CHANGING ENGINE COOLANT

One of the constants of auto care is the need to flush and refill your engine's cooling system at least every other year. Better still: Inspect the entire cooling system and replace the coolant each year.

Besides keeping your engine from overheating, a properly working cooling system ensures that the engine is operating at its most efficient temperature. In addition, your warmth and comfort inside the car depend on the engine's cooling system.

Be sure that the engine is cool before beginning.

- Squeeze all of the hoses--upper and lower radiator hoses, as well as heater hoses. They should all feel firm yet pliable.

- Replace any that are brittle, mushy, bulging or cracked. Replace any hoses that are more than four years old.

- Check the radiator cap by inspecting its rubber sealing gaskets and spring.

- Check the coolant overflow reservoir for pinholes, cracks or any other signs of leakage.

- Check each hose end to see that the clamp is snug and that there are no signs of leakage.

Next, drain the old coolant into a large catch basin. Engine coolant is poisonous, so take care not to let children, pets or wildlife lap up your drained coolant. Thoroughly hose away any spillage.

Also be aware that though engine coolant is biodegradable, some of the contaminants in used coolant are not. Do not pour old coolant onto the ground or down a storm drain. Take your old coolant to a repair shop that has the equipment to clean and recycle the coolant, or take the coolant to a recycling center.

- Place a large basin (at least 2 gallons) under the radiator. Loosen the petcock or remove the drain plug at or near the bottom of the radiator.

- If you can't find the drain or if it's stuck, loosen the lower radiator hose.

- Open the radiator cap and move the heater control valve on the dashboard to maximum HEAT.

- Slowly run cool water from a garden hose into the open radiator. When clear water is coming out of the radiator, the radiator has been drained of most of its coolant. Shut off the water and let the radiator drain.

This method only partially drains the cooling system. A more effective way of flushing the system involves using a special reverse-flushing kit. These simple-to-use kits cost less than $10 at auto parts stores and large discount department stores that sell auto supplies.

The kit includes a T that is spliced into the heater-inlet hose. A garden hose is attached to the T and water flows through the engine, heater core and radiator.

Regardless of how you flush the cooling system, be sure to tighten the petcock or

replace the drain plug. Be sure all hose clamps are snug. Then refill the cooling system with a mixture of fresh antifreeze and water.

- Pour the coolant in slowly, allowing air to escape. You may have to do this several times--possibly over a period of a few days--to allow all the trapped air to escape.

  A 50/50 mixture of water and antifreeze/coolant is fine for most cars.

  If you live in an extreme climate, you may opt for a stronger mixture with more antifreeze/coolant. Do not exceed the maximum strength as listed on the antifreeze container.

- Replace the radiator cap securely.

- Check the coolant level daily over the next week or two until you're certain that the level is stable.