FIELD INSTALLATION INSTRUCTIONS
HIGH/LOW DC VOLTAGE ALARMS (EJ0083-XX)

Materials required

HLVA Kit (see Table I)
Terminal Board (TB3), 3 or 6 terminals

Tools required

Standard hand tools
Wire crimpers, cutters & stripper
DC voltmeter (DVM preferred)

Procedure

NOTE: USE SAFETY GLASSES WHEN SOLDERING ELECTRONIC COMPONENTS

1. Check the HLVA kit part number against the nameplate rating of your charger, according to Table I below. Check the circuit board assembly, GK0045-01, and make sure that R26 is the proper value as shown in Table 1. If the resistor is not installed, find it in the kit of parts and install it in the PC Board.

2. Locate a suitable position on the mounting base assembly to install the PC Board brackets and guides, and the terminal board TB3. Most mounting bases already have suitable mounting holes, or one hole and one slot for each component.

3. Mount the brackets using the 6-32 hardware supplied. Slide the PC Board into the guides; adjust the spacing of the guides as required to ensure a secure fit. Be sure to install the PC Board so that the connector, SO2, has sufficient clearance.

4. Refer to the schematic diagram, ref. 1. Wire the connector, SO2, and the terminal board according to the schematic and the requirements of your application. Note that TB3 positions 1, 2, 3 provide the high voltage alarm contacts, and positions 4, 5, 6 provide the low voltage alarm contacts.

5. If indicator lamps are required, punch or drill 1/2 inch holes in the instrument panel (some panels have existing holes that you can use). Be sure to prevent metal chips from getting inside the charger. Mount the indicator lamps and label the front panel with the appropriate functions ("HIGH VOLTAGE" and "LOW VOLTAGE").

6. Route the wires from SO2 to their appropriate designations (note that the indicators, if supplied, use quick-connect terminals). Mount R57 and the two-position solder terminal strip in a clear location near the PC Board so that the resistor does not heat any of the board components.

7. The HLVA circuit board has been adjusted at the factory to the values specified in the Operating and Service Instructions for the charger. If field adjustment of the HLVA operating voltages is required, follow the procedure in Attachment I.

TABLE I: HIGH-LOW DC VOLTAGE ALARMS

Charger Voltage	HLVA Part No.(1)	R57 (2)	R26 (2)
12	EJ0083-01	N/R	N/R (3)
24	EJ0083-02	3W, 150 OHM	1/2W, 3.3K
30	EJ0083-03	5W, 250 OHM	1/2W, 5.1K
36	EJ0083-04	5W, 300 OHM	1/2W, 6.8K
48	EJ0083-05	5W, 500 OHM	1/2W, 12K
130	EJ0083-06	25W, 1.5K	2W, 33K
260	EJ0083-07	25W, 3.0K	2W, 75K

(1) For HLVA w/indicators, change -01 thru -07 to -11 thru -17
(2) Resistor values of +/- 10% are acceptable
(3) Replace with short circuit jumper

Parts Availability

Item	Factory Part No.
HLVA Assembly	EJ0083-XX (note 1)
Terminal Bd., 3-pos.	RC0004-01
Terminal Bd., 6-pos.	RC0004-04

Notes (1) See Table I above for complete part number
(Replace -XX with proper variation number).

ATTACHMENT I: FIELD CALIBRATION OF HLVA OPTION

Equipment Required

DC Voltmeter (Preferably a 3-1/2 digit DVM)

Procedure

1. Adjustments to the High-Low Voltage Alarm are made with two potentiometers on the GK0045-01 PC Board Assembly, A2. The battery charger must be operating while these adjustments are made.

   You may find it easier to make the board adjustments if you disconnect the battery and substitute a resistive load. See the hints on making the adjustments at the end of this sheet.

2. Connect the DC voltmeter to the charger front panel voltmeter (M2). With the charger operating at nominal AC input voltage, turn the Float adjustment potentiometer, R3, CCW (counter-clockwise) to decrease the output voltage. Wait for the charger output voltage to stabilize at the desired operating voltage for the Low Voltage Alarm.

3. Adjust the "LO" potentiometer, R18, on the PC Board CW (clockwise) until the low voltage alarm relay trips. You may have to adjust it CCW at the start if the relay has already tripped.

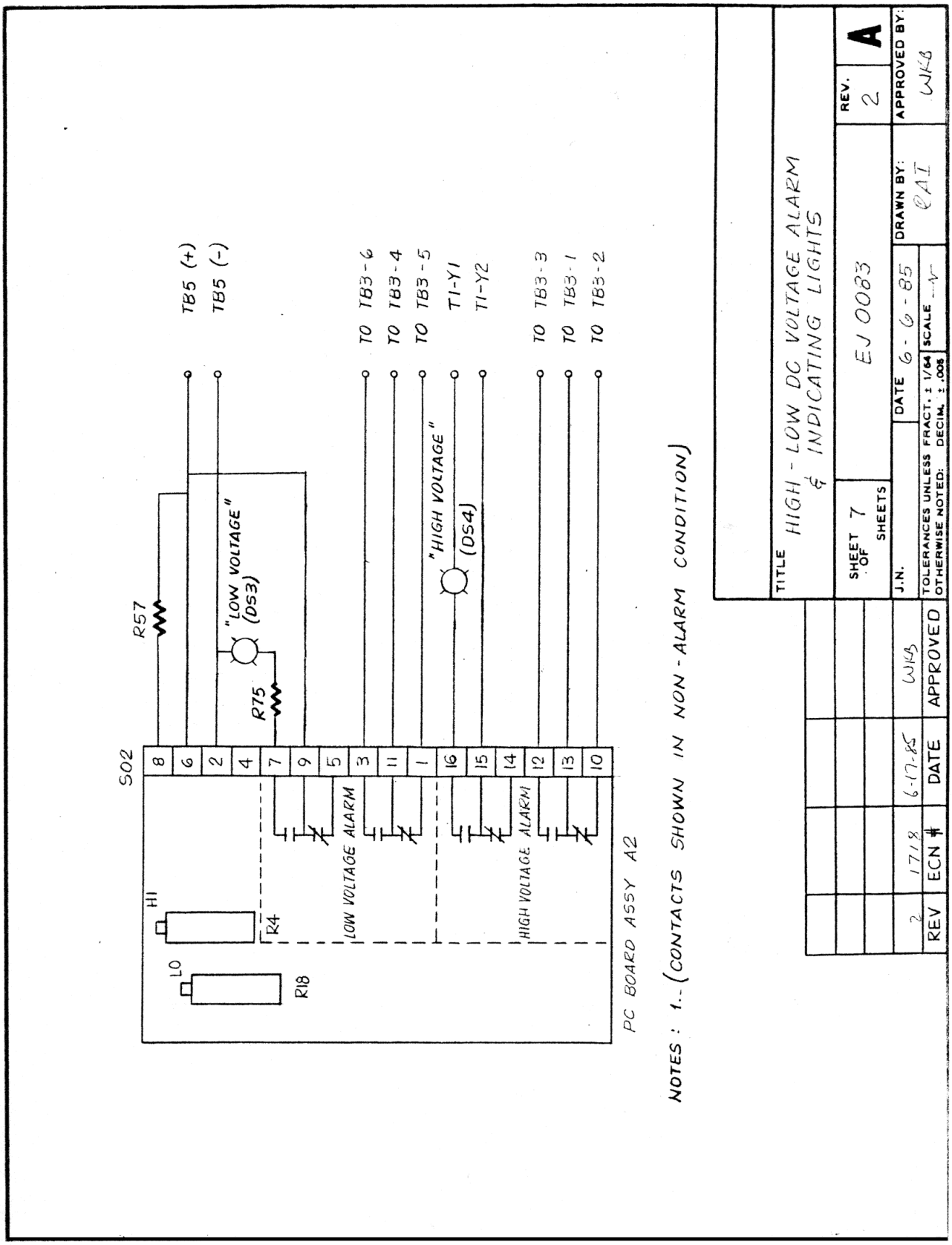
4. Adjust the Float adjustment potentiometer, R3, CW to raise the output voltage of the charger. Wait for the output voltage to stabilize at the desired operating point for the High Voltge Alarm. The charger must not be in current limit for this adjustment to be made.

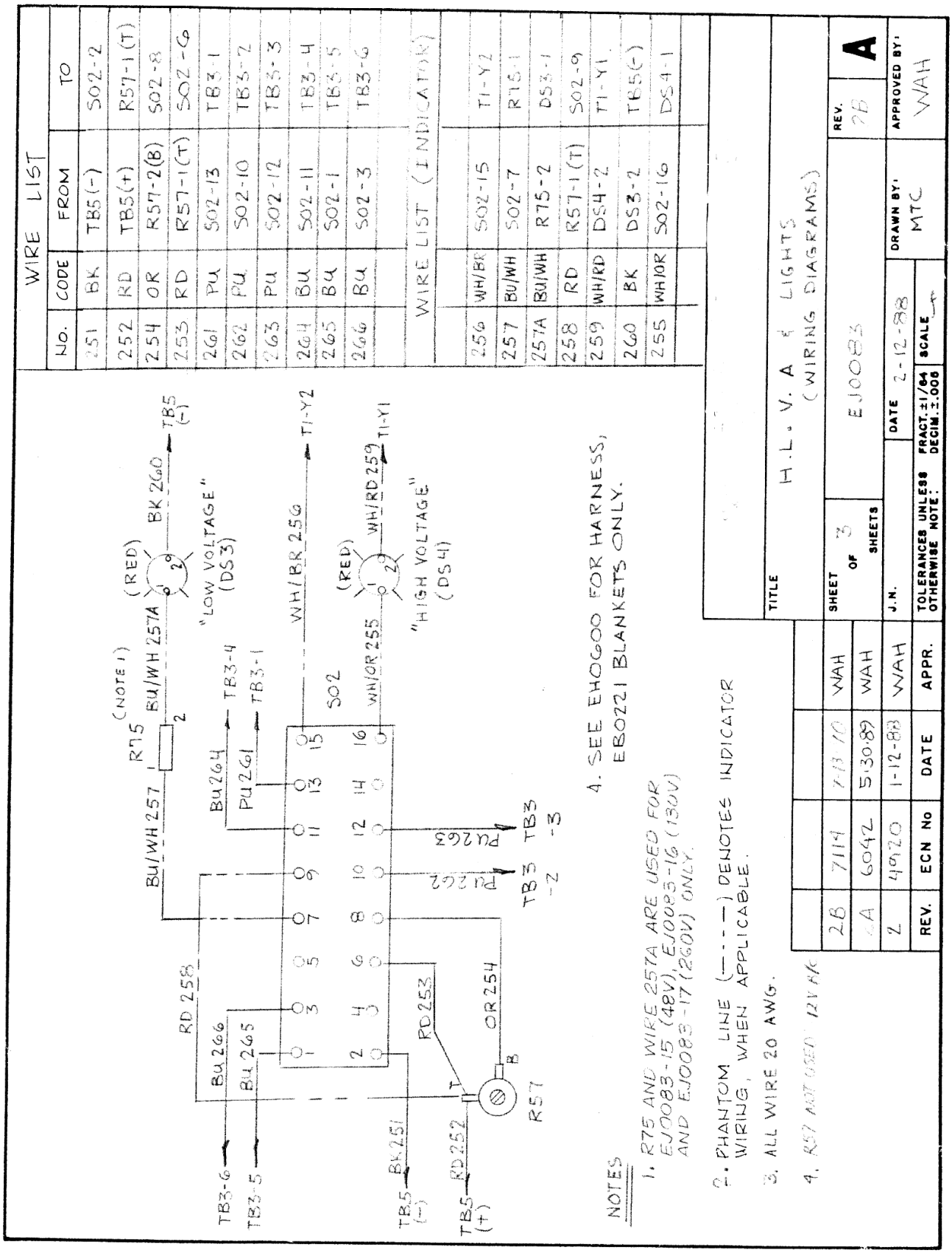
5. Adjust the "HI"potentiometer, R4, on the PCBoard CCW until the high alarm relay trips. You may have to adjust it CW at the start if the relay has already tripped.

HINTS FOR EASY CALIBRATION:

Adjust the potentiometers on the HLVA PC Board 1/2 turn at a time and wait several seconds for the relay to trip - there is a time delay built into the detection circuit. If the relay doesn't trip after several seconds, make another 1/2 turn adjustment.

After the relay trips, turn the potentiometer back 1/2 turn at a time, and wait for the relay to reset. By using this back-and-forth technique, it is possible to obtain very fine control on the alarm thresholds.


TB5 (+)
TB5 (-)
TO TB3-6
TO TB3-4
TO TB3-5
T1-Y1
T1-Y2
TO TB3-3
TO TB3-1
TO TB3-2
R57
"LOW VOLTAGE" (DS3)
R75
"HIGH VOLTAGE" (DS4)
S02
8
6
2
4
7
9
5
3
11
1
16
15
14
12
13
10
H1
L0
R4
R18
LOW VOLTAGE ALARM
HIGH VOLTAGE ALARM
PC BOARD ASSY A2
NOTES : 1.- (CONTACTS SHOWN IN NON-ALARM CONDITION)
TITLE
HIGH - LOW DC VOLTAGE ALARM & INDICATING LIGHTS
SHEET 1 OF 7 SHEETS
EJ 0083
REV. 2
A
J.N.
DATE 6-6-85
DRAWN BY: PAT
TOLERANCES UNLESS OTHERWISE NOTED: FRACT. ± 1/64 DECIM. ± .005
SCALE -N-
APPROVED BY: WKB
REV
ECN #
DATE
APPROVED
2
1718
6-17-85
WKB


WIRE LIST
No. CODE FROM TO
251 BK TB5(-) S02-2
252 RD TB5(+) R57-1(T)
254 OR R57-2(B) S02-8
253 RD R57-1(T) S02-6
261 PU S02-13 TB3-1
262 PU S02-10 TB3-2
263 PU S02-12 TB3-3
264 BU S02-11 TB3-4
265 BU S02-1 TB3-5
266 BU S02-3 TB3-6
WIRE LIST (INDICATOR)
256 WH/BR S02-15 T1-Y2
257 BU/WH S02-7 R75-1
257A BU/WH R75-2 DS3-1
258 RD R57-1(T) S02-9
259 WH/RD DS4-2 T1-Y1
260 BK DS3-2 TB5(-)
255 WH/OR S02-16 DS4-1
"LOW VOLTAGE" (DS3)
"HIGH VOLTAGE" (DS4)
(RED)
(NOTE 1)
R75
BU/WH 257
BU/WH 257A
BK 260
WH/BR 256
WH/RD 259
WH/OR 255
BU 264
PU 261
PU 263
PU 262
RD 258
BU 266
BU 265
RD 253
OR 254
BK 251
RD 252
S02
R57
TB3-6
TB3-5
TB5 (-)
TB5 (+)
TB3-4
TB3-1
T1-Y2
T1-Y1
TB3 -2
TB3 -3
NOTES
1. R75 AND WIRE 257A ARE USED FOR EJ0083-15 (48V), EJ0083-16 (130V) AND EJ0083-17 (260V) ONLY.
2. PHANTOM LINE (- - - -) DENOTES INDICATOR WIRING, WHEN APPLICABLE.
3. ALL WIRE 20 AWG.
4. R57 NOT USED 12V A/C
4. SEE EH0600 FOR HARNESS, EB0221 BLANKETS ONLY.
TITLE H.L.V.A.C. LIGHTS (WIRING DIAGRAMS)
SHEET 3 OF 3 SHEETS
EJ0083
REV. 2B
J.N.
DATE 2-12-88
DRAWN BY: MTC
APPROVED BY: WAH
TOLERANCES UNLESS OTHERWISE NOTE: FRACT. ±1/64 DECIM. ±.005
SCALE
A
REV. ECN No DATE APPR.
2B 7119 2-13-10 WAH
2A 6042 5-30-89 WAH
2 4920 1-12-88 WAH