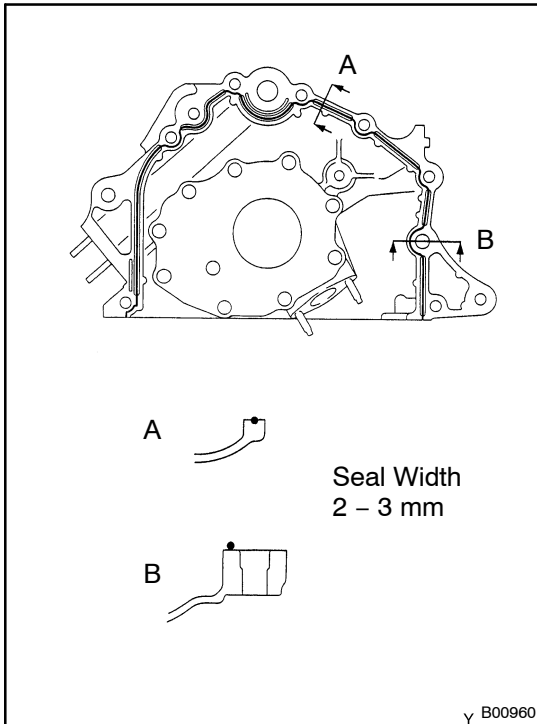




INSTALLATION

1. INSTALL OIL PUMP

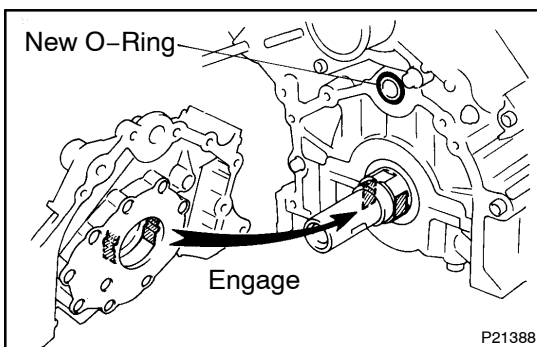
- (a) Remove any old packing (FIPG) material, and be careful not to drop any oil on the contact surfaces of the oil pump and the cylinder block.
 - Using a razor blade and a gasket scraper, remove all the old packing (FIPG) material from the gasket surfaces and sealing groove.
 - Thoroughly clean all components to remove all the loose material.
 - Using a non-residue solvent, clean the both sealing surfaces.
- (b) Apply seal packing to the oil pump as shown in the illustration.

Seal packing: Part No. 08826-00080 or equivalent

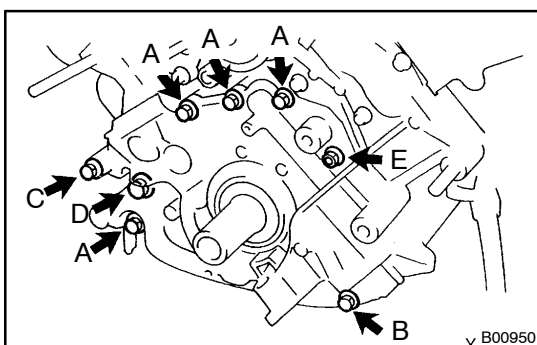
NOTICE:

Avoid applying an excessive seal packing to the surface. Be particularly careful near oil passage.

- Install a nozzle that is cut to a 2 – 3 mm (0.08 – 0.12 in.) opening.
- Parts must be assembled within 5 minutes after the seal packing application. Otherwise the material must be removed and reapplied.
- Immediately remove the nozzle from the tube and reinstall the cap.



- (c) Install a new O-ring to the cylinder block.
- (d) Engage the spline teeth of the oil pump drive gear with the large teeth of the crankshaft, and slide the oil pump on the crankshaft.



- (e) Install the oil pump with the 8 bolts. Uniformly tighten the bolts in a little at a time several stages.

Torque:

15.5 N·m (160 kgf·cm, 11 ft·lbf)

for 12 mm head 6 mm hexagon head

30.5 N·m (310 kgf·cm, 22 ft·lbf) for 14 mm and

HINT:

- Use a 6 mm hexagon wrench for the hexagon head bolt.

Bolt length:

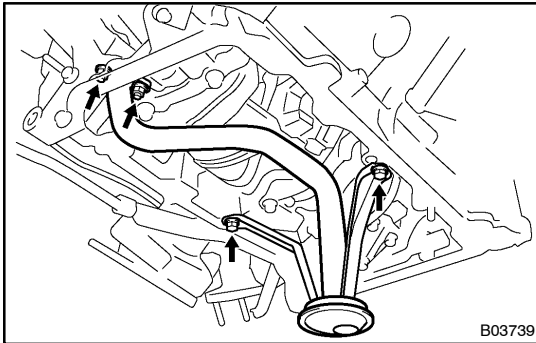
35 mm (1.38 in.) for A of 12 mm head

50 mm (1.97 in.) for B of 12 mm head

106 mm (4.17 in.) for C of 12 mm head

40 mm (1.57 in.) for D of 14 mm head

30 mm (1.18 in.) for E of 6 mm hexagon head

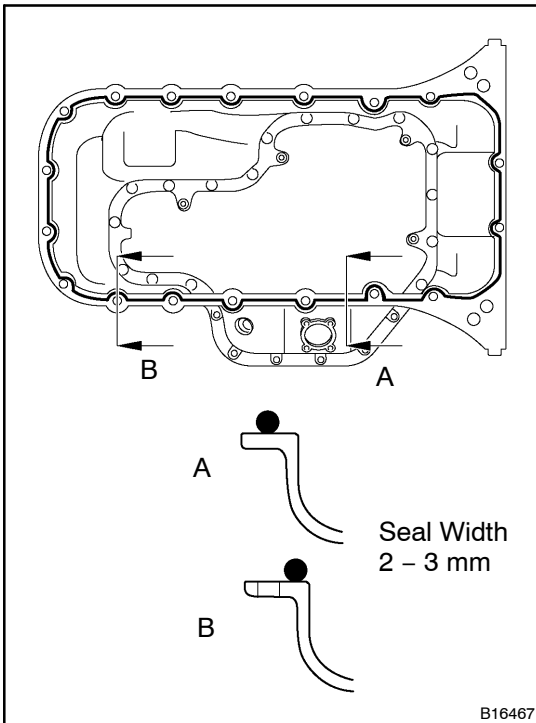
**2. INSTALL OIL STRAINER**

Install a new gasket and the oil strainer with the 2 bolts and the 2 nuts.

Torque: 7.5 N·m (80 kgf·cm, 66 in·lbf)

HINT:

Use bolts 12 mm (0.47 in.) in length.

**3. INSTALL NO.1 OIL PAN**

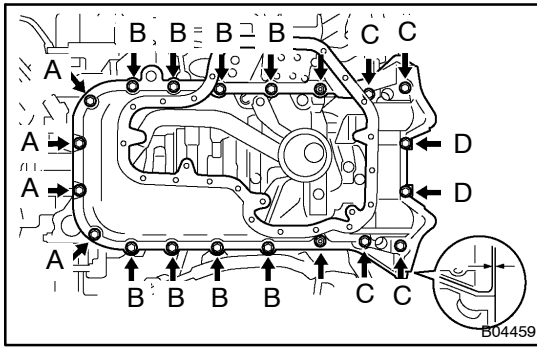
- (a) Remove any old packing (FIPG) material, and be careful not to drop any oil on the contact surfaces of the No.1 oil pan, the cylinder block, the oil pump and the rear oil seal retainer.

- Using a razor blade and a gasket scraper, remove all the old packing (FIPG) material from the gasket surfaces and sealing groove.
- Thoroughly clean all components to remove all the loose material.
- Using a non-residue solvent, clean both sealing surfaces.

- (b) Apply seal packing to the No.1 oil pan as shown in the illustration.

Seal packing: Part No. 08826-00080 or equivalent

- Install a nozzle that is cut to a 2 – 3 mm (0.08 – 0.12 in.) opening.
- Parts must be assembled within 5 minutes after the seal packing application. Otherwise the material must be removed and reapplied.
- Immediately remove the nozzle from the tube and reinstall the cap.



- (c) Temporarily install the No.1 oil pan with the 18 bolts and 2 nuts.

HINT:

Bolt length:

20 mm (0.79 in.) for A of 10 mm head

25 mm (0.98 in.) for B of 12 mm head

60 mm (2.36 in.) for C of 12 mm head

35 mm (1.38 in.) for D of 10 mm head

- (d) Set the No.1 oil pan as shown in the illustration.

NOTICE:

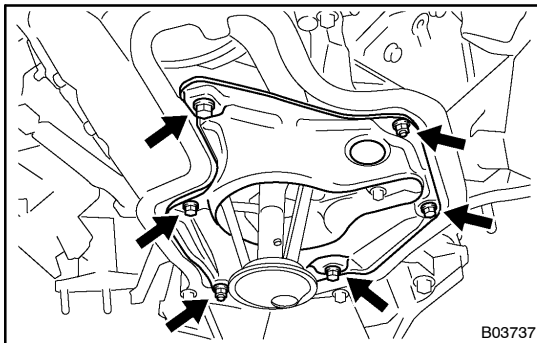
Make sure the clearance between the rear ends of the No.1 oil pan and cylinder block is 0.2 mm (0.008 in.) or less. If the clearance is more than 0.2 mm (0.008 in.), the No.1 oil pan will be stretched.

- (e) Uniformly tighten the bolts and nuts in several passes.

Torque:

7.5 N·m (80 kgf·cm, 66 in·lbf) for 10 mm head

28 N·m (290 kgf·cm, 21 ft·lbf) for 12 mm head

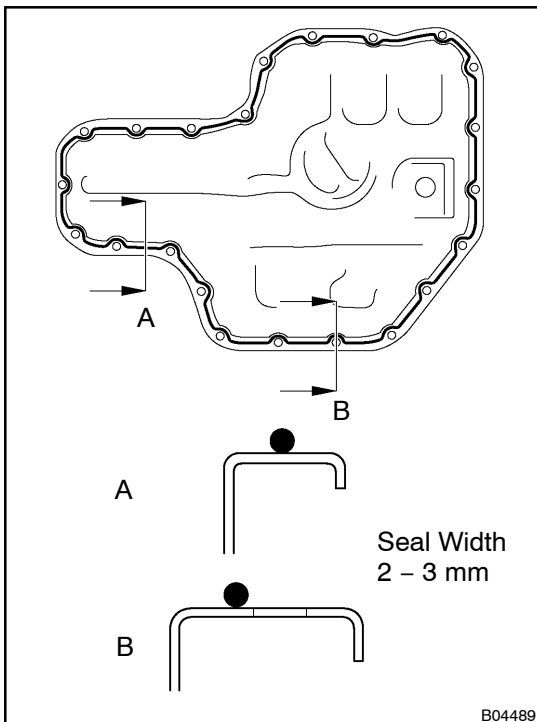
**4. INSTALL OIL PAN BAFFLE PLATE**

Install the baffle plate with the 4 bolts and 2 nuts.

Torque: 7.5 N·m (80 kgf·cm, 66 in·lbf)

HINT:

Use bolts 12 mm (0.55 in.) in length.

**5. INSTALL NO.2 OIL PAN**

- (a) Remove any old packing (FIPG) material and be careful not to drop any oil on the contact surfaces of the No.1 and No.2 oil pans.

- Using a razor blade and a gasket scraper, remove all the old packing (FIPG) material from the gasket surfaces and sealing groove.
- Thoroughly clean all components to remove all the loose material.
- Using a non-residue solvent, clean both sealing surfaces.

NOTICE:

Do not use a solvent which will affect the painted surfaces.

- (b) Apply seal packing to the No.2 oil pan as shown in the illustration.

Seal packing: Part No. 08826-00080 or equivalent

- Install a nozzle that is cut to a 3 - 4 mm (0.12 - 0.16 in.) opening.

- Parts must be assembled within 5 minutes after the seal packing application. Otherwise the material must be removed and reapplied.
- Immediately remove the nozzle from the tube and reinstall the cap.

- (c) Install the No.2 oil pan with the 20 bolts and the 2 nuts. Uniformly tighten the bolts and the nuts a little at a time in several stages.

Torque: 7.5 N·m (80 kgf·cm, 66 in·lbf)

HINT:

Use bolts 14 mm (0.55 in.) in length.

6. INSTALL CRANKSHAFT POSITION SENSOR (See page IG-13)

7. INSTALL OIL FILTER, OIL COOLER AND FILTER BRACKET ASSEMBLY

- (a) Install the new gasket to the oil filter bracket.
 (b) Install the oil filter, the oil cooler and the filter bracket assembly with the 2 bolts and the nut.

Torque: 18 N·m (185kgf·cm, 13 ft·lbf)

- (c) Connect the oil pressure switch connector.

8. INSTALL OIL DIPSTICK GUIDE AND DIPSTICK

- (a) Install a new O-ring to the dipstick guide.
 (b) Apply soapy water to the O-ring.
 (c) Push in the dipstick guide end into the guide hole of the No.1 oil pan.
 (d) Install the dipstick guide with the bolt.

Torque: 15 N·m(155 kgf·cm, 11 ft·lbf)

- (e) Install the dipstick.

9. INSTALL CRANKSHAFT TIMING PULLEY (See page EM-22)

10. INSTALL NO.1 IDLER PULLEYS (See page EM-22)

11. INSTALL NO.2 IDLER PULLEYS (See page EM-22)

12. INSTALL TIMING BELT (See page EM-22)

13. DISCONNECT ENGINE FROM ENGINE STAND

14. INSTALL ENGINE TO VEHICLE (See page EM-103)

