use. Inspect all load suspension members for damage prior to use and replace or repair all damaged parts.
- 3.4.2 Record the clamp's Code and Serial Number (from the name plate on the clamp; see Section 8.0) in the space provided on the cover of this manual.
- 3.4.3 Ensure that the clamp is properly installed to a fixed point.
- 3.4.4 Ensure that all nuts and bolts are sufficiently fastened. (Continued on next page)

(Continued)

3.4.5 Confirm proper operation:

- Before operating read and become familiar with Section 4 – Operation/Use.
- Before operating ensure that the clamp meets the Inspection, Testing and Maintenance requirements of ANSI/ASME B30.20 and ANSI/ASME B30.16.
- Before operating ensure that nothing will interfere with the full range of the lifting system's operation.

4.0 Operation/Use

4.1 Introduction

DANGER

Do **Not** Walk Under a Suspended Load

WARNING

Operators for lifting systems involving a clamp shall be required to read the operation section of this manual, the warning contained in this manual, instruction and warning labels on the clamp or lifting system, and operation sections of ANSI/ASME B30.20, ANSI/ASME B30.16 and ANSI/ASME B30.10. The operator shall also be required to be familiar with the hoist and hoist controls before being authorized to operate the clamp or lifting system.

Clamp users should be trained in proper rigging procedures for the attachment of the clamp to the loads.

Clamp users should be trained to be aware of potential malfunctions of the equipment that require adjustment or repair, and to be instructed to stop operation if such malfunctions occur, and to immediately advise their supervisor so corrective action can be taken.

Clamp users should have normal depth perception, field of vision, reaction time, manual dexterity, and coordination.

Clamp users should **not** have a history of or be prone to seizures, loss of physical control, physical defects, or emotional instability that could result in actions of the operator being a hazard to the operator or to others.

Clamp users should **not** use a clamp or operate lifting system when under the influence of alcohol, drugs, or medication.

Clamp is intended only for vertical lifting service or freely suspended unguided loads. Do **not** use clamp for loads that are not lifted vertically, loads that are not freely suspended, or loads that are guided.

NOTICE

- Read ANSI/ASME B30.20, ANSI/ASME B30.16 and ANSI/ASME B30.10.
- Read the clamp manufacturer's Operating and Maintenance Instructions.
- Read all labels attached to equipment.
- Do **not** use a clamp before reading Owner's Manual.

The beam clamp can be used as a below-the-hook lifting device or an above-the-hoist suspending device. Per the ANSI/ASME B30 standards, the use of a clamp is subject to certain hazards that cannot be mitigated by engineered features, but only by the exercise of intelligence, care, common sense, and experience in anticipating the effects and results of utilizing the clamp. Use this guidance in conjunction with other warnings, cautions, and notices in this manual to govern the operation and use of the clamp.

4.2 Shall's and Shall Not's for Operation

WARNING

Improper operation of a clamp can create a potentially hazardous situation which, if not avoided, could result in **death** or **serious injury**, and substantial property damage. To avoid such a potentially hazardous situation **THE OPERATOR SHALL:**

- **NOT** lift more than rated load for the clamp.
- **NOT** use a clamp which has been modified without the manufacturer's approval or certification to be in conformity with applicable OSHA regulations.
- **NOT** use a clamp when the lifting system is restricted from forming a straight line from the mounting point to the loading point in the direction of loading.
- **NOT** use a damaged clamp.
- **NOT** operate a malfunctioning or unusually performing clamp.
- **NOT** use a clamp to lift, support, or transport people.
- **NOT** lift loads over people.
- **NOT** remove or obscure the warnings on the clamp.
- **NOT** use the clamp in such a way that could result in shock or impact loads being applied to the clamp.
- **NOT** leave load supported by the clamp unattended unless specific precautions have been taken.
- **NOT** use a clamp that is tagged "Out of Service" or otherwise designated as nonfunctioning.
- **NOT** use a clamp on which the safety placards or decals are missing or illegible.
- Make sure the temperature of the load does not exceed the maximum allowable limits of the lifter.
- Be familiar with clamp adjustments, procedures, and warnings.
- Make sure the unit is securely attached to a suitable support before applying load.
- Make sure clamp, slings, attachments are properly sized and rigged.
- Make sure the hoist attached to the clamp is supported at the hook saddle.
- Make sure load is balanced and load-holding action is secure before continuing.
- Make sure all persons stay clear of the supported load.
- Report Malfunctions or unusual performances of the clamp and remove the clamp from service until the malfunction or unusual performance is resolved.
- Warn personnel before lifting or moving a load.
- Warn personnel of an approaching load.

⚠ CAUTION

Improper operation of a clamp can create a potentially hazardous situation which, if not avoided, could result in minor or moderate injury, or property damage. To avoid such a potentially hazardous situation **THE OPERATOR SHALL:**

- Maintain a firm footing or be otherwise secured when using the clamp.
- Use hook latches when connecting a hoist to the clamp.
- Make sure hook latches are closed and not supporting any parts of the clamp.
- Make sure the load is free to move and will clear all obstructions.
- Inspect the clamp regularly, replace damaged or worn parts, and keep appropriate records of maintenance.
- Avoid swinging the load.
- Use the clamp manufacturer's recommended parts when repairing the unit.
- **NOT** allow your attention to be diverted from using the clamp or lifting system.
- **NOT** allow the clamp to be subjected to sharp contact with other clamps, structures, or objects through misuse.
- **NOT** adjust or repair the clamp unless qualified to perform such adjustments or repairs.
- **NOT** operate except with manual power.

5.0 Inspection

5.1 Initial Inspection – Prior to initial use, all new, altered, or modified clamps shall be inspected by a designated person to ensure compliance with the applicable provisions of this manual.

5.2 Inspection Classification – The inspection procedure herein is based on ANSI/ASME B30.20. Inspections for clamps in regular service are divided into EVERY LIFT, FREQUENT and PERIODIC groups based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the degree of service and usage the clamps are subjected to. EVERY LIFT inspection should be made before/or during every lift. FREQUENT and PERIODIC inspections should be made with respective intervals between inspections as defined in Table 5-2.

Table 5-2 Inspection Intervals		
Service	FREQUENT Inspection	PERIODIC Inspection
Normal Service	Monthly	Yearly
Heavy Service	Weekly to Monthly	Semiannually
Severe Service	Daily to Weekly	Quarterly
Special or Infrequent Service	As recommended by a qualified person before and after each occurrence.	As recommended by a qualified person before the first such occurrence and as directed by the qualified person for any subsequent occurrences.

5.3 Every Lift Inspection

- 5.3.1 Inspections should be made before and/or during every lift in accordance with Table 5-3, "Every Lift Inspection." The operator shall inspect for any indication of damage, including observations during operation for any damage that might occur during the lift.

Table 5-3 Every Lift Inspection
Surface of the load for debris.
Condition and operation of the controls and moving/functional components.

5.4 Frequent Inspection

- 5.4.1 Inspections should be made on a FREQUENT basis in accordance with Table 5-4, "Frequent Inspection." Included in these FREQUENT Inspections are observations made during operation for any defects or damage that might appear between Periodic Inspections. Evaluation and resolution of the results of FREQUENT Inspections shall be made by a designated person such that the clamp is maintained in safe working condition.

Table 5-4 Frequent Inspection
All functional operating mechanisms for proper operation and adjustment, maladjustment.
Lifting system components for deformation, cracks, or significant wear.
Structural members for deformation, cracks, or excessive wear.
Loose or missing fasteners, nameplates, and warning labels.
Connection points between Clamp and Hoist or/and support structure in accordance with ANSI/ASME B30.20 and ANSI/ASME B30.16.

5.5 Periodic Inspection

- 5.5.1 Inspections should be made on a PERIODIC basis in accordance with Table 5-5, "Periodic Inspection." Evaluation and resolution of the results of PERIODIC Inspections shall be made by a designated person such that the clamp is maintained in safe working condition.
- 5.5.2 For inspections where load suspension parts of the clamp are disassembled, a load test per ANSI/ASME B30.20 must be performed on the clamp after it is re-assembled and prior to its return to service.

Table 5-5 Periodic Inspection
Requirements of frequent inspection.
Evidence of loose bolts, nuts, or rivets.
Evidence of worn, corroded, cracked, or distorted parts such as clamp handles, screws, pins, bushings, snap or spiral retaining rings, spacers, nuts, and suspenders.
Evidence of damage to supporting structure.
Function label on clamp for legibility.
Warning label properly attached to the clamp and legible.

5.6 Inspection Methods and Criteria

- 5.6.1 This section covers the inspection of specific items. The list of items in this section is based on those listed in ANSI/ASME B30.20 and ANSI/ASME B30.16 for the Every Lift, Frequent and Periodic Inspection.
- 5.6.2 Every Lift Inspection – Performed by the operator before and/or during every lift. Not intended to involve disassembly of the clamp. Disassembly for further inspection would be required only if every lift inspection results so indicate. Disassembly and further inspection should only be performed by a qualified person trained in the disassembly and re-assembly of the clamp.
- 5.6.3 Frequent Inspection - Not intended to involve disassembly of the clamp. Disassembly for further inspection would be required only if frequent inspection results so indicate. Disassembly and further inspection should only be performed by a qualified person trained in the disassembly and re-assembly of the clamp.
- 5.6.4 Periodic Inspection - Disassembly of the clamp is required. Disassembly should only be performed by a qualified person trained in the disassembly and re-assembly of the clamp.

Table 5-6 Clamp Inspection Methods and Criteria			
Item	Method	Criteria	Action
Functional operating mechanisms.	Visual	Mechanisms should function properly. Components should not be deformed, scarred or show significant wear. Clamp screw threads should be free from significant wear.	Repair or replace as required.
Mechanical and Lifting System – Components	Visual, Function	Clamp components including clamp handles, suspenders, spacers, bushings, snap or spiral retaining rings, and pins should be free of cracks, distortion, significant wear and corrosion. Evidence of same can be detected visually.	Replace.
Bolts, Nuts and Rivets	Visual, Check with Proper Tool	Bolts, nuts and rivets should not be loose, deformed or corroded.	Tighten or replace as required.
Warning Labels	Visual	Warning Labels should be affixed to the clamp and be legible.	Replace.
Clamp Capacity Label	Visual	The label that indicates the capacity of the clamp should be legible and securely attached to the clamp.	Replace.

6.0 Maintenance

6.1 For clamp maintenance or storage, comply with the following points.

- 6.1.1 **CAUTION**
- Possibility of corrosion on components of the clamp increases for installations where salt air and high humidity are present. Make frequent and regular inspections of the clamp's condition and operation.
 - Do not store the clamp while supporting a load.
 - Remove any dirt or water on the clamp.
 - Store the clamp in a dry and clean area.
 - Perform all inspections given in "5.0 Inspection" if irregularity of the clamp is found after operation.

6.2 Disassembly/Assembly

- 6.2.1 When re-assembling the clamp, refer to parts list figure in Section 8.0 for the proper component placement and orientation.

7.0 Warranty

Buyer must notify HHI in writing within sixty (60) days of discovery of any alleged defect, if within the applicable warranty period.

All products sold by HHI are warranted to be free from defects in material and workmanship from date of shipment by HHI for the following periods:

- 1 year – Electric and Air Powered Hoists (excluding (N)ER2 Hoists and EQ/SEQ Hoists), Powered Trolleys, Powered Tiger Track Jibs and Gantries, Crane Components, Below the Hook Devices, Spare / Replacement Parts
- 2 years – Manual Hoists & Trolleys, Beam Clamps
- 3 years – (N)ER2 Hoists, EQ/SEQ Hoists, (T)EM/(T)SEM hoists, and RY Hoists
- 5 years – Manual Tiger Track Jibs and Gantries, Hoist Motor Brakes for EQ/SEQ, (T)EM/(T)SEM, and RY
- 10 years – (N)ER2 Brake, TNER Hoist Motor Brake, Tiger Track Workstation Cranes and Monorails

The product must be used in accordance with manufacturer's recommendations and must not have been subject to abuse, lack of maintenance, misuse, negligence, or unauthorized repairs or alterations.

Should any defect in material or workmanship occur during the above time period in any product, as determined by HHI's inspection of the product, HHI agrees, at its discretion, either to replace (not including installation) or repair the part or product free of charge. For customers in the U.S., delivery shall be made F.O.B. HHI's place of business. For international customers, delivery shall be made FCA HHI place of business, United States of America (Incoterms 2010).

No warranty claim will be honored without a valid proof of purchase. Customer must obtain a Return Goods Authorization as directed by HHI or its published repair center prior to shipping product for warranty evaluation. An explanation of the complaint must accompany the product. Product must be returned freight prepaid. Upon repair, the product will be covered for the remainder of the original warranty period. Replacement parts installed after the original warranty period will only be eligible for replacement (not including installation) for a period of one year from the installation date. If it is determined there is no defect, or that the defect resulted from causes not within the scope of HHI's warranty, the customer will be responsible for the costs of returning the product.

HHI DISCLAIMS ANY AND ALL OTHER WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, AS TO THE PRODUCT'S MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. HHI WILL NOT BE LIABLE FOR DEATH, INJURIES TO PERSONS OR PROPERTY OR FOR INCIDENTAL, CONTINGENT, SPECIAL OR CONSEQUENTIAL DAMAGES, LOSS OR EXPENSE ARISING IN CONNECTION WITH THE USE OR MISUSE OF THE PRODUCTS, REGARDLESS OF WHETHER THE DAMAGE, LOSS OR EXPENSE RESULTS FROM ANY ACT OR FAILURE TO ACT BY HHI, WHETHER NEGLIGENT OR WILLFUL, OR FROM ANY OTHER CAUSE.

8.0 Parts List

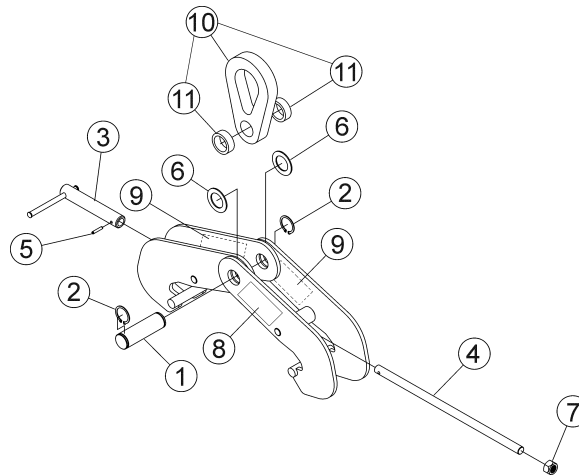


Figure Number	Part Name	Parts Per Clamp	1 Ton	2 Ton	3 Ton	5 Ton	10 Ton	
1	Main Pin	1	UBC1001920	UBC10019201	UBC1001919	UBC10019191	UBC1003104	
2	Snap Ring*	2	9004929		9004937		9004945	
	Spiral Retaining Ring	2	9015701		9015702		9015703	
3	Clamp Handle	1	UBC10008282		UBC10008281		UBC1003101	
4	Clamp Screw	1	UBC1003075					UBC1003076
5	Spring Pin	1	90054100					90054103
6	Bushing	2	UBCC8888016		UBC30221593		UBC30221595	
7	Lock Nut	1	UBC36786					UBC36789
8	Name Plate	1	80191	80192	80193	80194	80195	
9	Warning Tags	1	80190					
10	Suspender (Optional)	1	SK2		SK5		SK10	
11	Suspender Spacer (Optional)	2	UBC1001922		UBC1001921		UBC1003100	

*Earlier Version



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Certificate of Inspection and Test
Universal Beam Clamp

This certifies that the following Harrington product:

- Conforms to the latest versions of ASME BTH-1, ASME B30.16, ASME B30.20, and AS4991.
- Was thoroughly inspected.
- Was subjected to a static load test in accordance with the latest version of ASME B30.20.
- Was load tested on a test beam of maximum flange width and thickness for the rated capacity.

Code:	
Rated Capacity:	Ton
Serial No.:	
Test Date:	

Load Applied: _____ % of rated capacity

Other/Remarks: _____

Brian Schnee
Quality Manager

Chris White
Manager of Engineering