

Shredder Kit Instructions



Warranty:

BYOC, Inc. guarantees that your kit will be complete and that all parts and components will arrive as described, functioning and free of defect. Soldering, clipping, cutting, stripping, or using any of the components in any way voids this guarantee. BYOC, INC guarantees that the instructions for your kit will be free of any major errors that would cause you to permanently damage any components in your kit, but does not guarantee that the instructions will be free of typos or minor errors. BYOC, INC does not warranty the completed pedal as a whole functioning unit, nor do we warranty any of the individual parts once they have been used. If you have a component that is used, but feel it was defective prior to you using it, we reserve the right to determine whether or not the component was faulty upon arrival. Please direct all warranty issues to: sales@buildyourownclone.com This would include any missing parts issues.

Return:

BYOC, Inc. accepts returns and exchanges on all products for any reason, as long as they are unused. We do not accept partial kit returns. Returns and exchanges are for the full purchase price less the cost of shipping and/or any promotional pricing. Return shipping is the customer's responsibility. This responsibility not only includes the cost of

shipping, but accountability of deliver as well. Please contact sales@buildyourownclone.com to receive a return authorization before mailing.

Tech Support:

BYOC, Inc. makes no promises or guarantees that you will successfully complete your kit in a satisfactory manor. Nor does BYOC, Inc. promise or guarantee that you will receive any technical support. Purchasing a product from BYOC, Inc. does not entitle you to any amount of technical support. BYOC, Inc. does not promise or guarantee that any technical support you may receive will be able to resolve any or all issues you may be experiencing.

That being said, we will do our best to help you as much as we can. Our philosophy at BYOC is that we will help you only as much as you are willing to help yourself. We have a wonderful and friendly DIY discussion forum with an entire section devoted to the technical support and modifications of BYOC kits.

www.byoelectronics.com/board

When posting a tech support thread on the BYOC forum, please post it in the correct lounge, and please title your thread appropriately. If everyone titles their threads “HELP!” then it makes it impossible for the people who are helping you to keep track of your progress. A very brief description of your specific problem will do. It will also make it easier to see if someone else is having or has had the same problem as you. The question you are about to ask may already be answered. Here is a list of things that you should include in the body of your tech support thread:

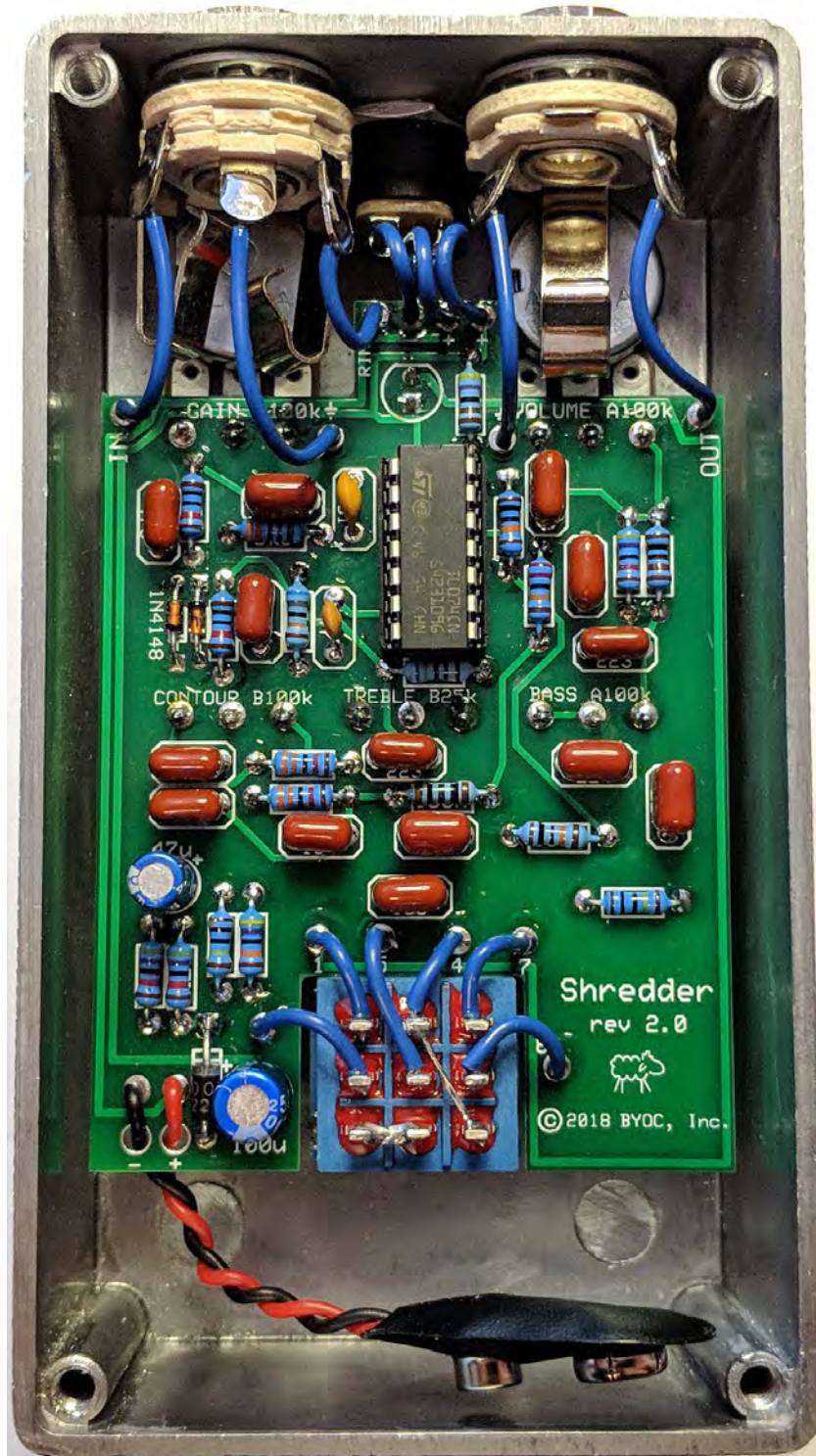
1. A detailed explanation of what the problem is. (more than, “It doesn’t work, help”)
2. Pic of the topside of your PCB.
3. Pic of the underside of your PCB.
4. Pic that clearly shows your footswitch/jack wiring and the wires going to the PCB
5. A pic that clearly shows your wiring going from the PCB to the pots and any other switches (only if your kit has non-PC mounted pots and switches)
6. Is bypass working?
7. Does the LED come on?
8. If you answered yes to 6 and 7, what does the pedal do when it is in the "on" position?
9. Battery or adapter (if battery, is it good? If adapter, what type?)

Also, please only post photos that are in focus.

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This is what your build should look like when it's done. Your kit may include different color components; this is nothing to worry about as long as the values are correct.

Parts Checklist for The Shredder Kit

Resistors:

- 1 - 100ohm (Brown/Black/Black/Black/Brown)
- 1 - 1k (brown/black/black/brown/brown)
- 1 - 3k3 (orange/orange/black/brown/brown)
- 1 - 4k7 (yellow/purple/black/brown/brown)
- 1 - 6k8 (Blue/Gray/Black/Brown/Brown)
- 2 - 10k (brown/black/black/red/brown)
- 2 - 33k (Orange/Orange/Black/Red/Brown)
- 3 - 47k (yellow/purple/black/red/brown)
- 2 - 100k (brown/black/black/orange/brown)
- 1 - 200k (Red/Black/Black/Orange/Brown)
- 1 - 470k (yellow/purple/black/orange/brown)
- 1 - 680k (Blue/Gray/Black/Orange/Brown)
- 2 - 1M (brown/black/black/yellow/brown)

Capacitors:

- 1 - 47pf ceramic disc (small round capacitor with '47' on the body)
- 1 - 100pf ceramic disc (small round capacitor with '101' on the body)
- 2 - .001uf film (may say 102 on the body)
- 1 - .0022uf film (may say 222 on the body)
- 1 - .01uf film (may say 103 on the body)
- 2 - .022uf film (may say 223 on the body)
- 2 - .047uf film (may say 473 on the body)
- 2 - .1uf film (may say 104 on the body)
- 4 - .22uf film (may say 224 on the body)
- 1 - 47uf aluminum electrolytic
- 1 - 100uf aluminum electrolytic

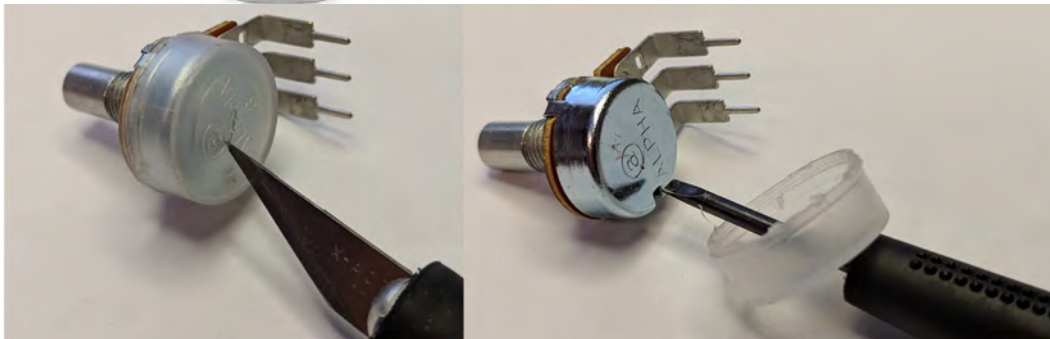
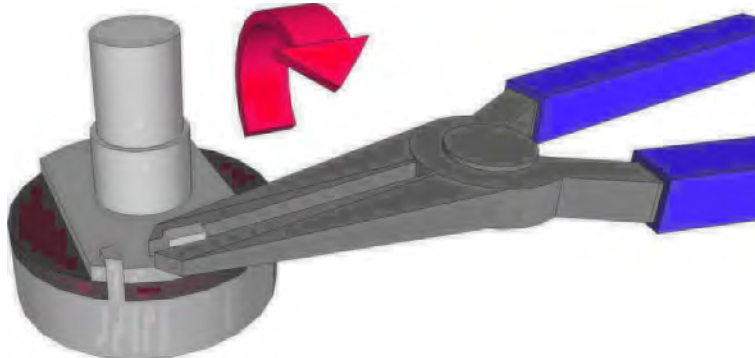
IC:

- 1 - TL074 or similar quad op amp
- 1 - DIP14 Socket

Diodes:

- 2 - 1N914 or 1N4148(smaller diodes)
- 1 - 1N4001 (black with silver stripe)

Potentiometers: Snap off the small tabs on the top of the pots with a pair of needle nose pliers. If your pots have covers, remove them before continuing. You might have to cut a slit in the cover with a blade and use a small screwdriver to get leverage.



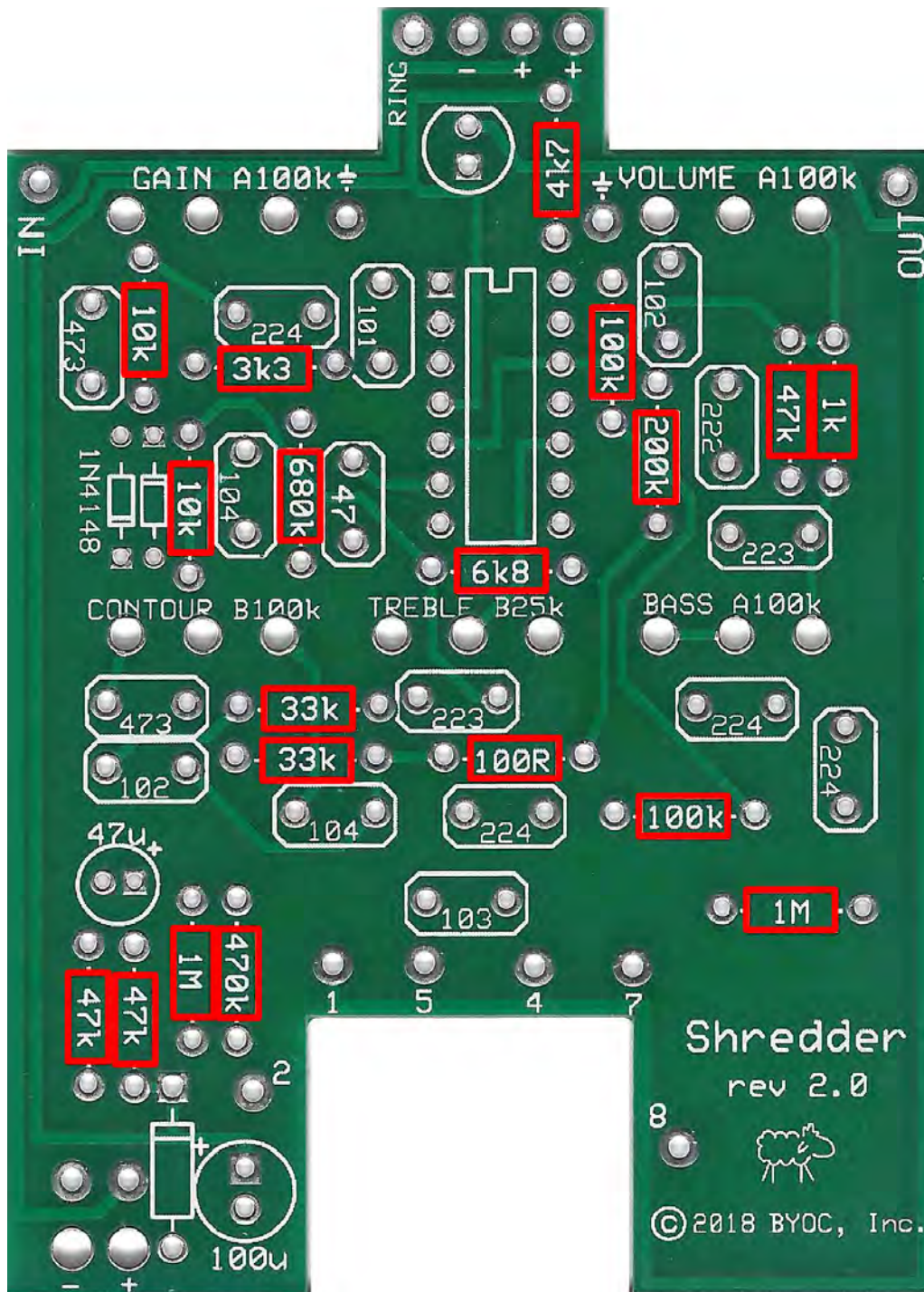
- 3 - A100k (Gain, Volume, Bass)
- 1 - B25k (Treble)
- 1 - B100k (Contour)

Hardware:

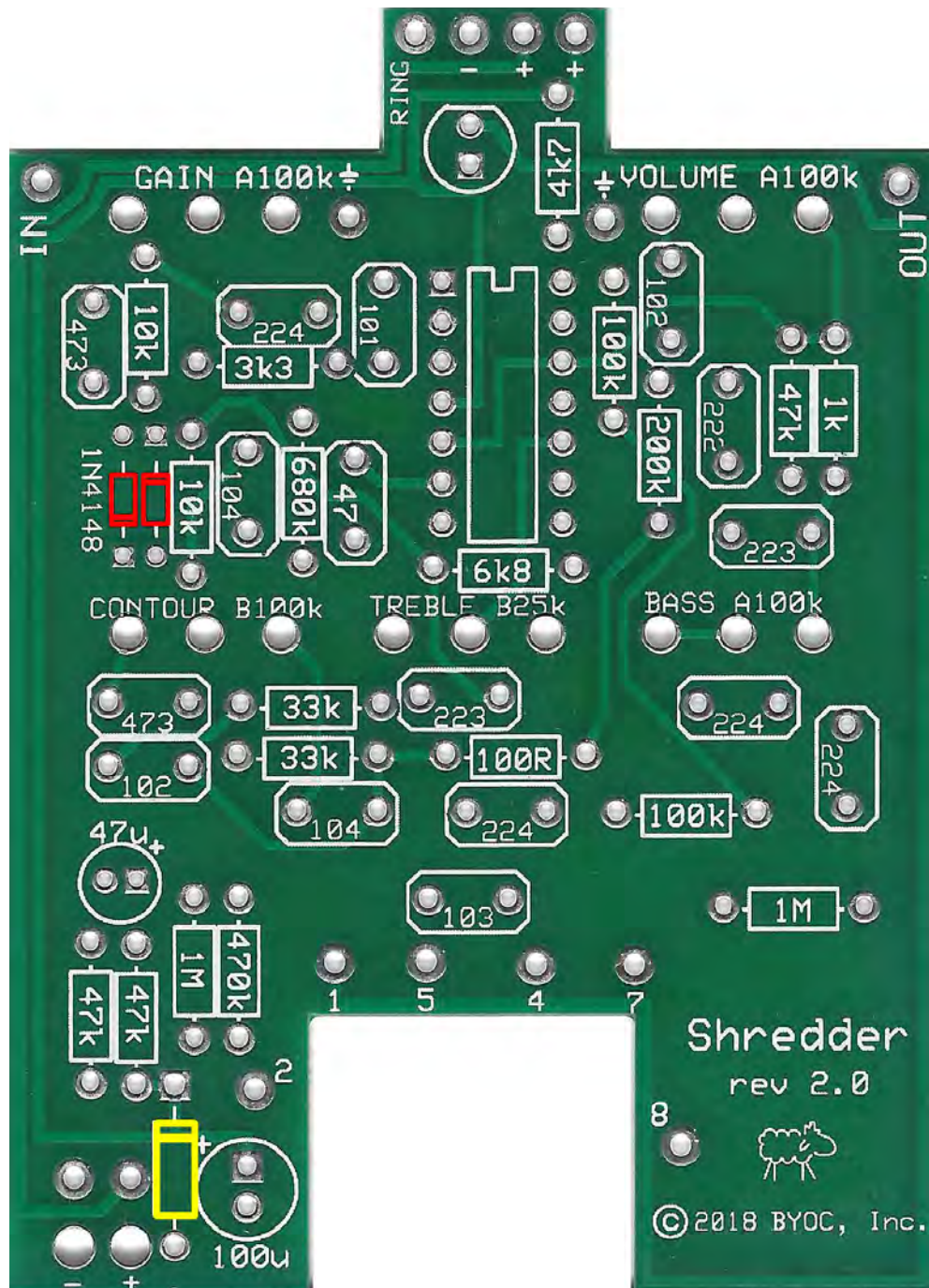
- 1 - enclosure w/ 4 screws
- 1 - Shredder circuit board
- 1 - 3pdt footswitch
- 5 - knobs
- 1 - AC adaptor jack
- 2 - Enclosed jacks (or 1 - Open Stereo Jack (Input) and 1 - Open Mono Jack (Output))
- 2 - Lock Washers
- 4 - Rubber Bumpers
- 1 - battery snap
- 1 - red LED
- hook-up wire

Populating the Circuit Board

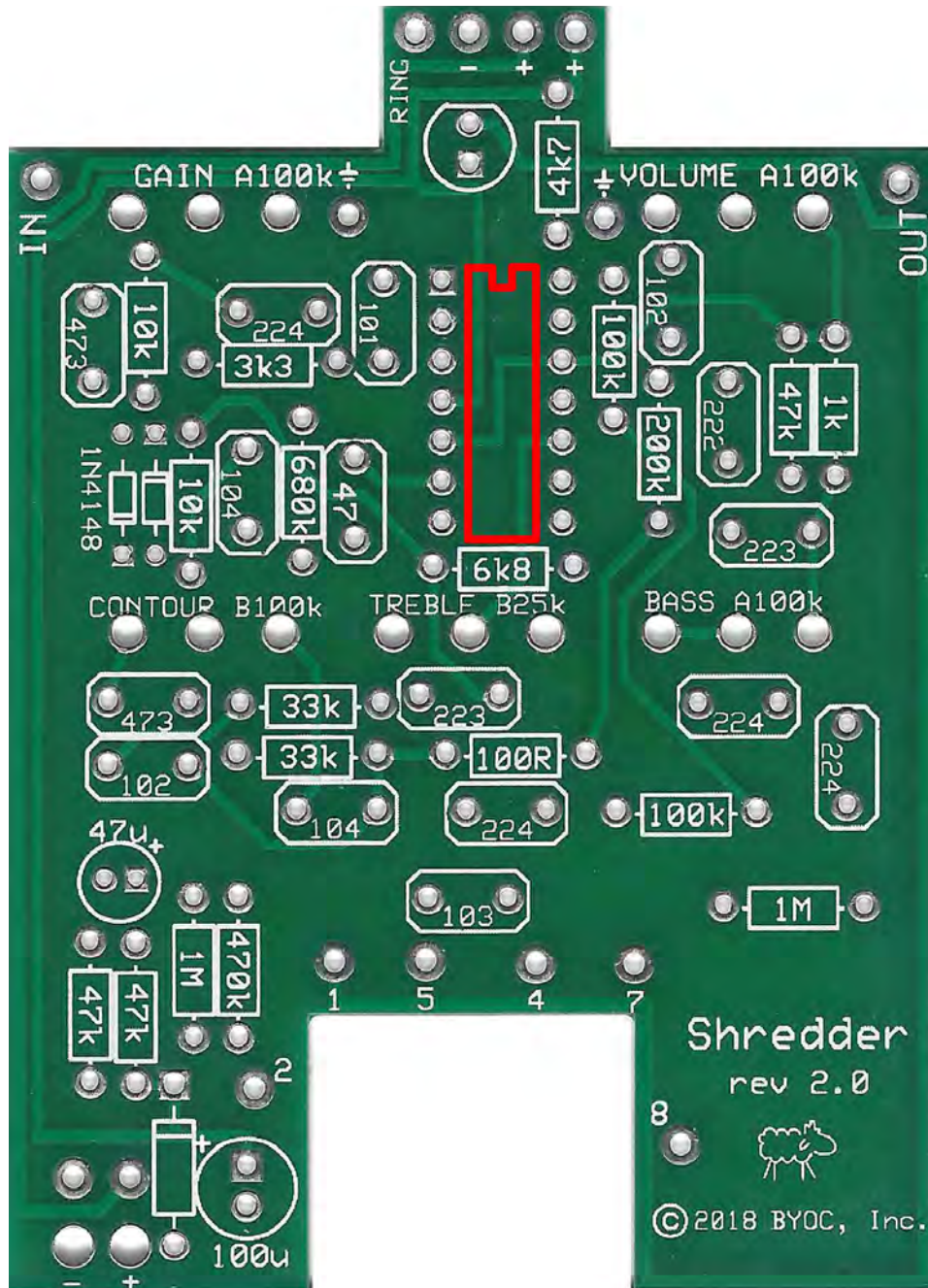
Step 1: Add all the resistors. Resistors are not polarized, so they can face in either direction.



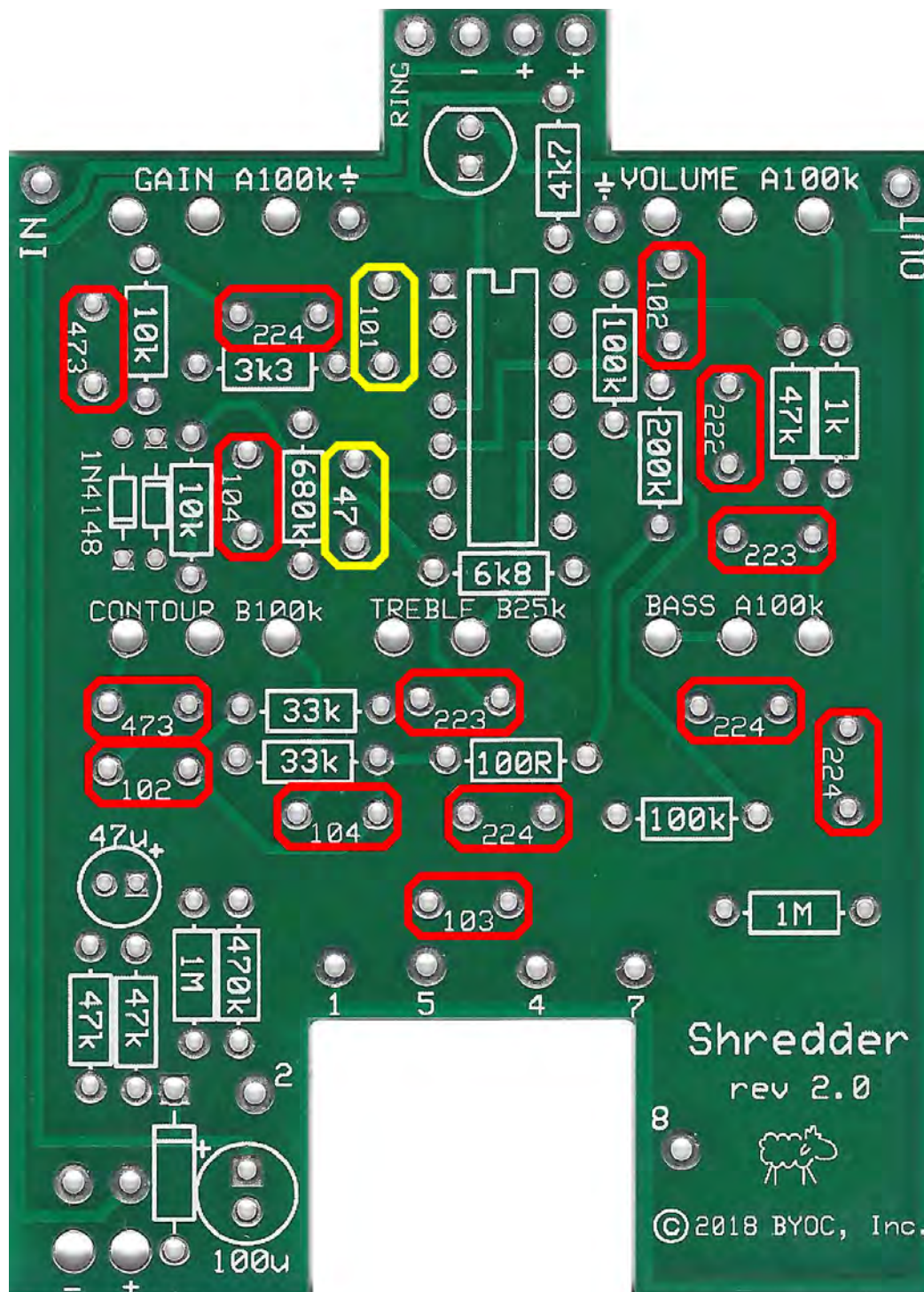
Step 2: Add the diodes. The smaller 1N914 are highlighted in red. The larger 1N4001 is highlighted in yellow. Make sure the stripe on each diode matches with the stripe on the layout.



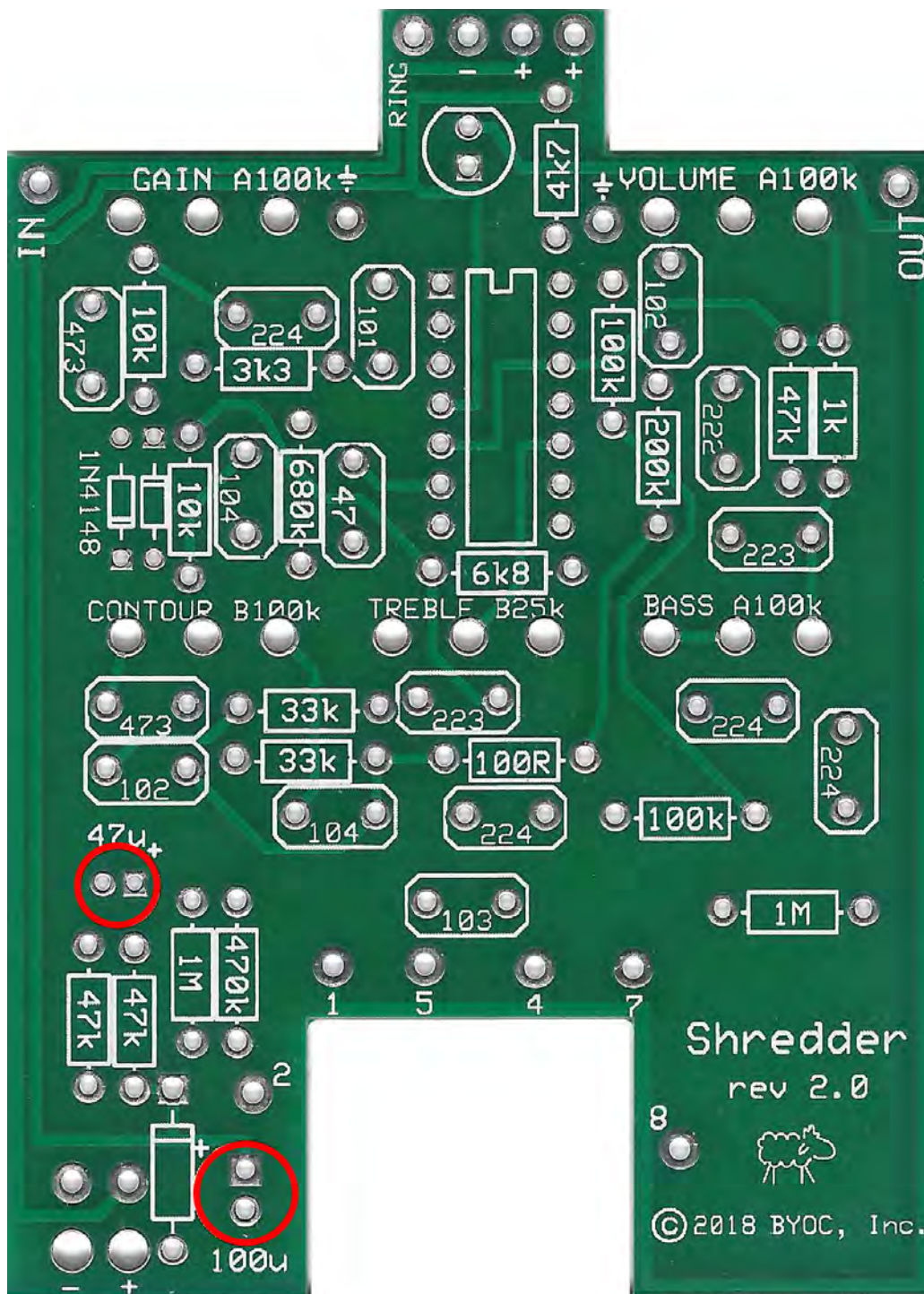
Step 3: Add the IC socket. Match up the u-shaped notch in the socket with the notch on the layout. If the op amp that is supplied with your kit does not have a notch in it, there will be a small dot in one corner. This denotes pin #1. Pin #1 of the op amp should go in the square solder pad.



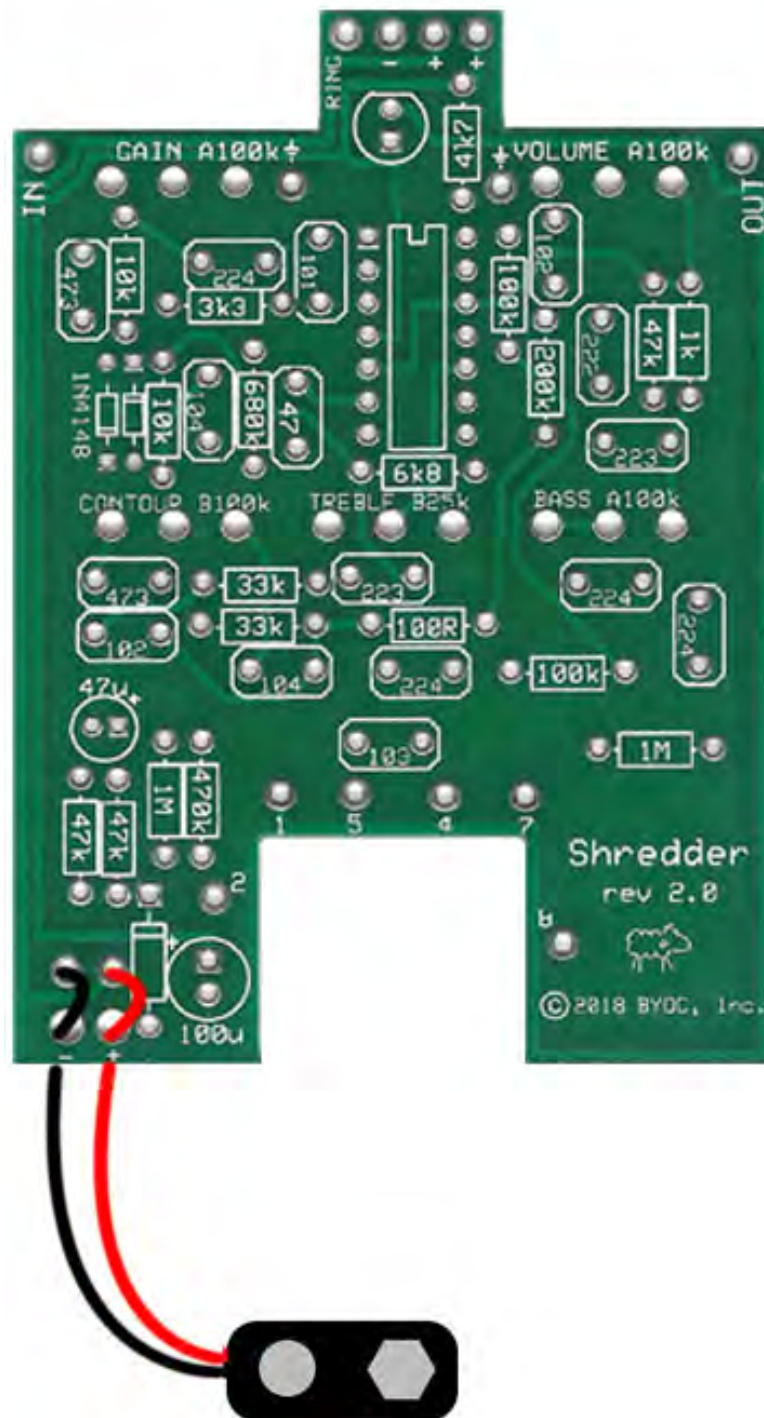
Step 4: Add the film and ceramic disc caps. These are not polarized and can go in either direction. The film caps are highlighted in red, the ceramic disc caps are highlighted in yellow.



Step 5: Add the electrolytic capacitors. These are polarized, meaning they have a positive and negative end. The positive end of the cap will have a longer lead and should go in the square solder pad.



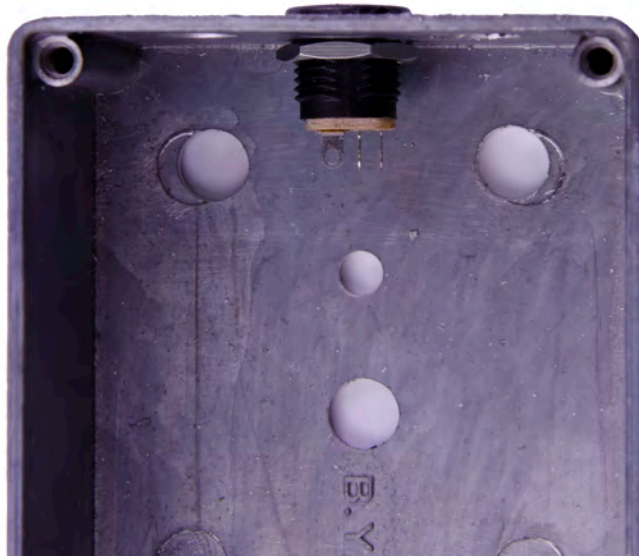
Step 8: Add the battery snap. Thread the wires of the battery snap through the holes in the PCB before soldering as shown below.



Main PCB Assembly



Step 1: Mount the AC adapter jack to the enclosure. Your kit may come with either an external thread or internal thread. Don't get confused by this. They still function exactly the same. You just thread the external nut on the outside and the internal nut on the inside. The picture below is of an internal nut jack.

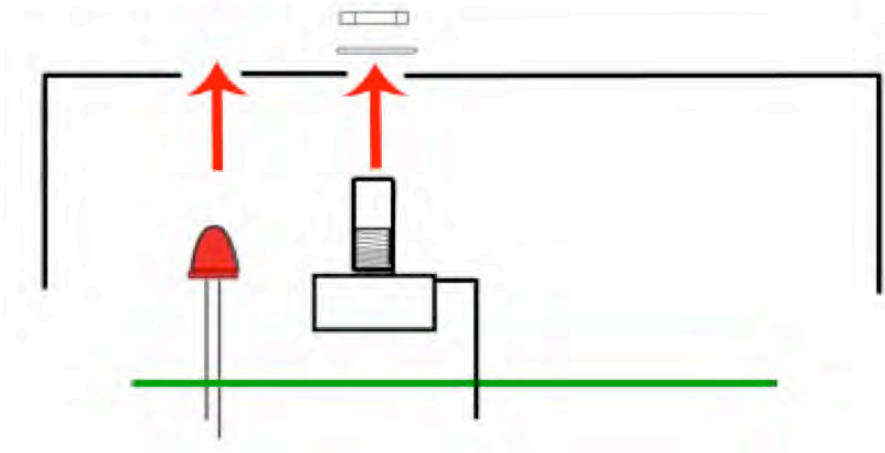


BEFORE CONTINUING, REMOVE THE DUST COVERS FROM THE POTENTIOMETERS. YOU MAY NEED TO MAKE A SLIT IN THE COVER TO RELIEVE ANY VACCUM BETWEEN THE COVER AND THE POTENTIOMETER.

Step 2: Flip the PCB over so that the bottom or solder side is up. Insert the four potentiometers, toggle switch and the LEDs into the bottom side of the PCB. **DO NOT SOLDER ANYTHING YET!!!**

The LED will have one lead that is longer than the other. **THIS WILL GO INTO THE SQUARE SOLDER HOLE.**



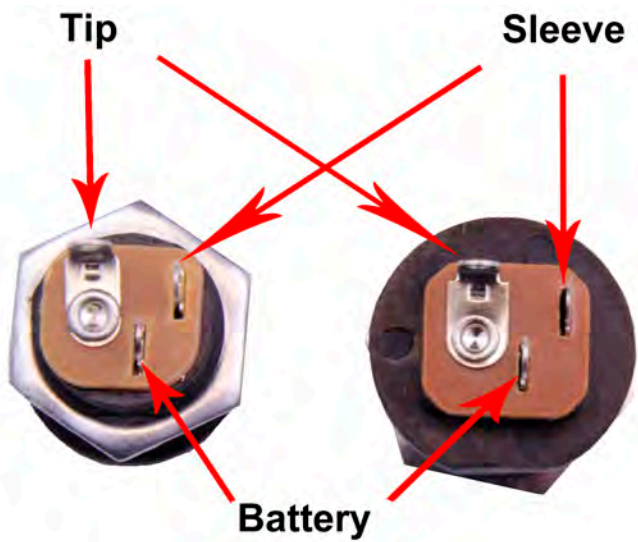


Step 3: Hold the PCB in one hand so that the component side of the PCB is in the palm of your hand and the bottom side with the pots, toggle switch and LED is facing up. Now use your other hand to guide the predrilled enclosure onto the PCB assembly so that the pots, toggle switch and LED all go into their respective holes. Once the PCB assembly is in place, secure it by screwing on the washers and nuts for the pots. Only tighten them with your fingers. **You do not want them very tight yet.** Make sure you've removed the nuts and washers from the pots and that you've also snapped the tabs off the pots as well before installing.

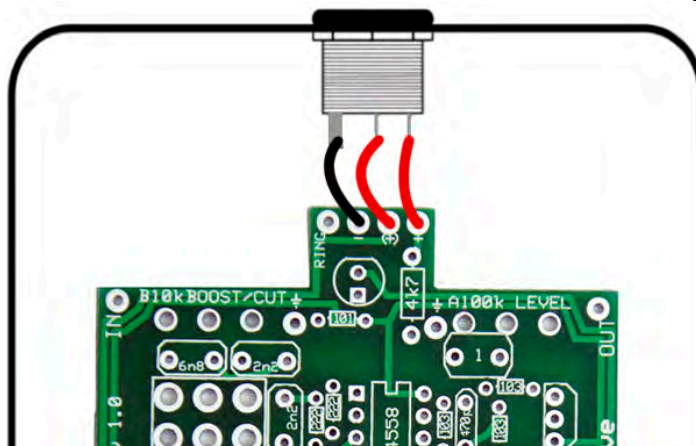
Step 4: Turn the entire pedal over so that the component side of the PCB is facing up. Lift the PCB up off the pots about 2mm just to make sure that the back of the PCB does not short out against the pots. Make sure the PCB is level and symmetrically seated inside the enclosure.

Step 5: Solder the pots, toggle switch and LED. You will be soldering on the component side (top) of the PCB. After you have soldered them in place, be sure to tighten up their nuts. **TIP:** only solder one lug of each component at first. This will secure everything in place and still allow you to wiggle things around if you need to adjust the fit of anything. Once you have everything perfect, go ahead and solder everything else.

WIRING



Step 6: Connect the TIP (negative) terminal of the DC adapter jack to the eyelet on the PCB labeled “-“. Connect the SLEEVE of the DC adapter jack to the eyelet on the PCB labeled “+” farthest to the right. Connect the battery disconnect terminal of the DC adapter jack to the second eyelet on the PCB labeled “+” located in the middle of the other two eyelets .



OPEN JACKS

Stereo (input) Jack

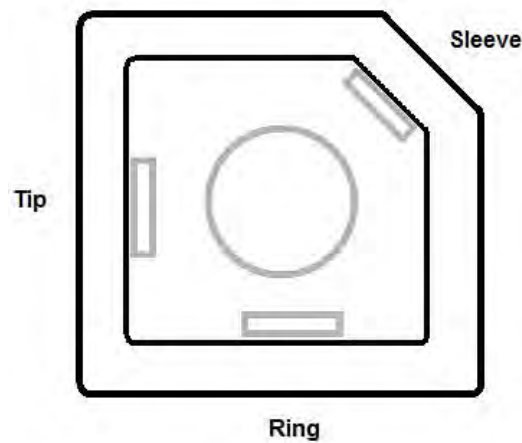


Mono (output) Jack

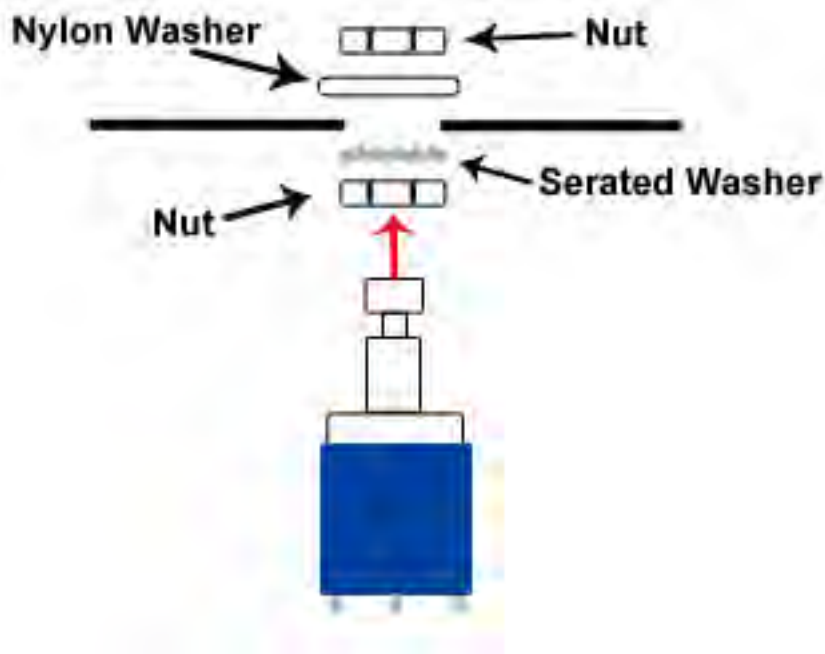


Install the 1/4" jacks into the enclosure.

Enclosed Jack



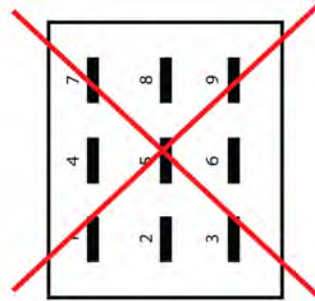
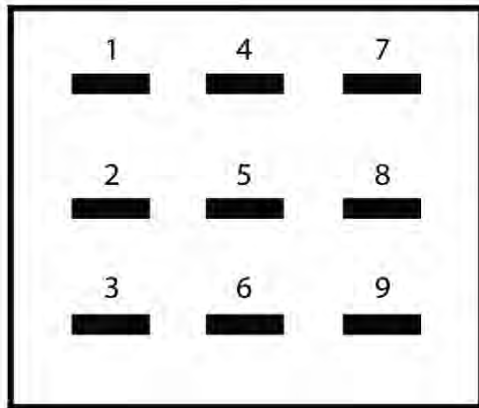
Your kit will include either open jacks or enclosed jacks. The wiring for both is very similar, and will be shown below.



Step 7: Install the footswitch. Orient the footswitch so that the flat sides of the solder lugs are like the diagram below.

NOTE: There are no actual number markings on the footswitch. There are two correct ways you can orient the footswitch. They are both 180 degrees of each other. Either way is fine. It does not matter as long as the flat sides of the solder lugs are running horizontal, not vertical.

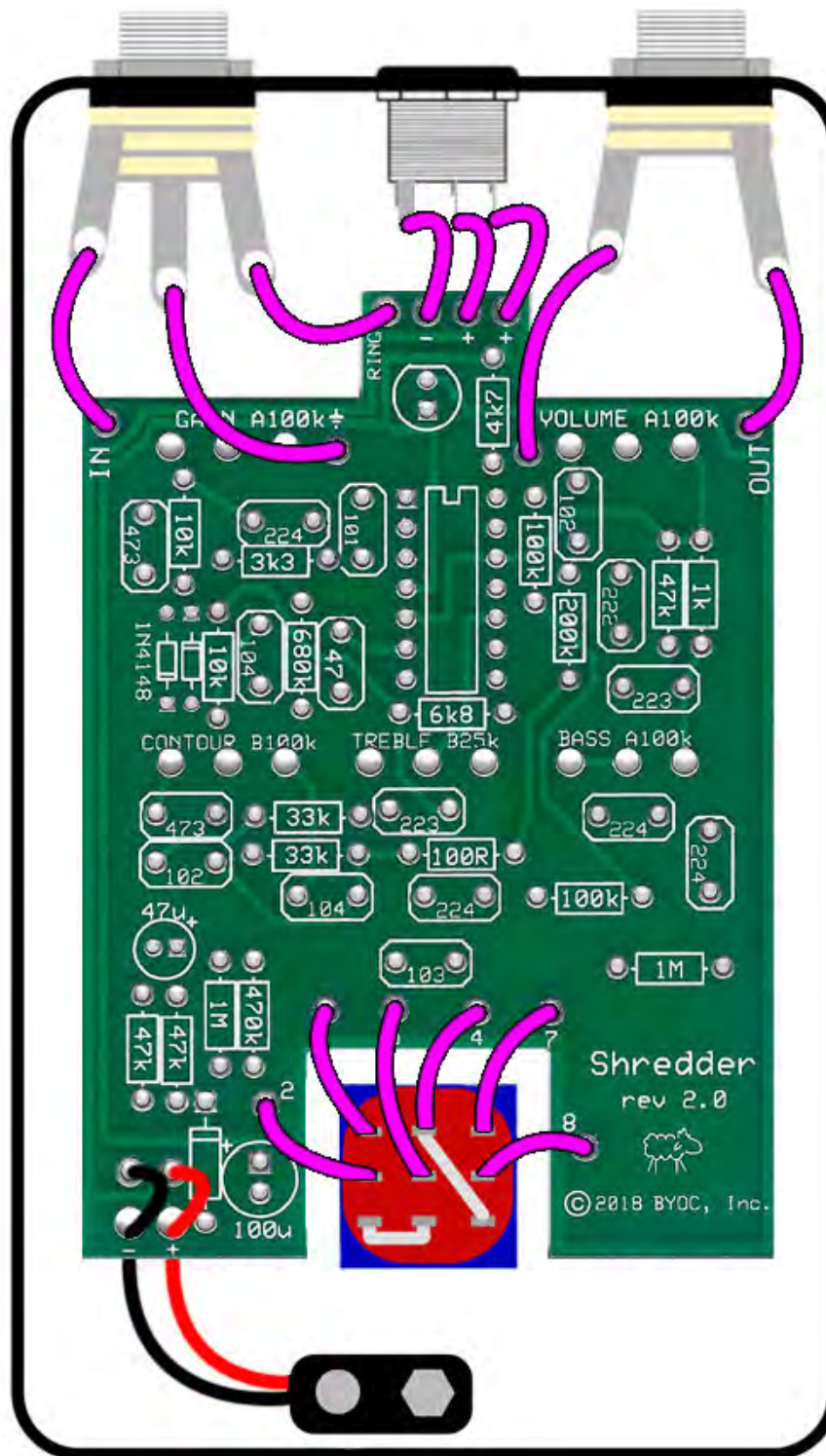
FOOT SWITCH SOLDER LUG DESIGNATIONS



Step 8: Insert the foot switch wires into their respective eyelets on the PCB. You can insert them into the top side and solder on the top side as well. The solder pads should be large enough (if you are using a soldering iron that isn't too big) to allow you to do this without burning the PVC coating on the wires if you are careful. If you do singe the plastic on the wires, it's OK. It's not going to hurt anything. It's purely aesthetic.

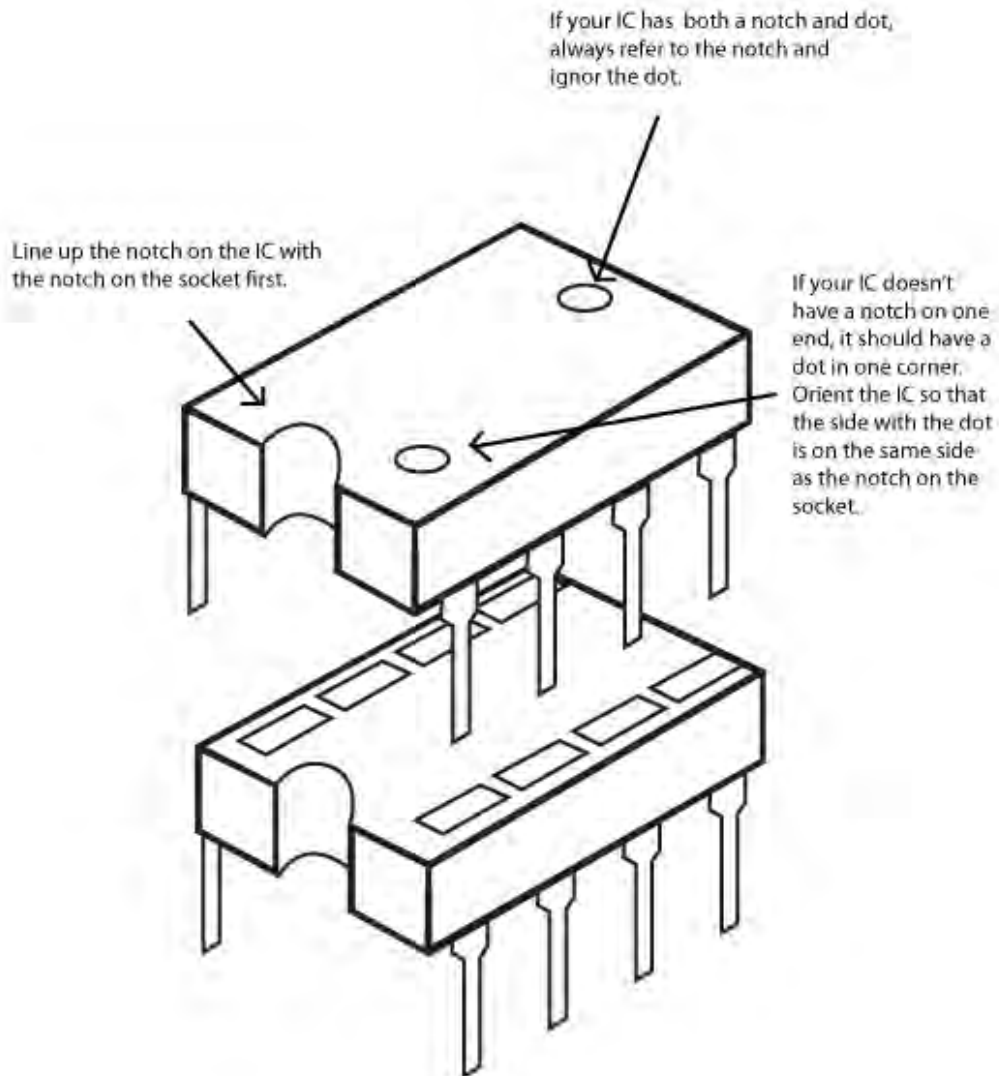
Step 9: Connect the wires at the top end of the PCB to the IN and OUT jacks. The "out" eyelet will go to the tip of the OUT jack and the "in" eyelet will go to the tip of the IN jack. Connect the ground eyelet on the left to the sleeve of the IN jack and the ground eyelet on the right to the sleeve of the OUT jack. Connect the "ring" eyelet to the ring of the IN jack. See diagram below.

Finished Wiring With Open Jacks



Installing IC/Finish up

Don't forget to add the knobs, put the cover on the enclosure, and apply the bumpers to the cover.



Operating Overview



VOLUME: This controls the volume of the pedal.

GAIN: This controls the amount of distortion.

TREBLE: This boosts or cuts the treble.

BASS: This boosts or cuts the bass.

CONTOUR: Essentially a mid control. CCW is full mids. CW is scooped mids.

Power supply: 9V battery or 2.1mm negative-tip 9V adapter.

Current Draw: 8.5mA

Input Impedance: 470k ohms

Output Impedance: 1M ohms



For tech support issues, visit our message board: <http://byoceletronics.com/board>

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