INSTALLATION

1. INSTALL TIMING BELT
   (a) Check the No. 1 timing belt idler and No. 2 timing belt idler.
      (1) Visually check the seal portion of the idler pulley for oil leakage.
          If leakage is found, replace the idler.
      (2) Check that the idler turns smoothly.
          If necessary, replace the idler.
   (b) Check the water pump.
      (1) Visually check the air hole and water hole for coolant leakage.
          If leakage is found, replace the water pump and timing belt.
      (2) Turn the pulley, and check that the water pump bearing moves smoothly.
          If necessary, replace the water pump.
   (c) Remove any oil or water on the crankshaft pulley, oil pump pulley, water pump pulley, No. 1 idler and No. 2 idler, and keep them clean.
      NOTICE:
      Only wipe the pulleys; do not use any cleansing agent.
   (d) Set the No. 1 cylinder to the TDC/compression.
      (1) Turn the hexagonal portion of the camshaft to align the timing marks of the camshaft timing pulleys and timing belt plates.
      HINT:
      By turning the camshaft timing pulleys clockwise as follows, installation of the timing pulleys will be easy:
      1/2 teeth turn for the left bank camshaft timing pulley
      1 tooth turn for the right bank camshaft timing pulley
(2) Using the crankshaft damper bolt, turn the crankshaft to align the timing marks of the crankshaft timing pulley and oil pump body.

(e) Install the timing belt.
(1) Remove any oil or water on each pulley, and keep them clean.

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

(2) Face the front mark (arrow) on the timing belt forward.

(3) Put the timing belt on the crankshaft timing pulley.
• Align the installation mark on the timing belt with the timing mark of the crankshaft timing pulley.

(4) Put the timing belt on the No. 2 idler.

(5) Put the timing belt on the camshaft timing pulley (LH bank).
• Align the installation mark on the timing belt with the timing mark of the camshaft timing pulley.

(6) Put the timing belt on the water pump pulley.

(7) Put the timing belt on the camshaft timing pulley (RH bank).
• Align the installation mark on the timing belt with the timing mark of the camshaft timing pulley.

(8) Put the timing belt on the No. 1 idler.

(f) Set the belt tensioner.
(1) Using a press, slowly press in the push rod using 981 to 9,807 N (100 to 1,000 kgf, 220 to 2,205 lbf) of pressure.

(2) Align the holes of the push rod and housing, and pass a 1.27 mm hexagon wrench through the holes to keep the setting position of the push rod.

(3) Release the press.

(4) Install the dust boot to the belt tensioner.
(g) Install the belt tensioner.
   (1) Temporarily install the belt tensioner with the 2 bolts.
   (2) Alternately tighten the 2 bolts.
   **Torque: 26 N*m (270 kgf*cm, 19 ft.*lbf)**
   (3) Using pliers, remove the 1.27 mm hexagon wrench from the chain tensioner.

(h) Check the valve timing.
   (1) Using the crankshaft damper bolt, slowly turn the crankshaft pulley 2 revolutions from the TDC to TDC.
   **NOTICE:**
   Always turn the crankshaft pulley clockwise.

   (2) Check that each pulley is aligned with each timing mark as shown in the illustration.
   If the timing marks are not aligned, remove the timing belt and reinstall it.
   (3) Remove the crankshaft damper bolt.

2. **INSTALL NO. 1 CRANKSHAFT POSITION SENSOR PLATE**
   (a) Install the sensor plate as shown in the illustration.
   **NOTICE:**
   Take care not to install it in a wrong direction.

3. **INSTALL TIMING BELT NO. 1 COVER**
   (a) Install the timing belt cover with the 4 bolts.
   **Torque: 7.5 N*m (80 kgf*cm, 66 in.*lbf)**
4. INSTALL CRANKSHAFT DAMPER SUB-ASSEMBLY
(a) Align the pulley set key with the key groove of the crankshaft damper.
(b) Using SST and a hammer, tap in the crankshaft damper.
   SST 09223-46011
(c) Using SST, install the damper bolt.
   SST 09213-70011 (09213-70020), 09330-00021
   Torque: 245 N*m (2,498 kgf*cm, 181 ft.*lbf)

5. INSTALL FAN BRACKET SUB-ASSEMBLY
(a) Install the idler pulley with the 2 bolts and 2 nuts.
   Torque: For 12 mm head
   16 N*m (160 kgf*cm, 12 ft.*lbf)
   For 14 mm head
   32 N*m (326 kgf*cm, 24 ft.*lbf)
   HINT:
   Each bolt length is as follows:
   106 mm (4.17 in.) for 12 mm head (A)
   114 mm (4.49 in.) for 14 mm head (B)

6. INSTALL V-RIBBED BELT TENSIONER ASSEMBLY
(a) Install the belt tensioner with the bolt and 2 nuts.
   Torque: 16 N*m (160 kgf*cm, 11 ft.*lbf)
   HINT:
   Use a bolt 106 mm (4.17 in.) in length.

7. INSTALL NO. 2 TIMING BELT COVER SUB-ASSEMBLY
(a) Install the timing belt cover and fit the claws and pins into each part.
(b) Install the timing belt cover with the 2 bolts.
   Torque: 16 N*m (160 kgf*cm, 12 ft.*lbf)
   HINT:
   Use bolts 106 mm (4.17 in.) in length.
8. INSTALL NO. 3 TIMING BELT COVER SUB-ASSEMBLY LH
   (a) Install the timing belt cover sub-assembly with the 4 bolts.
       Torque: 7.5 N*m (80 kgf*cm, 66 in.*lbf)
   (b) Install the camshaft position sensor connector and grommet to the timing belt cover.

9. INSTALL NO. 2 TIMING CHAIN OR BELT COVER
   (a) Install the timing chain or belt cover with the nut and 3 bolts.
       Torque: 7.5 N*m (80 kgf*cm, 66 in.*lbf)

10. INSTALL OIL COOLER PIPE
    (a) Install the oil cooler pipe with the bolt and nut.
        Torque: 7.5 N*m (80 kgf*cm, 66 in.*lbf)
    (b) Connect the 3 hoses.

11. INSTALL NO. 2 IDLER PULLEY SUB-ASSEMBLY
    (a) Install the idler pulley and cover plate with the bolt.
        Torque: 39 N*m (398 kgf*cm, 29 ft.*lbf)

12. INSTALL COMPRESSOR
    (a) Install the compressor with the stay, nut and 3 bolts.
        Torque: Bolt
        47 N*m (475 kgf*cm, 34 ft.*lbf)
        Nut
        25 N*m (255 kgf*cm, 18 ft.*lbf)

13. INSTALL GENERATOR ASSEMBLY (See page CH-17)

14. INSTALL VANE PUMP ASSEMBLY
    (a) Install the vane pump assembly with the nut and 2 bolts.
        Torque: 43 N*m (438 kgf*cm, 32 ft.*lbf)

15. INSTALL FAN WITH FLUID COUPLING
    (a) Install the fan pulley to the engine.
    (b) Put the fan with fluid coupling and fan shroud together into the engine room.
    (c) Install the fan shroud with the 3 bolts.
        Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)
    (d) Install the fan with fluid coupling with the 4 nuts.
        Torque: 29 N*m (296 kgf*cm, 21 ft.*lbf)

16. INSTALL FAN AND GENERATOR V BELT (See page EM-6)

17. INSTALL RADIATOR SUPPORT SEAL UPPER

18. INSTALL AIR CLEANER HOSE ASSEMBLY

19. INSTALL THROTTLE BODY COVER SUB-ASSEMBLY
    (a) Install the throttle body cover sub-assembly with the 2 nuts.
        Torque: 7.5 N*m (80 kgf*cm, 66 in.*lbf)

20. ADD ENGINE COOLANT (See page CO-3)

21. CHECK FOR ENGINE COOLANT LEAKS (See page CO-4)