



LEVER BLOCK

SAFETY OPERATIONS & PARTS MANUAL

BEAVER 3S LEVER BLOCK

250KG, 500KG, 800KG, 1.6T, 3.2T
6.3T & 9T MODEL CAPACITIES

OVERLOAD PROTECTION OPTIONAL



Complies to AS 1418.2

1300 783 606

www.beaver.com.au



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 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 chain lever block we recommend a periodic maintenance check every 12 months via your Beaver distributor.

Our experienced and competent personnel will perform a complete service including preventative maintenance, spares and repairs service.

COMMISSIONING

Your chain lever block has been tested and conforms to Australian Standard AS1418.2

On completion of installation, but prior to your 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.

OPERATING PRINCIPLE OF AN OVERLOAD PROTECTED LEVER BLOCK

The option of adding the overload protection. The unit is fitted with a slipping clutch mechanism which will prevent an overload from being lifted.

In the event of an overload trying to be lifted the clutch in the lever handle will slip, allowing the lever handle to be rotated whilst not engaging the gear box. Continual overloading of the unit must be avoided as the efficiency of the clutch may be impaired. The overload clutch is factory set and should only be adjusted or repaired by a Beaver authorised repairer. If there is any doubt as to the unit's ability to lift a load then don't. Remove the unit from service and have it checked by a Beaver authorised repairer.

INSTRUCTIONS

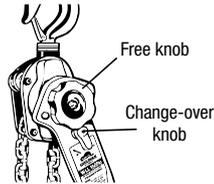
PRINCIPLE AND OPERATION OF FREE CHAIN ADJUSTING SYSTEM - FREE CHAIN ADJUSTING PRINCIPLE

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”	Counter clockwise

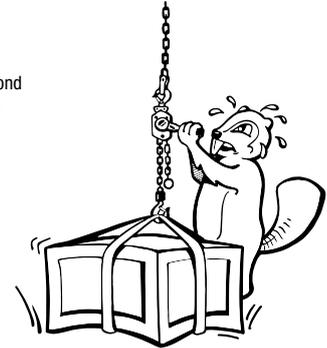
NOTE 1: If hand lever movement does not produce lifting, pull down the load chain while ratcheting until slack is removed.

NOTE 2: PRE-LOAD is the minimum load that must be applied to the lever block before the braking system activates. The PRE-LOAD on beaver Lever block is set approximately between 2% - 4% of the WLL (Working Load Limit) of the particular lever block. eg. (250kg = 5kg-10kg), (500kg = 10kg-20kg) (800kg = 16kg-32kg), (1.6 tonne = 32kg-64kg), (3.2 tonne = 64kg-128kg), (6.3 tonne = 126kg-252kg), (9 tonne = 180kg-360kg).

The following safety procedures 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.

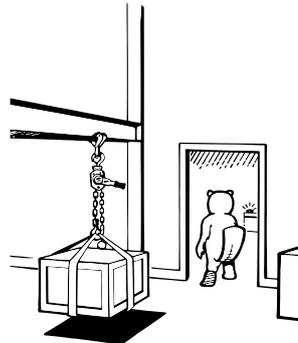
DO NOT
load beyond
the rated
capacity.



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



DO NOT
leave a load on
the lever block
unattended.



DO NOT
shock load
lever block,
chain or hook.





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.

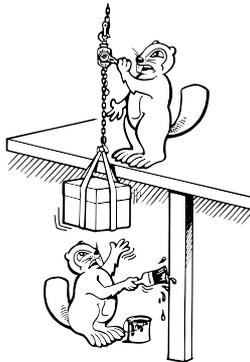


DO NOT hold the load chain in a loaded state while operating the lever block as serious injury may occur if the brake did not operate properly.

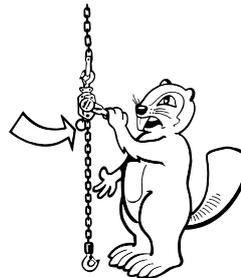


DO NOT wrap the load chain around the load and hook onto itself as a choker chain, or bring the load in contact with the lever block.

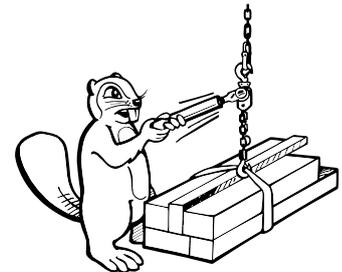
DO NOT use this lever block for lifting or moving people, or lifting loads over people.



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.



CARE IN USE

1. Always examine the hoist carefully before use - your life may be at stake. Look for cracks or damage, particularly with hooks and load chain.
2. Keep load chain clean and oiled to prevent undue 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 Brands , 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 :

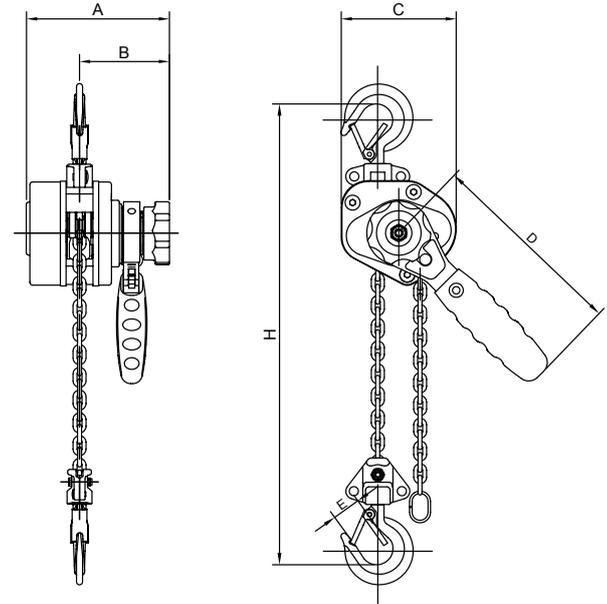
1. **VISUAL CHECK** (prior to each use): Refer to table on page 7 for necessary checks. These checks can be carried out by the operator.
2. **CERTIFIED CHECK** (conducted every 12 months): this type of inspection is to be carried out by authorised Beaver Distributor personnel only, as a complete service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

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.

POINTS OF INSPECTION	TYPE OF INSPECTIONS	OUTCOME
Hook Top/Bottom		
Deformation of hook	visual	There should be no deformation of the hook. Safety catch should close against the tip of the hook securely.
Damage to the hook	visual	There should be no crack or serious damage
Bend in the Neck of hook	visual	Hook should hand square to lifting unit or top hook or to side plates (bottom block)
Suspension Pin	visual	Should not be bent, cracked or worn
Side plates and suspension plates	visual	There should be no cracks, damage or wear
Rivets, bolts and Nuts	visual	All fasteners should be tight
Safety Catch	visual	Should close properly
Chain	visual	Should be properly lubricated and free from bends, nicks or stretch, rust and dust
Chain Guide rollers	visual	Should rotate freely and keep chain in the pockets of the chain wheel(s)
Functions		
Lifting and Lowering	Lift and lower a light load no less than the recommended Pre-Load described on pg.3	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:
Braking	Lift and lower the full working load limit not exceeding the WLL	<ol style="list-style-type: none"> 1. Load falls if chain is released 2. Load falls while lowering 3. Load slips

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

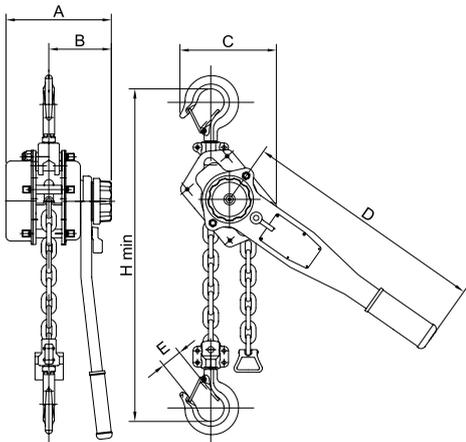
PRODUCT CODE		506025	506050
Working Load Limit	(WLL)	250kg	500kg
Standard Lift	M	1.5	1.5
Test Load	kN	4.9	9.8
Headroom	H mm	200	250
Effort on lever to lift full load	N	210	320
No. of load chain falls	-	1	1
Diameter of load chain	mm	4	4
Dimensions (mm)	A	87	100.5
	B	55.5	62.5
	C	68	81
	D	145	160
	E	21	24.5
Net Weight	Kg	1.5	2.5



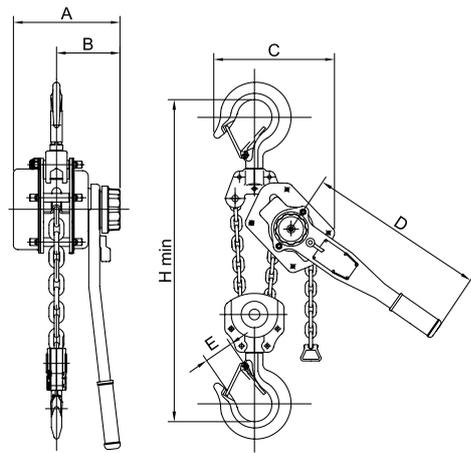
WARNING

**OVERLOAD PROTECTION UNAVAILABLE ON 506025 & 506050
NOT SUITABLE FOR UNDERGROUND MINING**

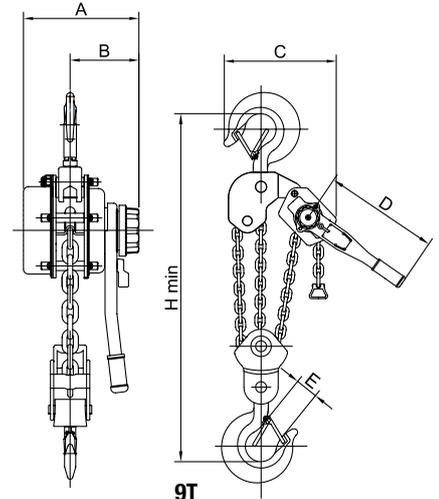
Product Code		506080	506160	506320	506630	506900
Product Code Overload Model		507080	507160	507320	507630	507900
Working Load Limit	(WLL)	800kg	1.6 Tonne	3.2 Tonne	6.3 Tonne	9 Tonne
Standard Lift	M	1.5	1.5	1.5	1.5	1.5
Test Load	kN	11.3	22.5	45	90	135
Headroom	H mm	325	380	480	620	700
Effort on lever to lift full load	N	140	240	320	340	360
No. of load chain falls	-	1	1	1	2	3
Diameter of load chain	mm	6x18	8x24	10x30	10x30	10x30
Dimensions (mm)	A	148	172	200	200	200
	B	90	98	115	115	115
	C	136	160	180	235	316
	E	30	35	40	50	60
	D	280	410	410	410	410
Net Weight	Kg	7	11	21	31	47



800kg, 1.6T, 3.2T



6.3T



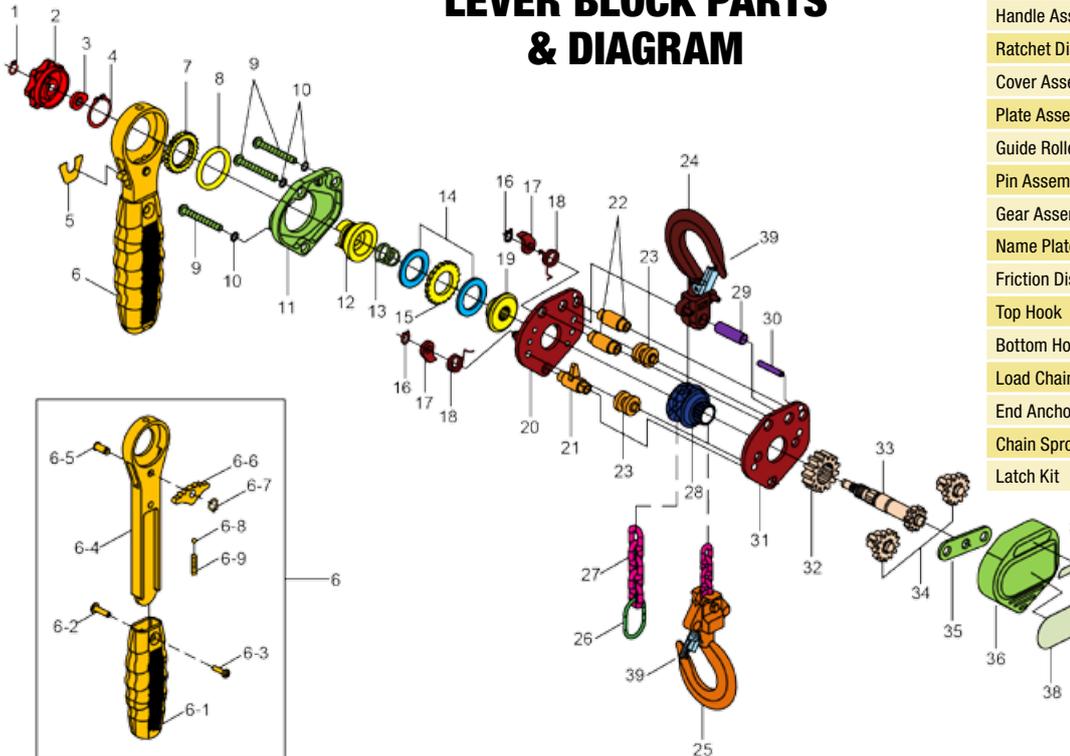
9T

Hand Wheel Assembly	Key#	Qty
Snap Ring ø7	1	1
Hand wheel	2	1
Stop Screw Splined Gear	3	1
Snap Ring ø25	4	1
Handle Assembly	Key#	Qty
Destination Board	5	1
Handle	6	1
Handle Sleeve	6-1	1
Screw Of Handle Sleeve 3.5	6-2	1
Screw Of Change Handle Sleeve M2.3x6mm	6-3	1
Lever Handle Assembly	6-4	1
Pin Of Lever Handle M3.5	6-5	1
Change Over Pawl Screw M3.5	6-6	1
Snap Ring Of Change Over Pawl ø6	6-7	1
Set Ball Of Spring ø4	6-8	1
Change Over Pawl Spring	6-9	1
Ratchet Disc Assembly	Key#	Qty
Change Over Gear	7	1
Handle Sleeve	8	1
Brake Set A	12	1
Ratchet Disc	15	1

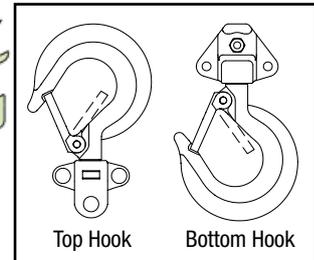
Brake Set B	19	1
Cover Assembly	Key#	Qty
Hand Cover Pin M6x45mm	9	3
Ring Of Stay ø6	10	3
Hand Cover	11	1
Pinion Shaft Spring	13	1
Reinforced Plate	35	1
Gear Cover	36	1
Plate Assembly	Key#	Qty
Snap Ring ø6	16	2
Pawl	17	2
Pawl Spring	18	2
Left Side Plate	20	1
Right Side Plate	31	1
Guide Roller Assembly	Key#	Qty
Stripper	21	1
Support Pin	22	2
Guide Roller	23	2
Pin Assembly	Key#	Qty
Top Hook Pin	29	1

Stripper Pin	30	1
Gear Assembly	Key#	Qty
Splined Gear	32	1
Pinion Shaft	33	1
Disc Gear	34	2
Name Plate Assembly	Key#	Qty
Name Plate A	37	1
Name Plate B	38	1
Friction Disc	14	2
Top Hook	24	1
Bottom Hook	25	1
End Anchor	26	1
Load Chain	27	1
Chain Sprocket	28	1
Latch Kit	39	2

250KG & 500KG LEVER BLOCK PARTS & DIAGRAM



Part Name	250kg	500kg
Hand Wheel Assembly	506025-1	506050-1
Handle Assembly	506025-2	506050-2
Ratchet Disc Assembly	506025-3	506050-3
Cover Assembly	506025-4	506050-4
Plate Assembly	506025-5	506050-5
Guide Roller Assembly	506025-6	506050-6
Pin Assembly	506025-7	506050-7
Gear Assembly	506025-8	506050-8
Name Plate Assembly	506025-9	506050-9
Friction Disc	506025-10	506050-10
Top Hook	506025-11	506050-11
Bottom Hook	506025-12	506050-12
Load Chain	506025-13	506050-13
End Anchor	506025-14	506050-14
Chain Sprocket	506025-15	506050-15
Latch Kit	506025-16	506050-16

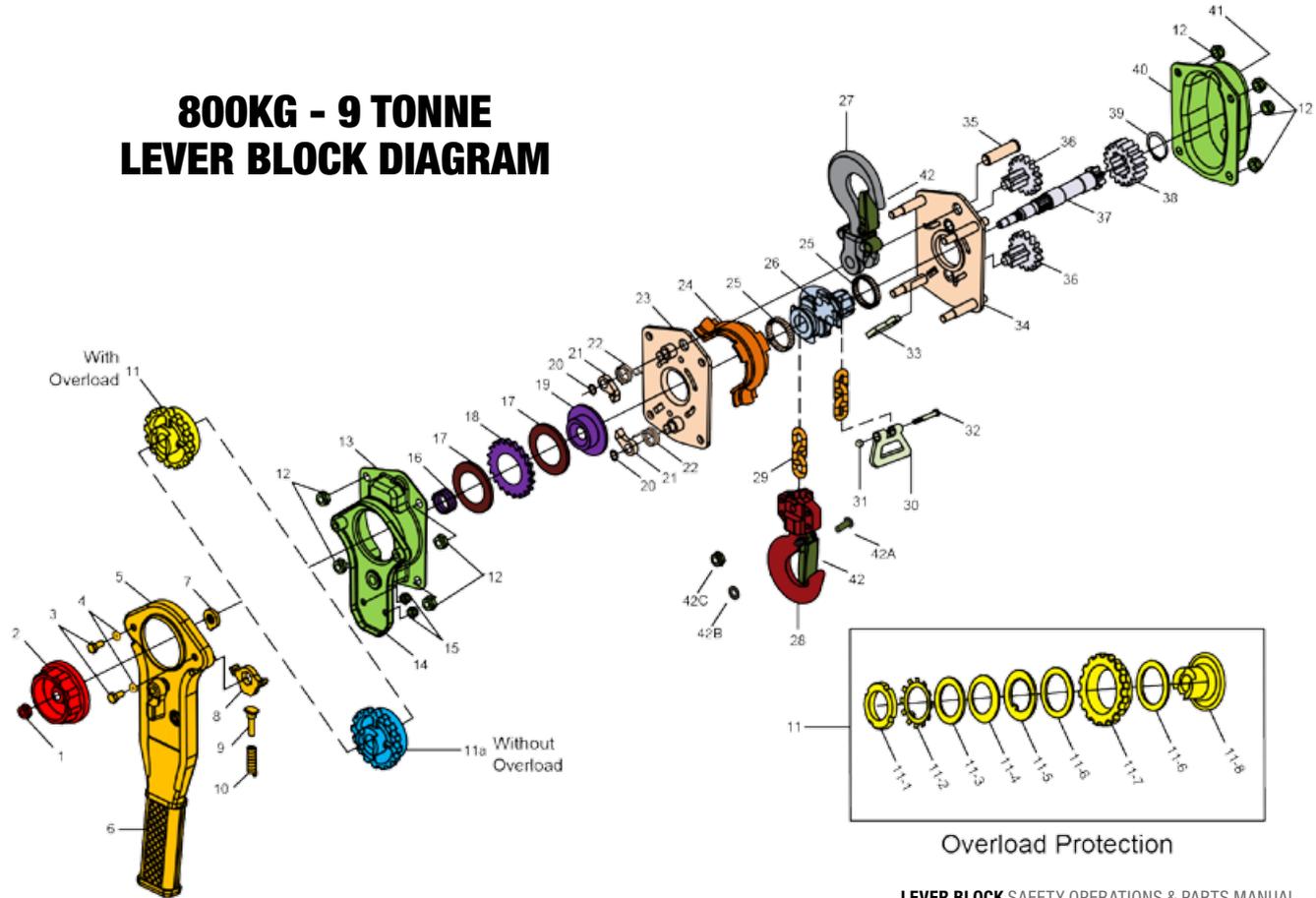


Hand Wheel Assembly	Key#	Qty
Hand Wheel Nut	1	1
Hand Wheel	2	1
Lever Hand Assembly	Key#	Qty
Screw Bolt	3	2
Washer Of Screw Bolt	4	2
Lever Handle	5	1
Hand Grip	6	1
Locking Plate	7	1
Change Over Pawl	8	1
Shaft Over Pawl	9	1
Spring Shaft	10	1
Over Load Protection Assembly	Key#	Qty
Locking Nut - Overload Protection	11-1	1
Brake Set Ring - Overload Protection	11-2	1
Plain washer - Overload Protection	11-3	1
Spring Ring - Overload Protection	11-4	1
Clamp Over Gear With Overload	11-5	1
Friction Disc - Overload Protection	11-6	2
Ratchet Gear - Overload Protection	11-7	1
Brake Set - Overload Protection	11-8	1

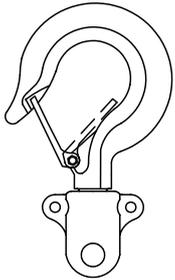
Cover Assembly	Key#	Qty
Brake Cover Nut	12	8
Brake Cover	13	1
Hand Cover	14	1
Hand Over Nut	15	2
Gear Case	40	1
Top Hook Assembly c/w Latch Kit	27	1
Bottom Hook Assembly c/w Latch Kit	28	1
Load Chain	29	1
Brake Assembly	Key#	Qty
Ratchet Disc Spring	16	1
Ratchet Disc	18	1
Brake Set	19	1
Plate Assembly	Key#	Qty
Pawl Snap	20	2
Pawl	21	2
Pawl Spring	22	2
Side Plate A	23	1
Bearing Sprocket	25	2
Side Plate B	34	1
Top Hook Shaft	35	1

Anchor Assembly	Key#	Qty
End Anchor	30	1
Hex Nut End Anchor	31	1
Pin End Anchor	32	1
Stripper	33	1
Gear Assembly	Key#	Qty
Disc Gear	36	2
Pinion Shaft	37	1
Splined Gear	38	1
Snap Ring Splined Gear	39	1
Change Over Gear Without Overload	11A	1
Friction Disc	17	2
Load Chain Cover	24	1
Load Sprocket	26	1
Name Plate	41	1
Latch Kit	42	2
Latch Bolt	42A	1
Latch Spring	42B	1
Latch Nut	42C	1

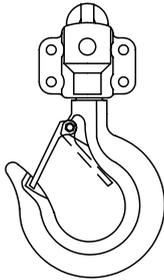
800KG - 9 TONNE LEVER BLOCK DIAGRAM



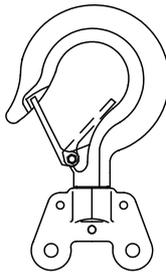
Part Name	800kg	1.6T	3.2T	6.3T	9T
Hand Wheel Assembly	506080-1	506160-1	506320-1	506630-1	507900-1
Lever Hand Assembly	506080-2	506160-2	506320-2	507900-2	507900-2
Over Load Protection Assembly	506080-3	506160-3	506320-3	506630-3	507900-3
Cover Assembly	506080-4	506160-4	506320-4	506630-4	507900-4
Top Hook Assembly	506080-5	506160-5	506320-5	506630-5	507900-5
Bottom Hook Assembly	506080-6	506160-6	506320-6	506630-6	507900-6
Load Chain	506080-7	506160-7	506320-7	506320-7	506320-7
Brake Assembly	506080-8	506160-8	506320-8	506630-8	507900-8
Plate Assembly	506080-9	506160-9	506320-9	506630-9	507900-9
Anchor Assembly	506080-10	506160-10	506320-10	506630-10	507900-10
Gear Assembly	506080-11	506160-11	506320-11	506630-11	507900-11
Latch Kit	506080-12	506160-12	506320-12	506630-12	507900-12
Name Plate	506080-13	506160-13	506320-13	506630-13	507900-13
Change Over Gear Without Overload	506080-14	506160-14	506320-14	506630-14	507900-14
Friction Disc	506080-15	506160-15	506320-15	506630-15	507900-15
Load Chain Cover	506080-16	506160-16	506320-16	506630-16	507900-16
Load Sprocket	506080-17	506160-17	506320-17	506630-17	507900-17



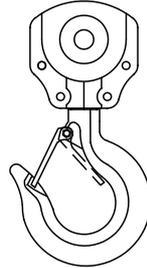
Top Hook



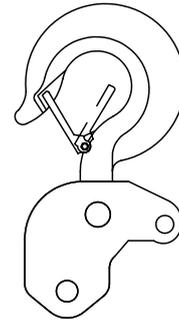
Bottom Hook



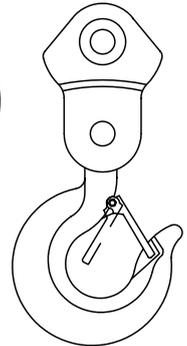
Top Hook



Bottom Hook



Top Hook



Bottom Hook

800KG, 1.6 TONNE & 3.2 TONNE

6.3 TONNE

9 TONNE

IMPORTANT INFORMATION

1 YEAR LIMITED WARRANTY

Beaver offers a one year limited warranty on this product.

This warranty is applicable from 1st January 2012 and supersedes all previous warranties.

Beaver Brands (A business unit of Bunzl Brands and Operations Pty Ltd) warrants to the original retail consumer and purchaser that this product will be free from defects in materials and workmanship for one year from the date the product was purchased ('the warranty period').

Beaver Brands will rectify any defect in materials or workmanship appearing within the warranty period by repairing or replacing the product. Beaver Brands will offer a refund of the purchase price if the product cannot be readily and quickly repaired or replaced. Beaver Brands reserves the right to determine whether the product contains any defects in materials or workmanship covered by this warranty.

The benefits offered by this warranty are in addition to your rights and remedies that may apply at law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

HOW TO MAKE A WARRANTY CLAIM

To make a claim under this warranty, the product or part must be returned for examination to an authorised service centre nominated by Beaver

Brands together with proof of purchase such as the dated sales receipt and an explanation of the problem to be rectified. An authorised service centre can be identified by contacting Beaver Brands at the address or telephone number provided.

Any costs incurred in making a claim under this warranty or returning the product to an authorised service centre is to be borne by the person making the claim unless otherwise agreed by Beaver Brands. If Beaver Brands determines the product contains a defect in materials or workmanship that is covered by this warranty then Beaver Brands will bear the cost of returning the repaired product or replacement product to the person making the claim. If Beaver Brands determines the product does not contain a defect in materials or workmanship covered by this warranty then the cost of returning the product will be at the expense of the person making the claim.

EXCLUSIONS

This warranty does not apply to any defect caused by, or associated with misuse, abuse, lack of maintenance, negligence or accidents, repairs or alterations not authorised by Beaver.

CONTACT

BEAVER BRANDS

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ERSKINE PARK NSW 2759

1300 783 606

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