L-48-500
LOAD BANK

MANUAL CONTAINS
OPERATING INSTRUCTIONS
PARTS LIST
WIRING DIAGRAMS
SERVICE INSTRUCTIONS

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

MANUAL FOR L-48-500 LOAD BANK

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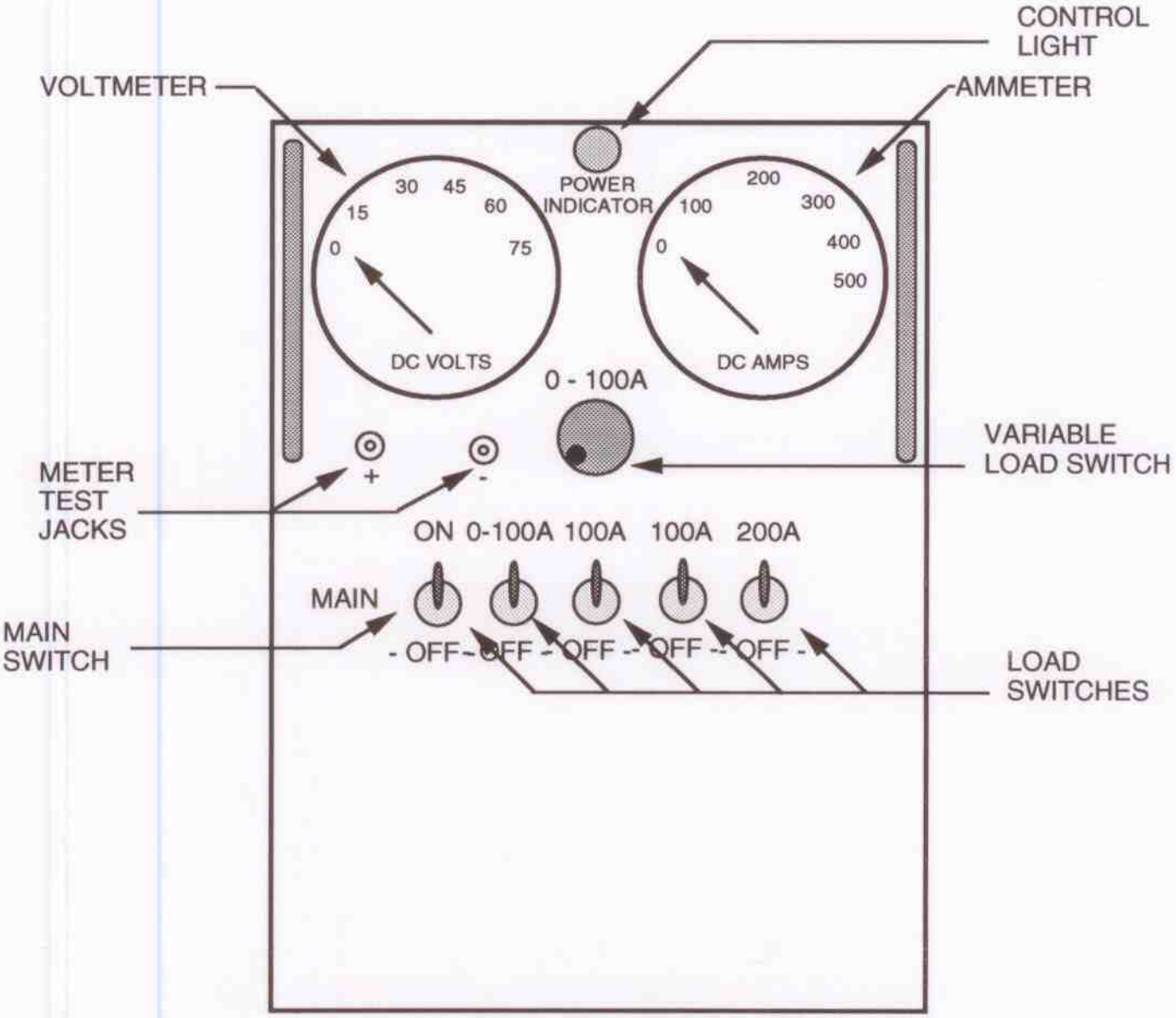
CONTROL PANEL LAYOUT



MODEL L-48-500

FIGURE 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).

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

VOLT METER - A 75 volt meter used to measure the voltage at the load bank. It should read the battery voltage.

AMMETER - A 500 amp ammeter used to measure the load being used by the load bank.

CONTROL LIGHT - A light to indicate when the load bank is connected to a battery.

MAIN SWITCH - A switch used to turn load bank on.

LOAD SWITCHES - These switches are used to select the load that is needed. Any combination of loads up to 500A can be selected. The loads are figured for 48VDC and may vary slightly depending on the supply voltage. Continous load should not exceed 500 amps.

POWER RECEPTACLE - This is used to connect the power to the load bank.

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.

2-2 APPLYING POWER - The load bank should be connected to a the system through the terminals on top of the load bank. Turn the MAIN switch OFF on the load bank. Connect the 48VDC power cable to the load bank.

2-3 CHECKING THE POWER - check the following:

A. The voltmeter should read approximately 48V.
B. The ammeter should read 0A.

2-4 APPLYING THE LOAD - If the above steps checked OK, turn the MAIN switch ON. This will turn the fans and the control circuit on. The load steps may now be turned on as needed. There are three fixed load switches and one adjustable load switch. The load steps may be turned on as needed. The switches may be positioned to select a 0-500A load. The 0-100A load must to reset to 0 than adjusted as needed at the start of each use.

2-5 SHUTTING DOWN - After turning the load off, allow the load bank to cool down before turning the MAIN switch off. Disconnect the power cable from the load bank.

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

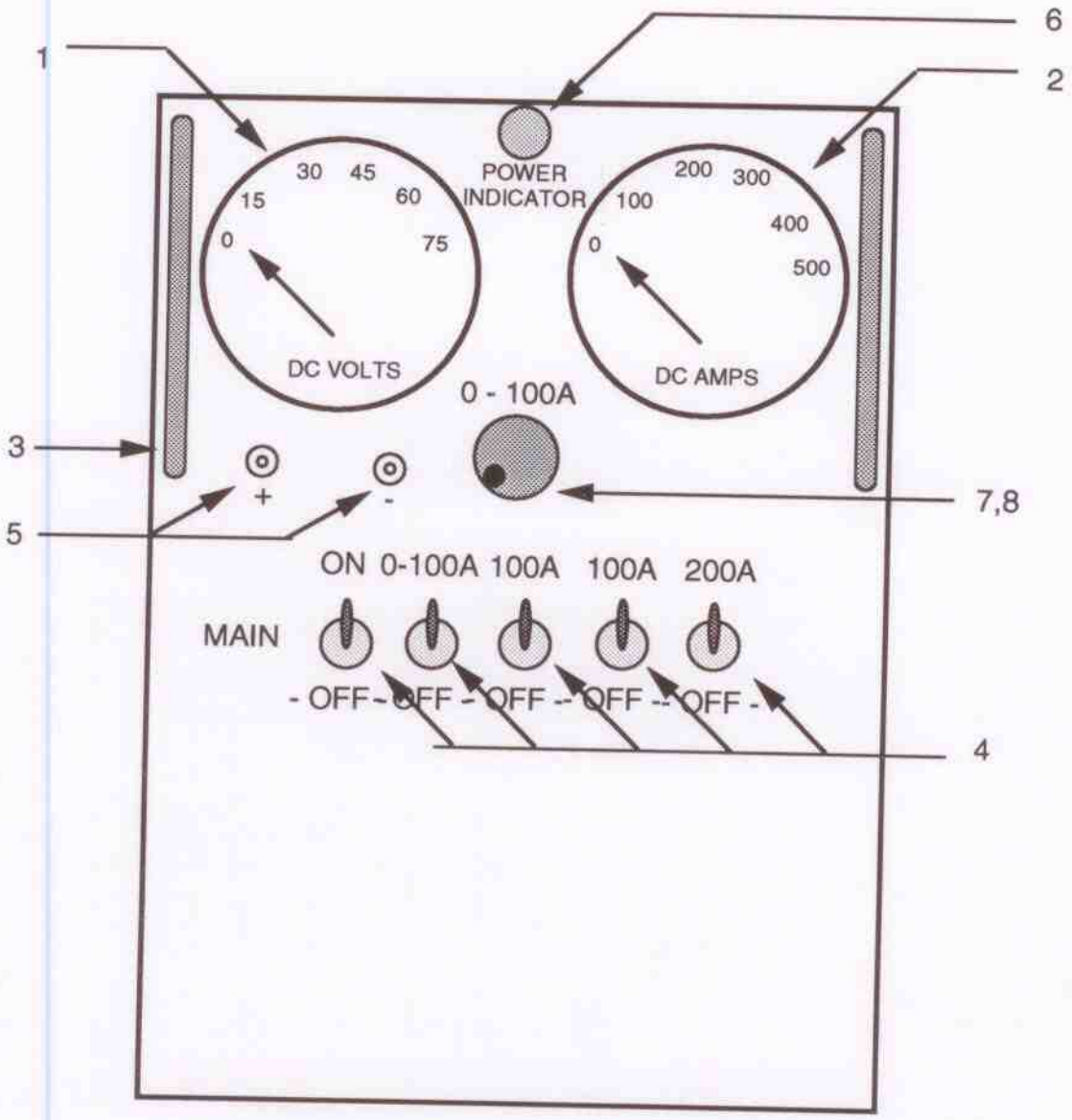


FIGURE 3 - 1

CONTROL PANEL PARTS
SEE FIGURE 3-1

DRAWING NUMBER	PART NUMBER	DESCRIPTION VENDOR NO.	NUMBER USED
1	MR-75	0 - 75V VOLT METER	1
2	MR-50	0-500A AMMETER	1
3	HD-25	HANDLE	2
4	SW-22	SWITCH DPST	5
5	TP-10	METER TEST JACKS	2
6	LT-28	28V GREEN LIGHT	1
7	RH-50	POTENTIOMETER 5KΩ	1
8	KN-15	KNOB	1

INTERIOR PARTS LAYOUT

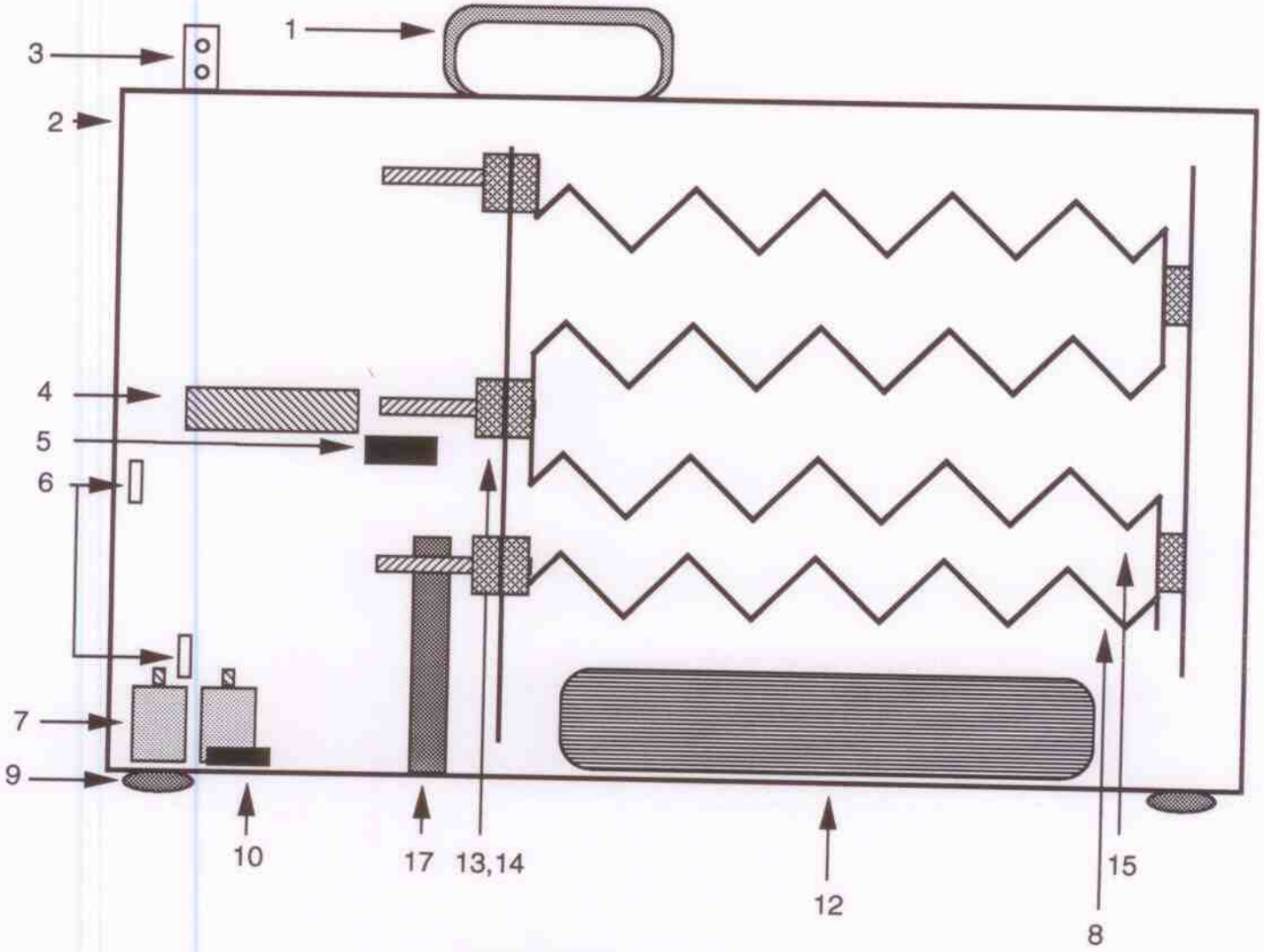


FIGURE 3 - 2

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-10	20" X 11" X 8" ALUM BOX	1
3	RP-50	500A COPPER TERMINALS	2
4	SH-50	SHUNT 500A 50MV	1
5	FS-50	FUSE 500A	1
6	RC-25	560Ω 5W RESISTOR	2
7	LC-48	48VDC 100A CONTACTOR-ALBRIGHT	5
8	RL-15	160A LOAD RESISTOR	1
9	FT-10	GLIDES	4
10	FS-11	FUSE 10A	1
11	RC-06	RESISTOR 5Ω 100W	1
12	CC-48	CURRENT CONTROL	1
13	HW-20	CERAMIC INSULATOR	12
14	HW-25	INSULATOR WASHER	24
15	LR-10	LOAD RESISTOR	4
*	RD-10	1A 1000V DIODE	6
*	RD-10	1A 1000V DIODE	2
*	GL-20	RESISTOR GRILL	1

FAN PANEL PARTS LAYOUT

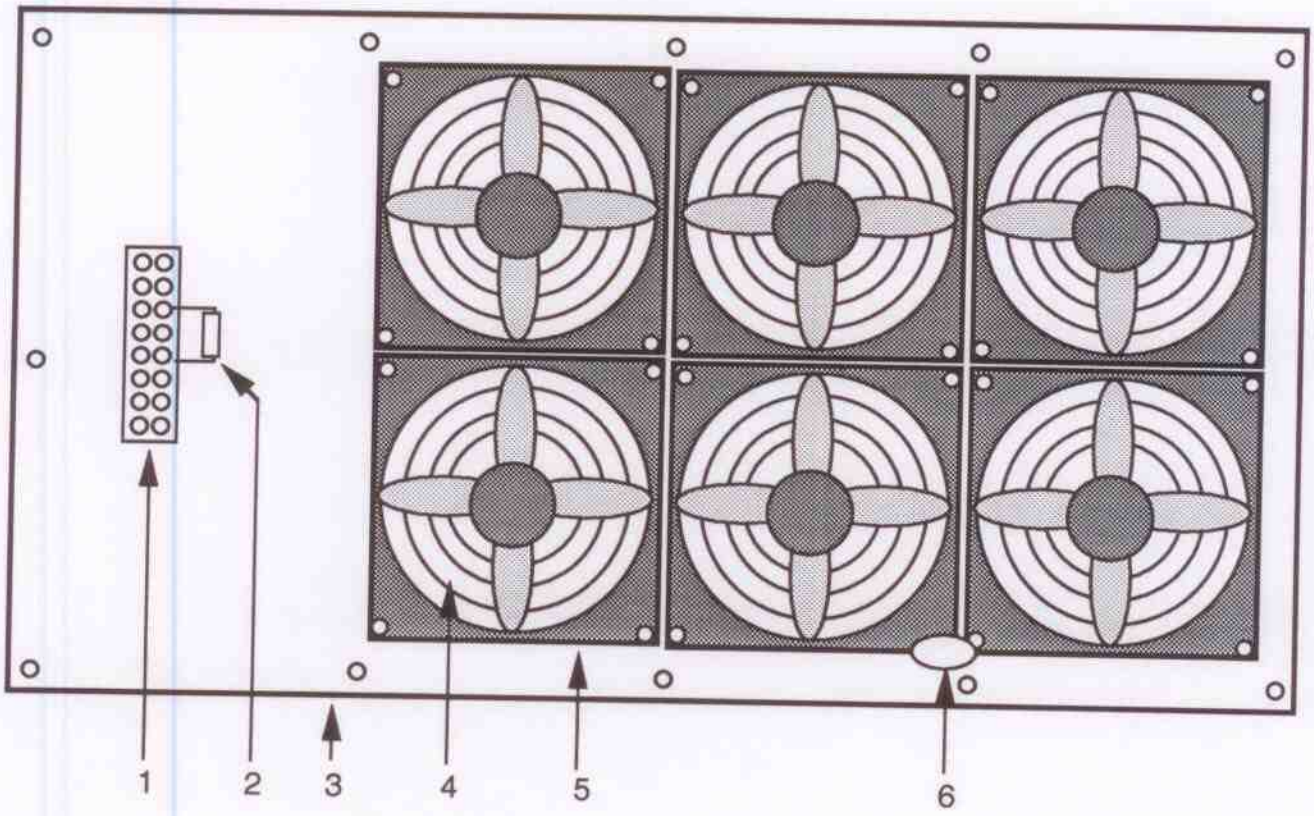


FIGURE 3 - 3

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	RD-20	2A 1000V DIODE V-AIILIED (1N5404)	1
3	FP-28	ALUM. FAN PANEL	1
4	GL-10	FAN GRILL CHROME V-MERRILL (B-22662)	6
5	FN-25	24VDC FAN V-EBM (W2G110-AK43-82)	6
6	TS-15	THERMAL SWITCH V-GEMLINE (L-155)	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 comming from the load bank
3. Drill out the rivets holding the fan (four on each side).
4. Lift up the fan and unplug the wires to the fan. Connect the plug to the new fan.
5. Rivet the new fan back to the fan panel and install the fan guard.
6. Install the three wires back on the terminal strip and place the fan panel back on the load bank. Make sure that the wires are on the proper terminals.

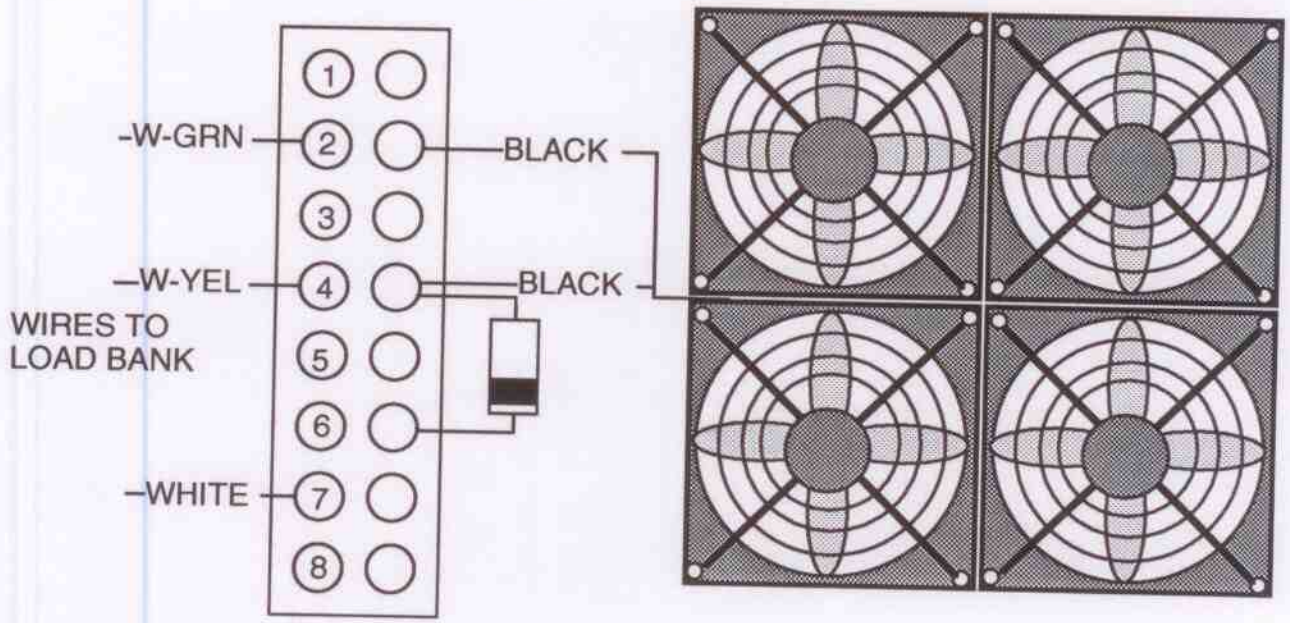


FIGURE 4 - 1

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

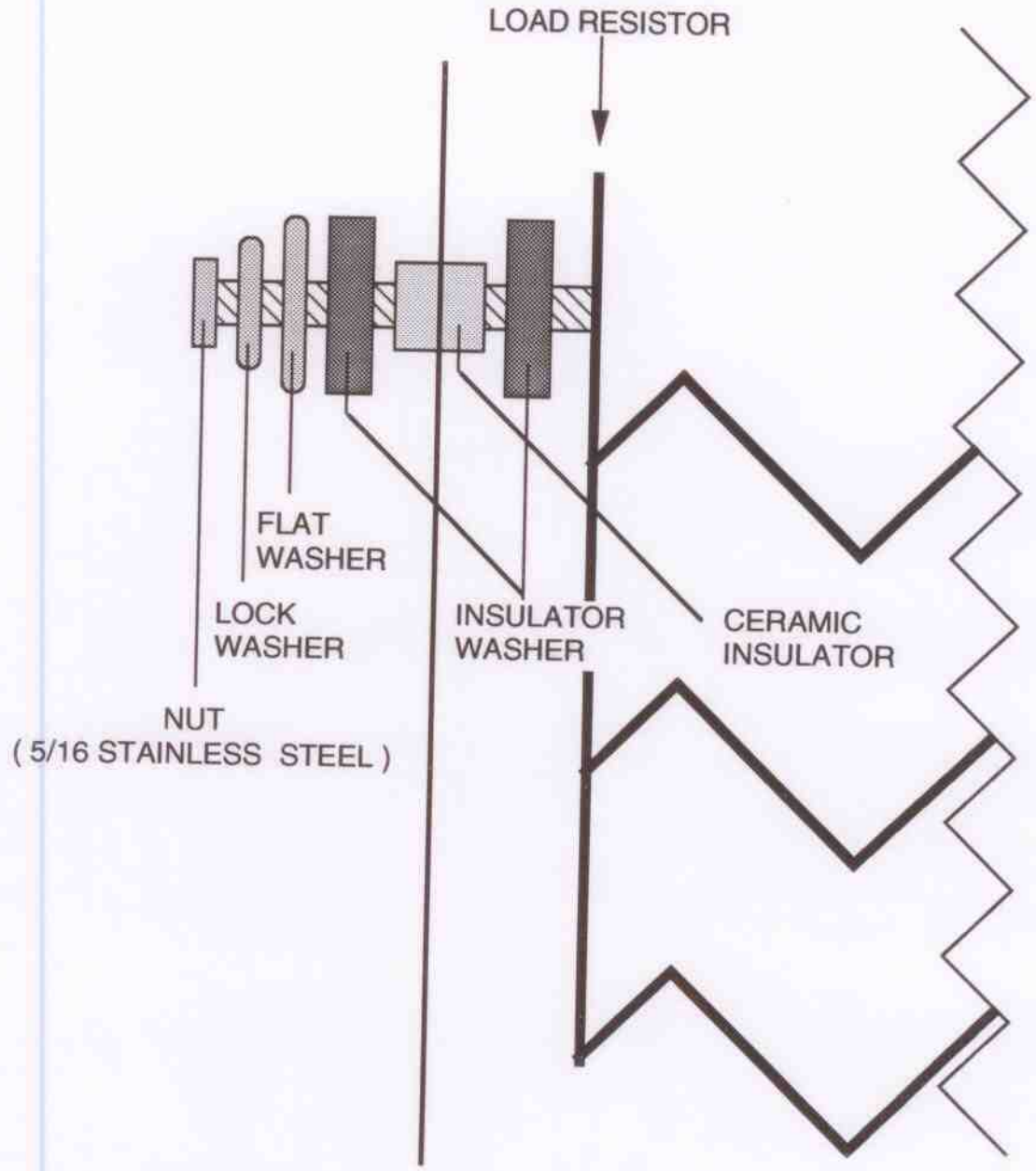
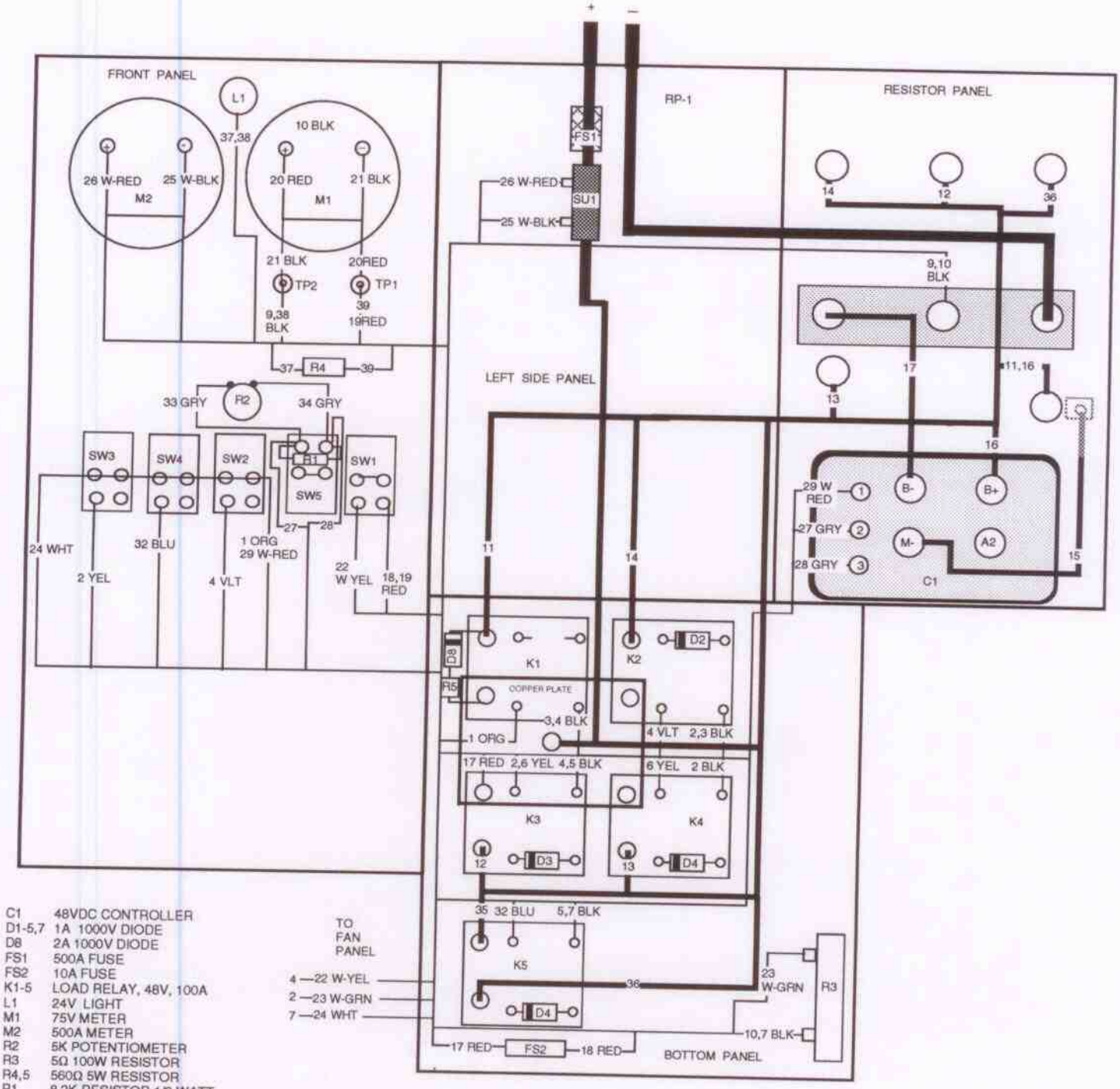


FIGURE 4 - 2

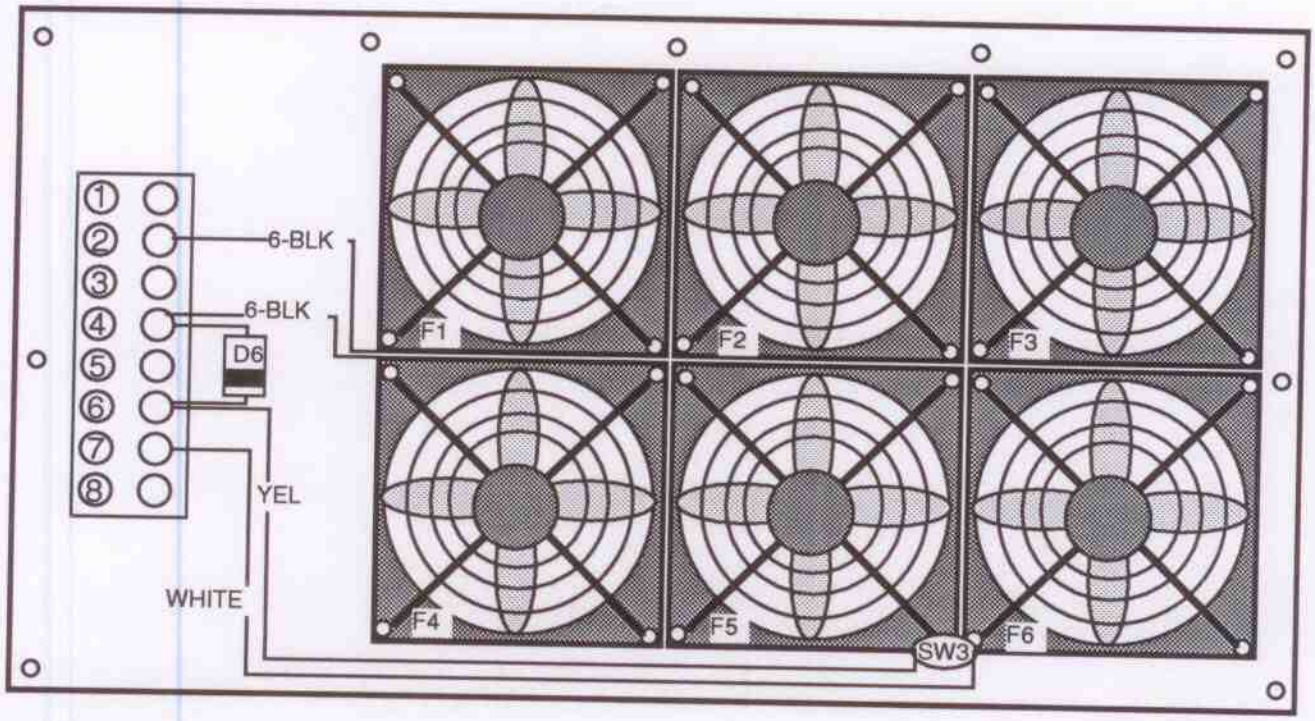
INTERIOR WIRING L-48-500



C1	48VDC CONTROLLER
D1-5,7	1A 1000V DIODE
D8	2A 1000V DIODE
FS1	500A FUSE
FS2	10A FUSE
K1-5	LOAD RELAY, 48V, 100A
L1	24V LIGHT
M1	75V METER
M2	500A METER
R2	5K POTENTIOMETER
R3	5Ω 100W RESISTOR
R4,5	560Ω 5W RESISTOR
R1	8.2K RESISTOR 1/2 WATT
RP1	500A CONNECTOR
SU1	500A SHUNT
SW1-5	SWITCH, 2 POLE, ST, TOGGLE
TP1-2	TEST JACK

FIGURE 5-1

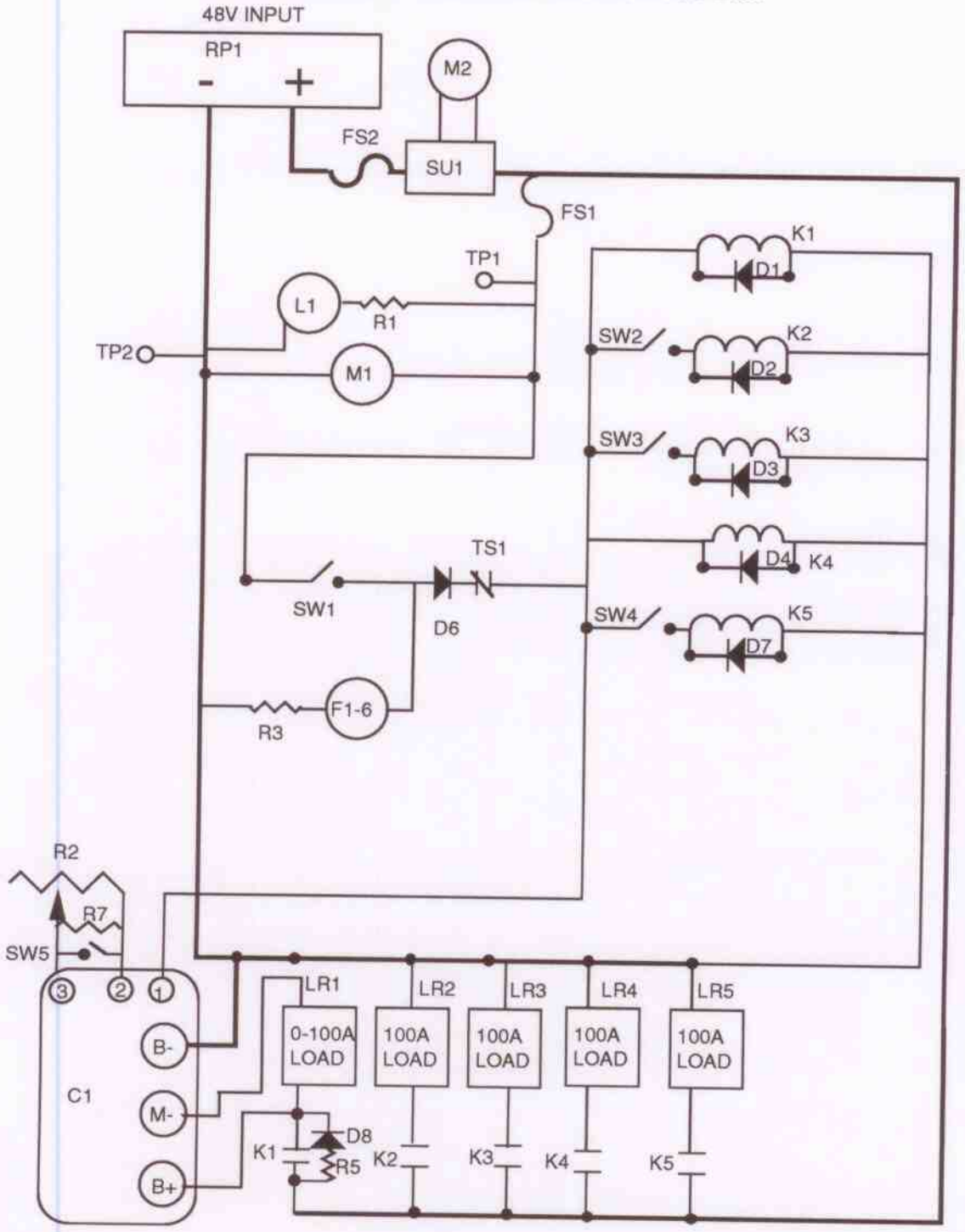
FAN PANEL WIRING



D6 3A DIODE
F1-F6 24VDC FAN
SW3 155° THERMAL CUT-OFF

FIGURE 5 - 2

L-48-500 SCHEMATIC DIAGRAM



C1	LOAD CONTROL	L1	28V LIGHT	R1	8.2Ω RESISTOR 1/2W
D1-5,7	1A DIODE	LR1-5	LOAD RESISTOR	RP1	350A RECEPTACLE
D6,D8	2A DIODE	M1	75V METER	SU1	500A SHUNT
F1-6	28V FAN	M2	500A METER	SW1-4	SWITCH DPST
FS1	10A FUSE	R2	5K POTENTIOMETER	TS1	THERMAL CUT-OFF
FS2	500A FUSE	R3	5Ω 100W RESISTOR	TP1-2	TEST JACK
K1-5	48V CONTACTOR 100A	R4,5	560Ω 5W RESISTOR		