

How to modify a standard Enhanced Vehicular Charger to Program Portable Radio

Modification instructions on how to modify a standard Enhanced Vehicular Charger to program portable radios (for mass reprogramming efforts).

Part #1 Inductor removal and Resistor removal/replacement

- 1) Remove Inductor L37 (at UDC, by J6A flex connector jack)
- 2) Remove Inductor L28 (at UDC, by J6A flex connector jack)
- 3) Remove inductor L35 (at UDC, by J6A flex connector jack)
- 4) Remove Inductor L18 (at DB25)
- 5) Remove Resistor R85 (other side of board next to switch (S9) - can be simply accessed through switch (S9) rear access door)
- 6) Replace Resistor R85 with 0 ohm resistor (or solder "blob" jumper).

NOTE: Make sure that Switch (S9) position #4 is set to "ON". This will connect radio ground (pin 10 on flex connector J6a) to UDC Sense ground back to DB25 Pin 7 ground from external level converter.

Part #2 Wire Jumpers

[The use of 30 gauge solid conductor (IE: *wire wrap wire*) is suggested.]

- 1) Solder wire from DB25 Pin 8 (**TX DATA**) to top solder pad of Inductor L37 (pad closest to J6A flex connector jack)
- 2) Solder wire from DB25 Pin 9 (**RX DATA**) to top solder pad of Inductor L28 (pad closest to J6A flex connector jack)
- 3) Solder wire from DB25 Pin 7 (**GND/UDC SENSE**) to **both** solder pads of Inductor L35 (pad closest to J6A flex connector jack)
- 4) Solder wire from bottom solder pad of Inductor L18 (closest to DB25 - **7.5vdc from portable**) to top solder pad of Inductor L34 (pad closest to J6A flex connector jack)

Part #2 Wire Jumpers (Continued)

NOTE: Inductor L34 was NOT removed. UDC Sense is simply grounded at DB25 Pin 7 so portable ground and UDC sense are both grounded together and connected to the external level converter ground

Part #3 Programming Cable modification (RPM 113 2472/35 or /33)

- 1) Cut-off UDC end right at end of strain relief (to get the most harness remaining after the level converter)
- 2) Take apart DB25 end of Vehicular Charger power cable harness. Do not remove the rubber grommet from the cable.
- 2) Slide end of cable into existing Vehicular Charger DB25 connector harness (through rubber grommet).
- 3) Cut cable back 1 inch to reveal all conductors (including ground shield). Strip the ends of all wires about 1/16 of an inch except for Brown and Yellow (not used). Tie back brown and yellow wires back to outside jacket of cable using tape or heat-shrink.
- 4) Twist ground shield together to make a single conductor and merge it with the black wire. Tin end. Cover most of this combined ground harness with heat-shrink to prevent the open ground shield from touching anything else inside the DB25
- 5) Tin the ends of the remaining three wires (blue, white and red) and attach them to the following DB25 pins
 - a) **Red** wire to DB25 Pin 10 (7.5v from radio)
 - b) **Blue** wire to DB25 Pin 8 (TX DATA)
 - c) **White** wire to DB25 Pin 9 (RX DATA)
 - d) **Ground** shield and Black wire to DB25 Pin 1 (GROUND) - Just connect it to the large gauge ground wire coming from Pin 1 by pulling the insulation back on the large gauge wire and tack soldering this cable to it. Cover it with hot glue or 3M cable adhesive.
- 6) Re-assemble DB25 connector.

DONE