

## SECTION 14

**ENGINE COOLING**

## CONTENTS

General.....	1	Water hose and pipe.....	3
Water pump .....	2		

**General**

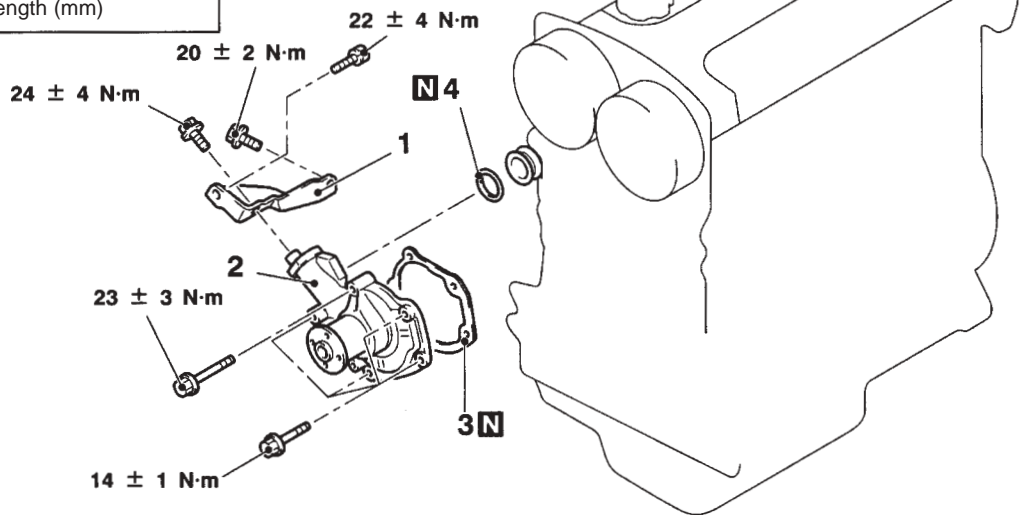
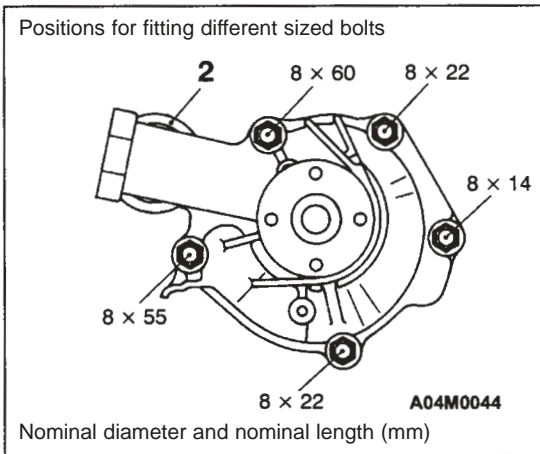
The following servicing guidelines for the water pump and the water hose and pipe have been prepared for vehicles which use the 4G63-MIVEC-T/C engine. Other servicing guidelines remain unchanged.

# Water pump

## Removal and fitting

**Jobs to be completed before removal and after fitting**

- Draining and refilling of the coolant
- Removal and refitting of the timing belt (Ref Section 11)



AC406755AB

**Removal procedure**

1. Alternator bracket
  2. Water pump
  3. Water pump gasket
- ▶ A ◀ 4. O-ring

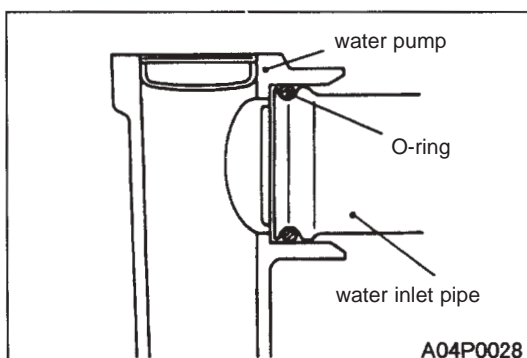
**Fitting guidelines**

▶ A ◀ **Fitting the O-ring**

Fit the O-ring into the O-ring groove at the end of the water inlet pipe, and insert it into the water pump after moistening with water the places where the O-ring will make contact with the water pump.

**Caution**

Ensure that absolutely no engine oil, or other type of grease, gets onto the O-ring.

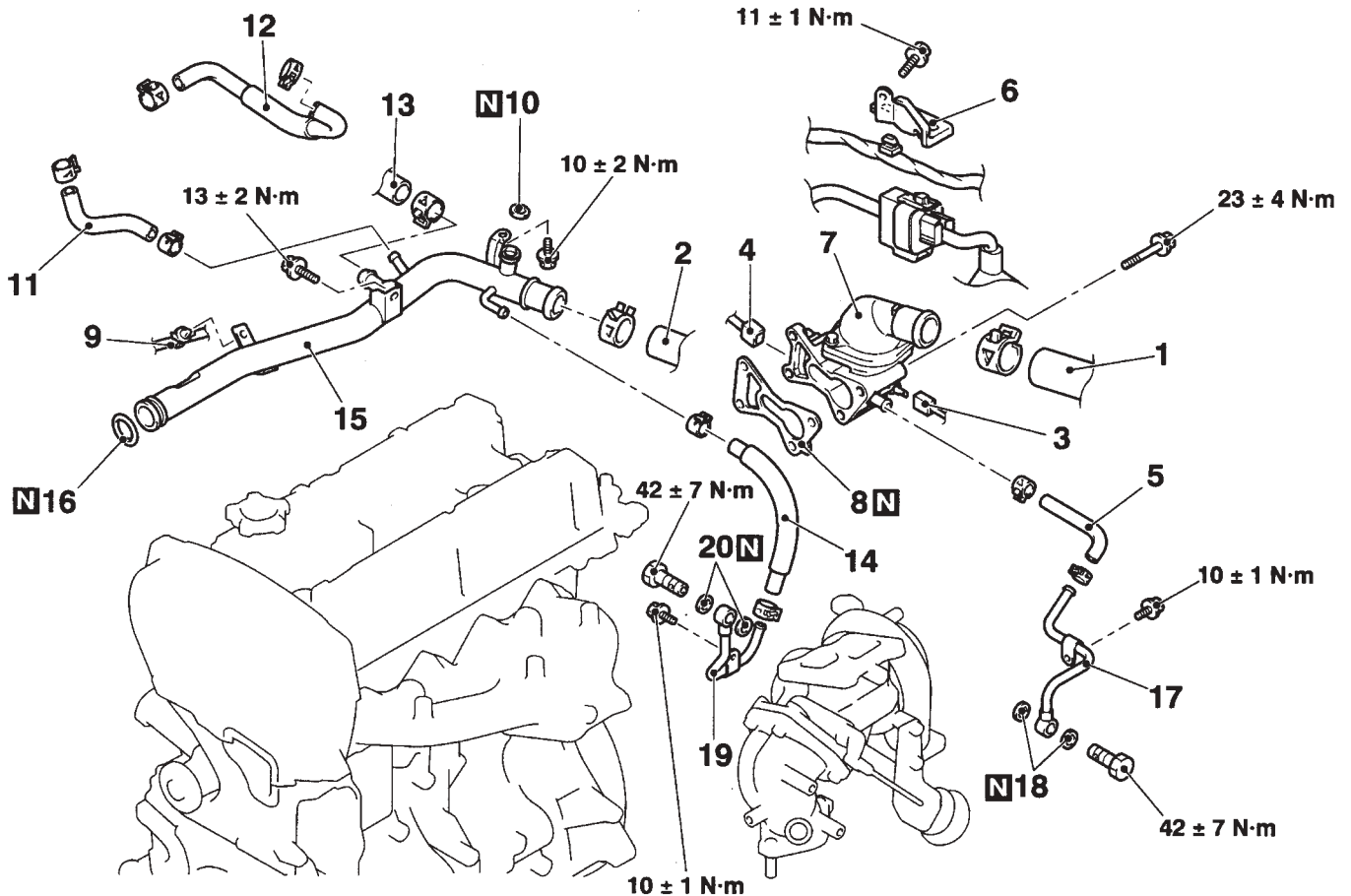


Water hose and pipe

Removal and fitting

Jobs to be completed before removal and after fitting

- Removal and refitting of the valence
- Draining and refilling of the water coolant
- Removal and refitting of the air cleaner ASSY
- Removal and refitting of the air by-pass valve ASSY, the air by-pass hose, air hoses D and E, and air pipe C
- Removal and refitting of the secondary air control valve (Ref Section 15: Secondary air control system)

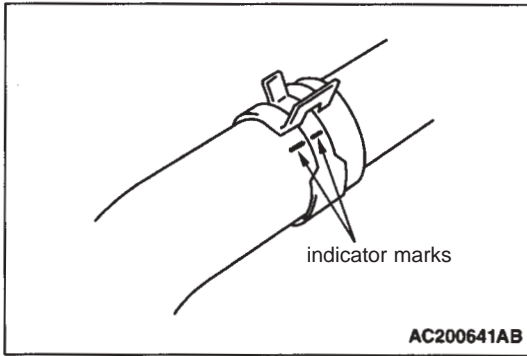


AC407068AB

Removal procedure

- ◀ A ▶ ▶ B ◀ 1. Connection to the radiator upper hose
- ◀ A ▶ ▶ B ◀ 2. Connection to the radiator lower hose
- 3. Water temperature gauge unit connector
- 4. Water temperature sensor connector
- 5. Water hose
- 6. Bracket
- 7. Water outlet fitting and thermostat case ASSY
- 8. Thermostat case gasket
- 9. Connection to the knock sensor harness clamp
- ▶ A ◀ 10. O-ring
- 11. Water hose

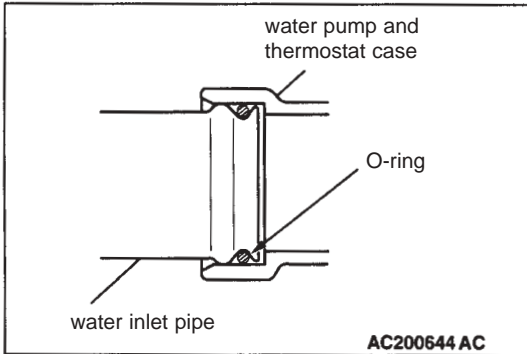
- 12. Water hose
- 13. Connection to the heater hose
- 14. Water hose
- ▶ A ◀ 15. Water inlet pipe
- ▶ A ◀ 16. O-ring
- 17. Turbocharger water feed pipe
- 18. Gasket
  - Turbocharger ASSY
- 19. Turbocharger water return pipe
- 20. Gasket



### Removal guidelines

#### ◀ A ▶ Removing the radiator upper hose and the radiator lower hose

Mark the radiator hose and the hose clamp with indicator marks and then remove the radiator hose.



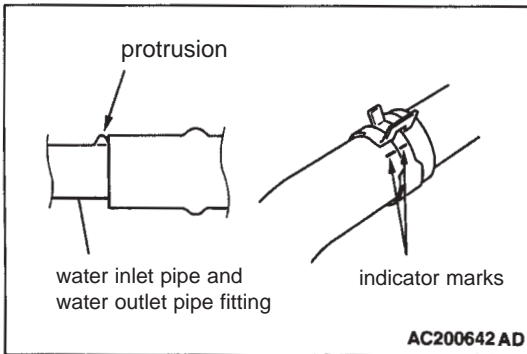
### Fitting guidelines

#### ▶ A ◀ Fitting the O-ring and the water inlet pipe

Fit the O-ring into the groove at the end of the water inlet pipe, and insert it after moistening with water the places where the O-ring and the water inlet pipe will be in contact.

#### Caution

Ensure that absolutely no engine oil, or other type of grease, gets onto the O-ring.



#### ▶ B ◀ Connecting the radiator lower hose and the radiator upper hose

1. Insert the hose as far as the protrusion on the water inlet pipe and the water outlet fitting.
2. Match up the indicator marks on the radiator hose and the hose clamp, and fit the radiator hose.