

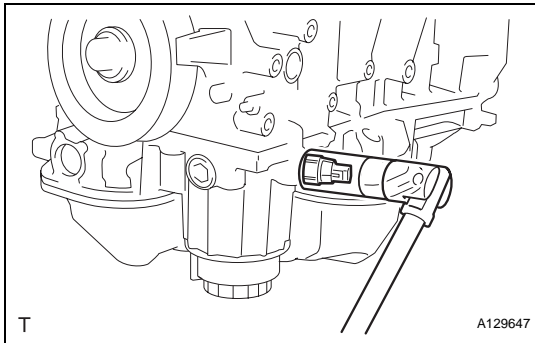
## INSTALLATION

### 1. INSTALL ENGINE COOLANT TEMPERATURE SENSOR

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

**Torque: 20 N\*m (204 kgf\*cm, 14 ft.\*lbf)**

### 2. INSTALL KNOCK SENSOR (See page [ES-459](#))



### 3. INSTALL ENGINE OIL PRESSURE SWITCH ASSEMBLY

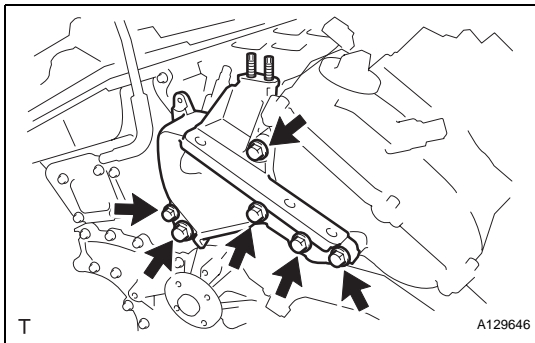
- (a) Clean the threads of the oil pressure switch. Apply adhesive to 2 or 3 threads of the oil pressure switch.

**Adhesive:**

**Toyota Genuine Adhesive 1344, Three Bond 1344 or Equivalent**

- (b) Using a 24 mm deep socket wrench, install the oil pressure switch.

**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**

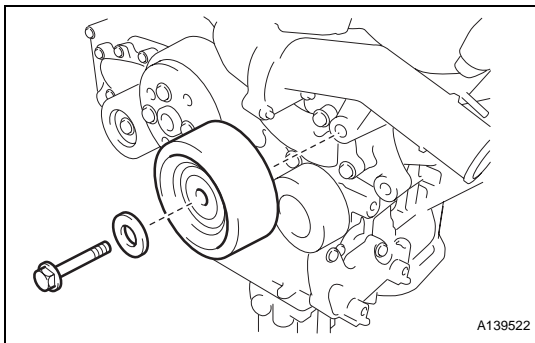


### 4. INSTALL NO. 1 FRONT ENGINE MOUNTING BRACKET LH

- (a) Install the mounting bracket with the 6 bolts.

**Torque: 54 N\*m (551 kgf\*cm, 40 ft.\*lbf)**

### 5. INSTALL WATER PUMP PULLEY (See page [CO-14](#))



### 6. INSTALL NO. 2 IDLER PULLEY SUB-ASSEMBLY

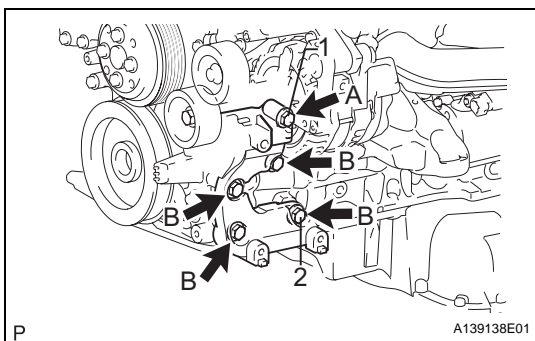
- (a) Install the idler pulley and cover plate with the bolt.

**Torque: 43 N\*m (438 kgf\*cm, 32 ft.\*lbf)**

### 7. INSTALL NO. 2 TIMING GEAR COVER

- (a) Install the gear cover with the 2 bolts.

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



### 8. INSTALL V-RIBBED BELT TENSIONER ASSEMBLY

- (a) Temporarily install the V-ribbed belt tensioner with the 5 bolts.

- (b) Install the V-ribbed belt tensioner by tightening the bolt 1 and bolt 2 in the order shown in the illustration.

**Torque: 43 N\*m (438 kgf\*cm, 32 ft.\*lbf)**

- (c) Tighten the other bolts.

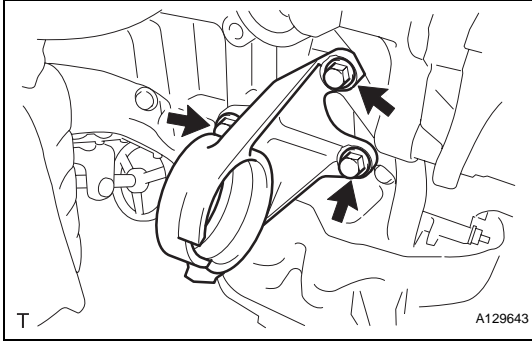
**Torque: 43 N\*m (438 kgf\*cm, 32 ft.\*lbf)**

**Each bolt length is as follows:**

A	70 mm (2.76 in.)
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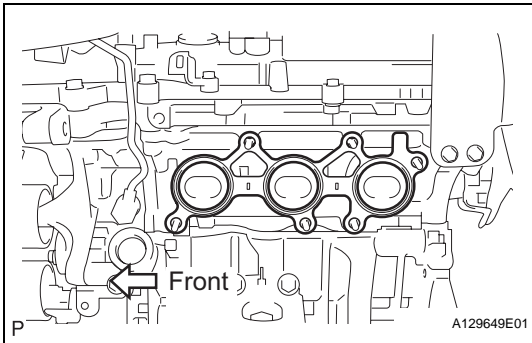
B

35 mm (1.37 in.)

**9. INSTALL DRIVE SHAFT BEARING BRACKET**

- (a) Install the drive shaft bearing bracket with the 3 bolts.

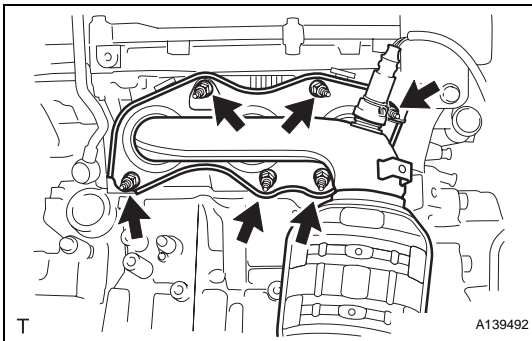
**Torque: 64 N\*m (653 kgf\*cm, 47 ft.\*lbf)**

**10. INSTALL EXHAUST MANIFOLD SUB-ASSEMBLY LH**

- (a) Install a new gasket as shown in the illustration.

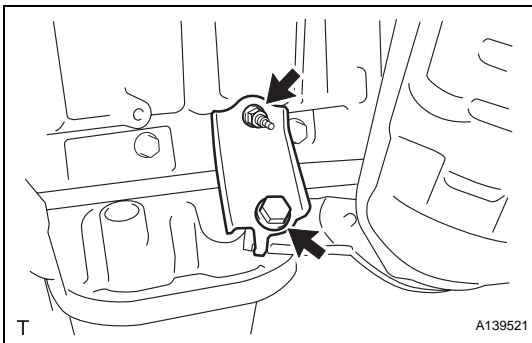
- (b) Install the manifold with the 6 nuts.

**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**

**11. INSTALL NO. 2 EXHAUST MANIFOLD HEAT INSULATOR**

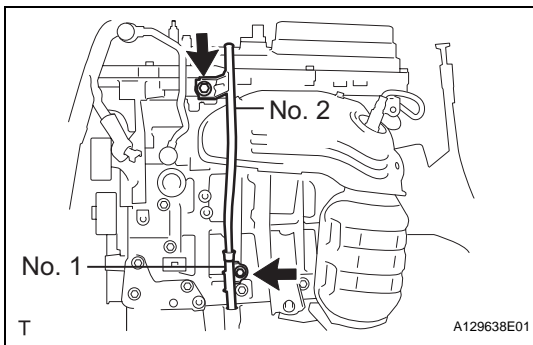
- (a) Install the No. 2 heat insulator with the 3 bolts.

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

**12. INSTALL NO. 2 MANIFOLD STAY**

- (a) Install the No. 2 manifold stay with the bolt and nut.

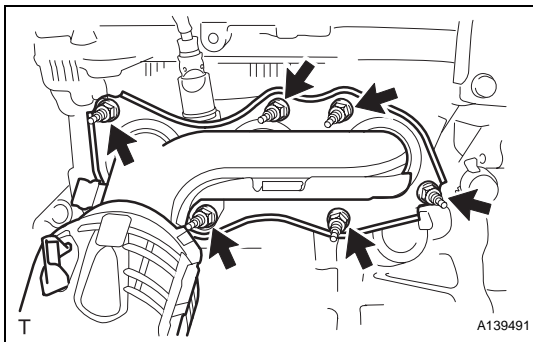
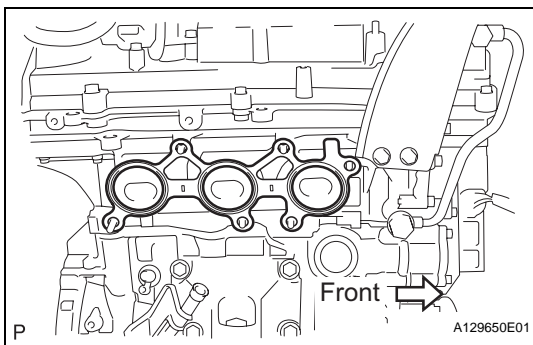
**Torque: 34 N\*m (347 kgf\*cm, 25 ft.\*lbf)**

**13. INSTALL OIL DIPSTICK GUIDE**

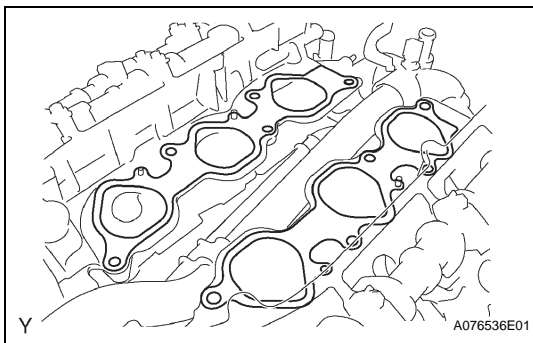
- (a) Install 2 new O-rings to the guide.
- (b) Apply a light coat of engine oil to the O-rings.
- (c) Push in the guide end into the guide hole.
- (d) Install the No. 1 guide with the bolt.  
**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**
- (e) Install the No. 2 guide with the bolt.  
**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**
- (f) Install the dipstick.

**14. INSTALL GENERATOR ASSEMBLY (See page CH-19)****15. INSTALL COMPRESSOR WITH PULLEY ASSEMBLY (See page AC-221)****16. INSTALL FAN AND GENERATOR V BELT (See page EM-8)****17. INSTALL EXHAUST MANIFOLD SUB-ASSEMBLY RH**

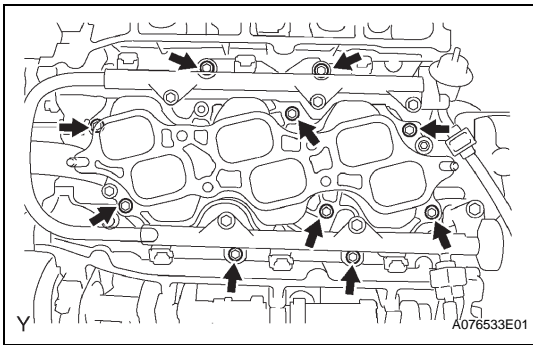
- (a) Install a new gasket as shown in the illustration.



- (b) Install the manifold with the 6 nuts.  
**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**

**18. INSTALL INTAKE MANIFOLD**

- (a) Set a new gasket on each cylinder head.  
**NOTICE:**
  - **Align the port holes of the gasket and cylinder head.**
  - **Be careful of the installation direction.**
- (b) Set the intake manifold on the cylinder heads.



- (c) Install and uniformly tighten the 6 bolts and 4 nuts in several passes.

**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**

- (d) Connect the 6 fuel injector connectors.

**19. INSTALL FUEL INJECTOR ASSEMBLY (See page FU-16)**

**20. INSTALL NO. 2 ENGINE MOUNTING STAY RH**

- (a) Install the mounting stay with the bolt.

**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**

**21. INSTALL IGNITION COIL ASSEMBLY**

- (a) Install the 6 ignition coils with the 6 bolts to the cylinder head.

**Torque: 10 N\*m (102 kgf\*cm, 7 ft.\*lbf)**

**22. INSTALL INTAKE AIR SURGE TANK ASSEMBLY**

**NOTICE:**

**Make sure there is no oil on the bolts. If there is oil on the bolts, clean them before installing them.**

- (a) Install a new gasket to the surge tank.  
 (b) Using a 5 mm hexagon socket wrench, install the 4 bolts.

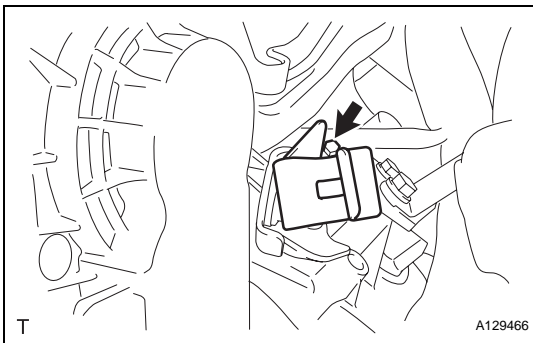
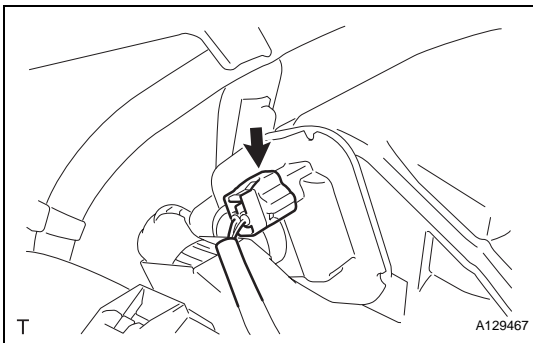
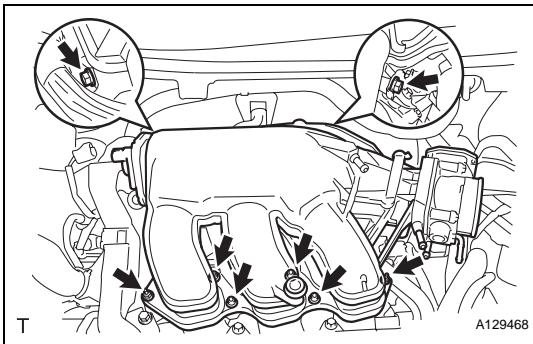
**Torque: 18 N\*m (184 kgf\*cm, 13 ft.\*lbf)**

- (c) Install the surge tank with the 2 nuts and 2 bolts.

**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf) for bolt**

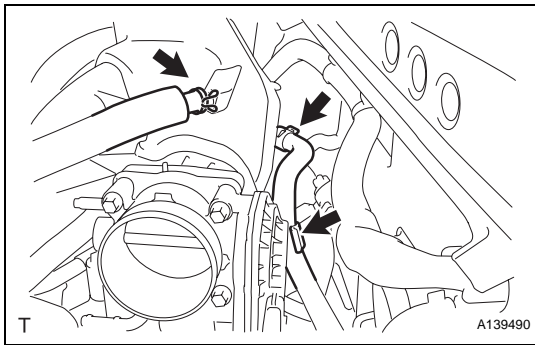
**16 N\*m (163 kgf\*cm, 12 ft.\*lbf) for nut**

- (d) Connect the connector.

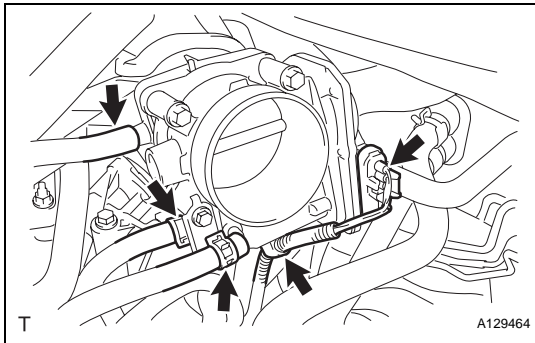


- (e) Install the vacuum hose clamp with the bolt.

**Torque: 5.4 N\*m (55 kgf\*cm, 48 in.\*lbf)**



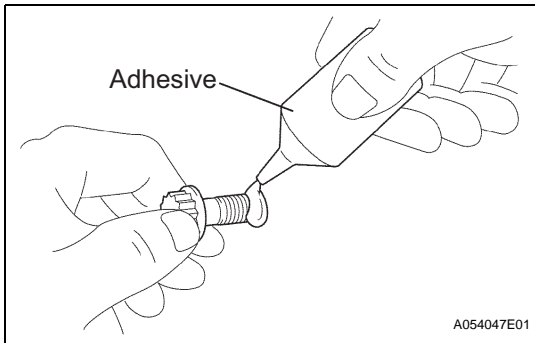
- (f) Connect the union to check valve hose.
- (g) Connect the No. 2 ventilation hose.



- (h) Install the clamp and connect the throttle body connector.
- (i) Connect the vapor feed hose.
- (j) Connect the 2 water by-pass hoses to the throttle body.

### 23. REMOVE ENGINE FROM ENGINE STAND

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

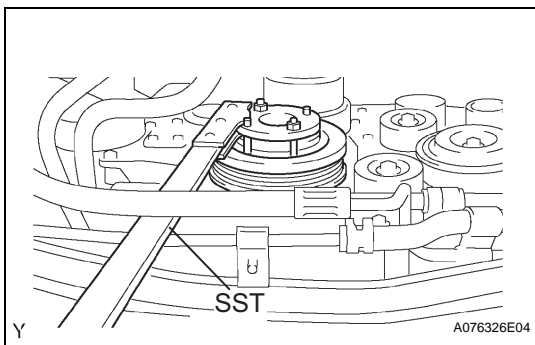


### 24. INSTALL DRIVE PLATE AND RING GEAR SUB-ASSEMBLY

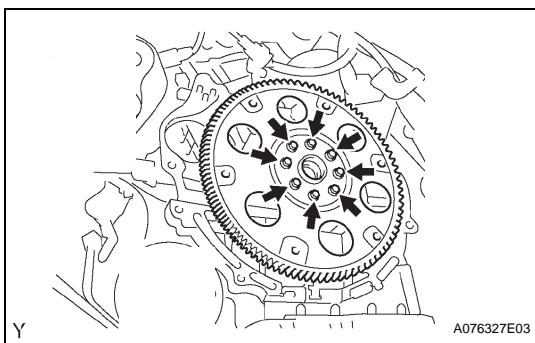
- (a) Clean the bolt and its hole.
- (b) Apply adhesive to 2 or 3 threads of the bolt end.

#### Adhesive:

**Toyota Genuine Adhesive 1324, Three Bond 1324 or Equivalent**



- (c) Using SST, hold the crankshaft.  
**SST 09213-70011, 09330-00021**
- (d) Install the flywheel, drive plate and drive plate spacer on the crankshaft.



- (e) Uniformly install and tighten the 8 bolts in the sequence shown in the illustration.  
**Torque: 178 N\*m (1,815 kgf\*cm, 132 ft.\*lbf)**  
**NOTICE:**  
**Do not start the engine for at least 1 hour after the installation.**

### 25. INSTALL AUTOMATIC TRANSAXLE ASSEMBLY

- (a) 2WD:  
Install the automatic transaxle (see page [AX-174](#)).

- (b) 4WD:  
Install the automatic transaxle (see page [AX-175](#)).

**26. INSTALL TRANSFER ASSEMBLY (for 4WD) (See page [TF-75](#))**

**27. INSTALL STARTER ASSEMBLY (See page [ST-14](#))**

**28. INSTALL ENGINE WIRE**

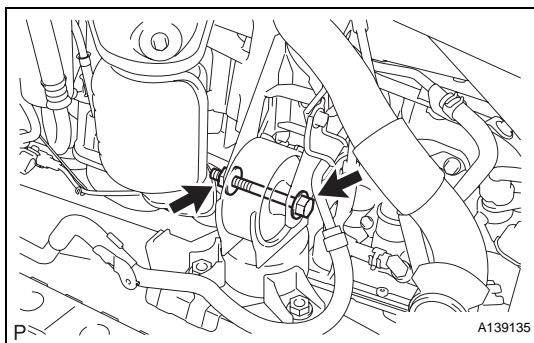
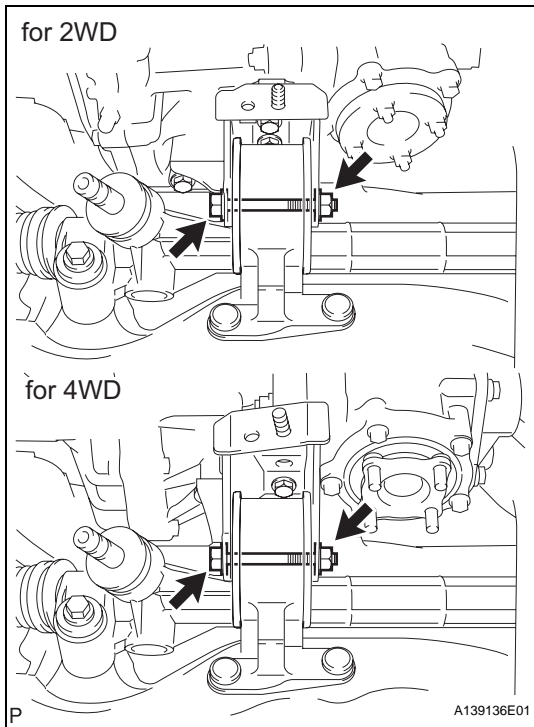
- (a) Install the engine wire to the engine.

**29. INSTALL FRONT SUSPENSION CROSSMEMBER SUB-ASSEMBLY**

- (a) Attach the engine together with the transaxle to the suspension crossmember and mounting.

- (b) Install the bolt which secures the engine mounting bracket to the mounting insulator.

**Torque: 95 N\*m (969 kgf\*cm, 70 ft.\*lbf)**



**30. INSTALL FRONT CROSSMEMBER SUB-ASSEMBLY**

- (a) Install the bolt and nut which secures the engine mounting bracket to the mounting insulator.

**Torque: 145 N\*m (1,479 kgf\*cm, 107 ft.\*lbf)**

**31. INSTALL ENGINE WITH TRANSAXLE**

- (a) Place the engine on an engine lifter.

**HINT:**

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

- (b) Using the chain block, slowly install the engine to the vehicle and the intermediate shaft to the pinion.

**CAUTION:**

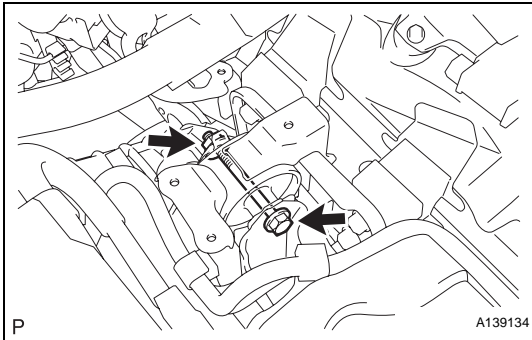
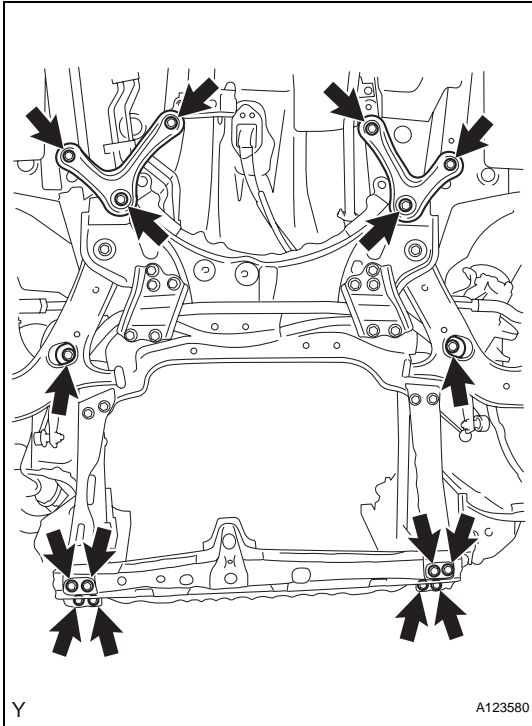
**Do not raise the engine more than necessary. If the engine is raised excessively, the vehicle may also be lifted up.**

**NOTICE:**

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

- While raising the engine into the vehicle, do not allow it to contact the vehicle.
- Align the matchmarks on the intermediate shaft and pinion.

- (c) Temporarily install the suspension member and crossmember with the 10 bolts.
- (d) Temporarily install the member brace rear RH and LH with the 6 bolts.

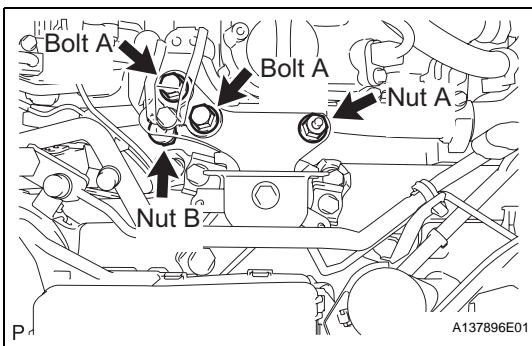


- (e) Install the engine mounting insulator LH with the bolt and nut.

**Torque: 56 N\*m (571 kgf\*cm, 41 ft.\*lbf)**

**NOTICE:**

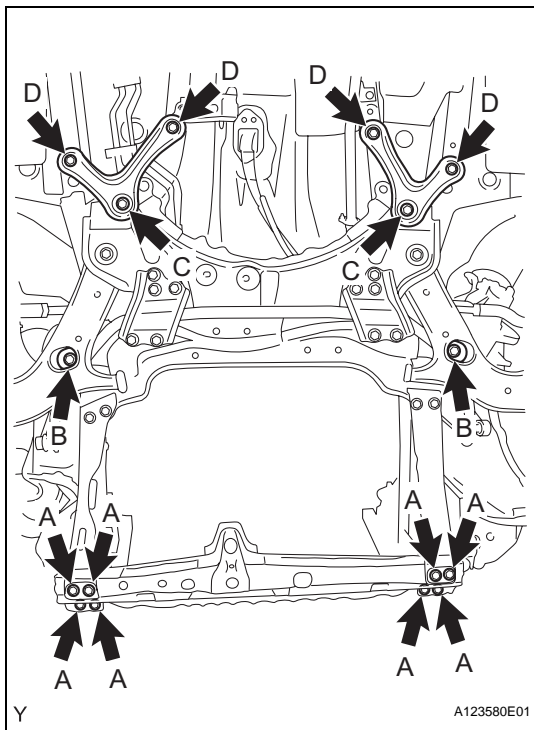
**While holding the bolt in place, tighten the nut.**



- (f) Install the engine mounting insulator RH with the 2 bolts and 2 nuts.

**Torque: 95 N\*m (969 kgf\*cm, 70 ft.\*lbf) for bolt and nut A**

**52 N\*m (530 kgf\*cm, 38 ft.\*lbf) for nut B**



- (g) Tighten the suspension member and crossmember's bolts.  
**Torque: 96 N\*m (979 kgf\*cm, 71 ft.\*lbf) for bolt A**  
**145 N\*m (1,478 kgf\*cm, 107 ft.\*lbf) for bolt B**
- (h) Tighten the member brace rear's bolts.  
**Torque: 145 N\*m (1,478 kgf\*cm, 107 ft.\*lbf) for bolt C**  
**93 N\*m (948 kgf\*cm, 69 ft.\*lbf) for bolt D**
- (i) Remove the sling device and chain block.
- (j) Remove the 2 bolts and No. 1 and No. 2 engine hangers.

### 32. INSTALL FRONT DRIVE SHAFT LH

- (a) 2WD:  
Install the drive shaft (see page [DS-33](#)).
- (b) 4WD:  
Install the drive shaft (see page [DS-66](#)).

### 33. INSTALL FRONT DRIVE SHAFT RH

- (a) 2WD:  
Install the drive shaft (see page [DS-33](#)).
- (b) 4WD:  
Install the drive shaft (see page [DS-66](#)).

### 34. CONNECT TIE ROD END SUB-ASSEMBLY LH (See page [PS-45](#))

### 35. CONNECT TIE ROD END SUB-ASSEMBLY RH (See page [PS-45](#))

### 36. CONNECT STEERING INTERMEDIATE SHAFT (See page [PS-44](#))

### 37. CONNECT FRONT STABILIZER LINK ASSEMBLY LH (See page [SP-31](#))

### 38. CONNECT FRONT STABILIZER LINK ASSEMBLY RH (See page [SP-31](#))

### 39. INSTALL FRONT AXLE HUB NUT LH

- (a) Install the hub nut (see page [AH-11](#)).

### 40. INSTALL FRONT AXLE HUB NUT RH

- (a) Install the hub nut (see page [AH-11](#)).

### 41. INSTALL FRONT WHEELS

### 42. INSTALL PROPELLER WITH CENTER BEARING SHAFT ASSEMBLY (See page [PR-5](#))

### 43. INSTALL CENTER EXHAUST PIPE ASSEMBLY (See page [EX-4](#))

### 44. INSTALL FRONT EXHAUST PIPE ASSEMBLY (See page [EX-4](#))

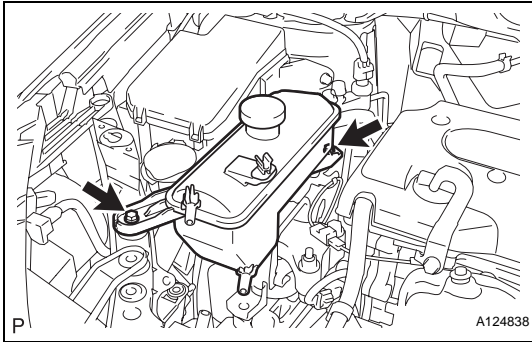
### 45. CONNECT TRANSMISSION CONTROL CABLE ASSEMBLY

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



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

46. CONNECT RADIATOR HOSE INLET
47. CONNECT RADIATOR HOSE OUTLET
48. CONNECT OIL COOLER HOSE
49. CONNECT SUCTION HOSE SUB-ASSEMBLY (See page [AC-221](#))
50. INSTALL DISCHARGE HOSE SUB-ASSEMBLY (See page [AC-221](#))
51. INSTALL RADIATOR RESERVOIR TANK ASSEMBLY

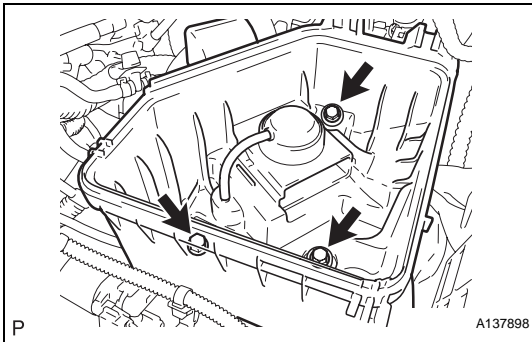


- (a) Install the reservoir tank with the 2 bolts.  
**Torque: 5.0 N\*m (51 kgf\*cm, 44 in.\*lbf)**
- (b) Connect the 2 hoses

52. INSTALL ECM (See page [ES-471](#))

53. CONNECT HOSES AND CONNECTORS

- (a) Connect the 2 ECM connectors.
- (b) Connect the 2 heater hoses.
- (c) Connect the fuel hoses.
- (d) Connect the starter wire with the nut.  
**Torque: 9.8 N\*m (100 kgf\*cm, 7 ft.\*lbf)**
- (e) Connect the 3 connectors and wire with the nut.  
**Torque: 12 N\*m (122 kgf\*cm, 9 ft.\*lbf)**
- (f) Install the engine room junction block cover (upper).

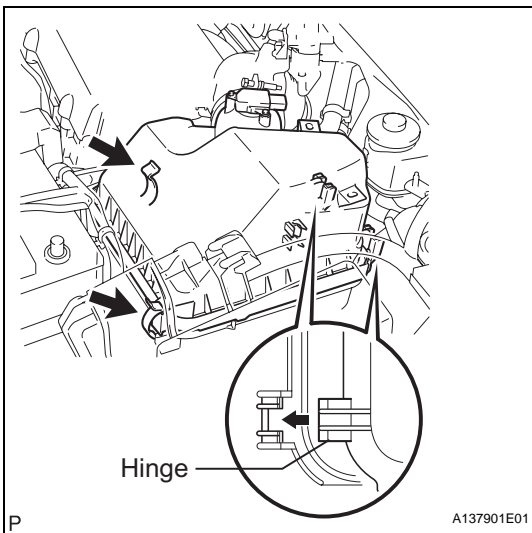


54. INSTALL AIR CLEANER CASE

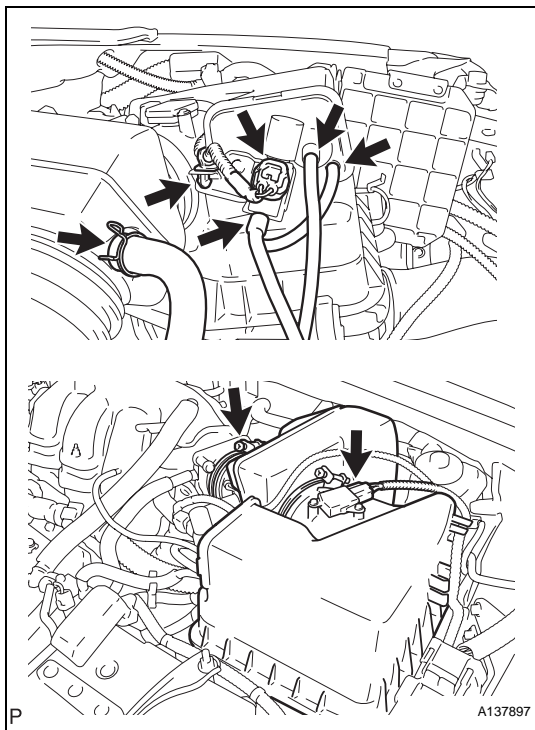
- (a) Install the air cleaner case with the 3 bolts.  
**Torque: 5.0 N\*m (51 kgf\*cm, 44 in.\*lbf)**
- (b) Connect the harness clamp.

55. INSTALL AIR CLEANER CAP SUB-ASSEMBLY

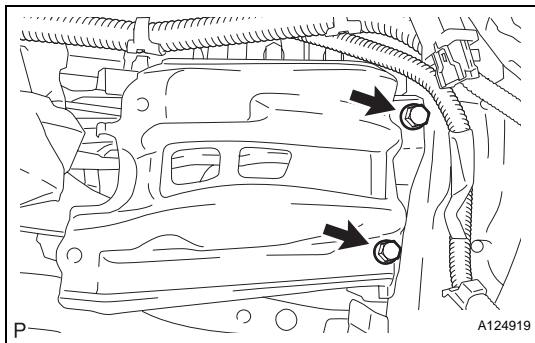
- (a) Install the air cleaner filter element onto the air cleaner case.



- (b) Insert the hinge part of the air cleaner cap into the air cleaner case, then hang the 2 hook clamps.

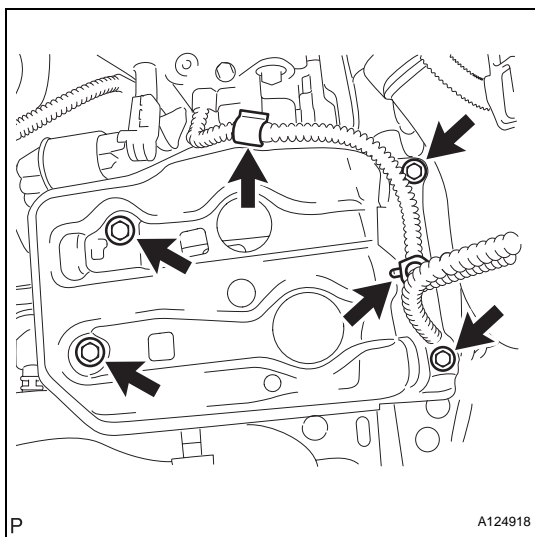


- (c) Tighten the No. 1 air cleaner hose clamp.
- (d) Connect the No. 2 ventilation hose to the air cleaner hose.
- (e) Connect the wire harness clamp and 3 vacuum hoses.
- (f) Connect the VSV (intake air control) connector.
- (g) Connect the mass air flow meter connector.



#### 56. INSTALL BATTERY BRACKET REINFORCEMENT

- (a) Install the bracket reinforcement with the 2 bolts.  
**Torque: 19 N\*m (194 kgf\*cm, 14 ft.\*lbf)**



#### 57. INSTALL FRONT BATTERY BRACKET

- (a) Install the bracket front with the 4 bolts.  
**Torque: 19 N\*m (194 kgf\*cm, 14 ft.\*lbf)**
- (b) Attach the 2 wire harness clamps.

#### 58. INSTALL BATTERY

#### 59. REMOVE BATTERY CLAMP SUB-ASSEMBLY

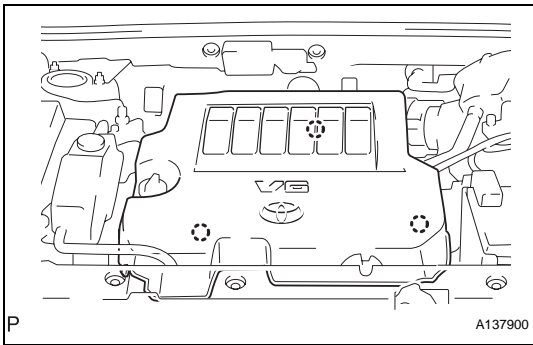
- (a) Attach the hook of the battery clamp to the battery bracket front.
- (b) Temporarily tighten the nut and install the bolt.
- (c) Adjust the battery clamp's position.
- (d) Fully tighten the nut and bolt.  
**Torque: 5.0 N\*m (51 kgf\*cm, 44 in.\*lbf)**
- (e) Attach the 2 wire harness clamps.

#### 60. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

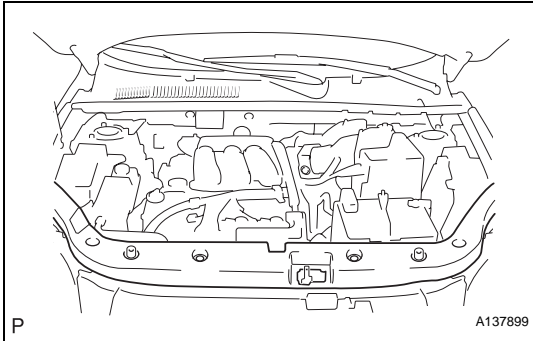
#### 61. INSTALL HOOD SUB-ASSEMBLY

- (a) Install the hood (see page [ED-7](#)).
- (b) Adjust the hood (see page [ED-5](#)).

- 62. ADD AUTOMATIC TRANSAXLE FLUID**
  - (a) 2WD:  
Add automatic transmission fluid (see page [AX-177](#)).
  - (b) 4WD:  
Add automatic transmission fluid (see page [AX-178](#)).
- 63. ADD TRANSFER OIL (for 4WD) (See page [TF-45](#))**
- 64. ADD ENGINE OIL (See page [LU-6](#))**
- 65. ADD ENGINE COOLANT (See page [CO-8](#))**
- 66. CHARGE REFRIGERANT (See page [AC-172](#))**
- 67. CHECK FOR LEAKAGE OF REFRIGERANT (See page [AC-173](#))**
- 68. CHECK FOR ENGINE OIL LEAKS (See page [LU-6](#))**
- 69. CHECK FOR ENGINE COOLANT LEAKS (See page [CO-1](#))**
- 70. CHECK FOR FUEL LEAKS**
- 71. INSPECT EXHAUST GAS LEAKS**
- 72. INSPECT SHIFT LEVER POSITION**
  - (a) 2WD:  
Inspect the shift lever position (see page [AX-159](#)).
  - (b) 4WD:  
Inspect the shift lever position (see page [AX-158](#)).
- 73. ADJUST TRANSMISSION CONTROL CABLE**
  - (a) 2WD:  
Adjust the shift lever position (see page [AX-159](#)).
  - (b) 4WD:  
Adjust the shift lever position (see page [AX-159](#)).
- 74. INSTALL FRONT FLOOR COVER (See page [FU-39](#))**
- 75. INSTALL NO. 2 ENGINE UNDER COVER**
  - (a) Install the under cover with the 2 clips.
- 76. INSTALL REAR ENGINE UNDER COVER LH**
  - (a) Install the under cover with the 2 clips.
- 77. INSTALL REAR ENGINE UNDER COVER RH**
  - (a) Install the under cover with the 2 clips.
- 78. INSTALL NO. 1 ENGINE UNDER COVER**
  - (a) Install the under cover with the 4 bolts and 12 clips.

**79. INSTALL V-BANK COVER SUB-ASSEMBLY**

- (a) Attach the 3 clips to install the engine cover.

**80. INSTALL RADIATOR SUPPORT OPENING COVER**

- (a) Install the cover with the 9 clips.

**81. ADJUST FRONT WHEEL ALIGNMENT**

- (a) Adjust the front wheel alignment (see page [SP-3](#)).

**82. INSPECT IDLE SPEED (See page [EM-2](#))**