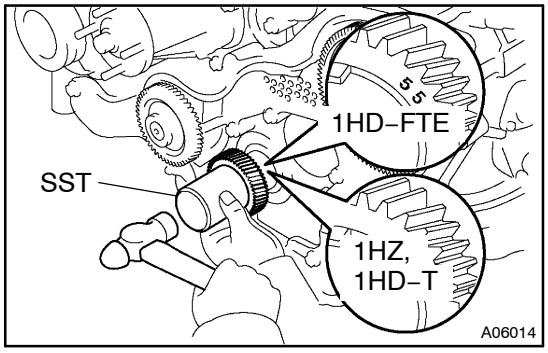
EM0WK–01

INSTALLATION

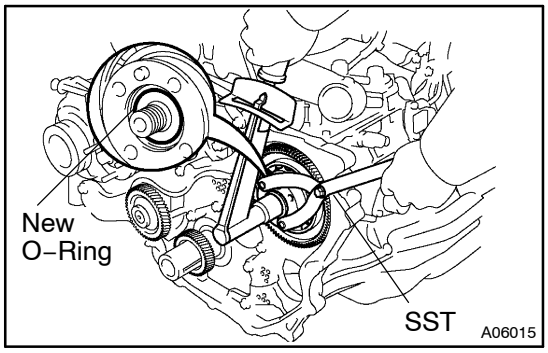


1. INSTALL CRANKSHAFT TIMING GEAR

(a) Put the timing gear with the timing mark facing forward.

(b) Align the set key on the crankshaft with the key groove of the timing gear.

(c) Using SST and a hammer, tap in the timing gear.
SST 09223–00010



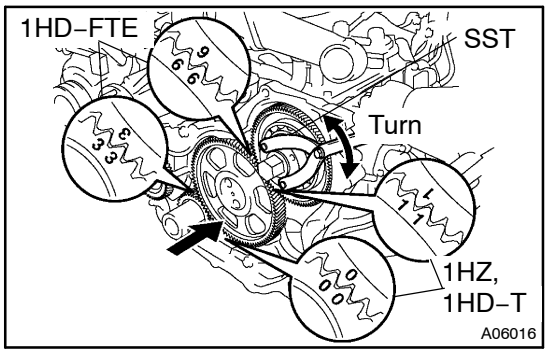
2. INSTALL INJECTION PUMP DRIVE GEAR

(a) Align the set key on the drive shaft with the key groove of the drive gear, and install the drive gear.

(b) Install a new O–ring to the drive gear groove.

(c) Install the gear net.

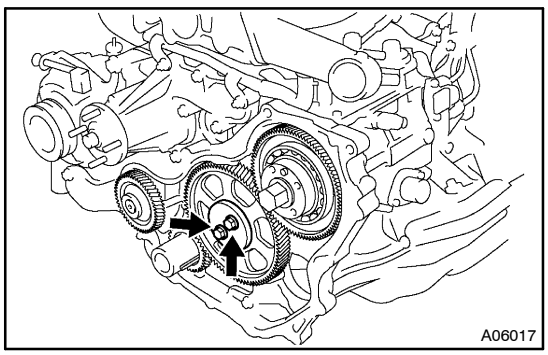
(d) Using SST, tighten the gear nut.
SST 09960–10010 (09962–01000, 09963–00700)
Torque:
1HZ, 1HD–T: 103 N·m (1,050 kgf·cm, 76 ft·lbf)
1HD–FTE: 137 N·m (1,397 kgf·cm, 101 ft·lbf)



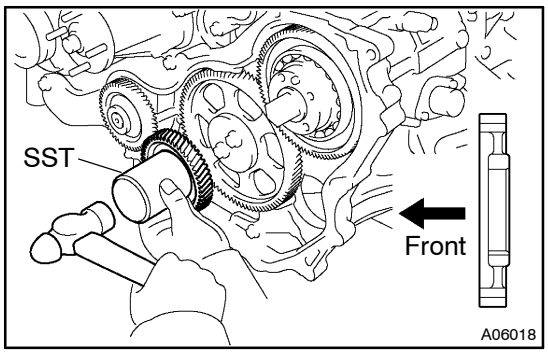
3. INSTALL IDLER GEAR

(a) Align the bolt holes of the idler gear shaft and cylinder block, and install the idler gear shaft.

(b) Using SST, turn the injection pump drive gear clockwise or counterclockwise, and align timing marks ”3” and ”4” of the idler gear with timing mark ”3” of the crankshaft timing gear and timing mark ”4” of the injection pump drive gear respectively, and mesh the gears.
SST 09960–10010 (09962–01000, 09963–00700)



(c) Install the thrust plate with the 2 bolts.
Torque: 68 N·m (694 kgf·cm, 50 ft·lbf)



4. INSTALL OIL PUMP DRIVE SHAFT GEAR

(a) Align the set key on the crankshaft with the key groove of the drive shaft gear.

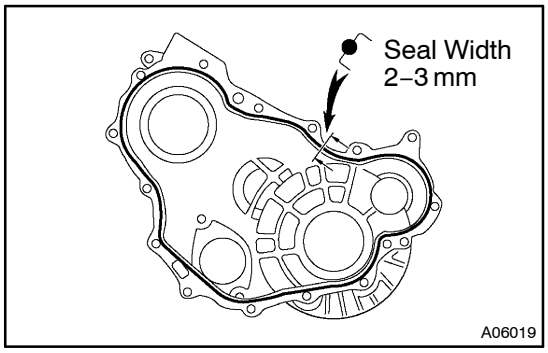
(b) Using SST and a hammer, tap in the drive shaft gear.
SST 09223–00010

5. INSTALL NO. 2 CYLINDER BLOCK INSULATOR

6. INSTALL TIMING GEAR COVER

(a) Remove and old packing (FIPG) material and be careful not to drop any oil on the contact surface of the timing gear cover and cylinder block.

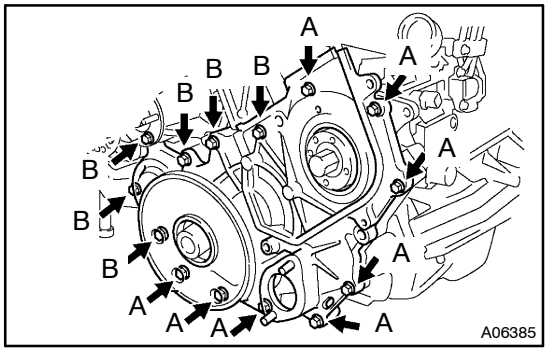
- Using a razor blade and gasket scraper, remove all the old packing (FIPG) material from the gasket surfaces and sealing groove.
- Thoroughly clean all components to remove all the loose material.
- Using a non–residue solvent, clean both sealing surfaces.

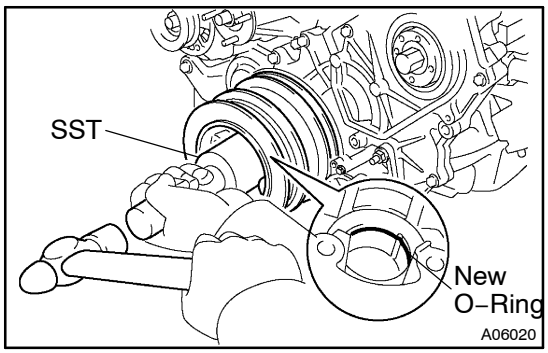


(b) Apply seal packing to the timing gear cover as shown in the illustration.

Part No. 08826–00080 or equivalent

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





7. INSTALL CRANKSHAFT PULLEY

(a) Install a new O–ring to the crankshaft pulley groove.

(b) Align the set key on the crankshaft with the key groove of the crankshaft pulley.

(c) Using SST and a hammer, tap in the crankshaft pulley.
SST 09214–60010

(d) Temporarily install the plate washer and pulley nut.

NOTICE:

Do not turn the crankshaft pulley. The valve heads will hit against the piston top.

(e) Instal the timing gear cover, clamp and bracket with the 14 bolts.
Torque: 19.6 N·m (200 kgf·cm, 14 ft·lbf)

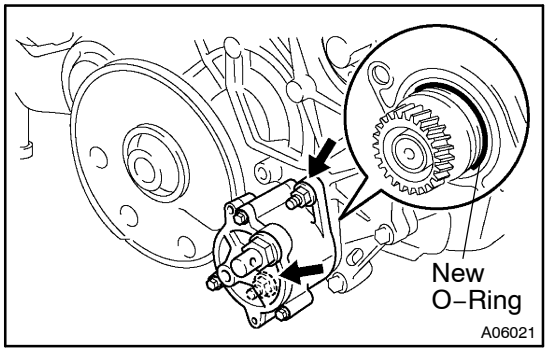
HINT:

Each bolt length is indicated in the illustration.

Bolt length:

A 25 mm (0.98 in.)

B 50 mm (1.97 in.)

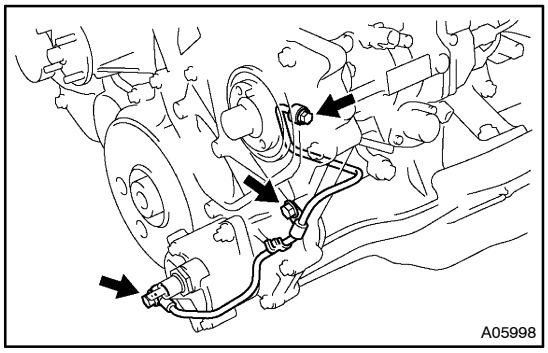


8. INSTALL VACUUM PUMP

(a) Install a new O–ring to the vacuum pump.

(b) Install the vacuum pump with the 2 nuts.

Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)



9. INSTALL OIL PIPE

Install the oil pipe with the bolt, 2 union bolts and 4 new gaskets.

Torque:

Bolt 19.6 N·m (200 kgf·cm, 14 ft·lbf)

Union bolt 18 N·m (185 kgf·cm, 13 ft·lbf)

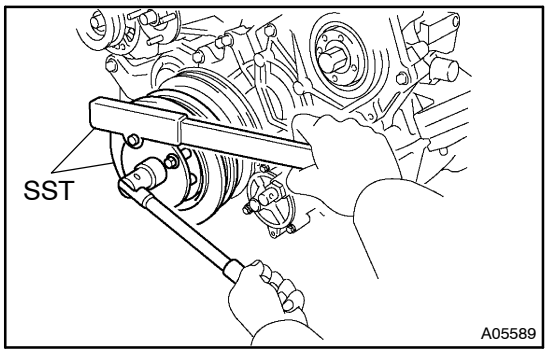
10. INSTALL CAMSHAFT OIL SEAL RETAINER

1HZ, 1HD–T: (See page EM–63)

1HD–FTE: (See page EM–91)

11. INSTALL TIMING PULLEYS AND TIMING BELT

(See page EM–31)



12. TIGHTEN CRANKSHAFT PULLEY BOLT

Using SST, tighten the pulley bolt.

SST 09213–58012 (90201–08131, 91111–50845), 09330–00021

Torque: 430 N·m (4,400 kgf·cm, 317 ft·lbf)

13. INSTALL WATER PUMP PULLEY, FAN, FLUID COUPLING AND DRIVE BELTS

(See page CO–9)