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OPERATOR'S MANUAL

**MODEL: KHD-8
KHD-10**



200910

KINGONE INDUSTRIAL CO.,LTD



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I General Introduction

Thank you for purchasing our **KINGONE** winch. We hope you are pleased with its performance. We also hope it can bring you a convenient and cozy work. Please do read this manual and understand it before installing and operating. This manual covers all the instruction of installation, operation and maintenance of the winch. If you need other information, please contact us by: +86 574 88168988 or you could log on our website: www.kingonewinch.com.

II Safety Precautions

Electrical winch is a machine with great pulling force. Please do follow the following instructions and be cautious when using it.

1. When the winch is loaded over 2/3 of the rated pulling force, recommended using the pulley block. The use of double-line wire rope (see figure 1) can reduce the load on the winch or wire rope by 50%. If you want to install the winch to the back of the vehicle, you should choose a part which can bear the load.



figure 1

2. The engine of the winch should keep running as the winch has the maximum working force when it lies idle. You should rotate the clutch to engage and disengage the gear, but you need to rotate the drum to couple to the gear train as well.
3. The clutch must be totally disengaged before the winch is operated.
4. Please do not operate the clutch when the winch is working.
5. The first layer of the wire rope on the drum should never be less than 5 wraps, or the root of the wire rope can't withstand the load.

6. Lay a blanket or a big towel near the hook on the wire rope when pulling heavy load, so that it can prevent the rebound of the wire rope when taken off the hook. Meanwhile, raise the lid of the vehicle for protection(see figure 2).

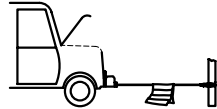


figure 2

7. Avoid always pulling things from one angle, or else all strain of the wire rope will on one end of the drum.
8. Never use the winch for lifting. Never lift heavy stuffs to pass over people's head(see figure 3).

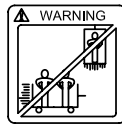


figure 3

9. Avoid pulling things from the limitary angles, or else the wire rope will cause damage to one end of the drum (see figure 4). This will cause the tangling of wire rope on the winch and bring damage to the wire rope and the winch.

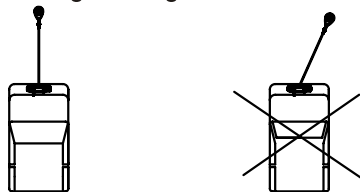


figure 4

10. Never add shock loads on the wire rope and the winch.
11. When the winch is dragging, do not assist it by driving your car as when both the winch and the car drag simultaneously, it will overload on the winch and wire rope.

12. Never turn over the wire rope to hook the wire rope. Or it will damage it. You should use a nylon belt (see figure 5).

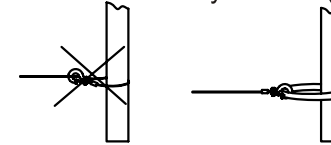
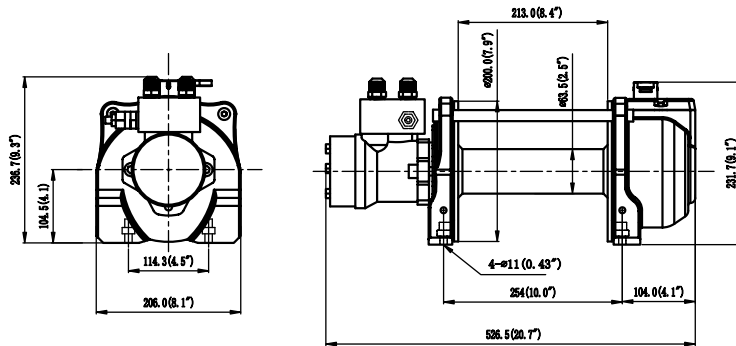


figure 5

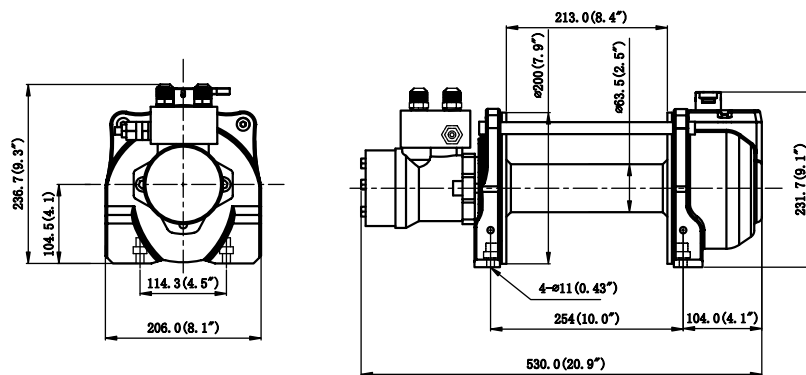
13. The winch has two speeds, and the low speed is for rescuing vehicles and the high speed is for withdrawing the wire ropes.
14. The rated line pull of the winch must be powerful enough to overcome any added resistance caused by whatever the vehicle stuck in.
15. The pulling force is 15° angle up and down from horizon. The pulling force is within 45° angle of the vertical plane and not over the maximum capacity or it will overload on the winch.
16. Keep surroundings clean and stay away from any barrier when operating the winch. Do not allow other people to stay in the winching area. Keep the winch, rope and hook clean. The best way to exclude dangers is to keep people in the safety area.
17. Check wire rope and equipment frequently, and change the wearing wire rope and replace it immediately when it is broken. Normally, the wire rope should be replaced by the original manufacturer's (see Replacement Parts List). Regularly check the winch installation to ensure that all bolts are tighten.
18. Wear qualified leather gloves when handling wire ropes in case of slippage.
19. Never dismantle or assemble other unrelated parts to the winch. Use matched parts produced by the original manufacture (refer to Replacement Parts List), to maximize its capacity. Any replacement or alteration will void the guarantee.

III Performance Data

Dimension of winches:



KHD-8



KHD-10

Specification and Data

Model	KHD-8	KHD-10
Line Pull	605kgs/1,333lbs (High)	756kgs/1, 667lbs (High)
	3,629kgs/8,000lbs (Low)	4,535kgs/10,000lbs (Low)
Operation Pressure	175bar/2537psi	
Max.Oil Flow	15.9g/min(60l/min)	
Gear Ratio	Free	
	1:1 High	
	6:1 Low	
Recommended Wire Rope	Φ9.5mm×27.4m(3/8"×90')	
Drum Size	Φ63.5mm×215mm(2.5"×8.4")	
Driving Gear	Gear Train	

Line pull and Line Speed(The following data is under the pressure of 175bar and oil flow is 30L/Min.)

Model	KHD-8						KHD-10				
Layer of Wire Rope		1	2	3	4	5	1	2	3	4	5
Max Line Pull (1:1)	Lbs	1,333	1,120	992	860	780	1,667	1,389	1,212	1,058	992
	Kgs	605	500	450	390	354	756	630	550	480	450
Line Speed(1:1)	FPM	160	190	213	249	279	134.5	161	183.7	209	223
	MPM	49	58	65	76	85	41	49	56	64	68
Max Line Pull (6:1)	Lbs	8,000	6,700	5,900	5,100	4,600	10,000	8,320	7,120	6,200	5,500
	Kgs	3,629	3,030	2,670	2,310	2,080	4,535	3,770	3,330	2,812	2,490
Line Speed(6:1)	FPM	26.8	31.8	36	41	46.5	21.3	26.2	30.5	36.1	37
	MPM	8.1	9.7	11	12.5	14.2	6.5	8	9.3	11	11.3

Explanation of the line pull and speed: the line pull and line speed is varying according to how much layers are on the drum. The first layer delivers the lowest speed but the maximum load capacity, and the last layer delivers the maximum speed but the minimum load (see figure 6).

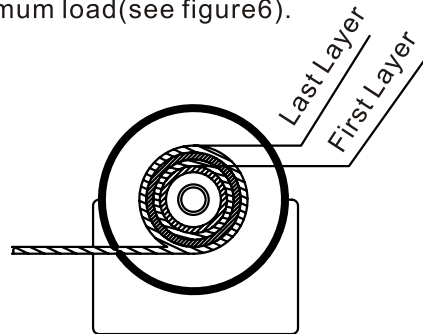


figure 6

IV Installation

Before using the winch, make sure all components have no corrosion or defect, the surrounding is clear and dry.

1. Use bolts to install base frame on the winch.
2. When the winch is foot-mounted, use all bolts and installed the winch on the base frame.
3. If use fixing plate to connect, the recommended thickness is 6.5mm.
4. The winch should be mounted as close as possible to the center of the direction of the line pull and perpendicular to keep the wire rope fleet angle centered on the drum as small as possible.
5. Bolts strength should not be lower than ISO Grade 10.9, and do not exchange bolts randomly or use bolts of different specification.

Diagram for foot-mounted winch(see figure 7).

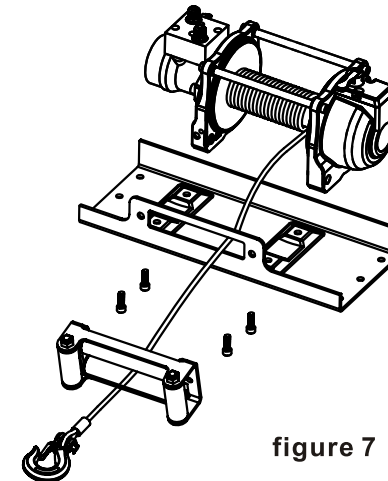


figure 7

The connecting system of the outer oil flow and the direction in which the rope pays out(see figure 8).

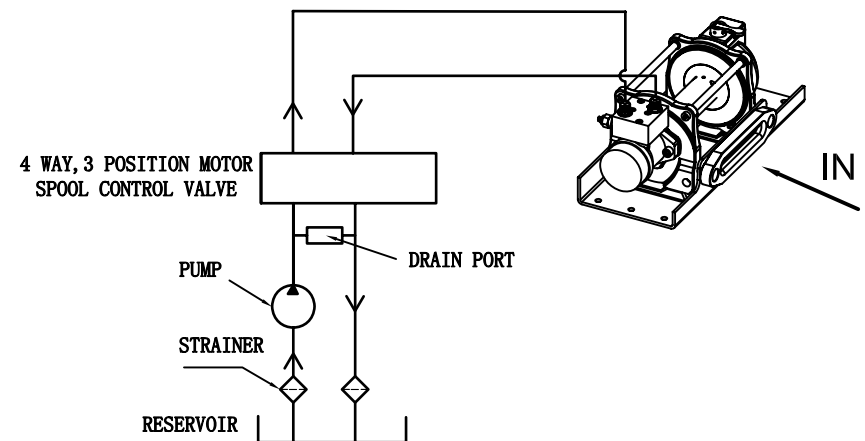


figure 8

This is a single-way hydraulic winch, so please do connect the oil flow and check the right direction for the payout of the wire rope according to this direction.

V Operation Guide

The best way to use the winch is to test it before operating it and to check if there is any malfunction.

- ◇ Inspect if the surrounding is safe.
- ◇ Check if there is any corrosion, fraying, wearing or other defects on the wire rope.
- ◇ Turn on the engine.
- ◇ Disentangle the cable of the winch.
- ◇ Disengaged the clutch handle to free position and pull out the wire rope to reach to the object..
- ◇ When dragging heavy load, put a blanket or a jack on the wire rope to prevent it bounding back and hurting people.

Warning: Wear leather gloves and use a handsaver strap to guide the wire rope out of the drum.

- Do not disengage the clutch when under heavy load.
- If the clutch is not totally engaged , please do not operate the winch..
- Make sure there are 5 wraps of the wire rope on the drum.
- When pulling heavy load, the operator should keep away at a distance 2 times of the pulled out wire rope.

Manual of the clutch

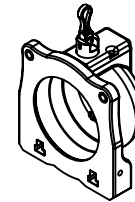


figure 9
9: Free position.

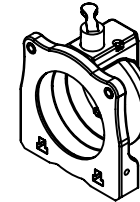


figure 10
10: High gear.

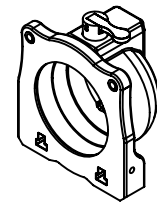


figure 11
11: Low gear.

- ◇ When operating alone: Lift the clutch handle and pull the wire rope quickly to a load or the anchor point, and this will carry out the best performance when it is in free position.
- ◇ You don't need to spend much time on withdrawing the wire rope, just turn the clutch handle to the position of high gear and the wire rope will go in quickly.
- ◇ Only turn the clutch handle to low gear when dragging heavy load so that it can be easily pulled back.

Notice: Free positionLow gear, check if the gears are totally engaged and the clutch handle is totally engaged into the gears. If it is not, you should rotate the drum by hand to make the gears engaged.

- Low gear-High gear: When turning the clutch handle, you should rotate the drum at the same time if the clutch doesn't engaged into the gears immediately. Do not turn the clutch handle by force.
- High gear-Low gear: Turn back the clutch handle to its original position and check if it is totally disengaged. If not, you need to rotate the drum by hand to make the gears totally engaged.

VI Maintenance

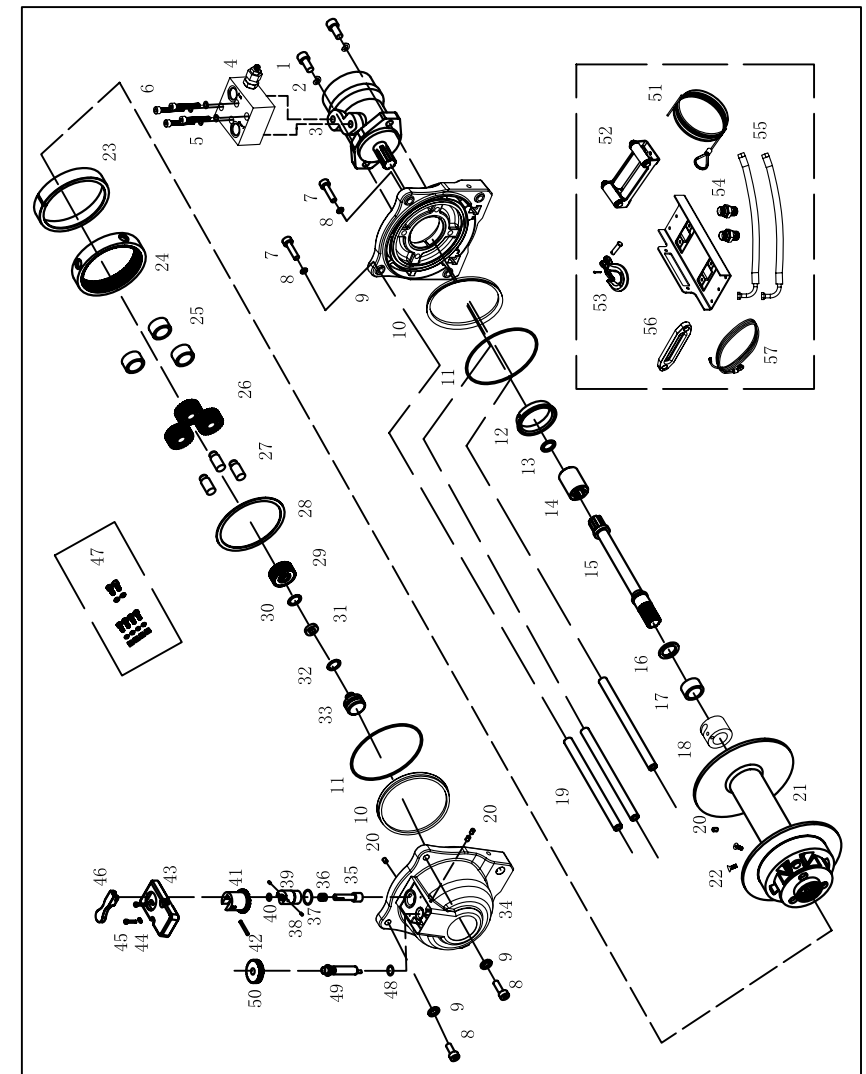
1. Check regularly if bolts are well tightened and the connection condition of controlling valve power.
2. Frequently check if the rope is broken. If one layer is broken, exchange it immediately. You'd better use the wire rope with the fixed size and strength produced by the original manufacturer instead of that provided by other companies. The repairs can only be done by Maintenance Centers authorized by the manufacture. The manufacturer is not responsible for any problems caused by users dissembling the transmission gear by themselves.

VII Malfunction Analysis

If malfunction happens, please contact the nearest retailers of the manufacturer or repairing centers authorized by the manufacturer.

Malfunction Description	Possible Causes	Solutions
The winch fails to work under load.	1.No power input.	1.Reconnect the hydraulic power.
	2.The winch is overloaded.	2.Reduce load or use double-line pulley block.
	3.Low hydraulic system pressure.	3.Check the pressure and reconnect.
	4.The winch is damaged.	4.Send the winch to Maintenance Centre.
	5.The motor is broken.	5. Exchange the motor.
The winch runs slowly.	1.Inadequate hydraulic oil flow.	1. Check oil flow.
The clutch can not work normally.	1. The clutch is damaged.	1.Send the winch to Maintenance Centre.
	2. Rotate inflexibly.	2.Check if all components are well installed.
Abnormal noise.	1. Too strong oil flow.	1.Check oil flow.
	2. Inadequate oil.	2.Increase oil .
	3. Wrong installation.	3.Check installation.
When the winch is stopped, the load can not stoped.	1. Wrong location of the center valve.	1.Regulate installation location according to the diagram of the oil flow.

VIII Replacement Parts List



NO	Name of parts	Qty	NO	Name of parts	Qty	NO	Name of parts	Qty
Standard Accessories								
1	Headed inner hexagon screw	2	23	Drum bushing A	1	46	Freepool handle	1
2	Spring shim	2	24	Ring gear	1	47	Screw package	1set
3	KM80 or KM100 Hydraulic winch	1	25	Needle bearing	3	48	O ring	1
4	Over center valve	1	26	Planetary gear	3	49	Connecting lever	1
5	Spring shim	4	27	Planetary gear shaft	3	50	Shift wheel	1
6	Headed inner hexagon screw	4	28	Inner gear gasket	1	Optional accessories		
7	Headed inner hexagon screw	4or6	29	Clutch gear	1	51	Wire rope	1
8	Spring shim	4or6	30	C- ring	1	52	Roller fairlead	1set
9	Motor support rack	1	31	Bearing	1	53	Hook	1set
10	Anti-leak ring	2	32	C- ring	1	54	Couplings	2
11	O-ring	2	33	Transit shaft	1	55	High pressure pipe	2
12	Drum bushing	1	34	Gearbox base	1	56	Hawse fairlead	1
13	O-ring	1	35	Clutch lever	1	57	Nylon rope	1
14	Socket	1	36	Pressed spring	1			
15	1 st shaft	1	37	O ring	1			
16	Plain washer	1	38	Spring pin	1			
17	Needle bearing	1	39	Freepool sleeve	1			
18	Wire rope fastner	1	40	O ring	1			
19	Tie bar	4or6	41	Clutch base	1			
20	Grub Inner hexagon screw	4	42	Spring pin	2			
21	Drum set	1set	43	Upper cover	1			
22	Grub screw	2	44	Spring shim	2			
			45	Headed inner hexagon screw	2			

IX Limited Warranty

- ◇ This limited warranty applies only to the original purchaser of Kingone Winch. Kingone Industrial Co., Ltd (the seller) is responsible for the genuine winch which is installed and used by following the instructions of this manual correctly. Kingone gives one year guarantee for all parts and components (except the wire rope).
- ◇ Once defects are found, with this quality warranty declaration, the buyer can claim for repairs or replacement from seller or the dealers authorized by Kingone. The buyer is required to show the following information: purchasing receipt, specifications, model, registered number, dates of purchase, name and address, vehicle number and description.
- ◇ This quality warranty does not cover the failures caused by misuse, alteration, non-Kingone parts modification, damage results from abuse or accident, or exceed the quality guarantee period. In this case, the buyers must pay for the transportation, material and labor, and Kingone is willing to supply parts, technique support and repairs for reasonable charge.
- ◇ This winch is designed for vehicle recovery. Industrial application and people transportation voids this warranty.

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