Zeak Winch

Just only do the best

Owner's Manual & Safe Instructions

12000LB CAPACITY

OFF-ROAD VEHICLE WINCH



⚠ **WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

SAVE THESE INSTRUCTIONS

Save This Manual Keep this manual for safe operation and precautions. It will guide you on assembly , inspection, maintenance and cleaning procedures. Read this manual before using the winch, failure to do so may result in serious injury or death.

Specification

Single line rated pull	12000lbs(5454kgs)
Motor	6.0hp/4.5kw,series wound
Control	Pendant controller
Gear train	3 stage planetary
Gear reduction ratio	236:1
Braking	Automatic load-holding brake
Drum size	Diameter2.5″(63.5mm)×length 9.6″(224mm)
Cable	3/8″(9.5mm)×85.3′(26m)
Remote control switch	Included
Extra wireless remote	Optional
Battery	Recommended: 650CCA
GW	28kgs
Overall dimension (L×W×H)	21.54″×6.3″×9.76″(547×160×248 mm)
Mounting bolt pattern	10″×4.5″(254×114.3 mm)

Pull,speed, amps

Line pull lbs(kgs)	Line speed ft/min(m/min)	Current (Amps)
0	21.3(6.5)	50
2000(907)	14.6(4.5)	120
4000(1818)	10.9(3.32)	168
6000(2727)	9.0(2.75)	220
8000(3636)	7.5(2.3)	270
10000(4545)	6.2(1.9)	320
12000(5454)	4.9(1.5)	360

Line pull and rope capacity in each layer

Layer	Rated line pull lbs(kgs)	Total rope on drum ft (M)
1	12000(5454)	16. 3（5. 0）
2	9210(4186)	37(11.2)
3	8030(3642)	61.0(18.6)
4	6894(3127)	85.3(26.0)

SAFE PRECAUTIOUS

Warning!

Observe safety precautions for personal safety and the safety of others. Improper equipment operation may cause personal injury and equipment damage.

Read the following carefully before attempting to operate your winch and keep the instructions for future reference.

1. Dress properly
   -Don’t wear loose clothing or jewelry. They can be caught in moving parts.
   -Wear leather gloves when handing winch cable. Do not handle cable with bare hands as broken wires can cause injures.
   -Non-skid footwear is recommended.
2. Keep a safe distance
   -Ensure that all people stand away from winch cable and load during winch operation. If a cable pulls loose or breaks under load, it can lash back and cause serious personal injury or death.
   -Keep proper footing and balance at all times.
3. Proper use wire rope
   Keep wire rope away from sharp edge, for synthetic rope should far from heat, oil.
   Use supplied power cord and wire rope listed in manual only, do not use thinner or longer cable or use multiple cables same time.
4. Don't overwork the winch
   -If the motor becomes uncomfortably hot to touch, stop and let it cool for a few minutes.
   -Don’t maintain power to the winch if the motor stalls.
   -Don’t exceed maximum line pull ratings shown in tables. Shock load must not exceed these ratings.
5. Avoid unintentional starting
   -winch clutch should be disengaged when not in use and fully engaged when in use.
6. Check damaged parts
   -Before using, you should check your winch carefully. Any part that is damaged should be properly replaced by an authorized centre.
7. Ventilation area well before and while working on battery,explosive invisible hydrogen gas can accumulate and then explode when ignited by a spark from battery connection .
8. Connect only to clean ,corrosion free battery.

9. Repair your winch
   -When repairing, use only identical replacement parts or it may cause considerable danger for the user.
10. Re-spool the cable
   -Leather gloves must be worn while re-spooling. To re-spool correctly, it is necessary to keep a slight load on the cable.

OPERATION PRECAUTIONS

Read the following carefully before attempting to operate your winch and keep the instructions for future reference.

1. Do not overwork the winch. Alert to dynamic load, if load moving in sudden will temperately lead to overload and damage winch.
2. Do not maintain power to winch if the motor stalls. Verify the load is within rated capacity for the wire rope layer (see specification on page 2). Be sure the battery is fully charged. Use double line rigging if possible.
3. Do not disengage clutch under load. Engage clutch before start.
4. Do not place fingers through hook, it may caught or pulled in fairlead or drum, use strap to hold hook instead .
5. Draping a heavy blanket or similar object over the extended winch cable is recommended as it will dampen any back lash should a failure occur. See Figure A.

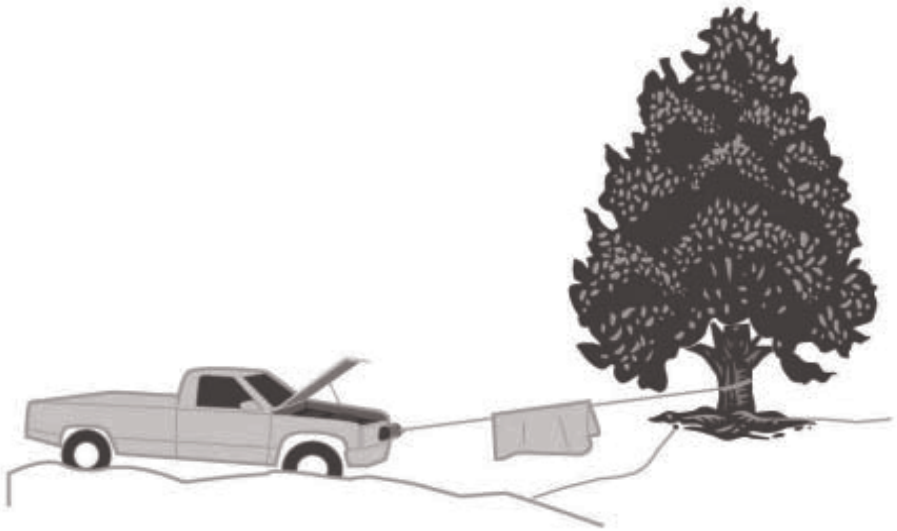


Figure A:

6. Do not stand the place where wire rope straighten out, to avoid wire rope slid or broken to lash back to you.
7. Do not use winch to lift person.
8. Find a spotter to assist you in ensuring that it is safe to operate winch, make

sure the spotter is out of way the car and wire rope before start winch .

9. Do not lift a load or apply to aircraft.

10. Pull off socket when you not use it. Disconnect controller when you not use it.

11. Inspect before every use. Do not use if damaged or parts lose. Check winch for structural cracks, bends, damage, frayed or kinked wire rope, and any other conditions that affect safe operation. Do not use winch even if minor damage appears.

12. Keep rope straight to avoid kinking. The illustrations below show how a kink forms and how to prevent kinking.

A. The illustrations shows a kink about to form, at this point the winch need stop and straight out to prevent kinking.





B. This rope is kinked, can't reverse damage now. It must be replaced for no longer use.

C. This kinked rope that has been straightened out. Some wires are stretched, and others severely bent, the unstretched wire will take more load and can suddenly fail before rope reach its capacity. This wire rope must be discarded .



13. Stay alert, observe carefully and hold common sense all the time. Do not use winch after taking alcohol or medicine.
14. Hold at least 5 wraps of rope on the drum. Without the extra 5 wraps rope, the winch can't hold a load .
15. 15. Do not operate winch at extreme angles and not exceed angles shown in figure B for roller fairlead. For a hawse fairlead the angle should be as close to straight as possible.

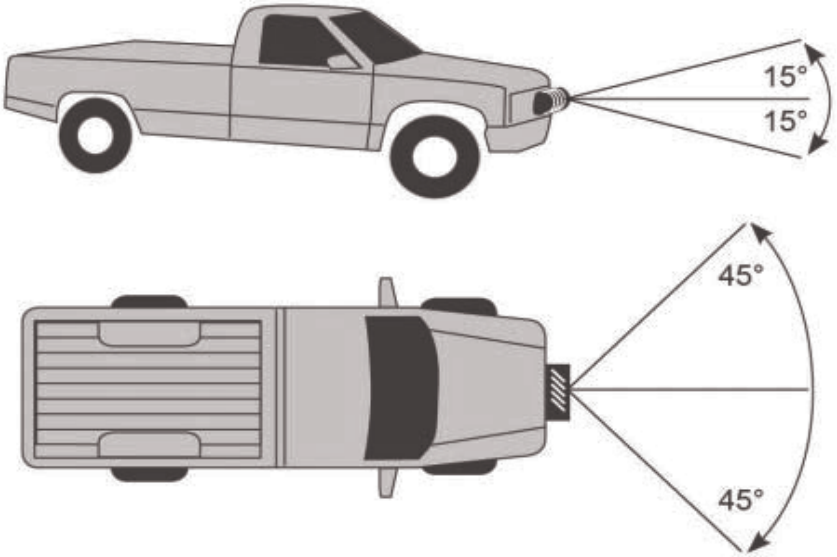


Figure B

16. If the object be pulled at an angle in relation to winch, use a pulley and an anchor point directly in front of winch. As shown in figure C, to keep wire rope pull straight.

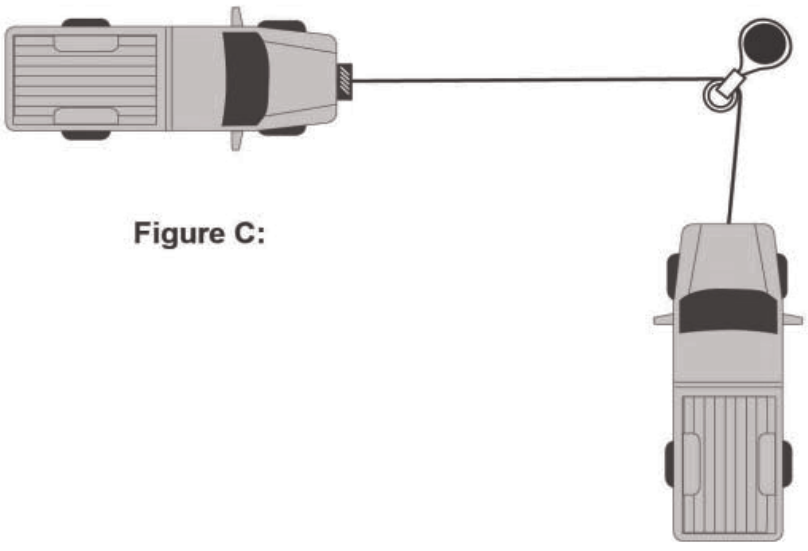


Figure C:

17. Broken wire rope is sharp. Wear a heavy duty gloves when handling .
18. The uneven spooling of c

INSTALLATION

1. The winch is to be mounted into a suitable steel mounting frame using the 4 point foot mounting system in either a horizontal or vertical plane.

   It's very important that the winch be mounted on a flat surface so that the three sections(motor, cable drum and gear housing) are properly aligned.

   The fitment of winches and/or a frontal protection system may affect the triggering of SRS air bags. Check that the mounting system has been tested and approved for winch fitment in the airbag equipped vehicle.

2. The mounting plate should bear rated line pull for winch .

3. Align the winch perpendicular to center line of vehicle at the desired location, and mark locations of winch base holes, compare the dimensions of the marked hole to figure D.

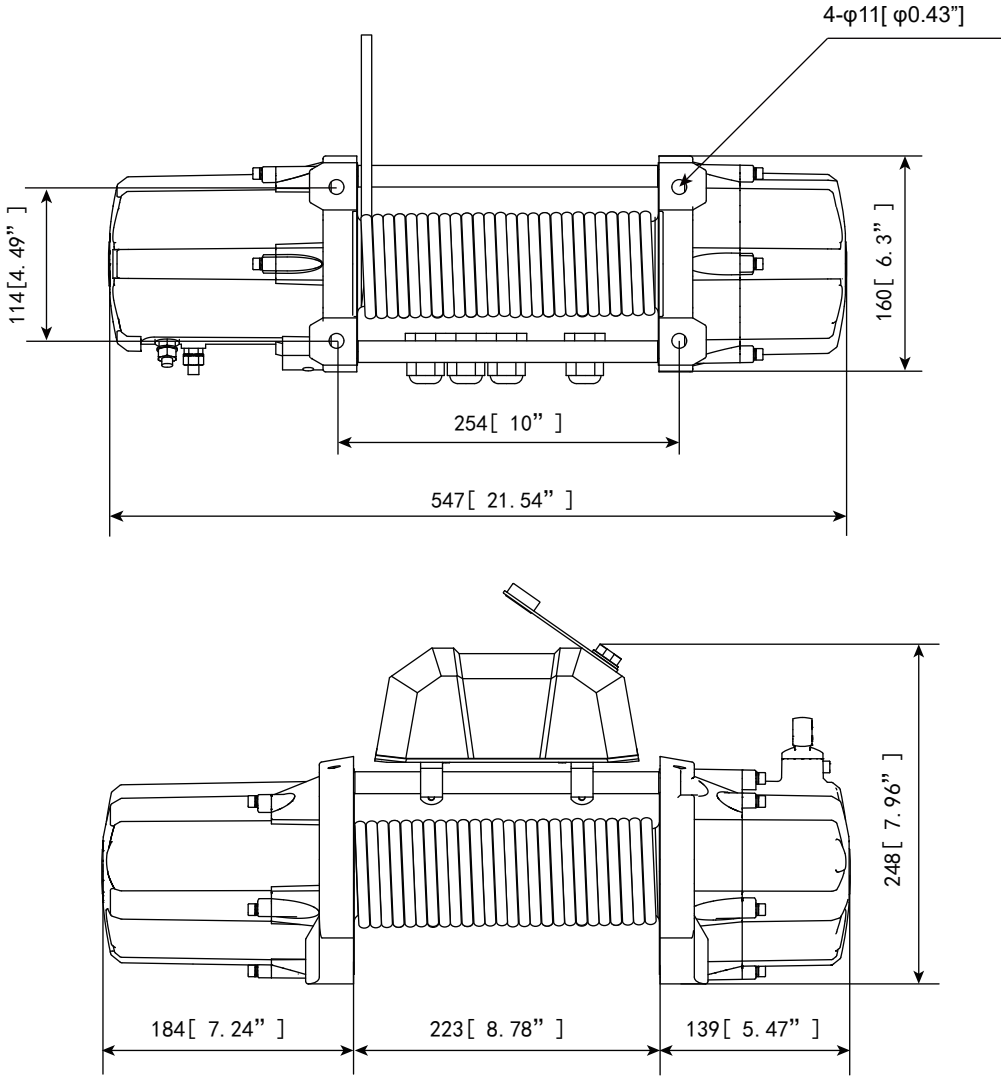


Figure D: Winch Installation

4. The roller fairlead is to be mounted so as to guide the rope onto the drum evenly.
5. When install winch please use hardware listed under specification .

WIRING CONNECTIONS

Warning! To prevent series injury from explosion .Due to parking at the battery connection : disconnect the battery cables before making other wiring connections .
To prevent serious injury from leaking battery acid : do not use a dirty ,corroded or leaking battery .only use 12V automtotive battery in good condition .
1. Plan a route for the wiring from the point of the vehicle where winch will be mounted, or used to the battery. This route must be secure, out of the way of moving parts, road debris, or any possibility of being damaged by operation or maintenance of the vehicle. For example, you may wish to route the wire under car, attaching it to frame using suitable fasteners. Do not attach the wires to exhaust system. Drive shaft, emergency brake cable, fuel line, or any other components which may create damage the wiring through heat or motion ,or crease a fire hazard .
2. If you drill through the bumper or any part of the body to route the wires, be sure to install a rubber gromment in the hole to prevent fraying of the wires at that point .

3. Route the cables from the solenoid to the battery and from the solenoid to winch, follow the above -mentioned precautious. See Figure E.

4. Attach wires from the solenoid to the terminals on winch.

5. Attach circuit breaker to the positive terminal on the battery.

6. Attach the red battery cable to the circuit breaker.

7. Attach black cable battery cable directly to negative terminal of battery.

8. Wire the switch controller to socket .

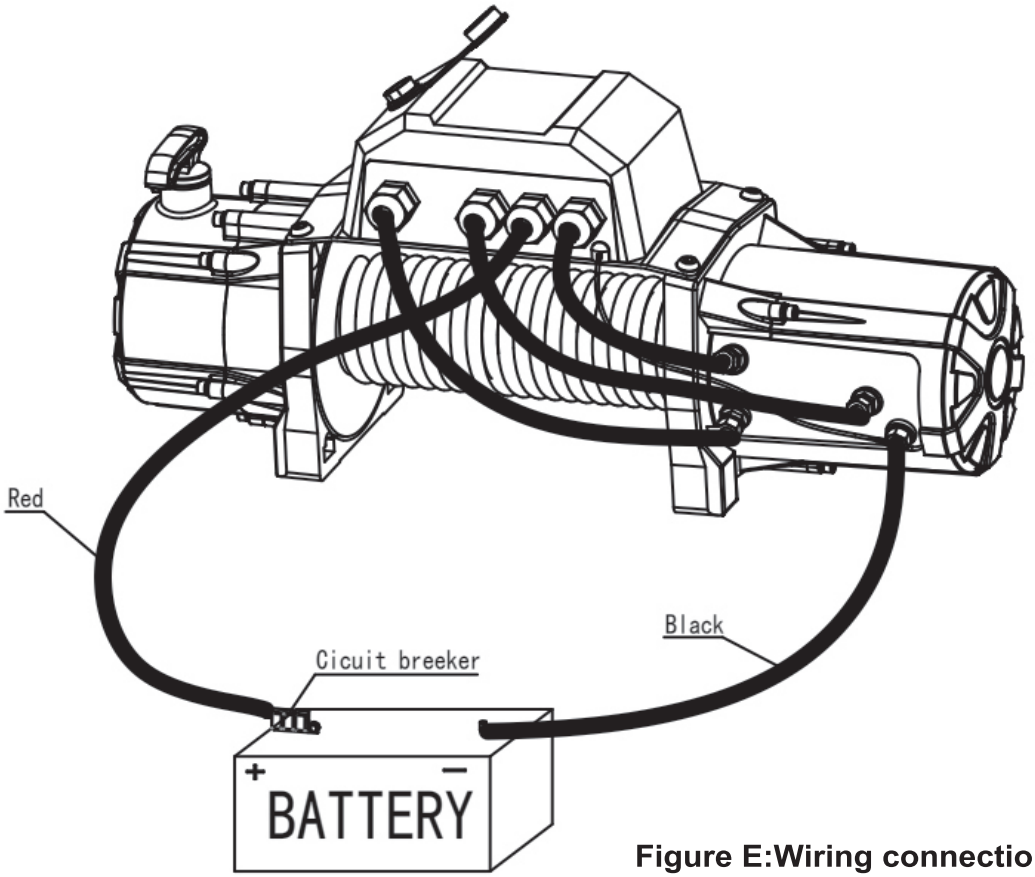


Figure E:Wiring connections

WINCH OPERATION

Suggestion

The best way to get acquainted with how your winch operates is to make a few test runs before you actually need to use it. Plan your test in advance. Remember you can hear your winch as well as you can see it operate. Get to recognize the sound of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting. Soon you will gain confidence in operating your winch and its use will become second nature to you.

Operating

1. Ensure the vehicle is secure by applying the parking brake or chocking the wheels.

2. Pull out the winch cable the desired length and connect to an anchor point. The winch clutch allows rapid uncoiling of the cable for hooking onto the load or anchor point. The clutch tab located on the gear housing of the winch operates the clutch as follows:

A) To pull out wire rope, move the clutch handle to Released position,shown in Figure F,slide the loop of Hook Strap over hook, then pull on the hook strap to pull out the wire rope.

WARNING! Leave at least five full turns of wire rope on the drum.

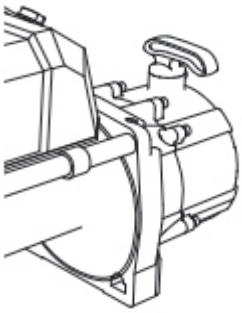


Figure F: Clutch Released

a) To engage the clutch, move the clutch into the “IN” position. The winch is now ready for pulling ,shown in Figure G

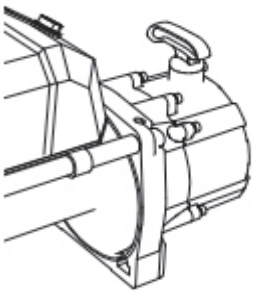


Figure G: Clutch Engaged

3. Recheck all cable rigging before proceeding.
4. Attach the pendant controller to socket on solenoid box.see Figure H

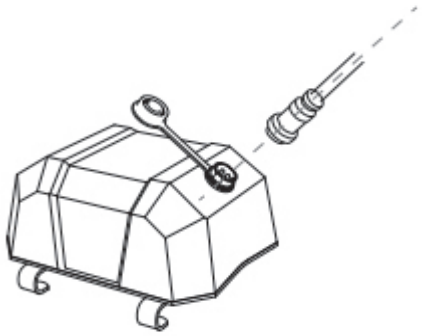


Figure H :Pendant connection

5. To commence winching operation, start vehicle engine, select neutral in transmission, maintain engine speed at idle.

6. Operate the Pendant controls briefly to insure they work properly, see figure I ,If operation is reversed ,the power cables may be connected backwards . Correct any such issue before use .

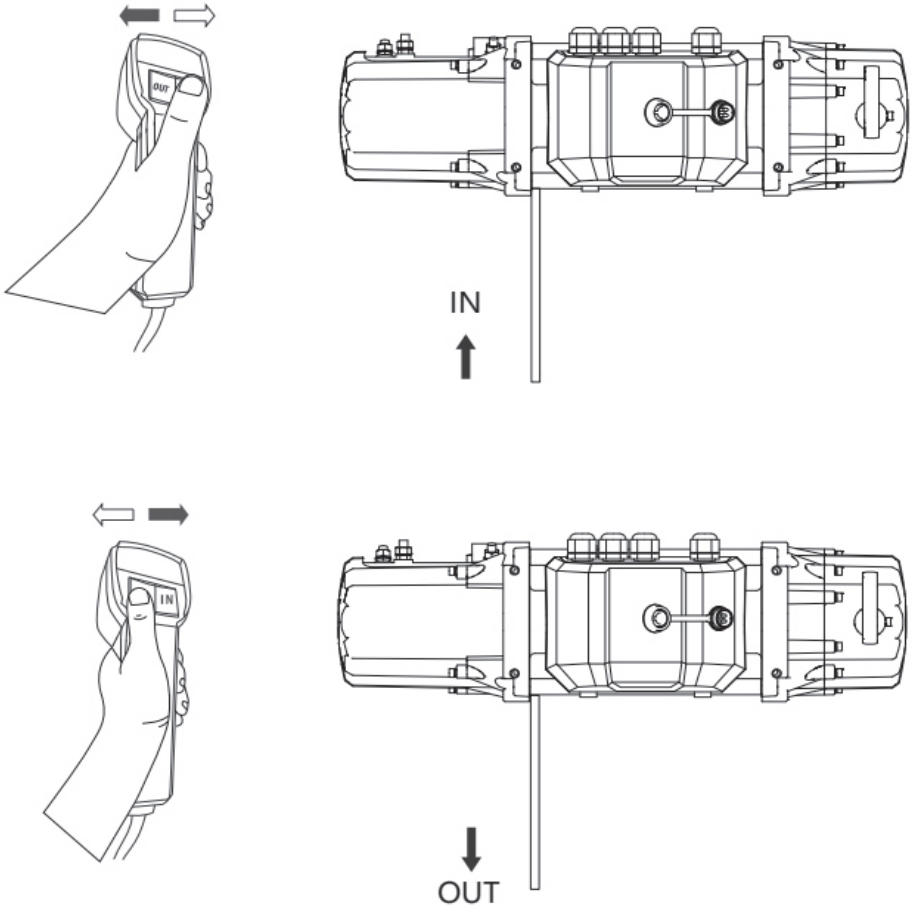


Figure I: Pendent controls

NOTE

1. Never winch with your vehicle in gear or in part, which would damage your vehicle's transmission.
2. Never wrap the cable around the object and hook onto the cable itself. This can cause damage to the object being pulled, and kink or fray the cable.
3. Keep hands, clothing, hair and jewelry clear of the drum area and cable when winching.
4. Never use the winch if the cable is frayed, kinked or damaged.
5. Never allow anyone to stand near the cable or in line with the cable behind the winch while it is under power. If the cable should slip or brake, it can suddenly whip back towards the winch, causing a hazard for anyone in the area. Always stand well to the side while winding.
6. Don't leave the switch plugged in when is not in use.

CAUTION: Do not use winch in a constant time, as it is only applied to intermittent use only. Keep pulling job as short as possible, if motor is very hot to touch, stop and cool down for few minutes .

CHECK THE WINCH CAREFULLY AND THOROUGHLY BEFORE OPERATING!

MAINTENANCE

It is highly recommended that the winch be used regularly (once a month). Simply power the cable out 15m, free spool 5m and then power back in. This will keep all components in good working condition so that the winch can be relied on when needed. Contact your authorized outlet for technical assistance and repairs.

WARNING: To prevent series injury from accidental operation, remove pendant connector and disconnect battery cables before operate any inspection, maintenance, or cleaning .

WIRE ROPE REPLACEMENT

1. Release the clutch.
2. Expend the wire rope to its' full length.
3. Discard old wire rope and attach new rope.
4. Re-spool wire rope onto drum carefully without kinking .
5. Test electric winch for proper operation .

DUTY CYCLE

The duty cycle defines amount time, within a 15 minute period, a winch can operate at its maximum capacity without overheating. Failure to observe carefully duty cycle limitations can easily over-stress a winch .

Troubleshooting

Failure	Possible Cause	Corrective Action
Motor overheats	1. Incorrect power cords 2. Winch running time too long	1. Use only supplied power cords 2. Allow winch to cool down periodically
Motor does not turn on	1. Switch assembly not connected properly. 2. Loose battery cable connections 3. Vehicle battery needs charging 4. Solenoid malfunctioning 5. Defective switch assembly 6. Defective motor 7. Water has entered motor 8. Internal damage or wear	1. Insert switch assembly all the way into connector. 2. Tighten nuts on all cable connections 3. Fully charge battery 4. Tap solenoid to loosen contacts. Apply12 volts to coil terminals directly. A clicking indicates proper activation 5. Replace switch assembly 6. Check for voltage at armature port with switch pressed. If voltage is present, replace motor 7. Allow to drain and dry. Run in short bursts without load until completely dry 8. Have technician service winch
Motor runs but wire rope drum does not turn	Clutch not engage	Move the Clutch Handle to the Engaged position. If problem persists contact a qualified technician to check and repair unit.
Motor runs slowly or without normal power	1 Insufficient current or voltage 2.Loose or corroded battery cable connections 3.Incorrect power cords	1. Battery weak, recharge Run winch with vehicle motor running 2. Clean, tighten, or replace 3. Use only supplied power cords
Motor runs in one direction only	1. Defective or stuck solenoid 2. Defective switch assembly.	1. Tap solenoid to loosen contacts 2. Repair or replace solenoid 3. Replace switch assembly

Parts list and diagram

Part	Description	Qty
1	Hex Socket Screw	11
2	Lock WasherΦ5	11
3	Clucth handle Assembly	1
4	Gear box cover	1
5	Clucth gear	1
6	Lock WasherΦ120	1
7	Bearing	1
8	Sun Gear(Input)	1
9	Gear Carrier Asm.(Input)	1
10	Gear Carrier Asm.(Intermediate)	1
11	Washer	1
12	Gear Carrier Asm.(Onput)	1
13	O Washer	1
14	Gear	1
15	Hardware	1
16	Gear Box Base	2
17	Nylon Bearing	2

Part	Description	Qty
18	Seak Kit	4
19	Tie Bar	1
20	Control Box	1
21	Drum	1
22	Transmission Shaft	1
23	Brake Assemly	1
24	Motor Assembly	4
25	Motor Cover	1
26	Pendant Controller	1
27	Roller Fairlead	2
28	Fairlead Mounting Hardware	1
29	Clevis Hook	1
30	Red Strap	1
31	power wire	1
32	**synthetic rope**	1
33	winch assembly hardware	4

