141O6–01

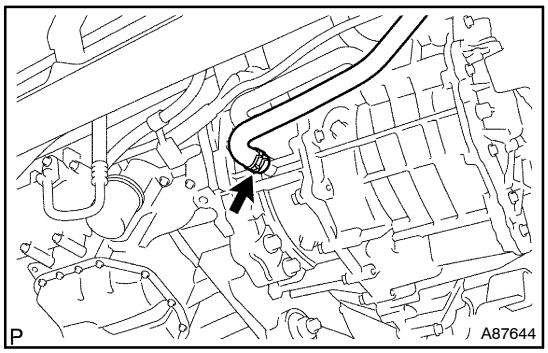
REPLACEMENT

1. REMOVE DISCHARGE FUEL SYSTEM PRESSURE (See page 11–3)
2. PRECAUTION (See pgae 21–8)
3. REMOVE REAR FLOOR BOARD NO.2 (See pgae 21–120)
4. REMOVE DECK FLOOR BOX REAR (See pgae 21–120)
5. REMOVE REAR FLOOR BOARD NO.3 (See pgae 21–120)
6. DISCONNECT BATTERY NEGATIVE TERMINAL (See pgae 21–120)
7. REMOVE SERVICE PLUG GRIP (See pgae 21–120)
8. REMOVE FRONT WHEELS
9. REMOVE ENGINE UNDER COVER LH
10. REMOVE ENGINE UNDER COVER RH
11. DRAIN ENGINE COOLANT

(a) Drain engine coolant in the radiator on the engine side (see page 16–11).

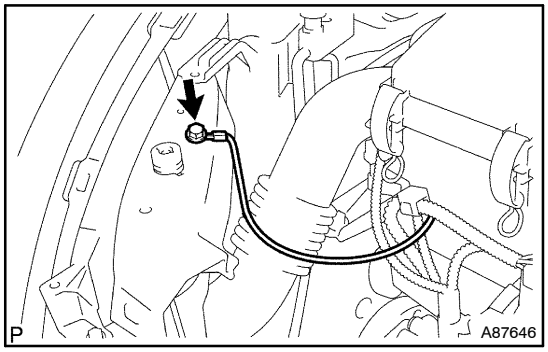
(b) Drain engine coolant in the radiator on the hybrid side (see page 22–4).

12. DRAIN TRANSAXLE OIL (See page 22–1)
13. REMOVE WINDSHIELD WIPER LINK ASSY (See page 66–16)
14. REMOVE COWL TOP PANEL SUB–ASSY OUTER FRONT (See page 11–16)
15. REMOVE W/CONVERTER INVERTER ASSY (See page 21–25)
16. REMOVE NO.2 RADIATOR ASSY (See page 16–32)



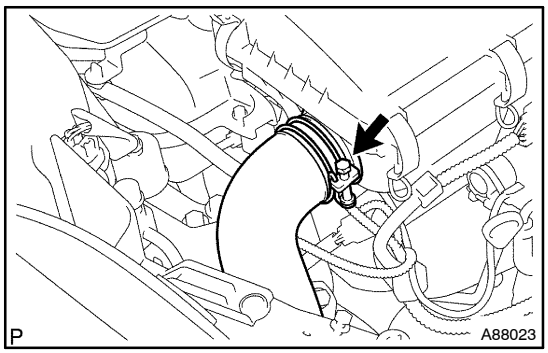
17. DISCONNECT INVERTER COOLING HOSE NO.3

(a) Disconnect the inverter cooling hose No. 3.



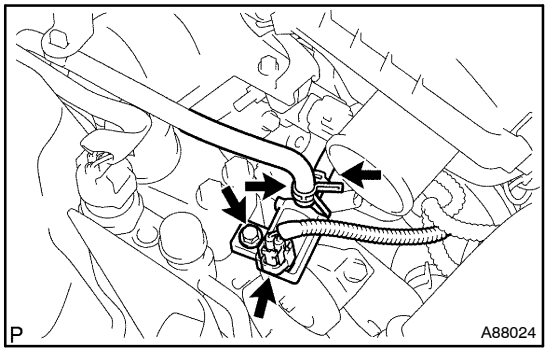
18. DISCONNECT ENGINE WIRE

(a) Remove the bolt, then disconnect the ground cable.



19. SEPARATE AIR CLEANER INLET NO.1

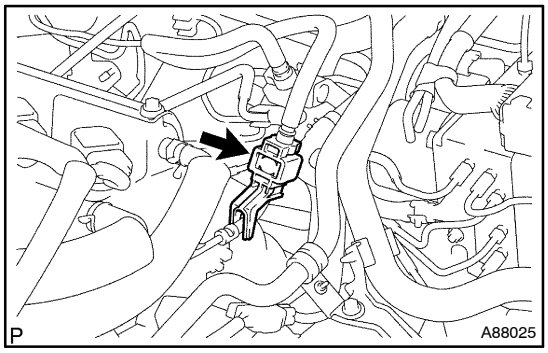
(a) Loosen the clamp, then disconnect the air cleaner inlet No. 1 from the air cleaner case.



20. REMOVE VACUUM SWITCHING VALVE ASSY NO.2

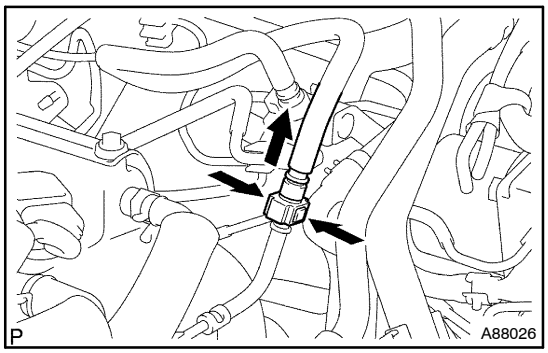
(a) Disconnect the connector and hose.

(b) Remove the bolt, then remove the vacuum switching valve assembly.



21. DISCONNECT FUEL TUBE SUB–ASSY

(a) Remove the fuel pipe clamp.

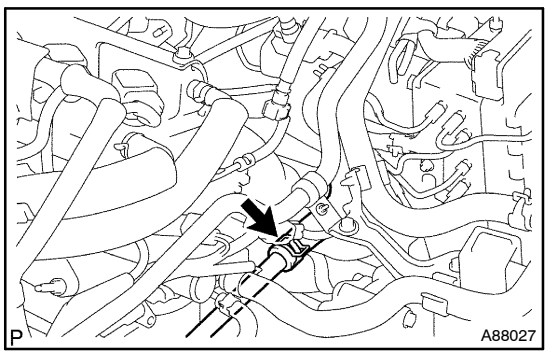


(b) Disconnect the fuel tube from the fuel delivery pipe.

NOTICE:

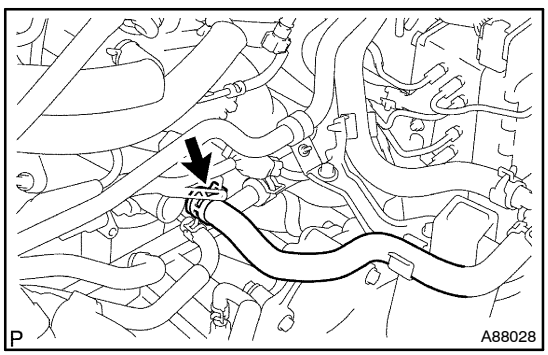
Even if the fuel tube is stuck and cannot be disconnected, do not use any tools. Push and pull the part with the quick connecter pinched to disconnect.

(c) Cover the disconnected fuel tube and fuel delivery pipe with a vinyl bag in order to prevent foreign objects from being introduced.



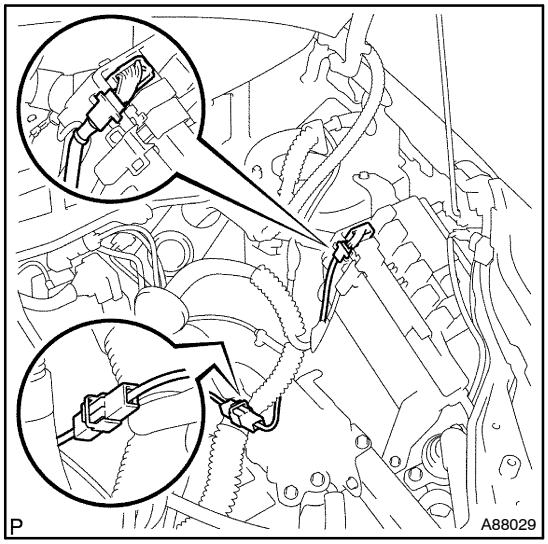
22. DISCONNECT HEATER WATER HOSE B

(a) Disconnect the heater water hose B.



23. DISCONNECT HEATER WATER HOSE C

(a) Disconnect the heater water hose C.



24. DISCONNECT ENGINE WIRE

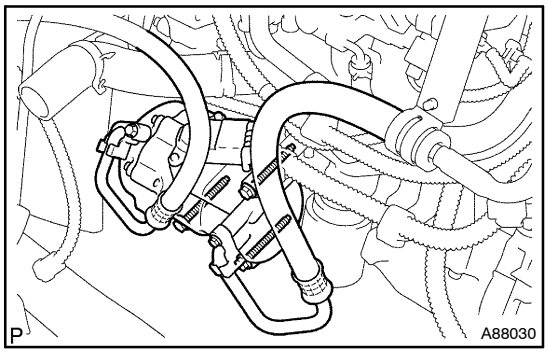
(a) Disconnect the connector from the ECM, then pull the engine wire harness to the engine compartment side (see page 10–24).

NOTICE:

Do not forcibly pull the engine wiring harness to the engine compartment side.

(b) Disconnect the harness and harness clamp from the engine room main relay block.

(c) Disconnect the ground cable.



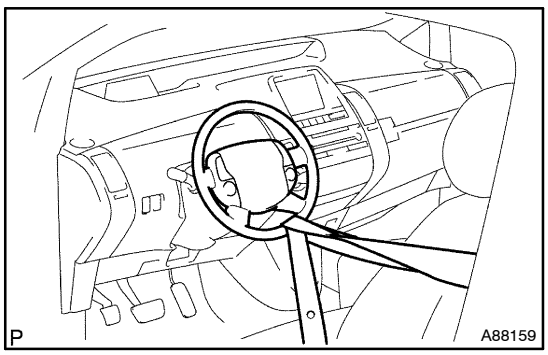
25. SEPARATE W/MOTOR COMPRESSOR ASSY

(a) Disconnect the wiring harness of the compressor assembly from the harness clamp.

(b) Remove the 3 bolts, then disconnect the compressor assembly.

HINT:

Disconnect the compressor assembly together with the low–pressure and high–pressure hoses, then secure it to the vehicle side with rope.

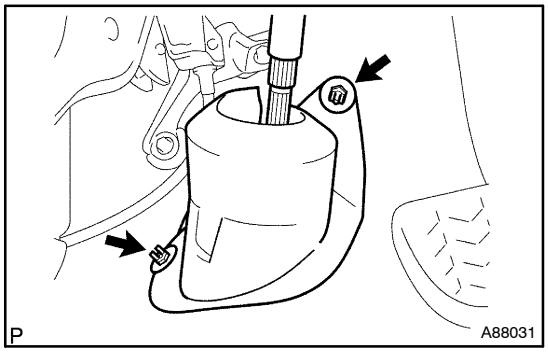


26. SEPARATE STEERING SLIDING YOKE SUB–ASSY

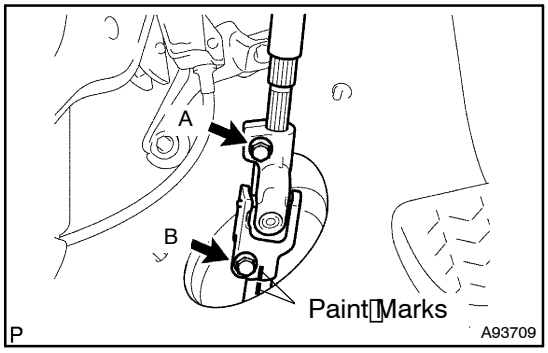
(a) Install the seat belt as illustrated so that the steering wheel does not turn.

HINT:

It prevents open circuit of the spiral cable.

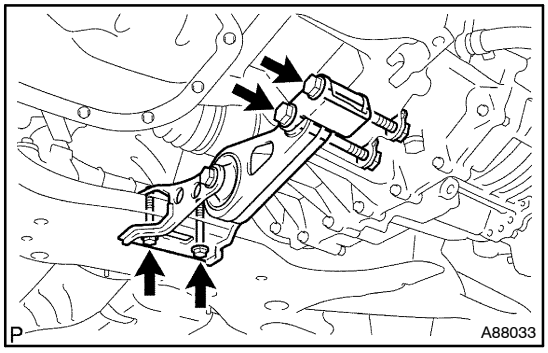


(b) Remove the 2 clips, then remove the column hole cover silencer sheet.

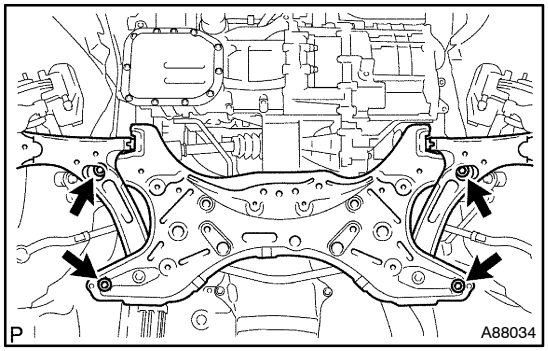


(c) Loosen the bolt on the column side (A) of the sliding yoke.
(d) Remove the bolt on the gear side (B) of the sliding yoke.
(e) Put paint marks on the sliding yoke and intermediate shaft, then disconnect the sliding yoke.

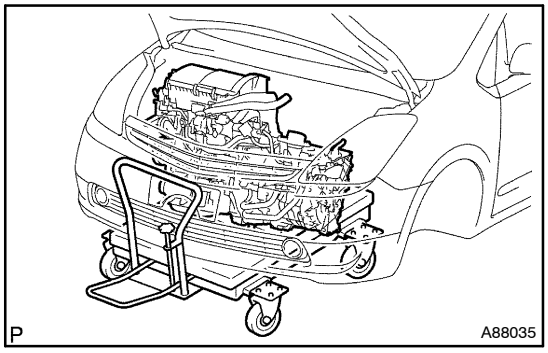
27. REMOVE EXHAUST PIPE ASSY FRONT (See page 11–36)
28. REMOVE FRONT AXLE HUB LH NUT (See page 30–7)
29. REMOVE FRONT AXLE HUB RH NUT
HINT:
Remove it in the same procedure as the LH side.
30. REMOVE FRONT STABILIZER LINK ASSY (See page 30–7)
31. SEPARATE TIE ROD END SUB–ASSY LH (See page 30–7)
32. SEPARATE TIE ROD END SUB–ASSY RH
HINT:
Separate it in the same procedure as the LH side.
33. SEPARATE FRONT SUSPENSION ARM SUB–ASSY LOWER NO.1 LH (See page 30–7)
34. SEPARATE FRONT SUSPENSION ARM SUB–ASSY LOWER NO.1 RH
HINT:
Separate it in the same procedure as the LH side.
35. SEPARATE FRONT AXLE ASSY LH (See page 30–7)
36. SEPARATE FRONT AXLE ASSY RH
HINT:
Separate it in the same procedure as the LH side.
37. REMOVE FRONT DRIVE SHAFT ASSY LH (See page 30–7)
38. REMOVE FRONT DRIVE SHAFT ASSY RH (See page 30–7)



39. REMOVE FRONT SUSPENSION CROSSMEMBER SUB–ASSY
(a) Remove the 4 bolts and 2 nuts, then remove the engine moving control rod with bracket.

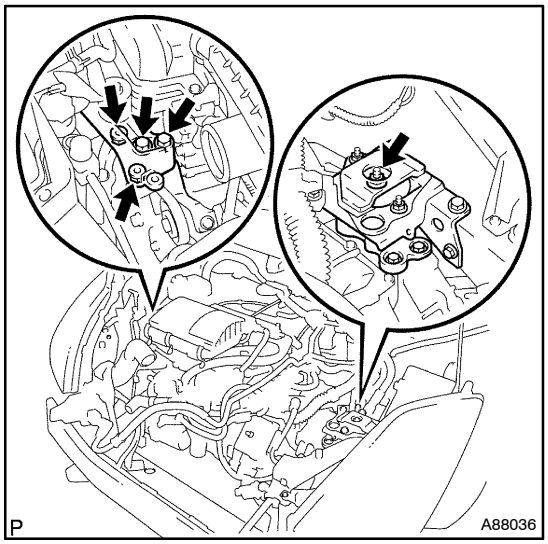


(b) Remove the 4 bolts, then remove the front suspension crossmember with power steering gear assembly.



40. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE

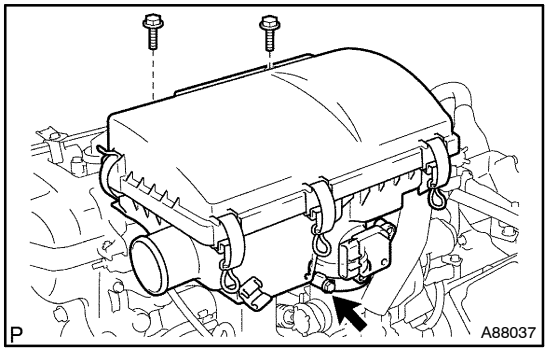
(a) Set the engine lifter as illustrated.



(b) Remove the 2 bolts and 2 nuts, then disconnect the engine mounting bracket RH and engine mounting insulator RH.

(c) Remove the nut, then disconnect the engine mounting insulator bracket LH and engine mounting insulator LH.

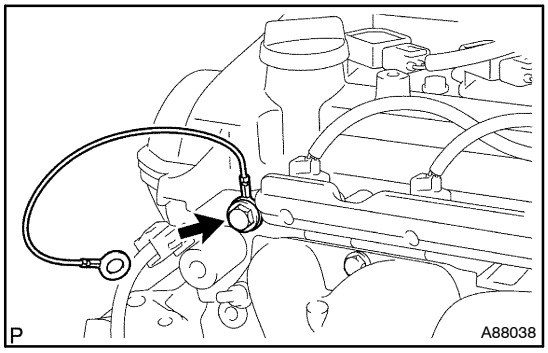
(d) Operate the engine lifter, then remove the engine assembly with transaxle from the vehicle.



41. REMOVE AIR CLEANER ASSY

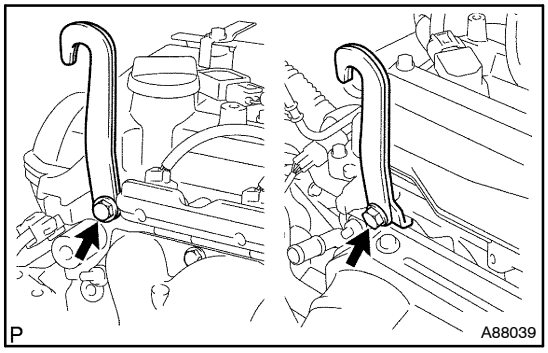
(a) Disconnect the intake air flow meter connector and wire harness clamp.

(b) Loosen the clamp, then remove the 2 bolts and air cleaner assembly.



42. REMOVE HYBRID VEHICLE TRANSAXLE ASSY

(a) Remove the bolt and ground cable.



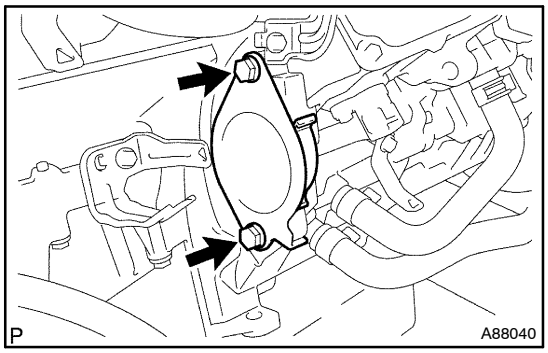
(b) Install the engine hanger as illustrated.
Torque: 40 N·m (408 kgf·cm, 30 ft·lbf)

NOTICE:
Be sure to use new bolts to install the engine hanger.

HINT:
- Engine hanger: 12281–21010
- Bolt: 91642–81052

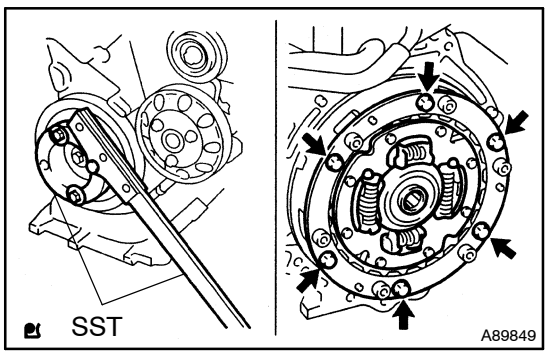
(c) Using a chain block and engine sling device, hold the engine assembly with transaxle.

(d) Remove the engine wire harness from the engine assembly with transaxle.



(e) Remove the 2 bolts, then remove the starter hole insulator and flywheel housing side cover.

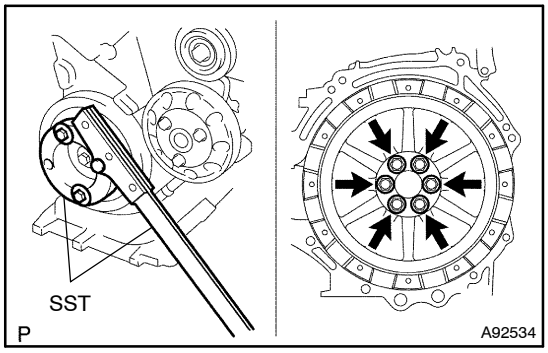
(f) Remove the hybrid vehicle transaxle assembly from the engine assembly (see page 22–11).



43. REMOVE TRANSMISSION INPUT DAMPER ASSY

(a) Using SST, hold the crankshaft.
SST 09213–58013 (91111–50845), 09330–00021

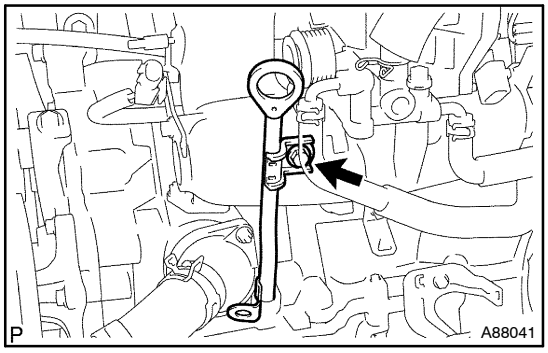
(b) Remove the 6 bolts, then remove the input damper and input damper cover.



44. REMOVE FLYWHEEL SUB–ASSY

(a) Using SST, hold the crankshaft.
SST 09213–58013 (91111–50845), 09330–00021

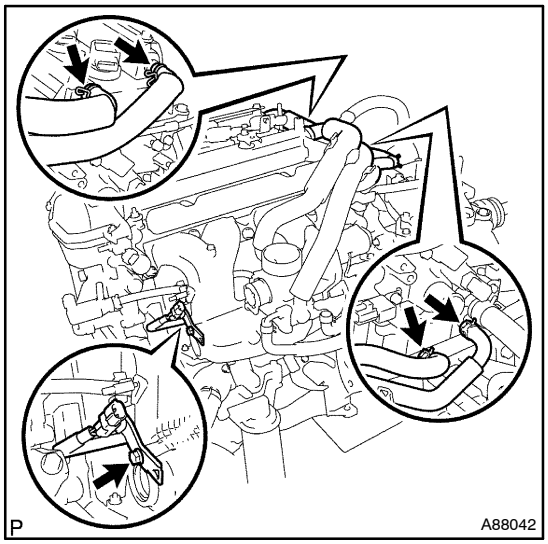
(b) Remove the 6 bolts and flywheel.



45. REMOVE OIL LEVEL GAGE GUIDE

(a) Remove the oil level gage.

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



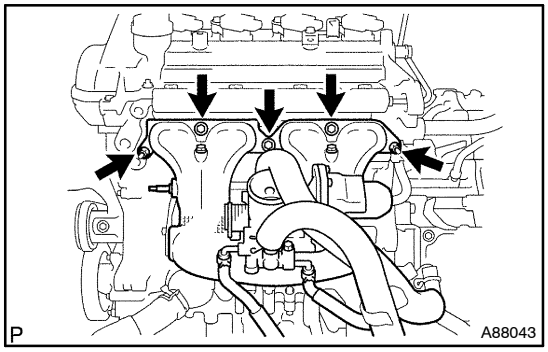
46. REMOVE INTAKE MANIFOLD

(a) Remove the bolt and knock control sensor with bracket.

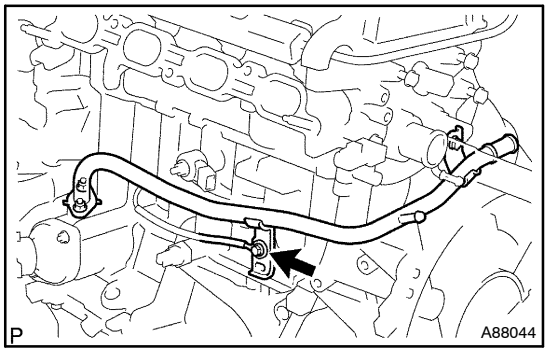
(b) Disconnect the wire harness from the bracket.

(c) Disconnect the ventilation hose.

(d) Disconnect the water by–pass hose.



(e) Remove the 3 bolts and 2 nuts, then remove the intake manifold and gasket.



47. REMOVE WATER BY–PASS PIPE NO.1

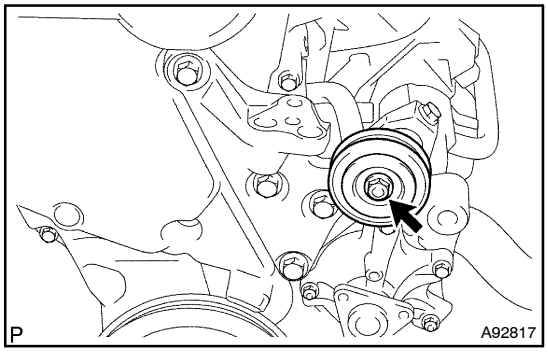
(a) Remove the bolt, then disconnect the wire harness.

(b) Remove the 2 nuts and bolt, then remove the water by–pass pipe No. 1 and gasket.

48. REMOVE KNOCK CONTROL SENSOR (See page 10–20)

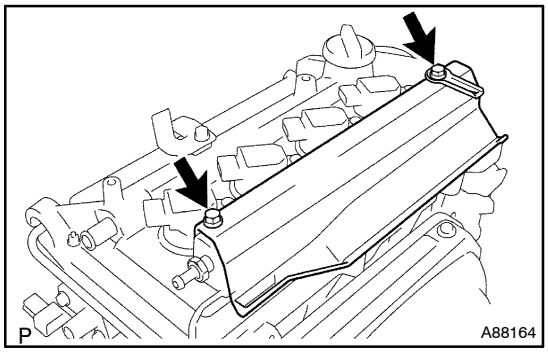
49. REMOVE ENGINE OIL PRESSURE SWITCH ASSY (See page 17–1)

50. REMOVE FAN AND GENERATOR V BELT (See page 14–5)



51. REMOVE IDLER PULLEY ASSY

(a) Remove the nut, then remove the idle pulley assembly from the engine mounting bracket RH.



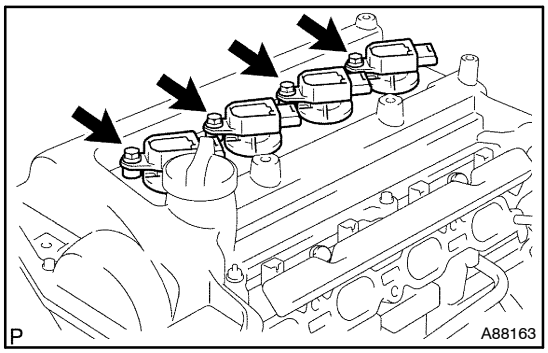
52. REMOVE BRAKE MASTER CYLINDER RESERVOIR COVER (RHD STEERING POSITION TYPE)

(a) Remove the 2 bolts and wire harness stay, then remove the brake master cylinder reservoir cover.

HINT:

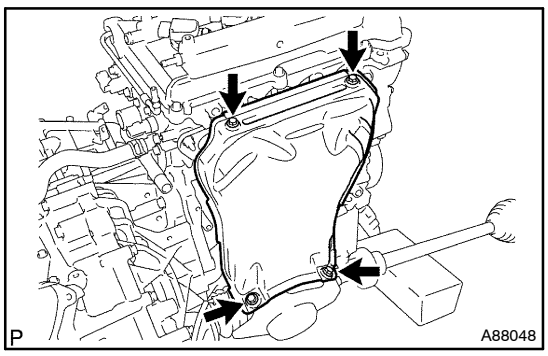
LHD Steering Position Type:

The brake master cylinder reservoir cover was removed when the engine wiring harness was removed from the engine with the transaxle.



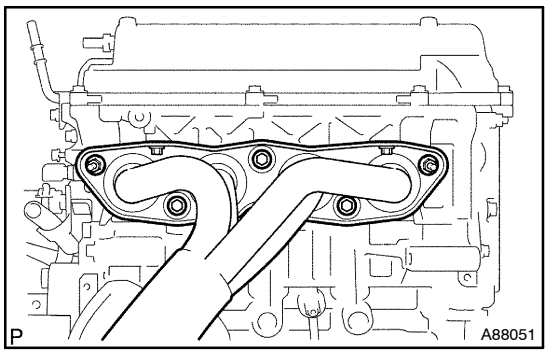
53. REMOVE IGNITION COIL NO.1

(a) Remove the bolt and ignition coil No. 1.

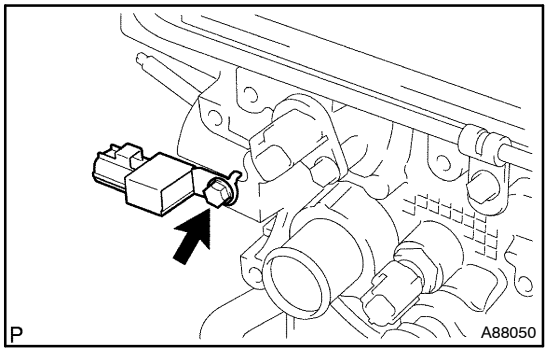


54. REMOVE EXHAUST MANIFOLD

(a) Remove the 4 bolts and exhaust manifold heat insulator No. 1.

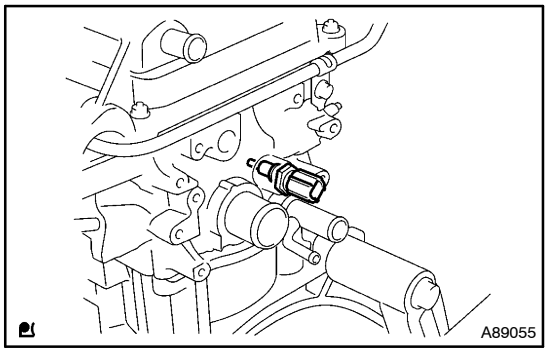


(b) Remove the 3 bolts and 2 nuts, then remove the exhaust manifold.



55. REMOVE RADIO SETTING CONDENSER

(a) Remove the bolt and radio setting condenser.



56. REMOVE E.F.I. ENGINE COOLANT TEMPERATURE SENSOR

(a) Using a 19 mm deep socket wrench, remove the EFI water temperature sensor.

57. REPLACE PARTIAL ENGINE ASSY

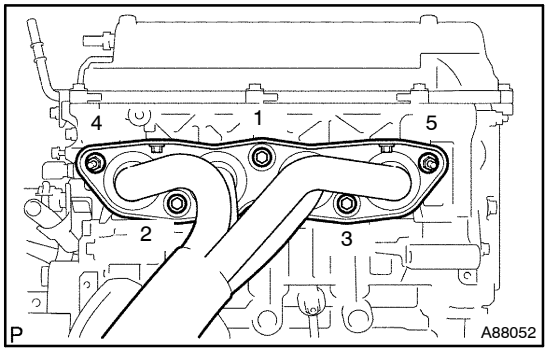
58. INSTALL E.F.I. ENGINE COOLANT TEMPERATURE SENSOR

(a) Install a new gasket, then install the EFI water temperature sensor.

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

59. INSTALL RADIO SETTING CONDENSER

Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)



60. INSTALL EXHAUST MANIFOLD

(a) Install a new gasket, then install the exhaust manifold.

(b) Tighten the 3 bolts and 2 nuts in the sequence shown in the illustration.

Torque: 27 N·m (275 kgf·cm, 20 ft·lbf)

(c) Install the exhaust manifold heat insulator No. 1 with the 4 bolts.

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

61. INSTALL IGNITION COIL NO.1

Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)

62. INSTALL BRAKE MASTER CYLINDER RESERVOIR COVER (RHD STEERING POSITION TYPE)

Torque: 8.5 N·m (87 kgf·cm, 75 in.·lbf)

63. INSTALL IDLER PULLEY ASSY

(a) Temporarily install the idler pulley assembly to the engine mounting bracket RH with the nut.

HINT:

Tighten the nut with the specified torque when installing the V–ribbed belt.

64. INSTALL FAN AND GENERATOR V BELT (See page 14–5)

65. INSTALL ENGINE OIL PRESSURE SWITCH ASSY (See page 17–1)

66. INSTALL KNOCK CONTROL SENSOR (See page 10–20)

67. INSTALL WATER BY–PASS PIPE NO.1

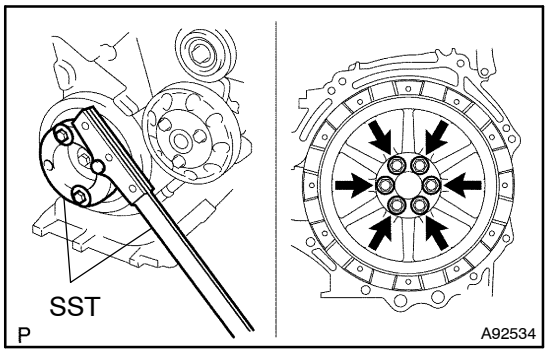
(a) Install a new gasket, then install the water by–pass pipe No. 1 with the bolt and 2 nuts.
Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)

68. INSTALL INTAKE MANIFOLD

(a) Install a new gasket, then install the intake manifold with the 3 bolts and 2 nuts.
(b) Connect the water by–pass hose.
(c) Connect the ventilation hose.
(d) Install the knock control sensor with bracket with the bolt.
Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)

69. INSTALL OIL LEVEL GAGE GUIDE

(a) Apply engine oil to a new O–ring, then install it to the oil level gage guide.
(b) Install the oil level gage with the bolt.
Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)
(c) Install the oil level gage.



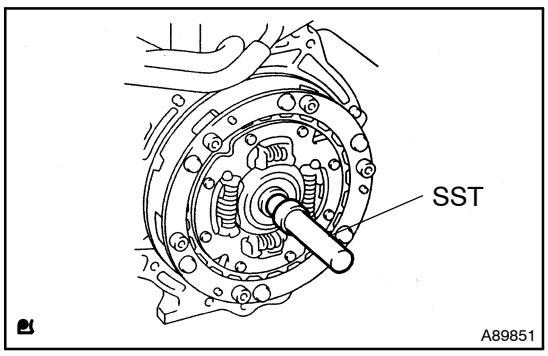
70. INSTALL FLYWHEEL SUB–ASSY

(a) Apply adhesive to the 2 or 3 threads of the bolt end.
Adhesive:
Part No. 08833–00070,
THREE BOND 1324 or equivalent

NOTICE:
Remove any oil from the bolts and bolt holes.

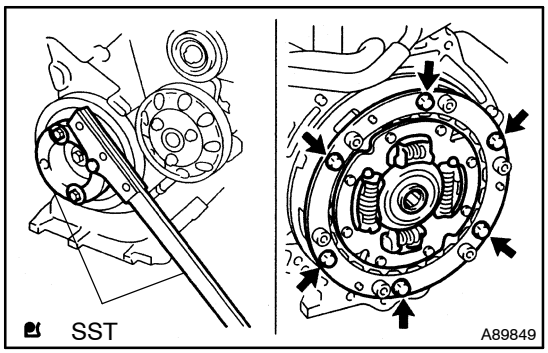
(b) Using SST, hold the crankshaft.
SST 09213–58013 (91111–50845), 09330–00021
(c) Install the flywheel with 6 new bolts.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)
(d) After tightening the bolts with the specified torque, tighten each bolt by more 90°.

NOTICE:
Do not start the engine within 1 hour of installation.



71. INSTALL TRANSMISSION INPUT DAMPER ASSY

(a) Using SST, align the hole of the input damper. Then temporarily tighten the input damper cover with the 6 bolts.
SST 09301–00210



(b) Using SST, hold the crankshaft.
SST 09213–58013 (91111–50845), 09330–00021
(c) Tighten the 6 bolts.
Torque: 20 N·m (204 kgf·cm, 15 ft·lbf)

72. INSTALL HYBRID VEHICLE TRANSAXLE ASSY

(a) Install the hybrid vehicle transaxle assembly to the engine assembly with the 6 bolts (see page 22–11).

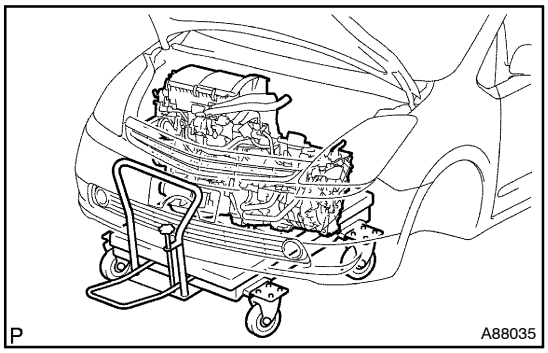
(b) Install the flywheel housing side cover and starter hole insulator with the 2 bolts.
Torque: 32 N·m (326 kgf·cm, 24 ft·lbf)

(c) Install the engine wiring harness to the engine assembly with transaxle.

(d) Remove the bolt and engine hanger.

(e) Install the ground cable with the bolt.
Torque: 9.0 N·m (92 kgf·cm, 80 in.·lbf)

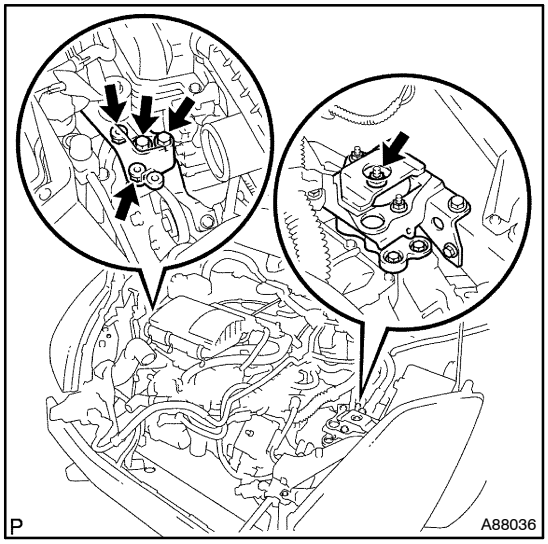
73. INSTALL AIR CLEANER ASSY
Torque:
7.0 N·m (71 kgf·cm, 62 in.·lbf) for bolt
3.0 N·m (31 kgf·cm, 27 in.·lbf) for clamp



74. INSTALL ENGINE ASSEMBLY WITH TRANSAXLE

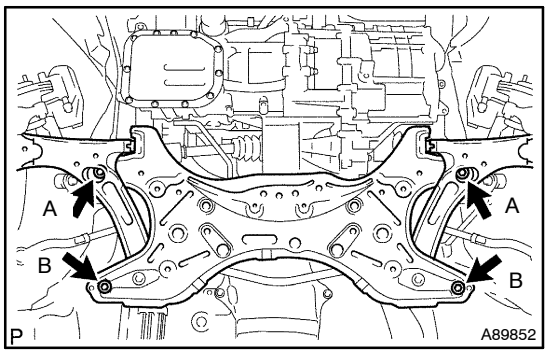
(a) Set the engine lifter as illustrated.

(b) Operate the engine lifter, then install the engine assembly with transaxle to the vehicle.



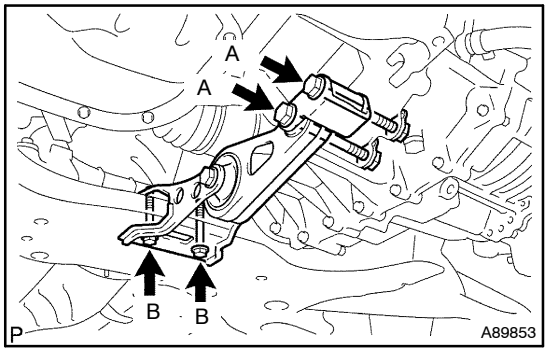
(c) Connect the engine mounting bracket RH and engine mounting insulator RH with the 2 bolts and 2 nuts.
Torque: 52 N·m (530 kgf·cm, 38 ft·lbf)

(d) Connect the engine mounting insulator bracket LH and engine mounting insulator LH with the nut.
Torque: 80 N·m (816 kgf·cm, 59 ft·lbf)



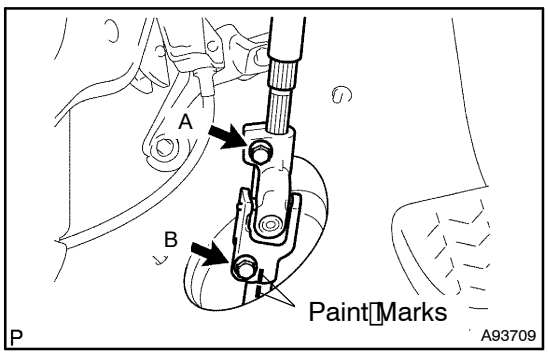
75. INSTALL FRONT SUSPENSION CROSSMEMBER SUB–ASSY

(a) Install the front suspension crossmember with power steering gear assembly with the 4 bolts.
Torque:
113 N·m (1152 kgf·cm, 83 ft·lbf) for bolt A
157 N·m (1602 kgf·cm, 116 ft·lbf) for bolt B



(b) Install the engine moving control rod with bracket with the 4 bolts and 2 nuts.
Torque:
100 N·m (1020 kgf·cm, 74 ft·lbf) for bolt A
56 N·m (571 kgf·cm, 41 ft·lbf) for bolt B

76. INSTALL FRONT DRIVE SHAFT ASSY LH (See page 11–36)
77. INSTALL FRONT DRIVE SHAFT ASSY RH (See page 11–36)
78. CONNECT FRONT AXLE ASSY LH (See page 11–36)
79. CONNECT FRONT AXLE ASSY RH
HINT:
Connect it in the same procedure as the LH side.
80. CONNECT FRONT SUSPENSION ARM SUB–ASSY LOWER NO.1 LH (See page 11–36)
81. CONNECT FRONT SUSPENSION ARM SUB–ASSY LOWER NO.1 RH
HINT:
Connect it in the same procedure as the LH side.
82. CONNECT TIE ROD END SUB–ASSY LH (See page 11–36)
83. CONNECT TIE ROD END SUB–ASSY RH
HINT:
Connect it in the same procedure as the LH side.
84. CONNECT FRONT STABILIZER LINK ASSY (See page 11–36)
85. INSTALL FRONT AXLE HUB LH NUT (See page 11–36)
86. INSTALL FRONT AXLE HUB RH NUT
HINT:
Install it in the same procedure as the LH side.
87. INSTALL EXHAUST PIPE ASSY FRONT (See page 11–36)



88. CONNECT STEERING SLIDING YOKE SUB–ASSY
(a) Align the paint marks, then connect the steering sliding yoke with the bolt.
Torque: 35 N·m (357 kgf·cm, 26 ft·lbf)
(b) Install the column hole cover silencer sheet with the 2 clips.
(c) Remove the seat belt from the steering wheel.

89. CONNECT W/MOTOR COMPRESSOR ASSY
Torque: 25 N·m (255 kgf·cm, 18 ft·lbf)
90. CONNECT ENGINE WIRE
91. CONNECT HEATER WATER HOSE C
92. CONNECT HEATER WATER HOSE B

93. CONNECT FUEL TUBE SUB–ASSY

(a) Push the fuel tube into the fuel delivery pipe until it makes a "click" sound.

HINT:

- If the fuel tube is connected too tightly, apply a light coat of engine oil to the tip of the fuel delivery pipe.
- After connecting, check that the fuel tube is securely connected by pulling it.

(b) Install the fuel pipe clamp.

94. INSTALL VACUUM SWITCHING VALVE ASSY NO.2
Torque: 7.5 N·m (76 kgf·cm, 5.5 in.·lbf)

95. CONNECT AIR CLEANER INLET NO.1
Torque: 3.0 N·m (31 kgf·cm, 27 in.·lbf)

96. CONNECT ENGINE WIRE

97. CONNECT INVERTER COOLING HOSE NO.3

98. INSTALL NO.2 RADIATOR ASSY (See page 16–32)

99. INSTALL W/CONVERTER INVERTER ASSY (See page 21–25)

100. INSTALL COWL TOP PANEL SUB–ASSY OUTER FRONT (See page 11–16)

101. INSTALL WINDSHIELD WIPER LINK ASSY (See page 56–16)

102. ADD TRANSAXLE OIL (See page 22–11)

103. INSTALL SERVICE PLUG GRIP (See page 21–120)

104. CONNECT BATTERY NEGATIVE TERMINAL
Torque: 6.0 N·m (61 kgf·cm, 53 in.·lbf)

105. INSTALL REAR FLOOR BOARD NO.3

106. INSTALL DECK FLOOR BOX REAR

107. INSTALL REAR FLOOR BOARD NO.2

108. ADD ENGINE COOLANT

(a) Add engine coolant to the radiator on the engine side (see page 16–11).

(b) Add engine coolant to the radiator on the hybrid side (see page 22–1).

109. INSPECT TRANSAXLE FLUID LEVEL

110. CHECK FOR ENGINE COOLANT LEAKS (See page 16–2)

111. CHECK FOR FUEL LEAKS

112. INSPECT OIL LEAK

113. INSTALL FRONT WHEELS
Torque: 103 N·m (1050 kgf·cm, 76 ft·lbf)

114. ADJUST FRONT WHEEL ALIGNMENT (See page 26–5)

115. INSTALL ENGINE UNDER COVER RH

116. INSTALL ENGINE UNDER COVER LH

117. POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–29)