



TClinic

TC COOLING SYSTEM by Barney (Doc) Jackson

Since summer is once again just around the corner, it's time to work over the cooling system. An overheating TC is no fun and it's much easier to fix in your garage than 50 miles from home on a Sunday afternoon. First – inspect the entire cooling system for leaks, old or rotted hoses, loose clamps, etc. Be sure and check the soft plugs in the engine block for leaks. Then look at the condition of the radiator water – if it's rusty, buy a good radiator cleaner and follow instructions on the container being sure to fill and flush the system until the water is clear. Then drain all the water and replace it with a good brand of antifreeze/summer coolant solution. The amount of coolant added to the system depends upon your car – if it tends to run hot, put in a higher percentage – if it is cold blooded, put in a lower percentage – but – put some coolant in as it is an excellent rust preventative.

If all the above fails and you still have overheating problems, either the radiator is plugged (requires services of a radiator shop) or the thermostat is not functioning. Another source of overheating in your TC can be a non-functioning thermostat. If you are a purist, the stock thermostat is still available – for about \$20. But – a standard American car thermostat may be used. It is easy to install, works perfectly and only costs about \$2.00. They are readily available – choose the temperature you want (160° - 180° - 190°) I would recommend the 180° for all year use – be sure it's a 2" diameter. This way it will still look stock and allows for easy thermostat changes.

1. Drain water from radiator. If it is a fresh water/coolant solution, save and reuse.
2. Remove upper radiator hose, thermostat body and bypass hose.
3. Remove elbow from side of thermostat body.

4. Chip, hack, cut, jab or otherwise remove stock thermostat from inside of body – horizontal cross piece at top may be left in. Be sure and clean all rust, scale, etc. from interior.
5. Plug elbow (this is vital) and replace on body, using a fresh gasket. It can be plugged in several ways – brazed shut, a solid plate placed between it and the body, etc.
6. Plug the bypass at the branch pipe between the water pump and the lower radiator hose fitting. A penny (copper?) just fits this – be sure and braze. However, a wooden plug inserted here will work just as well.
7. Look closely at the thermostat body – on the end nearest the engine, you will see a small indented recess. Clean this thoroughly, as this is where your new thermostat will live.
8. You will now find that your new thermostat – approx. 2" in diameter – will not fit. A small amount of metal (about $\frac{1}{10}$ " all around) must be removed from the circumference – I use a grinder. However, it could be filed – just be sure and remove an equal amount all around. And just remove enough so that it is a light press fit.
9. Install the thermostat with the spring side towards the engine. Put a new gasket over the top, cement on gasket and replace thermostat body.
10. Replace upper radiator hose. Tighten clamps.
11. Replace bypass hose and clamps.
12. Refill radiator and check for leaks. If you have done your work right, you will now have your new American thermostat sandwiched between the water inlet pipe and the empty thermostat body. The bypass is blocked entirely, but keep it if you desire the stock appearance.

Printed by TCMG in 1974

2005 Update

Watch your antifreeze mixtures. While antifreeze does raise the freezing point, lower the boiling point and helps prevent rust, it does not cool as well as plain water. Never exceed a 50-50 mixture in the winter and 10-15% is plenty for summer. Some owners elect not to use antifreeze at all if they are in warmer climates and use other additives such as Napacool which is used extensively by the trucking industry and is an anticorrosive.

Water wetter has been tried by several owners with mixed results. Some run cooler and some hotter.

Moss Motors now sells both the original thermostat and also an original looking housing with a modern replaceable thermostat inside. The thermostat is mounted higher up than the modification described above and is located above the bypass elbow. In this position you can now drill a small hole ($\frac{1}{4}$ " in the bypass plug and allow a bit of water to circulate when the thermostat is closed rather than letting water build up hot spots. Once the thermostat is open most the water will flow through the radiator and the little bit that goes through the bypass is nothing to worry about.