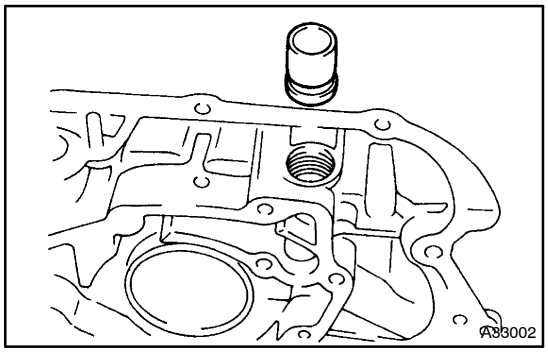
OIL PUMP ASSY (1MZ–FE)

1705M–01

OVERHAUL

1. REMOVE OIL PUMP RELIEF VALVE

(a) Remove the plug, spring and relief valve.



2. INSPECT OIL PUMP RELIEF VALVE

(a) Apply a light coat of engine oil.
(b) Check that it falls smoothly into the valve hole by its own weight.

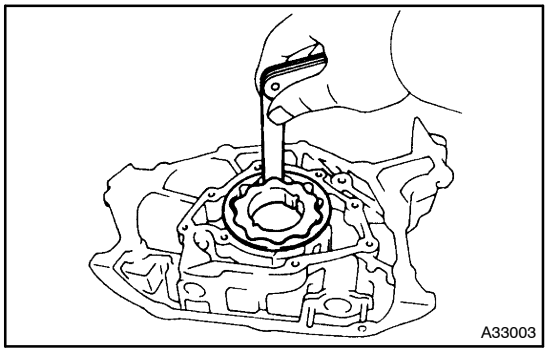
3. INSPECT OIL PUMP ASSY

(a) Remove the oil pump cover.
  (1) Remove the 10 screws and the oil pump cover.
(b) Remove oil pump rotor set.

NOTICE:

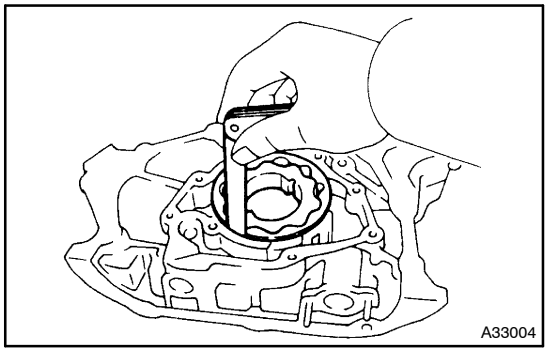
Do not change the combination and install direction of the two rotors.

(c) Inspect oil pump rotor set.
  (1) Apply a light coat of engine oil to the oil pump rotor set and place them into the oil pump body. Check that the rotors revolve smoothly.

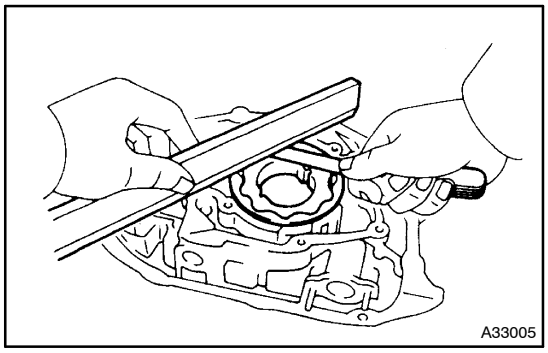


(d) Inspect rotor tip clearance.
  (1) Using a feeler gauge, measure the clearance between the drive and driven rotor tips.

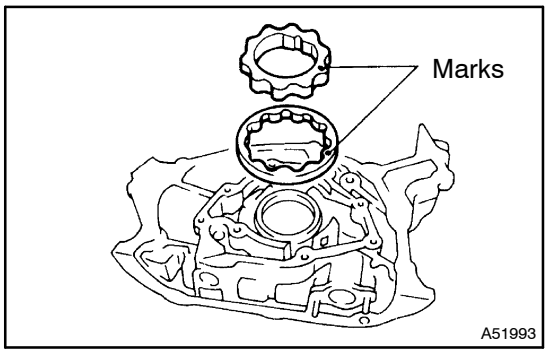
  Standard tip clearance:
  0.11 – 0.24 mm (0.0043 – 0.0094 in.)
  Maximum tip clearance: 0.35 mm (0.0138 in.)



(e) Inspect rotor body clearance.
(1) Using a feeler gauge, measure the clearance between the driven rotor and body.
Standard body clearance:
0.125 – 0.162 mm (0.0050 – 0.0064 in.)
Maximum body clearance: 0.30 mm (0.0118 in.)



(f) 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:
0.03 – 0.09 mm (0.0012 – 0.0035 in.)
Maximum side clearance: 0.15 mm (0.0059 in.)



(g) Install oil pump rotor set.
(1) Apply a light coat of engine oil to the oil pump gear set and place it into pump body with the marks facing the pump body cover side.
(h) Install oil pump cover.
(1) Install the 10 screws and oil pump cover.
Torque: 10 N·m (105 kgf·cm, 8 ft·lbf)

4. INSTALL OIL PUMP RELIEF VALVE

(a) Apply a light coat of engine oil to the relief valve, and insert the relief valve and spring into the pump body hole.
(b) Install the oil pump relief valve plug.
Torque: 24 N·m (245 kgf·cm, 18 ft·lbf)