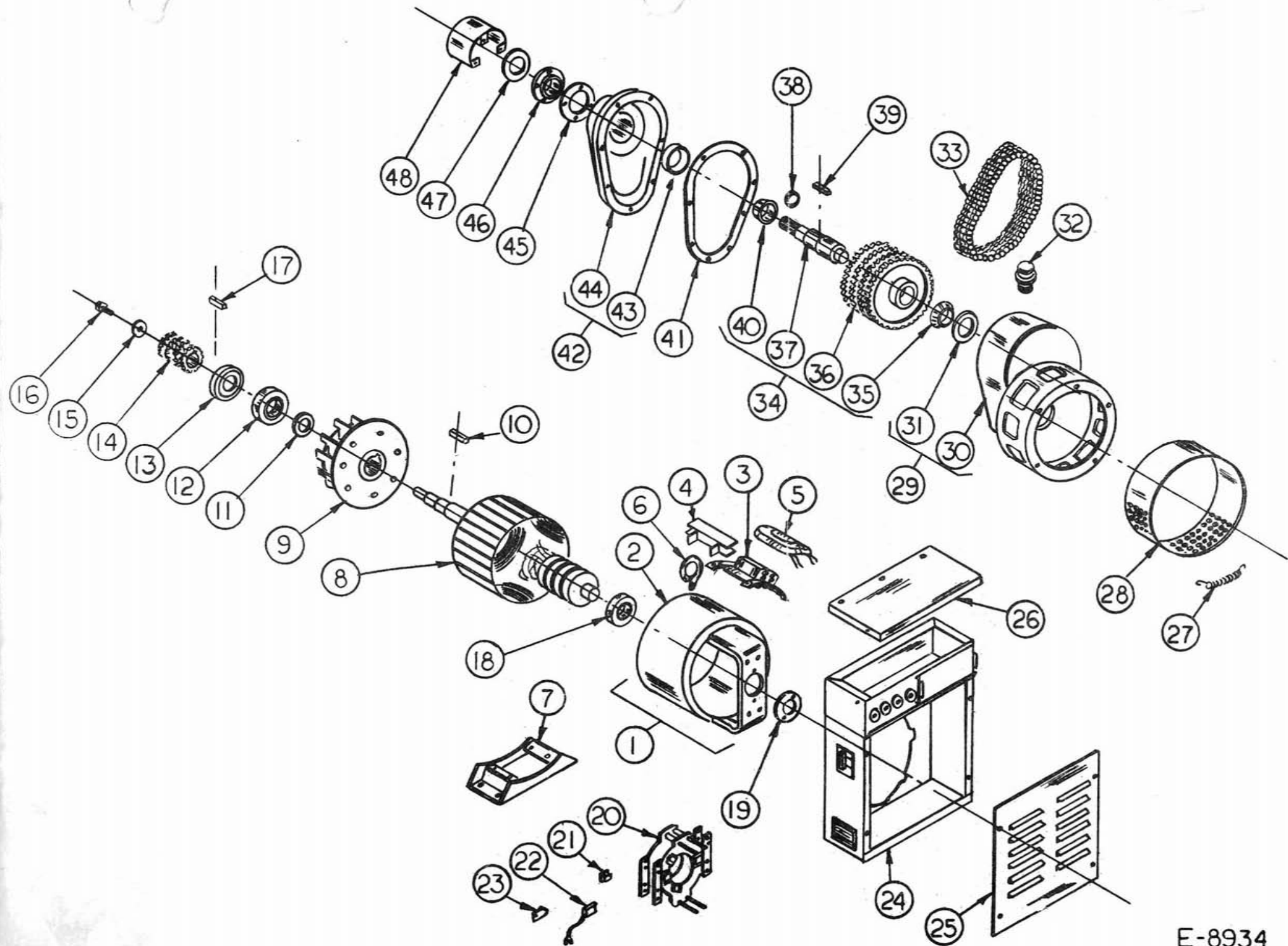


PARTS LIST
TRACTOR DRIVEN ALTERNATOR
45/25 MA

<u>FIND NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REQ'D/UNIT</u>
1	G-6067	Field Frame Assy	1
2	G-5431-2	Field Frame	1
3	G-6068	Field Pole	4
4	J-635	Coil Shield	8
5	H-1094	Field Coil	Set of 4
6	S-859	Lift Ring	1
7	G-5940-1	Base Assembly	1
8	G-4766-59	Armature Assy	1
9	G-5971-1	Fan Assy	1
10	S-2056-90	Fan Key	1
11	S-7019	Washer	1
12	D-3	Bearing - DE	1
13	TE-888	Grease Seal	1
14	S-7075-1	Sprocket - Lower - 4 Row	1
15	1207	Washer	1
16	11320-2	Screw	1
17	S-2056-83	Key - Sprocket	1
18	D-8	Bearing - Slip Ring End	1
19	W-43	Bearing Retainer	1
20	G-5430	Brush Gear Assy	1
21	4996	Tinnerman	8
22	Y-51	Brush	12
23	G-3422	Brush Spring	12
24	G-6069	Panel Back Assy	1
25	S-5851-1	Panel Front	1
26	S-6927	Panel Top Cover	1
27	S-7061	Spring	1
28	S-7037	Wrapper	1
29	G-5922	Gear Case Housing Assy	1
30	IO-869	Housing	1
31	D-27	Bearing Cup	1
32	10800	Vent Cap	1
33	G-6078	Drive Chain - 4 Row	1
34	G-5925-1	Drive Shaft Assy	1
35	D-28	Bearing Cone	1
36	S-7300	Sprocket 3 Row	1
37	N-593-4	Shaft 6 Spline 1-3/8 ASAE	1
38	S-7046	Washer - Hardened	1
39	S-2056-87	Key	1
40	D-70	Bearing Cone	1
41	X-197	Gasket	1
42	G-5924	Gear Case Cover Assy	1
43	D-71	Bearing Cup	1
44	IO-868	Gear Case Cover	1
45	X-198	Gasket	AR
46	IO-867	Retainer Plate	1
47	X-201	Seal - Upper	1
48	G-4770	PTO Guard	1

Wiring Diagram C-6498

Parts Drawing E-8934

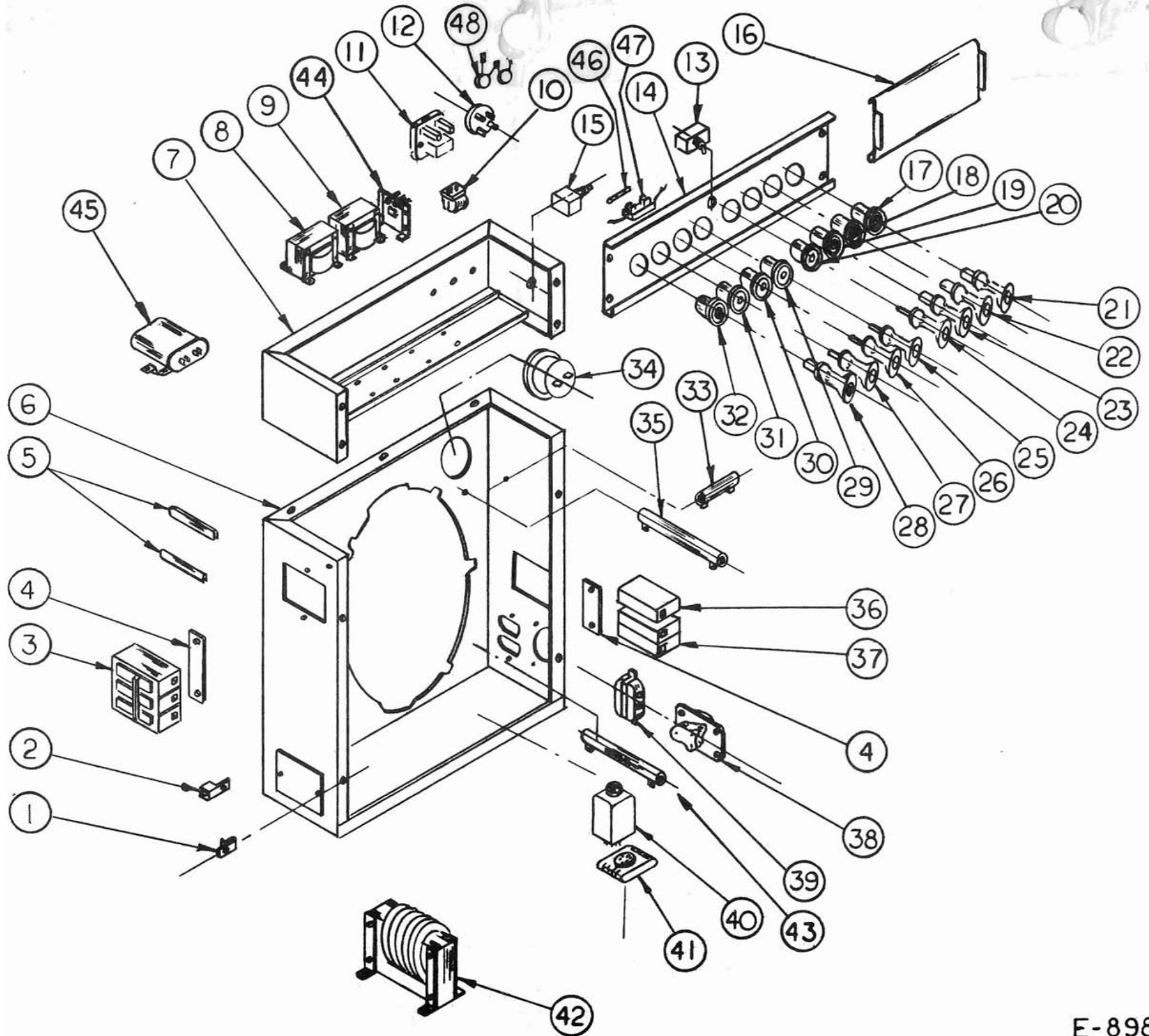


PARTS LIST
 PANEL BACK ASSY
 G-6069
 MODEL 45/25 MA

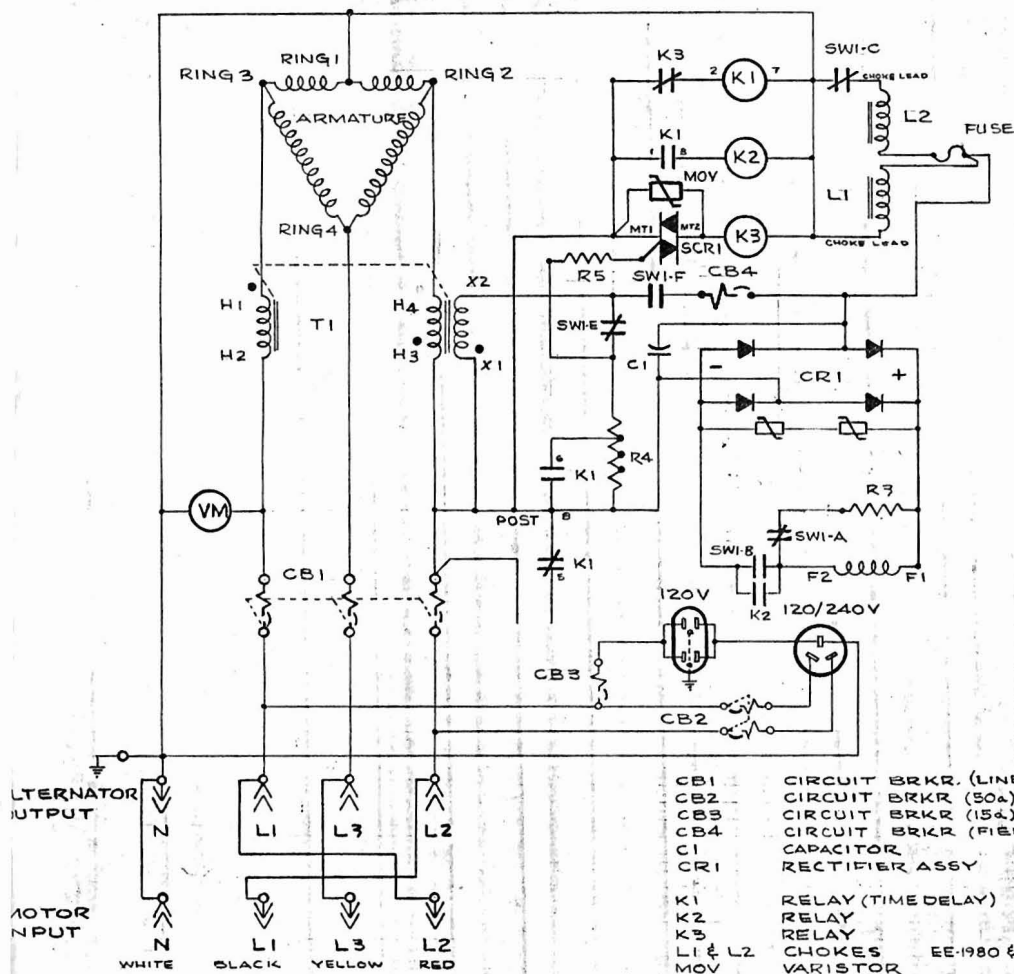
<u>FIND NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REQ'D/UNIT</u>
1	4957	Tinnerman	11
2	EE-1671	Ground Lug	1
3	EE-1862	Circuit Breaker (CB-1) ³ Pole	1
4	S-5027-1	Mounting Plate <i>100/125/125</i>	2
5	W-203	Insulator	2
6	G-5838-6	Panel Back	1
7	G-6066	Upper Panel	1
8	EE-1980	Choke L1	1
9	EE-1988	Choke L2	1
10	EE-1205	Relay (K3)	1
11	EE-1610	Relay (K2)	1
12	EE-2171	Rectifier Assy	1
13	EE-189	Switch - Motor-Alternator	1
14	G-6099	Panel Front Weld Assy	1
15	EE-1867	Field Breaker (CB4)	1
16	G-6098	Door Weld Assy	1
17	EE-1363	Receptacle - Pin Type - Yellow	1
18	EE-1364	Receptacle - Pin Type - Red	1
19	EE-1362	Receptacle - Pin Type - Black	1
20	EE-1368	Receptacle - Socket Type - White	1
21	EE-1366	Plug - Socket Type - Yellow	1
22	EE-1365	Plug - Socket Type - Black	1
23	EE-1367	Plug - Socket Type - Red	1
24	EE-1369	Plug - Pin Type - White	1
25	EE-1345	Plug - Pin Type - Yellow	1
26	EE-1340	Plug - Pin Type - Black	1
27	EE-1346	Plug - Pin Type - Red	1
28	EE-1342	Plug - Socket Type - White	1
29	EE-1347	Receptacle - Socket Type - Yellow	1
30	EE-1339	Receptacle - Socket Type - Black	1
31	EE-1348	Receptacle - Socket Type - Red	1
32	EE-1341	Receptacle - Pin Type - White	1
33	R-12	Resistor 5 Ohm 25 W	1
34	VM-59	Voltmeter	1
35	R-53	Resistor 25 Ohm 100 W	1
36	EE-1830	Circuit Breaker 15 Ampere (CB-3)	1
37	EE-1805	Circuit Breaker 50 Ampere (CB-2)	1
38	EE-303	Receptacle 3 Wire 50 Ampere	1
39	EE-323	Receptacle Duplex	1
40	EE-1222	Relay - Time Delay K1	1
41	EE-1207-1	Socket Base - Relay	1
42	EE-1979	Transformer	1
43	R-140	Resistor (R-3) 100 Ohm 100 W	1

PARTS LIST
PANEL BACK ASSY
G-6069
MODEL 45/25 MA

<u>FIND NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REQ'D/UNIT</u>
44	G-6100	Sub Assy (R-4 & SCR-1)	1
45	EE-1539	Capacitor W/Strap	1
46	EE-446	Fuse	1
47	G-6294	Fuse Block Assy	1
48	G-6295	Varistor Assy	1
	Wiring Diagram	C-6498	
	Parts Diagram	E-8985	

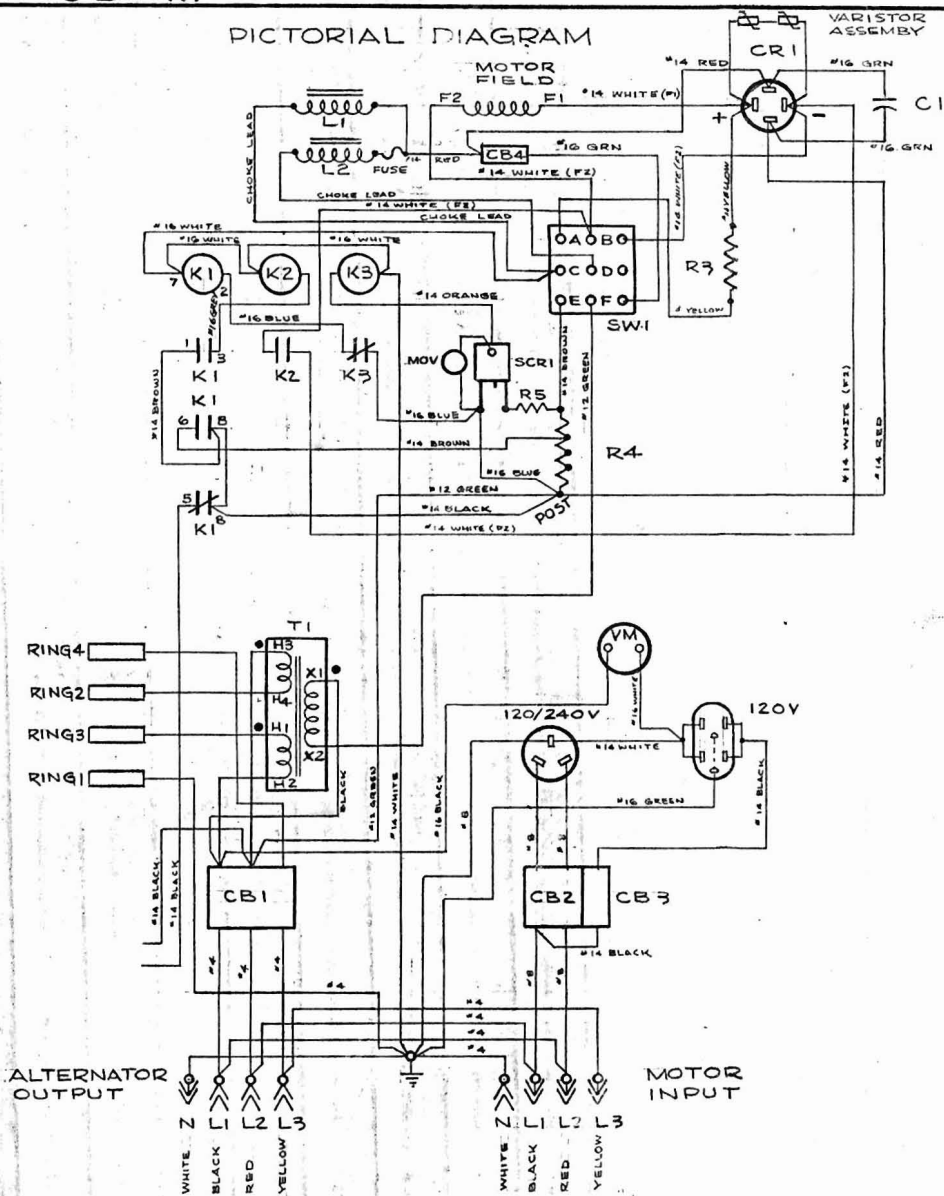


SCHMATIC DIAGRAM



- CB1 CIRCUIT BRKR. (LINE) EE-1862
- CB2 CIRCUIT BRKR. (50A) EE-1805
- CB3 CIRCUIT BRKR. (15A) EE-1830
- CB4 CIRCUIT BRKR. (FIELD) EE-1867
- C1 CAPACITOR EE-1539
- CR1 RECTIFIER ASSY EE2171
- K1 RELAY (TIME DELAY) EE1222
- K2 RELAY EE-1610
- K3 RELAY EE-1205
- L1 & L2 CHOKES EE-1980 & EE-1988
- MOV VARISTOR EE-2194
- R3 RESISTOR, 100W, 100Ω R-140
- R4 RESISTANCE WIRE H-1125
- R5 RESISTOR, 12W, 750Ω R-237
- SCR1 TRIAC EE2192
- T1 TRANSFORMER EE1979
- VM VOLT METER VM59
- SW-1 SWITCH MOTOR-ALT. EE-189

PICTORIAL DIAGRAM



NOTES:
 1. CONTACTS SHOWN FOR MOTOR OPERATION.
 2. USE ONLY L1, L2 & N FOR SINGLE PHASE LOADS.

E	POST WAS TO ALL	10-16-73	T.C.G.	PLATE
D	CHANGE RING 2 TO RING 3	9-4-73	T.C.G.	PLATE
C	ADD VARISTOR AND FUSE	7-23-73	T.C.G.	PLATE (NEW)
B	REV RING 2 & RING 3	5-3-73	M.E.	
A	REVISED COLOR CODE	3-19-73	T.C.G.	

CHANGE	WAS ORIGINALLY	DATE	CHK'D	CHG. REQUEST

NO. REQ'D.	MICROFILM DATA	JUN 27 1974
MATERIAL		

CIRCUIT DIAGRAM	
SCALE	MODEL NO. 45/25M
DATE 10-26-72	PART NO. 1C-6498
DWN T.C.G.	CHK'D
WINPOWER MFG. CO. NEWTON, IOWA	

OPERATION
AS
MOTOR

TYPE

As a motor the unit operates as a synchronous motor.

CHARACTERISTICS

A synchronous motor operates at a constant speed regardless of load. It must start as an induction motor. When the motor comes up to speed excitation is automatically applied and the motor goes into the synchronous motor mode. If the motor becomes heavily overloaded it falls out of step and goes into the induction motor mode.

CIRCUITRY FUNCTION (Refer to Dwg. C-6498) for 45/25 MAJD

Upon starting there will be a strong voltage signal across X1 and X2 of transformer T. This gives a voltage across R4 which triggers the Triac SCR1 into conducting and energizing relay K3. This prevents time delay relay K1 from energizing. When the motor comes up to speed the current decreases. The voltage signal across R4 decreases and falls below a value required to keep SCR1 conducting. K3 is then deenergized and K1 becomes energized. Its contacts are activated after a short time delay and when its contacts are activated relay K2 is energized and it closes the field circuit and excitation is applied to the field. The motor is now operating in the synchronous motor mode. If a heavy overload is applied on the motor and the motor falls out of step the load current will be such as to increase the voltage across R4 which will cause SCR1 to conduct and energize K3. This deenergizes K1 which removes the excitation from the field.

CONNECTION

The power supply must be a 120/240 volt, 4 wire, 3 phase delta to operate this motor as it left the factory. It will operate off a 240, 3 wire wye system if it is ungrounded.

If the motor does not have the proper direction of rotation, reverse the black and red plugs.

TROUBLE SHOOTING

Trouble	Cause	Remedy
Motor will not start	Open in one line	Determine if there is current in all phase lines.
	Low line voltage	Transformers and/or cables may not be adequate.
	Damper winding defective	Look for broken connections or rings.
	Motor overloaded	Reduce load
	Shorted armature	Replace armature
	Open circuit breaker	Close breaker
	Armature mechanically locked	Remove fan guard and determine if armature is free. If not check field pole bolts for tightness.
Wrong rotation	Wrong connection	Reverse black and red leads.
Motor runs but output shaft does not turn	Broken chain	Replace chain
Motor fails to synchronize	Defective K1 or K2 relay. Defective Triac (SCR1) or rectifier assembly	Check components and replace if necessary.
	Load too heavy	Lighten load

(Use C-6544 for 80/40 MAJD)

MAINTENANCE

Refer to maintenance in generator section.