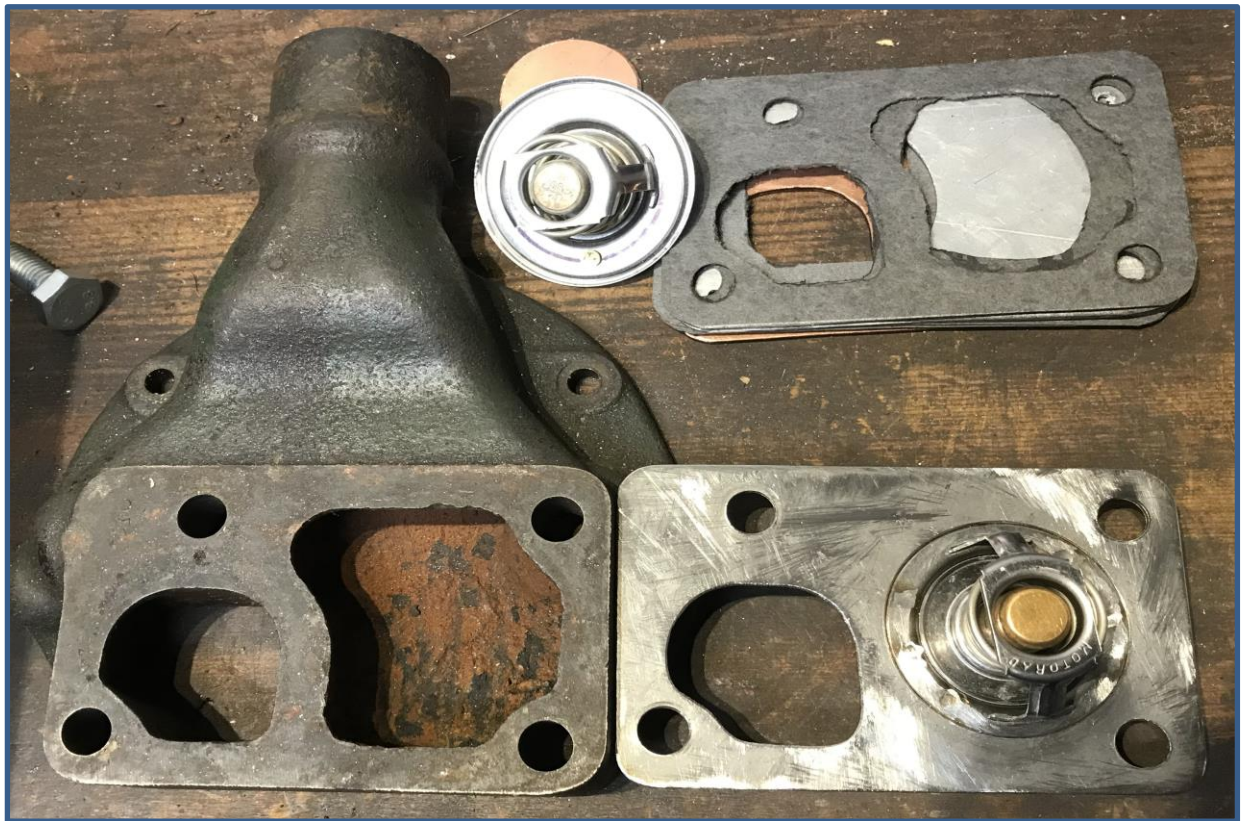


Traction engine cooling system modification Michael Hose

Subsequent to a re-core of a '55 Family 9 radiator with a core of the same thickness sectioned from a new 'imported' Landcruiser radiator, the resulting improvement in engine cooling entirely prevented raising the engine to 'plug cleaning' temperature. Limited road testing of the radiator had also clearly revealed that it was thermally far superior to the original. Otherwise, its weight difference nearly halved, despite having a fourth tube row. However the real problem came when trying to start the car next day. Accordingly, installation of a coolant thermostat was deemed necessary, the design of which is described as follows:

The image is of a standard Traction coolant outlet and beside that a generic Tridon high flow TT2000-180 thermostat, imbedded 0.8 mm (the thickness of the thermostat mounting plate) into a 1.6 mm stainless plate that profiles the head side of the coolant outlet. (A standard flow thermostat equivalent comes as TT1-180, the middle of a temperature range suite encompassing 71 to 91 deg C. Note that from 'kitchen' tests, the rated temperature is for full opening.)



To allow the thermostat to fit flat on the support plate it's outer ridge requires removal from the original thermostats 54 mm diameter, to 48 mm diameter. The thermostat was aligned to clear the head outlet and spot welded in the 0.8mm plate recess. Removal of material from the head outlet wasn't necessary during trial fits, however the F9 head was new, albeit 4 decades ago, and it was necessary to remove about 3mm from the base of its outlet. A

gasket, also depicted, of 0.4mm thickness was installed each side of the mounting plate.

Static testing revealed that the coolant entering the radiator rose to 83 Deg C within 15 minutes and in particular, the temperature remained there when the front of the radiator was blocked. Dynamic testing isn't considered necessary as the system is essentially unchanged. As the thermostat is an after market item, replacement is envisaged as being coordinated with coolant life.



Above is image of the Delaney Gallay Radiator remake, the heater duct having been left off due to failure of the 'liquorice' connectors.