BISON
LIFTING EQUIPMENT

Operation and Maintenance Manual

Manual Chain Hoist with Overload Protection

Introduction

This manual is provided by Bison Lifting Equipment covering the safe operation and maintenance procedures for the Manual Chain Hoist with overload protection. This manual contains instructions on installation, general operating procedures, and maintenance practices.

Contents

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

Below is the general procedure for operating the hoist:

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 on the neck of the hook.

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

3. Pull the hand chain from either side to lift or lower the load chain.

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)***

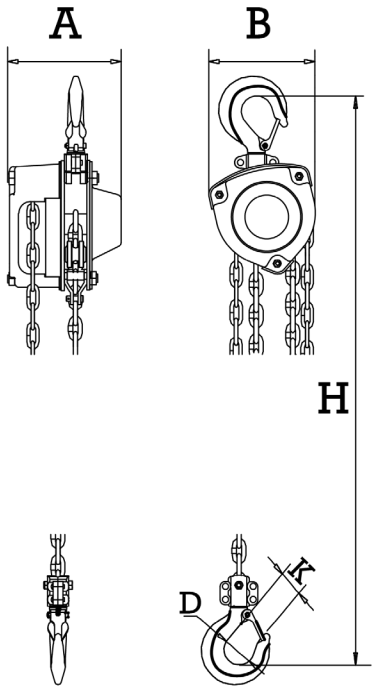
Maintenance

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.

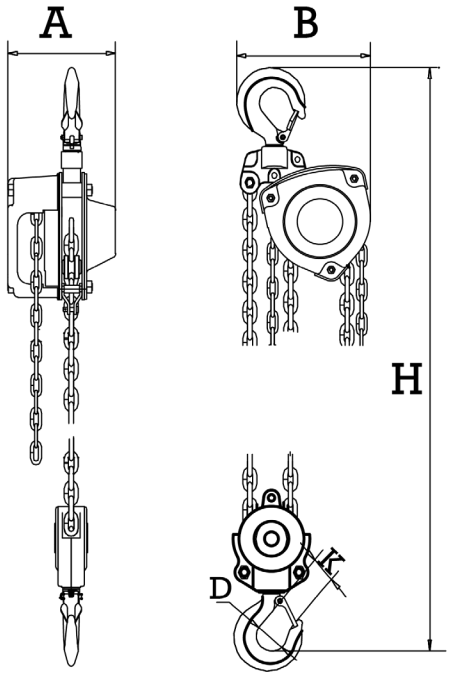
Troubleshooting

Trouble	Probable Cause	Remedy
Hand chain will not move in either direction.	Insufficient lubricaiton	Oil the hoist and load chain.
	Hoist is dirty	Disassemble and clean out dust, dirt or other foreign matter. Oil the hoist after reassembly.
Hand chain moves but load chain does not advance, only moves downward.	Load is beyond hoist capacity	Decrease load or use larger hoist
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.

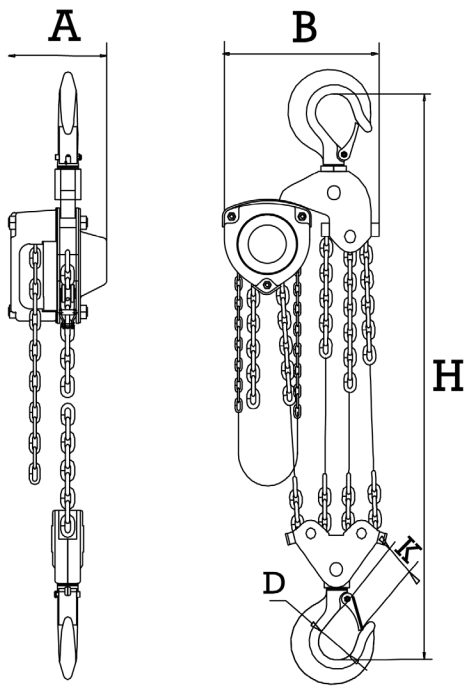
Specifications



1/2 T - 2 T



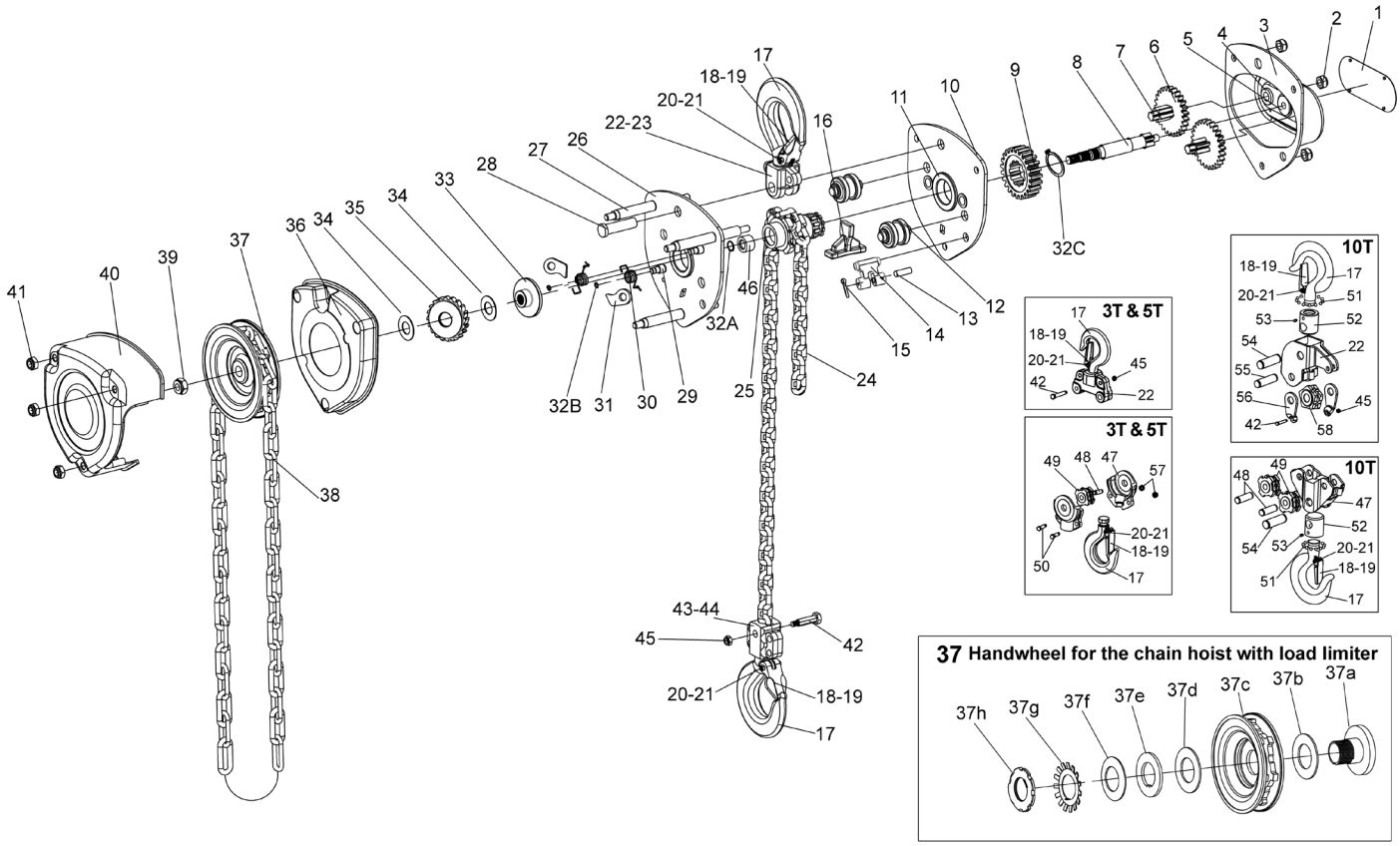
3 T - 5 T



10 T

Model	Capacity (Tons)	Standard Lift (Feet)	Load chain diam. (Milimeters)	Chain fall lines	A (Inches)	B (Inches)	D (Inches)	H (Inches)	K (Inches)	Net Weight (Pounds)
CH05-OL	1/2	10 Ft.	6 mm	1	4.92 in	4.65 in	1.38 in	13.39 in	0.91 in	19 lbs
CH10-OL	1	10 Ft.	6 mm	1	5.70 in	6.30 in	1.50 in	14.80 in	1.06 in	22 lbs
CH20-OL	2	10 Ft.	8 mm	1	6.10 in	7.80 in	1.89 in	17.40 in	1.42 in	35 lbs
CH30-OL	3	10 Ft.	8 mm	2	6.10 in	7.95 in	1.97 in	19.69 in	1.50 in	51 lbs
CH50-OL	5	10 Ft.	10 mm	2	7.44 in	11.02 in	2.24 in	20.09 in	1.89 in	88 lbs
CH100-OL	10	10 Ft.	10 mm	4	7.87 in	18.23 in	3.15 in	30.12 in	2.13 in	143 lbs

Subject to technical changes without prior notice



1. Name Plate
2. Nut
3. Gear Cover
4. Steel Bushing
5. Bearing
6. Gear
7. Short Shaft
8. Pinion Shaft
9. Lift wheel Gear
10. Gear Side Plate Assembly
11. Bearing
12. Chain Guide
13. Chain Stop Pin
14. Chain Stop
15. Split Pin
16. Chain Stripper
17. Upper Hook
18. Safety Latch
19. Spring
20. Inner Hexagon Screw
21. Nut
22. Upper Hook Holder
23. Rivet
24. Load Chain
25. Load Sheave
26. Brake Side Plate Assembly
27. Support Rod
28. Upper Hook Pin
29. Pin
30. Retaining Spring
31. Retaining Pawl
32A. Snap ring for hole
32B. Snap ring for shaft (Small)
32C. Snap ring for shaft (Large)
33. Friction Hub
34. Brake Disc
35. Rachet Gear
36. Brake Cover
37. Handwheel for the chain hoist with load limiter
37a. Load Limiter Base
37b. Friction Disc (A)
37c. Hand Wheel
37d. Friction Disc (B)
37e. Washer
37f. Spring
37g. Stop Washer
37h. Adjusting Nut
38. Hand Chain
39. Nut
40. Handwheel Cover
41. Nut
42. Chain Bolt
43. Lower Hook Holder
44. Rivet
45. Nut
46. Full Needle Bearing
47. Bottom Hook Housing
48. Load Sheave Shaft
49. Bottom Hook Load Sheave
50. Bolts
51. Ball Bearings
52. Hook Holder
53. Screw
54. Hook Suspension Shaft
55. Top Hook Assembly Shaft
56. Chain Holder
57. Nuts
58. Top Hook Load Sheave

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