

INSTALLATION

1. INSTALL CYLINDER HEAD GASKET

- (a) Apply continuous beads of seal packing to the cylinder block upper side and cylinder head gasket upper side as shown in the illustration.

Seal packing:

Part No. 08826-00080 or equivalent

Seal width:

4 to 7 mm (0.15 to 0.28 in.)

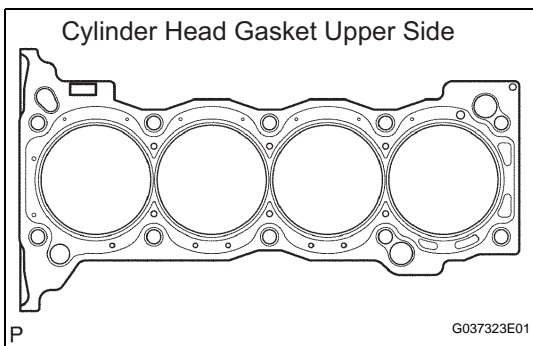
NOTICE:

- Remove any oil from the contact surface.
- Install the cylinder head gasket within 3 minutes of applying the seal packing.
- Install the cylinder head bolt within 15 minutes of applying the seal packing.
- Do not pour in engine oil for at least 4 hours after installation.

- (b) Place a new cylinder head gasket on the cylinder block surface with the Lot No. stamp facing upward.

NOTICE:

- Make sure that the cylinder head gasket is installed in the correct direction.
- Place the cylinder head gently in order to avoid damaging the gasket with the bottom part of the head.



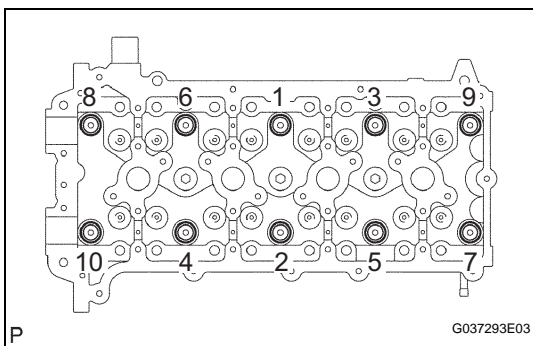
2. INSTALL CYLINDER HEAD SUB-ASSEMBLY

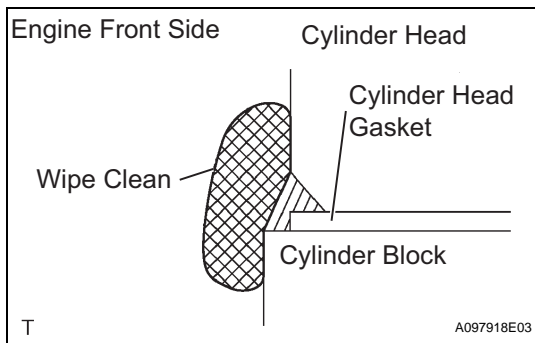
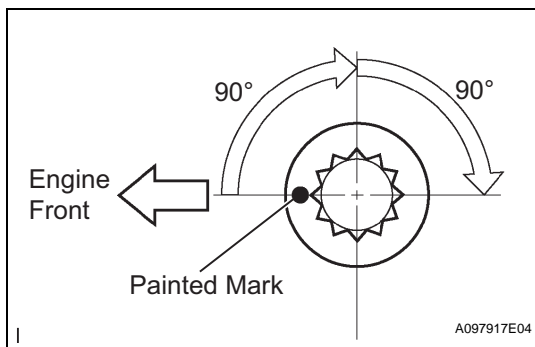
HINT:

The cylinder head bolts are tightened in 2 successive steps.

- (a) Place the cylinder head on the cylinder block.
- (b) Apply a light coat of engine oil to the threads and under the heads of the cylinder head bolts.
- (c) Using several steps, uniformly install and tighten the 10 cylinder head bolts with plate washers with a 10 mm bi-hexagon wrench in the sequence shown in the illustration.

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



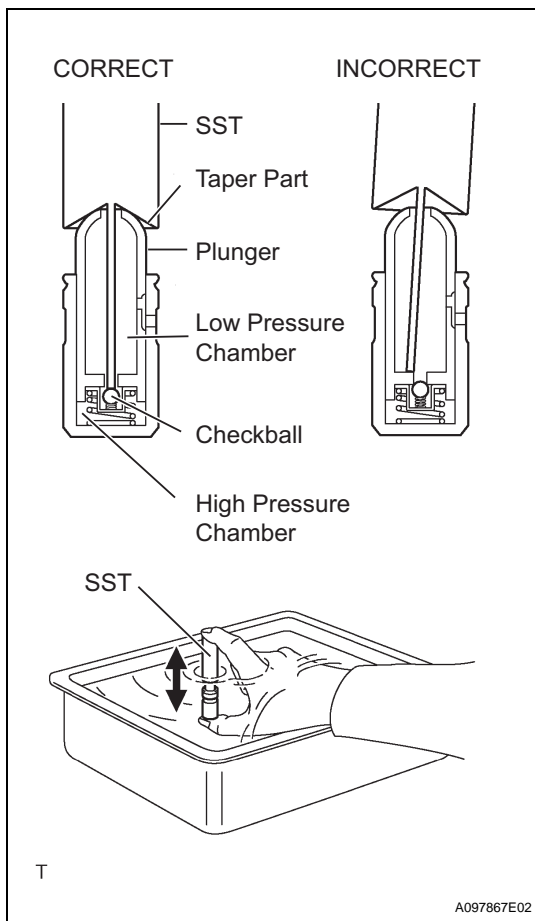


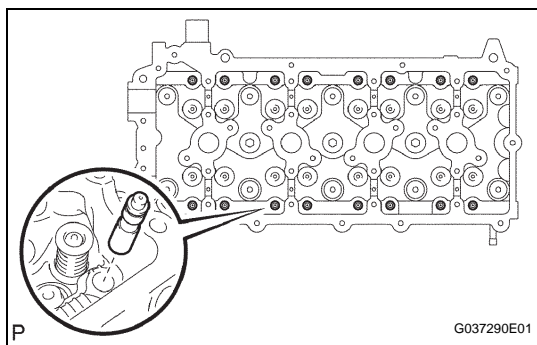
- (d) Mark the front of the cylinder head bolt head with paint.
- (e) Retighten the cylinder head bolts by 90° in the same order as in step (c).
- (f) Retighten the cylinder head bolts by an additional 90°.
- (g) Check that the painted mark is at a 180° from the original position.
- (h) Seal packing will seep out on the engine's front side. Thoroughly wipe clean any seal packing.
- (i) Install the wire harness bracket with the bolt.
- (j) Install the wire harness with the bolts.
- (k) Connect the engine coolant temperature sensor connector.
- (l) Install the water hose.

3. INSPECT VALVE LASH ADJUSTER ASSEMBLY

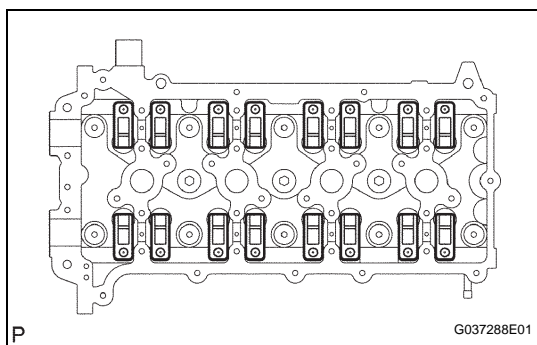
NOTICE:

- **Keep the lash adjuster free from dirt and foreign objects.**
 - **Only use clean engine oil.**
- (a) Place the lash adjuster into a container full of engine oil.
 - (b) Insert the tip of SST into the lash adjuster's plunger and press down the checkball inside the plunger.
SST 09276-75010
 - (c) Firmly hold SST and lash adjuster together and move the plunger up and down 5 to 6 times.
 - (d) Check the movement of the plunger and bleed air.
OK:
Plunger moves up and down.
NOTICE:
When bleeding high-pressure air from the compression chamber, make sure that the tip of the SST is actually pressing the checkball as shown in the illustration. If the checkball is not pressed, the air will not bleed.
 - (e) After bleeding the air, remove SST. Then quickly and firmly press the plunger with a finger.
OK:
Plunger is very difficult to move.
If the result is not as specified, replace the lash adjuster.



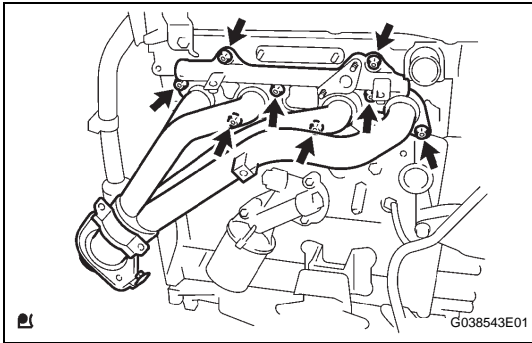
**4. INSTALL VALVE LASH ADJUSTER ASSEMBLY**

- (a) Install the valve lash adjuster.

**5. INSTALL NO. 1 VALVE ROCKER ARM SUB-ASSEMBLY**

- (a) Install the 16 valve rocker arms.

6. INSTALL CAMSHAFT (See page [EM-45](#))**7. INSTALL NO. 1 CHAIN VIBRATION DAMPER (See page [EM-30](#))****8. INSTALL CHAIN SUB-ASSEMBLY (See page [EM-30](#))****9. INSTALL CHAIN TENSIONER SLIPPER (See page [EM-31](#))****10. INSTALL NO. 1 CHAIN TENSIONER ASSEMBLY (See page [EM-31](#))****11. INSTALL TIMING CHAIN GUIDE (See page [EM-31](#))****12. INSTALL TIMING CHAIN COVER (See page [LU-24](#))****13. INSTALL OIL PAN SUB-ASSEMBLY (See page [EM-31](#))****14. INSTALL OIL STRAINER SUB-ASSEMBLY (See page [EM-32](#))****15. INSTALL NO. 2 OIL PAN SUB-ASSEMBLY (See page [EM-32](#))****16. INSTALL OIL LEVEL GAGE SUB-ASSEMBLY****17. INSTALL CRANKSHAFT PULLEY (See page [EM-75](#))****18. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY (See page [EM-48](#))****19. INSTALL NO. 1 INTAKE MANIFOLD TO HEAD GASKET (See page [ES-463](#))****20. INSTALL CAMSHAFT POSITION SENSOR (See page [ES-444](#))****21. INSTALL CRANKSHAFT POSITION SENSOR (See page [ES-444](#))****22. INSTALL IDLE PULLEY ASSEMBLY WITH BRACKET (w/ Air Conditioning System) (See page [ES-448](#))****23. INSTALL NO. 1 IDLER PULLEY SUB-ASSEMBLY (See page [EM-33](#))****24. INSTALL V-RIBBED BELT TENSIONER ASSEMBLY (See page [CO-6](#))**



25. **INSTALL EXHAUST MANIFOLD**
 - (a) Install a new gasket and the exhaust manifold with 8 new nuts.
Torque: 36 N*m (367 kgf*cm, 27 ft.*lbf)
26. **INSTALL AIR SWITCHING VALVE ASSEMBLY** (See page [EC-16](#))
27. **INSTALL INTAKE PIPE INSULATOR** (See page [EC-16](#))
28. **INSTALL NO. 1 EXHAUST MANIFOLD HEAT INSULATOR** (See page [EC-16](#))
29. **INSTALL GENERATOR ASSEMBLY** (See page [CH-13](#))
30. **INSTALL INTAKE AIR CONNECTOR** (See page [ES-455](#))
31. **INSTALL REAR END PLATE**
 - (a) Install the rear end plate with the 2 bolts.
Torque: 18 N*m (178 kgf*cm, 13 ft.*lbf)
32. **INSTALL DRIVE PLATE AND RING GEAR SUB-ASSEMBLY** (for Automatic Transmission) (See page [EM-79](#))
33. **INSTALL FLYWHEEL SUB-ASSEMBLY** (for Manual Transmission) (See page [EM-79](#))
34. **INSTALL CLUTCH DISC ASSEMBLY** (for Manual Transmission)

Transmission	See page
R155	CL-32
R155F	CL-37

35. **INSTALL CLUTCH COVER ASSEMBLY** (for Manual Transmission)

Transmission	See page
R155	CL-32
R155F	CL-37

36. **INSTALL ENGINE ASSEMBLY** (See page [EM-98](#))
37. **INSTALL AUTOMATIC TRANSMISSION ASSEMBLY** (See page [ED-7](#))
38. **INSTALL MANUAL TRANSMISSION UNIT ASSEMBLY**

Transmission	See page
R155	MT-9
R155F	MT-11

39. **INSTALL EXHAUST PIPE ASSEMBLY FRONT** (See page [CH-13](#))
40. **INSTALL EXHAUST PIPE ASSEMBLY TAIL** (See page [EX-2](#))
41. **CONNECT ENGINE WIRE**
42. **CONNECT NO. 1 AIR INJECTION HOSE** (See page [EM-99](#))

43. CONNECT FUEL VAPOR FEED HOSE ASSEMBLY
44. CONNECT NO. 2 FUEL HOSE (See page [FU-17](#))
45. CONNECT FUEL HOSE (See page [FU-17](#))
46. INSTALL WATER HOSE SUB-ASSEMBLY (See page [EM-99](#))
47. INSTALL RADIATOR HOSE INLET
48. INSTALL COMPRESSOR AND MAGNETIC CLUTCH (With Air Conditioning) (See page [EM-34](#))
49. INSTALL NO. 2 RADIATOR HOSE
50. INSTALL VANE PUMP ASSEMBLY (See page [EM-34](#))
51. INSTALL AIR CLEANER CASE
 - (a) Install the air cleaner case with the 3 bolts.
Torque: 12 N*m (122 kgf*cm, 9 ft.*lbf)
52. INSTALL AIR CLEANER FILTER ELEMENT SUB-ASSEMBLY
53. INSTALL AIR CLEANER CAP SUB-ASSEMBLY (See page [EC-17](#))
54. INSTALL FAN SHROUD (See page [CO-18](#))
55. INSTALL RADIATOR SUPPORT TO FRAME SEAL LH (See page [CO-19](#))
56. INSTALL BATTERY TRAY
57. INSTALL BATTERY
58. ADD ENGINE OIL (See page [LU-4](#))
59. ADD ENGINE COOLANT (See page [CO-3](#))
60. CHECK ENGINE OIL LEVEL
61. CHECK FOR FUEL LEAKAGE
62. CHECK FOR ENGINE COOLANT LEAKAGE (See page [CO-2](#))
63. CHECK FOR OIL LEAKAGE
64. CHECK FOR EXHAUST GAS LEAKAGE
65. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY (for Pre Runner and 4WD Type)
 - (a) Install the No. 1 engine under cover with the 4 bolts.
Torque: 30 N*m (306 kgf*cm, 22 ft.*lbf)
66. INSTALL NO. 2 ENGINE UNDER COVER SUB-ASSEMBLY (for Pre Runner and 4WD Type, Regular Cab)
 - (a) Install the No. 2 engine under cover with the 4 bolts.
Torque: 30 N*m (306 kgf*cm, 22 ft.*lbf)
67. INSTALL HOOD SUB-ASSEMBLY (See page [ED-7](#))