How to Cool your TPI Engine

Parts List

3/8"-16 UNC hex nut,	$0.04
3/8" flat washer (2 PCs.)	$0.04
20' 16AWG copper wire, dark green insulation preferred;	
Wire connectors:	
3/8" ring-type terminal,	
Three wire splice connector (3M Scotchlok);	
1/4" female push-on connectors.	
Thermostat - AC Delco 10220957 - 180˚ opening	$7.95
Water outlet gasket - FelPro 35062	$1.02
Auxiliary Fan Switch - AutoMeter 3246 (203˚-187˚)	$20.14
Anti-freeze concentrate (2 gallons)	$9.00
Clean water.	

Drain the cooling system. It's a good idea to perform a system flush at this time, since you will be draining the system to remove the thermostat. After flushing the system, drain rinse water. Remove the thermostat housing and thermostat. Clean the gasket surfaces. Drill and tap a ½" NPT hole in the water outlet housing above the thermostat, toward the left side of the housing *(See below)*. Install the temperature switch in this hole with thread sealant. Notice the Autometer sensor has almost no protrusion into the housing to impede coolant flow. Install the replacement thermostat and gasket.

Remember to use anti-seize compound on any fasteners threaded into aluminum!

Route a single piece of wire from the switch location through the engine wiring harness to the fan relay at right front of the vehicle. The relay is located next to the radiator on the radiator support cross member. Connect the wire to one terminal on the switch at the thermostat. Connect the other terminal on the switch to a short piece of wire with a 3/8" ring terminal. Ground the ring terminal on the stud on the thermostat bolt. Secure with washers and the 3/8" nut.

Locate terminal 'B' on the fan relay. The factory installed wire on that terminal should be dark green. Splice the wire from the thermostat housing into this dark green wire.

Refill the system and keep the radiator cap off. Start engine and fill the remaining space in the radiator, then install the cap. Allow the engine to reach operating temperature while checking for leakage. Adjust the level in the coolant overflow tank with coolant mix, and monitor this level for a few days, adding as necessary.

Your coolant temperature should now maintain between 185˚ and 200˚F, instead of 223˚-238˚F as released from the factory. Maintaining the original wiring connections assures that the fan will operate as necessary for the air conditioning.

I have done this on my '86 and never had a problem reaching adequate temperature for full closed-loop operation of the ECM. I also don't often drive when the temperature is below 40˚F, since my cars are stored in winter.

Alternate to Coolant Temperature Sensor

Replace the thermostat as described above without drilling a hole in the housing. Mount a remote fan switch (Derale or similar) near the fan relay. Wire the switch as directed and install the sensing bulb in the radiator fins. This system will require you to adjust the sensor periodically to achieve best results, but is less work to install.