

COOLING SYSTEMS

by John Kouba

Most of us have had cooling problems at one time or another. This is mostly due to the cars being English: The cooling system that is adequate for England is far from adequate in Southern California. I have seen many methods of improving the cooling system, most of which are of limited value. These include changing the thermostat to a lower value. This just buys a little time and does not let the engine run at its designed optimum temperature. There are, however, several scientifically sound ways to cool better. One way is to force more air through the radiator. This can be done by adding a spoiler, by adding an electric fan (J.C. Whitney is an excellent source), or by adding a better engine fan (talk to Villa Ford about the plastic fan). All of these will help to a substantial degree. The biggest improvement is in another area, that is, to put in a larger radiator. Late-model Elan owners might find an earlier model wreck to steal from. You can have your radiator recored. This involves replacing the cooling section with a thicker one. Shop around the various radiator shops. Strive for somewhere around \$65.

Of course, all of this is ineffective if your water jacket is clogged with rust and sand (remember the block was cast). A good way of cleaning it out (I will preface this by saying some people will shriek at the idea, and that it should not be done more than once every couple of years) is to fill a bucket of water and add about a quarter of a can of Drano (small size). Mix well to dissolve. Start the engine and open up the radiator and block drains. Pour the mixture through the cooling system. Then flush thoroughly for not less than ten minutes with fresh water. Close up the stopcocks, top up, and shut off the engine and allow it to cool. A 100% Prestone or Zerex coolant should be used, especially with the cast iron block twincam. Although it is not quite as efficient thermodynamically, it keeps down electrolysis and keeps passages open.

In closing I would like to bring forth an idea that Dave Vizard talked of in Car and Car Conversions. He claims that although a stock engine should be made to run at the original factory specified temperature, an improved (BHP) engine should be made to run cooler. An engine putting out 135 BHP at 75°C will put out 120 BHP at 100°C. To put this in the proper perspective, Dave Vizard's 135 BHP engine has everything and L-1 cams. It is probably beyond the tune of all but a few of the Club's machines. This engine is just streetable. By this I simply wanted to bring out the importance of the cooling system. It is something that should not be overlooked.