

Lazy Sprocket Kit Instructions

Schematic.....page 3

Parts Checklist.....page 4

Populating the Circuit Board.....page 5 - 8

Assembly.....page 9

Wiring.....page 10

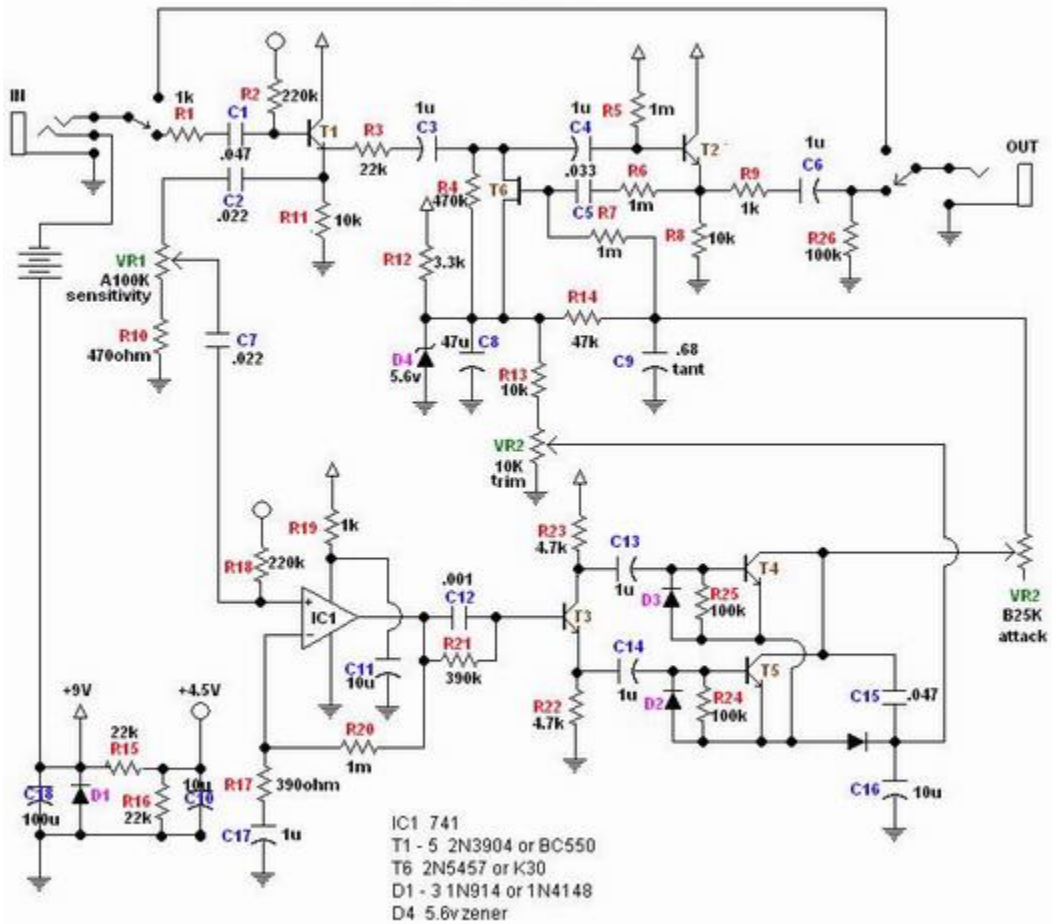
Installing LED and mounting PCB.....page 11 - 12

Finish up.....page 13

Copyright 2007 Build Your Own Clone

The Lazy Sprocket (a.k.a. true bypass Boss SG-1)

drawn by b.y.o.c.



Parts Checklist for The Lazy Sprocket Kit

Resistors:

- 1 - 390ohm (orange/white/brown/gold)
- 1 - 470ohm (yellow/purple/brown/gold)
- 3 - 1k (brown/black/red/gold)
- 1 - 3.3k (orange/orange.red/gold)
- 3 - 4.7k (yellow/purple/red/gold)
- 3 - 10k (brown/black/orange/gold)
- 3 - 22k (red/red/orange/gold)
- 1 - 47k (yellow/purple/orange/gold)
- 3 - 100k (brown/black/yellow/gold)
- 2 - 220k (red/red/yellow/gold)
- 1 - 390k (orange/white/yellow/gold)
- 1 - 470k (yellow/purple/yellow/gold)
- 4 - 1M (brown/black/green/gold)

Capacitors:

- 1 - .001uf film (102)
- 2 - .022uf film (223)
- 1 - .033uf film (333)
- 2 - .047uf film (473)
- 1 - .68 tantalum
- 6 - 1uf aluminum electrolytic
- 3 - 10uf aluminum electrolytic
- 1 - 47uf aluminum electrolytic
- 1 - 100uf aluminum electrolytic

IC:

- 1 - 741 or TL071 single op amp

Transistors:

- 5 - 2n3904
- 1 - 2n5457

Diodes:

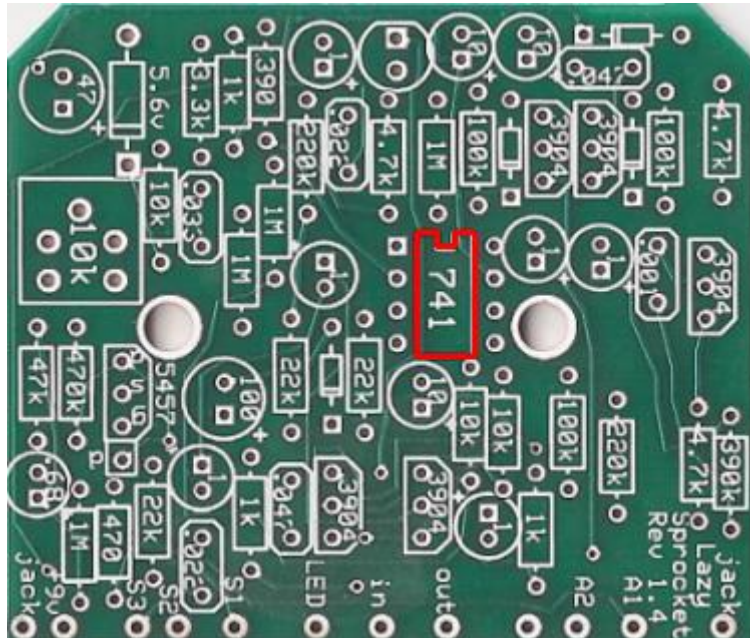
- 4 - 1N914 or 1N4148(smaller diodes)
- 1 - 5.6v zener (larger diode)

Potentiometers:

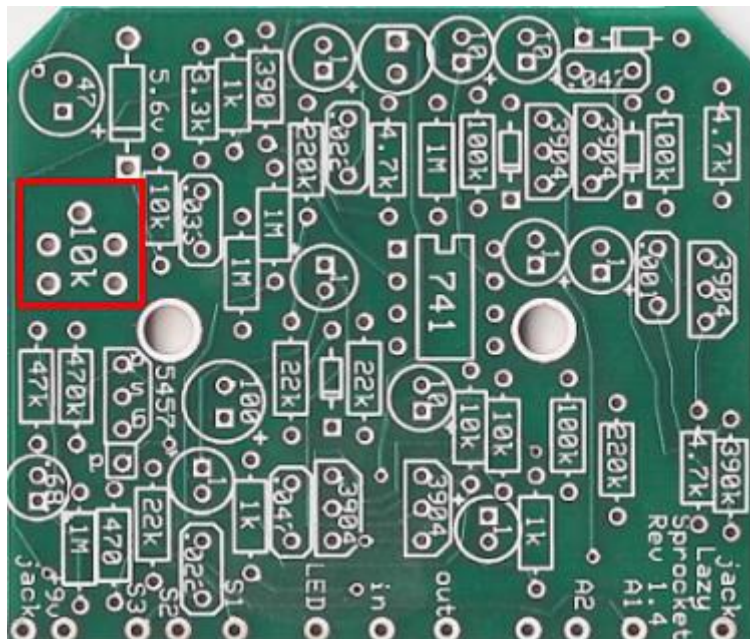
- 1 - 10 trim pot
- 1 - A100K Audio pot "sensitivity"
- 1 - B25k Linear pot "attack"

Hardware:

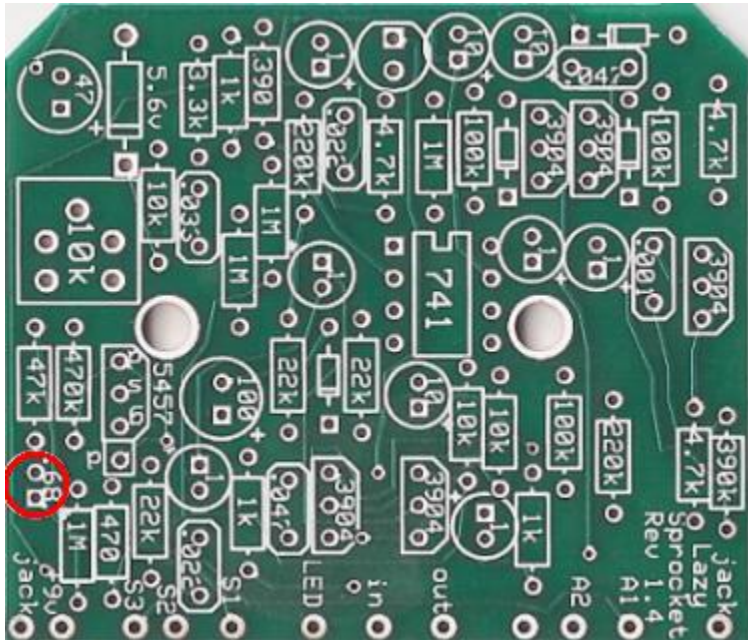
- 1 - enclosure w/ 4 screws
- 1 - lazy sprocket circuit board
- 1 - 3pdt footswitch
- 2 - knobs
- 1 - AC adaptor jack
- 1 - 1/4" stereo jack
- 1 - 1/4" mono jack
- 1 - battery snap
- 1 - red LED
- hook-up wire



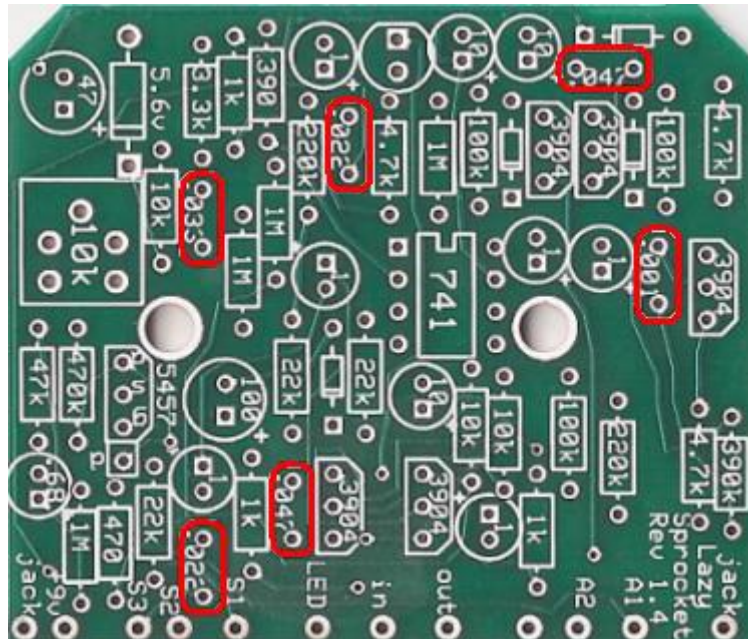
Step 3: Add the op amp. Match up the u-shaped notch in the op amp with the notch on the layout. If the op amp that is supplied with your kit does not have a notch in it, there will be a small dot in one corner. This denotes pin #1. Pin #1 of the op amp should go in the square solder pad.



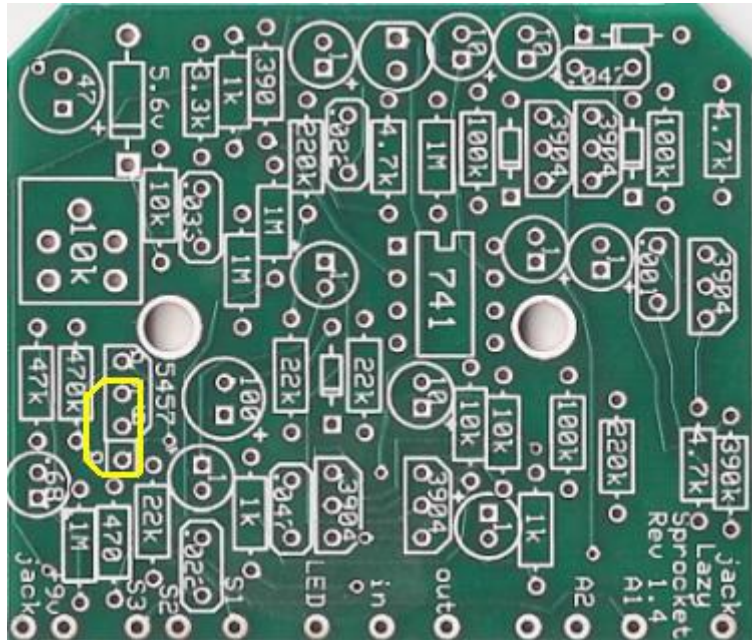
Step4: Add the trimpot. When you are finished with your build, adjusting this trimpot will be very important. When you set the trimpot, you want to have the attack knob turned full turn clockwise so that it should produce the slowest swell. Then adjust the trimpot to the sweetspot where you get a smooth, slow swell, but not too much volume loss.



Step 7: Add the .68 tantalum cap. This cap is polarized. The longer lead goes in the square pad. If the cap that comes with your kit does not have a longer lead on one side then there will be “++” printed on the positive side of the cap and this lead should go in the square solder pad.

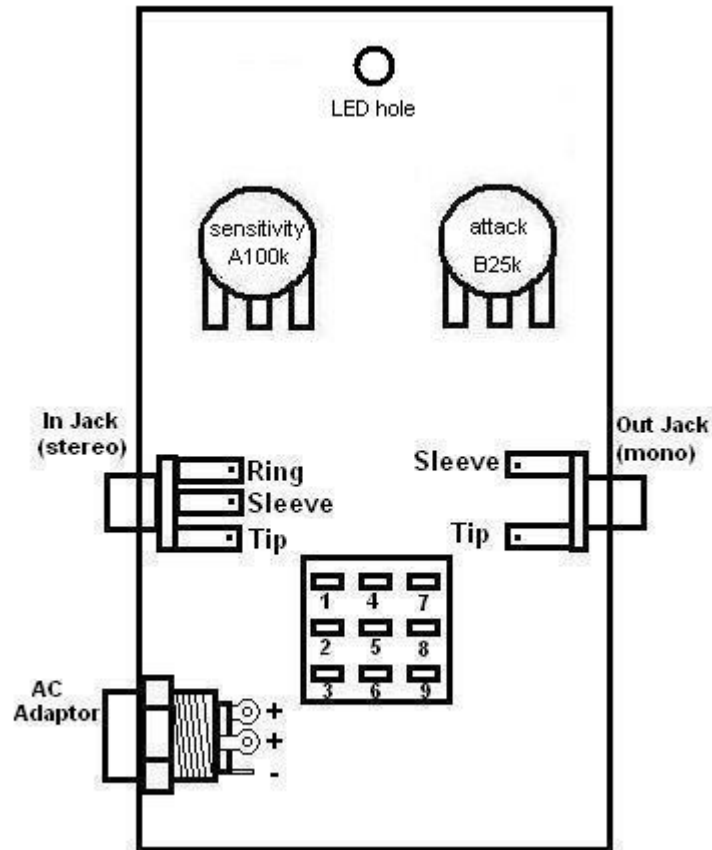


Step 8: Add the film caps. These are not polarized and can go in either direction.



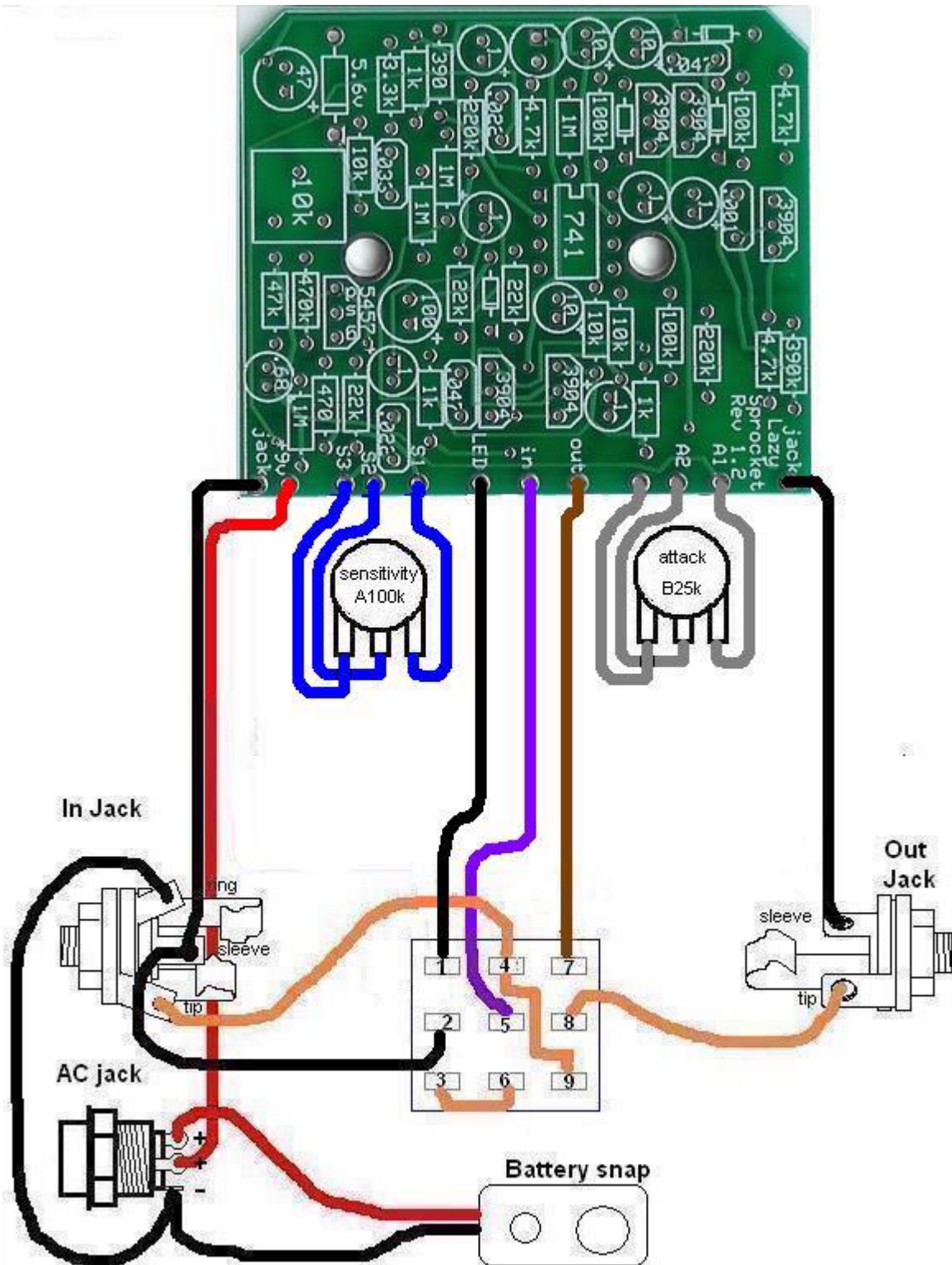
Using a SK30 JFET: If you wanted to use an SK30 JFET, the PCB has eyelets to accomodate this. The SK30 has a different pinout from 2N5457. Insert the SK30 into the PCB in the transistor space highlighted in yellow as show the diagram above.

Assembly



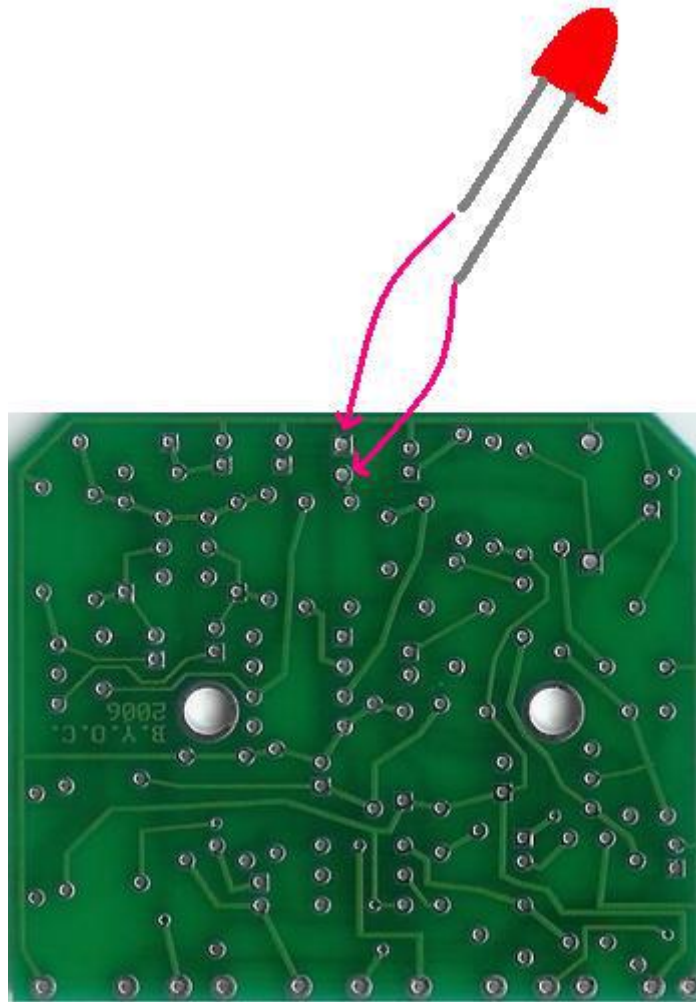
1. Install the jacks first. If you are looking down inside the enclosure, the mono jack goes on the right side and the stereo jack goes on the left. Place the washer on the outside of the enclosure. Use a 1/2" wrench to tighten.
2. Install the AC adaptor jack. The bolt goes on the inside. Use a 3/4" or 14mm wrench to tighten.
3. Install the potentiometers so that the solder lugs are pointing down. The 25k (attack) pot goes on the right side and the 100k (sensitivity) pot goes on the left. The washers go on the outside. Use a 10mm wrench to tighten but only snug. Do not over tighten the pots.
3. 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.

Wiring



Installing the LED and Mounting the Circuit Board

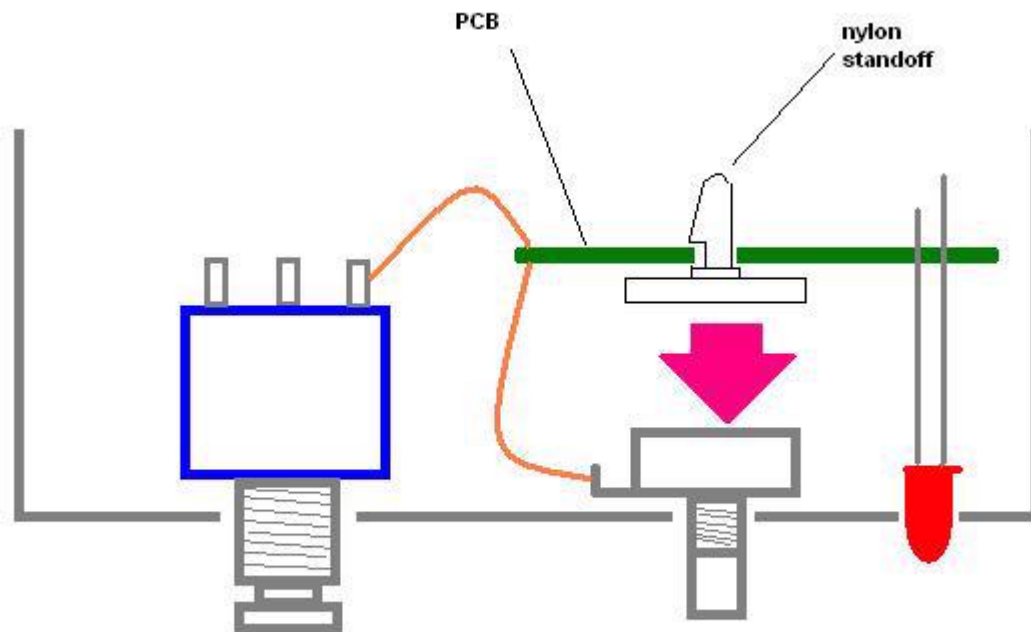
1. Insert the LED into its slot on the underside or solder side of the circuit board, but DO NOT SOLDER it yet. Make sure the anode (the long leg) goes in the round solder pad and the cathode (the short leg) goes in the square solder



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

1. Test it out and don't forget to adjust the trimpot as mentioned earlier.
2. Install the base of the enclosure with the 4 screws that came with your kit. Add the rubber bumper feet...unless you're a velcro person. Make sure you have a proper power supply or fresh 9v batter.

If you've got any problems that you can't figure out yourself, visit www.buildyourownclone.com/board for technical support. Please post pics of you build and include as much detail as possible.