

FUEL SYSTEM

PRECAUTION

1. EXPRESSIONS OF IGNITION SWITCH

- (a) The type of the ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

Switch Type		Ignition Switch (position)	Engine Switch (condition)
Expression	Ignition Switch off	LOCK	Off
	Ignition Switch on (IG)	ON	On (IG)
	Ignition Switch on (ACC)	ACC	On (ACC)
	Engine Start	START	Start

2. PRECAUTION

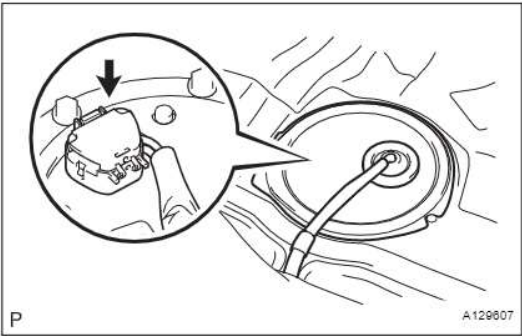
- (a) Before inspecting and repairing the fuel system, disconnect the negative (-) battery terminal.
- (b) Do not smoke or work near fire when handling the fuel system.
- (c) Keep gasoline away from rubber or leather parts.

3. DISCHARGE FUEL SYSTEM PRESSURE

CAUTION:

- Perform the following procedures to prevent fuel from spilling out before removing any fuel system parts.
- Pressure will still remain in the fuel line even after performing the following procedures. When disconnecting the fuel line, cover it with a shop rag or a piece of cloth to prevent fuel from spraying or coming out.

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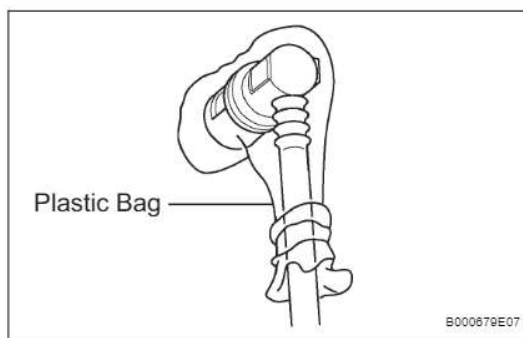
- (a) Disconnect the fuel pump connector.
- (1) Remove the rear seat cushion assembly.
 - (2) Remove the rear floor service hole cover.
 - (3) Disconnect the fuel pump connector.
 - (4) Start the engine.
 - (5) After the engine stops, turn the ignition switch off.
- HINT:
DTC P0171/25 (fuel problem) and/or P0191/49 (fuel pressure sensor signal error) may be detected.
- (6) Crank the engine again. Check that the engine does not start.
 - (7) Remove the fuel tank cap to discharge pressure from the fuel tank.
 - (8) Disconnect the negative (-) battery terminal cable.
 - (9) Reconnect the fuel pump connector.
 - (10) Install the rear floor service hole cover.
 - (11) Install the rear seat.

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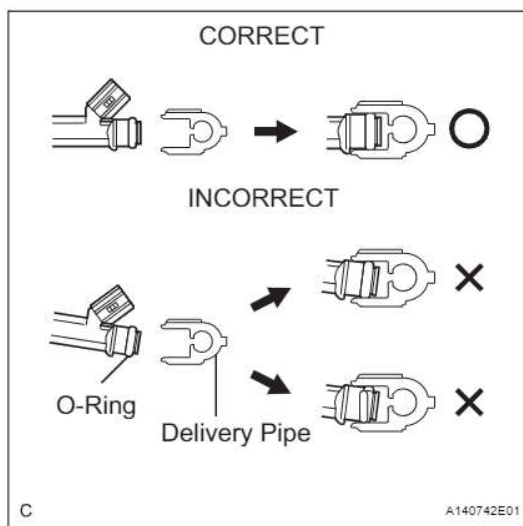
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4. FUEL SYSTEM

- (a) When disconnecting the high fuel pressure line, a large amount of gasoline will spill out, so observe the following procedures:
- (1) Discharge the fuel system pressure. (step 3)
 - (2) Disconnect the fuel pump tube (See page [FU-27](#)).
 - (3) Drain the fuel that remains inside the fuel pump tube.
 - (4) To protect the disconnected fuel pump tube from damage and contamination, cover it with a plastic bag.
 - (5) Put a container under the connection part.



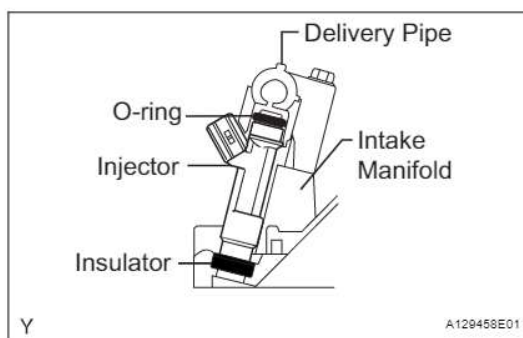
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- (b) Observe the following precautions when removing and installing the fuel injectors:
- (1) Never reuse an O-ring.
 - (2) When placing a new O-ring on the injector, do not damage the O-ring.
 - (3) Coat a new O-ring with spindle oil or gasoline before installing it.

NOTICE:

Do not use engine oil, gear oil or brake fluid.



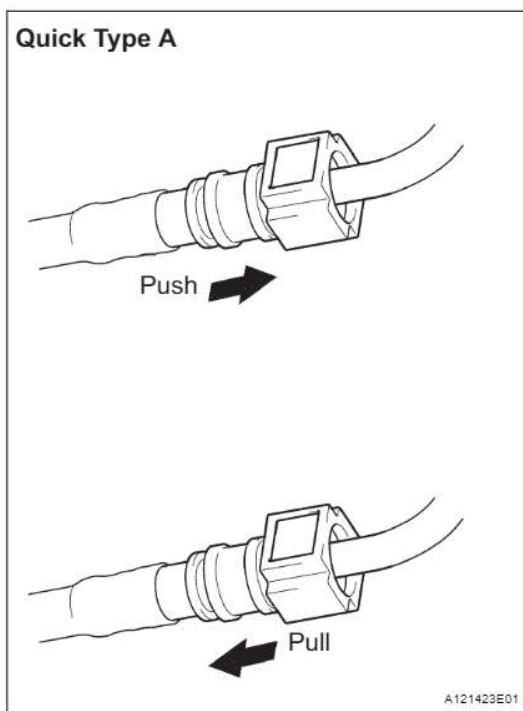
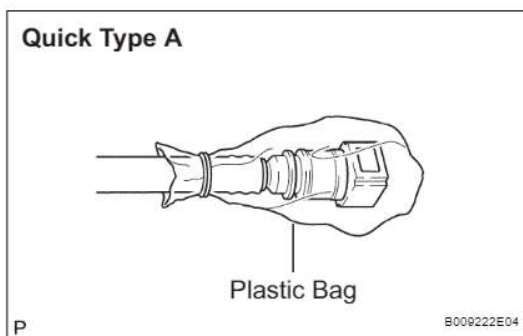
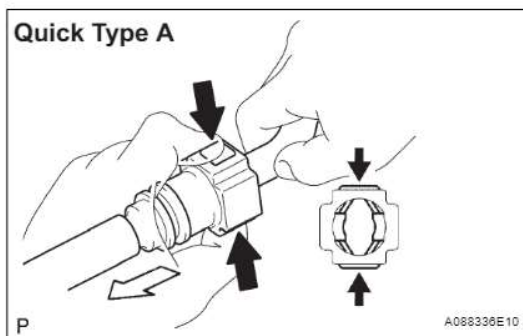
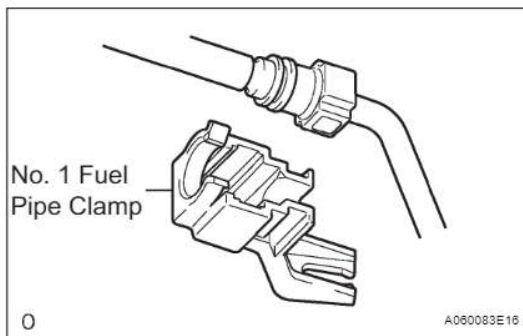
- (c) Install the injector to the delivery pipe and lower intake manifold as shown in the illustration.

NOTICE:

Before installing the injector, be sure to apply grease or gasoline to the place where the delivery pipe or cylinder head contacts the O-ring of the injector.

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(d) Observe the following precautions when disconnecting the fuel tube connectors (Quick type A):

- (1) Remove the No. 1 fuel pipe clamp.
- (2) Check that there is no dirt or other foreign objects on the pipe and around the connector before disconnecting them. Clean them if necessary.

- (3) Disconnect the connector from the pipe by hand.
- (4) When the connector and the pipe are stuck, push in and pull on the connector to release it. Pull the connector out of the pipe carefully.
- (5) Check that there is no dirt or other foreign objects on the sealing surface of the disconnected pipe. Clean it away if necessary.

- (6) Do not damage the disconnected pipe and connector, and prevent entry of foreign objects by covering them with a plastic bag.

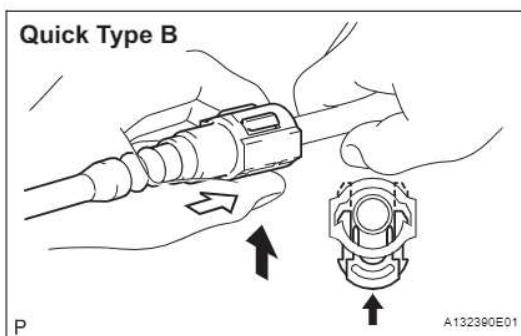
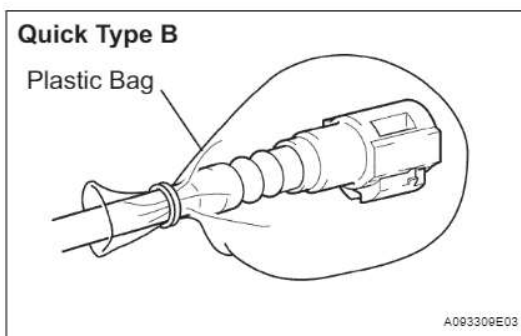
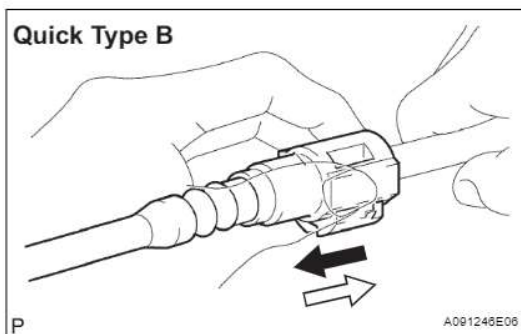
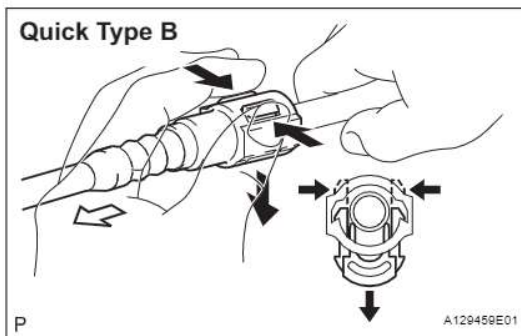
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(e) Observe the following precautions when connecting the fuel tube connectors (Quick Type A):

- (1) Check if there is any damage or foreign objects on the connecting parts of the pipes.
- (2) Line up the two parts of the pipes to be connected, and push them together until the connector makes a "click" sound. If the pipe is difficult to push into the connector, apply a small amount of clean engine oil to the tip of the pipe and reinsert it.
- (3) After connecting the pipes, check that the pipe and connector are securely connected by pulling on them.
- (4) Check for fuel leaks.

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- (f) Observe the following precautions when disconnecting the fuel tube connector (Quick type B):

- (1) Before disconnecting the connector, clean off any dirt that may be present.
- (2) Pinch the tabs of the fuel tube retainer to disengage the 2 claws. Push the retainer down as shown in the illustration.

HINT:

Be sure to disconnect the connector by hand.

- (3) If the connector and pipe are stuck, hold the fuel pipe by hand, and push and pull on the connector. Pull the two pipes apart to separate the connector.
- (4) If there is any dirt or any other foreign objects on the sealing surfaces of the disconnected pipes, clean them if necessary.

- (5) Do not damage the disconnected pipe and connector, and prevent entry of foreign objects by covering them with a plastic bag.

- (g) Observe the following precautions when connecting the fuel tube connector (Quick Type B):

- (1) Line up the two parts of the pipes to be connected, and fully push the fuel tube connector and pipe together until they are fully seated. Next, push the retainer into the connector until its claws lock. If the pipe is difficult to push in to the connector, apply a small amount of clean engine oil to the tip of the pipe and reinsert it.
- (2) After connecting the pipes, check that the pipe and connector are securely connected by pulling on them.
- (3) Check for fuel leaks.

- (h) Observe the following precautions when handling a nylon tube:

CAUTION:

- Do not twist the connection part of the nylon tube and the quick connector when connecting them.
- Do not bend or twist the nylon tube.

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- Do not remove the EPDM protector on the outside of the nylon tube.
- Do not close the piping by bending the nylon tube.

5. CHECK FOR FUEL LEAKS

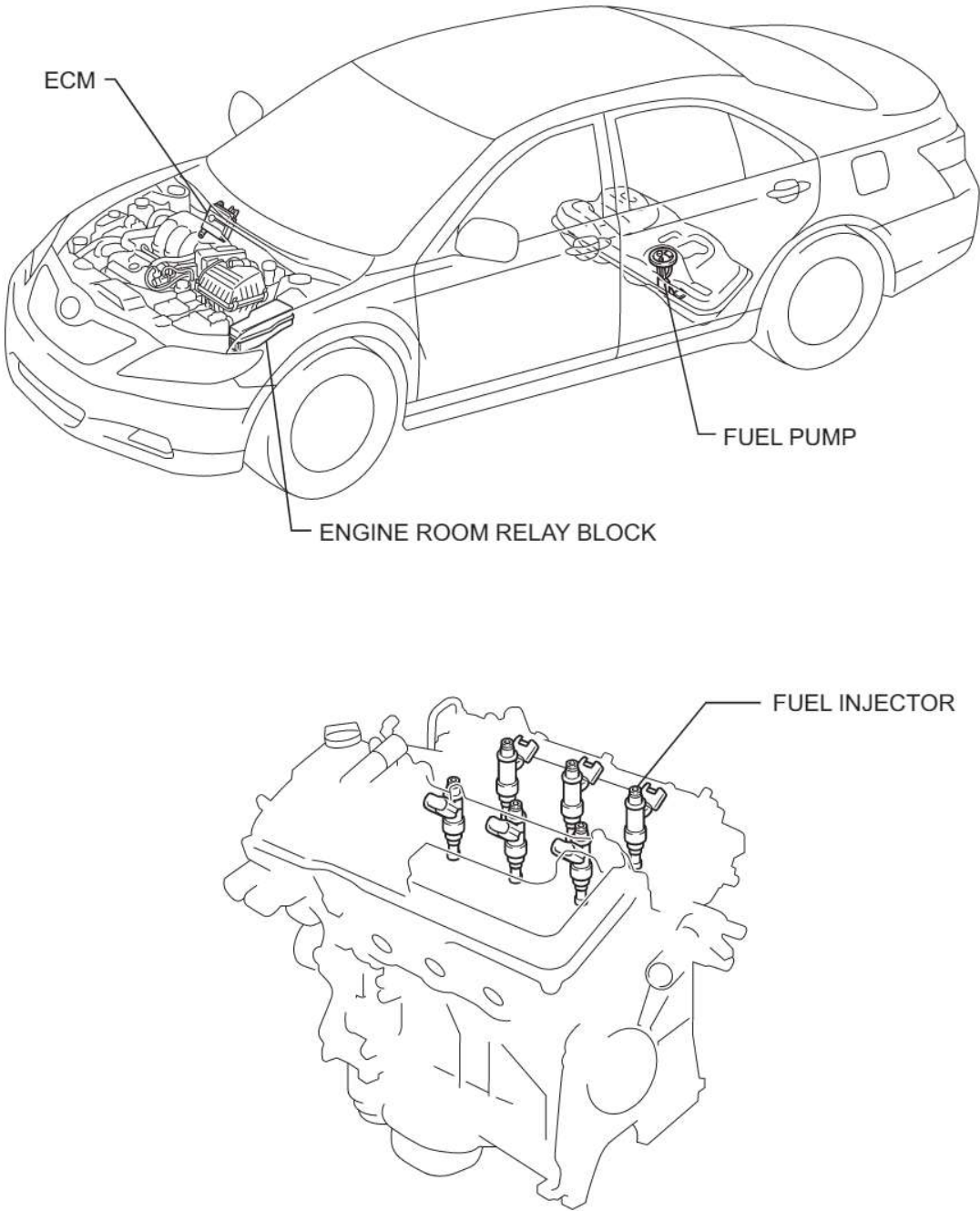
- (a) Check that there are no fuel leaks from the fuel system after doing any maintenance or repairs (See page [FU-8](#)).

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PARTS LOCATION



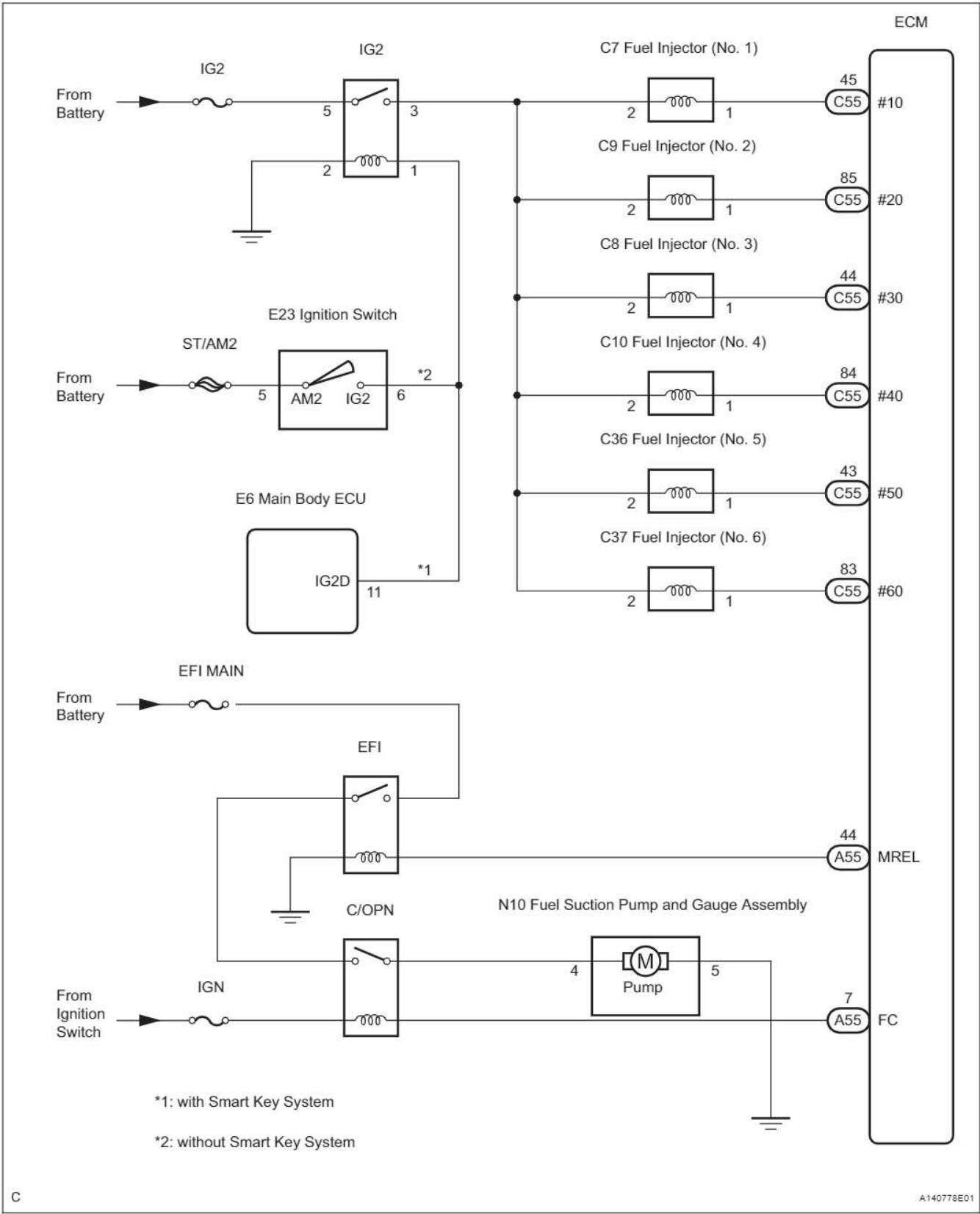
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SYSTEM DIAGRAM



ON-VEHICLE INSPECTION

1. CHECK FOR FUEL PUMP OPERATION AND FUEL LEAKS

- (a) Check fuel pump operation.
 - (1) Connect the intelligent tester to the DLC3.
 - (2) Turn the ignition switch on (IG) and push the intelligent tester main switch on.

NOTICE:

Do not start the engine.

- (3) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / ACTIVE TEST / FUEL PUMP / SPD.
 - (4) Check for pressure in the fuel inlet tube from the fuel line. Check that sound of fuel flowing in the fuel tank can be heard. If no sound can be heard, check the integration relay, fuel pump, ECM and wiring connector.
- (b) Check for fuel leaks.
 - (1) Check that there are no fuel leaks anywhere on the system after performing maintenance. If there is a fuel leak, repair or replace parts as necessary.
- (c) Turn the ignition switch off.
- (d) Disconnect the intelligent tester from the DLC3.

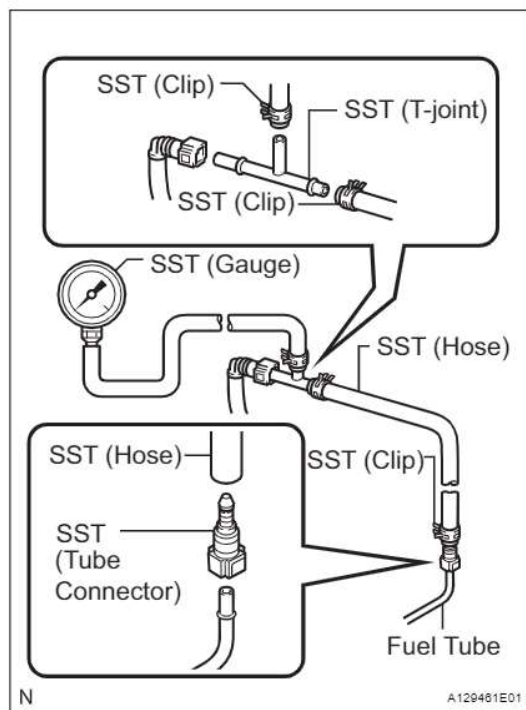
2. CHECK FUEL PRESSURE

- (a) Discharge the fuel system pressure (See page [FU-1](#)).
- (b) Using a voltmeter, measure the battery voltage.

Standard voltage:
11 to 14 V
- (c) Disconnect the negative (-) battery terminal.
- (d) Disconnect the fuel hose from the fuel main tube (See page [FU-1](#)).

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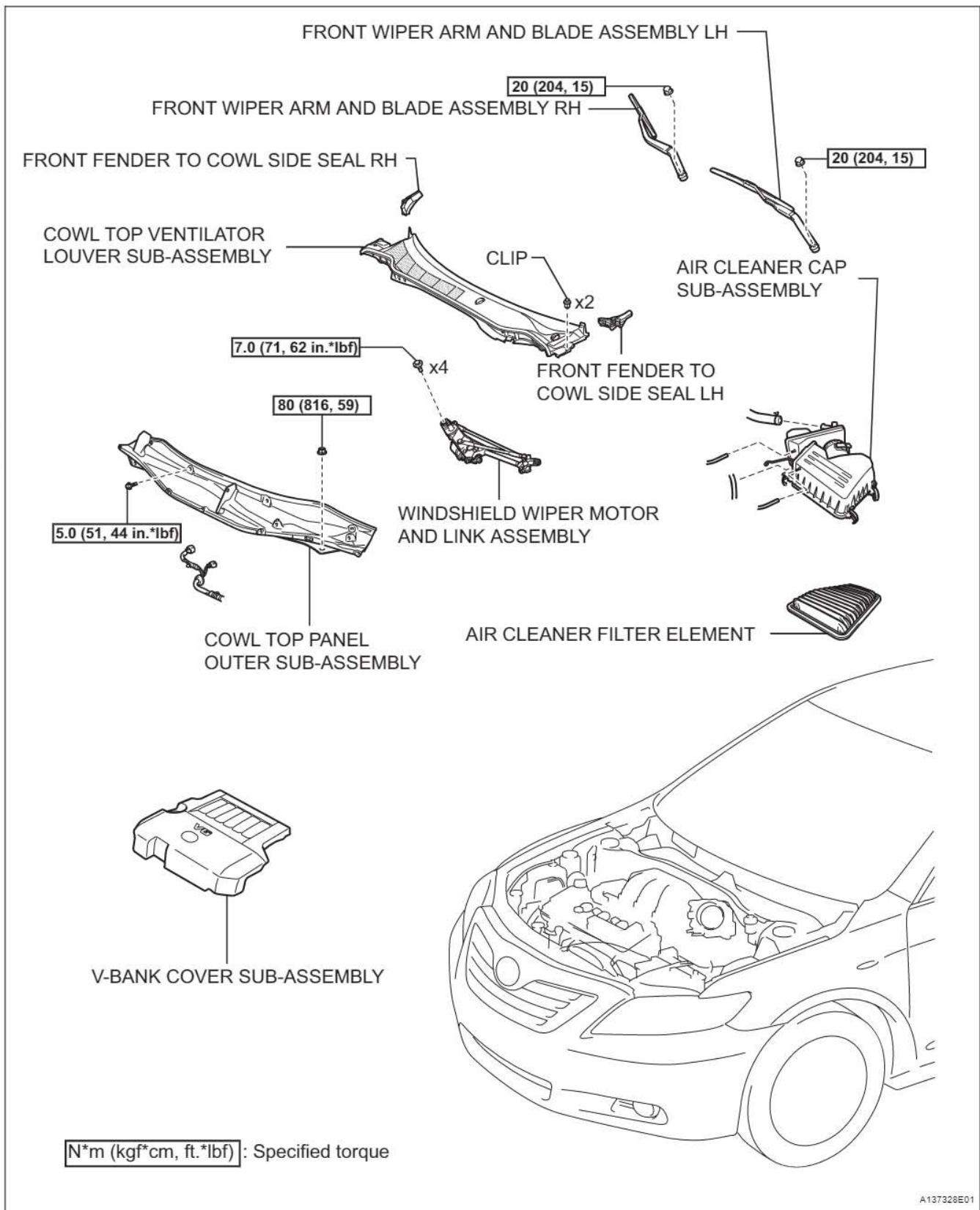
- (e) Install SST (pressure gauge) using SST and a fuel tube connector as shown in the illustration.
SST 09268-31011 (09268-41500, 90467-13001, 95336-08070), 09268-45014 (09268-41200, 09268-41220, 09268-41250)
- (f) Wipe up any gasoline.
- (g) Connect the negative (-) battery terminal.
- (h) Connect the intelligent tester to the DLC3.
- (i) Select the following menu items: DIAGNOSIS / ENHANCED OBD II / ACTIVE TEST / FUEL PUMP / SPD.
- (j) Measure the fuel pressure.
Fuel pressure:
304 to 343 kPa (3.1 to 3.5 kgf*cm², 44.1 to 49.7 psi)
- If the fuel pressure is greater than the standard value, replace the fuel pressure regulator.
 - If the fuel pressure is less than the standard value, check the fuel hoses and connections, fuel pump, fuel filter and fuel pressure regulator.
- (k) Disconnect the intelligent tester from the DLC3.
- (l) Start the engine.
- (m) Measure the fuel pressure at idle.
Fuel pressure:
304 to 343 kPa (3.1 to 3.5 kgf*cm², 44.1 to 49.7 psi)
- (n) Stop the engine.
- (o) Check that the fuel pressure remains as specified for 5 minutes after the engine stops.
Fuel pressure:
147 kPa (1.5 kgf*cm², 21 psi) or more
 If the fuel pressure is not as specified, check the fuel pump, pressure regulator and/or fuel injectors.
- (p) After checking the fuel pressure, carefully disconnect the negative (-) battery cable, and remove the SST and fuel tube connector to prevent gasoline from splashing.
- (q) Reconnect the fuel tube to the main fuel tube (fuel tube connector).
- (r) Install the No. 1 fuel pipe clamp to the fuel tube connector.
- (s) Check for fuel leaks (step 1).

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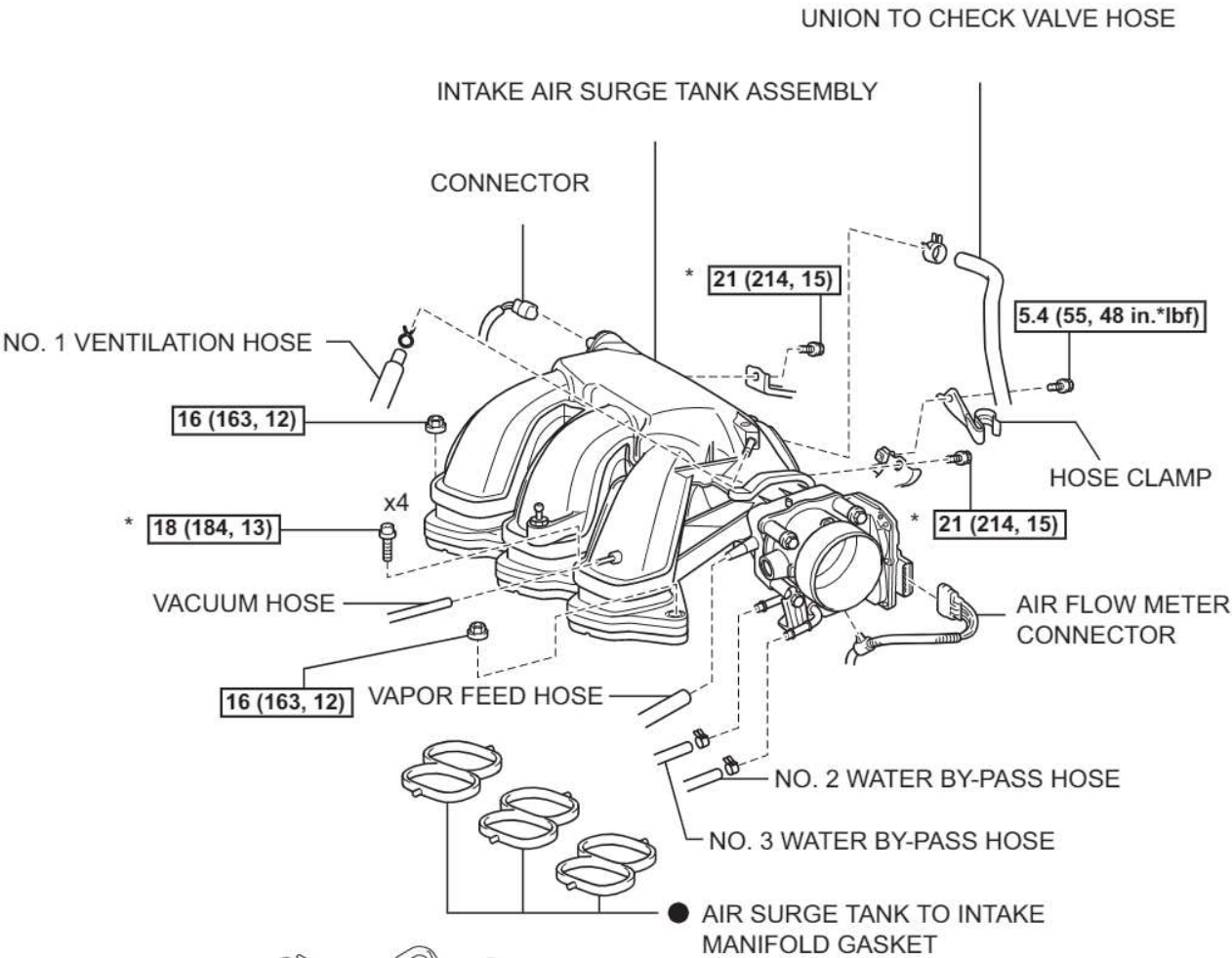
2GR-FE FUEL – FUEL INJECTOR

FUEL INJECTOR COMPONENTS



2GR-FE FUEL – FUEL INJECTOR

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

● Non-reusable part

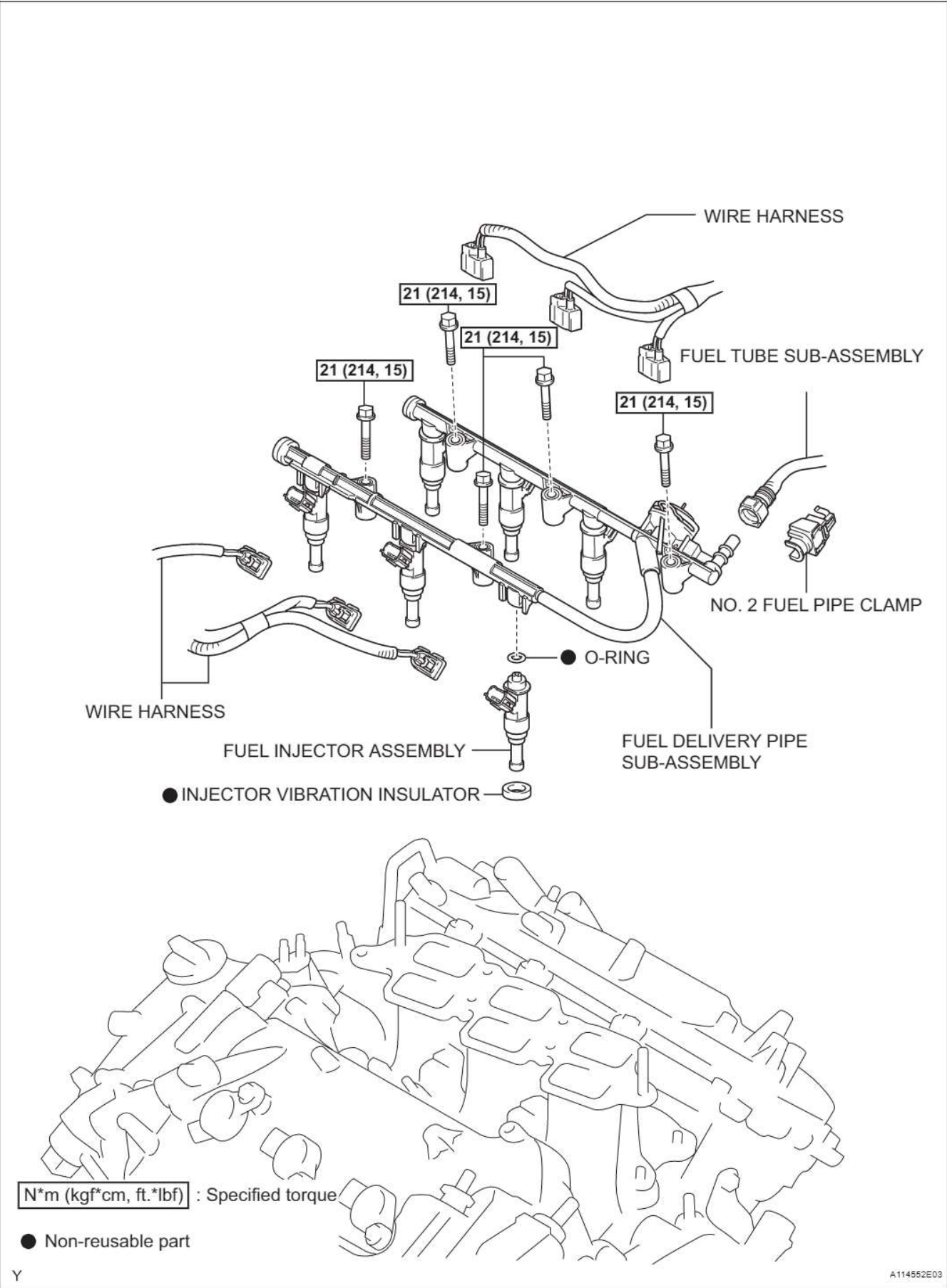
* DO NOT apply oil

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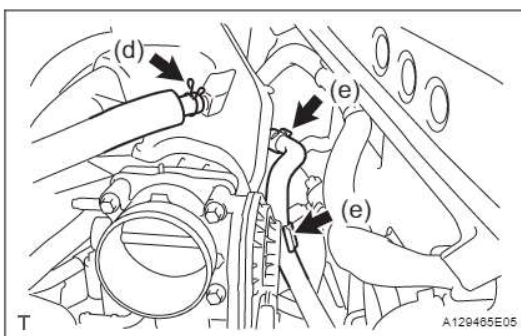
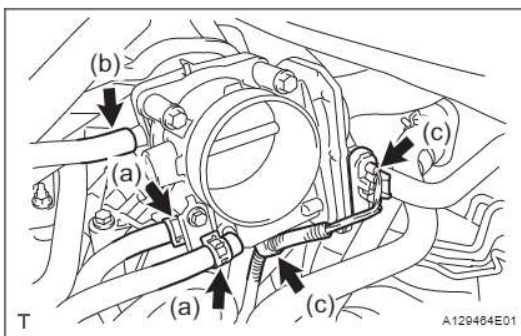
FU-12

2GR-FE FUEL – FUEL INJECTOR



REMOVAL

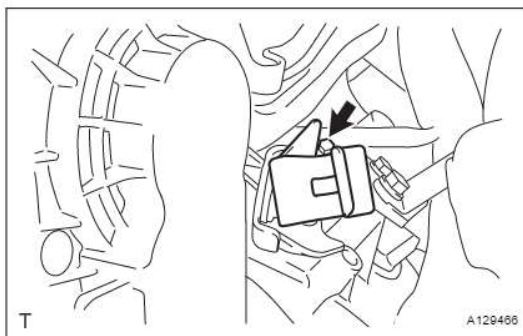
1. **DISCHARGE FUEL SYSTEM PRESSURE**
HINT:
See page [FU-1](#).
2. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
3. **DRAIN ENGINE COOLANT** (See page [CO-5](#))
4. **REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY LH** (See page [WW-9](#))
5. **REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY RH** (See page [WW-9](#))
6. **REMOVE FRONT FENDER TO COWL SIDE SEAL LH** (See page [WW-9](#))
7. **REMOVE FRONT FENDER TO COWL SIDE SEAL RH** (See page [WW-9](#))
8. **REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY** (See page [WW-10](#))
9. **REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY** (See page [WW-10](#))
10. **REMOVE COWL TOP PANEL OUTER SUB-ASSEMBLY** (See page [ES-481](#))
11. **REMOVE V-BANK COVER SUB-ASSEMBLY** (See page [EM-23](#))
12. **REMOVE AIR CLEANER CAP SUB-ASSEMBLY** (See page [ES-503](#))
13. **REMOVE INTAKE AIR SURGE TANK ASSEMBLY**
 - (a) Disconnect the 2 water by-pass hoses from the throttle with motor body assembly.
 - (b) Disconnect the vapor feed hose.
 - (c) Disconnect the throttle with motor body assembly connector and clamp.
 - (d) Disconnect the No. 1 ventilation hose.
 - (e) Disconnect the union to check valve hose.



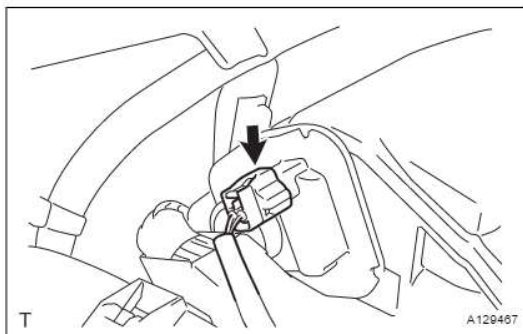
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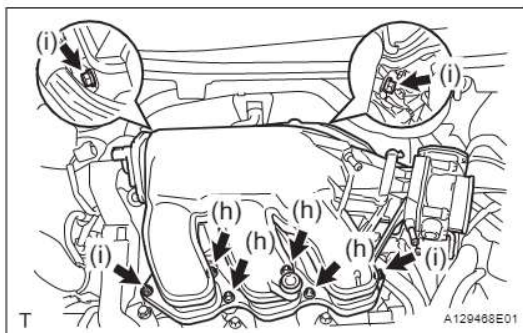
2GR-FE FUEL – FUEL INJECTOR



(f) Remove the bolt and vacuum hose clamp.



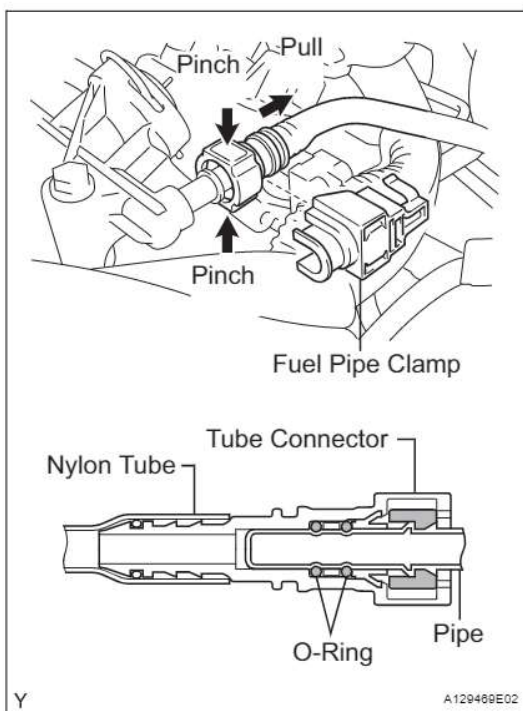
(g) Disconnect the connector.



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

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

(j) Remove the gasket from the intake air surge tank.



14. DISCONNECT FUEL TUBE SUB-ASSEMBLY

(a) Remove the No. 2 fuel pipe clamp.

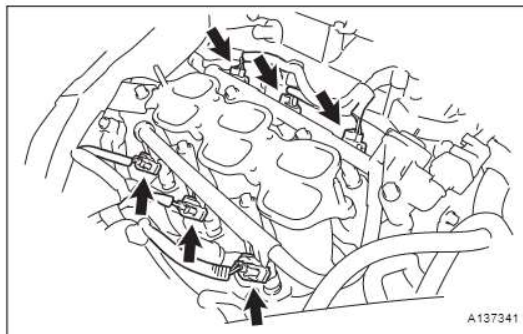
(b) Pinch the tube connector and then pull out the fuel pipe.

NOTICE:

- Check that there is no dirt or other foreign objects around the connector before this operation and clean the connector as necessary.
- It is necessary to prevent mud or dirt from entering the quick connector. If mud enters the connector, the O-rings may not seal properly.
- Remove the quick connector by hand.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a plastic bag.
- If the pipe and the connector are stuck, try wiggling or pushing and pulling the connector to release it and pull the connector off of the pipe carefully.

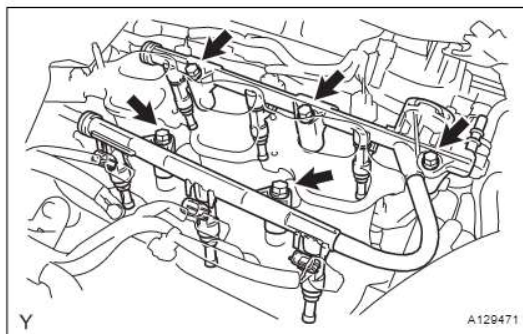
2GR-FE FUEL – FUEL INJECTOR

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15. REMOVE FUEL INJECTOR ASSEMBLY

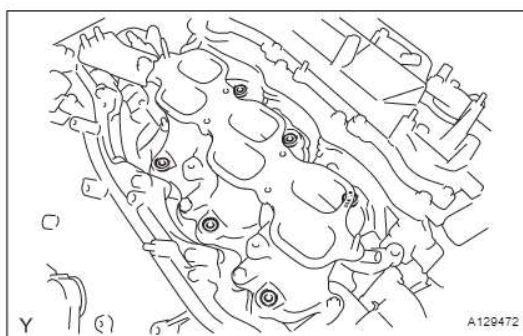
- (a) Disconnect the 6 fuel injector connectors.



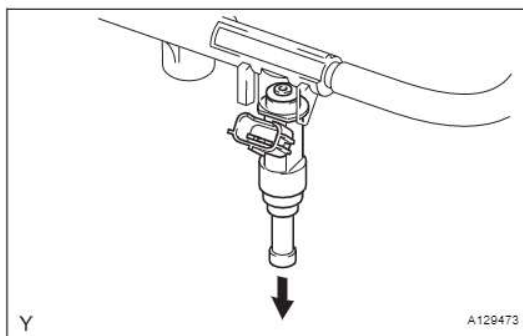
- (b) Remove the 5 bolts and fuel delivery pipe together with the 6 fuel injectors.

NOTICE:

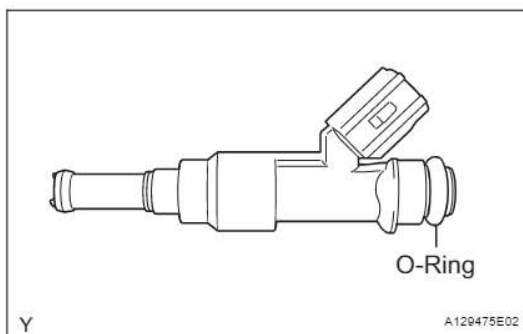
Be careful not to drop the fuel injectors when removing the fuel delivery pipe.



- (c) Remove the 6 insulators from the intake manifold.

FU

- (d) Pull out the fuel injectors from the fuel delivery pipe.



- (e) Remove the 6 O-rings from the injectors.

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2GR-FE FUEL – FUEL INJECTOR

INSPECTION

1. INSPECT FUEL INJECTOR ASSEMBLY

(a) Inspect injector resistance.

- (1) Using an ohmmeter, measure the resistance between the terminals.

Resistance:**11.6 to 12.4 Ω at 20°C (68°F)**

If the resistance is not as specified, replace the injector.

(b) Inspect the injection volume.

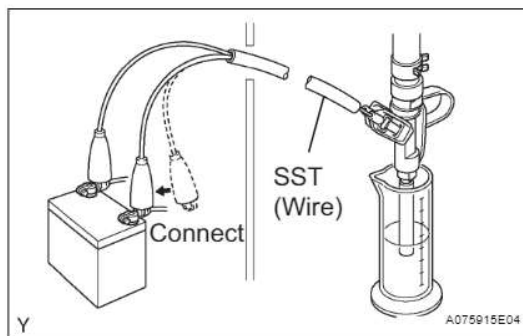
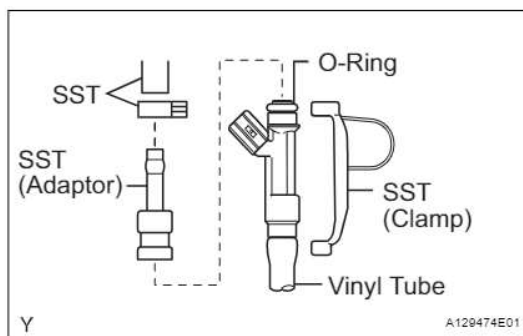
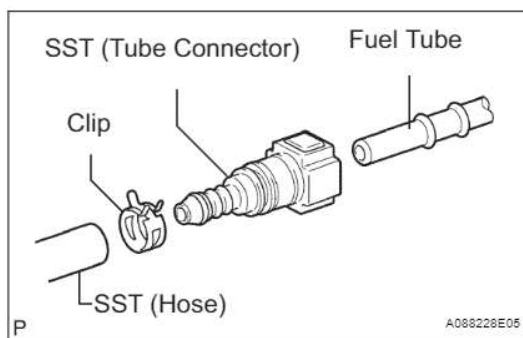
CAUTION:

This test involves high-pressure fuel and electricity. Take every precaution regarding safe handling of both the fuel and the electricity. Perform this test in a safe area, and avoid any sparks or flames. Do not smoke.

- (1) Install the fuel tube connector to SST (hose), then connect the tube connector to the fuel pipe (vehicle side).

SST 09268-31011 (09268-41500, 90467-13001, 95336-08070)

- (2) Install the O-ring to the fuel injector.



- (3) Connect SST (adaptor and hose) to the injector, and hold the injector and union with SST (clamp).

SST 09268-31011 (90467-13001, 95336-08070), 09268-41140, 09268-41400

- (4) Put the injector into the graduated cylinder.

CAUTION:

Install a suitable vinyl tube onto the injector to contain gasoline spray.

- (5) Operate the fuel pump (See page [FU-8](#)).

- (6) Connect SST (wire) to the injector and the battery for 15 seconds, and measure the injection volume with the graduated cylinder. Test each injector 2 or 3 times.

SST 09842-30080

Volume:

84 to 100 cm³ (5.1 to 6.0 cu in.) in 15 seconds

Difference between each injector:

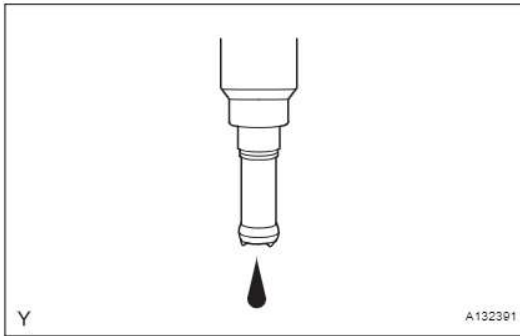
16 cm³ (0.98 cu in.) or less

If the injection volume is not as specified, replace the injector.

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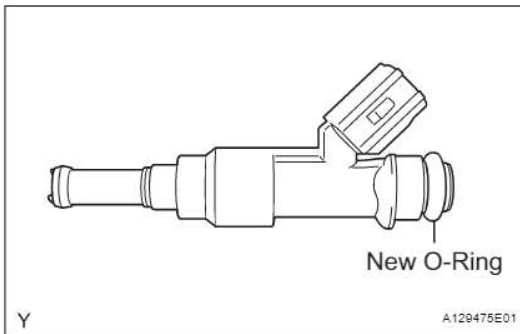
2GR-FE FUEL – FUEL INJECTOR

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(c) Check for leakage.

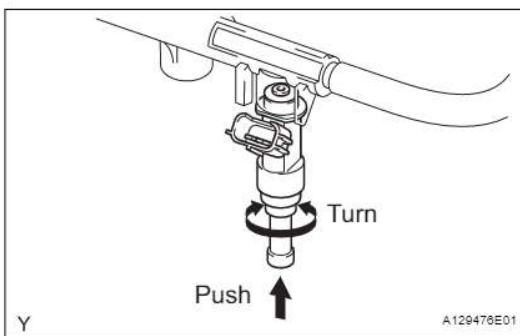
- (1) In the condition above, disconnect the tester probes of SST (wire) from the battery and check for fuel leakage from the injector.

Fuel drop:**1 drop or less in 16 minutes**

INSTALLATION

1. INSTALL FUEL INJECTOR ASSEMBLY

- (a) Apply a light coat of spindle oil or gasoline to new O-rings, and install them to each injector.



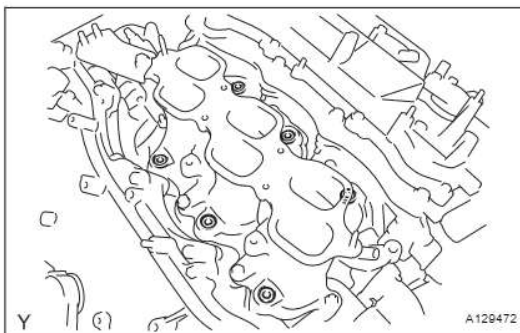
- (b) Apply a light coat of spindle oil or gasoline where the fuel delivery pipe contacts the O-ring.

- (c) Push the fuel injector while turning it to install the injector in the fuel delivery pipe.

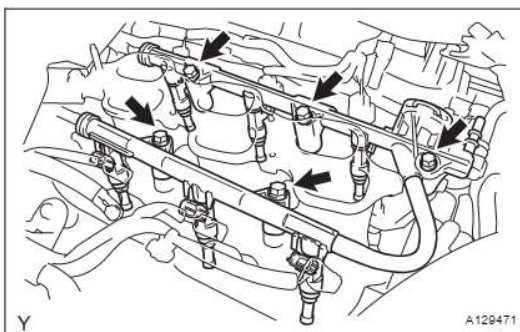
- (d) Position the fuel injector connector outward.

NOTICE:

- Be careful not to twist the O-ring.
- After installing the fuel injector, check that it turns smoothly. If not, reinstall it with a new O-ring.



- (e) Install 6 new insulators to the intake manifold.



- (f) Place the fuel delivery pipe and the 6 fuel injectors together to the intake manifold.

NOTICE:

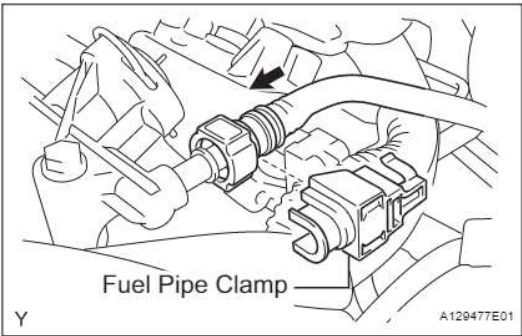
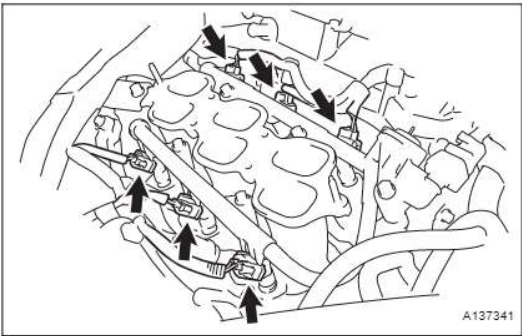
Be careful not to drop the fuel injectors when installing the fuel delivery pipe.

- (g) Temporarily install the 5 bolts which are used to hold the fuel delivery pipe to the intake manifold.

NOTICE:

After installing the fuel injector, check that it turns smoothly. If not, reinstall it with a new O-ring.

- (h) Tighten the 5 bolts which are used to hold the fuel delivery pipe to the intake manifold.
Torque: 21 N*m (214 kgf*cm, 15 ft.*lbf)
- (i) Connect the 6 fuel injector connectors.



2. CONNECT FUEL TUBE SUB-ASSEMBLY

- (a) Push in the tube connector to the pipe until the tube connector makes a "click" sound.

NOTICE:

- Before connecting the tube, make sure that it is not damaged. Make sure that there is no dirt present on the connecting surfaces.
- After connecting, check if the fuel tube connector and the pipe are securely connected by pulling on them.

- (b) Install the No. 2 fuel pipe clamp.

3. INSTALL INTAKE AIR SURGE TANK ASSEMBLY

NOTICE:

DO NOT apply oil to the bolts as listed below

Tightening Parts	Torque N*m (kgf*cm, ft.*lbf)	QTY
Surge Tank and Intake Manifold	18 (184, 13)	4
No. 1 Surge Tank Stay and Surge Tank	21 (214, 15)	1
Throttle Body Bracket and Surge Tank	21 (214, 15)	1

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

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

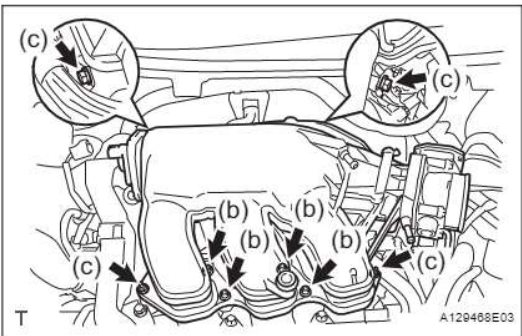
- (c) Install the intake air surge tank with the 2 nuts and 2 bolts.

Torque: Nut

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

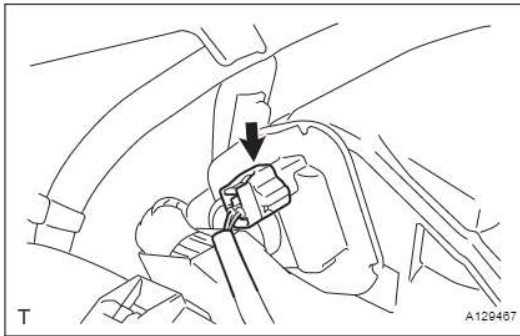
Bolt

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

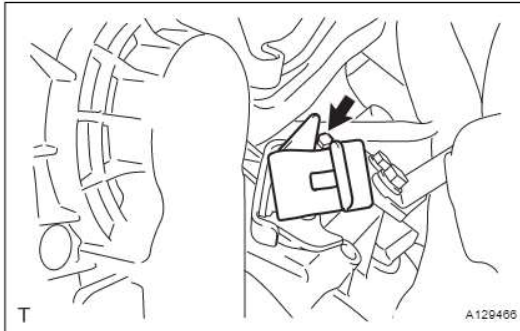
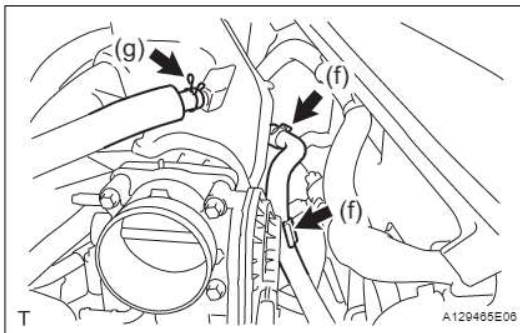
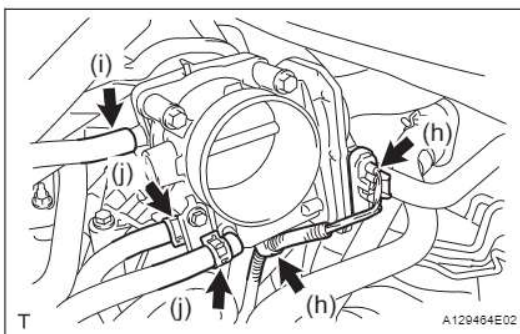


2GR-FE FUEL – FUEL INJECTOR

FU-19



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

4. **INSTALL AIR CLEANER CAP SUB-ASSEMBLY** (See page [ES-506](#))
5. **ADD ENGINE COOLANT** (See page [CO-6](#))
6. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
7. **CHECK FOR ENGINE COOLANT LEAKS** (See page [CO-1](#))
8. **CHECK FOR FUEL LEAKS** (See page [FU-8](#))
9. **INSTALL COWL TOP PANEL OUTER SUB-ASSEMBLY** (See page [ES-485](#))
10. **INSTALL WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY** (See page [WW-14](#))

FU

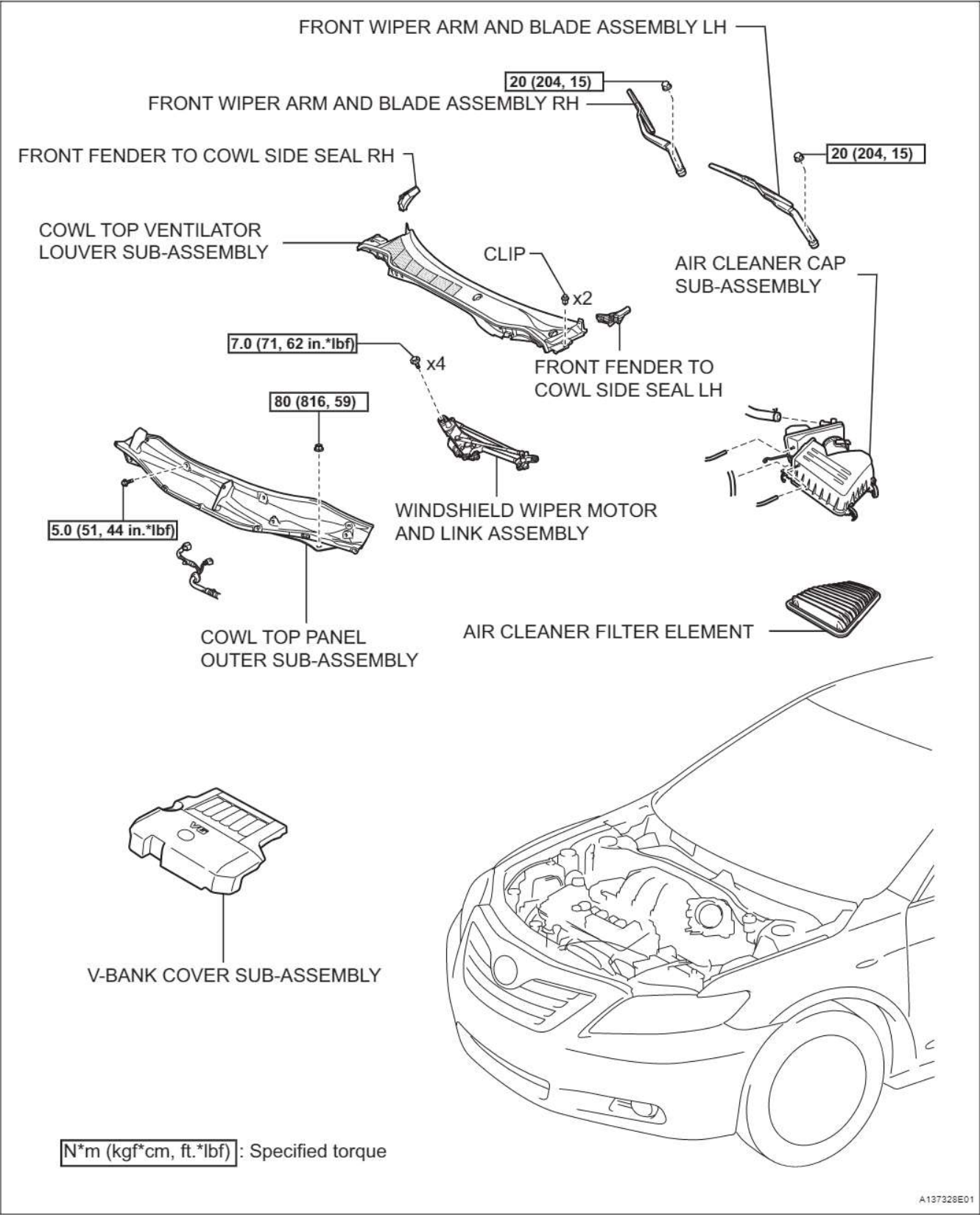
FU-20**2GR-FE FUEL – FUEL INJECTOR**

11. INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY (See page [WW-15](#))
12. INSTALL FRONT FENDER TO COWL SIDE SEAL RH (See page [WW-15](#))
13. INSTALL FRONT FENDER TO COWL SIDE SEAL LH (See page [WW-15](#))
14. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY LH (See page [WW-15](#))
15. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY RH (See page [WW-16](#))
16. INSTALL V-BANK COVER SUB-ASSEMBLY (See page [EM-52](#))

FU

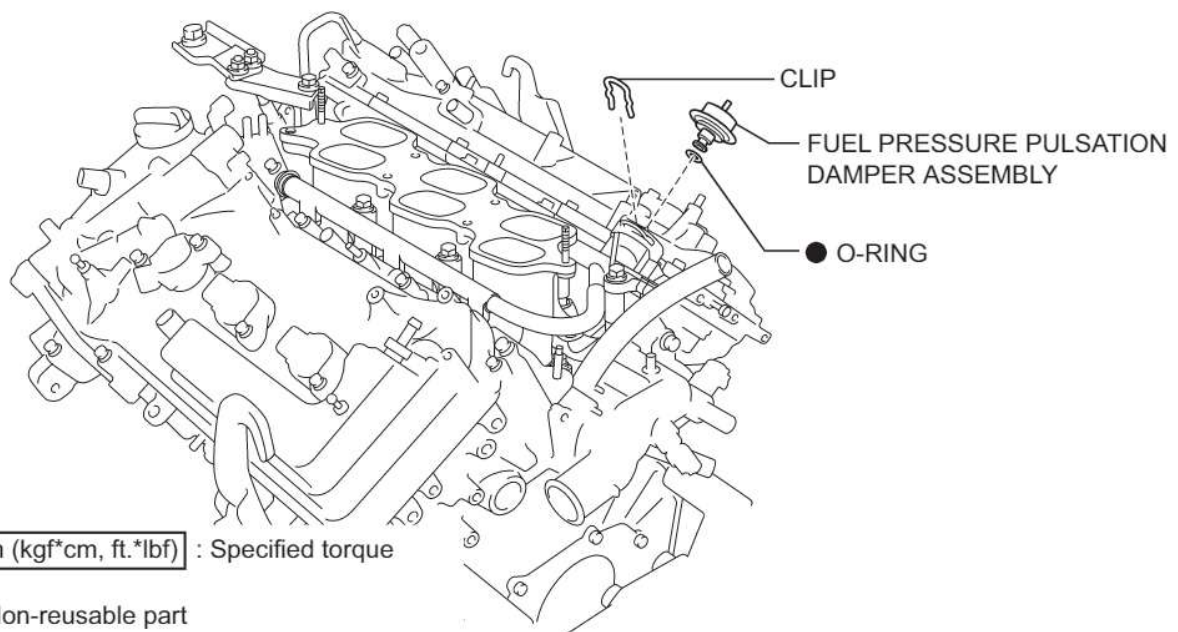
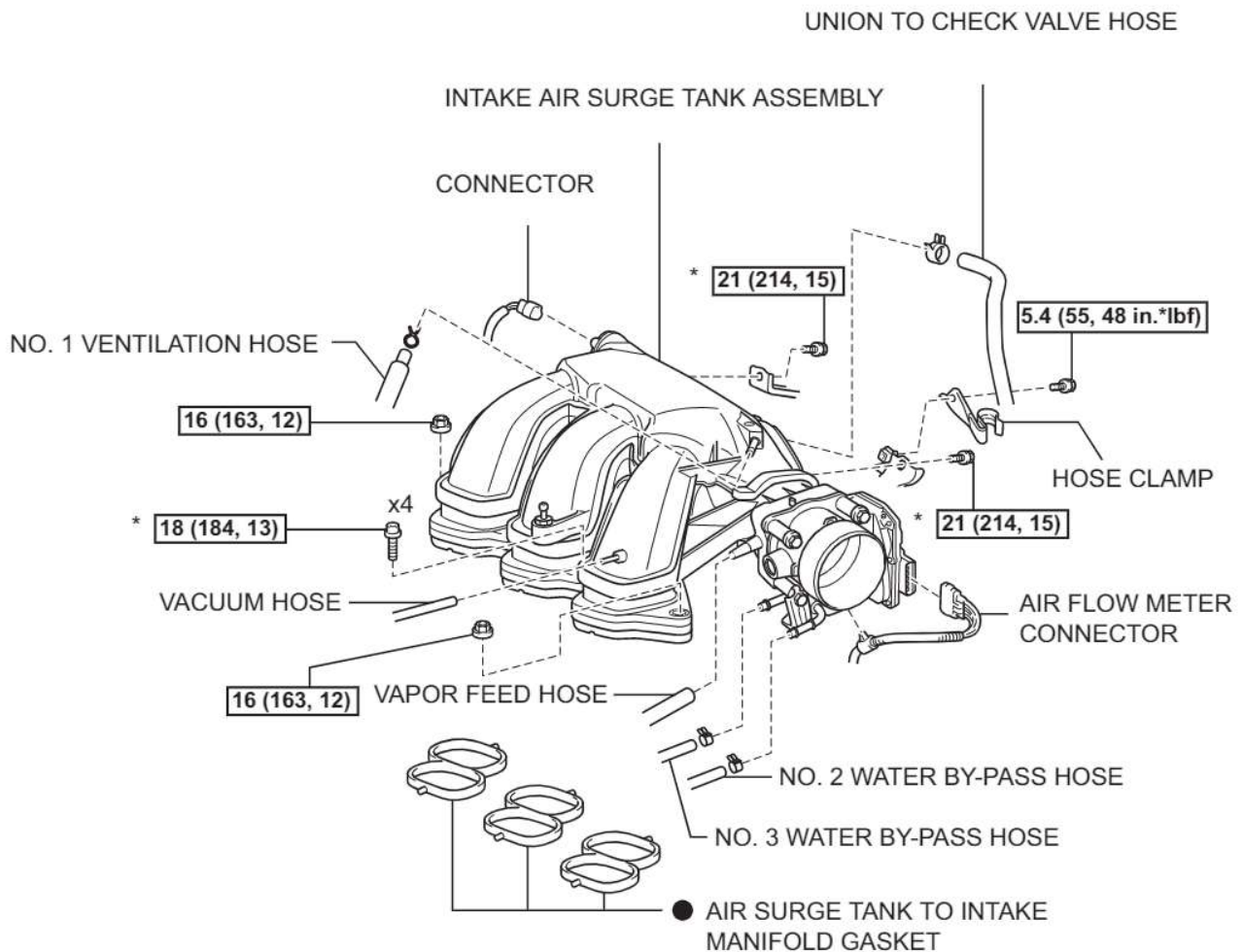
FUEL PRESSURE PULSATION DAMPER

COMPONENTS



FU-22

2GR-FE FUEL – FUEL PRESSURE PULSATION DAMPER



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

● Non-reusable part

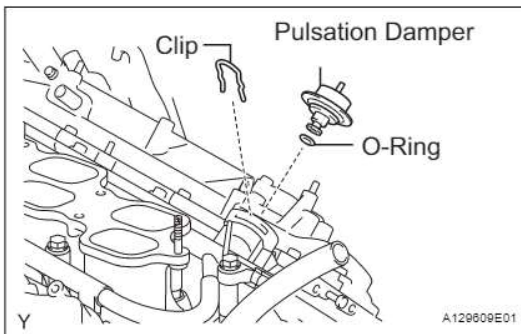
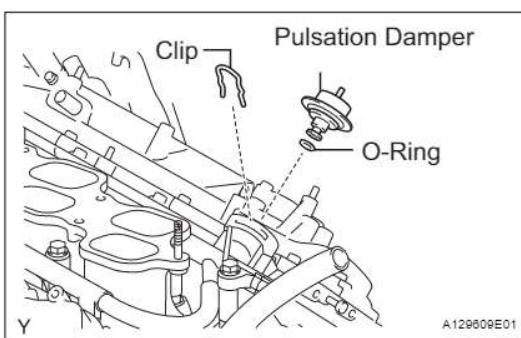
* DO NOT apply oil

C

A114553E02

REMOVAL

1. **DISCHARGE FUEL SYSTEM PRESSURE**
HINT:
See page [FU-1](#)
2. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
3. **DRAIN ENGINE COOLANT** (See page [CO-5](#))
4. **REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY LH** (See page [WW-9](#))
5. **REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY RH** (See page [WW-9](#))
6. **REMOVE FRONT FENDER TO COWL SIDE SEAL LH** (See page [WW-9](#))
7. **REMOVE FRONT FENDER TO COWL SIDE SEAL RH** (See page [WW-9](#))
8. **REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY** (See page [WW-10](#))
9. **REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY** (See page [WW-10](#))
10. **REMOVE COWL TOP PANEL OUTER SUB-ASSEMBLY** (See page [ES-481](#))
11. **REMOVE V-BANK COVER SUB-ASSEMBLY** (See page [EM-23](#))
12. **REMOVE AIR CLEANER CAP SUB-ASSEMBLY** (See page [ES-503](#))
13. **REMOVE INTAKE AIR SURGE TANK ASSEMBLY** (See page [FU-13](#))
14. **REMOVE FUEL PRESSURE PULSATION DAMPER ASSEMBLY**
 - (a) Remove the clip.
 - (b) Pull out the fuel pressure pulsation damper from the fuel delivery pipe.
 - (c) Remove the O-ring from the fuel pressure pulsation damper.



INSTALLATION

1. **INSTALL FUEL PRESSURE PULSATION DAMPER ASSEMBLY**
 - (a) Apply a light coat of spindle oil or gasoline to a new O-ring and install it to the fuel pressure pulsation damper.
 - (b) Install the fuel pressure pulsation damper to the fuel delivery pipe.
 - (c) Install the clip.

FU

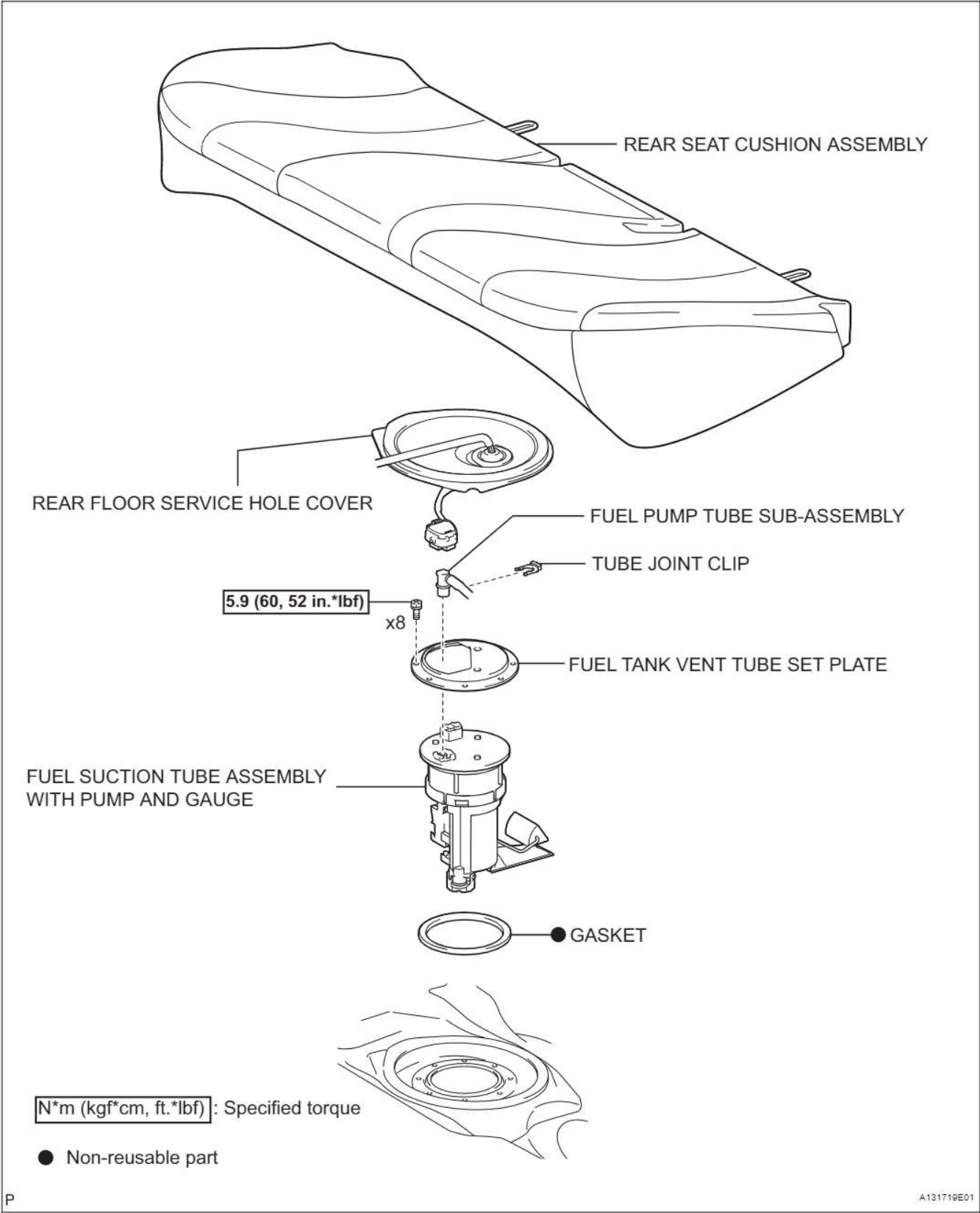
FU-24

2GR-FE FUEL – FUEL PRESSURE PULSATION DAMPER

2. INSTALL INTAKE AIR SURGE TANK ASSEMBLY (See page [FU-18](#))
3. INSTALL AIR CLEANER CAP SUB-ASSEMBLY (See page [ES-506](#))
4. ADD ENGINE COOLANT (See page [CO-6](#))
5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL
6. CHECK FOR ENGINE COOLANT LEAKS (See page [CO-1](#))
7. CHECK FOR FUEL LEAKS (See page [FU-8](#))
8. INSTALL COWL TOP PANEL OUTER SUB-ASSEMBLY (See page [ES-485](#))
9. INSTALL WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY (See page [WW-14](#))
10. INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY (See page [WW-15](#))
11. INSTALL FRONT FENDER TO COWL SIDE SEAL RH (See page [WW-15](#))
12. REMOVE FRONT FENDER TO COWL SIDE SEAL LH (See page [WW-15](#))
13. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY LH (See page [WW-15](#))
14. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY RH (See page [WW-16](#))
15. INSTALL V-BANK COVER SUB-ASSEMBLY (See page [EM-52](#))

FU

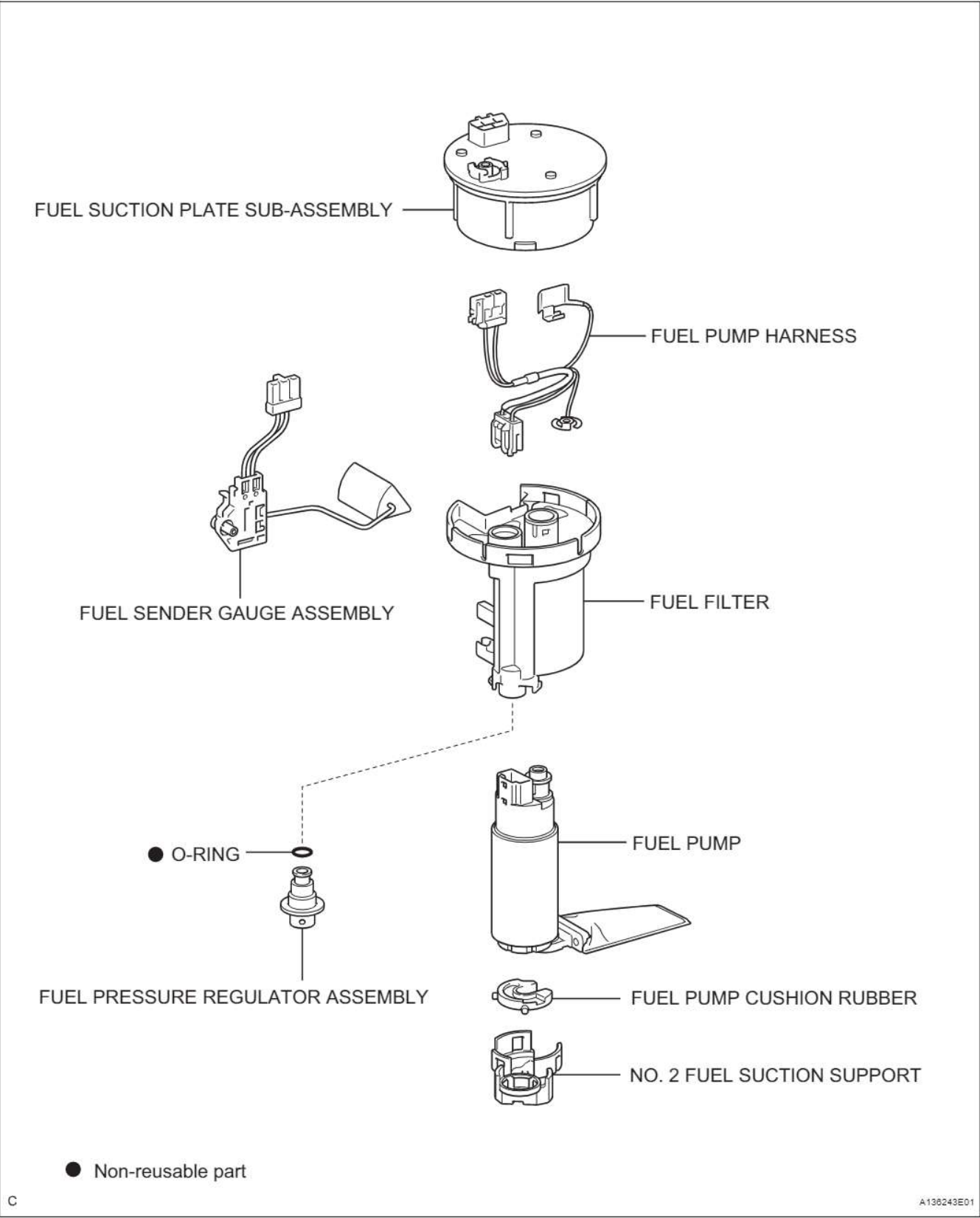
FUEL PUMP
COMPONENTS



FU-26

2GR-FE FUEL – FUEL PUMP

FU



REMOVAL

1. DISCHARGE FUEL SYSTEM PRESSURE

HINT:

See page [FU-1](#).

2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

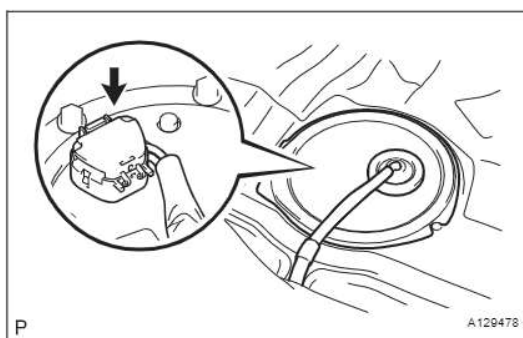
3. REMOVE REAR SEAT CUSHION ASSEMBLY (for Fixed Seat Type) (See page [SE-77](#))

4. REMOVE REAR SEAT CUSHION ASSEMBLY (for Fold Down Seat Type) (See page [SE-47](#))

5. REMOVE REAR SEAT CUSHION ASSEMBLY (for Reclining Seat Type) (See page [SE-62](#))

6. REMOVE REAR FLOOR SERVICE HOLE COVER

- Remove the rear floor service hole cover.
- Disconnect the fuel pump connector.



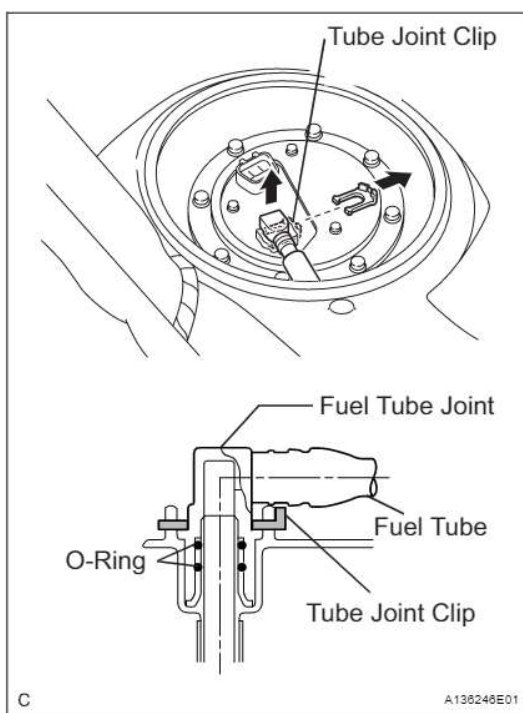
FU

7. SEPARATE FUEL PUMP TUBE SUB-ASSEMBLY

- Remove the tube joint clip, and pull out the fuel pump tube.

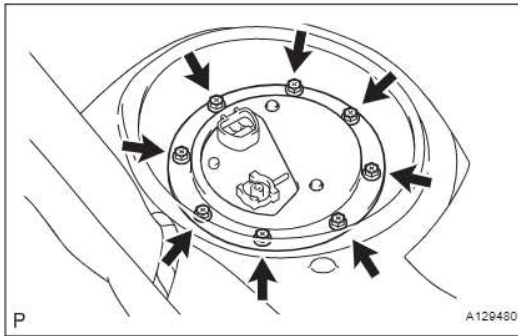
NOTICE:

- Check that there is no dirt around the fuel tube joint before this work and clean any dirt away.
- It is necessary to prevent mud or dirt from entering the fuel tube joint. If mud enters the joint, the O-rings may not seal the fuel tube connector and fuel suction plate properly.
- Do not use any tools in this work.
- Do not bend or twist the nylon tube.
- After disconnecting, cover the fuel tube joint with a plastic bag.
- If the fuel tube joint and fuel suction plate are stuck, pinch the fuel tank tube between fingers, and turn it carefully to release. Disconnect the fuel tank tube.

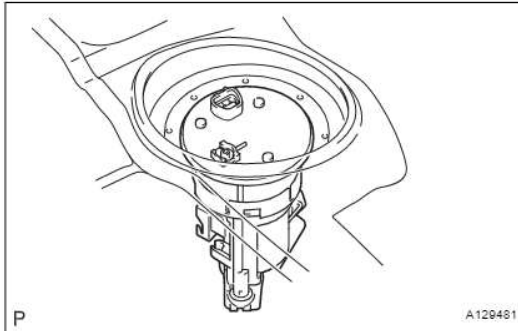


FU-28

2GR-FE FUEL – FUEL PUMP

**8. REMOVE FUEL TANK VENT TUBE SET PLATE**

- (a) Remove the 8 bolts and set plate.

**9. REMOVE FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE**

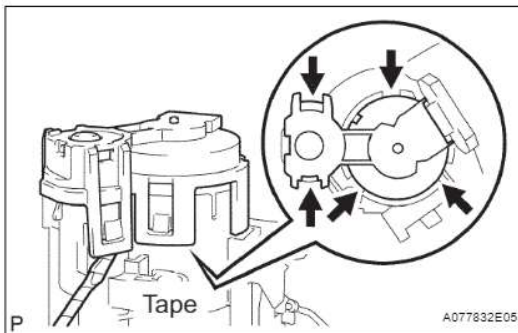
- (a) Pull out the fuel suction tube from the fuel tank.

NOTICE:

- Do not damage the fuel pump filter.
- Be careful that the arm of the sender gauge does not bend.

- (b) Remove the gasket from the fuel suction tube.

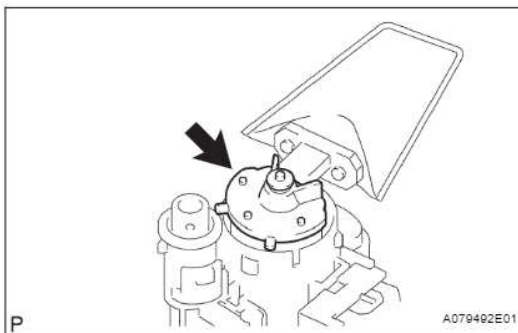
FU

**DISASSEMBLY****1. REMOVE NO. 2 FUEL SUCTION SUPPORT**

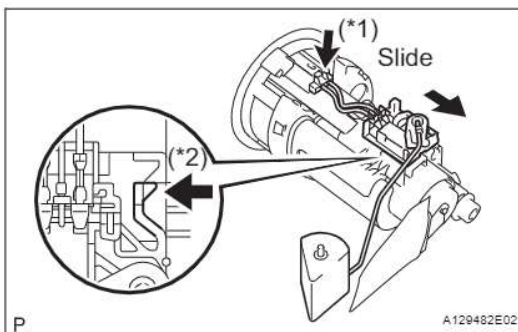
- (a) Using a screwdriver with its tip wrapped with tape, disengage the 5 snap claws from the claw holes, and remove the No. 2 fuel suction support.

NOTICE:

Do not damage the fuel suction support.

**2. REMOVE FUEL PUMP CUSHION RUBBER**

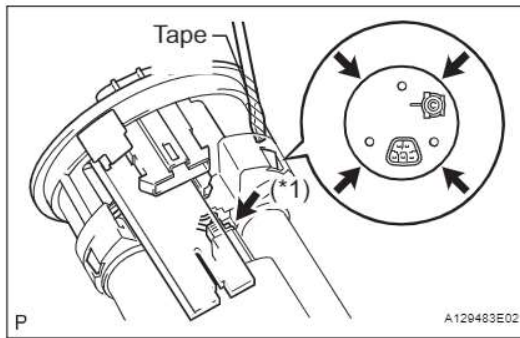
- (a) Remove the fuel pump cushion rubber from the fuel pump.

**3. REMOVE FUEL SENDER GAUGE ASSEMBLY**

- (a) Disconnect the fuel sender gauge connector (*1).
 (b) Unlock the fuel sender gauge, and slide it to remove (*2).

2GR-FE FUEL – FUEL PUMP

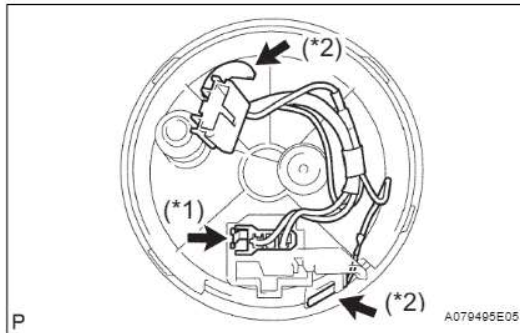
FU-29

**4. REMOVE FUEL SUCTION PLATE SUB-ASSEMBLY**

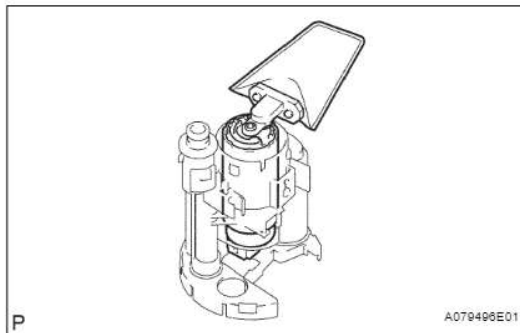
- (a) Disconnect the fuel pump connector (*1).
- (b) Using a screwdriver with its tip wrapped with tape, disengage the 4 snap claws from the claw holes, and pull out the fuel suction plate.

NOTICE:

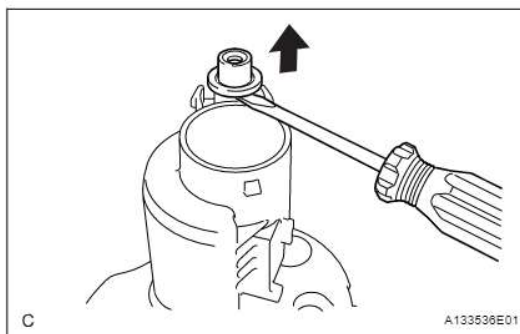
Do not damage the fuel suction support.

**5. REMOVE FUEL PUMP HARNESS**

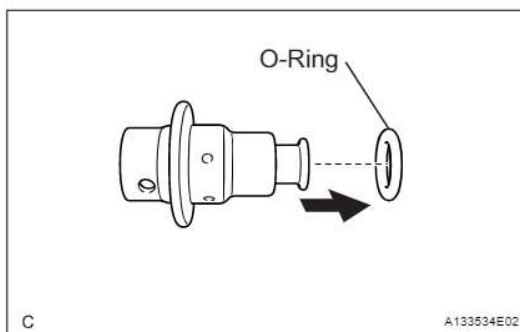
- (a) Disconnect the connector (*1).
- (b) Using a screwdriver, pry out the fuel pump harness (*2).

**6. REMOVE FUEL PUMP**

- (a) Pull out the fuel pump from the fuel filter.

FU**7. REMOVE FUEL PRESSURE REGULATOR ASSEMBLY**

- (a) Pull out the fuel pressure regulator from the fuel filter.



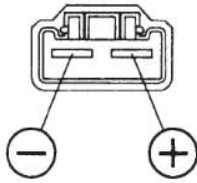
- (b) Remove the O-ring from the fuel pressure regulator.

FU-30

2GR-FE FUEL – FUEL PUMP

Component Side:

Fuel Pump



A095616E06

INSPECTION

1. INSPECT FUEL PUMP

(a) Inspect fuel pump resistance.

(1) Using an ohmmeter, measure the resistance between the terminals.

Resistance:**0.2 to 3.0 Ω at 20°C (68°F)**

If the result is not as specified, replace the fuel pump assembly.

(b) Inspect fuel pump operation.

(1) Apply battery voltage to both the terminals. Check that the pump operates.

NOTICE:

- These tests must be done quickly (within 10 seconds) to prevent damage to the pump.
- Keep the fuel pump as far away from the battery as possible.
- Always switch the voltage on and off on the battery side, not on the fuel pump side.

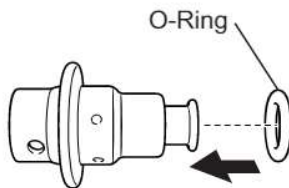
If the pump does not operate, replace the fuel pump assembly.

FU

REASSEMBLY

1. INSTALL FUEL PRESSURE REGULATOR ASSEMBLY

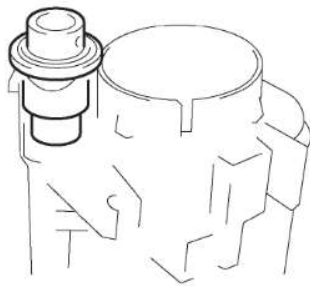
(a) Apply a light coat of spindle oil or gasoline to a new O-ring, and install it to the fuel pressure regulator.



C

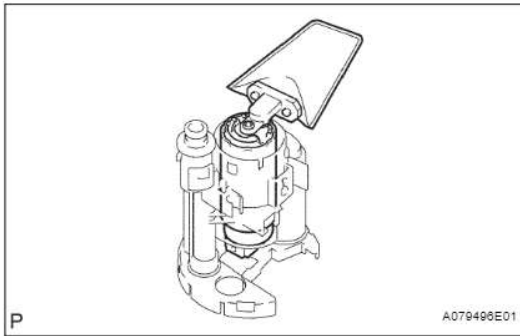
A133534E01

(b) Push in the fuel pressure regulator to the fuel filter.

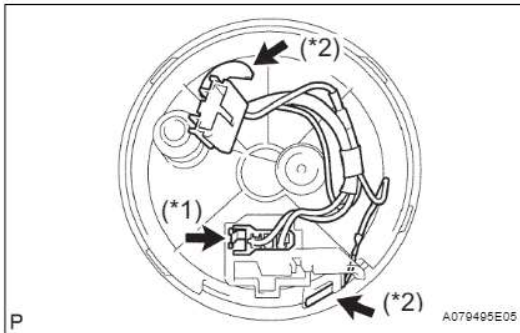


A

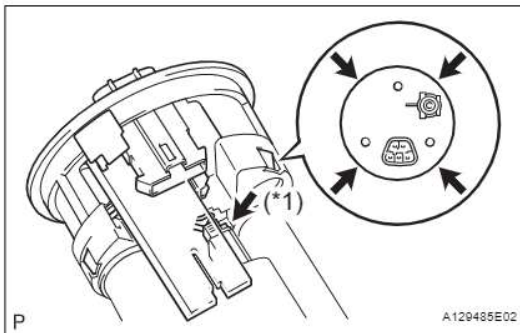
A065037

2GR-FE FUEL – FUEL PUMP**FU-31****2. INSTALL FUEL PUMP**

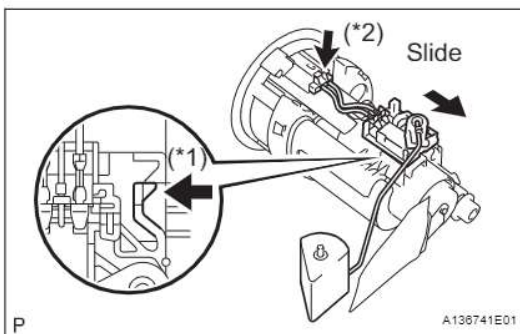
- (a) Apply a light coat of gasoline or grease to the O-ring of the fuel pump.
- (b) Push in the fuel pump to the fuel filter.

**3. INSTALL FUEL PUMP HARNESS**

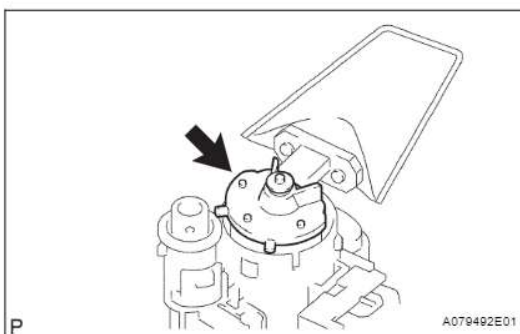
- (a) Connect the connector (*1).
- (b) Install the fuel pump harness (*2).

**4. INSTALL FUEL SUCTION PLATE SUB-ASSEMBLY**

- (a) Connect the fuel pump connector (*1).
- (b) Install the fuel suction plate.

**5. INSTALL FUEL SENDER GAUGE ASSEMBLY**

- (a) Slide the fuel sender gauge to engage with the claw (*1).
- (b) Connect the fuel sender gauge connector (*2).

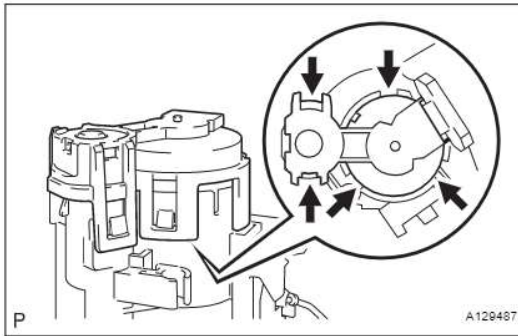
**6. INSTALL FUEL PUMP CUSHION RUBBER**

- (a) Install the fuel pump cushion rubber to the fuel pump.

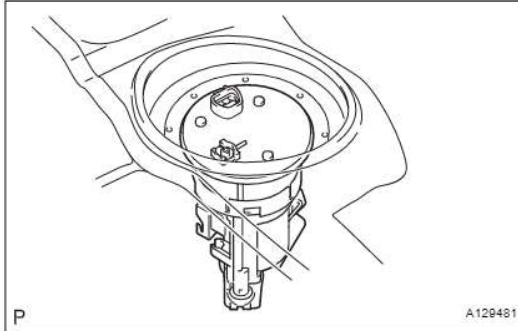
FU

FU-32

2GR-FE FUEL – FUEL PUMP

**7. INSTALL NO. 2 FUEL SUCTION SUPPORT**

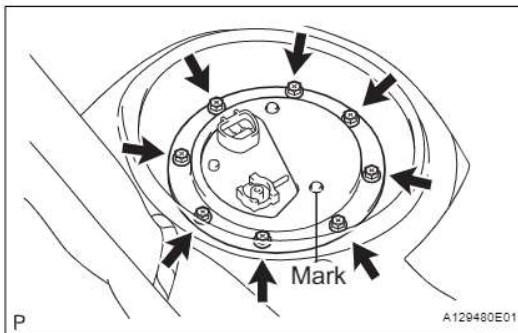
- (a) Install the No. 2 fuel suction support.

**INSTALLATION****1. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE**

- (a) Install a new gasket to the fuel suction tube.
(b) Install the fuel suction tube.

NOTICE:

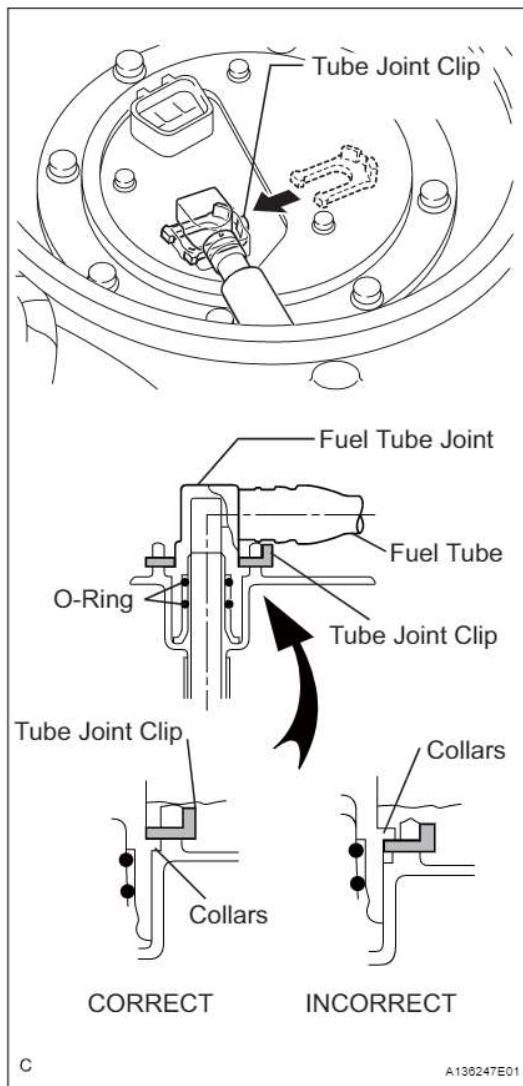
- Do not damage the fuel pump filter.
- Be careful that the arm of the sender gauge does not bend.

FU**2. INSTALL FUEL TANK VENT TUBE SET PLATE**

- (a) Align the mark of the set plate with the fuel suction tube.
(b) Install the set plate with the 8 bolts.
Torque: 5.9 N*m (60 kgf*cm, 52 in.*lbf)

2GR-FE FUEL – FUEL PUMP

FU-33

**3. CONNECT FUEL PUMP TUBE SUB-ASSEMBLY**

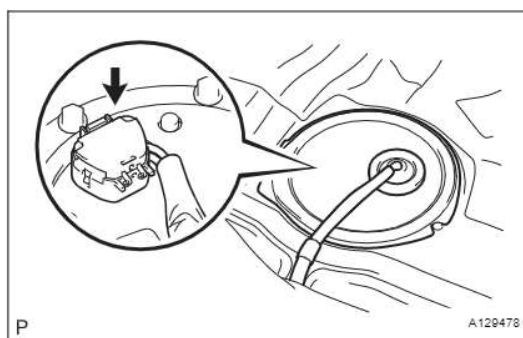
- (a) Install the fuel pump tube with the tube joint clip.

NOTICE:

- Check that there are no scratches or foreign objects on the connecting part.
- Check that the fuel tube joint is inserted securely.
- Check that the tube joint clip is on the collar of the fuel tube joint.
- After installing the tube joint clip, check that the fuel tube joint is pulled off.

4. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**5. CHECK FOR FUEL LEAKS (See page [FU-8](#))**

FU

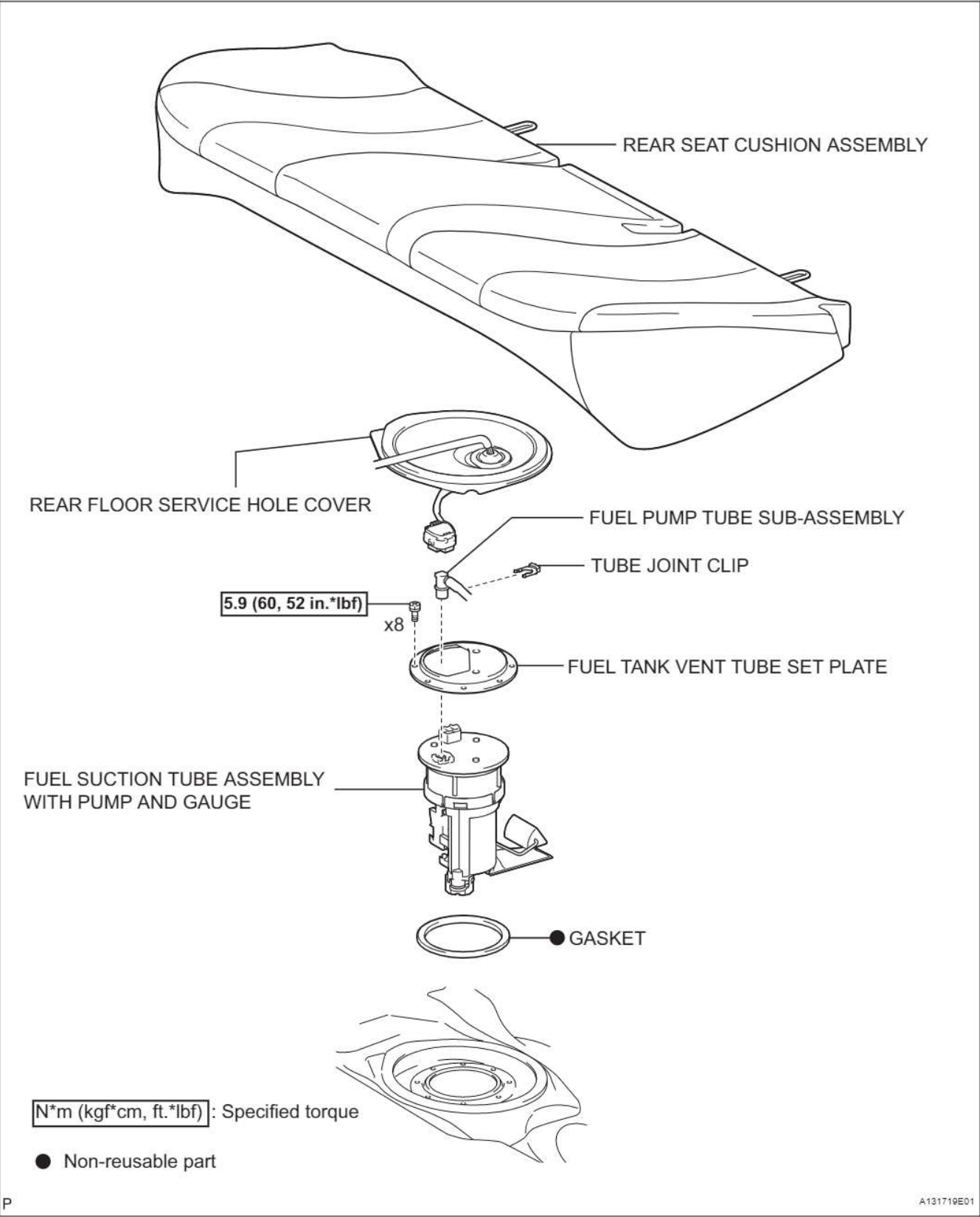
**6. INSTALL REAR FLOOR SERVICE HOLE COVER**

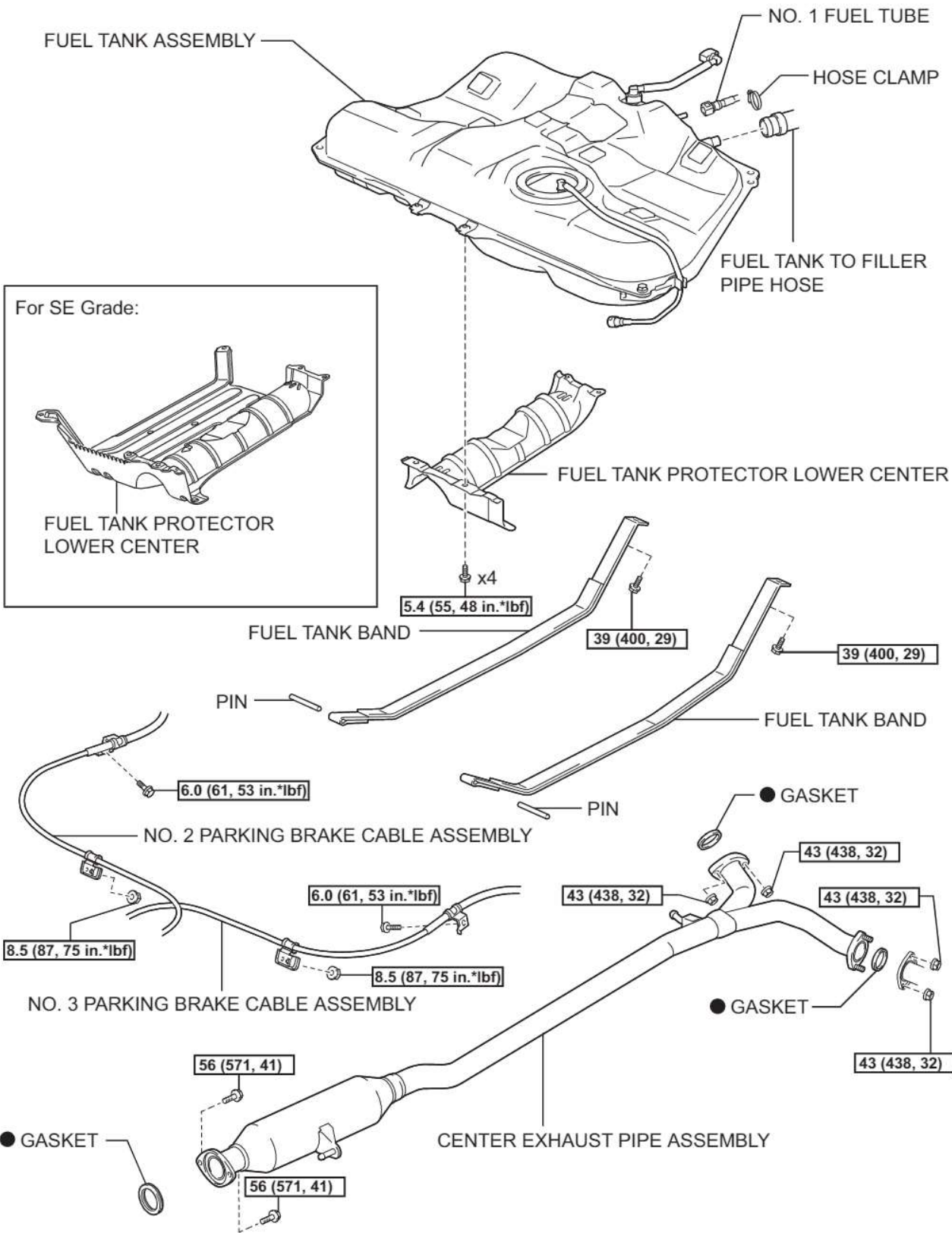
- (a) Connect the fuel pump connector.
(b) Install the rear floor service hole cover with new butyl tape.

7. INSTALL REAR SEAT CUSHION ASSEMBLY (for Fixed Seat Type) (See page [SE-84](#))**8. INSTALL REAR SEAT CUSHION ASSEMBLY (for Fold Down Seat Type) (See page [SE-58](#))****9. INSTALL REAR SEAT CUSHION ASSEMBLY (for Reclining Seat Type) (See page [SE-73](#))**

FUEL TANK

COMPONENTS





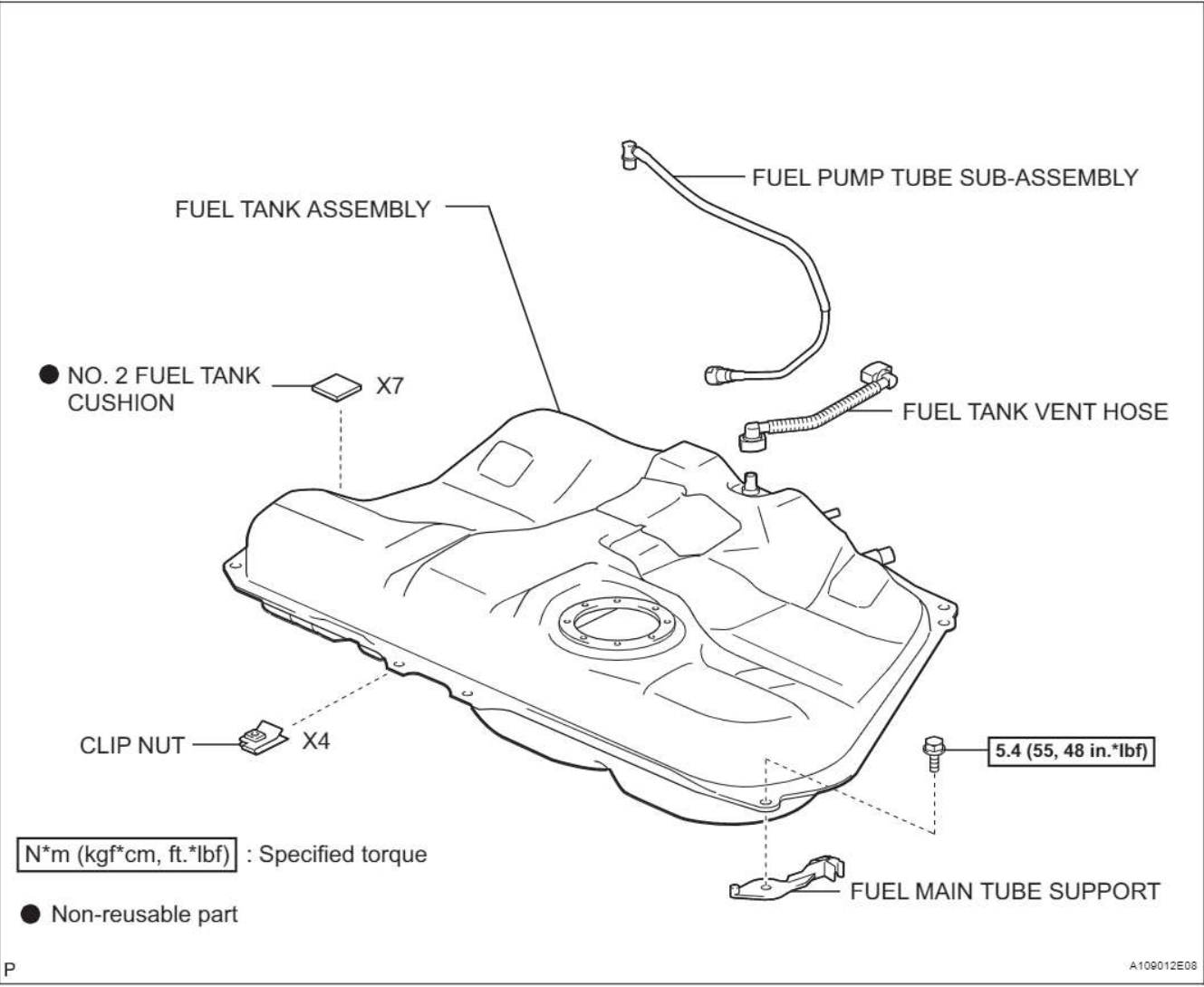
[N*m (kgf*cm, ft.*lbf)] : Specified torque

● Non-reusable part

FU

FU-36

2GR-FE FUEL – FUEL TANK



REMOVAL

1. DISCHARGE FUEL SYSTEM PRESSURE

HINT:

See page [FU-1](#).

2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

3. REMOVE REAR SEAT CUSHION ASSEMBLY (for Fixed Seat Type) (See page [SE-77](#))

4. REMOVE REAR SEAT CUSHION ASSEMBLY (for Fold Down Seat Type) (See page [SE-47](#))

5. REMOVE REAR SEAT CUSHION ASSEMBLY (for Reclining Seat Type) (See page [SE-62](#))

6. REMOVE REAR FLOOR SERVICE HOLE COVER (See page [FU-27](#))

7. SEPARATE FUEL PUMP TUBE SUB-ASSEMBLY (See page [FU-27](#))

8. REMOVE FUEL TANK VENT TUBE SET PLATE (See page [FU-28](#))

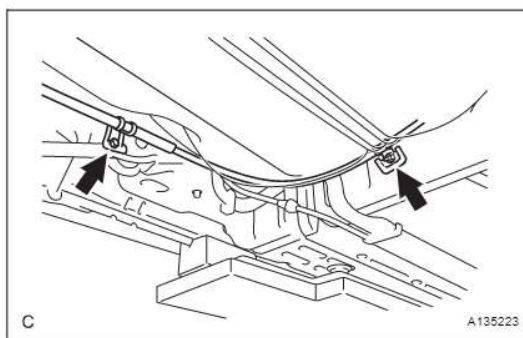
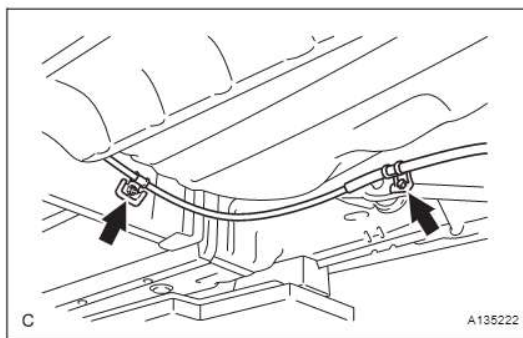
9. REMOVE FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE (See page [FU-28](#))

10. DRAIN FUEL

11. REMOVE CENTER EXHAUST PIPE ASSEMBLY (See page [EX-2](#))

12. DISCONNECT NO. 2 PARKING BRAKE CABLE ASSEMBLY

- (a) Remove the set bolt and set nut of the No. 2 parking brake cable assembly.



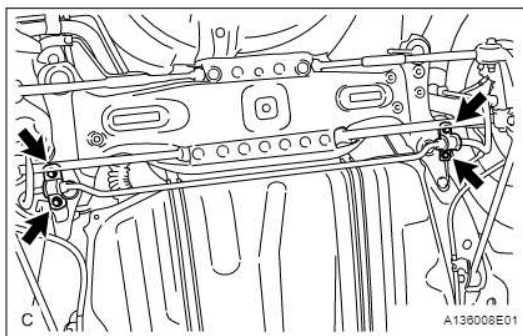
13. DISCONNECT NO. 3 PARKING BRAKE CABLE ASSEMBLY

- (a) Remove the set bolt and set nut of the No. 3 parking brake cable assembly.

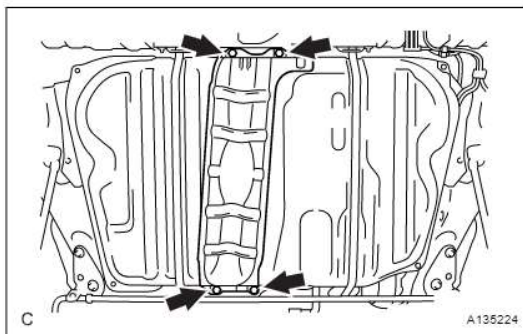
FU

FU-38

2GR-FE FUEL – FUEL TANK

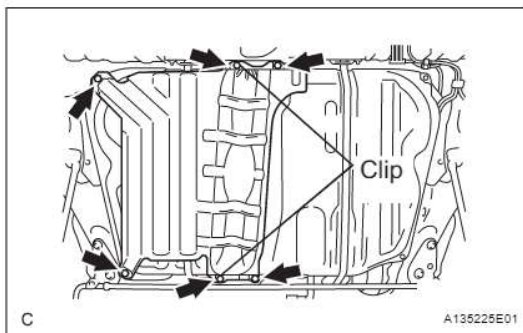
**14. REMOVE REAR STABILIZER BAR NO. 1 BRACKET**

- (a) Remove the 4 bolts and 2 rear stabilizer bar No. 1 brackets.

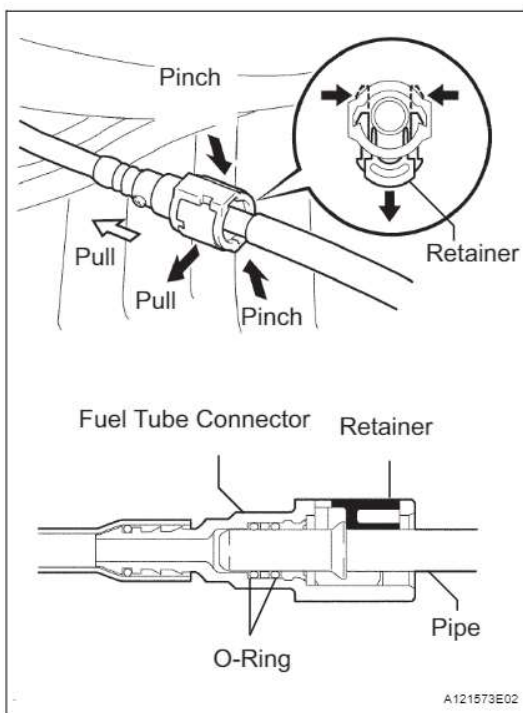
**15. REMOVE FUEL TANK PROTECTOR LOWER CENTER**

- (a) Remove the 4 bolts and fuel tank protector (Except SE Grade).

FU



- (b) Remove the 4 bolts and 2 clips (for SE Grade).
(c) Remove the fuel tank protector (for SE Grade).

**16. REMOVE FUEL TANK ASSEMBLY**

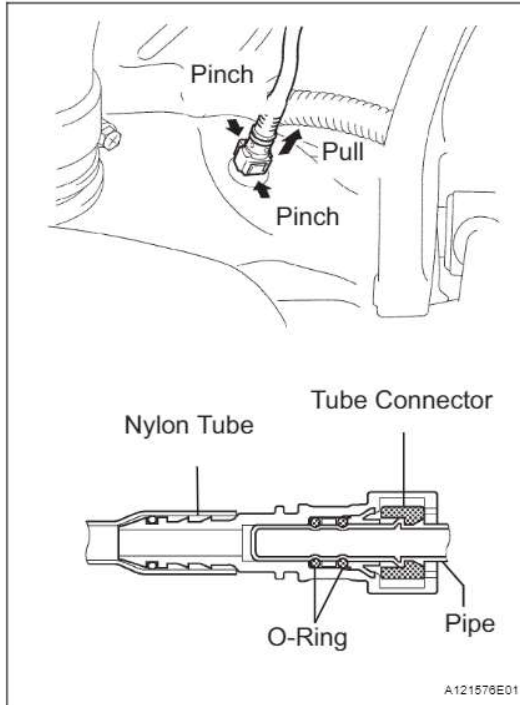
- (a) Disconnect the fuel pump tube.
(1) Pinch the tab of the retainer to disengage the lock claws and pull it down as shown in the illustration.
(2) Pull out the fuel tank main tube.

NOTICE:

- Check that there is no dirt or other foreign objects around the connector before this operation and clean the connector if necessary.
- It is necessary to prevent mud or dirt from entering the quick connector. If mud enters the connector, the O-rings may not seal properly.
- Remove the quick connector by hand.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a plastic bag.

2GR-FE FUEL – FUEL TANK

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- If the pipe and connector are stuck, try wiggling or pushing and pulling the connector to release it and pull the connector off of the pipe carefully.

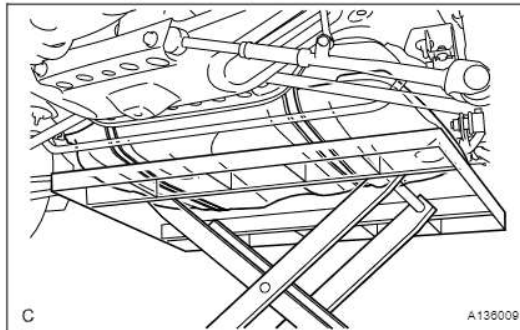
(b) Disconnect the No. 1 fuel tube.

- (1) Pinch the tube connector and then pull out the No. 1 fuel tube.

NOTICE:

- Check that there is no dirt or other foreign objects around the connector before this operation and clean the connector as necessary.
- It is necessary to prevent mud or dirt from entering the quick connector. If mud enters the connector, the O-rings may not seal properly.
- Remove the quick connector by hand.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a plastic bag.
- If the pipe and connector are stuck, try wiggling or pushing and pulling the connector to release it and pull the connector off of the pipe carefully.

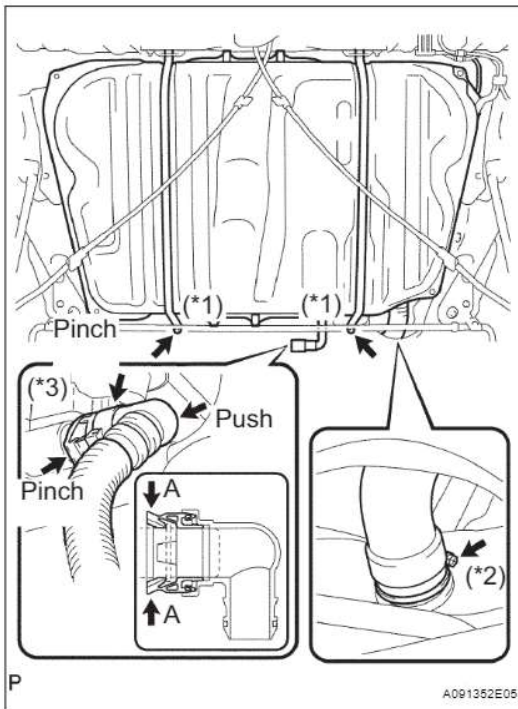
FU



(c) Place a engine lifter under the fuel tank assembly.

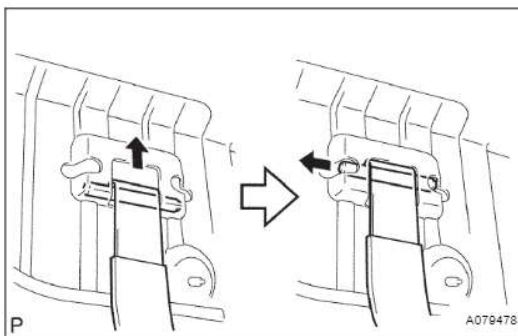
FU-40

2GR-FE FUEL – FUEL TANK

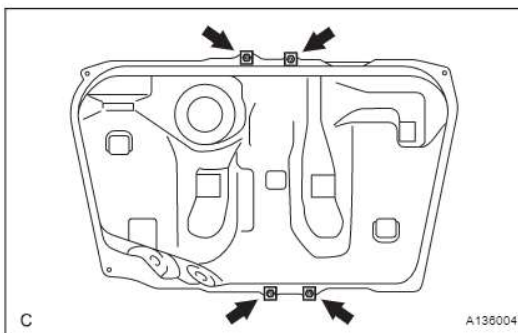


- (d) Remove the 2 set bolts of the fuel tank bands. (*1)
- (e) Remove the hose clamp and disconnect the fuel tank to filter pipe hose. (*2)
- (f) Slightly lower the transmission jack.
- (g) Disconnect the fuel tank vent hose from the charcoal canister. (*3)
 - (1) Push the connector deep into the charcoal canister to release the locking pin.
 - (2) Pinch portion A.
 - (3) Pull out the connector.
- (h) Remove the fuel tank.

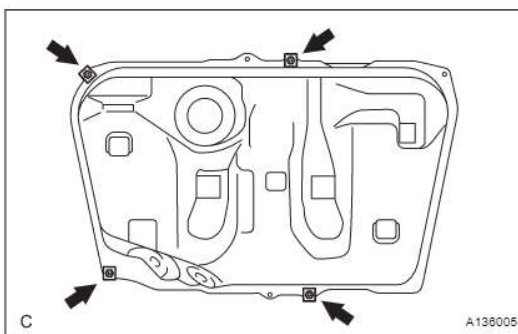
FU



- (i) Remove the 2 pins and 2 fuel tank bands as shown in the illustration.



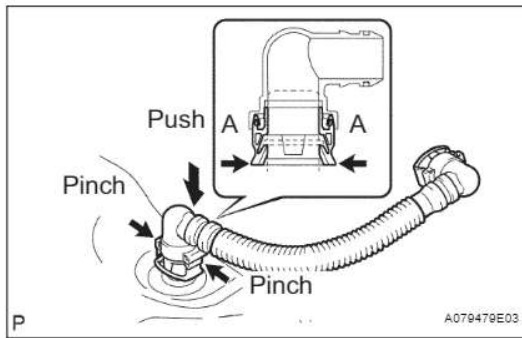
- (j) Remove the 4 clip nuts (Except SE Grade).



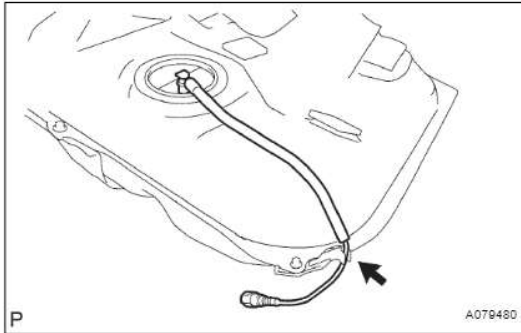
- (k) Remove the 4 clip nuts (for SE Grade).

2GR-FE FUEL – FUEL TANK

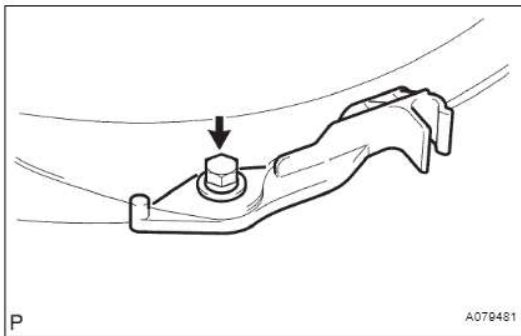
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**17. REMOVE FUEL TANK VENT HOSE**

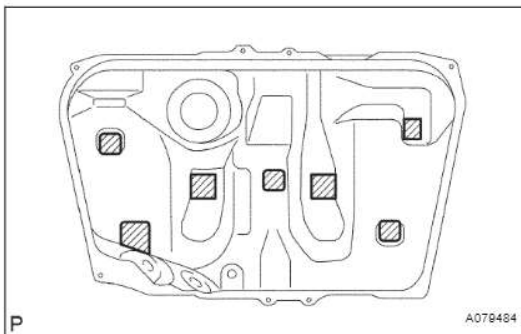
- Push the connector deep into the charcoal canister to release the locking pin.
- Pinch portion A.
- Pull out the connector.

**18. REMOVE FUEL PUMP TUBE SUB-ASSEMBLY**

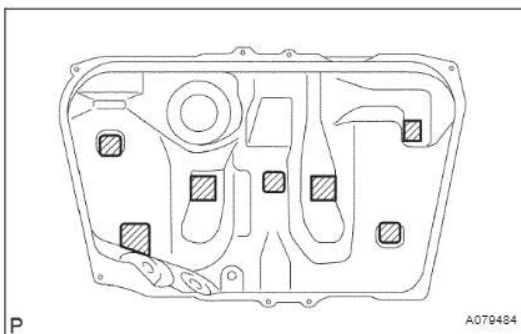
- Remove the fuel pump tube from the fuel main tube support.

**19. REMOVE FUEL MAIN TUBE SUPPORT**

- Remove the bolt and tube support.

**20. REMOVE NO. 2 FUEL TANK CUSHION**

- Remove the 7 No. 2 fuel tank cushions.

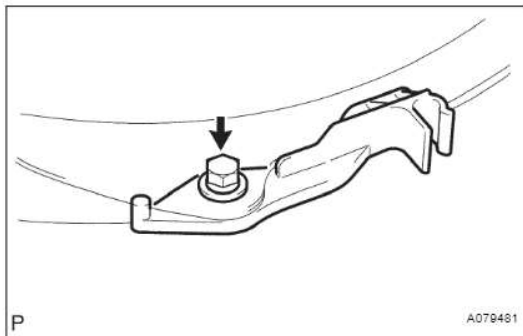
**INSTALLATION****1. INSTALL NO. 2 FUEL TANK CUSHION**

- Install 7 new No. 2 fuel tank cushions to the fuel tank.

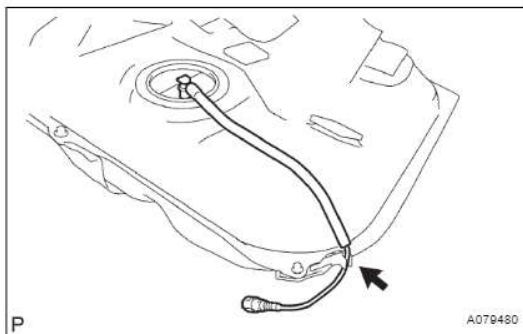
FU

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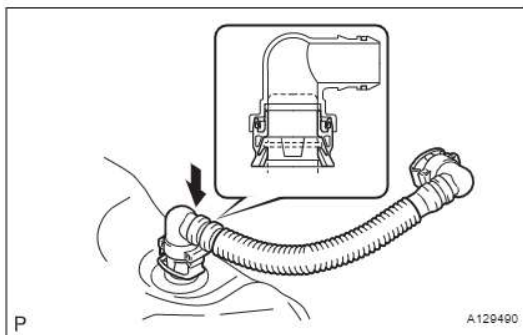
2GR-FE FUEL – FUEL TANK

**2. INSTALL FUEL MAIN TUBE SUPPORT**

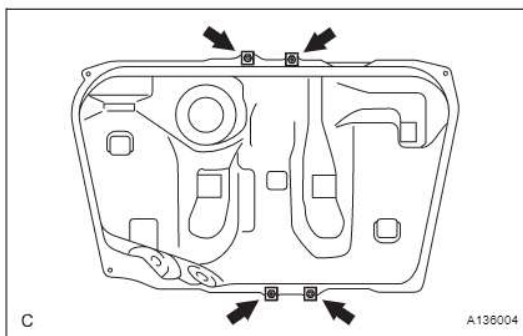
- (a) Install the fuel main tube support with the bolt.
Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

**3. INSTALL FUEL PUMP TUBE SUB-ASSEMBLY**

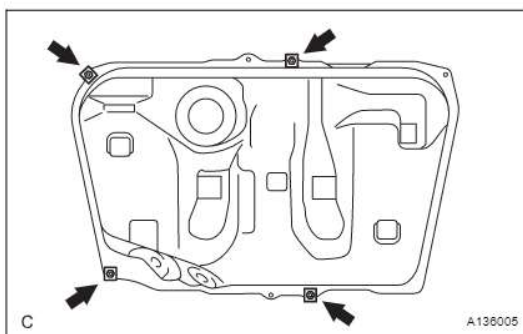
- (a) Install the fuel pump tube to the fuel main tube support.

**4. INSTALL FUEL TANK VENT HOSE**

- (a) Install the fuel tank vent hose.

**5. INSTALL FUEL TANK ASSEMBLY**

- (a) Install the 4 clip nuts (Except SE Grade).

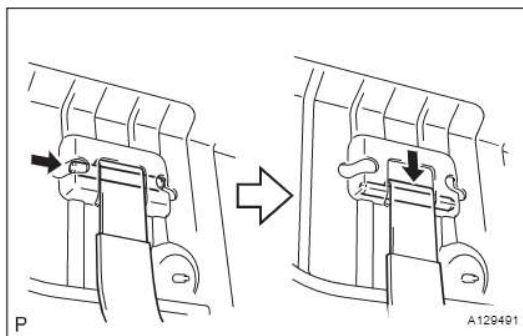


- (b) Install the 4 clip nuts (for SE Grade).

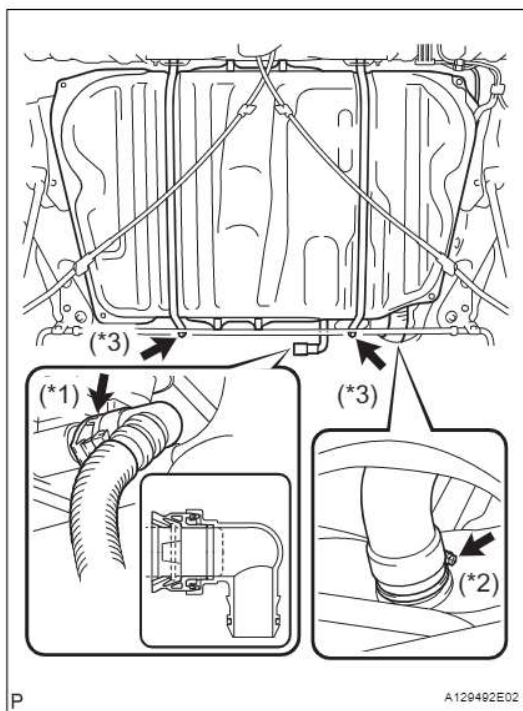
FU

2GR-FE FUEL – FUEL TANK

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- (c) Install the 2 fuel tank bands with the 2 pins.
- (d) Set the fuel tank assembly onto the transmission jack.



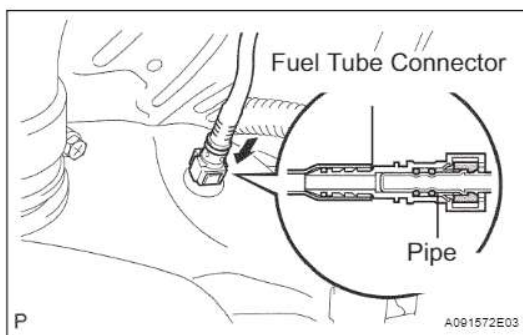
- (e) Raise the transmission jack so that the fuel tank vent hose can be connected. (*1)

NOTICE:

Slowly raise the jack to prevent the fuel tank assembly from dropping.

- (f) Connect the fuel tank inlet pipe with the fuel filter pipe clamp. (*2)
- (g) Tighten the 2 set bolts of the fuel tank bands. (*3)
Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

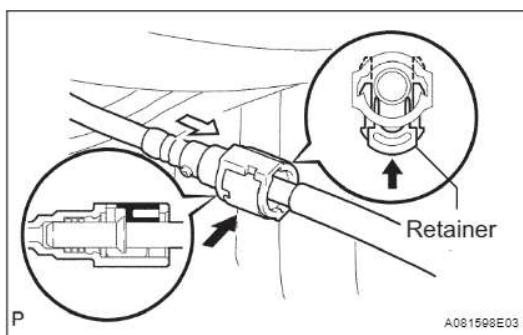
FU



- (h) Connect the No. 1 fuel tube.
- (1) Push the fuel tube connector into the pipe until the fuel tube connector makes a "click" sound.

NOTICE:

- Before connecting the tube, make sure that it is not damaged. Make sure that there is no dirt present on the connecting surfaces.
- After connecting, check if the fuel tube connector and the pipe are securely connected by pulling on them.



- (i) Connect the fuel pump tube.
 - (1) Push the fuel tube connector into the pipe and push up the retainer so that the claws engage.
- NOTICE:**
- Before connecting the tube, make sure that it is not damaged. Make sure that there is no dirt present on the connecting surfaces.

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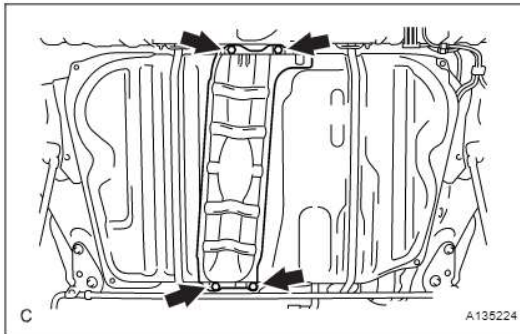
2GR-FE FUEL – FUEL TANK

- After connecting, check if the fuel tube connector and the pipe are securely connected by pulling on them.

6. INSTALL FUEL TANK PROTECTOR LOWER CENTER

- (a) Install the 4 bolts and fuel tank protector (Except SE Grade).

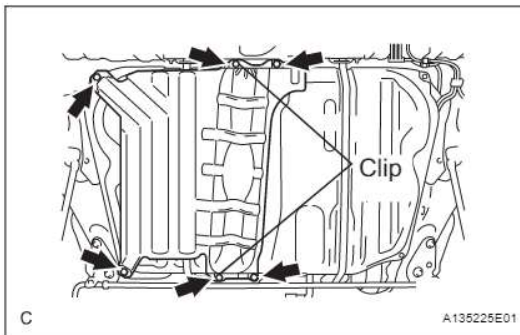
Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)



- (b) Install the fuel tank protector with the 4 bolts and 2 clips (for SE Grade).

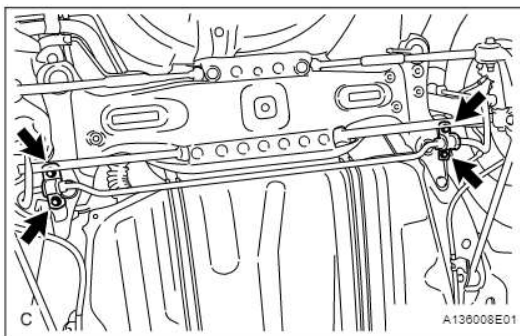
Torque: Bolt

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

**7. INSTALL REAR STABILIZER BAR NO. 1 BRACKET**

- (a) Install the 2 rear stabilizer bar No. 1 brackets with the 4 bolts.

Torque: 31 N*m (316 kgf*cm, 23 ft.*lbf)

**8. INSTALL NO. 3 PARKING BRAKE CABLE ASSEMBLY**

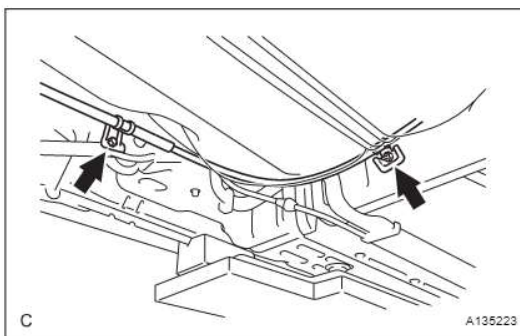
- (a) Install the No. 3 parking brake cable assembly with the bolt and nut.

Torque: Bolt

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

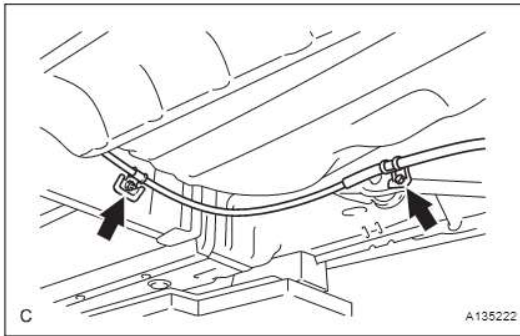
Nut

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



2GR-FE FUEL – FUEL TANK

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- 9. INSTALL NO. 2 PARKING BRAKE CABLE ASSEMBLY**
(a) Install the No. 2 parking brake cable assembly with the bolt and nut.

Torque: Bolt

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

Nut

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

- 10. INSTALL CENTER EXHAUST PIPE ASSEMBLY** (See page [EX-4](#))
- 11. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE** (See page [FU-32](#))
- 12. INSTALL FUEL TANK VENT TUBE SET PLATE** (See page [FU-32](#))
- 13. CONNECT FUEL PUMP TUBE SUB-ASSEMBLY** (See page [FU-33](#))
- 14. ADD FUEL**
- 15. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
- 16. CHECK FOR FUEL LEAKS** (See page [FU-8](#))
- 17. CHECK FOR EXHAUST GAS LEAKS**
- 18. INSTALL REAR FLOOR SERVICE HOLE COVER** (See page [FU-33](#))
- 19. INSTALL REAR SEAT CUSHION ASSEMBLY** (for Fixed Seat Type) (See page [SE-84](#))
- 20. INSTALL REAR SEAT CUSHION ASSEMBLY** (for Fold Down Seat Type) (See page [SE-58](#))
- 21. INSTALL REAR SEAT CUSHION ASSEMBLY** (for Reclining Seat Type) (See page [SE-73](#))

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