

INSTALLATION

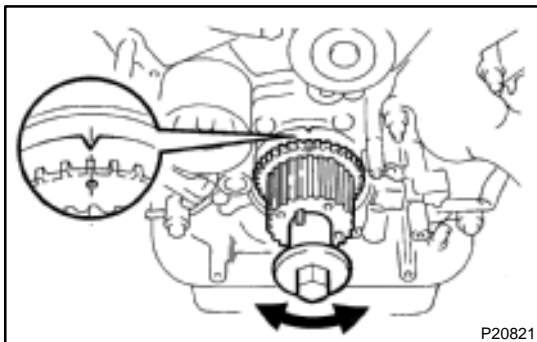
1. INSTALL CRANKSHAFT TIMING PULLEY

- (a) Align the pulley set key with the key groove of the timing pulley and slide on the timing pulley.
- (b) Slide on the timing pulley, facing the flange side inward.



2. INSTALL NO. 1 IDLER PULLEY AND NO.2 IDLER PULLEY

- (a) Using a 10 mm hexagon wrench, install the No.1 idler pulley with the plate washer and bolt.
Torque: 35 N·m (350 kgf·cm, 26 ft·lbf)
- (b) Check that the pulley bracket moves smoothly.
- (c) Install the No.2 idler pulley with the bolt.
Torque: 40 N·m (400 kgf·cm, 30 ft·lbf)
- (d) Check that the pulley moves smoothly.



3. TEMPORARILY INSTALL TIMING BELT

NOTICE:

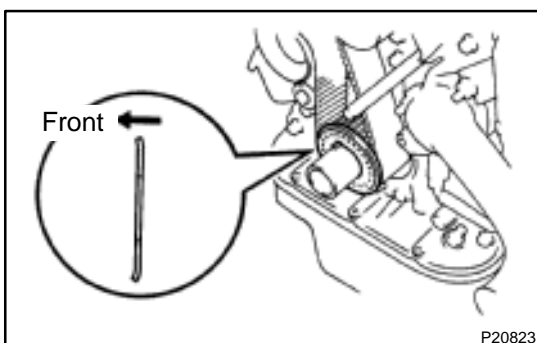
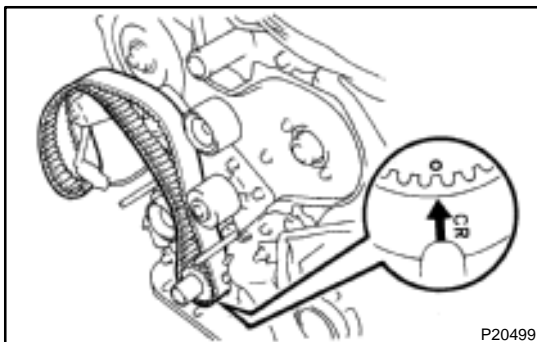
The engine should be cold.

- (a) Use the crankshaft pulley bolt to turn the crankshaft and align the timing marks on the crankshaft timing pulley and on the oil pump body.
- (b) Remove any oil or water on the crankshaft timing pulley, idler pulley and water pump pulley, and keep them clean.

NOTICE:

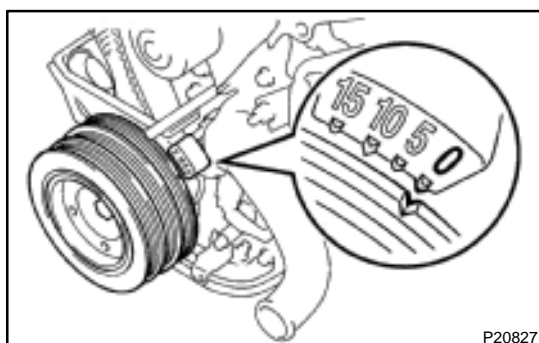
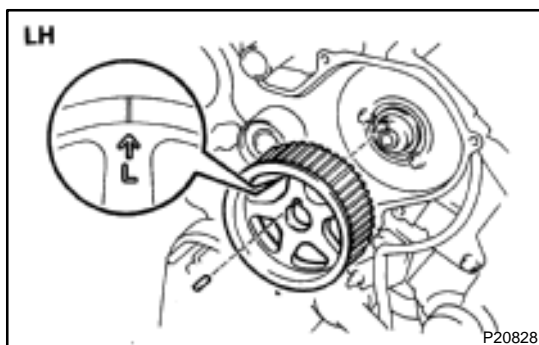
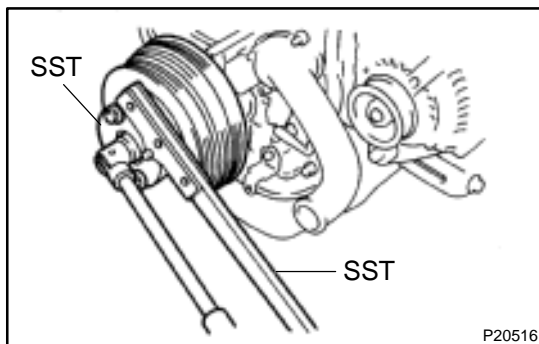
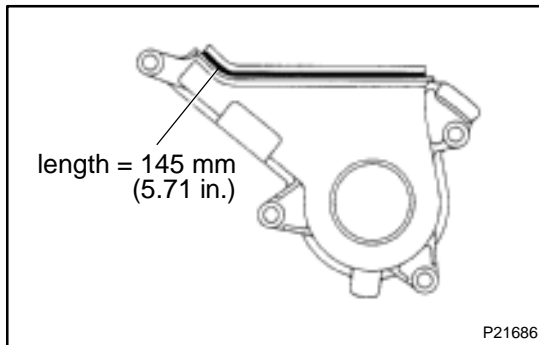
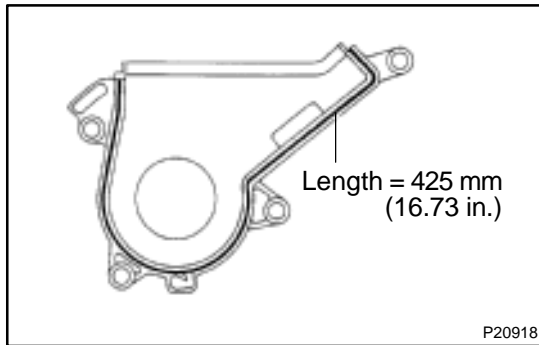
Only wipe the pulleys; do not use any cleansing agent.

- (c) Align the installation mark on the timing belt with the drilled mark of the crankshaft timing pulley.
- (d) Install the timing belt on the crankshaft timing pulley, No.1 idler and water pump pulleys.



4. INSTALL TIMING BELT GUIDE

Install the guide, facing the cup side outward.



5. INSTALL NO.1 TIMING BELT COVER AND STARTER WIRE BRACKET

- (a) Check that the timing belt cover gaskets have cracks or peeling, etc.

If the gasket does have cracks or peeling, etc., replace it using following steps. peeling, etc., replace them using following steps.

- Using a screwdriver and gasket scraper, remove all the old 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 belt cover shaded back in the illustration.

- (b) Install the timing belt cover with the 4 bolts.

Torque: 9 N·m (90 kgf·cm, 80 in.-lbf)

- (c) Install the starter wire bracket with the 2 bolts.

6. INSTALL CRANKSHAFT PULLEY

- (a) Align the pulley set key with the key groove of the pulley, and slide the pulley.

- (b) Using SST, install and torque the bolt.
SST 09213-54015 (90119-08216),
09330-00021

Torque: 250 N·m (2,500 kgf·cm, 184 ft·lbf)

7. INSTALL LH CAMSHAFT TIMING PULLEY

- (a) Slide the timing pulley, facing the flange side outward.
- (b) Align the knock pin hole of the camshaft with the knock pin groove of the timing pulley as shown.

- (c) Install the knock pin.

- (d) Using SST, install and torque the bolt.

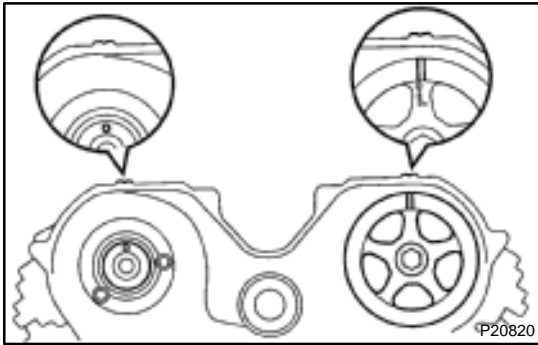
SST 09960-10010 (09962-01000, 09963-01000)

Torque: 110 N·m (1,100 kgf·cm, 81 ft·lbf)

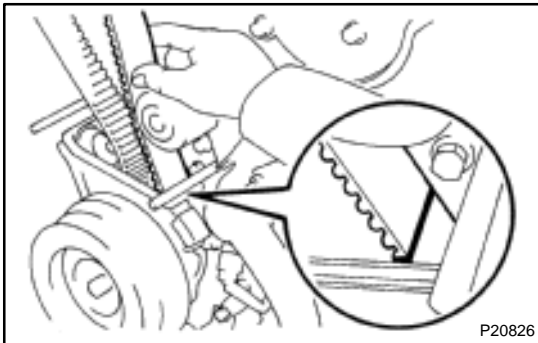
8. SET NO.1 CYLINDER TO TDC/COMPRESSION

- (a) Crankshaft Position:

Turn the crankshaft pulley, and align its groove with the "O" timing mark of the No.1 timing belt cover.

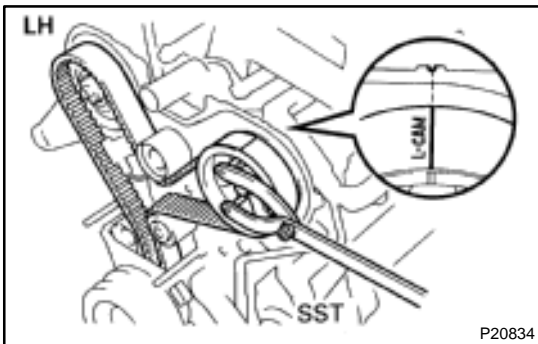


- (b) RH Camshaft Position:
Turn the camshaft, align the knock pin hole of the camshaft with the timing mark of the No.3 timing belt cover.
- (c) LH Camshaft Pulley Position:
Turn the camshaft timing pulley, align the timing marks of the camshaft timing pulley and No.3 timing belt cover.

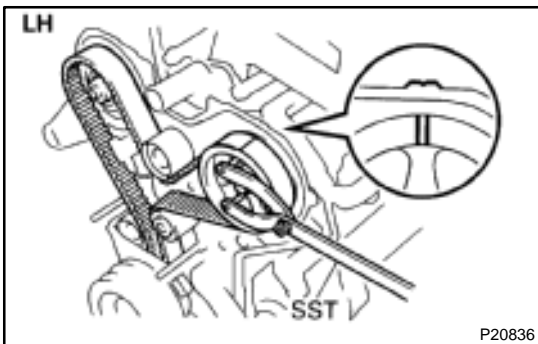


9. INSTALL TIMING BELT TO LH CAMSHAFT TIMING PULLEY

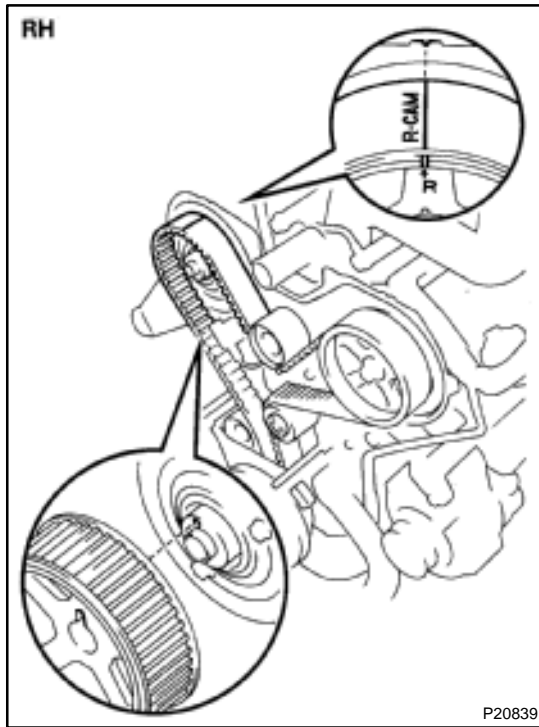
- (a) HINT (When re-using timing belt):
Check that the installation mark on the timing belt matches the end of the No.1 timing belt cover. If the installation mark do not align, shift the meshing of the timing belt and crankshaft timing pulley until they align.



- (b) Remove any oil or water on the LH camshaft timing pulley, and keep it clean.
- (c) Using SST, slightly turn the LH camshaft timing pulley clockwise. Align the installation mark on the timing belt with the timing mark of the camshaft timing pulley, and hang the timing belt on the LH camshaft timing pulley.
SST 09960-10010 (09962-01000, 09963-01000)

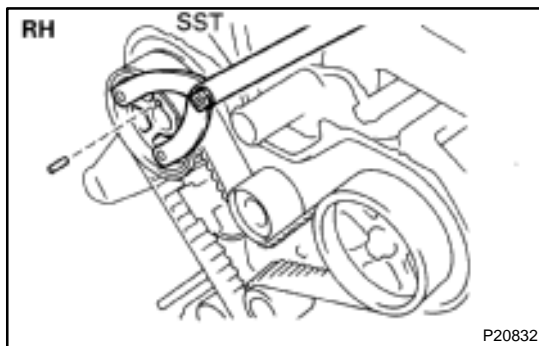


- (d) Using SST, align the timing marks of the LH camshaft pulley and No.3 timing belt cover.
SST 09960-10010 (09962-01000, 09963-01000)
- (e) Check that the timing belt has tension between the crankshaft timing and LH camshaft timing pulleys.



10. INSTALL RH CAMSHAFT TIMING PULLEY AND TIMING BELT

- (a) Remove any oil or water on the RH camshaft timing and No.2 idler pulleys, and keep them clean.
- (b) Align the installation mark on the timing belt with the timing mark of the RH camshaft timing pulley as shown.
- (c) Hang the timing belt on the RH camshaft timing pulley.
- (d) Align the timing marks of the RH camshaft timing pulley and No.3 timing belt cover.
- (e) Slide the RH camshaft timing pulley on the camshaft.



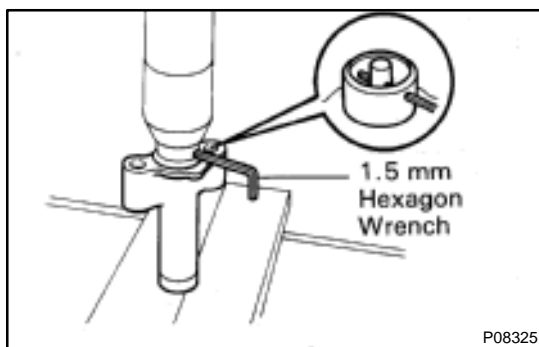
- (f) Using SST, align the knock pin hole of the camshaft with the knock pin groove marked R of the pulley and install the knock pin.

SST 09960-10010 (09962-01000, 09963-01000)

- (g) Using SST, install and torque the bolt.

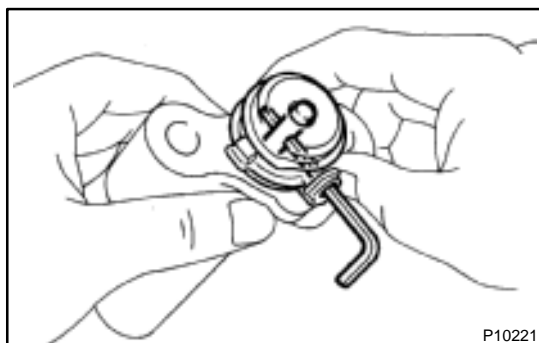
SST 09960-10010 (09962-01000, 09963-01000)

Torque: 110 N·m (1,100 kgf·cm, 81 ft·lbf)

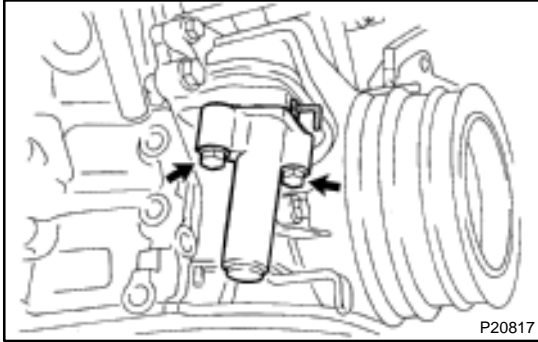


11. SET TIMING BELT TENSIONER

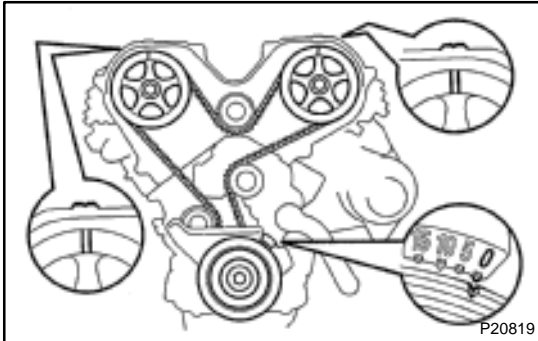
- (a) Using a press, slowly press in the push rod using 100 – 1,000 kg (220 – 2,205 lb, 981 – 9,807 N) of pressure.
- (b) Align the holes of the push rod and housing, pass a 1.5 mm hexagon wrench through the holes to keep the setting position of the push rod.
- (c) Release the press.



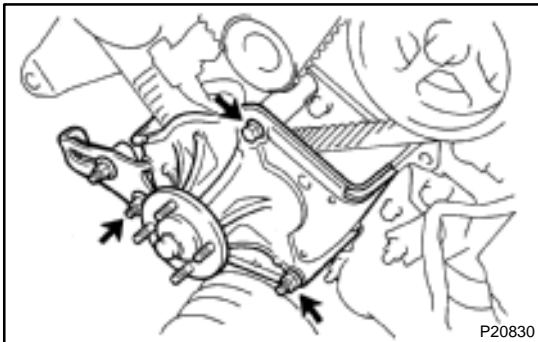
- (d) Install the dust boot to the tensioner.

**12. INSTALL TIMING BELT TENSIONER**

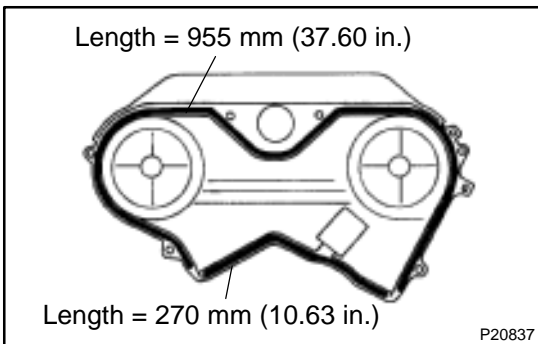
- (a) Install the tensioner with the 2 bolts.
Torque: 27 N·m (270 kgf-cm, 20 ft-lbf)
- (b) Remove the 1.5 mm hexagon wrench from the tensioner.

**13. CHECK VALVE TIMING**

- (a) Turn the crankshaft pulley 2 revolutions from TDC to TDC.
HINT:
 Always turn the crankshaft clockwise.
- (b) Check that each pulley aligns with the timing marks as shown in the illustration.
- If the marks do not align, remove the timing belt and reinstall it.

**14. INSTALL FAN BRACKET**

- (a) Install the fan bracket with the bolt and nut.
- (b) Install the PS pump adjusting strut with the nut.

**15. INSTALL NO.2 TIMING BELT COVER**

- (a) Check that the timing belt cover gasket has no cracks or peeling, etc.

If the gasket does have cracks or peeling, etc., replace it using following steps.

- Using a screwdriver and gasket scraper, remove all the old 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 belt cover shaded black in the illustration.

- (b) Install the belt cover with the 6 bolts.
Torque: 9 N·m (90 kgf-cm, 80 in.-lbf)
- (c) Connect the 3 high-tension cord clamps to the No.2 timing belt cover.
- (d) Connect the camshaft position sensor connector to the No.2 timing belt cover.

16. w/ A/C:
INSTALL A/C COMPRESSOR BRACKET
17. w/ A/C:
CONNECT A/C COMPRESSOR TO ENGINE
18. CONNECT PS PUMP TO ENGINE
19. INSTALL FAN WITH FLUID COUPLING AND FAN PULLEYS
Torque:5.4 N·m (54 kgf·cm, 48 in.·lbf)
20. INSTALL NO.2 FAN SHROUD
21. INSTALL AND ADJUST DRIVE BELT FOR GENERATOR (See page [CH-1](#))
22. w/ A/C:
INSTALL AND ADJUST DRIVE BELT FOR A/C COMPRESSOR
23. INSTALL AND ADJUST DRIVE BELT FOR PS PUMP
24. CONNECT UPPER RADIATOR HOSE
25. FILL ENGINE WITH COOLANT
26. START ENGINE CHECK FOR LEAKS
27. 4WD:
INSTALL ENGINE UNDER COVER
28. ROAD TEST VEHICLE
Check for abnormal noise, shock, slippage, correct shift points and smooth operation.
29. RECHECK ENGINE COOLANT LEVEL