Europa Cooling Tips

The cooling system of the Lotus Europa is capable of providing adequate cooling under normal conditions. When heavy city driving or cooling system problems develop, the system is overstressed.

2. The cooling system consists of an offset, front mounted radiator, electric fan, temperatu sensor, transfer tubes, thermostat, water pump, and swirl pot. The primary problem with the cooling system is the length of the transfer tubes. As the fan is actuated by this device, any failure of the sensor or impediment of the coolant flow to the sensor results in a "boil-over" condition.

3. Early Europa models were equipped with a dash mounted toggle switch which could override the temperature sensor and run the fan continuously. This toggle switch function does not appear in the later model. It is advisable to add this switch function if your Europa is not so equipped.

4. A single pole, single throw toggle switch can be used. (I suggest the aircraft grade) Connection to the fan circuit can be made in two ways: 1) jumper the switch between the two sensor leads or 2) at the relay.

5. In order to minimumize the effect of the long transfer tube length, a constant flow of collant should be provided. If your thermostat does not have a bypass hole in it already, drill a 1/8" hole (or holes) in the housing body. Beware that even in the stock configuratio excess RTV from your water pump job can clog the bleed hole. The failure mode in this case is usually a head gasket (particularly in the Renault powered Europas.)

6. Swirl pots are used to allow for thermal expansion of the coolant and for de-aeration of the collant. Do not overfill the system-leave about 4" of head space.

Another problem that can plague the system is not fully charging the head with coolant. The Renault heads can be equipped with an air bleed valve. As you fill the system, open the valve until coolant comes out, then close the valve. Repeat until only coolant coes out.

8. TC owners should run the engine as they add coolant. The coolant level will drop when the thermostat opens. Add coolant to the required level after the thermostat opens. In either configuration, always top the system off after the thermostat has opened. If you are refilli a completely drained system, be sure to crack the drain valve at the radiator to get the air out of that part of the system. It can be helpful to raise the rear of the car during this operation.

Paul Horkin

Europa owners should check the steel brake line where it goes over the rear body brace, just in front of the fluid loss sensor. Mine wore a small but fun hole by rubbing the top of the brace. An aircraft welder can fix it quickly and cheaply ($5.00).

My gas tank developed several small leaks from general rusting on the bottom. "SS Fuel Tank Sealant" by Lubri-Tech worked well. Most motorcycle shops will have it. To use it, pull the tank. Pour in the can, slosh it around and return the excess to the can.

Warren Pearce
Fountain Valley, CA

EUROPA T.C. FRONT HEIGHT

The Europa TC front suspension was set high at tht factory to satisfy the federal height requirement for the headlights. I lowered mine and my car now has a lower center of gravity, floats less at high speed, and looks better. The disadvantages are that it is a lot of work and the front of the car will scrape more on dips and bumps. I do not recommend doing this to a car that has a low front spoiler.

The front coils can be heated (if you can do this without overheating the shocks) or, preferably, they can be cut. I cut 1¼" off mine (measured while on the car under static load). Do some measuring on your own, as the amount can vary from one car to another, and according to how radical you want to be. Remember that cutting the spring by a certain amount will lower the car by a larger amount because of the geometry of the suspension.

I cut the spring at the shallowest angle possible with a torch (practiced on some scra first) and then ground it until it looked almost like the original cut. Before you start, check to see if your car is higher on one side, as mine was, and determine whether the asymmetry is in the front suspension by jacking up the rear of the car in the center and checking again. If it is uneven, check the bushings for wear. If they are OK then correct the difference when measuring the coils for cutting.

While you have the Chapman struts apart, check the shocks. You will need their damping action to reduce bottoming. Lowering the car makes the camber negative. I made the upper wishbones adjustable in length by putting in a screw device similar to the one at one end of an adjustable lower link. To adjust the wishbones, I disconnect the outer ends and screw them in or out. The caster can also be adjusted by adjusting just the front or rear half. Don't just make the upper wishbones longer without making them adjustable. The chances of getting them right the first time are very slim.

You may also have to raise the sway bar. I did. I also had to raise the rear-view mirror. With the car raked forward, the headrest is now closer to the back of my head.

When the front suspension was assembled at the factory, the bushings were tightened while a heavy employee sat on the front of the car. You may be able to adjust your front height somewhat by this method if your bushings are in good condition. Regardless of what method you use, remember to reset the toe-in after everything else is set. The best way to do that is with someone of your weight sitting in the car.

The front suspension was designed with the federal height in mind, so the geometry will be slightly different after lowering. Camber change will be different on cornering and upward suspension travel will be shorter. If you do not raise the rack-and-pinion assembly (I didn't), you will have some bump steer (actually, bump yoe-in change). I would rather have these probles than the funny looking "Tennesee rake" that the car came with.

Lotus must have known that some of us would want to lower the front suspension, so it would have been nive of them to make the rack-and-pinion height and the camber adjustable, but they did not see fit to do it that way. Maybe they thought the Feds would be suspicious.

Mike Dwyer