

Operating Instructions & Safety Manual



Lever Hoist Manual

**Rated Capacities
0.5 through to 9 tonnes**

**Note: Operator must read and fully
understand the operating instructions
before using this product.**

Products supplied comply with the essential health & safety requirements of the Machinery Directive 2006/42/EC, the Supply of Machinery (Safety) Regulations 2008 and the Health & Safety at Work etc Act 1974 section 6.

**HEAVY
DUTY**

www.gtlifting.co.uk

George Taylor & Company Lifting Gear (Midlands) Ltd.
Unit 4, Fryers Road, Walsall WS2 7LZ UK

T +44 (0)1922 490220 **F** +44 (0)1922 490229 **E** office@gtlifting.co.uk

Safety Information



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SIGNAL WORDS

Note use of the following signal words **DANGER**, **WARNING** & **CAUTION** with safety messages. The appropriate signal word for each has been selected using the following guidelines:

DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. The signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes cannot be guarded.

WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. Every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator can avoid many accidents by observing the following precautions in this manual. To avoid personal injury, study the following precautions and insist those working with you, or you yourself, follow them.

Replace any Caution, Warning, Danger or Instruction safety label that is not readable or is missing.

Do not attempt to operate this equipment under the influence of alcohol or drugs. Review safety instructions with all users.

Operator should be a competent person. **DO NOT ALLOW PERSONS TO OPERATE OR ASSEMBLE THIS UNIT UNTIL THEY HAVE DEVELOPED A THOROUGH UNDERSTANDING OF SAFETY PRECAUTIONS AND HOW IT WORKS.**

Never exceed the limit of a life. If it's ability to do a job, or to do so safely is in question - **DON'T TRY IT.**

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Introduction



Unpacking

Congratulations on your GT Heavy Duty Lever Hoist purchase. The GT Heavy Duty Lever Hoist 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 GT Heavy Duty Lever Hoist, a routine of careful operation, regular maintenance and lubrication should be applied.

Prior to the operation, installation or maintenance of your GT Heavy Duty Lever Hoist, please read all the contents contained within this manual. At all times only competent and experience 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 GT Heavy Duty Lever Hoist we recommend a periodic maintenance check every 12 months via either your local GT branch or qualified personnel of GT Heavy Duty products.

GT Lifting UK's experienced and competent personnel can arrange for a complete service including preventative maintenance, spares and repairs service.

Commissioning

Your GT Heavy Duty Lever Hoist has been tested, and complies with our interpretation of the performance requirements of BS EN 13157.

On completion of installation, but prior to your GT Heavy Duty Lever Hoist being put into regular service, the following procedures should be carried out;

1. Check that all fittings and fasteners are tight and secure.
2. Operate the hoist with both minimum 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.

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Operating Instructions



Instructions

Principle and Operation of Chain Adjusting System.

WARNING

IMPROPER Lever Hoist use, could result in death or serious injury. To avoid these hazards:

WARNING

NEVER Operate the chain adjusting device while load is applied to Lever Hoist.

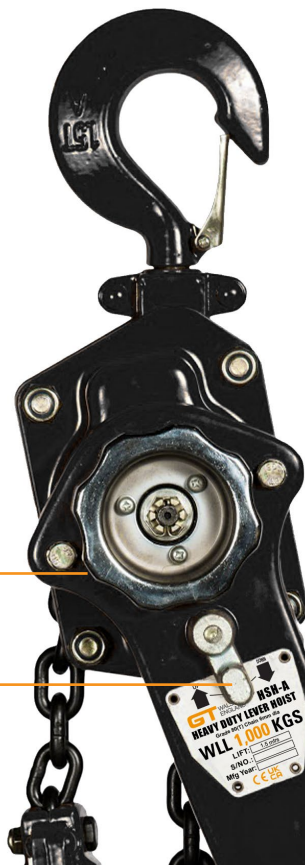
WARNING

NEVER Touch the grip ring during lifting or lowering of the load.

NOTE:

The brake is engaged automatically during lowering or lifting of the load. In order to activate the brake mechanism, it is necessary to apply the following minimum loads.

500 KGS = 15 KGS
750 KGS = 22.5 KGS
1,000 KGS = 30 KGS
1,500 KGS = 45 KGS
2,000 KGS = 60 KGS
3,000 KGS = 90 KGS
6,000 KGS = 180 KGS
9,000 KGS = 270 KGS



Grip Ring

Change-over
Lever

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Operating Instructions Steps



Method

Principle of Lifting & Lowering Operation - Lifting & Lowering Principle.
By setting the change-over lever 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.

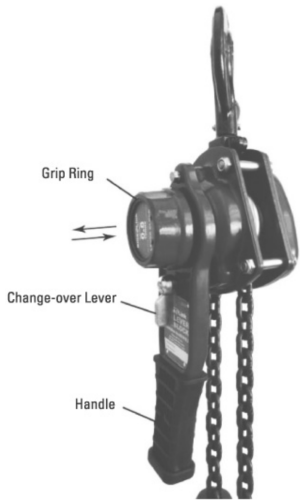
Before Lifting a Load:

- 1. Before the lever hoist is used, ensure that the load chain is lightly lubricated.
- 2. Do not operate the lever hoist unless it is rigged to pull in a straight line from hook to hook.

Lifting and Lowering

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

Chain movement	Change-over Lever	Hand lever rotation that produces movement:
Raise	“UP”	Clockwise
Lower	“DOWN”	Counterclockwise



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Safety Procedures



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.

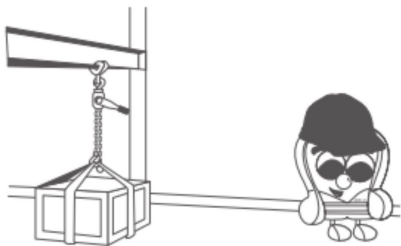
DO NOT load beyond the rated capacity.



DO NOT heat treat and **DO NOT** weld any part of the Lever Hoist, especially the load chain.



DO NOT leave a load on the Lever Hoist unattended.



DO NOT shock load Lever Hoist, chain or hook



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Safety Procedures (cont'd)



DO NOT operate the chain lever hoist 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 hoist 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 hoist.



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.



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Care & Maintenance



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. 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, the hoist lifting unit will 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. GT Lifting does not accept responsibility either for the manner in which the instructions in this manual are observed or for any consequence thereof. GT Lifting recommends two forms of maintenance to be carried out on your Lever Hoist periodically. The two forms include:

1. A Visual Check (prior to each use); refer to Care In Use information on the left for necessary checks. These checks can be carried out by the operator.
2. A Certified Check (conducted at least every 12 months); this type of inspection is to be carried out by authorised GT Lifting personnel only. The maximum interval between inspections is one year, but frequency may vary according to legislation in force in the country in which the products are used. In the case of continuous or particularly heavy use the case frequency of inspections must be increased accordingly.

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.

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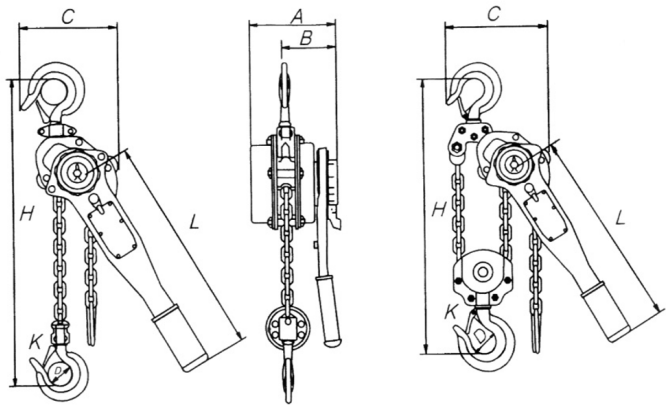
Maintenance Check List



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	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 hang 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 load as per minimum load chart Lift and lower the full rated capacity	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

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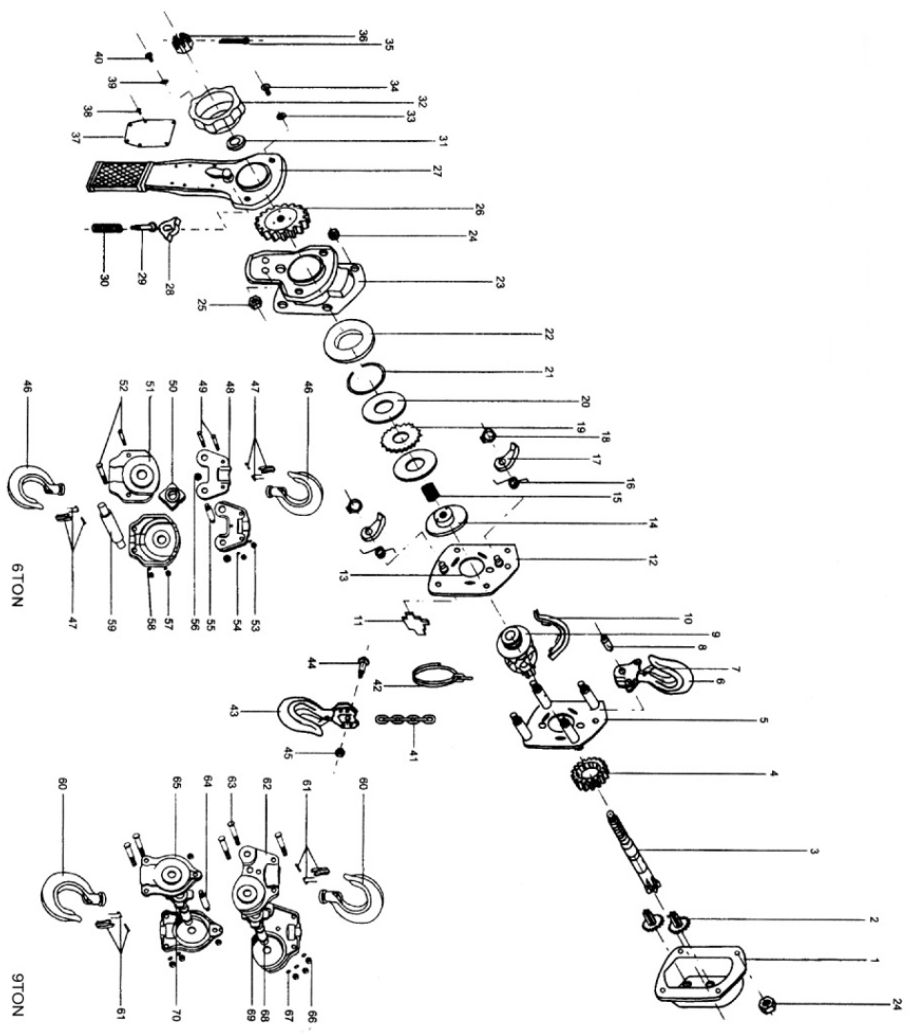
Specifications & Dimensions



Rated Capacity (t)		0.75	1	1.5	2	3	6	9
Running Test Load (kN)		11	15	22.5	30	45	90	135
Standard Lift (m)								
Effort Req to Lift Rated Load (N)		140	140	220	240	320	340	360
No. of Load Chain Falls		1	1	1	1	1	2	3
Load Chain Dia (mm)		6	6	7.1	8	10	10	10
Dimensions (mm)	A	148	148	172	180	200	200	200
	B	90	90	98	98	115	115	115
	C	136	136	160	160	180	235	330
	D	40	40	44	46	50	64	85
	H	320	320	380	380	480	600	700
	L	280	280	410	410	410	410	410
	K	27	27	34	36	38	48	57
Net Weight (kg)		7	7	10	11.8	17.5	28.5	45
Extra weight per mtr extra lift (kg)		0.8	0.8	1.4	1.4	2.2	4.4	6.6

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Spare Parts Diagram (0.75-9t)



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Spare Parts List (0.75-9t)



Fig. No.	Description
1.	Gear Case Assembly
2.	Disk Gear Assembly
3.	Drive Shaft
4.	Splined Gear
5.	Gear Side Plate Assembly
6.	Top Hook Assembly
7.	Safe Clip Assembly
8.	Top Hook Shaft
9.	Load Sheave
10.	Guide Plate
11.	Stripper
12.	Lever Side Plate Assembly
13.	Bearing Race
14.	Disk Hub
15.	Free Spring
16.	Pawl Spring
17.	Pawl
18.	Snap Ring
19.	Ratchet Disk

Fig. No.	Description
20.	Friction Disk
21.	Wire Snap Ring
22.	Female Thread Grip
23.	Brake Cover Assembly
24.	Nut for Gear Cover
25.	Nut for Gear Cover
26.	Change over Gear
27.	Lever Handle Assembly
28.	Change over Pawl
29.	Spring Seat
30.	Change over Spring
31.	Bushing
32.	Hand Wheel
33.	Lock Washer
34.	Screw
35.	Split Pin
36.	Castle Nut

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Spare Parts List (0.75-9t)



Fig. No.	Description
37.	Name Plate
38.	Rivet
39.	Lock Washer
40.	Screw
41.	Load Chain
42.	Chain Ring
43.	Bottom Hook Assembly
44.	Chain Pin
45.	Nut for Gear Cover
46.	6t Hook
47.	Safe Clip Assembly
48.	6t Top Hook Frame
49.	Screw
50.	Move Wheel
51.	6t Bottom Hook Frame
52.	Screw
53.	Nut

Fig. No.	Description
54.	Lock Washer
55.	6t Pin
56.	Nut for Gear Cover
57.	Nut
58.	Lock Washer
59.	Move Wheel Pin
60.	9t Hook
61.	Safe Clip Assembly
62.	9t Top Hook Frame
63.	Screw
64.	9t Bolt
65.	9t Bottom Hook Frame
66.	Nut
67.	Lock Washer
68.	Move Wheel Pin
69.	Roller
70.	Move Wheel

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



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