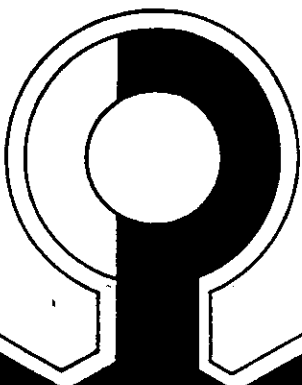
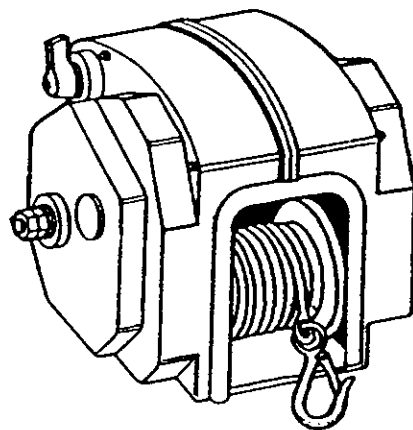




OWNER'S MANUAL
ELECTRIC WINCH
BH12
SH12HBM



**READ ENTIRE INSTRUCTIONS BEFORE STARTING
INSTALLATION. FOLLOW ALL CAUTIONS, WARNINGS
AND NOTES TO PREVENT INJURY OR DAMAGE
TO SELF OR WINCH.**

WARNING: Always unplug the wiring harness to prevent accidental starting when setting up, adjusting, or making repairs to your winch.

BE SAFE

- A. DO NOT allow people who are not familiar with the safety rules use your winch.
- B. NEVER use your winch to lift or move people or animals.
- C. STAND AWAY from unit when in use and never use for overhead lifting.
- D. ALWAYS keep hands clear of cable spool (drum area).
- E. Keep the winching area FREE OF CHILDREN. Only let adults use your winch.
- F. ALWAYS wire your winch with the circuit breakers. Failure to use the breakers could cause over-heating—creating the potential for fire.
- G. ALWAYS stand clear of the area between the load (or anchoring point) and your winch. Should the cable snap and you are within the winching area, you could be seriously hurt.
- H. INSPECT the entire CABLE before use to check for fraying (wear by rubbing) or kinking (short tight twist or curl).
- I. When replacing the cable, ALWAYS replace it with one of the same size and strength (use Powerwinch Cable only—the winch rating and the cable strength are carefully matched), your warranty is void if any other cable is used.
- J. NEVER use rope instead of cable. The potential for injury or damage is great.
- K. DO NOT attempt to pull a load greater than the rated load of your winch.
- L. DO NOT use your winch to hold or support the load once a job is done, or to secure the load properly, or you risk damage to your winch or the load.
- M. NEVER wrap the winch cable around the load. Use an ecostrap or a chain to prevent the cable kinking or fraying.
- N. ALWAYS wear leather gloves when handling the cable. Steel cable can be hard on hands.
- O. We recommend the use of Powerwinch accessories and replacement parts.

CAUTION: When you finish using your winch DISCONNECT THE POWER CORD FROM THE SOCKET to avoid collection of moisture in the socket and prevent the danger of short circuiting.

NOTE: Any limited warranty which may apply to this product may be void if said product has been damaged due to accident, unreasonable use, neglect, modification, or failure to observe these safety recommendations.

TOOLS & MATERIALS REQUIRED

WRENCHES: 3/8, 9/16, 5/16, & 1/2
WIRE STRIPPERS
TERMINAL CRIMPER
SCREWDRIVER

3/8 & 5/16 Bolts & Nuts
Wire Ties
Rubber Grommets

SECTION I

FEATURES/PERFORMANCE & RATING

FEATURES / PERFORMANCE

CAPACITY:	Single Line Double Line	3,000 Lbs.* 5,000 Lbs.	1,500 Kgs. 2,500 Kgs.
LINE SPEED:	At No Load At No Load	14 Ft./Min.** 5 Ft./Min.**	4.25 M/Min. 1.53 M/Min.
POWER SUPPLY:		12 Volt DC***	
AMP DRAW:	At No Load At 3,000 Lbs.	12 + 2 Amps 80 ± 2 Amps*	
MAXIMUM DUTY CYCLE:		5 Min. ON 10 Min. OFF	
GEAR RATIO:		450:1	
WEIGHT:		34 Lbs.	20 Kgs.
BRAKING SYSTEM:		Adjustable Disc Type	
COLOR OF CASE:		Gray	

*Measured on first wrap.

**Fully-charged battery.

***24 Volt DC is available by special request.

NOTE: Double line speed is half the single line speed.

RATING

SLOPE	% OF GRADE	MAX ROLLING LOAD *
6	10	24,100
11	20	14,250
17	30	8,625
23	40	7,630
30	50	6,575

* Smooth, paved or concrete surfaces

SINGLE LINE: Capacity can be doubled with the use of a Powerwinch Pulley Block—Part #79043—for double line winching, see Fig. 1.

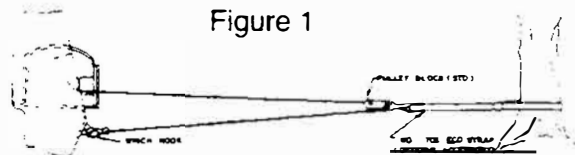


Figure 1

NOTE: This chart is valid for conventional, recreational and 4WD vehicles with air inflated rubber tires.

NOTE: 10% incline (or 6° is 1 foot rise in 10 feet).

NOTE: To convert from pounds (Lbs.) to Kilos (Kgs.) divide by 2.2

SECTION II

INSTALLATION/WIRING

NOTE: Be careful to mount your winch in a location with enough support to handle the rating of the winch. A little common sense when mounting will help eliminate hazards.

REAR VEHICLE MOUNT

For mounting on a vehicle with a trailer hitch we recommend the Powerwinch Multi-Purpose Adapter Plate (optional accessory #79085). This method is the most versatile, as movement from front of vehicle to the rear—or from vehicle to vehicle is possible.

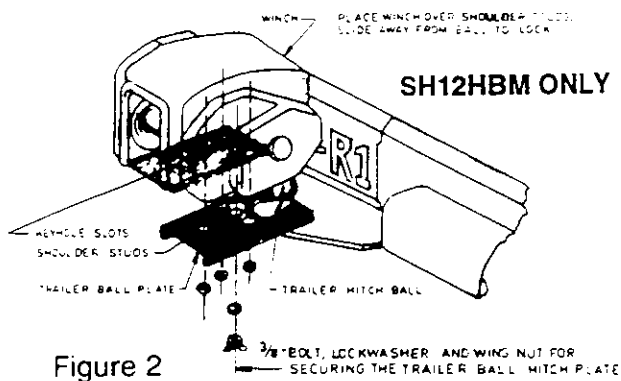


Figure 2

TRUCK BED MOUNT

The beds of most trucks are not made to support the pulling capacity of your Powerwinch, and should be reinforced with a steel plate capable of withstanding the rating of your winch.

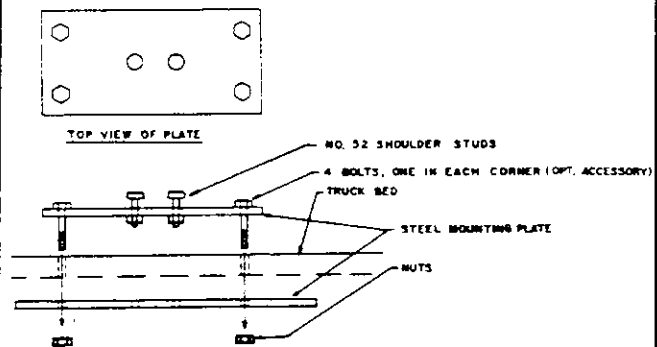


Figure 4

HAYBALER MOUNT

Instructions for mounting your winch to the haybaler should be included with your haybaler. If there are no instructions, the most important thing is to be sure your winch is adequately bolted to a location able to support the winch under full load conditions. Use as steel backplate to spread the load where necessary.

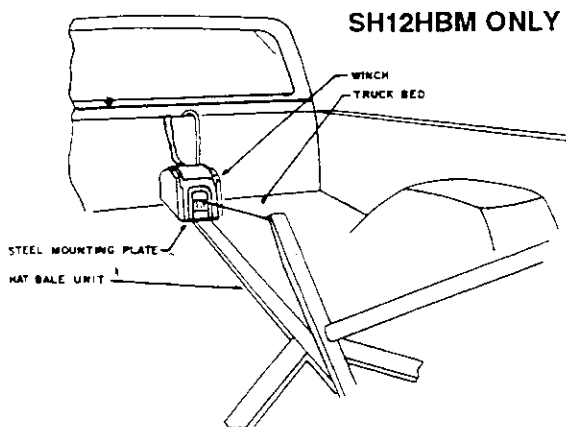


Figure 3

BH12 MOUNTING

Your BH-12 may be mounted for overhead hoisting. Mounting for use as a hoist should be done carefully to avoid risk of damage or injury.

⚠ WARNING ⚠

WHILE USING THE UNIT AS A HOIST, NEVER STAND UNDER THE WINCH OR THE LOAD. FOLLOW ALL SAFETY PRECAUTIONS AT ALL TIMES.

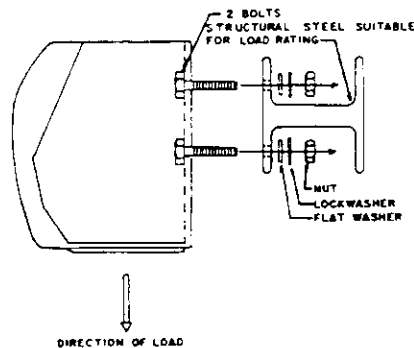


Figure 5

ROTARY SWITCH MOUNT

The rotary switch supplied has been designed to be permanently mounted although you may mount the switch in any location desired. The most common position is within reach on the dashboard.

CAUTION: The four metal contacts on the back of the switch must never touch grounded metal. This would cause a short circuit.

SH12HBM ONLY

WIRING

The wiring assembly components supplied with your winch include:

LOOSE IN BOX:

- 1 ea. - 15 ft., #8 Red Wire (#78510, 78094)
- 1 ea. - 5 ft., #8 Black Wire (#78511, 78095)
- 1 ea. - 10 ft., #8 Duplex Wire - Gray with plug (#78574, 78338)

Owner's Manual and Warranty Card.

IN POLY-BAG

- 1 ea. - (3) Position Rotary Switch (#78101)
- 1 ea. - Circuit Breaker (#78322)
- 1 ea. - Up/Down Decal (#70357)
- 1 ea. - 8-5/16" Ring Terminal (#78602)
- 5 ea. - 8-3/16" Ring Terminal (#78601)

A. Connect the black wire to the negative (-) terminal of your battery or ground it to the vehicle frame. If you are mounting the winch to the rear of the vehicle, make the ground connection to the frame. Connect the other end of the black wire to the rotary switch (see schematic).

B. If the frame is used as a ground:

1. Sandpaper both sides of the metal area where you are attaching the wire.

2. Attach the #8 - 5/16" ring terminal to the end of the ground (black) wire using a wire stripper and terminal crimper.
3. Attach the wire firmly to the frame using a 5/16" bolt, nut and lock-washer (not supplied) as shown in Figure 6.

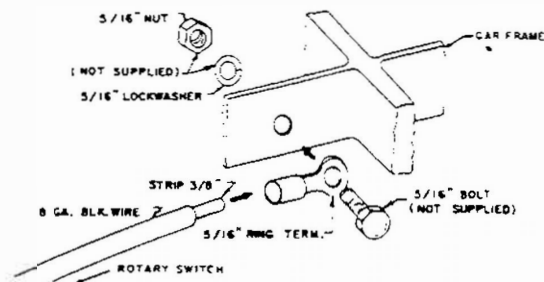


Figure 6

- C. Attach the #8 - 3/16" ring terminal to one end of the red wire using a wire stripper and terminal crimper. Attach to the circuit breaker as shown in Figure 7. Place the wire where it can be easily attached to your starter solenoid or to the positive (+) terminal of your vehicle battery.

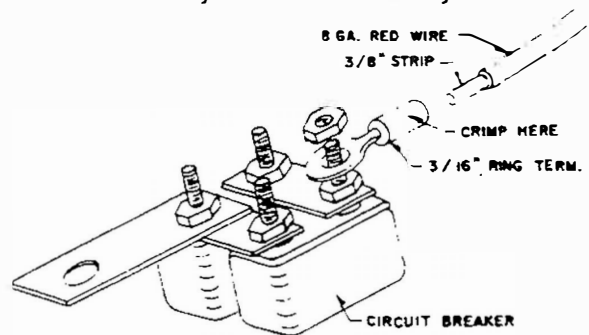


Figure 7

CAUTION: DO NOT CONNECT the circuit breaker to the starter solenoid or battery until all wiring installation steps are complete.

WIRING (con't)

- D. Run the red wire under or through vehicle to the 3-position rotary switch. If you need to drill holes to feed the wires be sure the wires are protected from damage. It is a good idea to use rubber grommets (not supplied) to prevent the wire insulation from rubbing through and causing a short circuit.

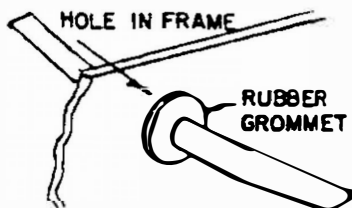


Figure 8

- E. Use nylon wire ties (not supplied) to secure the wire to the frame of the vehicle about every 18" along the way. You may also use electricians tape.

CAUTION: Be sure wires do not hang down and are not located near moving parts, or hot areas (i.e., manifold, exhaust system). Incorrect wiring may short circuit and may damage your circuit breaker, vehicle or winch.

- F. Check all wires to be sure they are securely tied down and connected to the rotary switch.
- G. Connect the gray #8 duplex wire to the rotary switch as shown in the schematic. Check all connections to be sure they are tight.
- H. Connect the circuit breaker to the starter solenoid, or battery, as shown below:

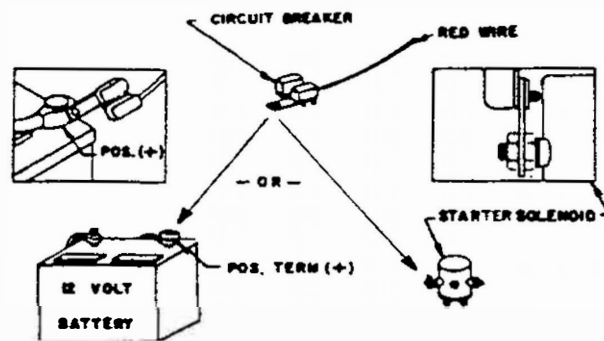


Figure 9

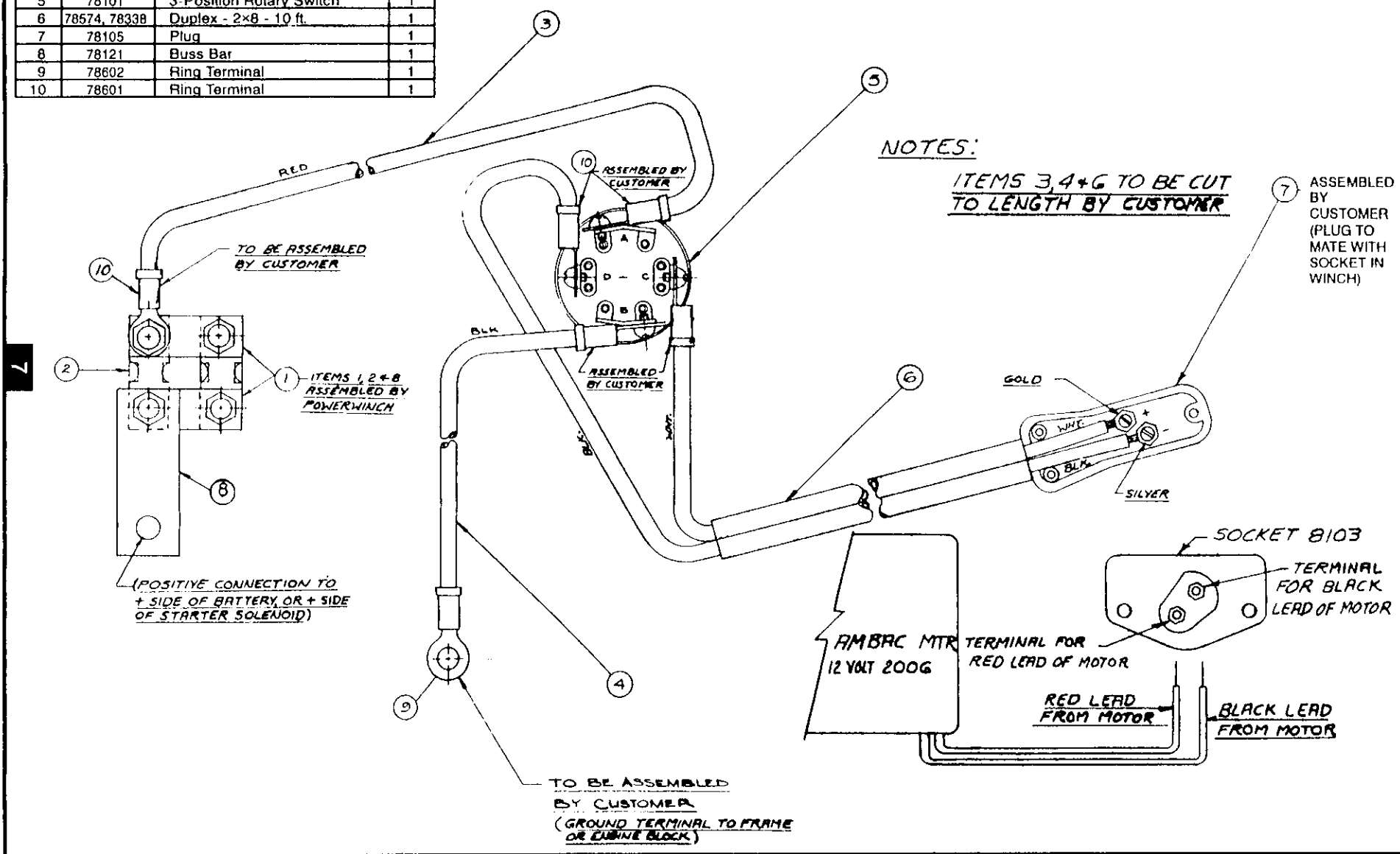
WIRING-TEMPORARY

To use your winch with a temporary wire hook-up:

- A. Make all wiring connections as described in the wiring instructions—except wiring should not be run through the vehicle.
- B. Attach two (2) alligator type clips. Attach one clip to the end of the black wire. Attach the other clip to the circuit breaker at the end of the red wire.
- C. Run the red wire to the battery and clip it to the hot—positive (+) side.
- D. Clip the black wire to the vehicle frame.

PARTS LIST			
Item	Part #	Description	Qty.
1	78122	Buss Bar	2
2	P78104	Circuit Breaker	2
3	78510, 78094	Wire Assembly - 15 ft.	1
4	78511, 78095	Wire Assembly - 5 ft.	1
5	78101	3-Position Rotary Switch	1
6	78574, 78338	Duplex - 2x8 - 10 ft.	1
7	78105	Plug	1
8	78121	Buss Bar	1
9	78602	Ring Terminal	1
10	78601	Ring Terminal	1

WIRING SCHEMATIC FOR SH12HBM



NOTES:

ITEMS 3, 4 + 6 TO BE CUT TO LENGTH BY CUSTOMER

ASSEMBLED BY CUSTOMER (PLUG TO MATE WITH SOCKET IN WINCH)

7

SECTION III

HOW TO USE YOUR WINCH

PREPARATION

Always leave the last three (3) turns of cable on the drum. This prevents the cable fastener from pulling out under heavy load.

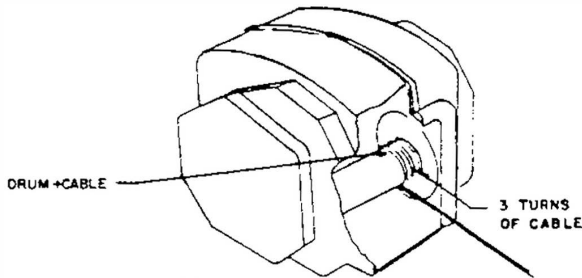


Figure 10

BRAKE SYSTEM & BRAKE ADJUSTMENT:

Your winch has an adjustable disc brake. It is preset at the factory to hold a load of 500 Lbs. (227 Kgs.). If a heavier or lighter load is to be held you will need to adjust the brake.

REMEMBER:

- A. The tighter the brake the greater the holding power.
- B. The looser the brake the lesser the holding power.

Look at the figure below, you can see there is an outer and inner nut.

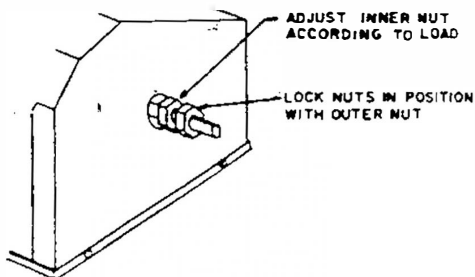


Figure 11

1. If the load is more than 500 Lbs., tighten the inner nut. The inner nut should be tight enough to keep the load from slipping or "creeping" but—

CAUTION: Do not overtighten the inner nut. This will shorten the life of the motor.

2. If the load is less than 500 Lbs., loosen the inner nut as much as possible. Again, be aware of the warning above.

When you have made the brake adjustment, tighten the outer against the inner nut using a wrench. This will lock them together and prevent accidental loosening.

NOTE: A friction brake holds the load when the power is off.

"DEADMAN" CABLE

Do not wrap the cable around a load and hook to self. When attempting to do this use the Powerwinch "eco-strap" to insure the cable does not fray or kink. See below for do and don't examples.

SH12HBM ONLY

DO!



DON'T!

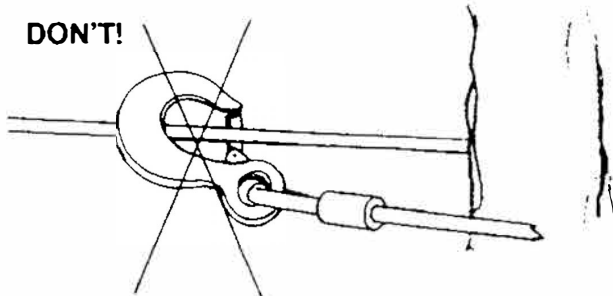


Figure 12

SECTION IV

TROUBLESHOOTING

NOTE: If your winch fails to operate the problem may be either electrical or mechanical.

ELECTRICAL

CAUTION: Disconnect power while removing parts and reconnect to test.

If your winch fails to operate, the chances are that the problem is electrical.

- A. Start checking at your battery (or starter if that is where you connected the circuit breaker).
- B. By-pass the circuit breakers. If your winch now works, you need a new circuit breaker (see parts list). It is suggested you carry a spare circuit breaker for emergencies.
- C. Check your wiring insulation to see that there are no bare spots that may be causing a short.
- D. Check your connections to see that they are tight.
- E. 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 okay.
- F. Remove screws (#79584 - Key #33) and cover rods (#75603 - Key #44) from the side of the case containing the female socket. Plug the male plug into the female socket. Use a 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, test the switch.

- G. To test the switch, use a jumper wire to bypass the switch being careful to keep your fingers away from the winch mechanism. If you now get power to your motor your switch is at fault. If you don't get power, it is likely that your motor is at fault.

MECHANICAL

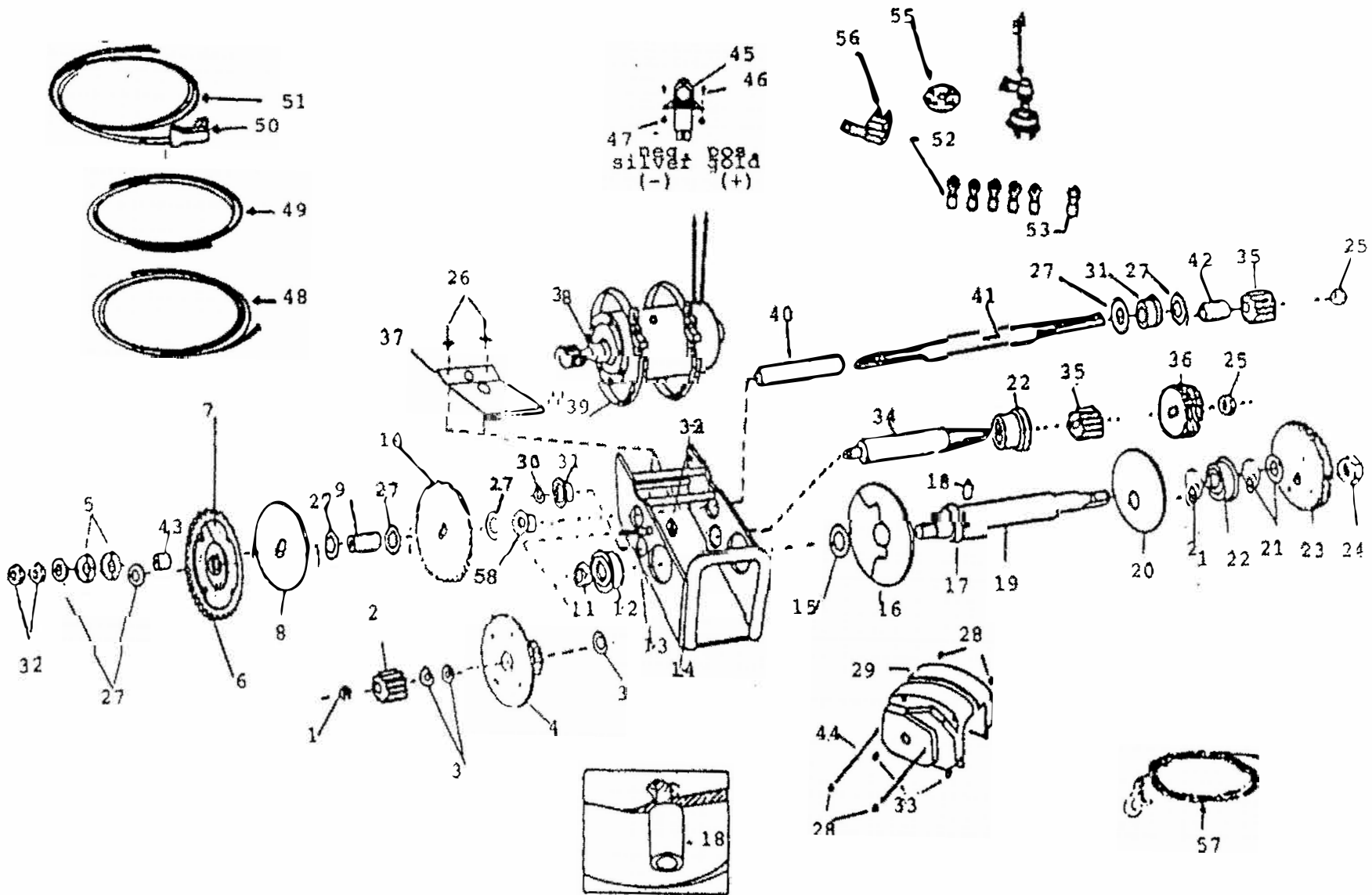
- A. Remove the case and check for broken or worn parts. Replace as required.
- B. If the winch clutch doesn't hold the load, tighten the inner nut on the clutch shaft until the load is stable. If the clutch is still slipping, check clutch lining and clutch gear for wear. Replace as required.
- C. Remove the cover and lubricate the gears once a year with a lithium base grease.

STILL . . .

If you still have a problem with your winch:

- A. Take the unit to a Powerwinch repair station. For the station nearest to you, call our service department at 1-800-793-4793.
- B. Your other option is to put the unit in a box and ship it prepaid to Powerwinch. We'll repair it at no charge for the first two years—and ship it back to you within three working days. Please call us first at the number above.

SECTION V EXPLODED PARTS DRAWING



PARTS LIST

KEY #	PART #	ID #	DESCRIPTION	QTY USED
1	—	79852	Retainer	1
2	C12	71776	Pinion Brake Assembly	1
3	C25B	71613	.060 Thrust Race	3
4	CH30	71752	Drive Gear	1
5	H26S	71904	Spring Washer	2
6	H26	71757	Laminated Clutch	1
7	H26D	73604	Clutch Lining	1
8	25	75302	Pinion Gear Clutch Plate	1
9	—	71508	Spacer "D"	1
10	C34R	71703	Powdered Metal Gear	1
11	33	79712	1/2-20 Nut	1
12	6	71605	Bearing	1
13	—	71311	1st Gear Shaft	1
14	CT1R	70139	Frame	1
15	6A	71820	Spacing Washer	1
16	C5	71953	Drum Shaft Flange	1
17	—	79088	Drum Collar	1
18	S3AR	71858	7/32 Cable Fastener	1
19	—	71312	Drum Shaft	1
20	C2	71951	Drum Shaft Flange	1
21	T6A	71821	Spacing Washer	4
22	T6	71606	Bearing	2
23	R8	71751	Gear	1
24	R10	79716	3/4-16 Hex Nut	1
25	33	79712	1/2-20 Hex Nut	2
26	—	79918	3/16 Pop Rivet	2
27	C6A	71822	Spacing Washer	8
28	C41N	79719	Acorn Nut	4
29	—	74171	Cover (SH12HBM)	1
		74017	Cover (BH12)	
30	R13	79851	Snap Ring	1
31	T13	71608	Bearing	2
32	—	79713	1/20-20 Shaft Nut	3
33	C41S	79566	Cover Screws	4
34	C55	71301	Intermediate Shaft	1
35	C12	71704	Pinion Gear	2
36	56	71708	Idler Gear	4
37	205	70205	Levelwind Plate	1
38	1736	72015	Motor with Gear	1
39	23	72203	Motor Straps	2
40	1819	71819	Rear Shaft Spacer	1
41	CT14	71211	Rear Shaft	1
42	C14B	71817	Shaft Spacer "B"	1
43	C14A	71816	Shaft Spacer "A"	1
44	C41R	75603	Cover Rod	2
45	P19R	78103	Socket	1
46	—	79569	10-32 x 1/2 Screw	2
47	P39R	79701	10-32 Hex Nut	2
48	420A	78510	15 ft. 8 ga. Red Wire (SH12HBM)	
		78094	15 ft. 8 ga. Red Wire (BH12)	
49	420	78511	5 ft. 8 ga. Black Wire (SH12HBM)	1
		78095	5 ft. 8 ga. Black Wire (BH12)	
50	P47B	78105	Plug (SH12HBM and BH12)	1
		78167	Plug Boot (BH12)	
51	—	78574	10 ft. 8 ga. Duplex Wire (SH12HBM)	1
		78338	Wiring Harness (BH12)	
52	—	78601	8-3/16" Ring Terminal	5
53	—	78602	8-5/16" Ring Terminal	1
54	H17	78101	Switch	1
55	—	70357	Up/Down Decal	1
56	S47A	78373	Circuit Breaker Assembly	1
57	S45	71872	7/32 x 25' Cable (SH12HBM)	1
		71857	7/32 x 45' Cable (BH12)	
58		P71607	Bearing	1

Limited Warranty

- A. This Limited Warranty is given by the Powerwinch Division of the Scott Fetzer Company (the "Company") to the original purchaser (the "Purchaser") of a Powerwinch Product (the "Product") specified in this manual. This Limited Warranty is not transferable to any other party.
- B. Responsibilities of the Company under this Limited Warranty:
1. Repair or replace (at the discretion of the Company) any part or parts of the Product found by the Company to be defective within a two (2) year period from the date of purchase.
 2. The Company will pay the transportation charge for shipment back to the Purchaser of any Product received for legitimate Warranty repair.
- C. Responsibilities of the Purchaser under this Limited Warranty:
1. Complete (fully and accurately) and return to the Company, the Warranty card included in the box. Otherwise, Purchaser will have to show dated proof of purchase to qualify for service under the provisions of the Limited Warranty.
 2. Promptly notify the Seller or the Company of any claim hereunder.
 3. At the Option of the Company, return the Product to the Company for inspection. Authorization must be given prior to any Product return. Call the Company at 1-800-793-4793 or write the Company at 2268 Fairview Blvd, Fairview, TN 37062, for authorization and complete instructions on how to return the Product directly to the Company.
 4. Use reasonable care in maintenance, operation, use and storage of the Product in accordance with the instructions contained in the Owner's Manual.
 5. Have Warranty work performed by a dealer or representative approved by the Company.
 6. Except as noted in B.2., transportation charges are the responsibility of the Purchaser.
- D. This Limited Warranty covers:
1. Defects in workmanship or materials.
 2. Any part or parts of the Product sold or manufactured by the Company.
- DI. This Limited Warranty does not cover:
1. Any failure that results from improper installation of the Product.
 2. Any failure that results from accident, Purchaser's abuse, neglect, modification, improper maintenance, or failure to operate and use the Product in accordance with the instructions provided in the Owner's Manual supplied with the Product.
 3. Any cable replacement other than a break. Cable is a wear item and will fray and twist during normal use.
- DII. THERE IS NO OTHER EXPRESS WARRANTY. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO TWO (2) YEARS FROM DATE OF PURCHASE. THIS IS THE EXCLUSIVE REMEDY AND ANY LIABILITY FOR ANY AND ALL INCIDENTAL 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 exclusion or limitation of incidental or consequential damages, the above limitations may not apply to you.
- This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.*
- Powerwinch reserves the right to alter specifications on any product without notice.*