Hybrid Vehicle Heating and Air Conditioning
Chapter 12

ACROSS

1. The fan can be turned on and off through the use of a _______ _______ mounted on the radiator tank, or by electronic means using the PCM.
2. Some vehicles use a _______ instead of a coolant recovery reservoir.
3. Problems led engineers to include a _______ _______ in cooling system designs.
4. Much research was conducted to find an alternative to IAT, and this led to the development of OAT and _______ coolants.
5. The ICE water pump is a non-positive displacement design, meaning that the _______ can turn without any coolant being pumped if a blockage exists in the system.
6. A liquid-to-air _______ is utilized that dissipates the heat from the coolant to the air passing through it.

DOWN

2. All automotive ICES are liquid-cooled, meaning that the cooling systems are sealed and liquid coolant is circulated through the _______ _______ by a water pump to absorb excess heat.
3. The heated coolant is sent through a _______ to dissipate the heat and lower its temperature.
4. Many hybrid electric vehicles utilize an electrically-driven _______ that continues to circulate coolant when the ICE enters idle stop.
5. The purpose of the _______ _______ is to maintain pressure in the cooling system in order to maximize cooling efficiency.
6. _______ radiators have vertical tubes with tanks at the top and bottom of the core.
7. _______ radiators are made to be installed in vehicles with lower hood lines and have horizontal tubes with tanks attached to each end.
8. _______ have an inner lining made from synthetic rubber.
9. A _______ is used to confine coolant flow to the ICE water jacket and heater core until the coolant reaches approximately 195°F (91°C).
10. _______ have corrosion inhibitor.