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**BRUGSANVISNING TIL  
ELEKTRISKE TRÆKSPRIL 12 VOLT**

# ***ELECTRIC WINCH 12V***

**750LB**

**1500LB**

**2000LB**

## **INSTRUCTIONS**

**Read And Understand This Guide Before  
Installation And Operation**

## APPLICATION INFORMATION

This winch is designed to move a load at ground level or up an incline. It is neither designed nor intended for hoisting. This winch is not to be used to lift or move people. This winch is for intermittent use due to heat buildup characteristic of various components. If the end of the motor becomes uncomfortably hot to touch, stop winching and allow the motor to cool down.

### P750-1 Specifications:

Rated line pull: 1500 lbs (681 kgs) double line

Motor: Permanent magnet, 0.3kw/0.4hp(12V)

Gear reduction ratio: 153:1

Cable (Dia x L):  $\Phi$ 3mmX15 m

Drum size (Dia X L):  $\Phi$ 31.5mmX73mm

Overall dimensions (L X W X H):

11.2"X4.1"X4.1"(285mmX105mmX105mm)

Mounting bolt pattern: 3.13" (80mm)

Net Weight: 5kgs

### LINE SPEED AND AMP DRAW (FIRST LAYEY) 12V

<b>Line</b>	Lb	NO	800	1250	1500
<b>Pull</b>	Kg	LOAD	363	567	681
<b>Line speed</b>	ft/min	5.28	4.6	3.3	2.62
	m/min	1.6	1.4	1.0	0.8
<b>Motor</b>	Amps	6	20	32	40

### Line pull and cable capacity

Layers of cable		1	2	3	4	5
<b>Rated line Pull per layer</b>	Lb	1500	1197	1045	931	750
	Kg	681	542	474	422	340
<b>Cumulative cable capacity</b>	ft	7.26	15.8	26	37	50
	m	2.2	4.8	7.9	11.4	15

**P1500-1 Specification:**

Rated line pull: 3000 lbs (1360 kgs) double line

Motor: Permanent magnet,0.52kw/0.69hp(12V)

Gear reduction ratio: 153:1

Cable (Dia x L):  $\Phi 5/32" \times 49'$ ( $\Phi 4\text{mm} \times 15\text{ m}$ )

Drum size (Dia X L):  $\Phi 1.24" \times 2.88'$ ( $\Phi 31.5\text{mm} \times 73\text{mm}$ )

Overall dimensions (L X W X H):

11.2"X4.1"X4.1"(285mmX105mmX105mm)

Mounting bolt pattern: 3.13"(80mm)

Net Weight: 6KGS

**LINE SPEED AND AMP DRAW (FIRST LAYEY) 12V**

<b>Line Pull</b>	Lb	NO	1000	2000	3000
	Kg	LOAD	453	907	1360
<b>Line speed</b>	ft/min	5.28	4.6	3.8	2.97
	m/min	1.6	1.4	1.15	0.9
<b>Motor</b>	Amps	12	25	40	68

**Line pull and cable capacity**

<b>Layers of cable</b>		1	2	3	4	5
<b>Rated line Pull per layer</b>	Lb	3000	2422	2090	1805	1444
	Kg	1360	1098	948	818	655
<b>Cumulative cable capacity</b>	ft	6.5	14	31	41	49
	m	2	4.3	6.8	12.5	15

**P2000-1 Specifications:**

Rated line pull: 2000 lbs (907 kgs) single line

Motor: Permanent magnet,0.7kw/0.9hp(12V)

Gear reduction ratio: 153:1

Cable (Dia x L):  $\Phi 5/32$ "X49'( $\Phi 4$ mmX15 m)

Drum size (Dia X L):  $\Phi 1.24$ "X2.88"( $\Phi 31.5$ mmX73mm)

Overall dimensions (L X W X H):

11.2"X4.1"X4.1"(285mmX105mmX105mm)

Mounting bolt pattern: 3.13" (79.5mm)

Net Weight: 6.5KGS

**LINE SPEED AND AMP DRAW (FIRST LAYEY) 12V**

<b>Line Pull</b>	Lb	NO	500	1000	1500	2000
	Kg	LOAD	227	454	680	906
<b>Line speed</b>	ft/min	10.5	9.2	7.5	5.9	4.2
	m/min	1.6	2.8	2.3	1.8	1.3
<b>Motor</b>	Amps	10	28	40	90	105

**Line pull and cable capacity**

<b>Layers of cable</b>		1	2	3	4	5	6
<b>Rated line Pull per layer</b>	Lb	2000	1630	1380	1190	1050	940
	Kg	907	739	620	540	470	420
<b>Cumulative cable capacity</b>	ft	6.5	14.0	22	31	41	49
	m	2.0	4.3	6.8	9.5	12.5	15

## SAFFETY PRECAUTIONS

Throughout this manual, you will find notations with the following headings:

**Danger:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**Warning:** Indicates an potentially hazardous situation which, if not avoided, will result in death or serious injury.

**Caution:** Indicates an potentially hazardous situation which, if not avoided, may result in minor or moderate injury. This notation is also used to alert against unsafe practices.

**Note:** Indicates additional information in the installation and operation procedures of your winch.

**Please Note:** Winch is designed primarily for intermittent applications. This winch is not designed to be used in industrial or hoisting applications.

## GENERAL SAFETY INFORMATION

Your winch is a very powerful machine. If used unsafely or improperly, there is a possibility that property damage or personal injury could result.

**Warning:** The responsibility for safe installation and operation of the winch and prevention of the winch and prevention of personal injury and property damage ultimately rests with you, the operator. There is no substitute for the use of good judgement and caution in operating a winch.

**Warning:** The wire rope may break before the winch stalls. For heavy loads, use a pulley block to reduce the load on the wire rope.

1. Maximum working load capacity is on the wire rope layer closest to the drum. DO NOT OVERLOAD. DO NOT ATTEMPT PROLONGED PULLS AT HEAVY LOADS. Overloads can damage the winch and/or the wire rope and create unsafe operating conditions. FOR LOADS OVER 1/2 RATED CAPACITY, WE RECOMMEND THE USE OF THE

PULLEY BLOCK TO DOUBLE LINE THE WIRE ROPE IF THE MODEL COMES WITH PULLEY BLOCK (**Note: P2000-1 model doesn't come with pulley block but is optional**) .This reduces the load on the winch and the strain on the wire rope by approximately 50%.Attach hook to load bearing part. The vehicle engine should be running during winch operation. If considerable winching is performed with the engine off, the battery may be too weak to restart the engine.

2. AFTER READING AND UNDERSTANDING THIS MANUAL, LEARN TO USE YOUR WINCH. After installing the winch, practice using it so you will be familiar with it when the need arises.
3. DO NOT "move" your vehicle to assist the winch in pulling the load. The combination of the winch and vehicle pulling together could overload the wire rope and the winch.
4. ALWAYS STAND CLEAR OF WIRE ROPE, HOOK AND WINCH. IN UNLIKELY EVENT OF ANY COMPONENT FAILURE IT'S BEST TO BE OUT OF HARM'S WAY.
5. Inspect wire rope and equipment frequently. A Frayed wire rope with broken strands should be replaced immediately.
6. Use heavy leather gloves when handling wire rope. Do not let wire rope slide through your hands.
7. 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.
8. Never put your finger through the hook. If your finger should become trapped in the hook, you could lose your finger. ALWAYS USE THE HANDSAVER when guiding the wire rope in or out.
9. NEVER HOOK THE WIRE ROPE BACK ONTO ITSELF because you could damage the wire rope. Use a nylon sling.
10. It is a good idea to lay a heavy blanket or jacket over the wire rope near the hook end when pulling heavy loads. If a wire rope failure should occur, the cloth will act as a damper and help prevent the rope from whipping.
11. AVOID CONTINUOUS PULLS FROM EXTREME ANGLES as this will cause the wire rope to pile up on one end of the drum. This can jam the wire rope in the winch, causing damage to rope or the winch.

12. NEVER OBSCURE THE WARNING INSTRUCTION.
13. Always operate winch with an unobstructed view of the winching
14. Equipment such as tackle, hooks, pulley blocks, straps, etc. should be sized to the winching task and should be periodically inspected for damage that could reduce their strength.
15. NEVER RELEASE FREESPOOL CLUTCH WHEN THERE IS A LOAD ON THE WINCH.
16. NEVER WORK ON OR AROUND THE WINCH DRUM WHEN WINCH IS UNDER LOAD.
17. DO NOT OPERATE WINCH WHEN UNDER THE INFLUENCE OF DRUGS, ALCOHOL OR MEDICATION.
18. ALWAYS DISCONNECT WINCH POWER LEADS TO BATTERY BEFORE WORKING IN OR AROUND THE WINCH DRUM so that the winch cannot be turned on accidentally.
19. When moving a load, slowly take up the wire rope slack until it becomes taut. Stop, recheck all winching connections. Be sure the hook is properly seated. If a nylon sling is used, check the attachment to the load.
20. When using your winch to move a load, place the vehicle transmission in neutral, set vehicle brake, and chock all wheels.
21. DO NOT USE THE WINCH TO HOLD LOADS IN PLACE. Use other means of securing loads such as tie down straps.
22. USE ONLY FACTORY APPROVED SWITCHES, REMOTE CONTROLS ACCESSORIES. Use of nonfactory approved components may cause injury or property damage.
23. DO NOT MACHINE OR WELD ANY PART OF THE WINCH. Such alterations may weaken the structural integrity of the winch.
24. DO NOT CONNECT WINCH TO EITHER 110V AC HOUSE CURRENT OR 220V MAINS AS WINCH BURNOUT OR FATAL SHOCK MAY OCCUR.
25. Never allow shock loads to be applied to winch or wire rope.
26. Use caution when pulling or lowering a load up and down a ramp or incline. Keep people, pets and property clear of the path of the load.
27. The switch assembly must be kept free of dirt and moisture to



ensure safe operation.

28. To prevent unauthorized use of the winch, remove pendant control and store in a clean dry area such as the glove box.

### **INSTALLATION**

**Caution:**No part of the vehicle (skidplates, wiring, auxiliary lights, Tires,etc.) should impede the operation of your winch. When mouting, check all vehicle and winch parts for free operation. Be sure that the winch mounting location does not significantly reduce ground clearance.

#### **Step (1)**

Mount the winch to a firm base. Be sure that your structural support is strong enough to support the rated pulling forces of the winch.

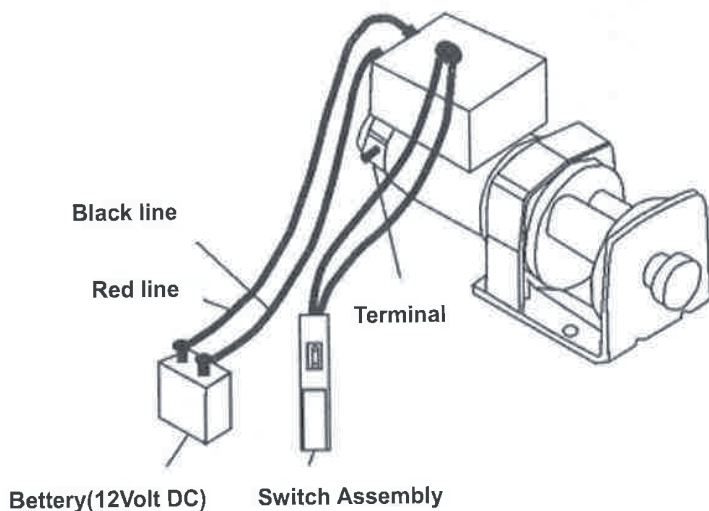
#### **Step (2)**

While mounting attitude is at your discretion,always remember that your winch is to be operated with the wire rope in an underwound orientation on the wire rope drum. Your winch is designed to ROPE IN and ROPE OUT in one direction. DO NOT attempt to reverse the operation of winch.

**Warning:**Batteries contain gasses which are flammable and explosive Wear eye protection during installation and remove all metal jewelry. Do not lean over battery while making connections.

### Step (3)

Refer to Figure 1 for wiring diagram.



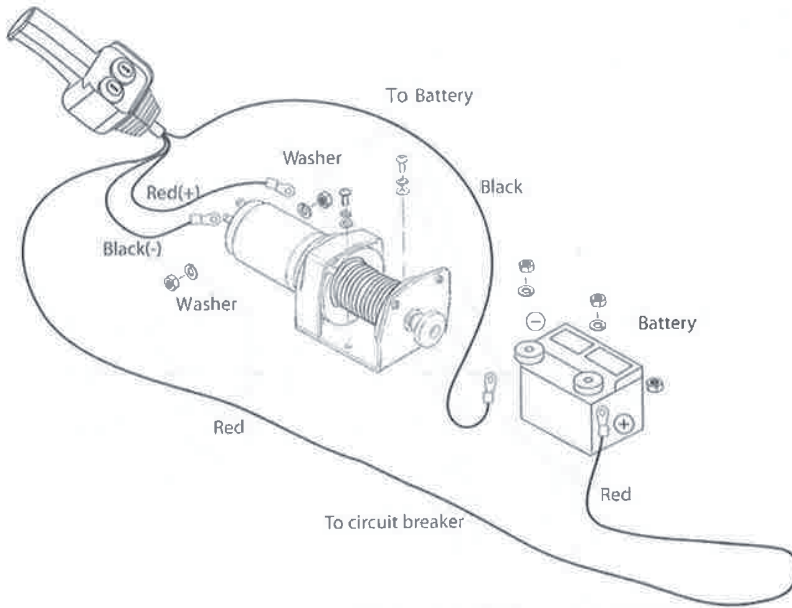
**Figure 1**

Route the short red and black color coded wires to the motor. Route the long red and black color coded wires to the battery.

**Depends on the model you buy comes with a circuit breaker or not, if it does:**

Attach the circuit breaker to battery end of the red wire. Wrap the circuit breaker with electrical tape to prevent accidental short circuits. Apply several layers of electrical tape where wiring may come into contact with sharp metal parts of the vehicle to prevent insulation abrasion or cutting.

Attach the circuit breaker wire to the battery positive terminal and reattach the terminal to the battery. Connect the remaining black remote control wire to the battery negative terminal. Please refer to Figure 2.



**Figure 2**

Step (4)

**FREESPOOL OPERATION**

Pull and turn the clutch knob to the “Free ” position as shown in Figure 9. If there is a load on the wire rope, the clutch knob may not pull out easily. **DO NOT FORCE THE CLUTCH KNOB.** Release tension on the clutch by jogging out some of the wire rope. Release the clutch and pull out the wire rope and secure to anchor or load. Check that there are at least five 5 turns of wire rope left on the drum. Re-engage the drum by returning the clutch knob to the “Engaged” position. (See Figure 3). Activate the winch in Cable Out momentarily to check drum rotation direction. If the drum rotates in the wrong direction, recheck your wiring.

**Caution:** Clutch must be fully engaged before winching. Never engage clutch knob while drum is turning.



**Figure 3**

### **WIRE ROPE**

1. The life of the wire rope is directly related to the care it receives. The wire rope on a new winch, and any replacement ropes, should be respooled under a minimum of 100 lb load before using the winch. Failure to do this will result in wire rope damage. Inspect wire rope before use. Mashed, pinched, frayed or kinked areas severely reduce the load-carrying capacity. Replace damaged wire rope.
2. Prevent kinks before they occur.
  - (a) This is the start of a kink. At this time, the wire rope should be straightened.
  - (b) The wire rope was pulled and the loop has tightened to a kink. The wire rope is now permanently damaged and should not be used .
  - (c) The result of kinking is that each strand pulls a different amount causing the strands under greatest tension to break and reduce load capacity of the wire rope.
3. When it is necessary to respool the wire rope under no load after use, hold the remote switch lead in one hand and the wire rope in the other. Start from as far from the vehicle as the remote switch will allow, activate the switch, walk in several feet of rope and release switch. Repeat the process. Always release the switch before your hand comes within four feet from the fairlead (if fitted).

4. Be sure the wire rope is distributed evenly and tightly on the drum. A loosely wound drum allows the wire rope to work its way down into the layers of wire rope on the drum and become wedged.
5. It is not advisable to grease or oil the wire rope due to dirt contamination that will reduce the wire rope life.

### **REPLACING THE WIRE ROPE**

1. If the wire rope has become worn or is beginning to show signs of strands breaking it must be replaced before being used again. To do this, remove the defective rope by free spooling. Remove the bolt on the drum and release the rope.
2. Insert the end of the new rope and secure bolt tightly.
3. Engage the clutch and re-spool the new rope on the drum keeping tension on the rope as it spools. Ensure that the rope is respooling in the under wind position.

**Warning : Only replace the wire rope with the identical replacement part recommended by the manufacturer.**

### **PREPARING THE WINCH**

**Danger: Wear heavy leather gloves when handling wire rope, even with gloves on. When handling the hook, always use handsaver. Never put your fingers into the hook. Placing finger(s) in hook could result in injury.**

1. When anchoring the pulling vehicle, set the parking brake and block or chock the wheels. Keep the vehicle's foot brake depressed and place automatic and manual transmissions in neutral.

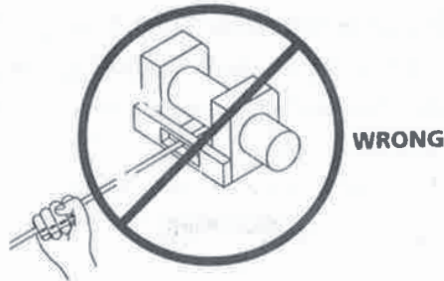
**Warning: Inspect switch and wiring for cracks, pinched spots, frayed wire, or loose connections. A damaged, shorted lead could cause the winch to run as soon as it is plugged in.**

2. When using the remote switch inside a vehicle, always pass it through a window to avoid pinching the wire in the door.

## WINCHING

**Danger:** Never touch the wire rope or hook while they are in tension or under load. Even at rest, the winch may have the wire rope in tension. Never guide a wire rope under tension onto the drum with your hands(see Fig.4).

Figure 4



1. Winch with at least five wraps of wire rope around the winch drum. With fewer wraps, the wire rope could pull loose from the drum under load.

2. When pulling a load, place a blanket, jacket or tarpaulin over the wire rope near the hook end(see Fig.5). This will slow the snap back of a broken wire rope and help to prevent serious injury. Raise hood to protect windshield.

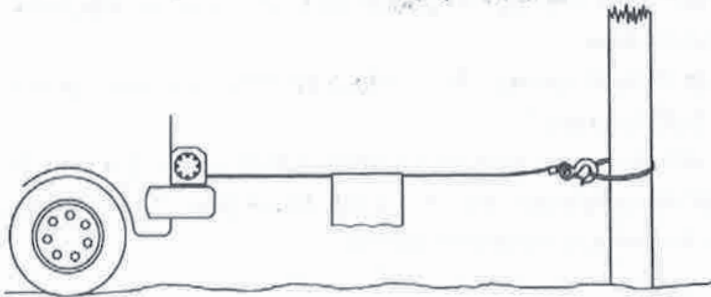


Figure 5

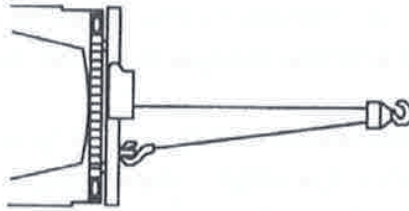
**Warning:** Note the winch's rated capacity and do not exceed it.

**Warning :**When the load exceeds the maximum rated pull of the winch, the external circuit breaker will automatically shut down the winch. To reset the circuit breaker release the switch button.

**Note** the winch will not be able to restart normally until the motor heat built up from the excess strain cools down.

3. Double line with a pulley block(see Fig.6) to reduce the load on the winch, wire rope and battery. Double lining will also reduce winch line speed . Be sure all equipment used meets the winch's maximum line pull rating. When double-lining, pulley blocks should be rated to a minimum of two times the winch's line pull rating.

### WINCHING



**Figure 6**

4. If you install a tow hook for double lining, it should be attached to the vehicle frame.

5. Pull as straight as possible to reduce the buildup of wire rope on one end of the drum.

6. The vehicle engine should be running during winch operation. If considerable winching is performed with the engine off, the battery may be too weak to restart the engine.

**Caution:** Use a pulley block to avoid winching at sharp angles. Uneven layering will cause serious damage to the winch and wire rope. It can be corrected by securing load, spooling out the wire rope and repositioning it to the opposite end of the drum.

**Danger:** Do not disengage clutch under load, If your winch is equipped with a freespool clutch, be certain that there is no tension on the wire rope when you disengage the clutch. Before winching a load , be sure the clutch is fully engaged.

**Warning:** Use the winch to move the load. Do not attempt to assist The winch by moving the vehicle. The combination of the winch and vehicle pulling could overload the wire rope and the load could break the winch .

**Danger:** Never rely on the winch to hold a load in place . None of Our winches are designed for load-holding applications and may unwind or fail due to shock loading as the load is being transported. The load should be secured by other means, and the winch hook detached from the load.

### RIGGING

**Warning:**Take your time when rigging and include a reasonable factor for safety. Improper rigging can result in damage to vehicle and equipment. It can also cause injury.

1. Never handle the wire rope or rigging while anyone else is at the control switch.

**Caution:** Use a nylon sling when attaching the wire rope to an anchor point. Do not attach the hook back on to the wire rope. Doing so can cause the wire rope to break.

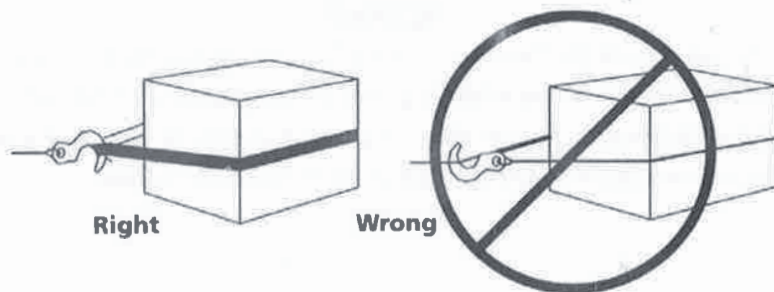
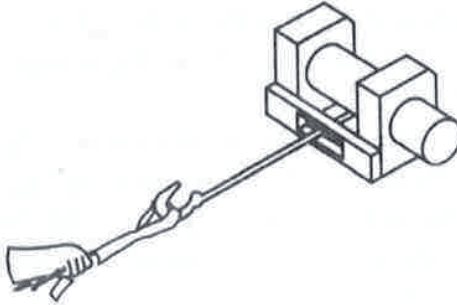


Figure 7



**Warning :** Always use the handsaver(Figure 8). Do not hold the hook with your hand . This is important not only when reeling wire rope in but also when removing wire rope from the winch under power.



**Figure 8**

2. Run the winch intermittently to take up wire rope slack. When using a pulley block, be sure the wire rope is running properly in all pulleys before applying a load.

**Warning:** Do not re-engage clutch while winch is running.

**Warning:** Always operate winch with an unobstructed view of the winching operation. Never obscure warning and instruction labels.

### **RIGGING**

3. Figure 9 illustrate the most commonly used rigging. A nylon sling is used to protect the tree when it is used as an anchor, and the wire rope is attached to use the sling. The use of a chain or wire rope is not recommended due to the damage it could cause to the tree.

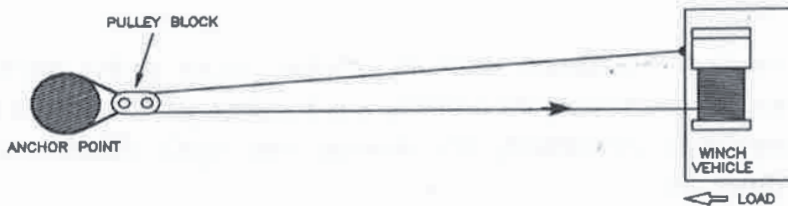
## Anchor Point



**Nylon Sling**

**Figure 9**

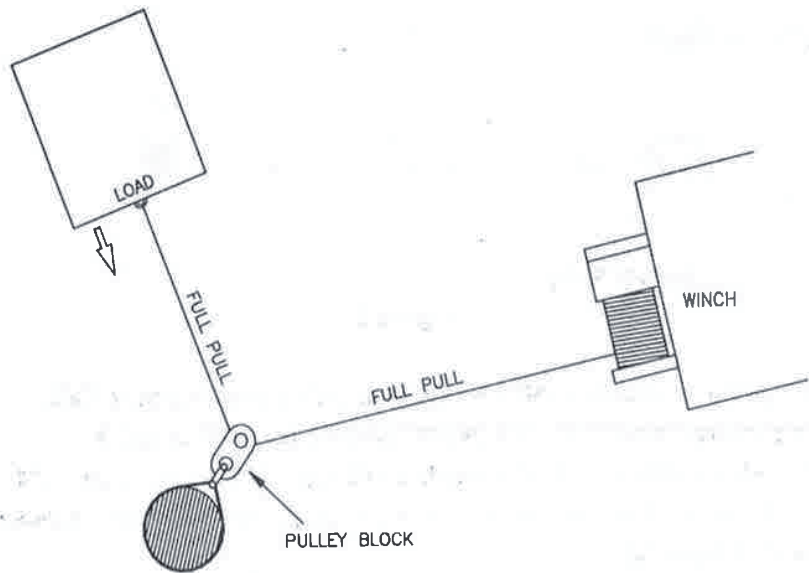
4. For the models of P750-1, P1500-1, if pulling exceeds over 750lb and 1500lb respectively, we recommend the use of the snatch block/pulley block to double line the wire rope. This reduces the load on the winch and the strain on the rope by approximately 50%. please refer to figure 10



**Figure 10**

## RIGGING

5. Figure 11 illustrate the use of a pulley block to change the direction of the pull. Mechanical advantage can be obtained by attaching a pulley block to the nylon sling with a shackle and running the wire rope to the anchor point.



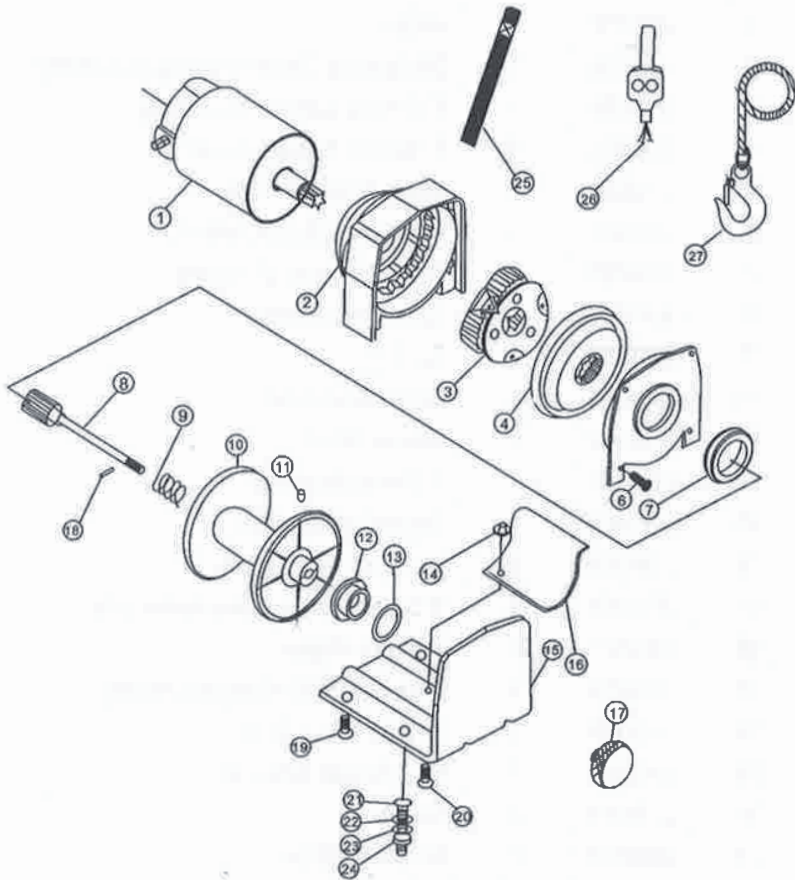
**Figure 11**

**Caution:** Equipment such as shackle, hooks, pulley blocks, straps, etc. should be properly sized and rated and should be inspected periodically for damage that could reduce their strength.

### **MAINTAINNENCE**

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 gear box. Repairs should be done by he manufacturer or an authorized repair center.
3. The gear box has been lubricated using a high temperature lithium grease and is sealed at the factory. No internal lubrication is required.

# WINCH PARTS LIST



Winch Parts List for 750LB/1500LB/2000LB

Item #	Part #	Qty	Description
1	200100	1	motor
2	200200	1	Stationary Gear Housing Assembly
3	200300	1	T-Series Carrier Assembly
4	200400	1	T-Series Rotator Gear
5	200500	1	Drum Support Plate
6	200600	4	Pan Head Screw M4x12
7	200700	1	Drum Support Bushing
8	200800	1	Clutch Assembly
9	200900	1	Spring
10	200001	1	Drum Assembly
11	200002	1	Screw M5x5
12	200003	1	T-Series Bushing
13	200004	1	Thick Flat Washer
14	200005	2	Hex Flange Nut M5
15	200006	1	T-Series Base plate Assembly
16	200007	1	Tension Plate
17	200008	1	T-Series F/W Knob Assembly
18	200009	1	Elastic Pin 2.5x14
19	200010	2	Hex Screw M6 x 16
20	200011	2	Screw
21	200012	2	Screw M8X30
22	200013	2	Washer-Flat 08
23	200014	2	Lock Washer 08
24	200015	2	Nut M8
25	200016	1	Safety pull strap
26	200017	1	Switch Assembly
27	200018	1	Cable Assembly

## TROUBLE SHOOTING

<b>Symptoms</b>	<b>Possible Causes</b>	<b>Corrective Action</b>
Motor will not operate or only in one direction	<ol style="list-style-type: none"> <li>1. Switch inoperative</li> <li>2. Broken wires or bad connection</li> <li>3. Damaged motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace switch</li> <li>2. Check for poor connections</li> <li>3. Replace or repair motor</li> </ol>
Motor runs extremely hot	<ol style="list-style-type: none"> <li>1. Long period of operation</li> <li>2. failed or removed overload</li> <li>3. Damaged motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Allow to cool</li> <li>2. Replace or repair overload</li> <li>3. Replace or repair motor</li> </ol>
Motor runs, but with insufficient power or line speed	<ol style="list-style-type: none"> <li>1. Weak battery</li> <li>2. Battery to winch wire too long</li> <li>3. Poor battery connection</li> <li>4. Poor ground</li> <li>5. Damaged motor</li> </ol>	<ol style="list-style-type: none"> <li>1. Recharge or replace battery and check charging system</li> <li>2. Keep winch within distance allowed by lead wires</li> <li>3. Check battery terminals for corrosion and clean as required</li> <li>4. Check and clean connections</li> <li>5. Replace or repair motor</li> </ol>
Motor runs but drum doesn't turn	<ol style="list-style-type: none"> <li>1. Clutch not engaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Engage clutch</li> </ol>
Winch runs backwards	<ol style="list-style-type: none"> <li>1. Motor wires reversed</li> <li>2. Switch wires reversed</li> <li>3. Battery switch installed incorrectly</li> </ol>	<ol style="list-style-type: none"> <li>1. Recheck wiring</li> <li>2. Recheck wiring</li> <li>3. Check battery connections</li> </ol>
Winch coasts	<ol style="list-style-type: none"> <li>1. Excessive load</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce load or double line</li> </ol>
Motor operations but stops	<ol style="list-style-type: none"> <li>1. Excessive load/overload</li> </ol>	<ol style="list-style-type: none"> <li>1. Allow to cool</li> </ol>