

GROUP 55

HEATER, AIR CONDITIONER AND VENTILATION

GENERAL

OUTLINE OF CHANGES

- The following service procedures have been added to correspond to the addition of the diesel-powered vehicle.

Applicable models: 1900D

1. Removal and installation of the compressor
2. Removal and installation of the refrigerant lines
3. Removal and installation of the condenser and condenser fan motor

LUBRICANTS

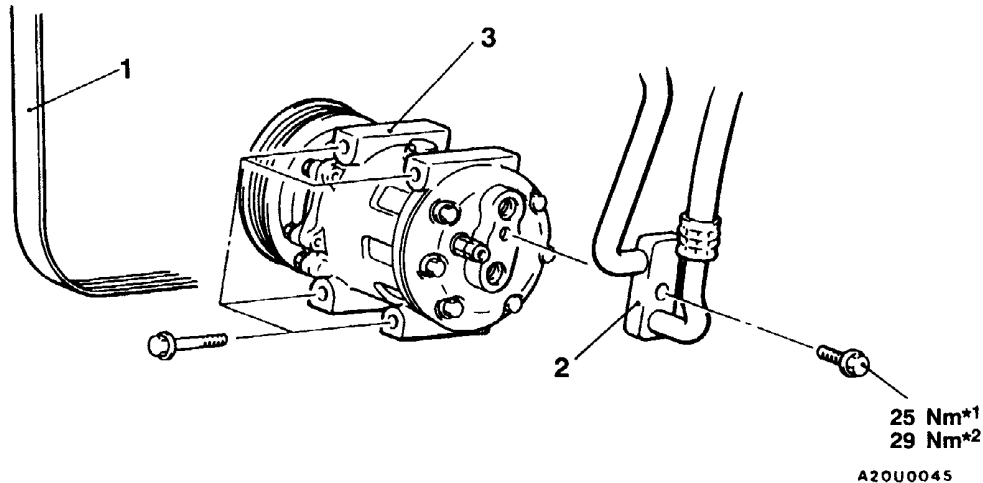
Items	Specified lubricants	Quantity
Each connection of refrigerant line	SP-20	As required
Compressor refrigerant unit lubricant ml	SP-20	135

COMPRESSOR**REMOVAL AND INSTALLATION****Pre-removal Operation**

- Discharging of Refrigerant
- Under Cover Removal (R.H. side)

Post-installation Operation

- Charging of Refrigerant
- Under Cover Installation (R.H. side)
- Drive Belt Tension Adjustment (Refer to GROUP 11A - On-vehicle Service.)

**Removal Steps**

- ◀A▶ 1. Drive belt
- ◀B▶ ▶A▶ 2. A/C flexible hose assembly connection
- ▶A▶ 3. Compressor

NOTE

- (1) *1: Indicates flange bolt
- (2) *2: indicates bolt and washer assembly

REMOVAL SERVICE POINTS**◀A▶ A/C FLEXIBLE HOSE ASSEMBLY CONNECTION**

Plug the disconnected hose and the compressor nipple not to let foreign matter get into them.

Caution

Seal the hoses completely. Otherwise, the compressor oil and receiver will absorb water vapour easily.

◀B▶ COMPRESSOR REMOVAL

When doing this work, be careful not to spill the compressor oil.

INSTALLATION SERVICE POINT

▶A◀ COMPRESSOR INSTALLATION

If a new compressor is installed, first adjust the amount of oil according to the procedures described below, and then install the compressor.

- (1) Measure the amount (X ml) of oil within the removed compressor.
- (2) Drain (from the new compressor) the amount of oil calculated according to the following formula, and then install the new compressor.

New compressor oil amount

$$135 \text{ ml} - X \text{ ml} = Y \text{ ml}$$

NOTE

- (1) Y ml indicates the amount of oil in the refrigerant line, the condenser, the evaporator etc.
- (2) When replacing the following parts at the same times as the compressor, subtract the rated oil amount of the each part from Y ml and discharge from the new compressor.

Quantity

Evaporator: 60 ml

Condenser: 15 ml

A/C flexible hose: 10 ml

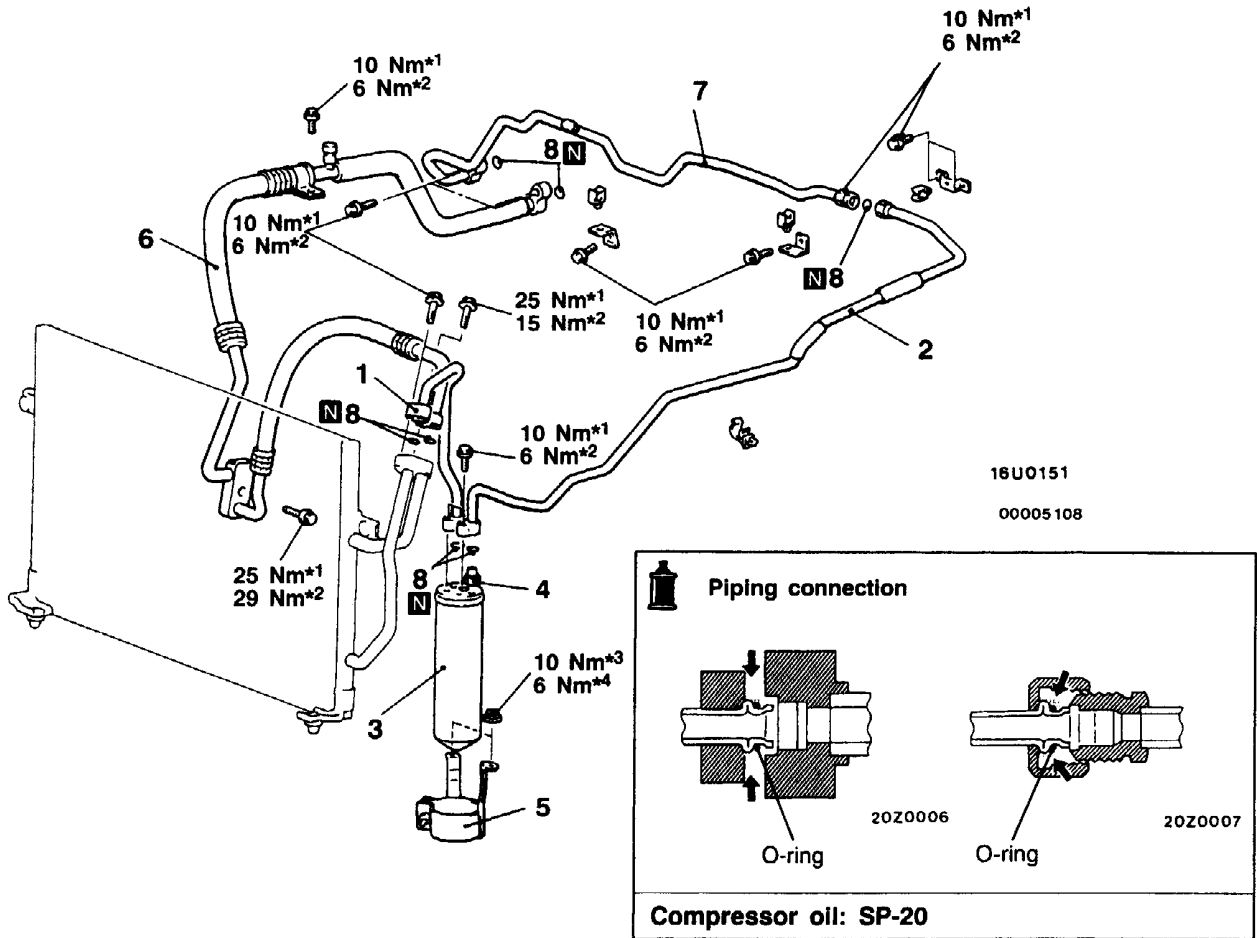
Receiver: 10 ml

REFRIGERANT LINE

REMOVAL AND INSTALLATION

<L.H. DRIVE VEHICLES>

Pre-removal Operation
 • Discharging and Charging of Refrigerant



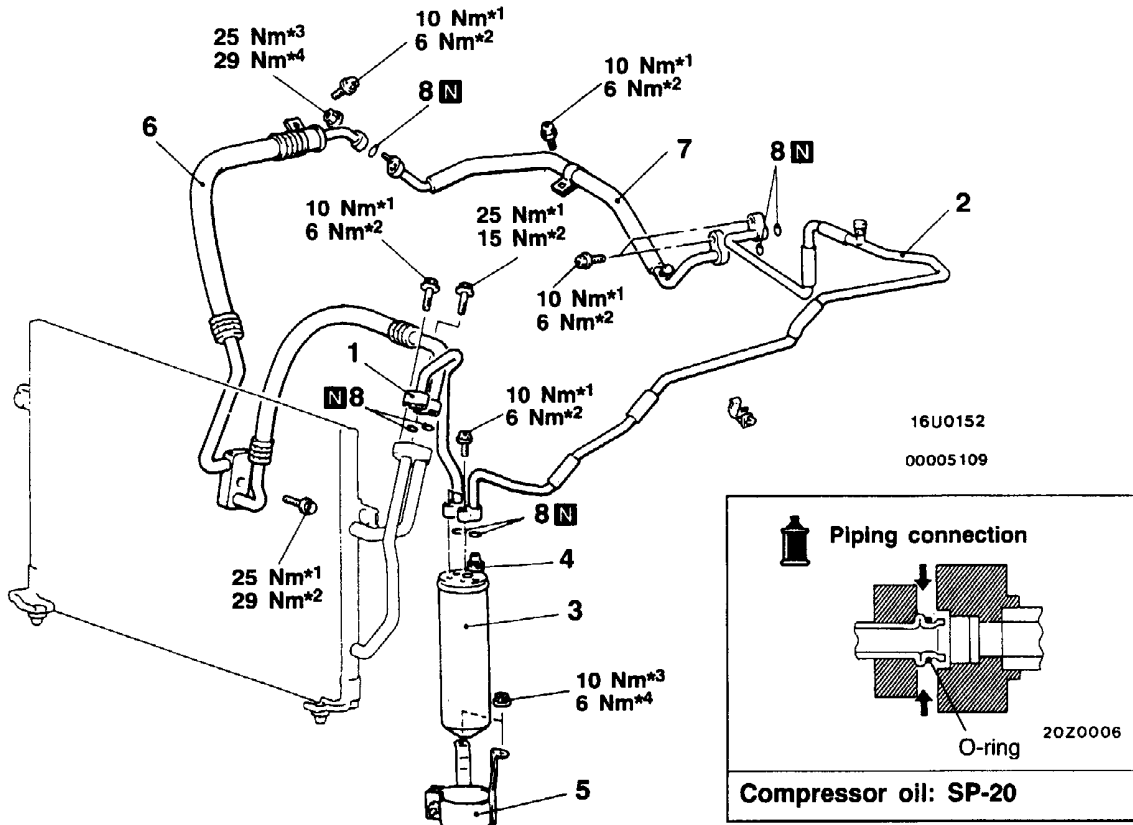
- Removal steps**
- ▶◀ 1. Liquid pipe A
 - ▶◀ 2. Liquid pipe B
 - ▶◀ 3. Receiver assembly
 - ▶◀ 4. Dual pressure switch
 - ▶◀ 5. Receiver bracket
 - ▶◀ 6. A/C flexible hose assembly
 - ▶◀ 7. Liquid pipe C
 - ▶◀ 8. O-ring

- NOTE**
- (1) *1: indicates flange bolt
 - (2) *2: indicates bolt and washer assembly
 - (3) *3: indicates flange nut
 - (4) *4: indicates nut and washer assembly

<R.H. DRIVE VEHICLES>

Pre-removal Operation

- Discharging and Charging of Refrigerant



Removal steps

- ▶A◀ 1. Liquid pipe A
- ▶A◀ 2. Liquid pipe B
- ▶A◀ 3. Receiver assembly
- ▶A◀ 4. Dual pressure switch
- ▶A◀ 5. Receiver bracket
- ▶A◀ 6. A/C flexible hose assembly
- ▶A◀ 7. Suction pipe
- ▶A◀ 8. O-ring

NOTE

- (1) *1: indicates flange bolt
- (2) *2: indicates bolt and washer assembly
- (3) *3: indicates flange nut
- (4) *4: indicates nut and washer assembly

INSTALLATION SERVICE POINT

▶A◀ A/C FLEXIBLE HOSE ASSEMBLY/RECEIVER ASSEMBLY INSTALLATION

When replacing the A/C flexible hose assembly or receiver assembly, refill them with a specified amount of compressor oil, and then install them.

Compressor oil: SP-20

Quantity:

A/C flexible hose assembly: 10 ml

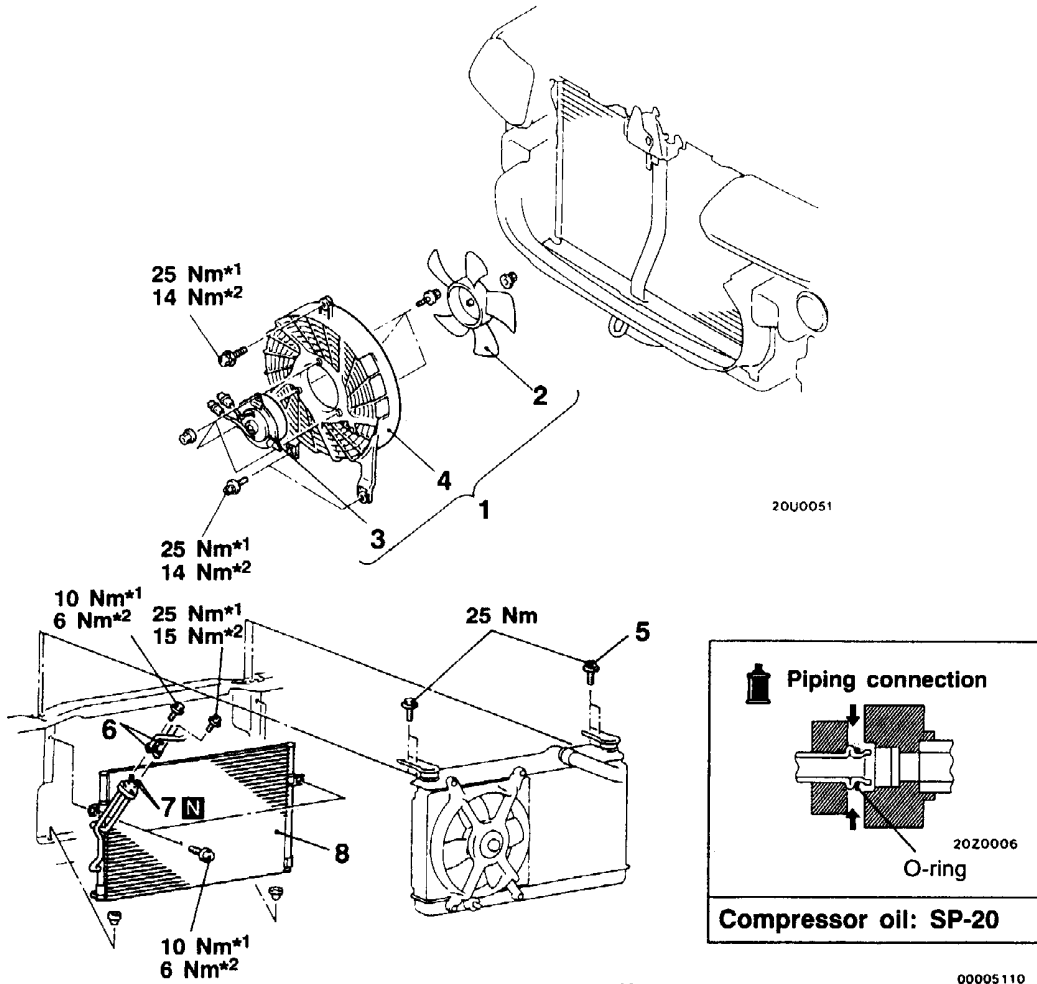
Receiver assembly: 10 ml

CONDENSER AND CONDENSER FAN MOTOR

REMOVAL AND INSTALLATION

Pre-removal Operation

- Discharging and Charging of Refrigerant



Condenser fan motor removal steps

- Front bumper
- 1. Fan motor and shroud assembly
- 2. Fan
- 3. Motor assembly
- 4. Fan shroud

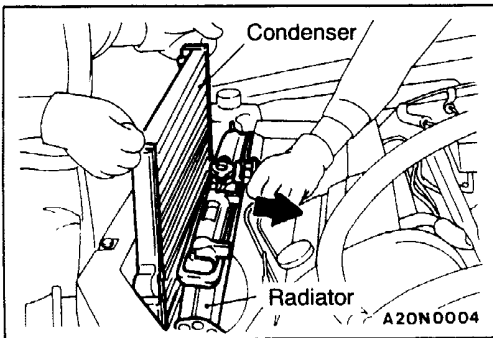
Condenser removal steps

- 5. Upper insulator installation bolt
- 6. A/C flexible hose assembly connection
- 7. O-ring
- 8. Condenser



NOTE

- (1) *1: indicates flange bolt
- (2) *2: indicates bolt and washer assembly



REMOVAL SERVICE POINT

◀A▶ CONDENSER REMOVAL

Move the radiator to the engine side and then lift up the condenser to remove it.

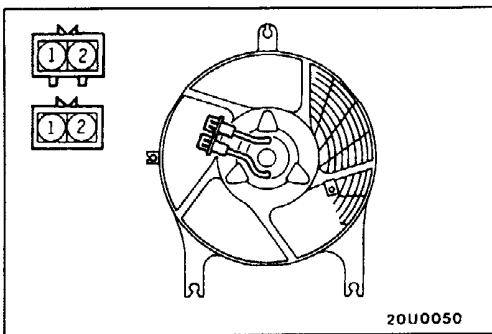
INSTALLATION SERVICE POINT

▶A◀ CONDENSER INSTALLATION

When replacing the condenser, refill it with a specified amount of compressor oil and install it. (to the vehicle).

Compressor oil: SP-20

Quantity: 15 ml



INSPECTION

CONDENSER FAN MOTOR CHECK

Concerning the two connectors, check that the motor runs when battery voltage is applied to the terminal 1 with the terminal 2 earthed.