

COOLING SYSTEM

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57G03X-501

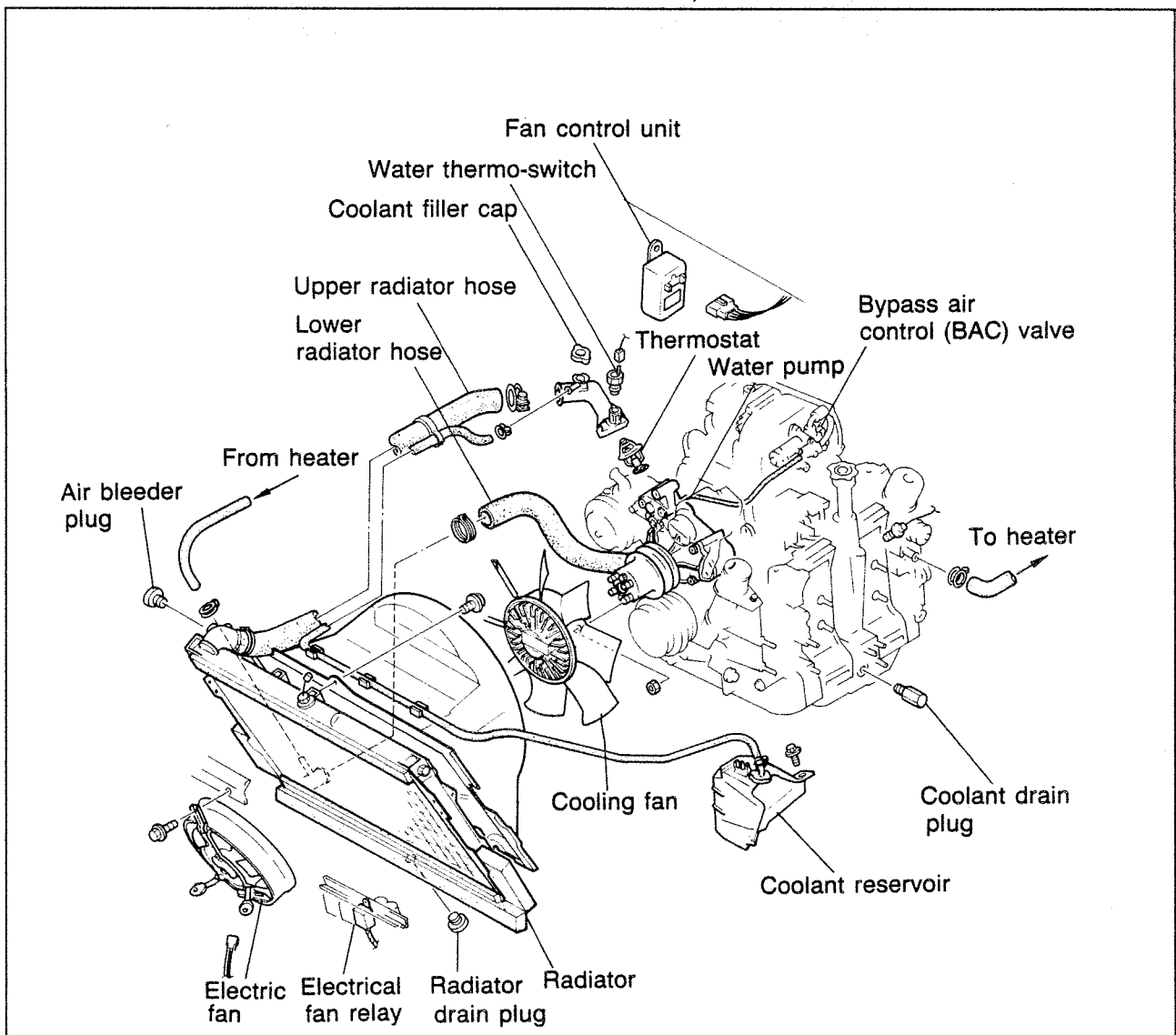
OUTLINE

OUTLINE OF CONSTRUCTION

The new model has a cooling system designed for efficient overall cooling while providing fast initial engine warm-up. The major points which differ from the previous model are as follows:

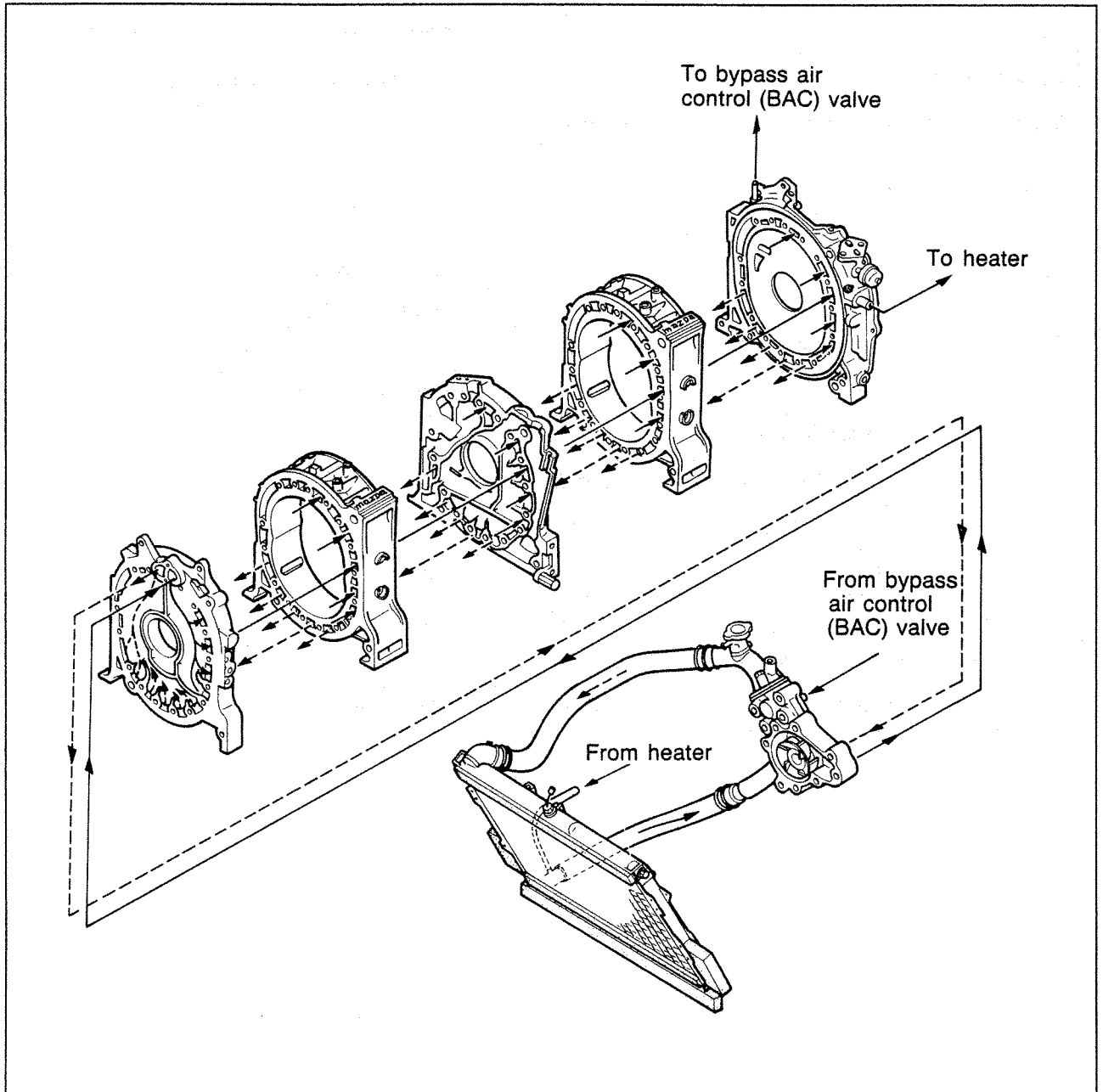
1. The amount of coolant within the engine itself has been reduced in order to shorten the time necessary for engine warm-up.
2. A rubber seal has been adopted at the thermostat valve seat in order to improve thermostat valve sealing.
3. An electric fan has been added to assist cooling when the engine temperature is high (A/T and Middle East).
4. The water pump seal has been changed from a two-piece design to a one-piece seal to improve sealing.
5. The fan drive characteristics have been changed so that the amount of drive transmitted to the fan is more gradual over a wider range of temperatures.
6. Plastic has been used in the radiator tank, and for Australia model aluminum has been used in the core, in order to reduce weight.
7. An air bleed plug has been added to the radiator in order to bleed air when coolant is filled.

STRUCTURAL VIEW



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COOLANT FLOW CHART



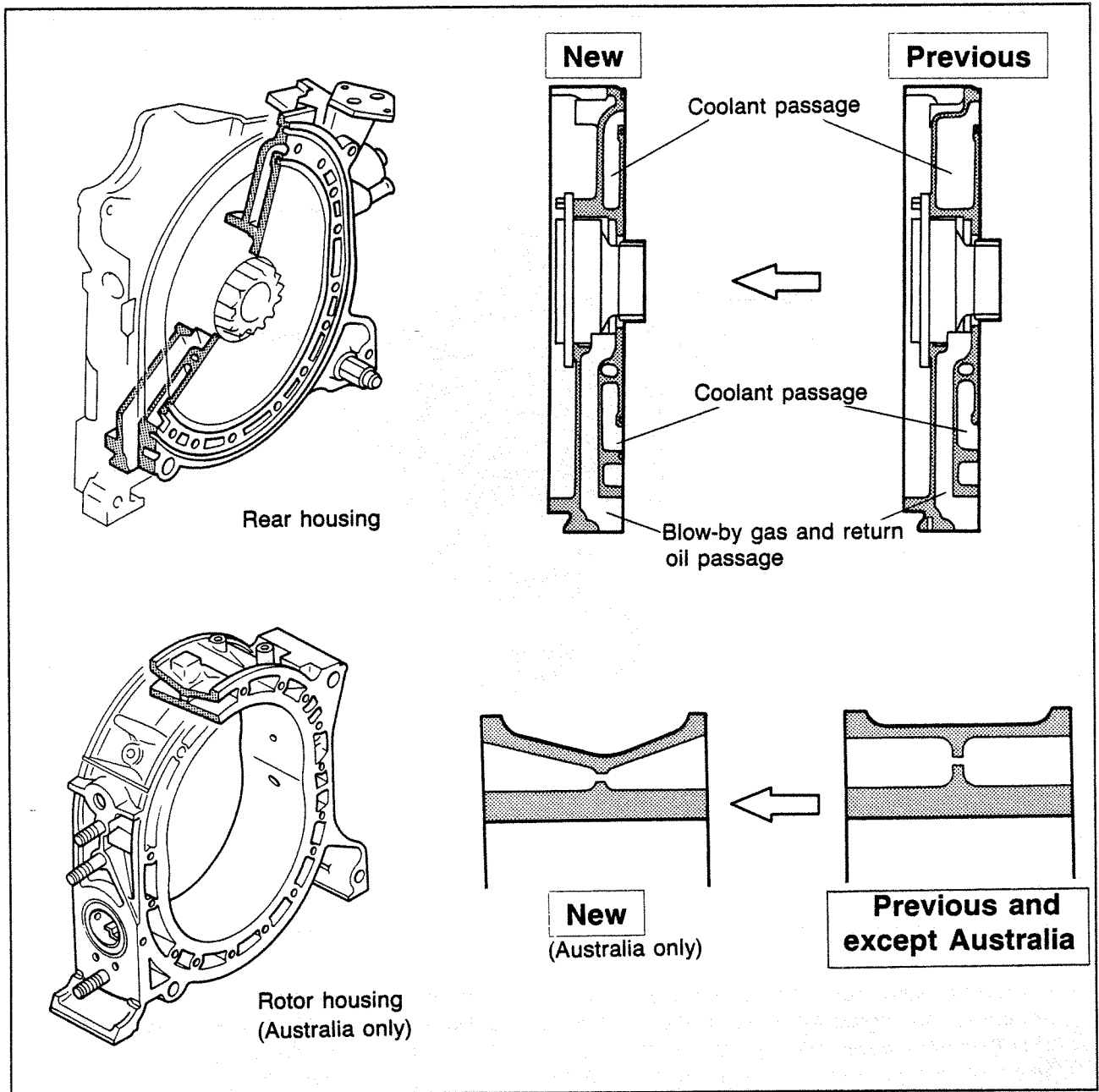
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SPECIFICATIONS

Item		Model	New model	Previous model
Cooling method			Water-cooled, forced circulation	
Coolant capacity	With heater	liters(US qt, Imp qt)	7.3 (7.7, 6.4)	9.0 (9.5, 7.9)
Water pump	Type		Centrifugal	
	Revolution ratio		1 : 1.23	1 : 1.18
Radiator	Type		Plastic tank Copper corrugated-fin core...Except Australia Alum. corrugated-fin core...Australia	Copper tank Copper corrugated-fin core
Filler cap	Relief pressure	kPa(kg/cm ² , psi)	73 ~ 103 (0.75 ~ 1.05, 10.7 ~ 14.9)	
Cooling fan	Type		Linear thermo-modulated	ON-OFF thermo-modulated
	Number of blades		8	
	Twist angle of blades	degree	44°	38°
	Outer diameter	mm(in)	390 (15.35)	
Additional fan A/T and Middle east	Type		Electrical	—
	Capacity	W	90	—
	Number of blades		5	—
	Outer diameter	mm(in)	255 (10.04)	—

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COOLANT PASSAGE

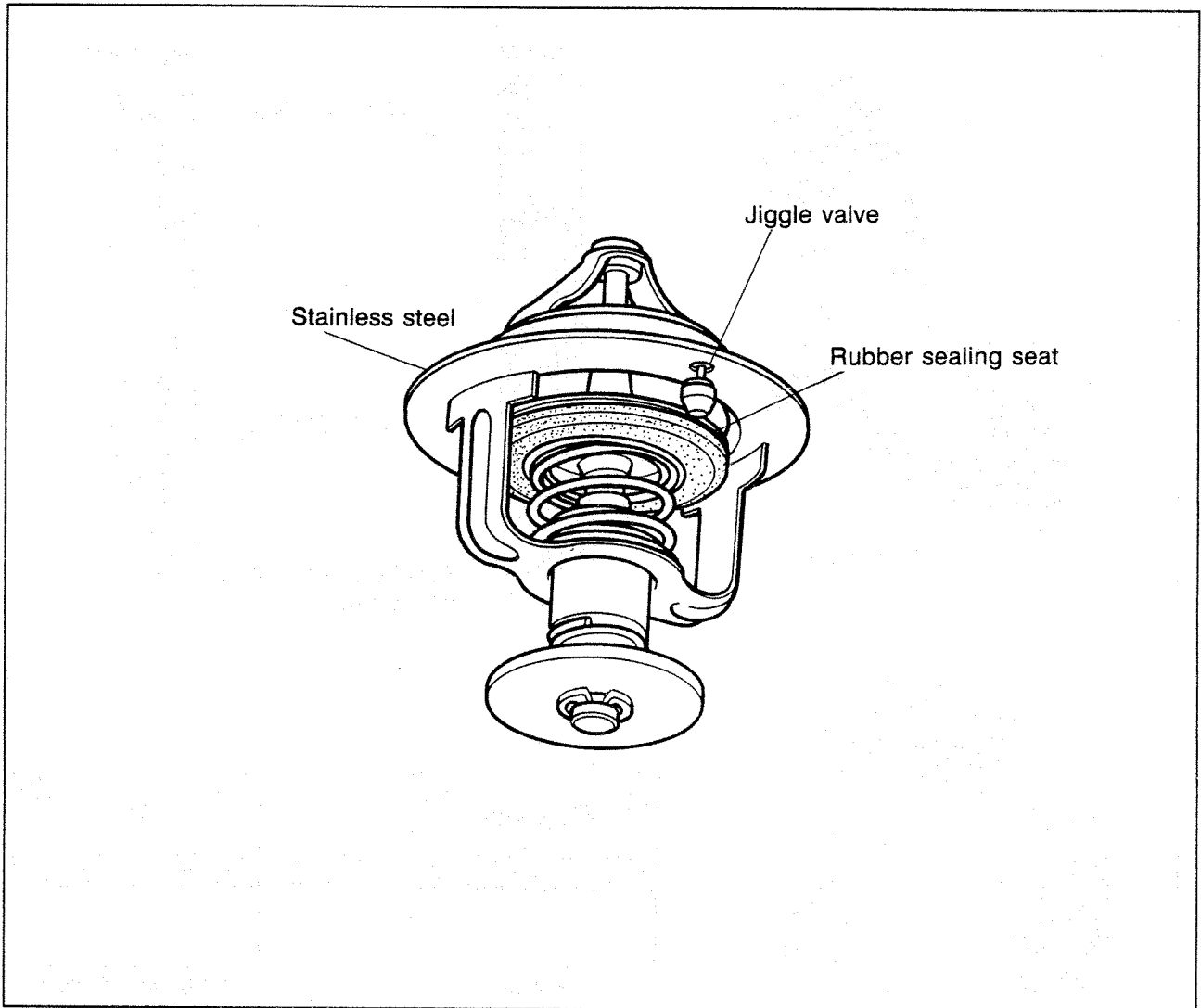


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For improved engine warm-up in cold conditions, the width of the coolant passages has been reduced thus reducing the volume of coolant within the engine itself.

Except Australia model: Only side housings are changed.
Australia model: Side housings and rotor housings are changed.

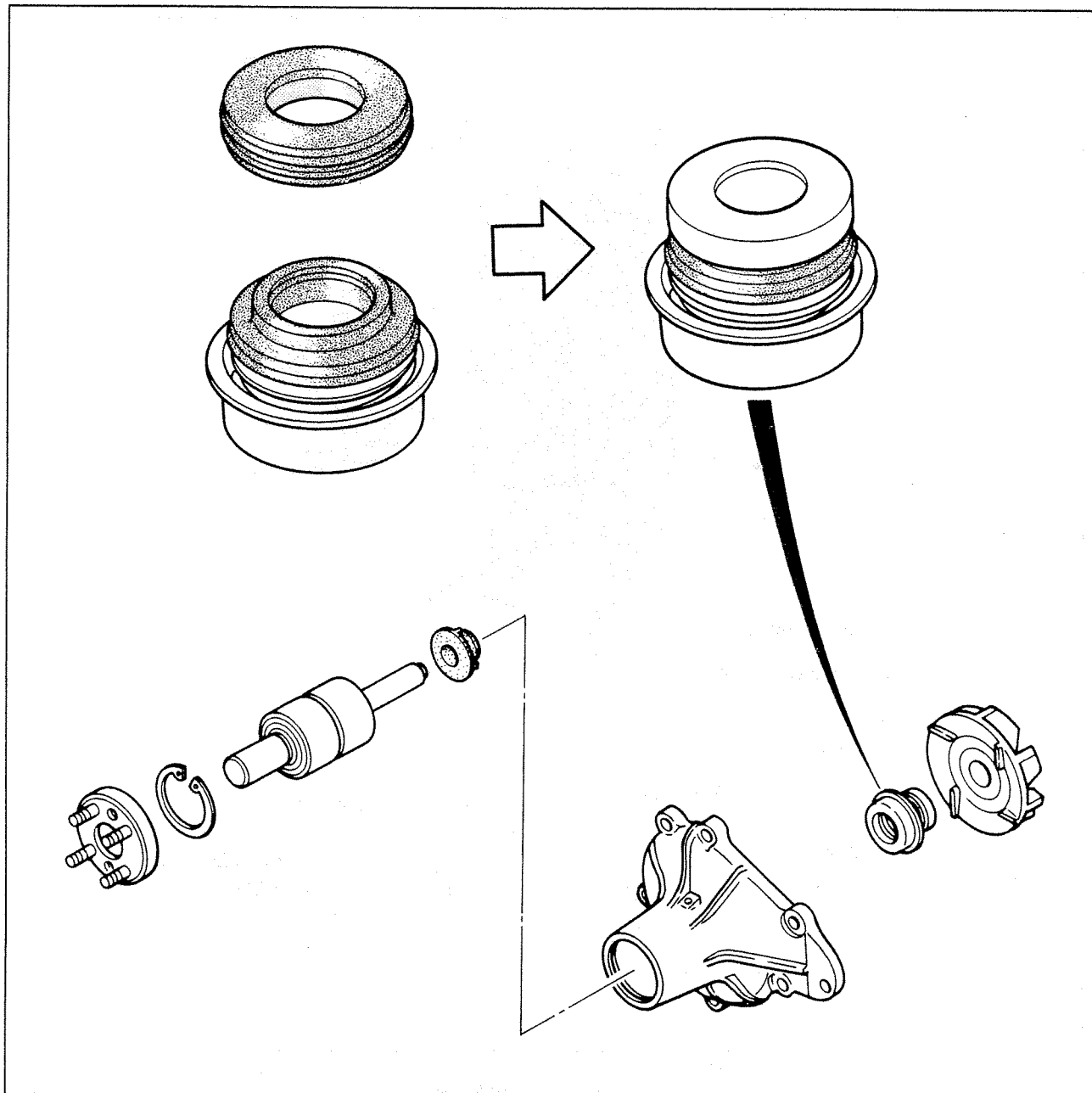
THERMOSTAT



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1. A stainless steel frame has been used to improve corrosion resistance.
2. For improved engine warm-up in cold conditions, a rubber sealing seat has been added to the valve. This prevents water leakage to the radiator when the thermostat is closed.
3. Thermostat has been adhesived to the thermostat cover (Middle East only).

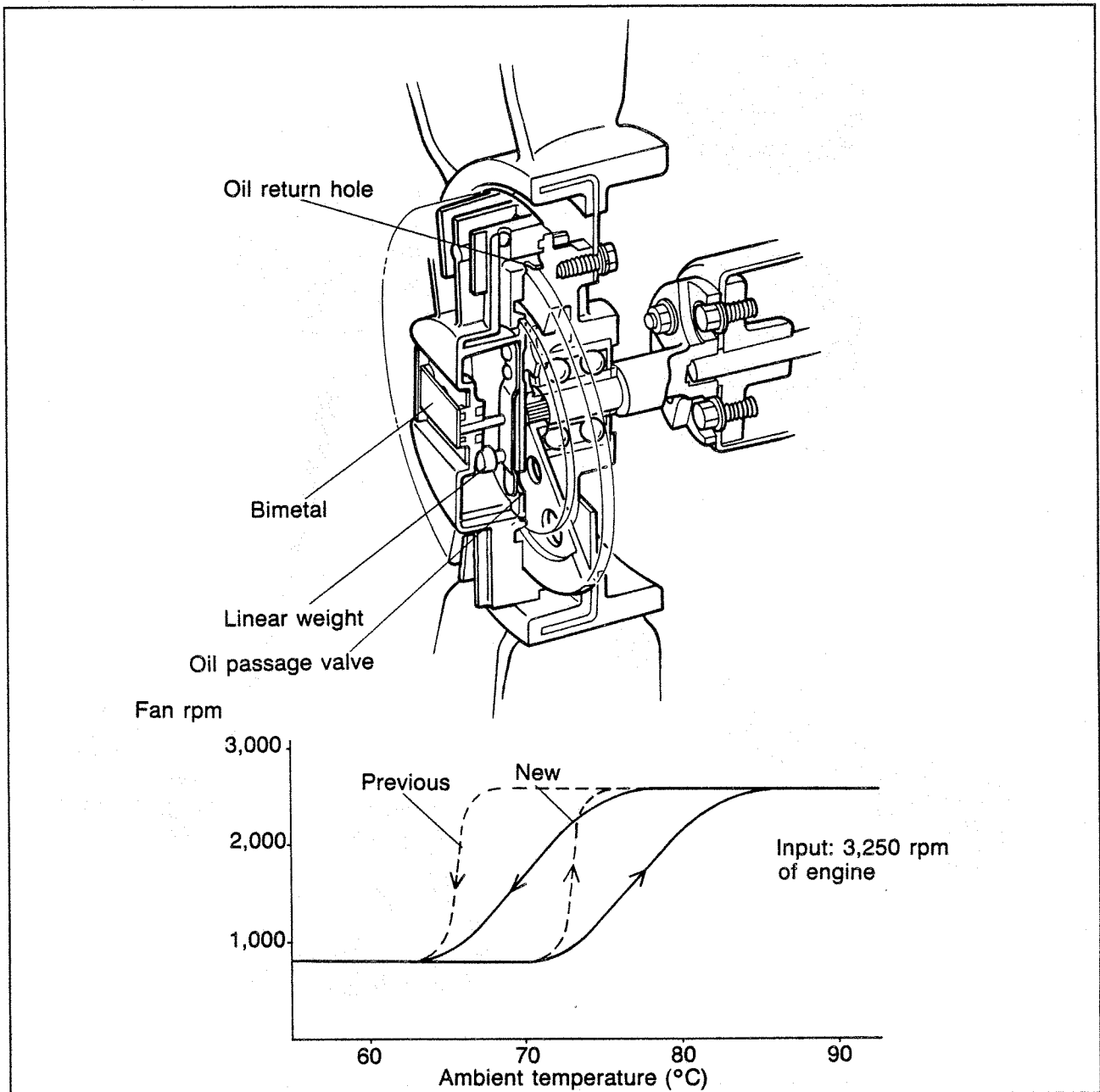
WATER PUMP SEAL



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The water pump seal has been changed from a two-piece design to a one piece seal to improve sealing. For correct installation, a new special tool, **water seal installer** (49 F015 002), is available.

FAN DRIVE



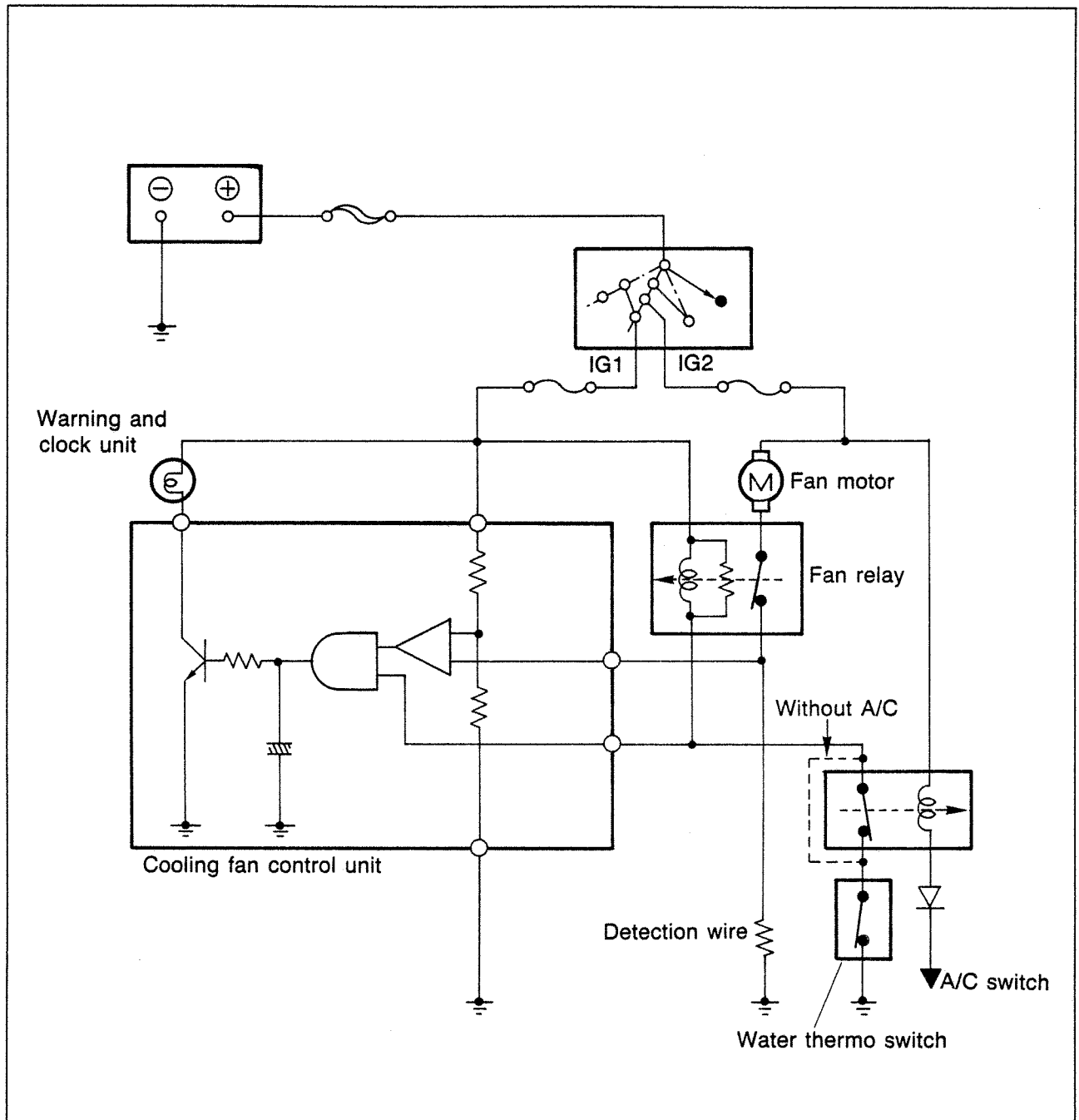
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The fan drive characteristics have been changed so that the amount of drive transmitted to the fan is more gradual over a wider range of temperatures as shown above.

Formerly the opening and closing of the oil passage valve was controlled by a bimetal only. A linear weight has now been added at the valve to adjust the degree of opening. As a result, rotation torque is transmitted gradually.

In addition to the improvements described above, the fan drive spacer has been deleted and fan support has been improved to reduce vibration and to increase reliability.

ELECTRICAL FAN (A/T and Middle East)



57G03X-508

In order to maintain adequate cooling effect when the engine temperature is high, an electric fan has been added to supplement, the mechanical fan (for Australia (A/T) and Middle East model only). This system also has a warning indicator light to indicate electric fan failure.

- The electric fan is activated when:
1. Water temperature is above 97°C (207°F)
or...
 2. The Air conditioner is operated