

MAINTENANCE

POWER SUPPLY 19V OUTPUT ADJUSTMENT

Refer to Power Supply Output Level Set Diagram for location of monitor points. Refer to the Power Supply section for details on the Power Supply. This adjustment requires access to the rear of the Power Backup System. Refer to Power Supply Rear Adj. Diagram for adjustment point location.

- 1). Connect a voltmeter to the 1A5 Charger PCB at 1A5TB1-4, this is the 19 volt monitor point.
- 2). Adjust the Power Supply Output Voltage Adjust pot (R1091) for a reading of 19 volts.

Full counterclockwise rotation will cause output voltage to drop to a point where the power supply will not run but will continuously recycle through start attempts.

Full clockwise rotation will increase voltage. Power line fuses will not blow because the crowbar circuit has been disabled.

- 3). Disconnect the voltmeter from 1A5TB1-4.

CHARGE VOLTAGE LEVEL SET

Charge voltage level adjustment should be made with the charger running and charging nearly completed. This is because during high charge currents, charge voltage will be lower than the final set point. As charge current decreases charge voltage will increase. Therefore, charge voltage must be set when charging is nearly completed and charge current is very low.

Refer to the Charge Voltage Level Set Diagram for location of monitor and adjustment points.

- 1). Connect a voltmeter to 1A1TB1-4 to monitor battery voltage.
- 2). Adjustment should be done with the charger on and charge current approximately half an amp (500ma).

- 3). Adjust 1A5R2 until the voltmeter reads 13.7 volts. Note that as voltage goes up, charge current will increase as the battery attempts to charge to the new level. If voltage decreases, charge current will decrease and may actually trigger the charger off.
- 4). This adjustment may need to be made several times to get the exact setting.
- 5). Once the setting is made, continue monitoring the battery voltage as the charger cycles through several charging operations. Adjust 1A5R2 as required to get the final 13.7 volt setting.

LOW BATTERY CHARGE LEVEL SET

Refer to the Low Battery Charge Level Set Diagram for location of monitor and adjustment points.

Method 1

- 1). On the 1A7 Battery Fuse/Filter Assembly disconnect the wire from 1A7TB2-5.
- 2). Connect a 12.5 volt power supply to the wire removed from 1A7TB2-5 in the previous step.
- 3). Adjust the Low Batt Charge pot 1R4 until Charge Relay 1A5RY1 energizes. Charge Relay 1RY2 should also energize at this time.

Note: May need to turn the 1A8 Power Supply off to stop charging, then turn it back on again.

- 4). Test the circuit reaction several times by raising, then dropping power supply voltage to 12.5 volts. Readjust 1R4 as necessary.
- 5). Remove the 12.5 volt power supply.
- 6). Reconnect the wire removed in step 1 to 1A7TB2-5.

Method 2

This adjustment should be made after charging has completed.

- 1). Monitor the battery voltage at 1A1TB1-4.
- 2). When the battery voltage drops to 12.5 volts adjust 1R4 until the charger kicks on.
- 3). This setting may need to be repeated several times to get the set point exact.

CHARGE VOLTAGE FRONT PANEL METER CALIBRATION

Refer to the Charge Voltage Meter Calibration Diagram for location of monitor and adjustment points.

- 1). Disconnect the lead on TB1-1 of the Charge Current Meter Shunt Assy.
- 2). Connect a substitute 12 volt supply to TB1-1 of the Charge Current Meter Shunt Assy.
- 3). Adjust the front panel Charge Voltmeter Calibration Pot (1R2) until the front panel Charge Voltage Meter reads 12 volts.
- 4). Disconnect the substitute power supply.
- 5). Reconnect the lead removed in step 1.

9.6V OUTPUT LEVEL SET

The 9.6 volt regulator should be adjusted under normal operating conditions. That is, commercial 115vac present, battery fully charged, and charging off.

Refer to the 9.6 Volt Output Level Set Diagram for location of monitor and adjustment points.

- 1). Connect a voltmeter to 1A7TB3-2
- 2). Adjust 1A4R4 9.6 volt set pot until the voltmeter reads 9.6 volts.
- 3). Disconnect the voltmeter from 1A7TB3-2.

LOW BATTERY DISCONNECT LEVEL SET

Refer to the Low Battery Disconnect Level Set Diagram for location of monitor and adjustment points.

Method 1

- 1). On the 1A1 Timer-Low Batt Disconnect PCB disconnect the Battery 13.4V from 1A1TB1-4.
- 2). Substitute an 11.5 volt power supply at 1A1TB1-4.

- 3). Adjust the Disconnect Level pot 1R3 until Disconnect Relay 1A7RY1 de-energizes (if desired Sw. 9.6v can monitored at 1A1TB1-2).
- 4). Rock pot 1R3 back and forth until precise disconnect level is 11.5 volts.
- 5). Test the circuit reaction several times by raising, then dropping power supply voltage to 11.5v. Readjust 1R3 as necessary.
- 6). Remove the substituted power supply from 1A1TB1-4.
- 7). Reconnect the Battery 13.4V to 1A1TB1-4.

Method 2

- 1). With the system operating in Inverter Mode, monitor the voltage at 1A1TB1-4 of the 1A1 Timer-Low Battery Disconnect PCB. This is Battery 13.4v from 1A7TB2-4.
- 2). When battery voltage drops to 11.5 volts, adjust Disconnect Level pot 1R3 until Main Relay 1RY1 drops out and the system shuts down.

INVERTER LINE FREQUENCY ADJUST

The Inverter should be on and operating into a load to make the following adjustment.

Refer to the Inverter Line Frequency Adjust Diagram for location of monitor and adjustment points.

- 1). Connect an O'Scope and/or a frequency counter to 1TB2-1 on the Inverter Chassis.
- 2). Adjust 1A9R4 Inverter Output Frequency Adjust for an 8.33 millisecond pulse width and/or 60Hz frequency.
- 3). Disconnect O'Scope/counter from 1TB2-1

FRONT PANEL BATTERY VOLTMETER CALIBRATION

- 1).
- 2).
- 3).
- 4).
- 5).