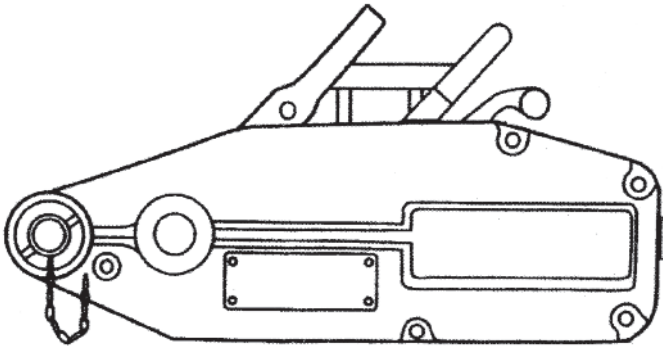




Operating Instructions & Maintenance Manual

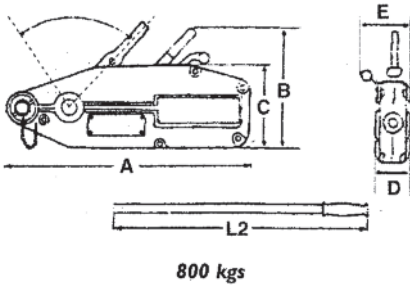
Wire Rope Pulling Machine



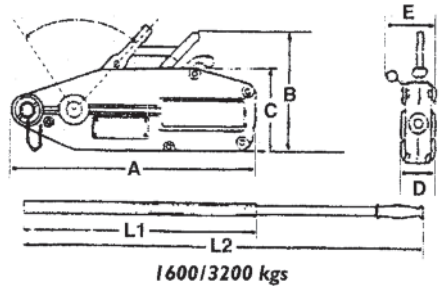
Spare parts list and exploded view

Specifications

Dimensions



800 kgs



1600/3200 kgs

Item No.		0.8T	1.6T	3.2T	5.4T
Rated Capacity	kg	800	1600	3200	
Rated Forward Handpower	N	343	441	441	
Rated Forward Travel	mm	≥52	≥55	≥28	
Rope Diameter	mm	8.3	11	16	
Wire Rope Safety Factor Load Capacity		5	5	5	
Safety Factor and Static Load Capacity		5	5	5	
Maximum Travelling Load	kg	1200	2400	5000	
Dimensions (mm)	A	426	545	660	
	B	235	280	325	
	C	168	190	230	
	0	60	72	91	
	E	64	97	116	
	L1	–	80	80	
	L2	80	120	120	

Operating Procedures

The GT Wire Rope Pulling Machine is a new style, highly efficient type of hoist which is safe and durable in service. It has three main capacities: lifting, pulling and tensioning. Compared with other older chain-type pulling hoist, it is more widely used and more flexible when working. According to the length of the suitable rope, it can be used for linear and unlinear lifting, pulling and tensioning. With special attachments, such as fixed or moveable pulley blocks, not only can it change the operating position and move the load conveniently, but also the capacity of the machine can be multiplied. For heavy duty work, several machines can be used in parallel.

The GT Wire Rope Pulling Machine is quite different from other hoists. Being technically designed, its main properties are that its case is moulded with aluminium; it is stylish in appearance; durable in service and has the advantage of high safety coefficients; its core axle (fore grip jaws) are suitably designed, well-made and electroplated with zinc; it has a longer operating life; its rope is made of a special kind of high-quality steel wire rope, it has the properties of higher pulling forces and a more durable rope wear. Thus our machines are highly praised by the users, both at home and abroad. Read the manual first, and then you, our old and new users, will be able to use them conveniently and fulfil your work safely and correctly.

1. Applications

The machines are widely used in the following applications:

FACTORIES: To install or translocate apparatus.

MINES: To organise or recover pit props.

CONSTRUCTION SITES: To work on the walls of high buildings or a floating crane without any scaffolding.

RAILWAY BUILDINGS: To adjust or remove rails, to dig tunnels or culverts.

BUILDING BRIDGES: to lay bridge frames or maintain bridge piers.

IRRIGATION CONSTRUCTION: To install or maintain irrigation projects.

ELECTRIC POWER CONSTRUCTION: To install or erect towers, anchors or high-tension cables.

TRANSPORTATION: To load or unload heavy, bulky goods. To remove from danger vehicles in the field; to save vehicles or remove obstacles on the road.

NAVIGATION: Regularly used as attachments on ships.

AGRICULTURE: to remove obstacles from farm machinery and save livestock in special conditions.

FORESTRY: In felling trees, the machine can be used to pull down trees.

MILITARY ENGINEERING: To translocate cannons to the shade, to build temporary simple suspension or floating bridges, or to install other military engineering projects.

CIVILIAN PURPOSE: to lift or lower any household articles in high buildings or to demolish old houses.

CITY CONSTRUCTION: To lay water pipes, install light apparatus or to erect electric poles, etc.

When you better understand the features and principles of our product, you will probably find even wider applications for its use.

Operating Procedures

2. Operating Principles

The GT Wire Rope Pulling Machine is operated by acting the forward handle or the backward handle manually so as to obtain the rectilinear pulling force equal to the load through the lever principle with a minimum manual force applied. This helps in all environments of lifting, pulling and tensioning.

Pulling the forward handle or the backward handle to and fro will drive the parallelogram clamping mechanism of the front and back jaw-blocks inside the machine to make a “clamping-related” move alternatively. The wire rope, between the upper grip jaw and the lower grip jaw, forms an “R” mouth. The clamping state still remains in force because of the action of the pre-tension spring. Thanks to the friction on the interface and the pulling force of the load, the frame of parallelogram clamping mechanism always inclines backward in the direction of the load and tends to clamp the rope a step further. With the aid of the other connecting levers, the front and the back jaw blocks makes themselves clamp the stressed wire rope and thus travel and slip to another pair of upper and lower grip jaws and cause the load to lift or lower.

Compared with other older model iron-case hoists, our machine has a completely different structural design, and its advantages are as follows:

- Its independent pre-tension springs work alternately, this makes the distance shorter, the mechanical rate higher and causes less wear on the wire rope.
- The grip jaw, made of alloy steel and hot-worked, has a reliable and durable clamping force and can operate well continually.
- As the construction inside the machine is properly designed, the machine has excellent properties for working well and ensuring easy maintenance.
- When the load is over-rated or the tensioning too violent, the safety bolt on the forward handle will immediately break, thus protecting the machine from further damage.

3. Operating Method

- 3.1 **Rope reeving:** Hold the machine in one hand, with its head downward, and push the relaxed handle. After hearing a click, the grip jaws open and the clean wire rope can be reeved to the desired length. Having finished, push the relaxed handle downward by hand to allow the grip jaws to clamp the rope. When pulling the forward handle to and fro, the rope inlet or outlet shows that the unit works normally. Then start operation.
- 3.2 **Anchoring:** Fixed axis are to be used to anchor the rope around it. The other tip of the rope is tied to loads or masts. There is a relax-proof tunnel on the fixed axis. After the fixed axis is inserted into the machine case, it must be turned twice. Start operation until the second tunnel is obstructed. Let the rope tip expose above the fixed axis, so as to ensure the rope will travel correctly.

Operating Procedures

3.1 **Operating:** Let a hook, hook the load and operate as follows:

- To lift a load (or push a load forward) or tension it: Push the forward handle.
- To lower a load (or pull a load backward): Pull the backward handle.
- To stop working: Not pulling the handle will stop the load at an arbitrary position, whether lifting or lowering it.

3.4 **Drawing rope:** After finishing your work, first push the release handle, then open the grip jaws and draw the rope out. Erase the dirt on the rope and wind it orderly on to the reel cross.

Press down the release handle so as not to keep the grip jaws always in an open state, thus to reduce the spring force of the tensioning spring.

4. Precautions and Maintenance

4.1 Before use, you must inspect all the tightened screws and check that they are secure. Pull all the handles and see if they are in order, If operating together and without any unusual noises or blocking, activate the release handle, reeve and clean the suitable rope. Do not let twisted, cracked and part-broken rope in. Now operate handles again and see if the machine can travel normally.

4.2 Never do the following during operation:

- Never pull other handles at the same time. Never pull release handle after the load is lifted.
- Never use other self-made extended lever tube to save on handpower.
- Never pull the handle violently to break the safety bolt. If this happens, the correct replacements must be provided by George Taylor & Co. Lifting Gear (Midlands) Ltd.
- Never stand on the load or beside it when operating (except when working on a floating crane).
- Never use the rope itself as a loop around the load. The load must be hung on a hook.
- When lifting a load, never let the load swing or float around in the air.

Ensure that the rope inlet and outlet is not obstructed, when the unit works. Jamming, gagging and twisting must be prevented. Eradicate any mud or dirt on the rope.

4.3 When the original rope diameter of the working rope reduces by 10%, it must be replaced with a new one provided by George Taylor & Co. Lifting Gear (Midlands) Ltd. The old one may be used for other purposes. The mixed use of various wire rope is not allowed.

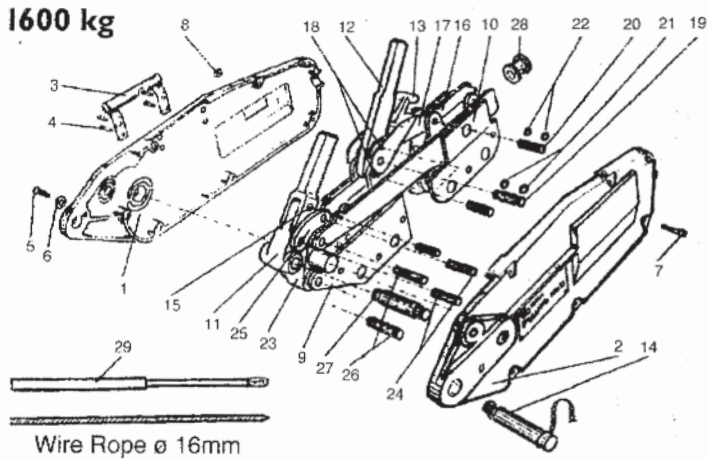
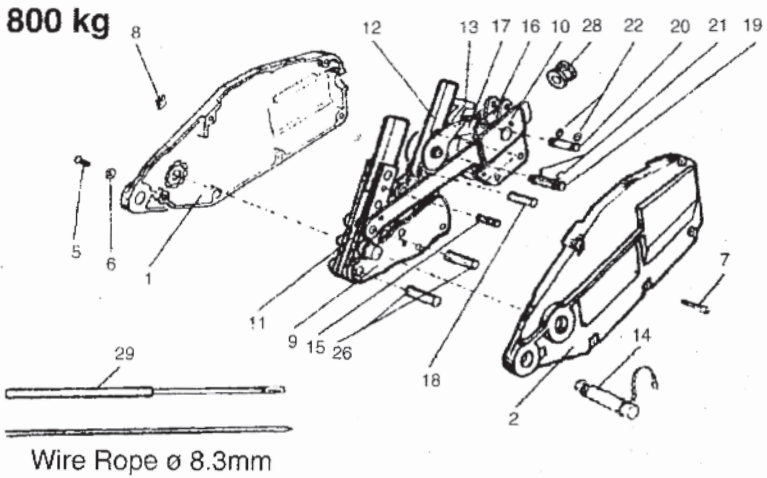
Operating Procedures

- 4.4 To make parts yourself, or to re-machine and re-use the jaws is prohibited. The replacements must be provided by George Taylor & Co. Lifting Gear (Midlands) Ltd. After replacing correctly, a test of 1.25 times that of rated capacity must be made. Resume the operation only when the test-travel is no less than 500mm.
- 4.5 Never reeve the rope from the head of the machine. our machine only allows the rope lip in the tail to support the load. The direction of the hook must not be reversed. These practices are very dangerous and will cause the machine to work abnormally.
- 4.6 The anchored object should have enough power to support the load so that it will not cause an accident.
- 4.7 When the machine is used to lift a floating crane, the total load should be decreased by one-third of the machine pulling force. Always ensure the worker operating on the crane is fully protected.
- 4.8 If muddy water or other dirt has penetrated into the machine, use clean water to clean it. Disassemble the body to rinse once more if necessary. Reassemble the body carefully and correctly, and then lubricate it with a calcium based grease. Maintenance must be made twice every year in ordinary conditions.

Safety Instructions

- The equipment should only be operated and maintained by a competent person.
- Do not exceed the rated capacity of the product.
- Do not use this product for the lifting or transporting of personnel.
- Do not use undue effort to operate the product other than that which can be applied manually.
- Periodically, in particular after frequent use or at least annually, and in accordance with European Safety Regulations, the product must be returned to a recognised and competent lifting equipment service and repair centre for maintenance and repair.
- Do not leave suspended loads unattended.

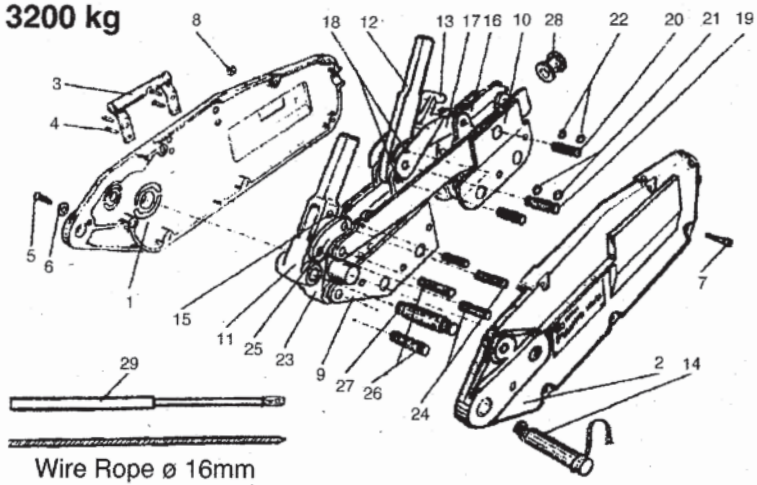
Exploded View



Key

- | | | | | |
|---------------------|---------------------------------|--------------------|----------------|-----------------------------|
| 1. Left side plate | 7. Hex. bolt | 12. Forward handle | 18. Second pin | 24. Fifth pin |
| 2. Right side plate | 8. Hex. nut | 13. Release handle | 19. Third pin | 25. Connecting rod |
| 3. Handle | 9. Front jaw block | 14. Fixed axle | 20. Fourth pin | 26. Crank axle |
| 4. Rivet | 10. Back jaw block | 15. Safety pin | 21. Pushing | 27. Stay pin |
| 5. Hex. washer | 11. Release connecting rod axle | 16. Upper grip jaw | 22. Pushing | 28. Guide tube of wire rope |
| 6. Spring washer | | 17. Connecting rod | 23. Shake rod | 29. Tube handle |

George Taylor & Co. Lifting Gear (Midlands) Ltd



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Contact your local distributor