Engine Cooling System Service
Chapter 19

ACROSS
1. A ______ around the closed thermostat allows a small part of the coolant to circulate within the engine during warm-up.
4. In most vehicle radiators, the coolant flows through oval-shaped ______.
6. Another name for bleed holes is ______.
7. A second type of thermal fan has a __________ ______ added to the silicone coupling fan drive.
9. Some engines use ______, which means that the coolant flows from the radiator to the cylinder heads before flowing to the engine block.
11. In the ______, coolant flows into the block under pressure and then crosses the head gasket to the head through main coolant passages.
13. Vacuum pulls the coolant from the plastic container back into the cooling system, keeping the system full; this system is called a ______ ______.
14. The water pump is a ______ ______ that can move a large volume of coolant without increasing the pressure of the coolant.
15. Some engines use a combination of two coolant flow systems and call it a ______ ______ ______ ________.
16. The ______ ______ fan drive is mounted between the drive pulley and the fan.

DOWN
1. In series flow systems, ______ ______ in the gadget, block, and head perform the function of letting out the steam.
2. Some vehicles use a ______ ______, which is located at the highest level of the cooling system and holds about 1 quart of coolant.
3. In the ______, the coolant flows around all the cylinders on each bank.
5. Many vehicles manufactured in Japan or Europe use radiator pressure indicated in a unit called a ______.
8. Coolant leaving the pump impeller is fed through a ______.
10. Heat is transferred through the tube walls and soldered joint to ______.
12. The pump pulls coolant in at the center of the ______.