Operating Instructions & Safety Manual

Lever Hoist Manual

Rated Capacities
0.25 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.

Safety Information

CONTENTS

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 Viper Lever Hoist purchase. The GT Viper 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 Viper Lever Hoist, a routine of careful operation, regular maintenance and lubrication should be applied.

Prior to the operation, installation or maintenance of your GT Viper 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 Viper Lever Hoist we recommend a periodic maintenance check every 12 months via either your local GT branch or qualified personnel of GT Viper 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 Viper 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 Viper 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.

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.

250 KGS = 10 KGS
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

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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.

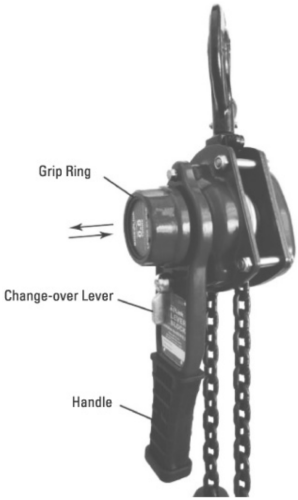
Before Lifting a Load:

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



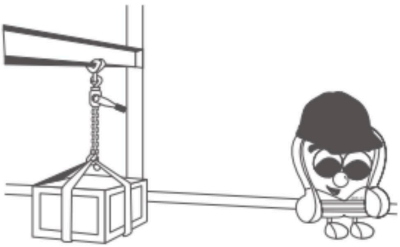
Safety Procedures

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

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 there of. 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 frequence may very 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 frequence 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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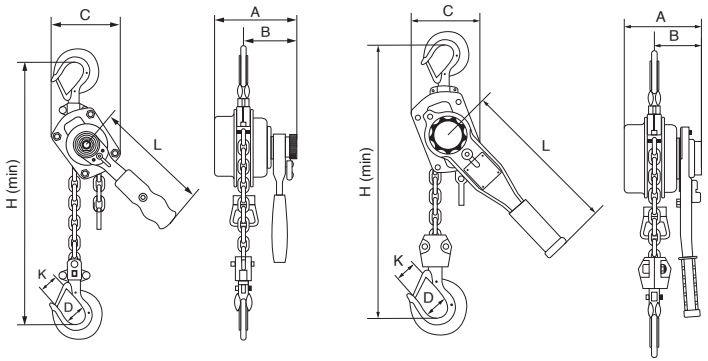
Maintenance Check List

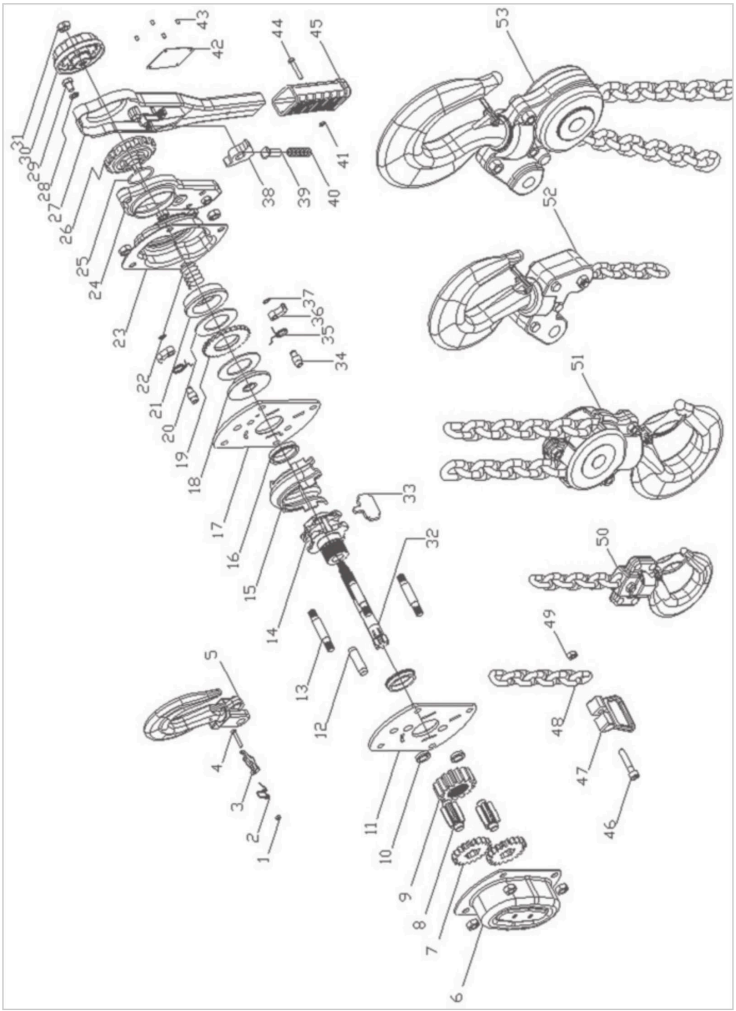
Points of Inspection	Type of Inspections	Outcome
Hook Top/Bottom		
Deformation of hook	visual	There should be no deformation of the hook. Safety catch should close against the tip of the hook securely.
Damage to the hook	visual	There should be no crack or serious damage.
Bend in the neck of hook	visual	Hook should hang 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 load as per minimum load chart	Hoist should operate smoothly and easily Pawl should click during lifting
Braking	Lift and lower the full rated capacity	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 & Dimensions



Rated Capacity (t)		0.25	0.5	0.75	1	1.5	2	3	6	9
Running Test Load (kN)		3.75	7.5	11	15	22.5	30	45	90	135
Standard Lift (m)		1.5								
Effort Req to Lift Rated Load (N)		160	200	180	180	380	380	450	500	550
No. of Load Chain Falls		1	1	1	1	1	1	1	2	3
Load Chain Dia (mm)		4	5	6	6	8	8	10	10	10
Dimensions (mm)	A	119	130	148	148	172	180	200	200	200
	B	79	83	90	90	98	105	115	115	115
	C	90.5	112	136	136	160	160	180	225	235
	D	31	36	40	40	44	46	50	64	85
	H	237	283	320	320	380	380	480	600	740
	K	24	25.5	28	28	38	38	42	50	57
	L	168	178	250	250	300	300	375	375	410
Net Weight (kg)		3.2	4.5	7.4	7.4	11.6	11.6	20	29.4	45
Extra weight per mtr extra lift (kg)		0.41	0.52	0.8	0.8	1.4	1.4	2.2	4.4	6.6

Spare Parts Diagram (0.75-9t)



Spare Parts List (0.75-9t)

Fig. No.	Description
1.	Self Locking Nut
2.	Latch Spring
3.	Safety Latch
4.	Hex Bolt
5.	500-3,000kgs Top Hook Assembly
6.	Hoist Cover Assembly
7.	Disc Gear
8.	Load Shaft
9.	Spline Gear
10.	Steel Bushing
11.	Right Side Plate
12.	Hook Shaft
13.	Suspension Bar
14.	Load Chain Sprocket
15.	Guide Roller
16.	Solid Bearing
17.	Left Side Plate
18.	Brake Base
19.	Ratchet Gear
20.	Friction Disc
21.	Brake Disc
22.	Free Spring
23.	Ratchet Gear Cover
24.	Self Locking Nut
25.	Latch Spring
26.	Safety Latch
27.	Hex Bolt
28.	500-3,000kgs Top Hook Assembly

Fig. No.	Description
29.	Hoist Cover Assembly
30.	Disc Gear
31.	Load Shaft
32.	Spline Gear
33.	Steel Bushing
34.	Right Side Plate
35.	Hook Shaft
36.	Suspension Bar
37.	Load Chain Sprocket
38.	Guide Roller
39.	Solid Bearing
40.	Left Side Plate
41.	Brake Base
42.	Ratchet Gear
43.	Friction Disc
44.	Brake Disc
45.	Free Spring
46.	Ratchet Gear Cover
47.	End Ring
48.	Load Chain
49.	Self Locking Nut
50.	500-3,000kgs Bottom Hook Assembly
51.	6-9t Bottom Hook Assembly
52.	6t Top Hook Assembly
53.	9t Top Hook Assembly

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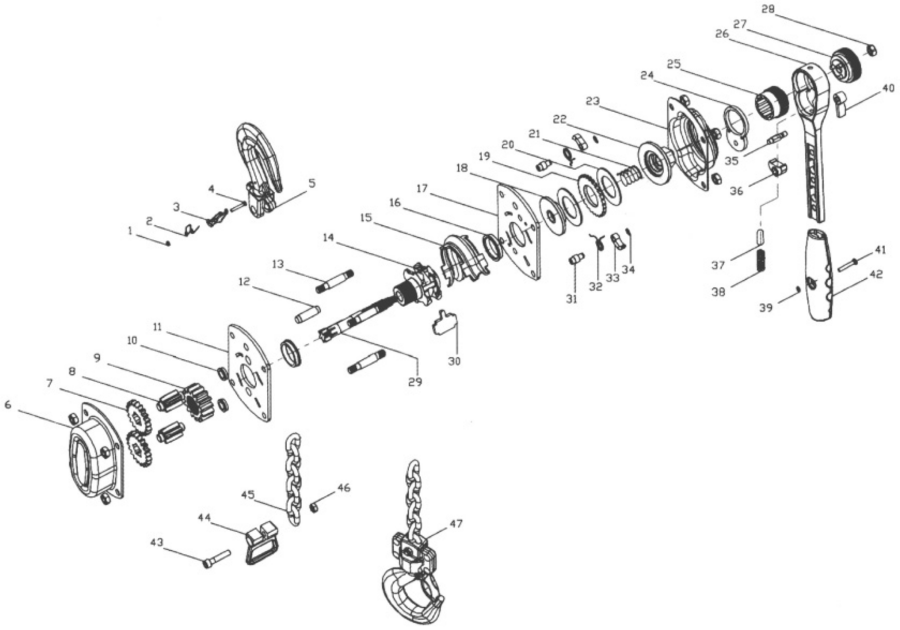
Spare Parts (0.25-0.5t)



1.	Selflock Nut
2.	Latch Spring
3.	Safety Latch
4.	Hex Bolt
5.	Top Hook Assembly
6.	Hoist Cover Assembly
7.	Disc Gear
8.	Load Shaft
9.	Spline Gear
10.	Steel Bushing
11.	Right Side Plate
12.	Hook Shaft
13.	Suspension Bar
14.	Load Chain Sprocket
15.	Guide Plate
16.	Solid Bearing
17.	Left Side Plate

18.	Brake Base
19.	Ratchet Disc
20.	Brake Disc
21.	Free Spring
22.	Brake Nut
23.	Ratchet Gear Cover
24.	Inner Handle Lever
25.	Change Over Gear
26.	Hand Lever
27.	Hand Wheel
28.	Pinion Nut
29.	Pinion Shaft
30.	Chain Stripper
31.	Pawl Pin
32.	Pawl Spring
33.	Left Side Plate
34.	Brake Base

35.	Ratchet Disc
36.	Brake Disc
37.	Free Spring
38.	Brake Nut
39.	Ratchet Gear Cover
40.	Inner Handle Lever
41.	Change Over Gear
42.	Hand Lever
43.	Hand Wheel
44.	Pinion Nut
45.	Pinion Shaft
46.	Chain Stripper
47.	Pawl Pin

Troubleshooting

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

Important Information
Product Warranty & Warnings

One Year Limited Warranty
George Taylor & Co offers a one year limited warranty on this product.

Replacement Parts
Replacement parts for this equipment are available directly from your GT Viper Lever Hoist stockist. Contact George Taylor & Co for details for your nearest branch.

Replacement Part Warranty
George Taylor & Co makes every effort to assure that parts meet high quality and durability standards and warrants to the original retail consumer/purchaser of our parts that each such part(s) to be free from defects in materials and workmanship for a period of thirty (30) days from date of purchase.

Proof of Purchase
Please retain your dated sales receipt as proof of purchase to validate warranty period.

Limited Equipment Warranty
George Taylor & co makes every effort to assure that its products meet high quality and durability standards and warrants to the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship as follows:

One year limited warranty on this George Taylor & Co product warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities or to lack of maintenance. George Taylor & co limits all implied warranties to the period specified above from the date the product was purchased at retail. Except as stated herein, any implied warranties or merchant ability and fitness are excluded. Some countries do not allow limitations on how long the implied warrant lasts, so the above limitation may not apply to you. George Taylor & Co shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special or consequential damages arising from the use of our products.

Some countries do not allow the exclusion or limitations incidental or consequential damages, so the above limitation or exclusion may not apply to you. To take advantage of this warranty, the product or part must be returned for examination, via normal road freight pre-paid to an authorised service centre designated by our Walsall office. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, George Taylor & Co will repair, replace the product or refund the purchase price, if we cannot readily or quickly provide a repair or replacement and if you are willing to accept such refund. George Taylor & co will return repaired product or replacement at George Taylor & Co's expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scop of George Taylor & Co's warranty, then the user must bear the cost of storing and returning the product. This warranty gives specific legal rights, and you have other rights, which vary, from country to country.

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⚠ WARNING

The use of this product is beyond the control of George Taylor & Co. The warranty of this product is limited to the replacement cost of this product should it be found to be defective in material and/or workmanship. The warranty is void if the Lever Hoist is damaged, worn or used improperly. Normal wear and tear is not considered grounds for replacement. George Taylor & Co product warranty does not apply where there has been excessive overloading of the Lever Hoist.

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