



Installation and Operator's Manual

Electric Utility Winch

(Permanent Magnet)



2,000 lbs(907kg)-Part Number 77-02000-A

2,500 lbs(1136kg)-Part Number 77-02500-A

General Description

Each winch is equipped with a permanent magnet motor and is designed for intermittent general duty use. The winch is not designed to be used in industrial or hoisting applications and the manufacturer will not warrant it suitable for such use. Free spool clutch is operated by a pull and turn knob which disengages the gearbox to allow the wire rope to be pulled out manually when needed. A tension plate reduces backlash when the winch is free-spooling.

Safety Warnings & Precautions

1. Read manual before using any winch.
2. Do not exceed the winch's rated capacity.
3. Do not submerge the winch in water.
4. Do not operate the winch under the influence of drugs or alcohol.
5. Do not use the winch as a hoist or to move people.
6. Do not use the winch to secure a load or tow vehicles.
7. Electric winch is for intermittent use only. Never pull for more than one minute at or near the rated load capacity.
8. Always use heavy gloves when handling wire rope.
9. Never hook the cable back upon itself. This could damage the wire rope and cause it to break. Use a nylon sling.
10. Never winch with less than 5 turns of wire rope around the winch drum since the wire rope end fastener may not withstand full load.
11. Stay clear of wire rope and keep others away when in operation or with load on the wire.
12. Inspect winch before use and replace any parts as needed before using the winch.
13. Keep hands and fingers clear of wire rope and hook when operating the winch.

14. Place a small towel or shirt over the wire rope when using to ensure if the cable were to break it will direct the cable down and safely away from people.

Installation

Correct installation of your winch is required for proper operation.

1. Mount the winch on the vehicle or other object using screw M8 X 30, lockwasher, and flat washer provided. **WARNING:** This winch must be mounted with the wire rope spooling from the bottom of the drum. Improper mounting could damage your winch and void your warranty.
2. Route the 2 positive(red) cables and 2 negative(black) cables from the switch to the motor and battery respectively. (figure 4).
3. Check the direction of the drum rotation. Pull and turn the clutch knob to the "OFF" position to free-spool the drum. Pull out a few feet of cable from the drum and engage the clutch by turning the knob to the "IN" position. Push the "cable in" button on the control switch. If the cable is spooling in properly to the bottom of the drum everything is correct. If the winch is going the wrong direction you must switch the small blue and black wire connections and re-check the drum rotation direction.

Operation

1. Pull and turn the clutch knob to the “OFF” position. This enables free-spooling of the drum.
2. Grab the cable assembly hook and pull the cable to the desired length. Then attach the hook to the item being pulled. **WARNING: check that there are at least five wraps of wire rope left on the drum before operating the winch. Never put a load on the winch with less than 5 wraps of cable on the drum.**
3. Engage the clutch by turning the clutch knob to the “IN” position. **WARNING: clutch must be fully engaged before winching. Never engage clutch knob while drum is turning. The clutch knob has been adjusted and permanently locked in place with a thread locking compound at the factory. Do not attempt to re-adjust the knob.**
4. Push and hold the “cable in” button on the handheld to have the cable spool in. Push and hold the “cable out” button to reverse direction of the cable to spool out. Always wait until the motor fully stops before reversing directions.
5. Re-spool the cable when finished.

Maintenance

1. Periodically check all mounting bolts and electrical connections to assure they remain tight. Remove any dirt or corrosion that may have accumulated on any electrical connections.
2. Do not attempt to dis-assemble the gearbox. Dis-assembly will void the warranty. All repairs should be done by the manufacturer or an authorized repair center.
3. The gearbox has been lubricated using high temperature lithium grease at the factory. No internal lubrication is required.

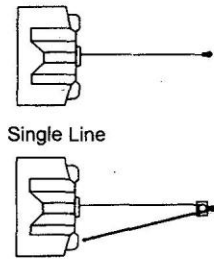
Wire rope replacement

1. Engage the clutch by turning the clutch knob to the “IN” position.
2. When inserting the rope in the drum, make sure and insert it into the correct end of the hole provided. Tighten the set screw securely.
3. Operate the winch and re-spool the wire rope from the bottom of the drum.

CAUTION: Always replace damaged cable with the correct size for your winch.

Troubleshooting

SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Motor will not operate or runs in one direction only	-Switch inoperative -Broken wires or bad connection -Defective motor	-Replace switch -check for poor connections -Replace or repair motor
Motor runs but drum does not turn	-Clutch not engaged	-Engage clutch
Motor runs but with insufficient power or line speed	-Weak battery -Defective motor	-Recharge or replace battery -Check battery terminals for corrosion. Clean as required -Check and clean connections -Repair or replace motor
Motor overheating	-Winch running too long -Defective motor	-Allow winch to cool down periodically - Repair or replace motor



Single Line

Double Line
Figure 1

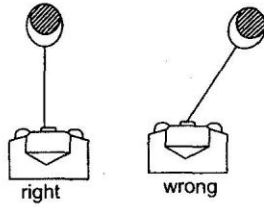


Figure 2

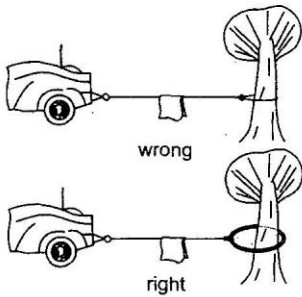


Figure 3

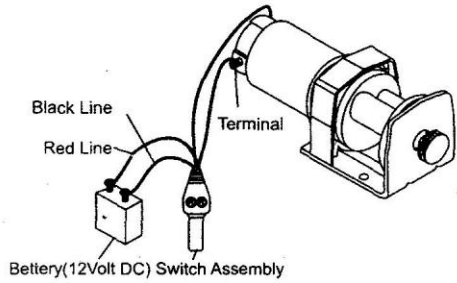


Figure 4

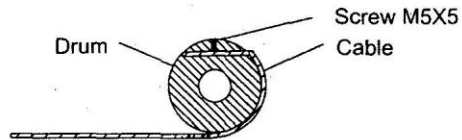


Figure 5

Part #77-02000-A**Model E2000**

Performance	12V
Rated line pull	2000lb(907kg)
Motor	1.0hp
Gearing	Differential Planetary
Gear ratio	153:1
Wire rope	5/32" x 25'(4mmx15.2m)
Dimensions	L x W x H (285 x 105 x 105mm)
Drum Diameter	1.25"(31.75mm)
NW/GW	20KG / 22KG(4pc)
Meas	48 x 34 x 34cm (4pc)

Pull, Speed, Amperes, Volts (First Layer)

Line Pull (lbs./ kg)	Line Speed FPM(m/min)	Motor (Amps)
0	10.5ft (3.2m)	8
500 (227)	9.2ft (2.8m)	30
1,000 (454)	7.2ft (2.2m)	60
1,500 (680)	5.2ft (1.6m)	90
2,000 (907)	2.9ft (0.9m)	120

Line Pull And Rope Capacity In Layer

Layer	Rated Line Pull (lbs./kgs)	Total Rope On Drum (ft/m)
1	2000 (907)	6.6 (2.0)
2	1630 (740)	14.0 (4.3)
3	1380 (620)	23.5 (7.2)
4	1190 (540)	35.0 (10.6)
5	1050 (470)	47.0 (14.4)
6	940 (420)	50.0 (15.2)

Part #77-02500-A & 77-02500-AI(With wireless switch) Model E2500

Rated line pull	2500lb (1136kg)
Motor	0.9kw,1.2HP 12V DC Permanent Magnet
Gearing	Differential Planetary
Gear ratio	153:1
Freespooling clutch	Pull and turn
Braking Action	Dynamic
Wire Rope	4.8mm*12.2m 3/16"X 40'
Dimensions	300mm(L) x 110mm(W) x 105mm(H)
Drum Diameter	1.25"(31.75)
Drum Length	2.9"(74mm)
NW/GW	14KG/16KG (2PCS)
Meas	35x 30 X 32cm (2PCS)

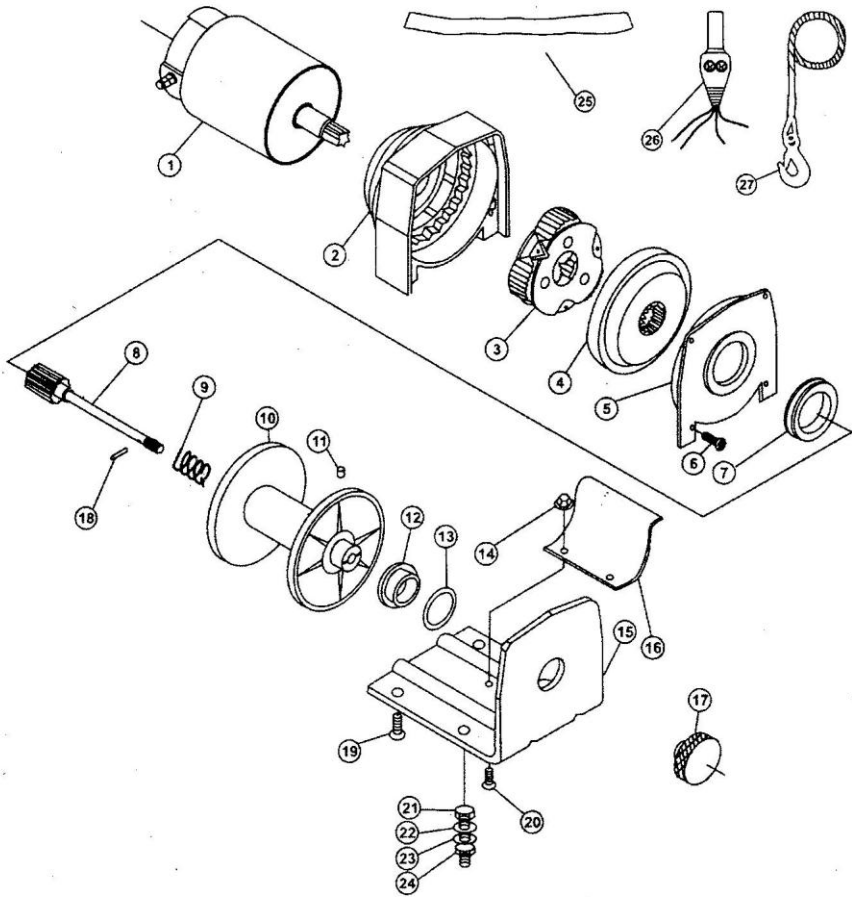
Pull, Speed, Amperes, Volts (First Layer)

Line Pull (lbs./ kg)	Line Speed FPM(m/min)	Motor (Amps)
0	10.8ft (3.3m)	12
1,000 (454)	8.2ft (2.5m)	60
2,000 (907)	3.6ft (1.1m)	100
2,500 (1134)	2.6ft (0.8m)	120

Line Pull And Rope Capacity In Layer

Layer	Rated Line Pull (lbs./kgs)	Total Rope On Drum (ft/m)
1	2500 (1134)	5.6 (1.7)
2	1985 (900)	12.4 (3.8)
3	1650 (748)	21.0 (6.4)
4	1410 (639)	31.0 (9.5)
5	1230 (558)	40.0 (12.2)

Winch Assembly Drawing



Winch Parts List

Item No.	Description	Qty
1	Motor	1
2	Stationary Gear Housing Assembly	1
3	T-Series Carrier Assembly	1
4	T-Series Rotator Gear	1
5	Drum Support Plate	1
6	Pan Head Screw M4X12	4
7	Drum Support Bushing	1
8	Clutch Assembly	1
9	Spring	1
10	Drum Assembly	1
11	Screw M5X5	1
12	T-Series Bushing	1
13	Thick Flat Washer	1
14	Hex Flange Nut M5	2
15	T-Series Baseplate Assembly	1
16	Tension Plate	1
17	T-Series F/W Knob Assembly	1
18	Elastic Pin 2.5x14	1
19	Hex Skt FH Screw M6x16	2
20	Screw	2
21	Screw M8x30	2
22	Washer-Flat #8	2
23	Lock Washer #8	2
24	Nut M8	2
25	Red Strap	1
26	Switch Assembly	1
27	Cable Assembly	1

ENGO SELF-RECOVERY WINCH

LIMITED LIFETIME WARRANTY FOR MECHANICAL COMPONENTS LIMITED TWO (2)YEAR WARRANTY FOR ELECTRICAL COMPONENTS

Engo Industries , Inc.(ENGO)warrants to the original purchaser that(a)the mechanical components of the “engo” Self-recovery winch will be free of the defects in material and workmanship for a period of one(2)years from the original date of purchase. This warranty applies only to the original purchaser of the winch. To obtain any warranty service, you must provide ENGO with proof of purchase and date of purchase acceptable to ENGO, such as a copy of your purchase receipt. This warranty does not cover the removal or reinstallation of the winch.. ENGO will, at its option, repair, replace or refund the purchase price of a defective winch or component, provided you return the defective winch or component during the warranty period, transportation charges prepaid, to Engo Industries’ service department or a factory authorized service center. Attach your name, address, telephone number, a description of the problem .and a copy of your receipt and original bill of sale bearing the ENGO serial number of the defective winch and date of purchase.

This warranty does not apply(1) to finish and wire rope, or(ii)if the winch has been damaged by accident, abuse, misuse, collision, overloading, modification, misapplication, improper installation, or improper service, this warranty is void if any ENGO serial number has been removed or defaced. Commercial or industrial use or application, or any hoisting application of the winch voids the warranty.

THE WARRANTY SET FORTH ABOVE IS THE ONLY WARRANTY. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

ANY IMPLIED WARRANTY WINCH BY LAWMAY NOT BE EXCLUDED IS LIMITED IN DURATION TO ONE(1) YEAR FROM THE DATE OF ORGINAL RETAIL PURCHASE OF THE PRODUCT.

No ENGO dealer, agent or employee is authorized to make any modification, extension or addition to this warranty.

ENGO SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT , INCIDENTAL OR CONSEQUENTIAL DAMAGES(INCLUDING, BUT NOT LIMITED TO, LOST PROFITS , DOWN TIME OR LOSS OF USE) UNDER ANY LEGAL THEORY, EVEN IF ENGO WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the exclusion of implied warranties or the exclusion or limitation of liability for incidental or consequential damages or limitations on how long an implied warranty lasts. So the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, you may also have other rights that vary from state to state.

ENGO reserves the right to change product design without notice. In situations in which ENGO has changed a product design, ENGO shall have no obligation to upgrade or otherwise modify previously manufactured products.

Warranty inquiries and products returned for warranty service should be sent to:

ENGO INDUSTRIES, INC
Customer service department
6501 V Place, Long Beach, Washington 98631
Phone Number: 360-642-0079 , Fax Number: 360-642-3315