14126–01

REPLACEMENT

1. WORK FOR PREVENTING GASOLINE FROM SPILLING OUT (See page 11–1)
2. REMOVE ENGINE UNDER COVER SUB–ASSY NO.1
(a) Remove the 4 bolts and engine under cover.
3. DRAIN ENGINE COOLANT (See page 16–7)
4. SEPARATE ACCELERATOR CONTROL CABLE ASSY
5. SEPARATE THROTTLE CABLE ASSY (A/T TRANSAXLE)
6. REMOVE AIR CLEANER CAP SUB–ASSY (See page 10–10)
7. REMOVE INTAKE AIR CONNECTOR SUB–ASSY (See page 10–10)
8. SEPARATE EXHAUST PIPE ASSY FRONT
(a) Using a deep socket wrench 14, remove the 3 nuts and 2 gaskets, and separate the exhaust pipe.
9. REMOVE TRANSMISSION OIL LEVEL GAGE SUB–ASSY (A/T TRANSAXLE)
10. REMOVE TRANSMISSION OIL FILLER TUBE SUB–ASSY (A/T TRANSAXLE) (See page 40–6)
11. REMOVE VANE PUMP V BELT (See page 14–7)
12. REMOVE VANE PUMP ASSY
(a) Disconnect the vane pump connector.
(b) Remove the 2 bolts installing the vane pump.
HINT:
Hung up the hoses instead of detaching.
13. DISCONNECT HEATER WATER OUTLET HOSE A(FROM HEATER UNIT)
(a) Remove the 2 wire harness clamps.
(b) Disconnect the engine coolant temperature sensor connector.
(c) Disconnect the heater water outlet hose.
14. REMOVE EGR PIPE SUB–ASSY NO.1 (W/ EGR)
(a) Remove the bolt, 4 nuts, EGR pipe and 2 gaskets.
15. DISCONNECT VENTILATION HOSE
16. DISCONNECT VENTILATION HOSE NO.2
17. DISCONNECT FUEL VAPOR FEED HOSE ASSY
18. DISCONNECT WATER BY–PASS HOSE
19. DISCONNECT WATER BY–PASS HOSE NO.3
20. REMOVE SURGE TANK STAY NO.1
(a) Remove the 2 bolts and surge tank stay.
21. REMOVE INTAKE AIR SURGE TANK
(a) Remove the 3 wire harness clamps.
(b) Disconnect the 3 vacuum hoses.
(c) Disconnect the 3 connectors.
  (1) VSV (EVAP)
  (2) Throttle position sensor
  (3) ISC valve
(d) Remove the 2 bolts, 3 nuts, intake air surge tank and gasket.
22. SEPARATE FUEL PIPE SUB–ASSY NO.1
(a) Remove the fuel pressure pulsation damper and 2 gasket, separate the fuel pipe.
23. DISCONNECT FUEL HOSE NO.2
24. DISCONNECT RADIATOR HOSE NO.1
25. REMOVE IGNITION COIL BRACKET (LEADED GASOLINE) (See page 14–51)
26. REMOVE IGNITION COIL NO.1 (UNLEADED GASOLINE) (See page 14–9)
27. REMOVE CYLINDER HEAD COVER SUB–ASSY (See page 14–9)
28. SET NO. 1 CYLINDER TO TDC/COMPRESSION (See page 14–9)
29. REMOVE CHAIN TENSIONER ASSY NO.1 (See page 14–51)

30. REMOVE SEMICIRCULAR PLUG

31. REMOVE CAMSHAFT TIMING GEAR OR SPROCKET (See page 14–51)

32. REMOVE CAMSHAFT (See page 14–51)

33. REMOVE NO.2 CAMSHAFT (See page 14–51)

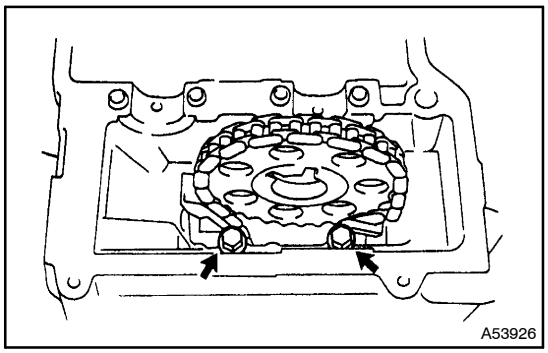
34. REMOVE CYLINDER HEAD GASKET

(a) Disconnect the 7 or 9 connectors.
- (1) VSV (EGR) (Unleaded gasoline)
- (2) Fuel injector
- (3) Camshaft position sensor (Unleaded gasoline)
- (4) knock sensor
- (5) Crankshaft position sensor

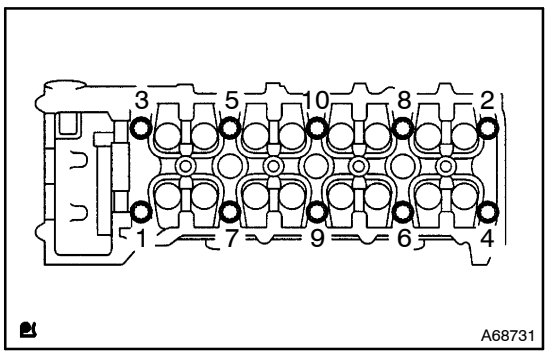
(b) Remove the 3 bolts and 3 ground terminals of engine wire.

(c) Remove the 6 wire harness clamps.

(d) Remove the bolts installing the water by–pass pipe. (w/ oil cooler)



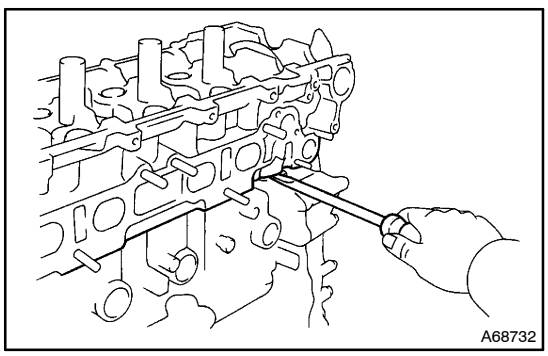
(e) Remove the 2 cylinder head bolts in front of the cylinder head before the other cylinder head bolts are removed.



(f) Using a socket wrench 14 mm (double hexagon), uniformly loosen and remove the 10 cylinder head bolts, in several passes, in the sequence shown.

NOTICE:

Cylinder head warpage or cracking could result from removing bolts in incorrect order.



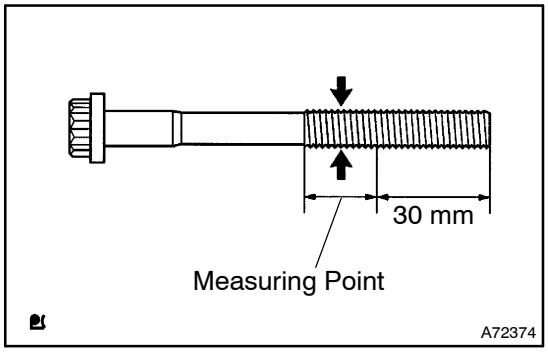
(g) Lift the cylinder head from the dowels on the cylinder block, and place the cylinder head on wooden blocks on a bench.

NOTICE:

Be careful not to damaged the contact surfaces of the cylinder head and cylinder block.

HINT:

If the cylinder head is difficult to lift, pry between the cylinder head and cylinder block with a screwdriver.

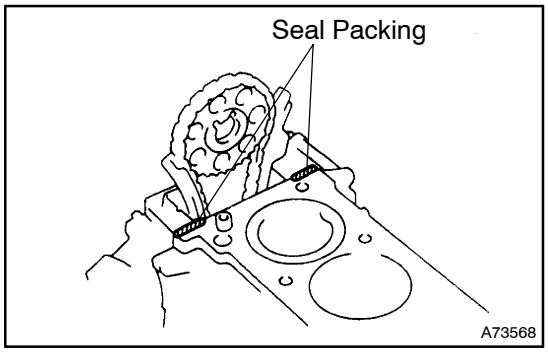


35. INSPECT CYLINDER HEAD SET BOLT

(a) Using a vernier calipers, measure the minimum diameter of the elongated thread at the measuring point.

Standard out side diameter:
10.76 – 10.97 mm (0.4236 – 0.4319 in.)
Minimum outside diameter: 10.40 mm (0.4094 in.)

If the diameter is less than minimum, replace the cylinder head bolt.



36. INSTALL CYLINDER HEAD GASKET

HINT:

The cylinder head bolts are tightened in 2 progressive steps.

(a) Apply seal packing to the 2 locations as shown.

Seal packing: Part No. 08826–00080 or equivalent

NOTICE:

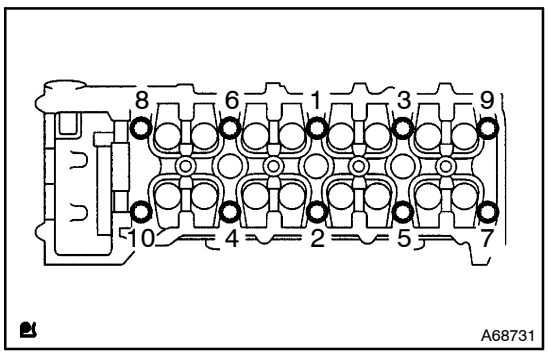
- **Remove any oil from the contact surface**
- **Install the cylinder head bolt within 5 minutes after applying seal packing.**
- **Do not put into the engine oil within 2 hours after installing.**

(b) Place a new cylinder head in portion on the cylinder block.

NOTICE:

Be careful of the installation direction.

(c) Place the cylinder head in position on the cylinder head gasket.

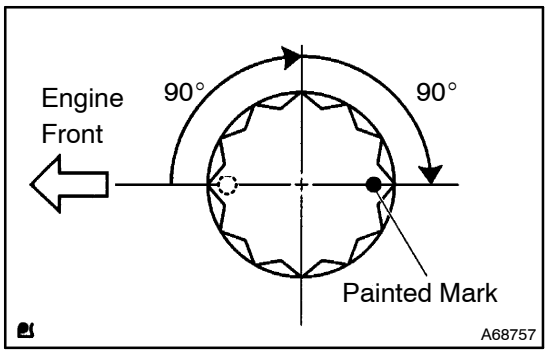


(d) Apply a light coat of engine oil on the threads and under the heads of the cylinder head bolts.

(e) Using a socket wrench 14 mm (double hexagon), Install and uniformly tighten the 10 cylinder head bolts and plate washers in several passes, in the sequence shown.

Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

If any of the cylinder head bolts does not meet the torque specification, replace the cylinder head bolt.



(f) Mark the from of the cylinder head bolt head with paint.

(g) Retighten the cylinder head bolts by 90° in the numerical order shown.

(h) Retighten the cylinder head bolts by an additional 90°.

(i) Check that the painted mark is now facing rearward.

(j) Install and torque the 2 mounting bolts.

Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)

(k) Install the water by–pass pipe with the bolt. (w/ oil cooler)

Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)

(l) Install the 6 wire harness clamps.

(m) Install the 3 ground terminals of the engine wire with the 3 bolts.
Torque: 13 N·m (133 kgf·cm, 10 ft·lbf)

(n) Connect the 7 or 9 connectors.
(1) VSV (EGR) (Unleaded gasoline)
(2) Fuel injector
(3) Camshaft position sensor (Unleaded gasoline)
(4) knock sensor
(5) Crankshaft position sensor

37. INSTALL NO.2 CAMSHAFT (See page 14–51)
38. INSTALL CAMSHAFT (See page 14–51)
39. SET NO. 1 CYLINDER TO TDC/COMPRESSION (See page 14–51)
40. INSTALL CAMSHAFT TIMING GEAR OR SPROCKET (See page 14–51)
41. INSTALL SEMICIRCULAR PLUG (See page 14–51)
42. CLEAN CHAIN TENSIONER ASSY NO.1
43. INSTALL CHAIN TENSIONER ASSY NO.1 (See page 14–51)
44. INSTALL CYLINDER HEAD COVER SUB–ASSY (See page 14–9)
45. INSTALL IGNITION COIL BRACKET (LEADED GASOLINE) (See page 14–51)
46. INSTALL IGNITION COIL NO.1 (UNLEADED GASOLINE) (See page 14–9)
47. CONNECT RADIATOR HOSE NO.1
48. CONNECT FUEL HOSE NO.2
49. INSTALL FUEL PIPE SUB–ASSY NO.1

(a) Install the 2 new gaskets and fuel pipe with the fuel pressure pulsation damper.
Torque: 29 N·m (300 kgf·cm, 21 ft·lbf)

50. INSTALL INTAKE AIR SURGE TANK

(a) Install a new gasket and intake air surge tank with the 2 bolts and 3 nuts.
Torque: 21 N·m (210 kgf·cm, 15 ft·lbf)

(b) Connect the 3 connectors.
(1) VSV (EVAP)
(2) Throttle position sensor
(3) ISC valve

(c) Connect the 3 vacuum hoses.
(d) Install the 3 wire harness clamps.

51. INSTALL SURGE TANK STAY NO.1

(a) Install the surge tank stay with the 2 bolts.
Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)

52. CONNECT WATER BY–PASS HOSE NO.3
53. CONNECT WATER BY–PASS HOSE
54. CONNECT FUEL VAPOR FEED HOSE ASSY
55. CONNECT VENTILATION HOSE NO.2
56. CONNECT VENTILATION HOSE
57. INSTALL EGR PIPE SUB–ASSY NO.1 (W/ EGR)

(a) Install the 2 new gaskets and EGR pipe with the bolts and 4 nuts.
Torque:
18 N·m (185 kgf·cm, 13 ft·lbf) (EGR pipe x cylinder head)
19 N·m (195 kgf·cm, 14 ft·lbf) (EGR pipe x EGR valve)
20 N·m (200 kgf·cm, 14 ft·lbf) (EGR pipe x exhaust manifold for using the new nuts)

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

59. INSTALL VANE PUMP ASSY

(a) Install the vane pump with the 2 bolts.
Torque: 39 N·m (398 kgf·cm, 29 ft·lbf)

(b) Connect the vane pump connector.

60. INSTALL VANE PUMP V BELT (See page 14–7)

61. INSPECT DRIVE BELT (See page 14–1)

62. INSTALL TRANSMISSION OIL FILLER TUBE SUB–ASSY (A/T TRANSAXLE) (See page 40–6)

63. INSTALL TRANSMISSION OIL LEVEL GAGE SUB–ASSY (A/T TRANSAXLE)

64. INSTALL EXHAUST PIPE ASSY FRONT

(a) Install the 2 new gaskets and exhaust pipe with the 3 new nuts.
Torque: 62 N·m (630 kgf·cm, 46 ft·lbf)

65. INSTALL INTAKE AIR CONNECTOR SUB–ASSY (+)

66. INSTALL AIR CLEANER CAP SUB–ASSY

67. INSTALL THROTTLE CABLE ASSY (A/T TRANSAXLE)

68. INSTALL ACCELERATOR CONTROL CABLE ASSY

69. ADD ENGINE COOLANT (See page 16–7)

70. CHECK FOR ENGINE COOLANT LEAKS (See page 16–1)

71. CHECK FOR FUEL LEAKS (See page 11–4)

72. CHECK IDLE SPEED AND IGNITION TIMING (See page 14–1)
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73. INSPECT COMPRESSION (See page 14–1)

74. INSPECT CO/HC (See page 14–1)

75. INSTALL ENGINE UNDER COVER SUB–ASSY NO.1

(a) Install the engine under cover with the 4 bolts.
Torque: 29 N·m (296 kgf·cm, 21 ft·lbf)