

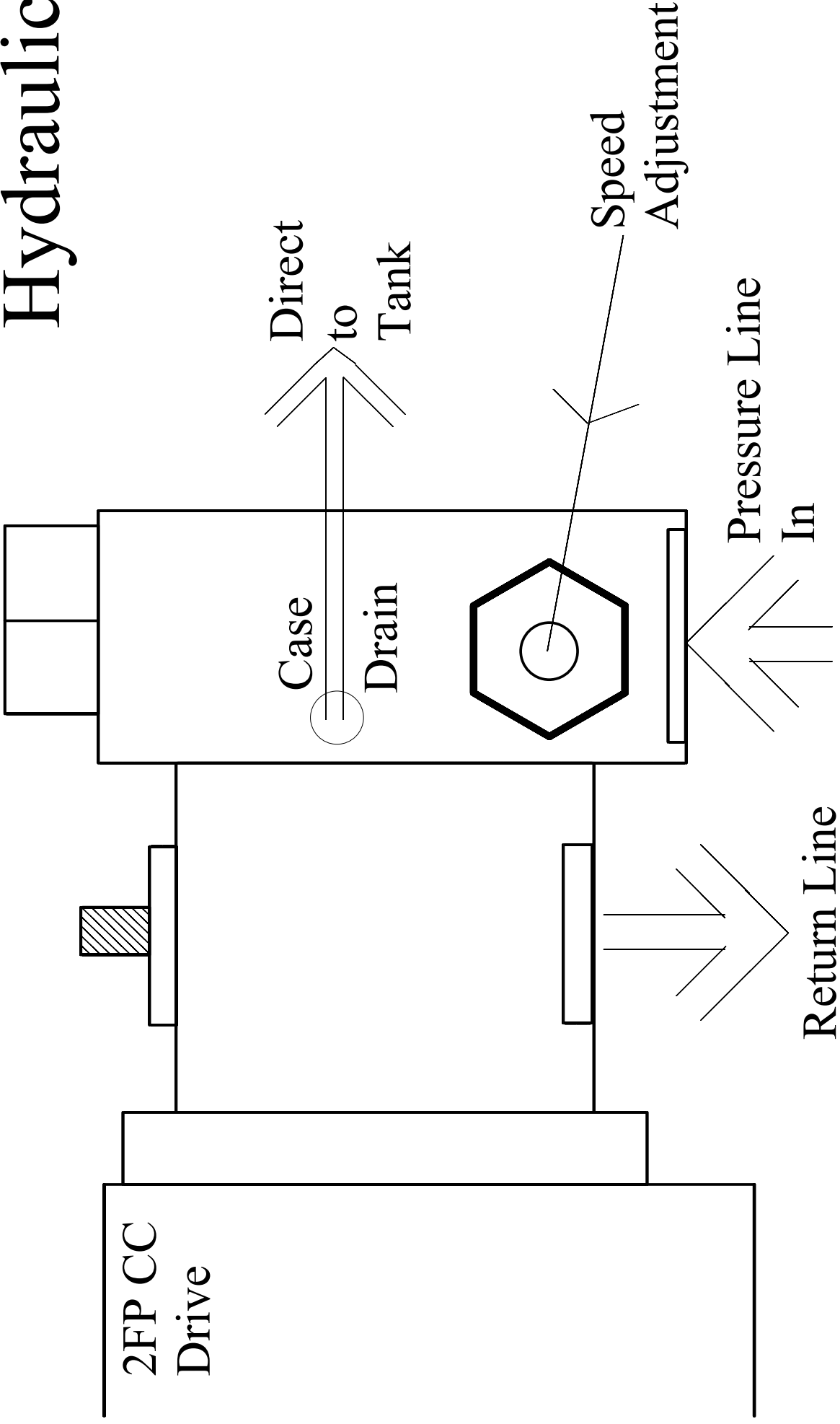


Instruction Booklet for

Hydraulic JUMPSTARTER

Model HJS 650 GPM 12.5
PSI 2000

GETEC Hydraulic



JumpStart 650 & 1000

The Getec JumpStart Generators are 12 and 24 volt DC Generators designed to be used for starting engines that require up to 1000 amp at 12V or up to 600 amp at 24V of starting amperage. These generators are not designed for automatic battery charging; however these generators can be used for boosting (fast charge) batteries.

To use as JumpStart

Make sure that the ON_OFF Switch is the **OFF** Position
Connect the positive clamp to the Positive post of the battery.
Connect the negative clamp to the negative post of the battery.
Turn Hydr.System ON ,TURN JumpStarter On Allow battery to be charged for about 1 minute.
Crank engine, Never crank for more than 10 seconds. Leave at least 20 seconds between cranks.
Do not change speed of generator from factory settings. High Generator speed (High voltage) will damage battery and electrical system of vehicle.

After engine is started turn off JumpStart.

CAUTION – Short-circuited cables or clamps will damage JumpStart.

Recommended Wire Gauges

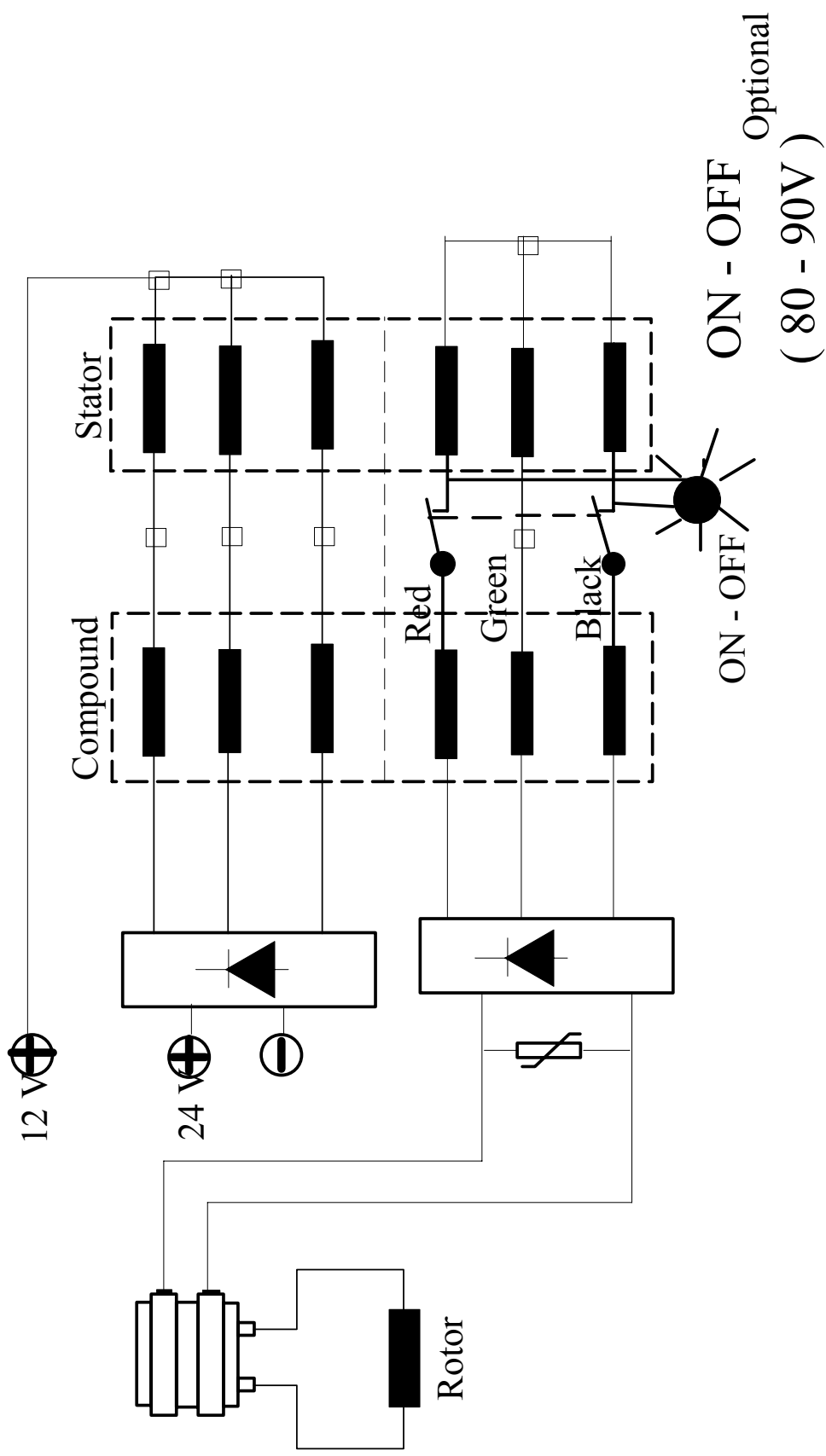
For the best performance use only welding cable. Be sure wires are marked clearly (Red for Positive and Black for Negative)

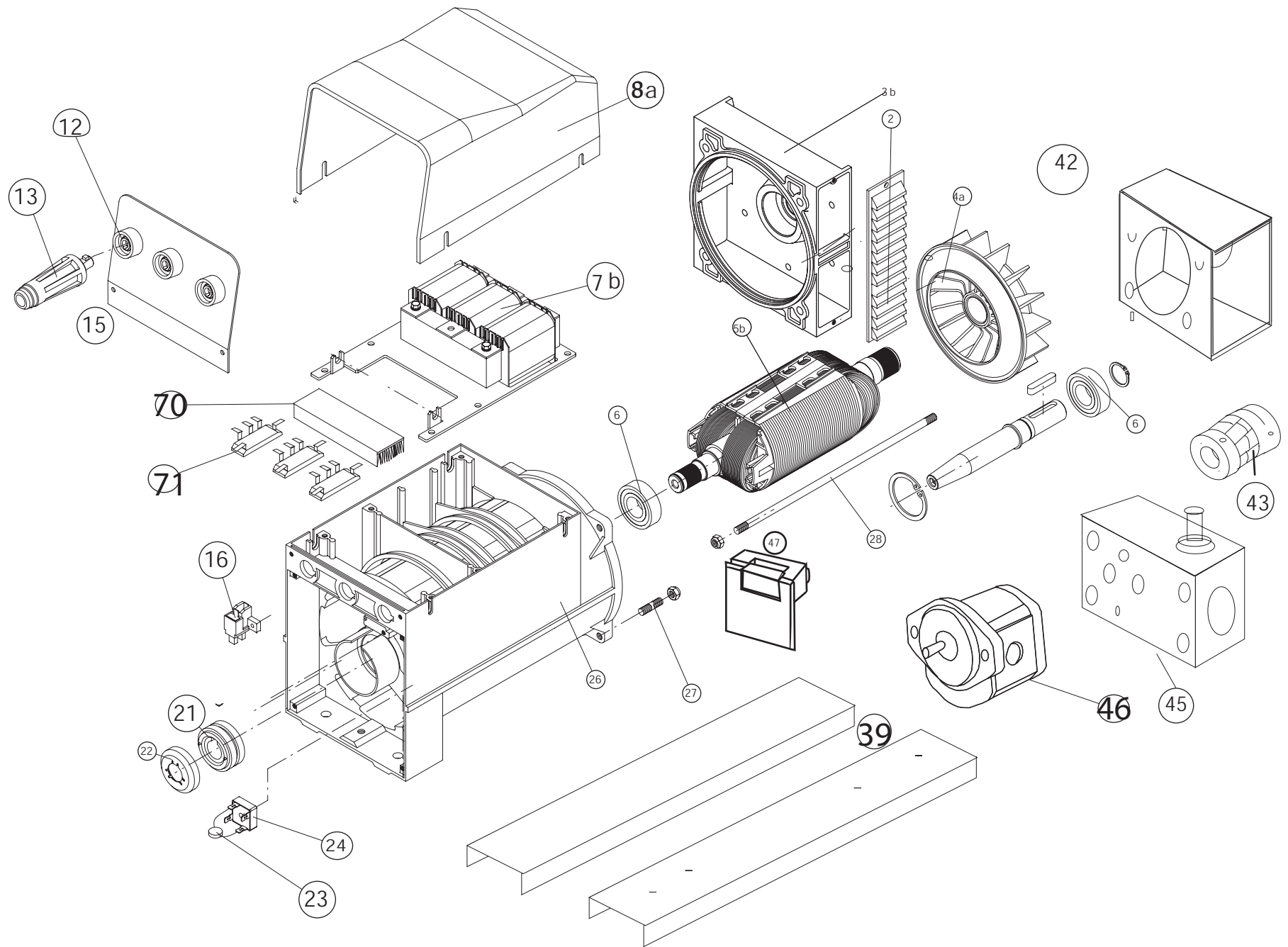
	25 Ft	30 Ft
JST 650	# 1/0	# 2/0
JST 1000	# 3/0	# 3/0

If Jumper Cables don't meet those recommendations; the JumpStart can not function properly. (High Voltage drop will occur if wire gauge is too small).

Clamps on cable-ends must be rated for 800 amp and 650 amp respectively

JST 650 and 1000 Electrical





JUMPSTART 650 and 1000 Parts Illustr.

Quick Troubleshooting Guide

If engine does not crank or is very slow, but JumpStart is up to speed; check voltage on JumpStart directly (should be 13 Volts or 27 Volts). Then check voltage on battery connection during cranking. If voltage falls below 10 volts or 23 volts your jumper cables are causing a voltage drop and must be replaced or connections on wire ends be reconnected (bad connection).

Also check that the male plug is seated correctly into the female terminals. Dirty or loose connections can also cause a voltage drop and prevent JumpStart from functioning correctly.

The most common problem is speed. The Jumpstart must rotate 3720 RPM to function. This should be checked first.

Caution. Overspeed will damage Unit (above 3900 RPM) and is not covered under Warranty.

Caution

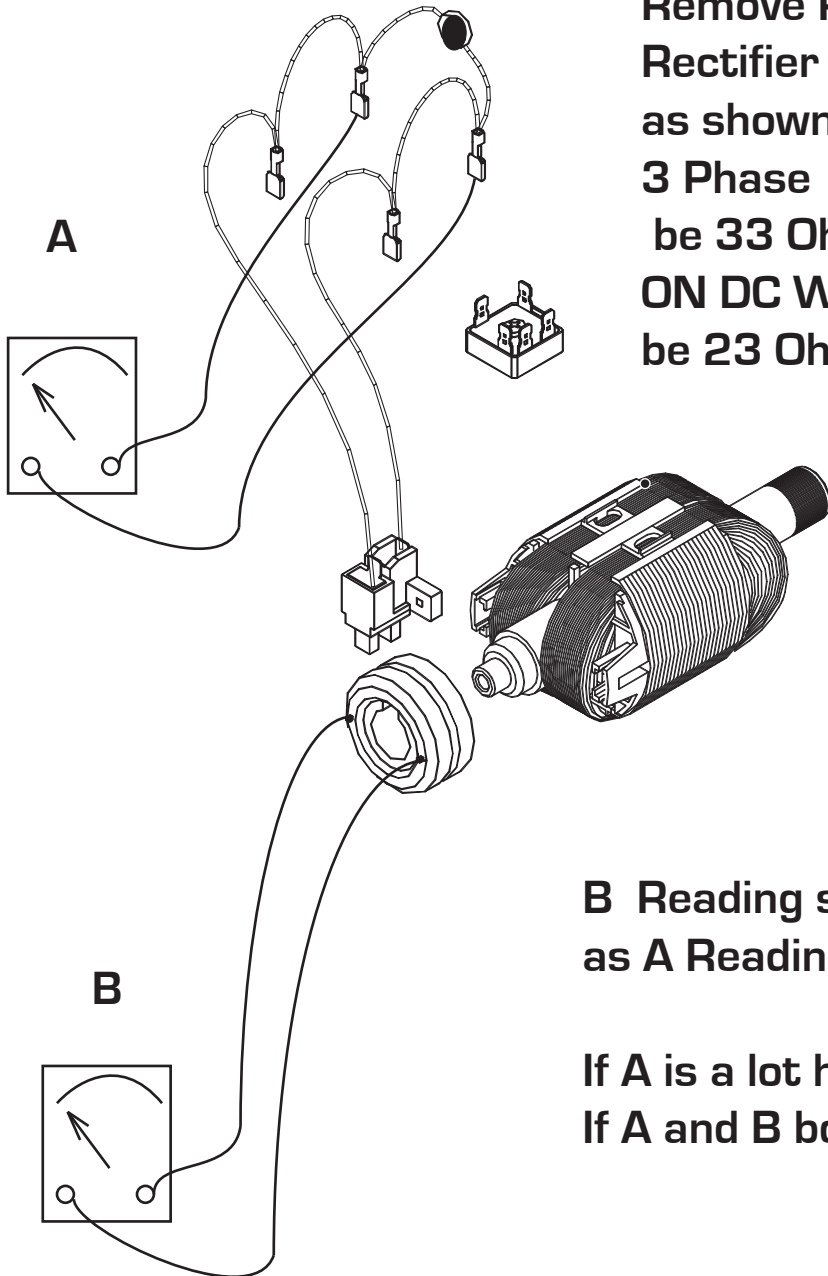
This Equipment can not be operated in a closed Compartment.

If operated in a closed compartment this Unit will overheat and unreparable damage will happen. Not covered under Warranty.

Problem	Causes	Remedy
No Voltage	<ul style="list-style-type: none"> 2) Worn Slip Ring 3) Worn Brushes 4) Open Rotor Winding 5) Defective Excitation Bridge 6) 	<ul style="list-style-type: none"> 2) Clean or replace Slipring. 3) Replace Brushes 4) Check Resistance 1) Check Bridge and replace
High Voltage	<ul style="list-style-type: none"> 2) High Speed 3) 	<ul style="list-style-type: none"> 2) Reduce Speed to 3600 RPM 3)
Low Voltage	<ul style="list-style-type: none"> 1) Low Speed. 2) Defective Excitation Bridge 3) 	<ul style="list-style-type: none"> 1) Adjust Speed to 3600 RPM 2) Test and replace Excitation Bridge
Low Amperage	<ul style="list-style-type: none"> 1) Defective Main Rectifier (3) 2) Defective Compound 3) Speed drops under Load 4) Excitation Bridge partial open 	<ul style="list-style-type: none"> 1) Test 3 Main Rectifiers and replace 2) Check Resistance of Compound (3 Coils) 3) GPM drops below Minimum Requirement 4) Replace Excitation Bridge
		<ul style="list-style-type: none"> 1). 2)
		<ul style="list-style-type: none"> 1) 2)

ROTOR (ARMATURE), SLIPRING ,BRUSHES TEST

Varistor



Remove Red and Black wires from Rectifier and connect Ohmmeter as shown.

3 Phase Generators this should be 33 Ohms.

ON DC Welders this should be 23 Ohms.

A and B should read the same.

B Reading should be the same as A Readings

If A is a lot higher than A , check Brushes
If A and B both show OPEN Rotor is bad.

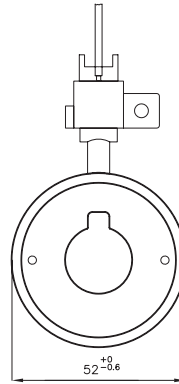
BRUSHES AND SLIPRING

Expected lifetime of brushes: 1000h
 The lifetime can shorten drastically in the presence of dusty environments and, especially, in the presence of sand. Check the brushes for wear every 250 hours and when changing the engine oil. When replacing worn brushes, always check the state of the collector.



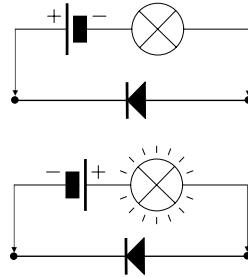
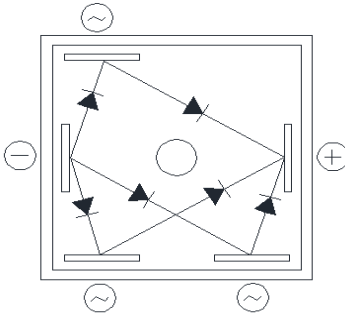
WARNING!

When replacing the collector, the surface of the two rings must be turned (after the collector has been mounted on the shaft) to make it smooth and prevent problems of concentricity. The external diameter of the two rings must be machined to 52 mm (tolerance +0, -0.6).



CHECKING THE DIODES

Use an ohmmeter to check each individual diode. Diodes must show continuity in one direction only. This check can also be done using a battery and a light bulb. When inverting battery polarity, the light bulb must turn on and off, in one direction only, as shown in the figure below. When testing the Diode still connected to the Winding the Light will go Bright and Dim in the other Direction.



ADJUSTING THE AIR GAP OF THE COMPOUND

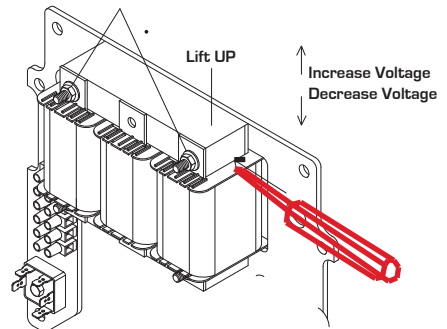
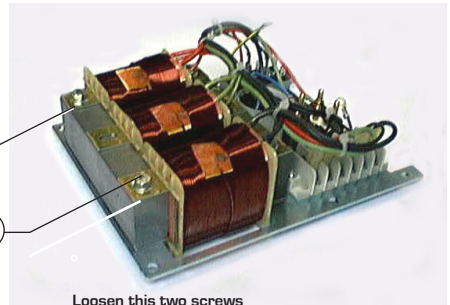


WARNING!

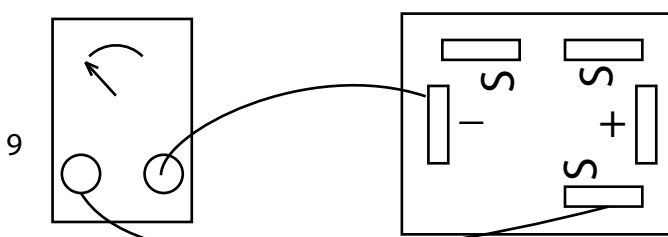
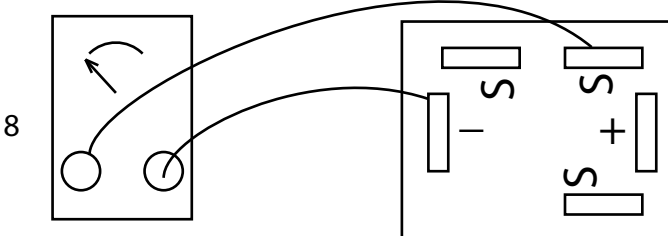
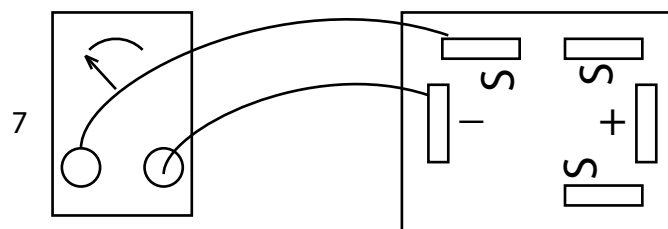
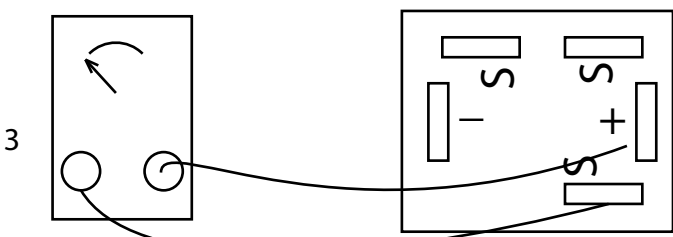
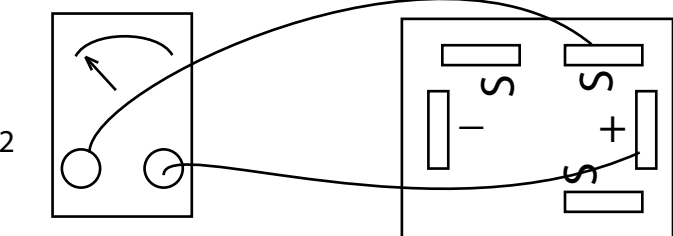
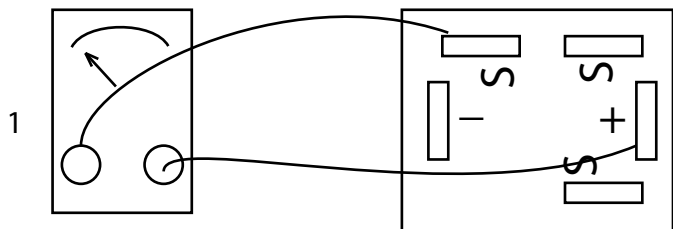
For safety reasons, the following operations must only be performed when the unit is shutdown.

Adjust the no load voltage of the alternator as follows:

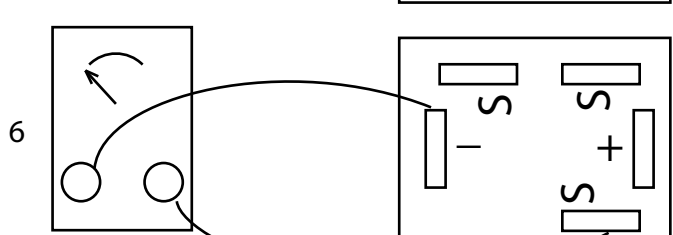
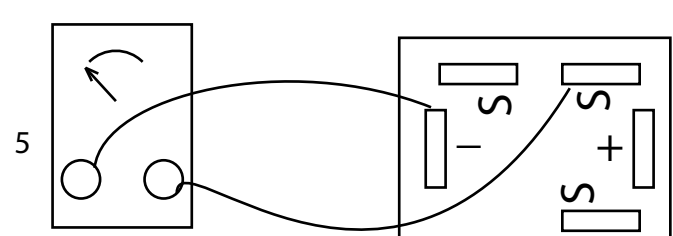
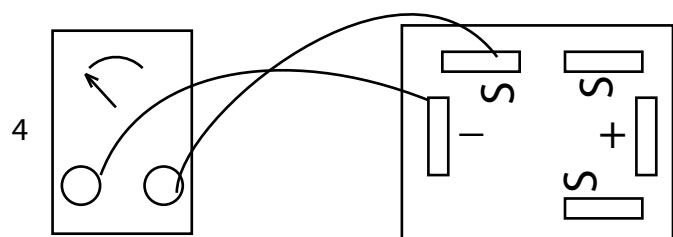
- 1) Remove the cover.
 - 2) Slacken the screws (A).
 - 3) Adjust the air gap height by adding or removing insulator spacers, noting that:
 - increasing the air gap will increase the voltage
 - reducing the air gap will reduce the voltage.
 - 4) Tighten the screws (A).
 - 5) Replace the cover and fasten it with the screws.
- Start up the unit to check the no load voltage.



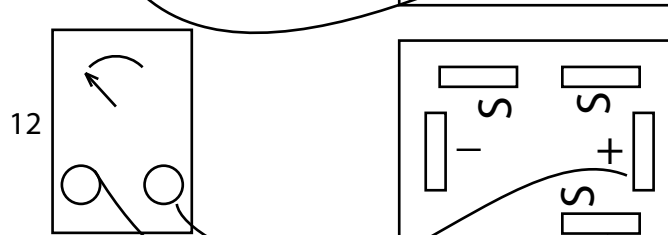
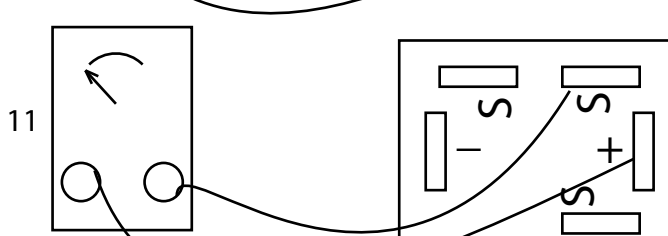
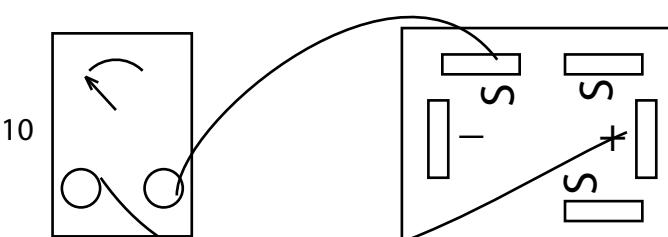
Using an Ohm Meter to test a 3 Phase Rectifier Bridge.



Reverse Ohm Meter Leads



Reverse Ohm Meter Leads



1+2+3 should be very close equal

4+5+6 should be equal but very different from **1+2+3**

7+8+9 should be very close equal

10+11+12 should be equal but very different from **7+8+9**

Anything different means that Rectifier Bridge is defective.

Jumpstart Parts List

Page 1 of 2

Item #	GETEC #	Description	Price
2	600933	Front Grid	
3b	600934	Front Shield B3/B14 (Two Bearing)	
4a	600935	Fan	
5a	601118	Rotor 600 Amp	
5b	601119	Rotor 1000 Amp	
6	600937	Bearing	
7a	601120	600 Amp Impedance	
7b	601121	1000 Amp Impedance	
8a	600939	Black top cover	
12	600943	Female terminal	
13	600944	Male terminal	
14a	601122	600 A DC panel	
14b	601123	1000 A DC panel	
15	601124	Main rectifier bridge	
16	600947	DC brush-holder with brushes	
17	600987	Blank End Cover	
18	600988	Tap	
19	601125	End cover and Switch	
20	600988	Tap	
21	600949	Slip ring (51*22*08)	
22	600950	Slip ring cover (diameter 51)	
23	600951	Varistor	
24b	600985	Three-ph rectif. Bridge Field	
25	600854	Female Receptacle w Cover	
26a	601126	Housing M & Stator 600 DC 60 Hz	

Jumpstart Parts List

Page 2 of 2

Item #	GETEC #	Description	Price
26b	601127	Housing L & Stator 1000 DC 60 Hz	
26c	600954	Staybolt M8* 30	
27	601128	600 A Shaft stay Bolt	
28	600955	1000 A Shaft stay bolt	
29	600956	KIT: from J609B to B3/B14	
39	600674	Rails	
42	600970	MotormountA2	
43	600971	Coupling Set 99	
45	600922	Flowcontrol Int	
46	600972	Motor 19	
70	601311	Heatsink	
71	601312	Main Rectifiers	



December 2001

HYDRAULIC FITTINGS & HOSES FOR GETEC'S GENERATORS

Model	Pressure		Return		Case Drain	
	Fitting	Hose	Fitting	Hose	Fitting	Hose
300	3/4 NPT	1/2	7/8-14	1/2	7/16-20	1/4
360	3/4 NPT	1/2	7/8-14	1/2	7/16-20	1/4
400	3/4 NPT	1/2	7/8-14	1/2	7/16-20	1/4
480	1 1/16-O	1/2	1 1/16-O	3/4	7/16-20	1/4
620	1 1/16-O	1/2	1 1/16-O	3/4	7/16-20	1/4
750	1 1/16-O	3/4	1 1/16-O	3/4	7/16-20	1/4
850	1 1/16-O	3/4	1 1/16-O	3/4	7/16-20	1/4
1000	1 1/16-O	3/4	1 1/16-O	3/4	7/16-20	1/4
1200	1 1/16-O	3/4	1 1/16-O	3/4	7/16-20	1/4
1500	1 1/16-O	3/4	1 1/16-O	3/4	7/16-20	1/4

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