
ELECTRICAL WINCH

45EWHST12
45EWHST24



Assembly & Operating Instructions

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INTRODUCTION

Congratulations on your purchase of a high-quality winch. We design and build hoists to strict specifications and with proper use and maintenance they 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 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.

GETTING TO KNOW YOUR HOIST

Your winch is a powerful piece of machinery. It is important that you understand the basics of its operation and specifications so that when you need to use it, you can use it with confidence and safety. Below is a list of components for your hoist and their use. You should practice using your hoist before you are in a situation where you need to use it.

1. Your 4500 EWHST winch is a part of our new product lines which have been engineered with several patented technologies.
2. Motor: Your 3.2hp motor is powered by a 12/24-volt battery and provides power to the gear mechanism which turns the drum and winds the wire rope.
3. Hoist Drum: The hoist drum is the cylinder on which the wire rope is stored. It can feed out or wind in the rope by using the remote control.
4. Wire Rope (cable): Your hoist has a 6.4mm x 10m galvanized aircraft cable designed specifically for load capacity of 900lb. The wire rope feeds onto the drum in the “under wind” position through the roller fairlead and is looped at the end to accept the clevis hook pin.
5. Roller Fairlead: When using the hoist at an angle the roller fairlead acts to guide the wire rope onto the drum and minimizes damage to the wire rope from abrasion on the hoist mount.
6. Mechanic Gear System: The reduction gears convert the hoist motor power into extreme pulling forces.
7. Braking System: Braking action is automatically applied to the hoist drum when the hoist motor is stopped and there is a load on the wire rope. A separate mechanical brake applies the braking action.
8. Control System: Your hoist was made to be used in a variety of operations. The winch can be controlled by using the power cord/remote control or through a solenoid control box.
9. Solenoid: Power from the vehicle battery flows through the weather-sealed switch before being directed to the winch motor.
10. Remote Switch: The power switch leads have a dual switch for powering in or powering out your winch drum. The remote control allows you to stand clear of the wire rope when the winch is under load.

11. Universal Flat Bed Mounting Channel: Your winch could have been optionally supplied with a flat bed mounting channel that can be mounted to most flat surfaces. The mounting channel also has holes to accept your roller fairlead.

SAFETY PRECAUTIONS

WARNING

 **WARNING** – Do not exceed rated capacity shown in this table.

Layer	Rated line pull lbs (kgs)	Total rope on the drum ft (m)
1	900(408)	7.6(2.3)
2	728(330)	17.0(5.2)
3	611(277)	27.0(8.3)
4	526(238)	32.8(10.0)

 **WARNING** – Intermittent use only. Allow hoist to cool between uses.

 **WARNING** – Do not use hoist to pull or move people in any way.

 **WARNING** – NEVER cut, weld or modify any part of the hoist or cable.

 **WARNING** – A minimum of five wraps of cable around the drum barrel is necessary for pulling and holding the rated load.

 **WARNING** – Keep yourself and others a safe distance to the side of the cable when it is under tension.

 **WARNING** – The wire rope may break before the motor stalls.

 **WARNING** – Never go near a cable under load.

 **WARNING** – Disconnect the remote control and battery leads when not in use.

 **WARNING** – Avoid “shock loads” by using the control switch intermittently to take up the slack in the wire rope. “Shock loads” can far exceed the rate capacity for the wire rope and drum.

 **WARNING** – Do not exceed maximum line pull ratings shown on the tables.

! WARNING – When re-spooling the cable ensure that the cable spools in the under-wind position with the cable entering the drum from the bottom, not the top. To spool correctly you should keep a slight load on the cable while pushing the remote button to draw in the cable. Walk toward the hoist not allowing the cable to slide through your hands. Do not let your hands get within 12" of the hoist while re-spooling. Turn off the hoist and repeat the procedure until a few feet of cable is left. Keep hands clear of the fairlead and drum while the winch is under power.

! WARNING Failure to heed these warnings may result in personal injury and/or property damage.

! WARNING – Use gloves to protect hands when handling the cable. Never let the cable slide through your hands.

! WARNING – Never connect the cable back to itself. Duration of hoisting lifts should be kept as short as possible. If the motor becomes uncomfortably hot to the touch, stop hoisting immediately and let it cool down for a few minutes. Do not lift for more than one minute at or near the rated load.

! CAUTION – If the motor stalls do not maintain power to the hoist. Electric winches/hoists are designed and made for intermittent use and should not be used in constant duty applications.

! CAUTION – Use the hand saver hook when handling the hook for spooling or un-spooling the wire rope.

GENERAL TIPS FOR SAFE OPERATION

- The winch and its all-derivative types are rated at 900lb capacity when spooling the first rope layer on the drum. Overloading can damage the hoist /motor/ or wire rope.
- If connected to a battery the should be kept charged during operation of the hoist to minimize battery drain and maximize power and speed of the hoist. If the hoist is used for a considerable amount of time, the battery may become drained and too weak to operate the hoist.

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- Get to know your winch before you need to use it. We recommend that you set up a few test runs to familiarize yourself with rigging techniques, the sounds your hoist makes under various loads, the way the cable spools on the drum, etc.
 - Inspect the wire rope and equipment before each use. A frayed or damaged rope must be replaced immediately. Use only the manufacturer's replacement rope with the exact specifications.
 - Inspect the hoist installation and bolts to ensure that all bolts are tight before each operation.
 - Store the remote control in a place that it will not be damaged.
 - Any hoist that appears to be damaged in any way, is found to be worn, or operates abnormally shall be removed from service.
 - Only attachments and/or adapters supplied by the manufacturer shall be used.
 - We recommend that you test your hoist before use. Check that the hoist will work in both directions.

HOISTING TECHNIQUES A-Z

- a. Take time to assess your situation and plan safe use of the hoist.
- b. Put on gloves to protect your hands.
- c. Secure the hook to the anchor point.
- d. Connect the remote control to the hoist.
- e. Ensure power is being replenished to the battery.
- f. Once the wire is under tension stand well clear.
- g. Clear the area. Make sure all spectators are back and that no one is directly in front or behind the load being lifted.
- h. Begin hoisting. Be sure that the wire rope is winding evenly and tightly around the drum.
- i. The hoist is meant for intermittent use. Under full load with a single line do not power in for more than a minute without letting the motor cool down for a few minutes and then resume the hoisting operation.
- j. The hoist is not meant to hold the load for long periods of time.

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- k. Rewind the wire rope. Make sure that any wire already on the drum has spooled tightly and neatly. If not, draw out the wire and re-spool from the point where the rope is tight.
 - w. Keep your hands clear of the hoist drum and fairlead as the wire rope is being drawn in.
 - x. Secure the hook and hook strap.
 - y. Disconnect the remote control and store in a clean, dry place.
 - z. Clean and inspect connections and mounting hardware for next hoisting operation.

HOIST ASSEMBLY AND MOUNTING

1. Your 900lb winch is designed with a bolt pattern that is standard in this class of hoist. Many hoist mounting kits are available that utilize this bolt pattern and mounting channel. If you 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 hoist will allow even distribution of the full rated load.
2. Start by connecting the roller fairlead (Part# X450800) to the mounting channel using 2 each of the cap screw M8 X 20 (Part# X450025), flat washer (Part# X450002), lock washer (Part# X450003) and securing with Nut M8 (Part# X450024). (Make sure the screw is placed through the mounting channel and roller fairlead from inside the channel. This will allow enough clearance for the hoist to be placed in the channel without obstruction.)
3. Assemble the hoist to the mounting channel 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 M8 x 25 cap screws (Part# X450004), flat washer (Part# X450002), lock washer (Part# X450003) and nut M8 (Part# X450005) secure the hoist to the mounting channel.
4. Connect the battery and motor leads as the drawing above. Keep in mind that every type of hoist is different to each other.



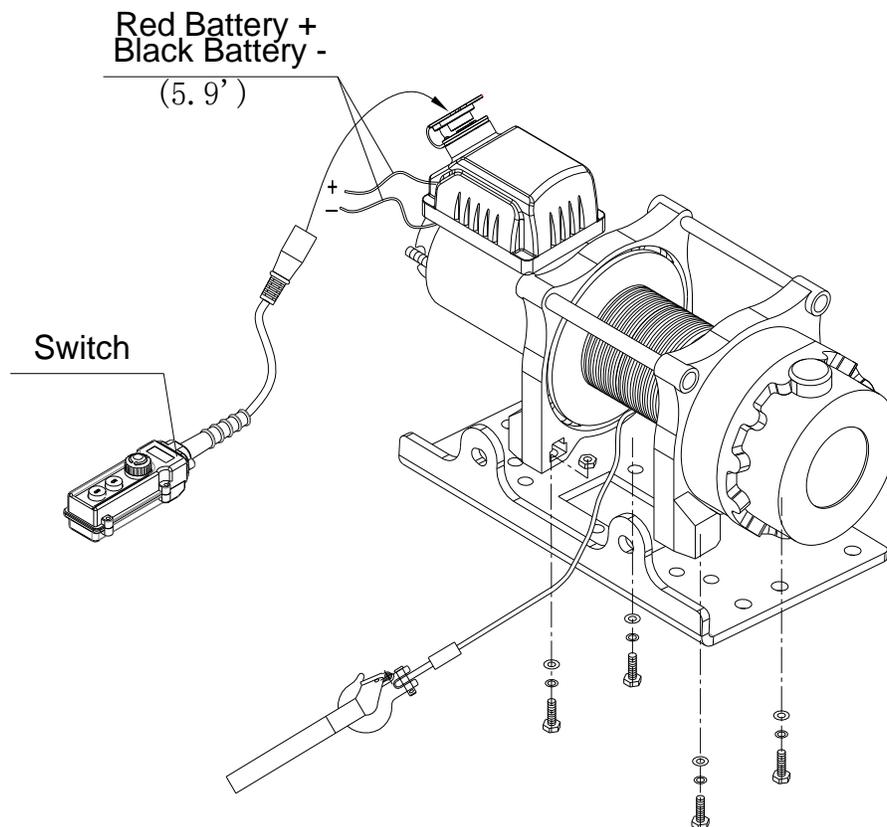
CAUTION – Batteries contain gases which are flammable and explosive. Wear eye protection during installation and remove all jewelry. Do not lean over battery while making connections.

5. Assemble the clevis hook to the cable. Take off the pin from the clevis hook, connect the clevis hook to the cable and mount the pin back to the clevis Hook.

6. Always use the hand saver when spooling and re-spooling the wire rope. Using the hand saver keeps your hands and fingers away from the rotating drum.
7. Check for proper drum rotation. Press the cable out button on the power switch. If the drum is turning and releasing more cable, then your connections are accurate. If the drum is turning and collecting more cable, then reverse the leads on the motor. Repeat and check rotation.

MOUNTING DRAWING

45EWHST12



HOIST ACCESSORIES YOU WILL NEED

NOT INCLUDED WITH YOUR WINCH

Gloves – For handling the wire rope and hook.

WINCH WORKING DEMONSTRATION

1. Grab the cable assembly (Part# X450900) and power the cable to the desired length, then attach to item being hoisted.

⚠ Caution: Always leave at least five turns of cable on the drum; Review winch safety warnings and precautions on page 2-3 before continuing.

2. Insert the switch assembly (Part# X450700) connector onto the control box.
3. Test-run hoist in two directions, each direction for one or two seconds.
4. Hold and operate the switch assembly supplied. To reverse directions, wait until the motor stops before reversing directions.
5. When the pulling is complete, remove the switch assembly (Part# X450700). From the female connector of the directional valve and replace the female connectors cover.

REPLACING THE WIRE ROPE

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. Pull out all the cable to its full length. Note how the existing cable is connected to the drum.
2. Remove old cable assembly and attach the new one in the same way as the old one. Insert the end of the new rope and secure with screw M8x10 (Part# X450023).
3. Ensure that the new cable wraps in the same rotation direction as the old one. The cable should leave the drum from the bottom, under the drum.
4. Pull the cable onto the drum (first five wraps be careful not to allow kinking) then hoist 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.

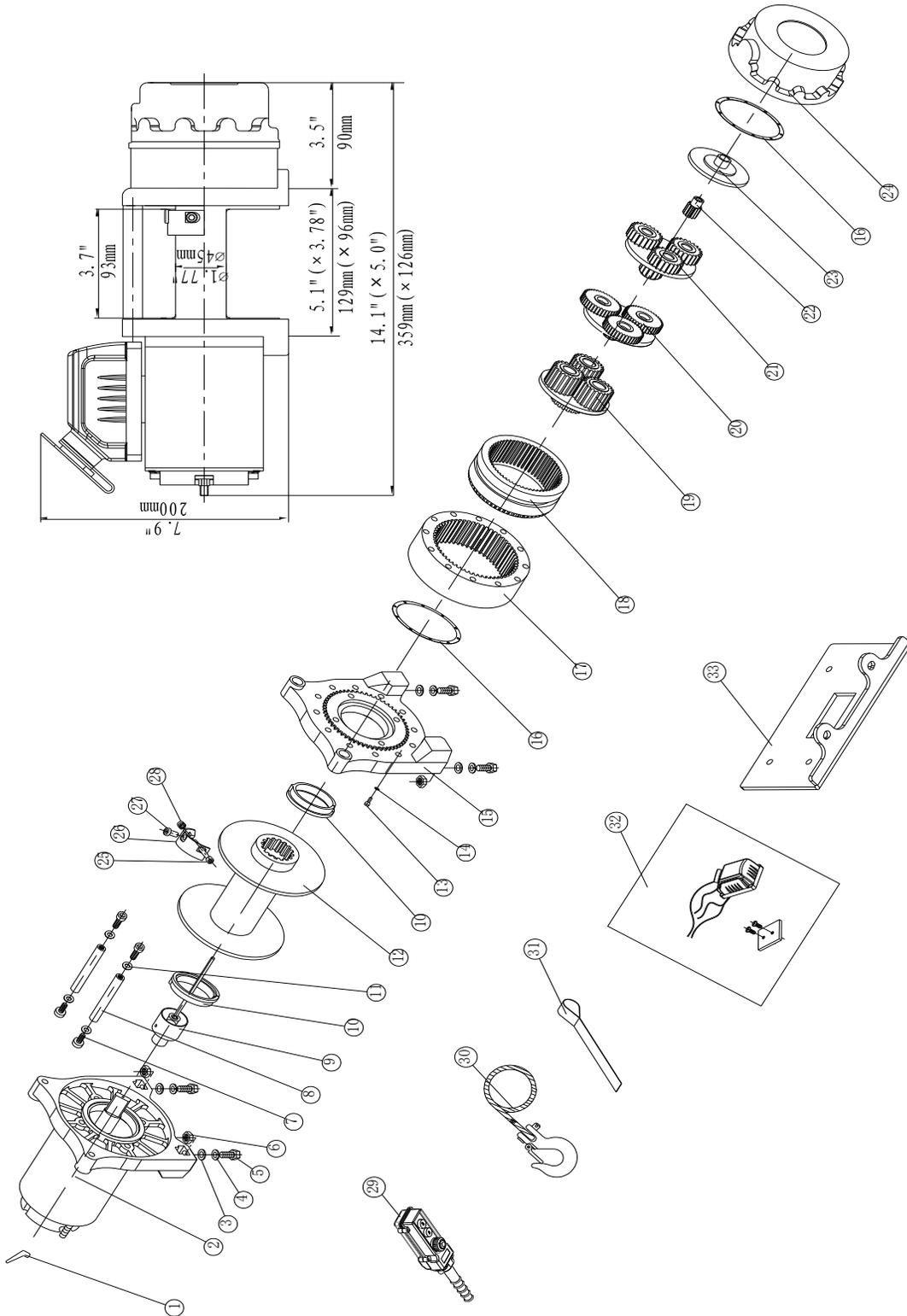
MAINTENANCE

1. Periodically check the tightness of mounting bolts and electrical connections. Remove all dirt or corrosion and always keep clean.
2. Do not attempt to disassemble the gearbox.
3. The gearbox has been lubricated using a high temperature lithium grease and is sealed at the factory. No internal lubrication is required

TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Motor does not turn on	<ul style="list-style-type: none"> -Switch Assembly not connected properly -Loose battery cable connections -Defective switch assembly -Defective motor -Water has entered motor 	<ul style="list-style-type: none"> -Insert switch assembly all the way into the connector. -Tighten nuts on all cable connections. -Replace switch assembly. -Check for voltage at armature port with Switch pressed. If voltage is present, replace motor. -Allow to drain and dry. Run in short bursts without load until completely dry.
Motor runs but cable drum does not turn	Damaged drum	A qualified technician needs to check and repair.
Motor runs slowly or without normal power	-Insufficient current or voltage	-Battery weak recharge. Loose or corroded battery cable connections. Clean, tighten, or replace.
Motor overheating	- Hoist running time too long	-Allow hoist to cool down periodically.
Motor runs in one direction only	-Defective switch assembly.	<ul style="list-style-type: none"> -Loose or corroded battery cable or motor cable connections. Clean and tighten. -Repair or replace switch assembly.
Hoist braking malfunction.	<ul style="list-style-type: none"> -Hoist working in wrong direction. -Brake slice worn or worn not. 	<ul style="list-style-type: none"> -Change hoist working direction looking is to clockwise look at the motor end - Simply readjusted the braking angle or replaces the new brake slice.

WINCH ASSEMBLY DRAWING 45EWHST12



HOIST PARTS LIST

No.	Part #	Qty	Description	Remark
1	X450001	2	Terminal Protector	
2	X450100-U	1	Motor Assembly	
3	X450002	4	Thick Flat Washer $\Phi 8$	
4	X450003	4	Locking Washer $\Phi 8$	
5	X450004	4	Cap Screw M8 x 25	
6	X450005	4	Locknut M8	
7	X450006	4	Cap Screw M6 x 20	
8	X450007	2	Tie Bar	
9	X450200	1	Break/Shaft Assembly	
10	X450008	2	Bushing-Drum	
11	X450009	4	Locking Washer $\Phi 6$	
12	X450300	1	Drum Assembly	
13	X450010	12	Screw M5 x 45	
14	X450011	12	Locking Washer $\Phi 5$	
15	X450012	1	End Bearing	
16	X450013	2	Gasket	
17	X450014	1	Gear-Ring	
18	X450015	1	Gear-Ring (Inner)	
19	X450400	1	Gear Carrier Assembly (Output)	
20	X450500	1	Gear Carrier Assembly (Intermediate)	
21	X450600	1	Gear Carrier Assembly (Input)	
22	X450016	1	Gear—Input Sun	
23	X450017	1	Trust Washer	
24	X450018	1	Gear—Housing	
25	X450019	1	Screw M6 x 65	
26	X450020	1	Insert	
27	X450021	1	Screw M8 x 16	
28	X450022	1	Lock Nuts M6	
29	X450700	1	Remote Control Switch (RC10)	
30	X450800	1	Cable Assembly	
31	X450023	1	Strap	
32	X450024	1	U Type Control Box	
33	X450025	1	Mounting Plate	

SPECIFICATION

Rated line pull	900 lbs (408 kgs)
Motor: permanent magnet	12V:Input: 2.4 kW/ 3.2hp; Output: 1.0 kW/ 1.3hp 24V:Input: 2.9 kW / 3.9hp; Output: 1.3kW / 1.7hp
Gear reduction ratio	172:1
Cable (Dia. × L)	Ø1/4" × 32.8' (Ø 6.4mm × 10m)
Drum size (Dia. × L)	Ø1.77" × 3.7" (Ø 45mm × 93 mm)
Mounting bolt pattern	5.1" × 3.78" (129mm × 96 mm) 4-M8
Overall dimensions (L × W × H)	14.9" × 5.0" × 7.9" 378mm × 126mm × 200mm
Net weight lbs(kg)	28.7 13.0

Pull, Speed, Amperes, Volts (First layer):

Line Pull lbs (kgs)	Line Speed ft/min (m/min)		Current A	
	12V DC	24V DC	12V DC	24V DC
0	11.8(3.6)	12.5(3.8)	20	15
300(136)	10.5(3.2)	11.8(3.6)	25	18
600(272)	10.1(3.1)	11.5(3.5)	35	22
900(408)	9.8(3.0)	11.1(3.4)	45	28

Line Pull And Rope Capacity In Layer

Layer of cable	Rated line pull lbs (kgs)	Total rope on the drum ft (m)
1	900(408)	7.6(2.3)
2	728(330)	17.0(5.2)
3	611(277)	27.0(8.3)
4	526(238)	32.8(10.0)

Limited lifetime with 3 year on electrical

Limited Lifetime Warranty for WARRIOR WINCHES/HOISTS

Winch Solutions are the sole distributors of WARRIOR WINCHES/HOISTS.

Winch Solutions ("seller" or winch solutions) warrants to the original retail buyer only ("Buyer") that any mechanical component of a genuine WARRIOR WINCH/HOIST ("product") is free of defects in material and workmanship for the lifetime of the winch.

The electrical components (including the motor, contactor, and switches) will be free of defects in material and workmanship for a period of (3) three years (36 Months) from the original purchase provable date of purchase.

Any product Winch Solutions determines to be defective will be repaired or replaced at Winch Solutions sole discretion without charge to the Buyer upon Buyer's compliance with this procedure. Seller or its Authorized Agent may make reasonable charges for parts and for labour for repairs not covered by this Lifetime Limited Warranty. The warranties set forth herein are exclusive and in lieu of all other warranties, whether oral or written, express or implied.

All purchases must be registered. Any product that has not been registered will be covered by the standard 1 year warranty.

To obtain service under this warranty, the Buyer shall mail, ship or otherwise deliver to the address noted below, at the Buyers expense; (1) the Product, (2) a written description of the problem, (3) Buyers name, address and contact number, (4) copy of the original purchase receipt.

The Warranty does not cover the cost of labour or transportation/shipping charges for the replacement or installation of defective parts.

This warranty does not apply to defects of the product caused by; (1) normal wear and tear, (2) failure to comply with any installation or maintenance instructions provided by the Seller, including but not limited to subjecting the product to loads in excess of the loads listed in any instructions, Owners Manual or as detailed upon the Sellers website, (3) commercial or industrial use, (4) alteration or modification by any parties other than the Seller, (5) misuse, abuse, neglect, accidents, Acts of God, terrorism or (6) other causes beyond the control of the Seller after delivery of the Product to the Sellers Authorized Agent.

This Warranty does not cover cables, synthetic ropes, fairleads or exterior finishes

Winch Solutions shall not be responsible or liable for any indirect or consequential damages. These consequential damages may include, but are not limited to, lost profits or loss of use and down time.

Winch Solutions reserves the right to change the product design without notice. Winch Solutions reserves the right to replace any part or whole unit with a newer design of the same function.

Please ensure you record the information below:

Distributor	
Date of Purchase	
Invoice No	
Serial No	

Please register your Winch at www.warriorwinch.co.uk , any product that is not registered will not be covered by the lifetime warranty.

In the unlikely event you experience problems, contact the distributor with this information.

How to fix the Clamp

1, Prepare the suitable fittings: 5MM Internal Hex wrench, 10MM Open End wrench, as shown in photo:



2, Adjust the drum to make the screw hole on the top, put the rope on the drum and put the clamp on the rope (the hole close to casting plate) :



3, Press the clamp to the drum and make sure the rope is in the groove of clam. Adjust to the same position of holes in clamp and drum.



4, Put the bolt M6 X 65 in and go through out from another hole.



5, Then screw the cap of bolt.



6, Use fittings to fix firmly.



7, Use wrench to screw in M8 X 15bolt from the top hole.



8. Finished.

