INSPECTION

1. INSPECT INTAKE MANIFOLD FOR WARPAGE
   (a) Using a precision straight edge and feeler gauge, measure the warpage of the contact surfaces of the cylinder head and intake air surge tank.

   Maximum warpage:
   - Intake air surge tank side: 0.8 mm (0.031 in.)
   - Cylinder head side: 0.2 mm (0.008 in.)

   If the warpage is greater than the maximum, replace the intake manifold.
INSTALLATION

1. INSTALL ENGINE WIRE
   (a) Connect the connectors to the engine.
   (b) Engage the clamps to the engine.
   (c) Connect the connector to the knock sensor sub wire.
   (d) Install the ground wire onto the bank 2 cylinder head with the bolt.
       Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)
   (e) Install the ground wire onto the bank 1 cylinder head with the bolt.
       Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)

2. INSTALL OIL LEVEL GAUGE SUB-ASSEMBLY

3. INSTALL OIL FILLER CAP HOUSING
   (a) Install a new gasket.
   (b) Install the oil filler cap housing with the 2 nuts.
       Torque: 9.0 N*m (92 kgf*cm, 80 in.*lbf)

4. INSTALL OIL FILLER CAP SUB-ASSEMBLY

5. INSTALL IGNITION COIL ASSEMBLY (See page IG-8)

6. INSTALL INTAKE MANIFOLD (See page EM-96)

7. INSTALL NO. 1 IDLER PULLEY SUB-ASSEMBLY (See page EM-32)

8. INSTALL NO. 2 IDLER PULLEY SUB-ASSEMBLY (See page EM-33)

9. INSTALL V-RIBBED BELT TENSIONER ASSEMBLY (See page EM-33)

10. INSTALL FRONT NO. 1 ENGINE MOUNTING BRACKET LH
    (a) Install the engine mounting bracket with engine mounting insulator with the 3 bolts.
        Torque: 43 N*m (435 kgf*cm, 31 ft.*lbf)

11. INSTALL FRONT NO. 1 ENGINE MOUNTING BRACKET RH
    (a) Install the engine mounting bracket with engine mounting insulator with the 4 bolts.
        Torque: 43 N*m (435 kgf*cm, 31 ft.*lbf)

12. INSTALL EXHAUST MANIFOLD SUB-ASSEMBLY LH (See page EM-96)

13. INSTALL NO. 2 MANIFOLD STAY (See page EM-96)

14. INSTALL EXHAUST MANIFOLD SUB-ASSEMBLY RH (See page EM-97)

15. INSTALL MANIFOLD STAY (See page EM-97)
16. INSTALL NO. 2 VENTILATION HOSE

17. INSTALL VENTILATION HOSE

18. INSTALL HEATER OUTLET WATER HOSE

19. INSTALL HEATER INLET WATER HOSE
20. INSTALL ENGINE ASSEMBLY
   (a) Attach the engine sling device and hang the engine with a chain block.
   (b) Lower the engine into the engine compartment carefully.
   (c) Attach the engine mounting brackets to the frame brackets.
   (d) Install the engine mounting brackets onto the frame brackets with the 4 bolts and 4 nuts.
       Torque: 38 N*m (387 kgf*cm, 28 ft.*lbf)
   (e) Remove the 4 bolts and 2 engine hangers.

21. INSTALL ENGINE WIRE
   (a) Connect the front differential connector (for Automatic Transmission 4WD).
   (b) Install the ground wire with the bolt and engage the clamp.
       Torque: 8.4 N*m (85 kgf*cm, 74 in.*lbf)
   (c) Connect the 2 connectors to the A/C unit.
   (d) Connect the 3 connectors to the ECM.
   (e) Connect the connector to the four wheel drive ECU (for Automatic Transmission 4WD).
   (f) Install the glove compartment door (see page IP-28).

22. INSTALL NO. 2 ENGINE WIRE
   (a) Install the engine wire onto the engine room relay block with the nut.
       Torque: 10 N*m (102 kgf*cm, 7.4 ft.*lbf)
(b) Connect the connector to the engine room relay block.

(c) Install the ground wire onto the frame with the bolt. Torque: 19 N*m (195 kgf*cm, 14 ft.*lbf)

(d) Install the ground wire onto the body with the bolt. Torque: 8.4 N*m (85 kgf*cm, 7.4 in.*lbf)

23. CONNECT HEATER WATER OUTLET HOSE A (FROM HEATER UNIT)

24. CONNECT HEATER INLET WATER HOSE
25. CONNECT NO. 2 FUEL PIPE SUB-ASSEMBLY
   (a) Connect the No. 2 fuel tube connector and fuel pipe, and install the No. 2 fuel pipe clamp.
   NOTICE:
   Align the fuel tube connector with the pipe, then push the fuel tube connector in until the retainer makes a click sound. If the connection is tight, apply a small amount of engine oil to the tip of the pipe. After connecting, pull the pipe and connector to make sure that they are securely connected.

26. CONNECT NO. 1 FUEL PIPE SUB-ASSEMBLY
   (a) Connect the No. 1 fuel tube connector and fuel pipe, and install the No. 2 fuel pipe clamp.
   NOTICE:
   Align the fuel tube connector with the pipe, then push the fuel tube connector in until the retainer makes a click sound. If the connection is tight, apply a small amount of engine oil to the tip of the pipe. After connecting, pull the pipe and connector to make sure that they are securely connected.

27. INSTALL VANE PUMP ASSEMBLY (See page PS-14)
28. INSTALL COOLER COMPRESSOR ASSEMBLY (See page ES-421)
29. INSTALL GENERATOR ASSEMBLY (See page CH-17)
30. INSTALL INTAKE AIR SURGE TANK (See page FU-17)
31. INSTALL NO. 2 SURGE TANK STAY (See page FU-19)
32. INSTALL NO. 1 SURGE TANK STAY (See page FU-19)
33. INSTALL OIL BAFFLE PLATE (See page FU-19)
34. INSTALL THROTTLE BODY BRACKET (See page FU-19)
35. INSTALL FLYWHEEL SUB-ASSEMBLY (for Manual Transmission)
   (a) Using SST, hold the crankshaft.
      SST  09213-54015 (91651-60855), 09330-00021
36. INSTALL DRIVE PLATE AND RING GEAR SUB-ASSEMBLY (for Automatic Transmission)

(a) Using SST, hold the crankshaft.
   SST 09213-54015 (91651-60855), 09330-00021

(b) Apply adhesive to the 2 or 3 end threads of the bolts.
   Adhesive:
   Toyota Genuine Adhesive 1324, Three Bond 1324 or the equivalent.

(c) Install the flywheel and 2 spacers onto the crankshaft.
(d) Install the flywheel with the 6 bolts in the order shown in the illustration.
   Torque: 83 N*m (846 kgf*cm, 61 ft.*lbf)

37. INSTALL CLUTCH DISC ASSEMBLY (for Manual Transmission)

Refer to the procedures up to "INSTALL CLUTCH DISC ASSEMBLY" (See page CL-23).
38. INSTALL MANUAL TRANSMISSION UNIT ASSEMBLY
   (for Manual Transmission)
   Refer to the procedures up to "INSTALL MANUAL TRANSMISSION" (See page MT-11).

39. INSTALL AUTOMATIC TRANSMISSION ASSEMBLY
   (for Automatic Transmission)
   Refer to the procedures up to "INSTALL AUTOMATIC TRANSMISSION" (See page AT-175 or AT-181).

40. INSTALL RADIATOR ASSEMBLY
    Refer to the procedures up to "INSTALL RADIATOR ASSEMBLY" (See page CO-28).

41. INSTALL HOOD SUB-ASSEMBLY
    (a) Install the hood with the 4 bolts.
    (b) Connect the windshield washer hose.

42. INSTALL HOOD SUPPORT (See page ED-5)

43. INSTALL BATTERY

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

45. ADD ENGINE OIL (See page LU-5)

46. PERFORM INITIALIZATION (for Automatic Transmission)
    (See page AT-19 or AT-19)

47. CHECK FOR ENGINE COOLANT LEAKAGE (See page CO-4)

48. CHECK FOR ENGINE OIL LEAKAGE

49. CHECK FOR FUEL LEAKAGE

50. CHECK FOR EXHAUST GAS LEAKAGE

51. INSPECT IGNITION TIMING (See page EM-1)

52. INSPECT ENGINE IDLING SPEED (See page EM-2)

53. INSPECT COMPRESSION (See page EM-3)

54. INSPECT CO/HC (See page EM-3)

55. INSPECT AND ADJUST FRONT WHEEL ALIGNMENT
    Refer to the procedures up to "INSPECT AND ADJUST FRONT WHEEL ALIGNMENT" (See page SP-2).