

Re: Transformer question

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On Sat, 25 Sep 2004 14:35:33 +0100, T N Nurse
<ttnurseNOUCE99@hotmail.com> wrote:

>I have a 50 watt valve amp which seems to have blown its
>output transformer. A new one is on order, but I was puzzled
>by some of the reading I got off it and wondered if someone
>could give an explanation. All the measurements were made
>with the transformer *_completely out of circuit_*, both primary
>and secondary.

>

>The transformer is from a push-pull standard guitar amp (Trace
>Elliot 50 watt combo, 2 EL34s) and one of the valves was glowing
>red hot before the fuse popped. Checking the bias voltages, I
>had around -46v on the grid of each of the EL34s, so that was
>a reasonable figure. I then removed the output transformer
>and did some resistance measurements on it. When measure from
>the centre tap to either of the primary outer connections, the
>reading was 69 ohms for each. But when I measured across the
>primary outer connections, instead of the expected 138 ohms,
>I got an open circuit. I rechecked it numerous times but with
>the same result. I even removed the cables from their connector
>and measure across the bare wires, but still the same result,
>69 ohms from the centre tap to the outers, but open circuit
>between the outers.

>

>On the basis of these bizarre reading, I assumed the transformer
>is faulty and ordered a new one, but can anyone offer an
>explanation as to why I got such resistance readings? I have a
>vague recollection of similar results on a small 15 watt amp I
>repaired many years ago and replacing the transformer fixed it
>and it went on to give good service, but I would like to know
>what is actually going on. Anyone?

The only thing I can think of is that the primary is actually two windings with an intermittent connection at the center tap and that pressure from your probe/alligator clip/whatever when it was connected to the center tap was connecting the two windings so that you got the dual 69 ohm readings, but then when you disconnected from the center tap the connection between the windings was broken, resulting in the

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infinite resistance reading between them.

Try resoldering the winding ends going to the center tap and see what happens. Maybe you'll wind up with a good spare!-)

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John Fields