OIL COOLER ASSY (1KD–FTV)(From August, 2004)

170ND–02

REPLACEMENT

1. REMOVE ENGINE UNDER COVER SUB–ASSY NO.1

(a) Remove the 4 bolts and engine under cover No.1.

2. REMOVE ENGINE UNDER COVER ASSY REAR

(a) Remove the 4 bolts and engine under cover rear.

3. DRAIN COOLANT (See pub. No. RM990E, 16–50)

4. REMOVE STARTER ASSY (See pub. No. RM990E, 19–35)

5. REMOVE RADIATOR SUPPORT SEAL UPPER

(a) Remove the 11 clips and radiator support seal upper.

6. REMOVE WIRE HARNESS (W/ COLD AREA)

(a) Disengage the wire harness from the fan shroud.

7. REMOVE RADIATOR RESERVE TANK ASSY

(a) Disconnect the radiator reserve tank hose.

(b) Disconnect the water bypass hose No.2 first, and remove the 3 bolts and radiator reserve tank.

8. REMOVE RADIATOR HOSE NO.1

9. REMOVE FAN AND GENERATOR V BELT (See pub. No. RM990E, 14–189)

HINT:

Loosen the 4 nuts for the fan with fluid coupling assy in advance.

10. REMOVE FAN SHROUD

(a) Remove the oil cooler inlet hose and outlet hose from the hose clamp. (A/T TRANSMISSION)

(b) Remove the 4 nuts for the fan with fluid coupling assy.

(c) Remove the 2 bolts, and remove the fan shroud together with the fan with fluid coupling assy.

11. REMOVE FAN PULLEY

12. REMOVE TIMING BELT NO.1 COVER (See pub. No. RM990E, 14–214)

13. REMOVE TIMING BELT (See pub. No. RM990E, 14–214)

14. REMOVE INTERCOOLER PROTECTOR (See page 13–18)

15. REMOVE INTERCOOLER ASSY (See page 10–22)

16. REMOVE DIESEL THROTTLE BODY ASSY

17. REMOVE CYLINDER HEAD COVER SUB–ASSY NO.2 (See page 14–218)

18. REMOVE INJECTION PIPE (See page 11–52)

SST 09023–12701

19. REMOVE FUEL INLET PIPE SUB–ASSY (See page 11–67)

SST 09023–12701

20. REMOVE OIL FILTER SUB–ASSY (See pub. No. RM990E, 17–71)

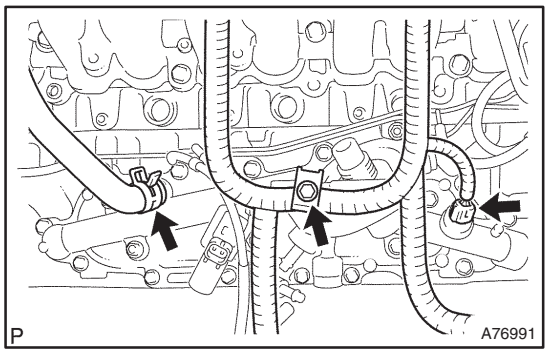
SST 09228–10002

21. REMOVE NOZZLE LEAKAGE PIPE ASSY NO.2 (See page 11–67)

22. REMOVE COMMON RAIL ASSY (See page 11–67)

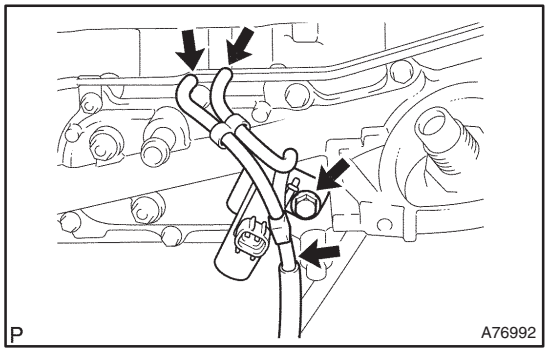
23. REMOVE INJECTION OR SUPPLY PUMP ASSY (See page 11–63)

SST 09213–58013, 09330–00021, 09950–50013 (09951–05010, 09952–05010, 09953–05020, 09954–05021)

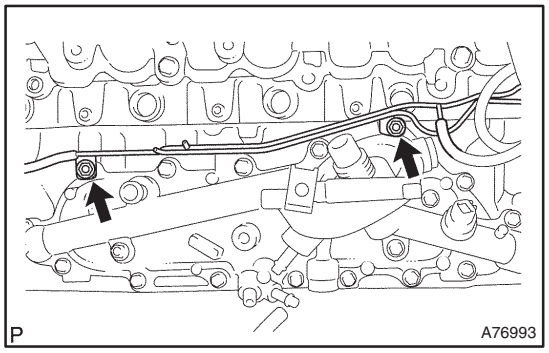


24. REMOVE OIL COOLER COVER SUB–ASSY

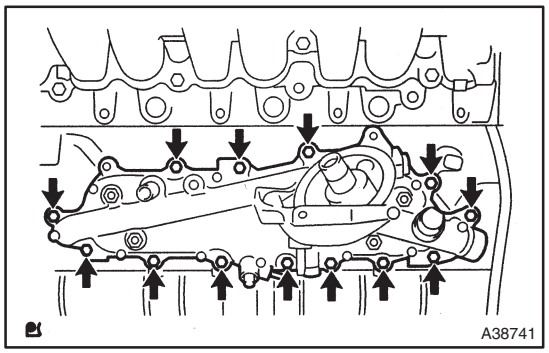
(a) Remove the bolt, and disconnect the wire harness from the oil cooler cover.
(b) Disconnect the oil pressure switch connector.
(c) Remove the clip, and remove the water by–pass hose No.3.



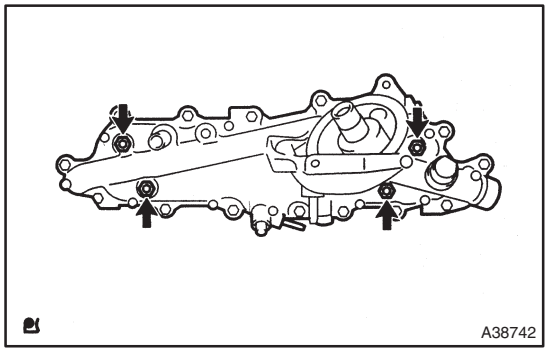
(d) Remove the vacuum switching valve assy.
  (1) Disconnect the vacuum switching valve connector.
  (2) Disconnect the 3 vacuum hoses.
  (3) Remove the bolt and vacuum switching valve assy.
(e) Remove the oil filter drain hose.



(f) Remove the 2 nuts, and disconnect the vacuum transmitting pipe No.2 from the oil cooler cover.

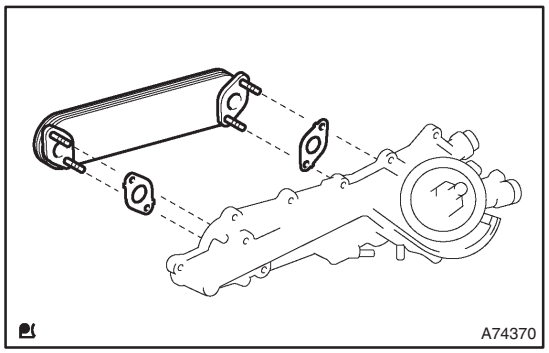


(g) Remove the 13 bolts and oil cooler cover.



25. REMOVE OIL COOLER ASSY

(a) Loosen the 4 nuts first.
(b) Tap the head of each nut equally using a plastic hammer to remove the oil cooler.



(c) Remove all the nuts and oil cooler assy.

26. INSTALL OIL COOLER ASSY

(a) Install the oil cooler assy to the oil cooler cover with a new gasket in between.

(b) Tighten the 4 nuts.

Torque: 16 N·m (163 kgf·cm, 12 ft·lbf)

27. INSTALL OIL COOLER COVER SUB–ASSY

(a) Set a new gasket, and install the oil cooler cover with the 13 bolts.

Torque: 13 N·m (133 kgf·cm, 10 ft·lbf)

(b) Install the 2 nuts and vacuum transmitting pipe No.2.

Torque: 13 N·m (133 kgf·cm, 10 ft·lbf)

(c) Install the oil filter drain hose.

(d) Install the vacuum switching valve assy.

(1) Install the bolt and vacuum switching valve assy.

Torque: 20 N·m (204 kgf·cm, 15 ft·lbf)

(2) Connect the 3 vacuum hoses.

(3) Connect the vacuum switching valve connector.

(e) Install the water by–pass hose No.3.

(f) Connect the oil pressure switch connector, and install the wire harness with the bolt.

28. INSTALL INJECTION OR SUPPLY PUMP ASSY (See page 11–63)

SST 09213–58013, 09330–00021

29. INSTALL COMMON RAIL ASSY (See page 11–67)

30. INSTALL NOZZLE LEAKAGE PIPE ASSY NO.2 (See page 11–67)

31. INSTALL OIL FILTER SUB–ASSY (See pub. No. RM990E, 17–71)

SST 09228–10002

32. INSTALL FUEL INLET PIPE SUB–ASSY (See page 11–52)

SST 09023–12701

33. INSTALL INJECTION PIPE (See page 14–218)

SST 09023–12701

34. INSTALL CYLINDER HEAD COVER SUB–ASSY NO.2 (See page 14–218)

35. INSTALL DIESEL THROTTLE BODY ASSY (See page 10–22)

36. INSTALL INTERCOOLER ASSY (See page 13–18)

37. INSTALL INTERCOOLER PROTECTOR

(a) Install the intercooler protector with the 5 bolts.

Torque: 6.0 N·m (61 kgf·cm, 53 in.·lbf)

38. INSTALL TIMING BELT (See pub. No. RM990E, 14–210)

39. INSTALL TIMING BELT NO.1 COVER

(a) Install the timing belt cover No. 1 with the 6 bolts.

Torque: 6.0 N·m (61 kgf·cm, 53 in.·lbf)

(b) Install the wire harness clamp.

(c) Install the water hose clamp with the bolt.

Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

40. INSTALL FAN PULLEY

41. INSTALL FAN SHROUD

(a) Temporarily place the fan shroud together with the fan with fluid coupling assy to the correct location inside the engine room first.

(b) Install the fan shroud to the radiator with the 2 bolts.
Torque: 5.0 N·m (51 kgf·cm, 44 in·lbf)

(c) Install the fan with fluid coupling assy to the water pump with the 4 nuts.
Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)

(d) Install the oil cooler inlet hose and outlet hose to the hose clamp. (A/T TRANSMISSION)

42. INSTALL FAN AND GENERATOR V BELT (See pub. No. RM990E, 14–189)

43. INSTALL RADIATOR HOSE NO.1

44. INSTALL RADIATOR RESERVE TANK ASSY

(a) Install the water bypass hose No.2.

(b) Install the radiator reserve tank with the 3 bolts.
Torque: 5.0 N·m (51 kgf·cm, 44 in·lbf)

(c) Install the reserve tank hose.

45. INSTALL WIRE HARNESS (W/ COLD AREA)

(a) Install the wire harness to the fan shroud.

46. INSTALL RADIATOR SUPPORT SEAL UPPER

(a) Install the radiator support seal upper with the 11 clips.

47. INSTALL STARTER ASSY (See pub. No. RM990E, 19–35)

48. ADD ENGINE COOLANT (See pub. No. RM990E, 16–50)

49. CHECK FOR ENGINE COOLANT LEAKS (See pub. No. RM990E, 16–50)

50. CHECK FOR FUEL LEAKS (See pub. No. RM990E, 19–35)

51. CHECK FOR ENGINE OIL LEAKS

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

(a) Install the engine under cover No.1 with the 4 bolts.
Torque: 29 N·m (296 kgf·cm, 21 ft·lbf)

53. INSTALL ENGINE UNDER COVER ASSY REAR

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