



**BISON**  
LIFTING EQUIPMENT

## Operation and Maintenance Manual



# **Bison Lever Hoist with Overload Protection**

## Introduction

This manual is provided by Bison Lifting Equipment covering the safe operation and maintenance procedures for the Lever Hoist with overload protection.

This manual contains instructions on installation, general operating procedures, and maintenance practices.

## Contents

1. Operator's Manual
2. Warnings & Maintenance
3. Test Certificate
4. Specifications and Parts list

## Initial Set Up

### Pre-Operation Inspection

Ensure the hoist is securely supported on whatever method of suspension is chosen, making sure the load capacity can be safely supported.

Before use, inspect the hoist's load chain for any twists, kinks, or damage.

***Do not operate the hoist if either the hoist or load chain show signs of damage.***

Before using the hoist, apply oil to the chain for easier operation and to prolong the life-span.

***Do not attempt to lengthen the load chain in any way.***

Next, inspect the hooks for signs of deformation and damage.

Replace a hook immediately if:

- *Safety latch no longer contacts the hook opening.*
- *The vertical angle of the hook is deformed.*
- *The hoist displays signs of corrosion or excessive wear.*

***Do not attempt to repair the hooks as this could weaken them.***

The brake mechanism must be kept clean and free from dirt and water. If the brake should slip during operation **STOP USE IMMEDIATELY.**

Please ensure the hoist brake can safely suspend and hold the weight of a heavy load at a safe height before relying on the mechanism for normal use.



## Operation

1. Fasten the top hook securely, ensuring the safety latch contacts the hook.
2. Fasten the bottom hook securely, ensuring the safety latch contacts the hook.  
Center the load within the neck of the hook.

***(NOTE: incorrectly positioning a hook could damage the hook as well as the load being lifted.)***

3. Place the selector switch in the center neutral position. This will allow free-wheel mode. (Remember: Chain will only free-wheel when there is no load) Take up the slack by pulling on the loose or free end or by turning the handwheel.
4. Move the selector switch to the 'UP' position. Ratchet the lever to raise or pull the load.
5. To release or lower the load, turn selector switch to the 'DOWN' position and ratchet the handle.

**Do NOT proceed to ratchet the hoist if the ratchet slips  
and the load chain does not move.  
This is a sign of overloading the hoist.**

With the selector switch in the 'UP' position, while pulling down on the hook-end of the chain or with a load attached, ratchet the lever to advance the load whilst listening for the clicking sounds. If the sounds are not present, or irregular, do not use the hoist. Have the hoist inspected and repaired by qualified personnel. Repeat the process with selector switched to the 'DOWN' position.

## Warnings

- During overhead lifting operations, personnel should NOT stand beneath the suspended load.
- Prevent the load chain from dragging over sharp edges or corners.
- Be cautious of having fingers caught in the mechanisms.
- ***Do NOT leave a suspended load unattended.***
- ***Do NOT attempt to lift people.***
- ***Do NOT use the load chain to basket or choke a load.***
- ***Do NOT drag or drop the hoist.***
- ***Do NOT put the hook through the loop of the chain.***  
***(only applicable on 2-fall models)***



## Maintenance

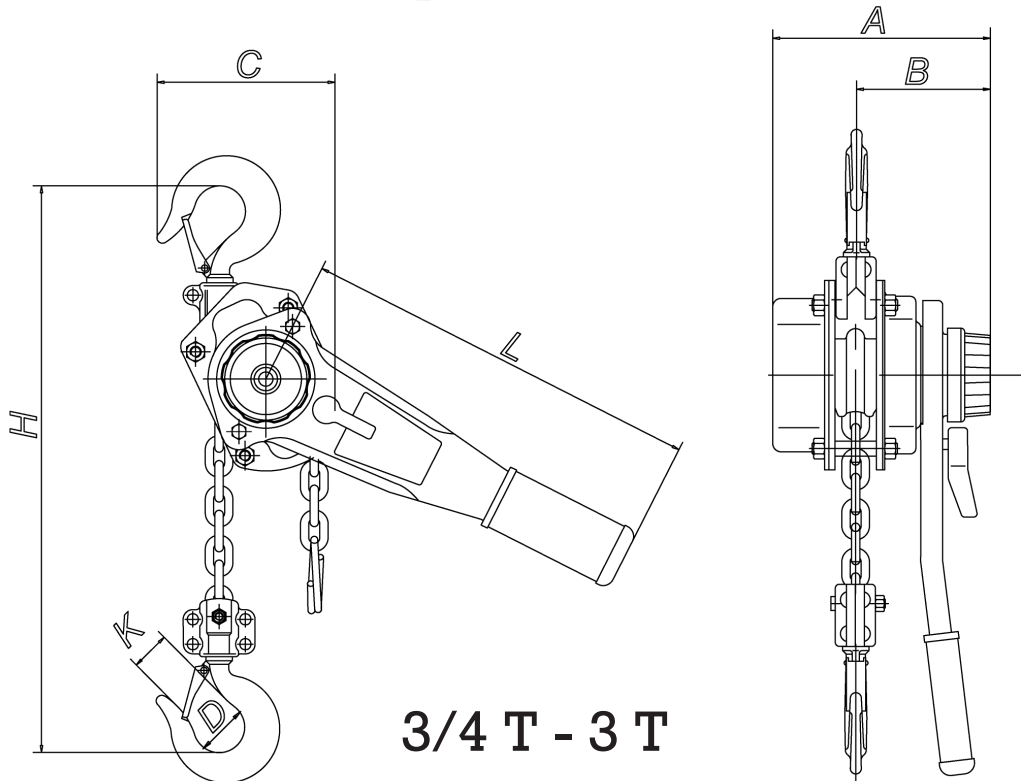
Make frequent and careful inspections of the hoist. Make sure the hoist and chain are sufficiently oiled, and that they are free of any sand, dirt, dust or other obstructions or abnormalities. Any hoists used outdoors should be covered or stored in a clean dry environment when not in use.

## Troubleshooting

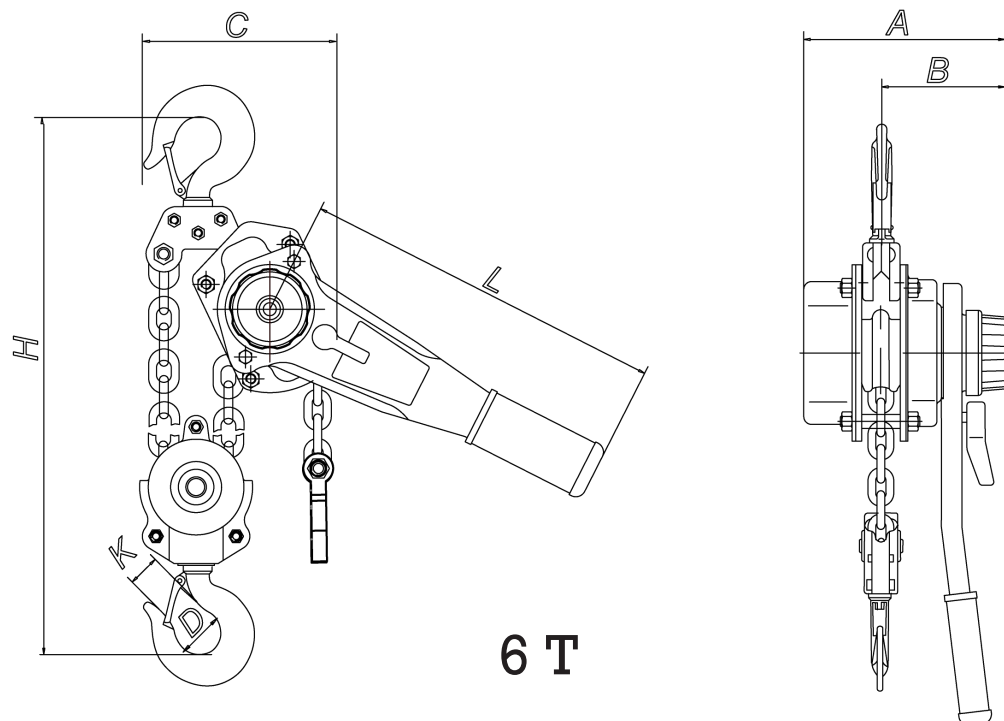
Trouble	Probable Cause	Remedy
Chain will not move in either direction.	Insufficient lubrication	Oil the hoist and load chain
	Hoist is dirty	Disassemble and clean out dust, dirt, or other foreign matter.  Oil the hoist after reassembly
	Selector switch is not in proper position	Toggle the selector switch to the desired action and attempt ratcheting.
Load chain will not advance during normal operation or advances with great difficulty.	There is an obstruction within the chain's path.	Operate the hoist in reverse action to loosen, clean and oil the hoist and the load chain.
	Selector switch is not in proper position	Toggle the selector switch to the desired action and attempt ratcheting.
Lever ratchets but load chain does not advance, only moves downward	Load is beyond hoist capacity	Decrease load or use larger hoist



## Specifications



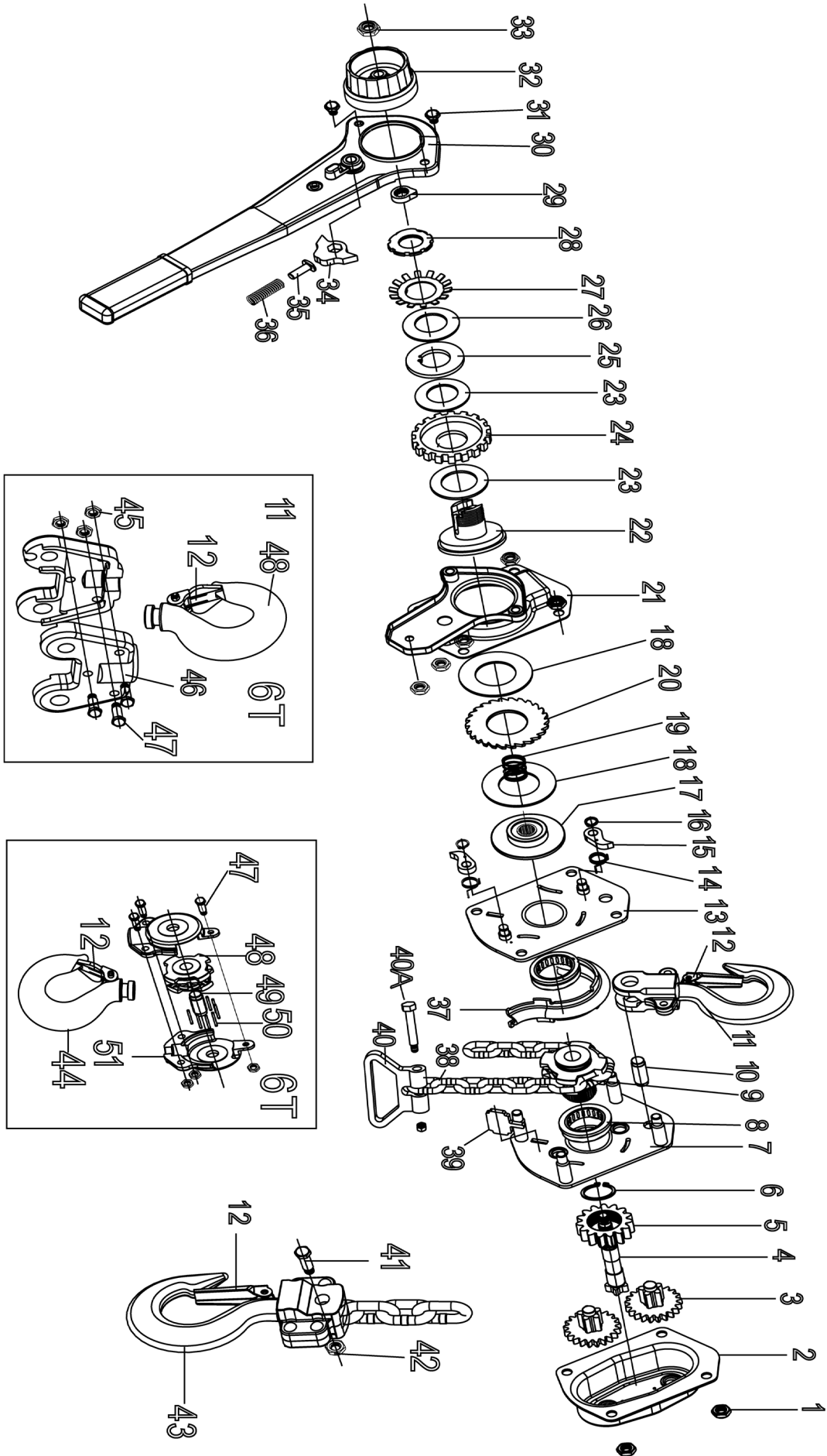
Model	Capacity (Tons)	Standard Lift (Feet)	Load chain diam. (Millimeters)	Chain fall lines	A (Inches)	B (Inches)	C (Inches)	D (Inches)	H (Inches)	L (Inches)	K (Inches)	Net Weight (Pounds)
LH75-OL	3/4	10 Ft.	6 mm	1	5.71 in	3.39 in	5.28 in	1.50 in	13.39 in	11.02 in	1.06 in	18 lbs
LH105-OL	1 1/2	10 Ft.	8 mm	1	6.89 in	3.94 in	5.91 in	1.89 in	14.96 in	16.14 in	1.42 in	26 lbs
LH30-OL	3	10 Ft.	10 mm	1	7.68 in	4.53 in	7.48 in	1.97 in	19.29 in	16.14 in	1.50 in	46 lbs
LH60-OL	6	10 Ft.	10 mm	2	7.68 in	4.53 in	9.53 in	2.56 in	24.41 in	16.14 in	1.89 in	77 lbs



**Subject to technical changes without prior notice**



- |                               |                              |                             |
|-------------------------------|------------------------------|-----------------------------|
| 1. Nut for Plate              | 21. Lever Cover              | 40A. Bolt for Chain Ring    |
| 2. Gear Cover Set             | 22. Load Limiter Hub         | 41. Bolt for Load Chain     |
| 3. Gear Set                   | 23. Brake Disc               | 42. Nut for Load Chain      |
| 4. Pinion Shaft               | 24. Change-over Ratchet Disc | 43. Bottom Hook             |
| 5. Lift Wheel Gear            | 25. Washer                   | 44. Bottom Hook for 6T      |
| 6. Snap Ring                  | 26. Butterfly Spring         | 45. Lock Nut                |
| 7. Gear Side Plate Assembly   | 27. Lock Washer              | 46. Upper Hook Holder       |
| 8. Bearing                    | 28. Nut                      | 47. Bolt for Hook Holder    |
| 9. Load Sheave                | 29. Cam                      | 48. Bottom Hook Load Sheave |
| 10. Upper Hook Pin            | 30. Operating Handle Kits    | 49. Load Sheave Shaft       |
| 11. Top Hook                  | 31. Bolt for Lever           | 50. Needle Bearing          |
| 12. Latch Kits                | 32. Hand Wheel               | 51. Bottom Hook Housing     |
| 13. Brake Side Plate Assembly | 33. Castle Nut               |                             |
| 14. Retaining Spring          | 34. Change-over Pawl         |                             |
| 15. Retaining Pawl            | 35. Pushing Up Pin           |                             |
| 16. Snap Ring for Pawl        | 36. Pushing Up Spring        |                             |
| 17. Friction Hub              | 37. Chain Guide              |                             |
| 18. Brake Disc                | 38. Load Chain               |                             |
| 19. Wire Snap Ring            | 39. Chain Stripper           |                             |
| 20. Ratchet Gear              | 40. Chain Ring               |                             |





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For more information visit or call

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