Subject: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 00:41:05 GMT
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Hi everyone. First post here. I have a fondness for Kustom amps and I'm trying t repair one. It's a Kustom 150 2x10 combo. Has a blown fuse and one burnt resistor on PC5032 Rev 1. I found the PC5032 schematic but does not match the Rev 1 schematic. Can anyone help me with this? Thanks in advance!

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 12 Feb 2013 07:16:59 GMT
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Welcome to the place. I don't have that schematic, but maybe one of the others here has one.

Which resistor burned? Blown fuses usually means a shorted transistor or rectifier.

What have you tested so far? Do you have access to a multimeter and test equipment? Are you capable of working on an amp that is plugged in and running safely?

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 13:00:23 GMT
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Hey chicagobill. Thanks for the response. I didn't really test anything so far. I am more of a tube amp guy, capable of working on an amp hot. I have a multimeter & signal tracer, no scope. The resistor that burned is not on the PC5032 schematic. Its burned so bad that I cannot even make out the value & reads open. The burnt resistor is directly after R31 (100k) if you are looking at the PC5032 schematic in the link below. I appreciate any help. Thank you! http:// music-electronics-forum.com/attachments/4807d1237505112-pc30 52.jpg

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 12 Feb 2013 18:17:59 GMT
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Thanks for the link to the schematic. When you say right after the 100K, what do you mean? If you can tell us what the burned resistor connects to in the circuit, it would be a big help.

R31 is a dropping resistor which when combined with R43 creates a low level signal from the speaker output that can be used to feed a PA or a tape recorder, etc.

Do you have a light bulb current limiter?

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 18:34:39 GMT
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R31 100k connects to one lead of the burned resistor. The other lead of the burned resistor connects to a 38736 that is mounted to a heat sink and the blue lead of a PP3321 - 7110 mounted to the chassis. No light bulb current limiter. Easy to make, no? As I said this amp has the Rev 1 PC5032 board and the schematic above is PC5032....no revision.

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 12 Feb 2013 18:55:24 GMT
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Okay, that resistor is R22, 100 ohms 1/2 watt. That resistor is the emitter resistor for the driver transistor Q5. When it burns it means either one or both of the transistors Q5 and Q18 are drawing too much current.

So you should test the Q5 transistor as well as the power transistor Q18. For that matter check all of the transistors in the power amp section for shorts.

A light bulb limiter is just a 60-100 watt light bulb wired in series with the ac circuit of the amp under test. So very simple to build if you are handy. It will help you to repair any amp, tube or solid state that has a short in it.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 19:01:26 GMT
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Thanks for the reply. Instead of a light bulb could I use a variac? I see R22 now. Maybe just need to replace Q5 & Q18. I don't really work on SS amps. Best way to test the transistors?

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 19:03:28 GMT
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Also.... I removed Q5 and the leads to Q18 and fuse still blew. Does that help you? The fuse that was in there was a 3 amp. Does that sounds correct?

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 12 Feb 2013 19:48:41 GMT
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Okay first point here disconnect the speaker if it is hooked up and leave it off until the power amp is repaired. Unlike a tube amp, a solid state amp will run safely without a load connected. A power amp problem can put the full B+ voltage across the speaker terminals until the fuse blows, so save your speakers.

A variac will work if it has a current meter, so that you can watch the ac line current draw as you increase the line voltage.

If you pulled Q5 and Q18 and it still blew a fuse, you may have a lot more problems than just those two transistors.

Start by testing the power supply bridge rectifier. It will be the first thing that the power transformer secondary wires are connected to. It is always mounted to the chassis. If your meter has a diode test function use it. I assume that you know how to test a diode with your meter.

For those here that don't, you test a diode by connecting the red lead of your meter to one side of the diode and then connect the black lead to the other end of the diode. Your meter may or may not show a reading. If it does, then it will display a voltage number that tells you at what voltage the diode conducts. If it does not give a reading, then reverse the lead connections and see what happens.

If the diode is good, when it conducts you should get a reading somewhere around 0.6 volts. Some meters will read something like 0.624 or will drop the decimal and only display 624. When you reverse the leads, the meter should read the same as if the leads were not connected to anything at all. A shorted diode will read either zero or some low value in both directions.

Because you are testing the diode in circuit, the transformer and the filter caps can change the readings. Because the caps hold a charge, the diode may read low and slowly rise to a reading, but they will always continue to show a low reading when the leads are connected in the correct orientation and a high reading when reversed.

Testing transistors are just like testing diodes, their junctions will conduct in one direction and not in the other. Connect one meter lead to the base and then touch the other lead to the collector and then the emitter. You should get that same 0.6 volt reading in one orientation and infinity in the other. The last test is to test for a short between the emitter and the collector. In most cases there should be an infinite reading between these two terminals in either direction.

All vintage Kustom amps used a 3 amp pigtail fuse.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 21:35:24 GMT
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Hey....thank you very much for all that info. Bridge rectifier in the circuit reads .295v with leads attached either way. In other words reversing leads reads the same .295v. I'm thinking then the bridge is bad?

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 12 Feb 2013 22:17:44 GMT
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There are 4 diode junctions in the bridge. Which two terminals are you getting this reading across. As I mentioned before there are two terminals that connect directly to the power transformer and two that give the positive and negative output voltages. The two wires from the transformer are probably yellow/black, the positive is a red wire and the negative is a green wire.

If the reading leads you to believe the bridge is shorted, then remove the wires from the junction that tests bad and retest out of circuit.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 22:19:50 GMT
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I got these readings from the red & green wires.

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 12 Feb 2013 22:27:37 GMT
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That is not a diode junction.

Test this way: Place the red meter lead on one of the yellow wires. Touch the black lead to the red wire and note the reading. Now move the black lead to the green wire and note the reading.

Now reverse the meter leads and retest to the red and green wires. The readings should be the opposite of what you got the first time.

Repeat the same test with your meter from the second yellow wire to the red and green wires.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 12 Feb 2013 22:44:07 GMT
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Red lead to 1st yellow wire>
black lead to red= .285.
black to green=.110.
Black lead to yellow wire.
red lead to red= .285
red lead to green= .110
Red lead to 2nd yellow wire>
black lead to red=.286

black led to green= .114
red lead to red= .285
red lead to green=.111

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 12 Feb 2013 22:56:18 GMT
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With those consistent low readings, it's time to remove the wires and test it out of circuit.

Carefully unsolder one yellow wire and either the red or the green. Now retest the terminals, if you still get low readings in both directions it's time for a new bridge.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Wed, 13 Feb 2013 02:30:27 GMT
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Thanks again chicagobill. I will check this tomorrow. Stay tuned....

Subject: Re: Kustom 150 Repair Question
Posted by stevem on Wed, 13 Feb 2013 14:27:47 GMT
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Just like a tube amp, if you disconnect the rectifier output(be it tube or SS doiode) from the first power supply filter(in the case of this Kustom you have one for the + rail and one filter for the - rail)in the amp, and then the fuse blow, then you have a bad bridge recto, or a bad power transformer, or both.
If you have a set of clip leads clip in a 1/2 amp fast blow fuse and disconnect the red and green wire from the recto bridge, if on powering up the amp the fuse holds then your mail power supply section is good and your short is on the output voltage side of the two big main can filters.
If the fuse holds and you hook up a volter meter across the red and green output of the bridge recto you should read over 55 volts DC, there by confriming all is well.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Wed, 13 Feb 2013 14:53:31 GMT
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Red lead to 1st yellow wire>
black lead to red= .566
black to green= OL
Black lead to yellow wire.
red lead to red= OL

red lead to green= .548
Red lead to 2nd yellow wire>
black lead to red= .300
black led to green= OL
red lead to red= .300
red lead to green=.557

Very different readings then when the bridge is in the circuit. I happen to have a bridge rectifier and it tests .556 & OL in all combinations consistently. Maybe the bridge is the culprit here.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Wed, 13 Feb 2013 15:10:12 GMT
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With the red & green wires disconnected from the bridge the 500ma fuse does not blow. And I get 90v DC at the bridge. So I'm assuming that the PT & bridge are ok. Maybe the large filter cans are bad? I will try hooking up the bridge back up but breaking the DC rails right after the filter cans. See if the fuse blows....

Subject: Re: Kustom 150 Repair Question
Posted by stevem on Wed, 13 Feb 2013 15:10:20 GMT
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The bridge is 4 diodes.
A diode test good by checking open one way and over 300k ohms the other way.
With this in mind if yoiu have the bridge recto totally disconnected and test around its terminals circumference wise(not across) if you get a open meter reading and then swap leads and get a resistance reading above 300k ohms, than that one diode out of the 4 that make up the brige is good.
You must test the bridge with the two black transformer and the red and green wires disconnected.

NOTE! you also can not hold with bare hands both meter leads at there metal ends to make a connection/test as if you do the meter will read thru you on a resistance test, you can only hold down one lead with a bare hand and get a correct reading.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Wed, 13 Feb 2013 15:16:52 GMT
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stevem wrote on Wed, 13 February 2013 10:10The bridge is 4 diodes.
A diode test good by checking open one way and over 300k ohms the other way.
With this in mind if yoiu have the bridge recto totally disconnected and test around its terminals circumference wise(not across) if you get a open meter reading and then swap leads and get a

resistance reading above 300k ohms, than that one diode out of the 4 that make up the brige is good.
You must test the bridge with the two black transformer and the red and green wires disconnected.

NOTE! you also can not hold with bare hands both meter leads at there metal ends to make a connection/test as if you do the meter will read thru you on a resistance test, you can only hold down one lead with a bare hand and get a correct reading.

I measure 1M ohms one way and OL the other way around the circumference of the bridge. Skin not touching leads.I think the bridge is ok. Thanks for your response by the way. I appreciate it a lot!

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Wed, 13 Feb 2013 15:29:59 GMT
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I hooked up the bridge back up but removed the red & green wires from the filter cans that go to the PC5032 board. 500ma fuse blew immediately. But the stock 3 amp value held. Pilot light on and everything I guess there is something bad on the PC5032.

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Wed, 13 Feb 2013 17:24:01 GMT
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So go back and start checking the transistors that we discussed earlier, the outputs, the drivers, etc. Test them all for shorts.

And if you are going to continue to use the trial by fire method, I'll suggest that you build the light bulb limiter and start using it. It will save your fuses and any new parts that you start putting in this amp.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Thu, 14 Feb 2013 00:31:20 GMT
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Purchased all materials to build lightbulb limiter. Back at it tomorrow....

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Fri, 15 Feb 2013 20:26:09 GMT
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I am back on the Kustom amp now. I assume that I have to test each and every transistor out of the circuit, correct? I have to unsolder them and test them that way?

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Fri, 15 Feb 2013 21:10:46 GMT
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Testing in circuit depends on where in the circuit the transistor is. If there are no resistors or other elements that parallel the transistor junctions they can be tested in circuit.

I always start by testing in circuit and then remove for final testing if there is any question as to whether or not it is good or bad. In the power amp, the two protection transistors Q7 and Q8 have a small resistor connected from base to emitter, so they will usually need to be removed from circuit for testing.

The two power transistors Q18 and Q19 are easy to test as you can pull off the black connector plug with the blue and yellow wires, exposing the base and emitter pins.

Something that should be mentioned here is the bias diode that clips to the heatsink in between the two power transistors. That is an RCA 1N3754 diode that has not been made in twenty years. With time the two leads become brittle and will easily snap off right at the case. It can be replaced with a standard silicon diode, but it will be difficult to mount to the heatsink. If you are working on the pc board, I suggest that you carefully remove the diode from the mounting clip and leave it floating until you finish repairs.

If one of the diode leads breaks it will cause the power amp to blow up by turning both positive and negative sides on at the same time. Steve here suggests applying a dab of silicon glue to the bottom of the diode case to protect the two leads from bending too much.

When I work on any amp, I try not to remove anything that doesn't need to be removed, as it just creates more work and can cause other problems to develop, like damaged pc traces, etc.

Let us know what you find out.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Fri, 15 Feb 2013 21:40:01 GMT
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I can tell you already that Q18 & 19 read:
Black lead to base. Red lead to one post=.594v. Red lead to other post= OL. Then Red lead to base and black lead to one post= OL. Black lead to other post= OL. Red lead to base I get OL in all combinations. I removed the plug on wires to these btw.

Then Q5 & 6 I get OL in any combination. I am thinking this is not correct and they need to be replaced. Thoughts? Maybe I should just shotgun all transistors?

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Fri, 15 Feb 2013 22:41:22 GMT
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First off, you can shotgun all the transistors if you like, and you may have a 70%-80% chance of fixing it. I don't recommend it but it's your amp and your money.

Do you know what the three terminals on the power transistors are? Your test figures do not make any sense to me. All bipolar transistors have three connections: Base, Collector and Emitter. Roughly they relate to the three basic terminals on a triode tube, the control grid, the plate and the cathode. You say that you are a tube guy, so this should make sense to you.

When you look at the schematic, transistors are drawn as a circle with three leads. The Base is the leg that is alone on one side of the vertical line. The Collector and Emitter are on the other side of the line, with the Emitter drawn as an arrow. If the arrow point in towards the line the transistor is a PNP device and if the arrow points out from the line the device is an NPN.

The power transistors have the three terminals as the two pins (Base and Emitter) and the case (Collector). The pin that has the blue wire is the Base, the pin with the yellow wire is the Emitter and the case is the Collector.

Pull off the connector and connect one lead of your meter to the pin that the blue wire was connected to. Now touch the other lead to the other pin that had the yellow wire. Keeping the meter connected to the base pin, touch the other lead to the red wire terminal that is connected to the mounting bolt of the case of the transistor. Note your readings. Now reverse the meter leads and test again.

The final test is to touch one lead to the yellow Emitter pin and the other lead to the red Collector terminal. Now reverse the two leads and note your readings.

If you Google transistor basing or cases you will probably find way more information on how to tell which lead is which, with photos or drawings that will help you make sense of all of this.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Sat, 16 Feb 2013 00:06:10 GMT
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I probably had the leads all goofed up. I will do a little more research and do it again. Can't wait to find out what is preventing this mp from working....

Subject: Re: Kustom 150 Repair Question
Posted by stevem on Sat, 16 Feb 2013 14:41:51 GMT
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Also check the resistance between the case of both output transistors and ground with the transistors plug removed, it should read infinate/open, if not you need to pull that transistor and

check its mica insulator and check the two mounting bolts nylon washer as I have seen amps that have been worked on where the jerk cranked down the holding nut so tight that it cracked the washer and made a short.

As Bill posted about the bais diode, I also apply a dab of silicone glue to each lead on on the board to keep them from bending too far and snapping off.Its very worth while to do this even if you have to wait 2 hours for the glue to dry before you work on the board.
Be carefull with those as mounting new diodes with there smaller case size and getting them to track well thermally is a real pain in the butt!

Also check that each of the large 5 watt(Emitter) square body resistors are not burned open, as many times they look totally fine, but are gonner`s.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Sat, 16 Feb 2013 18:45:44 GMT
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Q18 reads like this:
Red meter lead to base black test lead to collector= 1.8v
ALL other meter combinations= OL

Q19 reads like this:
Red meter lead to base black meter lead to collector=.6v
Red meter lead to emitter black meter lead to collector= OL
Black meter lead to base red meter lead to emitter= OL
Red meter lead to emitter black meter lead to collector= OL
Red meter lead to base black meter lead to collector= .583v
Red meter test lead to base or emitter black meter lead to collector=OL

I think that was all combinations. Maybe Q18 is NG?

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Sun, 17 Feb 2013 02:34:57 GMT
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Both transistors are the same types, so they should test the same. So it looks like Q18 is bad.

Have you tested the other transistors as well?

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Sun, 17 Feb 2013 19:23:22 GMT

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Q5 & Q6 I don't get any readings at all in any meter lead combination. I have the device leads unsoldered from the board. Going to check the rest.

Subject: Re: Kustom 150 Repair Question
Posted by stevem on Sun, 17 Feb 2013 19:45:29 GMT
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I have never seen all legs on a bad transistor open, some have to read shorted.
Note that you can hold with your hand both metal leads of a meter set for ohms to make a test as the meter will read thru you, you can only grasp one metal end to get a correct reading.

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Sun, 17 Feb 2013 20:16:52 GMT
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I have, but that is also sign of possible overheating when soldering or unsoldering.

Please check to see that you have the leads correctly identified as base, collector and emitter.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Sun, 17 Feb 2013 20:23:22 GMT
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chicagobill wrote on Sun, 17 February 2013 15:16I have, but that is also sign of possible overheating when soldering or unsoldering.

Please check to see that you have the leads correctly identified as base, collector and emitter.

ANY lea combination yields no results. I get OL with my meter set to ohms as well.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Sun, 17 Feb 2013 20:36:49 GMT
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Transistor results with each one unsoldered from the pcb
Q9: Red meter lead to base black to emitter= .638v Red lead to base black to collector=.669v All other lead combinations= OL.
Q4: Red lead to base black to emitter= .664v Red lead to base black lead to collector= .629v All other lead combinations= OL.

Q17: Black lead to base red lead to emitter=.702 Black lead to base red lead to collector= .694v. All other lead combinations= OL.
Q14: Black lead to base red lead to emitter= .709 Black lead to base red lead to collector= .704v. All other lead combinations= OL.
Q15: Black lead to base red lead to emitter= .7v Black lead to base red lead to collector=.695v. All other lead combinations= OL.
Q7: All OL in any lead combination.
Q8: Black lead to base red lead to emitter= .711v Black lead to base red lead to collector= .711v All other lead combinations= OL.
Q2: Black lead to base red lead to emitter= .697v Black lead to base red lead to collector= .691v All other lead combinations= OL.
Q11: Red lead to base black lead to emitter= .685v Red lead to base black lead to collector= .687. All other lead combinations= OL.
CR10: Red lead to base black lead to emitter= .686v. All other lead combinations= OL.
Q13: Red lead to base black lead to emitter= .678v Red lead to base black lead to collector= .689v. All other lead combinations= OL.
Q1: Red lead to base black lead to emitter= .683v Red lead to base black lead to collector= .671v. All other lead combinations= OL.
Q16: Black lead to base red lead to emitter= .491v Black lead to base red lead to collector= .595v. All other lead combinations= OL.
Q12: Red lead to base black lead to emitter= .484v Red lead to base black lead to collector= .469v. All other lead combinations= OL.

Whew.....lol.

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Mon, 18 Feb 2013 18:33:10 GMT
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Okay, so you have 4 bad transistors: Q5, Q6, Q7 and Q18.

Q18 is an NPN power transistor that can be replaced with almost any modern transistor like a 2N3055 or one of the MJ series types.

Q7 is a PNP small signal transistor which is part of the protection circuit. The original number is 2N3567, but again almost any PNP transistor rated at 40-60 volts should work there.

Q5 and Q6 are the drivers and are RCA 40409 and 40410 transistors. These are problematic as they are made with the large heatsink welded on. They can be replaced but will need heatsinks added to them if they do not come with them. I sometimes see NOS RCAs on eBay, so you could try there. Or you could just go with any number of other transistors as long as they can handle the current rating.

One last thing that you need to test are the diodes in the protection circuit CR4 and CR5. And the diodes in the bias string CR1, CR2 and CR3.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Mon, 18 Feb 2013 18:53:32 GMT
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I used this link to find NTE replacements then order from Mouser.
http://nte01.nteinc.com/nte/NTExRefSemiProd.nsf/$$Search

I will check the diodes. What do you think made all the transistors go bad?

Thanks again!

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Mon, 18 Feb 2013 20:07:33 GMT
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NTEs are fine, very expensive but should work just fine. I believe that the NTE replacements for the driver transistors do not have a heatsink attached, so be sure to add one to each transistor. You will also need some heatsink compound when you mount the new power transistor. Be sure to check the mica insulator for cracks and holes.

As for cause, tough to say. What I usually see is that one of the power transistors shorts and then takes out the drivers and then some other parts as well.

As was noted before, if the bias diode breaks a lead or comes loose from the board, it can cause the power amp to blow up. A shorted speaker or speaker cable can cause the power amp to blow up as well. Overloading the power amp with too small of a speaker load or running it too hot and too long can be the cause.

I don't know if it was mentioned before, but be sure to check the emitter resistors R26 and R28 to see that they are not open.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Mon, 18 Feb 2013 20:38:01 GMT
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I checked R26 & R28 and they read .5 ohms. Not open. All diodes are good except CR4 which is FD111. So I guess I will need one of those as well.

I'm wondering if there is a heat sink for Q5 & Q6 or will I have to make one?

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Mon, 18 Feb 2013 20:43:39 GMT
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Any silicon diode will replace CR4 like a 1N4001 or even a 1N914.

I think the NTE transistors come in TO-5 or TO-39 cases. You can order press on heatsinks from Mouser as well.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Mon, 18 Feb 2013 20:47:14 GMT
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Thanks! I guess a 1N4007 will work then. I have some of those. CR4 does look like a little glass zener however. 1N4007 ok?

I will check on the heat sinks and get a parts order together. This amp might live after all.!!

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 19 Feb 2013 00:41:48 GMT
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The 1N4007 should work fine.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 19 Feb 2013 00:45:17 GMT
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That's what I figured. It is rated for higher voltage & current so couldn't hurt. Parts are ordered and I will post after I install the replacement parts. Hopefully with all the help here it will come back to life. Pumped!

Subject: Re: Kustom 150 Repair Question
Posted by stevem on Tue, 19 Feb 2013 14:54:41 GMT
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The best silp on type heat sinks for the metal cased driver transistors are kind of C shaped verticle ones as the take up little extra horizontal room and do the job well.
If you need to replace a emitter resistor install the new one with leads long enough to keep the resistor away from the driver transistor near it as these can put heat in to them.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Mon, 25 Feb 2013 16:38:50 GMT

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Well gentlemen.... the Kustom 150 amp is alive! Everything works except that the Tremolo/Vibrato is making a thumping noise. The minute you click the Intensity pot on it starts thumping away. The thumping does not increase or decrease with the Intensity pot. I wouldn't think this is normal. Is there a fix for this? Thank you in advance!

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Mon, 25 Feb 2013 20:05:08 GMT
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Good to hear that it's working again. What is the board number for the preamp?

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Mon, 25 Feb 2013 20:21:13 GMT
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Thanks. Looks like PC1500 to me.

Subject: Re: Kustom 150 Repair Question
Posted by chicagobill on Tue, 26 Feb 2013 03:26:14 GMT
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I'll look to see if I have that schematic. Does the pulsing change in time with the speed control? Does it change when you turn the trem vibrato knob?

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Tue, 26 Feb 2013 12:29:25 GMT
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The pulsing does change time with the speed control. The depth of the pulsing does not change with the intensity control however. Once you click the tremolo effect on the pulsing starts.

Subject: Re: Kustom 150 Repair Question
Posted by pennalizer on Wed, 27 Feb 2013 13:28:06 GMT
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I am going to start a new thread for this tremolo issue. Thank you for all your help on this!!!