

# Tri Boost Kit Instructions

[Click here for older triboost version instructions\(no 3-way LED\)](#)

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# Parts Checklist for Tri Boost Kit

## Resistors:

- 1 - 360 ohm (orange/blue/brow/gold) will be labelled "390" on the PCB.
- 2 - 2.7k (red/purple/red/gold)
- 1 - 3.9k (orange/white/red/gold)
- 1 - 4.7k (yellow/purple/red/gold)
- 2 - 10k (brown/black/orange/gold)
- 1 - 68k (blue/gray/orange/gold)
- 2 - 100k (brown/black/yellow/gold)
- 1 - 470k (yellow/purple/yellow/gold)
- 1 - 1m (brown/black/green/gold)
- 1 - 2.2m (red/red/green/gold)
- 1 - 10m (brown/black/blue/gold)

## Capacitors:

- 1 - 47pf to 100pf ceramic disc (this cap is to help block radio interference. Your kit may come with a value between 47pf to 100pf depending upon availability)
- 1 - .0022uf film (222)
- 1 - .005uf film (502)
- 1 - .01uf film (103)
- 1 - .015 film (153)
- 1 - .033uf film (333)
- 3 - .1uf film (104)
- 4 - 47uf aluminum electrolytic

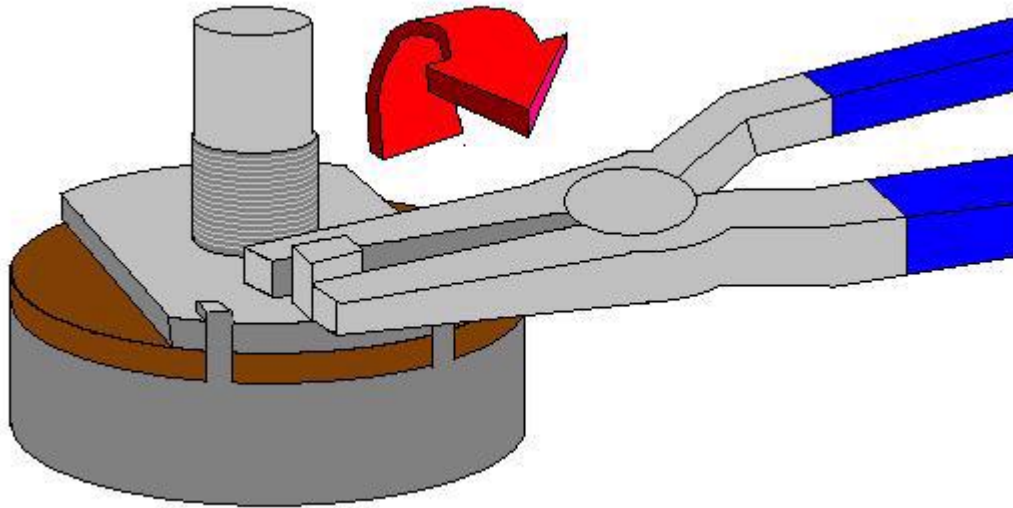
## Transistors:

- 1 - OC75 (may be substituted with OC44, OC76, or CV7003)
- 1 - 2N5088
- 1 - BS170
- 1 - Transistor Socket

## Diodes:

- 1 - 9.1v zener
- 1 - 1N4001
- 1 - Clear lens Red/Green/Blue full spectrum LED

Potentiometers: Be sure to snap off the small tab on the side with a small pair of pliers.



- 1 - A100k audio taper
- 1 - 100k trimpot

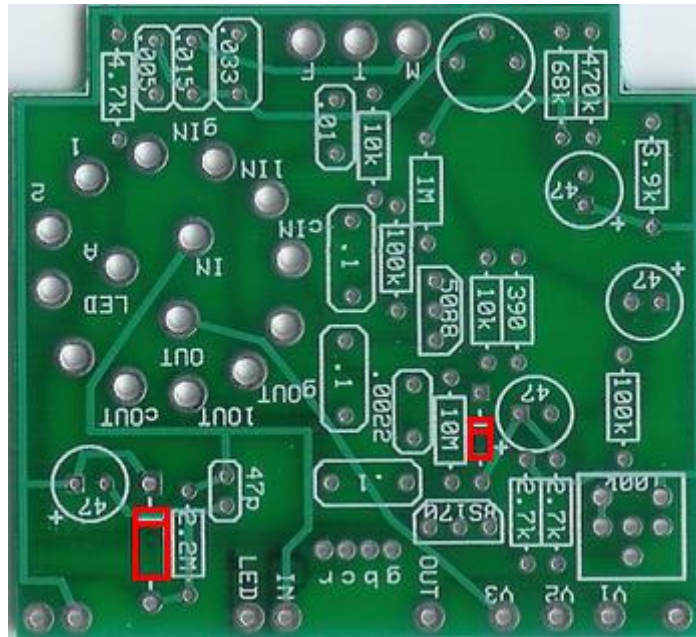
Hardware:

- 1 - "triboost" circuit board
  - 1 - enclosure w/ 4 screws
  - 1 - 3PDT footswitch
  - 1 - SPDT "on-off-on" toggle switch
  - 1 - rotary switch
  - 1 - Stereo Jack
  - 1 - Mono Jack
  - 1 - AC Adaptor Jack
  - 1 - Battery Snap
  - 2 - Knobs
  - 4 - Self-Adhesive Rubber Feet
- Hookup wire

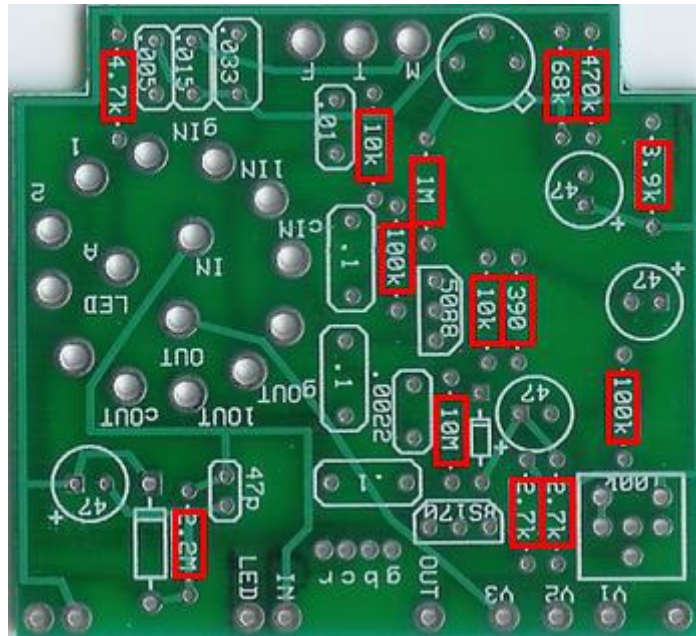


## Populating the circuit board

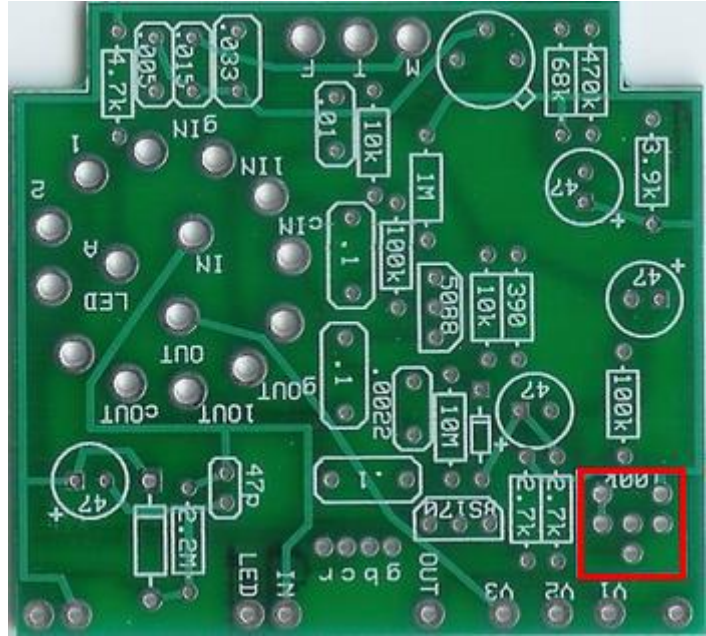
Step 1: Add the diodes. The 9.1v zener will be the smaller of the two. Make sure you line up the stripe on each diode with the stripe on the PCB layout



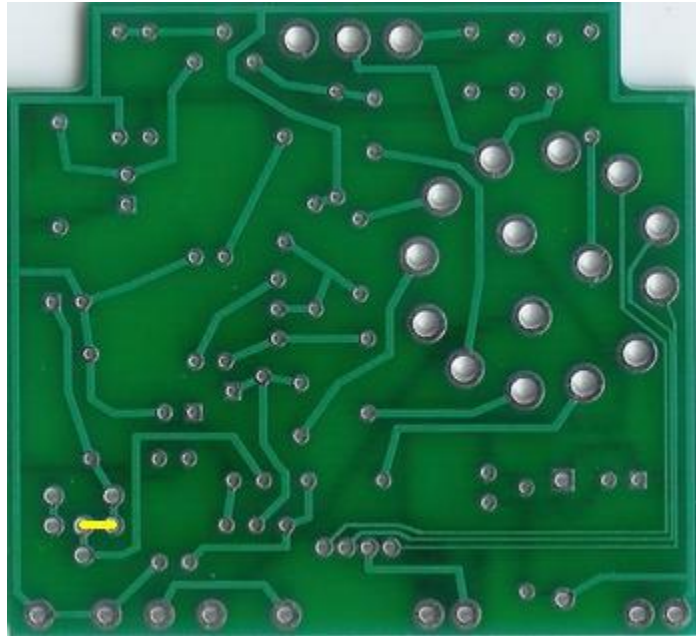
Step 2: Add the resistors. Resistors are not polarized and can be inserted into the PCB in either direction.



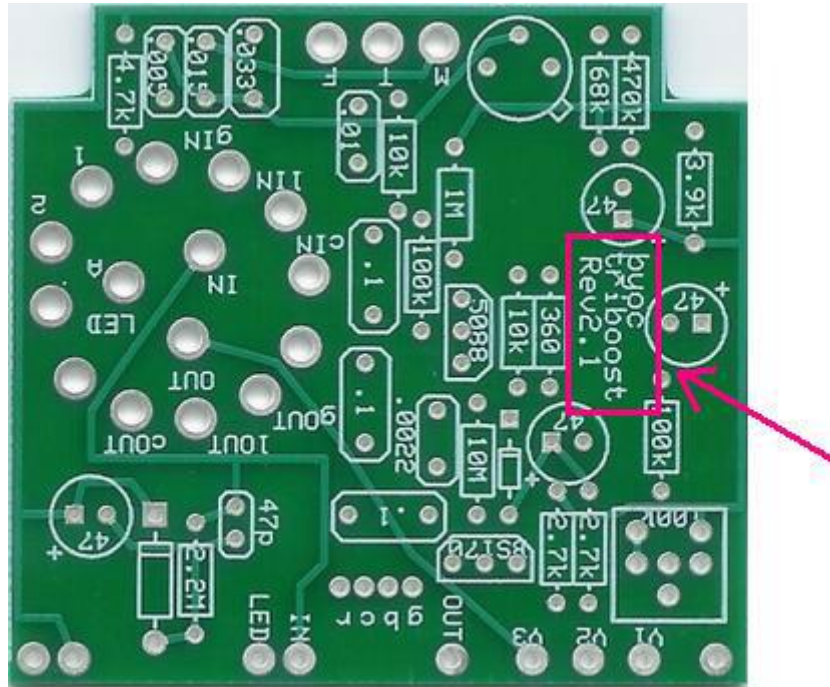
Step 3: Add the 100k trimpot.



Step 4: Add a jumper between the two eyelets highlighted in yellow.

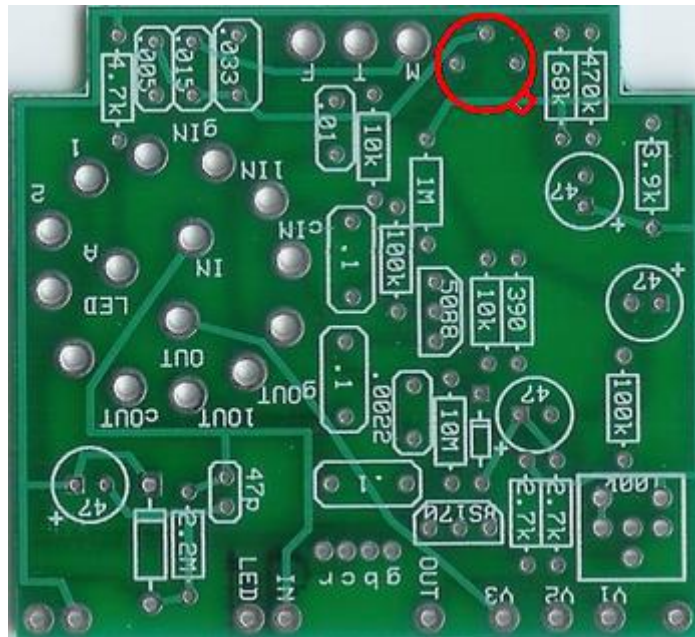




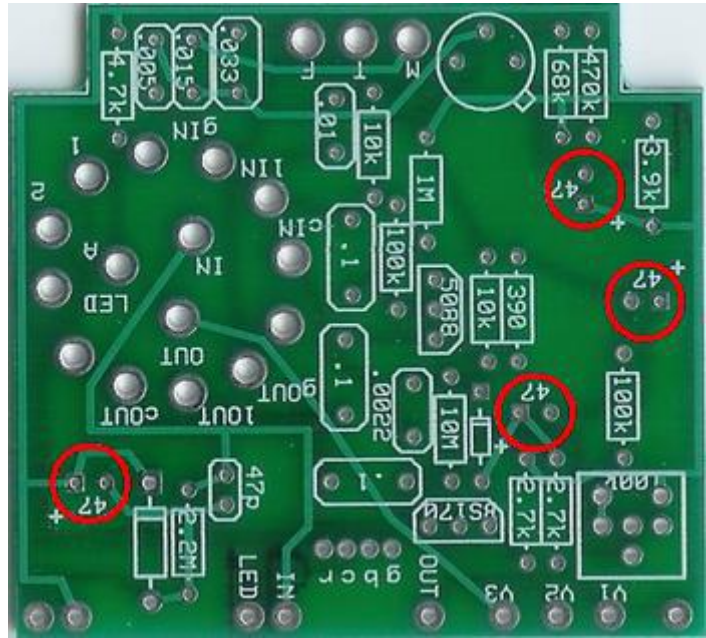


You do not need to do Step 4 if you have a Rev2.1 triboost PCB. The missing trace has been added. If you did make the jumper on a Rev2.1 board, it would make no difference. You would only double up the trace.

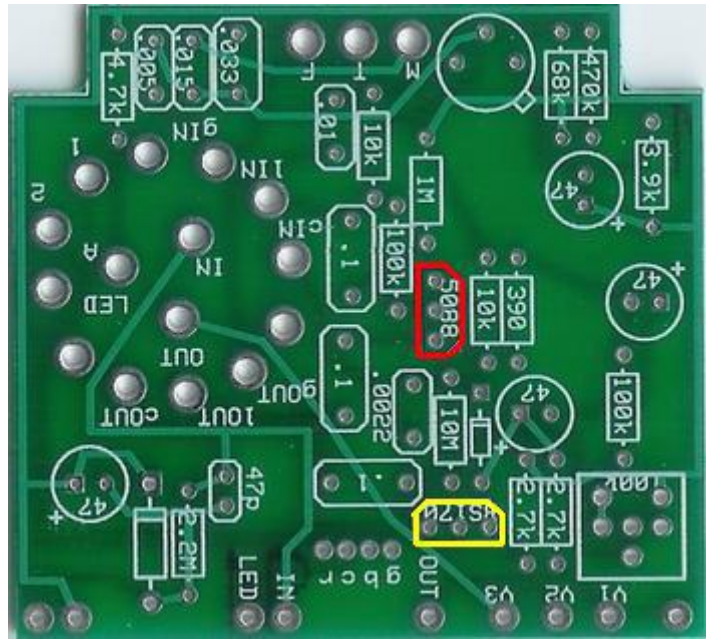
Step 5: Add the transistor socket. Do not solder the transistor into the socket. Do not insert the transistor into the socket yet.



Step 6: Add the four 47 micro farad aluminum electrolytic capacitors. These are polarized. The positive end will have a longer lead and should go in the square solder pad.



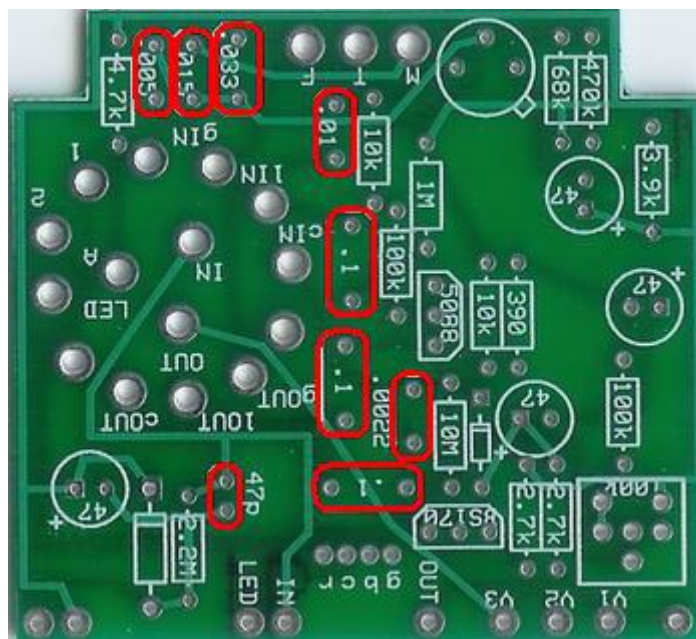
Step 7: Add the transistors. The 2N5088 is highlighted in red and the BS170 MOSFET is highlighted in yellow.



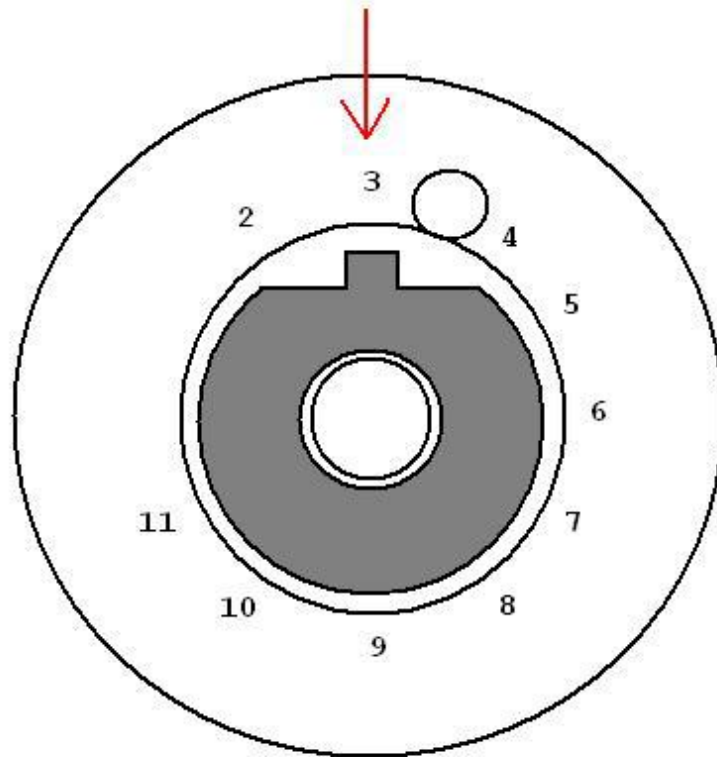
Step 8: Add the ceramic disc and film capacitors. These are not polarized and can be inserted into the PCB in either direction. The ceramic disc cap will be a small round and



orange. If your kit does not come with a 47pF, you should use whatever value ceramic disc cap that came with your kit in the slot for the 47pF.

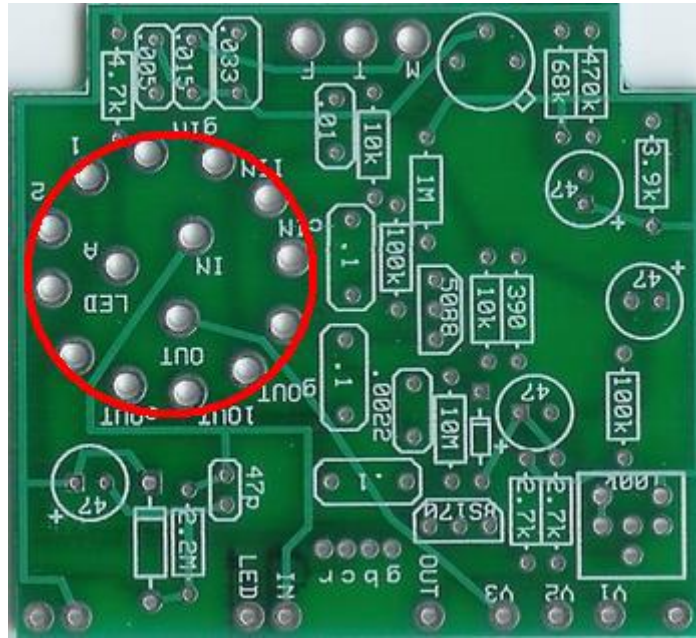


## Front of rotary switch

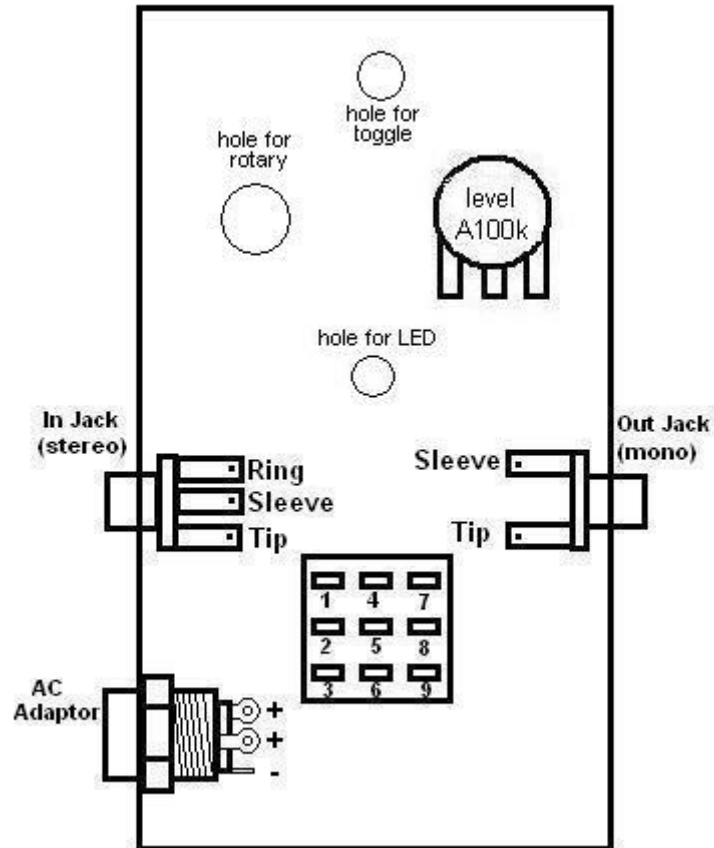


You will need to set the rotary switch so that it only turns to 3 positions. It has the ability to go up to 4. On the front of the switch, remove the bolt and first serrated washer. There will be a second washer with a notch on it. Lift the washer up and place it in the #3 hole. The rotary switch is now set to be a 3 pole/3 position switch.

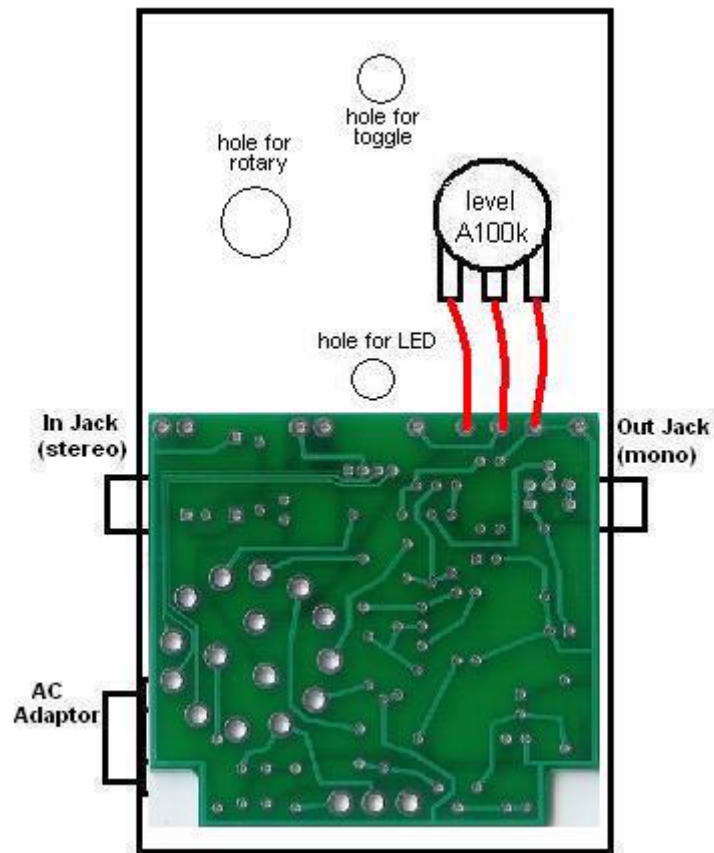
Step 9: Add the rotary switch. **INSERT THE SWITCH TO THE UNDERSIDE OF THE PCB!!!!**



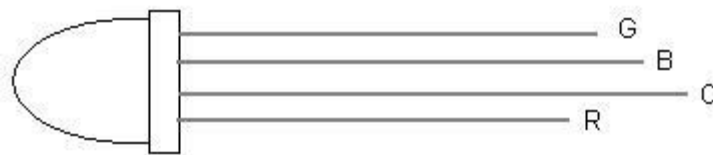
Step 10: Add the jacks, footswitch AC adaptor jack, and A100k to the enclosure.



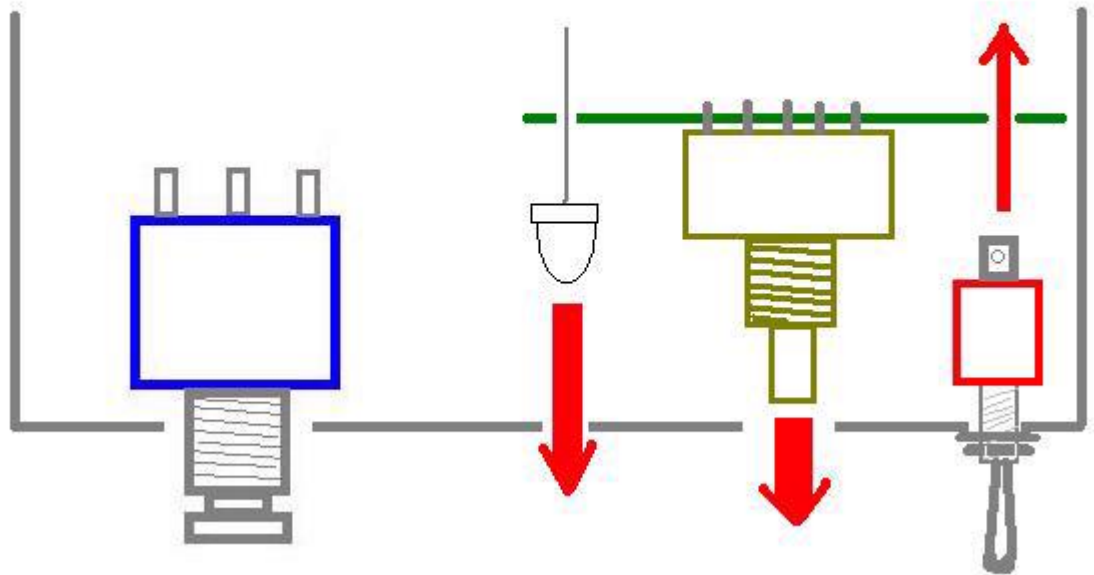
Step 11: Connect the A100K level pot to the PCB.



Step 12: Insert the LED into the **UNDERSIDE** of the PCB, but do not solder it yet. The longest lead should go in the "c" hole.

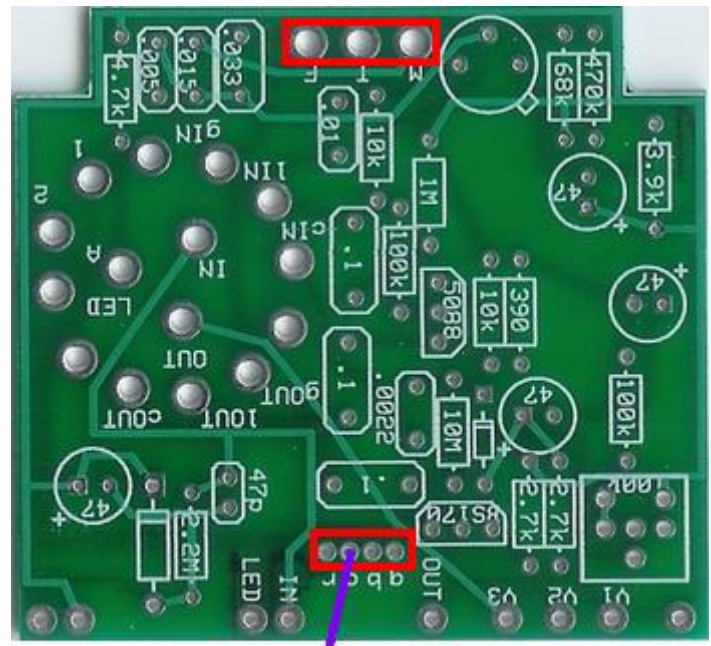


Step 13: Mount the PCB to the enclosure. Loosely mount the toggle switch to the enclosure. Then slide the PCB into place so that the toggle switch fits into its hole. Then push the toggle switch so that it fits into its solder pads on the PCB by grabbing it by the toggle bat that is sticking out of the enclosure and guiding it in. Then push the LED into its hole by grabbing the leads that are sticking out of the topside of the board and guiding it in.



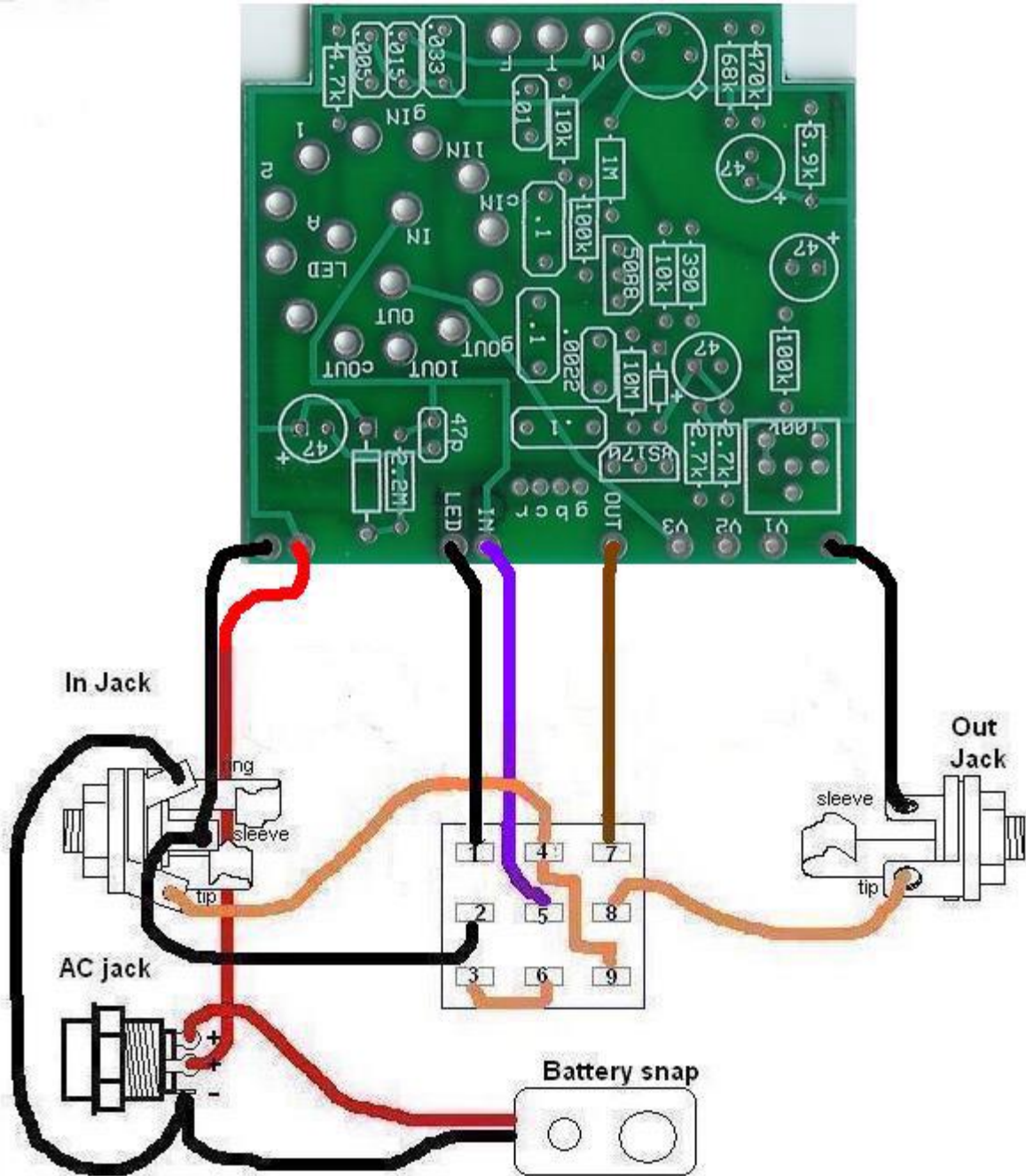


Step 14: Once you have the PCB mounted and both the LED, Toggle switch, and Rotary switch are in place, first tighten the nut on the toggle switch and the rotary switch. Then solder the toggle switch and LED to the PCB.

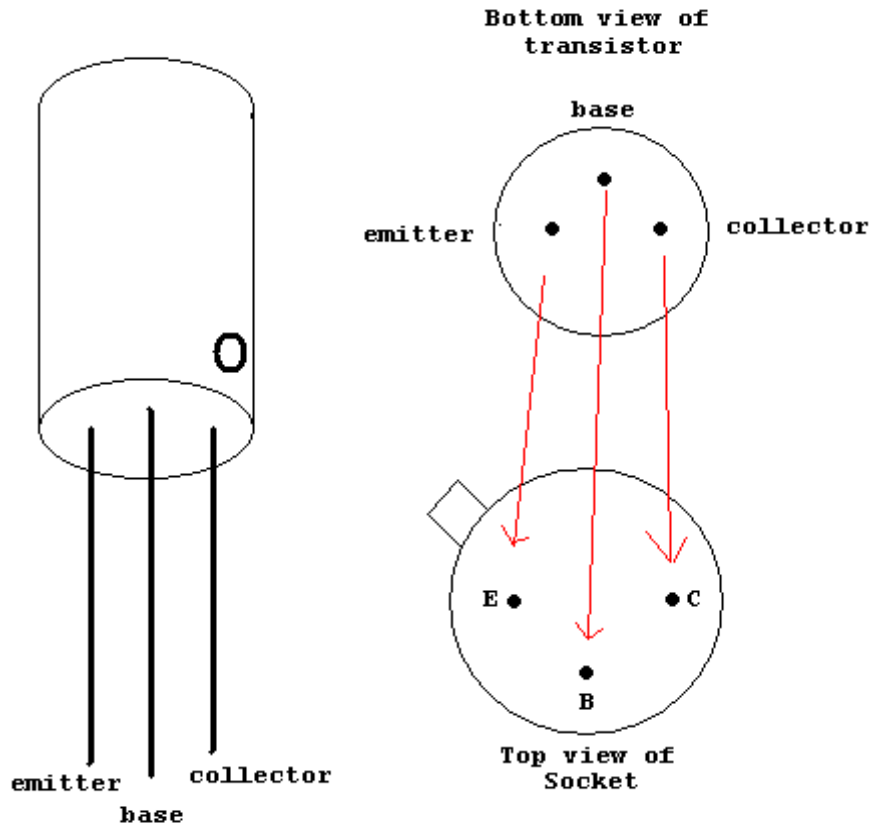


longest lead in the "c" hole

# Triboost Wiring Diagram



# Installing the Transistor



The germanium transistor will have 3 leads - the emitter, base, and collector. The collector is denoted by a painted dot on the side. This dot is usually red, but sometimes blue or white. The transistor socket will have an off center triangular formation and the emitter will be denoted by a tab.

## Finishing up & Troubleshooting

1. Bend the transistor down so that it is laying down on the circuit board
2. Test the pedal to make sure it works. Full turn clockwise on the rotary switch is the germanium boost and should produce a red light. Full turn counter clockwise is the clean boost and should produce a green light. Center position on the rotary switch is the linear boost and should produce a blue light
3. Bias the “clean” boost by adjusting the trimpot. You want to turn your amp down low and strum hard. Continue strumming hard while turning the trimpot with a very small screwdriver until you get a good clean tone
4. Test the toggle switch. Center position is “treble” boost. To the left is “full” boost and to the right is “mid” boost. NOTE: the toggle switch only affects the germanium boost mode.
5. Put the cover on and screw it down
6. Apply the rubber feet.

Is your pedal working? Here's a few common mistakes:

1. **No sound at all in either the bypass or on position.** If you aren't getting sound in bypass then you did not wire your footswitch correctly. Getting the bypass to work is the first thing you need to worry about
2. **Bypass works and the LED lights up when “on”, but there's no sound.** You either have a problem with the wiring from the in to the out of the circuit board and foot switch. The green wire is the in and the brown wire is the out. Or you have a problem with something on the circuit board
3. **Bypass works, but there's sound when on and the LED does not come on.** You probably aren't getting any power to the circuit. Check all the black and red wires
4. **Everything works, but the boost is weak.** You've probably got your transistor in backwards
5. **The volume completely cuts out when I turn the knob all the way counter clockwise.** It's supposed to do that
6. **Everything seems to work. The pedal boosts the volume and stuff, but I don't sound like Brian May.** I can't help you with that.

If none of this helps, and you can't seem to figure out the problem, I always find that it is best to just set the pedal aside for a day or 2 and then come back to it with a fresh pair of eyes. Then the problem usually jumps right out at you...usually.

If you still can't get it working, start a thread on the BYOC forum and ask for help.