

### 2. Cooling Circuits

The cooling system operates in three different phases depending on the temperature of the engine coolant.

- 1st phase (thermostat closed)

When the engine coolant temperature is below 76°C (169°F), the thermostat remains closed. The coolant flows through the bypass and heater circuits. This permits the engine to warm up quickly.

- 2nd phase (thermostat open)

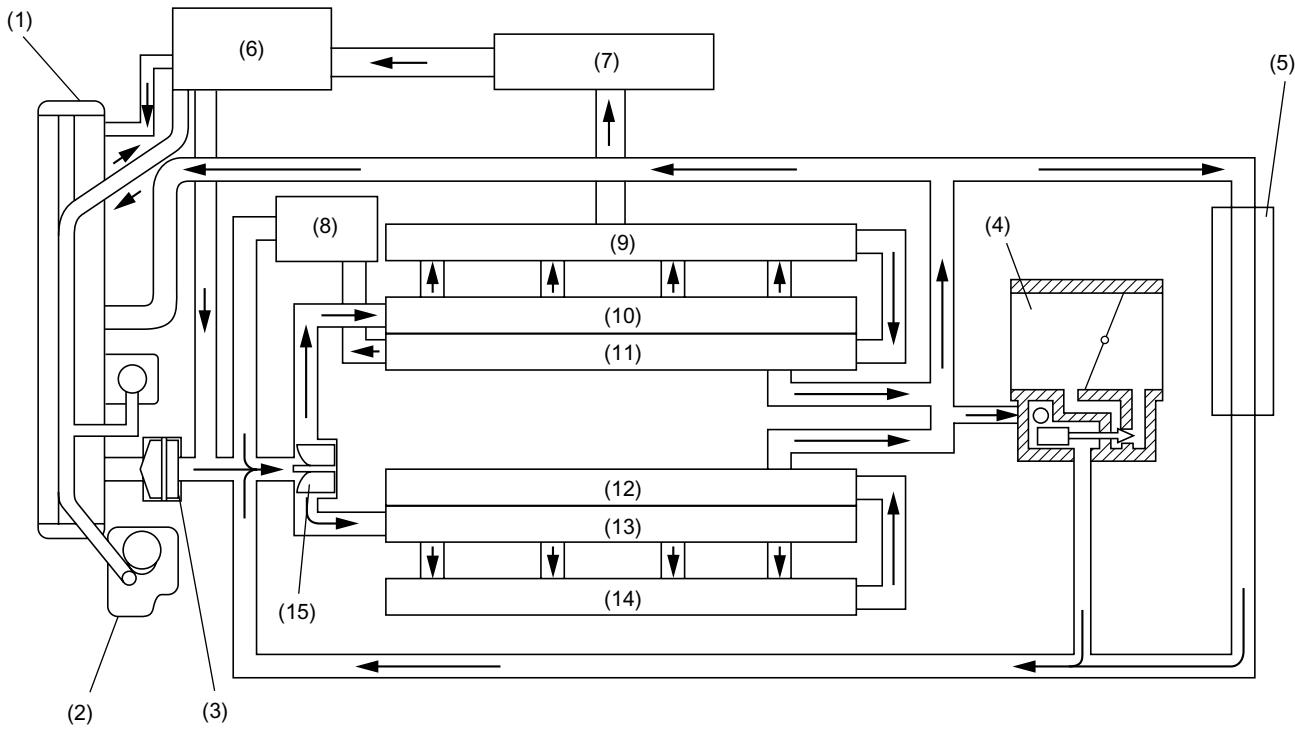
When the engine coolant temperature is above 76 — 80°C (169 — 176°F), the thermostat opens. The coolant flows through the radiator where it is cooled.

- 3rd phase (thermostat open and radiator fan operating)

When the engine coolant temperature sensor sends a signal indicating a temperature above 95°C (203°F) to the ECM, it causes the radiator fan (or fans) to operate. When the engine is stopped after high-speed operation, vapor produced in the turbocharger cooling section flows from the coolant filler tank to the reservoir tank where it condenses back into water. Water is then absorbed by the coolant filler tank as the engine cools down.

# COOLING CIRCUITS

## COOLING



CO-00287

|                                   |                         |
|-----------------------------------|-------------------------|
| (1) Radiator                      | (9) Cylinder head RH    |
| (2) Engine coolant reservoir tank | (10) Cylinder jacket RH |
| (3) Thermostat                    | (11) Cylinder block RH  |
| (4) Throttle body                 | (12) Cylinder block LH  |
| (5) Heater core                   | (13) Cylinder jacket LH |
| (6) Coolant filler tank           | (14) Cylinder head LH   |
| (7) Turbocharger                  | (15) Water pump         |
| (8) Oil cooler (water cooled)     |                         |