# Washer Fluid Monitor

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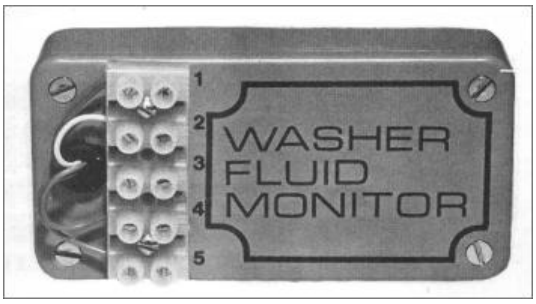
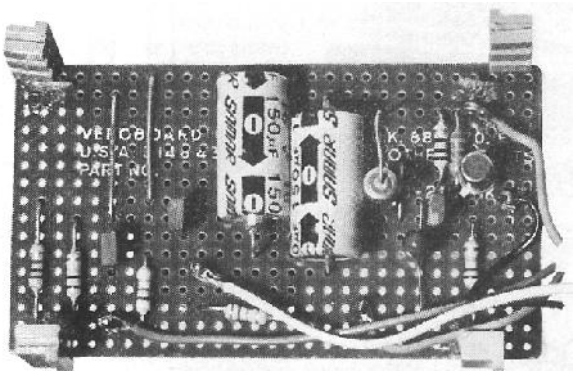



By this time I was in my mid 20's and I'd traded in an Opel Kadett for a soggy Renault saloon and I contemplated the fact that – with me thrashing up and down a busy trunk road every day to get to work in the chemical industry – the car's titchy washer fluid bottle often seemed to run dry, and this was before the days of car rear wash-wipers.

In my day job I might have to clamber on top of a 100 tonne tank of hydrochloric acid and "dip" it with a tape for stockchecking, but my miniscule washer fluid bottle was at the other extreme. I'd never seen a washer monitor so I reckoned that to devise a simple alarm the obvious way was to detect the drop in water level, rather than using a float switch, using some sort of resistance probe. I made a simple transistor switch that flashed an eye-catching warning bulb (rather than an l.e.d.). Being a d.c. system I was aware of the likelihood of electrolytic action corroding the probes, and to help counter this (or so I thought) I fashioned them from gold-plated wire as sold by Maplin for making electronic organ keyboard contact blocks. I was surprised how springy and unco-operative the wire was. But I'd had a small coil of the stuff getting in the way for ages and I was glad to finally use it. I used Letraset as usual and made the black lines on the panel using p.c.b. dry transfers.



Anyways, I fitted a pair of probes to my plastic washer bottle using solder tags and wired the box inside along with the amber warning light. During testing I found that water sloshed around a lot and bridged the probes where they were fitted inside the bottle at the top: this gave a false reading of "bottle fullness". So I reduced the sensitivity of the circuit around TR1.

That helped teach me not to take things for granted but to test everything as thoroughly as possible, leave nothing to chance, and (preferably) prove it for myself, a principle of skepticism that I uphold to this very day.

The simple system worked a treat and it headed off potential trouble several times. But the wires still eventually corroded and fell off! A bit of a mishap involving a VW Transporter sent my car to the scrapyard in the sky. It nearly sent me with it, but luckily I lived to tell the tail. That's why I never drive black cars. I revisited this project in EE Sept. 92, using a fluid detector chip.

You can download the original constructional article as a PDF from www.alanwinstanley.com.

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