1416V–01

REPLACEMENT

1. REMOVE ENGINE SERVICE HOLE SUB COVER SUB–ASSY (W/O TILT CAB CAB TYPE)
2. REMOVE ENGINE ASSY (See page 14–12)
3. REMOVE GENERATOR ASSY (See page 19–6)
4. REMOVE FAN BELT ADJUSTING BAR

(a) Remove the bolt and adjusting bar.

5. REMOVE GENERATOR BRACKET SUB–ASSY

(a) Remove the 3 bolts and generator bracket.

6. REMOVE INJECTION PIPE CLAMP NO.1
7. REMOVE INJECTION PIPE SUB–ASSY NO.4 (See page 11–7)
8. REMOVE INJECTION PIPE SUB–ASSY NO.3 (See page 11–7)
9. REMOVE INJECTION PIPE SUB–ASSY NO.2 (See page 11–7)
10. REMOVE INJECTION PIPE SUB–ASSY NO.1 (See page 11–7)
11. REMOVE INJECTION PUMP ASSY (See page 11–14)
12. REMOVE ENGINE MOUNTING BRACKET FRONT NO.1 RH

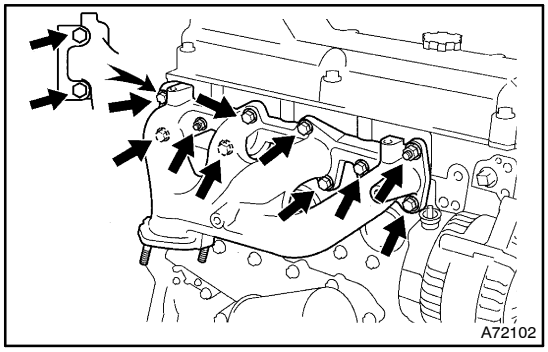
(a) Remove the 4 bolts and mounting bracket.

13. REMOVE ENGINE MOUNTING BRACKET FRONT NO.1 LH

(a) Remove the 4 bolts and mounting bracket.

14. REMOVE EXHAUST MANIFOLD HEAT INSULATOR NO.1

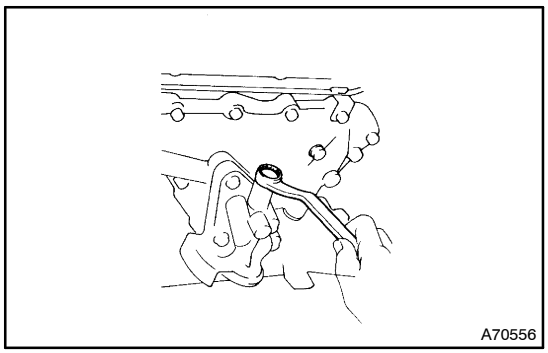
(a) Rrmove the 3 bolts and heat insulator.



15. REMOVE EXHAUST MANIFOLD

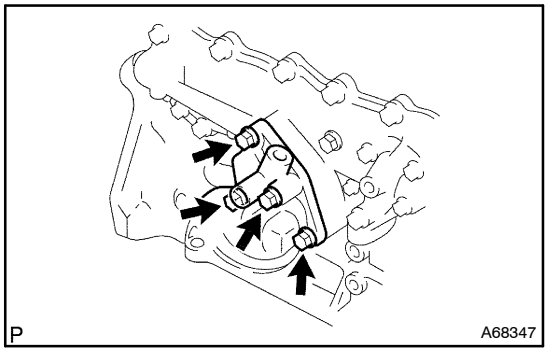
(a) Remove the 8 bolts, 2 nuts, exhaust manifold, No. 2 heat insulator and gasket.

16. REMOVE OIL FILTER SUB–ASSY (See page 17–2)

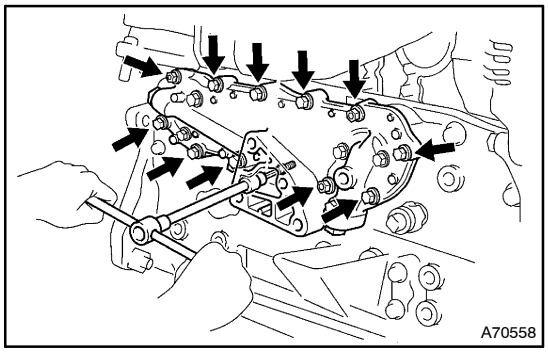


17. REMOVE OIL FILTER BRACKET SUB–ASSY

(a) Remove the plug, gasket, spring relief valve and gasket.



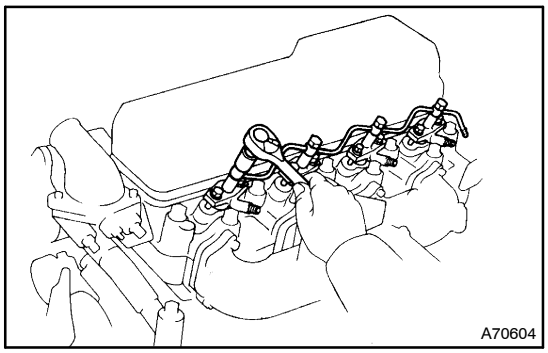
(b) Remove the 4 bolts, bracket and gasket.



18. REMOVE OIL COOLER ASSY

(a) Using a 6 mm hexagon wrench, remove the bolt and washer.

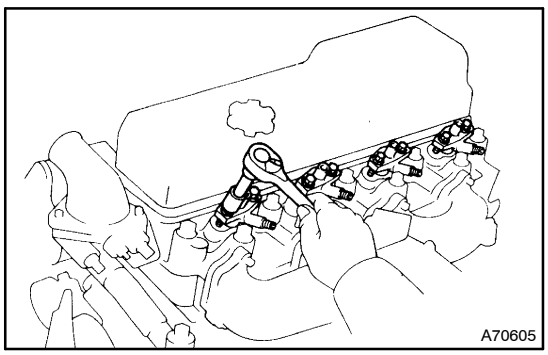
(b) Remove the 8 bolts, 3 nuts, oil cooler case and gasket.



19. REMOVE NOZZLE LEAKAGE PIPE ASSY

(a) Disconnect the fuel hose from the leakage pipe.

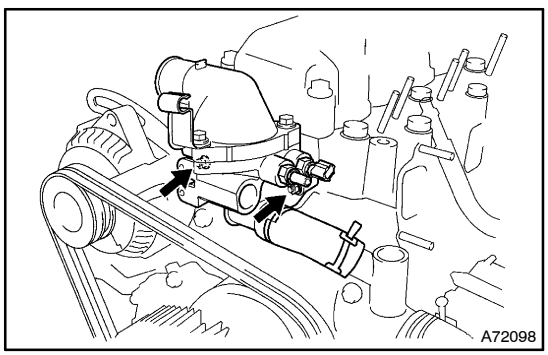
(b) Remove the 4 hollow bolts, leakage pipe and 8 gaskets.



20. REMOVE NOZZLE HOLDER AND NOZZLE SET

(a) Remove the 2 nuts, nozzle, ring packing and seat.

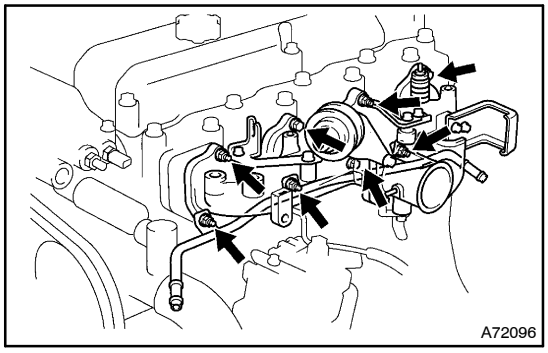
(b) Remove the 2 nuts, nozzle holder and nozzle set.



21. REMOVE WATER OUTLET HOUSING

(a) Remove the 2 nuts holding the water outlet housing to the cylinder head.

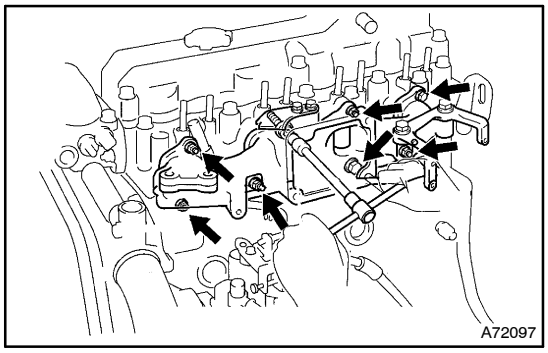
(b) Disconnect the water bypass hose from the water pump and remove the water outlet housing.



22. REMOVE INTAKE MANIFOLD

(a) Remove the bolt and nut holding the water bypass pipe to the bolt and oil level gauge.

(b) Remove the bolt and oil level gauge guide.



(c) Using a 6 mm hexagon wrench, remove the bolt.

(d) Remove the 5 nuts and intake manifold and gasket.

23. REMOVE WATER TEMPERATURE SENDER GAGE ASSY

24. REMOVE ENGINE OIL PRESSURE SWITCH ASSY

(a) Using SST, remove the engine oil pressure switch.
SST 09816–30010

25. REMOVE VACUUM PUMP ASSY

(a) Remove the 2 bolts and vacuum pump.

26. INSTALL VACUUM PUMP ASSY

(a) Install the vacuum pump with the 2 bolts.
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

27. INSTALL ENGINE OIL PRESSURE SWITCH ASSY

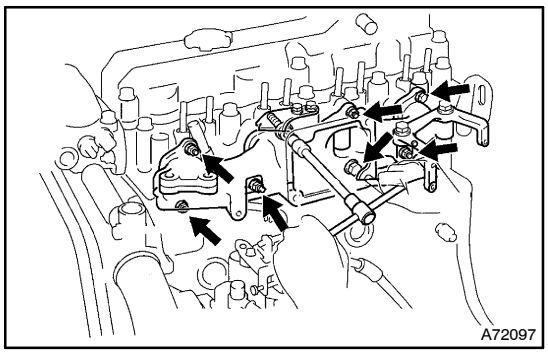
(a) Apply adhesive to 2 or 3 threads of the oil pressure switch.
Adhesive:
Part No. 08833–00080, THREE BOND 1344, LOCTITE 242 or equivalent

NOTICE:

Do not start the engine within 1 hour after the installation.

(b) Using SST, install the oil pressure switch.
SST 09816–30010
Torque: 15 N·m (150 kgf·cm, 11 ft·lbf)

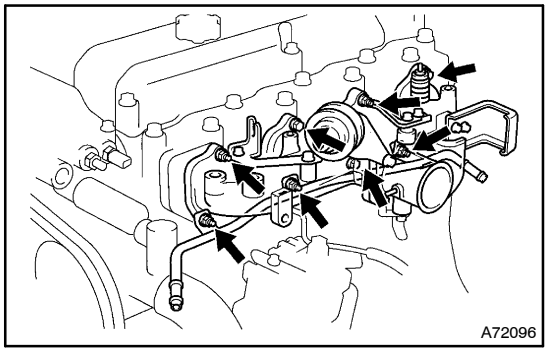
28. INSTALL WATER TEMPERATURE SENDER GAGE ASSY



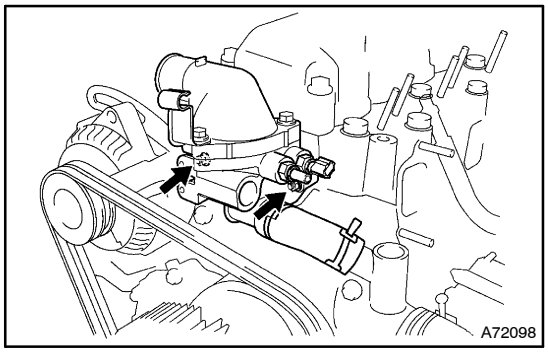
29. INSTALL INTAKE MANIFOLD

(a) Install a new gasket, the intake manifold and oil level gauge guide with the bolt and 5 nuts.
Torque: 18.5 N·m (189 kgf·cm, 14 ft·lbf)

(b) Using a 6 mm hexagon wrench, install the bolt.
Torque: 18.5 N·m (189 kgf·cm, 14 ft·lbf)



(c) Install the bolt and nut to hold the water bypass pipe to the intake manifold and venturi.

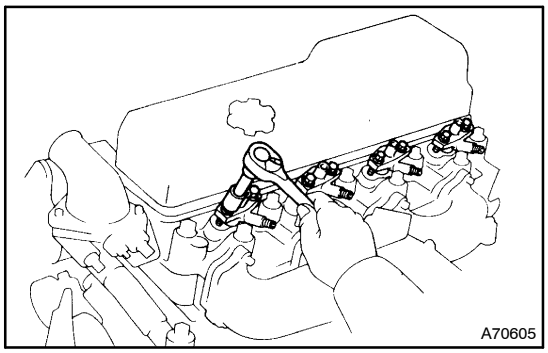


30. INSTALL WATER OUTLET HOUSING

(a) Connect the water bypass hose to the water pump.

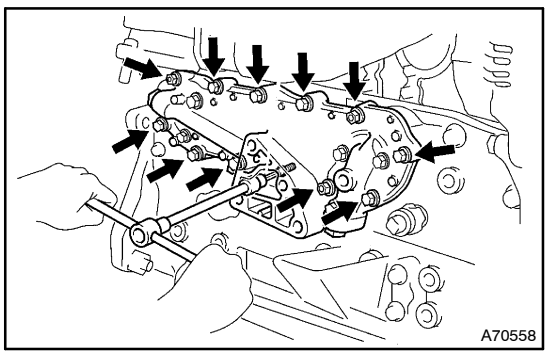
(b) Install the water outlet housing with the 2 bolts.

Torque: 18.5 N·m (189 kgf·cm, 14 ft·lbf)



31. INSTALL NOZZLE HOLDER AND NOZZLE SET

Torque: 18 N·m (185 kgf·cm, 13 ft·lbf)



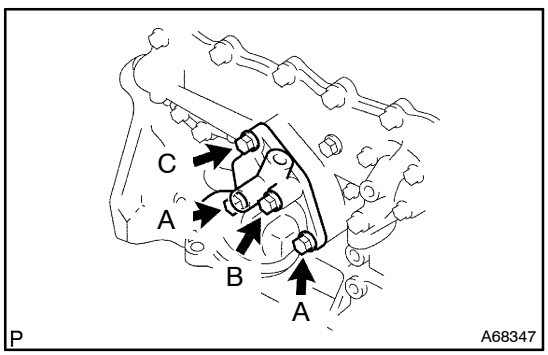
32. INSTALL OIL COOLER ASSY

(a) Install a new gasket, the oil cooler case with the 8 bolts and 3 nuts. Uniformly tighten the bolts and nuts in several passes.

Torque: 21 N·m (214 kgf·cm, 15 ft·lbf)

(b) Using a 6 mm wrench, install the washer and bolt.

Torque: 21 N·m (214 kgf·cm, 15 ft·lbf)



33. INSTALL OIL FILTER BRACKET SUB–ASSY

(a) Install a new gasket and the oil filter bracket with the 4 bolts.

Torque: 44 N·m (449 kgf·cm, 32 ft·lbf)

HINT:

Bolt length:

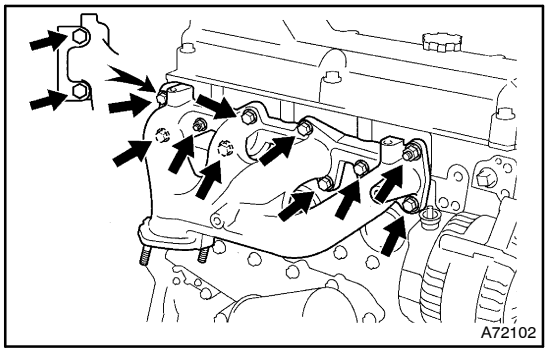
A 70 mm (2.95 in.)

B 55 mm (2.17 in.)

C 35 mm (1.38 in.)

(b) Install the relief valve and spring with a new gasket and the relief valve.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

34. INSTALL OIL FILTER SUB–ASSY (See page 17–2)



35. INSTALL EXHAUST MANIFOLD
(a) Install a new gasket, the exhaust manifold and the No. 2 heat insulator with the 8 bolts and new 2 nuts.
Torque: 47.5 N·m (484 kgf·cm, 35 ft·lbf)

36. INSTALL EXHAUST MANIFOLD HEAT INSULATOR NO.1
(a) Install the heat insulator with the 3 bolts.
Torque: 18.5 N·m (189 kgf·cm, 14 ft·lbf)
37. INSTALL ENGINE MOUNTING BRACKET FRONT NO.1 LH
(a) Install the mounting bracket with the 4 bolts.
Torque: 44 N·m (449 kgf·cm, 32 ft·lbf)
38. INSTALL ENGINE MOUNTING BRACKET FRONT NO.1 RH
(a) Install the mounting bracket with the 4 bolts.
Torque: 44 N·m (449 kgf·cm, 32 ft·lbf)
39. INSTALL INJECTION PUMP ASSY (See page 11–14)
40. INSTALL INJECTION PIPE SUB–ASSY NO.1 (See page 11–7)
41. INSTALL INJECTION PIPE SUB–ASSY NO.2 (See page 11–7)
42. INSTALL INJECTION PIPE SUB–ASSY NO.3 (See page 11–7)
43. INSTALL INJECTION PIPE SUB–ASSY NO.4 (See page 11–7)
44. INSTALL INJECTION PIPE CLAMP NO.1
45. INSTALL GENERATOR BRACKET SUB–ASSY
(a) Install the generator bracket with the 3 bolts.
Torque: 98 N·m (1,000 kgf·cm, 72 ft·lbf)
46. INSTALL FAN BELT ADJUSTING BAR
(a) Install the adjusting bar with the bolt.
Torque: 44 N·m (449 kgf·cm, 32 ft·lbf)
47. INSTALL GENERATOR ASSY (See page 19–6)
48. INSTALL ENGINE ASSY (See page 14–12)