

Emma's Cooling Fan Thermostatic Switch:

One worrying aspect when I purchased Emma was that she had green coloured antifreeze; as far as I am aware Bluecol (or another blue coloured antifreeze containing 'IAT' (Inorganic Additive Technology)), is the only antifreeze recommended for older engines and cooling systems.

Emma also had a water leak where the sensor capillary tube was trapped between the hose and radiator inlet so I dumped the sensor. Following that I initially ran Emma with the fan wired to the ignition so it was on all the time; after around a week I wired it through a separate switch. Since then I have only had to switch the fan on once and that was when we were sitting in front of a Level Crossing waiting for a few trains to pass during Drive-It-Day.

I knew this job might take a few days as it was carried out in conjunction with a major overhaul of the cooling system which I will describe in a later post. A period of rainy weather encouraged me to make a start. Although I had ordered an in-line-union to take the temperature sender I was reluctant to use it, instead I kept looking at the plastic plug in top of the thermostat housing thinking I could rethread the housing and put the sensor in there. This was why I needed the rainy weather as if I bugged the thermostat housing up there was a three day lead time to get another.

The plastic plug in the top of the thermostat housing was quite large and it appeared to have a deep thread. Measuring with a vernier caliper revealed it would be a close run thing but removing all the thread should leave me with the core diameter of the sender unit.

The thermostat sender had a M22 x 1.5 thread which requires a pre drilled 11/16" hole. Ever the optimist I ordered a suitable tap from eBay at a cost of £12.95. If re-threading the thermostat housing didn't work I would still need the tap as the back-up plan was to re-thread the 28mm OD in-line-union** I had purchased following a source tip from Group Member Alan Butcher.

Notes.

*** If you purchase one of these remember it's designed and threaded for the smaller sender unit for a temperature gauge as opposed to a thermostatic switch.*

Car Builder Solution sell special in-line adaptors to take a thermostatic switch but their smallest size is for a 32mm internal diameter hose and my top hose is 28mm ID, so not a lot of use.

First job in my cooling system overhaul was to remove the thermostat housing and try and re-thread it. I didn't have a drill bit of a suitable size (13/16"), so decided to remove the original thread with an adjustable reamer, but first you need a good method of holding everything still. That was easy enough as I cut out a scrap piece of plywood, drilled a 1" hole in the middle with a Forstner bit (to allow the reamer to pass through), and then bolted the thermostat to the plywood before putting the whole assembly in the vice. I had to pass the reamer through around fifteen times gradually increasing the diameter of the hole; by the time I had enlarged the hole to 11/16" there was just the barest outline of thread left. This was followed by tapping the new thread. Around 30 minutes later it was job done.

I still have to rewire the thermostatic sender unit to power the cooling fan but checking with a warm/hot engine and test meter reveals the switch is working fine. I have a cunning plan to improve the basic wiring which I will describe in a future post.

Postscript:

If you are currently building your car and having the radiator overhauled then another alternative to the above palaver is to have a 'threaded boss' put in the radiator to take a sender unit.



