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Emulsified oil in the radiator? Here is the likely culprit

Either engine or transmission oil entering the cooling system is not good news and if not rectified promptly will block cooling passages, cause the engine to overheat, destroy the transmission and /or other things that may conceivably upset your day as well as your bank account.

Graeme Cooper Automotive (as usual) know more about this than you are likely to find on an Internet search. The latter will have advice that typically blames a failed head gasket and if you are foolish enough to take that on trust and give the work to just any old mechanic, it is quite likely that a few thousands of dollars later, you have paid for work that was unnecessary. Fortunately, I asked the Cooper experts first and was told the most likely cause is a damaged oil cooler inside the radiator housing. (See picture).

The shaking and thumping of the radiator over the years can and probably will break one or more of the joints, even if they were properly done in the first place, using brass components If these radiator components are tig-welded aluminium, the rate of failure is likely to be much higher again, because although it is not common knowledge, welding actually reduces the strength of the material by up to 50% and that is one reason why so many aluminium radiators fail very soon after installation – especially if the vehicle is routinely driven over rough roads and bush tracks.

Most reputable radiator specialists will not repair an aluminium radiator due to the high failure rate, so the only solutions are a new “original” unit or a copper and brass unit rescued from a wreck and re-cored. Unfortunately, both are expensive options and either may be hard to find. In the case of this author, Coopers again came to the rescue with a copper/brass unit suitable for complete restoration.

One final point about matching the unions between the oil cooler lines and the radiator: The latter is frequently supplied without threaded connectors – merely threaded holes where the cooler lines are to be attached and this is where problems can arise. OEM units will invariable have British/European threads but if the radiator that has been replaced is an after-market unit, it may well have US or metric threads and the conversion fittings are typically hard to find. While more costly, it may be easier to replace the cooler lines with new ones with the appropriate threads but otherwise, fabrication of new joiners will be necessary, namely with Imperial threads on the radiator end and Metric on the other. Some innovation may solve this problem by finding the relevant unions and silver-soldering or brazing them together.