

## Mojo Hand Wired Blackheart “Little Giant” upgrade kit instructions

1. Remove the chassis from the head or combo cab.
2. Remove the knobs nuts and washers from the potentiometers on the front panel.
3. Remove the nut from the input jack
4. Clip all wires coming to the PC board on the board end of the wire. Leave a little bit of wire just in case you ever want to reinstall the PCB
5. Remove the 7 screws holding the board in. You will need these later.
6. Remove the 3 grounding nuts
7. Remove the PC board assembly – leave the jacks PCB assembly in the back of the chassis.
8. Drill or punch a 1” socket hole in the back of the chassis (refer to pictures) – this is where the tube rectifier will mount. Use a stepped drill bit or a 1” knockout punch (refer to insert tool picture) – install socket.
9. Drill the 4 potentiometer holes out to accept 3/8” bushing potentiometers.
10. Remove the 3 wires from the pentode triode switch if you have not already.
11. Install the hand wired board assembly. Make sure the tube sockets line up with the tube mounting holes. Install the 7 mounting screws and pot and jack nuts.
12. Refer to picture/layout for all subsequent instructions
13. Solder the heater wires (green) from the transformer and the pilot lamp jumper wires in place
14. Solder the high voltage (red) wires to the rectifier
15. Solder the B+ wire from the board (red) and the 2 rectifier heater wire (yellow) to the rectifier socket
16. Solder the red and blue wires from the output transformer to the red and blue wires at the upper left of the board where they junction eyelets laid out (refer to picture/layout).
17. Nut the ground eyelet from the middle of the board to the middle grounding stake.
18. Solder the black wire from the above eyelet to the ground jumper pad on the jack board.
19. Nut the ground eyelet from the filter cap ground buss to the ground eyelet stake under the IEC connector
20. Solder black wire from ground buss on filter caps to middle lug of triode pentode (standby) switch.
21. Solder orange wire from power transformer (high voltage center tap) to top lug of triode pentode (standby) switch.

The Mojo hand wired kit for the Blackheart 5 watt amp was made possible by a collaboration organized in advance of the release of the amplifier. The addition of a 5v tap to accommodate a rectifier was included in the production amp to make upgrade options more interesting. The Mojo board is a drop in replacement for the main PCB and adds tube rectification to the circuit; it does not replace the PT OT or the rear jack board. Optional additions include a one pc baffle covered in small weave cane for the combo, a back panel with a “football” cutout for the combo, and custom faceplates should be available soon. Please note that the Mojo hand wired board substitutes a standby switch for the pentode triode switch. We find that the MojoBV25M or 30H is a good match for the amplifier.