Subject: Restoring K250-4
Posted by fullblare on Mon, 22 Oct 2012 18:19:35 GMT
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Picked up a '72 Kustom K250-4 and matching 2 x 15 cabinet on Craiglist a few months ago while my Bassman Head was in the shop getting recapped. My plan was to gig with this amp as a bass rig and relist once the Fender was out of the shop. The only problem being that I fell in love with it as both a Bass & Guitar amp, escpecially after playing with the built in effects and Wah pedal. After a few months I've noticed some issues that I would like to fix:

1) Boost Pedal no longer works. There are 3 wires connected to the poteniometer inside the pedal, 1 white, 1 black and a braided sheild, that run from the pedal to a 1/4" Stereo plug that connects to a jack in the back of the amp. I metered the stereo plug and noticed that the ground and one of the other wires are connected. Is this normal, or should all three wires have separate electrical paths? Is so I can wire up a new cord and jack and go from there.

2) I do not have the original light effects pedal. I can build one with some foot switches and indicators but thought someone might have a schematic of one to get me started. The 6 pin XLR connector on the back of the head has been removed and replaced with a square connector but I plan to take that out and put the XLR back in. I have read some posts that detailing what the different colored wires control, Fuzz, Tremelo, reverb, Boost. One post said the Red wire was 12V but I'm measuring 41VDC. Does anyone have any thoughts on this?

3) Reverb is weak. I pulled the reverb tank and noticed one of the springs was broken and could not be re-attached. I just happened to have an extra tank from a Twin Reverb in my shop and they appear to be identical. So I installed the new tank but Reverb is only noticable when you crank the intensity and pull "HI". Has anyone else experienced this?

Other than that it's a great amp. The Fuzz is killer and the Tremelo/Vibrate are great too. I love the fact that I can just plug in without bringing a bunch of effects.

Thanks for help and suggestions.

Subject: Re: Restoring K250-4
Posted by chicagobill on Mon, 22 Oct 2012 20:38:52 GMT
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Welcome to the place. You've got a great amp there and now that you've been bitten by the Kustom bug, you will probably come down with Kustom fever.

The pedal works by grounding the filter circuit through the pedal pot. The shield just keeps the cable from picking up hum. Check the pot and the cable to be sure that there are no open circuits. Also check the plug and jack for good connections.

The original footswitch used GE #335 lamps just like the ones used in the front panel switches. There should be a resistor in series with the supply line that connects to the main power supply. This resistor will reduce the voltage down to the 28 volts that the lamps need. I will have to check

my schematic to see what the resistor value is.

As for the tank, yes the two tanks look the same, but the input coils are different. The Fender uses an low impedance input coil while the Kustom uses a high impedance coil. If you take a resistance reading of the input coils the Fender will read something like 2 ohms while the Kustom will read maybe 60 ohms. The solid state driver circuit can't drive the low impedance coil so you get reduced effect.

You can buy modern replacement tanks from a number of sources, but the original Accutronics type tanks are no longer made. The company is now owned by a Korean company, so all of the new tanks are more like Belton tanks with softer springs. I have not used one in a Kustom head yet, but the ones that I have used as replacements in Fender amps do not sound the same to me as the old ones. They seem darker and fuller than the originals. Some people might like the sound of the new tanks, but they sound odd to my old ears.

I'll look to see if I have a copy of the footswitch schematic for your amp.

Subject: Re: Restoring K250-4
Posted by Kustom_Bart on Mon, 22 Oct 2012 20:50:49 GMT
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If you have a copy of it Bill, I would like a copy of it as well.

Bart

Subject: Re: Restoring K250-4
Posted by pleat on Mon, 22 Oct 2012 23:20:43 GMT
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The Kustom Slant face amps used a reverb tank with a 200 ohm input and 25.4 ohm output. The older K200 amps used 200 ohm input and 200 ohm output.
The footswitch has a 330 ohm resistor to ground from one side of the bulb. It also has a IN5359A diode to ground from the positive voltage in.
pleat

Subject: Re: Restoring K250-4
Posted by fullblare on Tue, 23 Oct 2012 03:52:32 GMT
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Thanks for the info and advice. It never occurred to me to check the input and output resistance on the reverb tanks. They we're different so I broke down and rebuilt the Kustom reverb tank and it seems to work much better now. I work for an electrical distributor so getting the 335 lamps

shouldn't be a problem but it would be great if you have a copy of the pedal schematics. Tested the boost pedal and it appears the cord is bad and will need to be replaced.

Any benefits in replacing the 2 prong power cord with a 3 prong?

Picture of the Kustom seeing some action.

Subject: Re: Restoring K250-4
Posted by chicagobill on Tue, 23 Oct 2012 04:42:45 GMT
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A one man band! Cool, but you should be playing a Guitorgan.

I did find my schematic copy, but I will need to scan it. The diode is a Zener type which reduces the 40 volt power supply line to 24 volts.

The 330 ohm resistors are in series with the bulbs to reduce the brightness when the effect is off. When the effect is turned on, the resistor is shunted by the switch and the bulb turns on with full brightness. The original switch had rear lighted names of the effects that needed the light turned on so that you could read the names. So the dimmed light let you see the names when the effect was off and would light up brighter when the effect was turned on.

I would probably use leds with dropping resistors rather than the light bulbs and just eliminate the Zener diode. The leds will last longer and will be easier to wire up.

Pleat, check your records I think that you have the in and out resistances for thr slant fronts reversed. Accutronics never made a tank with an output coil that was that low in resistance. They will usually read somewhere around 200 ohms dc.

Subject: Re: Restoring K250-4
Posted by pleat on Tue, 23 Oct 2012 11:30:40 GMT
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Chicagobill, Thanks for the correction, I must have reversed the ohms on the slant face reverb tanks. Going from memory isn't always the best way. In regards to the AC Cable, I'd recommend changing to the 3 prong AC cable.
pleat

Subject: Re: Restoring K250-4

Posted by chicagobill on Tue, 23 Oct 2012 19:43:51 GMT
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Pleat, I wish I knew half of what you've already forgotten!

fullblare, if you PM your email address to me I can send you a copy of the foot switch schematic.

Subject: Re: Restoring K250-4
Posted by fullblare on Tue, 23 Oct 2012 22:07:21 GMT
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Here's my email. Much obliged. So glad there is a Kustom Kommunity.

mailto:fullblare@yahoo.com

Subject: Re: Restoring K250-4
Posted by Kustom_Bart on Tue, 23 Oct 2012 22:52:54 GMT
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Nice set-up with JBL's too! Thanks for the copy of the schematics too.

Bart

Subject: Re: Restoring K250-4 schematics
Posted by gopher7 on Sat, 03 Nov 2018 20:20:36 GMT
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Hello,

I just acquired a K250-4 without the foot-switches and the matching 4x12 cabinet. Both are in amazing all original condition. I would like to build the 4-buttion switch (with LEDs) and convert an old DeArmond volume pedal to use with the amp. I will greatly appreciate and suggestions and if possible obtain a copy of the foot-switch schematics.
Best Regards - Tom

Subject: Re: Restoring K250-4
Posted by stevem on Mon, 05 Nov 2018 10:56:37 GMT
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As far as I know of there are no foot switch schematics .
What you need to do is go into this site's techinal section and look at the schematic for PC board 5069.

On the right hand side is J2 which shows all the condition points that goes out to the multi pin XLR connector on the rear of the amp for the foot switch and volume / boost pedal.

Go on line first and order up the male multi pin XLR you will need and then post back and we can then help you out with finding the other needed parts and the wiring.

Subject: Re: Restoring K250-4
Posted by chicagobill on Mon, 05 Nov 2018 18:18:13 GMT
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There is a schematic for the metalfront lighted footswitch. I know that I have scanned it before, but it's on an old computer along with the bulk of my Kustom stuff.

We have discussed the expression/wah pedal here before as well. If my memory is still working, the pot value was 10K, so you will have to change or modify the volume pedal that you have.

On the metalfront amps, the FX are normally on and are turned off with the foot switch. To wire up an alternative version, all you need to know is which pin of the XLR jack carries the dc supply voltage and which pin turns off each of the effects.

In order to use LEDs instead of light bulbs, you will need a dropping resistor to limit the current from burning them out.
