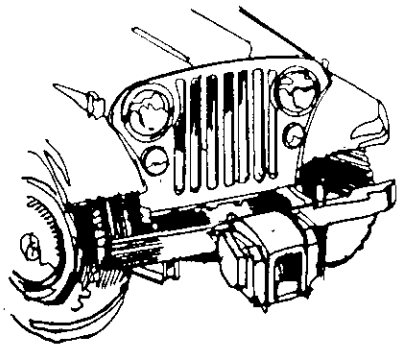
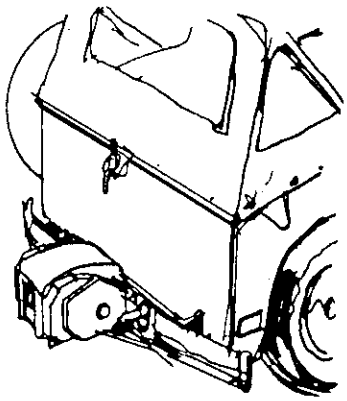
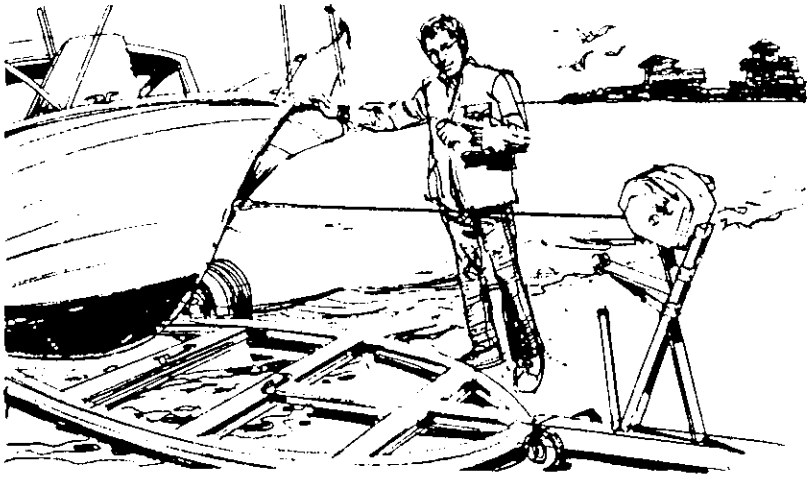
POWERWINCH

Electric Winch
MODEL 912-C

OWNERS MANUAL
Installation, Operation, Maintenance







General Safety Information

Model 912C Exerts 3500 pounds of line pull*, single line (6000 pounds double line).

12 volt D.C. winches operate from a low voltage D.C. source of power (e.g., a car or truck battery). Amperage as low as 40 amps. **DO NOT** connect winch to 110 volt A.C. power.

The winch is equipped with a high quality 7 by 19 aircraft cable selected to withstand loads in excess of the rated capacity. Never exceed this rating when using the winch. When cable breakage occurs under heavy tension it tends to whip toward the winch drum area. This tendency to whip if cable breaks under tension can be minimized by draping a heavy cloth such as a blanket or jacket over the cable.

The cable should be inspected periodically for individual strand breakage and abnormal stiffness. Never use rope instead of cable. Never replace cable with one of smaller size and capacity. The cable fittings should be checked for tightness. Cable life can be increased up to 300% by frequent lubrication with a good grade of oil.

The auxiliary handle is provided for emergency use only. Do not use it as an "assist" to the motor when the motor is running. **DO NOT** leave auxiliary handle on the winch at any time.

Keep hands and fingers clear of the drum and cable area of the winch when operating.

The winch must be securely attached to a structural member or frame that is capable of sustaining loads in excess of the winch capacity. When attaching the winch to a vehicle, make sure the mounting pad area is rigidly supported by the vehicle frame. Always block the wheels to prevent the vehicle from rolling when pulling a load with the winch.

Keep the winching area free of all unnecessary personnel. Never stand between load and winch. Do not use as a personnel lift. The winches are neither designed or intended for use or application to equipment used in the lifting or moving of persons.

Do not use as an over-head hoist.

General Installation and Wiring

CAUTION: POWERWINCH IS DESIGNED FOR USE WITH A NEGATIVE ("-") GROUND, 12 V(DC) ELECTRICAL SYSTEM ONLY!

1. Mount unit as follows, depending on your particular needs:

A. BALL-HITCH MOUNTING: Attach the adaptor plate (optional Part #53) to base of the winch and slip the plate with the winch over the ball of the hitch.

B. FLAT SURFACE MOUNTING (Truck Bed-Trailer Stand): Secure shoulder studs (optional Part #52) to the mounting surface. Place winch on the mounting surface so that the base of the winch locks in position against shoulder studs.

NOTE: In either case, make certain that the mounting surface is of adequate capacity to support the winch.

2. Installation of wire harness:
Take assembled wire harness, consisting of a circuit breaker, 25' of #8 electrical cable, a ground connector and a male plug, and attach to your vehicle in the following manner.

A. Attach the circuit breaker (A) to the positive (+) battery post or to the positive (+) battery side of the starter solenoid (B). Figure 1.

CAUTION: NEVER ATTACH CIRCUIT BREAKER TO THE GROUND TERMINAL OF BATTERY..

B. If winch is to be mounted in the rear of vehicle, snake or run wire under car, attaching at suitable intervals to the vehicle frame. Avoid sharp edges or places where wire might rub.

C. Attach ground wire to vehicle frame using a 5/16" bolt and locknut. Make sure you have a clean, tight connection.

D. Remove knockout plug in trunk or spare tire well and draw excess wire up into vehicle.

NOTE: If winch is to be mounted in front of vehicle, cut harness to the length needed making sure, if spliced, the splice is tight and well insulated. Attach ground as described in C above, and snake harness to mounting location of winch. (See Figure 2.)

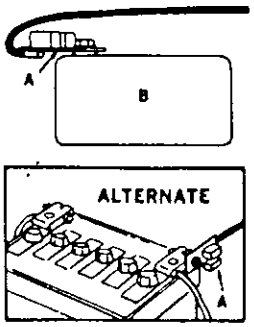


FIGURE 1

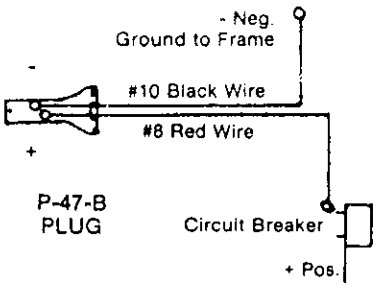


FIGURE 2

*Line pull is equivalent to straight lift, and we measure on bottom layer of cable spooled on drum.

For Installation As A Boat Trailer Winch
For trailerable Boats Up To:
9,000 pounds - Double Line

Refer to Figure 3.

See General Installation for Winch Wiring

In most cases, the 912-C winch can be mounted on your trailer in the same position and location as your present hand winch. Remove hand winch from trailer and bolt down Powerwinch unit, using at least two ⅜" x 1" machine bolts and lock nuts. The distance between holes should be 3". (For easy removal of winch for storage and to prevent theft, use Quick Mount Kit, optional Part No. 52.)

The cable hook of the Powerwinch and the loading eye on the bow of the boat should be at the *same height when the boat is in fully loaded position on the trailer.* (If the bow-eye is too high, you will be pulling *down* on your boat, greatly adding to the pull required and exerting extra stress on stem and loading eye.)

To achieve this, you may have to raise or lower your winch stand. In most cases, the trailer manufacturer will have an adapter available for use with a Powerwinch unit.

There must be sufficient clearance (C) — a minimum of 12 inches — between POWERWINCH and loading ring of boat to prevent cable hook from being drawn into drum when boat is in fully loaded position on trailer. **Extend bow stop if necessary.**

NOTE:

POWERWINCH 912-C is furnished with 50 feet of cable and pulley block as standard equipment for double line operation.

We recommend that an eye bolt be installed on the winch stand, as close as possible to base of winch, after winch is in place, for dead ending the cable hook. If quick mount studs are used, make sure winch is in forward, locked position before installing eye bolt.

GENERAL OPERATION

1. Insert male plug into winch female socket.
   Turn clutch/brake control knob counterclockwise (CCW) to the "UNLOAD FREE WHEEL" position.
2. Unreel cable to full-extension operating length (last layer of cable must remain on drum). Pull out cable by the hook only.
3. Attach safety latch hook to the load. If handling a large load, use auxiliary chains or Powerwinch ECO Strap to secure the load, Part No. 703.

CAUTION: NEVER WRAP THE WINCH CABLE AROUND THE LOAD.

4. Set the brake by turning the clutch/brake control knob clockwise (CW) to the "LOAD BRAKE" position. (FINGER TIP TIGHT ONLY)
5. Using the winch for:
   A. UNLOADING — Let the weight of the load move itself down the incline. Use the clutch/brake control to regulate the rate of descent.
   B. LOADING — Turn the clutch/brake control knob full clockwise (CW) to the "LOAD BRAKE" position. Pull the remote control lanyard attached to the spring loaded switch to activate winch, keeping tension on the cable by hand until the cable begins to pull the load. When the switch is released, it automatically shuts off power stopping the pull. The winch will hold the load in "off" position.
6. When the winch operations are complete, disconnect the wiring by removing the harness male plug from the winch female socket. Store the winch and adapter plate (if used) in a clean, dry area when not in use. We recommend the use of our C-75 winch cover for protection during travel or storage.

CAUTION: WHEN OPERATIONS HAVE BEEN COMPLETED, NEVER DEPEND ON THE WINCH TO SUPPORT OR HOLD THE LOAD. ALWAYS SECURE THE LOAD PROPERLY.

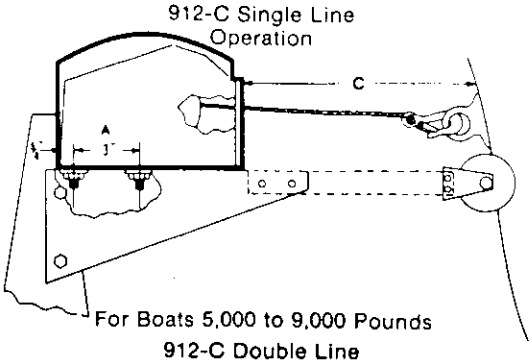
BOAT TRAILER OPERATION

UNLOADING

NOTE: Always use tie-downs to secure your boat on your trailer. **Never depend on your winch to hold your boat while traveling.**

1. The trimatic control knob on the side of your winch governs the complete loading and unloading operation. Counterclockwise turn of the Trimatic Control Knob releases brake and allows the winch to free-wheel out. Turn knob counterclockwise far enough to allow boat to slide off trailer. (A slight push may be necessary to start the boat down the run.) To brake, turn control knob clockwise as required.
2. When boat is in the water, release hook from bow-eye and simply secure hook over the end of the trailer so it is available when loading. It is not necessary to rewind cable unless you intend to remove winch during boating to prevent theft (see Quick-Mount Kit), in which case, when rewinding cable, be sure to constantly apply pressure, keeping the cable taut, so as to rewind properly. A loose cable may rewind improperly, causing problems.

For Boats Under 5,000 Pounds
912-C Single Line Operation



For Boats 5,000 to 9,000 Pounds
912-C Double Line Operation

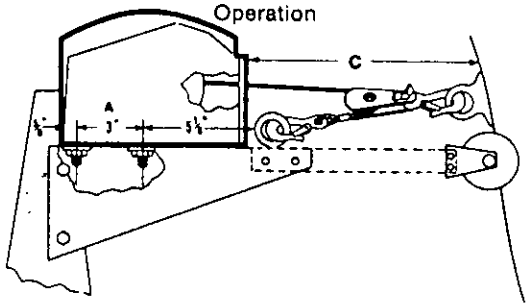


FIGURE 3

LOADING

1. Bring your boat into position with your trailer and attach the hook and cable to your bow-eye.
2. Return to your winch and turn the trimatic control knob all the way clockwise. (Finger Tip Tight Only)
3. Go back to your boat with the remote control cord. When your boat is properly lined up, pull the remote cord to activate winch, keeping tension on the cable by hand until the cable begins to pull the boat.
4. When the boat is fully loaded, secure boat to trailer with tie-downs.

NOTE: If your cable bunches on the same side consistently, the drum is not perpendicular to line of pull. Loosen bolts and twist winch slightly (bunched side move toward car).

When control knob is fully tightened, as in "load" position, winch will automatically brake and hold load when power is shut off.

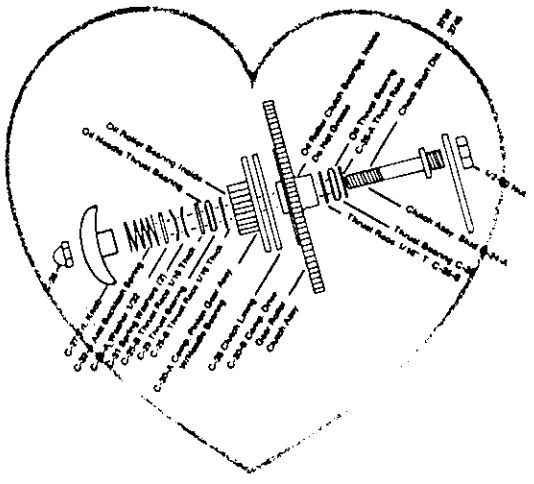
The TRI-MATIC ROLL-N-GAGE CONTROL is the heart of your "C" Series Powerwinch Unit. It controls loading, unloading and braking.

Since this is a highly engineered assembly, care should be taken on its maintenance.

To lubricate, remove nut #C-28, unscrew Trimatic Control Knob #C-27. Remove case on control side, put control knob back on so that parts of the Roll-n-Gage Control will not slip off.

Using a good grade light oil, (DO NOT GREASE), lubricate the stud, #C-24-A, thrust bearings #C-25, roller clutch bearing inside #30-B compound drive gear and needle bearing inside #C-30-A compound pinion clutch gear assembly and needle thrust bearing #C-25. *Extreme care should be taken to avoid getting any oil on clutch lining* #C-26, as this may cause slippage.

Do not try to remove bearings from inside compound drive gear or compound pinion gear.

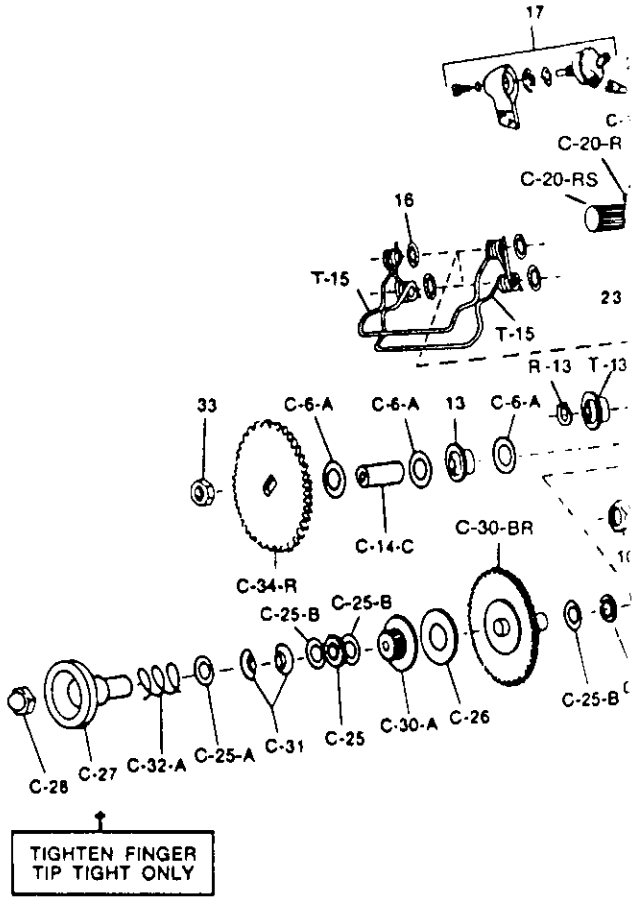


PART NO.	DESCRIPTION
CT-1-R	Reverse formed frame
C-2	Drum Shaft Guide
CR-3	Drum Shaft
S-3-AR	7/32" Cable Fastener
C-5	Drum Shaft Guide, Split
6	Drum Shaft Bearings (2)
6-A	Bearing Spacers (2)
T-6	Drum Shaft Bearing — Double Row
T-6-A	¾" Washer
C-6-A	Hardened Washer (5)
R-8	Drum Gear
R-10	Drum Shaft Nut
C-12	Pinion Gear (2)
13	Rear Shaft Bearing
T-13	Rear Shaft Bearing — Double Row (2)
R-13	Retainer
CT-14	Rear Shaft
C-14-A	Rear Shaft Tube (short)
C-14-B	Rear Shaft Tube
C-14-C	Rear Shaft Tube (long) (2)
T-15	Level Wind Springs
16	Level Wind Spring Retainers (4)
17	Spring Loaded Switch
C-18-A	Jumper Wire, Red 6"
C-18-B	Jumper Wire, Red 12"
C-18-C	Jumper Wire, Black
P-19-R	Female Socket Assembly
C-20-R	Motor without Gear
C-20-RS	Motor Gear, 12 teeth, right hand
23	Stainless Steel Motor Straps (2)
C-24-A	Clutch Assembly Stud w/½ x 20 locking nut, hardened and ground
C-25	Thrust Bearings (2)
C-25-A	Thrust Race .030 (2) Hardened
C-25-B	Thrust Race .060 (3) Hardened
C-26	Clutch Lining ⅛" x 2½"
C-27	Trimatic Control Knob and Tube, right hand thread
C-28	Acorn Nut, right hand
C-30-A	Pinion Clutch Gear w/Bearing
C-30-BR	Comp. Drive Gear Roller Clutch Assy.
C-31	Belleville Spring Washer (2)
C-32-A	Backlash Spring
33	Locknuts (4)
C-34R	Drive Gear, Rear Shaft
38-R	Screws for Socket Assembly (2)
39-R	Nuts for 38-R (2)
CY-40-R	Right Hand Side Case
CY-40L	Left Hand Side Case
C-41S	Screws for Bottom of Case (4)
C-41R	Rod — Top of Case (2)
C-41N	Nuts for Top Rods (4)
T-45	50 ft. 7/32" Cable Assembly w/Fastener S-3-AR
S-47-A	Circuit Breaker Assembly for S-49
P-47-B	Male Plug, fits into P-19-R
PS-49	12 V. Wiring Kit, Complete
50	Remote Control Lanyard
51	Emergency Hand Crank
53	Multi-Purpose Adapter Kit
54	Pulley Block & Hook
55	Intermediate Shaft
56	Idler Gears

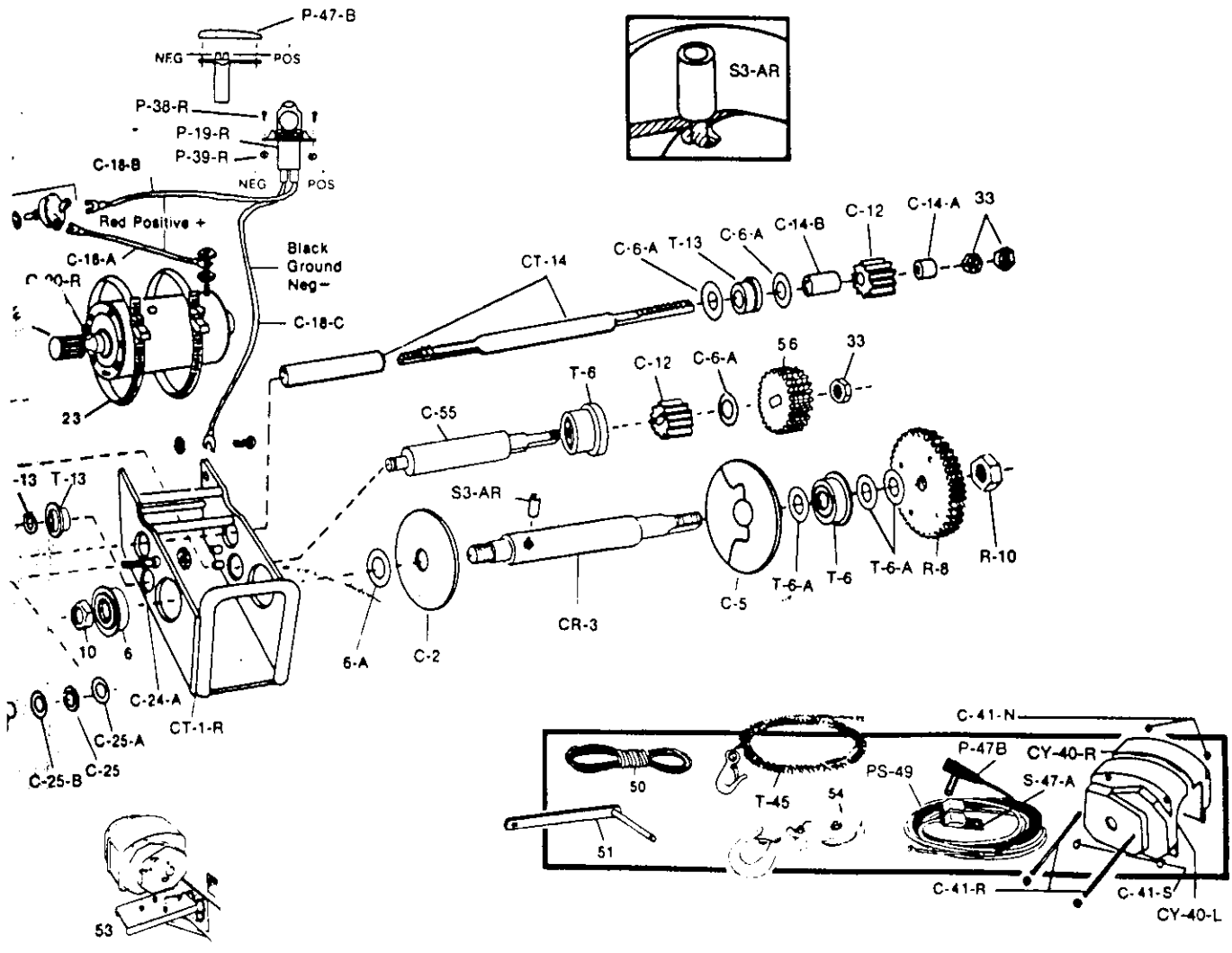
THIS IS A PERMANENT MAGNETIC MOTOR AND IS POLARIZED FOR ROTATION.

Make sure your wiring connections conform to instructions on page 1. Reversing may cause motor gear to back off the threaded shaft, and/or possible damage to motor or wiring.

912-C



TO MAINTAIN EFFICIENCY OF UNIT LUBRICATE CABLE OCCASIONALLY WITH WHITMORE'S WIRE ROPE SPRAY — LPS-3, OR SIMILAR PRODUCT.



operating tips and hints for better operation

The trimatic control knob on the side of the winch governs the complete operation. Turn the knob all the way counterclockwise. This releases the clutch and brake assembly and allows the cable to be pulled out. (Free wheel)

Dead end the cable on a convenient object. Note: (Always leave the last layer of cable on the drum to keep cable fastener from pulling out so as to release the cable entirely).

Stationary or Temporary Use

To operate your winch with a temporary wire installation attach two large "Alligator" type clips to the ends of the red and black wires. Run the red wire to the battery and clip it to the hot (positive) side of battery. Clip the black wire to the car's frame.

Voltage Drop

The voltage output of an automotive battery is 12 volts. With an alternator and the motor running, 13 volts are available. However, voltage is "lost" as the current travels through the many connections and down the wire.

Example, the current has to travel 25 feet (from the battery of the vehicle back to the winch). One volt is "lost" for every 8 feet of wire. Consequently, only 9 volts are available for use by the winch.

As all ratings are given assuming use of this long harness attached, performance (speed and maximum load capacity) will increase markedly as the harness is shortened (up to 25% to 30% if the battery is located next to the winch).

Emergency Hand Crank

Remove outer nut on rear shaft (on side opposite the control knob). Slide crank on shaft. Replace and tighten nut.

Important Tighten control knob all the way clockwise. Otherwise there is no braking action.

Keep Car Motor Running For Full Power

Your winch will work more efficiently if it receives full amperage and voltage from your battery. To assure this, keep the car motor running.

Improperly Wound Cable

If for some reason, your cable is not properly wound (either wound loosely or wound on one side), unwind cable and, keeping tension on it, rewind under power so that the cable is wound tightly and is wrapped evenly. Otherwise, the wrap of the cable may squeeze down to a lower layer, cause sticking, loss of power and may bend or break the level springs.

Care of Level Wind Springs On Drum

Your motor will continue to run for a second or two after spring loaded switch is released, especially without a load.

Be sure to allow for this. Don't let the hook go into the winch and bend the level wind springs.

Maintenance

Cable

Lubricate cable occasionally. As cable is being wound, spray Whitmore's Wire Rope Spray, or similar product, onto drum and cable.

Gears and Greasing

About once a year, remove cover and lubricate as indicated on enclosed chart.

Important Do not grease Trimatic Roll-N-Gage Clutch Control. Use light oil.

The Tri-Matic Roll-N-Gage Control is the heart of your Powerwinch unit. It controls loading, unloading and braking.

To lubricate, remove nut C-28 and unscrew Trimatic Control Knob C-27. Remove case on control side, put control knob back on so that parts of the Roll-N-Gage Control will not slip off.

Using a good grade light oil (Do Not Grease), lubricate the stud C-24-A, thrust bearing C-25, roller clutch bearing inside compound drive and needle bearing inside C-30-A compound pinion clutch gear assembly and needle thrust bearing C-25. Extreme care should be taken to avoid getting any oil on clutch lining C-26, as this may cause slippage.

Trouble Shooting

What To Look For Or What To Do

Electrical

If your winch fails to operate, the chances are your trouble is electrical. Start checking at your battery (or starter, if that is where you connected your circuit breaker). By-pass the circuit breaker. If your winch now works, you need a new circuit breaker. (see parts list). It is suggested that you carry a spare circuit breaker for emergencies.

Check your wiring to see that there are not bare spots that may be causing a short. Check your connections to see that they are tight.

Check the male connection at the end of the wiring kit by using a probe light across the two prongs inside the plug. If you get a light, your wiring is O.K.

Remove screws and rods from the side of case containing the female socket.

Plug the male plug into the female socket. Use probe light across the two connections on the underside of the female socket. If you had a light when testing the male plug but do not get a light now, your female socket is at fault. If you get a light at this point, next, test the switch.

Remove case on side of winch containing the switch.

By-pass the switch by using a jumper wire. If you now get power to your motor, your switch is at fault. If you don't get power, your motor is at fault.

Mechanical

Since you have now removed the case, check for possible mechanical trouble.

Obviously broken parts.

Motor gear not meshing properly.

Tighten and loosen Trimatic Control to see that the clutch is working properly. (Grease or excessive glazing may cause clutch lining to slip).

Check Roll-N-Gage control with Trimatic Control loose, try by hand to turn Roll-N-Gage gear in reverse direction. Gear should lock on shaft immediately and stay locked under load.

Important Do Not Grease Roller Clutch. Use Good Grade of Light Oil.

If after checking electrical and mechanical as outlined above, the winch still does not function properly, please send us a report describing condition. By following this check list, most faults can be easily corrected. If not, the winch may be returned to the factory or a local service station for servicing, after receiving factory approval.

Making Minor Repairs

Replacing Motor

Hand turn gears of old motor gently back and forth. Note slight backlash (.005). Gears of new motor should have about same degree of play.

Back off screws on motor bands and remove bands and wire.

Take out old motor.

Put new motor in place, taking care to see that gears are meshed properly.

Fasten motor bands and connect wire.

Check your motor for correct backlash. Gears should not be too tight or too loose. Adjust by increasing or decreasing thickness of shims under motor.

Replacing Cable

Remove old cable. Insert new cable into drum shaft hole at end opposite counterbored end. Push cable through hole and out counterbored end. Next, draw cable through fastener so that it is flush at shoulder end, and soft-solder end of cable to fastener. Insert fastener into counterbored end of drum shaft hole. Pull cable until shoulder of fastener fits down into hole, top flush with drum shaft. Bend cable sharply around first groove of drum shaft. Keep tension on cable in winding. (See parts diagram)

Replacing Level-Wind Springs

Before removing old springs, check carefully to be sure you know how they should be attached. Put lower level wind spring in place below cable. With a screwdriver or other instrument, push spring ends under stud.

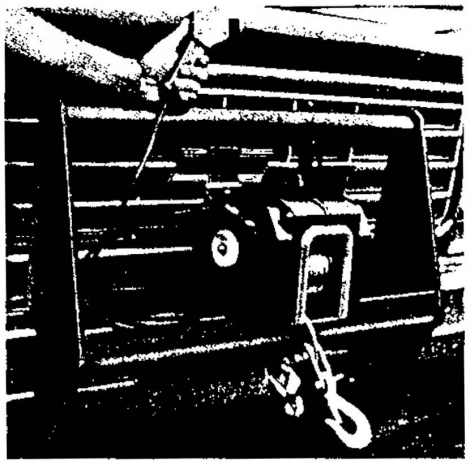
Put upper level wind spring in place above cable. Attach retainers. Push spring's ends back.

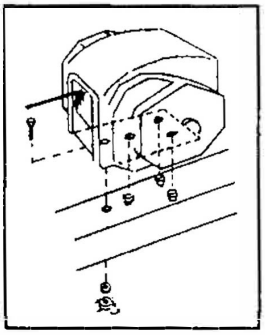
POWERWINCH POWERGUARD

It's rugged...it's handsome...it's a must! It's Powerguard™, the rugged mount for Powerwinch® that's a handy protective device for automotive grills. It also protects the winch.

Every off-road vehicle owner will want one of these rugged beauties...see all the advantages it offers:

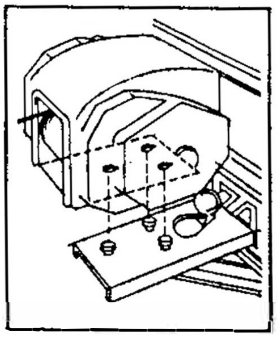
- Fits most trucks, 4 wheel drive off-road vehicles.
- Designed for Powerwinch—the perfect temporary or permanent winch installation Powerwinch owners have been looking for.
- Weighs only 50 lbs., for easy lifting, easy installation.
- Rugged—made of high grade steel with a baked high gloss black enamel finish. The Powerguard is bolted to the truck frame, making a sturdy protective unit for the grill.
- Extra holes for mounting driving lights, brush guard, you name it.
- Handsome—actually improves the appearance of any vehicle it is attached to.
- Equipped with three shoulder studs so you can use the Powerguard as a portable winch mount. The Powerwinch easily removes from the Powerguard mount for use on rear of the vehicle.
- Withstands up to 12,000 lbs. pull-pressure.





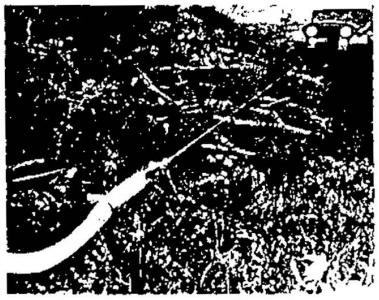
Quick-Mount Kit No. 52

Contains 3 shoulder studs with nuts; ⅜" bolt with lock washer and a wing nut. The shoulder studs are mounted on the trailer's winch stand, aligned with the keyhole slots in the base plate of the winch. Installation or removal for the winch for safekeeping is simple and speedy.



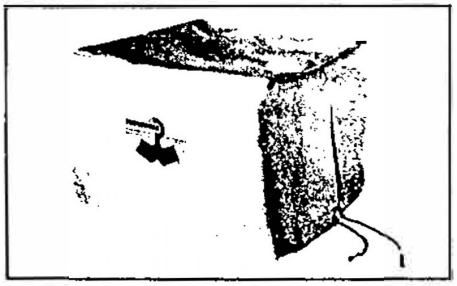
Multi-Purpose Adapter Kit No. 53*

Contains same parts as No. 52. When winch is mounted on adapter plate, the unit fits over the ball hitch, can be used to pull a trailer and boat up a slippery ramp, the vehicle itself out of mud, sand or snow, or handle many other towing and pulling jobs around the home or on the road.



POWERWINCH ECO STRAP 703

For the environmentalist off-roader. A strong, lightweight strap which can withstand pulls up to 18,000 pounds. The ECO strap is 6' x 3" wide, and will not only protect the tree you are pulling from, but also protects the winch cable from being used as a pulling wraparound. The ECO strap can be used on any load you may pull.



Winch Cover C-75 Attractive, durable cover to keep unit clean and dry.

FOR MORE INFORMATION, CONTACT YOUR LOCAL POWERWINCH DEALER, OR WRITE TO OUR FACTORY, DEPARTMENT "S".

Limited Warranty

For one (1) year from the date of purchase, Powerwinch Division will repair or replace for the original purchaser any part or parts found upon examination by any authorized service center, or by Powerwinch Division, to be defective in materials or workmanship or both. If warranty service is required please forward the claimed defective product or part to the nearest authorized service center or directly to Powerwinch Division. THERE IS NO OTHER EXPRESS WARRANTY. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM THE DATE OF PURCHASE. THIS IS THE EXCLUSIVE REMEDY AND ANY LIABILITY FOR ANY AND ALL INDIRECT OR CONSEQUENTIAL DAMAGES OR EXPENSES WHATSOEVER IS EXCLUDED.

Some states do not allow limitations on how long an implied warranty lasts, or do not allow the exclusions or limitations of incidental or consequential damages, so the above limitations might not apply to you.

This limited warranty gives you specific legal rights, and you may also have other legal rights which vary from state to state.

Call 1-800-793-4793 and ask for our Service Department.
We will give you the name of the nearest warranty repair center in your area.

NON-WARRANTY REPAIRS

If you are unable to service your winch yourself, call 1-800-793-4793 and ask for our Service Department. We will give you the name of the nearest repair center in your area.

When sending your unit to the nearest repair center, give your name, address, and any pertinent information on your winch problem. Please pack carefully so as to avoid damage in shipment.

POWERWINCH

2268 Fairview Blvd., Fairview, TN 37062 | Powerwinch.com