EM1TL–01

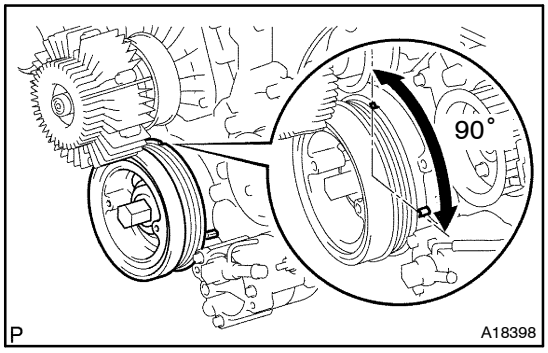
INSTALLATION

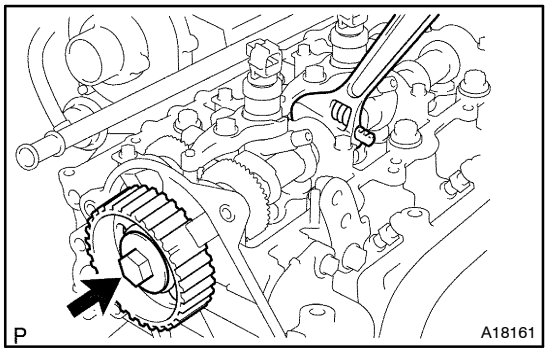
1. INSTALL NO. 1 CAMSHAFT TIMING PULLEY

(a) Check the No. 1 cylinder to 90° BTDC/compression.

HINT:

Set the No. 1 cylinder to 90° BTDC/compression to avoid interference with the piston top and valve head.





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

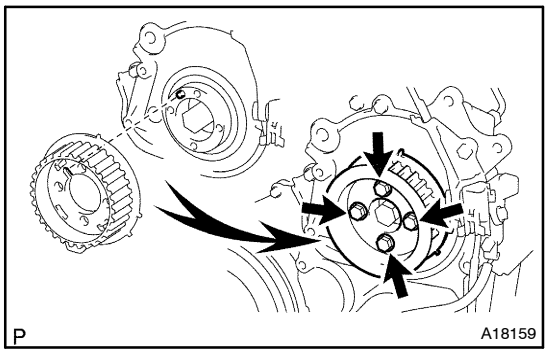
(c) Align the set key on the camshaft with the key groove of the timing pulley, slide the timing pulley.

(d) Temporarily install the pulley bolt.

(e) 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)

2. INSTALL CYLINDER HEAD COVER (See page EM–6)

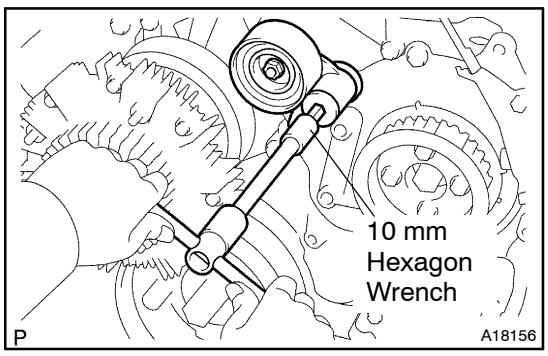


3. INSTALL NO. 2 CAMSHAFT TIMING PULLEY

(a) Align the knock pin of the supply pump drive gear with the knock pin groove of the timing pulley.

(b) Install the timing pulley and fange with the 4 bolts.

Torque: 31 N·m (316 kgf·cm, 23 ft·lbf)



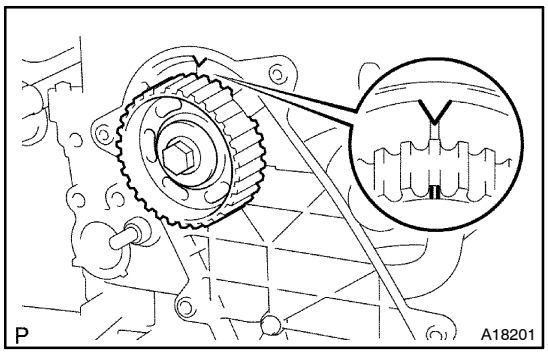
4. INSTALL TIMING BELT IDLER PULLEY

(a) Using a 10 mm hexagon wrench, install the washer and timing belt idler pulley with the bolt.

Torque: 35 N·m (357 kgf·cm, 26 ft·lbf)

(b) Check that the idler pulley moves smoothly.

If it doesn't move smoothly, check the idler pulley and plate washer.



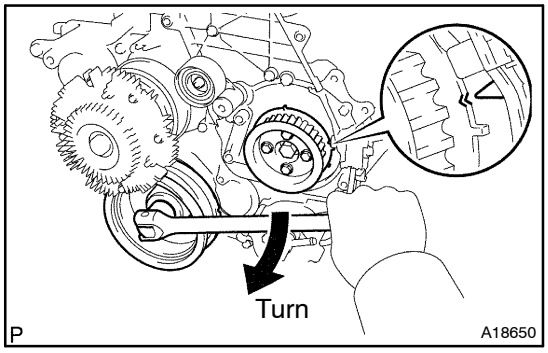
5. INSTALL TIMING BELT

NOTICE:

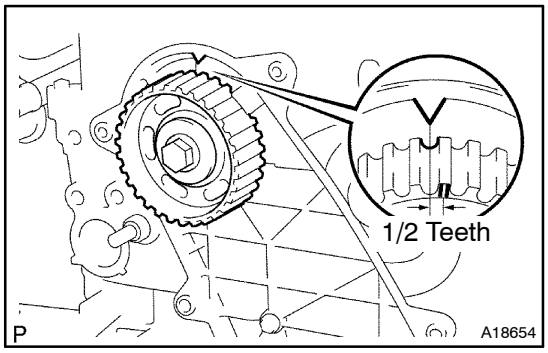
The engine should be cold.

(a) Set the No. 1 cylinder to TDC/compression.

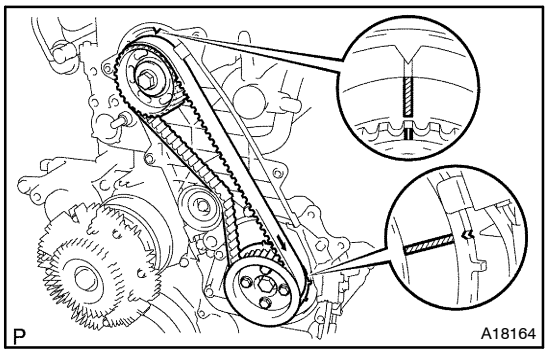
(1) Align the timing mark of the No. 1 camshaft timing pulley with the timing mark of the No. 2 timing belt cover.



(2) Turn the crankshaft pulley 90° clockwise, and align the timing mark of the No. 2 camshaft timing pulley with the timing mark of the timing gear cover.



HINT:
Setting the position of the No. 1 camshaft timing pulley by turning it by 1/2 teeth clockwise makes it easy to install the timing belt.



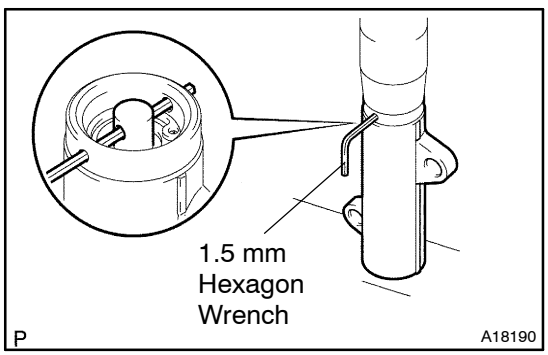
(b) Install the timing belt.
HINT:
If re–using the timing belt, align the points marked during removal, and install the belt with the arrow pointing in the direction of engine revolution.

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

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

(2) Connect the timing belt to the No. 2 camshaft timing pulley.
Align the installation mark on the timing belt with the timing mark of the camshaft timing pulley.

(3) Connect the timing belt to the No. 1 camshaft timing pulley.
Align the installation mark on the timing belt with the timing mark of the camshaft timing pulley.

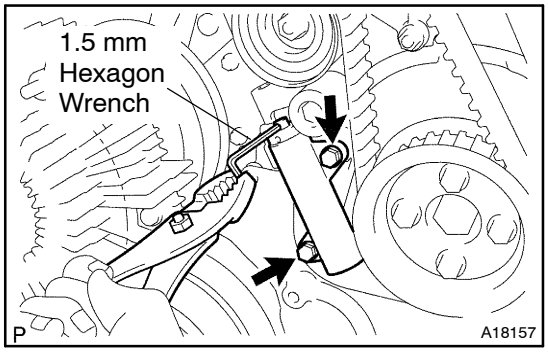


6. SET TIMING BELT TENSIONER

(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.



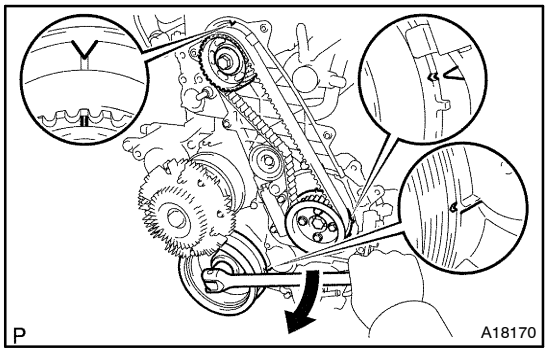
7. INSTALL TIMING BELT TENSIONER

(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 (133 kgf·cm, 10 ft·lbf)

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



8. CHECK VALVE TIMING

Turn the crankshaft pulley clockwise and check that each pulley aligns with the timing marks (TDC mark) as shown in the illustration.

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

9. INSTALL TIMING BELT COVER

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