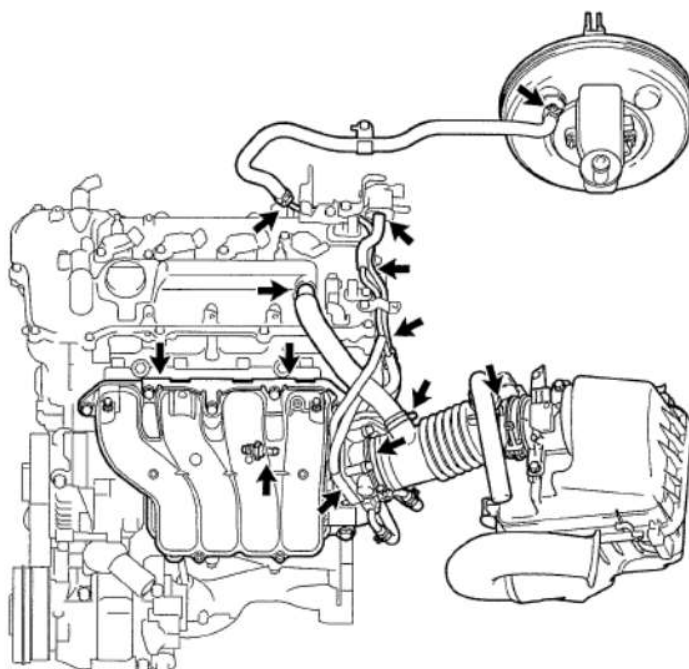


2008 Scion xD

2008 ENGINE 2ZR-FE Intake - xD

2008 ENGINE**2ZR-FE Intake - xD****INTAKE SYSTEM****ON-VEHICLE INSPECTION****1. INSPECT INTAKE SYSTEM**

- a. Check that there is no air suction at the points shown in the illustration.



P

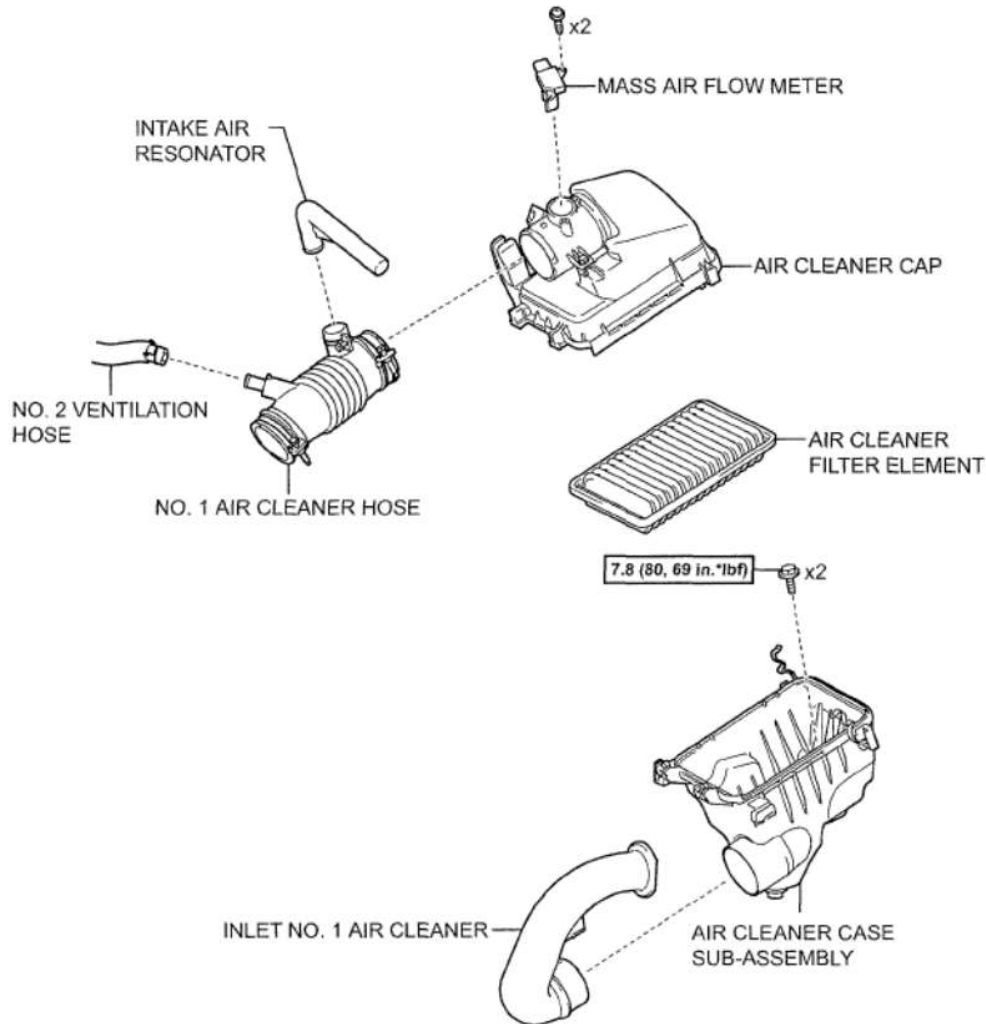
A155899

Fig. 1: Locating Intake System Components Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

AIR CLEANER AND HOSE**COMPONENTS**

2008 Scion xD

2008 ENGINE 2ZR-FE Intake - xD



$\boxed{\text{N}^*\text{m (kgf}^*\text{cm, ft}^*\text{lbf)}}$: Specified torque

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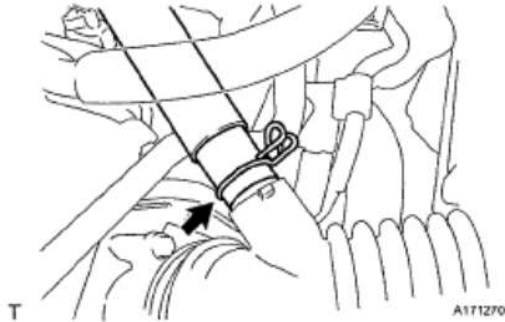
Fig. 2: Identifying Air Cleaner And Hose Components With Torque Specification
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **REMOVE MASS AIR FLOW METER** (See **REMOVAL**)
2. **REMOVE AIR CLEANER ASSEMBLY**
 - a. Disconnect the No. 2 ventilation hose.

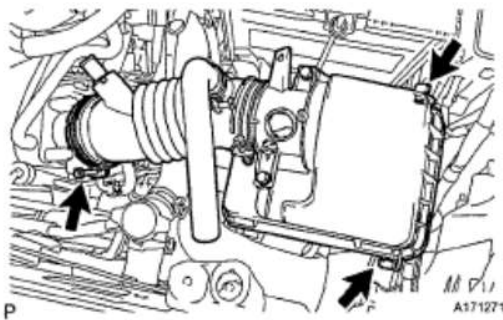
2008 Scion xD

2008 ENGINE 2ZR-FE Intake - xD

**Fig. 3: Locating No. 2 Ventilation Hose**

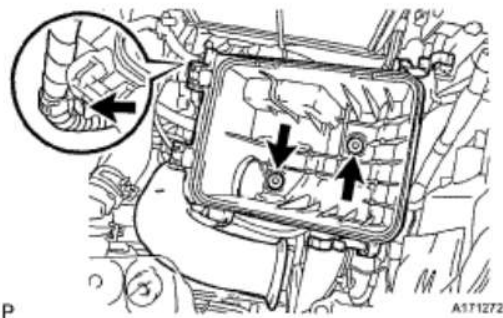
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Loosen the air cleaner hose clamp, unlock the air cleaner assembly clamp and remove the air cleaner cap sub-assembly with air cleaner hose.

**Fig. 4: Locating Air Cleaner Hose Clamp**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Remove the air cleaner filter element.
- d. Separate the wire harness.
- e. Remove the 2 bolts and remove the air cleaner case with inlet No. 1 air cleaner.

**Fig. 5: Locating Air Cleaner Case Bolts**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Intake - xD

- f. Loosen the air cleaner hose clamp and remove the intake air resonator.

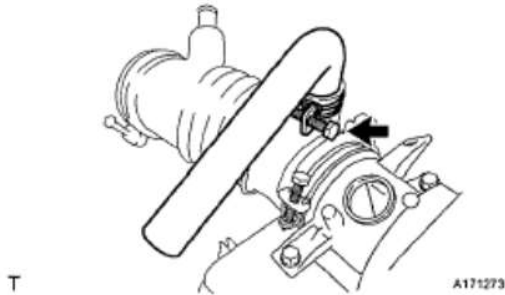


Fig. 6: Locating Air Cleaner Hose Clamp

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- g. Loosen the air cleaner hose clamp and remove the air cleaner hose from the No. 1 air cleaner cap sub-assembly.

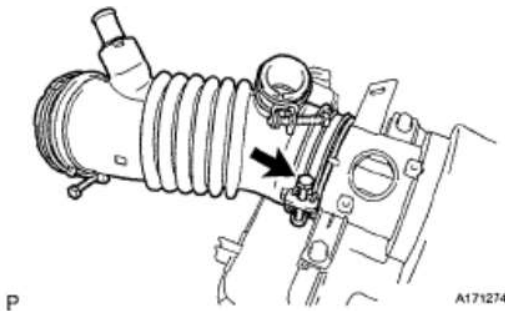


Fig. 7: Locating Air Cleaner Hose Of No. 1 Air Cleaner Cap Sub-Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- h. Remove the inlet No. 1 air cleaner from the air cleaner case.

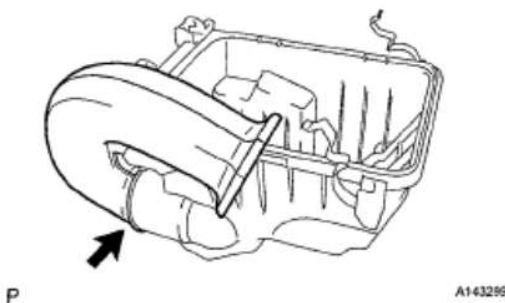


Fig. 8: Locating Inlet No. 1 Air Cleaner

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

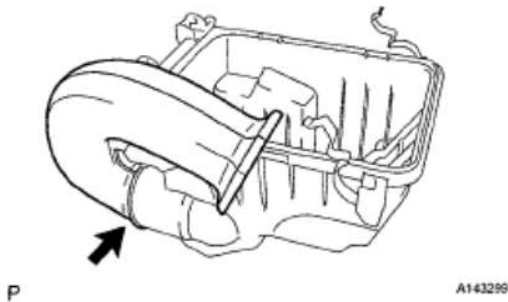
INSTALLATION

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2008 ENGINE 2ZR-FE Intake - xD

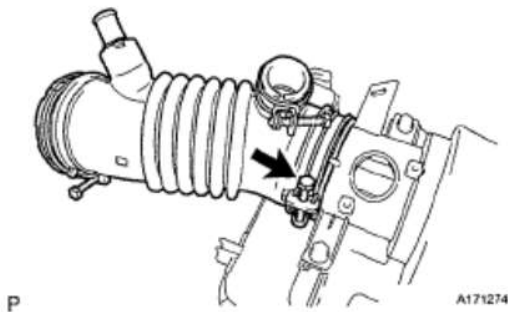
1. INSTALL AIR CLEANER ASSEMBLY

- a. Install the inlet No. 1 air cleaner onto the air cleaner case.

**Fig. 9: Locating Inlet No. 1 Air Cleaner**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the No. 1 air cleaner hose to the air cleaner cap sub-assembly with the air cleaner hose clamp.

Torque: 3.0 N*m (31 kgf*cm, 27 in.*lbf)**Fig. 10: Locating Air Cleaner Hose Of No. 1 Air Cleaner Cap Sub-Assembly**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Install the intake air resonator with the air hose clamp.

Torque: 3.0 N*m (31 kgf*cm, 27 in.*lbf)

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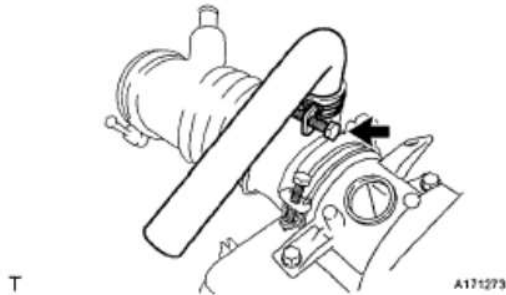


Fig. 11: Locating Intake Air Resonator With Air Hose Clamp
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Install the air cleaner case with inlet No. 1 air cleaner with the 2 bolts.

Torque: 7.8 N*m (80 kgf*cm, 69 in.*lbf)

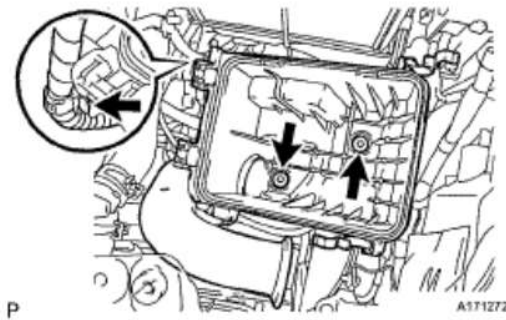


Fig. 12: Identifying No. 1 Air Cleaner With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Install the air cleaner filter element.
f. Install and lock the air cleaner cap and air cleaner hose and then tighten the air cleaner hose clamp.

Torque: 3.0 N*m (31 kgf*cm, 27 in.*lbf)

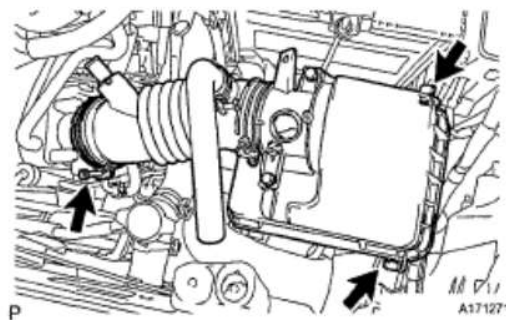


Fig. 13: Locating Air Cleaner Hose Clamp
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Intake - xD

- g. Connect the No. 2 ventilation hose.

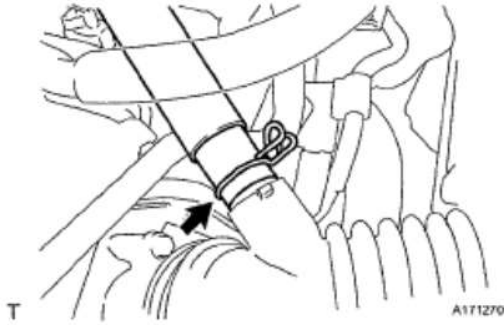


Fig. 14: Locating No. 2 Ventilation Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

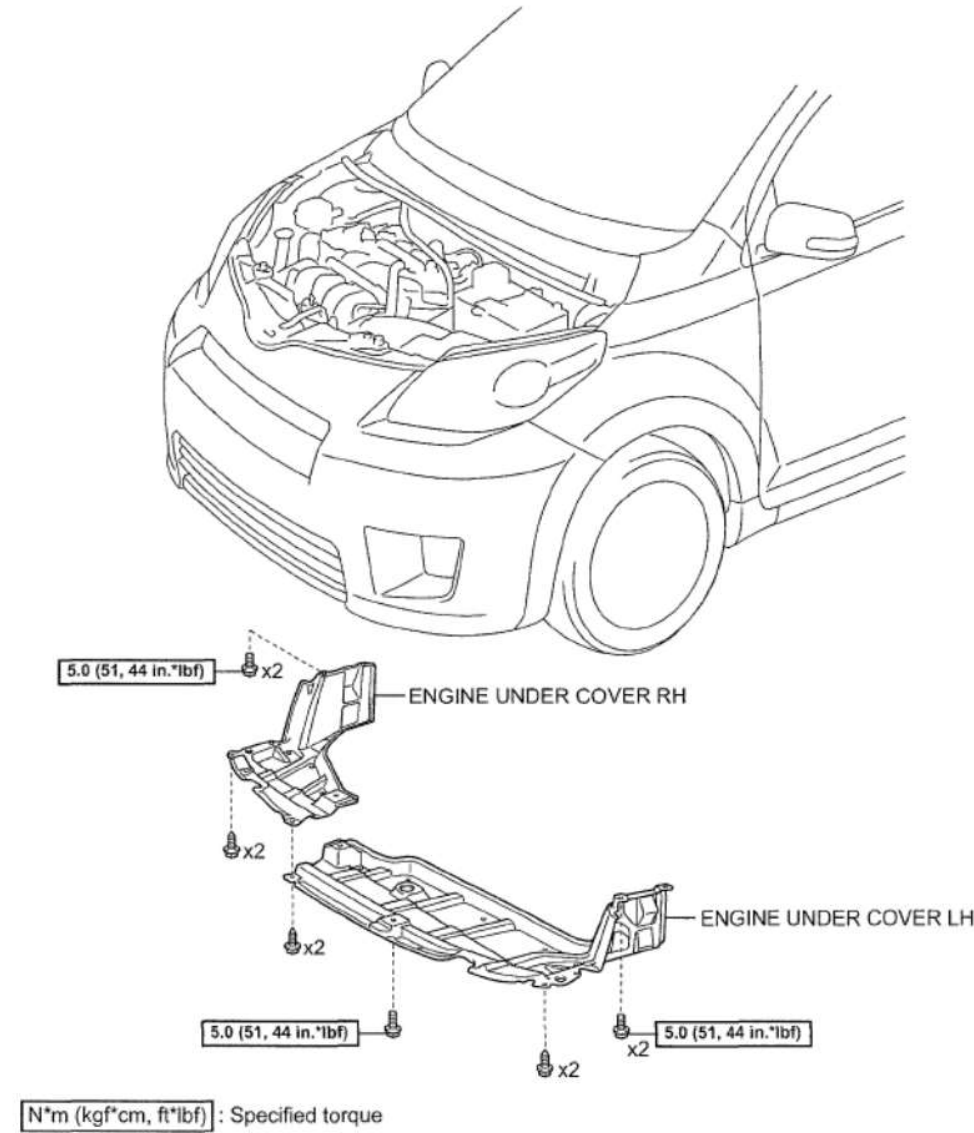
2. INSTALL MASS AIR FLOW METER (See INSTALLATION)

INTAKE MANIFOLD

COMPONENTS

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Fig. 15: Identifying Intake Manifold Components With Torque Specifications (1 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Intake - xD

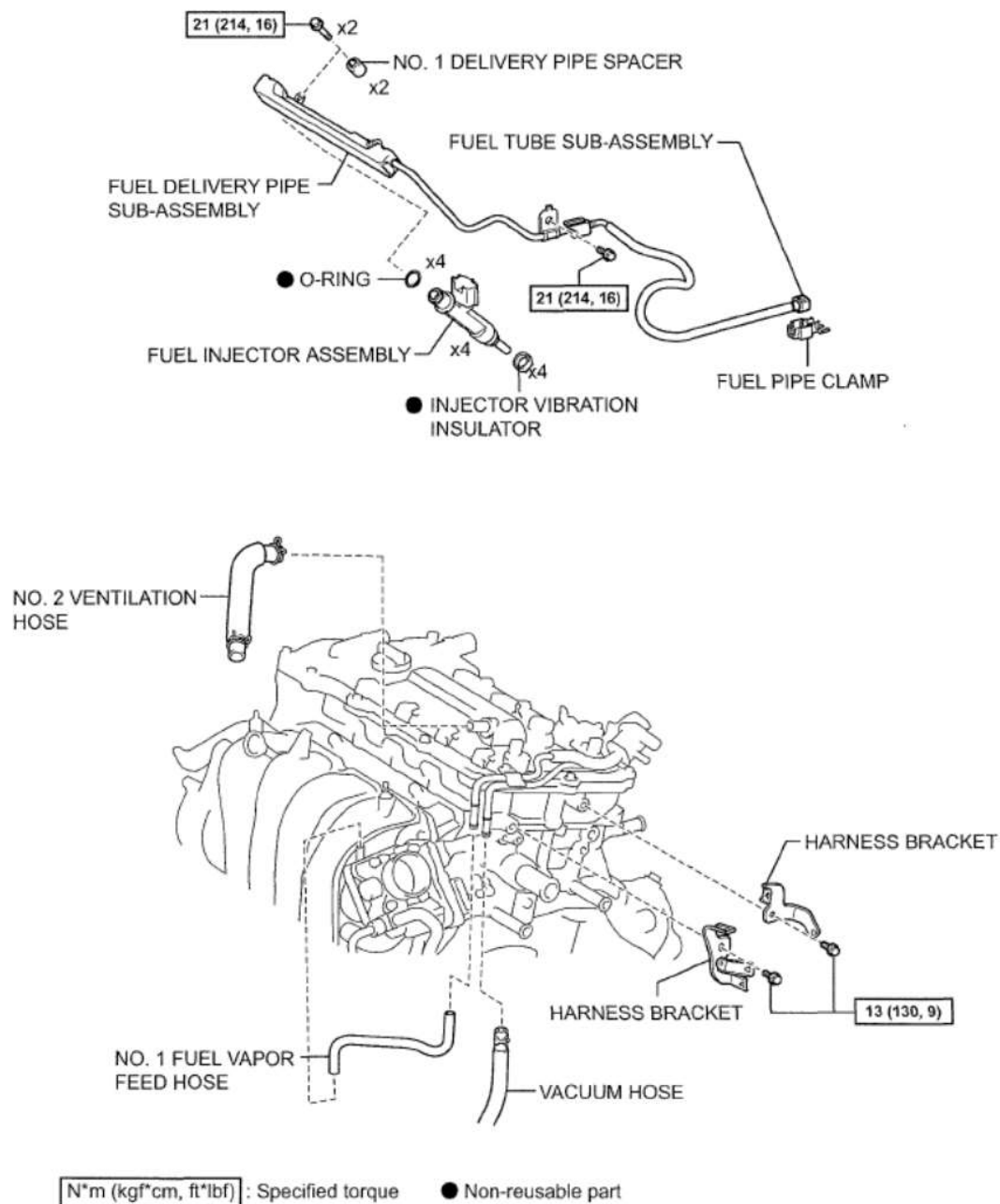
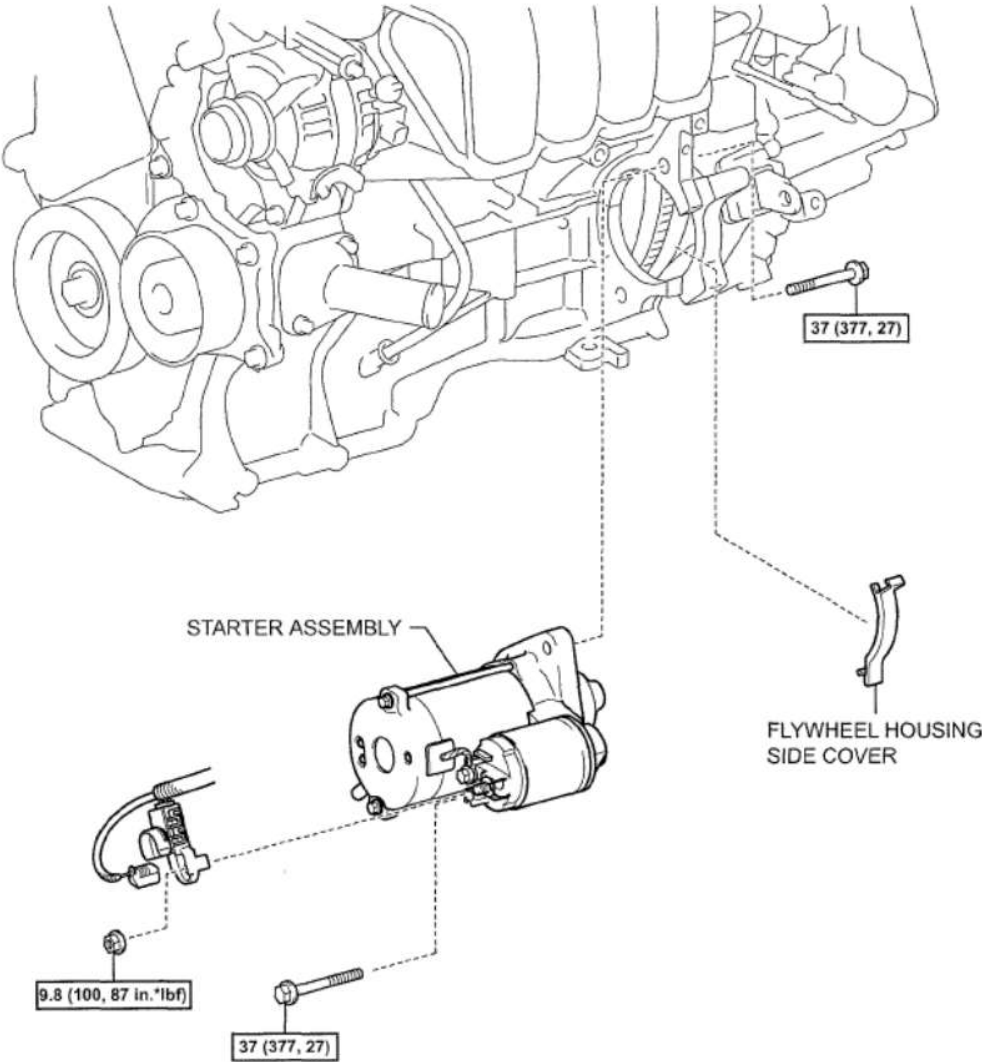


Fig. 16: Identifying Intake Manifold Components With Torque Specifications (2 Of 6)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Intake - xD



N*m (kgf*cm, ft*lbf) : Specified torque

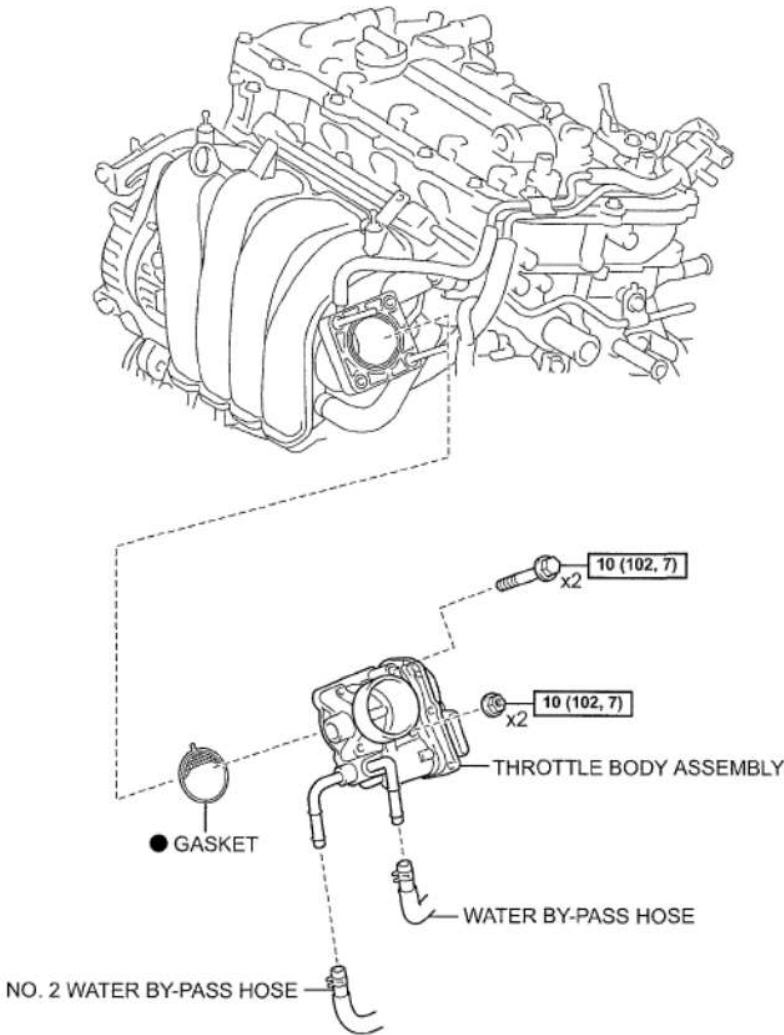
T

A171325E01

Fig. 17: Identifying Intake Manifold Components With Torque Specifications (3 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Intake - xD



N·m (kgf·cm, ft·lbf) : Specified torque ● Non-reusable part

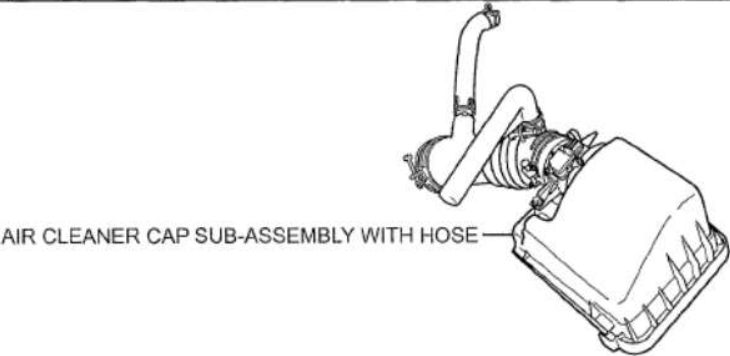
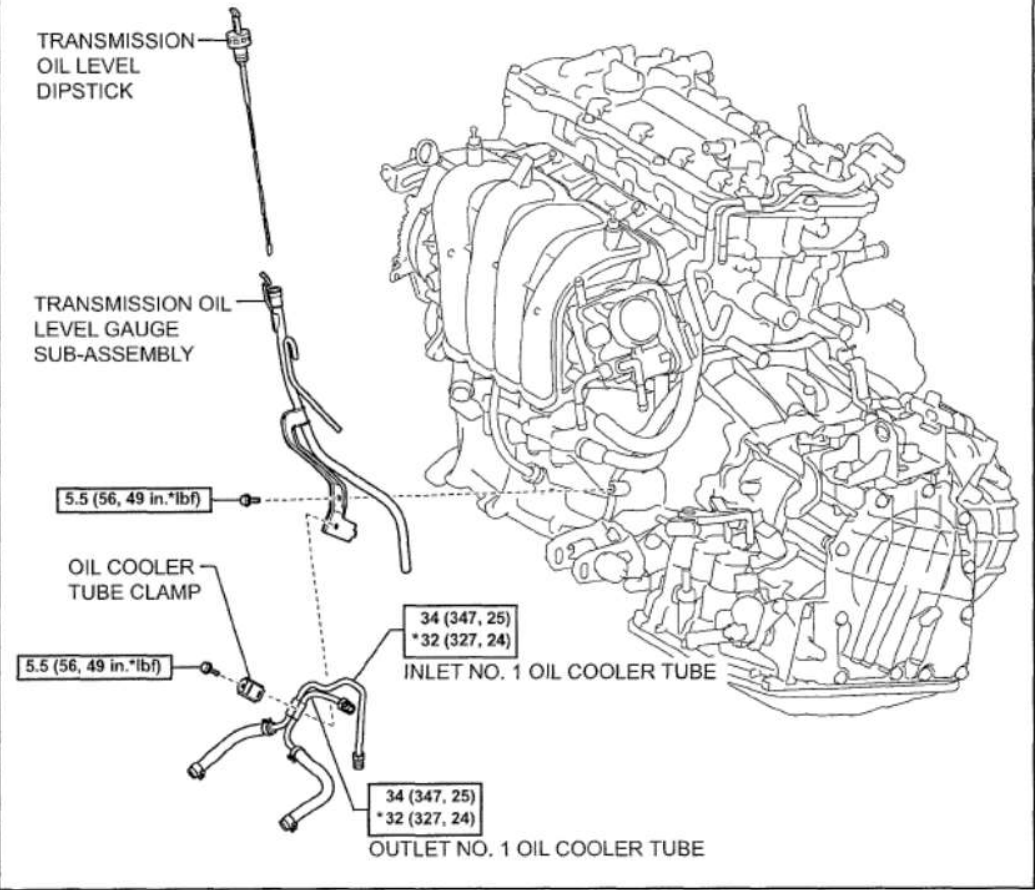
A173238E01

Fig. 18: Identifying Intake Manifold Components With Torque Specifications (4 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Intake - xD

for Automatic Transaxle:



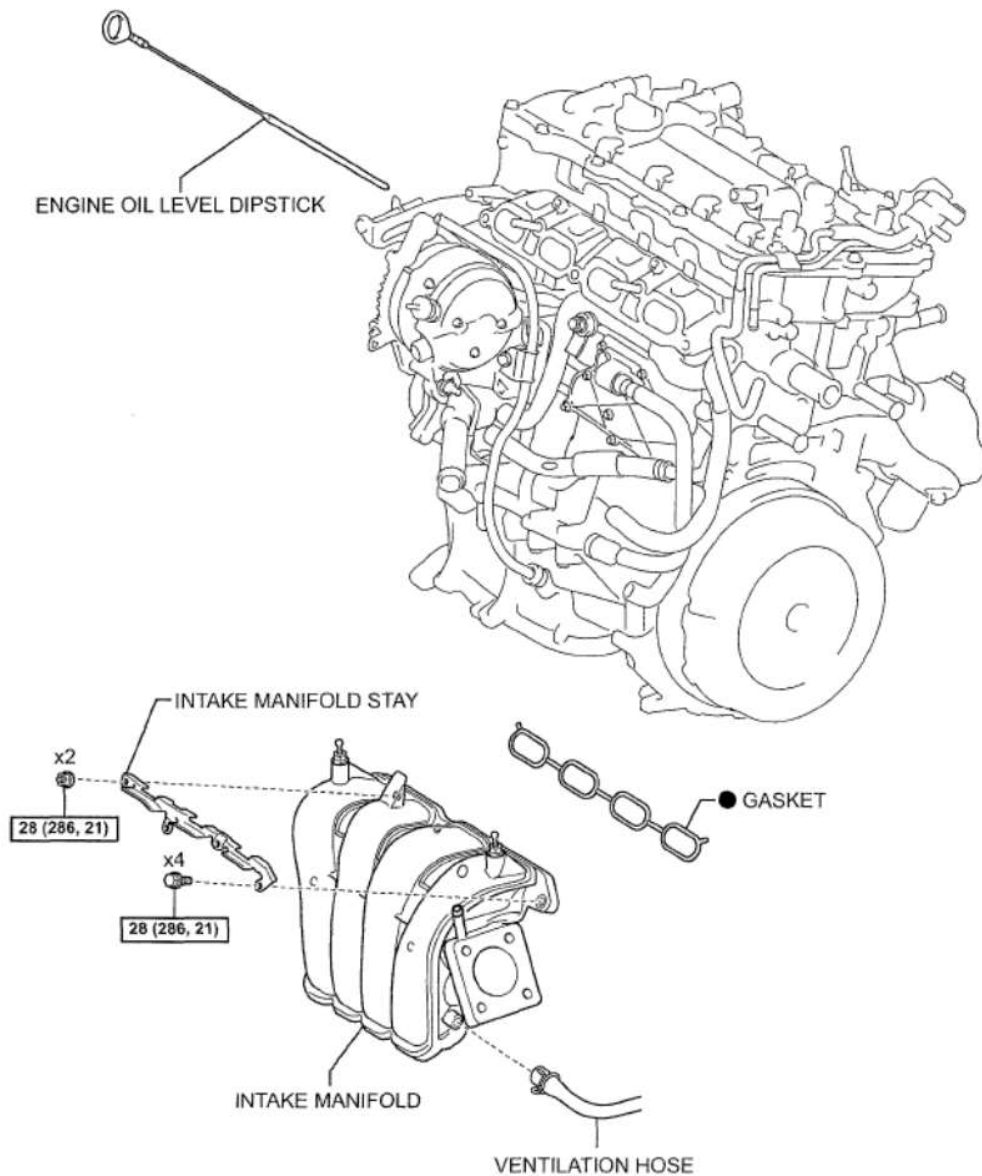
N*m (kgf*cm, ft*lbf) : Specified torque * with union nut wrench

T A171362E01

Fig. 19: Identifying Intake Manifold Components With Torque Specifications (5 Of 6)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Intake - xD



N*m (kgf*cm, ft*lb) : Specified torque ● Non-reusable part

A171365E05

Fig. 20: Identifying Intake Manifold Components With Torque Specifications (6 Of 6)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL**1. DISCHARGE FUEL SYSTEM PRESSURE**

(See **PRECAUTION**)

2008 Scion xD**2008 ENGINE 2ZR-FE Intake - xD**

2. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
3. **REMOVE ENGINE UNDER COVER LH**
4. **REMOVE ENGINE UNDER COVER RH**
5. **DRAIN ENGINE COOLANT** (See **REPLACEMENT**)
6. **REMOVE NO. 2 CYLINDER HEAD COVER** (See **REMOVAL**)
7. **REMOVE AIR CLEANER CAP SUB-ASSEMBLY WITH HOSE** (See **REMOVAL**)
8. **SEPARATE ENGINE WIRE HARNESS** (See **REMOVAL**)
9. **REMOVE HARNESS BRACKET** (See **REMOVAL**)
10. **DISCONNECT NO. 1 FUEL VAPOR FEED HOSE** (See **REMOVAL**)
11. **DISCONNECT VACUUM HOSE** (See **REMOVAL**)
12. **REMOVE FUEL PIPE CLAMP** (See **REMOVAL**)
13. **DISCONNECT FUEL TUBE SUB-ASSEMBLY** (See **REMOVAL**)
14. **REMOVE FUEL DELIVERY PIPE SUB-ASSEMBLY** (See **REMOVAL**)
15. **REMOVE NO. 1 DELIVERY PIPE SPACER** (See **REMOVAL**)
16. **REMOVE INJECTOR VIBRATION INSULATOR** (See **REMOVAL**)
17. **REMOVE STARTER ASSEMBLY** (See **REMOVAL**)
18. **REMOVE OIL COOLER TUBE**
 - a. Using a union nut wrench, separate the inlet No. 1 oil cooler tube while holding the oil cooler tube union with a wrench.

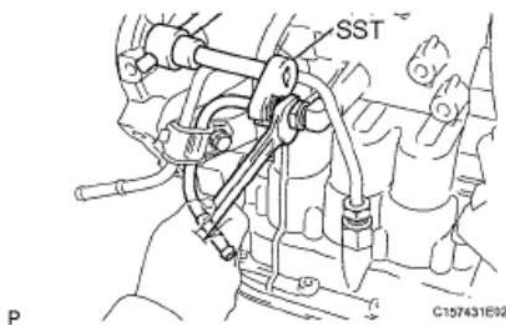


Fig. 21: Removing Oil Cooler Tube With SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a union nut wrench, separate the outlet No. 1 oil cooler tube while holding the oil cooler tube union with a wrench.

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2008 ENGINE 2ZR-FE Intake - xD

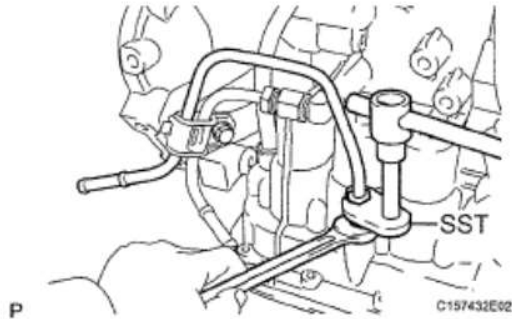


Fig. 22: Removing No. 1 Oil Cooler Tube
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Remove the bolt and remove the oil cooler tube clamp.

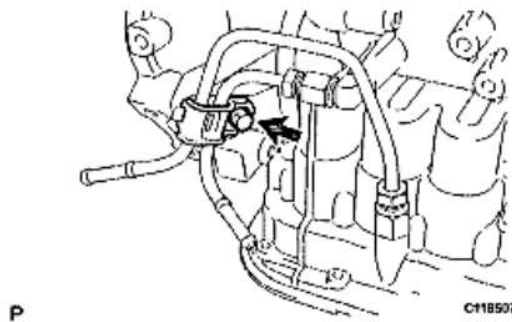


Fig. 23: Locating Oil Cooler Tube Clamp And Bolt
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

19. REMOVE TRANSMISSION OIL LEVEL GAUGE SUB-ASSEMBLY

- a. Remove the transmission oil level dipstick.
- b. Disconnect the breather hose.
- c. Remove the bolt and remove the transmission oil level gauge sub-assembly.

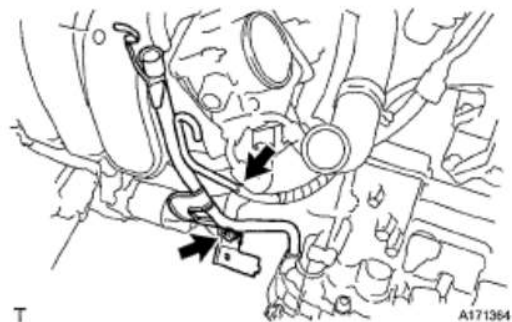


Fig. 24: Locating Transmission Oil Level Gauge Sub-Assembly
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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20. **REMOVE ENGINE OIL LEVEL DIPSTICK**
21. **REMOVE THROTTLE BODY ASSEMBLY** (See **REMOVAL**)
22. **REMOVE INTAKE MANIFOLD**
 - a. Disconnect the 4 wire harness clamps.

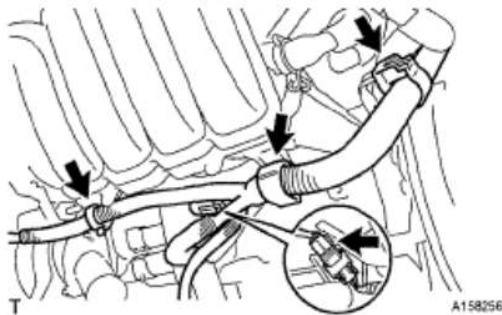


Fig. 25: Locating Wire Harness Clamps
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Disconnect the ventilation hose.

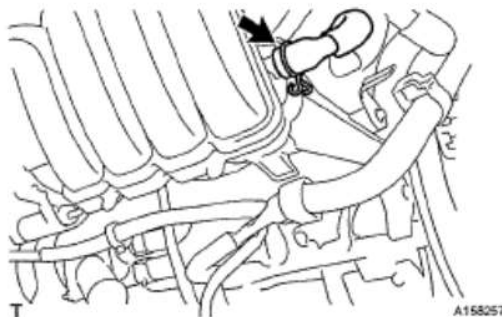


Fig. 26: Locating Ventilation Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Remove the 4 bolts and 2 nuts and remove the intake manifold and intake manifold stay.

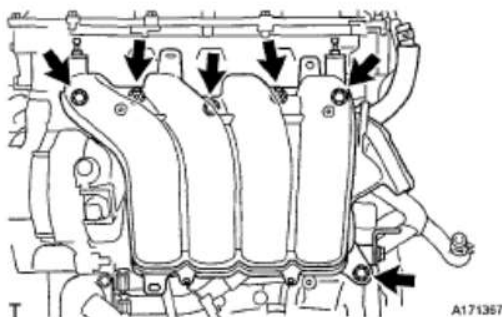


Fig. 27: Locating Intake Manifold, Intake Manifold Stay And Bolt

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2008 ENGINE 2ZR-FE Intake - xD

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION**1. INSTALL INTAKE MANIFOLD**

- a. Install a new gasket onto the intake manifold.
- b. Install the intake manifold and intake manifold stay with the 4 bolts and 2 nuts.

Torque: 28 N*m (286 kgf*cm, 21 ft.*lbf)

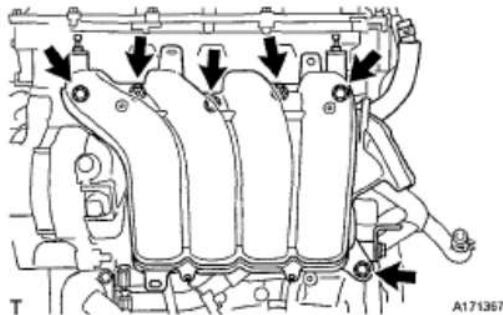


Fig. 28: Locating Intake Manifold Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Connect the ventilation hose.

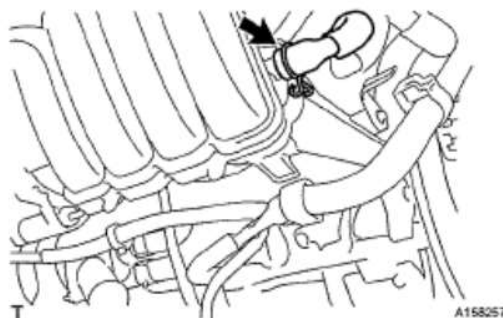


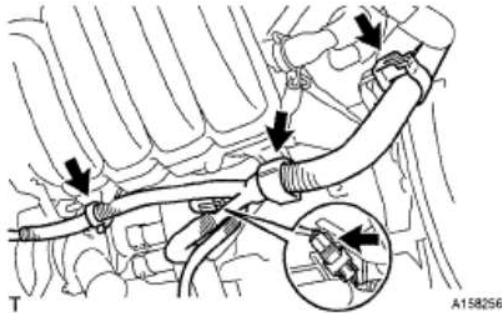
Fig. 29: Locating Ventilation Hose

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Connect the 4 wire harness clamps.

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**Fig. 30: Locating Wire Harness Clamps**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL THROTTLE BODY ASSEMBLY** (See **INSTALLATION**)
3. **INSTALL TRANSMISSION OIL LEVEL GAUGE SUB-ASSEMBLY**
 - a. Install the transmission oil level gauge sub-assembly with the bolt.

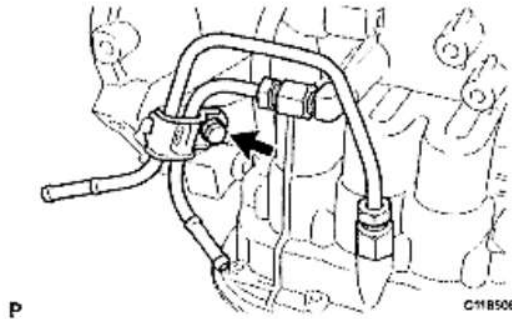
Torque: 5.5 N*m (56 kgf*cm, 49 in.*lbf)**Fig. 31: Locating Transmission Oil Level Gauge Sub-Assembly With Bolt**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect the breather hose.
 - c. Install the transmission oil level dipstick.
4. **INSTALL OIL COOLER TUBE**
 - a. Install the oil cooler tube clamp.
 1. Provisionally install the outlet No. 1 oil cooler tube into the oil cooler tube union.
 2. Provisionally install the inlet No. 1 oil cooler tube into the oil cooler tube union.
 3. Install the No. 2 oil cooler tube clamp onto the transmission oil filler tube sub-assembly with the bolt.

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**Fig. 32: Locating Oil Cooler Tube Clamp**

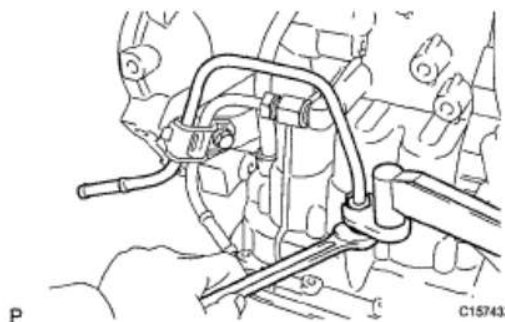
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Torque: 5.5 N*m (56 kgf*cm, 49 in.*lbf)

- b. Using a union nut wrench, install the outlet No. 1 oil cooler tube while holding the oil cooler tube union with a spanner.

Torque: without union nut wrench**34 N*m (347 kgf*cm, 25 ft.*lbf)****Torque: with union nut wrench****32 N*m (327 kgf*cm, 24 ft.*lbf)****NOTE:**

- This torque value can be obtained by using a torque wrench with a fulcrum length of 345 mm (13.58 in.) and a union nut wrench with a fulcrum length of 30 mm (1.18 in.).

**Fig. 33: Installing Outlet No. 1 Oil Cooler Tube**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- This torque value is effective when the union nut wrench is parallel to the torque wrench.

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2008 ENGINE 2ZR-FE Intake - xD

- c. Using a union nut wrench, install the inlet No. 1 oil cooler tube while holding the oil cooler tube union with a spanner.

Torque: without union nut wrench

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

Torque: with union nut wrench

32 N*m (327 kgf*cm, 24 ft.*lbf)

NOTE:

- This torque value can be obtained by using a torque wrench with a fulcrum length of 345 mm (13.58 in.) and a union nut wrench with a fulcrum length of 30 mm (1.18 in.).

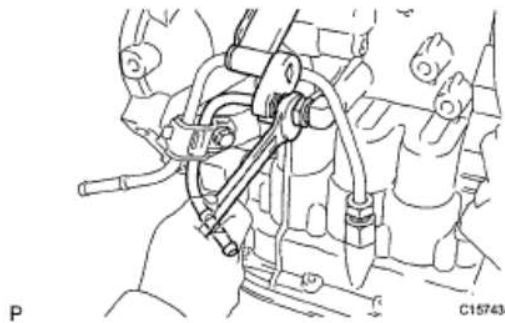


Fig. 34: Installing Inlet No. 1 Oil Cooler Tube
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- This torque value is effective when the union nut wrench is parallel to the torque wrench.

5. **INSTALL ENGINE OIL LEVEL DIPSTICK**
6. **INSTALL STARTER ASSEMBLY** (See INSTALLATION)
7. **INSTALL INJECTOR VIBRATION INSULATOR** (See INSTALLATION)
8. **INSTALL NO. 1 DELIVERY PIPE SPACER** (See INSTALLATION)
9. **INSTALL FUEL DELIVERY PIPE SUB-ASSEMBLY** (See INSTALLATION)
10. **CONNECT FUEL TUBE SUB-ASSEMBLY** (See INSTALLATION)
11. **INSTALL FUEL PIPE CLAMP** (See INSTALLATION)
12. **CONNECT VACUUM HOSE** (See INSTALLATION)
13. **CONNECT NO. 1 FUEL VAPOR FEED HOSE** (See INSTALLATION)
14. **INSTALL HARNESS BRACKET** (See INSTALLATION)
15. **INSTALL ENGINE WIRE HARNESS** (See INSTALLATION)
16. **INSTALL AIR CLEANER CAP SUB-ASSEMBLY WITH HOSE** (See INSTALLATION)

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17. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)****18. ADD ENGINE COOLANT (See REPLACEMENT)****19. INSPECT FOR COOLANT LEAK (See ON-VEHICLE INSPECTION)****20. INSPECT FOR FUEL LEAK****(See PRECAUTION)****21. INSTALL NO. 2 CYLINDER HEAD COVER (See INSTALLATION)****22. INSTALL ENGINE UNDER COVER RH****Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)****23. INSTALL ENGINE UNDER COVER LH****Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)**