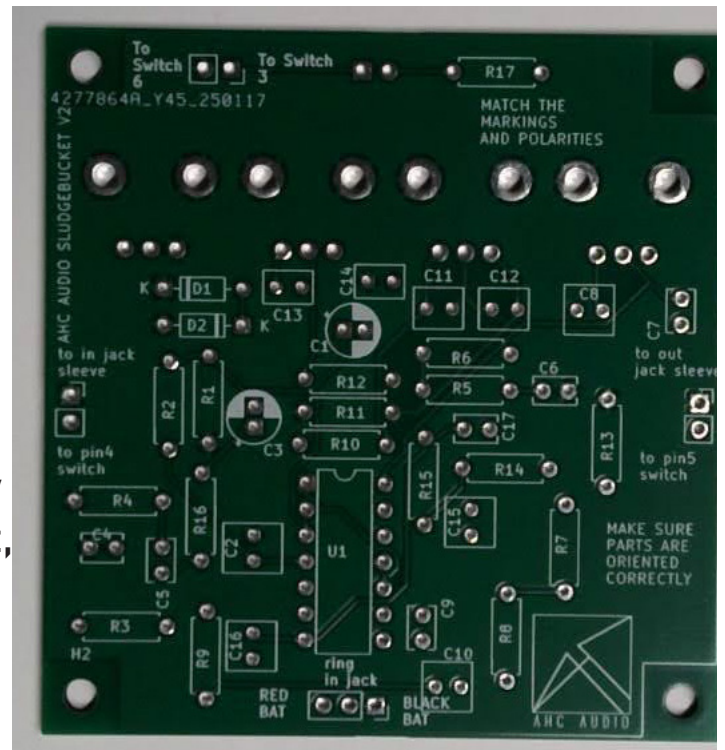


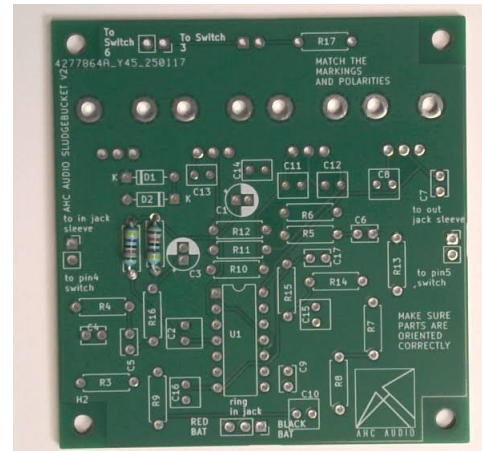
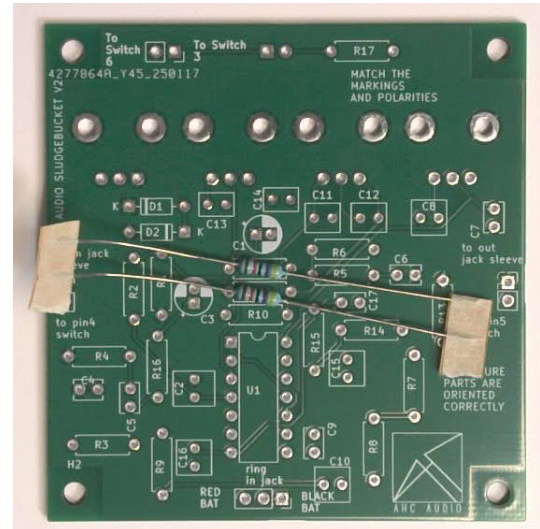
Here's the instructions for the AHCAUDIO SLUDGECKET - a very simple distortion pedal. It's a good second kit, I wouldn't learn how to solder using it, but it could be your second or third project. You'll need to provide a case, and if you want to use a 9V adapter, you'll have to provide one as well as a socket. If you're an experienced builder, you can go directly to the schematic and build. If you're not, we have step by step instructions.



A lot of the components are really small. You can tell the values from either the color codes, in the case of resistors, or the numbers, in the case of capacitors, however, these are *tiny*. The first thing I would buy as an experimenter, immediately after a decent soldering iron, is a multimeter, they test all sorts of components, and they're about 30 bucks. They're not particularly accurate, but they are good for identifying components. Do a search for "Component Tester" on your favorite e-commerce site, and you will see a bunch to choose from.



We will start by placing all of the resistors. Start with R1 and R2. These are 47k Ohm resistors - commonly called 47k. To keep the prices of these kits cheap, they might have 4 or 5 bands. The color bands determine the value - these are yellow, purple, black, red and brown. Use one of the many calculators available online to determine the values of the resistors if they come loose from the packaging. Place the resistors in the holes on the top of the board, then you solder, and then you clip the leads to shorten them. You solder on the bottom of the board. The pictures on the right show the top of the board. This is what they should look like.



You will go through and install all of the rest of the resistors.

R3,R7,R11 - 10K

R4,R13,R16 - 1Meg

R5 - 4.7k

R6 - 100

R8 - 150k

R9 - 1k

R10,R14 - 100k

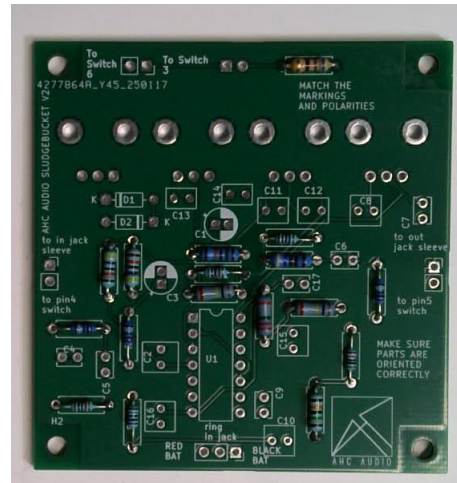
R12 - 180k

R15 - 2.2Meg

R17 - 680

Again, they are color coded, you can look this up or you can measure the resistors to check.

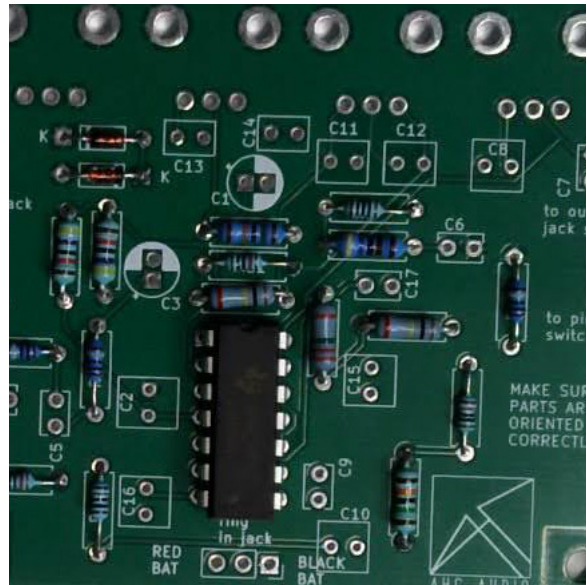
This is what the board should look like when all the resistors are placed



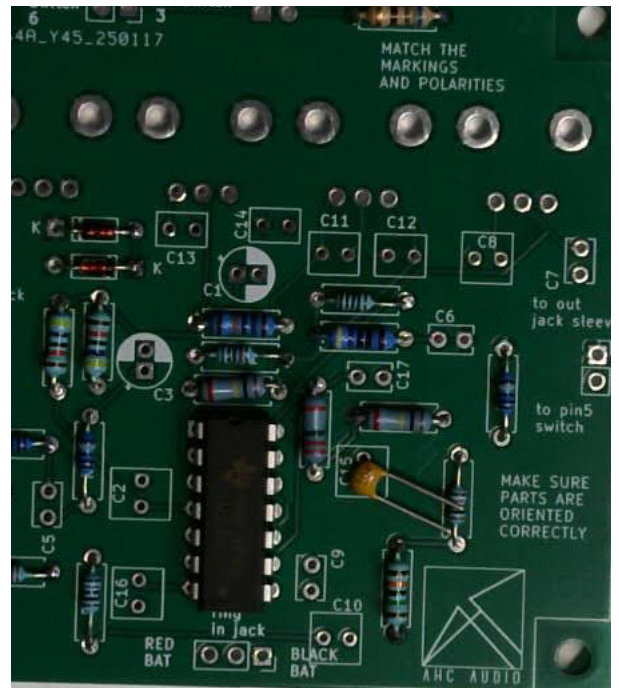
Next - place D1 and D2. These are diodes. They are what's called "polarized" components - they have a direction that they need to be installed. Match the black band on the end of the diode to the white band on the PCB. See the photo to see what I mean by this. If you install these components, backwards, the distortion pedal may not work.



Next - we will install the IC or integrated circuit. This IC is an op-amp - it can **only** be installed in one direction to work correctly. The notch on the IC needs to match the notch on the board. See the picture for what I mean - The notch is towards the top of the board. Put this IC in the board - facing the correct way - and solder. If you do this backwards, it's the end of your adventure with this kit - you'll likely need to start over.



We will then install the non-polarized capacitors. This look like little tiny gum pieces. See the picture on the right. We will start with C2, which is 0.1uF. Again, the labels are **tiny** on these, so you might not be able to read them, but you can get the translation from code to value on many Internet sites. For example, a 0.1uF capacitor is usually labeled 104.



Install the rest of the capacitors

C4 - 100pF

C5 - 22nF

C6 - 47nF

C7 - 47pF

C8 - 680nF

C9,C17 - 10pF

C10,C15,C16 - 1uF

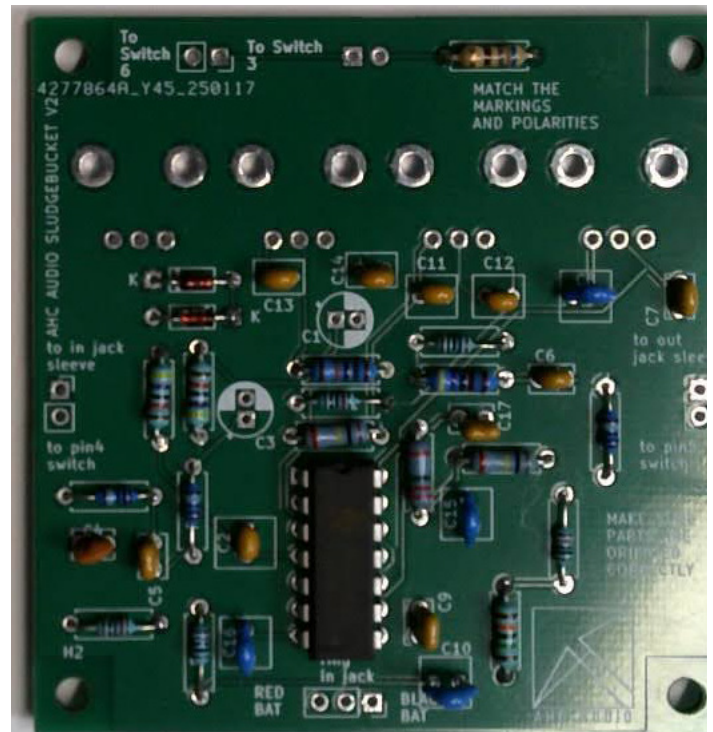
C11 - 470pF

C12 - 4.7nF

C13 - 330pF

C14 - 3.3nF

The board will look like the board on the right.



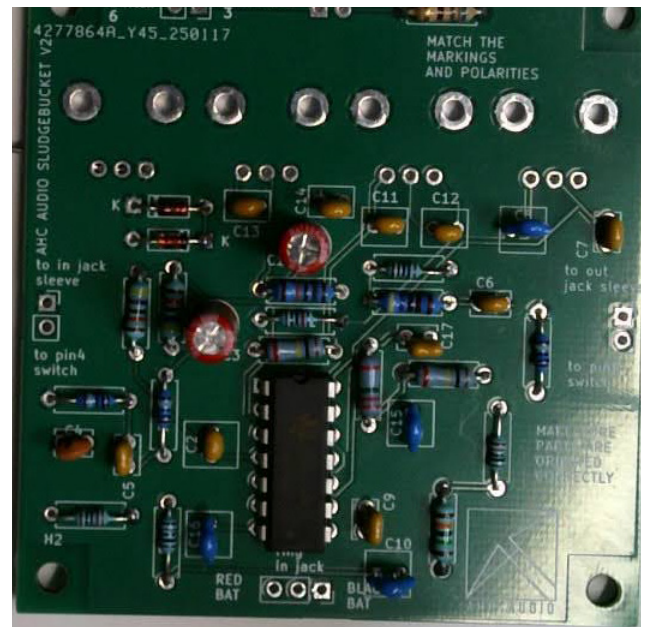
Next, install the 2 polarized capacitors. These are C1, and C3. They are polarized - which means that they can be installed backwards. And it can be exciting if these are installed backwards, they're known to get large and spicy.

The picture on the right shows the *negative* pole. This needs to be placed so that it matches the *white* print on the circuit board.

I show the negative side of the capacitor in the photo on the right.



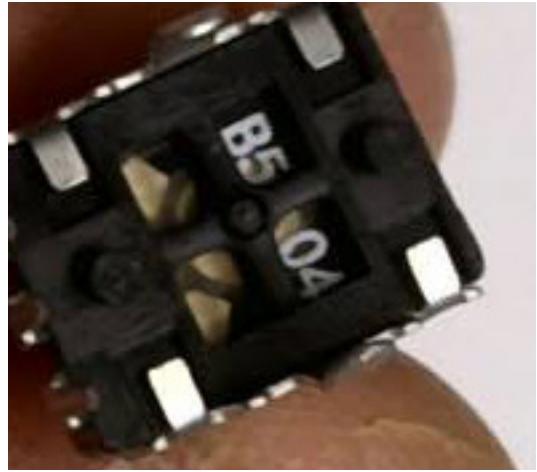
The board should now look like the one on the right. You will now flip the board over to install the potentiometers.



Find the potentiometers marked B105. These are 1Meg potentiometers. Install them in RV2 and RV4. Again, these go on the BACK of the board.



Find the potentiometer marked B504.
This is a 500k potentiometers. Install
this in RV3. Again, this goes on the
back of the board.



Install the final potentiometer, a 10k
potentiometer. The board should look
like this.

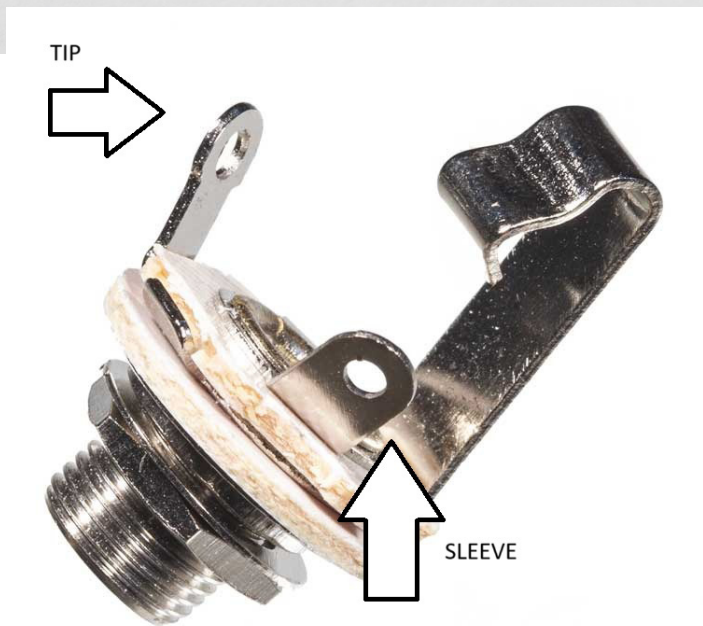


We're going into the final phase of the installation, the installation of the jacks, the switch, the battery snap, and the LED.

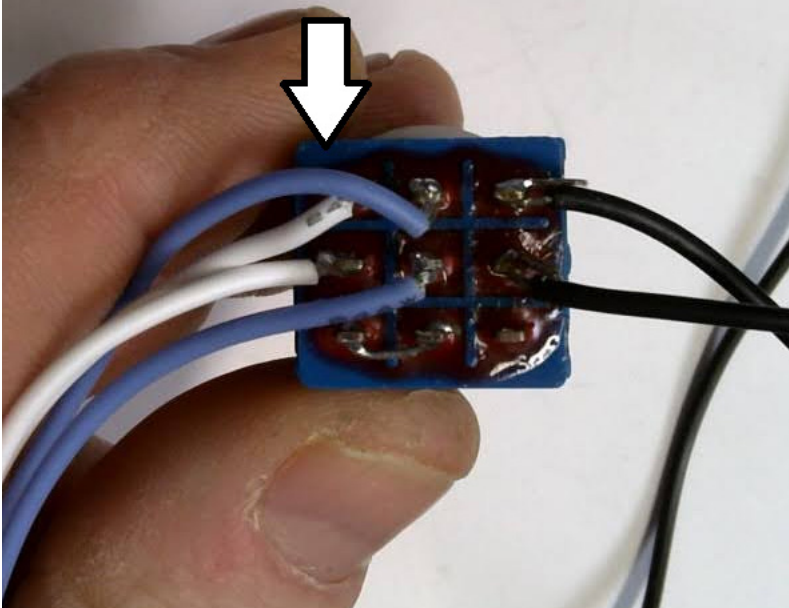
You could do this many different ways - I will show you the simplest way to have the battery disconnect when there is no plug in the input jack, and true bypass switching with an LED indicator. You could simplify this a lot, or even make it more complex, but this will get it working like a typical pedal.

We want to solder up the switch first. Follow the pictures on the subsequent pages. Essentially, we are wiring the switch to bypass the effect and to turn on an LED.

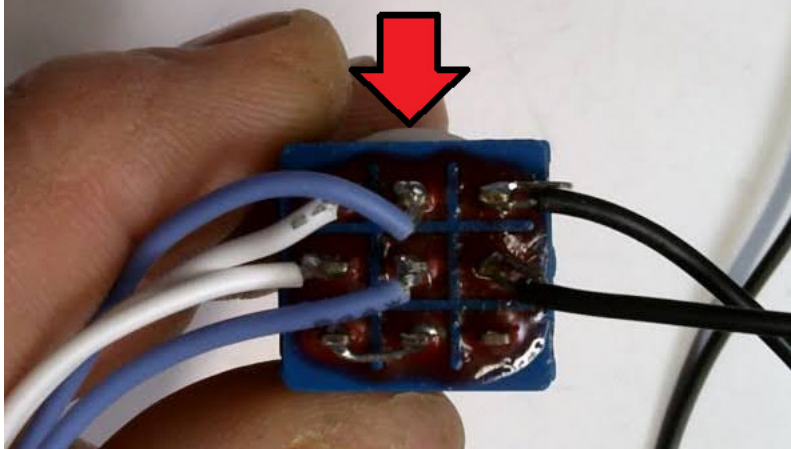
First some terminology. 1/4 stereo jacks have a tip, ring, and sleeve. 1.4 mono jacks have a tip and a sleeve. The tip is generally signal, the sleeve is usually ground, and the ring we use to automatically connect the pedal to power, and to disconnect it when we unplug the input jack. The INPUT jack is the stereo jack that has three terminals. The output jack is the MONO jack, with only two terminals.

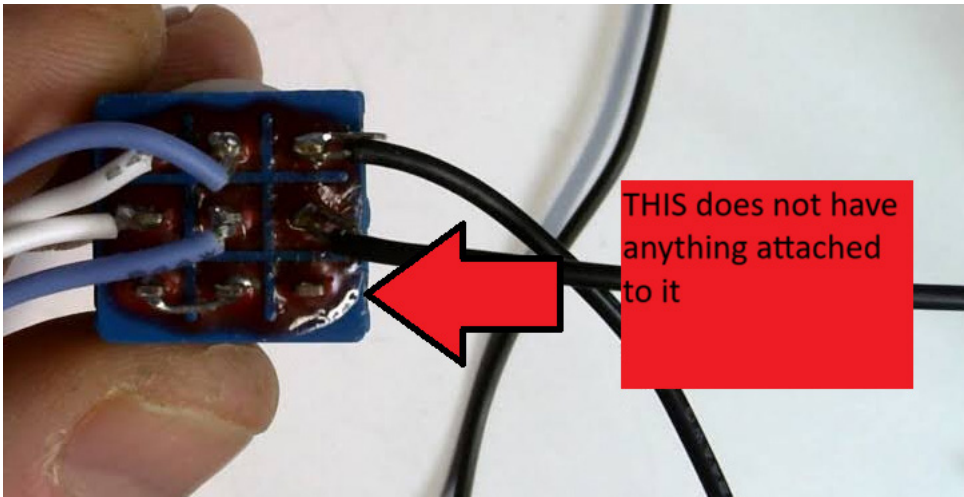
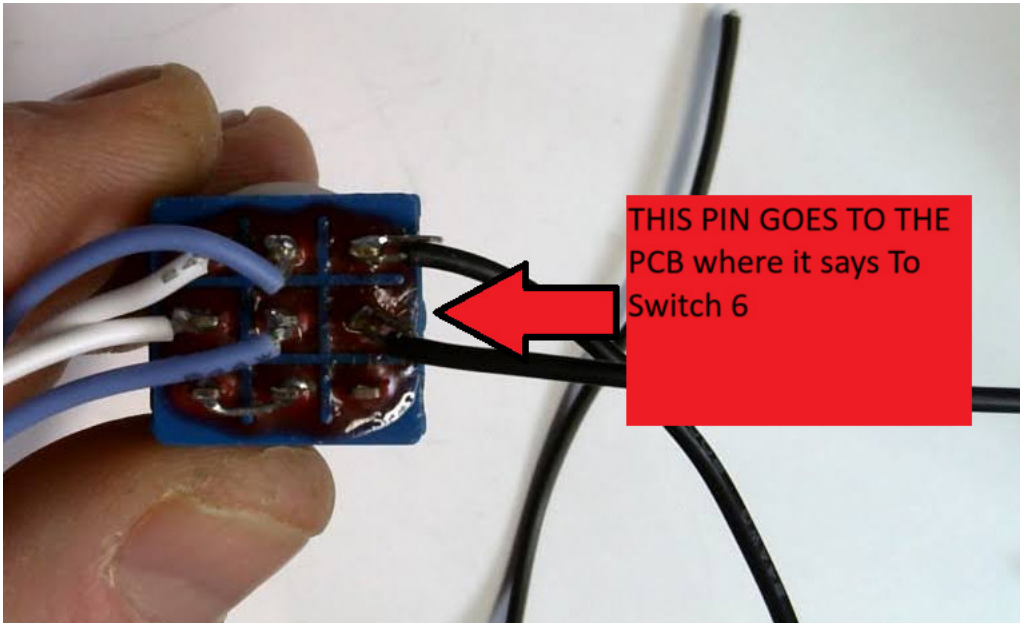
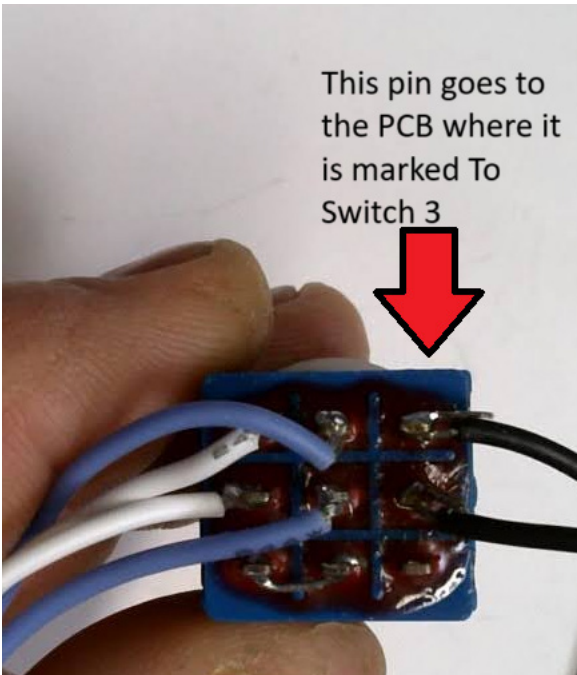


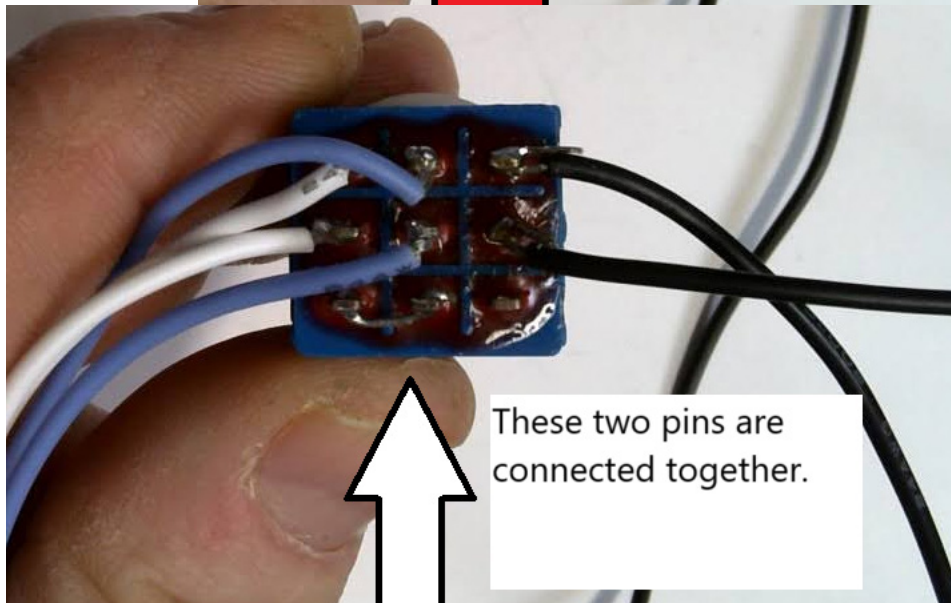
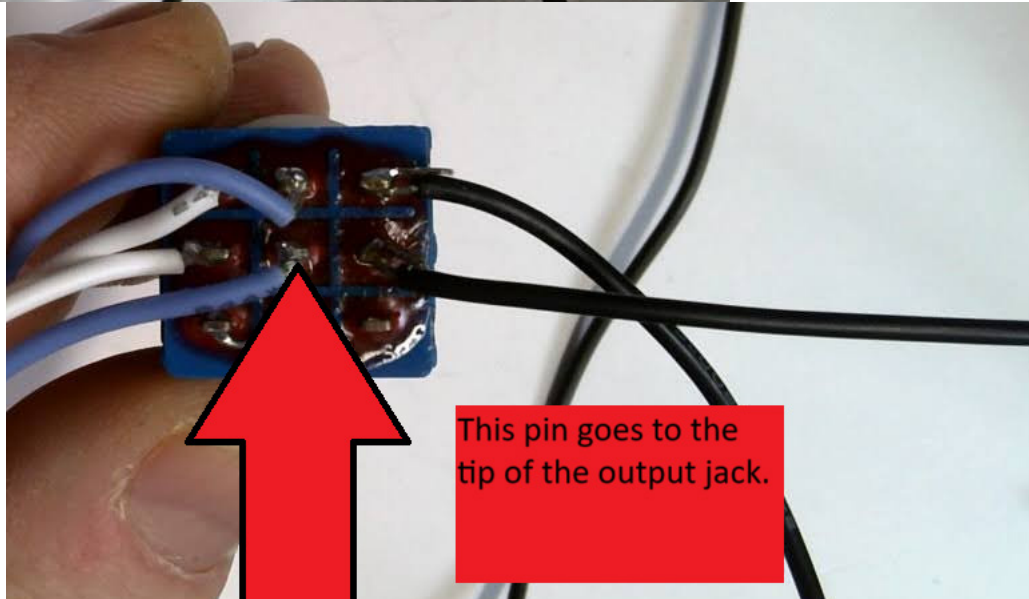
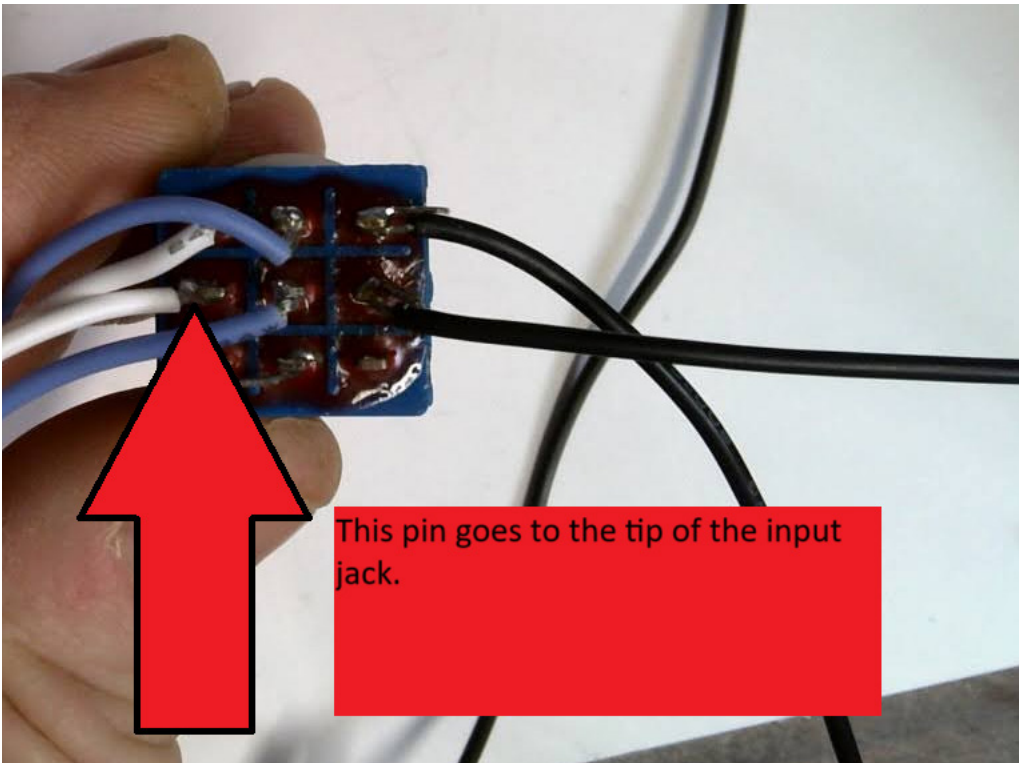
This pin goes to the marking on the PCB that says to pin4 switch



This pin goes to the PCB where it says to pin5 switch

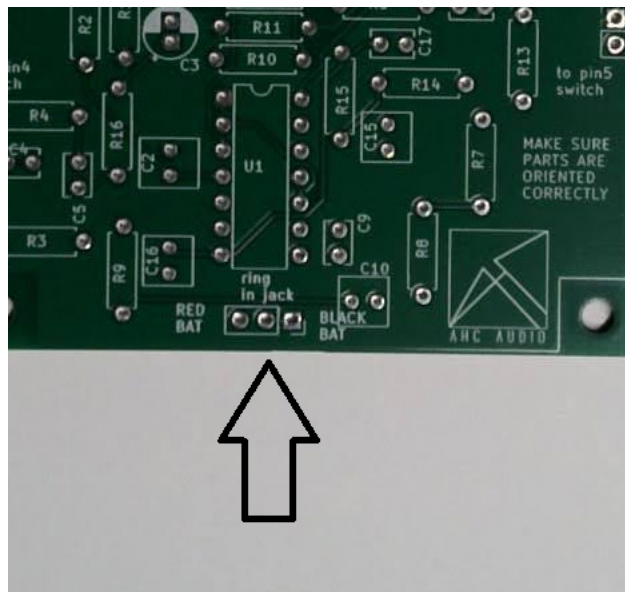






Connect the sleeves of the input and output jacks to the appropriate places marked on the PCB.

Finally, connect the ring of the input jack to the appropriate place as marked on the PCB.



The last step is connecting the battery snap. Connect the RED wire on the battery snap to the RED BAT pad on the PCB. Connect the black battery wire to the BLACK BAT terminal on the PCB. To hook up the LED, connect the LED aligning the flat spot on the LED with the flat spot on the PCB. Connect a fresh 9V battery, hook up your guitar and amp, and give it a whirl.

IF YOU SMELL ANYTHING OR THE BATTERY OR THE PEDAL GETS HOT - STOP -YOU HAVE SOMETHING HOOKED UP WRONG - DISCONNECT THE BATTERY IMMEDIATELY.

It has four controls. Distortion is how much distortion the pedal will provide. Bass and treble are self explanatory, and volume is the overall output volume of the pedal.

TROUBLESHOOTING

If it doesn't work here are the most likely culprits.

- 1) You put a polarized component in backwards.
- 2) You have a solder bridge - that is, you blobbed too much solder on a joint, and it's bridging a connection.
- 3) You put the wrong component in the wrong place. This is pretty unlikely with this circuit, it would work with a lot of components placed in the wrong spot, albeit not well.
- 4) You didn't solder a joint completely.

