

COOLING

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E14AA--

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SUPPLEMENTAL RESTRAINT SYSTEM (SRS) – AIR BAG

- (1) An SRS air bag for the driver's side seat is optional equipment in this vehicle.
- (2) The SRS includes the following components: impact sensors, SRS diagnosis unit: SRS warning lamp, air bag module, clock spring, interconnecting wiring. Other SRS-related components (that may have to be removed/installed in connection with SRS service or maintenance) are indicated in the table of contents by an asterisk (*).

WARNING!

- (1) Improper service or maintenance of any component of the SRS, or any SRS-related component, can lead to personal injury or death to service personnel (from inadvertent firing of the air bag) or to the driver (from rendering the SRS inoperative).
- (2) Service or maintenance of any SRS component or SRS-related component must be performed only at an authorized MITSUBISHI dealer.
- (3) MITSUBISHI dealer personnel must thoroughly review this manual, and especially its GROUP 52B – Supplemental Restraint System (SRS), before beginning any service or maintenance of any component of the SRS or any SRS-related component.

SPECIFICATIONS

E14CA--

GENERAL SPECIFICATIONS

Items	Specifications
Cooling method	Water-cooled pressurized, forced circulation
Radiator	
Type	Pressurized corrugated fin type
Performance	J/h (kcal/h, BTU/h)
<6G72 A/T, 4G64>	$193,396 \times 10^3$ (46,200, 183,333)
<6G72 M/T>	$182,093 \times 10^3$ (43,500, 172,619)
<6G74>	$200,930 \times 10^3$ (48,000, 190,476)
<4D56>	$221,861 \times 10^3$ (53,000, 210,317)
<4M40>	$274,186 \times 10^3$ (65,500, 259,920)
Automatic transmission oil cooler <Vehicles with A/T>	
Performance	J/h (kcal/h, BTU/h)
<6G72, 6G74>	$6,195 \times 10^3$ (1,480, 5,873)
<4D56>	$4,814 \times 10^3$ (1,150, 4,563)
<4M40>	$6,279 \times 10^3$ (1,500, 5,952)
Thermostat	
Type	Wax type with jiggle valve
Fan clutch	
Type	Thermo type with spiral type bimetal
Water pump	
Type	Impeller of centrifugal type

SERVICE SPECIFICATIONS

E14CB--

Items	Specifications
Standard value	
Radiator cap	
High pressure valve opening pressure	kPa(kg/cm ² , psi) 75–105 (0.75–1.05, 11–15)
Vacuum valve opening pressure	kPa(kg/cm ² , psi) –5 or less (–0.05, –0.7 or less)
Range of coolant antifreeze concentration	% 30–60
Thermostat	
<4G64, 6G72-12 VALVE>	
Valve opening temperature of thermostat	°C (°F) 88 (190)
Full-opening temperature of thermostat	°C (°F) 100 (212) or more
<6G74, 6G72-24 VALVE>	
Valve opening temperature of thermostat	°C (°F) 82 (180)
Full-opening temperature of thermostat	°C (°F) 95 (203) or more
<4D56, 4M40>	
Valve opening temperature of thermostat	°C (°F) 76.5 (170)
Full-opening temperature of thermostat	°C (°F) 90 (194) or more
Engine coolant temperature gauge unit	
<4G64, 6G72, 6G74>	
Resistance	
At 70°C (158°F)	Ω 104 ± 13.5

14-2-2

NOTES

LUBRICANTS

E14CD--

Items	Recommended antifreeze	Engine	Quantity		
			dm ³	U.S.qts.	Imp.qts.
Engine coolant	HIGH QUALITY ETHYLENE GLYCOL ANTIFREEZE COOLANT	4G64	8.0 (9.0)	8.5 (9.5)	7.0 (7.9)
		6G72, 6G74, 4D56, 4M40	9.5 (10.5)	10.0 (11.1)	8.4 (9.3)

NOTE

() indicates figures with rear heater.

SEALANT

E14CE--

Items	Specified sealant adhesive	Remarks
Cylinder block drain plug	3M Nut Locking Part No. 4171 or equivalent	Drying sealant
Engine coolant temperature sensor <4G64, 6G72, 6G74>		
Engine coolant temperature gauge unit and sensor <4D56, 4M40>	3M ATD Part No. 8660 or equivalent	Semi-drying sealant
Engine coolant temperature gauge unit <4G64, 6G72, 6G74>		
Thermo switch <6G72-A/T, 6G74-A/T>		

SERVICE ADJUSTMENT PROCEDURES

E14FAAA

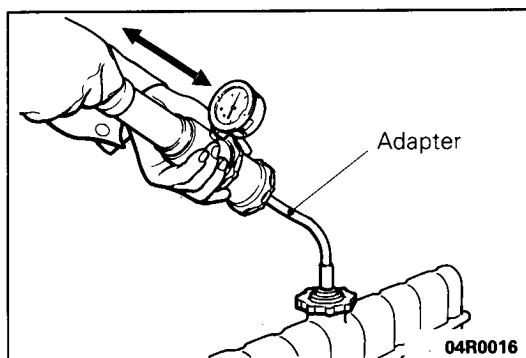
COOLANT LEAKS CHECKING

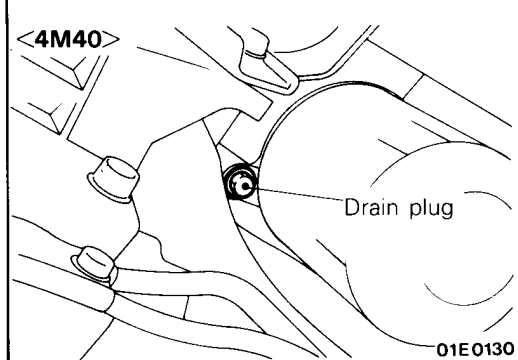
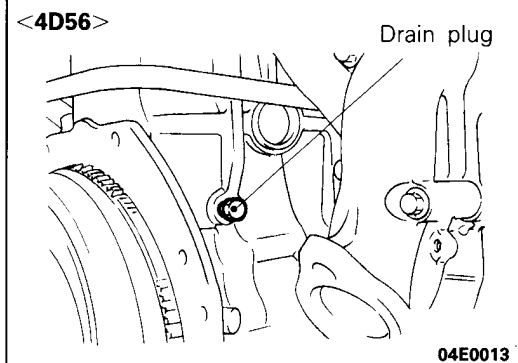
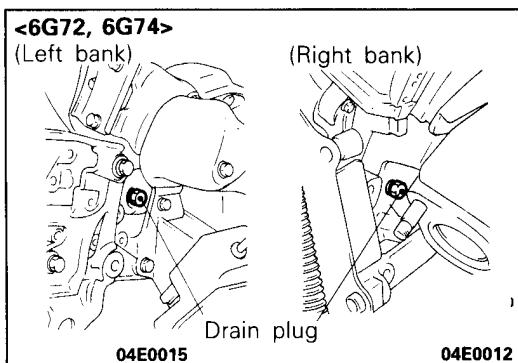
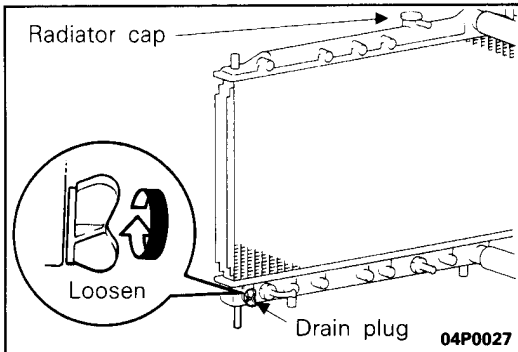
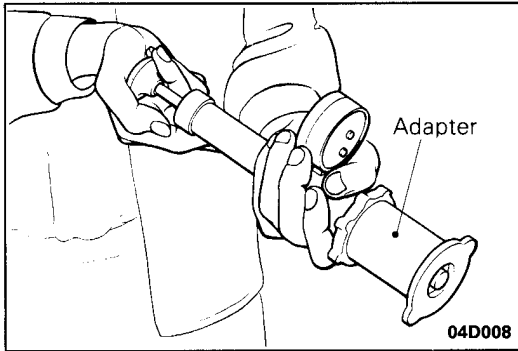
1. Confirm that the coolant level is up to the filler neck. Install a radiator cap tester and apply 160 kPa (1.6 kg/cm², 23 psi) pressure, and then check for leakage from the radiator hose or connections.

Caution

1. Be sure to completely clean away any moisture from the places checked.
2. When the tester is taken out, be careful not to spill any coolant from it.
3. Be careful, when installing and removing the tester and when testing, not to deform the filler neck of the radiator.

2. If there is leakage, repair or replace the appropriate part.





RADIATOR CAP VALVE OPENING PRESSURE CHECKING

E14FBAE

1. Use an Adapter to attach the cap to the tester.
2. Increase the pressure until the indicator of the gage stops moving.

Limit: 65 kPa (0.65 kg/cm², 9.2 psi)

Standard value: 75–105 kPa

(0.75–1.05 kg/cm², 11–15 psi)

3. Replace the radiator cap if the reading does not remain at or above the limit.

NOTE

Be sure that the cap is clean before testing, since rust or other foreign material on the cap seal will cause an improper indication.

COOLANT REPLACEMENT

E14FCAS

- (1) Drain the engine coolant by removing the drain plug and then the radiator cap.
- (2) Remove the cylinder block drain plugs to drain the engine coolant. <6G72, 6G74, 4D56, 4M40>

NOTE

For the 6G72 and 6G74, the drain plugs are on the left and right bank and for the 4D56 and 4M40, the drain plugs are on the right side.

- (3) Remove the reserve tank to drain the engine coolant.
- (4) When the engine coolant has drained out, pour in water from the radiator cap to clean the engine coolant line.
- (5) Coat the thread of the cylinder block drain plug with specified sealant, and tighten to the specified torque.
- (6) Securely tighten the radiator drain plug.
- (7) Install the reserve tank.
- (8) Slowly pour the engine coolant into the mouth of the radiator until the radiator is full, and pour also into the reserve tank up to the FULL line.

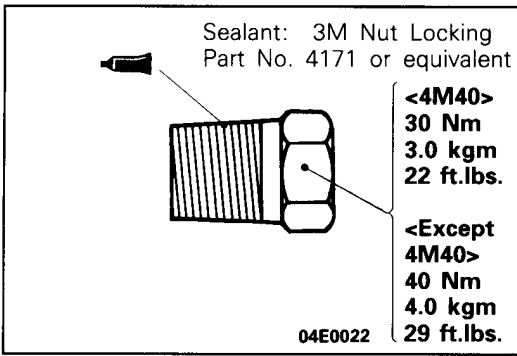
Recommended antifreeze:

HIGH QUALITY ETHYLENE GLYCOL ANTIFREEZE COOLANT

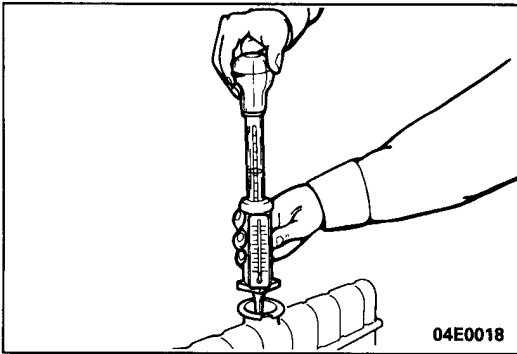
Quantity	dm ³ (U.S.qts., Imp.qts.)
<4G64>	8.0 (8.5, 7.0)
	*9.0 (9.5, 7.9)
<6G72, 6G74, 4D56, 4M40>	9.5 (10.0, 8.4)
	*10.5 (11.1, 9.2)

NOTE

1. (*) indicates vehicles with rear heater.
2. For Norway, the non-amine type of antifreeze should be used.



- (9) Install the radiator cap securely.
- (10) Start the engine and warm the engine until the thermostat opens.
- (11) After racing the engine several times, stop the engine.
- (12) When the engine has cooled down, remove the radiator cap and once again add engine coolant until the radiator is full, and also refill the reserve tank up to the FULL line.



CONCENTRATION MEASUREMENT

E14FDAC

Measure the temperature and specific gravity of the engine coolant to check the antifreeze concentration.

Standard value: 30%–60% (allowable concentration range)

RECOMMENDED ANTIFREEZE

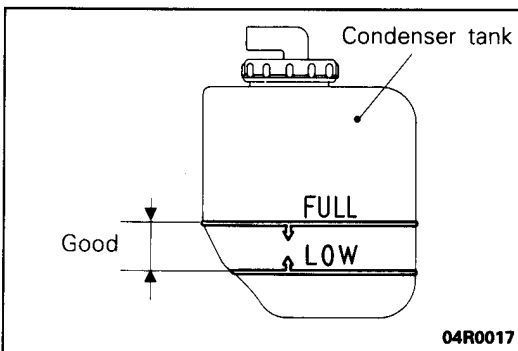
Antifreeze	Allowable concentration
HIGH QUALITY ETHYLENE GLYCOL ANTIFREEZE COOLANT	30–60 %

Caution

If the concentration of the antifreeze is below 30 %, the anti-corrosion property will be adversely affected.

In addition, if the concentration is above 60 %,

both the anti-freezing and engine cooling properties will decrease, affecting the engine adversely. For these reasons, be sure to maintain the concentration level within the specified range.



COOLANT INSPECTION

E14FHAB

- 1. Check that the coolant level in the reserve tank is within FULL and LOW limits.
- 2. Check for presence of oil in the coolant.

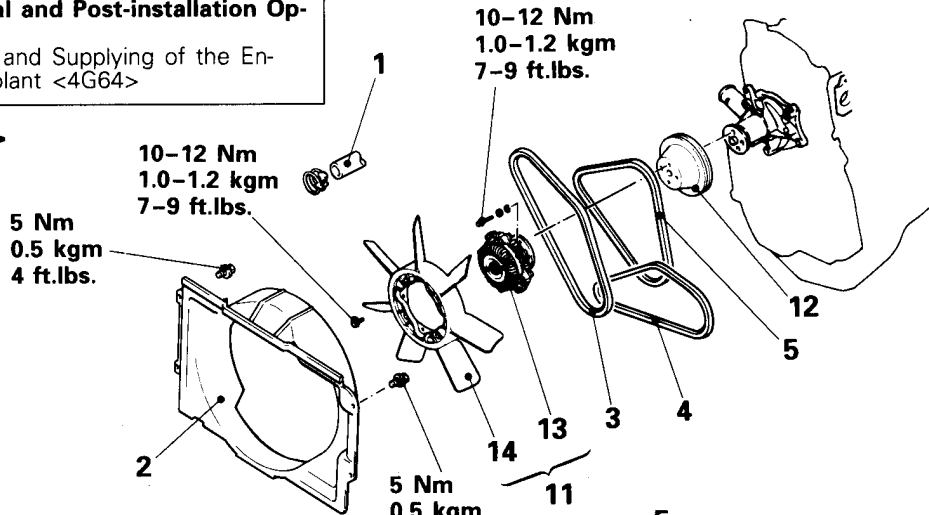
COOLING FAN

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

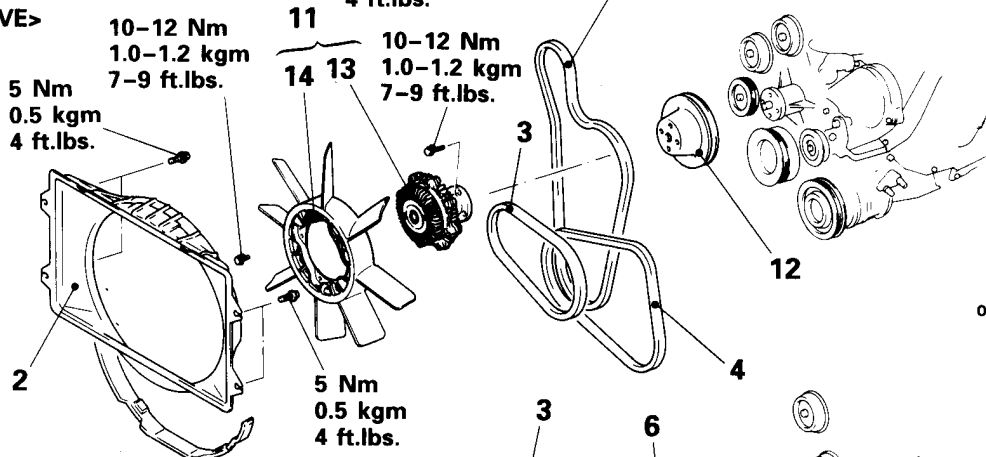
- Draining and Supplying of the Engine Coolant <4G64>

<4G64>



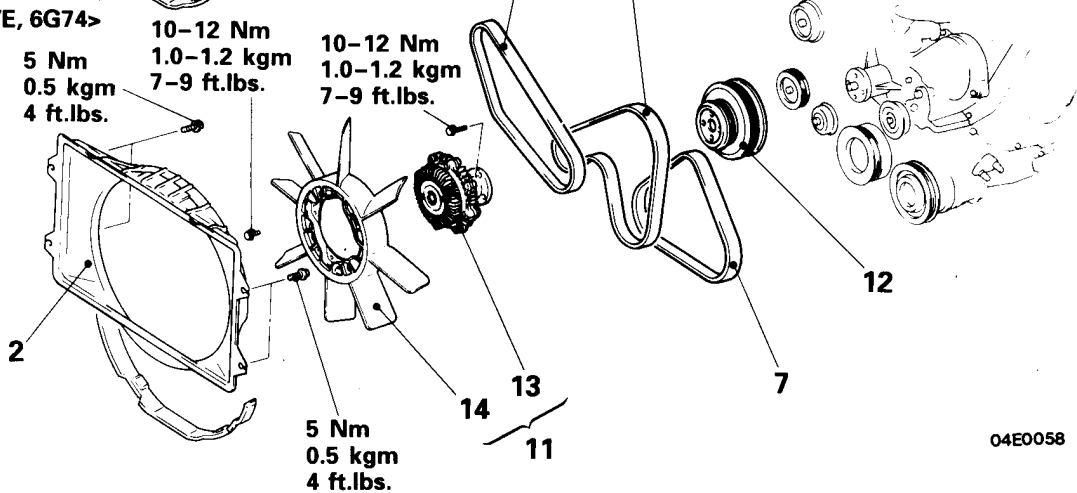
04E0020

<6G72-12 VALVE>



04E0017

<6G72-24 VALVE, 6G74>

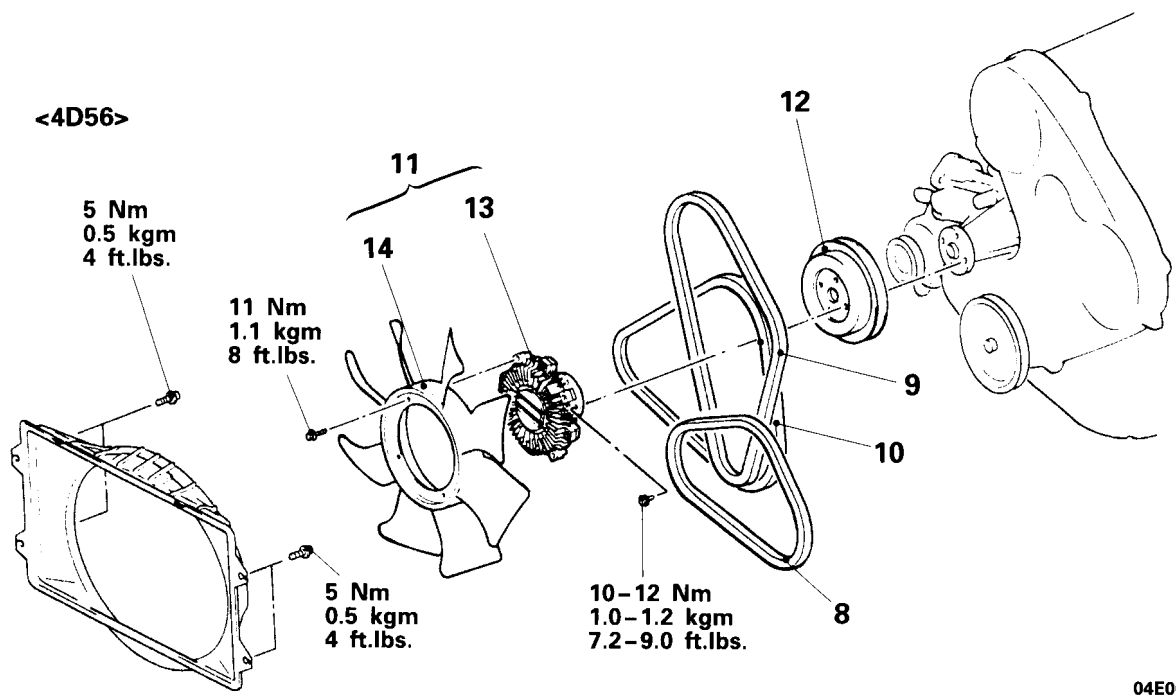


04E0058

Removal steps

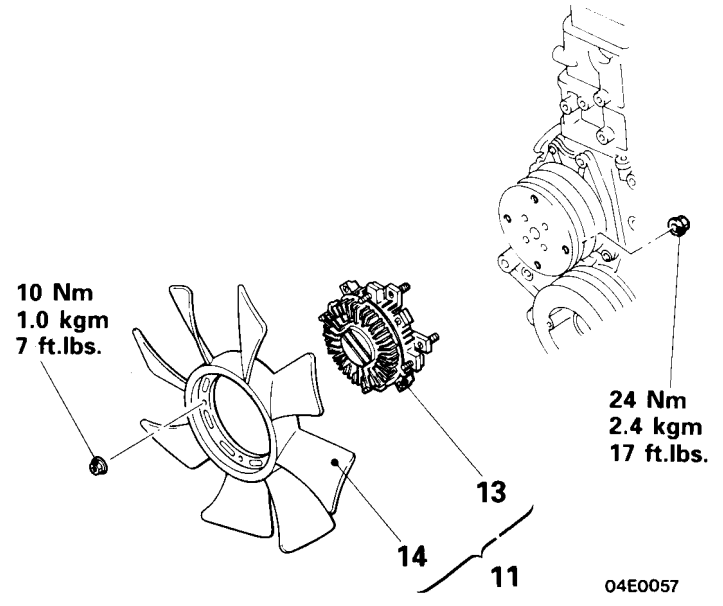
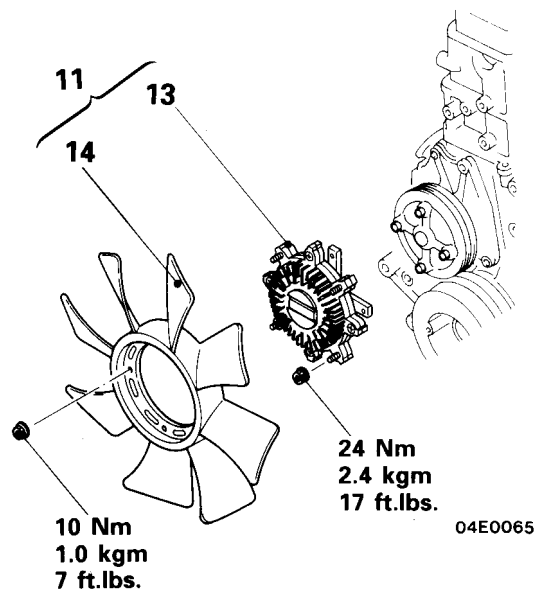
1. Radiator upper hose connection
 2. Shroud
 3. Drive belt (Power steering)
 4. Drive belt (Air conditioner)
 5. Drive belt (Alternator)
- } <6G64, 6G72-12 VALVE>

6. Drive belt (Alternator)
 7. Drive belt (Air conditioner)
 11. Cooling fan and fan clutch assembly
 12. Pulley
 13. Fan clutch
 14. Cooling fan
- } <4G72-24 VALVE, 6G74>



<4M40 (L.H. drive vehicles)>

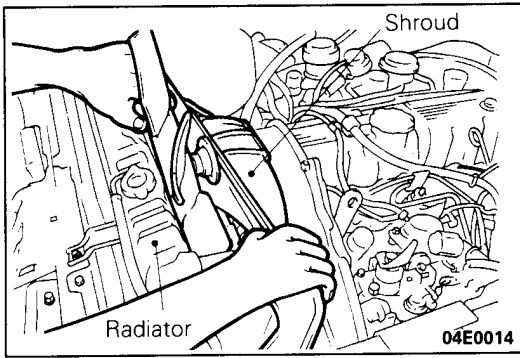
<4M40 (R.H. drive vehicles)>



Removal steps

- Intercooler
(Refer to GROUP 15 – Intercooler)
- 8. Drive belt (Air conditioner)
- 9. Drive belt (Power steering)
- 10. Drive belt (Alternator)
- 11. Cooling fan and fan clutch assembly

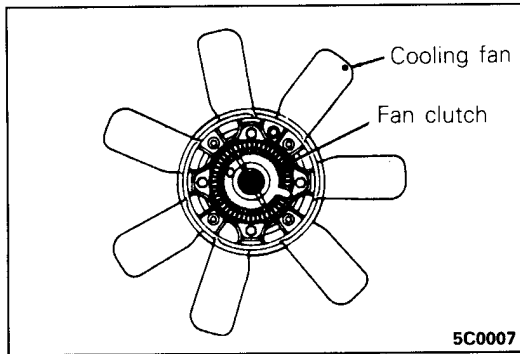
- 12. Pulley
- 13. Fan clutch
- 14. Cooling fan

**SERVICE POINT OF REMOVAL**

E14JBAB

11. REMOVAL OF COOLING FAN AND FAN CLUTCH ASSEMBLY <4D56, 4M40>

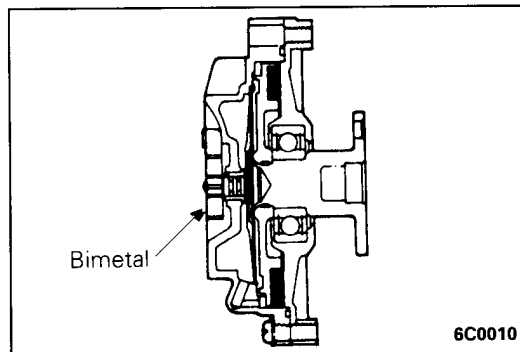
Remove the shroud mounting bolt, and remove the cooling fan and fan clutch assembly through the gap between the shroud and the radiator.

**INSPECTION**

E14JCAD

COOLING FAN

- Check blades for damage and cracks.
- Check for cracks and damage around bolt holes in fan hub.
- If any portion of fan is damaged or cracked, replace cooling fan.

**FAN CLUTCH**

- Check to ensure that fluid in fan clutch is not leaking at case joint and seals. If fluid quantity decreases due to leakage, fan speed will decrease and engine overheating might result.
- When a fan attached to an engine is turned by hand, it should give a sense of some resistance. If fan turns lightly, it is faulty.
- Check bimetal strip for damage.

NOTES

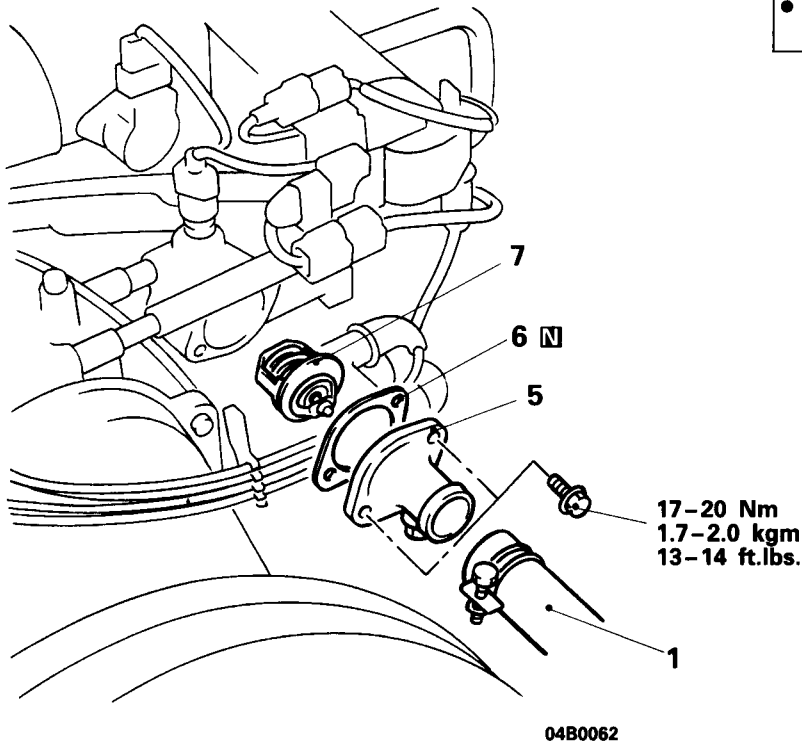
THERMOSTAT <4G64, 6G72, 6G74, 4M40>

REMOVAL AND INSTALLATION

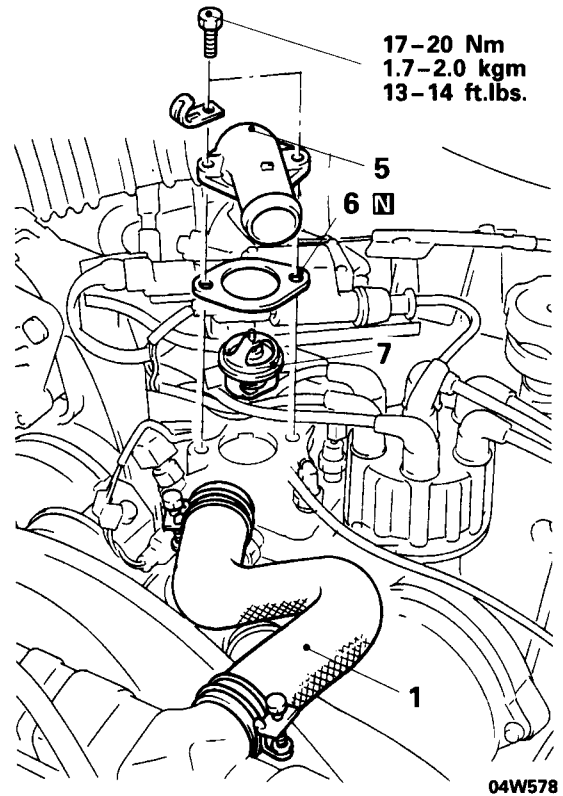
E14GA--

Pre-removal and Post-installation Operation
 ● Draining and Supplying of Engine Coolant

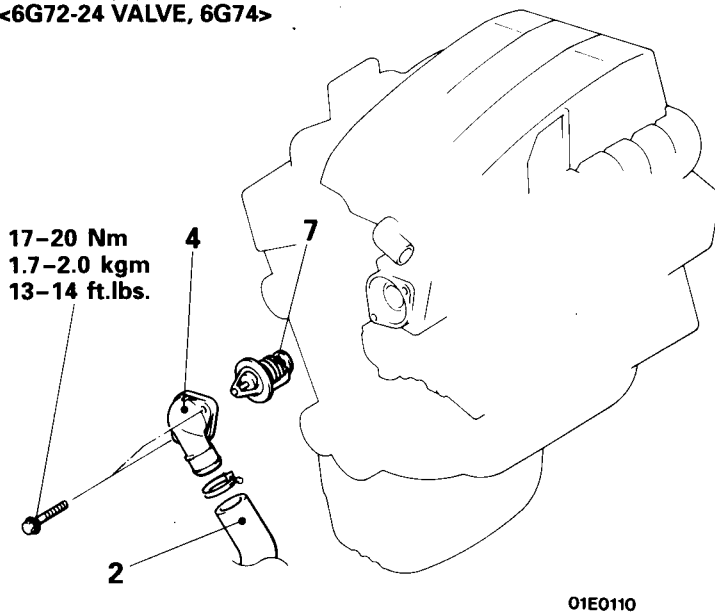
<4G64>



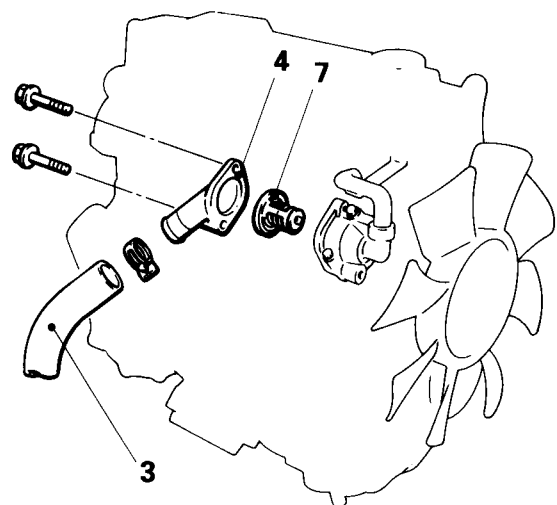
<6G72-12 VALVE>



<6G72-24 VALVE, 6G74>



<4M40>

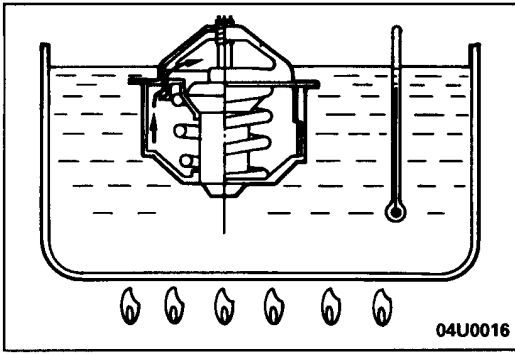


Removal steps

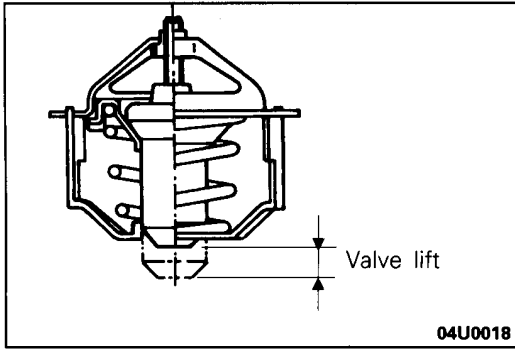
1. Radiator upper hose connection
2. Radiator lower hose connection
3. Water inlet hose connection
4. Water inlet fitting
5. Water outlet fitting
6. Water outlet fitting gasket
7. Thermostat



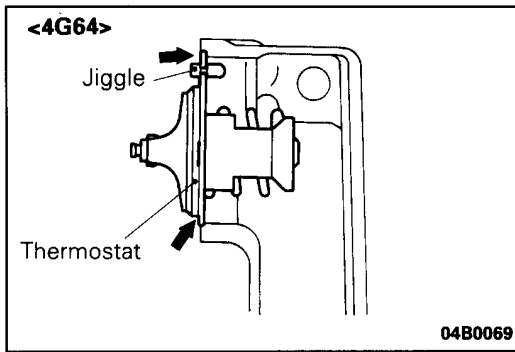
04E0056



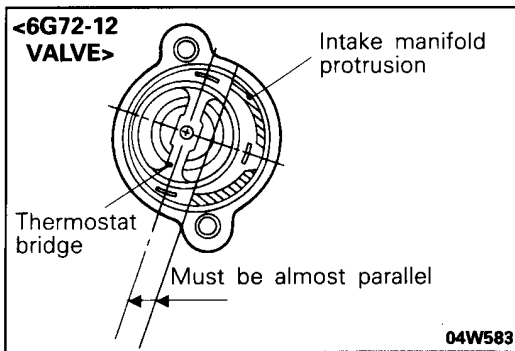
04U0016



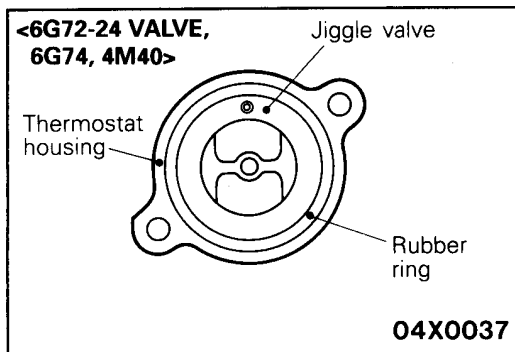
04U0018



04B0069



04W583



04X0037

INSPECTION

E14GCAT

- Check that valve closes tightly at room temperature.
- Check for defects or damage.
- Check for rust or encrustation on valve. Remove if any.
- Immerse the thermostat in water. Stir to raise water temperature and check that thermostat valve opening temperature and the temperature at which valve fully opens valve lift amount [8 mm (0.31 in.) <4G64, 6G72-12 VALVE>], [8.5 mm (0.33 in.) <4M40>], [10 mm (0.39 in.) <6G72-24 VALVE, 6G74>] are at the standard value.

Standard value:

<4G64, 6G72-12 VALVE>

Valve opening temperature 88°C (190°F)
 Temperature at which the valve fully opens
 100°C (212°F) or more

<4M40>

Valve opening temperature 76.5°C (170°F)
 Temperature at which the valve fully opens
 90°C (194°F) or more

<6G72-24 VALVE, 6G74>

Valve opening temperature 82°C (180°F)
 Temperature at which the valve fully opens
 95°C (203°F) or more

NOTE

Measure valve height when fully closed. Calculate lift by measuring the height when fully open.

SERVICE POINTS OF INSTALLATION

E14GDAJ

7. INSTALLATION OF THERMOSTAT

<4G64>

Caution

Check to ensure that the thermostat flange is correctly seated in the thermostat housing socket. If thermostat is installed in the wrong direction, the bottom of the thermostat will touch the rib inside the intake manifold, making it impossible to seat the flange in position.

<6G72-12 VALVE>

Install the thermostat to the intake manifold as illustrated.

Caution

The thermostat flange fits over the manifold seat; ensure that the thermostat is not installed at an angle.

<6G72-24 VALVE, 6G74, 4M40>

Install the thermostat so that the jiggle valve is facing straight up and is aligned with the mark on the thermostat case as shown in the illustration.

Caution

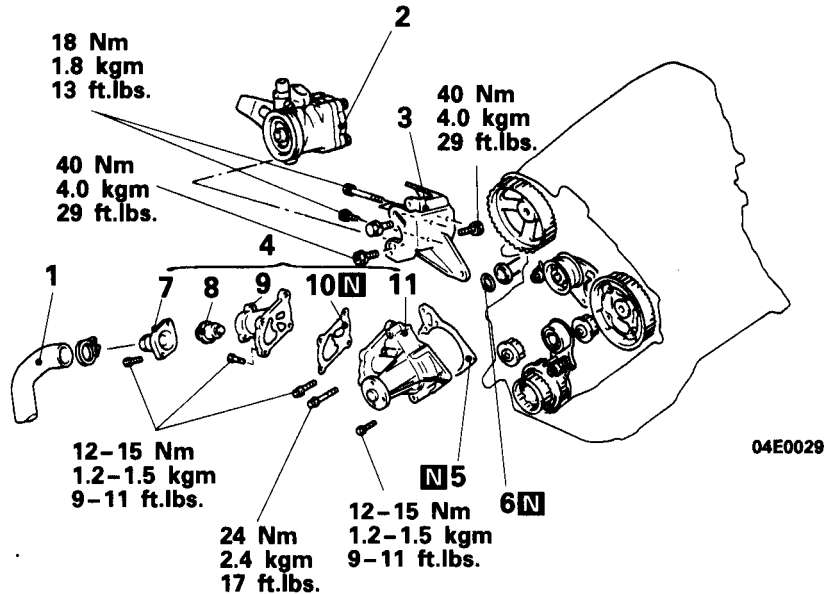
Make absolutely sure that no oil is adhering to the rubber ring of the thermostat. In addition, be careful not to fold over or scratch the rubber ring when inserting.

**THERMOSTAT AND WATER PUMP <4D56>
REMOVAL AND INSTALLATION**

E14HA-

Pre-removal and Post-installation Operation

- Draining and Supplying of the Engine Coolant
- Removal and Installation of the Air Intake Hose



Removal steps of water pump

- Timing belt – Timing belt "B"
(Refer to GROUP 11 – Timing Belt · Timing Belt "B")
1. Radiator lower hose
 2. Power steering oil pump
 3. Power steering oil pump bracket
 4. Water pump with thermostat
 5. Water pump gasket
 6. O-ring
 7. Water inlet fitting
 8. Thermostat
 9. Thermostat housing
 10. Thermostat housing gasket
 11. Water pump



Removal steps of thermostat

1. Radiator lower hose
7. Water inlet fitting
8. Thermostat

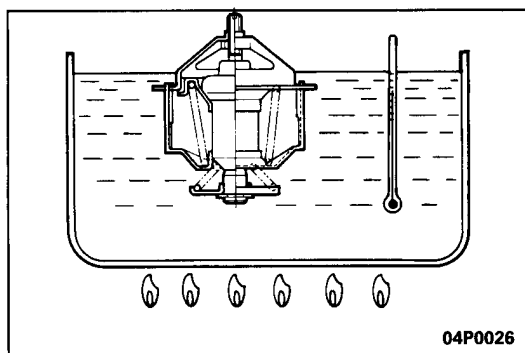
No.	Hardness category (Head mark)	d × l mm (in.)	Remark
1	4T	8 × 25 (0.31 × 0.98)	<p>04E0028</p> <p>04U0025</p>
2	4T	8 × 40 (0.31 × 1.57)	
3	7T	8 × 70 (0.31 × 2.76)	

SERVICE POINTS OF REMOVAL

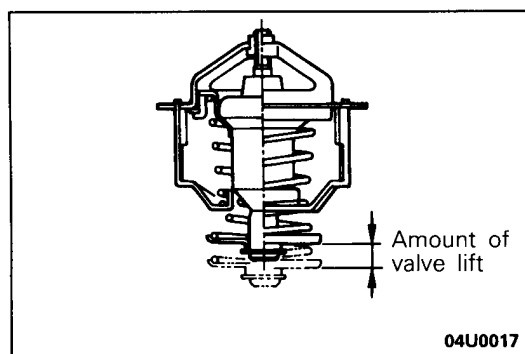
E14HBAA

2. REMOVAL OF POWER STEERING OIL PUMP

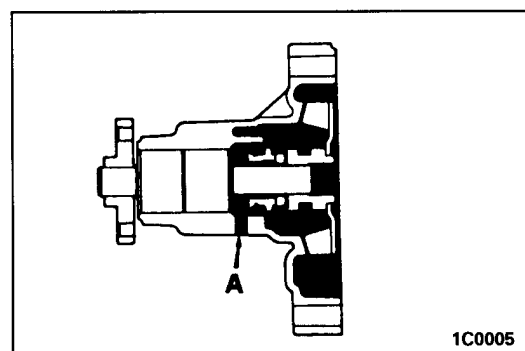
- (1) Remove the power steering oil pump from the bracket with the hose still attached.
- (2) Place the power steering oil pump somewhere where it will not be a hindrance to working, being careful not to put too much strain on the hose.



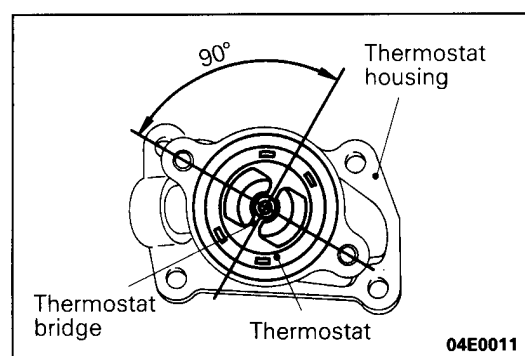
04P0026



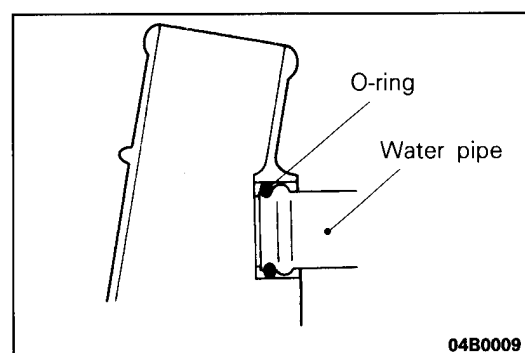
04U0017



1C0005



04E0011



04B0009

INSPECTION

E14HCAA

THERMOSTAT

- Check that valve closes tightly at room temperature.
- Check for defects or damage.
- Check for rust or encrustation on valve. Remove if any.
- Immerse thermostat in container of water. Stir to raise water temperature and check that thermostat opening valve temperature and the temperature with valve fully open [valve lift-over 8 mm (0.32 in.)] are at the standard value.

Standard value:

Opening valve temperature **76.5°C (170°F)**
 Full-open **90°C (194°F) or more**

NOTE

Measure valve height when fully closed. Calculate lift by measuring the height when fully open.

WATER PUMP

- Check each part for cracks, damage or wear, and replace the water pump assembly if necessary.
- Check the bearing for damage, abnormal noise and sluggish rotation, and replace the water pump assembly if necessary.
- Check the seal unit for leaks, and replace the water pump assembly if necessary.
- Check for water leakage. If water leaks from hole "A" seal unit is defective. Replace as an assembly.

SERVICE POINTS OF INSTALLATION

E14HDAA

8. INSTALLATION OF THERMOSTAT

Install the thermostat as shown in the illustration.

4. INSTALLATION OF WATER PUMP WITH THERMOSTAT

Rinse the mounting location of the O-ring and water pipe with water, and install the O-ring and water pipe.

Caution

1. Do not apply oil and grease to water pipe O-ring.
2. Keep the water pipe connections free of sand, dust, etc.
3. Insert water pipe until its end bottoms.

WATER PUMP <4G64>

REMOVAL AND INSTALLATION

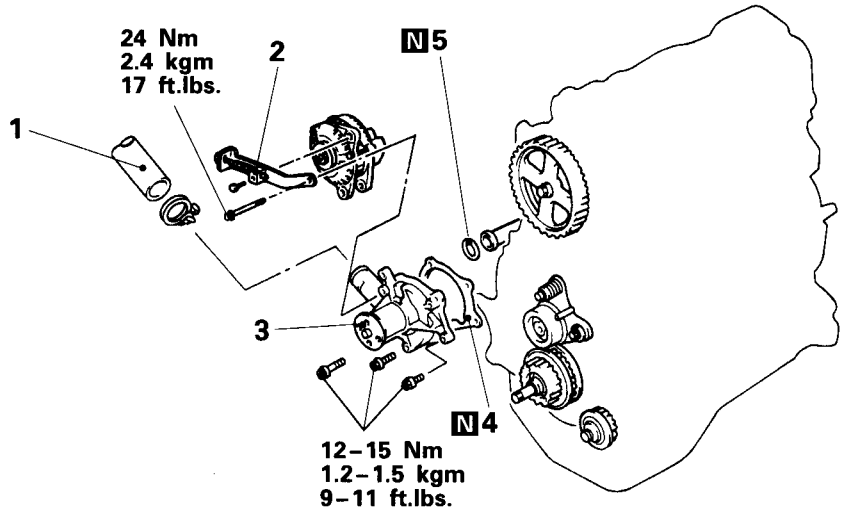
E14MA--

Pre-removal and Post-installation Operation

- Draining and Supplying of the Engine Coolant
- Removal and Installation of Timing Belt, Timing Belt (B) (Refer to GROUP 11 – Timing Belt)

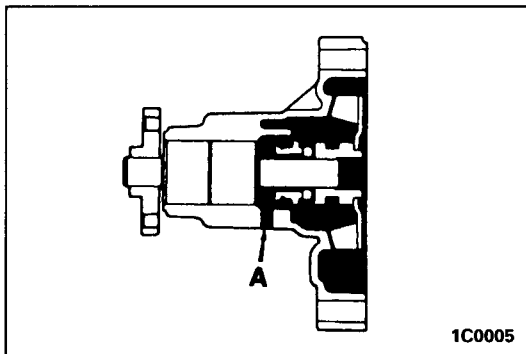
Removal steps

1. Radiator lower hose
2. Alternator brace
- ➡➡ 3. Water pump
4. Water pump gasket
5. O-ring



04E0024

No.	Hardness category (Head mark)	d × l mm (in.)	Remark
1	4T	8 × 20 (0.31 × 0.79)	
2	4T	8 × 30 (0.31 × 1.18)	
3	7T	8 × 65 (0.31 × 2.26)	
4	4T	8 × 40 (0.31 × 1.57)	



1C0005

INSPECTION

E14MCAp

WATER PUMP

- Check each part for cracks, damage or wear, and replace the water pump assembly if necessary.
- Check the bearing for damage, abnormal noise and sluggish rotation, and replace the water pump assembly if necessary.
- Check the seal unit for leaks, and replace the water pump assembly if necessary.
- Check for water leakage. If water leaks from hole "A" seal unit is faulty. Replace as an assembly.

SERVICE POINTS OF INSTALLATION

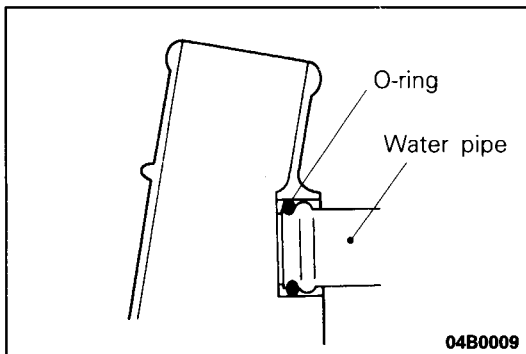
E14MDBC

3. INSTALLATION OF WATER PUMP

Rinse the mounting location of the O-ring and water pipe with water, and install the O-ring and water pipe.

Caution

1. Do not apply oil and grease to water pipe O-ring.
2. Keep the water pipe connections free of sand, dust, etc.
3. Insert water pipe until its end bottoms.



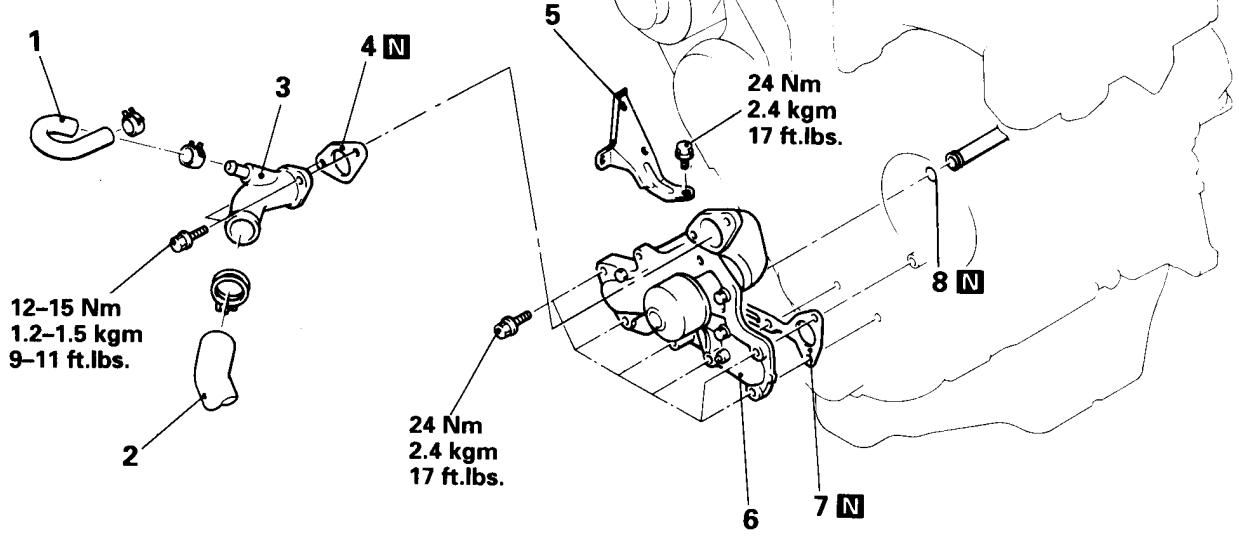
04B0009

WATER PUMP <6G72-12 VALVE>

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

- Draining and Supplying of the Engine Coolant
- Removal and Installation of Timing Belt
(Refer to GROUP 11 – Timing Belt)

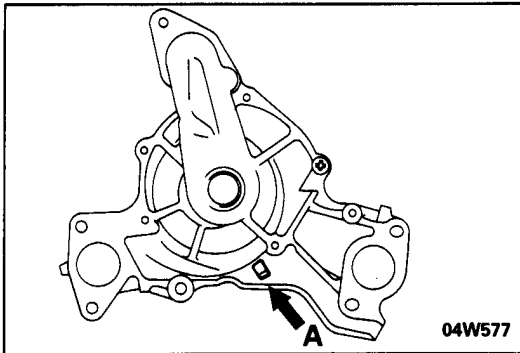


Removal steps

1. Water bypass hose
2. Radiator lower hose
3. Water inlet fitting
4. Water inlet fitting gasket

5. Cooling fan stay
6. Water pump
7. Water pump gasket
8. O-ring

04E0039



04W577

INSPECTION

E14MCAP

WATER PUMP

- Check each part for cracks, damage or wear, and replace the water pump assembly if necessary.
- Check the bearing for damage, abnormal noise and sluggish rotation, and replace the water pump assembly if necessary.
- Check the seal unit for leaks, and replace the water pump assembly if necessary.
- Check for water leakage if water leaks from hole "A" seal unit is faulty. Replace as an assembly.

SERVICE POINTS OF INSTALLATION

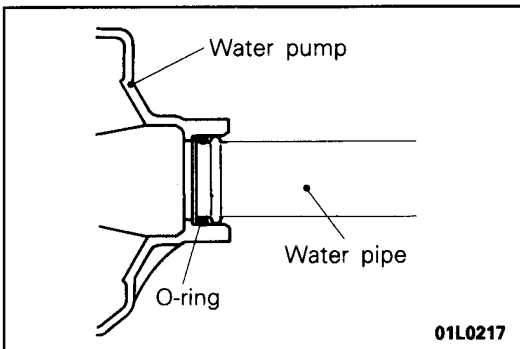
E14MDBC

6. INSTALLATION OF WATER PUMP

Rinse the mounting location of the O-ring and water pipe with water, and install the O-ring and water pipe.

Caution

1. Do not apply oil and grease to water pipe O-ring.
2. Keep the water pipe connections free of sand, dust, etc.
3. Insert water pipe until its end bottoms.



01L0217

WATER PUMP <6G74>

REMOVAL AND INSTALLATION

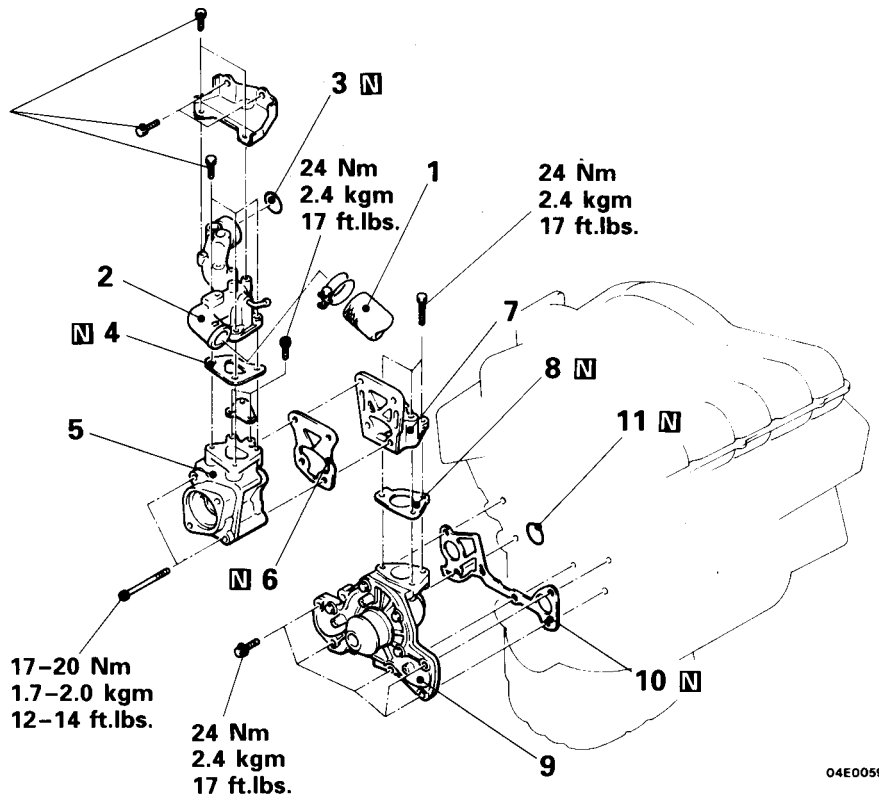
Pre-removal and Post-installation Operation

- Draining and Supplying of the Engine Coolant
- Removal and Installation of Timing Belt (Refer to GROUP 11 – Timing Belt)
- Removal and Installation of Thermostat (Refer to P. 14-8)

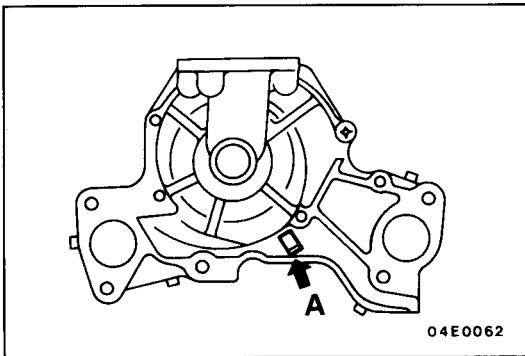
Removal steps

- 1. Radiator hose
- 2. Water outlet fitting
- 3. O-ring
- 4. Gasket
- 5. Thermostat case
- 6. Gasket
- 7. Water pump fitting
- 8. Gasket
- 9. Water pump
- 10. Gasket
- 11. O-ring

17-20 Nm
1.7-2.0 kgm
12-14 ft.lbs.



04E0059



04E0062

INSPECTION

M14MDAP

WATER PUMP

- Check each part for cracks, damage or wear, and replace the water pump assembly if necessary.
- Check the bearing for damage, abnormal noise and sluggish rotation, and replace the water pump assembly if necessary.
- Check the seal unit for leaks, and replace the water pump assembly if necessary.
- Check for water leakage if water leaks from hole "A" seal unit is faulty. Replace as an assembly.

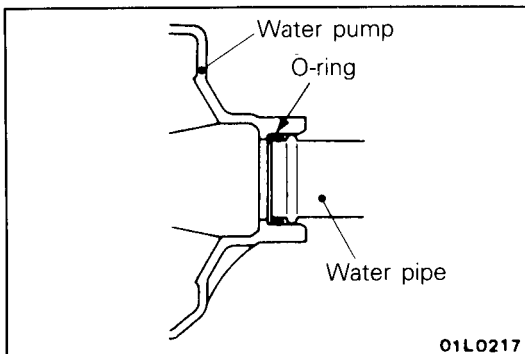
SERVICE POINTS OF INSTALLATION

11./3/ INSTALLATION OF O-RINGS

Rinse the mounting location of the O-ring and water pipe with water, and install the O-ring and water pipe.

Caution

1. Do not apply oil and grease to water pipe O-ring.
2. Keep the water pipe connections free of sand, dust, etc.
3. Insert water pipe until its end bottoms.



01L0217

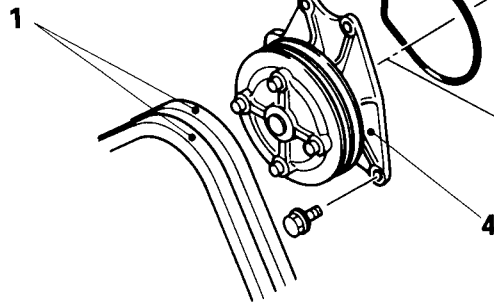
WATER PUMP <4M40>

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

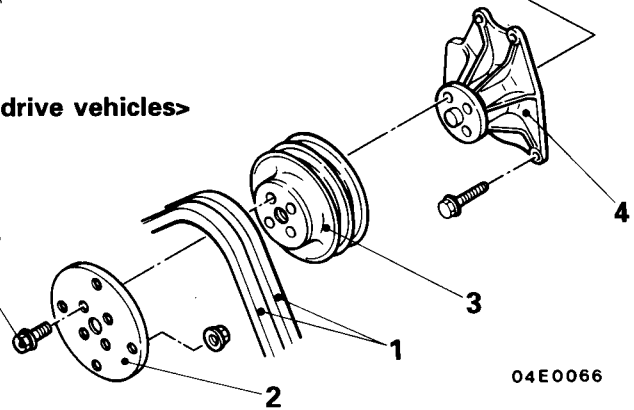
- Draining and Supplying of the Engine Coolant
- Removal and Installation of Cooling Fan (Refer to P. 14-7.)

<R.H. drive vehicles>



<L.H. drive vehicles>

24 Nm
2.4 kgm
17 ft.lbs.



Removal steps

1. Drive belt
2. Coupling plate
3. Water pump pulley
4. Water pump
5. O-ring



04E0066

INSPECTION

WATER PUMP

- Check each part for cracks, damage or wear, and replace the water pump assembly if necessary.
- Check the bearing for damage, abnormal noise and sluggish rotation, and replace the water pump assembly if necessary.
- Check the seal unit for leaks, and replace the water pump assembly if necessary.

SERVICE POINTS OF INSTALLATION

4. INSTALLATION OF WATER PUMP

Rinse the mounting location of the O-ring and water pipe with water, and install the O-ring and water pipe.

Caution

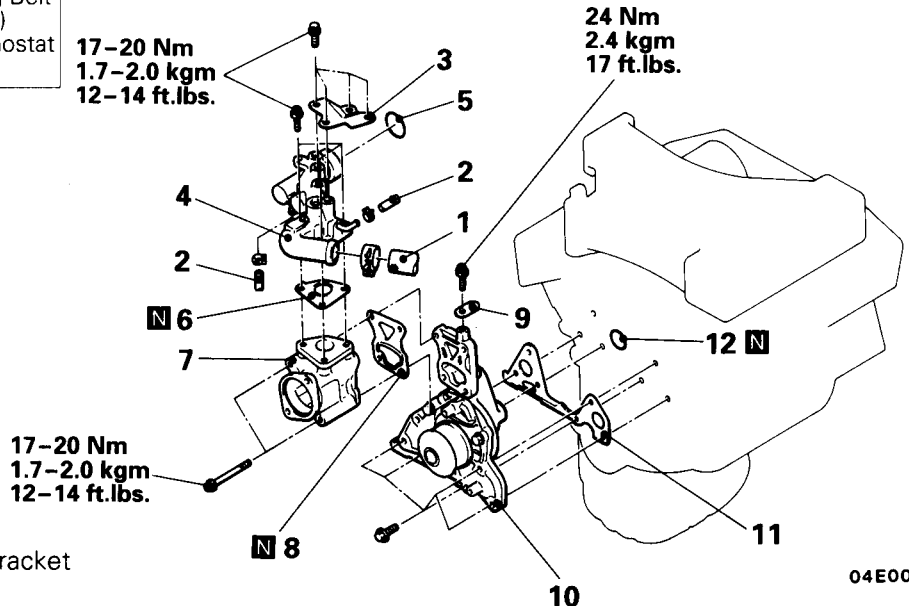
1. Do not apply oil and grease to water pipe O-ring.
2. Keep the water pipe connections free of sand, dust, etc.
3. Insert water pipe until its end bottoms.

WATER PUMP <6G72-24 VALVE>

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

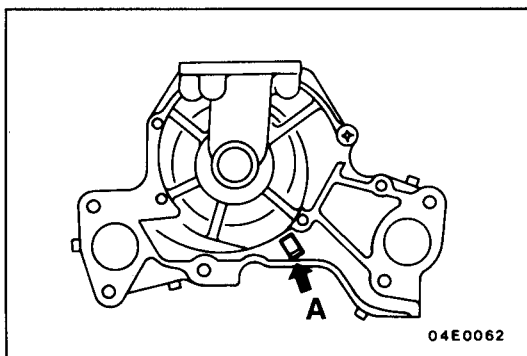
- Draining and Supplying of the Engine Coolant
- Removal and Installation of Timing Belt (Refer to GROUP 11 – Timing Belt)
- Removal and Installation of Thermostat (Refer to P.14-8)



Removal steps

1. Radiator hose
2. Water hose
3. Water outlet fitting bracket
4. Water outlet fitting
- ◆◆ 5. O-ring
- ◆◆ 6. Gasket
7. Thermostat case
8. Gasket
9. Water pump bracket
10. Water pump
11. Water pump gasket
- ◆◆ 12. O-ring

04E0071



04E0062

INSPECTION

WATER PUMP

- Check each part for cracks, damage or wear, and replace the water pump assembly if necessary.
- Check the bearing for damage, abnormal noise and sluggish rotation, and replace the water pump assembly if necessary.
- Check the seal unit for leaks, and replace the water pump assembly if necessary.
- Check for the water leakage if water leaks from hole "A" seal unit is faulty. Replace as an assembly.

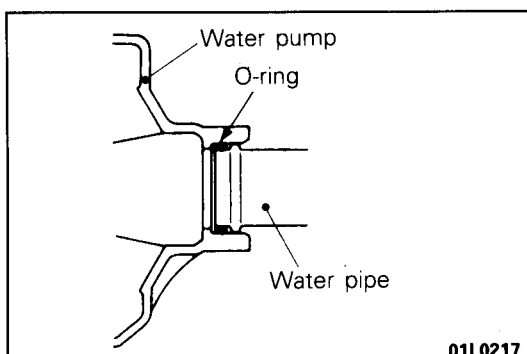
SERVICE POINTS OF INSTALLATION

12./5. INSTALLATION OF O-RINGS

Rinse the mounting location of the O-ring and water pipe with water, and install the O-ring and water pipe.

Caution

1. Do not apply oil and grease to water pipe O-ring.
2. Keep the water pipe connections free of sand, dust, etc.
3. Insert water pipe until its end bottoms.



01L0217

NOTES

RADIATOR

REMOVAL AND INSTALLATION

Pre-removal Operation

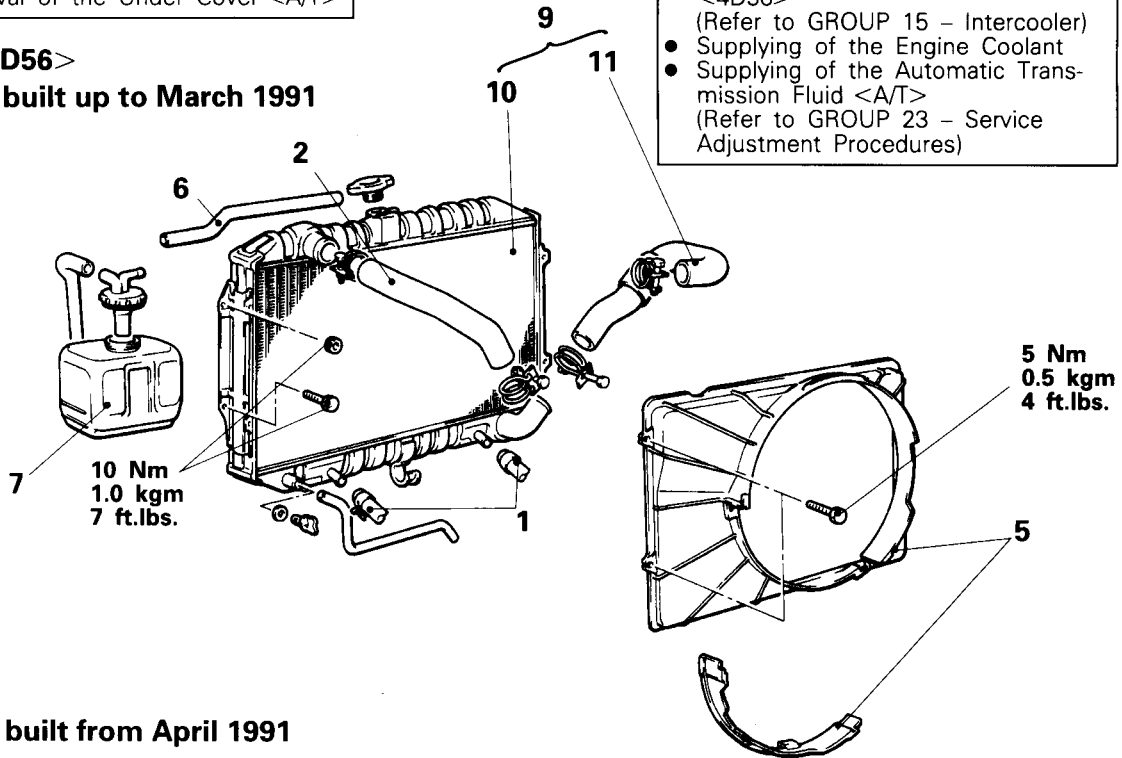
- Draining of the Engine Coolant
- Removal of the Intercooler <4D56> (Refer to GROUP 15 – Intercooler)
- Removal of the Cooling Fan <4G64, 4D56> (Refer to P.14-6.)
- Removal of the Under Cover <A/T>

Post-installation Operation

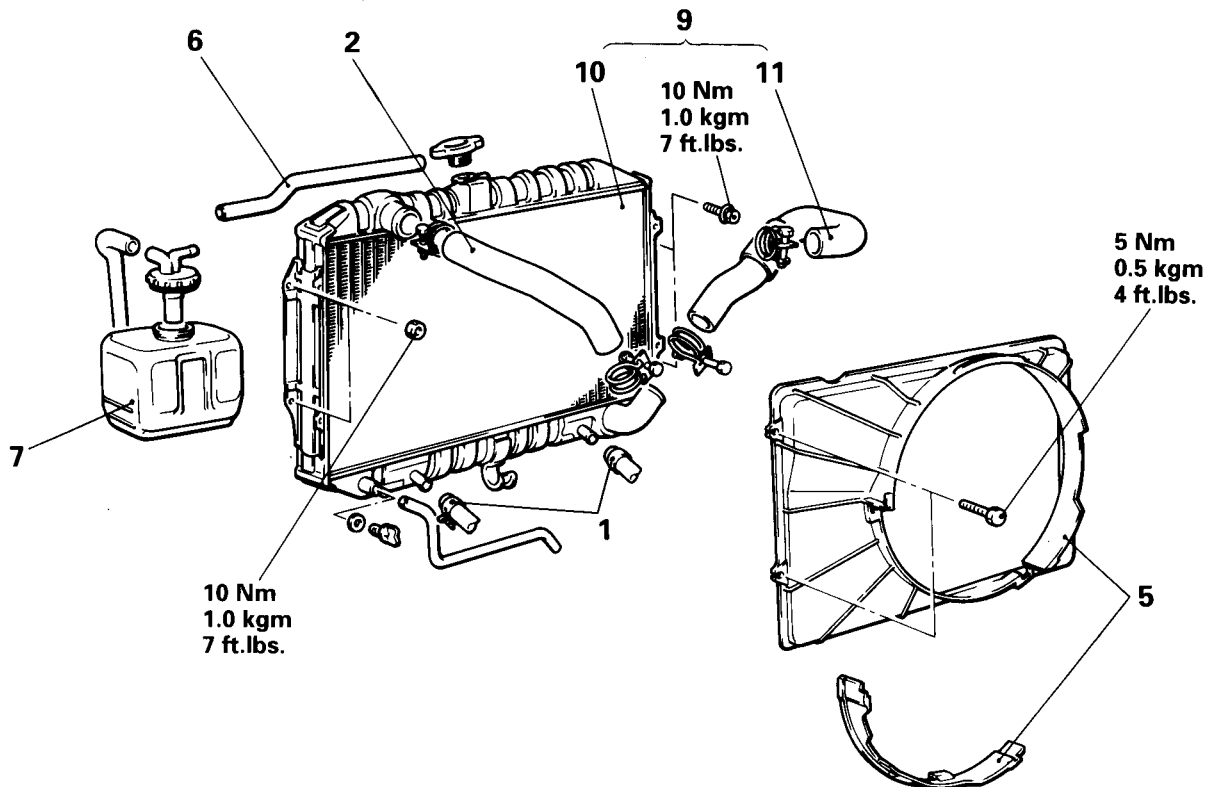
- Installation of the Under Cover <A/T>
- Installation of the Cooling Fan <4G64, 4D56> (Refer to P.14-6.)
- Installation of the Intercooler <4D56> (Refer to GROUP 15 – Intercooler)
- Supplying of the Engine Coolant
- Supplying of the Automatic Transmission Fluid <A/T> (Refer to GROUP 23 – Service Adjustment Procedures)

<4G64, 4D56>

Vehicles built up to March 1991



Vehicles built from April 1991

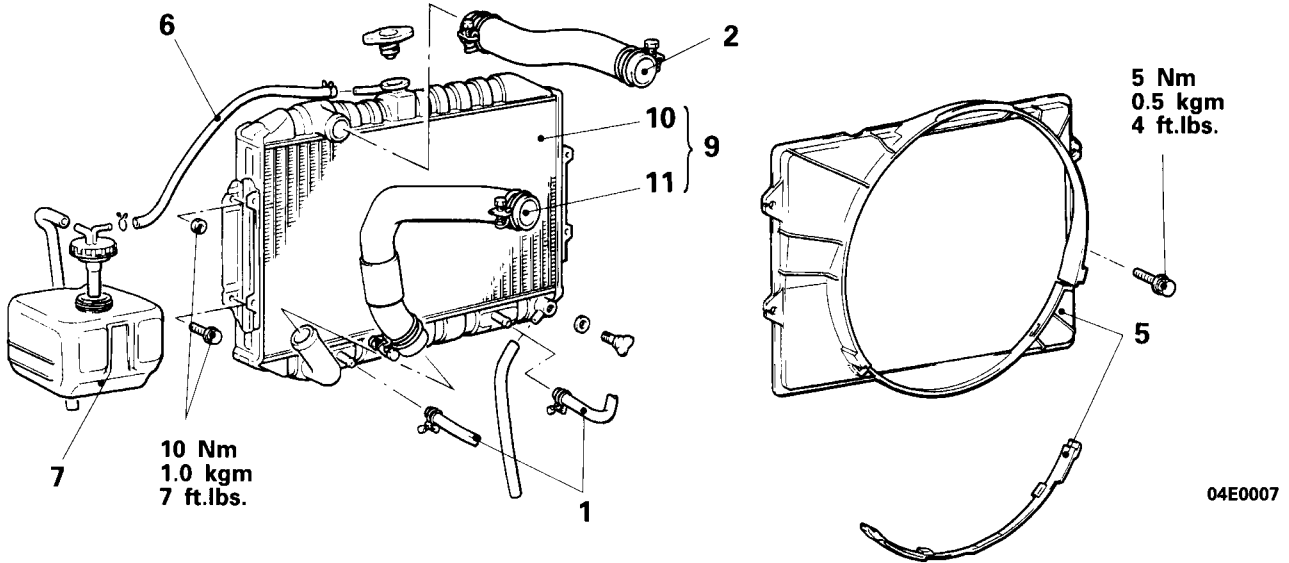


04E0027

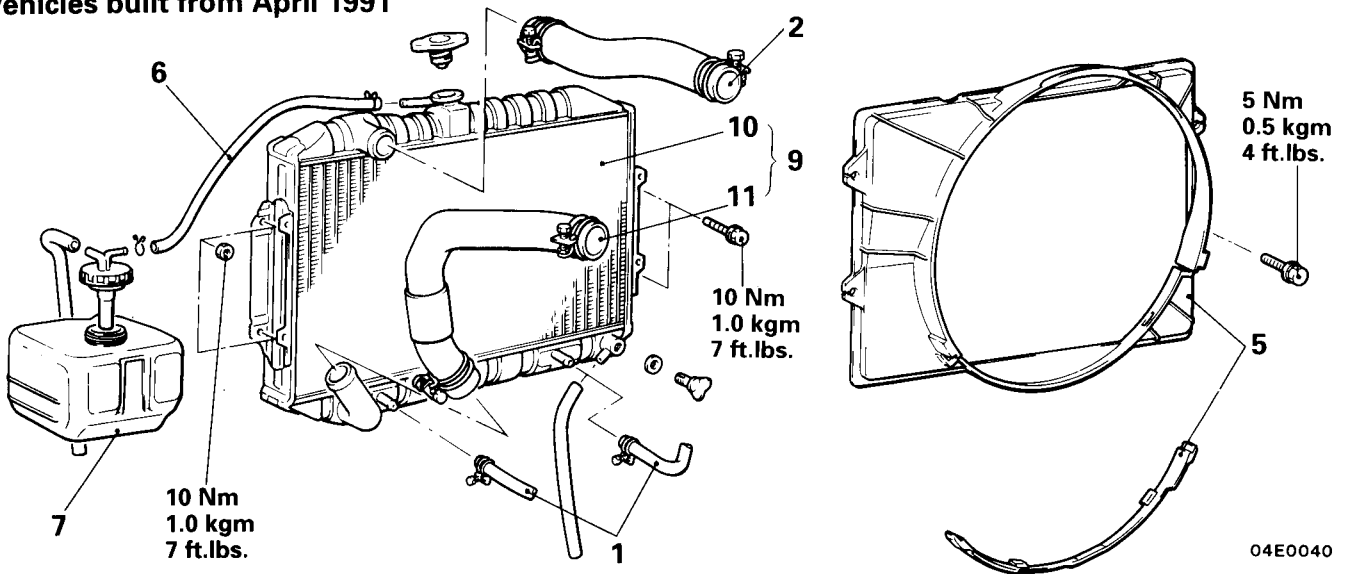
04E0041

<6G72, 6G74>

Vehicles built up to March 1991

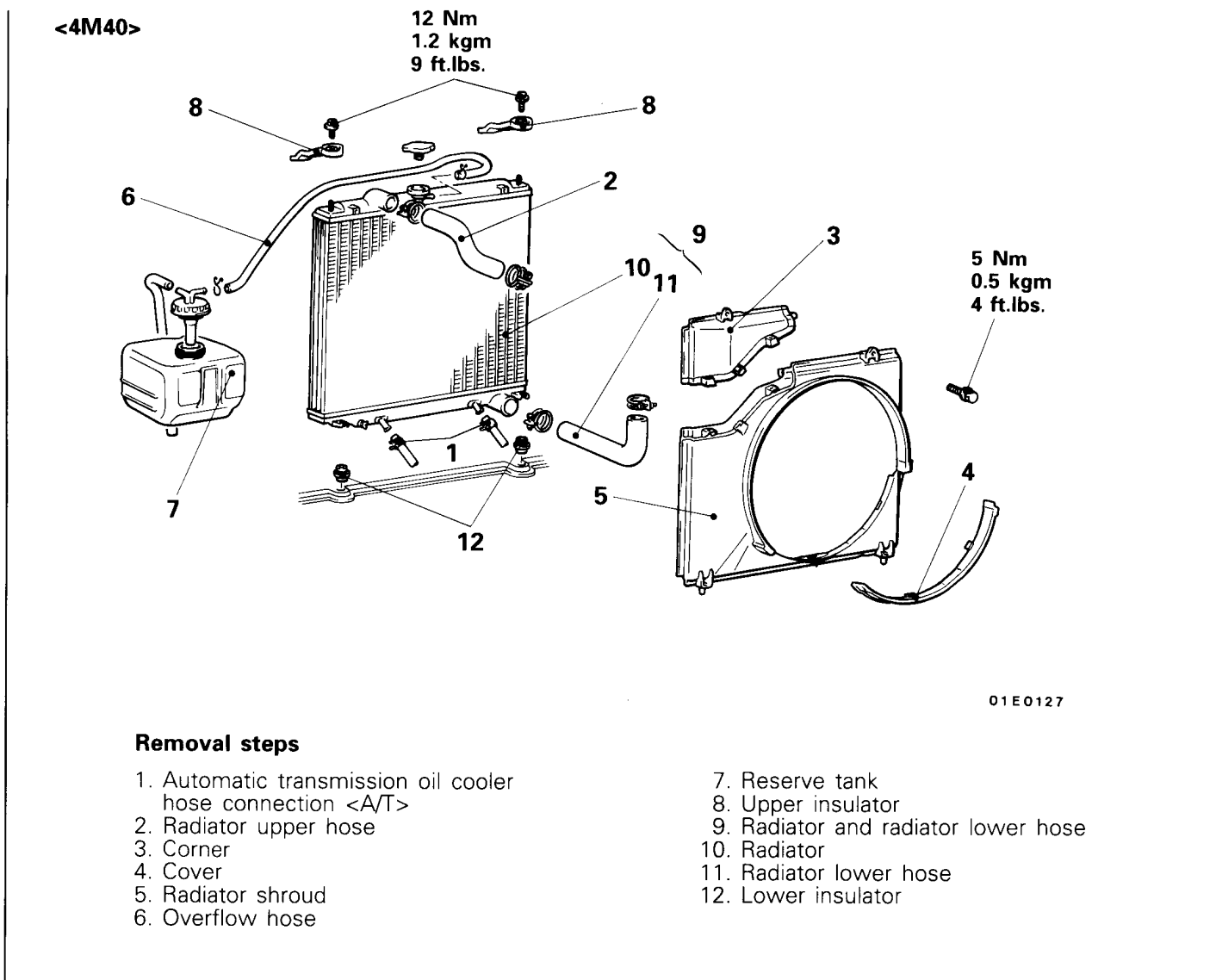


Vehicles built from April 1991



Removal steps

- 1. Automatic transmission oil cooler hose connection <A/T>
- 2. Radiator upper hose
- 5. Radiator shroud
- 6. Overflow hose
- 7. Reserve tank
- 9. Radiator and radiator lower hose
- 10. Radiator
- 11. Radiator lower hose

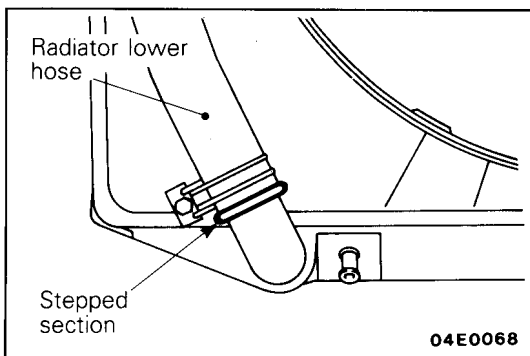


01E0127

INSPECTION

E14QCAL

- Check for foreign material between radiator fins.
- Check the radiator fins for bend or damage.
- Check the radiator for corrosion, damage, rust or scale.
- Check the radiator hoses for cracks, damage or deterioration.
- Check the reserve tank for damage.
- Check the spring of radiator cap for deterioration.
- Check the packing of radiator cap for damage or cracks.



11. INSTALLATION OF RADIATOR LOWER HOSE <6G74>

The radiator hose should be inserted just as far as the stepped section and then secured with the clamp.

NOTES

THERMO SWITCH, ENGINE COOLANT TEMPERATURE GAUGE UNIT, ENGINE COOLANT TEMPERATURE SENSOR AND ENGINE COOLANT TEMPERATURE SWITCH

E14UA--

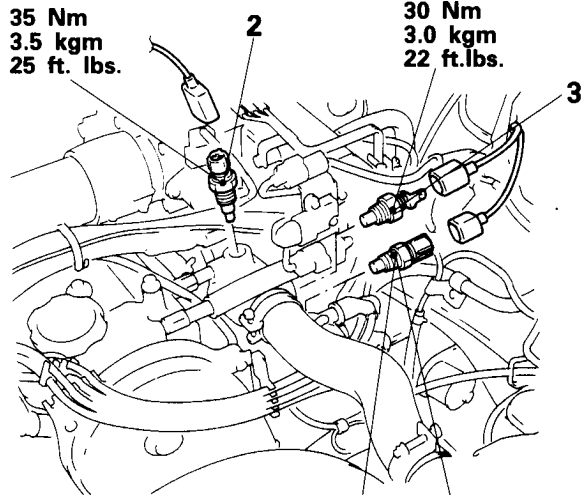
REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

- Draining and Supplying of the Engine Coolant
- Removal and Installation of the Intercooler <4D56, 4M40> (Refer to group 15 – Intercooler)

<4G64>

35 Nm
3.5 kgm
25 ft. lbs.



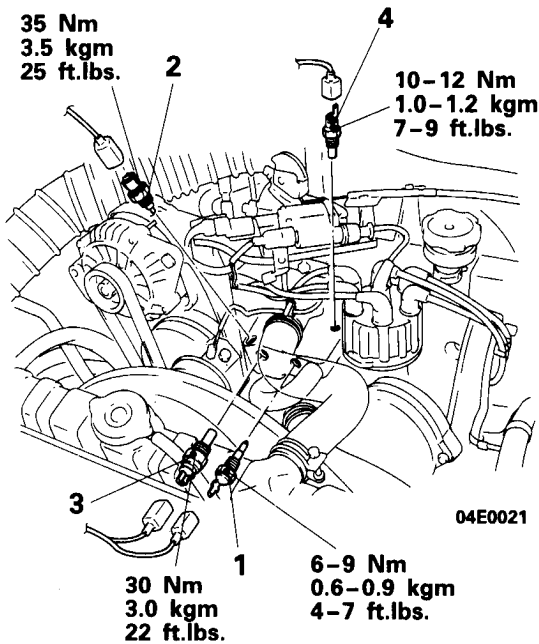
30 Nm
3.0 kgm
22 ft. lbs.

04E0023

10-12 Nm
1.0-1.2 kgm
7-9 ft. lbs.

<6G72-12 VALVE>

35 Nm
3.5 kgm
25 ft. lbs.



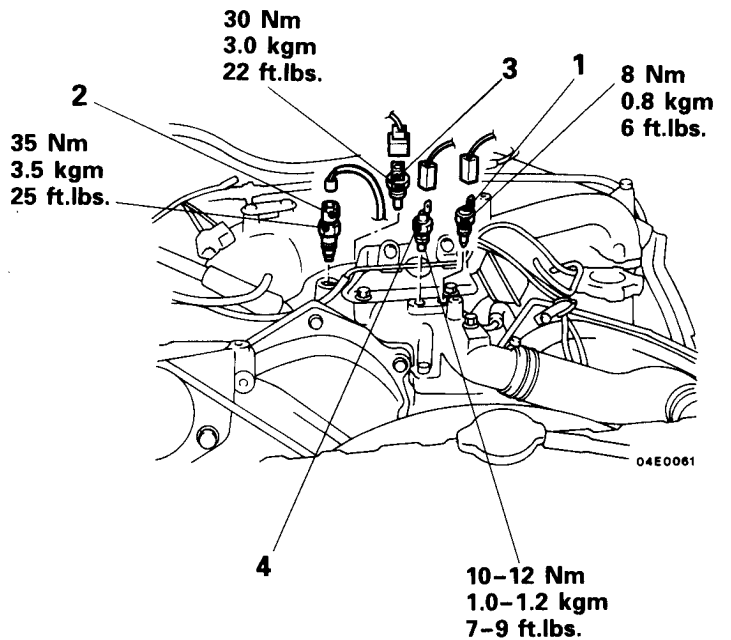
10-12 Nm
1.0-1.2 kgm
7-9 ft. lbs.

04E0021

30 Nm
3.0 kgm
22 ft. lbs.

6-9 Nm
0.6-0.9 kgm
4-7 ft. lbs.

<6G74>



30 Nm
3.0 kgm
22 ft. lbs.

8 Nm
0.8 kgm
6 ft. lbs.

35 Nm
3.5 kgm
25 ft. lbs.

10-12 Nm
1.0-1.2 kgm
7-9 ft. lbs.

04E0081

2, 3 and 5

20A0198

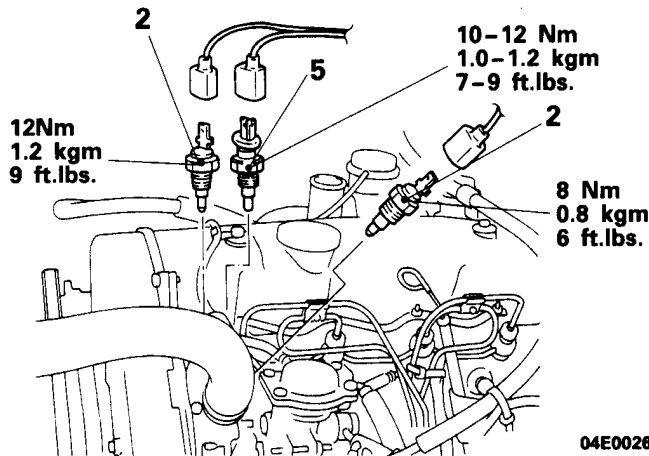
Sealant: 3M Nut Locking Part No. 4171 or equivalent

1 and 4

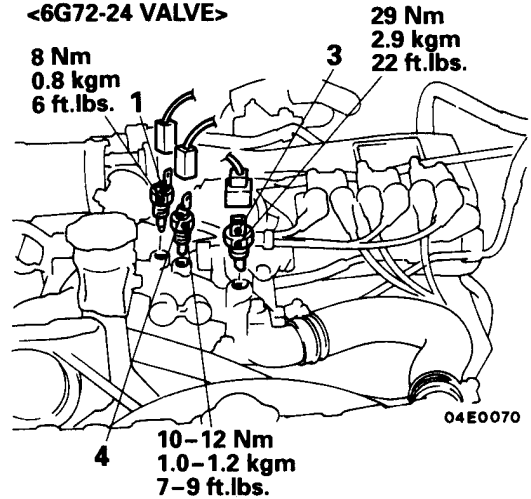
04D0006

Sealant: 3M ATD Part No. 8660 or equivalent

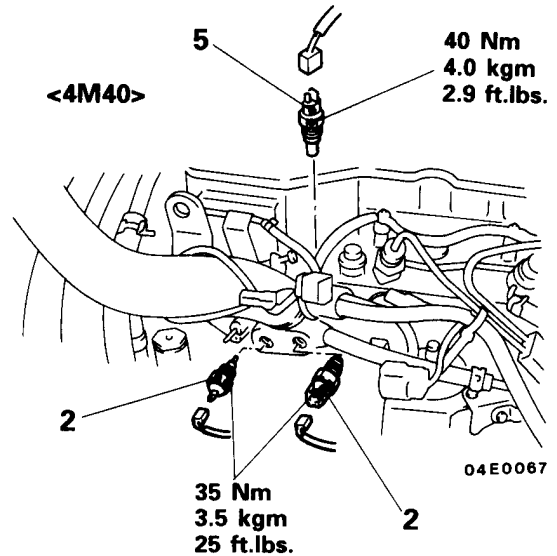
<4D56>



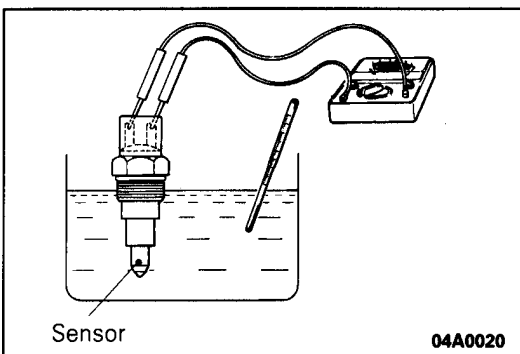
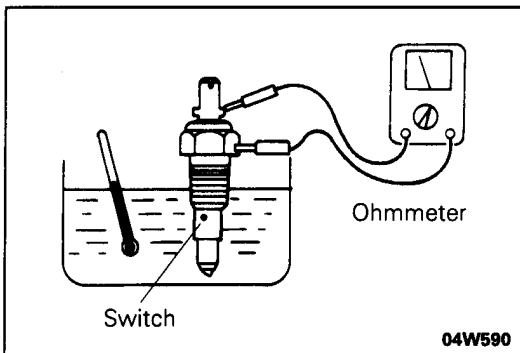
<6G72-24 VALVE>



<4M40>



1. Thermo switch <6G72-A/T, 6G74-A/T>
2. Engine coolant temperature switch <A/C>
3. Engine coolant temperature sensor <4G64, 6G72, 6G74>
4. Engine coolant temperature gauge unit <4G64, 6G72, 6G74>
5. Engine coolant temperature gauge unit and sensor <4D56, 4M40>



INSPECTION

E14UCA0

THERMO SWITCH <6G72-A/T, 6G74-A/T>

Raise the water temperature and check continuity when it reaches the specified temperature.

Standard value:

- <6G72-12 VALVE, 6G74>
50°C (122°F) or more
50°C (122°F) dimmer
- <6G72-24 VALVE>
35°C (95°F) or more
35°C (95°F) dimmer

Continuity
No continuity

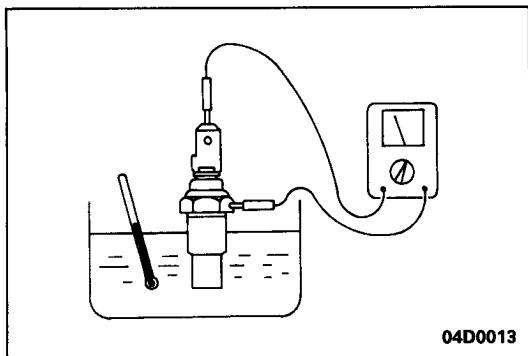
Continuity
No continuity

ENGINE COOLANT TEMPERATURE SENSOR <4G64, 6G72, 6G74>

Raise the water temperature and measure the resistance if within the standard value.

Standard value:

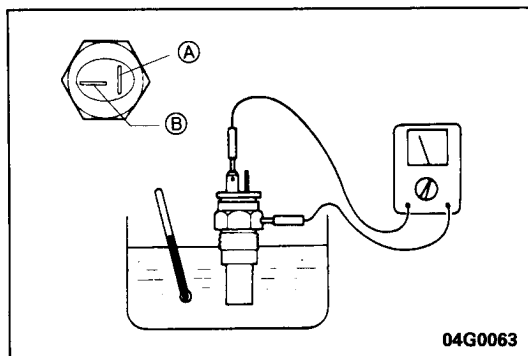
- 2.37 ± 0.24kΩ [at 20°C (68°F)]
290 ± 32Ω [at 80°C (176°F)]



ENGINE COOLANT TEMPERATURE GAUGE UNIT <4G64, 6G72, 6G74>

Immerse the gauge unit in hot water at 70°C (158°F) and measure the resistance value with an ohmmeter.

Standard value: $104 \pm 13.5\Omega$ [at 70°C (158°F)]



ENGINE COOLANT TEMPERATURE GAUGE UNIT AND SENSOR <4D56, 4M40>

Raise the water temperature and measure the resistance if within the standard value.

Standard value:

Terminal A	$104 \pm 13.5\Omega$ [at 70°C (158°F)]
Terminal B	$3.25 \pm 0.33k\Omega$ [at 20°C (68°F)]
	300Ω [at 80°C (176°F)]

NOTE

Terminal A is for engine coolant temperature gauge. Terminal B is for glow and EGR control.

ENGINE COOLANT TEMPERATURE SWITCH <A/C>

Refer to GROUP 55-Engine Coolant Temperature Switch.