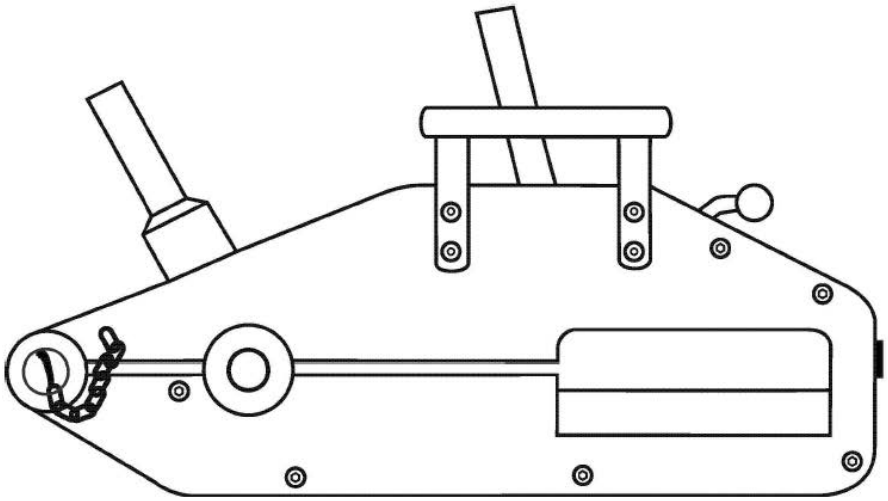
OPERATING AND MAINTAINTING MANUAL



WIRE ROPE PULLING HOIST

WIRE ROPE PULLING HOIST OPERATING AND MAINTAINTING MANUAL

Read the operating instructions carefully before using the hoist for the first time.
Follow the safety instructions. Keep this documentation in a safe place.
Always wear safety gloves and shoes during operation.

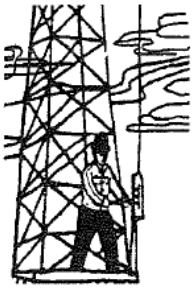
Our express written permission must be obtained in advance before making any modifications to this wire rope hoist and before fitting any attachments to it.

1. GENERALS

Wire Rope Pulling Hoist can do any works such as lifting, lowering, pulling and adjusting. With special attachments (such as fixed and movable pulley blocks and so on), not only can they be used for unlinear pulling but also convenient to be selected suitable operating stance. By means of attachments the capacities of smaller model of machines may be multiplied. To heavy duty, several machines can be used in parallel.

They can be installed, anchored and operated at the top of high masts, tower, reinforced concrete and timber structures or on the ground.

Wire Rope Pulling Hoist are widely used in the following applications: construction site; installations and adjustments of machinery and electric apparatus; loading and unloading heavy and bulky goods in transportation; heaping of forest products; obstacles removing.




Ambient operating temperature should be between -10 °C and + 50 °C. Never use in explosive environment, corrosive environment, etc.

2. OPERATIN METHOD

The open of grip jaws.
Pull the forward (or reverse) lever back then push release lever to front direction by hand so as to insert its tip into the step formed on the top innerwall of the casting, the upper and lower grip jaws thus open and rope can be reeved through. After finishing it, push release lever forward and downward by hand so as to allow grip jaws to clamp rope (or return to original position). Then start the operation.

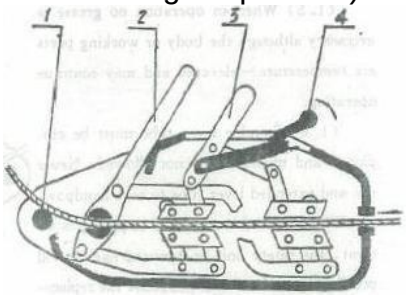


Fig. 1: The open of grip jaws and rope reeving
1. Fixed axis 2. Forward lever 3. Reverse lever 4. Release lever

To lift a load.
Pull the forward lever to-and-fro, one grip jaw-block clamps stressed rope to slip through the other relaxed one.

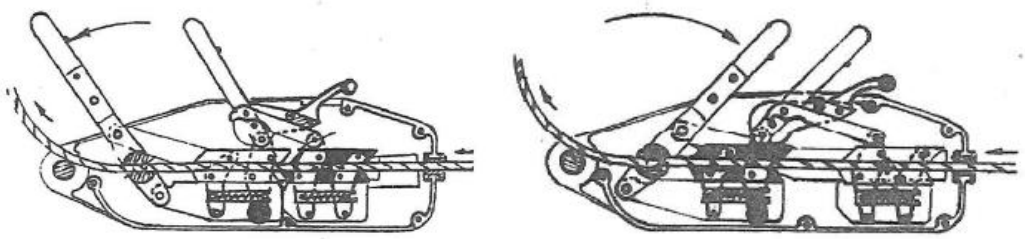


Fig. 2: To lift a load (or pull a load forward)
The black jaw-blocks clamping; the white relaxed.

To lower a load.
Pull the reverse lever and when pulling reciprocally one of two jaw-blocks also clamps stressed rope to slip through the other one under the action of the gravity of the load.

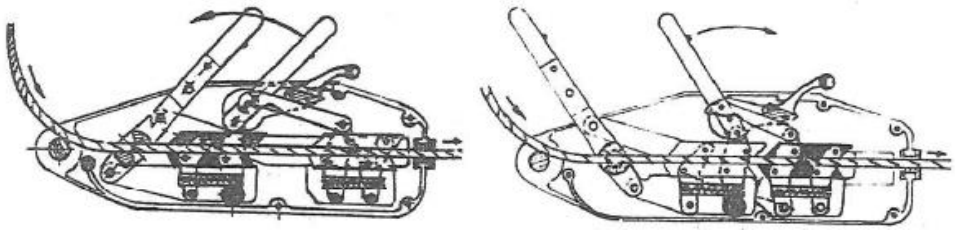


Fig. 3: To lower a load (or pull a load backward)

Q – Load
To stop a load at arbitrary position back-ward lever at arbitrary position, by the action of load and interior connecting rods the front and back jaw-blocks stop at the balance position relative to each handle's. At this time two pairs of grip jaws clamp the stressed rope, and each of them carries 1/2 load.

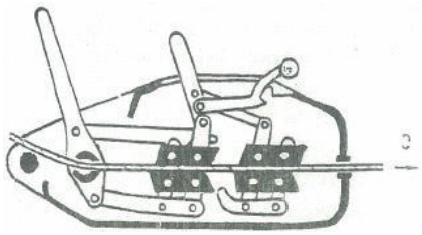


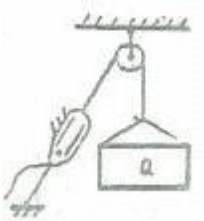
Fig. 4: The front and back jaw-blocks both clamp the stressed rope when the load strops at any position

3. OPERATION AND MAINTENANCE

(1) Precautions in use.

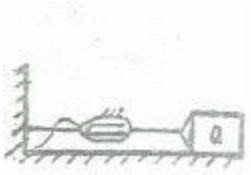
(1.1) You must select the suitable machine according to the weight of load. If the small type of machine had to be employed, its capacity must be increased by using movable pulley blocks.

a) Direct lift

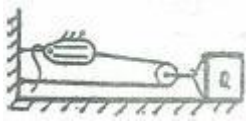


b) Change the operating position

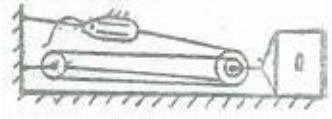
c) Approx. multiplied 3 times lifting capacity



d) Direct pull



e) Approx. multiplied 2 times pulling power power



f) Approx. multiplied 3 times pulling

(1.2) Before use, you must inspect all the right screws and see if they are in order. If operating coordinatively and without unusual noise or blocking, act release lever, reeve the clean and suitable rope, then make grip jaws clamp rope. At the end, operate levers again and see if the machine can travel normally.

(1.3) The fixed axis is special accessory and it can not be substituted by and other pin, the fixed object which can support the load and the wire rope as well as the machine selected.

(1.4) The wire assembly fabricated by our company must be used. The mixed use of various wire rope assemblys and substitution are not allowed. When operating the wire rope must clean and mud or dirt should be prevented into the machine from effect on working of grip jaws or increasing their ware. If it happens, the capacity will decrease.

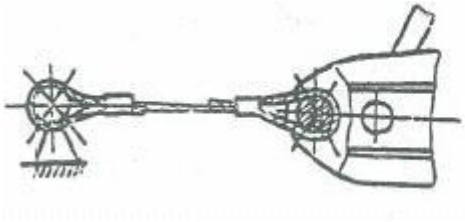
(1.5) Suitable lever tube must be employed and mixed use it not allowed. Never use and extend lever tube to save handpower. When the load is overrated or pulling is violent, the safety pin on forward lever will possibly be broken. If it happens, the replacements must be provided by our company only. At the same condition, you must decrease the load or use larger type of machine and employ fixed or movable pulley blocks.

(1.6) Ensure that the rope inlet and outlet are not obstructed when the unit works. Jamming and gagging must be prevented. At the same time it must be avoided that the rope is not free to release tension of its twisting trend because this will cause basket deformation as to locally increase the rope diameter, if this is done, accidents will happen.

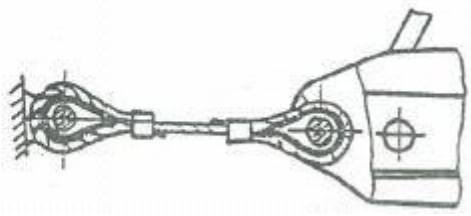
(1.7) When one lever is working the rest must not be obstructed. Never pull other levers simultaneously, in case accidents will happen to the machine.

(1.8) Fixed axis (assembled in the body) is to be used only to fix this unit and rope tip in the tail will support the load. The former and the later must not be used reversely, or never use the free end of the rope (on the front of the unit) to lower load, all these are very dangerous.

(1.9) Never use the rope itself as a loop around the load so as to prevent the rope from wear or breaking strand which could cause accidents. When the original rope is heavy rusting on the surface or the inside of the rope, or its diameter of the working length reduces by 10%, it must be replaced. For details of care, maintenance, installation, examination and discard of wire ropes refer to ISO 4309.

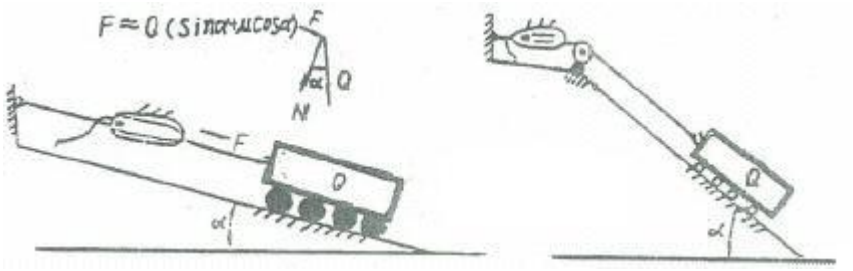


a) Incorrect tying



b) Correct tying tackle loop

(1.10) The effective pulling force decreases with the increase of inclination when pulling load on one or two slopes. In order to reduce the loss of contact friction and to prevent rope from abrasion by the ground, the drums suggested to be laid to support load or the guide block for rope must set at inclination.



F – Pulling force

Q – Weight

α – Inclination

μ – Friction factor

(2) Precautions of Maintenance

(2.1) After finishing work, first erase the mud and dust or dirt on the free end of the rope. Then open the grip jaws, draw the rope out and wind it orderly on to the reel cross from the end of the hook which hook up the reel loop. At the same time scrub all length of the rope, then keep it in dry place from rust. Recommended lubricant: we recommend environment-friendly, biologically degradable lubricant.

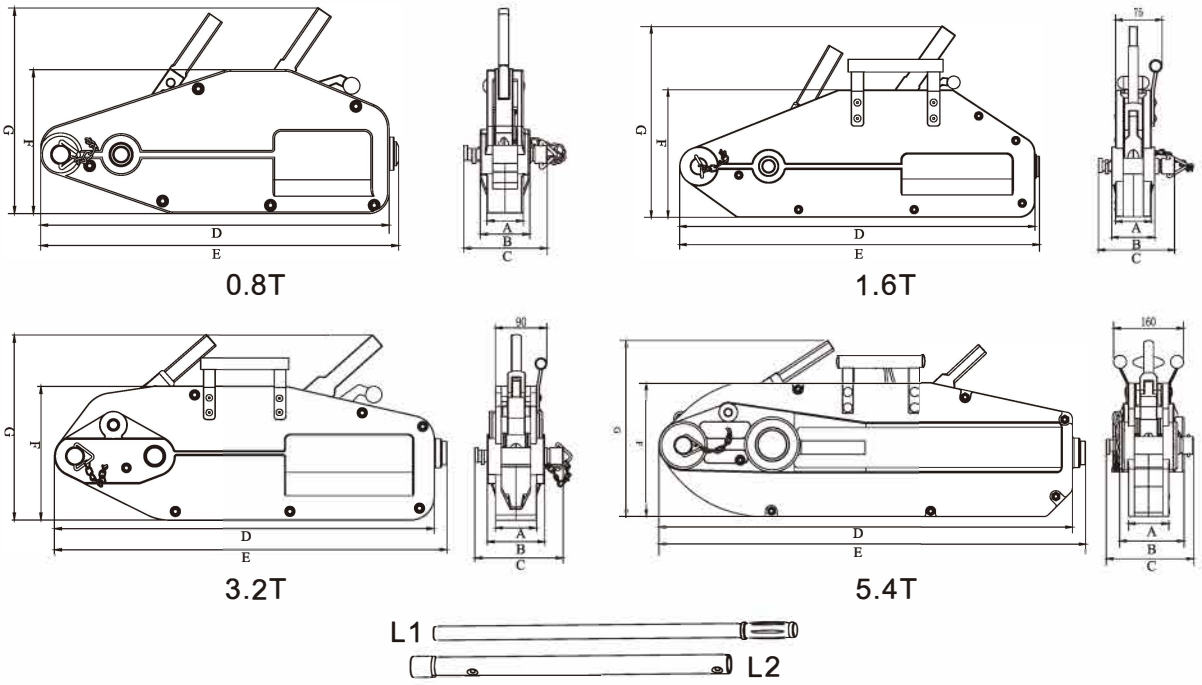
(2.2) Keep the hoist in a dry and clean place when it is not for use. Take careful when transport the hoist.

(2.3) If muddy water and cement have penetrated into the machine or the machine is frozen after fallen into water due to bad condition and other reasons, use clean water running water to clear it, or defrost it carefully. Then disassemble the body to rinse oil.

(2.4) Inspection and maintenance instructions

Inspection intervals	Maintenance and inspection jobs
Daily / before each use	Examine the rope hook and operating elements, check that the fasteners are secure Check the operation of the hoist Check the clamping function (self-locking)
Weekly	Check the wire rope for wear and carry out rope maintenance.
Every 12 months	Examine all parts for wear and replace defective parts as necessary. Lubricate. Arrange for inspection by a specialist.

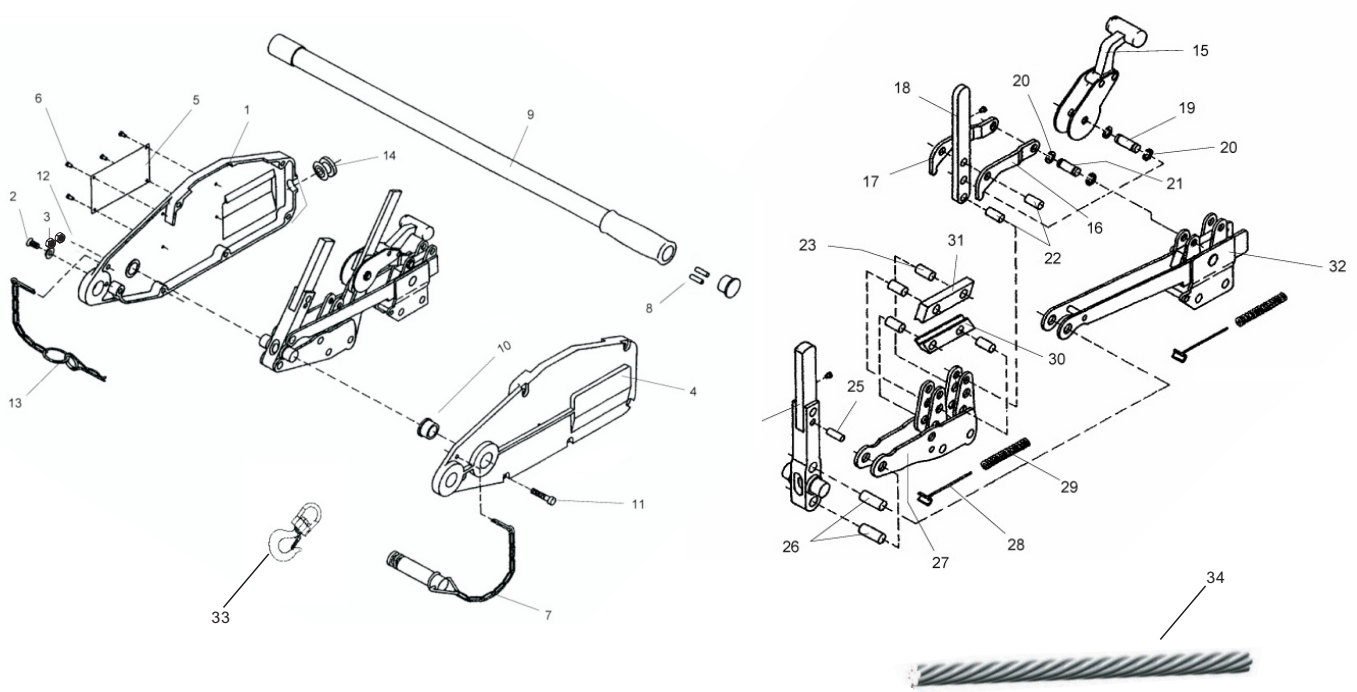
5. Specification



Item No.		0.8T	1.6T	3.2T	5.4T
Rated Capacity (kg)		800	1600	3200	5400
Rated Forward Handpower (N)		343	400	441	745
Rated Forward Travel (mm)		>=52	>=55	>=28	>=30
Rope Diameter (mm)		8.3	11	16	20
Wire Rope Safety Factor Load Capacity		5	5	5	5
Safety Factor & Static Load Capacity		5	5	5	5
Max.Travelling Load (kg)		1200	2400	4800	8000
Max Overall Size (mm)	A	44	56	70	90
	B	60	68	98	160
	C	101	120	150	200
	D	420	545	645	935
	E	430	556	666	940
	F	172	200	227	300
	G	240	270	320	410
L1(cm)		70	70	70	70
L1+L2(cm)		/	120	120	120

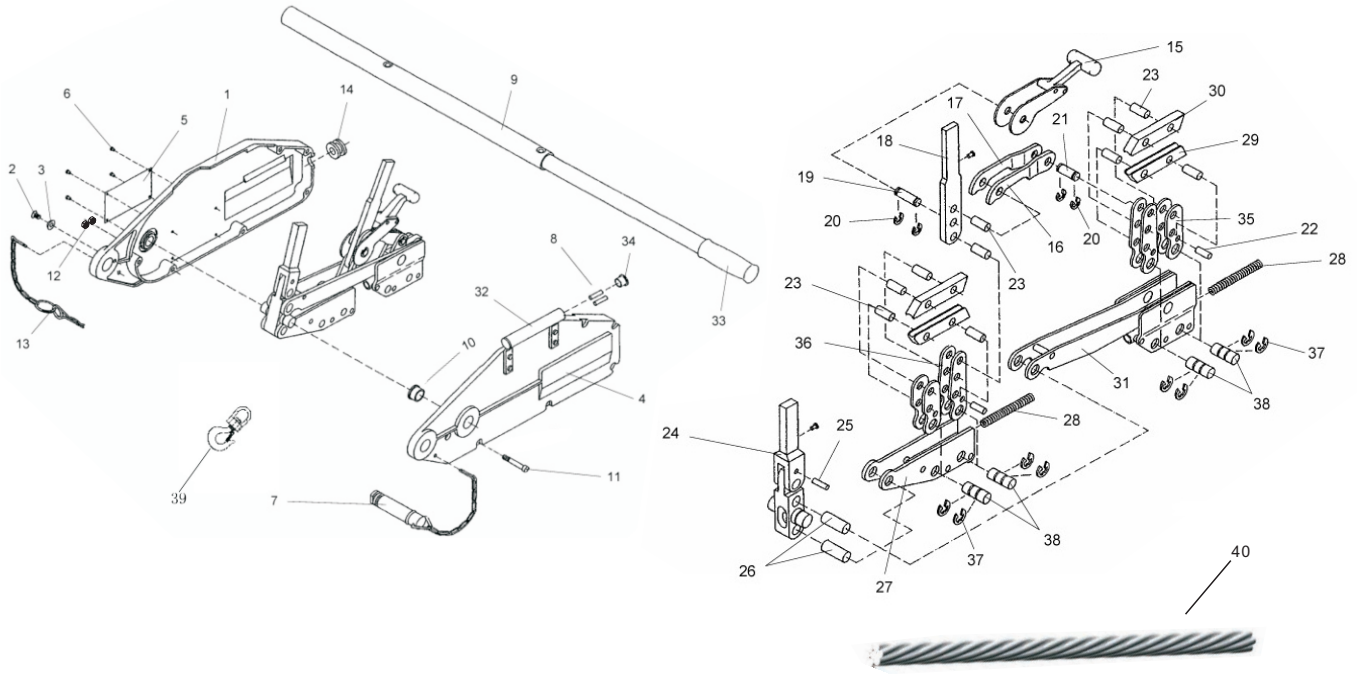
5 Explosive View

5.1 0.8T Explosive View



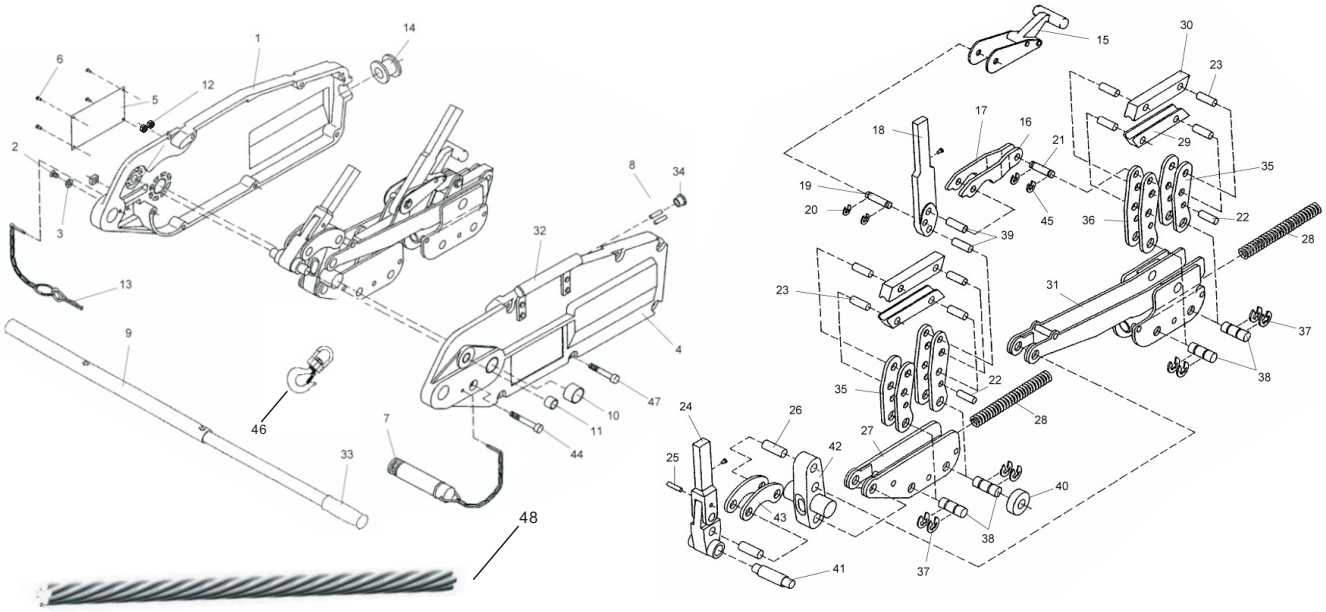
1-3	Case rught,assy	18	Action lever backwards
2	Cylindric-head tapping screw	19	Bolt
3	Washer	20	Lock washer
4	Case left,assy	21	Bolt
5	Name plate	22	Bolt
6	Rivet	23	Thrust bolt
7	Fastening bolt,assy	24	Action lever forward,assy
8	Shearing bolt	25	Shearing bolt
9	Action lever,assy	26	Axle
10	Metallurgy Sleeve	27	Front slide,assy
11	Cylindric-head screw	28	Spring guide
12	Nut with square	29	Spring
13	Spring cotter,assy	30	Clamp under
14	Guide sleeve of cable	31	Clamp upper
15	Opening lever for clamps,assy	32	Back slide,assy
16	Push lever left	33	Swivel hook
17	Push lever right	34	Wire rope-8.3mm

5.2 1.6T Explosive View



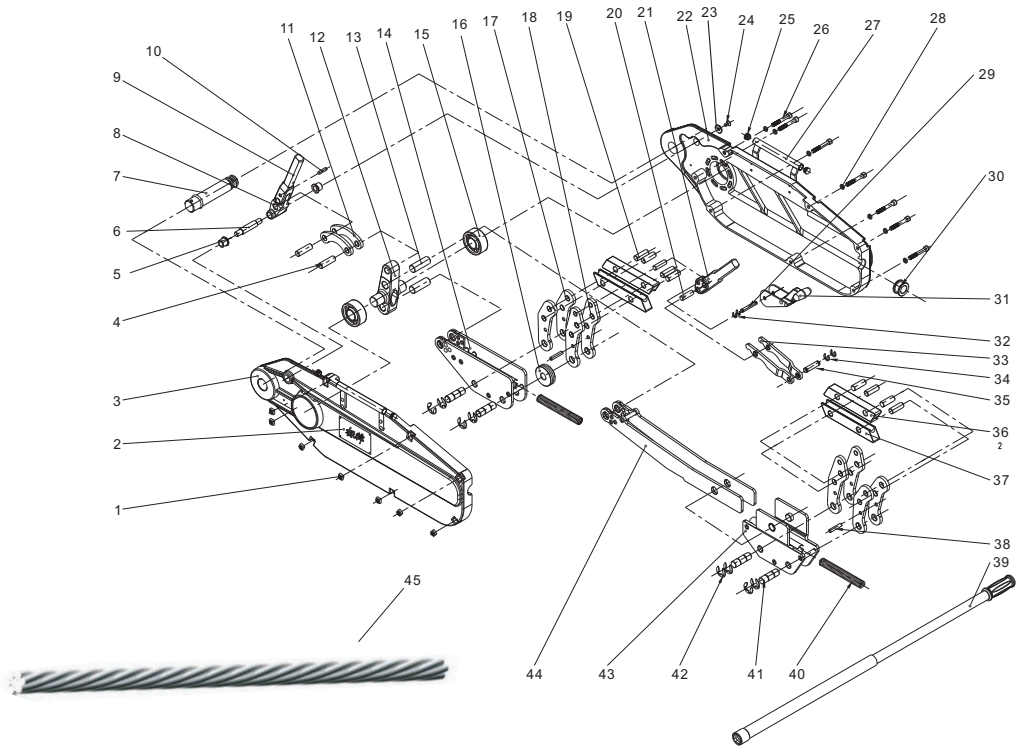
1-3	Case right,assy	21	Bolt
2	Cylindric-head tapping screw	22	Spring bolt
3	Washer	23	Thrust bolt
4	Case left,assy	24	Action lever forward,assy
5	Name plate	25	Shearing bolt
6	Rivet	26	Axle
7	Fastening bolt,assy	27	Front slide
8	Shearing bolt	28	Spring
9	Telescopic action lever,assy	29	Clamp under
10	Metallurgy sleeve	30	Clamp upper
11	Cylindric-head screw	31	Back slide,assy
12	Nut with square	32	Handgrip,assy
13	Spring cotter,assy	33	Rubber jamd grop
14	Guide sleeve of cable	34	Cap
15	Opening lever for clamps,assy	35	Lever for clamp,short
16	Push lever left	36	Lever for clamp,long
17	Push lever right	37	Lock washer
18	Action lever backwards	38	Bearing bolt
19	Bolt	39	Swivel hook
20	Lock washer	40	Wire rope-11mm

5.3 3.2T Explosive View



1	Case right,assy	25	Shearing bolt
2	Cylindric-head tapping screw	26	Axle
3	Washer	27	Front slide
4	Case left,assy	28	Spring
5	Name plate	29	Clamp under
6	Rivet	30	Clamp upper
7	Fastening bolt,assy	31	Back slide,assy
8	Sjearomg bolt	32	Handgrip,assy
9	Telescopic action lever,assy	33	Rubber hand grip
10	Copper-1	34	Cap
11	Cylindric-head screw	35	Lever for clamp,short
12	Nut with square	36	Lever for clamp,long
13	Spring cotter,assy	37	Lock washer
14	Guide sleeve of cable	38	Bearing bolt
15	Opening lever for clamps,assy	39	Bolt
16	Push lever left	40	Roll
17	Push lever right	41	Bolt
18	Action lever backwards	42	Centering shaft
19	Bolt	43	Intermediate actuating lever
20	Lock washer	44	Cylindric-head screw
21	Bolt	45	Lock washer
22	Spring bolt	46	Swivel hook
23	Thrust bolt	47	Copper-2
24	Action lever forward,assy	48	Wire rope-16mm

5.4 5.4T Explosive View



1	Square nut	24	Flat head screw
2	Name plate	25	Cap
3	Case left	26	Cylindrec-head screw
4	Axle	27	Handgrip assy
5	Sleeve	28	Retaining ring
6	Shaft	29	Shaft
7	Fastening bolt assembly	30	Wire rope guide sleeve
8	Action lever forwardassy 1	31	Opening lever for clamps assy
9	Action lever forwardassy 2	32	Lock washer
10	Shearing bolt	33	Push lever
11	Intermediateactuating lever	34	Lock washer
12	Centering shaft	35	Bolt
13	Rocker shaft	36	Bottom clamp
14	Front slide	37	Top clamp
15	Bearing	38	Spring bolt
16	Roller	39	Telescopic action lever assy
17	Lever for clamp short	40	Sping
18	Lever for clamp long	41	Bearing bolt
19	Thrust bolt	42	Lock washer
20	Bolt	43	Back slied
21	Action lever backwards	44	Lorg iqingcting rod
22	Case right	45	Wire rope-20mm
23	Washer		