

SERVICE PROCEDURE JD0007

PRODUCT: SCR/SCRF BATTERY CHARGERS

SUBJECT: FIELD INSTALLATION OF GROUND DETECTION ALARM RELAYS

REFERENCE: SCHEMATIC DIAGRAM EJ0086

MATERIALS REQUIRED

GROUND DETECTION RELAY KIT (See Table 1)
TERMINAL BOARD, 6 POSITION (TB3)

TOOLS REQUIRED

STANDARD HAND TOOLS
WIRE CRIMPERS, CUTTERS AND STRIPPER
SOLDERING IRON, 35-50 W

PROCEDURE

1. CHECK THE PART NUMBER OF THE GROUND DETECTION ALARM KIT THAT YOU RECEIVED AGAINST THE NAMEPLATE RATING OF YOUR CHARGER, ACCORDING TO TABLE 1 BELOW. NOTE THAT SOME KITS ARE SUPPLIED WITH SERIES RESISTORS, R59, R60, R83, AND R84 CHECK THE RESISTANCE VALUE ACCORDING TO TABLE 1 BEFORE PROCEEDING WITH THE INSTALLATION.
2. FIND A SUITABLE POSITION ON THE CHARGER MOUNTING BASE OR THE MAIN PANEL ASSEMBLY TO MOUNT THE RELAY SOCKETS. MOST MOUNTING BASES HAVE HOLES TO ACCEPT THE RELAY SOCKETS. IF ANOTHER RELAY IS ALREADY MOUNTED ON THE BASE, YOU MAY BE ABLE TO MOUNT ONE OF THE NEW SOCKETS ADJACENT TO THE EXISTING RELAY SOCKET, USING THE SAME HARDWARE.

NOTE: IF YOUR PREFERRED MOUNTING LOCATION HAS NO PREDRILLED HOLES, MATCH DRILL FOUR 9/64 HOLES IN THE MOUNTING SURFACE FOR THE 6-32 HARDWARE. BE SURE TO KEEP METAL CHIPS FROM FALLING INSIDE THE CHARGER.

3. MOUNT THE RELAY SOCKETS USING THE 6-32 HARDWARE SUPPLIED. ALSO MOUNT A TERMINAL BOARD (TB3) IN A CONVENIENT LOCATION FOR CONNECTING REMOTE ALARM WIRING AS REQUIRED FOR YOUR APPLICATION. MOUNT THE SWITCH, SW3, ON THE FRONT PANEL, NEAR THE UPPER RIGHT CORNER. SOME MODELS HAVE HOLES PREDRILLED FOR THE SWITCH AND FOR INDICATOR LAMPS.
4. IF LAMPS ARE USED, DRILL 1/2-IN HOLES, MOUNT THE LAMPS AND MARK THE PANEL WITH THE FUNCTIONS "GND DET +" AND "GND DET -". MOUNT R83 AND R84 CLOSE TO THE LAMPS WITH THE MOUNTING TERMINAL OR SOLDER TO ONE OF THE CONNECTION TAB OF THE LAMPS.
5. REFER TO THE SCHEMATIC DIAGRAM, REF. 1. WIRE THE SOCKETS TO TB2(+) AND TB(-) THROUGH R59 AND R60. A CONVENIENT CONNECTION POINT IS THE TERMINALS OF THE DC VOLTMETER, M2. SOLDER-TYPE TERMINALS HAVE BEEN PROVIDED FOR MOUNTING ON THE METER MOUNTING HARDWARE. MOUNT ONE RESISTOR ON EACH PAIR OF TERMINALS.

CAUTION: WEAR SAFETY GLASSES WHEN SOLDERING ELECTRONIC COMPONENTS.

WIRE THE RELAY CONTACT PINS OF THE SOCKETS TO THE APPROPRIATE TERMINALS OF TB3, AND CONNECT TB3, TO THE REMOTE ALARMS REQUIRED BY YOUR APPLICATION. MOUNT THE SWITCH, SW3, IN THE INSTRUMENT PANEL, AND WIRE IT TO THE RELAY SOCKETS. IF INDICATOR LAMPS ARE USED, WIRE THEM TO R83, R84 AND TB5(-). DEPENDING ON THE VOLTAGE OF THE CHARGER R83 AND R84 MAY NOT BE NEEDED. IN THAT CASE WIRE THE LAMPS DIRECTLY TO THE RELAYS. SEE TABLE 1

6. RESTART THE CHARGER. THE TB3 TERMINALS (AND THE INDICATORS IF USED) SHOULD INDICATE A NORMAL UNGROUNDED BATTERY SYSTEM. THE GROUND DETECTION RELAYS MAY BE TESTED BY CONNECTING A RESISTOR FROM ONE BATTERY TERMINAL TO GROUND (SEVERAL HUNDRED OHMS TO ABOUT 10000 OHMS, DEPENDING ON BATTERY VOLTAGE). NEVER "HARD-WIRE" EITHER BATTERY TERMINAL TO GROUND UNLESS THE ENTIRE POWER SYSTEM IS DESIGNED FOR GROUNDED OPERATION.

TABLE 1: GROUND DETECTION ALARM RELAYS

BATTERY VOLTAGE	KIT PART NO.	R59/R60 VALUE		R83/R84 VALUE
12	EJ0086-01	1/2W, 68 OHM	: -11	NOT USED
24	EJ0086-02	1W, 270 OHM	: -12	NOT USED
30	EJ0086-03	2W, 470 OHM	: -13	1W 250 OHM
36	EJ0086-04	2W, 560 OHM	: -14	2W 390 OHM
48	EJ0086-05	2W, 620 OHM	: -15	3W 750 OHM
130	EJ0086-06	2W, 5.1K OHM	: -16	NOT USED
260	EJ0086-07	5W, 20K OHM	: -17	2W 51K OHM

NOTE: THE ABOVE PART NUMBERS ARE FOR KITS WITHOUT INDICATORS. FOR INDICATORS, CHANGE -01 THRU -07 TO -11 THRU -17 RESPECTIVELY.

PARTS AVAILABILITY

<u>ITEM</u>	<u>FACTORY PART NO.</u>
GND. DET. ALARM	EJ0086-XX (NOTE 1)
TERMINAL BOARD, 6-POS.	RC0004-04

NOTE 1: TO ORDER, CHANGE -XX TO PROPER PART NUMBER FROM TABLE 1 ABOVE.