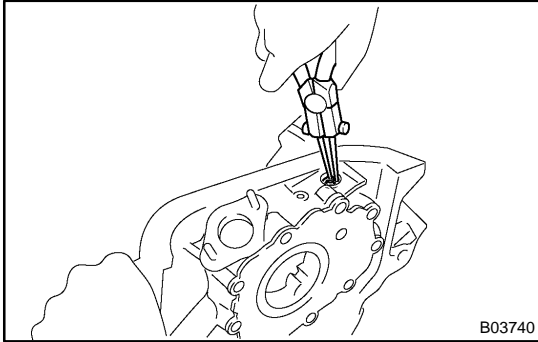
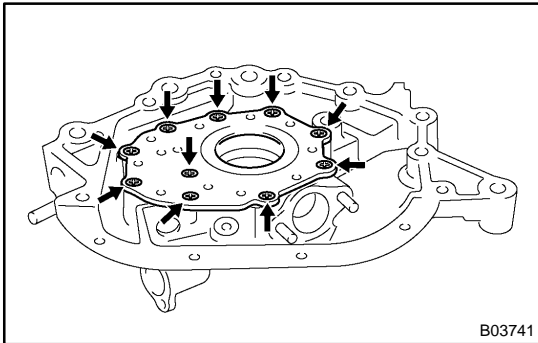


OVERHAUL



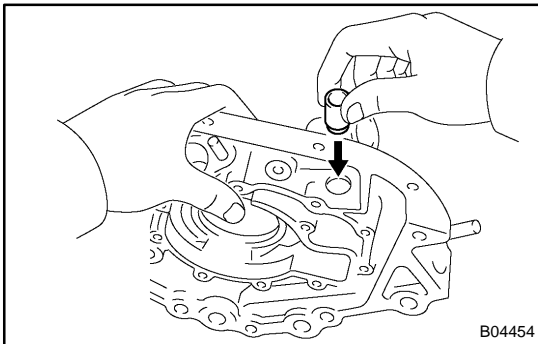
1. REMOVE OIL PUMP RELIEF VALVE

- (a) Using snap ring pliers, remove the snap ring.
- (b) Remove the retainer, spring and relief valve.



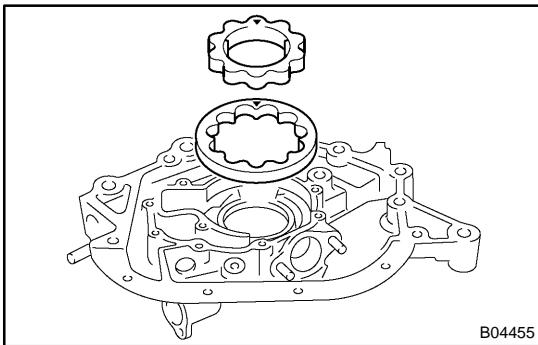
2. REMOVE OIL PUMP ROTOR SET

- (a) Remove the 10 screws, pump body cover and the drive and driven rotors.



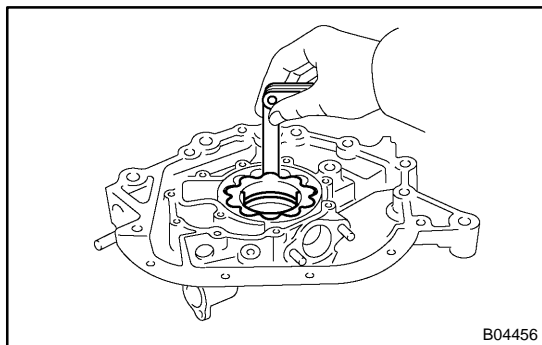
3. INSPECT OIL PUMP RELIEF VALVE

- (a) Coat the valve with engine oil and check that it falls smoothly into the valve hole by its own weight. If it doesn't, replace the relief valve. If necessary, replace the oil pump assembly.



4. INSPECT OIL PUMP ROTOR SET

- (a) Place the drive and driven rotors into the oil pump body with the mark facing upward.



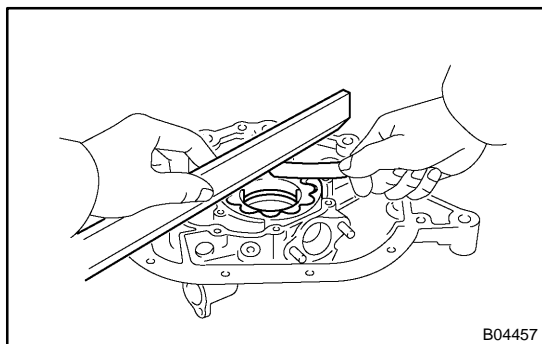
- (b) Inspect rotor tip clearance.
 (1) Using a feeler gauge, measure the clearance between the drive and driven rotor tips.

Standard tip clearance:

0.110 - 0.240 mm (0.0043 - 0.0094 in.)

Maximum tip clearance: 0.35 mm (0.0138 in.)

If the tip clearance is greater than maximum, replace the rotor as a set.



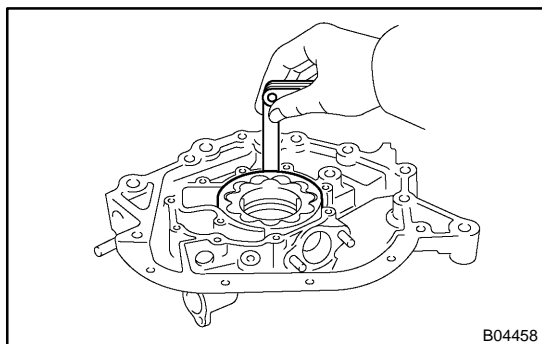
- (c) Inspect rotor side clearance.
 (1) Using a feeler gauge and precision straight edge, measure the clearance between the rotors and precision straight edge.

Standard side clearance:

0.030 - 0.090 mm (0.0012 - 0.0035 in.)

Maximum side clearance: 0.15 mm (0.0059 in.)

If the side clearance is greater than maximum, replace the rotors as a set. If necessary, replace the oil pump assembly.



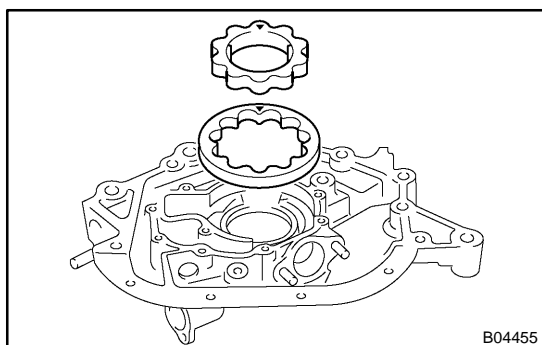
- (d) Inspect rotor body clearance.
 (1) Using a feeler gauge, measure the clearance between the driven rotor and body.

Standard body clearance:

0.100 - 0.175 mm (0.0039 - 0.0069 in.)

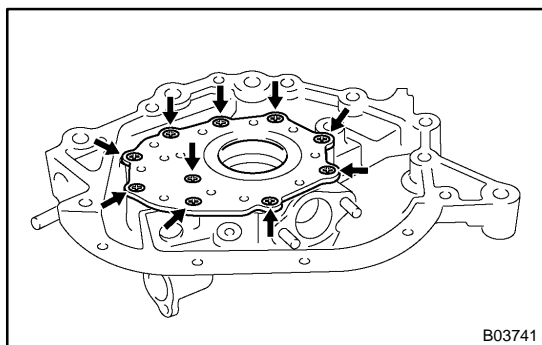
Maximum body clearance: 0.30 mm (0.0118 in.)

If the body clearance is greater than maximum, replace the rotors as a set. If necessary, replace the oil pump assembly.

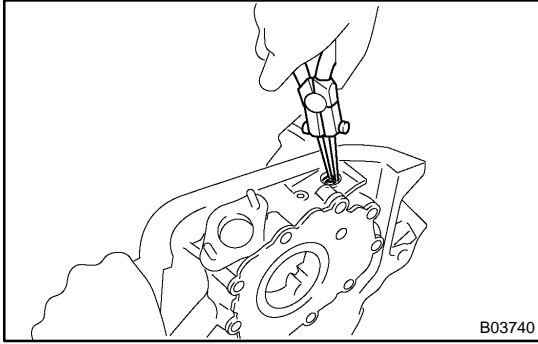


5. INSTALL OIL PUMP ROTOR SET

- (a) Place the drive and driven rotors into pump body with the marks facing the pump body cover side.



- (b) Install the oil pump body cover with the 10 screws.
Torque: 10 N·m (105 kgf·cm, 7 ft·lbf)

**6. INSTALL OIL PUMP RELIEF VALVE**

- (a) Insert the relief valve, spring and retainer into the oil pump body hole.
- (b) Using snap ring pliers, install the snap ring.