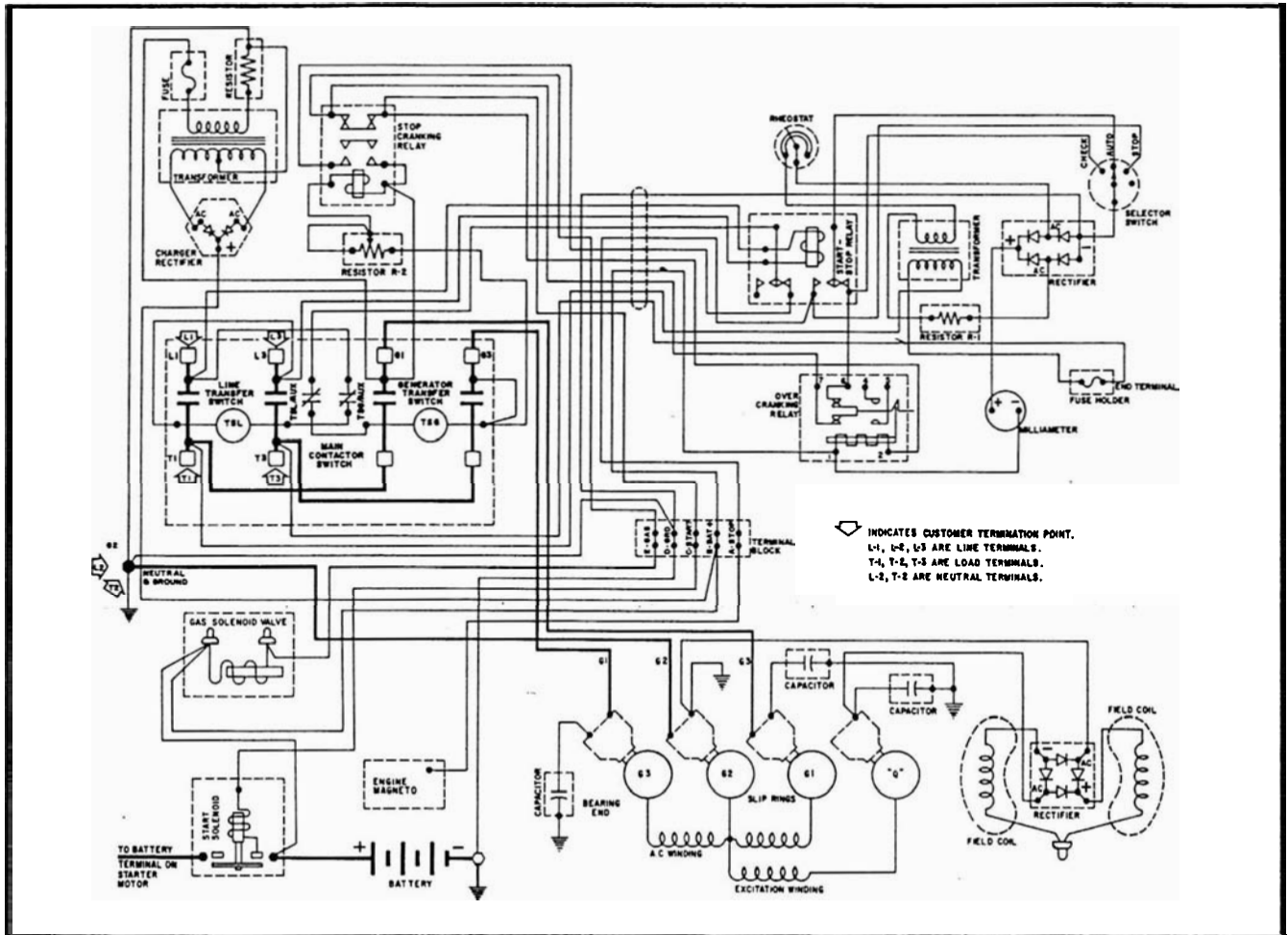




WIRING DIAGRAM & PARTS LIST

EMERGENCY POWER PLANT

MODEL PS18WH-3R — 18,000 WATTS



PS 18 WH-3R

HOW TO ORDER REPAIR PARTS

Please provide following information:

- Model Number
- Serial Number
- Part Description and Number as shown in Parts List.

Address order to:

WINCO

Division of Dyna Technology, Inc.

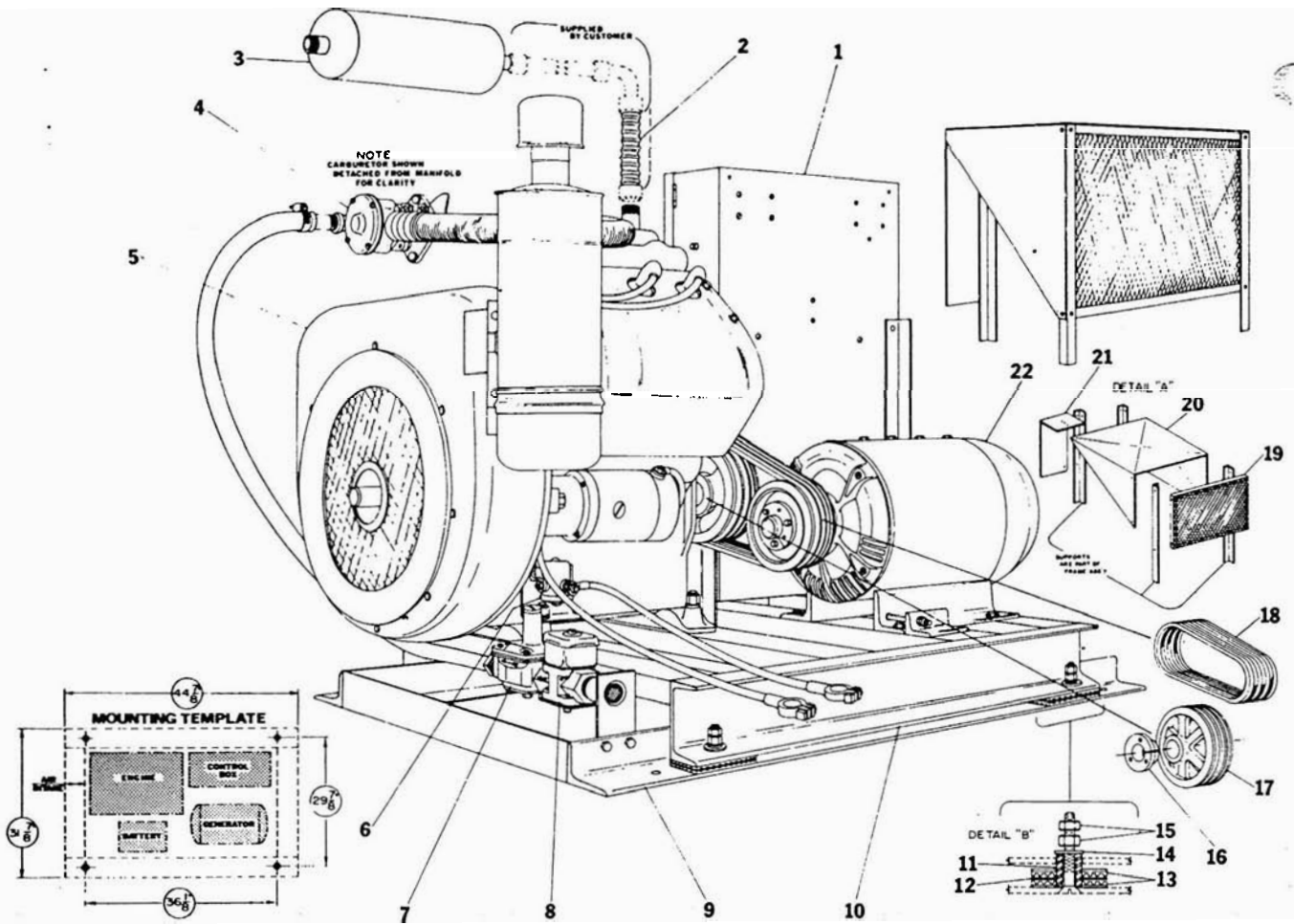
225 So. Cordova

Le Center, Minn. 56057

Attention: Service Dept.

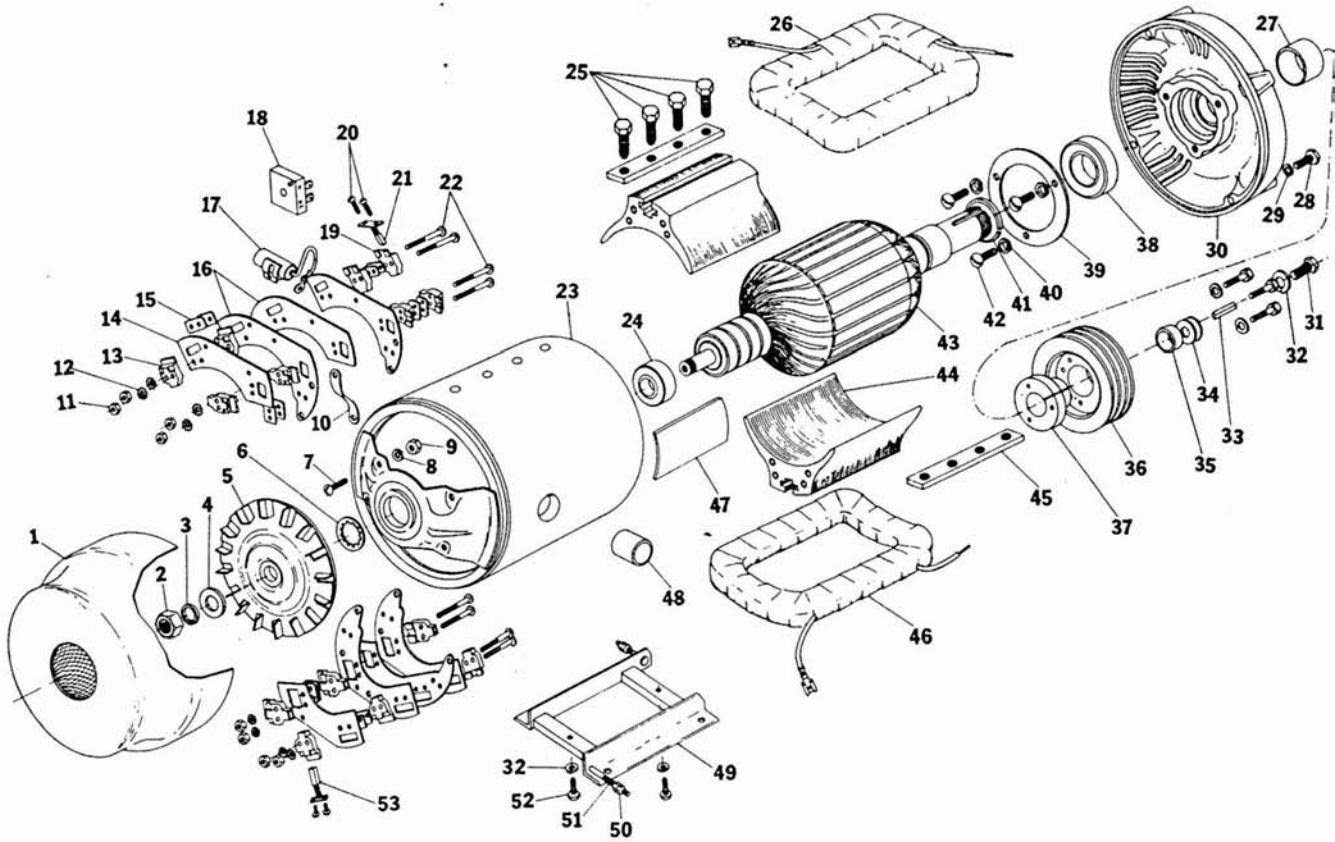
Ph. 612 357-6821

PARTS LIST— MODEL PS18WH

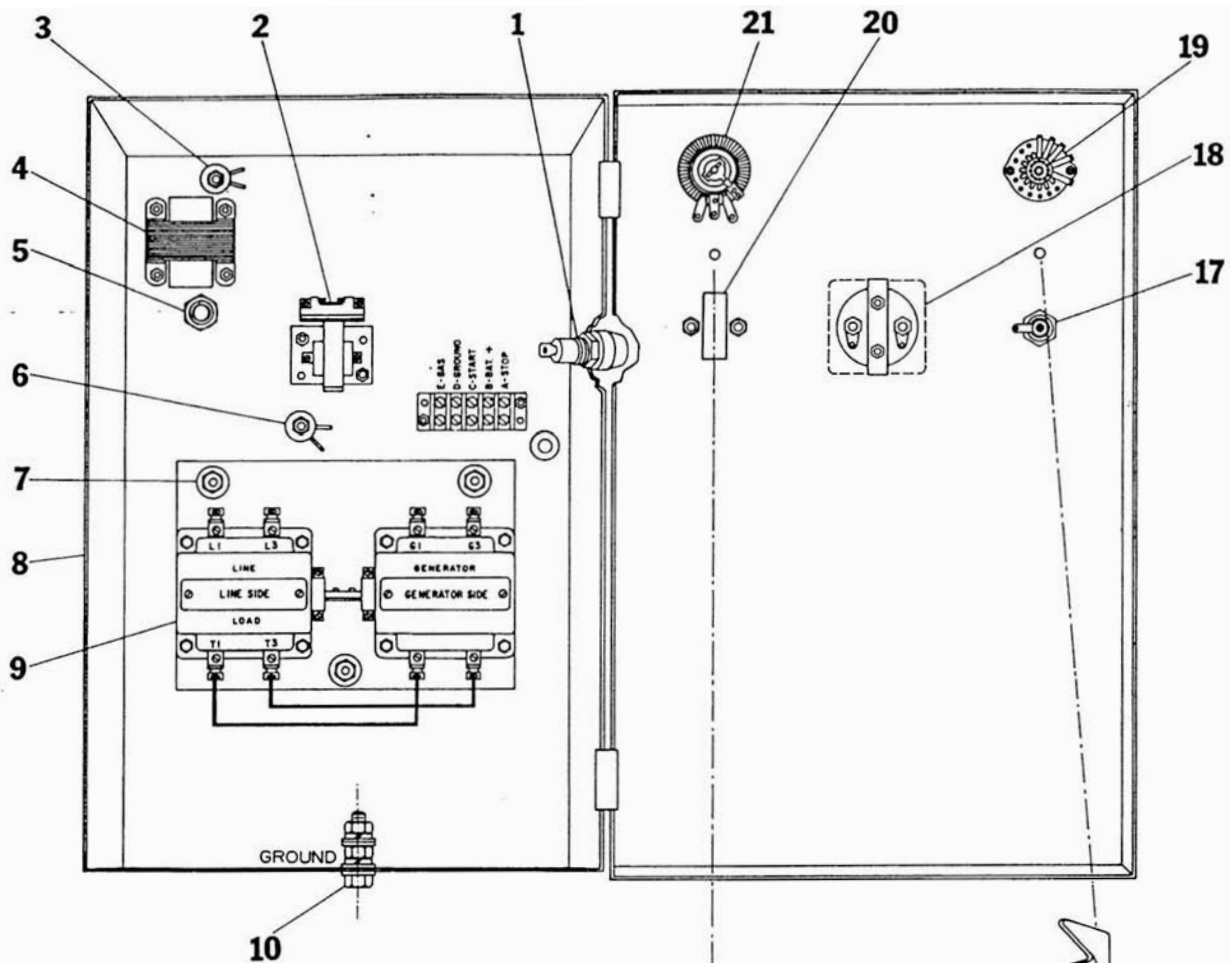


Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
1	ETC Panel -----	55945	1	12	Spacer Plate -----	56060	4
2	Flex Exhaust -----	80518-1	1	13	Shock Mount -----	56059	8
3	Muffler -----	80519-1	1	14	Flat Washer -----	9756	8
4	Carburetor -----	50852	1	15	Nut -----	1744	8
5	Engine -----	55982	1	16	Coupling -----	56057	1
6	Start Solenoid -----	24061	1	17	Sheave -----	56058	1
7	Regulator -----	50248	1	18	V Belt Set -----	56054	1
8	Gas Solenoid -----	42942	1	19	Screen -----	56104	1
9	Main Frame -----	55883	1	20	Generator Cover -----	55897	1
10	Sub Frame -----	55890	1	21	Belt Guard -----	55898	1
11	Hose (Spacer) -----	23048-12	4	22	Generator Only -----	55073-1	1

EMERGENCY POWER PLANT



Ref. No.	Description	Part No.	Qty.	Ref. No.	Description	Part No.	Qty.
1	End Cover	23634	1	27	Spacer	44634-3	1
2	Nut	9549	1	28	Cap Screw	51101	4
3	Lockwasher	20039	1	29	Lockwasher	480	4
4	Flatwasher	21867	1	30	End Bracket	56090	1
5	Fan	23404	1	31	Bolt	1741	1
6	Lockwasher	40552	1	32	Lockwasher	636	3
7	Machine Screw	4637	4	33	Key	44208	1
8	Lockwasher	484	4	34	Flatwasher	9756	2
9	Nut	456	4	35	Spacer	44634-5	1
10	Ground Strap	41387-1	2	36	Sheave	56091	1
11	Nut	5113	10	37	Bushing	56092	1
12	Lockwasher	6376	10	38	Bearing	46913	1
13	Brush Holder	23500-2	12	39	Retainer Ring	44318	1
14	Brush Holder Spacer	52559	2	40	Lockwasher	479	3
15	Fiber Spacer	23532	14	41	Snap Ring	21549	1
16	Brush Holder Mounting Plate	53975	6	42	Machine Screw	45633	3
17	Capacitor	41221	3	43	Armature	56086	1
18	Rectifier	53976	1	44	Pole Shoe	43473	2
19	Q Ring Brush Holder	23500	2	45	Retainer	43474	2
20	Machine Screw	40746	28	46	Field Coil	52563-1	1
21	Q Ring Brush	53949	2	47	Lead Shield	23478	1
22	Machine Screw	21977	4	48	Grommet	21346	1
23	Field Shell & Bracket	54784	1	49	Base Assembly	55895	1
24	Bearing (Brush End)	50215	1	50	Nut	459	4
25	Cap Screw	43781	7	51	Bolt	56056	2
25A	Cap Screw	54806	1	52	Cap Screw	48178	2
26	Field Coil	52563	1	53	A. C. Brush	24981	12



Ref. No.	Description	Part No.	Qty.
1	Fuse Holder -----	2489	1
1A*	Fuse Element -----	22219	2
2	Stop Cranking Relay	59944-014	1
3	Resistor -----	53953-2	1
4	Transformer -----	43945	1
5	Rectifier -----	53646	1
6	Resistor -----	22184	1
7	Rubber Grommet ----	50755	6
8	Surface Cabinet -----	22182	1
9	Contactor Switch Assembly -----	55801-1	1
9A	Line Side Contactor --	80546-5	1
9B	Generator Side Contactor -----	55803	1
10	Ground Bolt Assembly	49621	1
11	Start/Stop Relay ----	50259	1
12	Resistor -----	24787	1

Ref. No.	Description	Part No.	Qty.
13	Machine Screw -----	22587	1
14	Transformer -----	24785	1
15	Selenium Rectifier --	22191	1
16	Mounting Bracket ----	22243	1
17	Fuse Holder -----	2489	1
18	Milliammeter -----	22188	1
19	Selector Switch -----	22185	1
20	Over Cranking Relay -	48585	1
21	Rheostat -----	24786	1

*Item 1A is an element only used with items 1 & 17

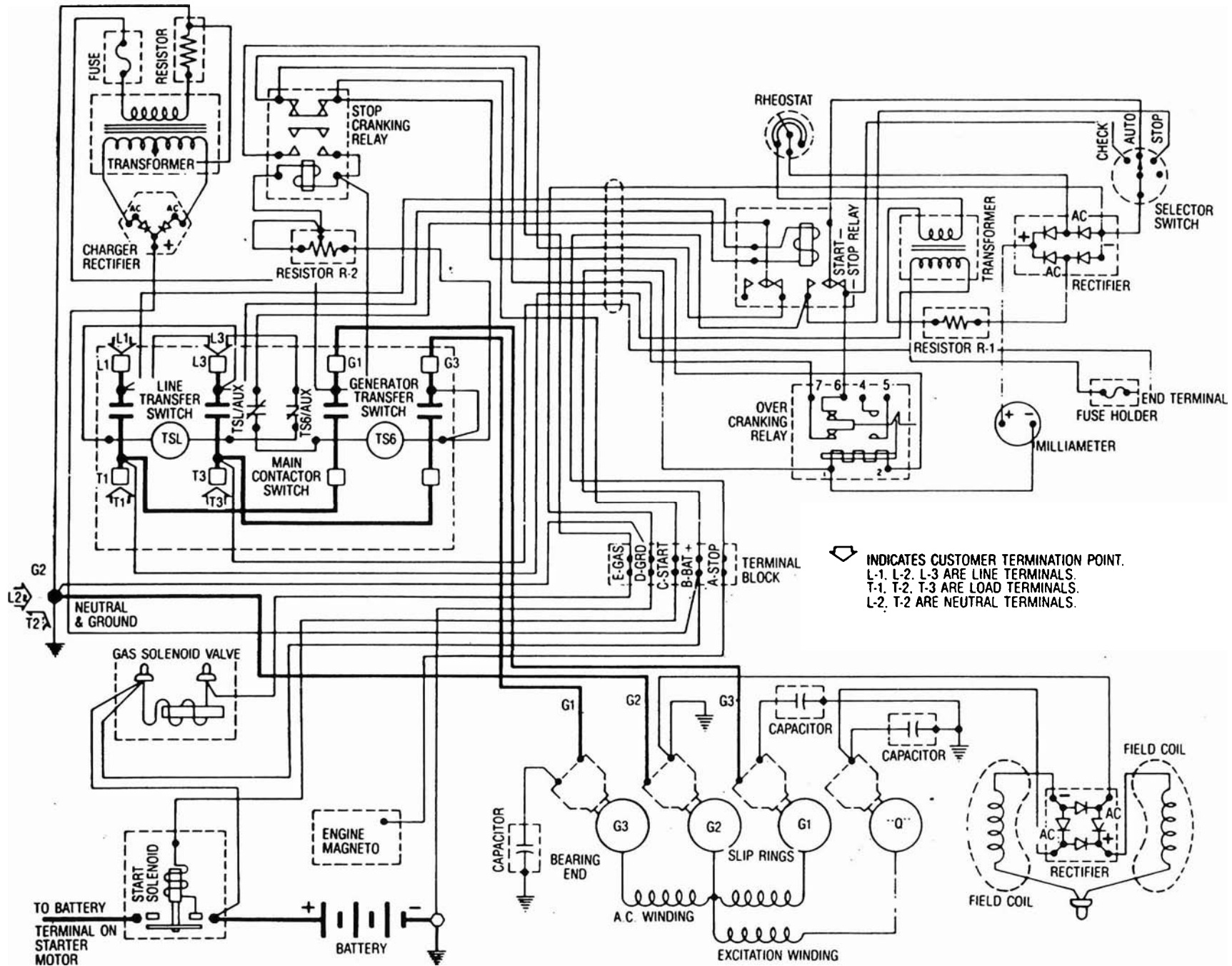


Figure 12

Trouble Shooting Chart

SYMPTOM	CAUSE(S)	CORRECTIVE ACTION
Generator will not crank when power is off with selector switch in "auto" or "check".	<ol style="list-style-type: none"> 1. Low or dead battery. 2. Loose or dirty terminal connections. 3. Battery not large enough. 4. Overcranking relay tripped. 5. Defective overcranking relay. 6. Def. selector (check/auto/stop). 7. Defective stop cranking relay. 8. Start/stop relay defective. 9. Def. start solenoid (at starter). 	<ol style="list-style-type: none"> 1. Check fluid level and specific gravity. 2. Clean and tighten connections. 3. 70 ampere hour (minimum) battery required. 4. Reset red button on front panel. 5. If relay trips in less than 50 sec. or does not trip after 60 sec. replace relay. 6. Check for good connections. Replace. 7. Check for broken wires, dirty or pitted contacts. Repair or replace. 8. Check for broken wires, dirty or pitted contacts. 9. Check and replace.
Generator will crank in check but not in "auto".	<ol style="list-style-type: none"> 1. Start/stop relay defective. 	<ol style="list-style-type: none"> 1. Repair or replace.
Generator cranks but engine will not start.	<ol style="list-style-type: none"> 1. Incorrect fuel pressure. 2. Defective engine ignition system. 3. Defective fuel solenoid valve. 4. Magneto grounded. 	<ol style="list-style-type: none"> 1. Fuel pressure to the unit must be 4 to 6 oz. or 7 to 11 inches water column. 2. Refer to engine operator's manual. 3. Check for loose/broken connections or open coil. Repair or replace. 4. Check magneto wiring for ground.
Engine will not stop with switch in "auto" position.	<ol style="list-style-type: none"> 1. Loose or open wire between the line and start/stop relay coil. 2. Defective start/stop relay coil. 3. Start/stop relay N.O. contacts dirty or corroded. 	<ol style="list-style-type: none"> 1. Set selector switch to the stop position. If engine does not stop short out the spark plug. Use a screwdriver with a well insulated handle. Repair or replace wire. 2. Test for 240 volts on coil. Relay should be energized by the commercial line. Replace if defective. 3. Clean contacts or replace relay.
Load will not transfer to generator during power line interruption.	<ol style="list-style-type: none"> 1. Open generator side contactor coil. 2. Defective LTS/AUX (electrical interlock contacts). 3. Defective stop cranking relay. 	<ol style="list-style-type: none"> 1. Test and replace coil. 2. Adjust or replace switch contacts. 3. Repair or replace.
Engine will not stop cranking or overcranking relay pops out and shuts down engine after it starts.	<ol style="list-style-type: none"> 1. Def. stop cranking resistor. 2. Defective stop cranking relay. 3. Defective OCR. 4. Loose wire in stop cranking circuit. 	<ol style="list-style-type: none"> 1. Adjust or replace. 2. Repair or replace; relay should trip between 50 and 75 sec of continuous cranking. 3. Repair or replace. 4. Repair.
No output or low output voltage.	<ol style="list-style-type: none"> 1. Open or shorted armature. 2. Open or shorted field coil(s). 	<ol style="list-style-type: none"> 1. Replace armature. 2. Replace field coil(s).

SYMPTOM	CAUSE(S)	CORRECTIVE ACTION
	<ol style="list-style-type: none"> 3. Generator operating below correct speed. 4. Generator overloaded. 5. Short circuit in the load. 6. Loose (or broken) wires or connections in the control box. 7. Defective rectifier. 8. Dirty slip rings. 9. Brushes binding in holders. 10. Loss of residual magnetism. 	<ol style="list-style-type: none"> 3. Generator must be operated at 3600 RPM +/- 90 RPM for proper output voltage. 4. Reduce load to generator nameplate. 5. Disconnect the load. Check voltage at receptacle. Check motors, appliances and load leads for short circuits. Repair short. 6. Remove panel cover and check all wiring and connections. Tighten and/or repair where necessary. 7. Test rectifier. Replace if defective. 8. Clean and polish. Use 00 sandpaper and crocus cloth, never emery paper. 9. Check brushes for swelling; replace defective brushes; clean brush holders. 10. Check output voltage with sensitive meter. If very low (e.g. 1/2 volt) flash fields with 12 VDC battery.
Output voltage too high.	<ol style="list-style-type: none"> 1. Engine speed too high. 	<ol style="list-style-type: none"> 1. See engine manual.
Generator overheating.	<ol style="list-style-type: none"> 1. Generator overloaded. 2. Armature rubbing pole shoes. 3. Poor ventilation. 4. Short circuit in fields. 5. Short turns in armature. 	<ol style="list-style-type: none"> 1. Reduce load. 2. Check bearing condition. Check field shell bearing bracket alignment. 3. Clear inlet and outlet air vents of debris. If unit is housed, insure at least 2 ft. clearance on all sides and inlet and outlet vents are of adequate size. 4. Repair or replace — open or shorted fields should be replaced. Grounded fields may be repaired by insulating at the point where the ground occurs. 5. Replace arm.
Sparking at the brushes.	<ol style="list-style-type: none"> 1. Generator overloaded. 2. Brushes not seated properly. 3. Slip rings rough or eccentric. 4. Brushes sticking in brush rack. 5. Brushes worn down shorter than 3/8 inch. 	<ol style="list-style-type: none"> 1. Reduce load. 2. Contour brushes (see maintenance). 3. Redress slip rings (see maintenance). 4. Remove brushes and inspect and correct problem. 5. Replace brush — note always replace brushes a full set at a time.
No milliammeter charging when engine generator is not running.	<ol style="list-style-type: none"> 1. Defective fuse (fuseholder is on upper front face of ATS cabinet). 2. Other milliammeter charging components are mounted on the inside of the cabinet door. Check transformer, resistor, rheostat and milliammeter. 	<ol style="list-style-type: none"> 1. Check and replace if req'd. 2. Replace defective component.