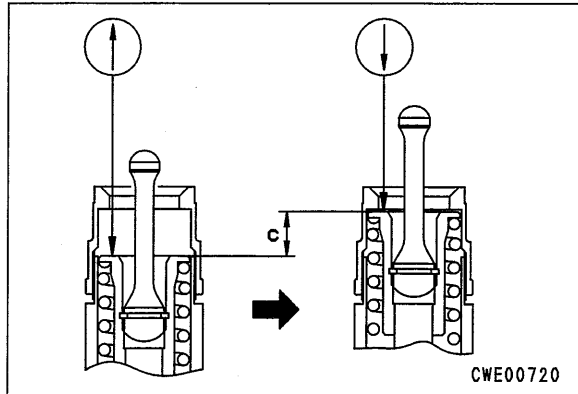


- 8) Crank the crankshaft and measure lift **c** of the plunger at the point where the deflection of the dial gauge is the maximum.
 - ★ Maximum lift **c**: 20.00 mm
 - ★ If the measurement is not within the standard value, adjust the injector again.



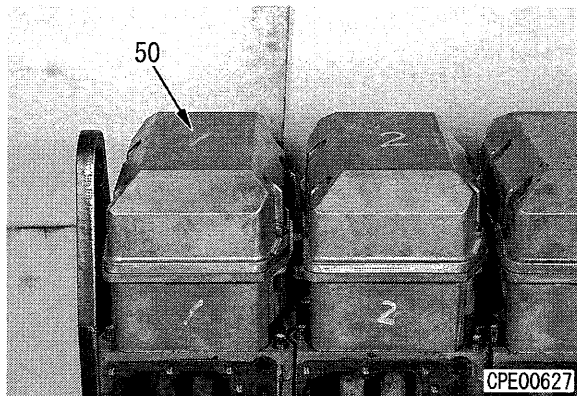
- 9) Repeat Steps 6) – 8) to check the injectors of each cylinder.

32. Cylinder head covers

Fit O-rings and install 6 cylinder head covers (50).

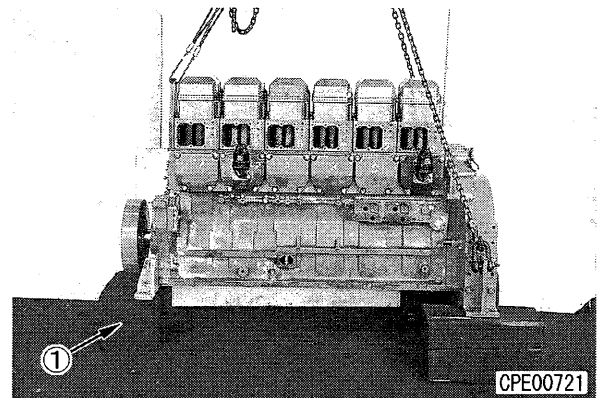
 **kgm** Mounting bolt:

9.8 ± 1.0 Nm {1 ± 0.1 kgm}



33. Suction pipe, oil pan

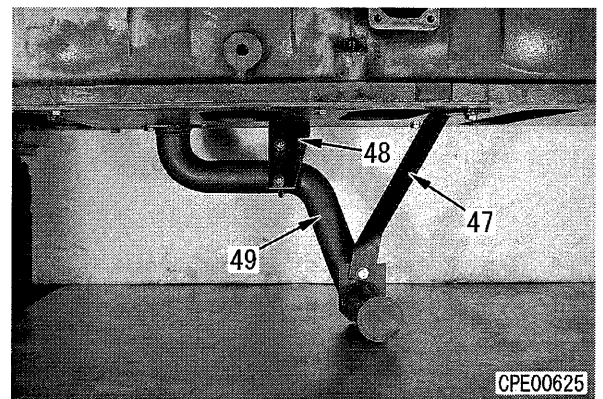
- 1) Sling engine assembly, set block ① under engine mount, then lower engine assembly again.



- 2) Fit O-ring and install suction tube (49), then install brackets (48) and (47).

 O-ring: **Engine oil (EO30-CD)**

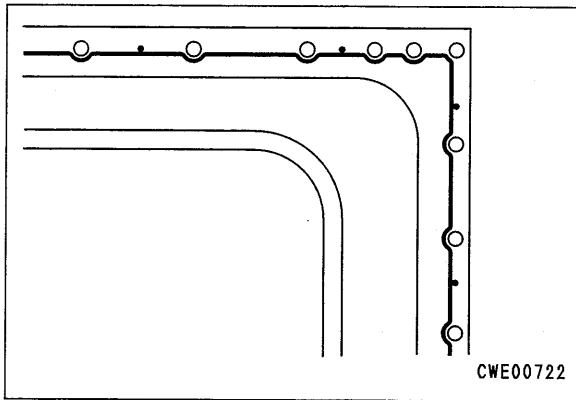
- ★ Determine the position of the suction tube and brackets, then tighten the mounting bolts.
- ★ After installing the suction tube, remove all the temporary mounting bolts (inside, outside) of the underplate.




- 3) Coat oil pan with gasket sealant.

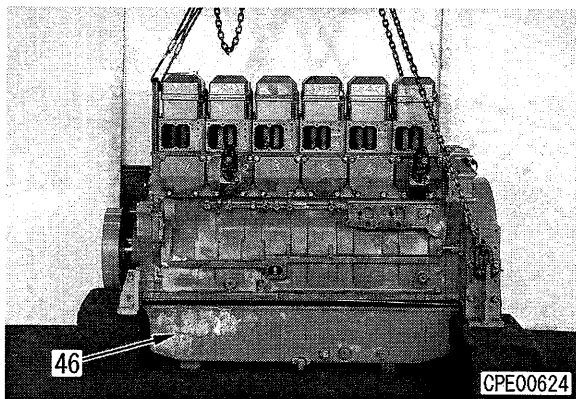
 Oil pan: **Gasket sealant (LG-7)**

- ★ Coat the gasket sealant as shown in the diagram with a line of width $\phi 2 - 3$ mm.




- 4) Sling engine assembly again, set oil pan (46) under cylinder block, then lower engine assembly on top of block.
- ★ The shape of the oil pan differs according to the machine it is mounted on.
- 5) Push oil pan (46) from under with jack, and install mounting bolts.


 Oil pan: **70 kg**



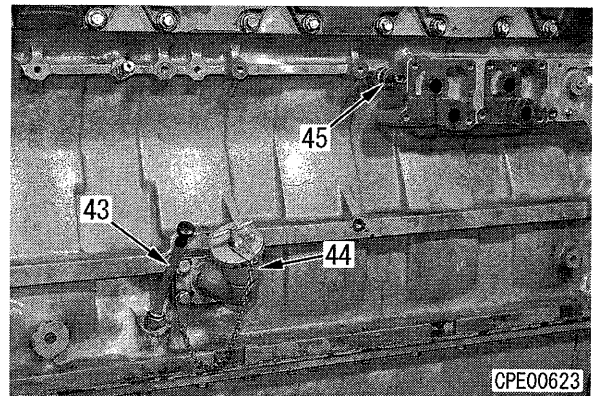
- 6) Install oil pressure sensor (45).

 Oil pressure sensor:
13.4 ± 0.8 Nm {1.37 ± 0.08 kgm}

- 7) Fit gasket and install oil filler tube (44).
- ★ The shape of the oil filler tube differs according to the machine it is mounted on.
- 8) Install gauge tube (43) and insert dipstick.
- ★ Push the gauge tube against the oil pan and tighten the sleeve nut.

 Sleeve nut:
44.1 - 58.8 Nm {4.5 - 6 kgm}

- ★ The shape of the dipstick differs according to the machine it is mounted on.

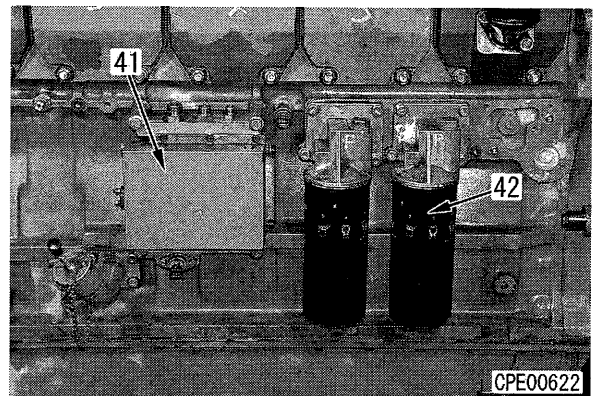


34. Oil filter assembly

Fit O-ring and install 2 oil filter assemblies (42).

35. ECVA & ECM

Install ECVA and ECM (41).



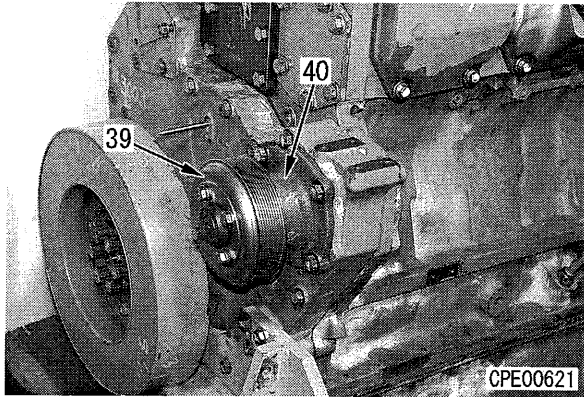
36. Fuel pump assembly

- 1) Fit gasket and install drive assembly (40).
- 2) Install pulley (39).


 **kgm** Mounting bolt:

59 – 74 Nm {6 – 7.5 kgm}

- ★ The shape of the pulley differs according to the machine it is mounted on.



- 3) Temporarily assemble bracket (38) and fuel pump assembly (37) to engine.

 **kg** Fuel pump assembly: **20 kg**

- 4) Tighten connecting bolt of bracket (38) and fuel pump assembly (37).

 **kgm** Connecting bolt:

98 – 122.5 Nm {10 – 12.5 kgm}

- 5) Push fuel pump assembly (37) against front and tighten mounting bolts of fuel pump.

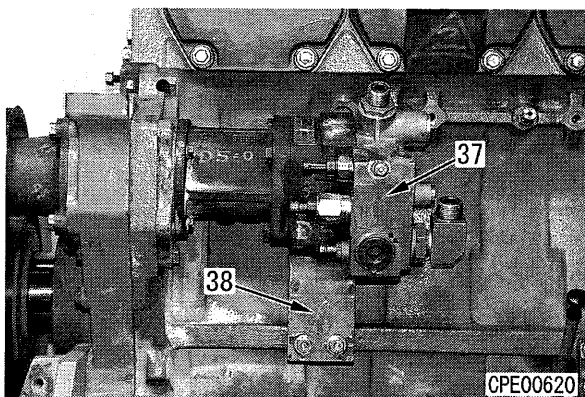
 **kgm** Mounting bolt:

58.8 – 73.5 Nm {6 – 7.5 kgm}

- 6) Tighten mounting bolts of bracket (38).

 **kgm** Mounting bolt:

58.8 – 73.5 Nm {6 – 7.5 kgm}

**37. Intake manifold assembly**

- 1) Raise intake manifold assembly (36) and install.

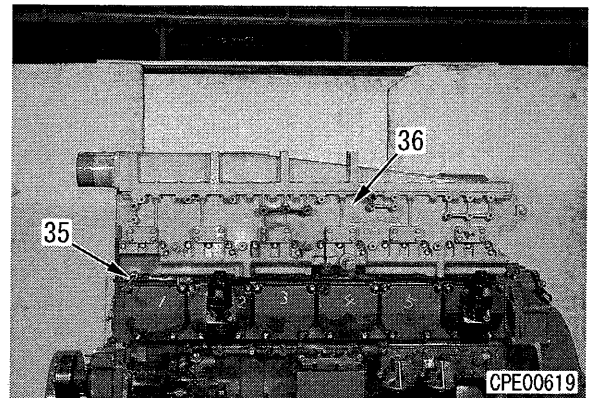
 **kg** Intake manifold assembly: **110 kg**

- ★ When tightening the mounting bolts, start in the center and move outwards on each side in turn.
- ★ The shape of the intake manifold differs according to the machine it is mounted on.

- 2) Install boost sensor (35).

 **kgm** Boost sensor:

13.4 ± 0.8 Nm {1.37 ± 0.08 kgm}



- 3) Fit O-ring and install fuel rail tube (34).

 **kgm** Eyebolt:

24.5 – 34.3 Nm {2.5 – 3.5 kgm}

 **kgm** Sleeve nut:

24 – 27 Nm {2.4 – 2.8 kgm}

- 4) Fit O-ring and install timing rail tube (33).

 **kgm** Eyebolt:

34.3 – 44.1 Nm {3.5 – 4.5 kgm}

 **kgm** Sleeve nut:

43 – 47 Nm {4.4 – 4.8 kgm}

- 5) Fit O-ring and install fuel inlet tube (32).

 **kgm** Sleeve nut:

60 – 68 Nm {6.1 – 6.9 kgm}

