L-121-250
LOAD BANK
OPERATING MANUAL

CANNON LOAD BANKS, INC.
502 PARK STREET
PALMETTO, GA. 30268
770 - 463 - 0504

This load bank is manufactured and protected under U. S. Patent number 4,445,047

MANUAL FOR L-121-250 LOAD BANK

TABLE OF CONTENTS

DESCRIPTION

1-1 PURPOSE OF LOAD BANK: The L-121-250 is a portable load bank designed to be used for field servicing and testing ups batteries.

1-2 RATING OF LOAD BANK: The L-121-250 load bank is designed to load test a 120 volt (60 cells) battery system. The load bank will operate only on D.C. The load bank is adjustable from 0-250A. The over temperature switch will turn the load off to prevent the load bank from overheating. It resets automatically.

1-3 LOAD BANK DESCRIPTION: The load bank is completely self-contained and needs no power source to operate other than the battery. The different sides of the load bank are shown in fig. 1-1. The air enters the right side (fan side) and exits the left side.

<<<< AIR FLOW <<<<

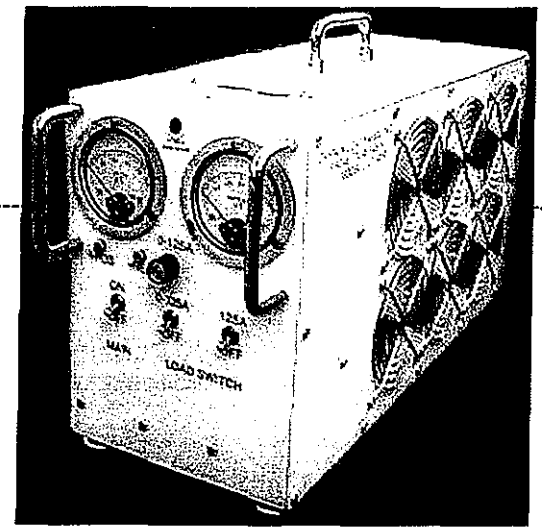
LEFT SIDE ----------  ---- RIGHT SIDE (FAN SIDE)

FIGURE 1-1

LENGTH	20 IN.
WIDTH	8 IN.
HEIGHT	11 IN.
WEIGH	50 LBS.

CONTROL PANEL LAYOUT
L-121-250

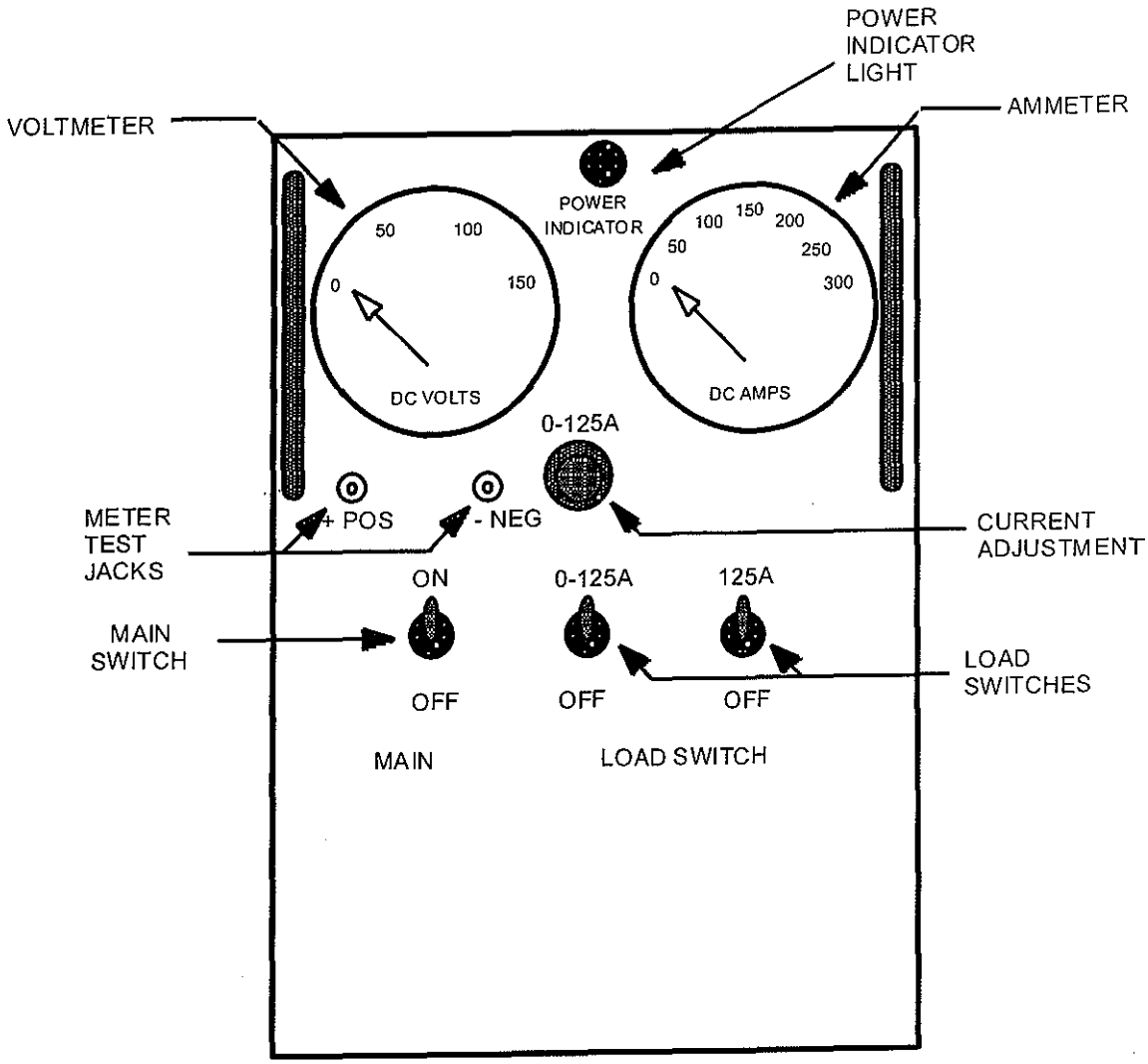


FIG. 1-2

1-4 CONTROL DESCRIPTION: The following is a description of the controls on the control panel (see figure 1-2 on page 2).

VOLT METER - A 150 volt meter used to measure the voltage at the load bank. It should read less than130V.

AMMETER - A 300 amp ammeter used to measure the load being used by the load bank.

MAIN SWITCH - Switch used to turn on the load bank.

LOAD SWITCHES-0-125A and 125A for selecting from 0 to 250A.

CURRENT ADJUSTMENT - Used to adjust the 0-125A step on the load bank.

METER TEST JACKS - This provides a place to connect an external volt meter.

POWER INDICATOR LIGHT - A light to indicate when the load bank has power connected.

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OPERATION

2-1 SETTING UP THE LOAD BANK - Place the load bank in an area free from fuel, oil, or any other flammable substance. The load bank should be positioned so that any strong wind or air currents will flow with the air flow of the load bank. Do not place on top of the battery.

2-2 APPLYING POWER - The load bank should be connected to a battery system of 120-130 VDC. A cable has been supplied to connect to the batteries. Connect the cable to the batteries, making sure that the polarity is correct. Turn the switch off on the load bank. Plug the power cable plug in to the load bank.

2-3 CHECKING THE POWER - check the following:

A. The voltmeter should read approximately 130V.
B. The ammeter should read 0A.

2-4 APPLYING THE LOAD - The load switches should now be turned on as needed. Turning on the 0-125A load switch allows the current adjustment to be used to select between 0 and 125A. An additional 125A may be added by turning on the 125A load switch. As the voltage drops the current may need to be adjusted.

2-5 SHUTTING DOWN - After turning the load off, allow the load bank to cool down before turning the control switch off. Disconnect the power cable plug from the load bank. The cable may now be disconnected from the batteries.

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PARTS INFORMATION

The following pages list the parts used in the load bank. All of the major parts are shown. Wire, screws, bolts, and small miscellaneous hardware are not listed. Parts that are purchased from a vendor will show a vendor name. These names refer to the vendor list is on page 8. Parts manufactured for or by Cannon Load Banks will not show a vendor name.

A part number can be found by first locating the part on a drawing. After finding the part use the number to refer to the parts list on the opposite page. Each part will have a drawing number, Cannon Load Banks part number, description and the number used for each load bank.

Parts should be ordered from the address below giving the machine model number, part number and the description.

CANNON LOAD BANKS, INC.
502 PARK STREET
PALMETTO, GA. 30268
PHONE 770 - 463 - 0504

CONTROL PANEL PARTS
L-121-250

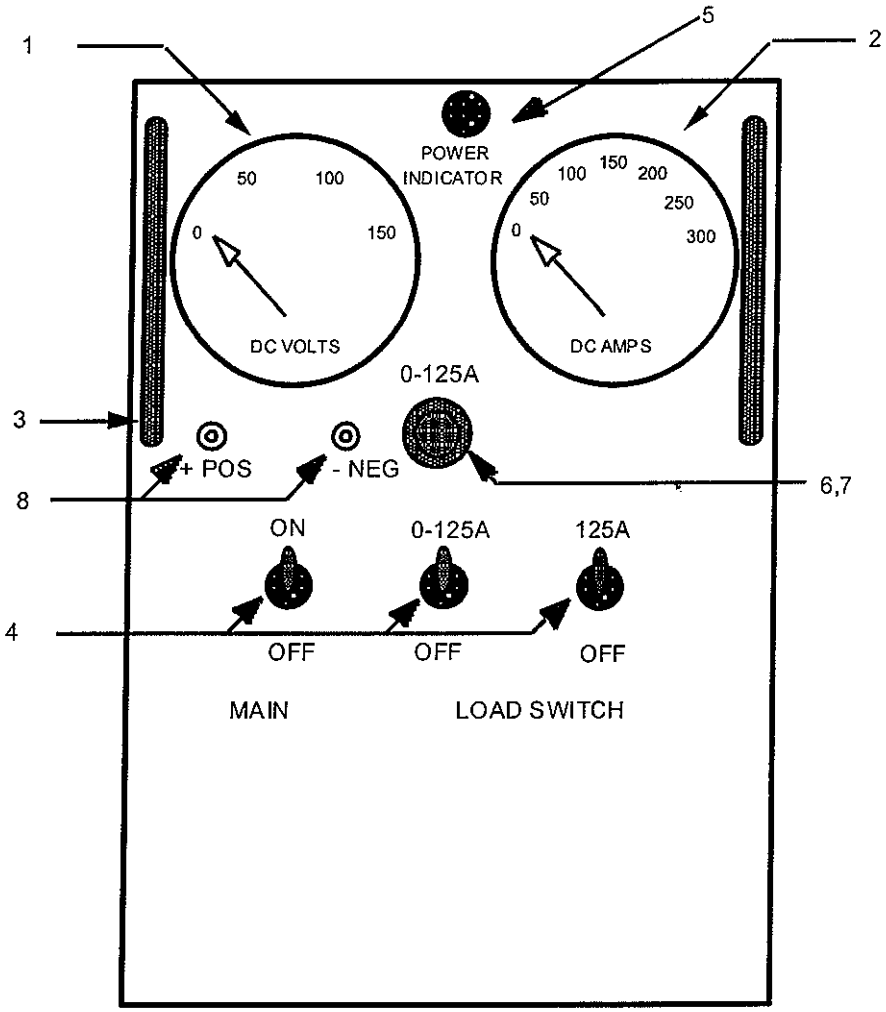

FIG. 3-1

CONTROL PANEL PARTS
FIGURE 3-1

DRAWING NUMBER	PART NUMBER	DESCRIPTION VENDOR NO.	NUMBER USED
1	MR-61	0 - 150V VOLT METER	1
2	MR-02	0 - 300A AMMETER	1
3	HD-25	HANDLE V-VEMALINE PRODUCTS (LR185-32)	2
4	SW-22	TOGGLE SWITCH DPST	3
5	LT-11	LIGHT 120VDC GREEN	1
6	KN-15	KNOB	1
7	RH-50	10 TURN POTENTIOMETER 5KΩ	1
8	TP-10	METER TEST JACKS	2

INTERIOR PARTS LAYOUT

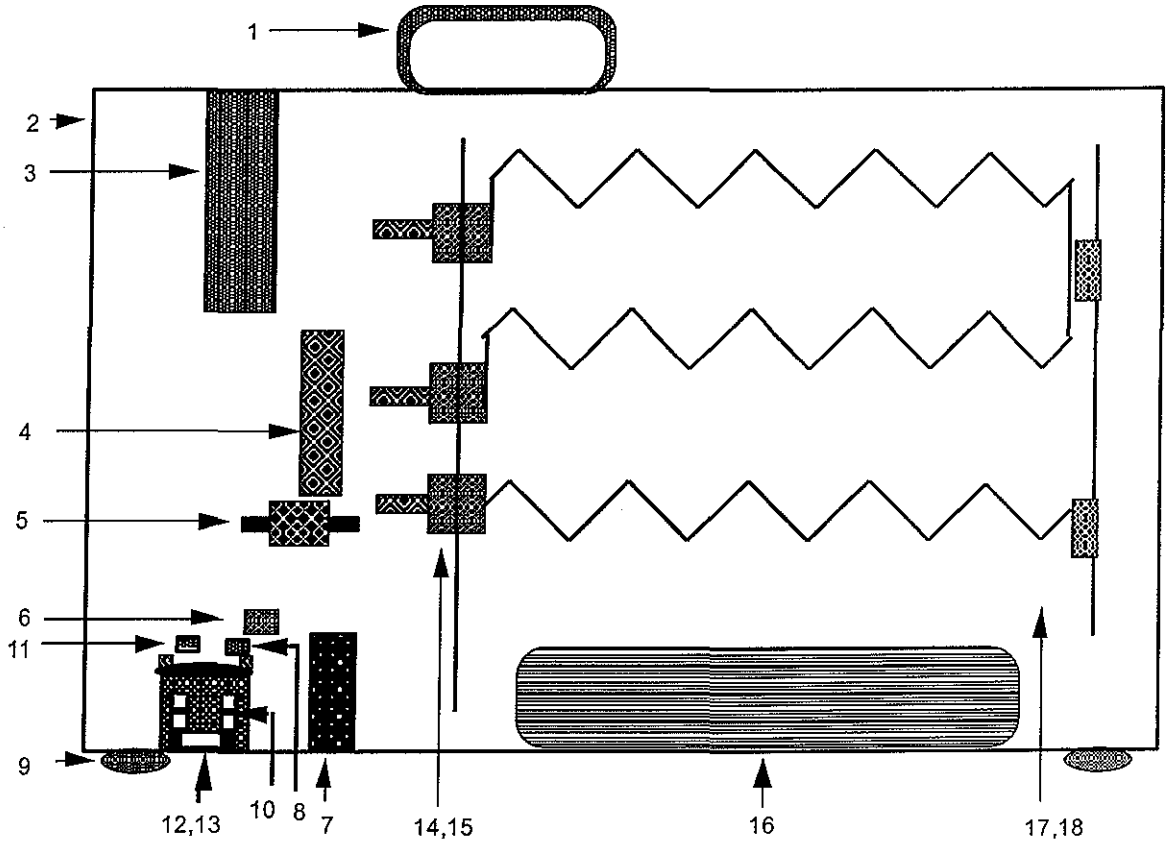

FIGURE 3 - 2

INTERIOR PARTS
FIGURE 3-2

DRAWING NUMBER	PART NUMBER	DESCRIPTION VENDOR NO.	NUMBER USED
1	HD-10	FOLDING HANDLE V- VEMALINE PRODUCTS (EM 155-32)	1
2	BX-28	20" X 11" X 8" ALUM BOX	1
3	RP-35	350 A SB CONNECTOR V- ANDERSON POWER PRODUCTS (6325G1)	1
4	SH-30	SHUNT 300A 50MV	1
5	FS-35	FUSE 350A V-BUSMAN (JJN-350)	1
6	RC-25	RESISTOR 560Ω 5w	1
7	RC-10	RESISTOR 10Ω 100w	1
8	RD-20	2A DIODE	1
9	FT-10	GLIDES	4
10	LC-20	48V 200A CONTACTOR ALBRIGHT	2
11	RD-10	1A DIODE	2
12	FS-20	FUSE HOLDER V-BUSSMANN (3823-1)	1
13	FS-50	FUSE 5A V-BUSSMANN (AGC 5)	1
14	HW-20	CERAMIC INSULATOR	10
15	HW-25	INSULATOR WASHER	20
16	CC-120	CURRENT CONTROL	1
17	LR-96	LOAD RESISTOR 125A -.96Ω	1
18	LR-48	LOAD RESISTOR 67.5A-.48Ω	2
*	GL-24	RESISTOR GRILL	1

FAN PANEL PARTS LAYOUT

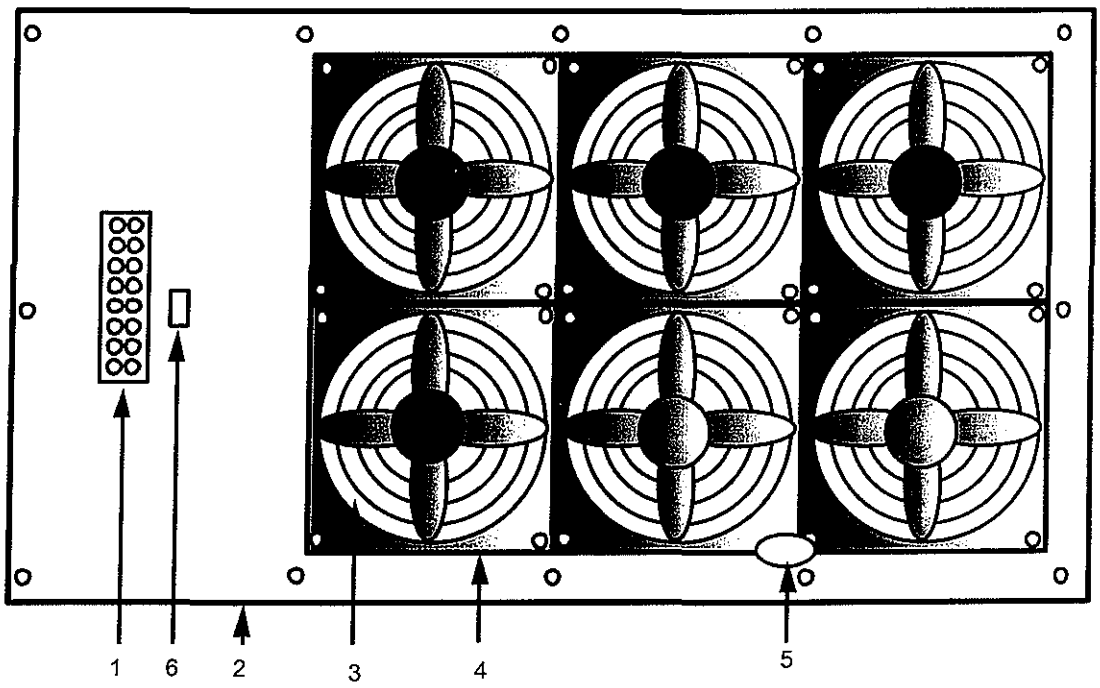

FIGURE 3 - 3

FAN PANEL PARTS
FIGURE 3-3

DRAWING NUMBER	PART NUMBER	DESCRIPTION VENDOR NO.	NUMBER USED
1	TM-20	8 POSITION TERMINAL STRIP V-BEAU PRODUCTS (78008)	1
2	FP-28	ALUM. FAN PANEL	1
3	GL-10	FAN GRILL CHROME V-MERRILL (B-22662)	6
4	FN-24	24VDC FAN V-EBM (W2G110-AK43-31)	6
5	TS-15	THERMAL SWITCH V-GEMLINE (L-155)	1
6	RD-20	2A DIODE	1

VENDOR LIST

The following is a list of vendors for parts shown in the parts list.

VENDOR

Anderson Power Products
145 Newton St.
Boston MA. 02135

Allied Electronics, Inc.
3425 Corporate Way, Suite A
Duluth, Ga. 30136

Bussmann Manufacturing
Distributed by Allied

Control Design Supply
1939-F Parker CT
Stone Mountain, GA. 30087

Cutler-Hammer
Distributed by Peerless

EBM Industries, Inc.
Distributed by Peerless

E.F. Johnson
Distributed by Peerless

Electric Supply Co.
433 Bishop St.
Atlanta, Ga. 30325

Gemline Products, Inc.
12472 Edison Way
Garden Grove, Ca. 92641

Merrill Manufacturing Corpation
236 South Genesee Street
Merrill,WI. 54452

Peerless Radio Corporation
3101 towercreek Pkwy, Suite 590
Atlanta, GA. 30339

Syrelec Electronics Corp.
Distributed by Control Design

Vemaline Products
333 Strawberry Field Rd.
Warwick, RI. 02887

GENERAL SERVICE

There is no regular maintenance required on the load bank. There are no adjustments inside the load bank. It should however be checked periodically for defective fans, burned out light bulbs, and defective meters.

To remove the fan panel, remove the screws around the outer edge.

The meters can be removed and replaced from the front panel.

The fan grills should be kept free of any trash.

Do not place any objects in the fan or resistor grill.

FAN REPLACEMENT

The following are steps to take to replace a defective fan.

1. Remove the screws holding the fan panel to the load bank.
2. Remove the three wires on the terminal strip that come from the load
2. Drill out the rivets holding the fan (four on each side).
3. Lift up the fan and unplug it from the wire attached to the fan.
4. Plug a new fan into the same wire making sure that the fan is in the same position as the old fan.
5. Rivet the new fan back to the fan panel along with the fan grill.
6. Install the three wires back on the terminal strip.Place the fan panel b bank.

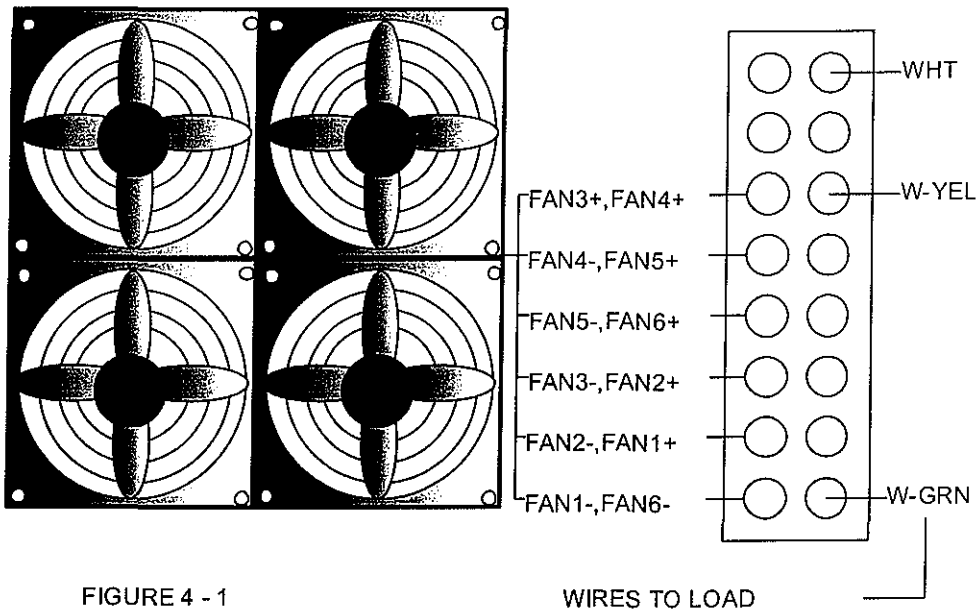

FIGURE 4 - 1

The diagram below shows the proper installation of the resistor insulators.

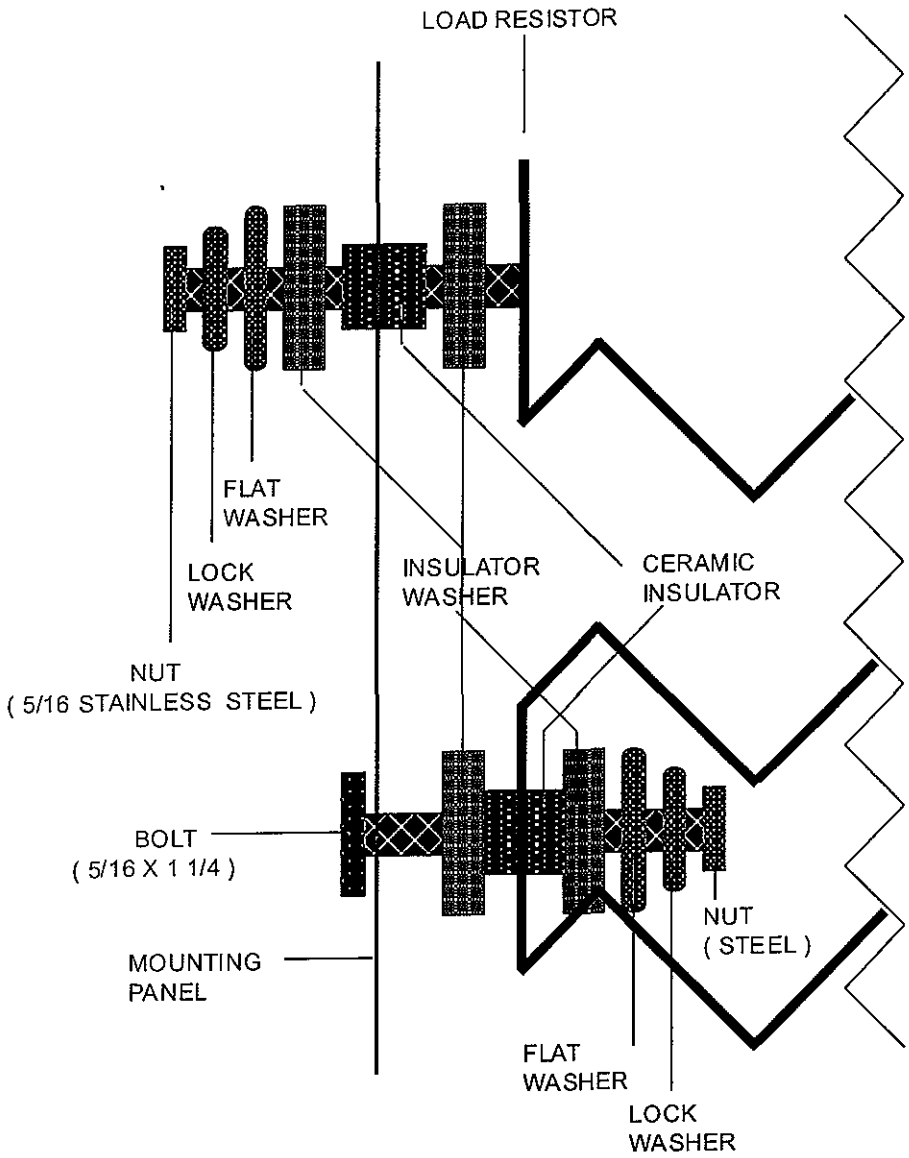

FIGURE 4 - 2

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INTERIOR WIRING L-121-250

C1	CURRENT CONTROL
DI,2	1A DIODE
D4	2A DIODE
FS1	5A FUSE
FS2	350A FUSE
K1-2	48V 200A RELAY-ALBRIGHT
L1	120V LIGHT
LR1	LOAD RESISTOR 125A
LR2-3	LOAD RESISTOR 67.5A
M1	150V METER
M2	300A METER
R1	560 RESISTOR 5W
R2	10 RESISTOR 100W
R3	5K RHEOSTAT
RP1	350A BLUE RECEPTACLE
SU1	300A SHUNT
SW1-3	DPST SWITCH 10A
TP1,2	TEST JACK

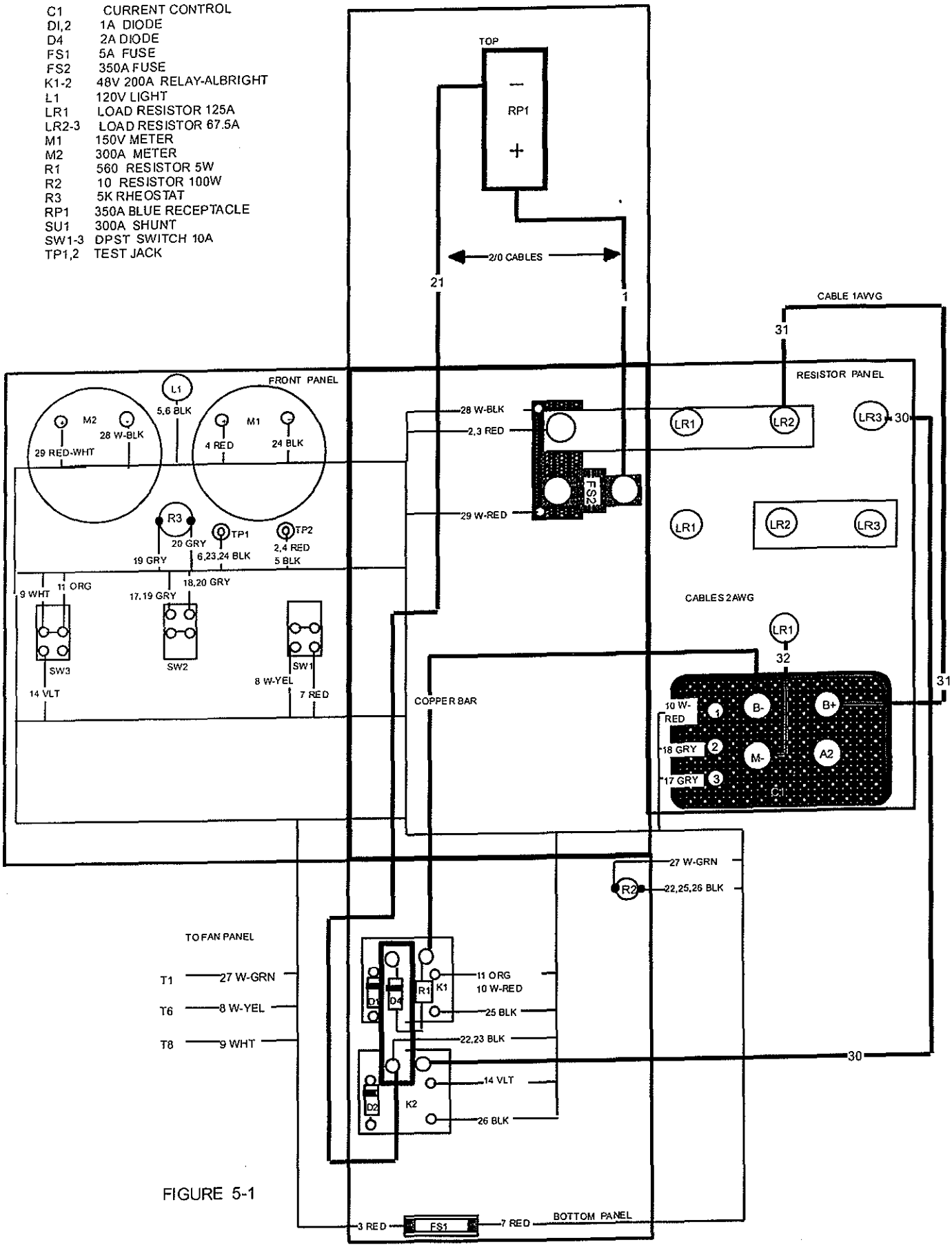

FIGURE 5-1

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FAN PANEL WIRING

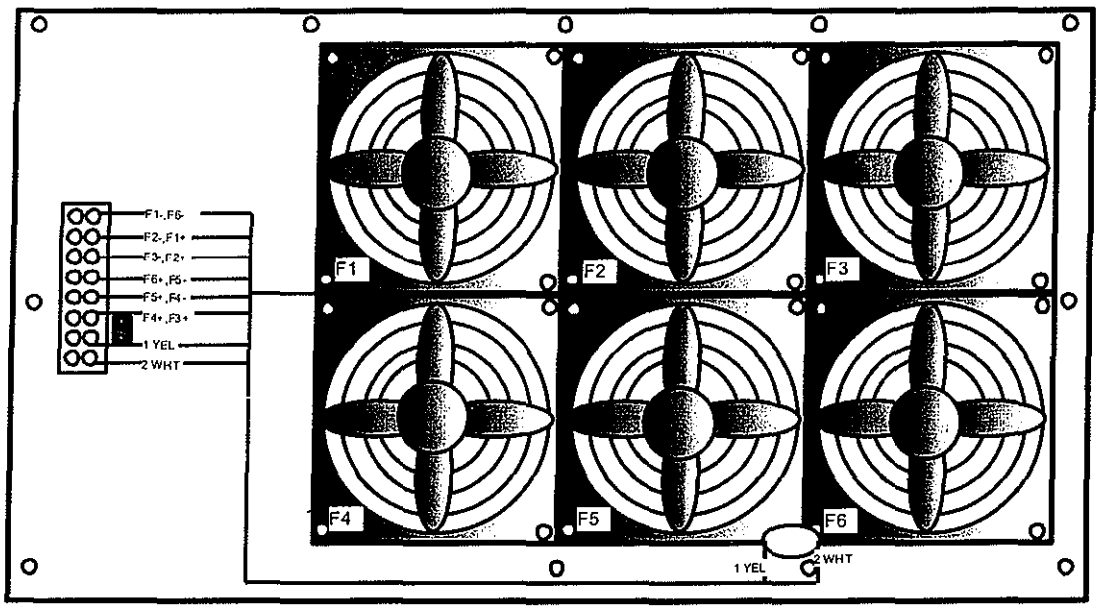

FIGURE 5 - 2

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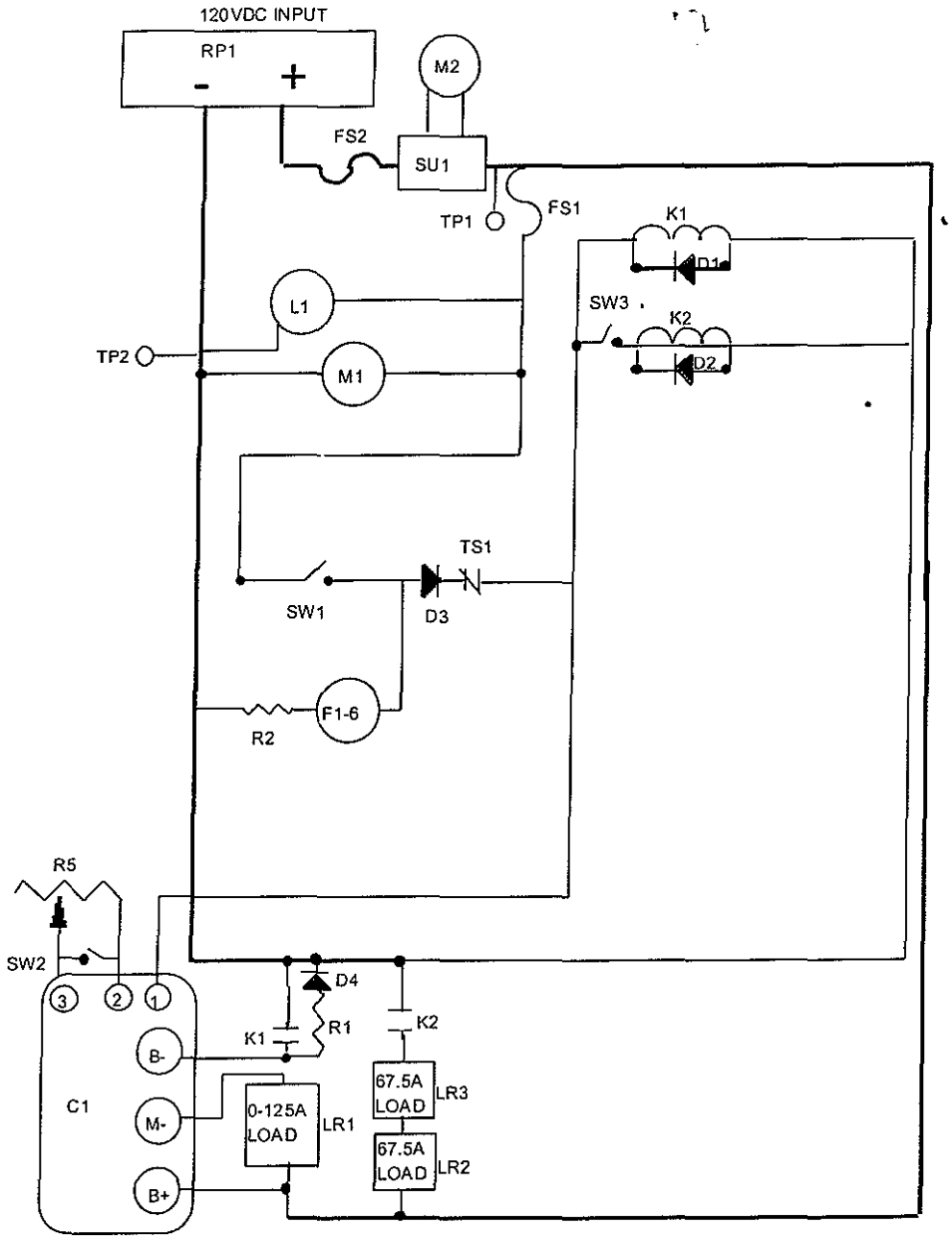
L-121-250 SCHEMATIC DIAGRAM



C1	LOAD CONTROL	L1	120V LIGHT	R5	5K POTENTIOMETER
D1-2	1A DIODE	LR1-3	LOAD RESISTOR	RP1	350A RECEPTACLE
D3,4	2A DIODE	M1	150V METER	SU1	300A SHUNT
F1-6	28V FAN	M2	300A METER	SW1-3	SWITCH DPST
FS1	5A FUSE	R1	560 5W RESISTOR	TS1	THERMAL CUT-OFF
FS2	350A FUSE	R2	10 100W RESISTOR		
K1-2	48V CONTACTOR				
200A					

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