

SAFETY, OPERATIONS & PARTS MANUAL

BEAVER[®]

**New Generation
3G Industrial**

Chain Lever Blocks

500kg, 750kg, 1.5 tonne,
3 tonne, 6 tonne and
9 tonne model capacities



CERTIFIED QUALITY
MANAGEMENT SYSTEM
ISO 9001
SYDNEY - HEAD OFFICE

COMPLIES TO AS 1418.2



Operating Instructions



Instructions

Principle and Operation of Free Chain Adjusting System - Free Chain Adjusting Principle

⚠ WARNING

IMPROPER chain lever block use could result in death or serious injury. To avoid these hazards:

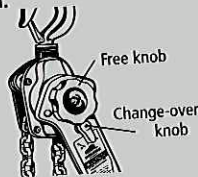
⚠ WARNING

NEVER operate the free chain adjusting device while load is applied to chain lever block.

⚠ WARNING

NEVER touch the free knob during lifting or lowering of the load.

NOTE: The brake is engaged automatically during lowering or lifting of the load. Free chain adjusting is achieved by releasing the brake during no-load.



- | Step | Action |
|------|--|
| 1. | Set the change-over knob to "N". The change-over knob is located under the free knob on the hand lever. |
| 2. | Rotate the "Free" knob slightly in desired direction. |
| 3. | Pull the load chain to move the hook to the desired location. |
| 4. | By "setting" the change-over knob to "Up" or "Down", this will reset the brake and allow the hoist to be operated with the hand lever. |

Method

Principle of Lifting and Lowering Operation - Lifting and Lowering Principle

By setting the change-over knob to "UP" or "DOWN", and operating the lever, the female thread and the change-over pawl inside the hoist engage and the female thread rotates in either the lifting or lowering direction. The brake works instantly after the lever operation stops and holds the load.

Lifting and Lowering

Select direction of movement and ratchet hand lever back and forth, see below:

Chain movement	Change-over knob	Hand lever rotation that produces movement:
Raise	"UP"	Clockwise
Lower	"DOWN"	Counterclockwise

NOTE: If hand lever movement does not produce lifting, pull down the load chain while ratcheting until slack is removed.

Safety Procedures



DO NOT operate the lever block unless it is rigged to pull in a straight line from hook to hook, and the frame is allowed to freely swivel on the upper hook.

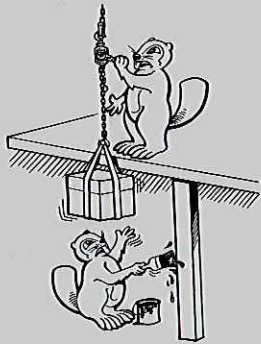


DO NOT hold the load chain in a loaded state while operating the lever block as serious injury may occur if the brake did not operate properly.



DO NOT wrap the load chain around the load and hook onto itself as a choker chain or bring the load in contact with the lever block.

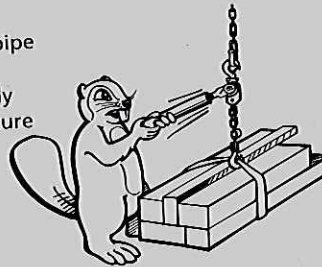
DO NOT use this lever block for lifting or moving people, or lifting loads over people.



DO NOT take up the load chain to the point where the end ring or lower hook becomes jammed against the frame.



DO NOT use an extension pipe or cheater bar to apply more pressure to the lever handle.



Maintenance Checklist



**LEVER
BLOCK**

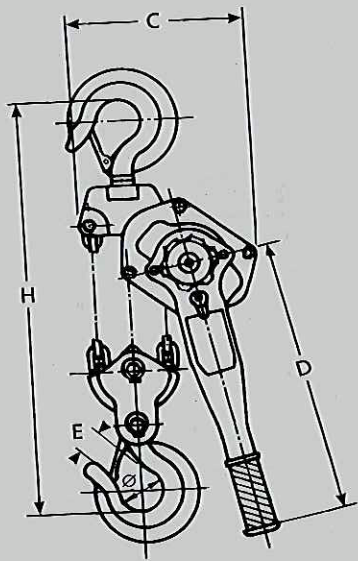
Points of Inspection	Type of Inspections	Outcome
Hook Top/Bottom Deformation of hook Damage to the hook Bend in the Neck of hook Suspension Pin Side plates and suspension plates Rivets, bolts and Nuts Safety Catch Chain Chain Guide rollers	visual visual visual visual visual visual visual visual visual	There should be no deformation of the hook. Safety catch should close against the tip of the hook securely. There should be no crack or serious damage Hook should hand square to lifting unit or top hook or to side plates (bottom block) Should not be bent, cracked or worn There should be no cracks, damage or wear All fasteners should be tight Should close properly Should be properly lubricated and free from bends, nicks or stretch, rust and dust Should rotate freely and keep chain in the pockets of the chain wheel(s)
Functions Lifting and Lowering Braking	Lift and lower a light load of 25kg Lift and lower the full safe working load	Hoist should operate smoothly and easily Pawl should click during lifting Lifting and lowering operations should be smooth and without any of the following defects 1. Load falls if chain is released 2. Load falls while lowering 3. Load slips

Specifications

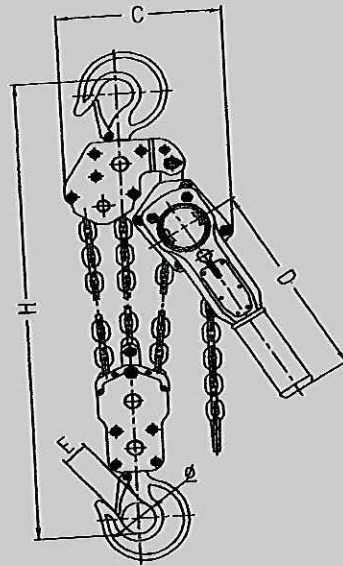
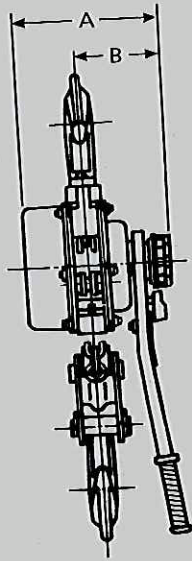


Product Code		504050	504075	504150	504300	504600	504900
(W.L.L.)		500Kg	750Kg	1.5tonne	3 tonne	6 tonne	9 tonne
Working Load Limit							
Standard Lift	M	1.5m	1,5m	1.5m	1.5m	1.5m	1.5m
Test Load	kN	7.3	11	22	44.1	73.5	100
Headroom	H mm	305	303	365	485	600	770
Effort on lever to lift full load	N	340	196	206	324	343	420
No. of load chain falls	-	1	1	1	1	2	3
Diameter of load chain	mm	5	6	7	10	10	10
Length of lever handle	D mm	288	290	410	410	410	388
Dimensions	A	110	139	174	200	200	200
	B	80	84	108	115	115	122
	C	122	153	160	185	230	338
	Ø	0	0	0	0	0	67
	E	23	26	31	40	45	53
Nett weight	Kg	4.5	7	11	20	30	45

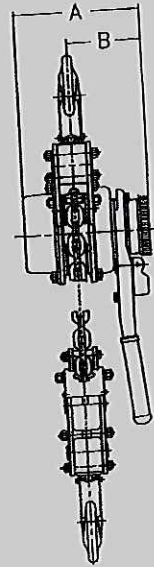
Dimensions



6 tonne



9 tonne



Parts List



Key No	No. Req	Part Name	500kg	750kg	1500kg	3000kg	6000kg	9000kg
A	1	Gear Case Cover	594050A	594075A	594150A	594300A	594600A	594900A
B	1	Driving Shaft c/w Nut	594050B	594075B	594150B	594300B	594600B	594900B
C	1	Interim Gear Assembly	594050C	594075C	594150C	594300C	594600C	594900C
D	1	Splined Gear	594050D	594075D	594150D	594300D	594600D	594900D
E	1	Right Side Plate	594050E	594075E	594150E	594300E	594600E	594900E
F	1	Chain Sprocket	594050F	594075F	594150F	594300F	594600F	594900F
G	1	Top Hook Assembly	594050G	594075G	594150G	594300G	594600G	594900G
H	1	Left Side Plate	594050H	594075H	594150H	594300H	594600H	594900H
I	1	Top Hook Pin	594050I	594075I	594150I	594300I	594600I	594900I
J	1	Brake Seat	594050J	594075J	594150J	594300J	594600J	594900J
K	1	Spring	594050K	594075K	594150K	594300K	594600K	594900K
L	1	Ratchet Disc	594050L	594075L	594150L	594300L	594600L	594900L
M	1	Female Thread Disc	594050M	594075M	594150M	594300M	594600M	594900M
N	1	Brake Cover	594050N	594075N	594150N	594300N	594600N	594900N
O	1	Handle Case Assembly	594050O	594075O	594150O	594300O	594600O	594900O
P	1	Friction Disc	594050P	594075P	594150P	594300P	594600P	594900P

Notes



LEVER
BLOCK

DISTRIBUTED BY:



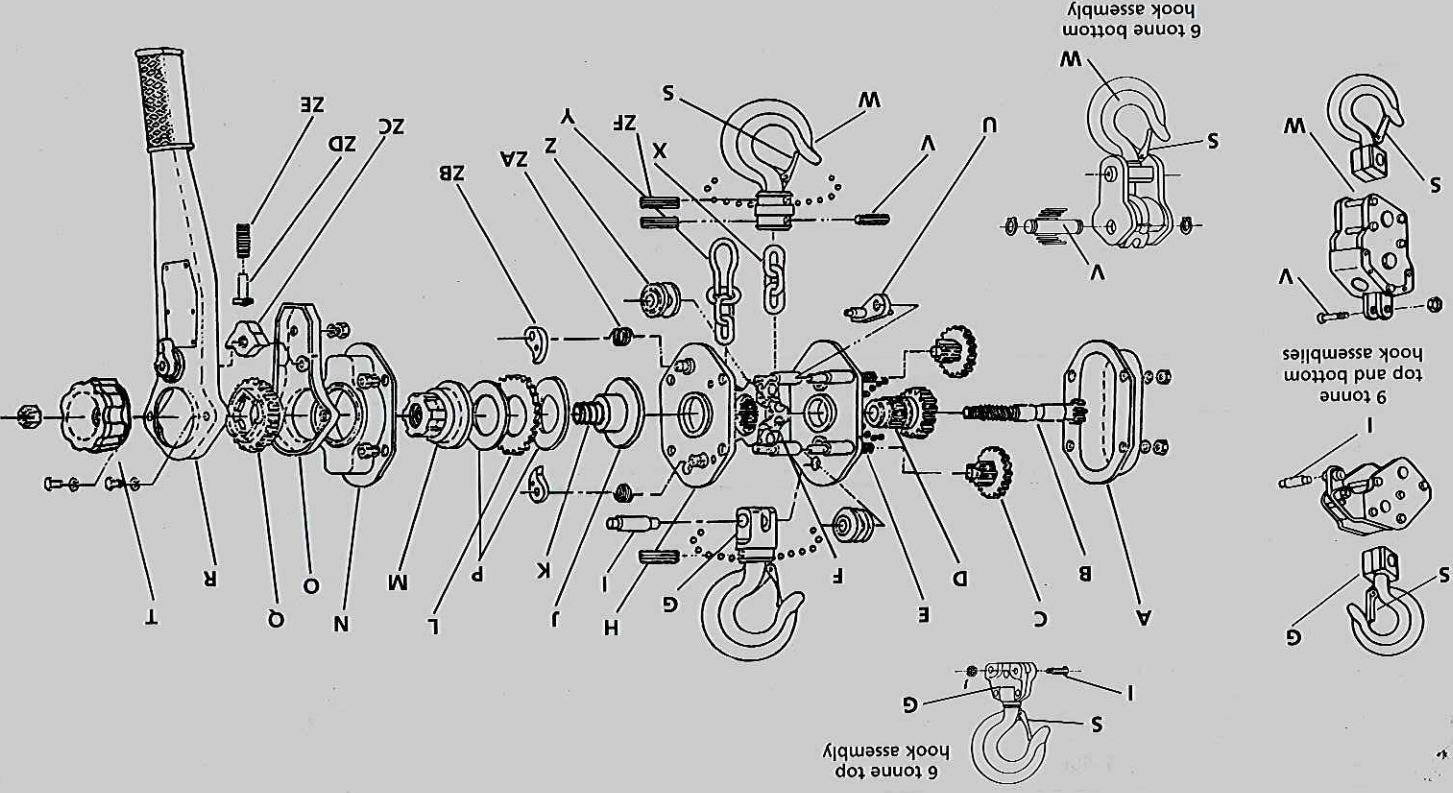
Sydney, Melbourne, Adelaide,
Port Lincoln, Perth, Brisbane,
Bundaberg, Mackay, Darwin
Auckland NZ, Hong Kong
Milan Italy

Specifications and dimensions subject to change without notice.
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Spare Parts



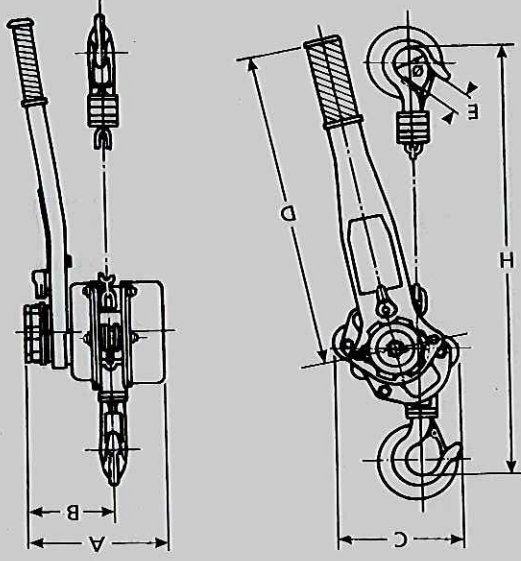
LEVER
BLOCK



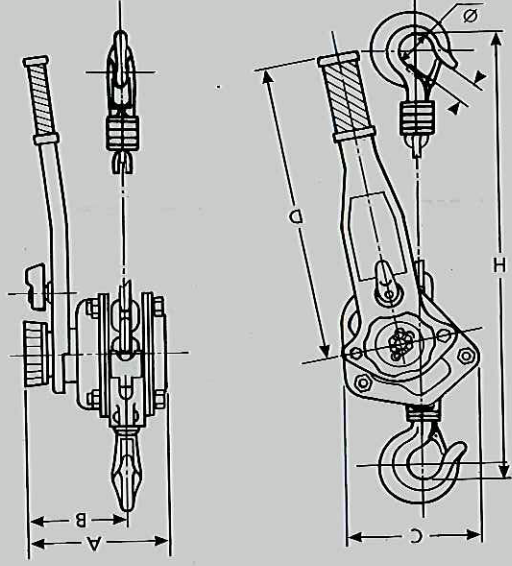
Parts List



Key No	No. Req	Part Name	500kg	750kg	1500kg	3000kg	6000kg	9000kg
Q	1	Change over Wheel	594050Q	594075Q	594150Q	594300Q	594600Q	594900Q
R	1	Lever Handle Assembly	594050R	594075R	594150R	594300R	594600R	594900R
S	1	Latch Kit	594050S	594075S	594150S	594300S	594600S	594900S
T	1	Free Wheel Knob	594050T	594075T	594150T	594300T	594600T	594900T
U	1	Stripper	594050U	594075U	594150U	594300U	594600U	594900U
V	1	Chain Hook Pin	594050V	594075V	594150V	594300V	594600V	594900V
W	1	Bottom Hook Assembly	594050W	594075W	594150W	594300W	594600W	594900W
X	1	Load Chain	149005	149006	149007	149010	149010	149010
Y	1	Chain End Link	594050Y	594075Y	594150Y	594300Y	594600Y	594900Y
Z	1	Guide Roller	594050Z	594075Z	594150Z	594300Z	594600Z	594900Z
ZA	1	Pawl Spring	594050ZA	594075ZA	594150ZA	594300ZA	594600ZA	594900ZA
ZB	1	Pawl	594050ZB	594075ZB	594150ZB	594300ZB	594600ZB	594900ZB
ZC	1	Change Over Pawl	594050ZC	594075ZC	594150ZC	594300ZC	594600ZC	594900ZC
ZD	1	Spring Shaft	594050ZD	594075ZD	594150ZD	594300ZD	594600ZD	5904900ZD
ZE	1	Change Over Spring	594050ZE	594075ZE	594150ZE	594300ZE	594600ZE	594900ZE
ZF	1	Spring for Bottom Hook	594050ZF	594075ZF	594150ZF	594300ZF	594600ZF	594900ZF



750Kg, 1.5tonne, 3 tonne



500 Kg

Trouble Shooting



Problem	Cause	Solution
1. Chain is jammed	<p>Load is not being pulled in a vertical direction</p> <p>Pull is at an angle greater than 60°</p> <p>Load swivel has ceased operating</p> <p>Block is dirty, or hampered with foreign matter</p> <p>Fall of chain is tangled</p> <p>Block is overloaded</p> <p>Brake mechanism has jammed</p> <p>Swivel has ceased operating</p> <p>Over-spinning</p> <p>Wear and tear</p> <p>Poor maintenance and inspection</p> <p>Poor storage and handling</p> <p>Block is overloaded</p> <p>Brake mechanism worn</p> <p>Brake mechanism worn</p>	<p>Line load to be positioned vertically</p> <p>Reduce angle of pull</p> <p>a) Unload load and de-swivel</p> <p>b) Replace swivel</p> <p>Refer to maintenance and repair section of this manual</p> <p>Unravel and straighten chain</p> <p>Load block to recommended capacity only</p> <p>Return to supplier for repair</p> <p>a) Unload load and de-swivel</p> <p>b) Replace swivel</p> <p>Ensure that bolts and hook are properly secured</p> <p>Replace block</p> <p>Refer manual for maintenance and inspection details</p> <p>Always store unit in a dry and clean area</p> <p>Load block to recommended capacity only</p> <p>Return to supplier for repair and testing</p> <p>Return to supplier for repair and testing</p>
2. Load is Spinning	<p>Over-spinning</p> <p>Wear and tear</p> <p>Poor maintenance and inspection</p> <p>Poor storage and handling</p> <p>Block is overloaded</p> <p>Brake mechanism worn</p> <p>Brake mechanism worn</p>	<p>Ensure that bolts and hook are properly secured</p> <p>Replace block</p> <p>Refer manual for maintenance and inspection details</p> <p>Always store unit in a dry and clean area</p> <p>Load block to recommended capacity only</p> <p>Return to supplier for repair and testing</p> <p>Return to supplier for repair and testing</p>
3. Block Seized	<p>Over-spinning</p> <p>Wear and tear</p> <p>Poor maintenance and inspection</p> <p>Poor storage and handling</p> <p>Block is overloaded</p> <p>Brake mechanism worn</p> <p>Brake mechanism worn</p>	<p>Ensure that bolts and hook are properly secured</p> <p>Replace block</p> <p>Refer manual for maintenance and inspection details</p> <p>Always store unit in a dry and clean area</p> <p>Load block to recommended capacity only</p> <p>Return to supplier for repair and testing</p> <p>Return to supplier for repair and testing</p>
4. Slippage of load	<p>Over-spinning</p> <p>Wear and tear</p> <p>Poor maintenance and inspection</p> <p>Poor storage and handling</p> <p>Block is overloaded</p> <p>Brake mechanism worn</p> <p>Brake mechanism worn</p>	<p>Ensure that bolts and hook are properly secured</p> <p>Replace block</p> <p>Refer manual for maintenance and inspection details</p> <p>Always store unit in a dry and clean area</p> <p>Load block to recommended capacity only</p> <p>Return to supplier for repair and testing</p> <p>Return to supplier for repair and testing</p>
5. Block not braking	<p>Over-spinning</p> <p>Wear and tear</p> <p>Poor maintenance and inspection</p> <p>Poor storage and handling</p> <p>Block is overloaded</p> <p>Brake mechanism worn</p> <p>Brake mechanism worn</p>	<p>Ensure that bolts and hook are properly secured</p> <p>Replace block</p> <p>Refer manual for maintenance and inspection details</p> <p>Always store unit in a dry and clean area</p> <p>Load block to recommended capacity only</p> <p>Return to supplier for repair and testing</p> <p>Return to supplier for repair and testing</p>

Care and Maintenance

Care in use

1. Always examine the hoist carefully before use - your life may be at stake.

2. Keep load chain clean and oiled to prevent undue load chain.

damage or wear.

When in use, avoid dragging the load chain through

dirt or mud.

3. When the hoist is used outdoors or in a corrosive

environment, ensure that it is regularly and adequately

lubricated.

4. Do not operate the hoist if you do not have a clear

view of the bottom hook and the load.

WARNING

If a load hook has been distorted, due to an overload on the hoist, then the hoist lifting unit will also be damaged. A hoist which has been overloaded must be withdrawn from service immediately.



Maintenance

The maintenance instructions contained in this manual are intended as a guide to the necessary procedures to be carried out by competent and experienced personnel. Beaver Sales Pty Limited, do not accept responsibility either for the manner in which the instructions in this manual are observed or for any consequence there of. Your Lever Block dealer recommends two forms of maintenance to be carried out on your Lever Block periodically.

The two forms include:

1. A Visual Check (prior to each use); Refer to table on page 7 for necessary checks. These checks can be carried out by the operator.
2. A Certified Check (conducted every 12 months); this type of inspection is to be carried out by authorised Beaver Distributor personnel only, as a complete service inclusive. This inspection is a certified check, in compliance with AS1418.2-1997.

Important Note: Always store unit in a clean and dry area. Ensure that all repair and maintenance work is carried out by qualified personnel, using only the specified genuine parts.

Safety Procedures

LEVER BLOCK
BEAVER

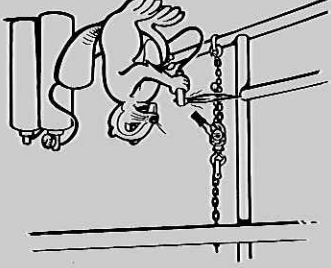
The following Safety section should form part of the safety rules for any plant where any hoist or other lifting equipment is being used, serviced or repaired. Any person (s) operating the hoist should read and observe the following safety instructions and the instructions in the Operating section, to avoid operating hazards.



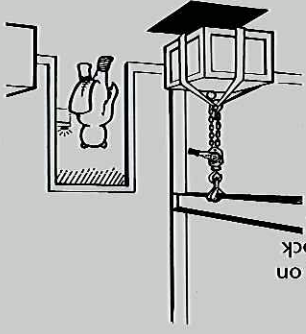
DO NOT shock load lever block, chain or hook.



DO NOT heat treat and weld any part of the lever block, especially the load chain.



DO NOT leave a load on the lever block unattended.



Preface

Congratulations on your Beaver Chain Lever Block purchase. The Beaver Chain Lever Block you have chosen, is a heavy duty hoist, designed to retain its operational features under normal operating conditions. In order to achieve years of satisfactory service from your Beaver Chain Lever Block a routine of careful operation, regular maintenance and lubrication should be applied. Prior to the operation, installation or maintenance of your Beaver Chain Lever Block, please read all the contents contained within this manual. At all times only competent and experienced personnel should operate, install or maintain this hoist. Failure to comply with the instructions contained within this manual can result in both physical and/or property damage. In keeping with statutory requirements, and best use for your Beaver Chain Lever Block we recommend a periodic maintenance check every 12 months via your Beaver distributor. Beaver's experienced and competent personnel will perform a complete service including preventative maintenance, spares and repairs service.

Commissioning

- Your Beaver Chain Lever Block has been tested, and conforms to Australian Standard AS1418.2-1997
- On completion of installation, but prior to your Beaver Chain Lever Block being put into regular service, the following procedures should be carried out -
1. Check that all joints and fasteners are tight and secure.
 2. Operate the hoist with both no load and full load, and check that the operation is smooth at all times.
 3. Check operation of hoist brake, under light load and full load conditions.
 4. Travelling units - run throughout the full extent of the runway, ensuring adequate clearance at all times.