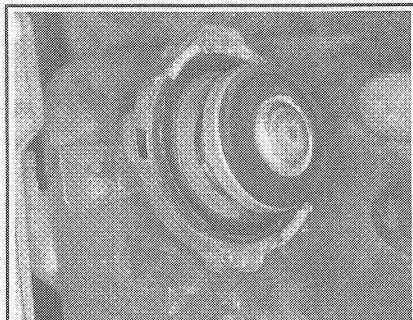


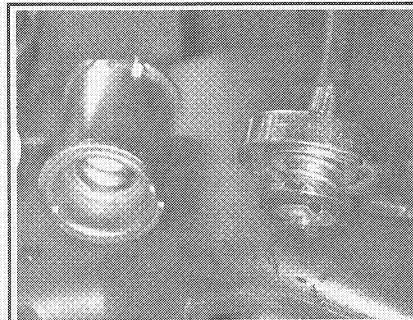
93141P16

Fig. 174 Maximum pressure for the cooling system is printed right on the cap



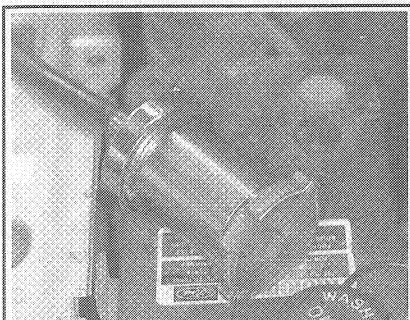
93141P08

Fig. 175 Check the seal on the cap to make sure it seals



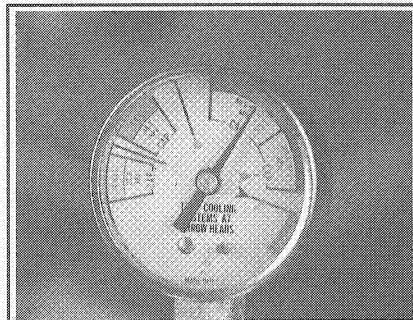
93141P36

Fig. 176 The pressure tester adapter. . .



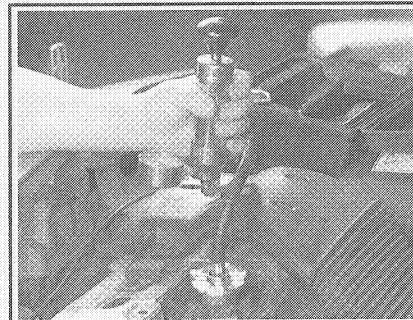
93141P35

Fig. 177 . . . allows you to pressure test the radiator cap. . .



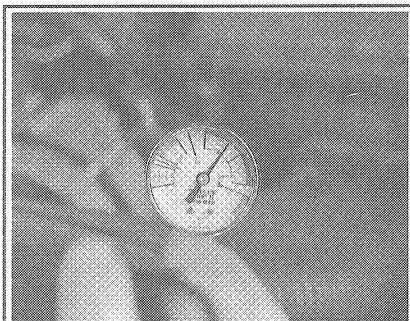
93141P38

Fig. 178 . . . and read the static pressure for the cap



93141P37

Fig. 179 Pressure testing the coolant system



93141P39

Fig. 180 Reading the pressure. On this system, the cooling system holds pressure

your leak, a pressure test is a logical and extremely helpful way to find a leak. A pressure tester will be needed to perform this and if one is not available they can be purchased or even rented at many auto parts stores. The pressure tester usually has a standard size radiator cap adapter on the pressure port, however, other adapters are available based on the size of the vehicle's radiator neck or recovery tank depending on where the pressure tester connects. When pressurizing the cooling system, make sure you do not exceed the pressure rating of the system, which can be found on the top of the radiator cap, however, if you have an aftermarket or replacement cap that does not have the rating on it, 16psi is a standard to use but some cars are higher. Overpressurizing the system can cause a rupture in a hose or worse in the radiator or heater core and

possibly cause an injury or a burn if the coolant is hot. Overpressurizing is normally controlled by the radiator cap which has a vent valve in it which is opened when the system reaches its maximum pressure rating. To pressure test the system:

➔ **The pressure test should be performed with the engine OFF.**

1. Remove the radiator or recovery tank cap.
2. Using the proper adapter, insert it onto the opening and connect the pressure tester.
3. Begin pressurizing the system by pumping the pressure tester and watching the gauge, when the maximum pressure is reached, stop.
4. Watch the gauge slowly and see if the pressure on the gauge drops, if it does, a leak is definitely present.
5. If the pressure stayed somewhat stable, visually inspect the system for leaks. If the pressure dropped, repressurize the system and then visually inspect the system.
6. If no signs of a leak are noticed visually, pressurize the system to the maximum pressure rating of the system and leave the pressure tester connected for about 30 minutes. Return after 30 minutes and verify the pressure on the gauge, if the pressure dropped more than 20%, a leak definitely exists, if the pressure drop is less than 20%, the system is most likely okay.

Another way coolant is lost is by an internal engine leak, causing the oil to be contaminated or the coolant to be burned in the process of combustion and sent out the exhaust. To check for oil contamination, remove the dipstick and check the condition of the oil in the oil pan. If the oil is murky

and has a white or beige "milkshake" look to it, the coolant is contaminating the oil through an internal leak and the engine must be torn down to find the leak. If the oil appears okay, the coolant can be burned and going out the tailpipe. A quick test for this is a cloud of white smoke appearing from the tailpipe, especially on start-up. On cold days, the white smoke will appear, this is due to condensation and the outside temperature, not a coolant leak. If the "smoke test" does not verify the situation, removing the spark plugs one at a time and checking the electrodes for a green or white tint can verify an internal coolant leak and identify which cylinder(s) is the culprit and aiding your search for the cause of the leak. If the spark plugs appear okay, another method is to use a gas analyzer or emissions tester, or one of several hand-held tools that most professional shops possess. These tools are used to check the cooling system for the presence of Hydrocarbons (HC's) in the coolant.

DRAIN & REFILL

➔ **See Figures 181, 182 and 183**

Ensure that the engine is completely cool prior to starting this service.

⚠ CAUTION

Never open, service or drain the radiator or cooling system when hot; serious burns can occur from the steam and hot coolant. Also, when draining engine coolant, keep in mind that cats and dogs are attracted to ethylene glycol antifreeze and could drink any that is