

From: "normale52" <rjcarlin@talktalk.net>  
Subject: Water temperature gauge 3rd style dashboard  
Reply-To: DSeries-L@yahoogroups.com

Date: Mon, 03 May 2010 14:50:53 -0000

## Conversion of a petrol gauge to a temperature gauge.

The process is basically to reverse the gauge but before I describe how to do this I have decided to say a few words as to why I bothered.

The first reason is that I enjoy trying to engineer things particularly when with a bit of effort I can save money.

Secondly new temperature gauges cost in excess of £50-60. The instrument panel with temp gauge that I mentioned in my original post currently on Ebay.fr reached €101 not sold!!!!

Thirdly I obtained an instrument panel for free and therefore it was definitely worth the effort.

Finally it's a really nice option to have on the car.

The order of the connections on the pcb for the temp gauge (tg) are exactly the same as for the petrol gauge (pg). The electrical circuit for both gauges is identical. The connections are +ve, -ve and sender. The pg will fit in the tg position but it has to be turned through 180 degrees and so the connections and needle movement are reversed.

The steps for the conversion are:-

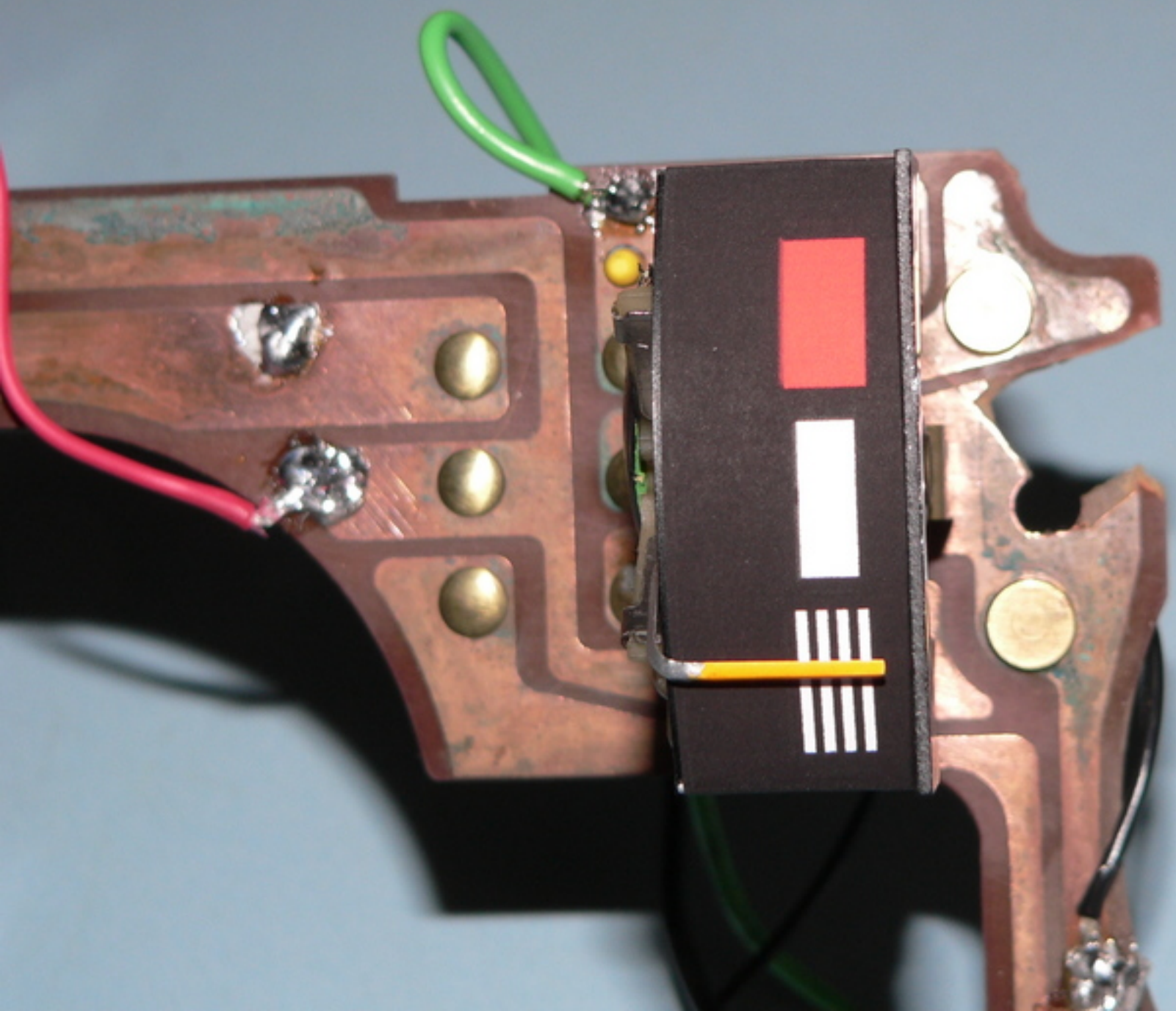
1. Remove the coil assembly from the mounting framework.  
Cut all of the wires as close to the pins as possible and make careful note of their positions. Then use a stand mounted drill (something like a Dremel). Carefully drill into the mounting posts with a small diameter drill to remove the swaged fixing washers. When the washers are removed it's possible to force the coil assembly from it's pins by levering with a screwdriver. (Be careful - only push on the nylon and not the coils).
2. Reverse the needle assembly.  
This is held into the assembly by 4 bent tags. Straighten these (only slightly) and the whole needle assembly can be lifted free (see photo). At this point take very careful note of the balance weights on the needle. All of these can be moved on the pivot. What you must do is reverse the position of each one. i.e. if one is pointing up on the left make it point up on the right by the same amount. When you're satisfied remount the needle assembly but turned 180 degrees around.
3. Replace the coil assembly onto the mounting pins again turned 180 degrees around.  
Check with my photos if you're not sure. I found that the coil assembly was a snug push fit onto the mounting pins and so I made no attempt to glue or otherwise fix it in place.
4. Now you've got to solder the wires back onto the pins, again in reverse position.  
This is possibly the hardest part of the job because a) you need to clean off the varnish on the wires before you can solder to them. And b) they might not be long enough to reach the new post. In my photo you can see how I have soldered the wires back onto the post and on the left terminal I had to put in an extra bit of wire.
5. That's the hard bit, now make a new paper scale using your PC and glue it over the old one (of course you need to calibrate it first). In my case I didn't have access to an original tg so I estimated the scale from a photo. I then connected it all up in the kitchen, gauge, sensor and a power supply and stuck the sensor into a pan of hot water with a thermometer to calibrate the gauge.

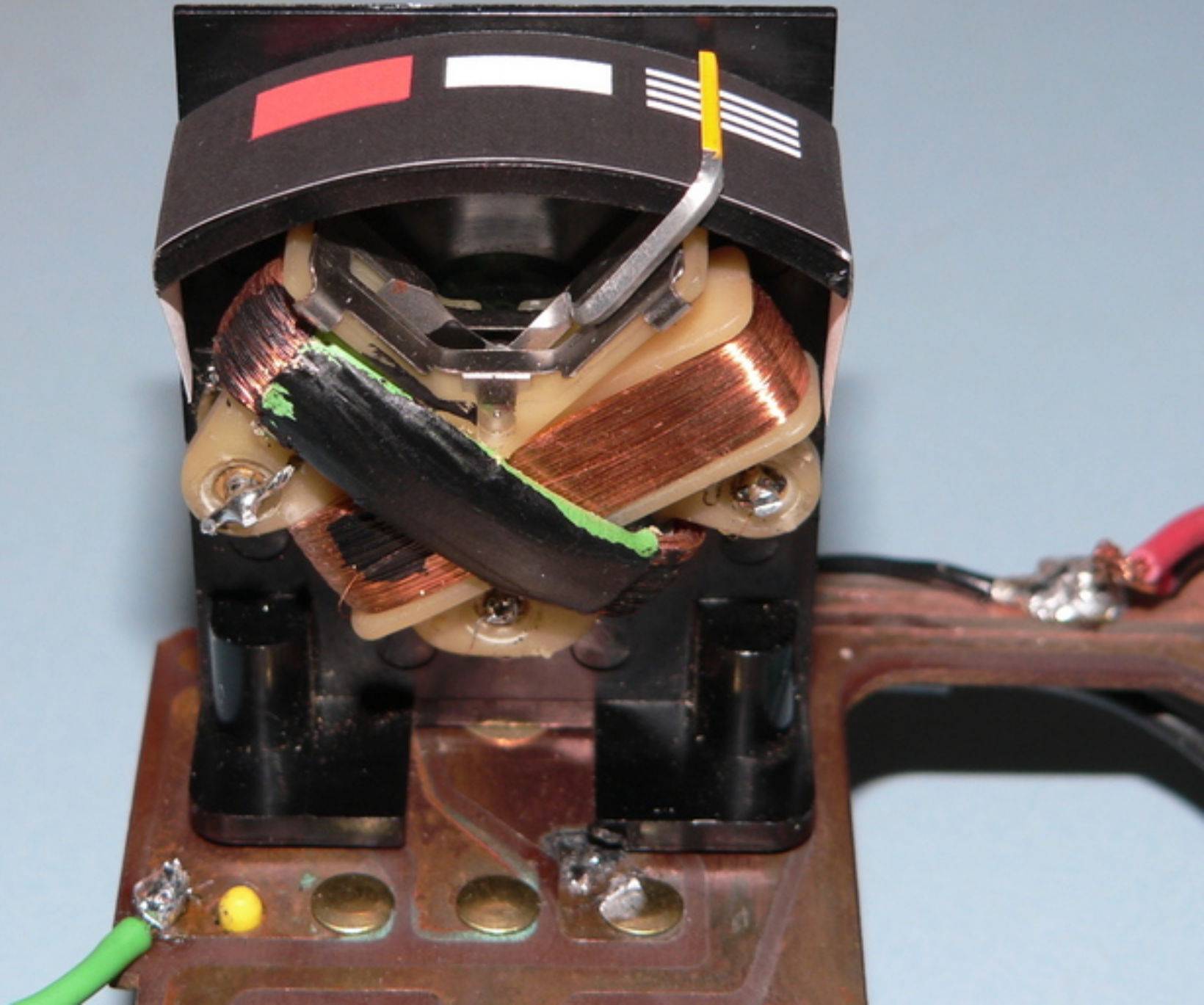
That's it! If you are interested have a go. Of course I'm not saying it works exactly as the original but it looks brilliant in the car and the needle sits just around the 80 degree point.

Richard Carlin

(See also Op. 521-4 in 814-2, pages 392-5)

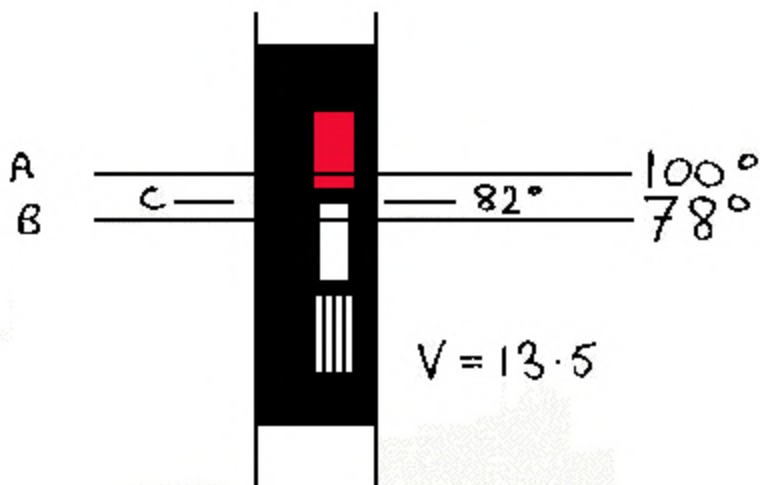




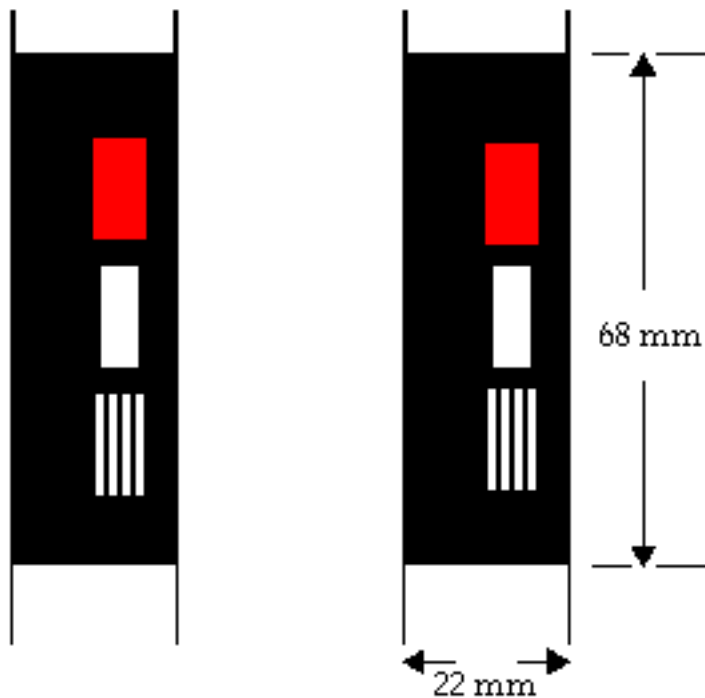


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- A Boiling - STOP
- B Thermostat opens



Print at 300 dpi and cut out