

## VIPER - LEVER HOIST OPERATING INSTRUCTIONS



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

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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 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 GT Viper Lever Hoist we recommend a periodic maintenance check every 12 months via your local GT branch. GT Lifting Gear 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 EN13157.

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.

# SAFETY INFORMATION

## 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 lift. If its ability to do a job, or to do so safely is in question - **DON'T TRY IT.**

## OPERATING INSTRUCTIONS

Principle and Operation of Chain Adjusting System.

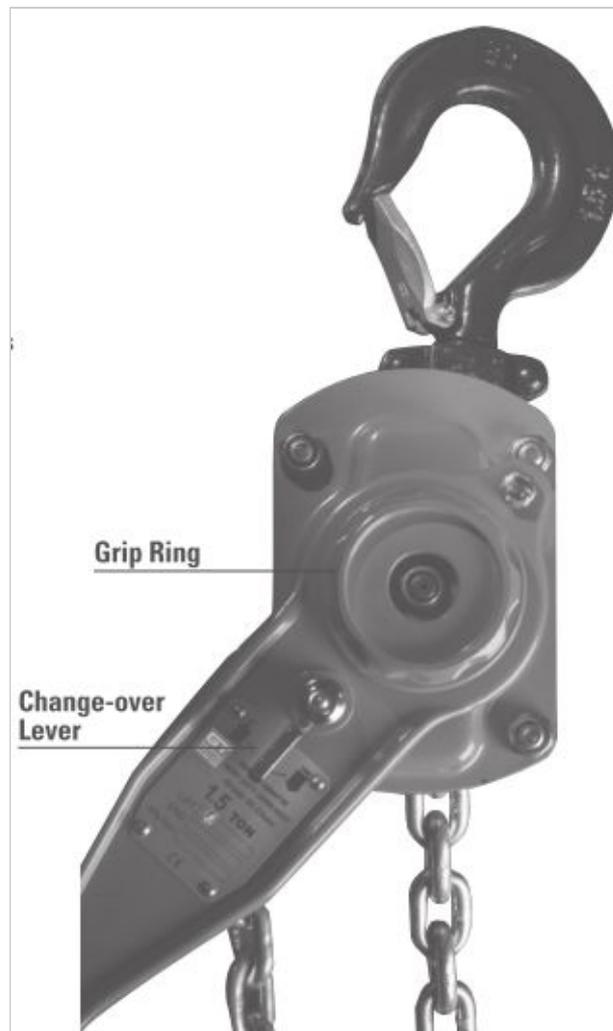
### WARNING

**IMPROPER** Lever Hoist use could result in death or serious injury.

To avoid these hazards:

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

**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.

Lever Hoist Capacity (kgs)	Minimum Load to activate brake (kgs)
500	15
750	22.5
1000	30
1500	45
2000	60
3000	90
6000	180
9000	270

## OPERATING INSTRUCTIONS STEPS

### METHOD

#### Principle of Lifting & Lowering Operation

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.

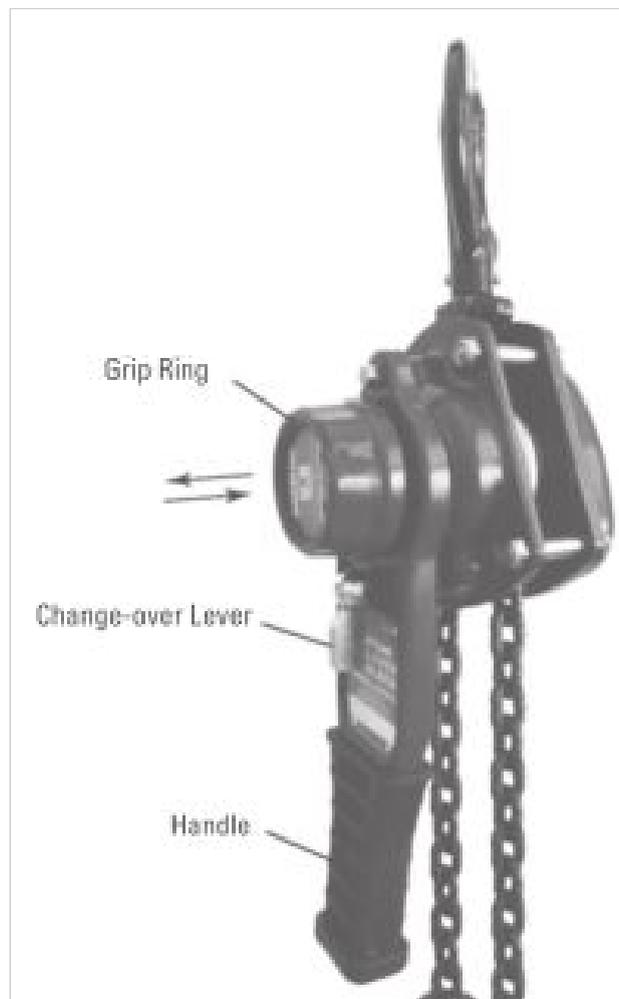
Before Lifting a Load:

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

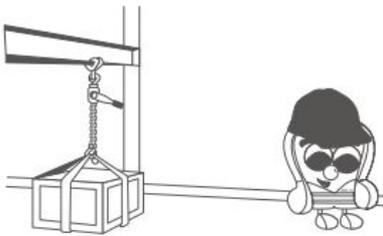
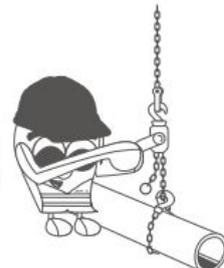
Select direction of movement and ratchet hand lever back and forth, see below:

Chain movement	Change-over lever	Hand lever rotation that produces movement
Raise	"UP"	Clockwise
Down	"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.

<p><b>DO NOT</b> load beyond the rated capacity.</p> 	<p><b>DO NOT</b> heat treat and <b>DO NOT</b> weld any part of the Lever Hoist, especially the load chain.</p> 
<p><b>DO NOT</b> leave a load on the Lever Hoist unattended.</p> 	<p><b>DO NOT</b> shock load Lever Hoist, chain or hook</p> 
<p><b>DO NOT</b> 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.</p> 	<p><b>DO NOT</b> 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.</p> 
<p><b>DO NOT</b> 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.</p> 	<p><b>DO NOT</b> use this lever block for lifting or moving people, or lifting loads over people.</p> 
<p><b>DO NOT</b> take up the load chain to the point where the end ring or lower hook becomes jammed against the frame.</p> 	<p><b>DO NOT</b> use an extension pipe or cheater bar to apply more pressure to the lever handle.</p> 

# 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 Gear UK 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 Gear UK recommends two forms of maintenance to be carried out on your Lever Hoist periodically. The two forms include:

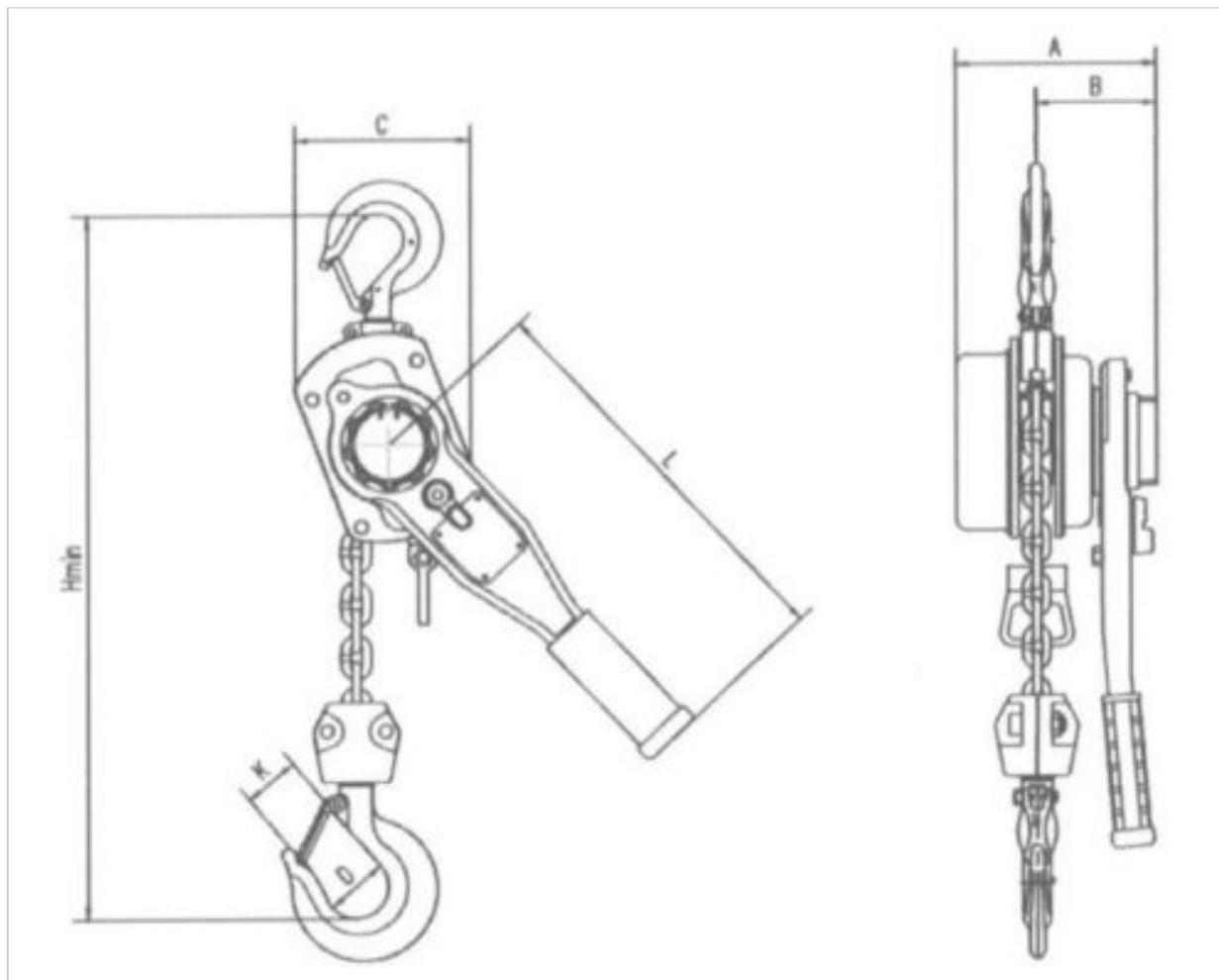
1. A Visual Check (prior to each use); refer to Care In Use information on the left for necessary checks. These checks can be carried out by the operator.
2. A Certified Check (conducted at least every 12 months) ; this type of inspection is to be carried out by authorised GT Lifting Gear UK personnel 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 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.

Points of Inspection	Type of Inspection	Outcome
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.

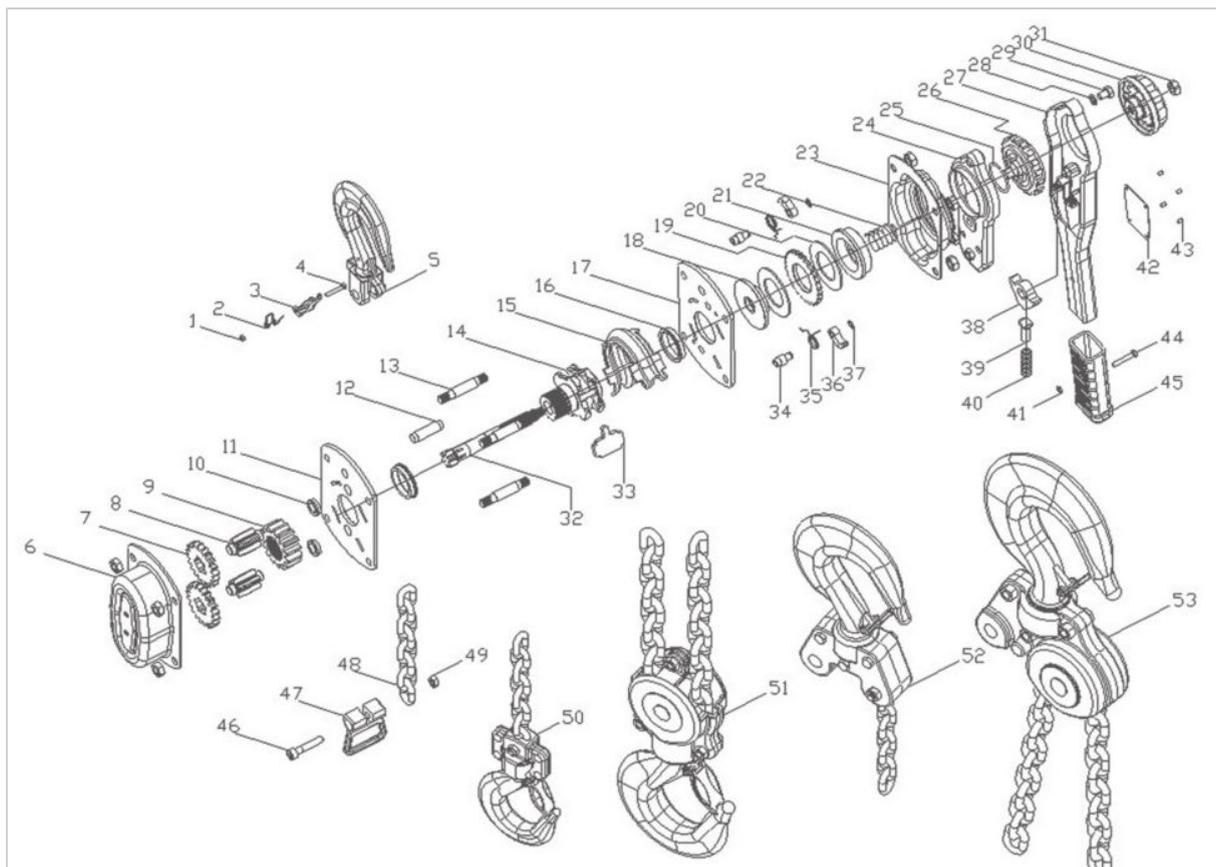
Safety catch	Visual	Should close properly.
Chain	Visual	Should be properly lubricated and free from bends, nicks or stretch, rust and dust.
Chain guide rollers	Visual	Should rotate freely and keep chain in the pockets of the chain wheel(s).
Lifting and lowering	Lift and lower a load as per the minimum 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 whilst lowering 3. Load slips

## SPECIFICATIONS & DIMENSIONS



<b>Capacity (kgs)</b>	500	750	1000	1500	2000	3000	6000	9000
<b>Running test load (kN)</b>	7.5	11	15	22.5	30	37.5	75	112.5
<b>Effort Req'd to lift rated capacity (N)</b>	340	180	180	380	380	450	500	900
<b>Standard Lift (m)</b>	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
<b>Load chain falls</b>	1	1	1	1	1	1	2	3
<b>Load chain dia (mm)</b>	5	6	6	8	8	10	10	10
<b>A (mm)</b>	105	148	148	172	180	200	200	200
<b>B (mm)</b>	78	90	90	98	105	115	115	115
<b>C (mm)</b>	80	136	136	160	160	180	235	335
<b>D (mm)</b>	35	40	40	44	46	50	64	85
<b>H (mm)</b>	260	320	320	380	380	480	600	740
<b>L (mm)</b>	300	250	250	300	300	375	375	410
<b>K (mm)</b>	25	28	28	38	38	42	50	57
<b>Net Weight (kgs)</b>	4	7.4	7.4	11.6	11.6	20	29.4	45
<b>Extra weight per metre extra lift (kgs)</b>	0.52	0.8	0.8	1.4	1.4	2.2	4.4	6.6

## SPARE PARTS DIAGRAM



## SPARE PARTS LIST

No.	Description	No.	Description
1	Self locking nut	28	Spring washer
2	Latch spring	29	Hex screw
3	Safety latch	30	Hand wheel
4	Hex bolt	31	Self locking nut
5	500 - 3000 kgs top hook assembly	32	Long shaft gear
6	Hoist cover assembly	33	Chain cover
7	Disc gear	34	Pawl pin
8	Load shaft	35	Pawl spring
9	Spline gear	36	Pawl
10	Steel bushing	37	Outside handle lever
11	Right side plate	38	Change over pawl
12	Hook shaft	39	Bar

13	Suspension bar	40	Bar spring
14	Load chain sprocket	41	Handle cover fixed nut
15	Guide roller	42	ID plate
16	Solid bearing	43	ID plate rivet
17	Left side plate	44	Bolt
18	Brake base	45	Handle cover
19	Ratchet gear	46	Hex bolt
20	Friction disc	47	End ring
21	Brake disc	48	Load chain
22	Free spring	49	Self locking nut
23	Ratchet gear cover	50	500 - 3000 kgs bottom hook assembly
24	Inner handle lever	51	6000 - 9000 kgs bottom hook assembly
25	Retaining pin for shaft	52	6000 kgs top hook assembly
26	Change over gear	53	9000 kgs top hook assembly
27	Outside handle lever		

## 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	a) Unload and de-swivel b) Replace hook assembly
	Block is dirty or hampered with foreign matter	Refer to maintenance 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 hook has ceased operating	a) Unload and de-swivel b) 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 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

## 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 of 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 warranty 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 prepaid 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 scope 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 Chain Block 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 Chain Block.