

Electric Winch

(Series wound motor)

Assembly & Operating Instructions



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:

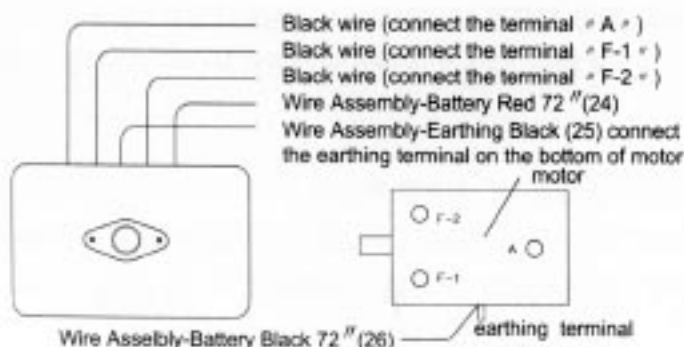
The Electric Winch is designed for intermittent use only, and should not be used in a constant duty application. The duration of the pulling job should be kept as short as possible. If the Winch motor becomes very hot to the touch, stop the Winch and let it cool down for several minutes. Never pull for 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 (35), Nut (32), Flat Washer (33), and Lock Washer (34), all provided.
If the provided hardware does not accommodate the installation, use Suitedbolts 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. The Solenoid Assembly have been connect the motor before the winch shipped from factory. Please check the connected line according to the following chart before operation.



3. Connect the Wire Assembly-Battery Black 72 " (26) from the Solenoid Assembly to the closest screw-down negative (-) terminal to the 12 volt battery. Connect the Wire Assembly-Red 72 " (24) to the closest screw-down positive(+) 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 (28) 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 (28) to the "In" position.
4. Lift the Female Connector Cover (5) exposing the electrical switch connector.
5. Insert the Switch Ass'y connector onto the Female Connector (3).

VERY IMPORTANT!!!

6. While standing aside of the tow path, switch the knob on the handle to GREEN POINT. Press (and hold) the right pushbutton. Press the left one to reverse directions. Wait Until The motor stops before reversing Directions. IN CASE OF EMERGENCY HAPPEN, PLEASE SWITCH THE KNOB TO RED POINT TO CUT OFF THE POWER IN ORDER TO AVOID ACCIDENT. DO NOT MAINTAIN THE SWITCH ASSEMBLY TO THE SOLENOID PARTS FOR MORE THAN 30 MINUTES AFTER STOPPING OPERATION.
7. PLEASE SWITCH THE KNOB TO RED POINT AT ONCE WHEN THE TOWING IS COMPLETE. THEN REMOVE THE SWITCH ASSY. FROM THE FEMALE CONNECTOR (3) AND REPLACE THE FEMALE CONNECTOR COVER (5).

Maintenance

Lubrication

1. All moving parts within the Electric Winch having 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

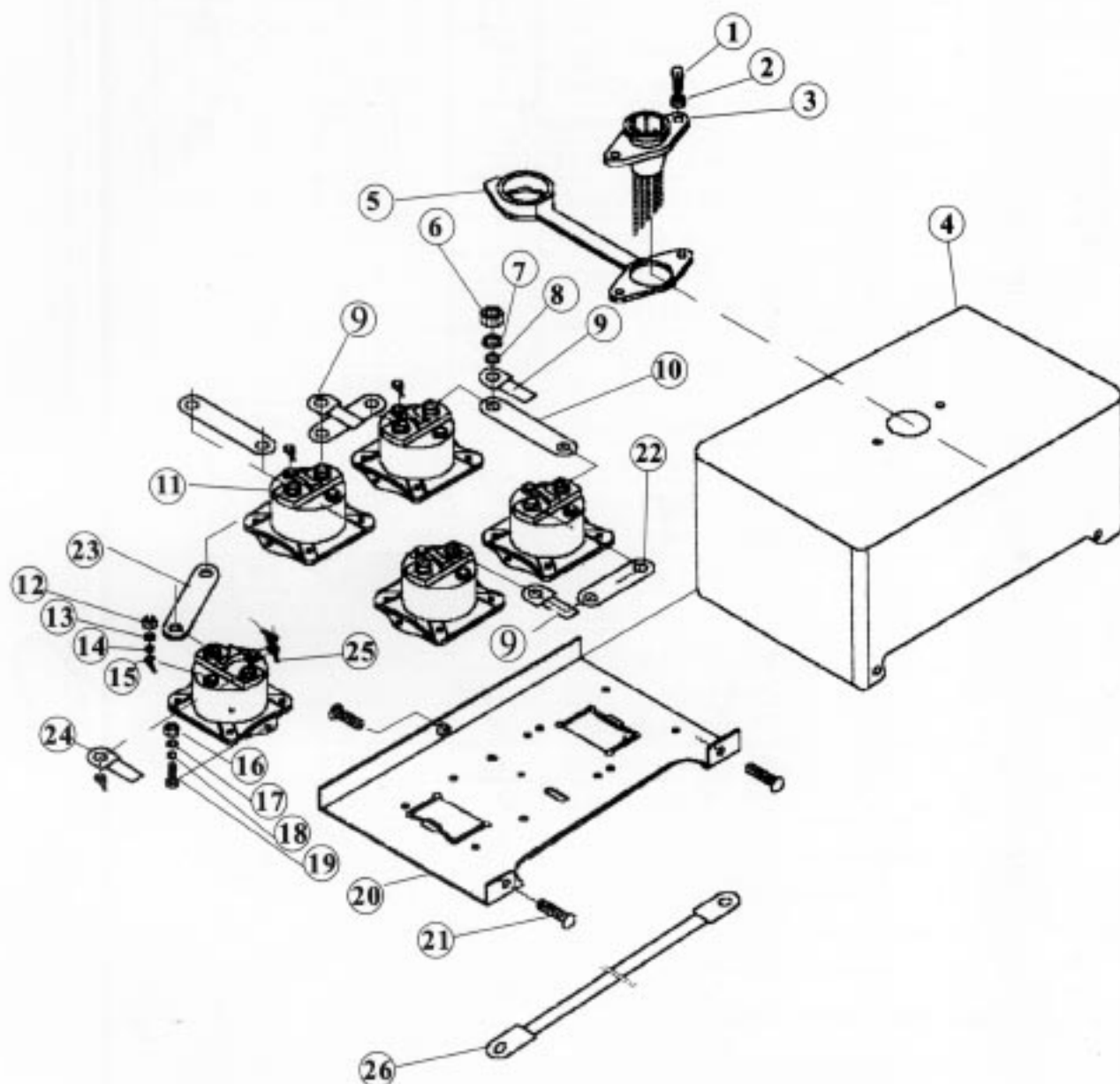
SYMPTOM	POSSIBLE CAUSE	SUGGESTED ACTION
Motor does not turn On	- Switch Assy not connected properly - Loose battery cable connections - Solenoid malfunctioning - Defective Switch Assy - Defective motor - Water has entered motor	- Insert Switch Assy all the way into connector - Tighten nuts on all cable connections - Tap solenoid to loosen contacts. Apply 12 volts to coil terminals directly. A clicking indicates proper activation - Replace Switch Assy - Check for voltage at armature port with Switch pressed. If voltage is present, replace motor. - Allow to drain and dry. Run in short bursts without load until completely dry
Motor runs but cable drum does not turn	- Cam Ring (clutch) not engaged	- Move the Cam Ring to the "In" position. If problem still persists, a qualified technician needs to check and repair
Motor runs slowly or without normal power	- Insufficient current or voltage	- Battery weak, recharge. Run winch with vehicle motor running - Loose or corroded battery cable connections. Clean, tighten, or replace
Motor overheating	- Winch running time too long	- Allow winch to cool down periodically
Motor runs in one direction only	- Defective or stuck solenoid - Defective Switch Assy	- Tap solenoid to loosen contacts. Repair or replace solenoid - Replace Switch Assy

Solenoid Parts List

Item #	Part #	Qty	Description
1	910601	2	Screw M5X14
2	910602	2	Nut M5
3	910603	1	Connector Female-Molded
4	910604	1	Cover-Solenoid
5	910605	1	Cover-Female Connector
6	910606	10	Nut M8
7	910607	10	Lock Washer $\phi 8$
8	910608	10	Washer-Flat $\phi 8$
9	910609	3	Wire Assembly-Black
10	910610	2	Strap-Copper(I)
11	910611	5	Solenoid-12V
12	910612	10	Nut M5
13	910613	10	Lock Washer $\phi 5$
14	910614	10	Washer-Flat $\phi 5$
15	910615	1	Wire Assembly-connect
16	910616	10	Nut M5
17	910617	10	Lock Washer $\phi 5$
18	910618	10	Washer-Flat $\phi 5$
19	910619	10	Screw M5X10
20	910620	1	Bracket
21	910621	3	Screw M5X10
22	910622	2	Strap-Copper(II)
23	910623	1	Strap-Copper(III)
24	910624	1	Wire Assembly-Battery Red 72"
25	910625	1	Wire Assembly-Earthing Black
26	910626	1	Wire Assembly-Battery Black 72"

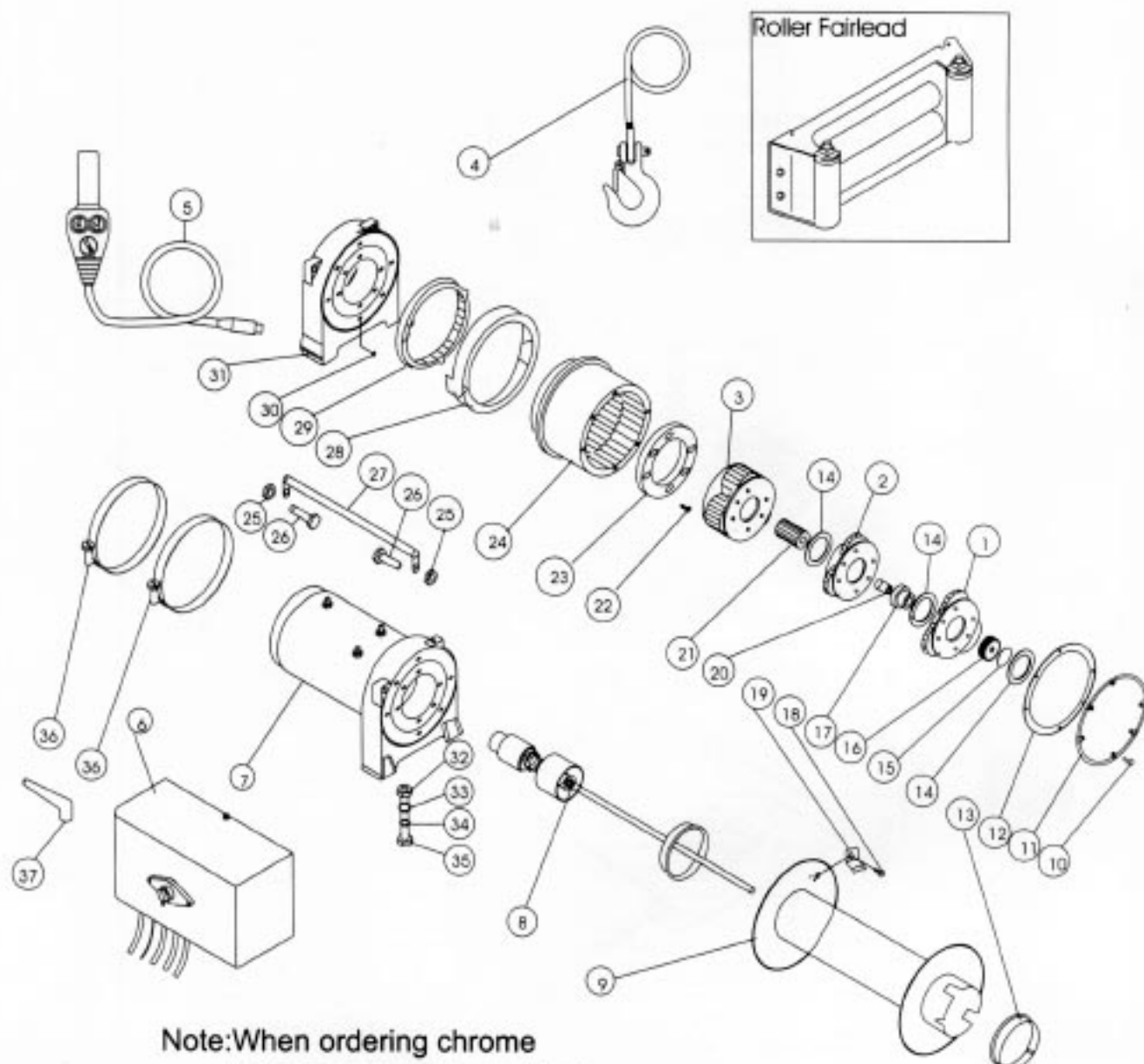
When ordering parts from this list, make sure to indicate that the part number was from Solenoid Parts List.

Solenoid Assembly Drawing



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	910100	1	Gear Carrier Ass'y. -Input
2	910200	1	Gear Carrier Ass'y. -Intermediate
3	910300	1	Gear Carrier Ass'y. -Output
4	910400	1	Cable Assembly
5	910500	1	Switch Ass'y.
6	910600	1	Solenoid Ass'y.
7	910700	1	Motor/End Bearing Ass'y.
8	910800	1	Break/Shaft Ass'y.
9	910900	1	Drum Ass'y.
10	910001	6	Screw M4X12
11	910002	1	Cover - GearHousing
12	910003	1	Gasket
13	910004	2	Bushing - Drum
14	910005	3	Thrust Washer
15	910006	1	Thrust Disc
16	910007	1	Gear - Input,Sun
17	910008	1	Gear - Intermediate,Sun
18	910009	1	Capscrew M6X10
19	910010	1	Cable Anchor
20	910011	1	Bushing-Shaft
21	910012	1	Gear - Output,Sun
22	910013	6	Capscrew M6X20
23	910014	1	Retainer - Ring Gear
24	910015	1	Gear - Ring
25	910016	4	Nut M6
26	910017	4	Capscrew M6X25
27	910018	2	Tie Bar
28	910019	1	Cam Ring
29	910020	1	Locking Ring
30	910021	6	Spring
31	910022	1	End Bearing
32	910023	4	Nut M10
33	910024	4	Washer - Flat ϕ 10
34	910025	4	Lockwasher ϕ 10
35	910026	4	Capscrew M10X35
36	910027	2	Clamp
37	910028	3	Terminal Protector

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

8000LBS

Performance Specifications

Single line rated pull	8000lbs(3620kgs)
Gear reduction ratio	210:1
Motor	Series wound DC 12V motor with 3.6 hp output
Overall dimensions	22.2 " (L)x7.09 " (W)x6.9 " (H) 565(L)x180(W)x175(H)mm
Drum size	Ø 2.5 " (D) x 9 " (L) Ø 63(D) x 228 (L) mm
Cable length	95 ft (L) of Ø 5/16 " Cable 29m (L) of Ø8mm Cable
Weight	76.7Lbs 34.8Kgs

Line speed and Motor current(first layer)

Line Pull	Lbs	0	2000	4000	6000	8000
	Kgs	0	906	1810	2720	3620
Line speed	FPM	24.6	15.7	11.8	9.5	7.9
	MPM	7.5	4.8	3.6	2.9	2.4
Motor current	Amps	80	160	240	330	380

Line pull and Cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	8000	6500	5500	4800
	Kgs	3620	2940	2490	2170
Cable capacity per layer	Ft.	19.6	42.6	68.9	95
	M	6	13	21	29

9000LBS

Performance Specifications

Single line rated pull	9000lbs(4080kgs)
Gear reduction ratio	294:1
Motor	Series wound DC 12V motor with 3.6 hp output
Overall dimensions	22.2 " (L)x7.09 " (W)x6.9" (H) 565(L)x180(W)x175(H)mm
Drum size	Ø 2.5 " (D) x 9 " (L) Ø 63(D) x 228 (L) mm
Cable length	95 ft (L) of Ø 21/64 " Cable 29m (L) of Ø8.3mm Cable
Weight	77.1Lbs 35Kgs

Line speed and Motor current(first layer)

Line Pull	Lbs	0	2000	4000	6000	8000	9000
	Kgs	0	906	1810	2720	3620	4080
Line speed	FPM	17.4	12.8	9.8	8.2	7.2	6.5
	MPM	5.3	3.9	3	2.5	2.2	2.0
Motor current	Amps	80	140	190	260	340	380

Line pull and Cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	9000	7350	6200	5400
	Kgs	4080	3330	2810	2450
Cable capacity per layer	Ft.	19.6	42.6	68.9	95
	M	6	13	21	29

10000LBS

Performance Specifications

Single line rated pull	10000lbs(4540kgs)
Gear reduction ratio	294:1
Motor	Series wound DC 12V motor with 3.6 hp (2.7kw)output
Overall dimensions	22.2 " (L)x7.09 " (W)x6.9" (H) 565(L)x180(W)x175(H)mm
Drum size	Ø 2.5 " (D) x 9 " (L) Ø 63(D) x 228 (L) mm
Cable length	89 ft (L) of Ø 3/8 " Cable 27m (L) of Ø9.2mm Cable
Weight	80Lbs 36.5Kgs

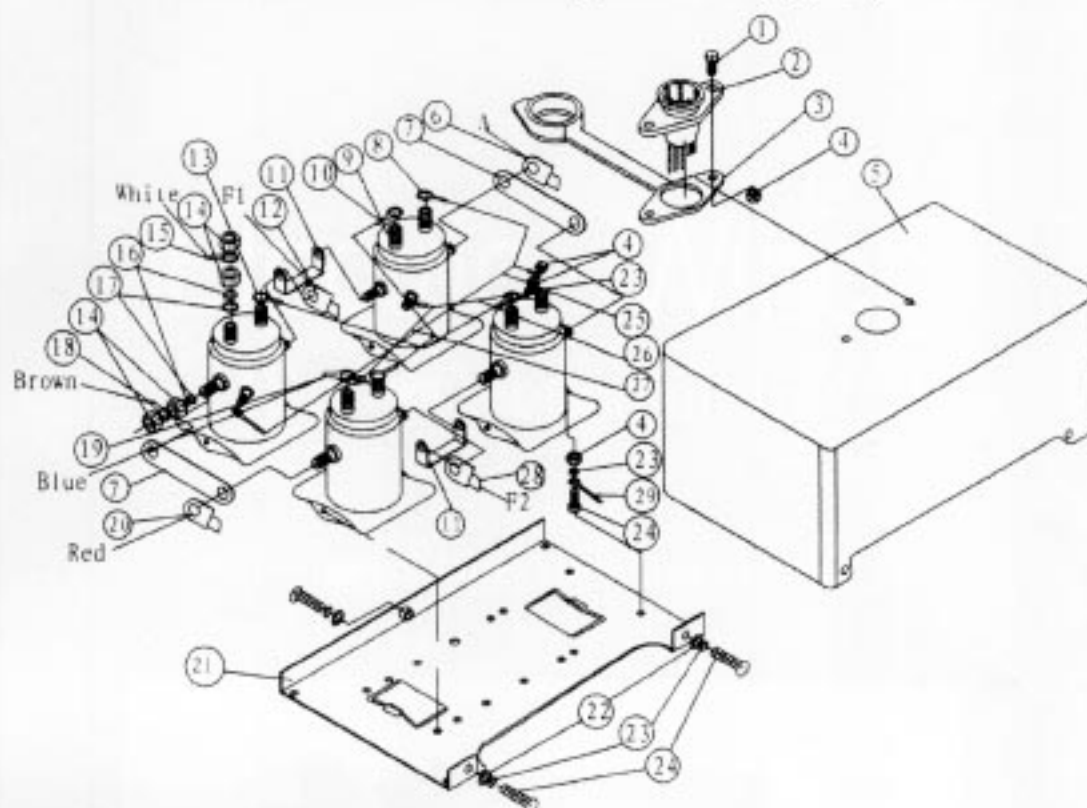
Line speed and Motor current(first layer)

Line Pull	Lbs	0	2000	4000	6000	8000	10000
	Kgs	0	906	1810	2720	3620	4540
Line speed	FPM	17.4	12.8	9.8	8.2	7.2	5.7
	MPM	5.3	3.8	2.8	2.45	2.2	1.75
Motor current	Amps	80	110	170	210	250	300

Line pull and Cable capacity

Layer of cable		1	2	3	4
Rated line pull per layer	Lbs	10000	7900	6600	5600
	Kgs	4540	3600	3000	2550
Cable capacity per layer	Ft.	18	39.4	64	85
	M	5.5	12	19.5	26

Solenoid Assembly Drawing(- I)



Note: All unidentified hardware comes supplied with the solenoid.

Solenoid Parts List(- I)

Item #	Part #	Qty	Description	Item #	Part #	Qty	Description
1	010601	2	Screw M5X14	16	010616	16	Lock Washer-8
2	010602	1	Connector female-Molded	17	010617	16	Washer-Flat-8
3	010603	1	Cover-Female Connector	18	010618	1	Connect Wire-Brown 5
4	010604	10	Nut M5	19	010619	1	Connect Wire-Blue 6
5	010605	1	Cover-Solenoid	20	010620	1	Wire Assembly-Battery Red
6	010606	1	Wire Assembly-Battery Black	21	010621	1	Bracket
7	010607	2	Strap-Copper(I)	22	010622	3	Washer-Flat-5
8	010608	1	Connect Wire 1	23	010623	15	Lock Washer-5
9	010609	4	Solenoid	24	010624	11	Screw M5X10
10	010610	1	Connect Wire 2	25	010625	1	Connect Wire 7
11	010611	2	Strap-Copper(II)	26	010626	1	Connect Wire 8
12	010612	1	Wire Assembly-Battery Black	27	010627	1	Connect Wire 9
13	010613	1	Connect Wire 3	28	010628	1	Wire Assembly-Battery Black
14	010614	32	Nut M8	29	010629	1	Wire Assembly-Earthling Black
15	010615	1	Connect Wire-White 4				

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