

REMOVAL

1. **DISCHARGE FUEL SYSTEM PRESSURE**
(See page [FU-1](#))
2. **REMOVE BATTERY**
3. **DRAIN ENGINE COOLANT** (See page [CO-3](#))
4. **DRAIN ENGINE OIL** (See page [LU-4](#))
5. **REMOVE HOOD SUB-ASSEMBLY**
 - (a) Disconnect the windshield washer hose.
 - (b) Separate the 2 hood supports.
 - (c) Remove the 4 bolts, then remove the hood.
6. **REMOVE RADIATOR SUPPORT TO FRAME SEAL LH**
(See page [CO-15](#))
7. **REMOVE FAN SHROUD** (See page [CO-15](#))
8. **REMOVE RADIATOR ASSEMBLY** (See page [CO-15](#))
9. **REMOVE V-BANK COVER** (See page [ES-414](#))
10. **REMOVE TRANSMISSION ASSEMBLY**
HINT:
Refer to the table below when removing transmission.

Transmission	Drive Type	See Page
Manual Transmission	2WD	MT-7
Manual Transmission	4WD	MT-6
Automatic Transmission	2WD	AT-159
Automatic Transmission	4WD	AT-162

11. **REMOVE CLUTCH COVER ASSEMBLY (for Manual Transmission)**

Transmission	See page
RA60	CL-40
RA60F	CL-44

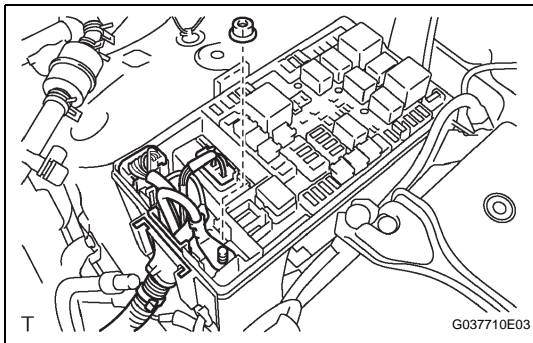
12. **REMOVE CLUTCH DISC ASSEMBLY (for Manual Transmission)**

Transmission	See page
RA60	CL-40
RA60F	CL-44

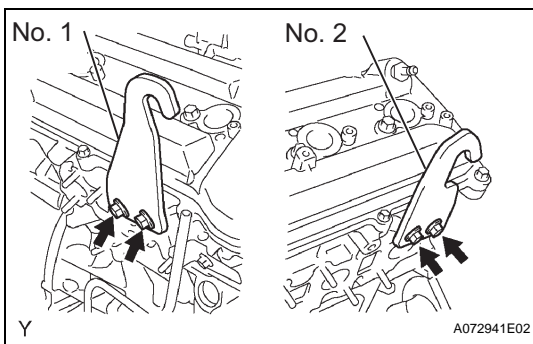
13. **REMOVE FAN PULLEY**
14. **REMOVE VANE PUMP ASSEMBLY** (See page [EM-44](#))
15. **REMOVE GENERATOR ASSEMBLY** (See page [CH-7](#))
16. **SEPARATE COOLER COMPRESSOR ASSEMBLY**
(See page [ES-409](#))
17. **DISCONNECT NO.1 FUEL PIPE SUB-ASSEMBLY**
(See page [FU-13](#))
18. **DISCONNECT NO.2 FUEL PIPE SUB-ASSEMBLY**
(See page [FU-13](#))
19. **DISCONNECT HEATER WATER INLET HOSE**

20. DISCONNECT HEATER WATER OUTLET HOSE**21. REMOVE INTAKE AIR SURGE TANK (See page EM-57)****22. SEPARATE ENGINE WIRE**

- (a) Remove the glove compartment door.
- (b) Remove the instrument panel finish panel sub-assembly lower RH.
- (c) Disconnect the 5 connectors from the ECM.
- (d) Disconnect the 2 connectors from four wheel drive ECU (4WD only).
- (e) Pull the wire harness into the engine room.
- (f) Disconnect the front differential connector (4WD only).
- (g) Disconnect the 3 connectors from the engine room relay block.
- (h) Remove the nut, then separate the engine wire from the engine room relay block.

**23. SEPARATE NO.2 ENGINE WIRE**

- (a) Disconnect the ground cable from the cylinder block.

**24. REMOVE ENGINE ASSEMBLY**

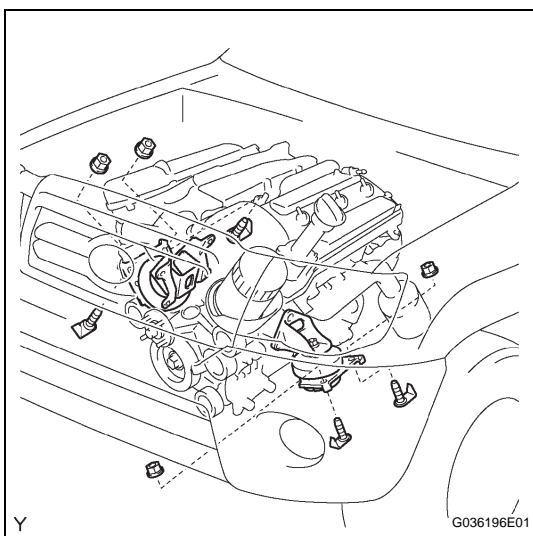
- (a) Install the 2 engine hangers with the 4 bolts as shown in the illustration.
Part No:
Engine hanger No. 1 12281-31070
Engine hanger No. 2 12282-31050
Bolt 90119-08177
Torque: 33 N*m (336 kgf*cm, 24 ft.*lbf)
- (b) Attach the engine sling device and hang the engine with the chain block.

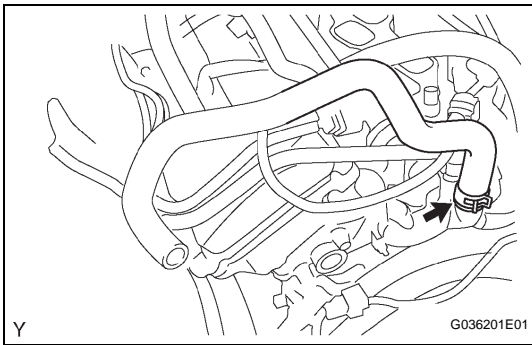
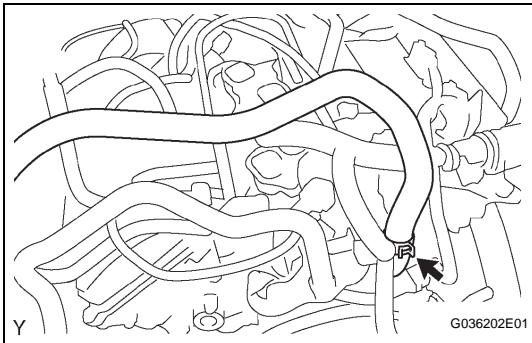
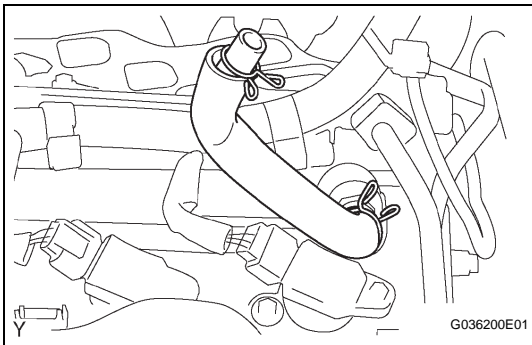
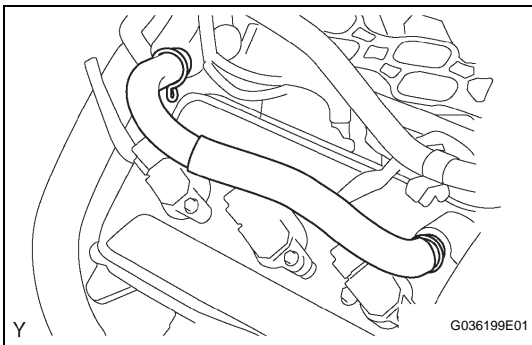
- (c) Remove the 4 bolts and 4 nuts, and separate the engine mounting brackets from the frame brackets.
- (d) Lift the engine out of the vehicle carefully.

NOTICE:

Make sure that the engine is clear of all wiring and hoses.

- (e) Place the engine onto a working bench.

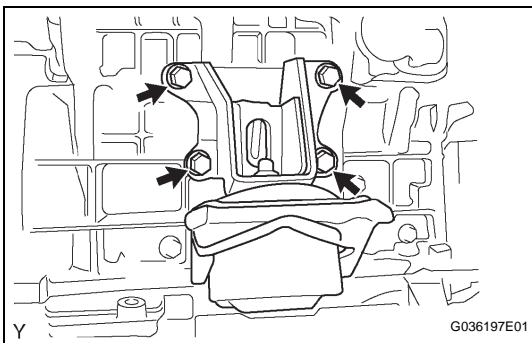
25. REMOVE FLYWHEEL SUB-ASSEMBLY (for Manual Transmission) (See page EM-167)**26. REMOVE DRIVE PLATE & RING GEAR SUB-ASSEMBLY (for Automatic Transmission) (See page EM-167)**

**27. REMOVE HEATER WATER INLET HOSE****28. REMOVE HEATER WATER OUTLET HOSE****29. REMOVE VENTILATION HOSE****30. REMOVE NO.2 VENTILATION HOSE****31. REMOVE EXHAUST MANIFOLD SUB-ASSEMBLY RH**

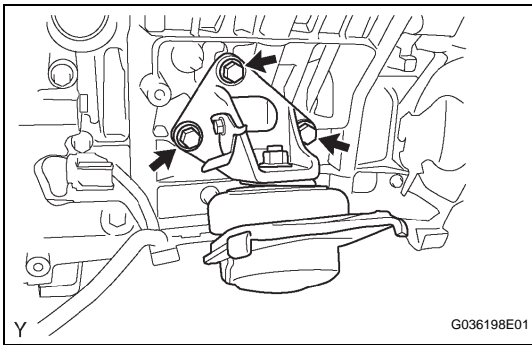
(a) Remove the 6 nuts, exhaust manifold and gasket.

32. REMOVE EXHAUST MANIFOLD SUB-ASSEMBLY LH

(a) Remove the 6 nuts, exhaust manifold and gasket.

**33. REMOVE FRONT NO.1 ENGINE MOUNTING BRACKET RH**

(a) Remove the 4 bolts, then remove the engine mounting bracket RH.



34. REMOVE FRONT NO.1 ENGINE MOUNTING BRACKET LH

- (a) Remove the 3 bolts, then remove the engine mounting bracket LH.

35. REMOVE NO.2 IDLER PULLEY SUB-ASSEMBLY

- (a) Remove the 2 bolts, then remove the 2 idler pulleys.

36. REMOVE NO.1 IDLER PULLEY SUB-ASSEMBLY

- (a) Remove the bolt, then remove the idler pulley.

37. REMOVE V-RIBBED BELT TENSIONER ASSEMBLY (See page EM-44)

38. REMOVE WATER INLET (See page CO-9)

39. REMOVE OIL FILTER BRACKET SUB-ASSEMBLY

- (a) Remove the 3 bolts and 2 nuts, then remove the oil filter bracket and gasket.

40. REMOVE INTAKE MANIFOLD (See page EM-93)

41. REMOVE CAMSHAFT TIMING OIL CONTROL VALVE ASSEMBLY (See page ES-407)

42. REMOVE WATER BY-PASS JOINT RR (See page EM-93)

43. REMOVE OIL FILTER CAP SUB-ASSEMBLY

44. REMOVE OIL FILLER CAP HOUSING

- (a) Remove the 2 nuts, oil filler cap housing and gasket.

45. REMOVE IGNITION COIL ASSEMBLY (See page IG-7)

46. REMOVE SPARK PLUG

47. REMOVE OIL LEVEL GAGE SUB-ASSEMBLY

INSPECTION

1. INSPECT INTAKE MANIFOLD FOR WARPAGE

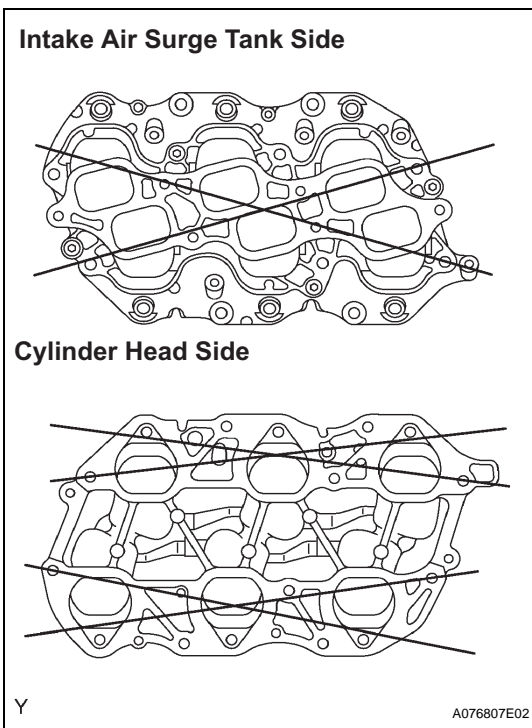
- (a) Using a precision straight edge and feeler gauge, measure the warpage of the contact surfaces of the cylinder head and intake air surge tank.

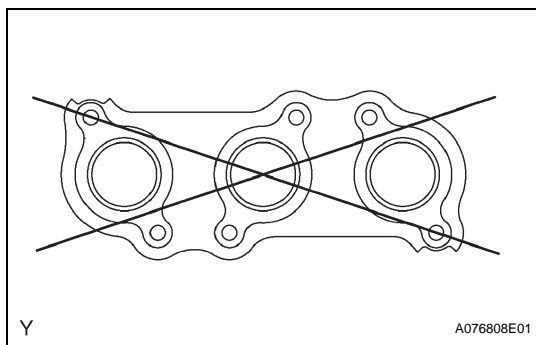
Maximum warpage:

0.8 mm (0.031 in.) for Intake air surge tank side

0.2 mm (0.008 in.) for Cylinder head side

If warpage is greater than the maximum, replace the intake manifold.





2. INSPECT EXHAUST MANIFOLD FOR WARPAGE

- (a) Using a precision straight edge and feeler gauge, measure the warpage of the top surface of the cylinder head.

Maximum warpage:

0.7 mm (0.028 in.)

If warpage is greater than maximum, replace the exhaust manifold.

HINT:

Maximum warpage of each installation surface:

0.3 mm (0.012 in.)