

## REASSEMBLY

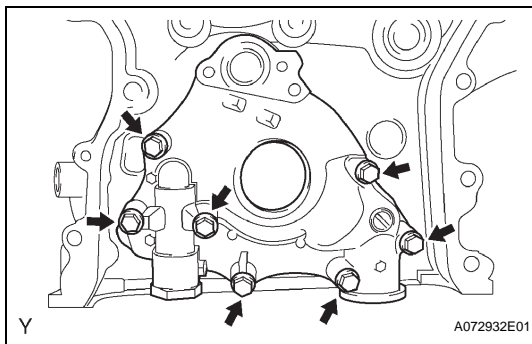
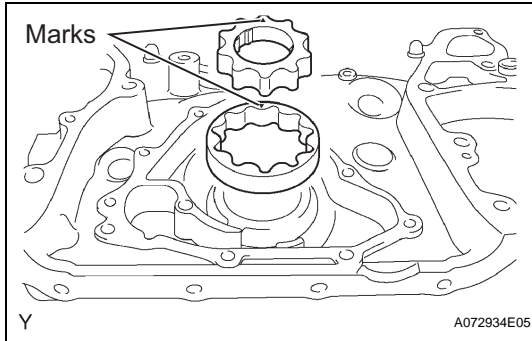
### 1. INSTALL OIL PUMP RELIEF VALVE

- (a) Coat the relief valve with engine oil and insert the relief valve and spring into the valve hole.
- (b) Install the relief valve plug.

**Torque: 49 N\*m (500 kgf\*cm, 36 ft.\*lbf)**

### 2. INSTALL OIL PUMP COVER

- (a) Apply fresh engine oil to the drive and driven rotors.
- (b) Place the drive and driven rotors into the timing chain cover with the marks facing the oil pump cover side.

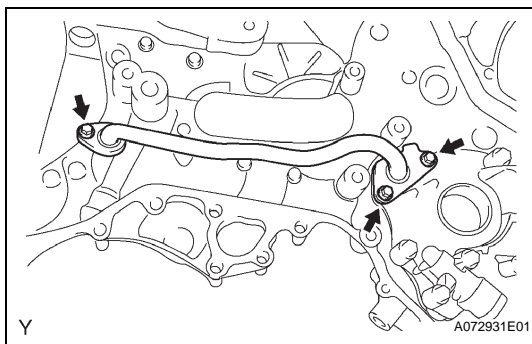


- (c) Install the oil pump cover with the 7 bolts.

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

- (d) Install a new O-ring onto the oil pump cover.

- (e) Install a new O-ring onto the oil pipe.



- (f) Install the oil pipe with the 3 bolts.

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

## INSTALLATION

### 1. INSTALL TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL (See page EM-163)

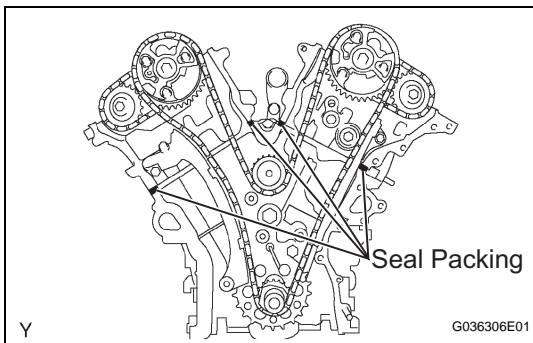
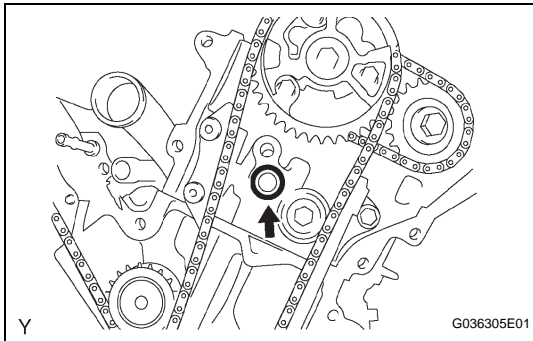
### 2. INSTALL TIMING CHAIN OR BELT COVER SUB-ASSEMBLY

- (a) Remove any old packing (FIPG) material.

HINT:

Do not drop any oil onto the contact surfaces of the timing chain cover, cylinder head or cylinder block.

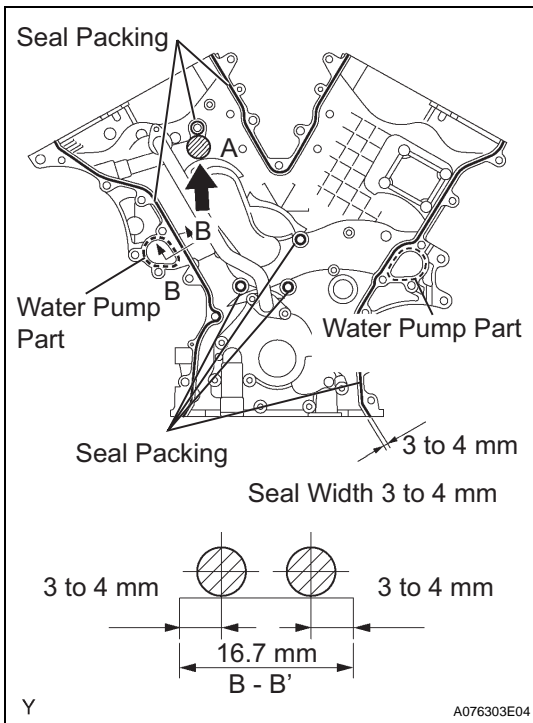
- (b) Install a new O-ring onto the LH cylinder head as shown in the illustration.



- (c) Apply continuous beads of seal packing (diameter 3 to 4 mm (0.12 to 0.16 in.)) to the 4 locations shown in the illustration.

**Seal packing:**

**Toyota Genuine Adhesive 1344, Three Bond 1344 or the equivalent**



- (d) Apply continuous beads of seal packing (diameter 3 to 4 mm (0.12 to 0.16 in.)) to the timing chain cover as shown in the illustration.

**Seal packing:**

**Water pump part:**

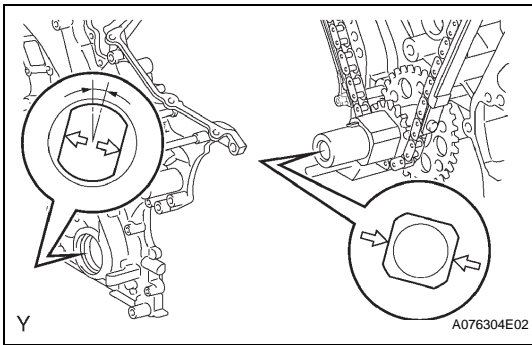
**Toyota Genuine Seal Packing 1282B, Three Bond 1282B or the equivalent**

**Other parts:**

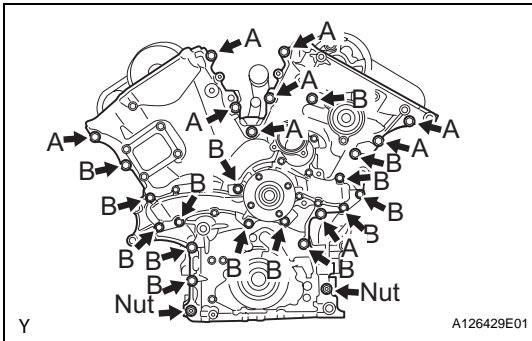
**Toyota Genuine Adhesive 1344, Three Bond 1344 or the equivalent**

**NOTICE:**

- Install the timing chain cover within 3 minutes of applying the seal packing. The timing chain cover bolts and nuts must be tightened within 15 minutes of the installation. Otherwise, the seal packing must be removed and reapplied.
- Do not apply seal packing to portion A shown in the illustration.



- (e) Align the key way of the oil pump drive rotor with the rectangular portion of the crankshaft timing gear, and slide the timing chain cover into place.



- (f) Install the timing chain cover with the 24 bolts and 2 nuts. Tighten the bolts and nuts uniformly in several steps.

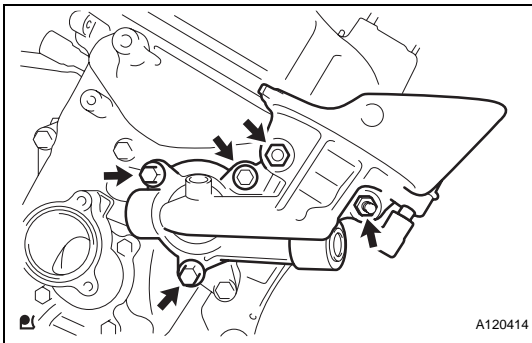
**Torque: 23 N\*m (235 kgf\*cm, 17 ft.\*lbf)**

**NOTICE:**

Pay attention not to wrap the chain and slipper over the timing chain cover seal line.

Each bolt length is as follows

Bolt	Length
A	25 mm (0.98 in.)
B	55 mm (2.17 in.)



**3. INSTALL OIL FILTER BRACKET SUB-ASSEMBLY**

- (a) Install a new gasket and oil filter bracket with the 3 bolts and 2 nuts.

**Torque: 19 N\*m (194 kgf\*cm, 14 ft.\*lbf)**

- 4. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY LH (See page EM-57)**
- 5. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY (See page EM-58)**
- 6. INSTALL WATER INLET (See page CO-9)**
- 7. INSTALL VVT SENSOR (See page ES-417)**
- 8. INSTALL CAMSHAFT TIMING OIL CONTROL VALVE ASSEMBLY (See page ES-415)**
- 9. INSTALL IGNITION COIL ASSEMBLY (See page IG-8)**
- 10. INSTALL INTAKE AIR SURGE TANK (See page FU-17)**
- 11. INSTALL NO. 2 SURGE TANK STAY (See page FU-19)**
- 12. INSTALL NO. 1 SURGE TANK STAY (See page FU-19)**
- 13. INSTALL OIL BAFFLE PLATE (See page FU-19)**
- 14. INSTALL THROTTLE BODY BRACKET (See page FU-19)**
- 15. INSTALL AIR CLEANER ASSEMBLY (See page ES-431)**
- 16. INSTALL OIL PAN SUB-ASSEMBLY (See page EM-30)**
- 17. INSTALL OIL STRAINER SUB-ASSEMBLY (See page EM-31)**

18. **INSTALL NO. 2 OIL PAN SUB-ASSEMBLY** (See page [EM-31](#))
19. **INSTALL CRANKSHAFT PULLEY** (See page [EM-32](#))
20. **INSTALL NO. 1 IDLER PULLEY SUB-ASSEMBLY** (See page [EM-32](#))
21. **INSTALL NO. 2 IDLER PULLEY SUB-ASSEMBLY** (See page [EM-33](#))
22. **INSTALL VANE PUMP ASSEMBLY** (See page [EM-33](#))
23. **INSTALL OIL LEVEL GAUGE GUIDE** (See page [EM-33](#))
24. **INSTALL V-RIBBED BELT TENSIONER ASSEMBLY** (See page [EM-33](#))
25. **INSTALL COOLER COMPRESSOR ASSEMBLY** (See page [ES-421](#))
26. **INSTALL GENERATOR ASSEMBLY**  
Refer to the procedures up to "INSTALL GENERATOR ASSEMBLY" (See page [CH-17](#)).
27. **INSTALL FAN**  
Refer to the procedures up to "INSTALL FAN" (See page [CO-17](#)).
28. **INSTALL FRONT DIFFERENTIAL CARRIER ASSEMBLY (for 4WD)**  
Refer to the procedures up to "INSTALL FRONT DIFFERENTIAL CARRIER ASSEMBLY" (See page [DF-42](#)).
29. **INSTALL POWER STEERING LINK ASSEMBLY (for 2WD)**  
Refer to the procedures up to "INSTALL POWER STEERING LINK ASSEMBLY" (See page [PS-30](#)).
30. **INSTALL POWER STEERING LINK ASSEMBLY (for 4WD)**  
Refer to the procedures up to "INSTALL POWER STEERING LINK ASSEMBLY" (See page [PS-49](#)).
31. **INSTALL BATTERY**
32. **ADD ENGINE COOLANT** (See page [CO-3](#))
33. **ADD ENGINE OIL** (See page [LU-5](#))
34. **ADD POWER STEERING FLUID**
35. **BLEED POWER STEERING FLUID** (See page [PS-2](#))
36. **ADD DIFFERENTIAL OIL (for 4WD)**
37. **INSPECT DIFFERENTIAL OIL (for 4WD)** (See page [DF-3](#))
38. **CHECK FOR ENGINE COOLANT LEAKAGE** (See page [CO-4](#))
39. **CHECK FOR ENGINE OIL LEAKAGE**

- 40. CHECK FOR FUEL LEAKAGE**
- 41. CHECK FOR EXHAUST GAS LEAKAGE**
- 42. CHECK POWER STEERING FLUID LEAKAGE**
- 43. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT**  
(See page [SP-2](#))