

COOL-03, Troubleshooting Cooling System Problems

1. Car runs hot/temperature fluctuates.

- a. If the car runs hot and the radiator is cool, the thermostat sticking is a possible cause.
- b. The coolant system may not be properly vented.
- c. There may be a blockage in the hoses or radiator.
- d. The cooling fans may not be operating properly. This can be caused by the fan relays, fuses, or the thermofan switch. One fan is for normal operation. It should run in warm weather if you are sitting in traffic. The other fan will normally run if the A/C is on.
- e. An incorrect water/antifreeze ratio can cause the car to overheat. For most climates, a 50/50 mixture is best for all weather conditions.
- f. The head gasket may be leaking.
- g. The water pump may be bad. Rebuilt water pumps have been known to have the pulley slip on the shaft. Others have had the pump impeller separate from the shaft.
- h. The temperature sensor or gauge may be faulty.
- i. The radiator cap may be faulty. If you do not have a coolant pressure tester and suspect the radiator cap, most major auto parts stores can test it for you.

2. Cooling fans keep running after car is shutdown and drains battery.

- a. Most likely cause is the thermofan switch. Replace using the [COOL-05, Thermofan Switch Replacement](#) procedure.
- b. This may also be caused by a faulty fan relay. Look for more on testing the relay in a future update.

3. Coolant Loss

- a. The head gasket may be faulty allowing coolant to leak into the cylinders. White smoke coming from the exhaust can be an indicator of a head gasket leak. Perform a compression check using the procedure provided.
- b. A cylinder wall may be cracked allowing coolant to leak into the cylinder. White smoke coming from the exhaust can be an indicator of a cracked cylinder wall. Perform a compression check using the procedure provided.
- c. The oil cooler seal may be leaking allowing coolant and oil to mix. Look for white frothy residue in coolant tank or on radiator cap (Only on early 944s with oil cooler integral to the block).
- d. Check for an external head gasket leak. If the leak is small enough, it may evaporate before the coolant reaches the ground. This is especially true if the leak only occurs when the coolant system is pressurized.

- e. Check for hose leaks, leaking radiator core, leaking heater core (strong smell of antifreeze in the passenger compartment), leaking system vent, and leaking radiator drain plug.
- f. Check for leaking water pump seal.
- g. Check at rear of engine near the fire wall for a leaking heater control valve or hoses to the control valve.
- h. Check for a faulty radiator cap (i.e. pressure test the cap).

Clark's Garage © 1998
