

Laubjerg **vinsch**[®]

HYDRAULIC WINCH

LV-HV8000

Assembly & Operating Instructions

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INTRODUCTION

Congratulations on your purchase of a high quality winch. We design and build winches to strict specifications and with proper use and maintenance should bring you years of satisfying service.

⚠ WARNING - Read, study and follow all instructions before operating this device. Failure to heed these instructions may result in personal injury and/or property damage.

Your winch can develop tremendous pulling forces and if used unsafely or improperly could result in property damage, serious injury or death. Throughout this manual you will find the following symbols for caution, warning and danger. Pay particular attention to the notes preceded by these symbols as they are written for your safety. Ultimately, safe operation of this device rests with you, the operator.

⚠ CAUTION

This indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. This notation is also used to alert you against unsafe practices.

⚠ WARNING

This indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury.

SAFETY WARNINGS AND PRECAUTIONS

 **WARNING:** When using the tool, 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 tool!

 **WARNING –Keep children away.** Children must never be allowed in the work area Do not let them handle machines, tools, or extension cords.

 **WARNING –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.

 **WARNING –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.

 **WARNING –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.

 **WARNING –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.

 **WARNING –Disconnect switch.** Unplug switch when not in use.

 **WARNING –Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.

 **WARNING –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 use the tool if any switch does not turn “On” and “Off” properly.

 **WARNING** –**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 use this tool.

 **WARNING** –**Do not operate tool 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 tool.

WINCH WARNINGS AND PRECAUTIONS

 **WARNING** –Keeps hands and body away from Fairlead (cable intake slot) when operating.

 **WARNING** –Secure vehicle in position before using winch.

 **WARNING** –Be certain winch is properly bolted to a structure (or vehicle) that can hold the winch load.

 **WARNING** –Do not use inappropriate attachments to extend the length of the winch cable.

 **WARNING** –Never lift people or hoist loads over people.

 **WARNING** –Never come in between the winch and the load when operating.

 **WARNING** –Do not apply load to winch when cable is fully extended. Keep at least 5 full turns of cable on the reel.

 **WARNING** –After moving an item with the winch, secure the item. Do not rely on the winch to hold it for an extended period.

 **WARNING** –Examine winch before using. Components may be affected by exposure to chemicals, salts, and rust.

 **WARNING** –Never fully extend cable while under load. Keep 5 complete turns of cable around the winch drum.

 **WARNING** –Never operate winch if cable shows any signs of weakening, knotted or kinked.

 **WARNING** –Winch does not have a locking mechanism. Secure load after moving.



WARNING –Do not cross over or under cable under load.

WARNING –Do not move vehicle with cable extended and attached to load to pull it. The cable could snap.

WARNING –Use gloves while handling cable.

WARNING –Apply blocks to vehicle when parked on an incline.

WARNING –Re-spool cable properly.

WARNING –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

WARNING –Whenever before your winch start to working, please slightly test-run your winch in two direction each last one or two second, even if the winch drum only round a few degree of angle, ensure the winch is well-balanced, especially after you operated the clutch, test-running winch can make winch in gear.

UNPACKING

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

INSTALLATION

1. Your winch is designed with a bolt pattern that is standard in this class of winch. Many winch mounting kits are available that utilize this bolt pattern for the most popular vehicle and mounting channels. If you cannot find a kit locally, contact us and we will provide you with the name of a dealer near you. If you will utilize the mounting channel you must ensure that it is mounted on a flat surface so that the three major sections (motor, drum and gear housing) are properly aligned. Proper alignment of the winch will allow even distribution of the full rated load.
2. Start by connecting the roller fairlead (Part# HX0800600) to the mounting channel (Part# HX0800026) using 2 each of the cap screw M10 X 35 (Part# HX0800027), flat washer (Part# HX0800025), lock washer (Part# HX0800024) and securing with locknut M10 (Part# HX0800023) (Make sure the screw is placed through the

mounting channel and roller fairlead from inside the channel. This will allow enough clearance for the winch to be placed in the channel without obstruction.)

3. Assemble the winch to the mounting channel (Part# HX0800026) by first pulling and releasing the clutch knob to “CLUTCH OUT” position. Pull out a few inches of cable from the drum and feed the wire loop through the opening in the front of the mounting channel and roller fairlead. Now, using the remaining cap screws M12 x 35 (Part# HX0800004) and lock washer (Part# HX0800002) and nut M12 (Part# HX0800007) secure the winch to the mounting channel.
4. Connect the two-color (positive) battery cable from the directional valve to screw-down positive (+) terminal to the 12/24 volt battery.
5. 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 is 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.

If your winch is U type, the directional solenoid valve is combined to hydraulic motor already.

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

Electrical Connections:

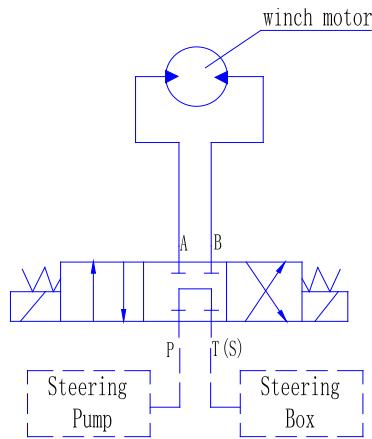
If winch's power supply is from the vehicle's exiting power steering pump, the solenoid valve system is designed default to the power steering box so power steering is always available even when the winch is in use. The power source to the solenoid is not energized until the three or four pole quick 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 . Connect all wiring to the

battery as shown in illustration. Then test hand control unit, solenoids will make a slight “click” sound if connected properly.

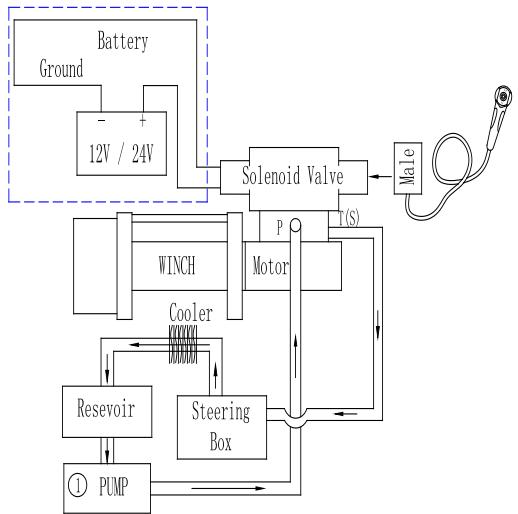
Plumbing Connections:

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, 90°fittings on the directional valve and motor or balance valve are necessary to make hose mounting more flexible. After plumbing has been laid out on vehicle, install o-ring fittings supplied to valve. Torque tight. Do not over tighten any fittings. Install o-ring fittings 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, if necessary connect any hose port S on valve to steering box. Attach any o-ring or seal from vehicles original tube fitting to tube fitting.

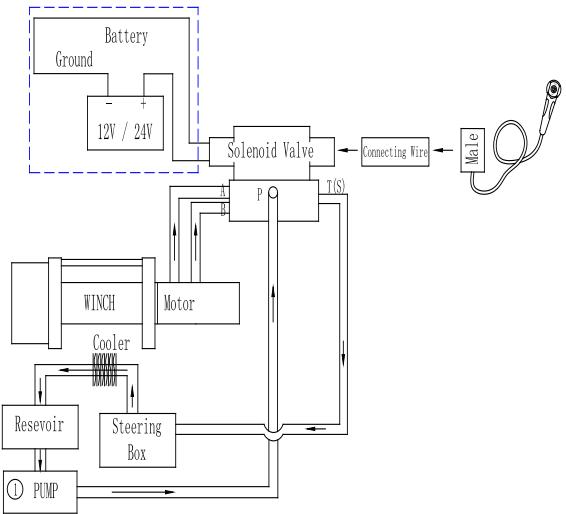
Working hydraulic principle chart and installation illustration:



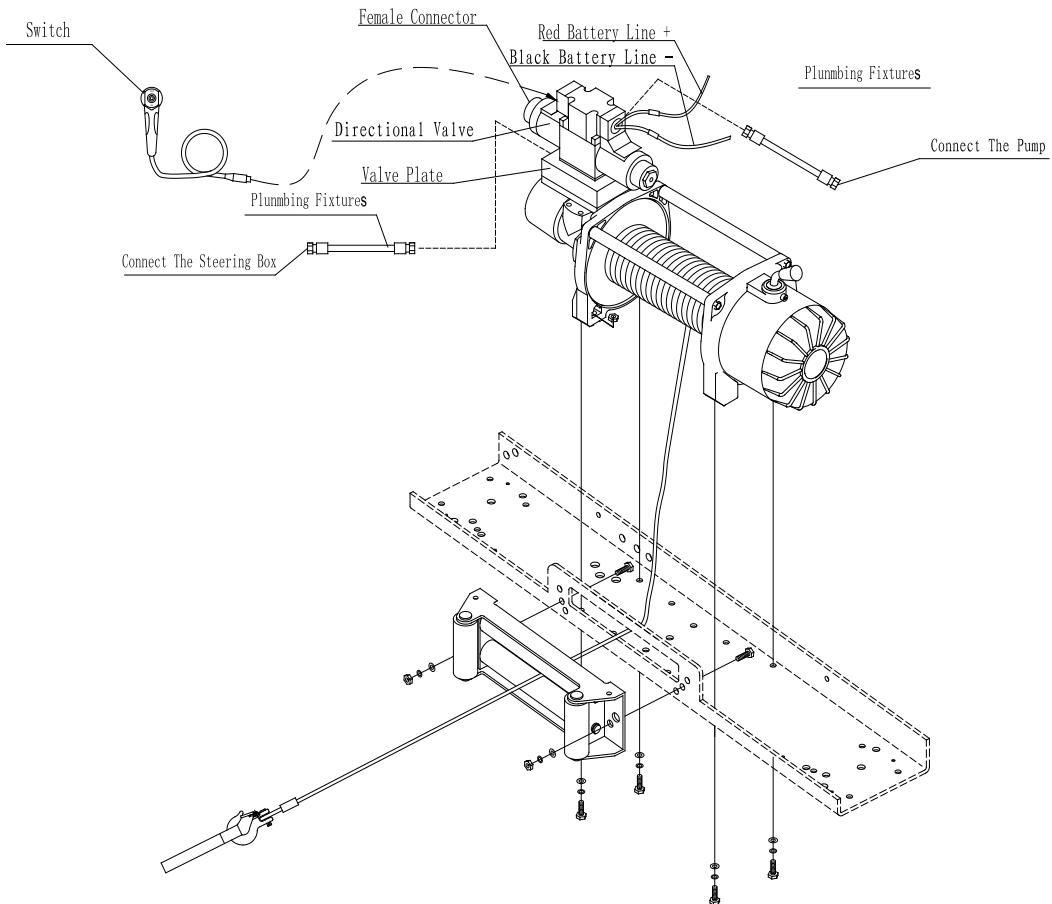
U type



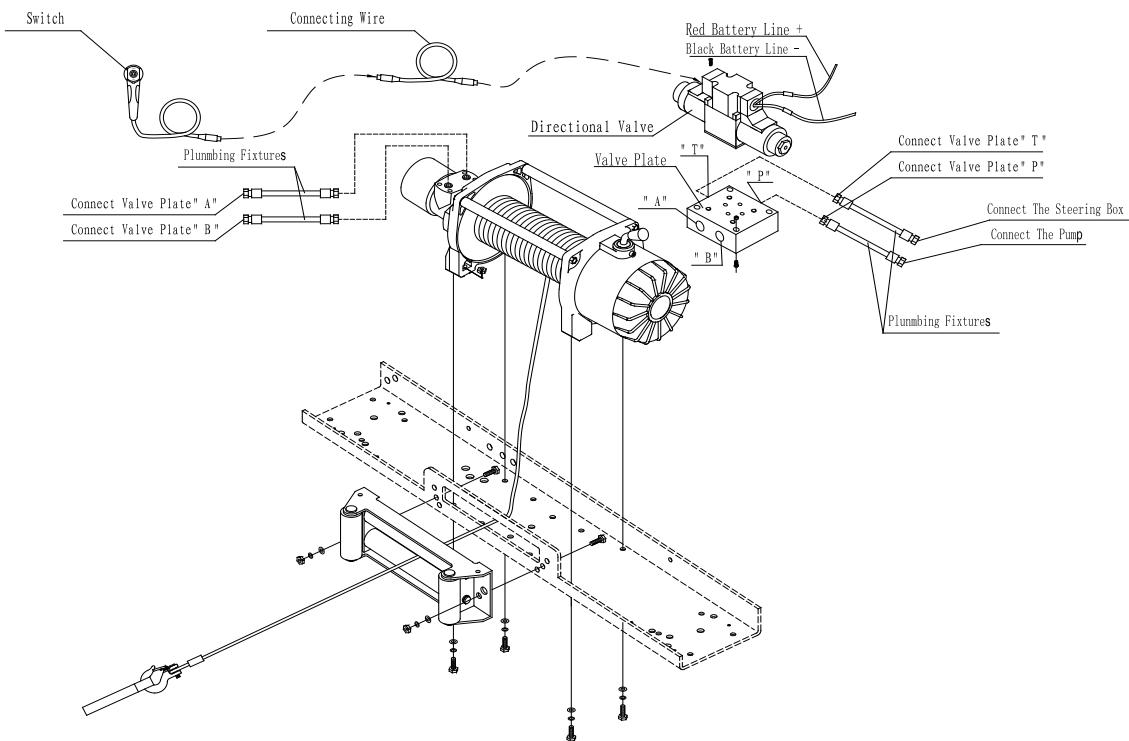
A type



The mounting drawing of U type



The mounting drawing of A type



⚠ Caution:

Hydraulic system needs a relief valve to make sure the system is safe; If there is not relief valve in the system; it would be serious danger and the system can't operation. If your winch drived by an existing hydraulic power system, the relief valve is also existing.

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 wrings cable into desired position. Turn vehicle wheels from lock to lock position 5 times. This will aid in bleeding out any air the may have got into the system.

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

Test Winch for proper operation. Refer to the Operation section, below.

OPERATION

⚠️WARNING

- 1 Make sure 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 barrel.**

General information:

The Winch's standard equipments contain gear reducer、drum、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.

For your reference there are several other ways to supply power 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 not oil valve; it supply pressure for both steering box and winch. ②: Use a combined pump which integrate an oil valve together, the oil valve supply two kinds of flow for difference demand, one with constant flow is for steering use, the other with higher power is for engineering use.

⚠️Caution:

Hydraulic system needs an relief valve to make sure the system is safe; If there is not relief valve in the system; it would be serious danger and the system can't operation. If your winch drived by an existing hydraulic power system, the relief valve is also existing.

Winch working demonstration:

1. Disengage the clutch by turning the clutch to the "CLUTCH OUT" position.
2. Grab the cable assembly (Part# HX0800900) and pull the cable to the desired length, then attach to item being pulled.

Caution: Always leave at least five turns of cable on the drum; Review Winch Safety Warnings and Precautions on page 2, 3 before continuing.

3. Reengage the clutch by turn the clutch handle (Part# HX0800024) to the "CLUTCH IN" position, rarely if ever the clutch is difficult to engage, you should slightly turn the drum by hand, and then turn the clutch.
4. Insert the switch assembly (Part# HX0800800) connector onto the directional valve
5. Test-run winch in two directions, each direction last one or two seconds, to test whether winch working normally in two directions, meantime make sure the clutch totally engaged.
6. While standing aside of the tow path, hold and operate the Switch Assembly supplied by your choice. To reverse directions. Wait until the motor stops before reversing directions.
7. When the towing is complete, remove the switch assembly (Part# HX0800800). From the female connector of the directional valve and replace the female connector cover.

WINCH ACCESSORIES YOU WILL NEED

NOT INCLUDED WITH YOUR WINCH

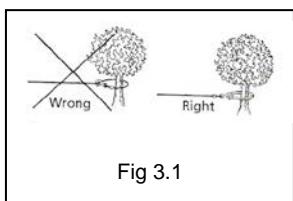
Gloves – For handling the wire rope and hook strap.

Anchor Strap/Chain – Tree saver anchor straps are made of high quality nylon with high tensile strengths up to 15000lbs.

Heavy Blanket – place on the cable to absorb energy should the wire rope break.

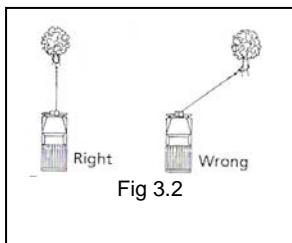
RIGGING TECHNIQUES

Self-Recovery



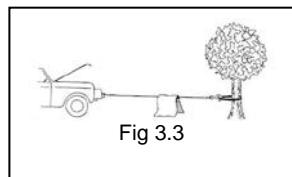
Locate a suitable anchor such as a strong tree trunk or boulder.

Always use a sling as an anchor point. **⚠ CAUTION** Do not attach the clevis hook back onto the cable as this could cause damage to the cable. As shown in Fig 3.1

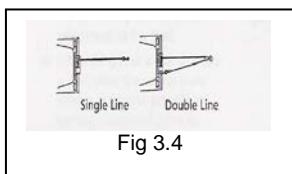


CAUTION Do not winch from an acute angle as the wire rope will pile up on one side of the drum causing damage to wire rope and the winch. Fig 3.2

Short pulls from an angle can be used to straighten the vehicle. Long pulls should be done with the wire rope at a 90° angle to the winch/vehicle.

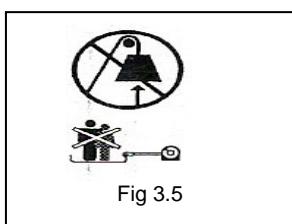


When pulling a heavy load, place a blanket or jacket over the wire rope five or six feet from the hook. In the event of a broken cable it will dampen the snap back. For additional protection open the hood of the vehicle as shown in Fig 3.3



For pulls over 70% rated line pull, we recommend the use of the snatch block/pulley block to double line the wire rope. Fig 3.4

This reduces the load on the winch and the strain on the rope by up to 50% depending on the included angle.



WARNING - Never use your winch for overhead hoisting or for lifting people or moving people.

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 a light penetrating oil.

CABLE ASSEMBLY REPLACEMENT

If the wire rope has become worn or is beginning to show signs of strands breaking, it must be replaced before being used again.

1. Turning clutch to the "CLUTCH OUT" position.

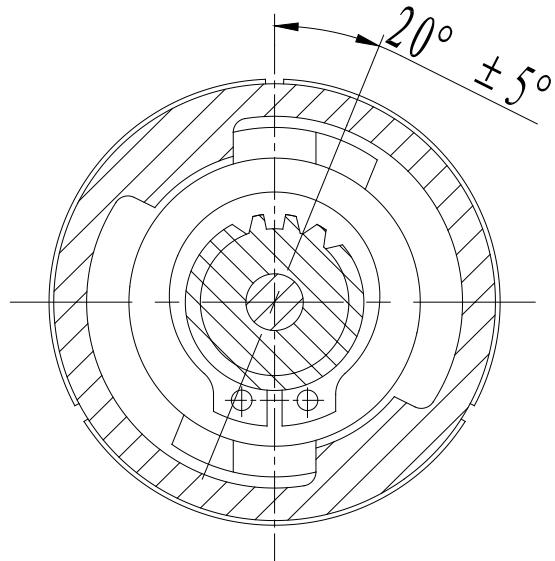
2. Extend cable assembly to its full length. Note how the existing cable is connected to the drum.
3. Remove old cable assembly and attach new one as the Id cable connected to the drum. Insert the end of the new rope and secure the screw M8x10 (Part# HX0800013) being tightly screwed
4. Turning clutch to the “CLUTH IN” position.
5. 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% rated line pull.

 **WARNING** - Only replace the wire rope with the identical replacement part recommended by the manufacturer.

TROUBLE SHOOTING

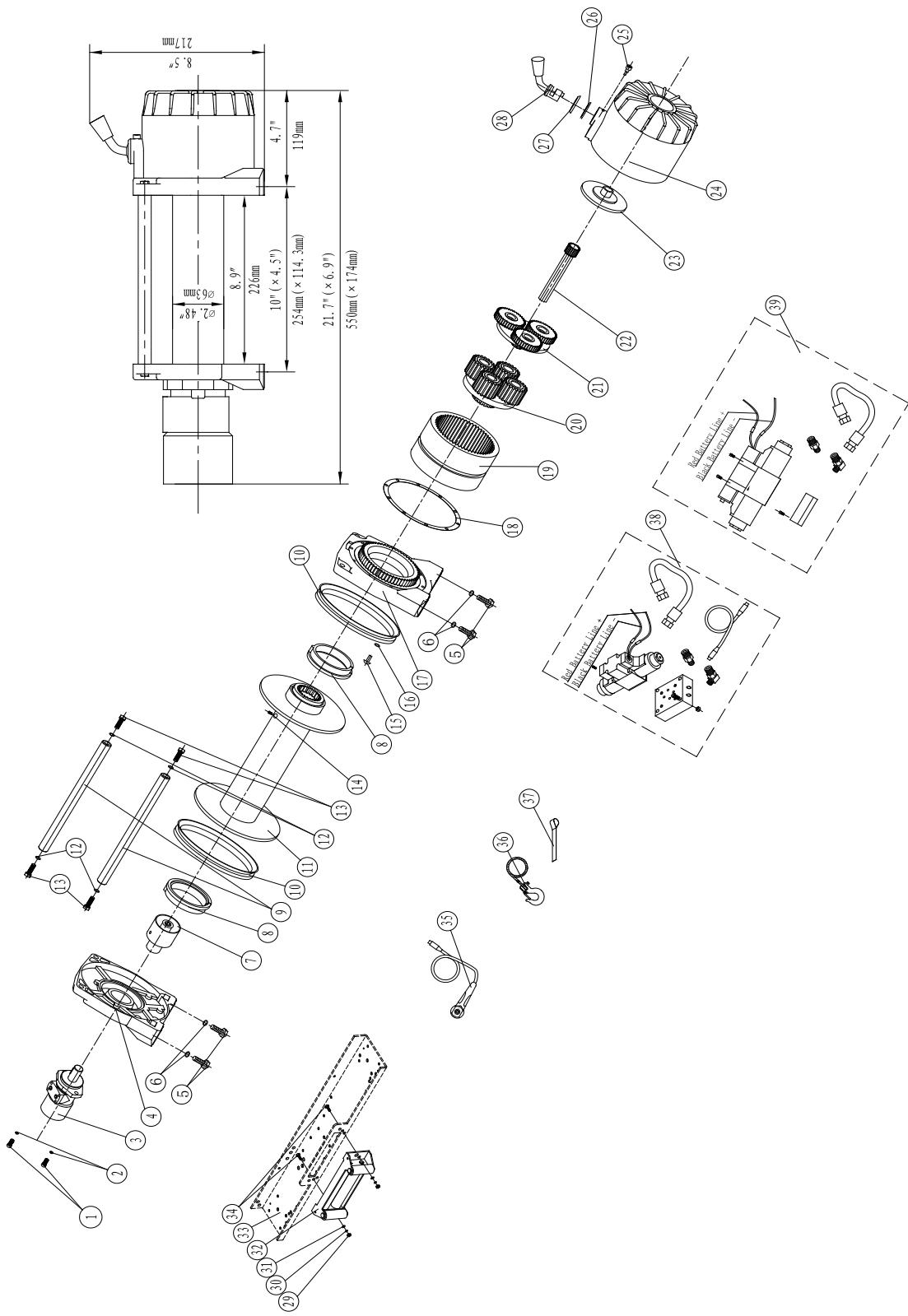
SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Winch does not turn	-Electrical connections have not connected properly	-Insert Switch Assembly all the way into connector. -Tighten nuts on all cable connections.
Motor runs but Cable drum does not turn	- The clutch is Not engaged	-Turn the clutch to the high or low speed 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	-Bump is not suitable or defective. Change a new one or a suitable one -Check fluid level. Add fluid until full.
Winch working direction is in backwards of the switch assembly.	-Electrical connections are in wrong direction in the valve solenoid.	-Simply exchange the blue and yellow wire connectors at the solenoid of directional valve, or change the oil pipe between the valve and motor.
Winch braking malfunction.	-Winch working in wrong direction. -Brake slice worn or worn not.	-Change winch working direction looking is to clockwise look at the motor end - Simply readjusted the braking angle or replaces the new brake slice.

⚠️WARNING - Adjustment braking angle method: The spring according to the spring gyrotropic pre-tight two weeks, then shows the spline tooth set according to following braking cutaway view the adjustment angle for $20^\circ \pm 5^\circ$.



WINCH ASSEMBLY DRAWING

LV-HV SERIES U/A



WINCH PARTS LIST
LV-HV SERIES U/A

No.	Part #	Qty	Description	Remark
1	HX0800001	2	Screw M12×30	
2	HX0800002	2	Lock Washer Ø12	
3	HX0800100-U	1	Hydraulic Motor	Used in U type
	HX0800100-A			Used in A type
4	HX0800003	1	Front Bearing	
5	HX0800004	4	Cap Screw M12 x 35	
6	HX0800002	4	Lock Washer Ø12	
7	HX0800200	1	Break / Shaft Assembly	
8	HX0800005	2	Bushing—Drum	
9	HX0800006	2	Tie Bar	
10	HX0800007	2	Ring Seals	
11	HX0800300	1	Drum Assembly	
12	HX0800008	4	Thin Flat Washer Ø8	
13	HX0800009	4	Cap Screw M8 x 30	
14	HX0800010	1	Screw M8 x 10	
15	HX0800011	10	Screw M4 x 25	
16	HX0800012	10	Lock Washer Ø4	
17	HX0800013	1	End Bearing	
18	HX0800014	1	Gasket	
19	HX0800015	1	Gear—Ring	
20	HX0800400	1	Gear Carrier Assembly (Output)	
21	HX0800500	1	Gear Carrier Assembly (Input)	
22	HX0800016	1	Transmission Shaft	
23	HX0800017	1	Trust Washer	
24	HX0800018	1	Gear—Housing	
25	HX0800019	1	Clutch Screw	
26	HX0800020	1	Ring Seals	
27	HX0800021	1	Clutch Cover	
28	HX0800022	1	Clutch Handle	
29	HX0800023	2	Locknut M10	
30	HX0800024	2	Lock Washer Ø10	
31	HX0800025	2	Thin Flat Washer Ø10	
32	HX0800600	1	Roller Fairlead	
33	HX0800026	1	Mounting Channel	By Choice
34	HX0800027	2	Cap Screw M10 x 35	
35	HX0800700	1	Remote Control Switch (RCH)	
36	HX0800800	1	Cable Assembly	Used in HWX8000
	HX1000800			Used in HWX9000
	HX1200800			Used in HWX10000
				Used in HWX12000
				Used in HWX13000
37	HX0800028	1	Strap	
38	HX0800900	1	Control Section Of A Type winch	By Choice
39	HX0801000	1	Control Section Of U Type winch	By Choice

SPECIFICATION(LV-HV8000U/A)

Rated line pull	8000 lbs (3629kgs)	
Motor displacement	65ml/r	
Oil flow	5~45L/min	
Pressure	8.5Mpa	
Gear reduction ratio	28:1	
Cable (Dia.× L)	Ø21/64"×95 ' (Ø8.3mm×29m)	
Drum size(Dia.× L)	Ø2.48"×8. 8" (Ø63mm×223mm)	
Mounting bolt pattern	10 "×4.5 " (254mm×114.3mm) 4-M12	
Item	HWX8000U	HWX8000A
Overall dimensions (L×W×H)	21.7"×6.9"×10.6" 550mm ×174mm ×270mm	21.7"×6.9"×8.5" 550mm ×174mm ×217mm
Net weight lbs(kg)	87 39.5	87.5 39.7

Pull, Speed, Pressure, Flow (First layer)

Line pull lbs(kgs)	Pressure Mpa(Psi)	Flow G/min(L/min)	Line speed ft/min(m/min)
0	2.0(290.1)	1.3(5)	1.6(0.5)
4000(1814)	3.6(522.1)	2.6(10)	3.6(1.1)
6000(2722)	6.5(942.7)	5.2(20)	7.5(2.3)
8000(3629)	8.5(1232.8)	9.2(35)	12.8(3.9)
/	/	11.9(45)	17.4(5.3)