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Subject: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Mon, 26 Sep 2016 21:34:35 GMT  
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When I power the amp up with no effects there is no loud hum. There is a hiss but that seems to be somewhat normal with these 200's. When I turn the Reverb on if I go much past the first pointer on the dial I will start to get a loud hum. This is with or without a guitar connected. It gets worse the more I crank the reverb knob. What is going on????

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [chicagobill](#) on Mon, 26 Sep 2016 23:01:39 GMT  
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Does the reverb effect still work?

It is possible that one of the RCA cable plugs needs to be cleaned, or somewhere along the line the reverb tank was installed backwards with the tank output close to the power transformer. Of course there could be a circuit problem as well.

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Mon, 26 Sep 2016 23:50:37 GMT  
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Yes the reverb works good, but if you turn it up she will hum like a banshee. Now I have noticed that when you turn the reverb off and hear the click off you can still hear reverb. If I turn it back on and off again it shuts down like it should. It is sporadic. I will go check the output and see what side it is on.

Thanks  
Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Tue, 27 Sep 2016 00:16:13 GMT  
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Here are a couple of pics. The rca plug that the pencil is on goes to the input side of the tank which is on the side by the transformer. I do not know if that wire is plugged in the right spot or not.

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [chicagobill](#) on Tue, 27 Sep 2016 06:59:05 GMT  
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I think that, that is the correct way to have it plugged in. Right now I'm not positive though.

The intermittent switch may need to be cleaned. Try spraying a little Deoxit into it and switch it on and off a few times. Also spray each of the RCA plugs and jacks with a little and twist the plugs to burnish the contact areas.

To test the circuit, disconnect the plug from the tank output and short the tip to the shell. Now turn up the reverb control. Still humming?

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [steven](#) on Tue, 27 Sep 2016 09:53:55 GMT  
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If you have a foot switch you can just over ride the switch on the front of the amp.  
Also in your first photo below the first RCA cable on the left there is a cap that has one lead soldered on to the case of that pot, can you get / do a better photo of that , or tell me where that caps other lead hoes to, I do not recall seing a Kustom wired like that ?

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Tue, 27 Sep 2016 15:33:24 GMT  
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Here is a close up of that cap soldered to the pot and looks like a transistor. Doesn't look right to me, but you guys would know for sure.

I was not sure what end of the rca cable you were referring to disconnect so I did it both ways. When I disconnected it from the circuit board and touched the tip to the shell there was no sound/hum at all. When I disconnected it from the reverb tank side and touched it to the shell it was loud, scared me. I was not expecting it to be that loud. There was no way I could have turned the reverb dial up any more. It was just on #1.

I just opened up my other 200B-2 and that cap was not there. So was that some sort of revision that went out or someone's idea of an improvement? If it is not needed can I cut it out of there??

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [chicagobill](#) on Tue, 27 Sep 2016 22:11:49 GMT  
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It doesn't look original to me. It may be somebody's quick and dirty fix or mod, done without removing the pc board from the the chassis to solder the parts in.

If the part is replacing something that should be on the board, then cutting it out might be a problem. If this is a mod, then removing it would probably not create a problem. I'm not sure what it is connected to. I'll try and pull out one of my heads to see what it might be doing.

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Wed, 28 Sep 2016 01:53:23 GMT  
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Thanks Bill. Also did the circuit test I did of the rca lead help to determine anything by what I said happened???

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [chicagobill](#) on Wed, 28 Sep 2016 03:24:00 GMT  
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That noise seems to be pretty much normal. If the added cap is increasing the gain of the reverb return circuit, it might be louder than normal.

I was hoping that you could test the ground connections with that test. The shield of the return cable should be grounded so that when the reverb is turned up there should be less hum. If the connection at either end of the cable is dirty or if the cable itself is bad, then when the control is turned up there will be hum.

The ground connection on the send side of the tank is not connected at the circuit board side of the cable. The shield is connected to ground at the tank end through the return cable ground. If both ends of the wires were grounded at the circuit board side, then there would be a ground loop that could create additional hum.

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [steven](#) on Wed, 28 Sep 2016 09:51:59 GMT  
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thanks for the picture!

That cap may have been added to cover for a failed cap without pulling the board ?  
Over the weekend I will look at my amp to see what my be going on with that.

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [stevem](#) on Wed, 28 Sep 2016 23:19:28 GMT  
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ok , a took a peek into my amp which is a 1968 , and my pc303 board is a rev-1.

That cap you have is going from the pot to the emitter of pNP transistor Q319 and should not be there , but that being said I do not think it's doing any harm as the emitter it's tied to the + 8 volt power supply rail and my gues is someone added it to try and filter 120 HZ hum from that power supply rail , and it did not work / change anything and left it there .

The RCA female on the left goes to the end of the pan marked output .

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Thu, 29 Sep 2016 01:55:35 GMT  
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Thanks much. Now is there anything else that is obvious that could be causing that hum when you turn up the reverb knob?

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [stevem](#) on Thu, 29 Sep 2016 09:58:06 GMT  
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in thinking this thru again after I posted last night I think you should clip that cap out as the way it's grounded could be making hum due to a ground loop going on.

Also in regards to the hum, did you short out the end of the cable that goes to the output of the pan as Bill suggested because doing that will kill the gain from the recovery amp and if the hum then goes away it's not a circuit issue making the hum!

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Thu, 29 Sep 2016 12:44:42 GMT  
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Yes I did short that end of the rca cable out and that was when it made that very loud noise like a horn. I did not even have to turn the reverb knob much past on for that to make the noise. I unplugged it from the output side of the tank and shorted the tip out on the chassis and the tank and it still made that very loud horn type noise.

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [steven](#) on Thu, 29 Sep 2016 13:51:08 GMT  
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The output side of the tank should be on the side of the amp that is away from the power transformer, is that the way it is?

The loud buzz that you get when you touch the tip of the output cable is normal and will take place if the reverb control is turned up, as it's the same thing as touching the end of your guitar cable with the channel volume turned up.

If you short out the end of that cable with a clip lead or something to make a good connection then if the amp is ok then turning up the reverb control will add no hum!

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Thu, 29 Sep 2016 15:27:13 GMT  
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I did just as you suggested and the hum or horn sound got louder as I turned the reverb knob up.

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [chicagobill](#) on Thu, 29 Sep 2016 16:06:24 GMT  
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Did you actually test the cable itself? Do you have an ohmmeter?

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Thu, 29 Sep 2016 16:31:09 GMT  
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I just did check the continuity of the cable and it checks out ok.

Now let me add something very strange to this equation. I just tried the head with my 2-15 cab and the hum was more or less gone. I then connected back to the 3-15 cab and if I turn the reverb up I am getting like a wave length hum. Freaky sound like the outer limits TV show. "Don't touch your dial" The head seems to not like the 3-15 cab.

Steve

Ok a little update. I just tried a different 200B head with the 3-15 and everything is just fine. So I connected the head that we have been talking about back to the 3-15 and when I turn the reverb knob up the noise/hum does get worse even without the guitar being played but connected.

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [chicagobill](#) on Thu, 29 Sep 2016 18:22:02 GMT  
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Try this. Pull both of the plugs on the pc board keeping the tank plugged in. Now test the continuity of the grounds from one cable plug to the other.

It sounds to me like the head is oscillating when the reverb is turned up. The 3-15 cabinet is lower in impedance than the two, so the power amp may be effected by the lower output load.

On the back panel where the speaker jacks are, are the blue wires that connect the speaker jacks to the pc board pushed close to the tank?

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Thu, 29 Sep 2016 21:17:37 GMT  
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Ok I pulled the rca cables off the pc board and I had continuity from ground to ground on the cables from cable to cable.

The blue wires on the output jacks: The one that jumps from one jack to the other was as close to the jack as it could get. The other blue wire that connects to the pc board with a spade was kind of close to the tank so I move it in as far as possible toward the jacks.

I can set the dial on the reverb to the second arrow, and all is fine even with the 3-15 cab. Anything much past that I will start to hear a louder hum.

I also cut out that cap. I think it made a difference for the good, allowing me to get to the second arrow on the reverb dial without hum or feedback.

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Fri, 30 Sep 2016 00:28:22 GMT  
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I sprayed deoxit in the reverb pot also. It seems to be shutting off now.

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [steven](#) on Fri, 30 Sep 2016 10:10:32 GMT  
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There seems to be a strange grounding issue taking place, for kicks try this, pull all the knobs off of the front of the amp for that channel and tighten up all the nuts on the front of the pots and check for any improvement.

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Fri, 30 Sep 2016 17:26:25 GMT  
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Ok I pulled all the knobs off. Laid the pc board down and loosed all the nuts and sprayed deoxit behind them. I brought it back inside and connected everything. I did not connect a guitar cable. Volume turned all the way down. Turned reverb on. Anything past the 3rd arrow it will increasingly start to hum louder, even with the volume off.

I could probably live with the reverb only being able to go to the 2nd arrow, but it is not right and it may continually get worse with time.

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [pleat](#) on Fri, 30 Sep 2016 19:05:02 GMT  
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Have you tried a reverb tank from another known working K200B-2 amp?  
pleat

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Fri, 30 Sep 2016 20:28:58 GMT  
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No, but I suppose I could try that for sure. They are easy enough to swap out.

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Fri, 30 Sep 2016 22:31:40 GMT  
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UPDATE GUYS.....

This is crazy but it is working now like it should. I took Pleats advice and swapped out the reverb tank. I also noticed that the rca jack on the reverb tank was loose on the input side. One of those brass rivets was loose so I took a small c clamp and compressed it so it was not loose anymore.

The amp with the 3-15's works perfect now.

Now the reverb tank that was in question I put right back into the other 200B-2 amp that has the 2-15 and it is working flawless now.

NO HUM from either amp. Go figure..... We should all meet up somewhere and I will buy dinner and we can scratch our heads wondering what happened.....

Thanks Much Guys

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [chicagobill](#) on Sat, 01 Oct 2016 00:54:27 GMT  
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Was the "hum" actually a howling, like feedback?

In any case, glad to hear you got it sorted out.

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [slk854](#) on Sat, 01 Oct 2016 03:13:46 GMT  
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I guess the best way to describe the noise was like when a microphone gets too close to an amp. Not a squeal but a continuous feedback but at a lower tone.

One other thing I noticed and changed on the reverb tank that was the problem child was that the black material cover had a thin paper like material glued to the underside of it and that was hanging pretty low in the pan. I flipper the entire cover over so the bow was on top. That paper material could have been laying on the springs.

I have played through both amps all afternoon switching back and forth and I can turn the reverb up all the way on both and hear no sign of any hum/feedback.

Thanks much to everyone

Steve

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Subject: Re: K-200B-2 Hum/feedback  
Posted by [steven](#) on Sat, 01 Oct 2016 10:28:25 GMT  
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aggravating to say the least, but since in the end all is well just put the frustration aside and enjoy

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that it all works now!

You've got some good trouble shooting lessons under your belt now also!

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Subject: Re: K-200B-2 Hum/feedback

Posted by [chicagobill](#) on Sun, 02 Oct 2016 05:41:54 GMT

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Then it was feedback and not a hum. From what you described, I assumed that it was a hum. More like when you have a cord plugged into the amp that is not connected to anything.

The hanging cover could have been part of the cause. Loose springs or loose suspension fittings could also contribute to the problem.

In any case, you got it working, so it's all good.

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