CYLINDER HEAD GASKET NO.2 (1MZ–FE)

140I7–01

REPLACEMENT

1. WORK FOR PREVENTING GASOLINE FROM SPILLING OUT (See page 11–49)
2. DRAIN COOLANT (See page 16–31)
3. DRAIN ENGINE OIL
4. REMOVE MANIFOLD STAY NO.2

5. SEPARATE EXHAUST MANIFOLD CONVERTER SUB–ASSY NO.2

(a) Remove the 2 nuts, and separate the exhaust manifold converter from the front exhaust pipe.

6. REMOVE V–BANK COVER SUB–ASSY
   (See page 14–156)
7. REMOVE FRONT SUSPENSION UPPER BRACE CENTER
   (W/ FRONT SUSPENSION BRACE UPPER CENTER)

8. REMOVE AIR CLEANER ASSEMBLY WITH HOSE (See page 10–18)
9. REMOVE INTAKE AIR SURGE TANK
   (See page 14–143)
10. SEPARATE FUEL PIPE SUB–ASSY NO.1
    (See page 14–156)
11. DISCONNECT HEATER INLET WATER HOSE

12. REMOVE INTAKE MANIFOLD
    (See page 14–198)
13. REMOVE RADIATOR HOSE INLET

14. REMOVE WATER OUTLET
    (See page 14–198)
15. DISCONNECT RADIATOR HOSE OUTLET

16. REMOVE WATER INLET PIPE
    (See page 16–35)
17. REMOVE OIL LEVEL GAGE SUB–ASSY

18. REMOVE OIL LEVEL GAGE GUIDE

19. REMOVE FRONT WHEEL RH
20. REMOVE FRONT FENDER APRON SEAL RH

21. REMOVE V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1
    (See page 14–141)
22. REMOVE VANE PUMP V BELT
    (See page 14–141)
23. REMOVE ENGINE MOVING CONTROL ROD
    (See page 14–156)
24. REMOVE ENGINE MOUNTING STAY NO.2 RH
    (See page 14–156)

25. REMOVE GENERATOR BRACKET NO.2

26. REMOVE CRANKSHAFT PULLEY
(See page 14–174)
SST 09213–54015 (91651–60855), 09330–00021, 09950–50013 (09951–05010, 09952–05010, 09953–05010, 09954–05030)

27. REMOVE TIMING BELT NO.1 COVER

28. REMOVE TIMING BELT NO.2 COVER
(See page 14–174)

29. REMOVE TRANSVERSE ENGINE ENGINE MOUNTING BRACKET

30. REMOVE TIMING BELT GUIDE NO.2

31. REMOVE TIMING BELT
(See page 14–211)

32. REMOVE TIMING BELT IDLER SUB–ASSY NO.2

33. REMOVE CAMSHAFT TIMING PULLEY
(See page 14–180)
SST 09960–10010 (09962–01000, 09963–01000), 09249–63010

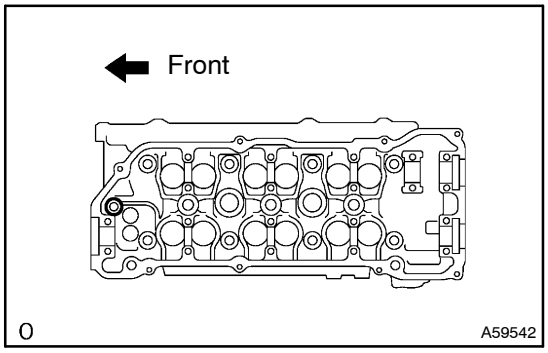
34. REMOVE TIMING BELT NO.3 COVER

35. REMOVE IGNITION COIL ASSY

36. REMOVE CYLINDER HEAD COVER SUB–ASSY LH
(See page 14–143)

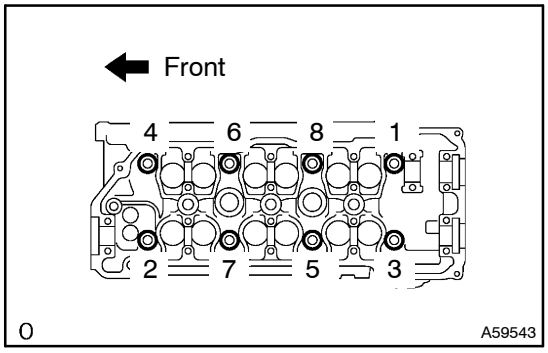
37. REMOVE NO.3 CAMSHAFT SUB–ASSY
(See page 14–190)

38. REMOVE NO.4 CAMSHAFT SUB–ASSY
(See page 14–190)



39. REMOVE CYLINDER HEAD LH

(a) Using an 8 mm hexagon wrench, remove the hexagon bolt.



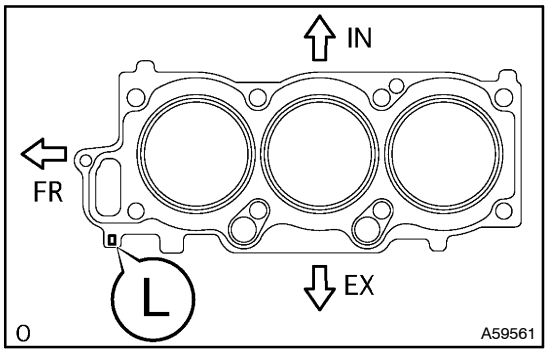
(b) Uniformly loosen the 8 cylinder head bolts, in several passes, in the sequence shown. Remove the 8 cylinder head bolts and plate washers.

NOTICE:

- **Be careful no to drop washers into the cylinder head.**
- **Head warpage or cracking could result from removing bolts in an incorrect order.**

40. REMOVE CYLINDER HEAD GASKET NO.2

41. INSPECT CYLINDER HEAD SET BOLT
(See page 14–198)



42. INSTALL CYLINDER HEAD GASKET NO.2

(a) Place a new cylinder head gasket on the cylinder block surface with the L mark upward.

NOTICE:

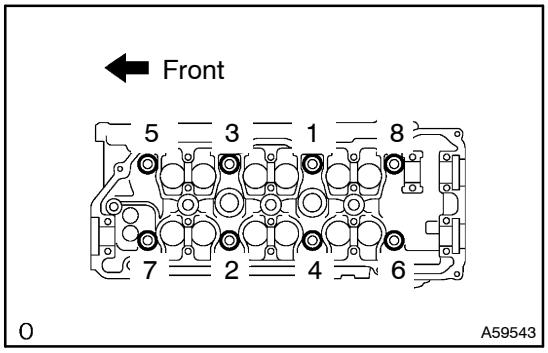
- **Remove any oil from the contact surface.**
- **Be careful of the installation direction.**
- **Place the cylinder head quietly in order not to damage the gasket at the bottom part of the head.**

43. INSTALL CYLINDER HEAD LH

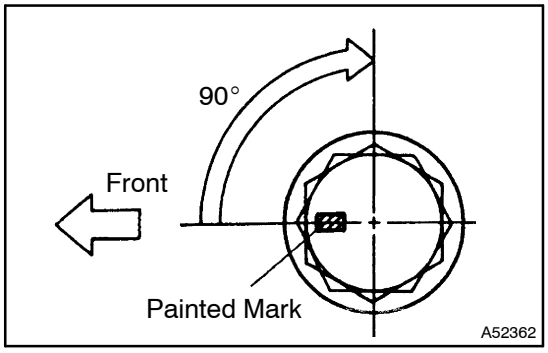
NOTICE:
The cylinder head bolts are tightened in 2 progressive steps.

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

(b) Install the plate washer to the cylinder head bolt.



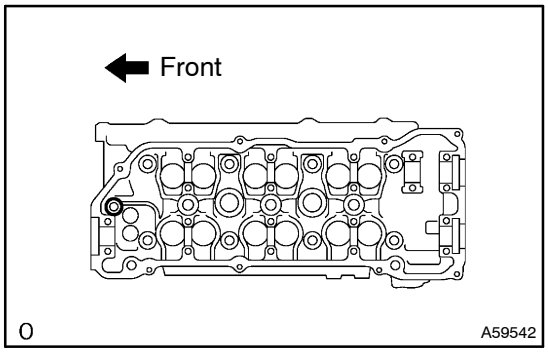
(c) Install and uniformly tighten the 8 cylinder head bolts, in several passes, in the sequence shown.
Torque: 54 N·m (551 kgf·cm, 40 ft·lbf)



(d) Mark the front side of each cylinder head bolt head with paint.

(e) Retighten the cylinder head bolts by 90° in the sequence shown.

(f) Check that the painted mark is now at a 90° angle to the front.



(g) Using an 8 mm socket hexagon wrench, install the hexagon bolt.
Torque: 19 N·m (189 kgf·cm, 14 ft·lbf)

44. INSTALL NO.4 CAMSHAFT SUB–ASSY
(See page 14–190)

45. INSTALL NO.3 CAMSHAFT SUB–ASSY
(See page 14–190)

46. INSTALL CYLINDER HEAD COVER SUB–ASSY LH
(See page 14–143)

47. INSTALL IGNITION COIL ASSY

Torque: 8.0 N·m (82 kgf·cm, 71 in.·lbf)

48. INSTALL TIMING BELT NO.3 COVER
(See page 14–180)

49. INSTALL CAMSHAFT TIMING PULLEY
(See page 14–180)
SST 09960–10010 (09962–01000, 09963–01000), 09249–63010

50. INSTALL TIMING BELT IDLER SUB–ASSY NO.2

Torque: 43 N·m (438 kgf·cm, 32 ft·lbf)

51. INSPECT TIMING BELT
(See page 14–174)

52. INSTALL TIMING BELT
(See page 14–211)
SST 09960–10010 (09962–01000, 09963–01000)

53. INSTALL CHAIN TENSIONER ASSY NO.1
(See page 14–174)

54. INSTALL TIMING BELT GUIDE NO.2
(See page 14–174)

55. INSTALL TRANSVERSE ENGINE ENGINE MOUNTING BRACKET

Torque: 28 N·m (286 kgf·cm, 21 ft·lbf)

56. INSTALL TIMING BELT NO.2 COVER
(See page 14–174)
57. INSTALL TIMING BELT NO.1 COVER
(See page 14–174)
58. INSTALL CRANKSHAFT PULLEY
(See page 14–174)
SST 09213–54015 (91651–60855), 09330–00021
59. INSTALL GENERATOR BRACKET NO.2

Torque: 28 N·m (286 kgf·cm, 21 ft·lbf)
60. INSTALL ENGINE MOUNTING STAY NO.2 RH
(See page 14–156)
61. INSTALL ENGINE MOVING CONTROL ROD
(See page 14–156)
62. INSTALL VANE PUMP V BELT
(See page 14–141)
63. INSTALL V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1
(See page 14–141)
64. INSPECT DRIVE BELT DEFLECTION AND TENSION(REFERENCE) (See page 14–137)
65. INSTALL OIL LEVEL GAGE GUIDE
(See page 14–156)
66. INSTALL WATER INLET PIPE
(See page 16–35)
67. INSTALL WATER OUTLET
(See page 14–198)
68. INSTALL INTAKE MANIFOLD
(See page 14–198)
69. CONNECT FUEL PIPE SUB–ASSY NO.1
(See page 14–156)
70. INSTALL INTAKE AIR SURGE TANK
(See page 14–143)
71. INSTALL AIR CLEANER ASSEMBLY WITH HOSE (See page 10–18)
72. CONNECT VACUUM HOSE (See page 14–156)
73. INSTALL FRONT SUSPENSION UPPER BRACE CENTER
(W/ FRONT SUSPENSION BRACE UPPER CENTER)

Torque: 80 N·m (816 kgf·cm, 59 ft·lbf)
74. INSTALL V–BANK COVER SUB–ASSY
(See page 14–156)
75. INSTALL EXHAUST MANIFOLD CONVERTER SUB–ASSY NO.2

(a) Install a new gasket and the exhaust manifold converter to the front exhaust pipe.
Torque: 62 N·m (633 kgf·cm, 46 ft·lbf)
76. INSTALL MANIFOLD STAY NO.2
(See page 14–156)
77. INSTALL FRONT WHEEL RH
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)
78. ADD ENGINE OIL
79. ADD COOLANT (See page 16–31)
80. INSPECT OIL LEAK

81. CHECK ENGINE COOLANT LEAK (See page 16–31)
82. INSPECT FUEL LEAK
83. CHECK EXHAUST GAS LEAK
84. INSPECT IGNITION TIMING (See page 14–137)
SST 09843–18040, 09843–18020
85. INSPECT ENGINE IDLE SPEED (See page 14–137)
SST 09843–18040
86. INSPECT COMPRESSION (See page 14–137)
SST 09992–00500
87. INSPECT CO/HC (See page 14–137)