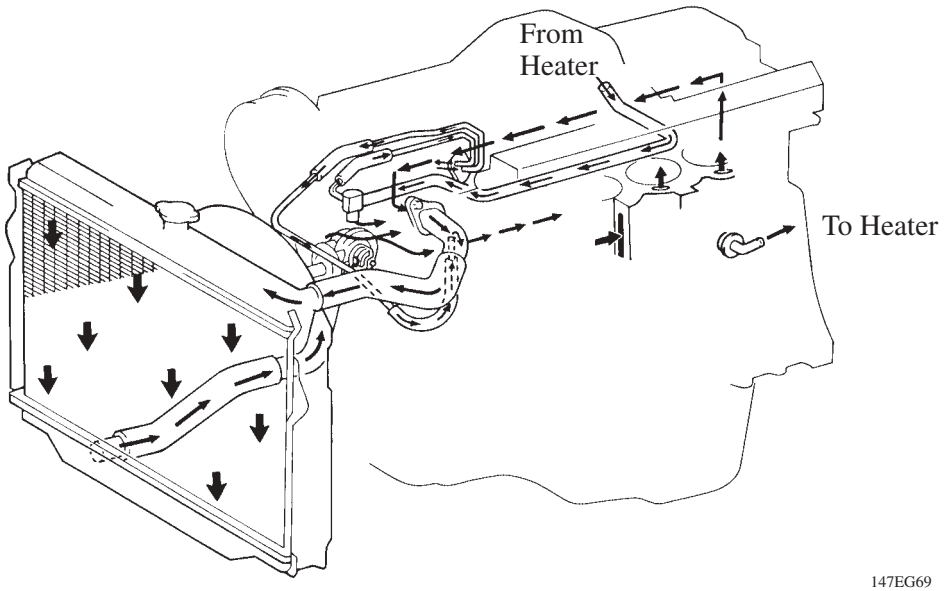
■COOLING SYSTEM

1. General

- The cooling system is a pressurized, forced-circulation type.
- A thermostat with a bypass valve is located on the water inlet housing to maintain suitable temperature distribution in the cooling system.
- An aluminum radiator core is used for weight reduction.
- A viscous type power heater has been adopted on the cold specification model for Europe to promote the warming of the engine and to improve the heating performance of the heater during extremely cold temperatures.



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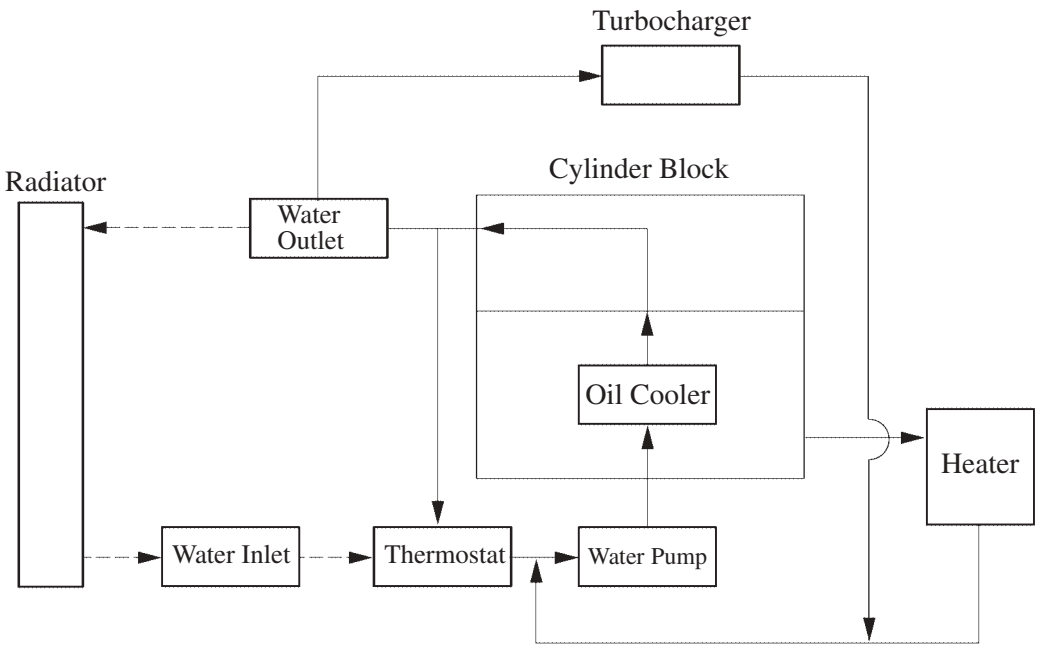
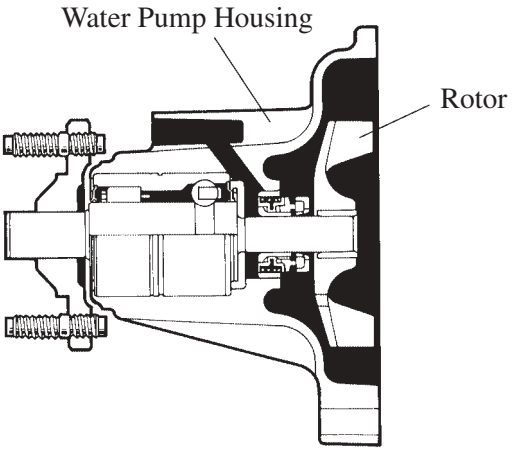


147EG43

2. Water Pump

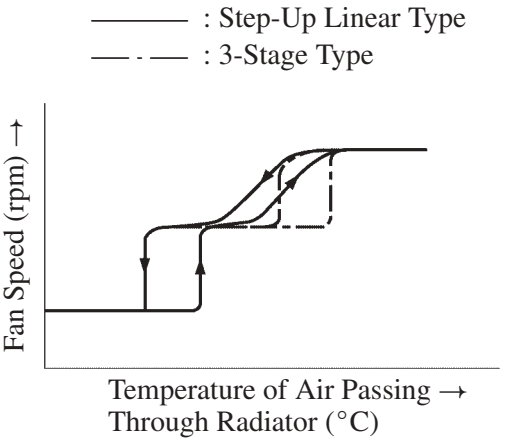
As in the previous engine, the water pump housing is made of aluminum and the rotor is made of resin for weight reduction. In addition, the volute chamber has been optimally designed to achieve a compact shape.



147EG70

3. Coupling Fan

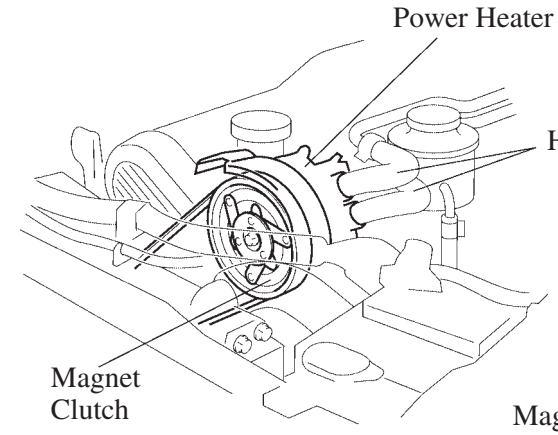
A step-up linear type temperature controlled fluid coupling has been adopted to realize both cooling performance and noise reduction.



147EG06

4. Power Heater

A viscous type power heater has been adopted on the cold specification model for Europe. The power heater increases the coolant temperature by utilizing the shear heat of the silicon oil and by increasing the engine load.



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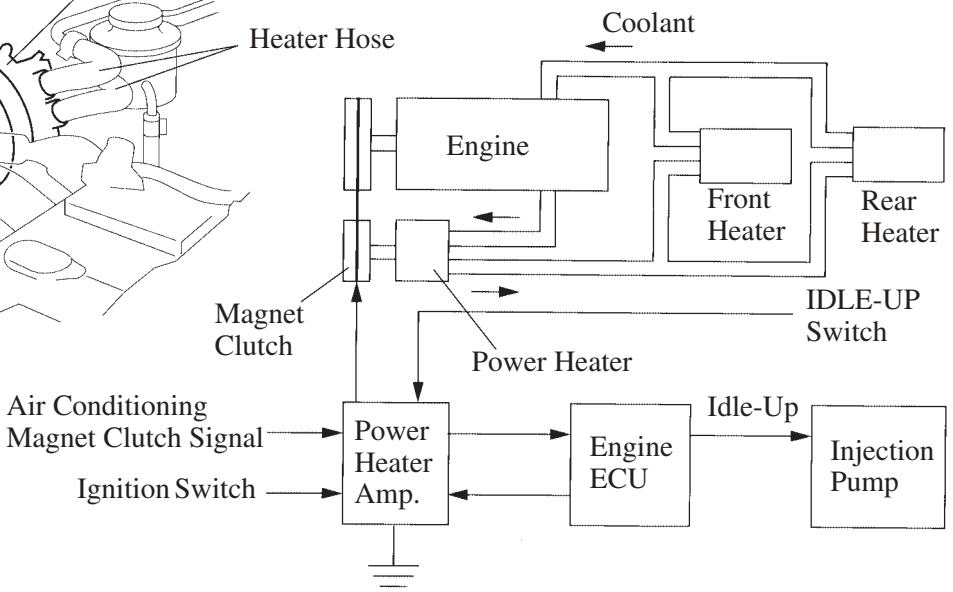
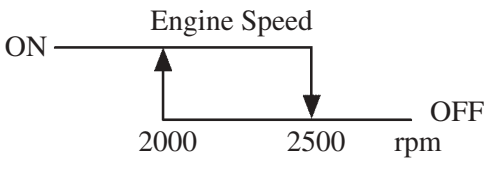


147EG72

Construction and Operation

- The power heater, which is located on top of the engine, is driven by a drive belt. Pressing the Idle-Up switch provided in the instrument panel engages the magnetic clutch, causing the rotor in the power heater to rotate and the silicon oil to mix. The shear heat that is thus generated heats the coolant.
- The power heater is controlled according to engine speed and coolant temperature as described below. While the power heater is engaged, the engine idling speed increases to 1200 rpm.



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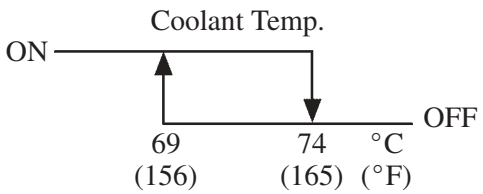

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However, the power heater is turned OFF when the engine is started, the air conditioning is ON, or the vehicle is accelerating (for 5 seconds while the vehicle speed is under 30 km/h (19 mph) and the throttle opening angle is more than 45%).

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