

The Model A and Antifreeze

By Lynn Sondena

The first step before using antifreeze would be to make an extensive visual inspection for evidence of external leakage of coolant. If there are coolant leaks fix the problem then complete the second step. A pressure tester can be used to apply 4 to 5 pounds of pressure to the stock cooling system and 10 to 12 psi in a pressurized system. The tool attaches to the radiator filler neck and the overflow tube needs to be corked. After pressure has been applied to the cooling system it should hold pressure for two minutes.

The second step is to check for internal leakage of coolant. Causes of internal leakage are usually a blown head gasket, cracked head, or cracked block. There are four common tests used for internal leakage. Two are visual and two are using tools. With the engine warm and running check to see if there are air bubbles in the top radiator tank. (Bad news if bubbles are present) The second visual test is to check the oil for traces of water, and look at the filler cap and spout to see if there is a gray-white foam. One can also remove the dip stick to check for water. These two tests are not very accurate due to the fact that Model A engines don't breathe very well and develop condensation which will appear the same. The most accurate internal leakage test is to use a ***radiator combustion tester***. It is a special tool that fits onto the radiator filler neck and has a sight glass with a special chemical inside of it. If combustion gases are present in the coolant the color inside the sight glass changes color. If there is no change in color antifreeze can be added. The second mechanical test is to use a compression gauge, but this will only locate a weak cylinder and the area around the cylinder would be suspect.

Two types of antifreeze are **Ethylene Glycol** (Prestone) and **Propylene Glycol** (Peak & Sierra). Why use antifreeze?

- It helps to prevent rust
- It prevents freezing. (water expands 9% when frozen)
- Helps in preventing boil over
- Rust preventive
- Has antifoaming additives
- Lubricates the water pump
- Helps to eliminate lime deposits
- Draining the cooling system can dry out leakless water pump seals.
- Using straight alcohol will prevent freezing, but does not stop rust and evaporates very fast.

Why not to use antifreeze?

- Antifreeze that is 3 to 4 years old will start to develop silicates which are abrasive, and if they mix with oil they can cause damage. (only if there is an internal coolant leak)

Note: **Antifreeze is not a corrosive agent that will attack Babbitt. LACK OF OIL, and HEAT DESTROYS BABBITT!**