

## GROUP 12

# ENGINE LUBRICATION

### GENERAL

#### OUTLINE OF CHANGES

- The service procedures have been added to correspond to the addition of diesel-powered vehicle.  
Applicable models: 1900D
  1. On-vehicle Service
  2. Removal and installation of the engine oil cooler <Vehicles with A/C>

### LUBRICANTS

Items	Engine oil	Quantity ℥
Oil filter	CCMC classification FOR SERVICE PD2 or higher	0.35
Engine oil cooler <Vehicles with A/C>		0.4
Total quantity	Vehicles without A/C	5.1
	Vehicles with A/C	5.5

### ON-VEHICLE SERVICE

#### ENGINE OIL INSPECTION

1. Pull out the level gauge slowly and check the oil level.
2. Check that the oil is not excessively dirty, that there is no coolant or fuel mixed in, and that it has sufficient viscosity.

## ENGINE OIL REPLACEMENT

1. Start the engine and allow it to warm up until the temperature of the coolant reaches 80°C to 90°C.
2. Remove the engine oil filler cap.
3. Remove the drain plug to drain oil.

**Caution**

**Use care as oil could be hot.**

4. Fit the drain plug after oil has been drained completely.

**NOTE**

Tightening torque: 25 Nm

5. Refill with specified quantity of oil.

**Specified Engine Oil:**

**CCMC classification FOR SERVICE PD2 or higher**

**Total quantity (Includes volume inside oil filter):**

**5.1 ℥ <Vehicles without A/C>**

**5.5 ℥ <Vehicles with A/C>**

6. Install the engine oil filler cap.

7. Check oil level.

## OIL FILTER REPLACEMENT

1. After removing the engine oil filler cap, remove the engine oil drain plug to drain the engine oil.
2. Use the oil filter wrench to remove the engine oil filter from the underside of the vehicle.
3. Clean the cylinder block side mounting surface.

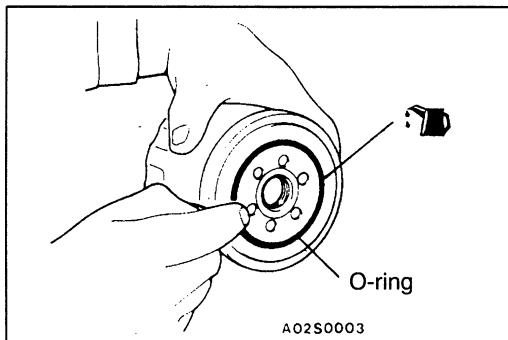
4. Apply a small amount of engine oil to the O-ring of the new oil filter.
5. Use the oil filter wrench to install the engine oil filter.

**NOTE**

Tightening torque: 10 – 14 Nm

6. Fill with engine oil.

7. Race the engine 2 – 3 times, and check to be sure that no engine oil leaks from installation section of the oil filter.

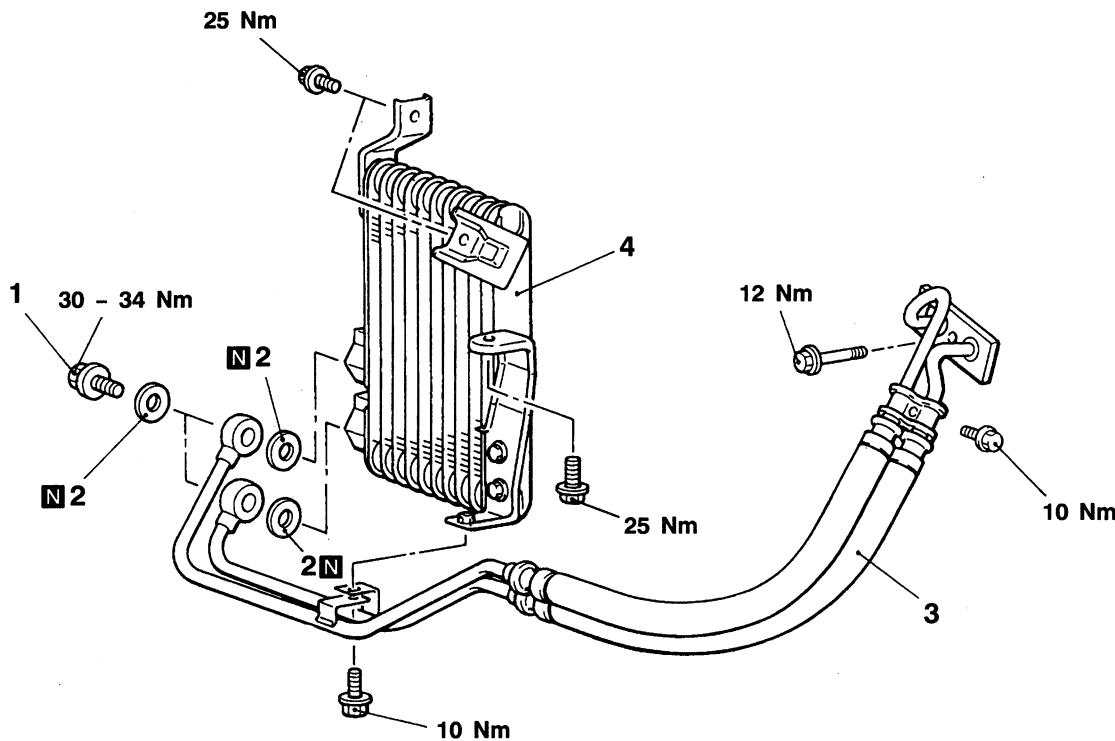


## ENGINE OIL COOLER

### REMOVAL AND INSTALLATION

#### Pre-removal and Post-installation Operation

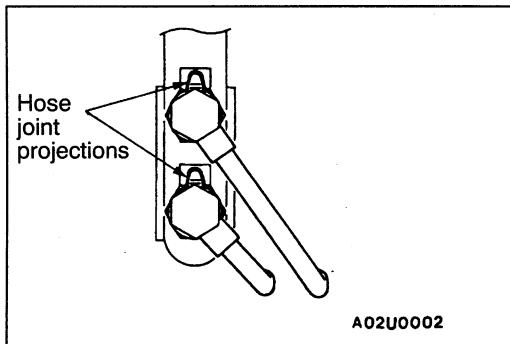
- (1) Engine Oil Draining and Supplying
- (2) Front Bumper Removal and Installation



AO2U0001

#### Removal steps

1. Eye bolt
2. Gasket
- A◀ 3. Oil cooler hose assembly
4. Engine oil cooler



#### INSTALLATION SERVICE POINT

##### ►A◀ OIL COOLER HOSE ASSEMBLY INSTALLATION

Insert the hose joint projections into the pin hole of the engine oil cooler, and install the oil cooler hose assembly.

**NOTES**