

Last Modified: 9-29-2009	5.6 A	From: 200501
Model Year: 2006	Model: Hiace	Doc ID: RM000000FYL002X
Title: 5L-E ENGINE MECHANICAL: ENGINE ASSEMBLY: REMOVAL (2006-2010 Hiace)		

REMOVAL

1. PLACE FRONT WHEELS FACING STRAIGHT AHEAD
2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
3. REMOVE FRONT WHEEL
4. DRAIN ENGINE COOLANT 
5. DRAIN ENGINE OIL 
6. REMOVE FRONT SEAT ASSEMBLY RH (for Hi-back Seat Type)

HINT:

Use the same procedures described for the LH side. 

7. REMOVE FRONT SEAT ASSEMBLY RH (for Low-back Seat Type)

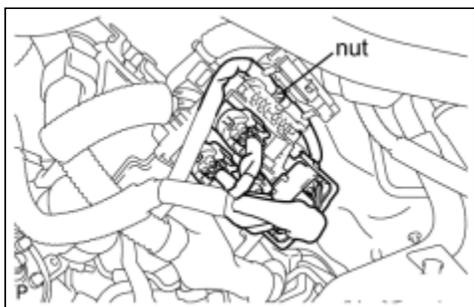
HINT:

Use the same procedures described for the LH side. 

8. REMOVE FRONT DOOR SCUFF PLATE RH
9. REMOVE ENGINE SERVICE HOLE SUB COVER SUB-ASSEMBLY
 - (a) Turn back the carpet, and remove the engine service hole cover sub-assembly.
10. REMOVE VANE PUMP V BELT 
11. REMOVE V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1 (W/ AIR CONDITIONING) 
12. REMOVE FAN & GENERATOR V BELT (w/o Air Conditioning) 
13. REMOVE FAN & GENERATOR V BELT (w/ Air Conditioning) 
14. DISCONNECT RADIATOR HOSE INLET
15. DISCONNECT RADIATOR HOSE NO.4

16. DISCONNECT INJECTION PUMP TO FUEL FILTER FUEL HOSE OR PIPE**17. SEPARATE AIR CLEANER HOSE NO.2** INFO**18. REMOVE COMPRESSOR AND MAGNETIC CLUTCH**INFO**19. SEPARATE VANE PUMP OIL RESERVOIR ASSEMBLY** INFO**20. DISCONNECT ENGINE WIRE**

- (a) Remove the wire harness support from the ECM.
- (b) Disconnect the connectors from the ECM.
- (c) Disconnect the clamp and ground cable of the engine wire.
- (d) Remove the nut then remove the starter wire harness.



- (e) Remove the connector and nut, as shown the illustration.

21. REMOVE EXHAUST PIPE SUB-ASSEMBLY FRONT NO.2 (for Long Wheelbase) INFO**22. REMOVE EXHAUST PIPE SUB-ASSEMBLY FRONT NO.2 (for Super Long Wheelbase)**INFO**23. REMOVE EXHAUST PIPE SUB-ASSEMBLY FRONT NO.1 (for Long Wheelbase)** INFO**24. REMOVE EXHAUST PIPE SUB-ASSEMBLY FRONT NO.1 (for Super Long Wheelbase)**INFO**25. REMOVE PROPELLER SHAFT ASSEMBLY (for Long Wheelbase)** INFO**26. REMOVE PROPELLER SHAFT ASSEMBLY (for Super Long Wheelbase)** INFO**27. SEPARATE SPEED SENSOR FRONT LH (w/ ABS)** INFO**28. SEPARATE SPEED SENSOR FRONT RH (w/ ABS)**

HINT:

Use the same procedures described for the LH side.

29. SEPARATE FRONT DISC BRAKE CALIPER ASSEMBLY LH 

30. SEPARATE FRONT DISC BRAKE CALIPER ASSEMBLY RH

HINT:

Use the same procedures described for the LH side.

31. SEPARATE FRONT SUSPENSION ARM SUB-ASSEMBLY UPPER LH 

32. SEPARATE FRONT SUSPENSION ARM SUB-ASSEMBLY UPPER RH

HINT:

Use the same procedures described for the LH side.

33. SEPARATE SHOCK ABSORBER ASSEMBLY FRONT LH 

34. SEPARATE SHOCK ABSORBER ASSEMBLY FRONT RH

HINT:

Use the same procedures described for the LH side.

35. SEPARATE TRANSMISSION CONTROL CABLE ASSEMBLY 

36. DISCONNECT WIRE HARNESS 

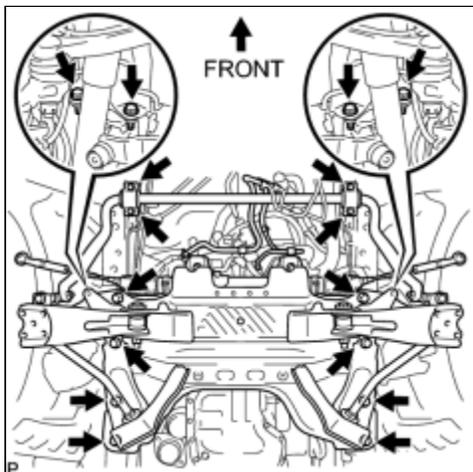
37. SEPARATE CLUTCH RELEASE CYLINDER ASSEMBLY 

38. SEPARATE STEERING TORQUE SHAFT ASSEMBLY 

39. REMOVE ENGINE W/ TRANSMISSION ASSEMBLY

(a) Using the engine lifter, hold the engine assembly and separate the rear engine mounting.

(b) Remove the stabilizer bracket and 16 bolts of the front



suspension cross member.

(c) Remove the engine assembly w/ transmission to the vehicle.

40. REMOVE STARTER ASSEMBLY (for 2.2 kW Type) INFO

41. REMOVE STARTER ASSEMBLY (for 2.7 kW Type) INFO

42. REMOVE MANUAL TRANSMISSION UNIT ASSEMBLY

INFO

43. REMOVE CLUTCH COVER ASSEMBLY INFO

44. REMOVE CLUTCH DISC ASSEMBLY INFO

45. REMOVE FLYWHEEL SUB-ASSEMBLY INFO

46. REMOVE REAR END PLATE INFO

47. REMOVE ENGINE WIRE

(a) Remove the engine wire to the engine assembly.

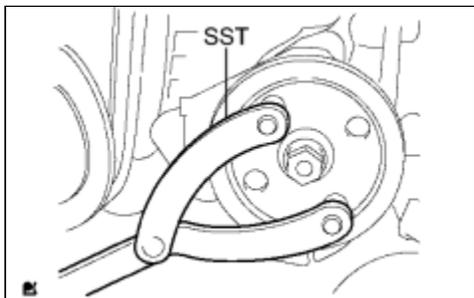
48. SEPARATE VANE PUMP ASSEMBLY

(a) Using SST, stop the pulley rotation and loosen the nut.

SST: 09960-10010

09962-01000

09963-01000

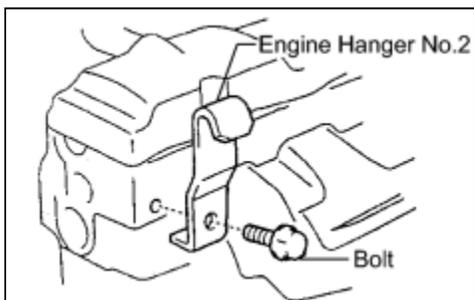


- (b) Remove the nut and vane pump pulley from the vane pump shaft.
- (c) Remove the 2 bolts and nut, and separate the vane pump assembly.

HINT:

Separate the vane pump with the hoses connected, and it should be hung with a rope.

49. INSTALL ENGINE HANGER NO.2



- (a) Install the engine hanger No.2 in the correct direction.

Torque: 37 N·m (380 kgf·cm, 27ft·lbf)

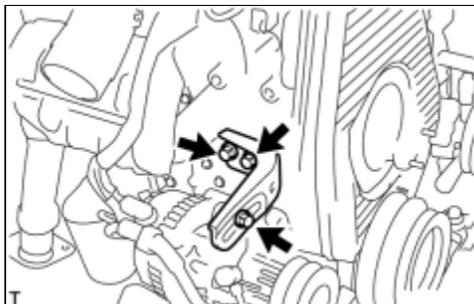
Part No.:

Engine hanger No.2	12282-54060
Bolt	91622-61022

50. SEPARATE ENGINE MOUNTING INSULATOR FRONT

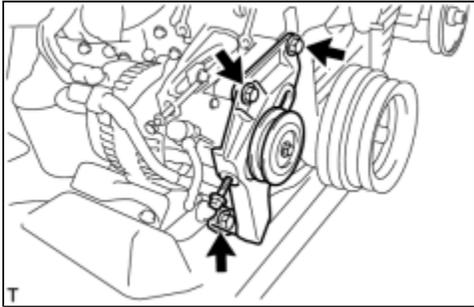
- (a) Remove the 4 bolts, and separate the engine mounting insulator front.

51. REMOVE FAN BELT ADJUSTING BAR (w/o Air Conditioning)

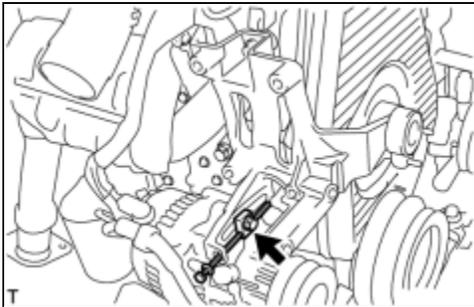


- (a) Remove the 3 bolts and fan belt adjusting bar.

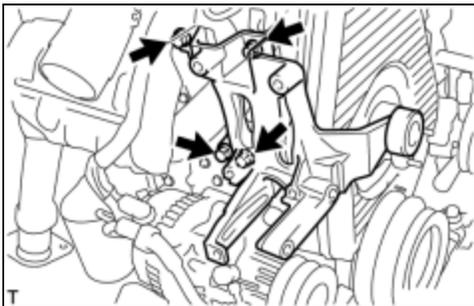
52. REMOVE COMPRESSOR MOUNTING BRACKET (w/ Air Conditioning)



(a) Remove the 3 bolts and compressor mounting bracket.



(b) Remove the bolt and spacer.



(c) Remove the 4 bolts and compressor mounting bracket.

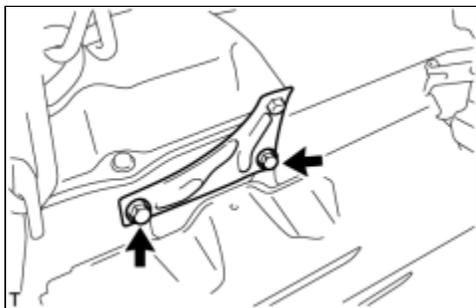
53. REMOVE TIMING BELT

INFO

54. REMOVE INTAKE AIR CONNECTOR SUB-ASSEMBLY

INFO

55. REMOVE INTAKE AIR CONNECTOR BRACKET



(a) Remove the 2 bolts and intake air connector bracket.

56. REMOVE VENTURI ASSEMBLY [INFO](#)

57. REMOVE INJECTION PIPE SET [INFO](#)

58. REMOVE GLOW PLUG NO.1 CONNECTOR [INFO](#)

59. REMOVE NOZZLE LEAKAGE PIPE ASSEMBLY [INFO](#)

60. REMOVE NOZZLE HOLDER & NOZZLE SET [INFO](#)

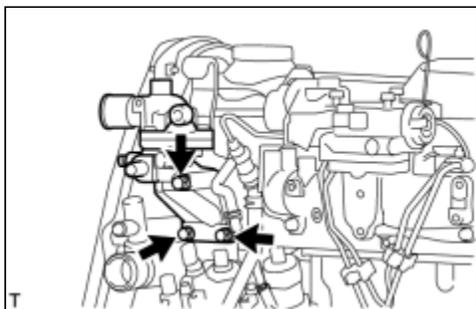
61. REMOVE GLOW PLUG ASSEMBLY [INFO](#)

62. REMOVE INJECTION PUMP DRIVE PULLEY [INFO](#)

63. REMOVE INJECTION OR SUPPLY PUMP ASSEMBLY [INFO](#)

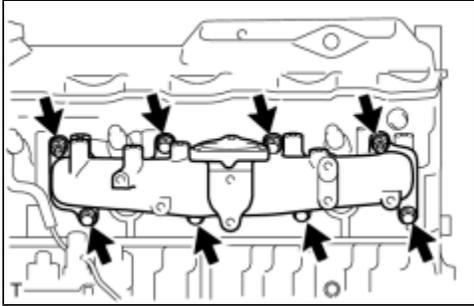
64. REMOVE CRANK POSITION SENSOR [INFO](#)

65. REMOVE WATER OUTLET HOUSING



(a) Remove the 3 bolts, water outlet, outlet housing assembly and gasket.

66. REMOVE INTAKE MANIFOLD



(a) Remove the 6 bolts, 2 nuts, intake manifold and gasket.

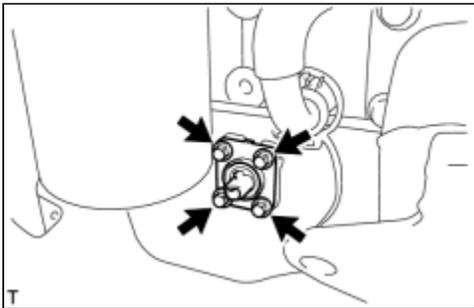
67. REMOVE WATER BY-PASS HOSE UNION

(a) Remove the water by-pass hose union.

68. REMOVE CYLINDER BLOCK WATER DRAIN COCK SUB-ASSEMBLY

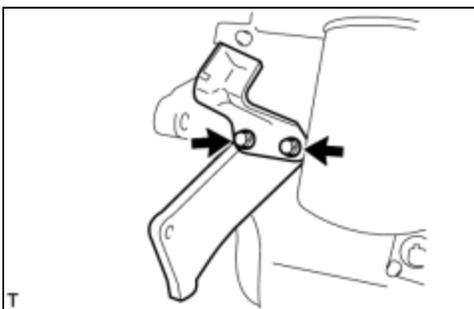
(a) Remove the cylinder block water drain cock sub-assembly.

69. REMOVE ENGINE OIL LEVEL SENSOR



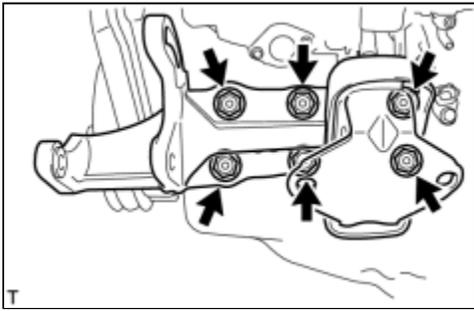
(a) Remove the 4 bolts and engine oil level sensor.

70. REMOVE EXHAUST PIPE SUPPORT BRACKET NO.1



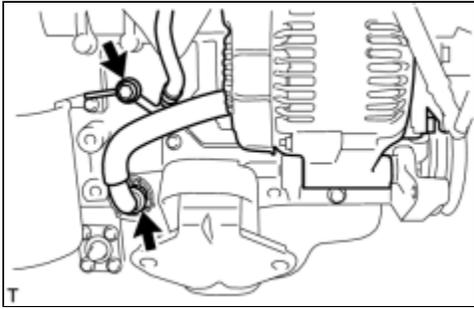
(a) Remove the 2 bolts, exhaust pipe support bracket No.1 and stiffener plate RH.

71. REMOVE PUMP BRACKET



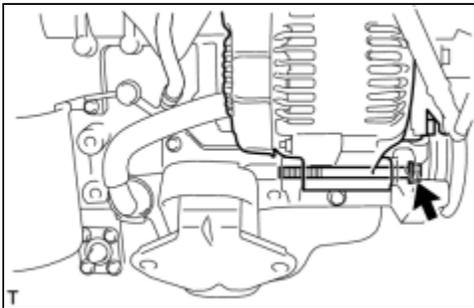
(a) Remove the 6 bolts and pump bracket.

72. REMOVE GENERATOR W/ VACUUM PUMP ASSEMBLY



(a) Remove the bolt with the hose disconnected.

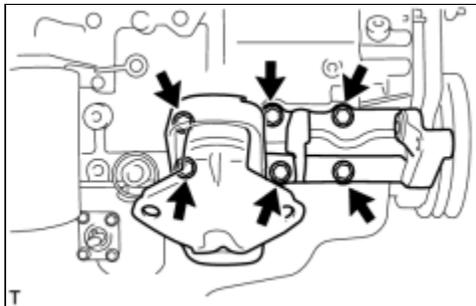
(b) Remove the clip with the hose disconnected.



(c) Remove the bolt and generator w/ vacuum pump assembly.

73. REMOVE ENGINE MOUNTING BRACKET FRONT NO.1 RH

(a) Remove the 6 bolts and engine mounting bracket front



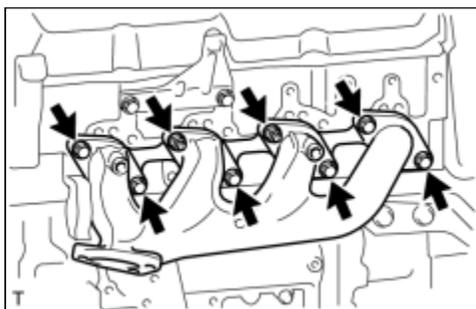
No.1 RH.

74. REMOVE OIL LEVEL GAGE SUB-ASSEMBLY**75. REMOVE OIL LEVEL GAGE GUIDE**

- (a) Remove the oil level gage guide.

76. REMOVE EXHAUST MANIFOLD HEAT INSULATOR NO.1

- (a) Remove the 3 bolts and exhaust manifold heat insulator No.1.

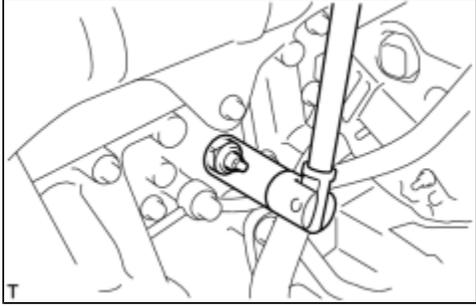
77. REMOVE EXHAUST MANIFOLD

- (a) Remove the 6 bolts, 2 nuts and exhaust manifold.

- (b) Remove the exhaust manifold gasket from the cylinder head.

78. REMOVE OIL FILTER SUB-ASSEMBLY INFO**79. REMOVE OIL FILTER BRACKET SUB-ASSEMBLY** INFO**80. REMOVE ENGINE OIL PRESSURE SWITCH ASSEMBLY**

- (a) Using a 24 mm deep socket wrench, remove the oil



pressure switch.

81. REMOVE WIRE HARNESS CLAMP BRACKET

(a) Remove the bolt and wire harness clamp bracket.

