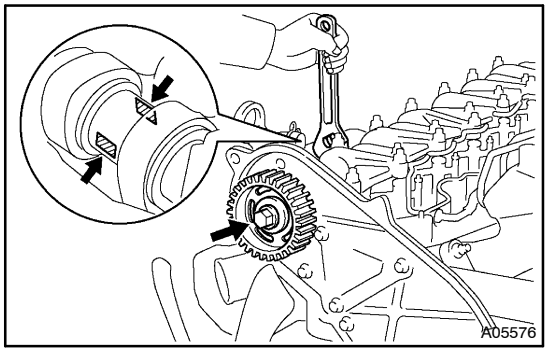
EM0WF–02

INSTALLATION



1. INSTALL NO.1 CAMSHAFT TIMING PULLEY

(a) Install the set key to the key groove of the camshaft.

(b) Align the pulley set key with the key groove of the timing pulley, and slide the timing pulley.

(c) Temporarily install the pulley bolt.

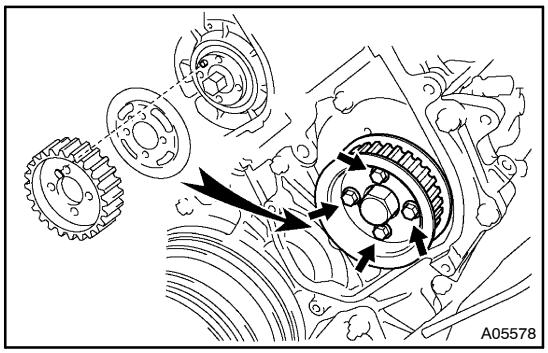
(d) Hold the hexagon wrench head portion of the camshaft with a wrench, and tighten the pulley bolt.

Torque: 98 N·m (1,000 kgf·cm, 72 ft·lbf)

(e) Install the bolt to the 2nd nozzle holder clamp.

Torque: 25 N·m (255 kgf·cm, 18 ft·lbf)

(f) Install the nozzle leakage pipe assembly.
(See Pub. No. RM617E, on page FU–44)



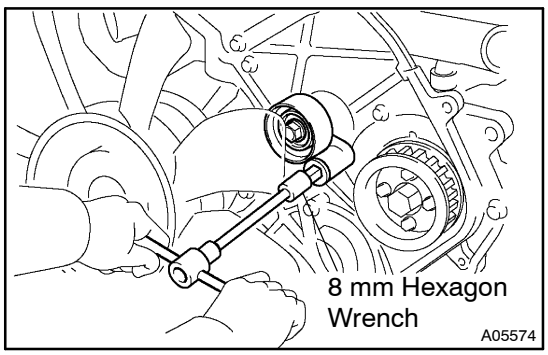
2. INSTALL CYLINDER HEAD COVER
(See page EM–36)

3. INSTALL NO.2 CAMSHAFT TIMING PULLEY

(a) Align the knock pin on the injection pump drive gear with the knock pin hole of the No.1 flange and the knock pin groove of the timing pulley.

(b) Install the No.1 flange, timing pulley and No.2 flange with the 4 bolts.

Torque: 31 N·m (315 kgf·cm, 23 ft·lbf)

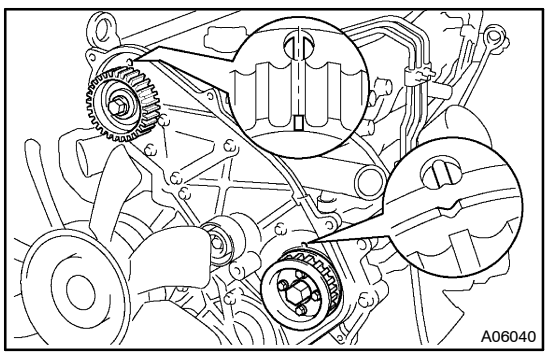


4. INSTALL IDLER PULLEY

(a) Using an 8 mm hexagon wrench, install the plate washer and idler pulley with the pivot bolt.

Torque: 34.5 N·m (350 kgf·cm, 25 ft·lbf)

(b) Check that the pulley bracket moves smoothly.



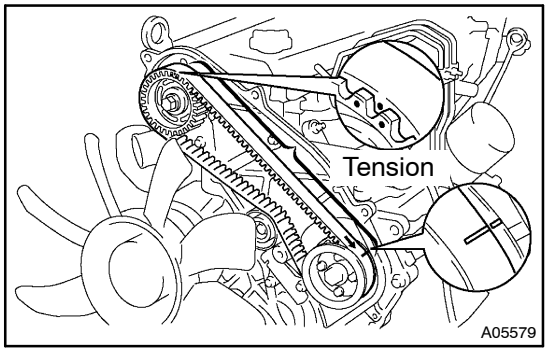
5. SET NO.1 CYLINDER TO BDC/COMPRESSION

(a) Check that the timing mark of the No.2 camshaft timing pulley is aligned with the BDC mark.

NOTICE:

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

(b) Align the timing mark of the No.1 camshaft timing pulley with the BDC mark.



6. INSTALL TIMING BELT

NOTICE:

The engine should be cold.

HINT:

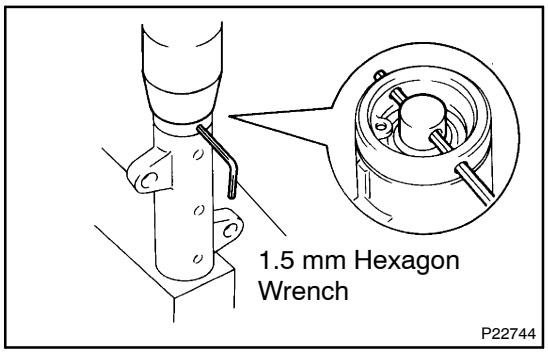
Align the points marked during removal, and install the belt with the arrow pointing in the direction of engine revolution.

(a) Remove any oil or water on the pulleys, and keep them clean.

NOTICE:

Only wipe the pulleys; do not use any cleansing agent.

(b) Install the timing belt under tension between the No.1 and No.2 camshaft timing pulleys.

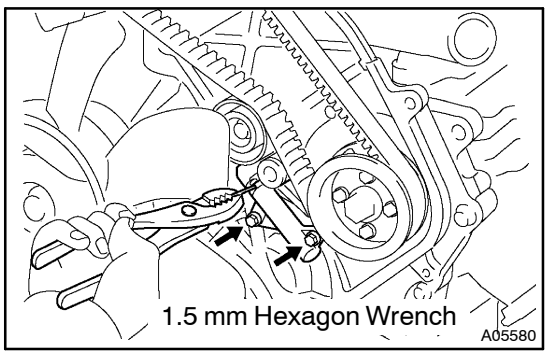


7. SET TIMING BELT TENSIONER

(a) Using a press, slowly press in the push rod using 981 – 9,807 N (100 – 1,000 kgf, 220 – 2,205 lbf) of force.

(b) Align the holes of the push rod and housing, pass a 1.5 mm hexagon wrench through the holes to keep the setting position of the push rod.

(c) Release the press.



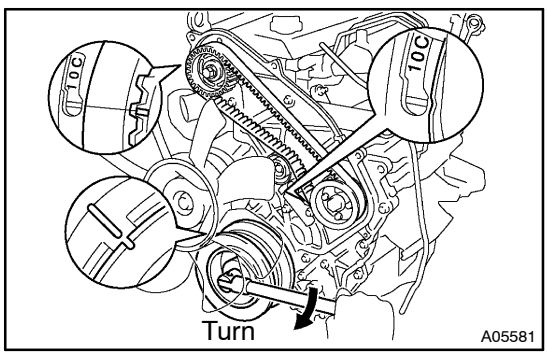
8. INSTALL TIMING BELT TENSIONER

(a) Temporarily install the timing belt tensioner with the 2 bolts while pushing the idler pulley toward the timing belt.

(b) Alternately tighten the 2 bolts.

Torque: 13 N·m (130 kgf·cm, 10 ft·lbf)

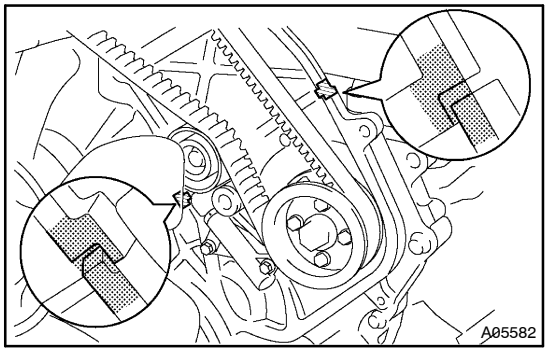
(c) Remove the 1.5 mm hexagon wrench from the tensioner.



9. CHECK VALVE TIMING

Turn the crankshaft pulley clockwise and check that each pulley timing mark aligns with the TDC marks.

If the marks do not align, remove the timing belt and reinstall it.

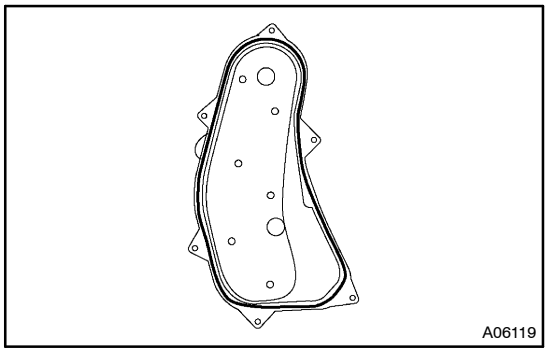


10. INSTALL TIMING BELT COVER

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

(b) Apply seal packing to the camshaft oil seat retainer and timing gear cover as shown in the illustration.

Seal packing: Part No. 08826–00080 or equivalent



(c) Check that timing belt cover gaskets have cracks or peeling, etc.

If the gasket has cracks or peeling, etc. replace it using these steps:

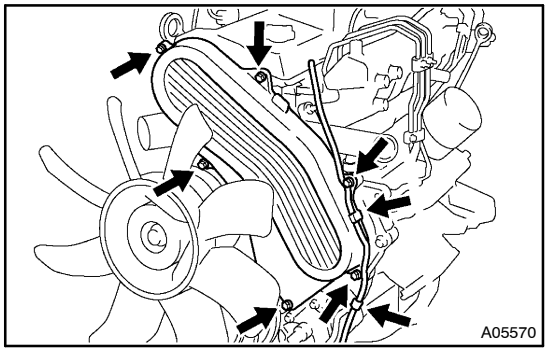
- Using a screwdriver and gasket scraper, remove all the oil gasket material.
- Thoroughly clean all components to remove all the loose material.
- Remove the backing paper from a new gasket and install the gasket evenly to the part of the timing belt cover shaded black in the illustration.

NOTICE:

Do not leave a gap between them.

Cut off any excess gasket.

- After installing the gasket, press down on it so that the adhesive firmly sticks to the timing belt cover.



(d) Install the timing belt cover with the 6 seal washers and 6 bolts.

(e) Install the vacuum hose to the the timing belt cover and vacuum hose to the clip.

11. INSTALL INTAKE PIPE ASSEMBLY

(See page EM–36)