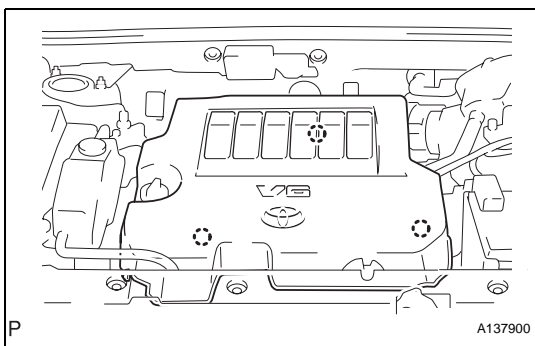
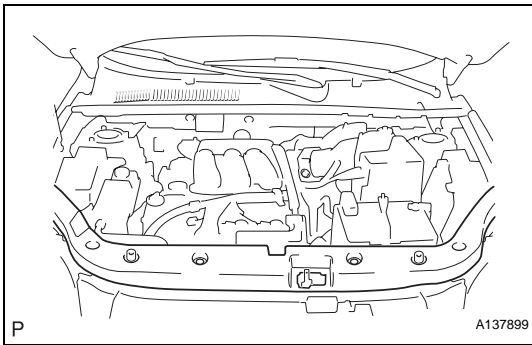


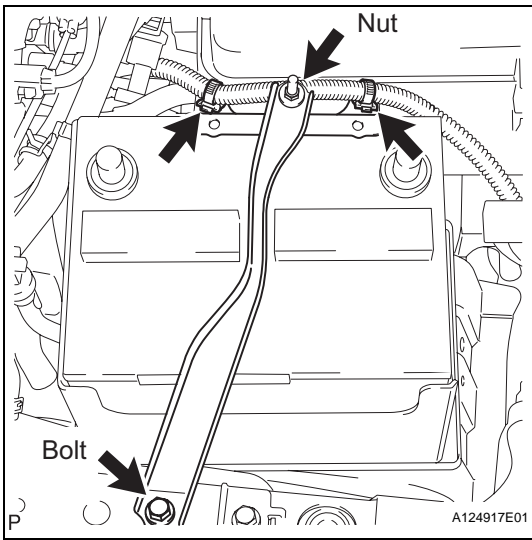
REMOVAL

1. **DISCHARGE REFRIGERANT FROM REFRIGERATION SYSTEM** (See page [AC-172](#))
2. **DISCHARGE FUEL SYSTEM PRESSURE** (See page [FU-13](#))
3. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
CAUTION:
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
4. **REMOVE NO. 1 ENGINE UNDER COVER**
(a) Remove the 4 bolts, 12 clips and under cover.
5. **REMOVE REAR ENGINE UNDER COVER RH**
(a) Remove the 2 clips and under cover.
6. **REMOVE REAR ENGINE UNDER COVER LH**
(a) Remove the 2 clips and under cover.
7. **REMOVE NO. 2 ENGINE UNDER COVER**
(a) Remove the 2 clips and under cover.
8. **REMOVE FRONT FLOOR COVER** (See page [FU-34](#))
9. **DRAIN ENGINE COOLANT** (See page [CO-8](#))
10. **DRAIN ENGINE OIL** (See page [LU-4](#))
11. **DRAIN AUTOMATIC TRANSAXLE FLUID**
(a) 2WD:
Drain automatic transaxle fluid (see page [AX-172](#)).
(b) 4WD:
Drain automatic transaxle fluid (see page [AX-173](#))
12. **DRAIN TRANSFER OIL (for 4WD)**
13. **REMOVE HOOD SUB-ASSEMBLY** (See page [ED-4](#))
14. **REMOVE V-BANK COVER SUB-ASSEMBLY**
(a) Detach the 3 clips and remove the V-bank cover.

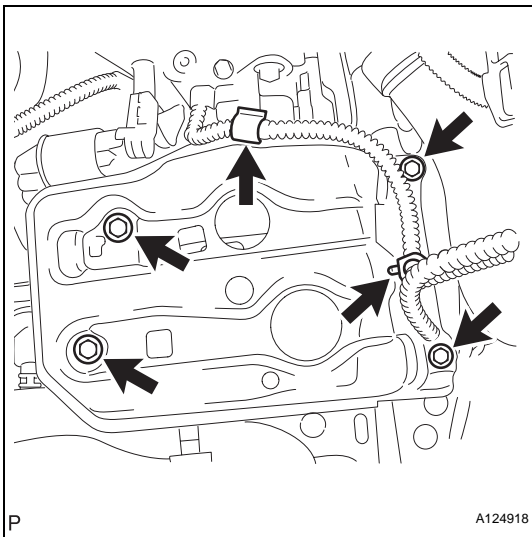


**15. REMOVE RADIATOR SUPPORT OPENING COVER**

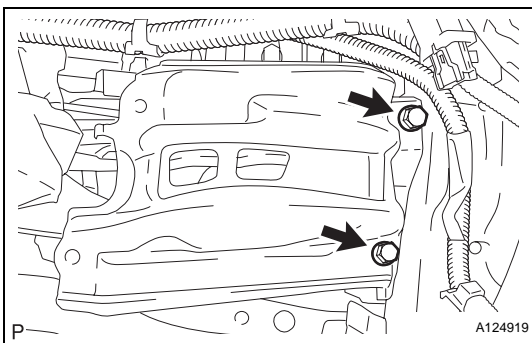
- (a) Remove the 9 clips and cover.

**16. REMOVE BATTERY CLAMP SUB-ASSEMBLY**

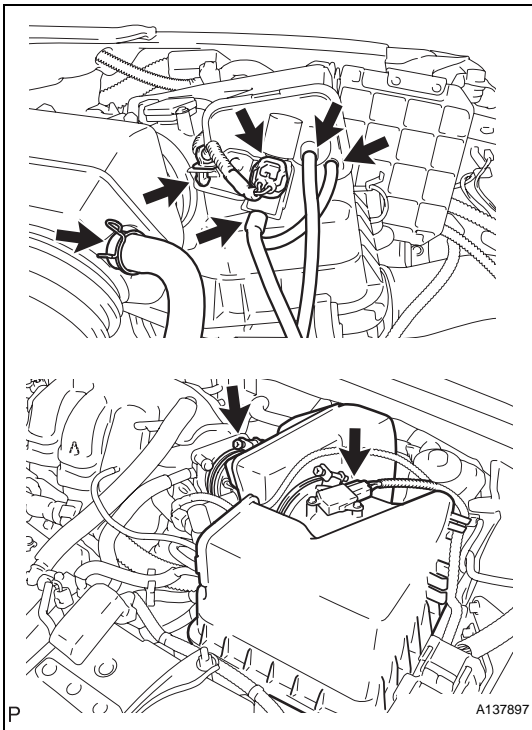
- (a) Remove the bolt and loosen the nut.
 (b) Detach the 2 wire harness clamps.
 (c) Detach the hook of the battery clamp from the battery bracket front, and then remove the battery clamp.

17. REMOVE BATTERY**18. REMOVE FRONT BATTERY BRACKET**

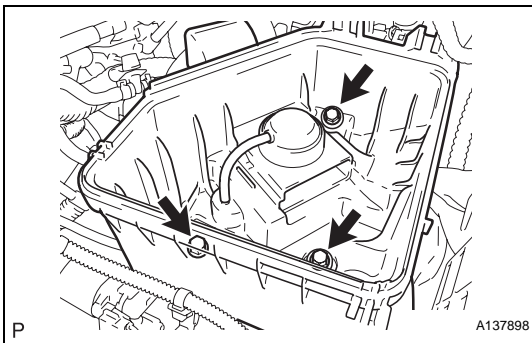
- (a) Detach the 2 wire harness clamps.
 (b) Remove the 4 bolts and front bracket.

**19. REMOVE BATTERY BRACKET REINFORCEMENT**

- (a) Remove the 2 bolts and bracket reinforcement.

**20. REMOVE AIR CLEANER CAP SUB-ASSEMBLY**

- (a) Disconnect the mass air flow meter connector.
- (b) Disconnect the VSV (air intake control) connector.
- (c) Disconnect the wire harness clamp and 3 vacuum hoses.
- (d) Disconnect the No. 2 ventilation hose from the air cleaner hose.
- (e) Loosen the No. 1 air cleaner hose clamp.
- (f) Unfasten the 2 hook clamps, and then remove the air cleaner cap.
- (g) Remove the air cleaner filter element from the air cleaner case.

**21. REMOVE AIR CLEANER CASE**

- (a) Disconnect the harness clamp.
- (b) Remove the 3 bolts and air cleaner case.

22. DISCONNECT HOSES AND CONNECTORS

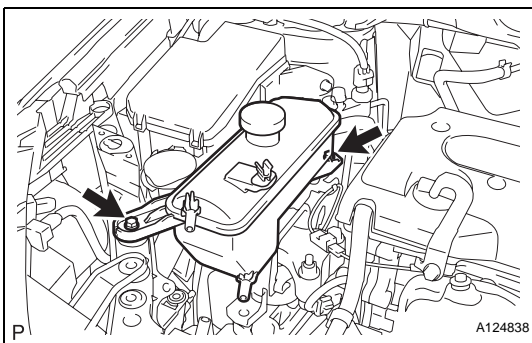
- (a) Remove the engine room junction block cover (upper).
- (b) Remove the nut and disconnect the engine room junction block cover (side) with 3 connectors and wire.
- (c) Remove the nut and disconnect the starter wire.
- (d) Disconnect the fuel hoses.
- (e) Disconnect the 2 heater hoses.
- (f) Disconnect the 2 ECM connectors.

23. REMOVE ECM (See page [ES-470](#))**24. REMOVE RADIATOR RESERVOIR TANK ASSEMBLY**

- (a) Remove the 2 bolts, 2 hoses and reservoir tank.

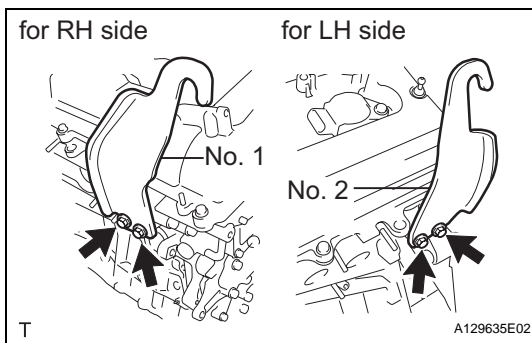
25. REMOVE DISCHARGE HOSE SUB-ASSEMBLY (See page [AC-220](#))**26. DISCONNECT SUCTION HOSE SUB-ASSEMBLY (See page [AC-220](#))****27. DISCONNECT RADIATOR HOSE INLET****28. DISCONNECT RADIATOR HOSE OUTLET****29. DISCONNECT OIL COOLER HOSE****30. DISCONNECT TRANSMISSION CONTROL CABLE ASSEMBLY**

- (a) 2WD:
Disconnect the control cable (see page [AX-154](#)).



- (b) 4WD:
Disconnect the control cable (see page [AX-154](#)).

31. REMOVE FRONT EXHAUST PIPE ASSEMBLY (See page [EX-3](#))
32. REMOVE CENTER EXHAUST PIPE ASSEMBLY (See page [EX-2](#))
33. REMOVE PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY (See page [PR-3](#))
34. REMOVE FRONT WHEELS
35. REMOVE FRONT AXLE HUB NUT LH
 - (a) Remove the hub nut (see page [AH-8](#)).
36. REMOVE FRONT AXLE HUB NUT RH
 - (a) Remove the hub nut (see page [AH-8](#)).
37. DISCONNECT FRONT STABILIZER LINK ASSEMBLY LH (See page [SP-30](#))
38. DISCONNECT FRONT STABILIZER LINK ASSEMBLY RH (See page [SP-30](#))
39. DISCONNECT STEERING INTERMEDIATE SHAFT (See page [PS-44](#))
40. DISCONNECT TIE ROD END SUB-ASSEMBLY RH (See page [PS-42](#))
41. DISCONNECT TIE ROD END SUB-ASSEMBLY LH (See page [PS-42](#))
42. REMOVE FRONT DRIVE SHAFT LH
 - (a) 2WD:
Remove the drive shaft (see page [DS-10](#)).
 - (b) 4WD:
Remove the drive shaft (see page [DS-43](#)).
43. REMOVE FRONT DRIVE SHAFT RH
 - (a) 2WD:
Remove the drive shaft (see page [DS-10](#)).
 - (b) 4WD:
Remove the drive shaft (see page [DS-43](#)).
44. REMOVE ENGINE WITH TRANSAXLE
 - (a) Install the No. 1 and No. 2 engine hangers with the 4 bolts as shown in the illustration.
Torque: 33 N*m (337 kgf*cm, 24 ft.*lbf)



Part Name	Part No.
No. 1 engine hanger	12281-31120
No. 2 engine hanger	12282-31100
Bolt	91671-10825

HINT:

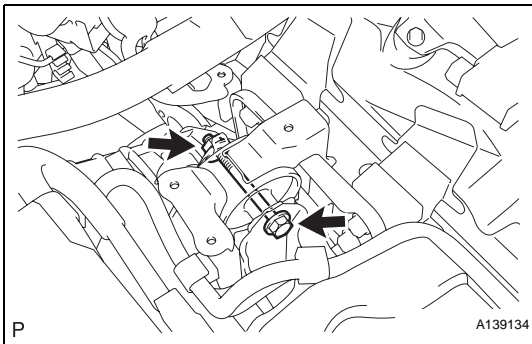
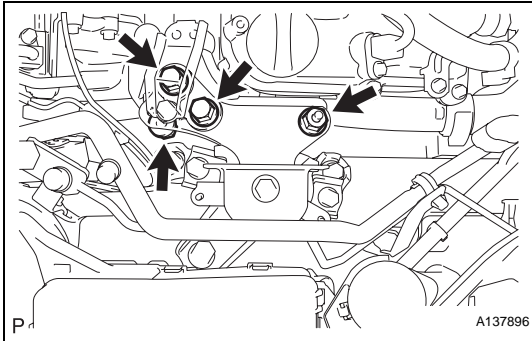
- Insert the claw of the hanger into hole of the cylinder head.
- Fit the fork part of the hanger onto the rib of the cylinder head.

- (b) Install an engine sling device to the engine and hold the engine with a chain block.

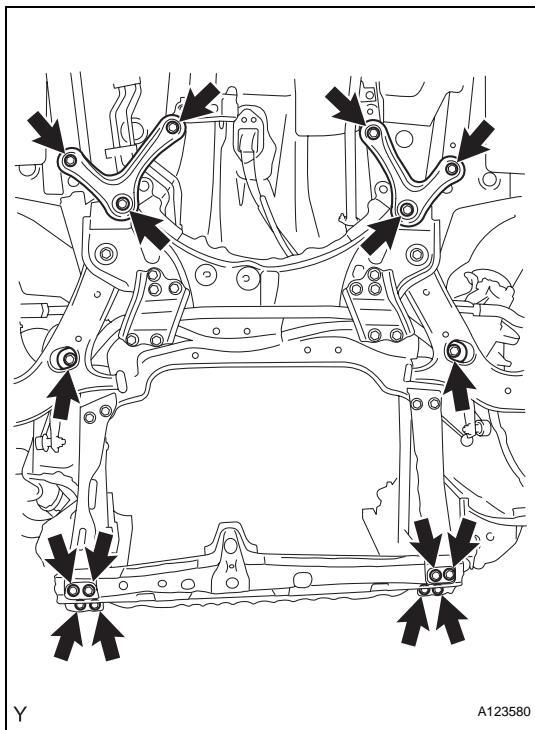
CAUTION:

Do not raise the engine more than necessary. If the engine is raised excessively, the vehicle may also be lifted up.

- (c) Set an engine lifter underneath the engine.
(d) Remove the column hole cover. Loosen the bolt holding the intermediate shaft, and slide the intermediate shaft.
(e) Put matchmarks on the intermediate shaft and pinion.
(f) Remove the 2 bolts and 2 nuts, and disconnect the engine mounting insulator RH.



- (g) Remove the bolt and nut, and disconnect the engine mounting insulator LH.



- (h) Remove the 6 bolts and front suspension member brace rear RH and LH.
- (i) Remove the 6 bolts, crossmember and suspension member.
- (j) Using the chain block, slowly remove the engine from the vehicle and the intermediate shaft from the pinion. Then set the engine on the engine lifter.

NOTICE:

- Make sure that the engine is clear of all wiring and hoses.
- While lowering the engine from the vehicle, do not allow it to contact the vehicle.

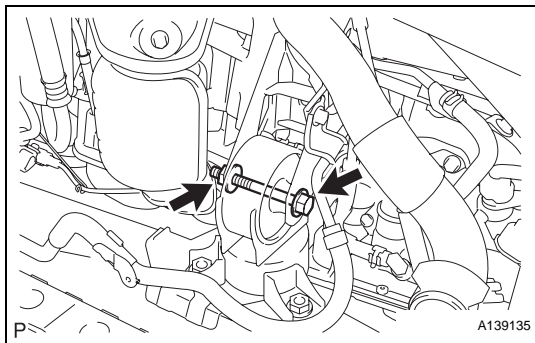
HINT:

Place the engine on wooden blocks or an equivalent so that the engine is level.

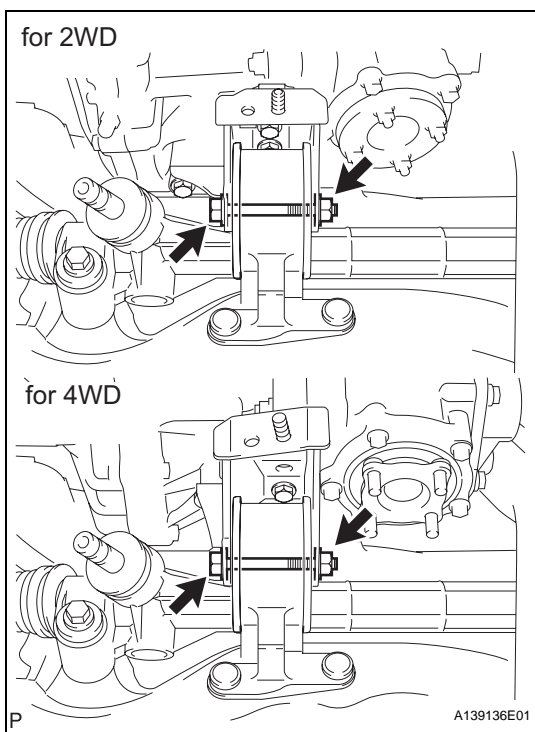
- (k) Remove the sling device from the engine.

45. REMOVE FRONT CROSSMEMBER SUB-ASSEMBLY

- (a) Install a chain block.



- (b) Remove the bolt, nut and crossmember.

**46. REMOVE FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY**

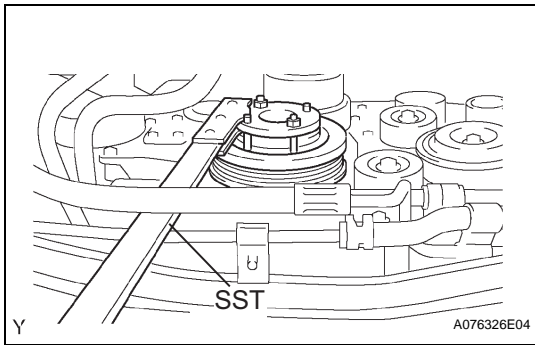
- (a) Remove the bolt and suspension crossmember.

47. REMOVE ENGINE WIRE

- (a) Remove the engine wire from the engine.

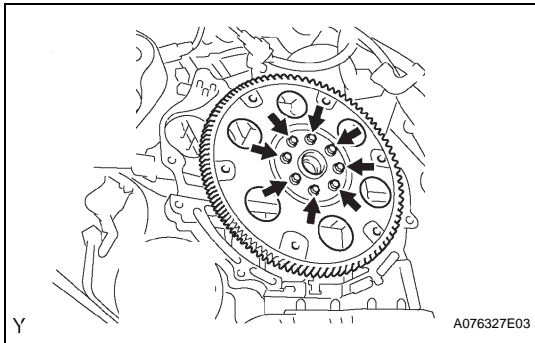
48. REMOVE STARTER ASSEMBLY (See page [ST-6](#))**49. REMOVE TRANSFER ASSEMBLY (for 4WD) (See page [TF-60](#))****50. REMOVE AUTOMATIC TRANSAXLE ASSEMBLY**

- (a) 2WD:
Remove the automatic transaxle (see page [AX-172](#)).
- (b) 4WD:
Remove the automatic transaxle (see page [AX-173](#)).



51. REMOVE DRIVE PLATE AND RING GEAR SUB-ASSEMBLY

- (a) Using SST, hold the crankshaft.
SST 09213-70011, 09330-00021

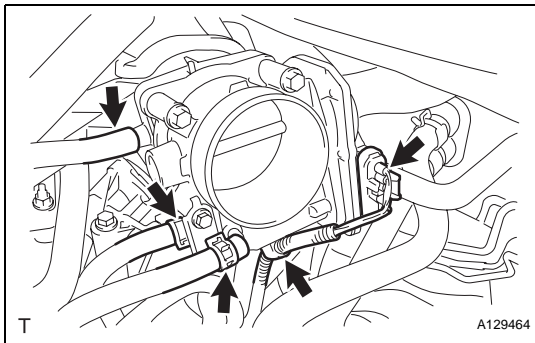


- (b) Remove the 8 bolts, front spacer, drive plate and rear spacer.

NOTICE:
Do not reuse the bolts.

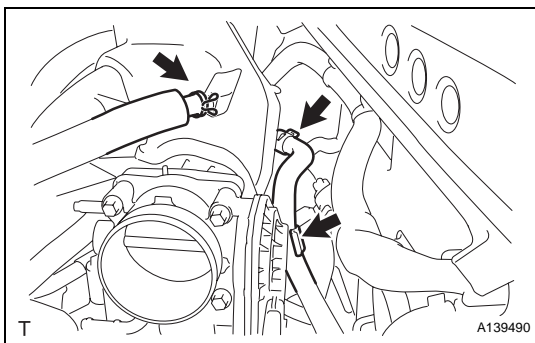
52. INSTALL ENGINE TO ENGINE STAND

- (a) Install the engine to an engine stand. Remove the sling device and chain block from the engine.

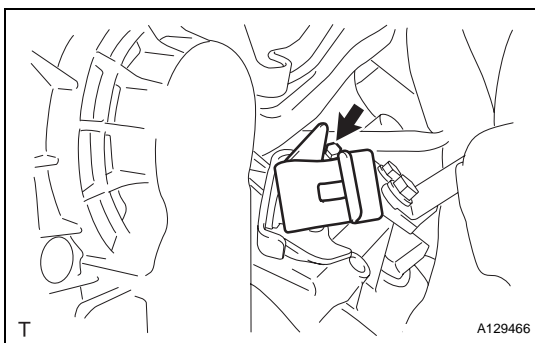


53. REMOVE INTAKE AIR SURGE TANK ASSEMBLY

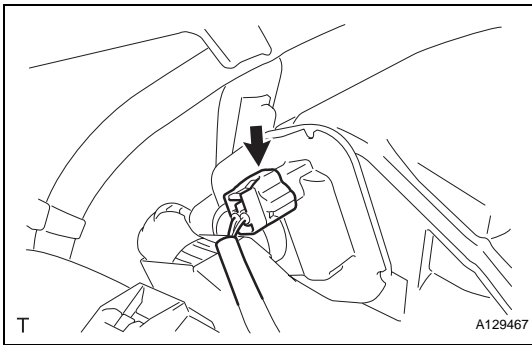
- (a) Disconnect the 2 water by-pass hoses from the throttle body.
 (b) Disconnect the vapor feed hose.
 (c) Disconnect the throttle body connector and clamp.



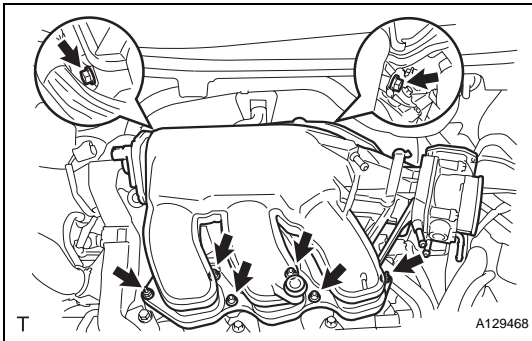
- (d) Disconnect the No. 2 ventilation hose.
 (e) Disconnect the union to check valve hose.



- (f) Remove the bolt and vacuum hose clamp.



(g) Disconnect the connector.



(h) Using a 5 mm socket hexagon wrench, remove the 4 bolts.

(i) Remove the 2 nuts, 2 bolts and surge tank.

(j) Remove the gasket from the surge tank.

54. REMOVE IGNITION COIL ASSEMBLY

(a) Remove the 6 bolts and 6 coils from the cylinder head.

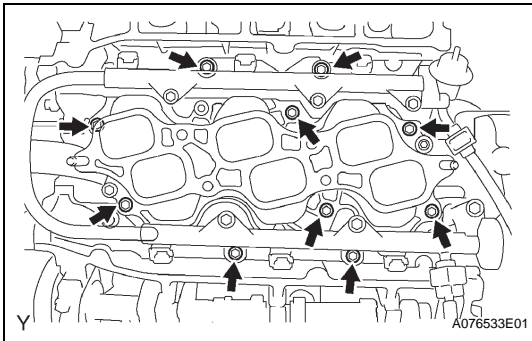
55. REMOVE NO. 2 ENGINE MOUNTING STAY RH

(a) Remove the bolt and mounting stay.

56. REMOVE FUEL INJECTOR ASSEMBLY (See page [FU-14](#))

57. REMOVE INTAKE MANIFOLD

(a) Remove the 6 bolts, 4 nuts, intake manifold and 2 gaskets.



58. REMOVE EXHAUST MANIFOLD SUB-ASSEMBLY RH

(a) Disconnect the air fuel ratio sensor connector clamp.

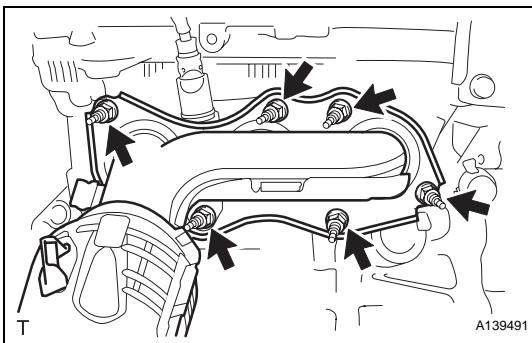
(b) Uniformly loosen and remove the 6 nuts.

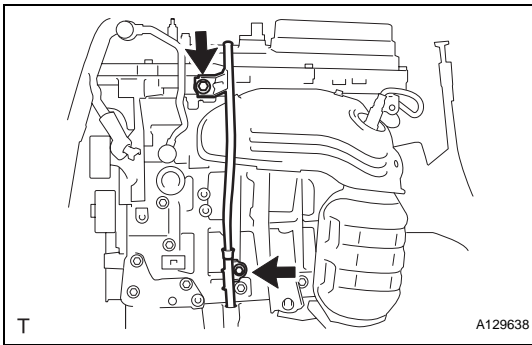
(c) Remove the manifold and gasket.

59. REMOVE FAN AND GENERATOR V BELT (See page [EM-8](#))

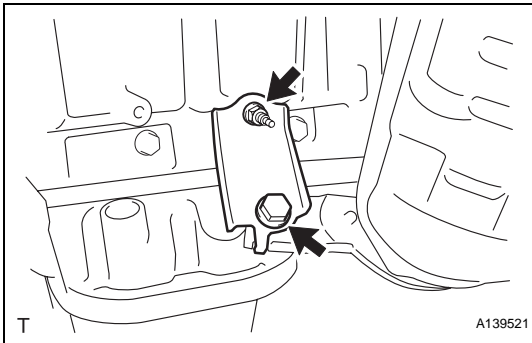
60. REMOVE COMPRESSOR WITH PULLEY ASSEMBLY (See page [AC-220](#))

61. REMOVE GENERATOR ASSEMBLY (See page [CH-12](#))



**62. REMOVE OIL DIPSTICK GUIDE**

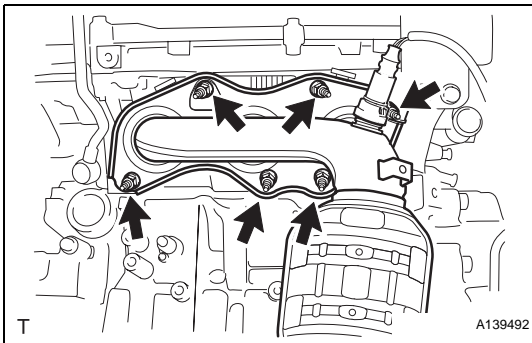
- (a) Remove the dipstick.
- (b) Remove the 2 bolts, and the No. 1 and No. 2 guides.
- (c) Remove the O-rings from the guide.

**63. REMOVE NO. 2 MANIFOLD STAY**

- (a) Remove the bolt, nut and manifold stay.

64. REMOVE NO. 2 EXHAUST MANIFOLD HEAT INSULATOR

- (a) Remove the 3 bolts and insulator.

**65. REMOVE EXHAUST MANIFOLD SUB-ASSEMBLY LH**

- (a) Uniformly loosen and remove the 6 nuts.
- (b) Remove the manifold and gasket.

66. REMOVE ENGINE MOUNTING BRACKET RH

- (a) Remove the 3 bolts and bracket.

67. REMOVE DRIVE SHAFT BEARING BRACKET

- (a) Remove the 3 bolts and drive shaft bearing bracket.

68. REMOVE V-RIBBED BELT TENSIONER ASSEMBLY

- (a) Remove the 5 bolts and V-ribbed belt tensioner assembly.

69. REMOVE NO. 2 TIMING GEAR COVER

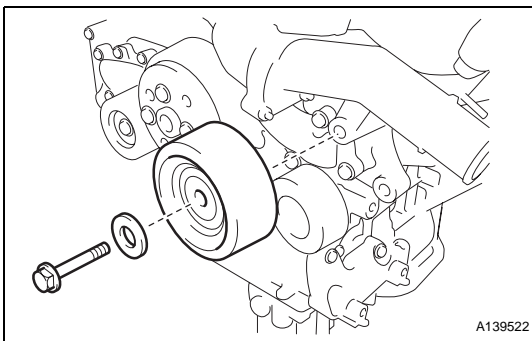
- (a) Remove the 2 bolts and gear cover.

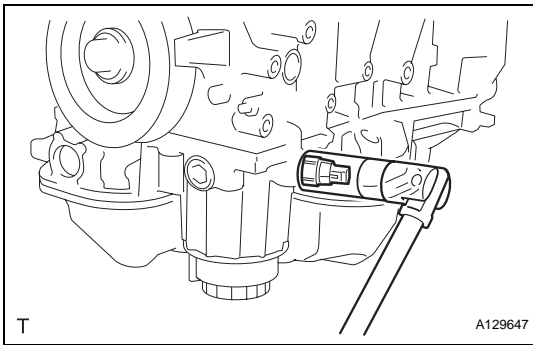
70. REMOVE NO. 2 IDLER PULLEY SUB-ASSEMBLY

- (a) Remove the bolt, plate and idler pulley.

71. REMOVE WATER PUMP PULLEY (See page [CO-12](#))**72. REMOVE NO. 1 FRONT ENGINE MOUNTING BRACKET LH**

- (a) Remove the 6 bolts and bracket.

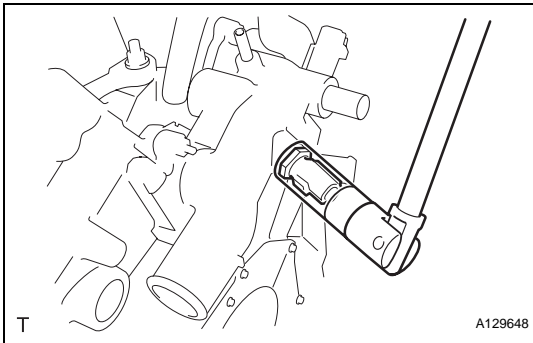




73. REMOVE ENGINE OIL PRESSURE SWITCH ASSEMBLY

- (a) Using a 24 mm deep socket wrench, remove the pressure switch.

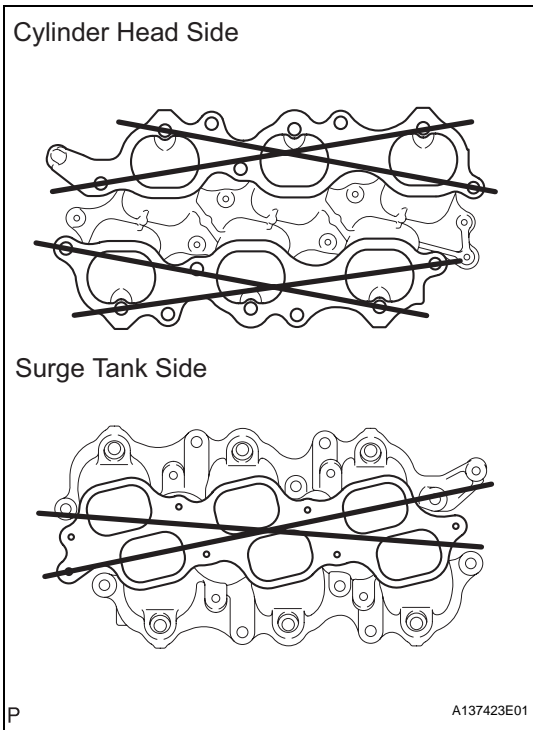
74. REMOVE KNOCK SENSOR (See page ES-459)



75. REMOVE ENGINE COOLANT TEMPERATURE SENSOR

- (a) Using a 19 mm deep socket wrench, remove the sensor and gasket.

EM



INSPECTION

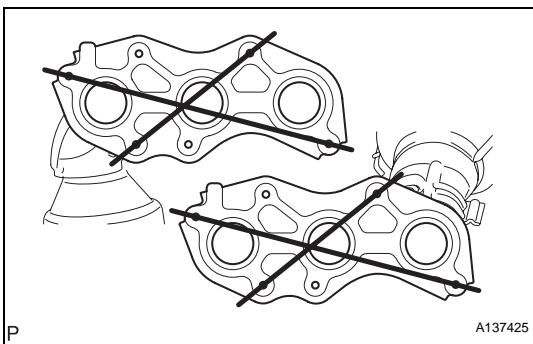
1. INSPECT INTAKE MANIFOLD

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

Maximum warpage

Item	Specified Condition
Intake manifold side	0.8 mm (0.031 in.)
Cylinder head side	0.2 mm (0.008 in.)

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



2. INSPECT EXHAUST MANIFOLD

- (a) Using a precision straightedge and feeler gauge, measure the surface contacting the cylinder head for warpage.

Maximum warpage:

0.70 mm (0.0028 in.)

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