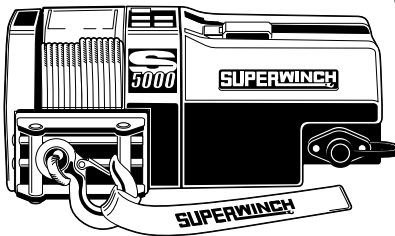
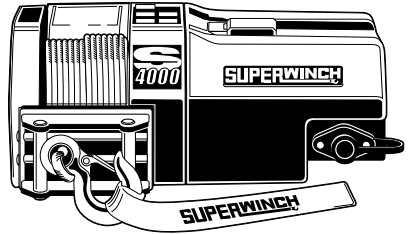
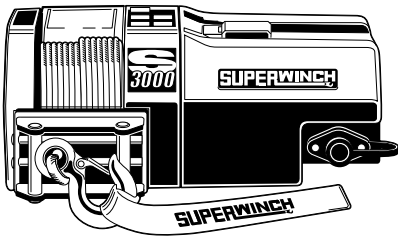


SUPERWINCH®



OWNER'S MANUAL

INSTALLATION •

S3000, S4000, S5000
12 & 24 Volt DC Electric Winches
With Remote Control

⚠ CAUTION

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

INTRODUCTION

Thank you for purchasing an S series winch from Superwinch. It has been designed and manufactured to provide years of trouble-free operation.

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

1. Winch Part Number
2. Serial Number (found on housing)
3. Part Number (found in Replacement Parts List section)
4. Part Description

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

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 a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION Indicates a 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.

Correct installation of your winch is a requirement for proper operation.

Please Note: The Superwinch S series winch is designed primarily for 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.

Congratulations on your choice!

GENERAL DESCRIPTION

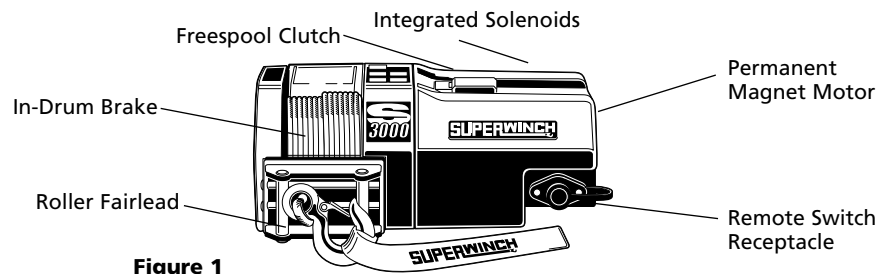


Figure 1

SPECIFICATIONS

S3000

Working Load* 3,000 lb. (1361 kg)
 Wire Rope 3/16" x 60'
 Motor 12V or 24VDC 1.3 hp (0.97 kW) peak
 Gear Ratio 159:1

S4000

Working Load* 4,000 lb. (1814 kg)
 Wire Rope 7/32" x 60'
 Motor 12V or 24VDC 1.8 hp (1.34 kW) peak
 Gear Ratio 159:1

S5000

Working Load* 5,000 lb. (2268 kg)
 Wire Rope 1/4" x 50'
 Motor 12V or 24VDC 2.1 hp (1.57 kW) peak
 Gear Ratio 159:1

* Based on first layer performance

ROLLING LOAD CAPACITIES

S3000

Slope*	10% (6°)	20% (11°)	30% (17°)	100% (45°)
Lbs.**	12,563	8,503	6,527	3,213
kg**	5,698	3,857	2,961	1,457

S4000

Slope*	10% (6°)	20% (11°)	30% (17°)	100% (45°)
Lbs.**	17,588	11,905	9,138	4,499
kg**	7,978	5,400	4,145	2,041

S5000

Slope*	10% (6°)	20% (11°)	30% (17°)	100% (45°)
Lbs.**	22,613	15,306	11,749	5,784
kg**	10,257	6,943	5,329	2,624

Ratings assume a 10% coefficient of friction.

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

** All loads shown are for single-line operation. Double-line operation with optional pulley block (see Figure 2) approximately doubles capacity of winch.

UNPACKING

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

Description	Quantity
Winch assembly with wire rope including lead wires	1
Circuit breaker assembly with hardware	1
Handsaver	1
Mounting hardware kit	1
Remote pendant	1
Owner's manual	1

DIMENSIONS

S3000, S4000, S5000

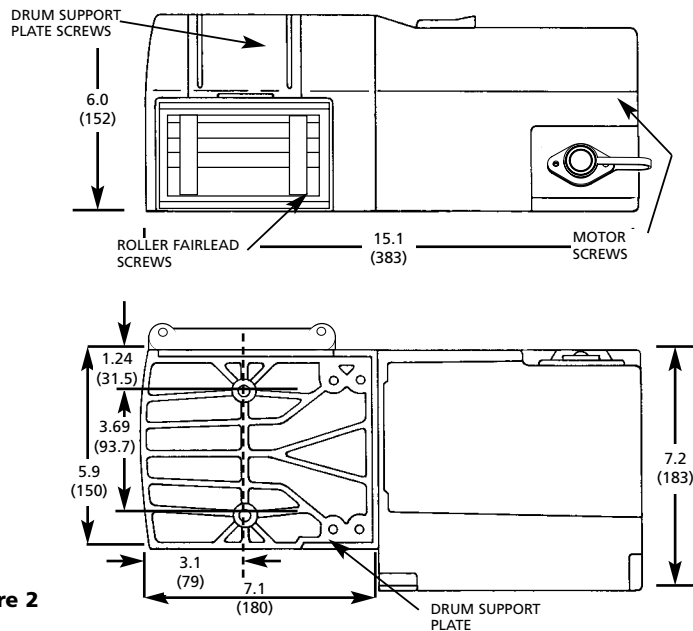


Figure 2

NOTES

1. All dimensions are in inches [millimeters].
2. Typical mount is to flat surface capable of handling the loads. Bolts to be Grade 5 or better.

PERFORMANCE

S3000

Wire Rope Layer	Max. Pulling Capacity lbs.	Max. Pulling Capacity kg
1	3,000	1364
2	2,250	1021
3	2,000	907
4	1,750	794

Load lbs.	kg	Speed		Motor Current Amps
		ft/min	m/min	
0	0	17.0	5.1	15
1,000	454	12.5	3.8	70
2,000	907	9.0	2.7	117
2,500	1134	7.5	2.3	155
3,000	1361	4.5	1.4	220

S4000

Wire Rope Layer	Max. Pulling Capacity lbs.	Max. Pulling Capacity kg
1	4,000	1818
2	3,000	1361
3	2,600	1179
4	2,000	998

Load lbs.	kg	Speed		Motor Current Amps
		ft/min	m/min	
0	0	21.6	6.5	30
1,000	454	16.0	4.8	90
2,000	907	12.4	3.8	155
2,500	1134	10.6	3.2	180
3,000	1361	8.8	2.7	215
3,500	1589	6.2	1.9	250
4,000	1814	4.5	1.4	311

S5000

Wire Rope Layer	Max. Pulling Capacity lbs.	Max. Pulling Capacity kg
1	5,000	2273
2	4,000	1814
3	3,500	1588
4	2,900	1315

Load lbs.	kg	Speed		Motor Current Amps
		ft/min	m/min	
0	0	17.5	5.9	36
1,000	454	14.5	4.6	80
2,000	907	12.0	3.4	135
3,000	1361	9.5	2.2	200
4,000	1814	7.3	1.3	265
5,000	2268	4.5	1.4	350

* Based on first layer performance

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.*

FEATURES

Electric Motor – 1.3 (S3000), 1.8 (S4000), 2.1 (S5000) peak hp (.97 (S3000), 1.34 (S4000), 1.57 (S5000) kW) 12V or 24Volt Permanent Magnet.

Braking – A wrap spring brake which will hold 50% of rated load on the first wrap. Reducing by approximately 10% per layer thereafter.

Drum – Die cast aluminum running in 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 tension plate reduces backlash and snarling when pulling out the wire rope.

Remote Switch – 30' (13.64 m) hand held pendant switch assembly with toggle switch.

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

GENERAL SAFETY INFORMATION

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

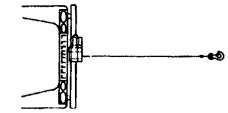
WARNING *The wire rope may break before the winch stalls. For heavy loads, use a pulley block to reduce the load on the wire rope.*

1. The S3000, S4000, and S5000 winch is rated at 3,000, 4,000, and 5,000 pounds (1361, 1814, 2268 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 $\frac{2}{3}$ RATED CAPACITY, WE RECOMMEND THE USE OF THE OPTIONAL PULLEY BLOCK TO DOUBLE LINE THE WIRE ROPE (Figures 3 & 18). 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.

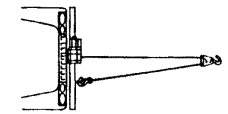
2. AFTER READING AND UNDERSTANDING THIS MANUAL, LEARN TO USE YOUR WINCH. After



installing the winch, practice using it so you will be familiar with it when the need arises.



Single Line



Double Line

Figure 3

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. 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 IS 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.

European Union



Noise The noise level of this winch in operation is below 92 dB(A).

Emergency Stop In order to conform to Machinery Directive 89/392/EEC, each machine installation must be fitted with an Isolator (Part Number 8370) whereby the machine can be brought safely to a complete stop.

GENERAL SAFETY INFORMATION (CONT.)

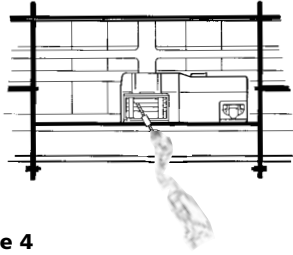


Figure 4

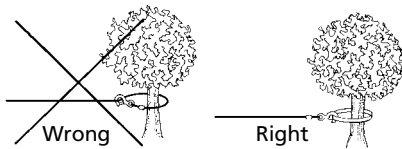


Figure 5

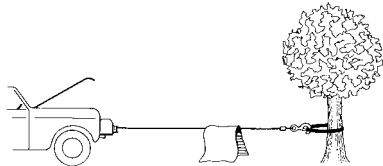


Figure 6

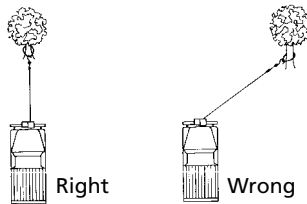


Figure 7

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. ALWAYS USE THE HANDSAVER when guiding the wire rope in or out (see Figure 4).
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 5).
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 6). 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.
11. NEVER USE YOUR WINCH FOR LIFTING OR MOVING PEOPLE.
12. Your winch is not designed or 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 7). This can jam the wire rope in the winch, causing damage to the rope or the winch.

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.
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 50 feet (15.2m) or longer than 2 minutes.
- ▲ WARNING** *The drum and wire rope may get very hot (Figure 8).*
27. DO NOT CONNECT WINCH TO EITHER 110V 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.
 29. 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.

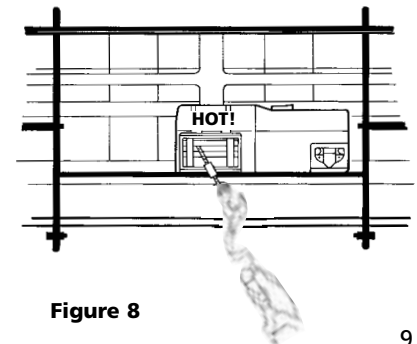


Figure 8

MOUNTING YOUR WINCH

Superwinch mounting (fitting) kits 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 follow directions carefully to ensure proper winch alignment and trouble free operation.

⚠ WARNING *This winch MUST be mounted with the wire rope in the underwind direction. Improper mounting could damage your winch and void your warranty.*

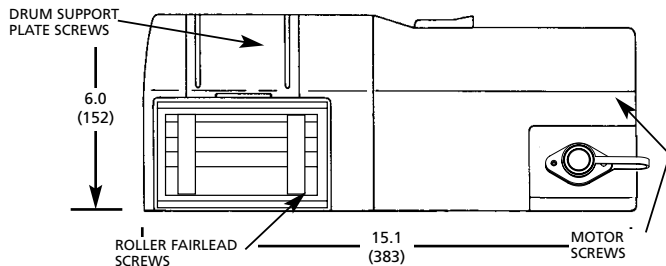
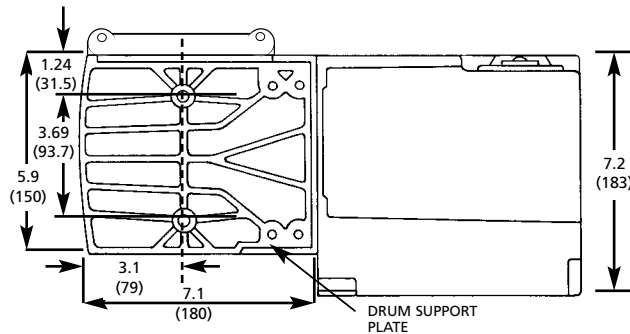


Figure 9



NOTES

1. All dimensions are in inches [millimeters].
2. Typical mount is to flat surface capable of handling the loads. Bolts to be Grade 5 or better.

INSTALLATION

MINIMUM ELECTRICAL REQUIREMENTS

For 12 volt winches, a 60 ampere 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 are recommended.

Step (1)

Install mounting kit or structural support for winch.

Step (2)

Mount the winch to the mount that you have designed.

Mounting bolts supplied are the correct length for use with up to a 1/4" (6.3mm) thick plate.

INSTALLATION CONT.

⚠ WARNING *Do not substitute any strength grade weaker than grade 5.*

When attaching wires to the motor terminals and solenoid (relay), hold the inner nut when tightening the outer nut. Do not allow the motor terminals to rotate for it may cause 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 10).

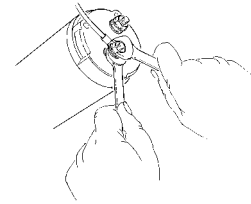


Figure 10

Step (3)

Disconnect the vehicle battery leads.

⚠ WARNING *Automobile batteries contain gases which are flammable and explosive. Wear eye protection during installation and remove all metal jewelry. Do not lean over battery while making connections.*

Be Prepared

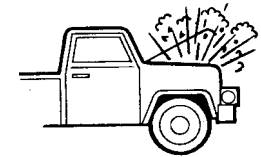


Figure 11

Step (4)

Route the two (2) 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 circuit breaker assembly to the end of the blue terminated wire. Wrap the circuit breaker assembly with electrical tape to prevent accidental short circuits.

INSTALLATION CONT.

Note: 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' (3m), use a larger wire gauge size.

Attach the circuit breaker directly 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 auxiliary side terminal bolts from your local auto parts dealer to make these connections. Connect the remaining wire to the battery negative terminal, and connect the terminal to the battery.

Step (5)

Lift the freespool clutch lever to the "Free" position. Pull several feet of 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 "Rope 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. The Hand-held pendant switch activates a solenoid that activates power to the winch motor. One solenoid is for "Rope Out" motor direction and the other is for the "Rope In" motor direction (Fig. 12).

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

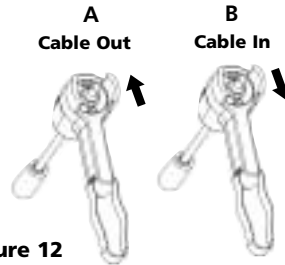


Figure 12

PENDANT OPERATION

The handheld pendant switch activates a solenoid that activates power to the winch motor. To connect the pendant control, remove the cover on the plug receptacle (Figure 13) and insert the plug end of remote switch. The plug on the pendant control cord is keyed and will fit into the socket only one way. The switch trigger returns to the "Off" position when released. To change direction, move the toggle in the other direction. (Fig.12)

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

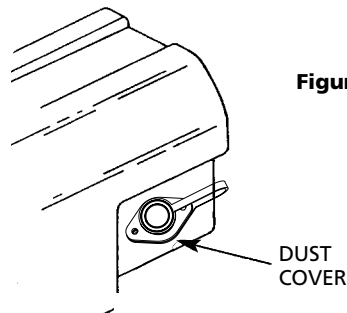


Figure 13

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.

Lift 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. Releasing 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 lever to the "Engaged" position (see Figure 14).

CAUTION Lever must be in the "Engaged" position and locked before winching.

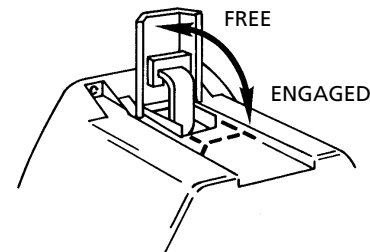


Figure 14

TIPS FOR EXTENDING THE LIFE OF YOUR WINCH

1. KEEP THE WIRE ROPE TIGHTLY WOUND ON THE 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. For pulling at rated capacity, allow motor to cool after 20 seconds of "On" time. At loads less than 50% of rated capacity, allow to cool after 2 minutes of "On" time. KEEP THE ENGINE RUNNING TO RECHARGE THE BATTERY during this break.
3. USE A PULLEY BLOCK FOR HEAVY LOADS. To maximize winch and wire rope life, use a pulley block to double line heavier loads (Figure 15).

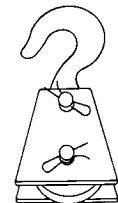


Figure 15

4. The pull required to start a load moving is often much greater than the pull required to keep it moving. **AVOID FREQUENT STOPS AND STARTS** during pull.
5. **PREVENT KINKS BEFORE THEY OCCUR.**

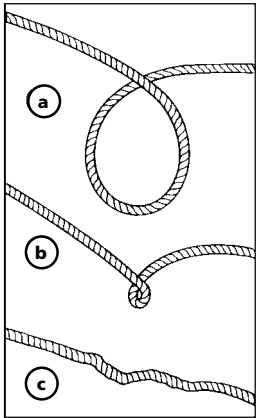
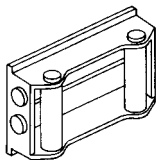


Figure 16

- 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 must be replaced.
 - c. Kinking causes the wire strands under the greatest tension to break and thus reduces the load capacity of the wire rope. The wire rope must be replaced.
6. **EQUIPPING THE WINCH WITH A ROLLER FAIRLEAD** will substantially reduce wear on the wire rope during angle pulls (Figure 17). The rollers eliminate heavy rubbing and abrasion to the wire rope.

Figure 17



MAINTENANCE AND REPAIRS

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

Repair 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 Shell Alvenia EP2 or equivalent.

REPLACING THE WIRE ROPE

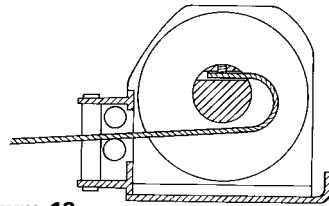


Figure 18

Never substitute a heavier or lighter wire rope. Never use rope made of any 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 18). 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 S Series winch has a wrap spring brake that stops and holds loads up to 50% rated capacity 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. **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 19). **DO NOT POWER OUT FOR MORE THAN 50 FEET (15.2m) OR 2 MINUTES.**

⚠ 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.

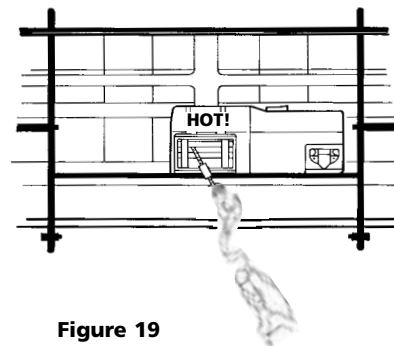
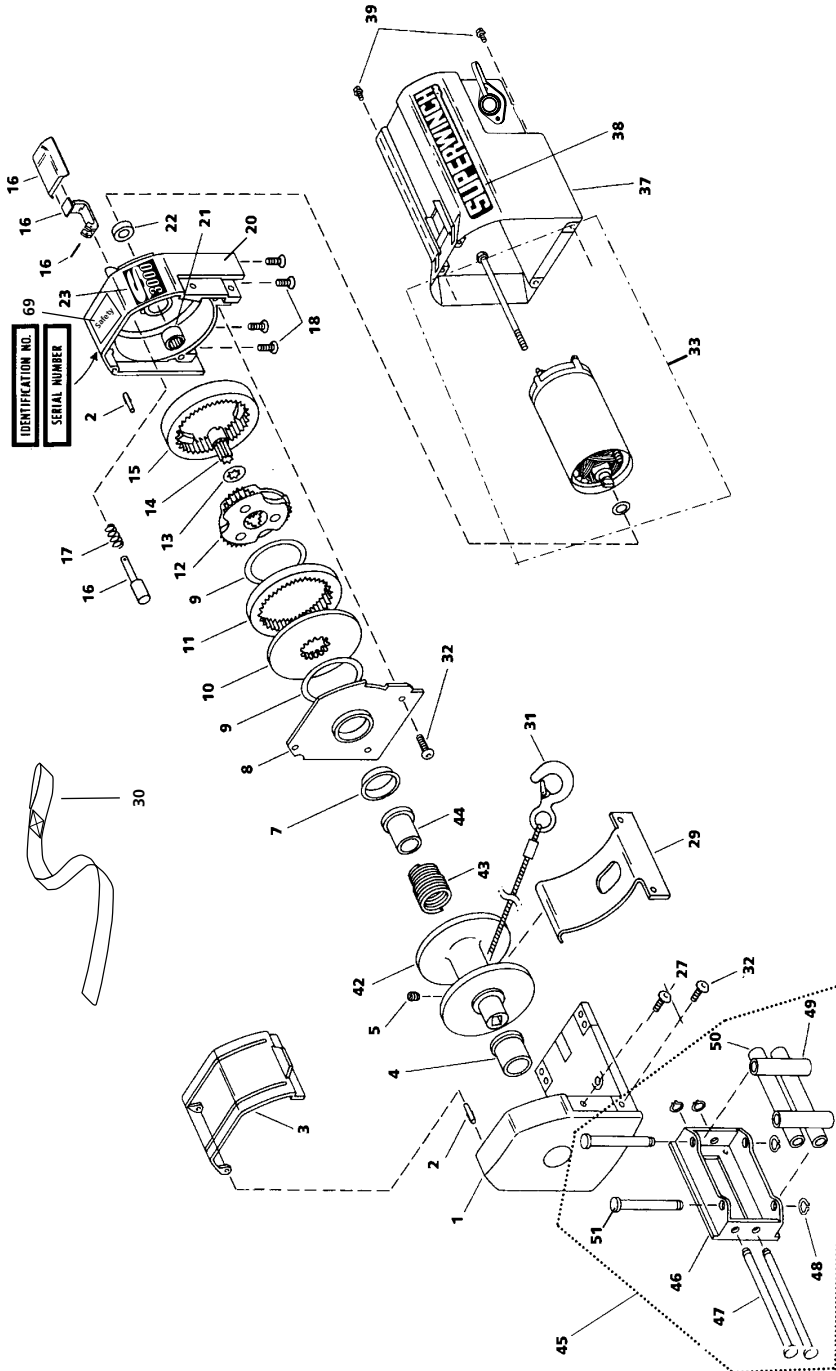


Figure 19

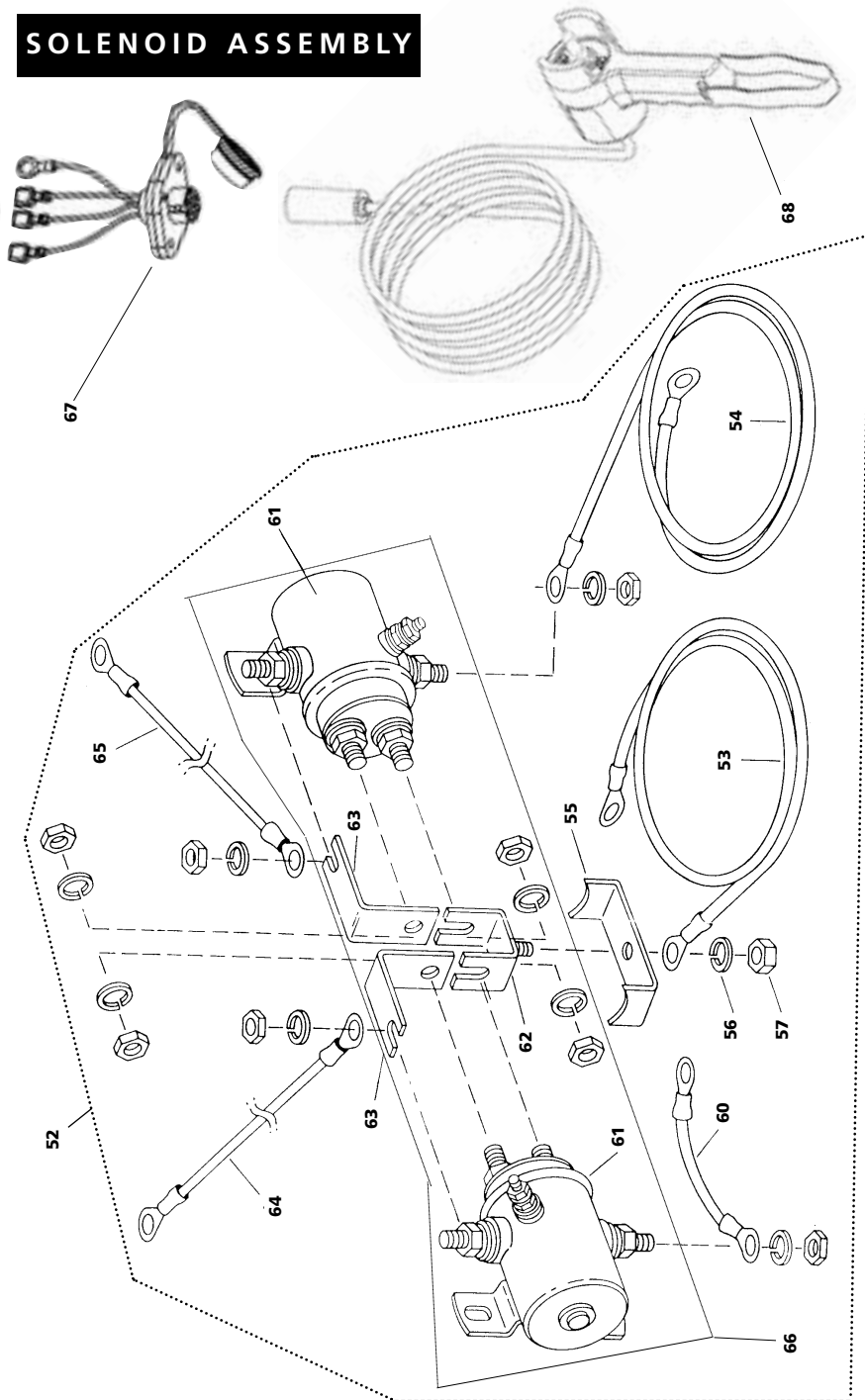
WINCH ASSEMBLY



REPLACEMENT PARTS LIST

Reference Number	Description	Part Number	Qty
1	Base	89-52021	1
2	Groove Pin	89-23303-01	2
3	Cable Guard	89-32268	1
4	Main Bearing	89-22268	1
5	M6 x 1 x 8mm Cup Pt. Set Screw	90-23164-12	1
7	Drum Bearing	89-22269	1
8	Drum Support	89-40092	1
9	Thrust Washer	90-12574	2
10	Drive Plate	89-32263	1
11	Rotating Ring Gear	89-32265	1
12	Planetary Carrier Assembly	89-22141	1
14	Sun Gear	89-33303	1
15	Stationary Ring Gear	89-32266	1
16	Free Wheel Repair Kit (Includes Shaft, Lever, Handle, and Rivet)	89-10580	1
17	Free Wheel Spring	90-23152-08	1
18	M6 x 1 x 16mm Flat Head Screw	89-22291-01	4
20	Housing Assembly (includes 21 & 22)	89-40104	1
21	Needle Bearing (.8125 x 1.125 x .750)	89-23263-03	1
22	Motor Shaft Bearing	89-12002	1
23	S5000 Logo	89-17332	1
	S4000 Logo	89-17331	1
	S3000 Logo	89-17330	1
27	M6 x 1 x 13mm Button Head Screw	89-22290-01	2
29	Cable Tension Spring	89-32295	1
30	Handsaver	87-31120	1
31	Wire Rope Assembly w/hook 1/4"x50' (S5000)	1577A	1
	Wire Rope Assembly w/hook 7/32"x60' (S4000)	1514A	1
	Wire Rope Assembly w/hook 3/16"x60' (S3000)	1511C	1
32	M6 x 1 x 16mm Button Head Screw	89-22290-02	5
33	12 Volt Complete Motor (S5000)	90-33294	1
	24 Volt Complete Motor	89-33298	1
	12 Volt Complete Motor (S4000)	90-32295	1
	24 Volt Complete Motor	89-33297	1
	12 Volt Complete Motor (S3000)	90-33276	1
	24 Volt Complete Motor	89-33296	1
37	Motor Cover	89-52024	1
38	"Superwinch" Nameplate	89-22277	1
39	M4 x 0.7 x 6mm Hex Washer Head Screw	89-22292-01	4
42	Drum	89-40085	1
43	Brake Spring	89-22342	1
44	Brake Adapter	89-22287	1
45	Roller Fairlead	89-40123	1
46	Roller Fairlead Frame	89-40113	1
47	Roller Fairlead Shaft (Long)	89-22334-02	2
48	Retainer Ring	90-23029-08	4
49	5/8 x 2.352 Roller	90-12568-04	2
50	5/8 x 4.735 Roller	90-12568-06	2
51	Roller Fairlead Shaft (Short)	89-22334-01	2

SOLENOID ASSEMBLY



REPLACEMENT PARTS LIST

Reference Number	Description	Part Number	Qty
52	12V Wired Solenoid Assembly	89-32327	1
	24V Wired Solenoid Assembly	89-32328	1
53	S3000, S4000 8AWG x 5' (neg.) Leadwire Assy.	89-23306-01	1
	S5000 2AWG x 5' (pos.) Leadwire Assembly	89-22635-34	1
54	S3000, S4000 8AWG x 5' (pos.) Leadwire Assy.	89-23306-04	1
	S5000 6AWG x 5' (neg.) Leadwire Assembly.	90-20187-06	1
55	Ground Strap	89-23356	1
56	5/16 Hel Spring Lock Washer	89-23227-08	1
57	5/16-18 Hex Nut	90-23149-07	1
60	6AWG x 3 1/2" Leadwire Assembly	90-23292-06	1
61	12V Solenoid	90-20329	2
	24V Solenoid	90-20331	2
62	Buss Bar Assembly	92-10200	1
63	Buss Bar	92-20126	2
64	S3000, S4000 8AWG x 9 3/8" Leadwire Assy.	89-23292-21	1
	S5000 6AWG x 9 3/8" Leadwire Assembly	90-20187-08	1
65	S3000, S4000 8AWG x 6" Leadwire Assembly	89-23306-02	1
	S5000 6AWG x 6" Leadwire Assembly	89-23292-19	1
66	12V Solenoid Sub-Assembly	90-32250	1
	24V Solenoid Sub-Assembly	90-32250-01	1
67	Socket Half Connector	90-25048	1
68	Remote Control Assembly	90-40270-02	1
69	Safety Label. 3/4" icon, 3 x 2	89-20330	1

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Drum Support Plate Screws	50-60 lb in
Hawse (Roller Fairlead) Screws	45-55 lb in
Base Screws	65-75 lb in
Motor	35-40 lb in

⚠ WARNING *Over torquing could damage your winch and void your warranty.*

