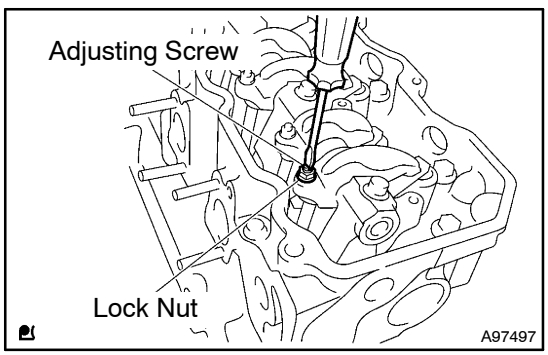
CYLINDER HEAD GASKET (N04C–TF)

141UE–01

REPLACEMENT

1. DISCONNECT BATTERY NEGATIVE TERMINAL
2. DRAIN FUEL
3. DRAIN ENGINE OIL (See page 17–3)
4. DRAIN ENGINE COOLANT (See page 16–3)
5. DRAIN POWER STEERING FLUID
6. REMOVE FRONT MUDGUARD RH
7. REMOVE FRONT MUDGUARD LH
8. REMOVE RADIATOR RESERVE TANK ASSY
9. REMOVE ENGINE SIDE COVER RH
10. REMOVE ENGINE SIDE COVER LH
11. REMOVE INTAKE AIR CONNECTOR PIPE (See page 14–14)
12. REMOVE AIR HOSE NO. 2 (See page 14–14)
13. REMOVE CHARGE AIR COOLER ASSY (See page 13–9)
14. REMOVE FAN (See page 14–14)
15. REMOVE A/C COMPRESSOR V BELT (See page 14–4)
16. DISCONNECT RADIATOR HOSE INLET
17. DISCONNECT RADIATOR HOSE OUTLET
18. REMOVE RADIATOR ASSY (See page 16–10)
19. REMOVE VENTILATION PIPE NO. 2 (See page 14–14)
20. REMOVE EXHAUST PIPE ASSY FRONT (See page 15–2)
21. REMOVE GENERATOR ASSY (See page 19–7)
22. REMOVE INTAKE AIR CONNECTOR PIPE (See page 14–14)
23. REMOVE OIL FILLER CAP SUB–ASSY
24. REMOVE CYLINDER HEAD COVER NO. 2 (See page 11–20)
25. REMOVE CYLINDER HEAD COVER SUB–ASSY (See page 11–20)
26. REMOVE BREATHER PIPE
27. REMOVE BRACKET (See page 14–14)
28. REMOVE WATER BY–PASS PIPE (See page 14–14)
29. REMOVE VENTURI ASSY (See page 10–7)
30. REMOVE FUEL PIPE CLAMP (See page 11–20)
31. REMOVE OIL LEVEL GAGE GUIDE
32. REMOVE INJECTOR ASSY (See page 11–20)
33. REMOVE INTAKE PIPE (See page 14–14)
34. REMOVE RADIATOR PIPE (See page 14–14)
35. REMOVE TURBOCHARGER SUB–ASSY (See page 13–6)
36. SET NO. 1 CYLINDER TO TDC/COMPRESSION (See page 14–5)

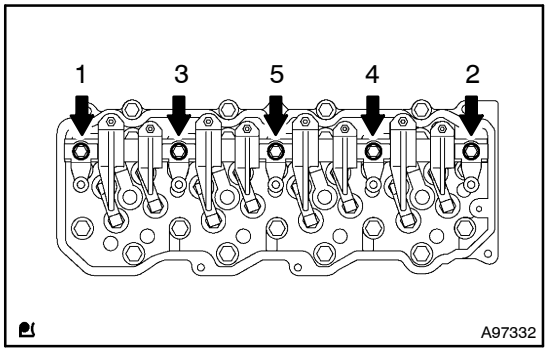


37. REMOVE VALVE ROCKER SHAFT SUB–ASSY NO.1

(a) Loosen the lock nut at the top of the rocker arm, then tighten the adjusting screw completely.

NOTICE:

If the adjusting screw is left untightened or too loose, the rocker shaft may bend when the rocker arm support is loosened.



(b) Loosen the rocker arm support bolts in the order as shown in the illustration.

38. REMOVE VALVE PUSH ROD

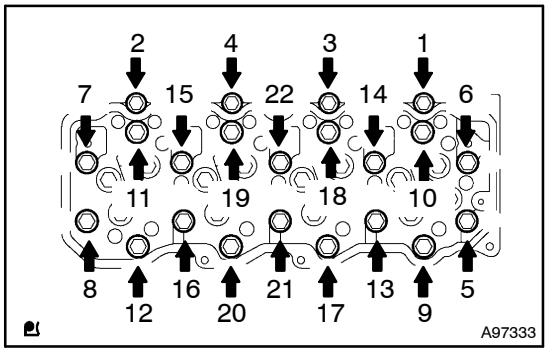
NOTICE:

Organize the parts so that each parts location can be remembered for reassembly.

39. REMOVE VALVE BRIDGE

NOTICE:

Organize the parts so that each parts location can be remembered for reassembly.



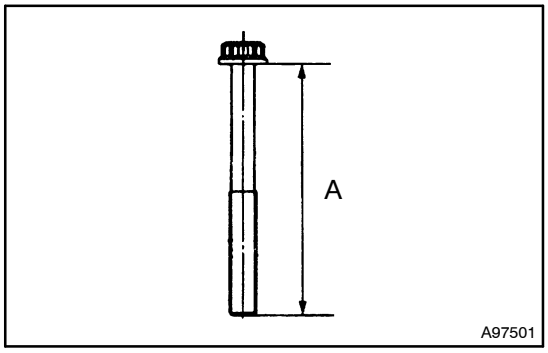
40. REMOVE CYLINDER HEAD SUB–ASSY

(a) Remove the cylinder head bolts in the order as shown in the illustration.

(b) Lift and remove the cylinder head from the cylinder block.

41. REMOVE CYLINDER HEAD GASKET

42. INSTALL CYLINDER HEAD GASKET

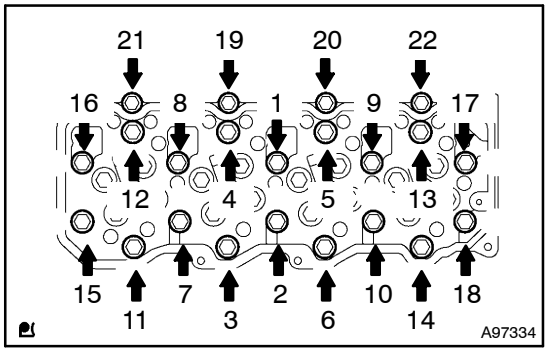


43. INSPECT CYLINDER HEAD BOLT

(a) Measure the length of the M12 head bolts No. 1 to No. 18.

Maximum length (A): 129 mm (5.07 in.)

If the length is greater than the maximum, replace them with new bolts.

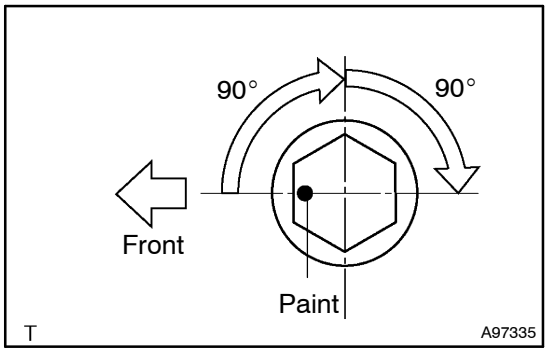


44. INSTALL CYLINDER HEAD SUB–ASSY

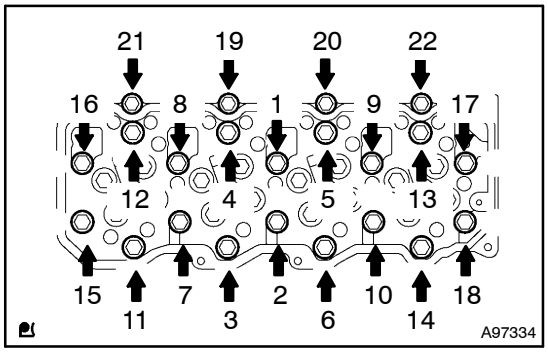
HINT:

Since the cylinder head bolts are unique to this engine, do not substitute them with ordinary bolts for them.

(a) Uniformly install and tighten the 18 cylinder head bolts in the order shown in the illustration.
Torque: 60 N·m (612 kgf·cm, 44 ft·lbf)



(b) Mark the front side of each cylinder head bolt head with paint as shown in the illustration.
(c) Retighten the cylinder head bolts by 90° in the same order as step (a).
(d) Perform step (c) again.
(e) Check that each painted mark is now at a 180° angle to the front.



(f) Uniformly install and tighten the 19 to 22 cylinder head bolts in the order shown in the illustration.
Torque: 55 N·m (561 kgf·cm, 41 ft·lbf)

45. INSTALL VALVE BRIDGE

NOTICE:

Be sure to install the bridge to its original location.

46. INSTALL VALVE PUSH ROD

NOTICE:

Be sure to install the push rod to its original location.

47. INSTALL VALVE ROCKER SHAFT SUB–ASSY NO.1

(a) Lubricate the rocker arm shaft and bush.

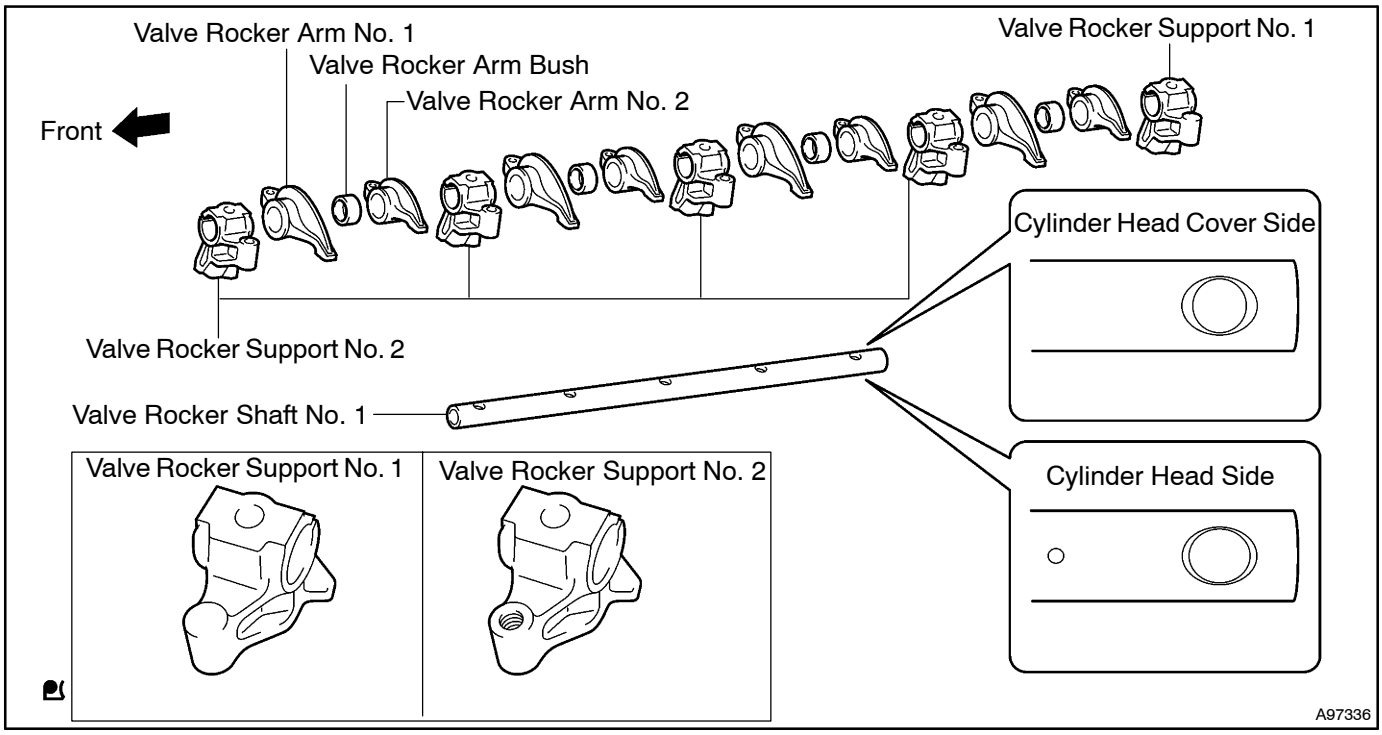
NOTICE:

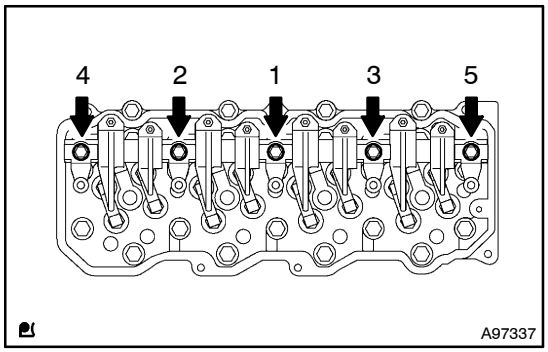
Confirm that oil hole of the rocker arm No. 1 support aligns with the shaft oil hole. Improper installation will result in burning of the entire valve assy.

(b) Install the rocker arm No. 1 and No. 2, the rocker support No.1 and No. 2 and the rocker arm bush to the rocker shaft No. 1.

NOTICE:

When the installing, face the hole on the cylinder head side of the rocker shaft No. 1 as shown in the illustration.





(c) Install the rocker shaft to the cylinder head.

(d) Apply engine oil to the rocker arm and push rod.

(e) Install the bolts in the order shown in the illustration.

Torque: 69 N·m (704 kgf·cm, 51 ft·lbf)

NOTICE:

Be careful not to interfere the push rod with the adjusting screw.

48. ADJUST VALVE CLEARANCE (See page 14–5)
49. INSTALL TURBOCHARGER SUB–ASSY (See page 13–6)
50. INSTALL RADIATOR PIPE (See page 14–14)
51. INSTALL INTAKE PIPE (See page 14–14)
52. INSTALL INJECTOR ASSY (See page 11–20)
53. INSTALL OIL LEVEL GAGE GUIDE
54. INSTALL FUEL PIPE CLAMP (See page 11–20)
55. INSTALL VENTURI ASSY (See page 10–7)

56. INSTALL WATER BY–PASS PIPE (See page 14–14)
57. INSTALL BRACKET (See page 14–14)
58. INSTALL BREATHER PIPE
59. INSTALL CYLINDER HEAD COVER SUB–ASSY (See page 11–20)
60. INSTALL CYLINDER HEAD COVER NO. 2 (See page 11–20)
61. INSTALL OIL FILLER CAP SUB–ASSY
62. INSTALL INTAKE AIR CONNECTOR PIPE (See page 14–14)
63. INSTALL GENERATOR ASSY (See page 19–7)
64. INSTALL EXHAUST PIPE ASSY FRONT (See page 15–2)
65. INSTALL VENTILATION PIPE NO. 2 (See page 14–14)
66. INSTALL RADIATOR ASSY (See page 16–10)
67. CONNECT RADIATOR HOSE INLET
68. CONNECT RADIATOR HOSE OUTLET
69. INSTALL A/C COMPRESSOR V BELT (See page 14–4)
70. INSTALL FAN (See page 14–14)
71. INSTALL CHARGE AIR COOLER ASSY (See page 13–9)
72. INSTALL AIR HOSE NO. 2 (See page 14–14)
73. INSTALL INTAKE AIR CONNECTOR PIPE (See page 14–14)
74. INSTALL ENGINE SIDE COVER RH
75. INSTALL ENGINE SIDE COVER LH
76. INSTALL RADIATOR RESERVE TANK ASSY
77. INSTALL FRONT MUDGUARD RH
78. INSTALL FRONT MUDGUARD LH
79. ADD ENGINE OIL (See page 17–3)
80. ADD ENGINE COOLANT (See page 16–3)
81. ADD POWER STEERING FLUID (See pub. No. RM1008E, on page 51–3)
82. ADD FUEL
83. BLEED AIR FROM FUEL SYSTEM (See page 11–5)
84. CONNECT BATTERY NEGATIVE TERMINAL
85. BLEED AIR FROM STEERING SYSTEM (See pub. No. RM1008E, on page 51–3)
86. CHECK STEERING SYSTEM FOR LEAKS (See pub. No. RM1008E, on page 51–3)
87. CHECK FOR ENGINE OIL LEAKS
88. CHECK FOR ENGINE COOLANT LEAKS (See page 16–1)
89. CHECK FOR FUEL LEAKS (See page 11–2)
90. CHECK FOR EXHAUST GAS LEAKS