

WARNING: Performing these modifications WILL void the warranty on your amplifier. Working on amps can be deadly if you do not take proper precautions. Follow these instructions very carefully. If you are at all unsure of your ability to perform these modifications STOP and take your amp to a professional to be modified. You can also send your amp to me for modification.

No Warranty: This kit and the instructions included do not include any warranty of any kind. The modifications to your amplifier are at your own risk and you agree to completely hold harmless the seller of this kit against any and all claims. Tube amplifiers contain parts that operate at very high temperatures and deadly voltages. If you are not sure of your abilities to perform these modifications then do not perform them.

CAUTION: TUBE AMPLIFIERS CAN CONTAIN DEADLY VOLTAGES EVEN WHEN THEY ARE NOT PLUGGED IN—BE SURE TO DRAIN THE FILTER CAPS BEFORE WORKING ON THE AMP—NOT DRAINING THE FILTER CAPS COULD RESULT IN SERIOUS INJURY OR DEATH.

Required Tools/Supplies:

- Temperature Controlled Soldering Iron and Solder
- Solder Sucker and or de-soldering braid
- Multi-Meter Capable of reading 500V DC
- Phillips Screwdriver
- Pliers with insulated handle
- Wire Cutters
- Safety Goggles
- Alligator Leads

Optional Tools/Supplies:

- Silicone glue.
- 9/16" nut driver or socket wrench.
- 1/2" nut driver or socket wrench.
- Fine point Sharpie or similar permanent marker.
- Masking Tape

Skills required:

- Basic soldering skills .
- Basic knowledge of electronics.
- The Ability to follow instructions.

INCLUDED IN THIS KIT ARE ALL THE FOLLOWING PARTS:

	BLACK	0	K Type	Value	Code	QTY	Tips: Be careful when removing parts from the circuit board, NEVER FORCE A PART OUT. Use a solder sucker and solder braid to remove solder. I like to clip the leads of the old parts when possible before removing the lead from the PCB. The PCB is fragile and too much heat can cause the solder pad to lift off the board.
	BROWN	1	N Resistor	2k7 $\frac{1}{4}w$	RVKNN	1	
	RED	2	R Resistor	220K $\frac{1}{2}w$	RRKON	1	
	ORANGE	3	O Resistor	27K $\frac{1}{4}w$	RVKRN	1	
	YELLOW	4	Y Capacitor	1uf MLCC	105 YELLOW	1	
	GREEN	5	G Capacitor	500p Micaf	500	1	
	BLUE	6	B Capacitor	0.022	Wima 10mm 223	1	
	VIOLET	7	V Capacitor	0.1	Wima 15mm 104	1	
	GREY	8	E Capacitor	0.047	Wima 10mm 473	1	
	WHITE	9	W Capacitor	47/450	47/450	1	

Resistor

5W

To Safely Drain Filter
Capacitors



To the right is a summary of the mods that will be performed on the amp. They consist of a increasing the gain and improving the frequency response of the preamp (R2, R8 and C3).

Removing the negative feedback loop (R7) gives the amp more touch sensitivity and punch.

Finally replacing the tone stack and coupling cap (C1, C2, C8, C9) with high quality mica and orange drop caps really opens the amp up.

The Supreme kit replaces all the electrolytic caps in the amp

Position	Stock	New
R2	1k5	2k7
R8	100K	220K .5
C3	22uf	1 uf
R19	15K	27K
C1	250pf	500pf
R7	2k2	remove
C6	22/450	47/450
C2	0.022	0.022
C8	0.1	0.1
C9	0.047	0.047

CAUTION: The PCB is very fragile, be careful when removing components, do not to force any component. Use a solder sucker and solder braid to remove solder. Clipping leads from the top side of the board will make removal of components easier.

Instructions: Follow these instructions to the letter.

Prep the Amp. It's a good idea to have all the parts and tools you will need laid out before starting in a well lit area.

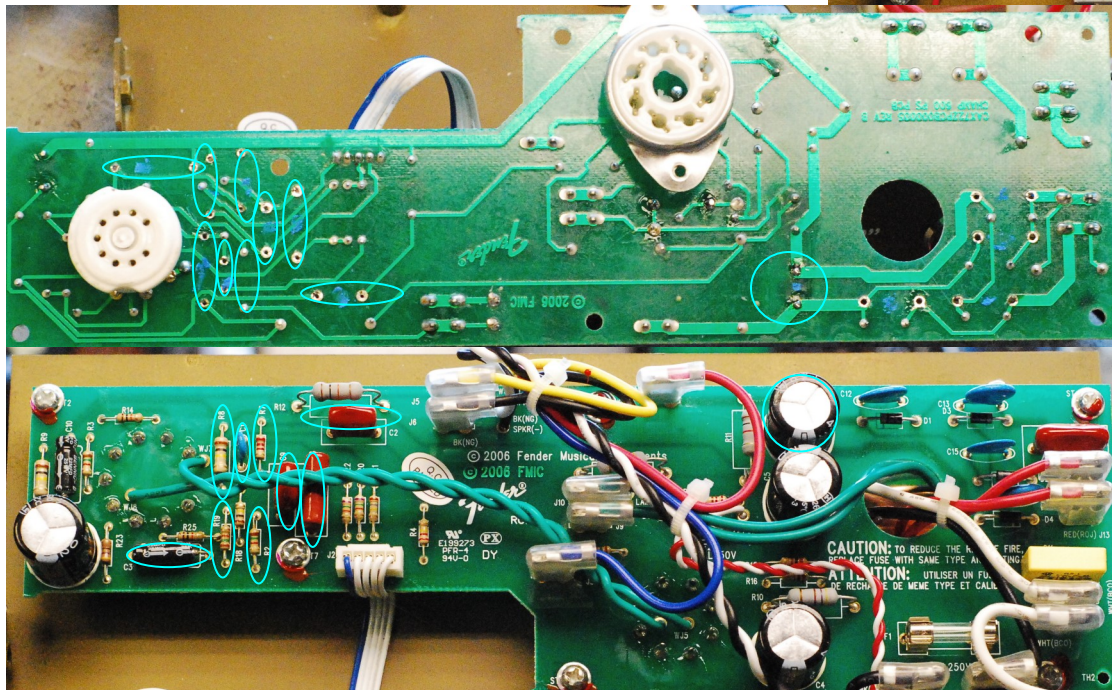
Unplug the Amp and put on your safety goggles.

Remove the tubes, unplug the speaker, unplug the reverb from the reverb can (be sure to note which side is red and which side is black, remove the clips holding the reverb wire and power cable to the cabinet.



Remove the screws holding on the back panel and remove the panel. Then remove the chassis screws. There is a screw on each side of the cabinet as well.

The chassis should slide out easily exposing the circuit board I find it easiest to work on the amp with the chassis completely removed from the cabinet.

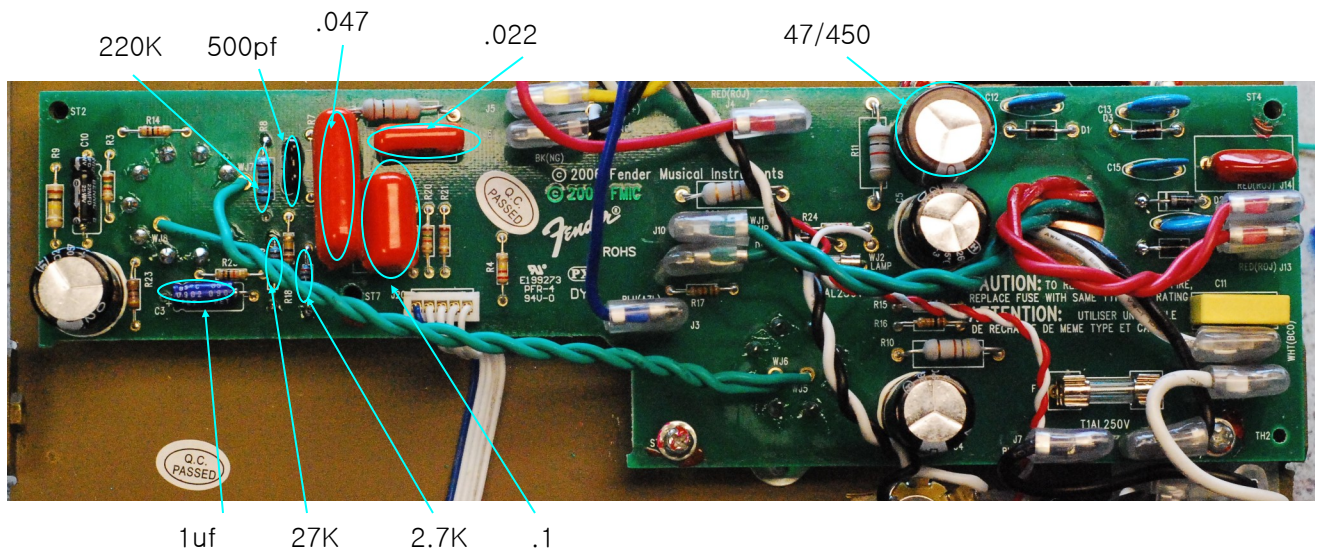


Remove the following parts as indicated. The parts outlined in yellow are for the supreme kit only. Never force a component out of the holes. Use solder braid and a solder sucker to remove solder then gently remove the lead from the hole. I find that it is easier to clip the components on the top side of the board then remove the leads carefully. The PCB is fragile and if the components are not removed with care you could lift a pad or trace off the board.

Replace the components as indicated in the diagram below.

When you are done put the amp back together in the reverse order that you took it apart. Remember to re-install the tubes and the speaker cable.

Dress the Transformer leads!!! Poor lead dress is a large part of the noise in an amp. Instead of using a new cable tie to put the wires back like we found them we are going to use standard wiring techniques for proper tube amp design. Twist the green heater wires and position as shown. All other lead pairs should be twisted and cross each other at 90 degree angles to avoid noise, hum, and oscillation.



CAUTION: The circuit board is very fragile and the solder pads can easily become separated from the circuit board if extreme care is not used. Carefully examine each solder pad after removing the component to make sure the solder pad is intact. If the solder pad is damaged you will need to carefully scrape away the solder mask of the trace next to the hole, bend the lead to the trace and solder directly to the trace. Remember to always check continuity with your multi-meter to insure that you have a good connection between components.

FROMEL ELECTRONICS-8300 Aurora Ave. N, Seattle, WA 98103, info@leadingtoneseattle.com

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