COOLING THE TRACTOR ENGINE TRIUMPHS

Over the years I've been involved with ISOA I've heard many owners complain about overheating problems with these cars. (TR2 thru TR4A) I'll start with the basics and go on from there.

First thing, what does your coolant look like? Is it nice and fresh looking or is it kind of brown? If it is the latter, go buy two flush kits and install one as per instructions. Flush the system. When the water runs clear, stop running water thru the system. Drain a little water out to lower the level in the radiator. Now add a small box of baking soda to the radiator and fill with water back to the top. Now drive the car for an hour. Do not let it idle. Take a nice drive, country roads would be best. When you get back, flush the system with water. You will be amazed at what comes out of your system. This is a tip given to me by an old radiator man when he boiled out my radiator. Now use the second flush kit to flush the radiator again. This will have your cooling system as clean as you can get it doing it yourself.

The next step is to change your thermostat. Originals had a slide valve that opened and closed the bypass. These are no longer available. You can buy the replacement at any auto parts store. It measures 2-1/8" OD. And is 160 degrees. I got mine at auto zone. It's a Robert Shaw generation 2 with a life-time warranty. It's all brass and it did cost a little more. You will have to drill a 1/8" hole in the brass flange. The hole is mounted at the top when installed. This provides some bypass and vents the system when you are filling the system with coolant. For the bypass port, you must plug it at the thermostat housing. Look at the pictures. Drill out the elongated hole in the bypass port for a 1/4" pipe tap and screw in a 1/4" pipe plug. If you don't plug this port, coolant will flow thru it and circulate thru the block, but not the radiator. You will overheat. Now it's time to mix your coolant. Use any good quality antifreeze, mix it in a 50/50 mix with distilled water. You want to use distilled water because it has no minerals in it. Well that looks like we've got it, but no, there's one more item. The lowly radiator cap. Not important you say. Not so. Your radiator cap determines how much pressure you can have in your system. This in turn governs at what point your coolant boils. Get a new TR4 radiator cap. This will be an upgrade for the TR2 thru TR3B. It raises the pressure rating from 4 to 7 lbs.

With the above mentioned work completed, you might think things should be nice and cool on the engine front, but they probably are not. The reason is the inadequate cooling fan. It has only four blades and they have almost no pitch. There are two ways to cure the problem. One is to replace the stock engine-driven fan with another such as the yellow eight-bladed fan found on TR250's and early TR6's. You must shorten the extension the fan mounts on. You have to take off at least 3/8" of stock overall from both ends. Any machine shop can do it. I machined a new one out of aluminum, but it could be made from any material. The second and easier way is to mount an electric fan on the front side of the radiator. This allows the stock fan to be retained. Just make sure the fan you buy is a pusher or can be converted to that configuration. The fan must blow air thru the radiator. If not, you will be the second case of dueling fanjos-a news item sure to make headlines in Snic Braaapp and a sure boomer award. I would suggest using a temperature controlled switch with an override toggle switch on the dash, so you can turn the fan on at your command.

OK, now we're cooking. We've got a good clean cooling system and a good fan. You should not overheat but for the most severe conditions, such as going 70 m.p.h. on the freeway and then coming to a stop or in stop and go traffic for over thirty minutes. This is a real test. Here you are speeding down the freeway at 3000 to 3500 rpm building up a lot of heat in your engine and then you suddenly take away all that 70 m.p.h. cooling air. Now you must cool down all that hot cast iron in your engine with only your cooling fan and your radiator. See what i mean? If after all this you are still boiling over, the next step is the new radiator core. Come on guys, bite the bullet, buy that new core. I know of two available cores. The Modine core #120315PL (or L core) and the GDI core #260524. I have the latter in my TR4. It has ended all overheating problems. At Glen Park Radiator in Gary, Indiana, where I got mine it cost $261. I have been very happy with this core. TR2 thru TR3B owners can get more efficiency by leaving out the handcrank hole in the core (note good for concours). It will cost less as well. These new core are more efficient than the old ones they replace. Bob Schaller claims 37% more cooling capacity and increased flow rate for the modine core. This seems a bit optimistic to me. My gdi core is supposed to be equivalent to the modine core. I would rate is as maybe 10 or 15% more efficient than the original.

At this point you might want to do something for the environment. Like adding a catch tank. This upgrade has two advantages; you won't lose your coolant if you do boil over, plus no one will have to call the EPA. This can be very embarrassing. Once again the TR6 can provide both the tank, tube, and the bracket.

Well I guess that's it but remember - Tractor motors rule!

By Pat "Power Bulge" Lobdell - April 2001