



## **2500lb.Winch**

### **User Manual & Operating Instructions**

#### **Performance Specifications**

##### **Max Line Pull**

2500lbs.(1134kgs)

##### **Gear reduction ratio**

170:1

##### **Motor**

Permanent magnet DC12V motor with 1.1hp output

##### **Overall Dimensions**

12.7in.( 323mm) L × 4.45in.( 113mm) W × 4.4in.( 112 mm) H

##### **Drum size**

1.46in.( 37mm) D × 3.15in.( 80 mm) L

##### **Cable**

45.9ft.(14.0m) L of 3/16in.(4.8mm) D

##### **Net weight**

21.7lbs.(9.86kgs)

#### **Product Overview**

This winch is equipped with a permanent magnet motor and is designed for intermittent duty general use. This winch is not to be used for industrial lifting or moving people. Improper operation could damage the winch and void the warranty. Free spool clutch is operated by a pull and turn knob, which disengages the gearbox, allowing the cable to be released.

## INSTALLATION

Correct installation of the winch is required for proper operation.

- I Mount the winch on the mounting channel by using a screw(M8×16mm)(four sets).
- I Mount the winch with the mounting channel on the vehicle or other fixed installation by using a screw(M8×1.25×35mm), M8 nut, Φ8 flat washer and Φ8 spring washer(two sets).

**WARNING:** This winch must be mounted with the cable in an under wound direction. Improper mounting could damage the winch and void the warranty. Connect the red wire to the positive terminal and the black wire to the negative terminal of the battery.(See Fig. 1).

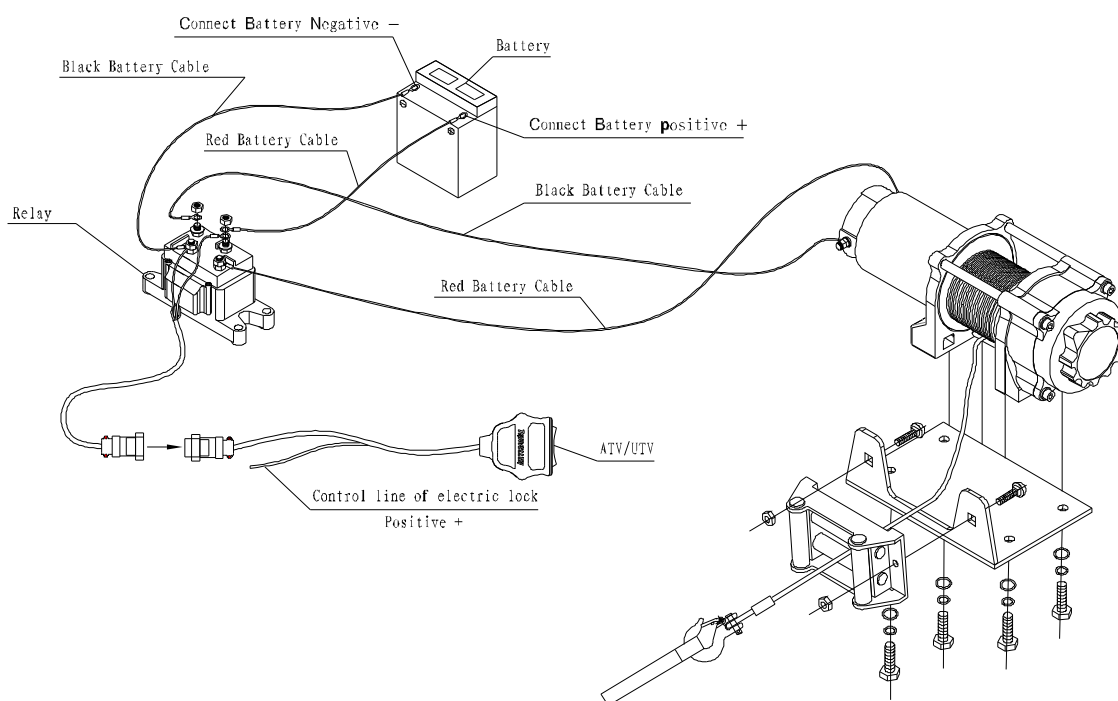
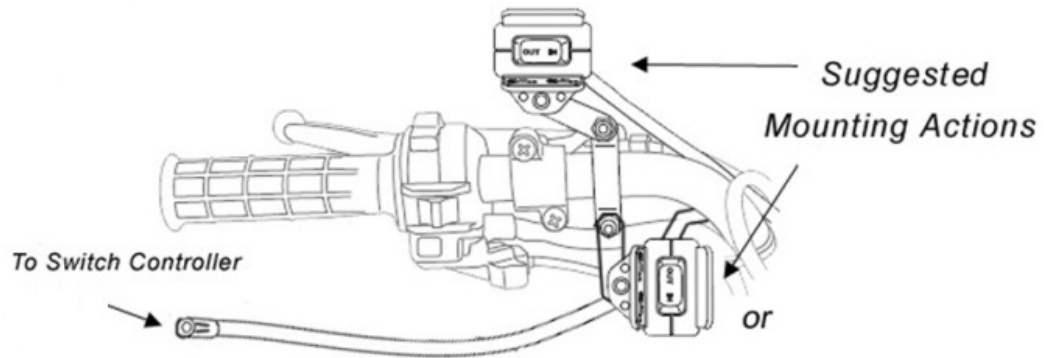


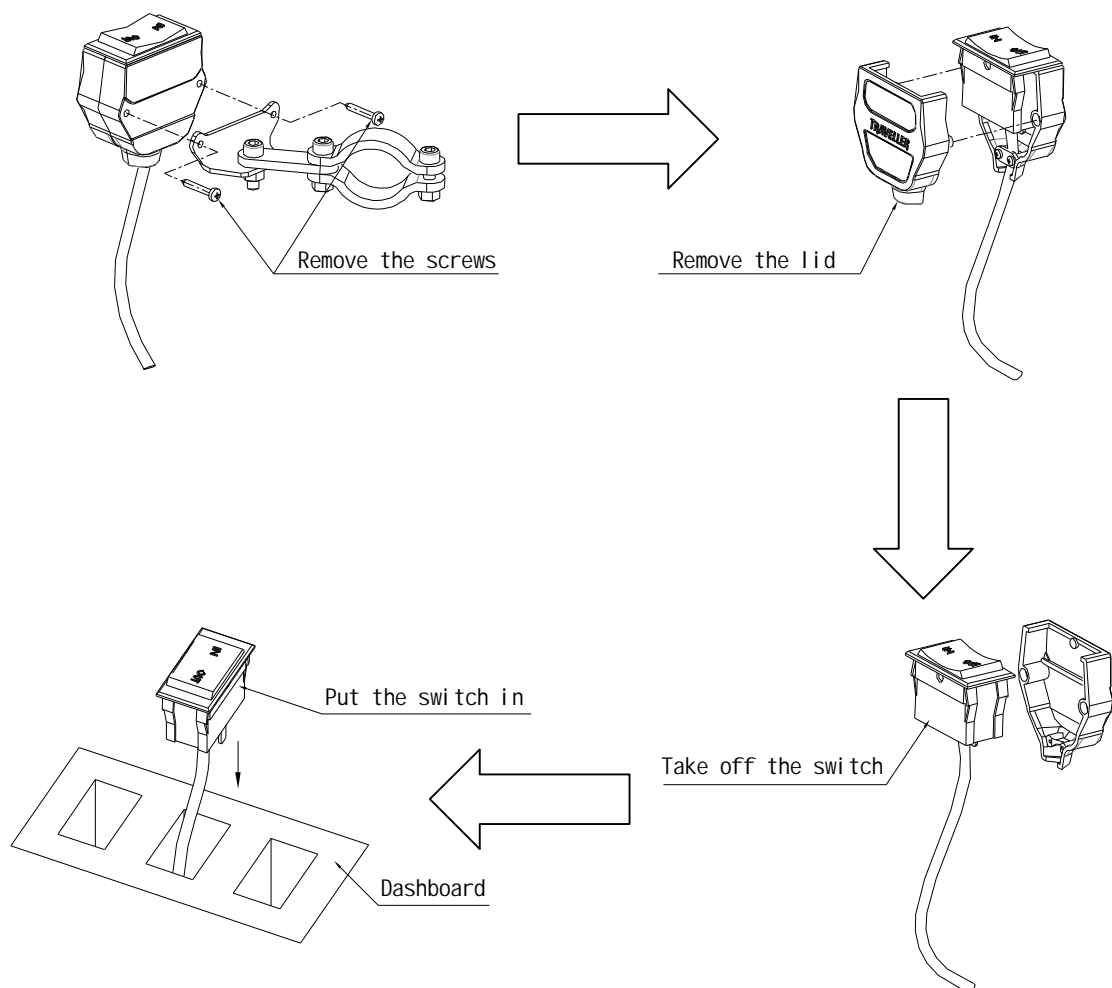
Fig. 1

- I Check the rotation direction of the drum. Pull and turn the clutch knob to the "FREE SPOOL" position (drum should turn freely by hand). Pull out some cable from the drum, and then turn the clutch knob to the "ENGAGE" position. Press the "OUT" button on the ATV/UTV switch; if the cable is releasing then it is properly connected. Otherwise reverse the wire connections to the motor, and repeat the above-mentioned operation.

## The ATV mounting



## The UTV mounting



## OPERATION

- I Pull and turn the clutch knob, so the drum can turn freely by hand.
- I Use hand saver bar to hitch the hook of the cable assembly and pull cable to the load. Attach the cable hook to the load.

**WARNING:** Check that there are at least five turns of cable remaining on the drum before operation. Ensure the clutch knob is in the engaged position.

**CAUTION:** Clutch must be fully engaged before winching.

Never operate the clutch while drum is turning. Do not readjust clutch knob as it has been adjusted and permanently locked in place with a thread-locking compound in the factory.

- I Press the “IN” button on the ATV/UTV switch to re-spool the cable. Press the “OUT” button to reverse directions. Wait until the motor stops before reversing directions.
- I Re-spool the cable after completing the operation.

## REPLACING THE CABLE

- I Engage the clutch by turning the clutch knob to the “ENGAGE” position.
- I When inserting the cable into the drum, insert it into the correct end of the hole provided. Tighten the screws.
- I Operate the winch and re-spool the cable around the drum tightly.

**CAUTION:** To keep the stated tension, be sure the cable is wrapped on the drum tightly.

**WARNING:** Always replace damaged cable with manufacturer’s identical replacement part.

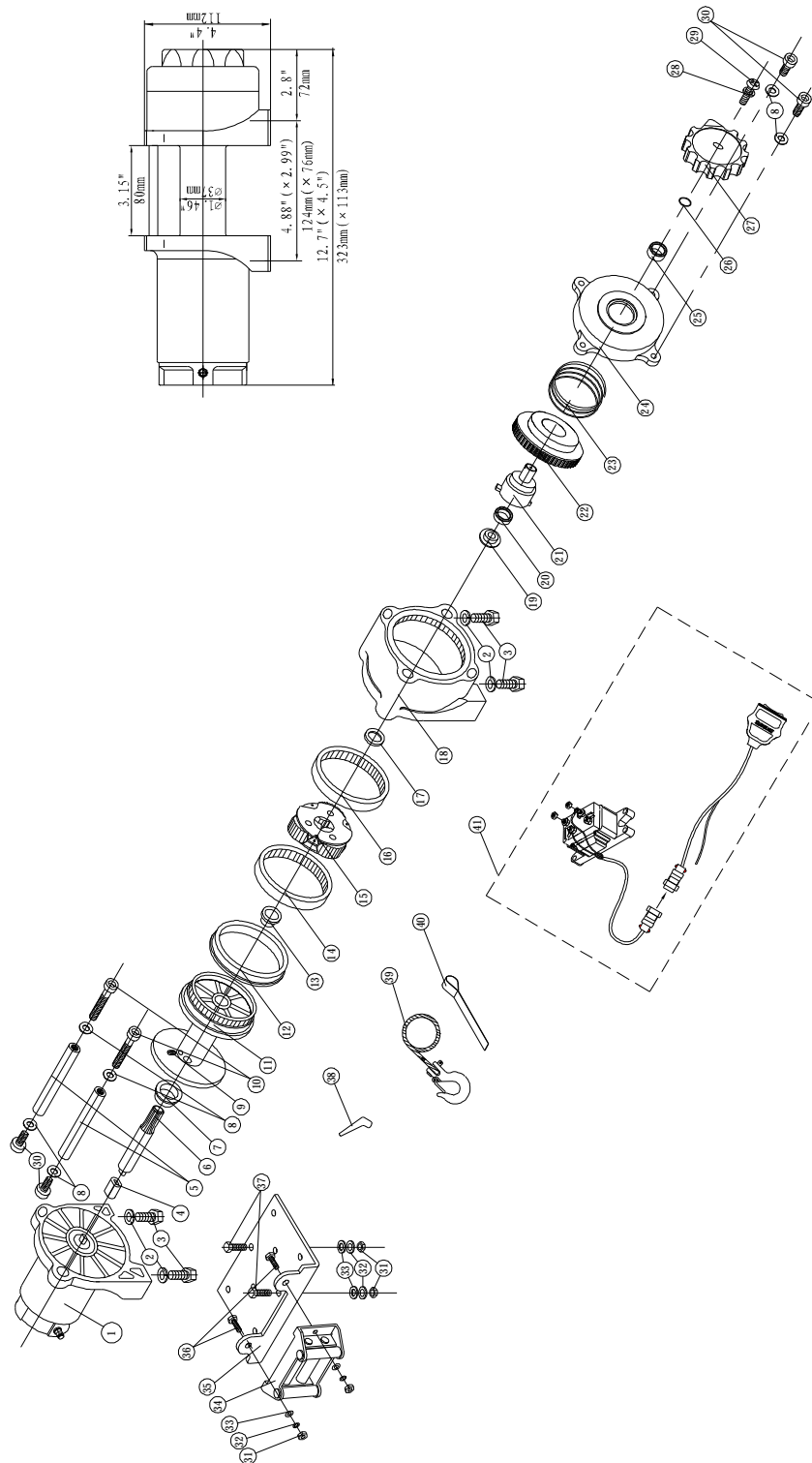
## MAINTENANCE

- I Periodically check tightness of mounting bolts and electrical connections. Remove all the dirt or corrosion and always keep clean.
- I Do not attempt to disassemble the gearbox. Repairs should be done by the manufacturer or authorized repair center.
- I The gearbox has been lubricated using high temperature lithium grease in the factory. No internal lubrication is required except when being repaired.

## TROUBLE SHOOTING

SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Motor does not turn on	-Switch Assembly not connected properly	-Insert switch assembly all the way into the connector.
	-Loose battery cable connections	-Tighten nuts on all cable connections.
	-Defective switch assembly	-Replace switch assembly.
	-Defective motor	-Check for voltage at armature port with Switch pressed. If voltage is present, replace motor.
	-Water has entered motor	-Allow to drain and dry. Run in short bursts without load until completely dry.
Motor runs but cable drum does not turn	-Clutch not engaged	-Turn clutch to the "In" position. If problem persists, a qualified technician needs to check and repair.
Motor runs slowly or without normal power	-Insufficient current or voltage	-Battery weak recharge. Run winch with vehicle motor running. -Loose or corroded battery cable connections. Clean, tighten, or replace.
Motor overheating	-Winch running time too long	-Allow winch to cool down periodically.
Motor runs in one direction only	-Loose or corroded battery cable or motor cable connections.	-Clean and tighten.

## WINCH ASSEMBLY



## WINCH PART LIST(2500LBS)

No.	Part #	Qty	Description
1	P0250100	1	Motor Assembly
2	P0250001	4	Locking Washer Φ8
3	P0250002	4	Cap Screw M8 x 16
4	P0250003	1	Transition Shaft
5	P0250004	2	Tie Bar
6	P0250005	1	Hexagonal Shaft
7	P0250006	1	Front Bush Drum
8	P0250007	6	Spring Washer Φ6
9	P0250008	1	Screw M6 x 8
10	P0250009	2	Cap Screw M6 x 70
11	P0250010	1	Drum
12	P0250011	1	Rear Bush Drum
13	P0250012	1	Front Thrust Washer
14	P0250013	1	Gear Ring Output
15	P0250200	1	Gear Carrier Assembly
16	P0250014	1	Gear Ring
17	P0250015	1	Thrust Washer
18	P0250016	1	Gear Housing / End Bearing
19	P0250017	1	Bearing Holder
20	P0250018	1	Roller Bearing
21	P0250019	1	Clutch axes
22	P0250020	1	Cam Clutch Gear
23	P0250021	1	Spring
24	P0250022	1	Cover Clutch Housing
25	P0250023	1	Roller Bearing
26	P0250024	1	Elastic Collar
27	P0250025	1	Clutch Handle
28	P0250026	1	Locking Washer Φ5
29	P0250027	1	Cap Screw M5 x 12
30	P0250028	4	Cap Screw M6 x 25
31	P0250029	4	Hex Flange Nut M8
32	P0250030	4	Locking Washer Φ8
33	P0250031	4	Thick Flat Washer Φ8
34	P0250300	1	Roller Fairlead
35	P0250032	1	Mounting Channel
36	P0250033	2	Cap Screw M8 x 20
37	P0250034	2	Cap Screw M8 x35
38	P0250035	1	Strap
39	P0250400	1	Cable Assembly
40	P0250036	2	Terminal Protector
41	P0250500	1	Control Assembly

## SAFETY PRECAUTIONS

- I Never lift people or hoist loads over people. Do not lift items vertically, this winch is designed for horizontal use only.
- I Never overload. Be sure all equipment used meets the winch's maximum line pull rating. When double-lining, pulley blocks should be rated for a minimum of two times the winch's line pull rating.
- I Do not attempt prolonged pulls with heavy loads. The electric winch is designed for intermittent use only, and should not be used in a constant duty application. Never pull for more than one minute or exceed the rated load. If the winch motor becomes hot to the touch, stop the winch and allow it to cool down for several minutes.
- I Never operate winch with less than 5 turns of cable around the winch drum since the cable end may not withstand full load.
- I Avoid continuous pulls from extreme angles because this will cause the cable to gather on one end of the drum and damage the cable. Be aware that the winch's line pull capacity is the max line pull of the first layer. Never operate winch pulling a load that exceeds the rated capacity.
- I Never hook the cable back to itself because it could damage the cable.
- I Be sure the winch is mounted securely on the vehicle or bracket before operation.
- I Before moving a load, inspect the cable. Prevent kinks and uneven cable layer before they occur. Apply proper tension to loads under 100lbs.
- I Do not move your vehicle to assist the winch in pulling the load. It will be easy to overload, and cause cable damage. Be aware of the danger zone. Keep away from the danger zone during the operation. The danger zone is the area of the winch drum, the fairlead (if fitted), the cable, the pulley block (if used), the hook, and the motor.



- I Never approach or span the cable when the winch is under load.
- I When using the winch to move a load, place the vehicle transmission in neutral, set vehicle brake, and chock all wheels. The vehicle engine should be running during winch operation so that battery has fully electricity. Never use the winch when there is a lack of voltage.
- I Never disconnect free spool cultch when there is a load on the winch.
- I Always stand clear of the cable, hook and winch. You should disconnect the clutch first, then use the hand saver bar to hitch the hook to pull the cable.
- I Inspect winch, cable, hooks and other accessories frequently. A frayed cable with broken strands should be replaced immediately. Use heavy leather gloves when handling the cable. Do not let the cable slide through your hands. Inspect the cable before use. Mashed , pinched, frayed or kinked areas severely reduce the load-carrying capability. Replacement cables must be re-spooled under 100lbs.
- I To keep stated tensile, re-spool the cable around the drum tightly after operation.
- I Do not operate winch when under the influence of drugs, alcohol or medication. Always stay alert during operation.
- I Wear eye protection and personal protective equipment while operating winch.
- I For loads over 50% of rated line pull, the use of the pulley block/snatch block to double the cable is recommended.
- I Do not operate around potentially flammable liquids, gases, or debris. Sparks may occur, resulting in the ignition of fire.

### Line speed and Motor current(First layer)

Line Pull	Line Speed ft./min (m/min)	Motor Current Amps
lbs.(kgs)	12V DC	12V DC
0	14.1(4.3)	20
500(227)	9.8(3.0)	55
1500(680)	7.5(2.3)	95
2500(1134)	4.3(1.3)	160

### Line Pull And Cable Capacity

Layer	Rated line pull lbs (kgs)	Total rope on the drum ft (m)
1	2500(1134)	6.9(2.1)
2	2033(922)	15.1(4.6)
3	1713(777)	24.3(7.4)
4	1480(671)	34.1(10.4)
5	1303(591)	45.9(14.0)

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