

SUPERWINCH®

Owner s Manual

X6CD

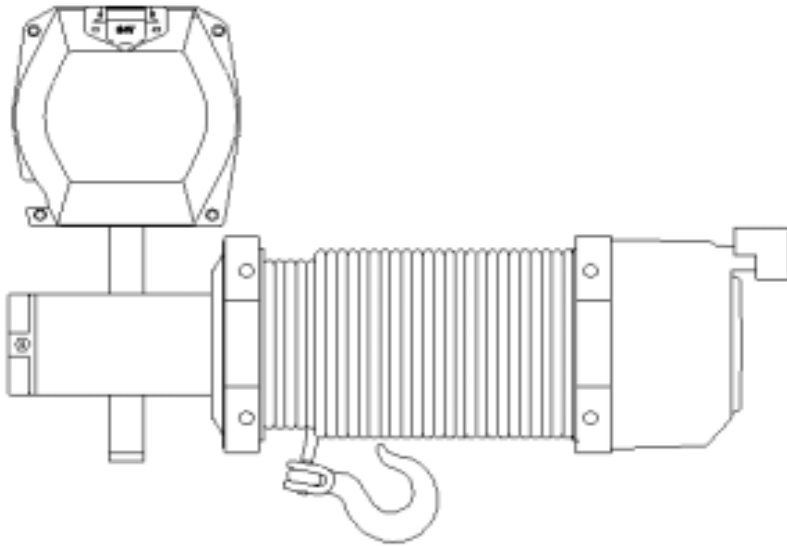
Installation - Operation - Maintenance

Safety Precautions

Repair Parts

12 & 24 Volt DC Electric Winch

Model 1646, 1647



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

SEE RULES FOR SAFE OPERATION

INTRODUCTION

Thank you for purchasing an X6CD 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 at:

Superwinch, Inc.
Winch Drive
Putnam, CT 06260
U.S.A.
Tel. (860) 928-7787
Fax. (860) 928-1143

Superwinch Limited
Abbey Rise, Whitchurch Road
Tavistock, Devon PL1 9 9DR
England
Tel. +44 (0) 0822 614101 /7
Fax. +44 (0) 0822 615204

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

1. Winch Part Number(1646, 1647)
2. Serial Number (found on drum support casting)
3. Part Number (found In Parts List section of this manual)
4. Part Description

Please read and understand this owner's manual before installing your X6CD winch.

Pay particular attention to the RULES FOR OPERATION AND SAFETY. Your X6CD 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 unique features in the X6CD winch to minimize this possibility; however, your safety ultimately depends on your caution when using the product.

CAUTION: Pay particular attention to the caution and warning notes preceded with the symbols shown here.

WARNING: The notes contain advice for your protection.

Correct installation of your X6CD winch is a requirement for proper operation. If you intend on installing your X6CD winch on the front end of your vehicle, USE THE X6CD MOUNTING (FITTING) KIT which has been designed and manufactured by Superwinch to accommodate your winch and fit your vehicle.

PLEASE NOTE: The Superwinch model X6CD winch is designed 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 X6CD winch which you have purchased.

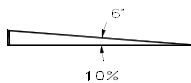
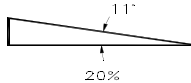
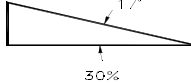

*Part No. 1646 12-volt DC system Only * Part No. 1647 24-volt DC system Only

Congratulations on your choice!

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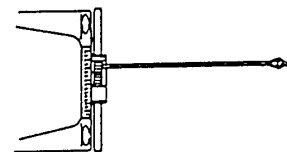
ROLLING LOAD CAPACITIES FOR VARIOUS INCLINES

SLOPE*				
	10%	20%	30%	45%
LOAD	29,410 Lbs.	20,760 Lbs.	15,460 Lbs.	7,710 Lbs.
CAPACITY**	13,340 Kg.	9,140 Kg.	7,010 Kg.	3,500 Kg.

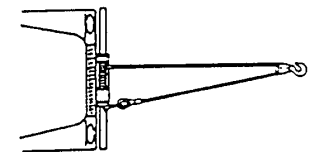
Ratings assume a 10% coefficient of friction.

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

** All loads shown are for single-line operation. Double-line operation with optional pulley block (P/N 2203) approximately doubles capacity of winch.



Single Line



Double Line

GENERAL DESCRIPTION

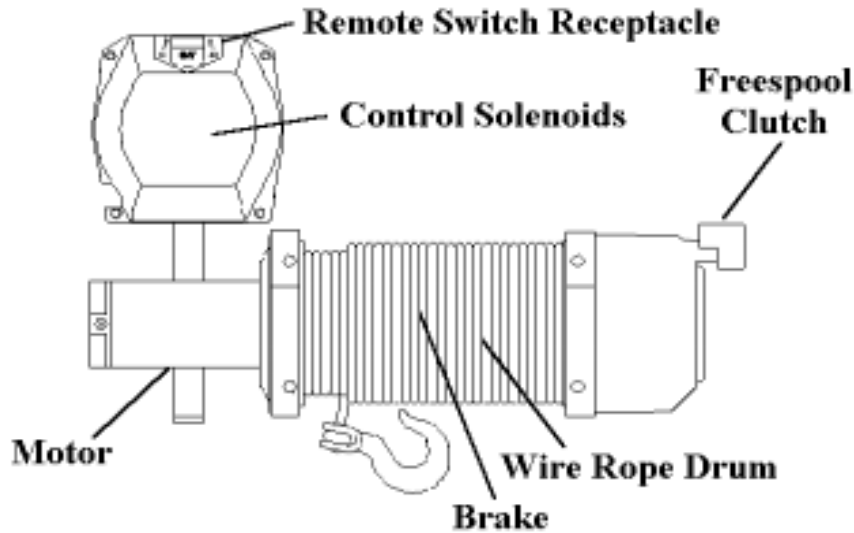


Fig. 1

Each X6CD Winch Features:

Electric Motor - 1.6 peak (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.

Control Solenoids (relays) - Enclosed solenoid (relay assembly) can be bracket mounted to the winch mounting plate or remotely as required.

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

PERFORMANCE DATA

Winch pulling capacity decreases as each successive layer of the wire rope wraps onto the drum.

Maximum Pulling Capacity		
Layer	Lbs	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

Working Load* 6,000 Lbs (2,720 Kg)
 Stall Load 12v* 6,600 Lbs (2,990 Kg)
 Stall Load 24v* 6,600 Lbs (2,990 Kg)
 Wire Rope 5/16 x 100
 12V Motor 1.6 hp (1.2 Kw) peak
 24V Motor 1.6 hp (1.2 Kw) peak
 Gear Ratio 253:1

* Based on first layer performance

Winch Load		Speed				Motor Current (Amperes)	
		Lbs		Kg.			
LBS	KG	FPM	MPM	FPM	MPM	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

CAUTION: If the winch motor stalls do not continue to apply power to the winch.

RULES FOR OPERATION AND SAFETY

Your X6CD 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 X6CD is rated at 6,000 pounds (2,271 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 (1,814 Kg), **WE RECOMMEND THE USE OF THE OPTIONAL PULLEY BLOCK AND SHACKLE TO DOUBLE LINE THE WIRE ROPE** (See Figures 2 & 17). 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 your winch, practice using it so you will be familiar with it when the need arises.

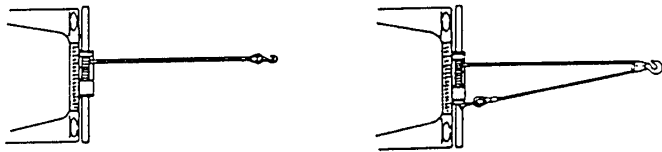


Fig. 2 Single Line

Double Line

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 & 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 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.

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 X6CD 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 HANDSAVER BAR when guiding the wire rope in or out (See Figure 3). 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.

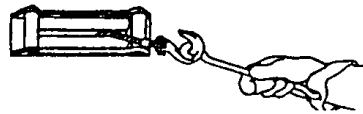


Fig. 3

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 ONTO ITSELF** because you could damage the wire rope. Use a nylon sling (See Figure 4).



Fig. 4

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 (See Figure 5). 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.

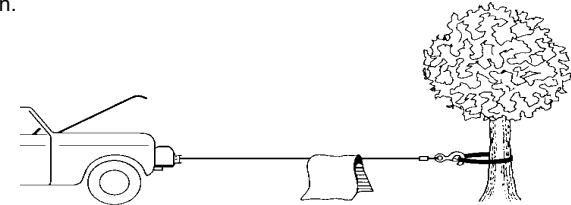


Fig. 5

11. **NEVER USE YOUR WINCH FOR LIFTING 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 on one end of the drum (See Figure 6). This can jam the wire rope in the winch causing damage to the rope or the winch itself.

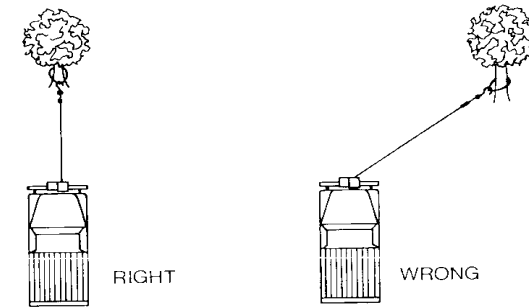


Fig. 6

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 (See Figure 7).

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.

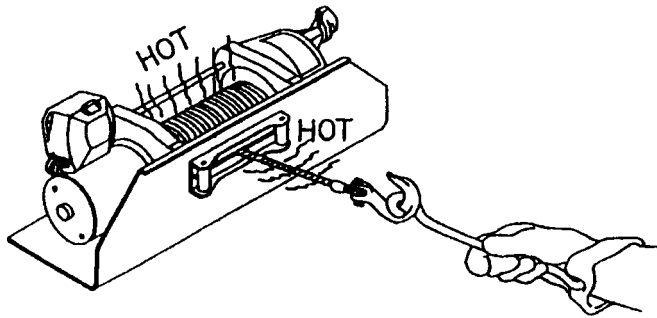


Fig. 7

PACKAGE CONTENTS

This carton contains the following items (See Figure 8). Please unpack carefully - read instructions before beginning!

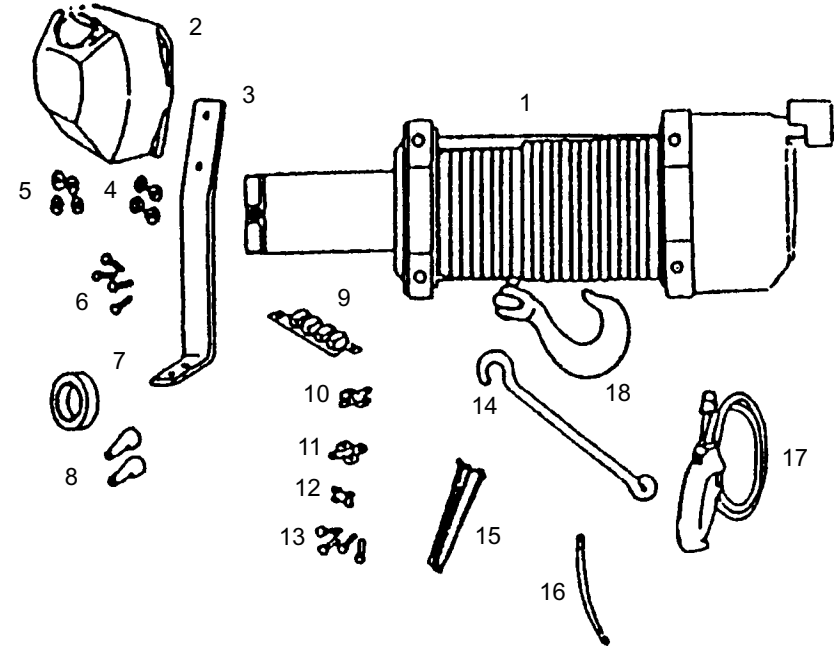


Fig. 8

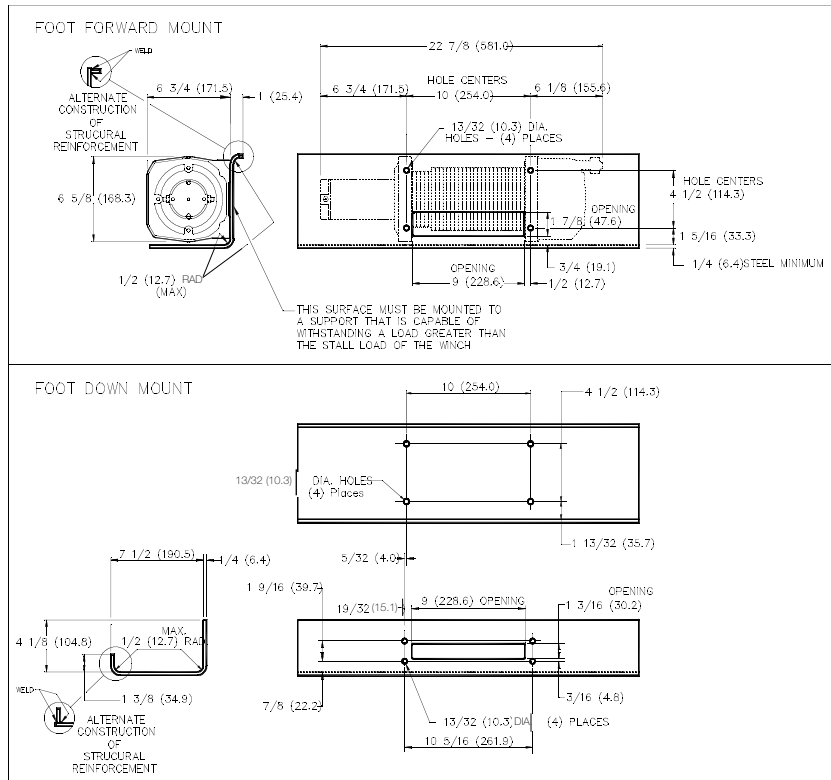
ITEM	DDESCRIPTION	1646	1647
1	Winch Assembly with Wire Rope	X	X
2	Solenoid Assembly	X	X
3	Solenoid Mounting Bracket	X	X
4	(4) Hex Socket Head Cap Screws 1/4-20	X	X
5	(4) Washer, ext. tooth	X	X
6	(4) Hex Head Cap Screw 1/4-20	X	X
7	Electrical Tape	X	X
8	(2) Terminal Boots	X	X
9	Circuit Breaker Assembly with Hardware	X	X
10	(4) 3/8-16 Square Nuts	X	X
11	(4) 3/8 Flat Washers	X	X
12	(4) 3/8 Lock Washers	X	X
13	(4) Hex Head Cap Screws 3/8-16	X	X
14	Handsaver	X	X
15	(6) Wire Ties, 7	X	X
16	Short Lead Wire Assembly no color code	X	X
17	Remote Pendant	X	X
18	Clevis Hook	X	X
19	Owner s Manual (not shown)	X	X

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 Page 2 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. If a Superwinch mounting plate is not used, refer to Figure 9 for a guide to construct a mounting system.

NOTE: This winch may be mounted feet forward or feet down with the wire rope in the underwind direction. Improper mounting could damage your winch and void warranty.



NOTE:

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 base plate, bolt length to be 1 inch (25.4). Bolts to be SAE Grade 5 (ISO 8.8) or stronger.
3. Use only square nuts in casting (See Figure 11).

INSTALLING YOUR WINCH MINIMUM ELECTRICAL REQUIREMENTS

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

TOOLS REQUIRED

Open End Wrenches (Spanners)

- * (2) 3/8 inch
- * (2) 1/2 inch
- * (2) 7/16 inch
- * (1) 9/16 inch

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

* Adjustable (Crescent) Wrenches may be substituted.

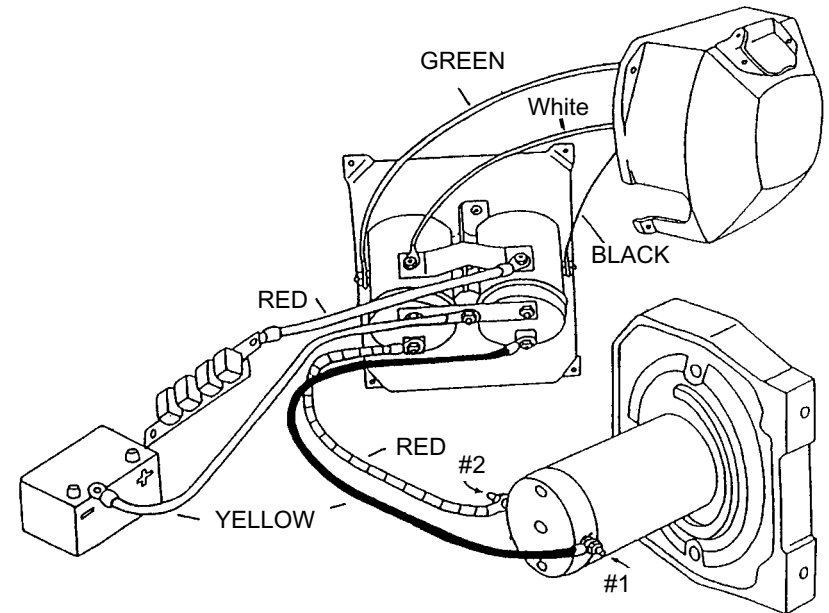


Fig. 10

STEP (1) - Install mounting kit structural support for winch.

STEP (2) - Mount the winch to the mounting kit base plate or to the mount that you designed (See Figure 11).

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 castings mounting pocket (See Figure 11).

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.

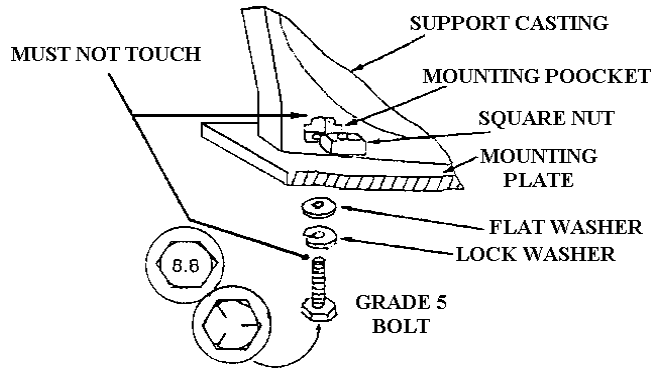


Fig. 11

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

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 11.

STEP (3) - Mount the solenoid pack to the solenoid mounting bracket with the 1/4-20 screws provided (See Figure 24) and mount the bracket to the mounting plate.

STEP (4) - If you choose to relocate the solenoid pack or the winch at a greater distance than 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 exceeds 10ft (3m), use a larger wire gauge size.

STEP (5) - Disconnect the vehicle battery leads.



Fig. 13

STEP (6)

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

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 metal parts of the vehicle. Attach the circuit breaker assembly to the end of the red color coded wire. Wrap the circuit breaker assembly with the electrical tape provided to prevent accidental short circuits.

Attach the circuit breaker directly to the battery positive terminal, and reattach the terminal to the battery. On some vehicles, space requirement will not permit this to be done. A 4"(101mm) lead wire is provided to go between the circuit breaker assembly and the battery when this situation occurs.

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

STEP (7) - Turn 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 "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 and dry area such as the glove box.

PENDANT OPERATION

The hand-held pendant switch activates a solenoid that activates power to the winch motor. One solenoid is for the "Cable Out" motor direction and the other is for the "Cable In" motor direction. Note: In this context, "Cable" refers to the wire rope.

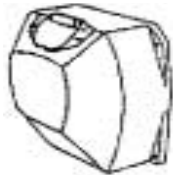


Fig. 14

To connect the pendant control, lift the spring-loaded cover on the plug receptacle (See Figure 14). 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.

The switch trigger returns to the "Off" position when released (See Figure 15, 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 (See Figure 15 Item B). The slide is fitted 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.

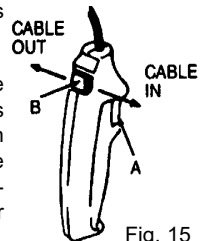


Fig. 15

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 16. 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 joggling 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 16).

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

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

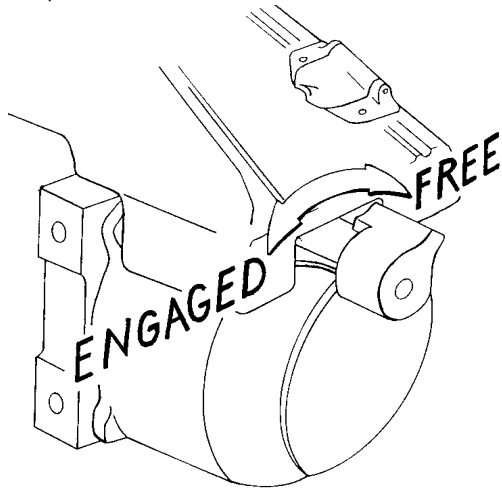


Fig. 16

TIPS FOR EXTENDING THE LIFE OF YOUR WINCH

1. **KEEP A TIGHTLY and evenly WOUND WIRE ROPE DRUM.** Do not allow the wire rope to become loosely wound. A loosely wound drum 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. During winching, periodically check to see that the wire rope is winding on evenly. 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 small hill or incline and winch your vehicle up the incline.

2. **DO NOT ALLOW MOTOR TO OVERHEAT.** Remember, the winch is only for intermittent use. 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. 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. **USE A PULLEY BLOCK FOR HEAVY LOADS.** To maximize winch and wire rope life, use a pulley block to double line heavier loads (See Figure 17).

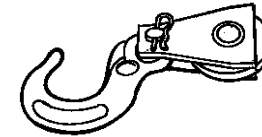


Fig. 17

4. 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 a pull.

5. **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 into a kink. The wire rope is now permanently damaged and must be replaced.

c. The result of kinking is that each strand pulls a different amount causing strands under greatest tension to break and reduce load capacity of the wire rope. The wire rope must be replaced.

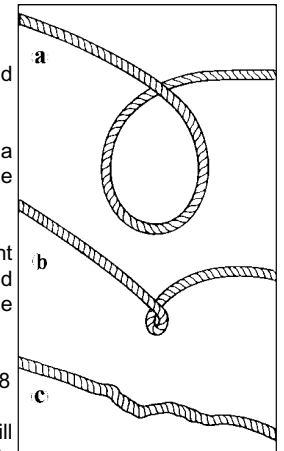


Fig. 18

6. **EQUIPPING THE WINCH WITH A ROLLER FAIRLEAD** will substantially reduce wear on the wire rope during angle pulls (See Figure 19). The rollers eliminate heavy rubbing and abrasion to the wire rope.



Fig. 19

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 factory approved grease (Superwinch Part No. 90-15020).

REPLACING THE WIRE ROPE

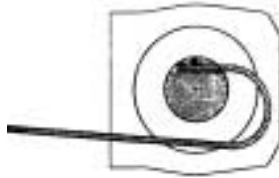


Fig. 20

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 manufacturers identical replacement part, (See 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 (See Figure 20). 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 stationary object at the top of a slight incline, then winch the vehicle up the incline.

BRAKE OPERATION

Your X6CD winch has a drag brake that stops and holds loads up to 3,500 lbs. (1,588 Kg) on the first layer of wire rope closest to the drum. Each additional layer of wire rope reduces the 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 drag brake 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. Powering against the brake, will cause heat build up in the drum and may transfer heat to the wire rope (See Figure 21). **DO NOT**

POWER OUT FOR MORE THAN 20 FEET (6m) OR 1 MINUTE.

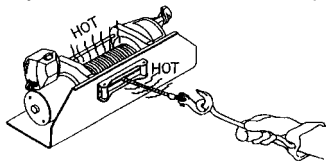
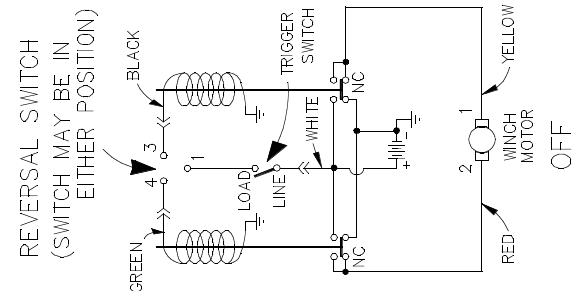
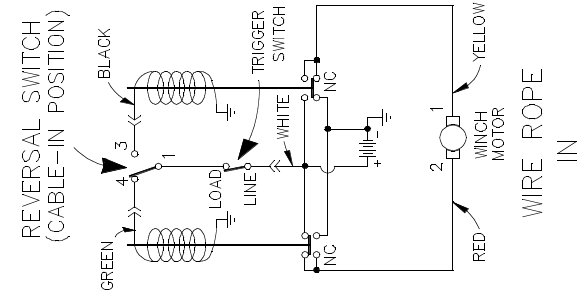
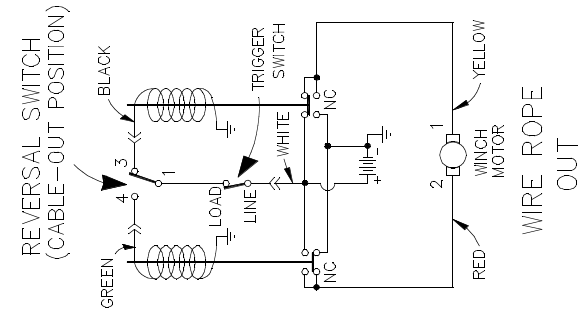


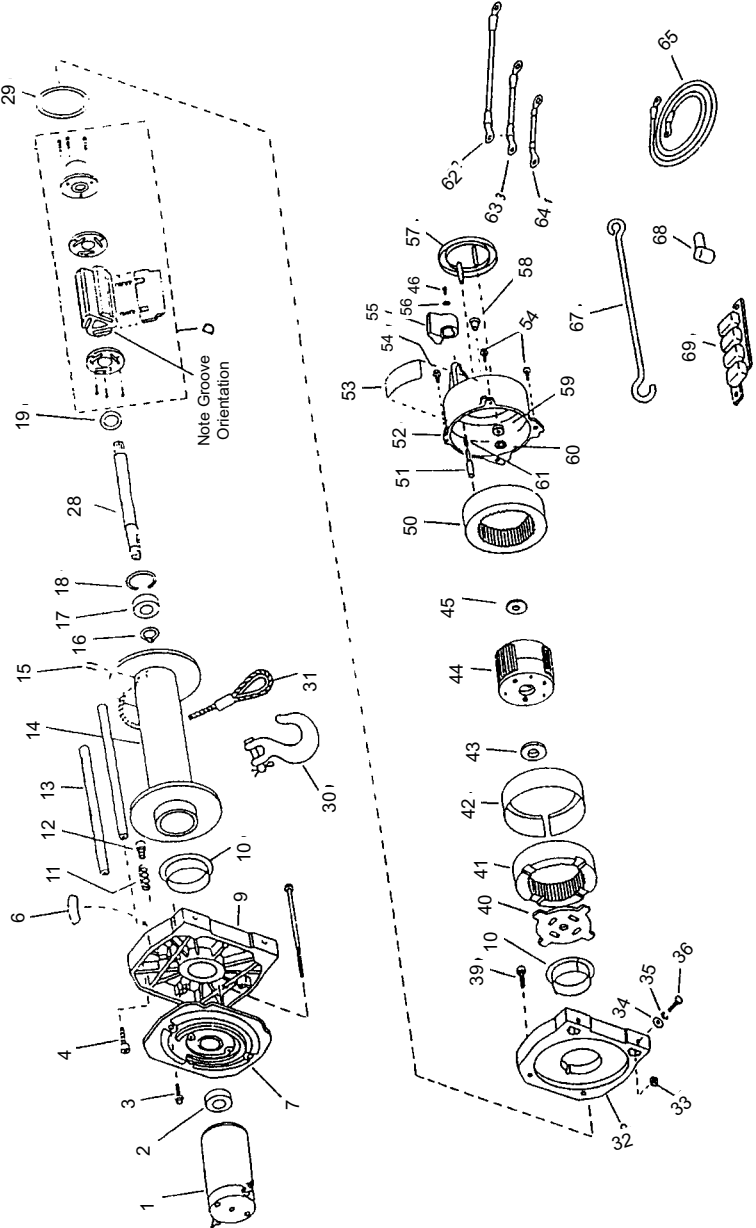
Fig. 21

WARNING: The drum and wire rope may get very hot.

ELECTRICAL SCHEMATIC



X6CD WINCH PARTS LIST



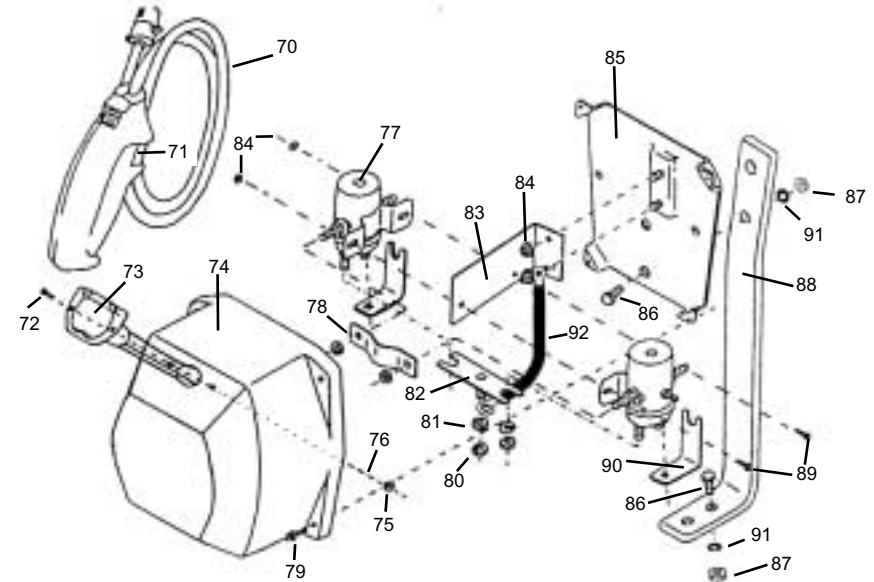
ITEM	QTY	DESCRIPTION	PART NO.
1	1	Motor, 12 VDC (inc. thru bolts)	90-31042
	1	Motor, 24 VDC (inc. thru bolts)	90-31044
2	1	Bearing, ball w/sleeve	90-10378
3	3	Screw, Self tapping hex head, 1/4-20 x 5/8	90-23039-10
4	2	Screw, Socket Hd Cap, 1/2-20 x 3/4 lg	90-23055-06
6	1	Label, Winding Direction	92-10211
7	1	Adapter, Motor	90-32166
9	1	Outboard Drum Support	90-32262
10	2	Bearing, Drum	90-12575
11	1	Spring, Drag Button	90-23152-08
12	1	Button, Drag	90-22612
13	2	Tie Rod	90-20033
14	1	Drum	90-31069-04
15	1	Screw, Soc. Set M8 x 10	94-23164-09
16	1	Retaining Ring	90-23209-22
17	1	Bearing, Ball	90-23079-09
18	1	Retaining Ring	90-23047-03
19	1	Washer	90-23120-08
D	1	Ass y, Brake	90-25035
20		Not Applicable	
21		Not Applicable	
22		Not Applicable	
23		Not Applicable	
24		Not Applicable	
25		Not Applicable	
26		Not Applicable	
28	1	Ass y Drive Shaft	90-22261
29	1	Washer, Thrust	90-12574
30	1	Assembly, Clevis Hook	94-20116
31	1	Rope, Wire w/o Hook 5/16 x 100 Ft	1580
32	1	Inboard Drum Support	90-32199
33	4	Nut, Square, 3/8-16	90-23084-04
34	4	Washer, flat 3/8	92-23027-05
35	4	Washer, Lock 3/8	92-23057-01
36	4	Bolt, hex head, Grade 5, 3/8-16 x 1	90-23226-01
39	2	Screw, Socket Head Cap, 1/4-20 x 3/4 lg	90-23055-06
40	1	Plate, Drum Driving	90-22183
41	1	Gear Ring, Output	90-32232-01
42	1	Bearing, Ring Gear	90-22607
43	1	Carrier Bushing	90-10417
44	1	Ass y, Planet Carrier	90-32238
45	1	Gearbox Bushing	90-10418
46	1	Screw, Pan Hd, 8-32 x 3/8	90-23032-17
50	1	Gear, Ring, Fixed	90-32233-01
51	1	Pin, Lock	90-22252-01
52	1	Housing, Gearbox, w/53, 57-60, specify model when ordering	90-32261
53	1	Label, Warning/clutch operation, specify model when ordering	90-22262
54	4	Screw, Self Tapping Hex Head, 1/4-20 x 5/8	90-23039-10
55	1	Lever, Clutch	90-32248
56	1	Lock Washer, #8 int tooth	90-23048-03
57	1	Cover, Dust	90-22103

X6CD WINCH PARTS LISTS

ITEM	QTY	DESCRIPTION	PART NO.
58	1	Plug	94-23171-04
59	1	Washer, Rubber	92-10194
60	2	Retainer, Push-on	90-23213-04
61	1	Spring, Clutch	90-23152-07
62	1	Lead Wire Ass y, 6AWG x 9 Color Coded Yellow	90-22695-17
63	1	Lead Wire Ass y, 6AWG x 5 1/2 Color Coded Red	90-22695-16
64	1	Lead Wire Ass y, 6 AWG x 4	90-22635-14
65	1	Ass y, Lead Wire, 6 AWG x 60 Color Coded Yellow	90-22635-02
66	1	Lead Wire Ass y, 6 AWG x 49 1/2 Color Coded Red	90-22695-06
67	1	Handsaver	92-20192-01
68	2	Boot, Terminal, 6 AWG	90-23247-03
69	1	Assembly, Circuit Breaker, 12V (Complete)	90-20242
	1	Assembly, Circuit Breaker, 24V (Complete)	90-20242-01
	4	Circuit Breaker, 40A, 12V (Breaker Only)	90-23148-02
	2	Circuit Breaker, 40A, 24V (Breaker Only)	90-23148-04
NS	6	Wire Tie, 7 Long	94-23058-04
NS	1	Grease (for one relube)	90-15020
ACC	1	Roller Fairlead	2539

NS Denotes Not Shown
ACC Denotes Accessory

SOLENOID ASSEMBLY



ITEM	QTY	DESCRIPTION	PART NO.
70	1	Pendant, Remote Switch	90-22117
71	1	Switch, Reversing	90-32007
72	2	Screw, #8-32 x 5/8	90-23032-03
73	1	Assembly, Connector, with wires	90-22115
74	1	Cover, Solenoid (with long)	90-32187-01
75	2	Nut, Hex #8-32	90-23034-08
76	2	Washer, int. tooth lock, #8	90-23048-03
77	2	Solenoid, 12 VDC	90-20329
	2	Solenoid, 24 VDC	90-20331
78	1	Buss Bar, Top	92-12383
79	4	Screw, Self Tapping, 8-32 x 1/2	92-23039-01
80	1	Nut, Hex, 5/16-18	92-23034-04
81	1	Washer, Lock, 5/16	92-23057-03
82	1	Buss Bar, Front with stud	92-12385
83	1	Bracket, Solenoid	94-20118
84	2	Nut, Flange, 10-32	90-23149-01
85	1	Plate, Solenoid Base, w/studs	90-22627-02
86	4	Bolt, Hex Head, 1/4-20 x 1	90-23226-10
87	4	Nut, Hex, 1/4-20	90-23149-02
88	1	Bracket, Solenoid Pack	90-31027-02
89	4	Screw, Machine, 10-32 x 1/2	92-23125-01
90	2	Buss Bar #1	92-20126
91	4	Washer, ext tooth lock, 1/4	90-23227-02
92	1	Ground Strap	90-20187-07
NS	1	X6CD Logo	90-20046
NS	1	Control Pack, X6CD 12 V (Includes logo, 72-85, 89, 90 & 92)	90-32269
NS	1	Control Pack, X6CD 24 V (Includes logo, 72-85, 89, 90 & 92)	90-32270

TROUBLESHOOTING GUIDE

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

CONDITION	POSSIBLE CAUSE	CORRECTION
Motor will not operate or runs in one direction only	Damage or stuck solenoid; most likely caused by holding the inner nut to keep the stud from turning when attaching the wire to the solenoid	CAUTION: disengage clutch before 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 stuck will make an audible click when first energized.
	Switch inoperative	Replace switch
	Broken wires or bad connection	Check for poor connections: CAUTION: always use 2 wrenches (spanners) (See Figure 12)
	Damaged motor	Replace or repair motor
Winch will not shut OFF	Solenoids not grounded	Check the ground path between battery negative and solenoid base.
	Solenoid stuck ON	If a solenoid is stuck ON, reverse direction and hold trigger switch until the power lead can be disconnected. A safety disconnect switch is available as an accessory.
Motor runs extremely hot	Long period of operation	Allow to cool
	Damaged motor	Replace or repair motor
	Damaged brake	Replace or repair brake
Motor runs but with insufficient power or line speed	Weak battery	Recharge or replace battery. Check charging system.
	Battery to winch wire too long	Use larger wire
	Poor battery connection	Check battery terminals for corrosion. Clean as required.
	Poor ground	Check and clean connections
	Damaged brake	Repair or replace brake
Motor runs but drum doesn't turn	Clutch not engaged	Engage clutch
Winch runs backwards	Motor wires reversed	Recheck wiring
	Solenoids wired incorrectly	Recheck wiring
Will not hold load	Excessive load	Reduce load or double line
	Worn or damaged brake	Repair or replace brake