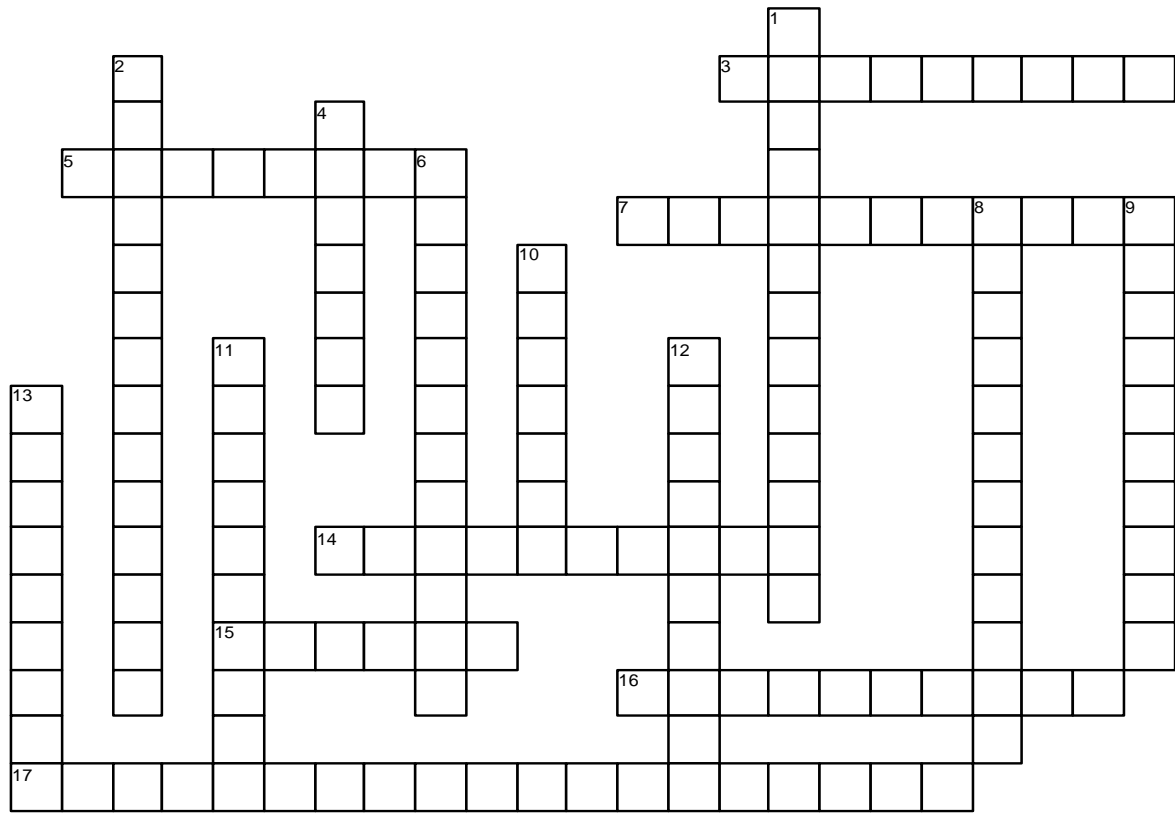


# EV and HEV HVAC System

## Chapter 16



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### ACROSS

- 3 The \_\_\_\_\_ is part of the high-pressure section of the air-conditioning system and is another type of heat exchanger.
- 5 When in the \_\_\_\_\_, the A/C compressor is turned off and the evaporator operates at ambient temperature.
- 7 The fresh air coming into the vehicle is sent through a \_\_\_\_\_.
- 14 Some of the waste heat absorbed by the ICE cooling system can also be dissipated by the \_\_\_\_\_ in the passenger compartment heating system.
- 15 The \_\_\_\_\_ compressor is a highly efficient and durable design, with very good noise, vibration, and harshness (NVH) characteristics
- 16 One approach is to use \_\_\_\_\_ built into the heater core itself. Positive temperature coefficient (PTC) refers to the tendency of a conductor to increase its electrical resistance as its temperature increases.
- 17 One approach is to use PTC heaters built into the heater core itself. \_\_\_\_\_ coefficient (PTC) refers to the tendency of a conductor to increase its electrical resistance as its temperature increases.

### DOWN

- 1 The purpose of the ICE (internal combustion engine) \_\_\_\_\_ is to bring the ICE up to an optimum temperature as quickly as possible and then to maintain that temperature under all operating conditions.
- 2 \_\_\_\_\_ material (TSM), also called phase change material (PCM), evaporator has a wax chamber in the tank end or between the tubes.
- 4 The amount of heat generated by the heating system is dependent on the temperature of the \_\_\_\_\_ that is circulated through the heater core.
- 6 An \_\_\_\_\_ powered A/C compressor is used in all electric vehicle and many hybrid electric vehicles.
- 8 \_\_\_\_\_-\_\_\_\_\_ condensers (LCC) exchange heat by removing heat from one fluid and transferring it to another fluid.
- 9 Some EVs use \_\_\_\_\_ heating for cabin temperature control.
- 10 \_\_\_\_\_ is a climate control feature in Tesla and some other electric vehicles that leaves the air conditioning or heater on when owners leave their pets in their vehicle.
- 11 When the \_\_\_\_\_ first starts to open, some coolant will flow to the radiator and some will continue to circulate in the ICE water jacket.
- 12 The \_\_\_\_\_ is located after the expansion device on the low-pressure side of the A/C refrigerant system.
- 13 The \_\_\_\_\_ is the "heart" of the ICE cooling system.