



HYDRAULIC WINCH

KXH9000

PLEASE READ CAREFULLY BEFORE OPERATE THE WINCH



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Gearbox assembly	35	Flat washer 6	12
	36	Hexagon socket screw M8×30	4
	37	Spring washer8	4
	38	Worm shaft end cover-left	1
	39	Hex head cap bolt M14×1.5	1
	26	Sealing gasket set14	1
	40	O-ring 42×2.65	2
	41	Spacer sleeve	2
	42	Roller bearing32205	2
	43	Worm shaft	1
	44	Flat key A-type 8×28mm	1
	45	Lip seal B type-B14	1
	46	Motor adapter	1
	47	Worm shaft end cover-right	1
	48	Shaft sleeve	1
Motor assembly	49	Hexagon socket screw M8×60	4
	37	Spring washer 8	4
	50	Flat washer 8	4
	51	Hydraulic motorBMR80	1
Tensioner assembly	52	Hexagon socket screw M12×35	2
	18	Spring wssher12	2
	53	Flat washer 12	2
Tensioner assembly	54	Spring	2
	55	Cotter pin	2
	56	Connecting Shaft	1
	57	Rope tensioner	1

Safety Warnings and Precautions



WARNING

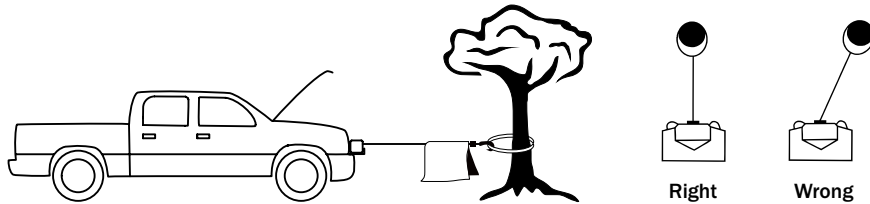
When using the winch, basic safety precautions should always be followed to reduce the risk of personal injury and damage to the equipment. Read all this instructions before using this winch!

- Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
- Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
- Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
- Use eye and ear protection.** Always wear impact safety goggles. Wear a full face shield if you are producing metal filings or wood chips. Wear a dust mask or respirator when working around metal, wood, and chemical dusts and mists.
- Maintain tools with care.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and, if damaged, have them repaired by an authorized technician. The handles must be kept clean, dry, and free from oil and grease at all times.
- Disconnect switch.** Unplug switch when not in use.
- Stay alert.** Watch what you are doing, use common sense. Do not operate any tools when you are tired.
- Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not start the winch if switch does not turn ON or OFF properly.
- Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for this winch.
- Do not operate winch if under the influence of alcohol or drugs.** Read warning labels on prescription to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the winch.

Winch Warnings and Precautions

- Keeps hands and body away form fairlead (cable intake slot) when operating.
- Secure vehicle in position before using winch.
- Be certain winch is properly bolted to a structure (or vehicle) that can hold the winch load.
- Do not use inappropriate attachments to extent the length of the winch cable.

5. Never lift people or hoist loads over people.
6. Never come in between the winch and the load when operating.
7. After moving an item with the winch, secure the item. Do not rely on the winch to hold it for an extended period.
8. Examine winch before using. Components may be affected by exposure to chemicals, salts, and rust.
9. Never fully extent cable while under load. Keep 5 complete turns of cable around the winch drum.
10. Never operate winch if cable shows any signs of weakening, knotted or kinked.



11. Winch does not have a locking mechanism. Secure load after moving.
12. Do not cross over or under cable under load
13. Do not move vehicle with cable extended and attached to load to pull it. The cable could snap.
14. Use gloves while handling cable.
15. Apply blocks to vehicle when parting on an incline.
16. Re-spool cable properly.

Unpacking

When unpacking, check to make sure all parts is included. Refer to Winch Assembly Drawing and Parts List (both with respective item numbers) at the end of this manual.

Installation

NOTE: Because your winch has a vented oil filled gear box, it must be mounted upright to prevent the oil from draining out.

Winch installation

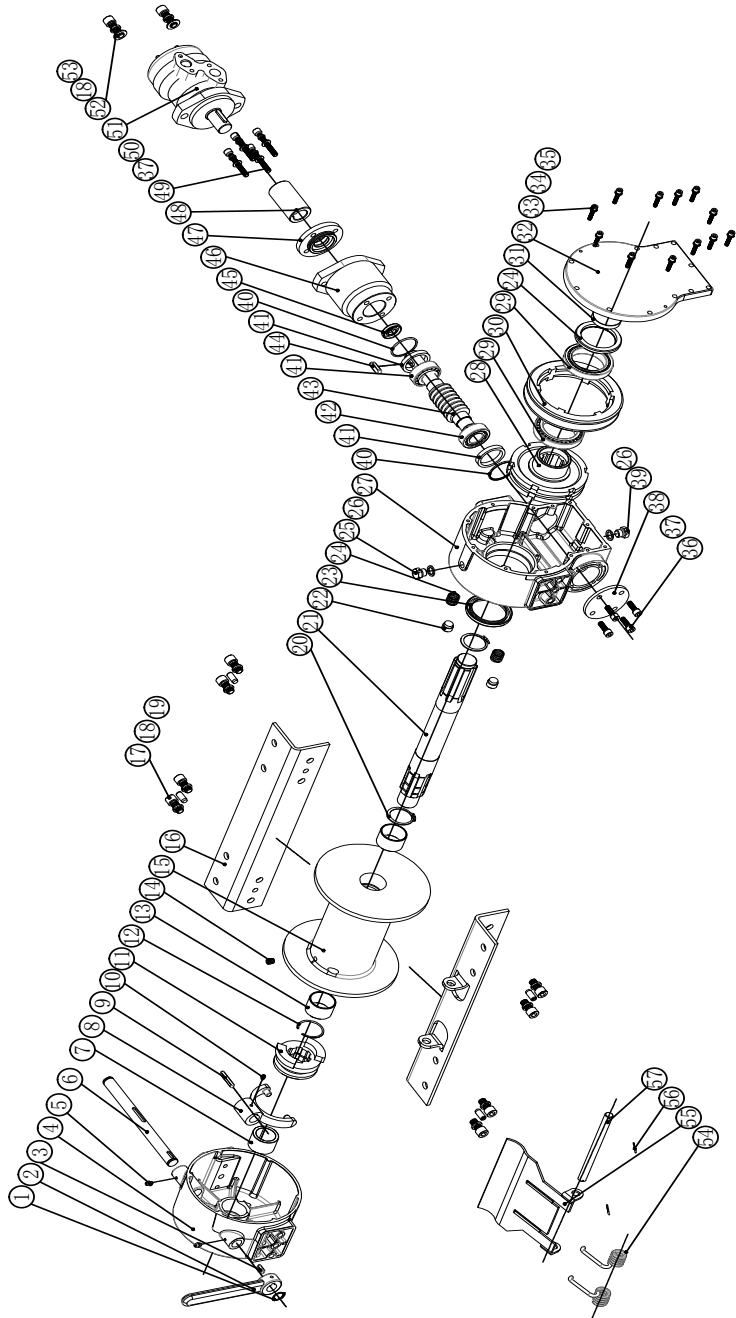
⚠ WARNING The winch is suitable for low-speed situations, with the worm revolution speed not higher than 25r/min. Before running, you must check if there are enough worm wheel oil in the worm box. The L-CKE worm wheel oil's stick degree is 320.

1.It is most important that this winch be mounted securely so that the three major sections (the clutch housing end, the cable drum and the gear housing end) are properly aligned.

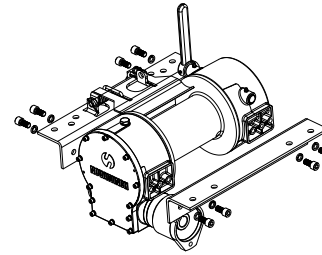
Winch Part List

Assembly	Item	Description	Qty
Clutch assembly	1	Circlips for shaft-A type-19	1
	2	Handle	1
	3	Flat key 6mmx8mm-A type	1
	4	Gear housing	1
	5	Straight-through pressure oil cup 6	2
	6	Clutch fork shaft	1
	7	Bearing sleeve	1
	8	Clutch fork	1
	9	Flat key 6mmx40mm-A style	1
	10	Hexagon socket set screws with plain pointM6×10	1
	11	Sliding block	1
	12	Retaining ring for shaft ϕ 42	1
Drum assembly	13	Sliding bearing	2
	14	Hexagon socket set screws M10×12	1
	15	Drum	1
	16	Setting plate	2
	17	Hexagon socket screw M12×25	8
	18	Spring washer12	8
	19	Taper pins with internal thread 10×12	4
	20	Circlip for shaft ϕ 42	2
Worm Gear assembly	21	Spline shaft	1
	28	Worm assembly	1
	30	Worm gear wheel ϕ 52×30mm	1
Gearbox assembly	22	Brake block	2
	23	Lip seal B type-B57	1
	24	Spring 12	1
	25	Bleed nippleM14×1.5	1
	26	Sealing gasket set14	1
	27	Worm gear box	1
	29	Cylindrical roller bearing 32912	2
	31	Oil sealing 50×10mm	1
	32	Worm gear box cover	1
	33	Hexagon socket screw M6×30	12
	34	Spring washer 6	12

Winch Assembly Drawing

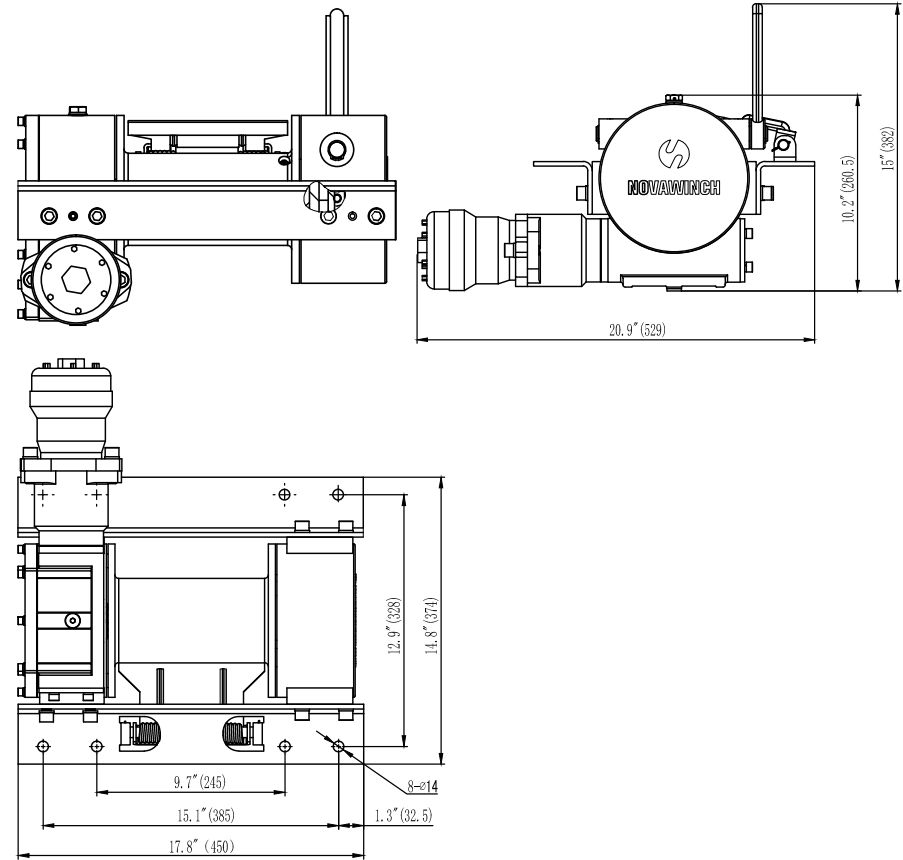


2. When winch is without Base housing: Mount winch to the vehicle by using two pieces of setting plate, high strength Hex-head bolts M10×35 8PCS, flat washer Φ10 8 PCS. It should be aligned and secured to a solid part of the vehicle (front or rear) where the full rated load will be evenly distributed.



Ref. No.	Description	Quantity
1	Hex-head bolts M10×35	8
2	Flat washer Φ10	8

3. Please refer to installation illustration.



Mounting the directional solenoid valve assembly

The valve should be mounted away from any areas where heat may be considered too extreme. Such as an exhaust manifold or turbo. Be sure all plumbing and wiring reaches from the area selected without being stressed. It may be mounted by using the bracket and Allen screws supplied. Using the bracket as a guide, mark the location of where the mounting holes are going to be drilled, remove the plate and drill four 1/4" holes. Mount valve assembly using nuts, bolts.

Note: On some vehicles grill may have to be removed to install plumbing and wiring for the winch.

Electrical connections

If winch's power supply is from the vehicle's exiting power steering pump, the solenoid valve system is designed to default to the power steering box so power steering is always available even when the winch is in use. The power source to the solenoid is not energized until the three-pole quick connector plug is plugged in. Each solenoid has two wires—either of which can be used as a ground or for electric power. The grounds are connected to each other at the factory. The other will connect to the blue and yellow wire in the harness (see illustration). Determine a location on the front grill to mount the female 3 pole plug connector. Drill a hole and mount the female 3 pole plug connector using nuts, bolts and washers supplied. Connect all wiring as shown in illustration. Test hand control unit, solenoids will make a slight "lick" sound if connected properly.

KXH9000 winch performance specifications	
Rated line pull	9000lb (4082kg)
Note	Rated line based on the first layer of cable
Gear ratio	52:1
Weight w/o Cable	101.5Lbs/46Kg
Recommend Cable Size	φ2/5 In(10.3 MM) x 68.9Ft (21M)
Min Cable strength	102KN
Cable	Optional
Winch Size (L x W x H)	17.7"x20.8"x15.4" (450x528x393mm)
Drum Size (D x L)	4.3"x7.8"(φ110x200MM)
Speed	19.7Ft/Min(6M/Min)
Hydraulic Pressure Required	2030PSI(14Mpa=140Bar)
Hydraulic Flow Required	15.9GPM(60.0LPM)
Motor Size	4.8Cu.In.(81.5cc)
Clutch Type	Lever Style
Clutch Control	Manual

KXH9000 winch Line pull and pressure difference (difference)					
Rated line pull	lbs	0	3000	6000	9000
	kg	0	1360	2721	4082
Pressure difference between motor entry and exit	Mpa	5.6	7.2	10.6	14

KXH9000 winch Line pull and cable capacity (firstlayer)				
Layer of cable		1	2	3
Rated line pull per layer	lbs	9000	7684	6704
	kg	4082	3485	3040
Line speed	Ft/min	19.7	22.3	25.6
	m/min	6	6.8	7.8
capacity per layer	Ft.	22.3	50.6	68.9
	m	7.1	15.5	21

Lubrication

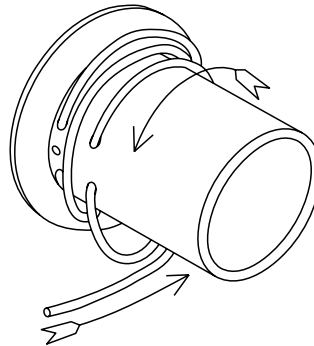
1. All moving parts within the winch having been lubricated using high temperature lithium grease at the factory. No internal lubrication is required.
2. Lubricate cable assembly periodically using light penetrating oil.

Cable Assembly Replacement

1. Turning clutch to the "Clutch Out" position.
2. Extend cable assembly to its full length. Pay attention to how the existing cable is connected to the drum.
3. Remove old cable assembly and attach new one.
4. Retract cable assembly onto drum, first five wraps being careful not to allow kinking then winch cable must be wound onto the drum under a load of at least 10% rate line pull.
5. The roller fairlead is to be mounted so as to guide the rope onto the drum evenly.

Pulling out the rope

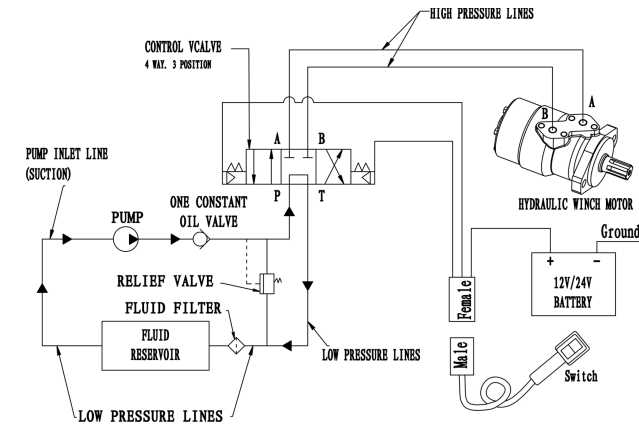
Dis-engage the freespool. With a pair of gloves on, pull out the rope and secure to anchor or load. Re-engage the freespool.



Plumbing connections

Keep all hoses away from any areas where heat may be considered too extreme such as an exhaust manifold or turbo. Lines should not be allowed to rub on any abrasive or vibrating surfaces. In some applications, right angle fittings on the directional valve and motor are necessary to make hose mounting more flexible. After plumbing has been laid out on vehicle, install o-ring fitting supplied to valve. Torque tight. **DO NOT OVERTIGHTEN ANY FITTINGS.** Install o-ring fitting on winch motor. Torque tight. Connect any hose port A on motor to port A on directional valve, port B on motor to port B on directional valve, port P on directional valve to pump's high pressure port, port T on valve to reservoir. Attach any o-ring or seal from vehicles original tube fitting to tube fitting.

Working hydraulic principle chart:



WARNING

Battery cables should not be drawn taut, leave slack for some cable movement.

If your application is supplied with an added cooler, please refer to illustration. Check fluid level. Replace lost fluid to system. System will need to be purged. Start engine. Power winch cable in 5 feet. Shut engine off. Check fluid level. (Add fluid until full. start engine. power winch cable. Out 5 feet. Shut engine off. Check fluid level.) Add fluid until full if necessary. Start engine. Power winch cable into desired position. Turn vehicle wheels from lock to lock position 5 times. This will aid in bleeding out any air that may have got into the system.

If the hand control unit is working backwards, simply exchange the brown and white wire connectors.

Winch cable must be wound onto the drum under a load of at least 10% rated line pull

or outer wraps will draw into inner wraps and damage winch cable.
 Test winch for proper operation. Refer to the operation section below.

WARNINGS!

1. Make sure the clutch is totally engaged before starting any winch operation;
2. Stay clear and away from raised loads;
3. Stay clear of cable while pulling do not try to guide cable;
4. A min. of 5 wraps of cable around the drum.

General information

The winch's standard equipments contain gear reducer, dump, hydraulic motor, solenoid valve, switch assembly, female connector and plumbing fittings. The winch obtains its pressure from the vehicle's existing power steering pump or other hydraulic power. The winch is totally sealed, can be used underwater.

There are several ways to supply the pressure for winch. The first way: use an individual pump for engineering use; the second way: the winch's pressure is from the vehicle's exiting power steering pump as installation illustration:

(1) Use a suitable individual pump which has no oil valve. It supplies pressure for both steering box and winch.

(2) Use a combined pump which integrates an oil valve together. The oil valve supplies two kinds of flow for difference demand, one with constant flow is for steering use, the other with higher power is for engineering use. Refer to installation. You can choice the best suitable way.

Operating Instructions

The semi-automatic clutch provides free spooling and clutch engagement with cable drum. With the clutch disengaged, the cable can be pulled off the cable by hand. For winching in the load, the clutch must be fully engaged with the drum.

To disengage the clutch run the winch in the reverse (reel-out) direction until the load is off the cable and the cable drum stops turning. Pull outward on the clutch handle, rotate it counterclockwise 90o and release. The clutch is now locked out and the cable may be pulled off by hand.(Note: If the clutch handle can not be pulled out, again run the winch momentarily in reverse to relieve pressure on the clutch jaws).

Warning: Do not attempt to disengage the cable drum when there is a load on the cable.

Maintenance

Check monthly the action of the sliding clutch, making sure it is fully engaging and disengaging with the cable drum. With the clutch in the engaged position , remove the plastic plug into of the housing and observe if the clutch is fully engaging. If clutch is

not fully engaging inspect clutch shifter assembly parts, check for damage or excessive wear and replace as necessary. Observe the jaws on both the clutch and cable drum, checking for rounding of the drive faces. If rounding has occurred, they should be replaced immediately.

To preserve original appearance, wax periodically.

Spool the cable properly on the drum when storing between each usage.

Check the oil level in the gear boxes every six months. At the same time, check electrical connections and mounting bolts-tighten if necessary.

Corrosion on electrical connections will reduce performance or may cause a short.

Clean all connections, especially in remote switch receptacle. In salty environments use a silicon sealer to protect from corrosion.

Be sure the winch has plenty of battery power available.

Replace oil annually, or more often if winch is used frequently.

Trouble shooting

SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Winch does not turn	-Insufficiently hydraulic system pressure. -Improper connections of hydraulic system, no oil into motor.	-Check relief valve regulate pressure. -Check all the plumbing fixtures according to the working principle chart. -Defective directional control valve.
Motor runs but Cable drum does not turn	-The clutch is Not engaged.	-Turn the clutch to the high or lows peed position. If problem still persists, a qualified technician needed to check and repair.
Winch drum runs slowly or without normal power	-Insufficient pressure or oil flow. -Insufficient fluid in the system. -Wrong winch working direction.	-Bump is not suitable or defective. Change a new one or a suitable one -Check fluid level. Add fluid until full. -Change the connection of balance valve and motor.
Winch cannot spool off wire rope with load smoothly	-Wrong winch working direction.	-Change the connection of balance valve and motor.