

## THERMOSTAT REPLACEMENT by Scott McGilvray

There are lots of reasons to replace a thermostat. Some stick open, some stick shut. Some are suspect in an overheating problem. Sometimes the wife says “Honey there is something wrong with the thermostat” and you are into changing it before properly processing her comment.

Taking the old one out depends on the mess you can tolerate. Opening the petcock at the bottom of the radiator will bring the coolant level down below the thermostat level but it will not remove all the water. There will still be spillage when the upper radiator hose is removed. Also the bypass hose will leak some. Don't get all bothered by this, there is nothing you can do. Just sop it up with a towel or it off with an air gun. I recommend cutting the bypass hose with your pocket knife, it should be replaced anyway and cutting it saves you from the temptation of reusing it. Clean the gasket surface and make sure the bypass hose surfaces are in good condition. We are finally getting to the purpose of this tech tip. The thermostat sits in a depression in the thermostat housing. With it installed in the pocket and covered with the gasket and sealer it **SHOULD** stay in place. The problem is it can easily slide out of the pocket and drop down between the housing and the intake manifold. You will be unaware until refilling the cooling system makes the problem evident.

Picture 1, shows the stuff you are working with less the tools and sealant. The spring is the solution to the problem. As the picture shows it must be short with a hook on each end. As shown in picture 2, it hooks on to the thermostat and stretches to hook over the lip of the housing. Picture 3, shows the thermostat held in it's proper place ready for the sealant and gasket. Install the assembly without the bypass hose. The interference of the hose can compromise getting a square shot at placing the housing in the proper position. Run the bolts up with your fingers to trap all the parts in place. To make this possible the bolts and holes should be cleaned prior to reassembly. On a T-Bird the bypass hose is 4 1/4" long and can easily be installed after the housing. Not so with a passenger car which has a much shorter hose.

An interesting thing that is not often thought about is the purpose of the bypass hose. It allows a little coolant to circulate so that as the engine warms the coolant can come in contact with the back of the thermostat. The thermostat manufacturers do not trust the design of the auto builder so they put a small hole in the thermostat for same reason, look again at picture 2.

Another benefit of this approach to thermostat installation is that since the spring needs to hook on the front of the thermostat you will never install one backwards.



Picture 1.



Picture 2.



Picture 3.