

# **Electric Winch**

**(Permanent magnet Motor)**

**Assembly & Operating Instructions**



**CHENGDU HONGZHENG MACHINERY & ELECTRONIC MARKET CENTER**

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KEWSYS

## Safety Warnings and Precautions

**WARNING:** When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
2. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
3. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
4. **Do not force tool.** It will do the job better and more safely at the rate for which it was intended. Do not use inappropriate attachments in an attempt to exceed the tool capacity.
5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. Do not use a tool for a purpose for which it was not intended.
6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically non-conductive clothes and non-skid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye and ear protection.** Always wear impact safety goggles. Wear a full face shield if you are producing metal filings or wood chips. Wear a dust mask or respirator when working around metal, wood, and chemical dusts and mists.
8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and, if damaged, have them repaired by an authorized technician. The handles must be kept clean, dry, and free from oil and grease at all times.
10. **Disconnect Switch.** Unplug Switch when not in use.
11. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before operating.
12. **Avoid unintentional starting.** Be sure the switch is in the "Off" position when not in use.
13. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.

14. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn "On" and "Off" properly.
15. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool.
16. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.

## Winch Warnings and precautions

1. Keeps hands and body away from Fairlead (cable intake slot) when operating.
2. Secure vehicle in position before using winch.
3. Do not exceed winch load weight capacity.
4. Be certain winch is properly bolted to a structure (or vehicle) that can hold the winch load.
5. Always use proper couplings when connecting winch cable hook to load.
6. Do not lift items vertically. The winch was designed for horizontal use only.
7. Do not overload the winch (for loads over capacity, we recommend the use of the optional pulley block to double line the wire rope). It will do the job better at the load it was intended.
8. Do not use inappropriate attachments to extend the length of the winch cable.
9. Never lift people or hoist loads over people.
10. Never come in between the winch and the load when operating.
11. Do not apply load to winch when cable is fully extended. Keep at least 4 full turns of cable on the reel.
12. After moving an item with the winch, secure the item. Do not rely on the winch to hold it for an extended period.
13. Examine winch before using. Components may be affected by exposure to chemicals, salts, and rust.
14. Never fully extend cable while under load. Keep 4 complete turns of cable around the winch drum.
15. When loading a boat into a trailer without keel or side hull rollers, make sure the trailer is submerged in the water when the boat is loaded by the winch. Attempting to drag the boat on to the trailer while on land can cause winch failure and possible injury.

16. Never operate winch if cable shows any signs of weakening, is knotted or kinked.
17. Winch does not have a locking mechanism. Secure load after moving.
18. Do not cross over or under cable under load.
19. Do not move vehicle with cable extended and attached to load to pull it. The cable could snap.
20. Use gloves while handling cable.
21. Apply blocks to vehicle when parked on an incline.
22. Re-spool cable properly.

**Warning:**

The Electric Winch is designed for intermittent use only, and should not be used in a constant duty application. The duration of the pulling job should be kept as short as possible. If the Winch motor becomes very hot to the touch, stop the Winch and let it cool down for several minutes. Never pull for more than one minute at or near the rated load. Do not maintain power to the Winch if the motor stalls.

**Unpacking**

When unpacking, check to make sure all parts are included. Refer to Assembly Drawings and Parts Lists (both with like item numbers) at the end of this manual.

## Installation

1. Mount Electric Winch to the vehicle using Cap Screw (37), Nut (34), Flat Washer (35), and Lock Washer (36), all provided.

If the provided hardware does not accommodate the installation, use Suited bolts or higher with torque to 35 feet-lbs. It should be aligned and secured to a solid part of the vehicle (front or rear) where the full rated load will be evenly distributed. Also remember that the winch is designed for horizontal pull, not vertical.

2. Connect the red (positive) Battery Cable (9) from the Solenoid Assembly to the closest screw-down positive (+) terminal to the 12 volt battery.

**Caution:** Battery cables should not be drawn taut. Leave slack for some cable movement.

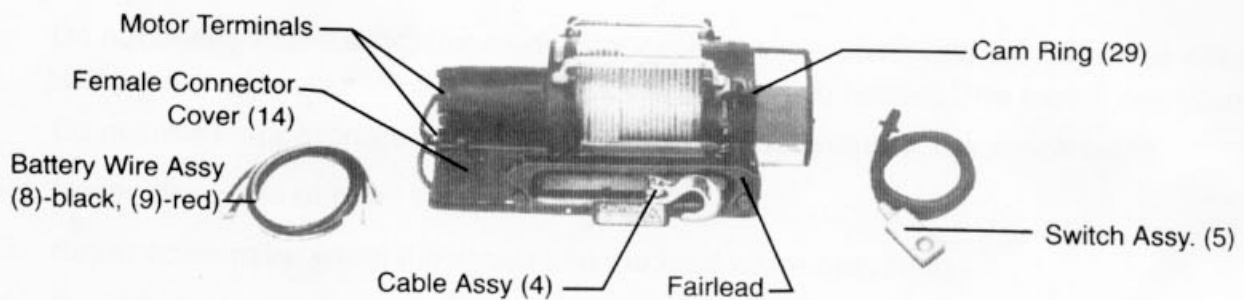
3. Connect the black (negative) Battery Cable (8) from the Solenoid Assembly to the closest screw-down negative (-) terminal to the 12 volt battery.

4. Test Electric Winch for proper operation. Refer to the Operation section, below.

## Operation

1. Disengage the clutch by moving the Cam Ring (29) to the Out position.
2. Grab the Cable Assy (4) hook and pull the cable to the desired length, then attach to item being pulled.

**Caution:** always leave at least four turns of cable on the drum. Review Winch Safety Warnings and Precautions on page 2 before continuing.



3. Reengage the clutch by moving the Cam Ring (29) to the In position.
4. Lift the Female Connector Cover (14) exposing the electrical switch connector.
5. Insert the Switch Assy (5) connector onto the Female Connector (17).
6. While standing aside of the tow path, press (and hold) the Red pushbutton on the Switch Assy. (5).

Press (and hold) the opposite pushbutton to reverse directions. Wait until the motor stops before reversing directions.

7. When the towing is complete, remove the Switch Assy. from the Female Connector (17) and replace the Female Connector Cover (14).



# Maintenance

## Lubrication

1. All moving parts within the Electric Winch have been lubricated using high temperature lithium grease at the factory. No internal lubrication is required.
2. Lubricate Cable Assembly (4) periodically using a light penetrating oil.

## Cable Assembly Replacement

1. Move Cam Ring to the "Out" position.
2. Extend Cable Assembly to its full length.  
Note how the existing cable is connected to the inside of the drum.
3. Remove old Cable Assembly and attach new one.
4. Retract Cable Assembly onto cable drum being careful not to allow kinking.

## Troubleshooting

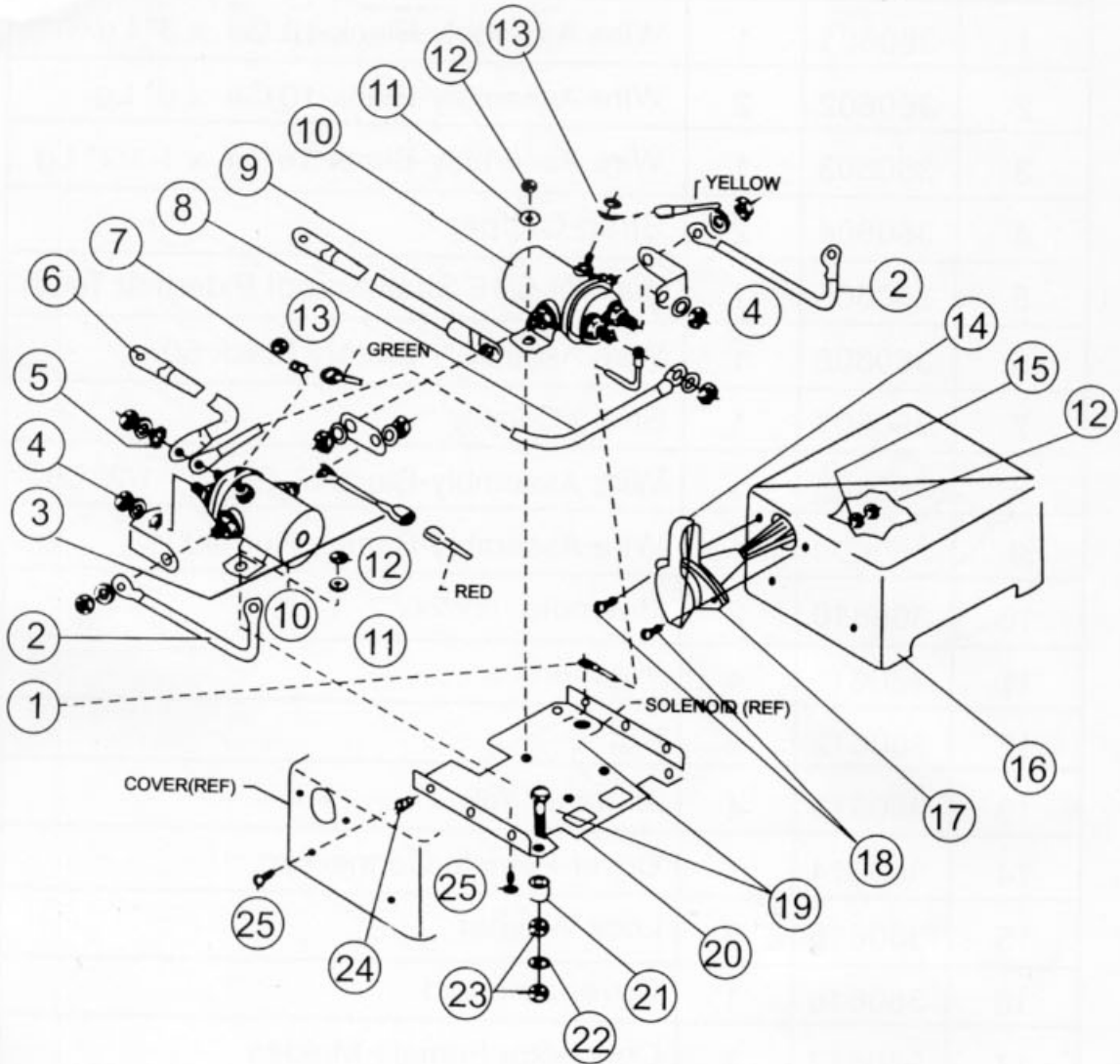
SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Motor does not turn On	<ul style="list-style-type: none"> <li>- Switch Assy not connected properly</li> <li>- Loose battery cable connections</li> <li>- Solenoid malfunctioning</li> <li>- Defective Switch Assy</li> <li>- Defective motor</li> <li>- Water has entered motor</li> </ul>	<ul style="list-style-type: none"> <li>- Insert Switch Assy all the way into connector</li> <li>- Tighten nuts on all cable connections</li> <li>- Tap solenoid to loosen contacts. Apply 12 volts to coil terminals directly. A clicking indicates proper activation</li> <li>- Replace Switch Assy</li> <li>- Check for voltage at armature port with Switch pressed. If voltage is present, replace motor.</li> <li>- Allow to drain and dry. Run in short bursts without load until completely dry</li> </ul>
Motor runs but cable drum does not turn	<ul style="list-style-type: none"> <li>- Cam Ring (clutch) not engaged</li> </ul>	<ul style="list-style-type: none"> <li>- Move the Cam Ring to the "In" position. If problem still persists, a qualified technician needs to check and repair</li> </ul>
Motor runs slowly or without normal power	<ul style="list-style-type: none"> <li>- Insufficient current or voltage</li> </ul>	<ul style="list-style-type: none"> <li>- Battery weak, recharge. Run winch with vehicle motor running</li> <li>- Loose or corroded battery cable connections. Clean, tighten or replace</li> </ul>
Motor overheating	<ul style="list-style-type: none"> <li>- Winch running time too long</li> </ul>	<ul style="list-style-type: none"> <li>- Allow winch to cool down periodically</li> </ul>
Motor runs in one direction only	<ul style="list-style-type: none"> <li>- Defective or stuck solenoid</li> <li>- Defective Switch Assy</li> </ul>	<ul style="list-style-type: none"> <li>- Tap solenoid to loosen contacts. Repair or replace solenoid</li> <li>- Replace Switch Assy</li> </ul>

## Solenoid Parts List (8000 LBS)

Item #	Part #	Qty	Description
1	360601	1	Wire Assembly-Black-10 Ga. x 3" Lg
2	360602	2	Wire Assembly-Black-10 Ga. x 6" Lg
3	360603	1	Wire Assembly-Black-16 Ga. x 1-1/2" Lg
4	360604	2	Strap-Copper
5	360605	1	Washer 5/16 Shake-proof External Teeth
6	360606	1	Wire Assembly-Battery Black 60"
7	360607	1	Strap -Copper
8	360608	1	Wire Assembly-Black- 6 Ga. x 3-1/2" Lg
9	360609	1	Wire Assembly-Battery Red 60"
10	360610	2	Solenoid - 12V/24V
11	360611	4	Washer
12	360612	6	Nut
13	360613	4	Terminal Tab
14	360614	1	Cover-Female Connector
15	360615	2	Lock Washer
16	360616	1	Cover-Solenoid
17	360617	1	Connector Female-Molded
18	360618	2	Screw
19	360619	1	Bracket
20	360620	3	Capscrew
21	360621	3	Spacer
22	360622	3	Lock Washer 06
23	360623	6	Nut M6
24	360624	3	Nutsert
25	360625	7	Screw

When ordering parts from this list, make sure to indicate that the part number was from Solenoid Parts List.

# Solenoid Assembly Drawing ( 8000 LBS )



Note: All unidentified hardware comes supplied with the solenoid.

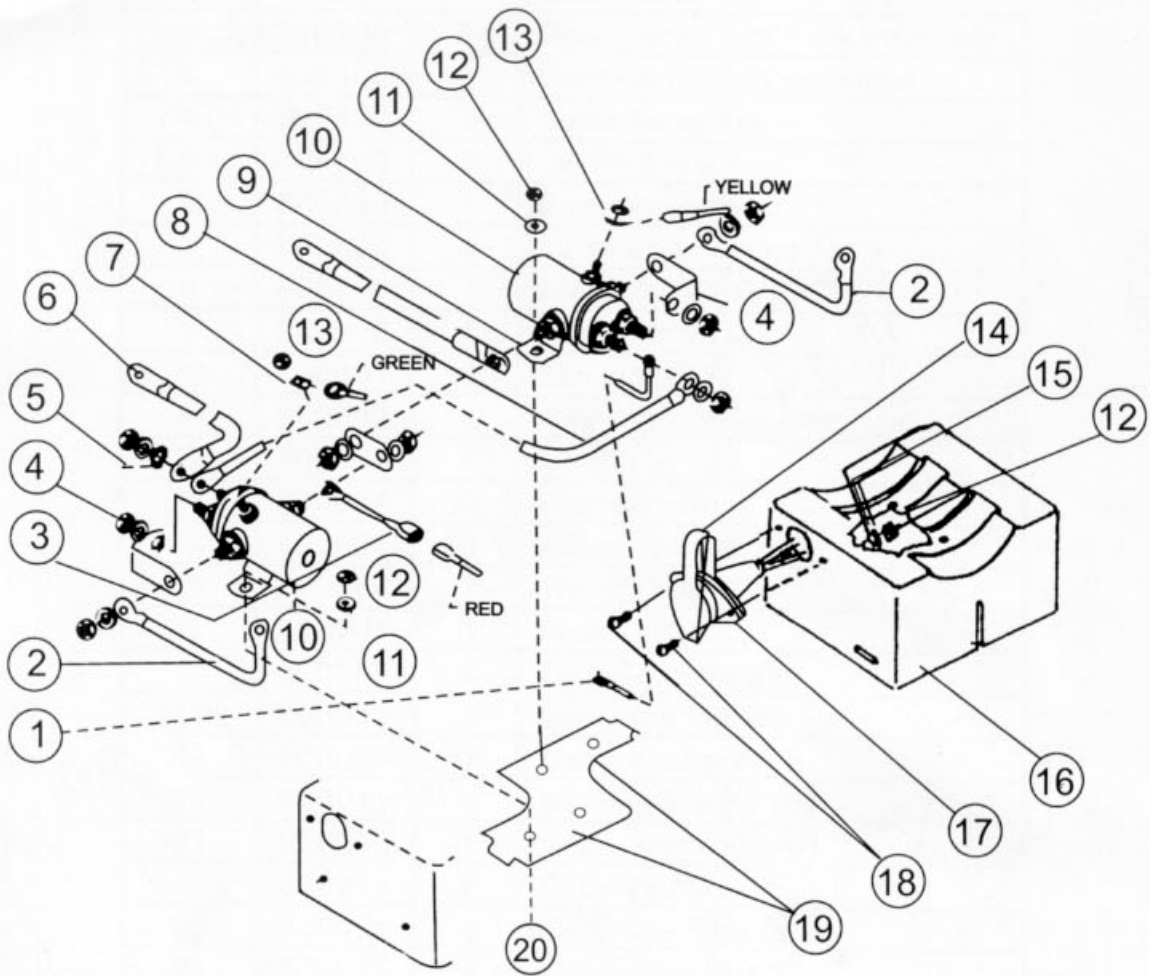


## Solenoid Parts List ( 5000 LBS&6000LBS )

Item #	Part #	Qty	Description
1	360601	1	Wire Assembly-Black-10 Ga. x 3" Lg
2	360602	2	Wire Assembly-Black-10 Ga. x 6" Lg
3	360603	1	Wire Assembly-Black-16 Ga. x 1-1/2" Lg
4	360604	2	Strap-Copper
5	360605	1	Washer 5/16" Shake-proof External Teeth
6	360606	1	Wire Assembly-Battery Black 60"
7	360607	1	Strap -Copper
8	360608	1	Wire Assembly-Black- 6 Ga. x 3-1/2" Lg
9	360609	1	Wire Assembly-Battery Red 60"
10	360610	2	Solenoid -12V/24V
11	360611	4	Washer
12	360612	6	Nut
13	360613	4	Terminal Tab
14	360614	1	Cover-Female Connector
15	360615	2	Lock Washer
16	360616	1	Cover-Solenoid
17	360617	1	Connector Female-Molded
18	360618	2	Screw
19	360626	1	Bracket
20	360627	4	Screw

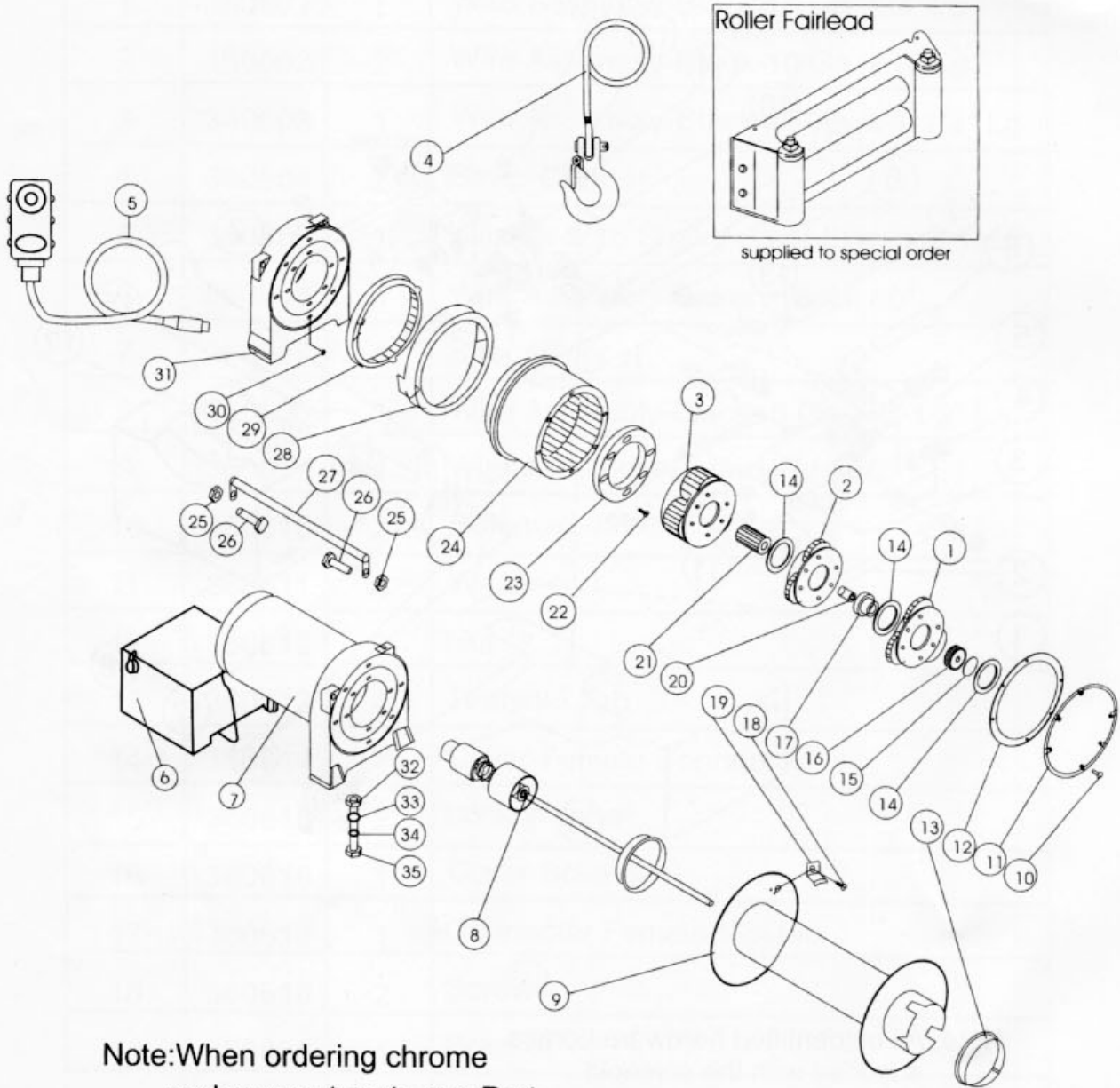
When ordering parts from this list, make sure to indicate that the part number was from Solenoid Parts List.

# Solenoid Assembly Drawing ( 5000 LBS&6000 LBS)



Note: All unidentified hardware comes supplied with the solenoid.

# Winch Assembly Drawing



Note: When ordering chrome replacement parts use Part Number below and identify part as chrome.

## Winch Parts List

Item #	Part #	Qty	Description
1	800100	1	Gear Carrier Ass'y. -Input
2	800200	1	Gear Carrier Ass'y. -Intermediate
3	800300	1	Gear Carrier Ass'y. -Output
4	800400	1	Cable Assembly
5	800500	1	Switch Ass'y.
6	800600	1	Solenoid Ass'y.
7	800700	1	Motor/End Bearing Ass'y.
8	800800	1	Break/Shaft Ass'y.
9	800900	1	Drum Ass'y.
10	800001	6	Screw M4X12
11	800002	1	Cover - GearHousing
12	800003	1	Gasket
13	800004	2	Bushing - Drum
14	800005	3	Thrust Washer
15	800006	1	Thrust Disc
16	800007	1	Gear - Input,Sun
17	800008	1	Gear - Intermediate,Sun
18	800009	1	Capscrew M6X10
19	800010	1	Cable Anchor
20	800011	1	Bushing-Shaft
21	800012	1	Gear - Output,Sun
22	800013	6	Capscrew M6X20
23	800014	1	Retainer - Ring Gear
24	800015	1	Gear - Ring
25	800016	4	Nut M6
26	800017	4	Capscrew M6X25
27	800018	2	Tie Bar
28	800019	1	Cam Ring
29	800020	1	Locking Ring
30	800021	6	Spring
31	800022	1	End Bearing
32	800023	4	Nut M10
33	800024	4	Washer - Flat $\phi$ 10
34	800025	4	Lockwasher $\phi$ 10
35	800026	4	Capscrew M10X35

When ordering parts from this list,make sure to indicate that the part number was from the Winch Parts List.

# 8000LBS

## Performance Specifications

<b>Single line rated pull</b>	8000lbs (3620kgs)
<b>Gear reduction ratio</b>	210 : 1 (DC 12V ) / 150 : 1 (DC 24V)
<b>Motor</b>	Permanent magnet DC 12V motor with 1.8 hp output Permanent magnet DC 24V motor with 2.6 hp output
<b>Overall dimensions</b>	20.9 " (L)x7.09 " (W)x6.9" (H) 530(L)x180(W)x175(H)mm
<b>Drum size</b>	Ø 2.5 " (D) x 9 " (L) Ø 63(D) x 228 (L) mm
<b>Cable</b>	95 ft (L) of Ø 5/16" (D) 29m (L) of Ø8mm (D)
<b>Weight</b>	68.3Lbs 31Kgs

### Line speed and Amp draw (first layer)

<b>Line Pull</b>	<b>Lbs</b>	0	2000	4000	6000	8000
	<b>Kgs</b>	0	906	1810	2720	3620
<b>Line speed (DC 12V)</b>	<b>FPM</b>	13	11	9	6	4.3
	<b>MPM</b>	3.9	3.3	2.7	1.8	1.3
<b>Line speed (DC 24V)</b>	<b>FPM</b>	18	15	12	9	6.5
	<b>MPM</b>	5.4	4.5	3.6	2.7	1.9
<b>Amp draw</b>	<b>DC 12V</b>	50	100	180	230	350
	<b>DC 24V</b>	30	60	110	160	240

### Line pull and Cable capacity

<b>Layer of cable</b>		1	2	3	4
<b>Rated line pull per layer</b>	<b>Lbs</b>	8000	6500	5500	4800
	<b>Kgs</b>	3620	2940	2490	2170
<b>Cable capacity per layer</b>	<b>Ft.</b>	20	43	69	95
	<b>M</b>	6	13	21	29



# 6000LBS

## Performance Specifications

Single line rated pull	6000lbs (2720kgs)
Gear reduction ratio	294 : 1 (DC 12V) / 210 : 1 (DC 24V)
Motor	Permanent magnet DC 12V motor with 1.6 hp output Permanent magnet DC 24V motor with 2 hp output
Overall dimensions	20.5 " (L)x7.09 " (W)x6.9" (H) 520(L)x180(W)x175(H)mm
Drum size	Ø 2.5 " (D) x 9 "(L) Ø 63 (D) x 228 (L) mm
Cable	95 ft (L) of Ø 5/16"(D) 29m(L) of Ø 8mm (D)
Weight	63.9Lbs 29Kgs

### Line speed and Amp draw (first layer)

Line Pull	Lbs	0	1000	3000	5000	6000
	Kgs	0	450	1360	2260	2720
Line speed (DC 12V)	FPM	15	11	8	5.5	4.3
	MPM	4.5	3.3	2.4	1.7	1.3
Line speed (DC 24V)	FPM	21	16	11	9	6
	MPM	6.3	4.9	3.4	2.4	1.8
Amp draw	DC 12V	60	100	150	220	280
	DC 24V	30	60	100	140	180

### Line pull and Cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	6000	4900	4100	3580
	Kgs	2720	2220	1860	1620
Cable capacity per layer	Ft.	20	43	69	95
	M	6	13	21	29

# 5000LBS

## Performance Specifications

Single line rated pull	5000lbs (2260kgs)
Gear reduction ratio	294 : 1 (DC 12V) / 210 : 1 (DC 24V)
Motor	Permanent magnet DC 12V motor with 1.3 hp output Permanent magnet DC 24V motor with 1.9 hp output
Overall dimensions	16.9 " (L)x7.09 " (W)x6.9" (H) 430(L)x180(W)x175(H)mm
Drum size	Ø 2.5 " (D) x 5.5"(L) Ø 63 (D) x 140 (L) mm
Cable	80 ft (L) of Ø 1/4" (D) 24m(L) of Ø6mm (D)
Weight	52.9Lbs 24Kgs

### Line speed and Amp draw (first layer)

Line Pull	Lbs	0	1000	3000	5000
	Kgs	0	450	1360	2260
Line speed (DC 12V)	FPM	1.5	11	8	5.5
	MPM	4.5	3.3	2.4	1.7
Line speed (DC 24V)	FPM	20	17	12	8
	MPM	6	5.1	3.6	2.4
Amp draw	DC 12V	45	110	170	230
	DC 24V	30	60	115	180

### Line pull and Cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	5000	4200	3600	3200
	Kgs	2260	1940	1630	1450
Cable capacity per layer	Ft.	15	30	55	80
	M	4.5	9	17	24