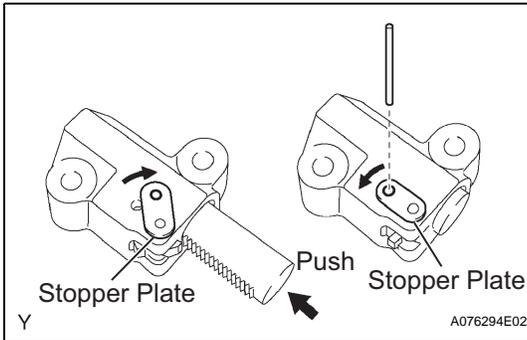


INSTALLATION

1. INSTALL CHAIN TENSIONER SLIPPER

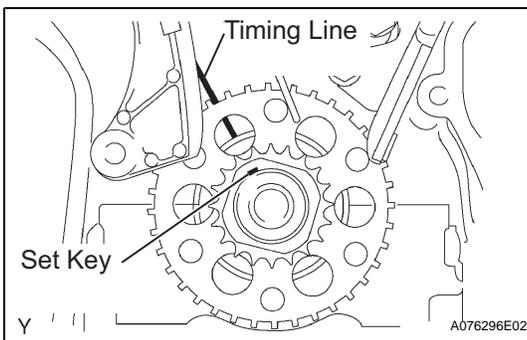
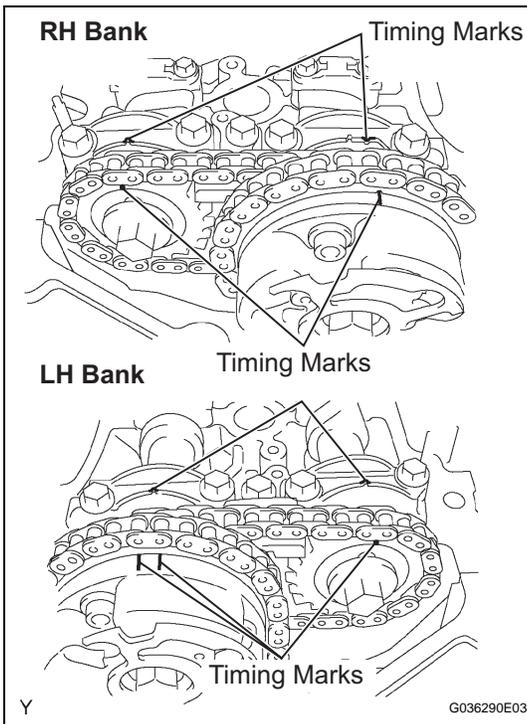


2. INSTALL NO.1 CHAIN TENSIONER ASSEMBLY

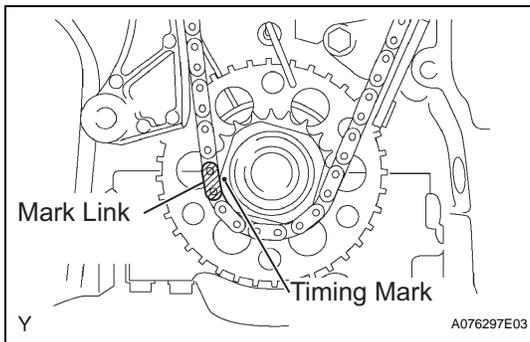
- (a) While turning the stopper plate of the tensioner clockwise, push in the plunger of the tensioner as shown in the illustration.
- (b) While turning the stopper plate of the tensioner counterclockwise, insert a bar of ϕ 35 mm (0.138 in.) into the holes in the stopper plate and tensioner to fix the stopper plate.
- (c) Install the chain tensioner with the 2 bolts.
Torque: 10 N*m (102 kgf*cm, 7.4 ft.*lbf)

3. INSTALL CHAIN SUB-ASSEMBLY

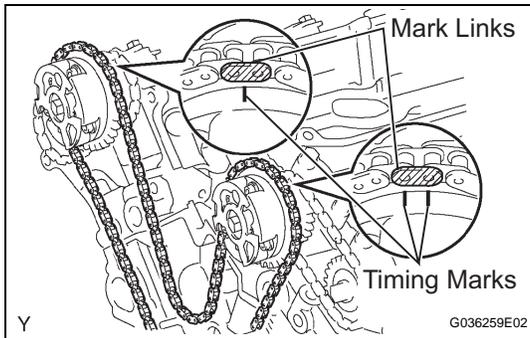
- (a) Set the No. 1 cylinder to TDC/ compression.
 - (1) Align the timing marks of the camshaft timing gears and bearing caps.



- (2) Using the crankshaft pulley set bolt, turn the crankshaft to align the crankshaft set key with the timing line of the cylinder block.



- (b) Align the yellow mark link with the timing mark of the crankshaft timing link.



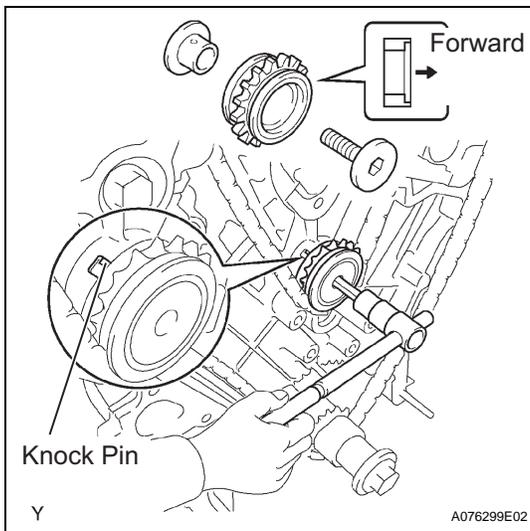
- (c) Align the orange mark links with the timing marks of the camshaft timing gears, and install the chain.

4. INSTALL NO.2 CHAIN VIBRATION DAMPER

- (a) Install the 2 chain vibration dampers No. 2.

5. INSTALL IDLE SPROCKET ASSEMBLY

- (a) Apply a light coat of engine oil to rotating surface of the idle gear shaft No. 1.



- (b) Temporarily install the idle gear shaft No. 1 together with idle gear shaft No. 2 while aligning the knock pin of the idle gear shaft No. 1 with the knock pin groove of the cylinder block.

NOTICE:

Be careful of the idle gear direction.

- (c) Using 10 mm hexagon wrench, tighten the idle gear shaft No. 2.

Torque: 60 N*m (612 kgf*cm, 44 ft.*lbf)

- (d) Remove the bar from the chain tensioner.

6. INSTALL TIMING GEAR CASE OR TIMING CHAIN CASE OIL SEAL (See page [EM-236](#))

7. INSTALL TIMING CHAIN OR BELT COVER SUB-ASSEMBLY (See page [LU-20](#))

8. INSTALL VVT SENSOR (See page [IG-8](#))

9. INSTALL CAMSHAFT TIMING OIL CONTROL VALVE ASSEMBLY (See page [ES-408](#))

10. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY LH (See page [EM-68](#))

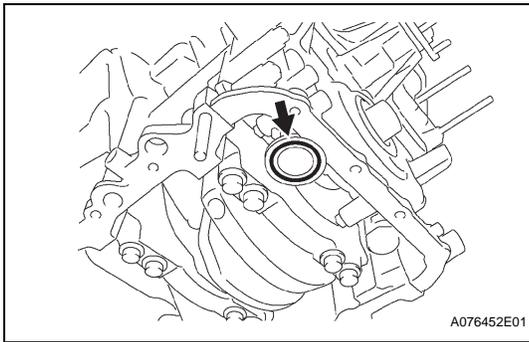
11. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY (See page [EM-68](#))

12. INSTALL IGNITION COIL ASSEMBLY (See page [IG-7](#))

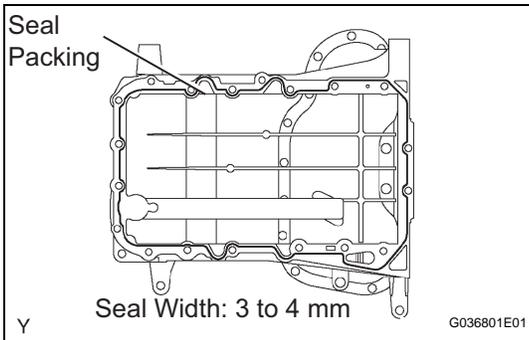
13. INSTALL INTAKE AIR SURGE TANK (See page [EM-69](#))

14. INSTALL OIL PAN SUB-ASSEMBLY

- (a) Remove any old packing (FIPG) material and be careful not to drop any oil on the contact surfaces of the cylinder block, rear oil seal retainer and oil pan.



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



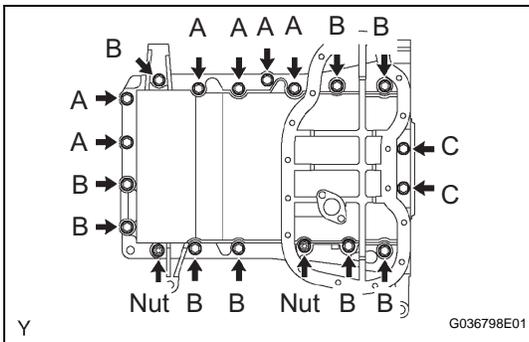
(c) Apply a continuous bead of the seal packing (diameter 3 to 4 mm (0.12 to 0.16 in.)) to the oil pan as shown in the illustration.

Seal packing:

Part No. 08826-00080 or equivalent

NOTICE:

Install the oil pan within 3 minutes of applying the seal packing. Tighten the oil pan bolts and nuts within 15 minutes of installing the oil pan. Otherwise, the seal packing must be removed and reapplied.



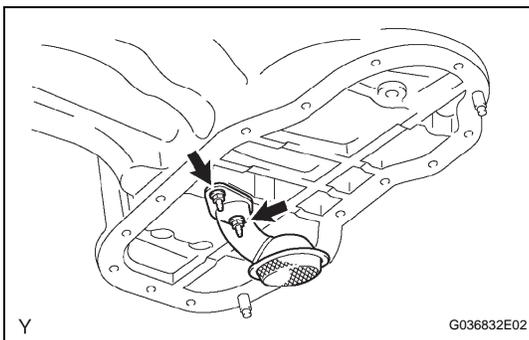
(d) Install the oil pan with the 17 bolts and 2 nuts, and tighten the bolts and nuts uniformly in several steps.

Torque: 10 N*m (102 kgf*cm, 7.4 ft.*lbf) for 10 mm (0.39 in.) head
21 N*m (214 kgf*cm, 16 ft.*lbf) for 12 mm (0.47 in.) head

HINT:

Each bolt length is as follows:

Bolt	Length
A	25 mm (0.98 in.)
B	45 mm (1.77 in.)
C	14 mm (0.55 in.)



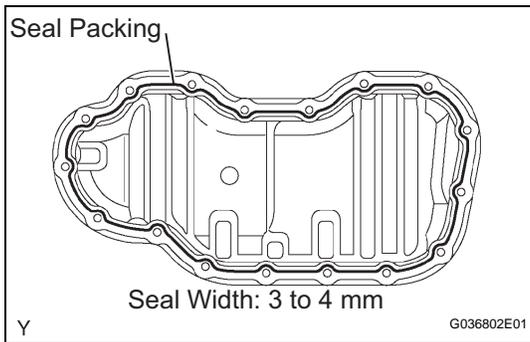
15. INSTALL OIL STRAINER SUB-ASSEMBLY

(a) Install a new gasket and the oil strainer with the 2 nuts.

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

16. INSTALL NO.2 OIL PAN SUB-ASSEMBLY

(a) Remove any old packing (FIPG) material and be careful not to drop any oil on the contact surfaces of the oil pan and oil pan No. 2.



- (b) Apply a continuous bead of seal packing (diameter 3 to 4 mm (0.12 to 0.16 in.)) as shown in the illustration.

Seal packing:

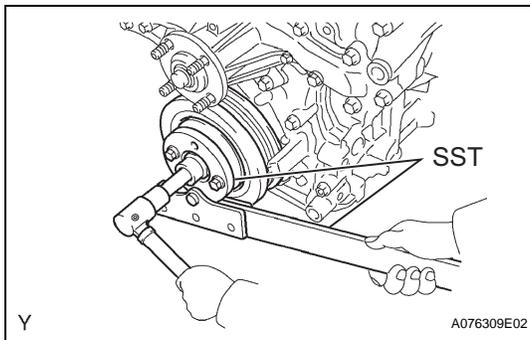
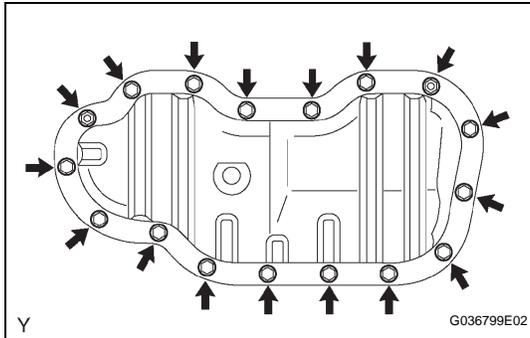
Part No. 08826-00080 or equivalent

NOTICE:

Install the oil pan No. 2 within 3 minutes of applying the seal packing. Tighten the oil pan No. 2 bolts and nut within 15 minutes of installing the oil pan. Otherwise, the seal packing must be removed and reapplied.

- (c) Install the oil pan No. 2 with the 15 bolts and 2 nuts. Tighten the bolts and nuts uniformly in several steps.

**Torque: 9.0 N*m (92 kgf*cm, 80 in.*lbf) for bolts
10 N*m (102 kgf*cm, 7.4 ft.*lbf) for nuts**

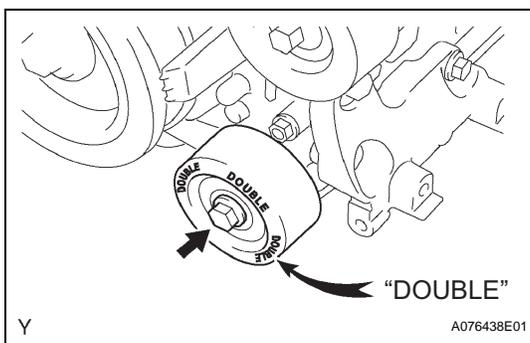


17. INSTALL CRANKSHAFT PULLEY

- (a) Using SST, install the pulley set bolt.

SST 09213-54015 (91651-60855), 09330-00021

Torque: 250 N*m (2,549 kgf*cm, 184 ft.*lbf)



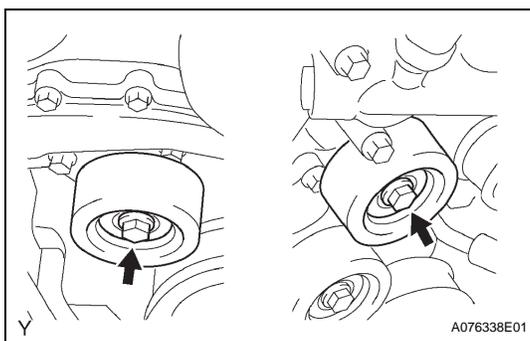
18. INSTALL NO.1 IDLER PULLEY SUB-ASSEMBLY

- (a) Install the idler pulley with the bolt.

Torque: 54 N*m (551 kgf*cm, 40 ft.*lbf)

HINT:

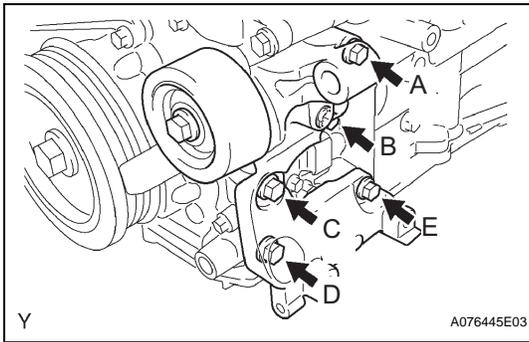
DOUBLE is marked on the idler pulley No. 1 to distinguish it from the idler pulley No. 2.



19. INSTALL NO.2 IDLER PULLEY SUB-ASSEMBLY

- (a) Install the 2 idler pulleys with the 2 bolts.

Torque: 39 N*m (398 kgf*cm, 29 ft.*lbf)

**20. INSTALL V-RIBBED BELT TENSIONER ASSEMBLY****NOTICE:**

A bolt in position A is not reusable.

HINT:

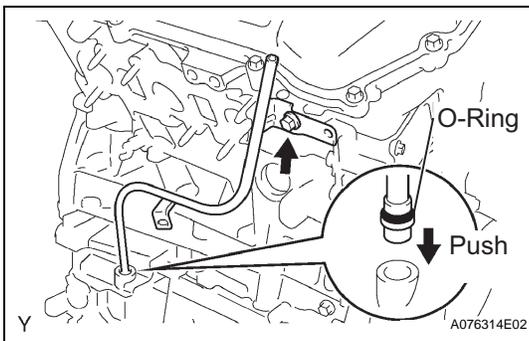
Each bolt length is as follows:

Position	Length
A	70 mm (2.76 in.)
B, C, D and E	33 mm (1.30 in.)

- (a) Use a new bolt in position A.
- (b) Finger-tighten the bolts in positions A and E and install the bracket.
- (c) Tighten the bolts in positions A and E.
Torque: 36 N*m (267 kgf*cm, 27 ft.*lbf)
- (d) Tighten the bolts in positions B, C and D.
Torque: 36 N*m (267 kgf*cm, 27 ft.*lbf)

21. INSTALL WATER INLET (See page [CO-10](#))**22. INSTALL OIL LEVEL GAGE GUIDE**

- (a) Install a new O-ring onto the oil level gauge guide.
- (b) Apply a light coat of engine oil to the O-ring.
- (c) Push the oil level gauge guide end into the guide hole of the oil pan.
- (d) Install the oil level gauge guide with the bolt.
Torque: 9.0 N*m (92 kgf*cm, 80 in.*lbf)
- (e) Install the oil level gauge guide.

**23. INSTALL ENGINE ASSEMBLY**

(See page [EM-190](#))

24. INSTALL BATTERY**25. ADD ENGINE COOLANT (See page [CO-3](#))****26. ADD ENGINE OIL (See page [LU-5](#))****27. CHECK FOR ENGINE COOLANT LEAKAGE (See page [CO-4](#))****28. CHECK FOR ENGINE OIL LEAKAGE****29. CHECK FOR FUEL LEAKAGE****30. CHECK FOR EXHAUST GAS LEAKAGE****31. INSPECT IGNITION TIMING (See page [EM-1](#))****32. INSPECT ENGINE IDLING SPEED (See page [EM-2](#))****33. INSPECT CO/HC (See page [EM-3](#))**