# KEEPING YOUR COOL

The engine cooling system is often one of the most overlooked and neglected parts of your traction. The cooling system, besides keeping the engine cool, plays a big part in the running performance, efficiency, oil life and bearings. The engine is designed to run at a precise temperature to obtain maximum life of the aforementioned parts.

The worst thing to do is to use just ordinary tap water in the system, because of the different types of materials used - metals, rubber, oil and grease - as well as their age. Corrosion sets in, eating away at machine surfaces, in time making parts unserviceable and leaving the water a dirty scaly liquid. This builds up around the cylinder barrels causing hot spots and eventual piston failure. Also it clogs up the radiator, raising the temperature of the water, which will eventually boil. Overhauling the cooling system is best done when undertaking a major engine overhaul.

Firstly take out the radiator, have the top and bottom tanks removed and the cores cleaned out, also have the metal fins cleaned and straightened, checking for rust. After reassembly, spray paint it, making sure not to fill the metal fins with paint.

All rubber hoses should be replaced if the rubber on the inside doesn't look like the rubber on the outside.

The water pump should be pulled down, sandblasted and cleaned, paying attention to corrosion on the impeller and shaft, with particular attention to the face of the impeller shaft seal on the water pump housing.

Remove and strip down the cylinder head, valves, seals, rocker gear, etc. The head then is probably best taken to a cylinder head reconditioner. Have it sandblasted and soaked in an acid bath to remove all scale and rust from all water jackets. Check and resurface all machine surfaces if necessary. Once again with the cylinder block, it should be stripped down, cylinder barrels out along with the cylinder block sandblasted and left soaked in an acid bath to remove all rust and scale from the metal. Sandblasting should only be done if acid solution won't clear the rust and scale.

With cylinder barrels pay particular attention to the machine surfaces where the barrels fit into the block. On reassembly make sure that all the oilways are perfectly clean, taking care when fitting cylinder barrels with gaskets and spacers if necessary to make sure no foreign material falls onto the surfaces when pushing the barrels home.

Fit all new gaskets to the cylinder head, water pump, etc. Another solution is to have the whole cooling system high pressure flushed, using water and an acid detergent. Some garages have this equipment, includ- that of a club member at Talva Motors. The use of high pressure flushing has to be watched as it also finds the weak points in the water system, such as gaskets. For the above operation I would still have the radiator cleaned properly first.

When refilling the car use a radiator coolant or anti-freeze mixed with water. Vary the mixture of water with coolant or anti-freeze as it does lower the boiling point.

Another thing to watch for is the water in the top tank emptying itself out, losing coolant.

It may be an idea to fit a header tank sealing off the radiator filler cap and using the overflow tube as the feed from the header tank. That will make sure that the tank of the radiator is always full of coolant.

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