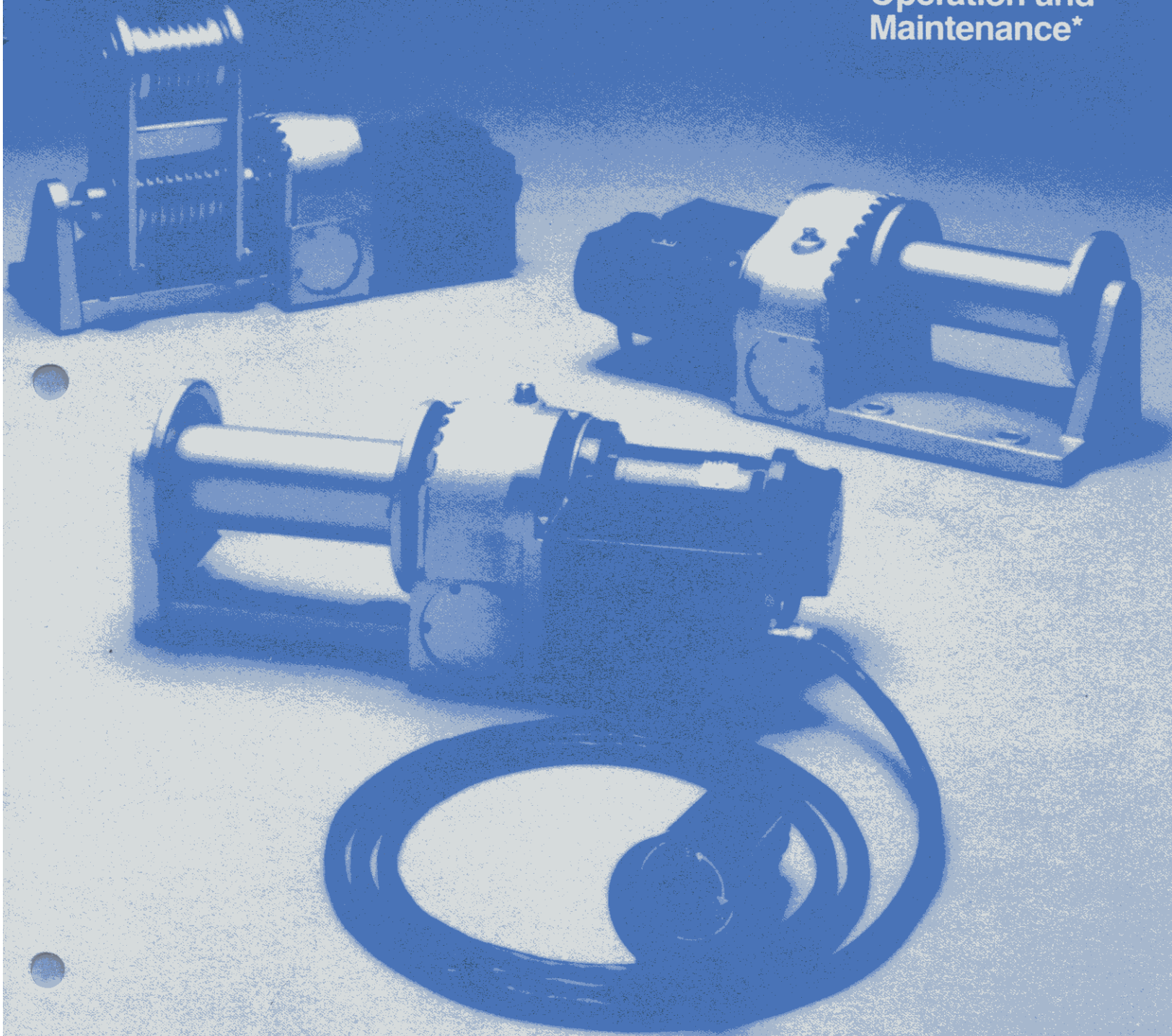


GOLO[®]

POWER WINCH

a product of CORDEM[®]

Installation, Operation and Maintenance*



*For all single drum and double drum winches manufactured after March 1984, as identified on page 2 in the "Designation Codes" chart.

Welcome to the GOLO® POWER WINCH.

Congratulations on the purchase of your new **GOLO® POWER WINCH**. Its rugged construction will provide years of trouble-free use under normal operating conditions, and we are certain you will be more than pleased with its performance.

Although the GOLO Power Winch is simple to operate, it is important to practice sound operating procedures and observe basic safety precautions at all times. Therefore, please read the following instructions carefully before mounting and using the winch, and keep this manual for future reference.

Complete familiarization with your winch will assure the best possible performance from it. If any questions should arise about specifications, applications, operating procedures, etc., please feel free to contact your distributor or the factory.

Safety Rules

The following guidelines for proper operation are emphasized because of our concern for your safety as well as our liability.

WARNINGS AND DISCLAIMERS

All winches described herein are not designed or intended for any type of human support or transportation. Cordem and any other sellers hereby disclaim any liability or responsibility whatsoever for any injuries or damages resulting from such improper use, or from the following additional improper uses: Loads beyond Cordem specifications; operations with drum cable below Cordem specifications as to safety factor, or with worn, inferior or damaged cable; slippage of cable over drum flange caused by excess cable on drum;

use of hooks without safety latches; improperly secured winches or loads; improper positioning of persons or property beneath, below or too near loads; improper conversion or repair of winches; improper switching technique; failure to follow the Cordem Maintenance Manual. Cordem and any other sellers intend to make no warranties herein and all warranties are strictly limited to the terms and conditions of the warranty card which accompanies the specific winch sold to a customer.

Patent and Trademark registrations are filed in U.S. and various countries. U.S. Patent No. 3,965,404 for the Advanced TRIGGER-DUODYNAMIC™ electrical braking. Trademarks: **GOLO®** and **CORDEM®**.

GOLO® POWER WINCH DESIGNATION CODES

Winch Series: 12 = 1200 7 = 700 **Voltage:** 15 = 115 volt 30 = 230 volt
Switch Control: S = Standard (mounted on winch) R = Remote (10-ft. remote cord, additional lengths available)
 MO = Momentary Selector Switch MA = Maintained Selector Switch
 (Ex : 12-15 RMO = 1200 Series / 115 volt / Remote Momentary Selector Switch.)

STANDARD

Series	Voltage	Switch	Model
1200	115	MO	12-15 SMO
1200	115	MA	12-15 SMA
1200	230	MO	12-30 SMO
1200	230	MA	12-30 SMA
700	115	MO	7-15 SMO
700	115	MA	7-15 SMA
700	230	MO	7-30 SMO
700	230	MA	7-30 SMA

REMOTE

Series	Voltage	Switch	Model
1200	115	MO	12-15 RMO
1200	115	MA	12-15 RMA
1200	230	MO	12-30 RMO
1200	230	MA	12-30 RMA
700	115	MO	7-15 RMO
700	115	MA	7-15 RMA
700	230	MO	7-30 RMO
700	230	MA	7-30 RMA

Please refer to the back cover for accessory equipment.

Installation: Mounting

Your GOLO Power Winch is very powerful for its size and needs to be properly secured or bolted to a strong support, following these guidelines as illustrated by figures 1, 2 and 3:

1. Center the drum to the load (figure 1) to assure proper drum take-up and to eliminate override.

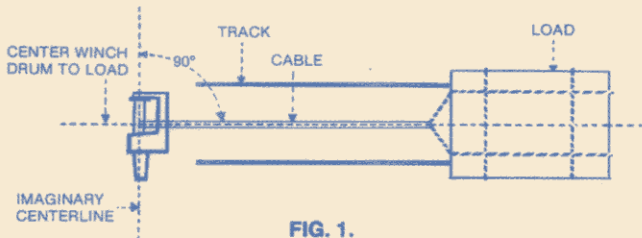


FIG. 1.

2. Align the winch so the drum shaft is at a 90° angle to the desired load or track (figure 1).
3. Mount the winch as low as possible so the pull will be as close to horizontal as conditions will allow (figure 2).

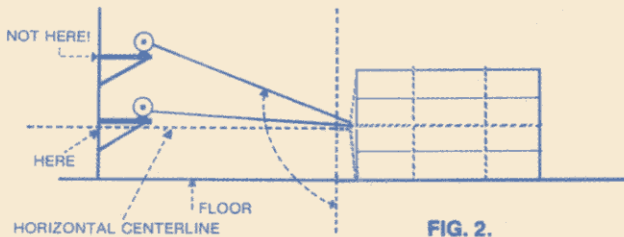


FIG. 2.

4. **CAUTION:** Do not mount in the position shown in figure 3, which will prevent proper lubrication because one gear combination will be above the oil level. All other horizontal and vertical positions are acceptable, including the upside-down position.

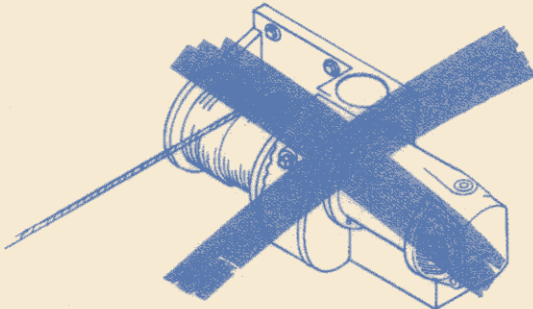


FIG. 3. Incorrect oil distribution (filler plug)

5. Allow an adequate, safe operating area around the winch in order to avoid accidental contact with moving cable or equipment.

Mounting in inclement weather conditions.

Since the motor is not totally enclosed, you should cover it when operating under inclement weather conditions or near splashing water. Water entering the motor will hinder good performance and the high operating efficiency of the Dynamic Braking system. For some protection, you can purchase a Motor and Switch Box Shield (part ACP-12) directly from our factory. Although the motor shield does not completely enclose the motor, it does help protect the motor from moisture entering from the top. Always protect the electrical controls from moisture as much as possible.

Installation: Power

Before connecting power, carefully consider the following instructions:

1. Provide an electrical outlet near the winch to avoid cumbersome and potentially dangerous extension cords.
2. Never operate your power winch without first grounding it. If a 3-prong outlet is not available, use a standard adapter plug, remembering to connect the adapter ground wire.
3. Prior to connecting electrical power, make sure that the DIRECTION SELECT switch (figure 5) is in an OFF position.
4. **CAUTION:** When re-installing power after a power failure, make sure that the DIRECTION SELECT switch is in an OFF position, or the winch could unexpectedly restart and cause serious injury or damage.

Lubrication

The GOLO Power Winch comes with the proper amount of oil in the gear box. Throughout the operating life of the winch, make sure that the lubricant level is maintained at 2-1/8" below the top of the filler plug opening (see Figure 4). Too much lubricant will cause overheating; too little will cause gear failure.

CAUTION: Never check the gearcase lubricant or fill with oil while the winch is running.

The first gearcase lubricant change is due after 50 hours of operation, and every 250 hours after that, under normal operating conditions. To change oil, remove the filler plug and tip the winch upside down until the case is completely drained. You can remove the housing cover for faster pouring. We suggest you use a light flushing oil next, and thoroughly drain it out. After this second draining, place the winch in its normal upright position (making certain that the housing cover is attached) and refill with new gear lubricant to 2-1/8" below the top of the filler plug opening.

We recommend Mobilgear 632 Lubricating Oil, manufactured by Mobil Oil Corporation, available through your distributor or our factory. You can also use a high-grade worm gear lubricant for enclosed gear boxes having an S.S.U. viscosity of 105 to 125 at 210°F. This corresponds to the American Gear Manufacturers Association Grade #6. If you cannot obtain the proper worm gear lubricant, it is possible—on a temporary basis only—to use a good grade SAE 90 automotive gear oil, obtainable at a local gasoline station.

NOTE: No additional lubricants are necessary. All outside bearings are prelubricated and sealed.

CAUTION: Avoid all lubricants, such as EP, that are not compatible with bronze gears.

Cold temperature lubrication (below freezing).

It is very important to use a lubricant with a pour point of 20°F lower than the coldest expected temperature. As a general guide, at temperatures below 30°F, use Mobilube SHC. If it is not available, use an SAE 90 automotive gear oil. When the unit is later used in normal temperature conditions, change the oil to the normal weight as described in the preceding section.

For additional information or specific recommendations about cold temperatures or other extreme conditions, please contact the factory.

Selecting & Attaching Cable

The "Cable Capacity on Drum" table below will help you select the proper cable for your particular application. We recommend galvanized aircraft cable (7 x 19) for the winch drum because of its greater strength, flexibility, and corrosion resistance.

The cable lock bolt is simple to use and securely fastens the cable in place as shown in figure 4. First, push the cable through to the opposite end of the hole, but be sure it doesn't protrude beyond the hole so it won't interfere with the normal wrap of the cable on the drum. Finally, place the lock bolt into the outboard end of the drum shaft and tighten it firmly with a wrench.

NOTE: The cable must be wrapped in the correct direction around the winch drum. The proper direction is established when the cable follows the groove that leads from the cable hole.

CAUTION: For proper braking operation, the switch handle must return to the closest OFF position (see figure 5). If the handle continues past the closest OFF position to the other OFF position, stop all operation of the winch and call the factory for special maintenance instructions.

IMPORTANT: CORDEM specifies a minimum cable safety factor of 5:1, and a safety latch on all hooks.

CABLE CAPACITY ON DRUM

CABLE SIZE	CABLE LENGTH*	BREAKING STRENGTH**
1/8"	512'	2,000 lbs
5/32"	325'	2,800 lbs
3/16"	215'	4,200 lbs
7/32"	165'	5,600 lbs
1/4"	135'	7,000 lbs

* Available cable length is about 4' less because the first five cable wraps (first layer) should always remain on the drum for safe operation.

** Based on galvanized aircraft cable, 7 x 19.

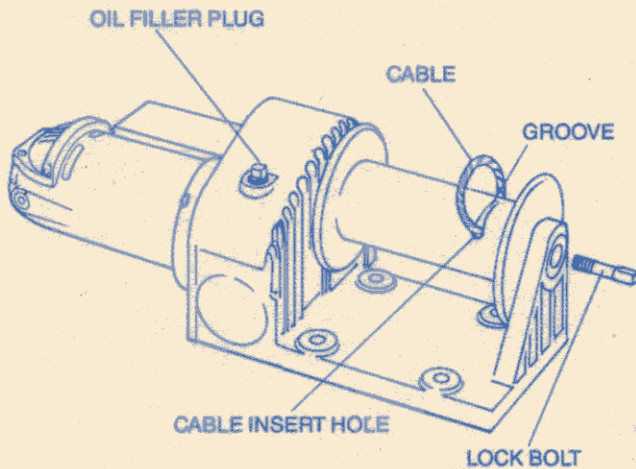


FIG. 4.

Operation

Before operating your winch, check the installation instructions to assure proper installation.

All motor and drum direction control is accomplished through the use of the DIRECTION SELECT switch (figure 5).

To operate your GOLO Power Winch, turn the DIRECTION SELECT switch to the desired position, IN or OUT. When the load reaches the desired location, return the DIRECTION SELECT switch to the closest OFF position.

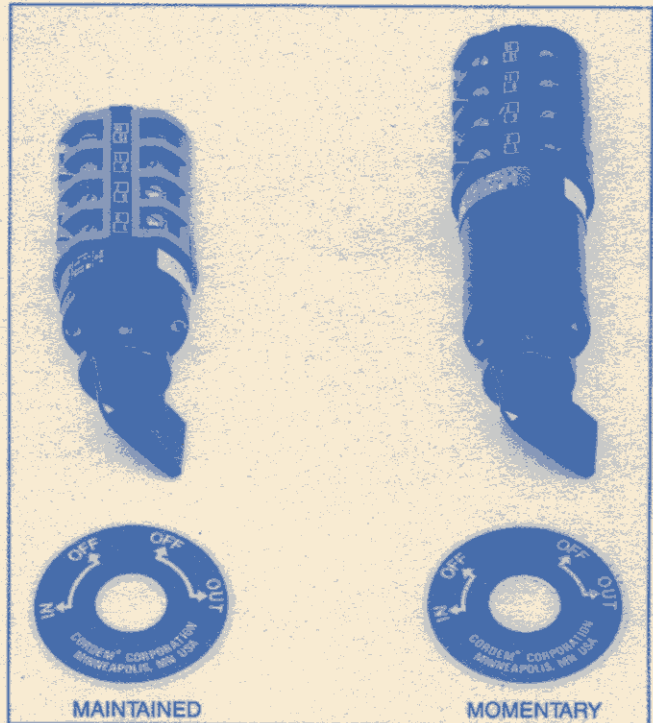


FIG. 5.

The DIRECTION SELECT switch has four positions:

IN-OFF:

- IN: motor runs, winding cable onto drum.
- OFF: motor stops, and Trigger-Duodynamic™ braking system operates for the IN direction.

OUT-OFF:

- OUT: motor runs, unwinding cable from drum.
- OFF: motor stops, and Trigger-Duodynamic braking system operates in OUT direction.

Two OFF positions ensure proper sequencing of the Trigger-Duodynamic braking system, depending on which cable direction requires braking. Both OFF positions are maintained, removing electrical power from the motor. The IN and OUT positions are either maintained (MA) or momentary (MO) depending upon the model. (Model number codes are listed on page 2.)

Let the motor completely stop when changing the direction of drum rotation to prevent damage to the gears, worms, switch control, or motor.

Maintenance

Authorized service under warranty.

Should any service difficulties arise while your winch is under warranty, contact your nearest CORDEM distributor; if they cannot help you, contact the factory directly. Repair work by anyone who has not been specifically authorized by CORDEM Corporation will automatically violate and void all warranty conditions of the product unless you receive specific, written instructions from the factory.

Braking system maintenance.

All GOLO Power Winch models incorporate the patented Trigger-Duodynamic braking system, together with self-locking worm gearing for more accurate control of your load. This patented dynamic braking system brings the load to a smooth, controlled stop. The self-locking worm gear arrangement then holds the load in place.

If the Trigger Duodynamic braking system becomes less efficient, your winch may react in one of the following ways:

- sudden, abrupt stop of load during braking cycle;
- momentary delay before braking occurs;
- load "creeps" or "runs on" after brake cycle;
- dramatic increase in arcing at motor brushes.

If any of these symptoms are observed, the load should be removed immediately and proper maintenance or repair performed.

Refer all electrical repairs to an authorized CORDEM distributor, or contact the factory direct.

Preventive electrical maintenance.

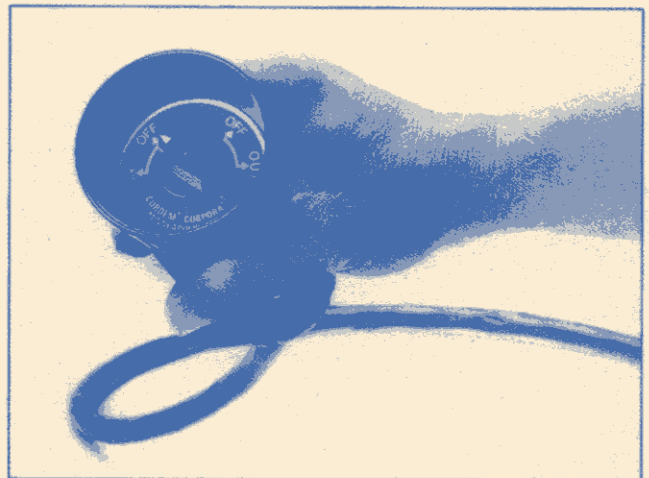
Electrical contacts: Check that all electrical connections and leads to the switch contacts are joined tightly and firmly.

Brush replacement: After replacing the brush (or armature), reseal the brushes by running the motor in both directions without any load until 100% seating has occurred.

Safety Considerations

1. **Never use your winch for any type of human support or transportation.**
2. Be sure to stop the winch before the load gets too close to the drum, or before all the cable is unwound from the drum. Always leave five wraps of cable unused on the drum.
3. Make sure that the load has come to a complete stop and is stable prior to changing direction.
4. CORDEM recommends the momentary (MO) DIRECTION SELECT switch because the winch stops when the operator lets go of the switch. (The Maintained [MA] Direction Select switch may be desired for longer pull or lift applications, but it must be manually turned off.)
5. Allow an adequate safe operating area around the winch to help prevent accidents.

IMPORTANT: Refer to our complete Safety Rules section on page 2 of this manual.



Disassembly

Oil and housing cover:

1. Pour the oil out of the gear box.
2. Remove the housing cover (key 2) by removing the six screws on the outer circumference of the housing cover, including the upper right screw. Pull the housing cover. If it is difficult to pry loose, tap the bottom of the housing cover at the two bottom protruding locations.

CAUTION: Whenever the cover is removed from the housing, be sure that the inside of the gear box is clean of all dirt and particles before reassembling.

Gearbox:

1. Remove the ten side cover screws (key 40), both side covers (key 38), and gaskets (key 39).
2. Remove the elastic stop nut (key 21), which is at the end of the cross shaft (key 5). Push the cross shaft all the way through the housing, while holding the bronze gear in place (key 7).
3. Remove the double roll pin (key 22 or 67), which holds the drum to the drum shaft. Remove the snap ring (key 16) at the end of the drum shaft, and pull the worm gear (key 6 or 10) and drum shaft out of the housing.
4. For single-drum models, continue disassembly as required according to the exploded view.
5. For double-drum disassembly, continue by removing the bolts (key 64 and 65) that hold the double drum assembly to the bottom brackets. Remove the four bolts (key 70, 71) which hold the spacer bar (key 69), and slide the spacer bar out. Next remove the four retaining rings (key 72) that hold the two drums in place.

Motor:

1. After removing the housing cover as described above, remove the worm (key 9) from the motor shaft.
2. Remove the three screws (key 35) which hold the motor to the housing cover, and pull motor from housing cover.

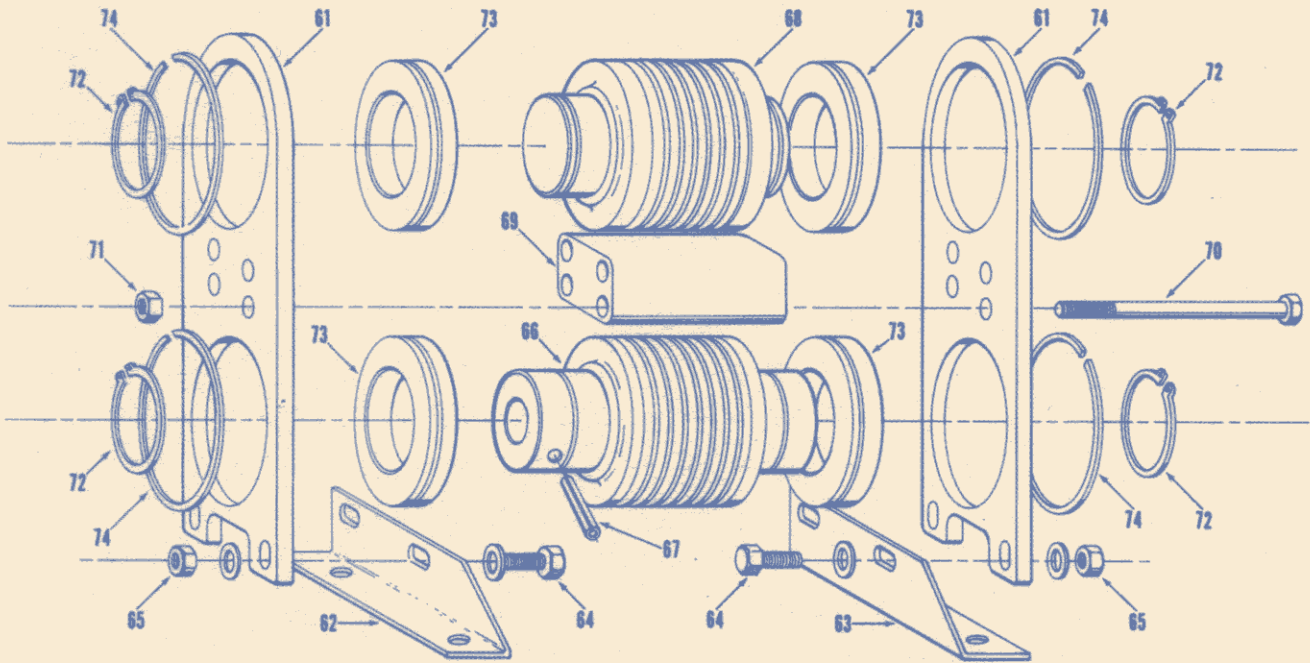
Mechanical Parts List

Key	Description	Qty.	Part Number
1	Housing, Gear	1	100101
2	Cover, Housing, Gear Box	1	100102
3	Drum, Cable	1	100103
4	Shaft, Drum	1	100104
5	Shaft, Cross	1	100105
6	Gear, Output, 1200 Series†*	1	100406
7	Gear, Input	1	100107
8	Worm, Output, 1200 Series**	1	100408
9	Worm, Input	1	100109
10	Gear, Output, 700 Series†*	1	100438
11	Worm, Output, 700 Series	1	100139
12	Bearing, Cross Shaft, Nut End	1	100201
13	Bearing, Drum, Outside	1	100202
14	Bearing Cross Shaft	1	100204
15	Bearing, Housing, Motor Shaft	1	100205
16	Ring, Snap, Drum, Shaft, Outside	1	100206
17	Ring, Snap, Needle Bearing	1	100207
18	Ring, Snap, Drum Shaft, Inside	1	100208
19	Ring, Snap, Nut End	1	100209
20	Ring, Snap, Cross Shaft	2	100210
21	Nut, Cross Shaft	1	100213
22	Pin, Roll, Double, Drum	1	100214
23	Pin, Roll, Double, Output Gear	1	100215
24	Pin, Roll, Input Worm	1	100216
25	Pin, Roll, Output Worm	1	100217
26	Key, Input Gear	1	100220
27	Plug, Pipe, Oil	1	100221
28	Screw, Mach. Fil. Hd. 1/4-20 x 7/8	5	100222
29	Screw, Mach. Fil. Hd. 1/4-20 x 1-1/4	1	100223
30	Screw, Set. Sq. Hd. 3/8-16 x 2 Lg.	1	100224
31	Pin, Dowel 1/4 x 3/4	2	100225
32	Seal, Oil, Drum Shaft	1	100229
33	Seal, Oil, Motor Shaft	1	100233
—	Oil, Lubricating, Container, Gear Box (Not Shown)	1	100238
35	Screw, Mach. Fil. Hd. 1/4-20 x 5/8	3	100244
36	Washer, Lock, Light 1/4	9	100247
37	Gasket, Gear Housing	1	100249
38	Cover, Side	2	100251
39	Gasket, Side Cover	2	100252
40	Screw, Side Cover	10	100253
41	Bearing, Needle, Drum Shaft, Inside	1	100256
42	Bearing, Race, Drum Shaft, Inside	1	100257
43	Bearing, Thrust, Gear, Output†	1	100298
44	Bearing, Race, Gear, Output†	2	100299
Double Drum assembly only			
61	Plate, Side	2	100342
62	Bracket, Left	1	100343
63	Bracket, Right	1	100344
64	Screw, Cap, Hex, 5/16-18 x 1	4	100345
65	Nut Hex, 5/16-18	4	100346
—	Washer, SAE 5/16	8	100347
66	Drum, Driver, 8 Grooves	1	100348
67	Pin, Roll, Double	1	100215
68	Drum, Idler, 7 Grooves	1	100349
69	Bar, Spacer	1	100350
70	Screw, Cap, Hex 3/8-16 x 5-1/2	4	100351
71	Nut, Hex, 3/8-16	4	100352
72	Ring, Snap, Drum	4	100353
73	Bearing, Drum	4	100354
74	Ring, Snap, Bearing	4	INCL.

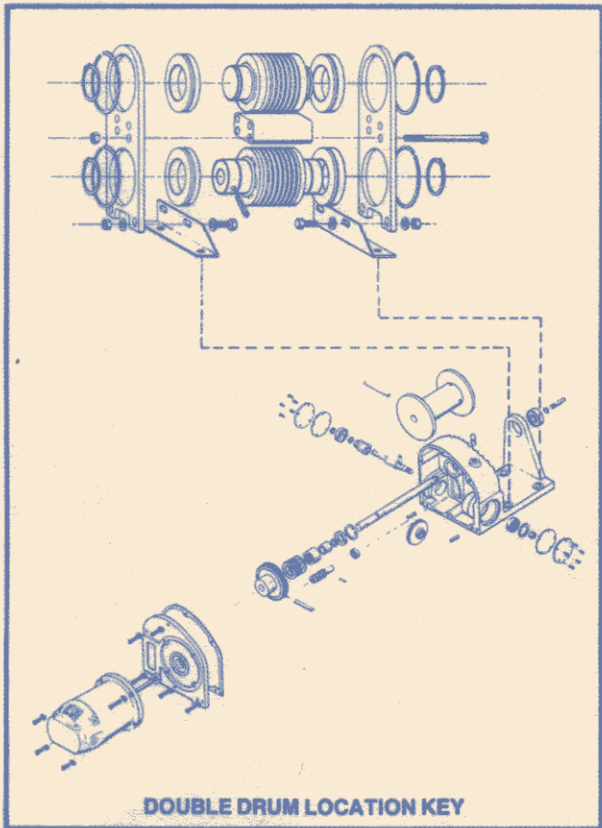
†NOTE. If your winch is an earlier model which did not use the thrust bearing and bearing races with the output gear, part Nos. 100106 and 100138, then you must order one part No. 100298 and two part Nos. 100299.

*Aluminum Bronze

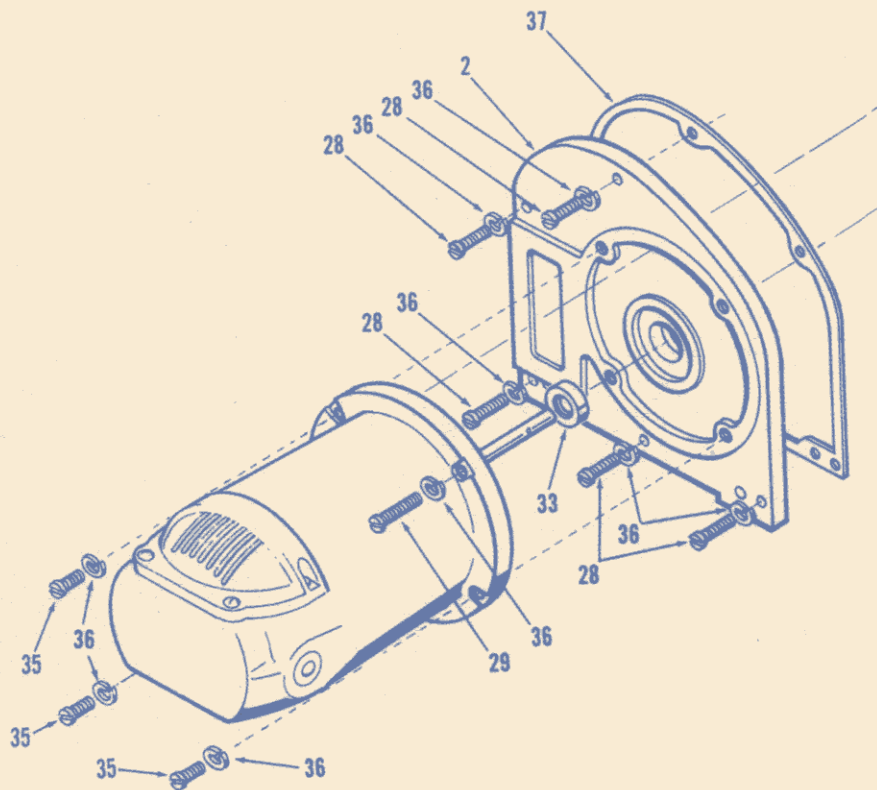
**Hardened & ground.

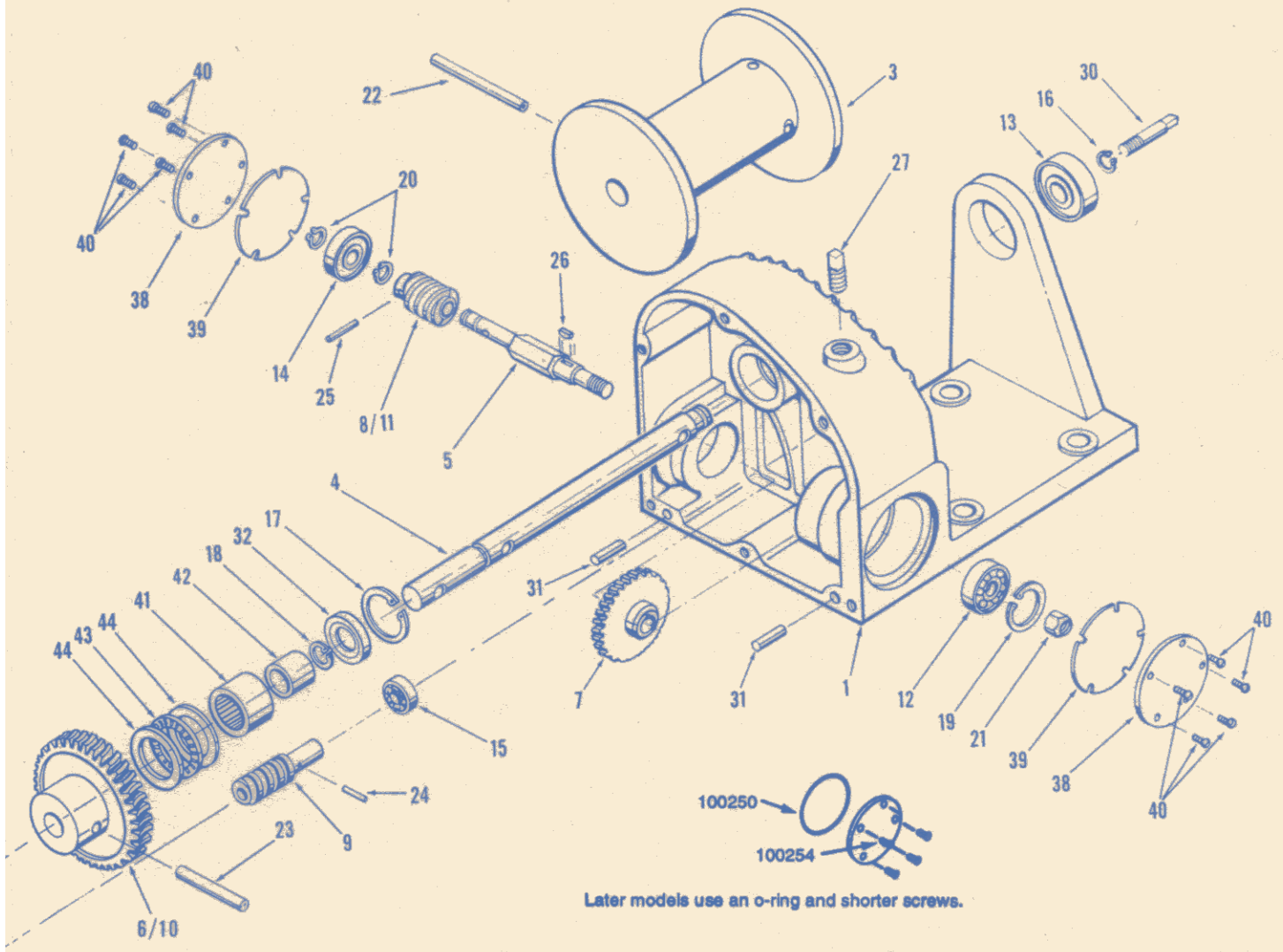


DOUBLE DRUM ASSEMBLY

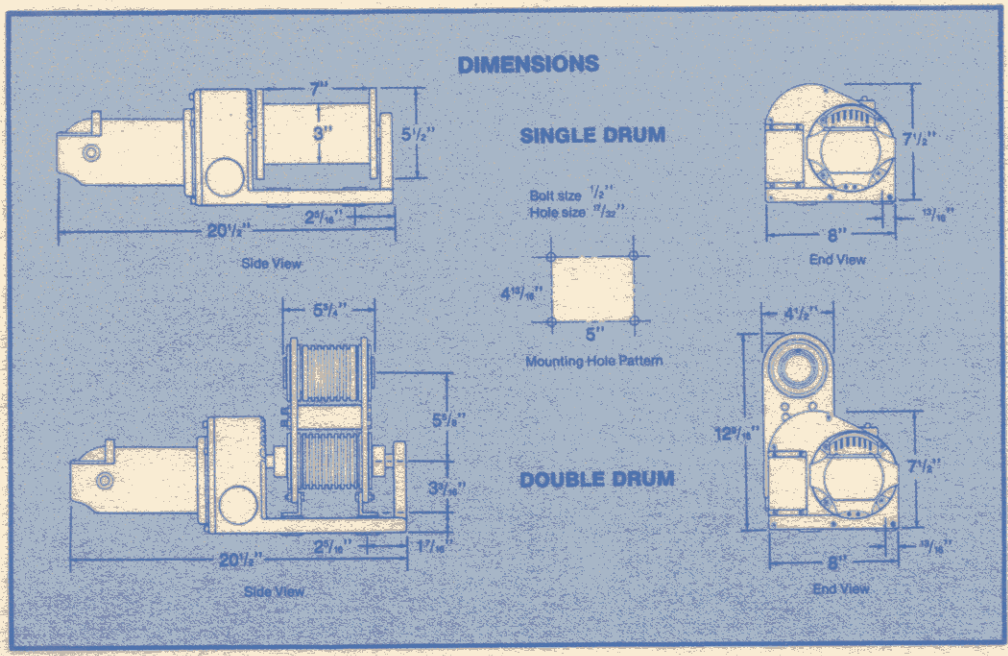


DOUBLE DRUM LOCATION KEY





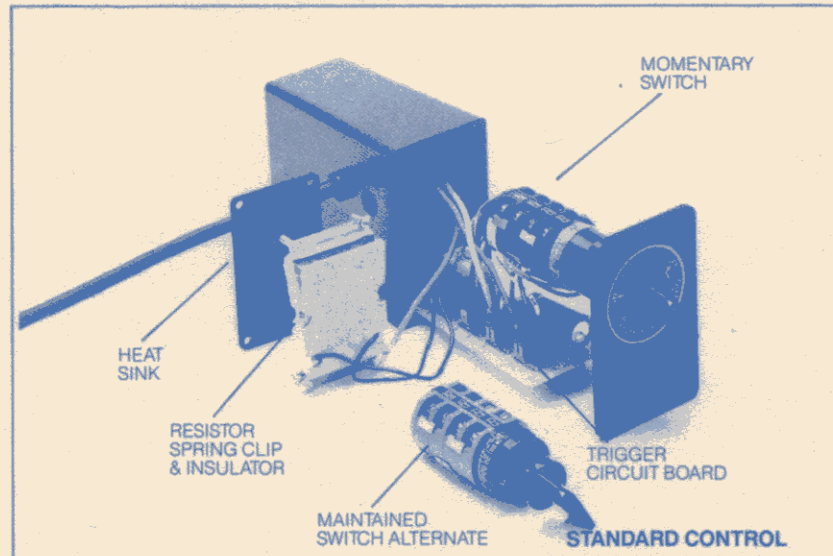
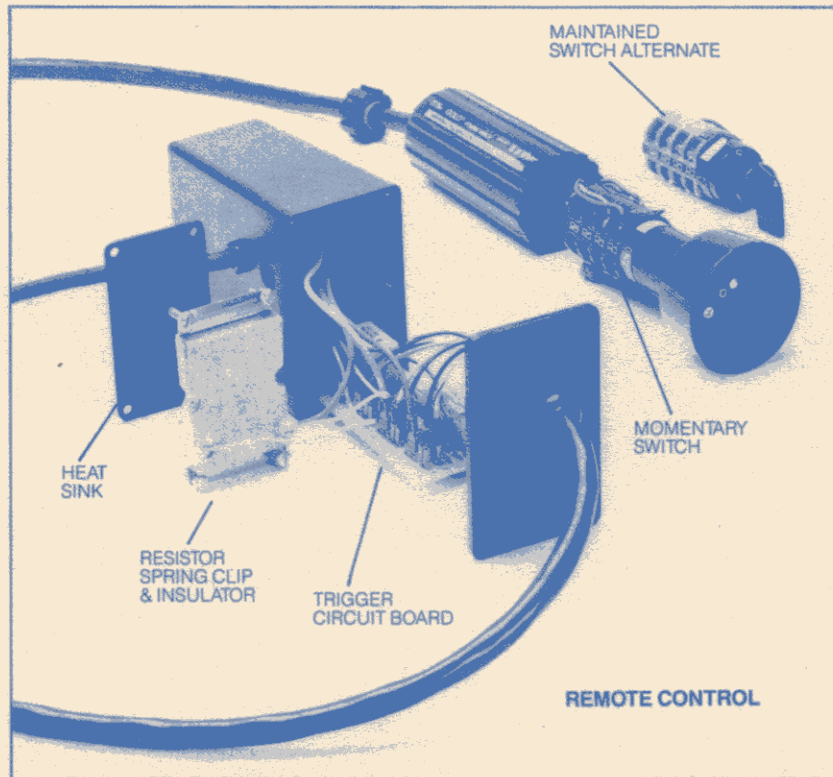
Later models use an o-ring and shorter screws.



Electrical Parts List

Description	Part Number
7-15-SMO Control Complete	100510
7-15-SMA Control Complete	100511
7-15-RMO Control Complete	100512
7-15-RMA Control Complete	100513
7-30-SMO Control Complete	100514
7-30-SMA Control Complete	100515
7-30-RMO Control Complete	100516
7-30-RMA Control Complete	100517
12-15-SMO Control Complete	100518
12-15-SMA Control Complete	100519
12-15-RMO Control Complete	100520
12-15-RMA Control Complete	100521
12-30-SMO Control Complete	100522
12-30-SMA Control Complete	100523
12-30-RMO Control Complete	100524
12-30-RMA Control Complete	100525
Motor Assembly (115 volt)	100526
Motor Assembly (230 volt)	100527
Motor Armature (115 volt)	100528
Motor Armature (230 volt)	100529
Motor Field (115 volt)	100530
Motor Field (230 volt)	100531
Motor Brush (115 volt)	100532
Motor Brush (230 volt)	100533
Switch, Momentary	100534
Switch, Maintained	100535
Box, Standard, Terminal (w/#100546)	100536
Cover, Box, Standard	100537
Cover, Box, Terminal	100538
Cover, Box, Disconnect	100539
Barrel, Switch, Remote	100540
Cap, Barrel, Switch, Remote	100541
Resistor (115 volt)	100542
Resistor (230 volt)	100543
Spring Clip & Insulator, Resistor, Box	100544
Heat Sink, Box, Standard, Terminal	100546
Heat Sink, Cover, Housing	100547
Cord, Power, 14/3 (115 volt)	100548
Cord, Power, 14/3 (230 volt)	100549
Grommet, Box, Power Cord	100550
Cable, Remote, 14/B	100551
Trigger Circuit Board	100552
Screw, Mounting, Switch	100553
Screw, Mounting, Box	100554
Screw, Mounting, Cap, Remote	100555
Screw, Mounting, Box, Cover	100556
Connector, Lead	100557
Connector, Box, Terminal, Cable	100558
Connector Assembly, Barrel, Remote	100559
Delay Circuit (115 volt)*	100560
Delay Circuit (230 volt)*	100561

*Used with Relay Control system (Contact Factory)



Trigger Circuit Board Cordem Part #100552

The Trigger Circuit Board contains the electronic components required for the Trigger-Duodynamic™ brake system. It also serves as the interconnection point for all electrical wiring associated with the GOLO Power Winch and its electrical control systems. Connections are made with clearly identified, quick disconnect terminals, facilitating fast, easy, repair or replacement of electrical components.

