

# SUPERWINCH®



## OWNER'S MANUAL

INSTALLATION • OPERATION • MAINTENANCE  
SAFETY PRECAUTIONS • REPAIR PARTS

**S6000**

12 & 24 Volt DC Electric Winch  
Model 1679, 1681

### ⚠ CAUTION

**READ AND UNDERSTAND THIS MANUAL  
BEFORE INSTALLATION AND OPERATION  
OF YOUR SUPERWINCH PRODUCT.**

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## INTRODUCTION

Thank you for purchasing an S6000 winch from Superwinch. It has been designed and manufactured to provide years of trouble-free operation. We hope you will be pleased with its performance. If you are not, for any reason, please contact our Customer Service Department: (860) 928-7787 USA; (1822) 614101 England.

When requesting information or ordering replacement parts; always give the following information:

1. Winch Part Number (1679, 1681)
2. Serial Number (found on drum support casting)
3. Part Number (found in Replacement Parts List section)
4. Part Description

Please read and understand this Owner's Manual prior to installing and using your winch. Pay particular attention to the 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 can result. We have included several features in this winch to minimize this possibility; however, your safety ultimately depends on your caution when using this product.

### ⚠ CAUTION

**Pay particular attention to the caution and warning notes preceded with these symbols. The notes contain advice for your protection.**

### ⚠ WARNING

Correct installation of your winch is a requirement for proper operation. If you intend to install your winch on the front end of your vehicle **use the mounting (fitting) kit** which has been designed and manufactured by Superwinch to accommodate your winch and fit your vehicle.

**Please Note:** The Superwinch model S6000 winch is designed primarily for front mount vehicle use and for other intermittent duty general use. This winch is not designed to be used in industrial or hoisting applications and Superwinch does not warrant it to be suitable for such use. Superwinch manufactures a separate line of winches for industrial/commercial use. Please contact our Customer Service Department for further information. Note the electrical requirements of the S6000 winch you have purchased:

Part No. 1679 12-volt DC system Only  
Part No. 1681 24-volt DC system Only

Congratulations on your choice!

### ROLLING LOAD CAPACITIES\*

Grade**	10% (6°)	20% (11°)	30% (17°)	60% (31°)	100% (45°)
<b>Lbs.</b>	29,410	20,760	15,460	00,000	7,710
<b>kg</b>	13,340	9,140	7,010	0,000	3,500

\* Ratings assume a 10% coefficient of friction.

\*\* A 10% grade is a rise of one foot in ten feet. Slope in approximate degrees is also shown.

## UNPACKING

This carton contains the following items. Please unpack carefully.  
**Read instructions before beginning.**

Description	Quantity
Winch assembly with wire rope	1
Short leadwire assembly	1
Hex socket head cap screws 1/4 - 20	4
Electrical tape	1
Circuit breaker assembly w/hdw.	1
3/8 - 16 square nuts	4
3/8 flat washers	4
3/8 lock washers	4
3/8-16 hex head cap screw	4
Hand saver	1
7" Wire Ties	6
Clevis hook	1
Remote pendant assembly	1
Owners Manual	1

## FEATURES

**Electric Motor** – 1.6 peak hp (1.2 kw) 12 or 24 Volt DC permanent magnet.

**Braking** – A one way drag brake will hold a 3,500 lb. (1588 kg) load on the first wrap.

**Drum** – Fabricated steel running in copolymer maintenance free bearings.

**Freespool Clutch** – Operated by an easy action lever which disengages the gearbox to allow the wire rope to be pulled out without

using electric power. A spring-loaded drag mechanism reduces backlash and snarling when pulling out the wire rope.

**Remote Switch** – 12' (3.66m) hand held pendant switch assembly with interlocking reverse switch and trigger.

**Mounting** – Optional custom-engineered mounting kits are available for vehicle frame attachment.

## INTERMITTENT DUTY

An electric winch is like any other motor driven power tool such as an electric drill or saw. The electric motor should not be allowed to become excessively hot. Normal precautions will extend the life of your motor. Keep the duration of pulls as short as possible. **If the end of the**

**motor becomes uncomfortably hot to touch**, stop winching and allow the motor to cool down.

**⚠ CAUTION** *If the winch motor stalls, do not continue to apply power to the winch.*

## PERFORMANCE

Wire Rope Layer	Max. Pulling Capacity lbs	Max. Pulling Capacity kg
1	6,000	2,720
2	4,900	2,222
3	4,150	1,882
4	3,600	1,632
5	3,175	1,440

Load* lbs	kg	Speed 12V		Speed 24V		Motor Current (Amps)	
		ft/min	m/min	ft/min	m/min	12V	24V
0	0	17.5	5.3	16.0	4.9	30	11
1,000	454	14.8	4.5	14.6	4.5	81	44
2,000	907	11.6	3.5	11.7	3.6	134	74
4,000	1,814	6.1	1.9	8.4	2.6	250	136
6,000	2,721	2.5	0.8	4.0	1.2	400	230

## SPECIFICATIONS

Working Load\* . . . 6,000 lbs. (2,720 kg)  
 Stall Load 12V\*, 24V\* . . . . . 6,600 lbs.  
 (2,990 kg)  
 Wire Rope . . . . . 5/16" x 100'

\*Based on first layer performance.

12 V Motor . . . 1.6 hp (1.2 kw) peak  
 24 V Motor . . . 1.6 hp (1.2 kw) peak  
 Gear Ratio . . . . . 253:1

## GENERAL SAFETY INFORMATION

Your S6000 winch is a very powerful machine. Treat it with respect, use it with caution and always follow these safety guidelines.

**⚠ 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. The S6000 winch is rated at 6,000 pounds (2721 kg) (single line) capacity on the wire rope layer closest to the drum. **DO NOT OVERLOAD. DO NOT ATTEMPT PROLONGED PULLS AT HEAVY LOADS.** Do not maintain power to the winch if the motor stalls. Overloads can damage the winch and/or the wire rope and create unsafe operating conditions. **FOR LOADS OVER 4,000 POUNDS (1814 KG), WE RECOMMEND THE USE OF THE OPTIONAL PULLEY BLOCK TO DOUBLE LINE THE WIRE ROPE (FIGURES 1 & 14).** This reduces the load on the winch and the strain on the wire rope by approximately 50%. If attaching back to vehicle, attach to the frame or other load bearing part. **The vehicle engine should be running during winch operation to minimize battery drain and maximize winch power and speed.** If considerable winching is performed with the engine off, the battery may be too weak to restart the engine.

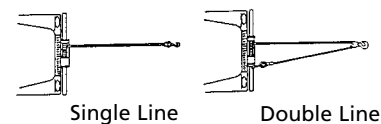


Figure 1

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 a load.** The combination of the winch and vehicle pulling together could overload the wire rope and the winch itself.
4. **KEEP WINCHING AREA CLEAR.** Do not allow people to remain in the area during winching operations. **ALWAYS STAND CLEAR OF WIRE ROPE/HOOK AND WINCH. IN THE 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.** Always replace wire rope with the manufacturer's identical replacement part (see Replacement Parts List). Periodically check the winch installation to ensure that all bolts are tight.
6. **USE HEAVY LEATHER GLOVES** when handling wire rope. **DO NOT LET WIRE ROPE SLIDE THROUGH YOUR HANDS EVEN WHEN WEARING GLOVES.**

## GENERAL SAFETY INFORMATION (CONT.)

7. NEVER WINCH WITH LESS THAN 5 TURNS of wire rope AROUND THE WINCH DRUM since the wire rope end fastener will NOT withstand a load. Your S6000 winch wire rope has a ten-foot red "warning indicator" on each end. The "warning indicator" at the winch end warns you that the wire rope is near or less than 5 turns. The "warning indicator" at the hook end of the wire rope warns you that the hook is approaching the winch. ALWAYS USE THE HAND-SAVER BAR when guiding the wire rope in or out (see Figure 2). As you use your winch, the red paint will wear off due to normal use. When this happens, renew the red paint as it is a safety feature of the winch.

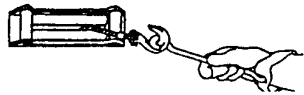


Figure 2

8. KEEP CLEAR OF WINCH, TAUT WIRE ROPE AND HOOK WHEN OPERATING WINCH. Never put your finger through the hook. If your finger should become trapped in the hook, you could lose your finger. **Never guide a wire rope onto the drum with your hand.**

9. NEVER HOOK THE WIRE ROPE BACK ONTO ITSELF because you could damage the wire rope. Use a nylon sling (Figure 3).



Figure 3

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 (Figure 4). If a wire rope failure should occur, the cloth will act as a damper and help prevent the rope from whipping. Raise the hood of the vehicle for added protection.

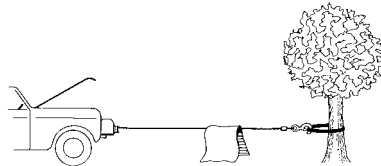


Figure 4

11. NEVER USE YOUR WINCH FOR LIFTING PEOPLE OR MOVING PEOPLE.

12. Your winch is not intended for overhead hoisting operations.

13. AVOID CONTINUOUS PULLS FROM EXTREME ANGLES as this will cause the wire rope to pile up at one end of the drum (Figure 5). This can jam the wire rope in the winch, causing damage to the wire rope or winch itself.

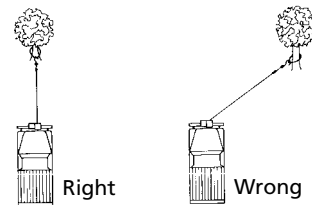


Figure 5

## GENERAL SAFETY INFORMATION (CONT.)

14. NEVER OBSCURE THE WARNING INSTRUCTION LABELS.

15. Always operate winch with an unobstructed view of the winching operation.

16. 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.

17. NEVER RELEASE FREESPOOL CLUTCH WHEN THERE IS A LOAD ON THE WINCH.

18. STORE THE REMOTE PENDANT ASSEMBLY IN A SAFE PLACE when not in use to prevent use by children or other unauthorized persons who could injure themselves or others.

19. DO NOT OPERATE WINCH WHEN UNDER THE INFLUENCE OF DRUGS, ALCOHOL OR MEDICATION.

20. ALWAYS UNPLUG THE REMOTE PENDANT BEFORE WORKING IN OR AROUND THE FAIRLEAD OR WINCH DRUM (THE DANGER ZONE) so that the winch cannot be turned on accidentally.

21. 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.

22. When using your winch to move a load, place the vehicle transmission in neutral, set vehicle parking brake, and chock all wheels

23. DO NOT USE THE WINCH TO HOLD LOADS IN PLACE. Use other means of securing loads such as tie down straps. Superwinch offers a wide variety of tie downs. Contact your local Superwinch dealer.

24. USE ONLY FACTORY APPROVED SWITCHES, REMOTE CONTROLS AND ACCESSORIES. Use of non-factory approved components may cause injury or property damage and could void your warranty.

25. DO NOT MACHINE OR WELD ANY PART OF THE WINCH. Such alterations may weaken the structural integrity of the winch and could void your warranty.

26. Do not power the winch out for more than 20 feet (6m) or longer than 1 minute.

**⚠ WARNING** *The drum and wire rope may get very hot (Figure 6).*

27. DO NOT CONNECT WINCH TO EITHER 110 VOLT AC HOUSE CURRENT OR 220V MAINS AS WINCH BURNOUT OR FATAL SHOCK MAY OCCUR!

28. Never allow shock loads to be applied to winch or wire rope.

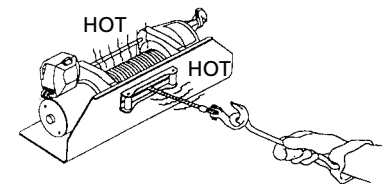


Figure 6

# INSTALLATION

## MOUNTING YOUR WINCH

Superwinch mounting (fitting) fits are available for most popular vehicles. If you can't locate a kit locally, contact Superwinch at the address listed on the front of this manual for the name of a Superwinch dealer near you.

Detailed mounting instructions are provided with each mounting kit. Read and install carefully to ensure proper winch alignment and trouble-free operation.

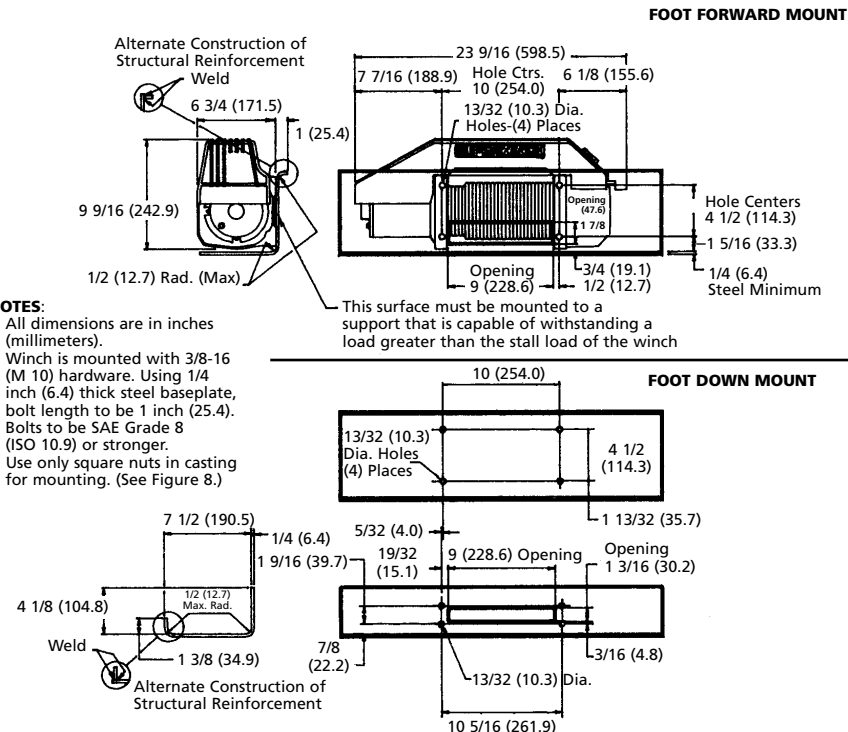
If a Superwinch mounting plate is not used, refer to Figure 7 for a guide to construct a mounting system.

**Note:** The preferred mounting position is feet forward. This winch **MUST** be mounted with the wire rope in the underwind direction.

**Improper mounting could damage your winch and void warranty.**

## MINIMUM ELECTRICAL REQUIREMENTS

For 12 Volt winches, a 60 amp alternator and battery with 440 cold-cranking amperes capacity are the minimum recommended power sources. If the winch is in heavy use, an auxiliary battery and heavy duty alternator with battery isolator are recommended.



### NOTES:

1. All dimensions are in inches (millimeters).
2. Winch is mounted with 3/8-16 (M 10) hardware. Using 1/4 inch (6.4) thick steel baseplate, bolt length to be 1 inch (25.4). Bolts to be SAE Grade 8 (ISO 10.9) or stronger.
3. Use only square nuts in casting for mounting. (See Figure 8.)

Figure 7

## TOOLS REQUIRED

Open End Wrenches (Spanners):  
 \*(2) 3/8", \*(2) 1/2", \*(2) 7/16",  
 \*(2) 9/16"

- (1) 1/4 inch Hex socket wrench or straight blade screwdriver

\*Adjustable (Crescent) Wrenches may be substituted.

1. Install mounting kit or structural support for winch.
2. Attach the long yellow color coded wire to the motor case (see Figure 10). Mount the winch to the mounting kit base plate or to the mount that you designed (see Figure 7).

The 3/8-16 mounting bolts supplied are the correct length for use with a 1/4" thick Superwinch mounting plate.

**CAUTION** The end of the mounting bolts must not contact the opposite side of the support casting's mounting pocket (see Figure 8).

Such contact could lead to a damaged casting, catastrophic failure of the winch and void the warranty. Adjust bolt length accordingly if a thicker plate is used. The bolt threads must engage all the nut threads.

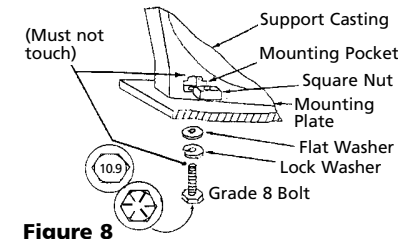


Figure 8

Always place the square nuts (provided) in the casting pockets when mounting your winch.

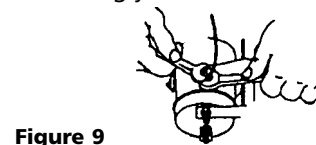


Figure 9

**WARNING** Do not substitute any strength grade weaker than SAE Grade 5 (ISO 8.8). Grade marking is found on the bolt head and is pictured in Figure 8.

3. If you choose to locate the winch at a greater distance than the wires provided will permit, it may be necessary to purchase a larger gauge wire to get the best performance from your winch. If the total length of additional wire to be added to the system exceeds 10 ft. (3m), use a larger wire gauge size.

**CAUTION** When attaching wires to the motor terminals and solenoids (relays), hold the inner nut when tightening the outer nut. Do not allow the motor terminals to rotate causing internal wire breakage or part misalignment. Be especially careful in preventing the solenoid (relay) terminals from rotating. Any rotation can damage the solenoid (see Figure 9).

4. Disconnect the vehicle battery leads.

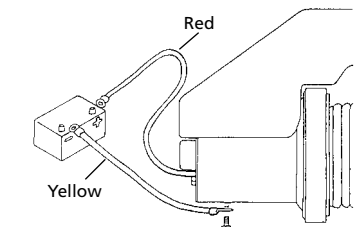


Figure 10

**WARNING** Automobile 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.

5. Route the long red and long yellow coded wires through the vehicle grille to the battery. To ensure against insulation abrasion and/or cutting, apply several layers of electrical tape where wiring may come in contact with sharp metal parts of the vehicle. Attach the red color coded wire to the battery positive terminal, and reattach the terminal to the battery.

If your vehicle is equipped with side pole terminals, it may be necessary to obtain auxilliary side terminal bolts from your local auto parts dealer to make these connections.

Connect the long yellow color coded wire to the battery negative terminal, and connect the terminal to the battery.

6. Turn the freespool clutch lever to the "Free" position. Pull several feet or wire rope off the drum. Return the clutch lever back to the "Engaged" position. Plug in the remote pendant control. Switch the slide lever to the "Cable Out" position. Pull the trigger momentarily to check wire rope drum rotation and direction. If the drum rotates in the wrong direction, recheck your wiring.

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

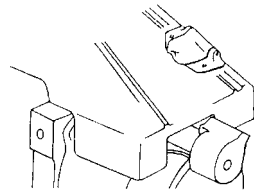
## OPERATION

The hand-held pendant switch activates a solenoid that activates power to the winch motor. One

solenoid is for "Cable-Out" motor direction and the other is for the "Cable In" motor direction.

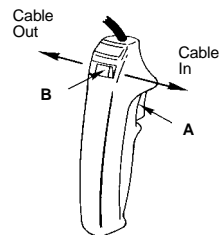
**Note:** In this context, "Cable" refers to the wire rope.

To connect the pendant control, lift the spring loaded cover on the plug receptacle (see Figure 11). The plug on the pendant control cord is keyed and will fit into the socket only one way. The spring cover locks the plug in place.



**Figure 11**

The switch trigger returns to the "Off" position when released (Figure 12, Item A). The slide button on the back of the switch determines the direction of the drum rotation for "Cable In" or "Cable Out" operation (Fig. 12 Item B). The slide is lifted with an interlock so that the motor cannot be reversed if the trigger is depressed. To change direction, release the trigger, move the slide button, and depress the trigger again.



**Figure 12**

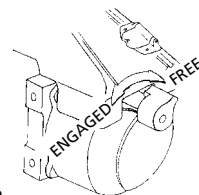
**CAUTION** The switch assembly must be kept free of dirt and moisture to ensure safe operation.

### PULLING OUT THE WIRE ROPE

The wire rope has been installed on your winch under minimal load at the factory. The wire rope must be respooled onto the drum under load so that the outer layers will not draw down into the inner ones thereby damaging the wire rope.

Rotate the clutch lever to the "Free" position as shown in Figure 13. If there is a load on the wire rope, the clutch lever may not turn easily. DO NOT FORCE THE CLUTCH LEVER. Release tension on the wire rope by jogging out some of the wire rope, then try releasing the clutch. 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 rotating the clutch lever to the "Engaged" position (see Figure 13).

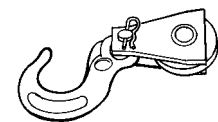
**CAUTION** Lever must be in the engaged position and locked before winching



**Figure 13**

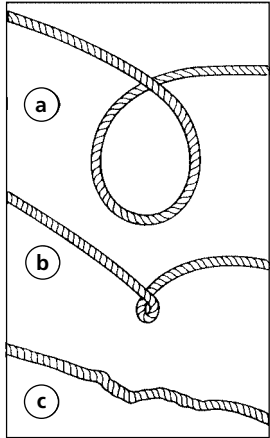
### TIPS FOR EXTENDING THE LIFE OF YOUR WINCH

1. KEEP A TIGHTLY WOUND WIRE ROPE DRUM. Do not allow the wire rope to become loosely wound. A loosely-wound spool allows a wire rope under load to work its way down into the layers of wire rope on the drum. When this happens, the wire rope may become wedged within the body of the windings damaging the wire rope. To prevent this problem, keep the wire rope tightly and evenly wound on the drum at all times. A good practice is to rewind the wire rope under tension after each use. One way to do this is to attach the hook to a stationary object at the top of a gradual incline and winch your vehicle up the incline.
2. DO NOT ALLOW WINCH MOTOR TO OVERHEAT. Remember, the winch is for intermittent use only. During long or heavy pulls the motor will get hot. The internal parts will be hotter than the case. To check the motor temperature, stop winching and carefully touch the motor case, if the motor is uncomfortably warm, allow the motor to cool before continuing. KEEP THE ENGINE RUNNING TO RECHARGE THE BATTERY during this break.
3. To maximize winch and wire rope life, use a pulley block to double line heavier loads (Figure 14).



**Figure 14**

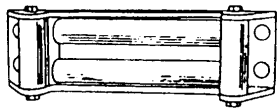
- The pull required to start a load moving is often much greater than the pull required to keep it moving. **AVOID FREQUENT STOPPING AND STARTING** during pull.
- PREVENT KINKS BEFORE THEY OCCUR.**



a. This is the start of a kink. Wire rope should be straightened.  
 b. Wire rope was pulled and loop has tightened into a kink. Wire rope is now permanently damaged and must be replaced.  
 c. Result of kinking is that each strand pulls a different amount causing strands under greatest tension to break and reduce load capacity of wire rope. The wire rope must be replaced.

**Figure 15**

- EQUIPPING THE WINCH WITH A ROLLER FAIRLEAD** will substantially reduce wear on the wire rope during angle pulls (Figure 16). The rollers eliminate heavy rubbing and abrasion to the wire rope.



**Figure 16**

## MAINTENANCE

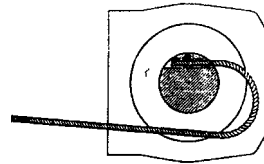
Periodically check tightness of mounting bolts and electrical connections. Remove any dirt or corrosion that may have accumulated on the electrical connections.

**Repairs should be done by Authorized Superwinch Repair Centers ONLY. Do not attempt to disassemble the gearbox. Disassembly will void warranty.**

### LUBRICATION

The gearbox and drum bearing are permanently lubricated with a high performance gear lube. If relubrication is necessary (after repair or disassembly) only use factory approved grease (Superwinch Part No. 90-15020).

### REPLACING THE WIRE ROPE



**Figure 17**

Never substitute a heavier or lighter wire rope. Never use rope made of any other material other than wire.

**Always replace damaged wire rope with manufacturer's identical replacement part** (see Replacement Parts list). Pass attaching end of wire rope through the fairlead (if equipped) and attach it to the drum. When inserting the wire rope into the drum, insert it into the correct end of the hole provided (Figure 17). Tighten the set screw securely.

It is important that the wire rope be wound tightly onto the drum. A good way to do this is to attach the wire rope hook to a fixed object at the top of a slight incline, then winch the vehicle up the incline.

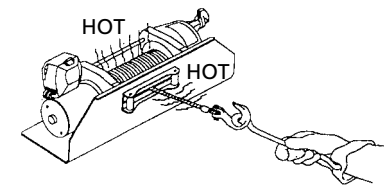
### BRAKE OPERATION

Your S6000 winch has a drag brake that stops and holds loads up to 3,500 lbs. (1588 kg) on the first layer of wire rope closest to drum. Each additional layer of wire rope reduces brake capacity approximately 10%. When powering the winch in, the brake is disengaged and does not become activated until the motor is turned off and the load tries to pull the wire rope off the drum. When the winch is powered out, as in releasing a load, the brake is engaged and the motor must over power the brake drag to rotate the drum. Therefore, it is normal for the winch to operate faster in one direction than the other. The brake is designed for the wire rope to be used in the underwind position only. Drum must turn clockwise, looking from motor end, when winching in. **Do NOT overwind.**

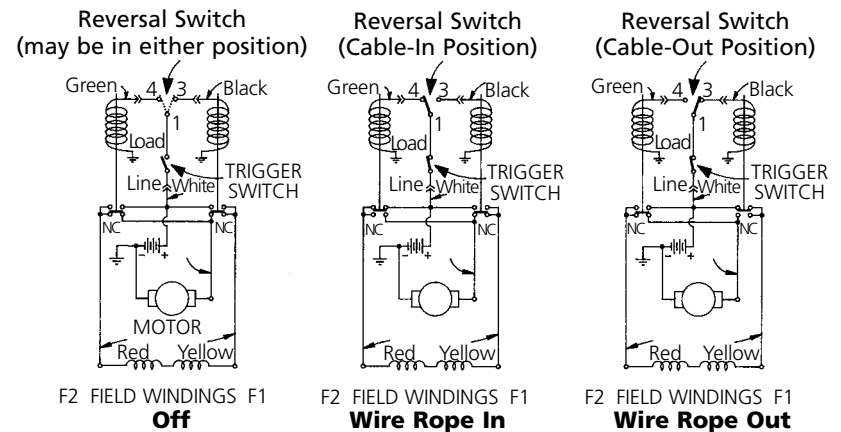
Powering against the brake will cause heat to build up in the drum and may transfer heat to the wire rope (Figure 18). **DO NOT POWER OUT FOR MORE THAN 20 FEET (6m) OR 1 MINUTE.**

**⚠ WARNING** *The drum and wire rope may get very hot.*

When wire rope is removed from the drum, as in bringing the hook to the load, the freewheel feature of the winch should be used.

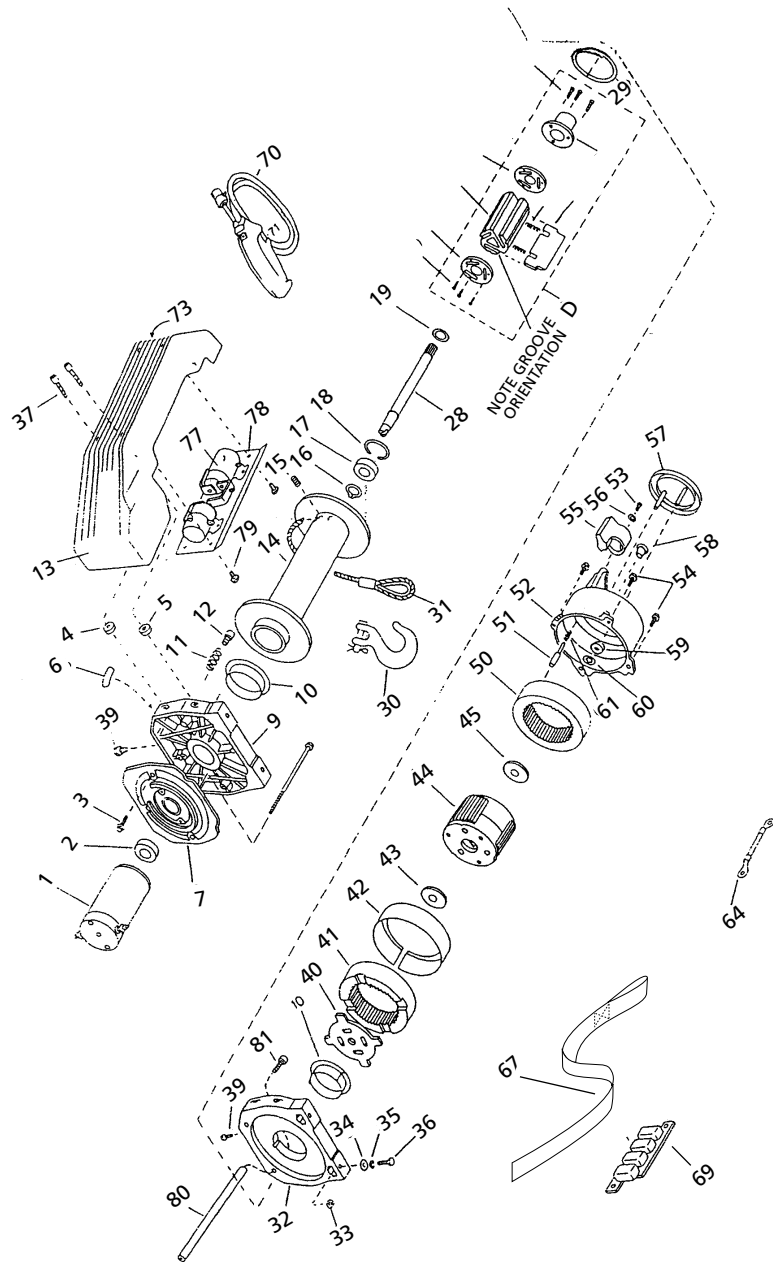


**Figure 18**



**Figure 19**

## REPLACEMENT PARTS LIST



Reference Number	Description	Part Number	Qty
1	12 VDC Motor (Includes 2+7)	90-32432	1
	24 VDC Motor (Includes 2+7)	90-32434	1
3	1/4-20 x 5/8 Self tapping hex head screw	90-23039-10	3
4	Thick spacer	90-23293-02	2
5	Thin Spacer	90-23293-01	2
6	Winding Direction Label	92-10211	1
9	Outboard Drum Support w/ (6 & 39)	90-32259	1
10	Drum Bearing	90-12575	2
11	Spring Drag Button	90-23152-08	1
12	Drag Button	90-22612	1
13	Cover w/ Labels (specify model # when ordering)	90-40087	1
14	Drum	90-31069-04	1
15	M8 x 10 Socket Set Screw	94-23164-09	1
16	Retaining Ring	90-23209-22	1
17	Ball Bearing	90-23079-09	1
18	Retaining Ring	90-23047-03	1
19	Washer	90-23120-08	1
D	Brake Assembly	90-25035	1
28	Drive Shaft Assembly	90-22261	1
29	Thrust Washer	90-12574	1
30	Clevis Hook Assembly	94-20116	1
31	Wire Rope w/o Hook 5/16 x 100 ft.	1580	1
32	Inboard Drum Support w/ 39	90-32260	1
33	3/8-16 Square Nut	90-23084-04	4
34	3/8 Flat Washer	92-23027-05	4
35	3/8 Lock Washer	92-23057-01	4
36	3/8-16 x 1 Hex Head Bolt, Grade 5	90-23226-01	4
37	Socket Head Cap Screw 1/4-20 x 3 1/4	90-23015-05	4
39	1/4-20 x 1/4 Nylon Screw	90-12313	4
40	Drum Driving Plate	90-22183	1

## REPLACEMENT PARTS LIST

Reference Number	Description	Part Number	Qty
41	Output Gear Ring	90-32232-01	1
42	Gear Ring Bearing	90-22607	1
43	Carrier Bushing	90-10417	1
44	Planet Carrier Assembly	90-10418	1
45	Gearbox Bushing	90-10418	1
46	8-32 x 3/8 Pan Head Screw	90-23032-17	1
50	Fixed Gear Ring	90-32233-01	1
51	Lock Pin	90-22252-01	1
52	Gearbox Housing (includes 57-60)	90-33297	1
53	Pan Head Screw 8-32 x 3/8	90-23032-17	1
54	Self Tapping Hex Head Screw 1/4-20 x 5/8	90-23039-10	4
55	Clutch Lever	90-32248	1
56	Lock Washer #8 int tooth	90-23048-03	1
57	Dust Cover	90-22103	1
58	Plug	94-23171-04	1
59	Rubber Washer	94-10194	2
60	Push On Retainer	90-23213-04	2
61	Clutch Spring	90-23152-07	1
64	6 AWG x 4" Lead Wire Assembly	90-22635-14	1
67	Handsaver	89-32300	1
69	Circuit Breaker Assembly 12V (complete)	90-20242	1
	Circuit Breaker Assembly 24V (complete)	90-20242-01	1
	Circuit Breaker 50A 12V (breaker only)	90-23148-05	2
	Circuit Breaker 40A 24V (breaker only)	90-23148-04	2
	Circuit Breaker 30A12V (Breaker Only)	90-23148-01	2
NS	7" Long Wire Tie	94-23058-04	6
NS	Grease (for one relube)	90-15020	1
ACC	Roller Fairlead	2539	1
70	Remote Switch Pendant	90-22117	1
71	Reversing Switch	90-32007	1
73	Connector Assembly w/ Wires	90-22115	1
77	12VDC Solenoid	90-20329	2
	24VDC Solenoid	90-20331	2
78	Solenoid Mounting Plate w/ Studs	90-32251	1
79	10-32 x 1/2 Self Tapping Hex Washer Head Screw	92-23039-02	4
80	Tie Rod	90-20033	1
81	1/4-20 x 3/4 Socket Head Cap Screw	90-23055-06	2

NS Not Shown  
ACC Accessory

## FOOT DOWN CONVERSION

If foot down mounting is required for your application, refer to Figure 7 for dimensions and requirements.

**To convert the winch to foot down:** Remove the cover. It is held to the winch by (4) socket head cap screws. Discard the 3 1/4" long screws and (4) spacers. They are no longer needed.

Remove the (4) screws that hold the gearbox housing to the inboard drum support. **MAKE SURE THE GEARBOX HOUSING DOES NOT SEPARATE FROM THE DRUM SUPPORT.** Carefully rotate the gearbox housing one quarter turn clockwise and replace the (4) screws. Make sure the gearbox is securely seated in the drum support and tighten the screws.

Remove the (2) plastic screws from each drum support and screw them into the holes that previously held the cover to the drum supports. Position the cover on the "New" top of the winch making sure that the large lead wires do not get pinched between metal components. Secure the cover to the drum supports using (4) 3" long socket head cap screws supplied in the winch hardware kit.

Refer to the Installation section of this manual to continue installation.

# TROUBLESHOOTING CHART

If a problem arises, contact your nearest Superwinch dealer or repair center.

Symptom	Possible Cause(s)	Corrective Action
Motor will not operate or runs in one direction only	<ol style="list-style-type: none"> <li>1. Damaged or stuck solenoid; most likely caused by not holding the inner nut to keep the stud from turning when attaching wire to solenoid</li> <li>2. Switch inoperative</li> <li>3. Broken wires or bad connection</li> <li>4. Damaged motor</li> <li>5. Solenoids not grounded</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>CAUTION:</b> Disengage clutch before performing this test to prevent powering the wire rope drum. If a solenoid sticks once, it is likely to stick again and must be replaced immediately. Tap solenoid to free stuck contacts. Check by applying voltage to the small solenoid terminal. Be sure solenoid is grounded back to source. A solenoid that is not stuck will make an audible "click" when first energized</li> <li>2. Replace Switch</li> <li>3. Check for poor connections. <b>CAUTION:</b> Always use two wrenches (spanners). (See Figure 9)</li> <li>4. Replace or repair motor</li> <li>5. Check the ground path between battery negative and solenoid base</li> </ol>
Winch will not shut off	<ol style="list-style-type: none"> <li>1. Solenoid stuck "on"</li> </ol>	<ol style="list-style-type: none"> <li>1. If solenoid sticks on, reverse direction and hold trigger switch on until the power lead can be disconnected. A safety on-off switch is available as an accessory</li> </ol>
Motor runs extremely hot	<ol style="list-style-type: none"> <li>1. Long period of operation</li> <li>2. Damaged motor</li> <li>3. Damaged brake</li> </ol>	<ol style="list-style-type: none"> <li>1. Allow to cool</li> <li>2. Replace or repair motor</li> <li>3. Replace or repair brake</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 brake</li> </ol>	<ol style="list-style-type: none"> <li>1. Recharge or replace battery. Check charging system</li> <li>2. Use larger gauge wire.</li> <li>3. Check battery terminals for corrosion. Clean as required</li> <li>4. Check and clean connections</li> <li>5. Repair or replace brake</li> </ol>
Motor runs but drum does not 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. Solenoids wired incorrectly</li> </ol>	<ol style="list-style-type: none"> <li>1. Recheck wiring</li> <li>2. Recheck wiring</li> </ol>
Will not hold load	<ol style="list-style-type: none"> <li>1. Excessive load</li> <li>2. Worn or damaged brake</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce load or double line</li> <li>2. Repair or replace brake</li> </ol>