

Tremelo Kit Instructions

revision 2.2

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Parts Checklist for Tremolo Kit (revision 2.2 released 1/1/07)

resistors

- 1 180ohm resistor (brown/gray/brown)
- 1 1k resistors (brown/black/red)
- 1 1.2k resistor (brown/red/red)
- 1 4.7k resistors (yellow/purple/red)
- 2 10k resistors (brown/black/orange)
- 1 15k resistors (brown/green/orange)
- 1 150k resistors (brown/green/yellow)
- 2 560k resistor (green/blue/yellow)
- 3 1M resistor (brown/black/green)
- 1 2.2M resistor (red/red/green)

capacitors

- 1 .05uF film capacitor (503k)
- 1 .22uF film capacitor (224k)
- 2 .47uF aluminum electrolytic cap
- 3 .68uF film capacitor (684k)
- 1 10uF aluminum electrolytic cap
- 1 22uF aluminum electrolytic cap

transistors

- 2 2N5088 transistor
- 2 2N5457 JFETs

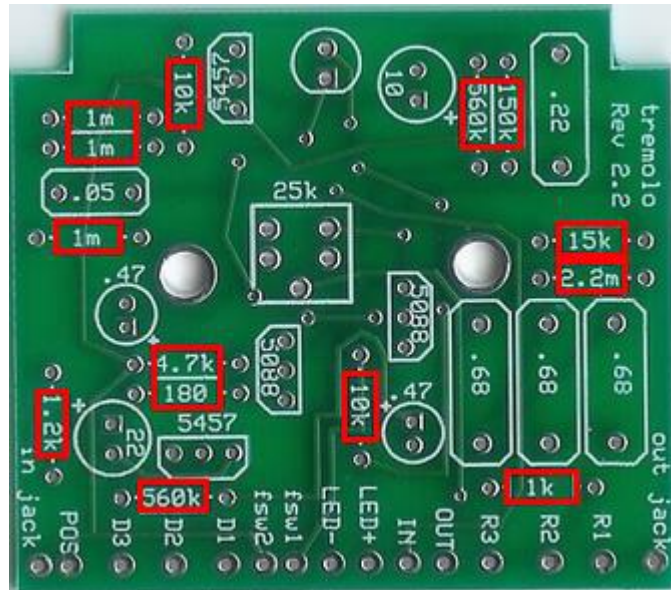
potentiometers

- 1 25k trim pot
- 1 B1MEG potentiometer
- 1 B25K potentiometer

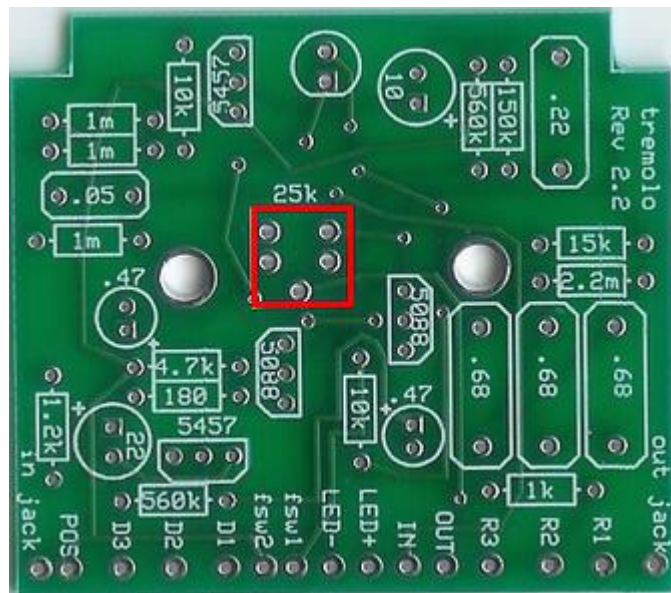
hardware

- 1 Drilled enclosure
- 1 Ready to solder circuit board
- 1 3PDT footswitch
- 1 Red LED
- 1 Stereo 1/4" jack
- 1 Mono 1/4" jack
- 1 AC adaptor jack
- 2 Black knobs
- 2 Self-adhesive circuit board stand-offs
- 1 Battery snap
- 4 Self-adhesive rubber feet
- Hook-up Wire

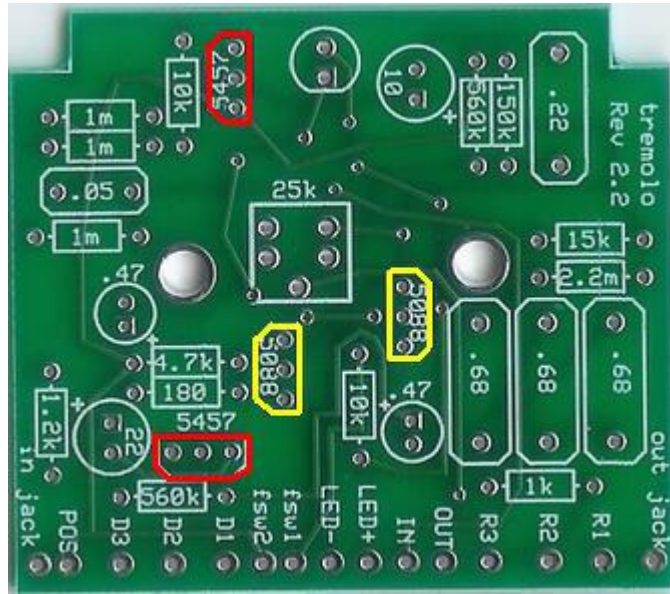
Populating the circuit board



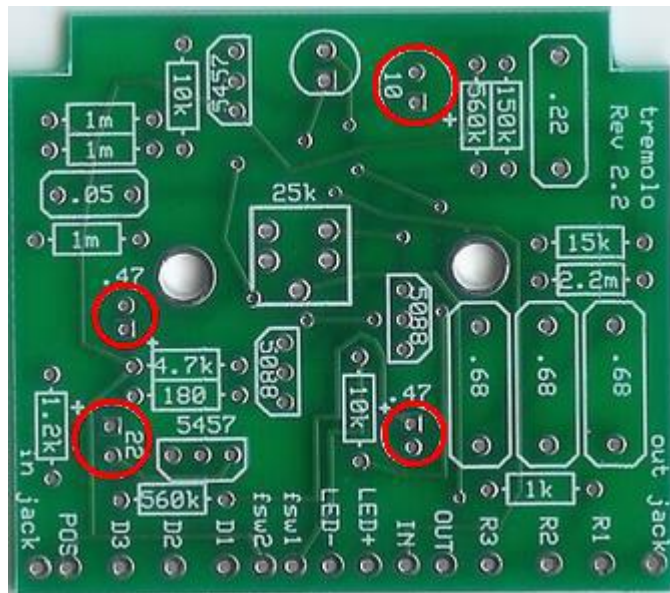
STEP 1: Add all the resistors. There's a lot of soldering here so take your time....If you miss one, it will be nearly impossible to figure out what you did wrong later on. The 1k resistor can be changed to a larger value like 2.2k for a slower rate, but you will lose some of the faster "chop".



Step 2: Add the 25k trimpot. This pot controls the volume. When you are finished with the build set it to unity gain.

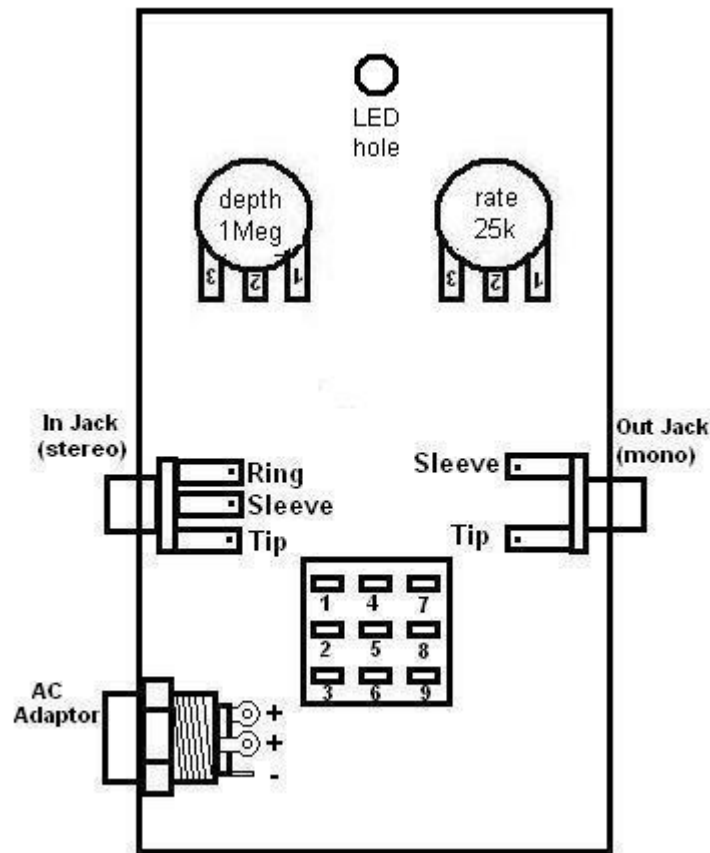


STEP 3: Add the 2N5457 JFETs highlighted in red and the 2N5088 transistors highlighted in yellow.



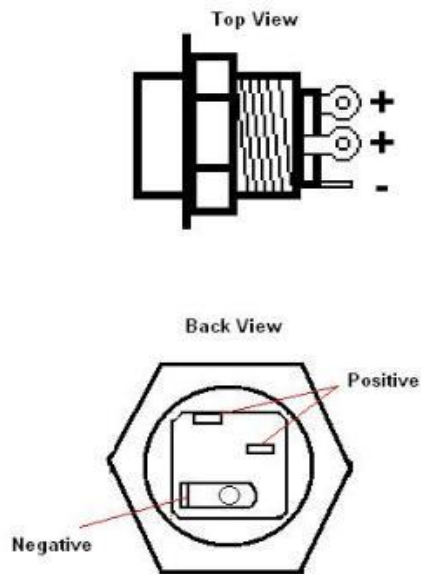
Step 4: Add the Electrolytic capacitors. The negative side will be marked with a white stripe down the side. The positive end will have a longer lead and goes in the square solder pad.

Assembling the Enclosure



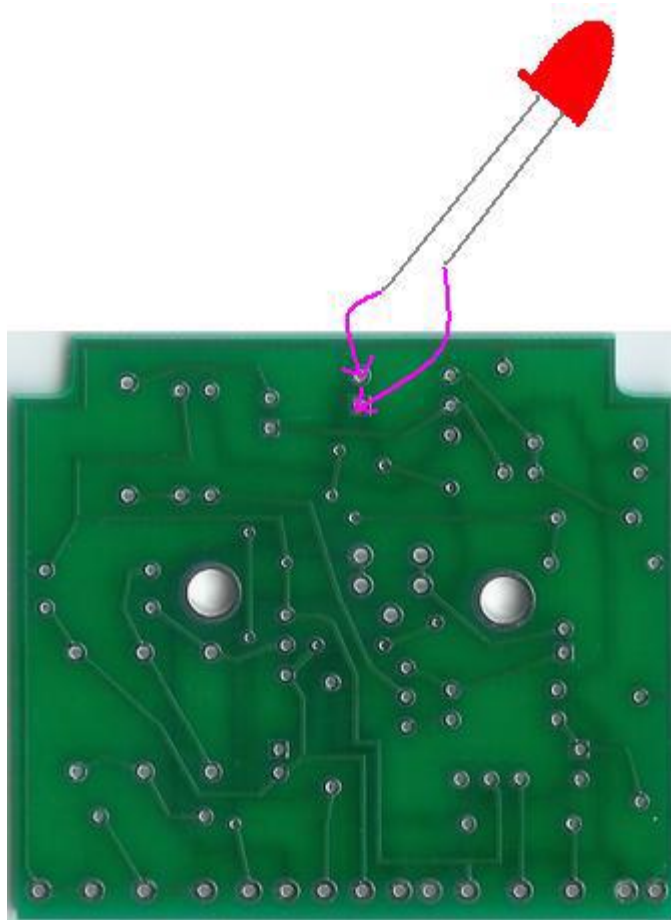
1. Install the jacks first. If you are looking down inside the enclosure, the mono jack goes on the right side and the stereo jack goes on the left. Place the washer on the outside of the enclosure. Use a 1/2" wrench to tighten.
2. Install the AC adaptor jack. The bolt goes on the inside. Use a 3/4" or 14mm wrench to tighten.
3. Install the potentiometers so that the solder lugs are pointing down towards the footswitch side of the enclosure. Use a 10mm wrench to tighten but only snug. Do not over tighten the pots.
4. Install the footswitch. The first bolt and metal washer go inside. The plastic washer and second bolt go on the outside. It does not matter which side you designate as the "leading edge" of the footswitch as long as you orientate it so that the flat sides of the solder lugs are aligned in horizontal rows, not vertical columns. Use a 14mm wrench to tighten

AC Adaptor



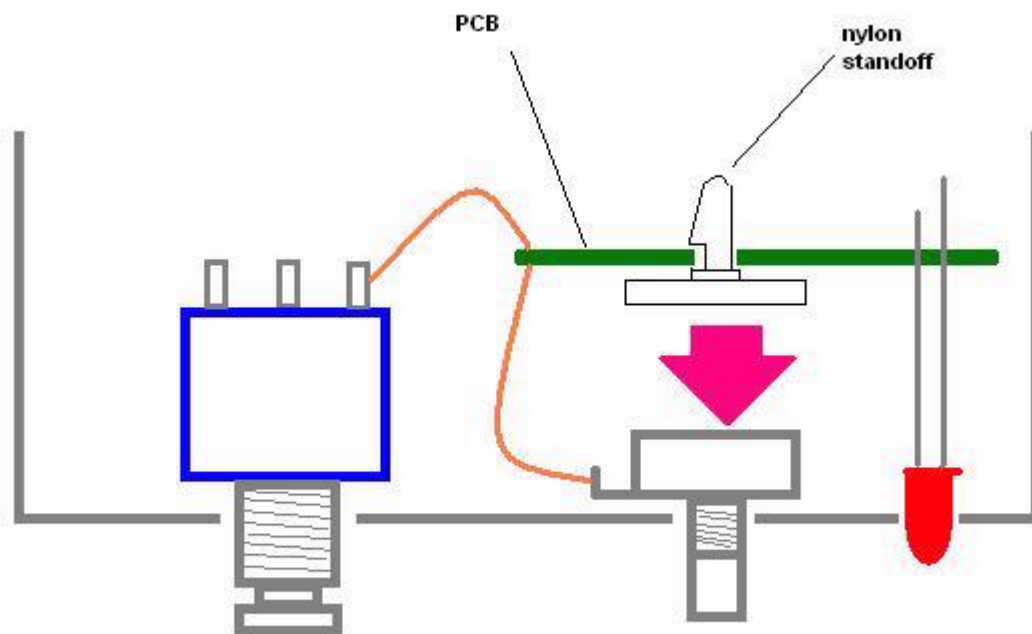
This is a “disconnect” ac adaptor jack. That means that when you have a battery connected and you plug in the adaptor, it will disconnect the battery. That is why there are 2 positive terminals. They are both connected when there is no plug in the jack, but when the plug is inserted only one of the terminals (the uppermost terminal in the “back view”) is connected to the sleeve of the adaptor. The advantage of this is that you can leave batteries in your pedals as a back up power source if you are a “working” musician and they will stay fresh even when you have the input jack plugged in as long as you keep the adaptor plugged in.

Installing the LED and Mounting the Circuit Board



You will install the LED at the same time you mount the circuit board.

1. Insert the LED into its slot on the underside or “solder side” of the circuit board, but DO NOT SOLDER it yet. Make sure the anode (the long leg) goes in the round solder pad and the cathode (the short leg) goes in the square solder pad. No. This is not a typo. Yes. This is contradictory to the way most polarized components go in the circuit board.
2. Once you have the LED in place, bend the leads a little bit so that it will not fall out when you turn the PCB over.
3. Install the nylon circuit board standoffs into the mounting holes.
4. Remove the paper backings on the standoff to expose the self-adhesive tape.
5. Insert the LED bulb into the LED hole in the enclosure.
6. Secure the Standoffs to the back of the potentiometers.
7. Your LED should still be free to move up and down slightly. You probably do not want your LED sticking all the way out of the hole. So pull up on the LED legs till you have it properly positioned and then solder.
8. Clip off the excess LED leg wire.



Finishing up & Troubleshooting

1. Test the pedal to make sure it works.
2. Put the cover on and screw it down.
3. Apply the rubber feet.
4. Turn on your amp and rock out.

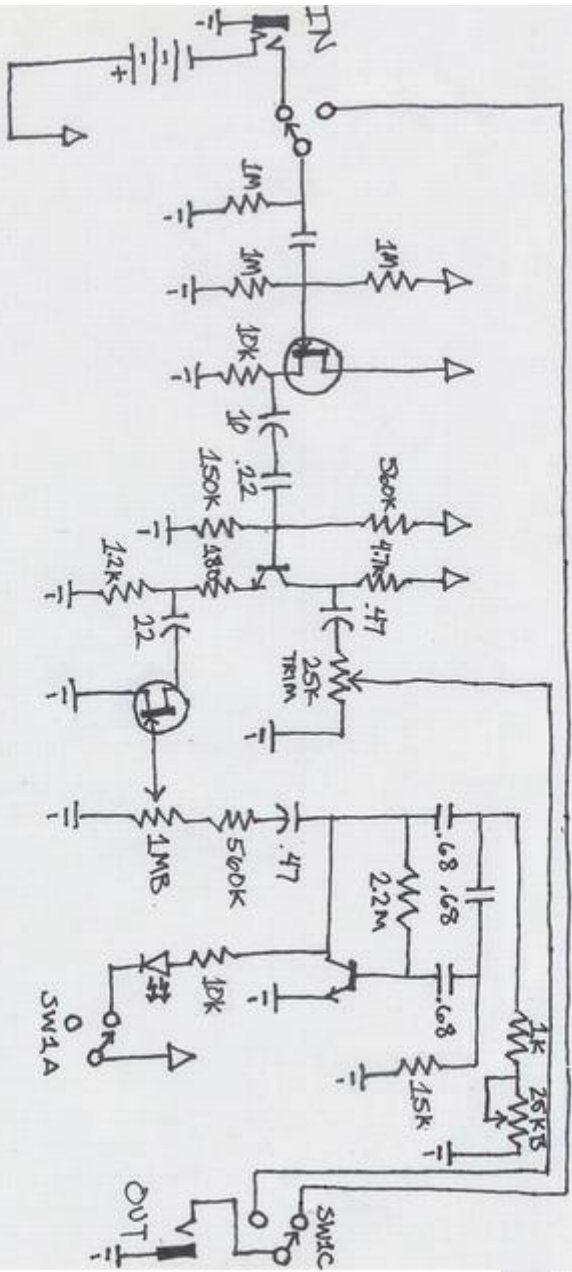
Is your pedal working? Here's a few common mistakes:

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 and/or the out of the circuit board and foot switch. Or you have a problem with something on the circuit board.
3. **Bypass works, but there's no 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.

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 board.buildyourownclone.com and ask for help.

TREMLOLO



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