July / August 2004

Pedal Power

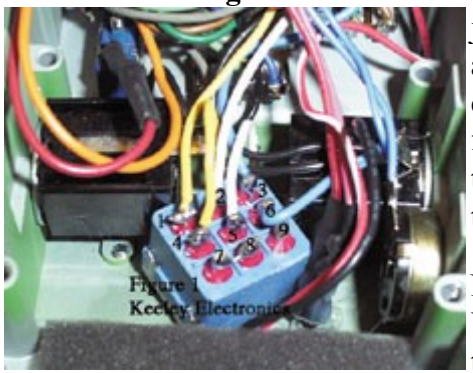
Q&A with Robert Keeley

Making Your TS9 True-Bypass

Howdy! Hope everyone enjoyed the NAMM show and the new things offered. We have a big project in store for this issue! This will really take the TS9 to some new heights and hopefully some extreme possibilities when coupled with future articles on new modifications we have designed. The first thing we will do is make it true-bypass.

The hardest part of this is centering and drilling the hole required for the 3PDT stomp switch. Dead center of the Ibanez//TS9/Tube Screamer logo is about as good a description as I can give. It will require you to dig out grandpa's 1/2 inch drill bit or and a drill press if you don't want to make a mess of the unit. A hint to getting the hole circular rather than elliptical is to use a small block of wood or some kind of spacer under the battery compartment end of the pedal. This will tilt the pedal so that the drilling surface is flat. Drill from the top of the pedal, not the inside.

Take a look at **Figure 1**. It shows how we have installed the stomp switch at an angle. Your next job is to take the Yellow input wire and cut it so that you have about one inch of lead from the input jack. This goes to what I call pin 4 of the stomp switch. (I count the pins of the switch from left to right, top to bottom.) Next take the Yellow wire that is still connected to the board at point #11 and connect it to pin 1 of the stomp switch.



Next up is the same process for the output jack. Take the White wire and cut it about 1 inch from the jack and solder it to pin 5. The rest of the White wire (which connects to the

board at point #1) goes to pin 2 of the stomp switch.

For the last part of the audio portion of the wiring of the switch, take a little piece of wire and short together pins 7 & 8. This is the "True-Bypass" part. This is the direct connection that prevents tone loss when the pedal is off. Again, refer to the picture for a clear example.

Ha! You thought that was it! No sir, we have board work to do. We have to get the FET transistors out of the way. This is actually easy, just removing a couple things and adding a jumper wire. First step, remove the capacitor marked 104 in the upper left hand corner of the board. See **Figure 2**. Next remove the FET transistors, diodes and 510K-ohm resistors in the upper right hand side of the part. Lastly take the jumper out that is on the top center of the board and find a longer piece of wire. You will need to install the new jumper with the left side in the same hole as the old jumper and the other side of the jumper goes to the point right between where the FETs were, in fact the top point of where one of the 510K resistors went. See Figure 2 again.

Okay, the light is at the end of the tunnel! We have to get the LED circuit working now. What we do is remove the zener diode from the circuit and attach a wire from where the cathode side was and take it to pin 3 of the stomp switch. Then we take a wire from pin 6 of the stomp switch to ground. We usually take it the short distance to the ground of the output jack. You will already see some black wires soldered to the ground lug, that's the spot!

What do you do with the wires that came from the old momentary contact switch? Keep them or use them for the jumpers and leads needed in the above mod work. What do you do with the parts that you removed? Keep them! We will use them in future mods so take care pulling them from the circuit.

What is interesting about this True-Bypass mod is that it will actually improve tone when then pedal is ON as well as off. This is not always the case, but since we have removed some parts that the sound travels through that don't really aide the tone, the sound is better even when the TS9 is on!
Thanks for reading! Hope the mod work goes well and with little difficulty.

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