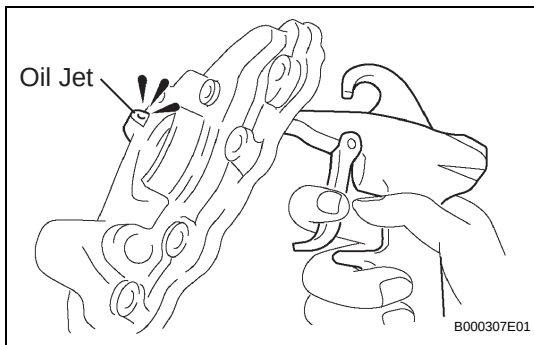


INSPECTION

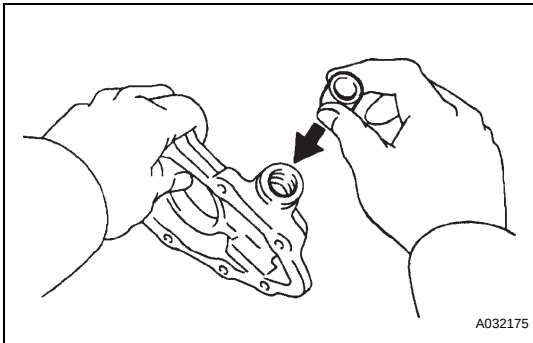
1. INSPECT OIL JET

- Apply air pressure to the path shown in the illustration, then check the oil jet for damage or clogging.
If the air does not blow out from the oil jet, replace the oil pump.



2. INSPECT OIL PUMP RELIEF VALVE

- Coat the oil pump relief valve with engine oil, then check that it falls smoothly into the valve hole by its own weight.
If this does not occur, replace the oil pump.



3. INSPECT OIL PUMP ROTOR

- Using a feeler gauge, measure the clearance between the drive and driven rotor tips.

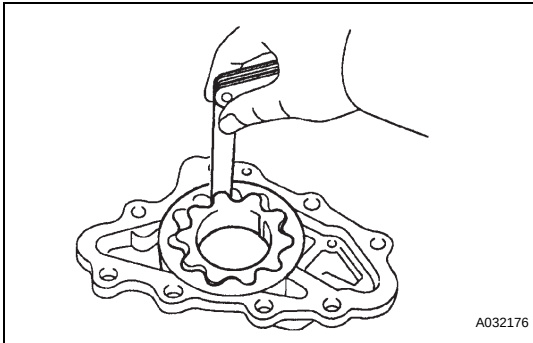
Standard tip clearance:

0.040 to 0.160 mm (0.0016 to 0.0063 in.)

Maximum tip clearance:

0.160 mm (0.0063 in.)

If the tip clearance is greater than maximum, replace the oil pump.



- Using a feeler gauge and precision straight edge, measure the clearance between the 2 rotors and precision straight edge.

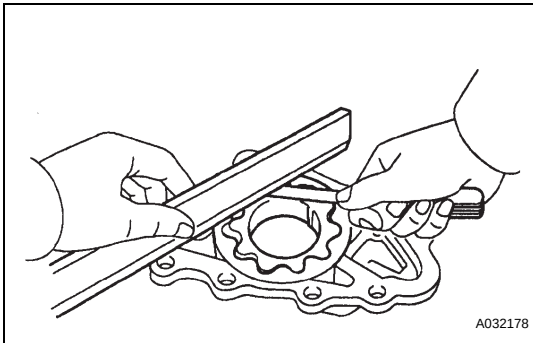
Standard side clearance:

0.025 to 0.071 mm (0.0010 to 0.0028 in.)

Maximum side clearance:

0.071 mm (0.0028 in.)

If the side clearance is greater than maximum, replace the oil pump.



- Using a feeler gauge, measure the clearance between the driven rotor and oil pump body.

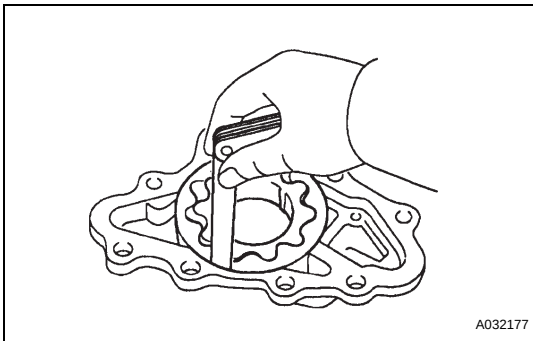
Standard body clearance:

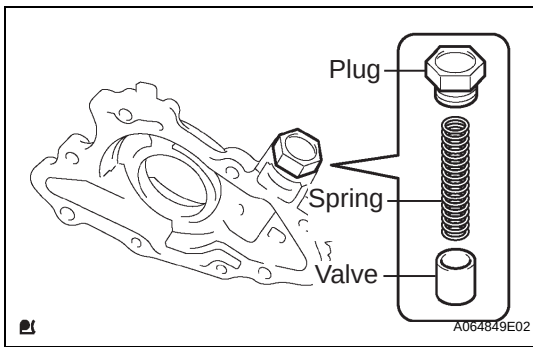
0.260 to 0.325 mm (0.0102 to 0.0128 in.)

Maximum body clearance:

0.325 mm (0.0128 in.)

If the body clearance is greater than maximum, replace the oil pump.

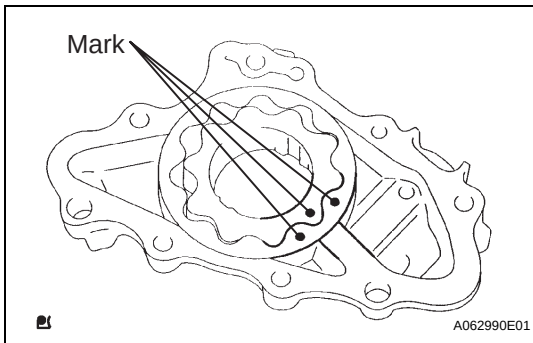




REASSEMBLY

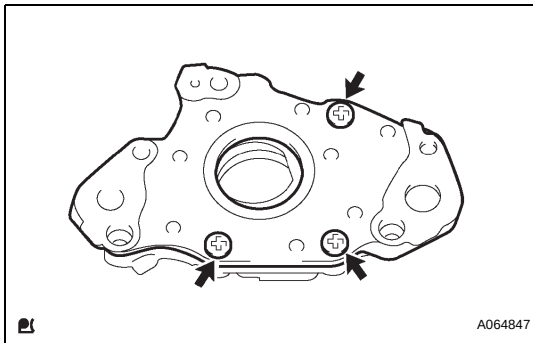
1. INSTALL OIL PUMP RELIEF VALVE

- Coat the oil pump relief valve with engine oil, then insert the oil pump relief valve and oil pump relief spring into the valve hole.
- Install the oil pump relief valve plug.
Torque: 37 N*m (377 kgf*cm, 27 ft.*lbf)

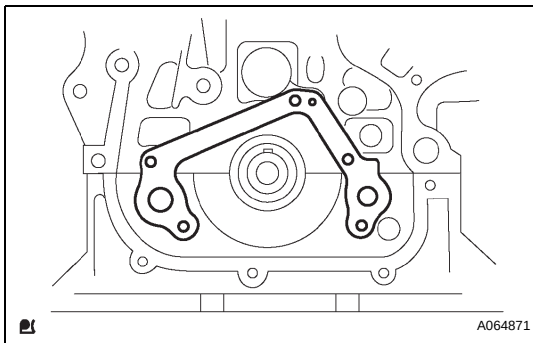


2. INSTALL OIL PUMP DRIVE AND DRIVEN ROTORS

- Coat the oil pump drive and driven rotors with engine oil, and place them into the oil pump with marks facing the oil pump cover side.



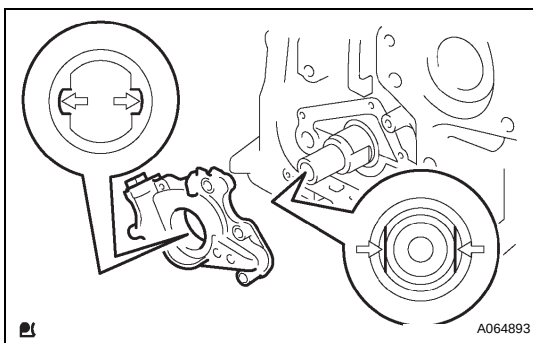
- Install the oil pump cover with the 3 screws.
Torque: 10 N*m (102 kgf*cm, 7 ft.*lbf)



INSTALLATION

1. INSTALL OIL PUMP ASSEMBLY

- Install a new gasket onto the cylinder block.



- Align the spline teeth of the oil pump drive rotor with the large teeth of the crankshaft, then slide on the oil pump.
- Install the oil pump with the 5 bolts.
Torque: 9.0 N*m (92 kgf*cm, 80 in.*lbf)

2. INSTALL CHAIN VIBRATION DAMPER NO.1

Torque: 9.0 N*m (92 kgf*cm, 80 in.*lbf)

3. INSTALL CHAIN SUB-ASSEMBLY (See page [EM-20](#))

4. INSTALL CHAIN TENSIONER SLIPPER (See page [EM-21](#))

5. INSTALL CRANKSHAFT POSITION SENSOR PLATE NO.1 (See page [EM-21](#))
6. INSTALL TIMING CHAIN OR BELT COVER OIL SEAL (See page [EM-21](#))
7. INSTALL TIMING CHAIN OR BELT COVER SUB-ASSEMBLY (See page [EM-21](#))
8. INSTALL CHAIN TENSIONER ASSEMBLY NO.1 (See page [EM-23](#))
9. INSTALL CRANKSHAFT PULLEY (See page [EM-23](#))
10. INSTALL CRANKSHAFT POSITION SENSOR (See page [EM-24](#))
11. INSTALL WATER PUMP ASSEMBLY (See page [CO-9](#))
12. INSTALL ENGINE MOUNTING BRACKET RH (See page [EM-24](#))
13. INSTALL V-RIBBED BELT TENSIONER ASSEMBLY (See page [EM-24](#))
14. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY (See page [EM-24](#))
15. INSTALL IGNITION COIL ASSEMBLY (See page [EM-25](#))
16. INSTALL ENGINE MOUNTING INSULATOR RH (See page [EM-25](#))
17. INSTALL GENERATOR ASSEMBLY (See page [CH-14](#))
18. INSTALL VANE PUMP ASSEMBLY (See page [PS-13](#))
19. INSTALL FAN AND GENERATOR V BELT
20. ADD ENGINE COOLANT (See page [CO-5](#))
21. ADD ENGINE OIL (See page [LU-4](#))
22. CONNECT BATTERY NEGATIVE TERMINAL
Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)
23. INSPECT FOR COOLANT LEAK (See page [CO-1](#))
24. INSPECT FOR OIL LEAK
25. INSTALL CYLINDER HEAD COVER NO.2 (See page [EM-26](#))
26. INSTALL ENGINE UNDER COVER RH
27. INSTALL FRONT WHEEL RH
Torque: 100 N*m (1,050 kgf*cm, 76 ft.*lbf)