

# ACCELERATOR CONTROL, FUEL & EXHAUST SYSTEMS

## SECTION FE

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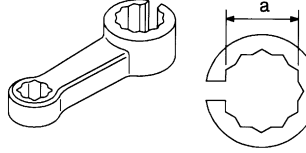
# PREPARATION

Special Service Tool

## Special Service Tool

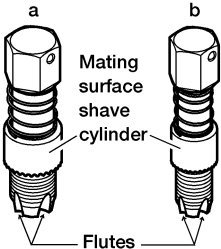
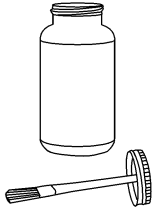
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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
KV10114400 (J-38365-A) Heated oxygen sensor wrench	 <p data-bbox="1031 352 1419 432">Loosening or tightening front and rear heated oxygen sensors <b>a: 22 mm (0.87 in)</b></p> <p data-bbox="418 527 480 548">NT636</p>

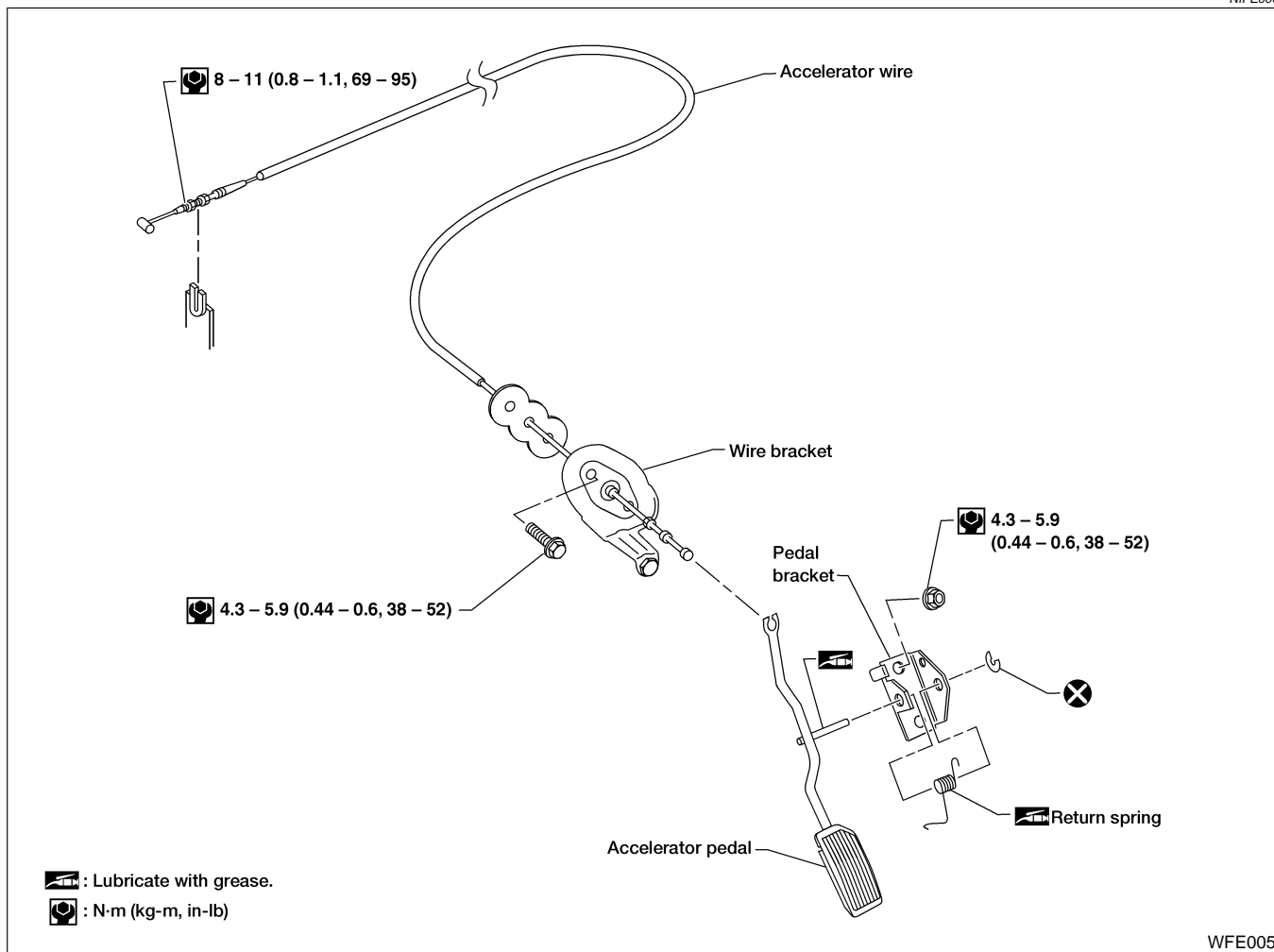
## Commercial Service Tools

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Tool number (Kent-Moore No.) Tool name	Description
(J-43897-18) (J-43897-12) Oxygen sensor thread cleaner	 <p data-bbox="1031 1073 1471 1150">Reconditioning the exhaust system threads before installing a new oxygen sensor (Use with anti-seize lubricant shown below.)</p> <p data-bbox="1031 1157 1455 1205"><b>a: J-43897-18 (18 mm) for zirconia oxygen sensor</b></p> <p data-bbox="1031 1211 1471 1260"><b>b: J-43897-12 (12 mm) for titania oxygen sensor</b></p> <p data-bbox="402 1346 480 1367">AEM488</p>
Anti-seize lubricant (Permatex 133AR or equivalent meeting MIL specification MIL-A-907)	 <p data-bbox="1031 1386 1463 1463">Lubricating oxygen sensor thread cleaning tool when reconditioning exhaust system threads</p> <p data-bbox="402 1661 480 1682">AEM489</p>

## Removal and Installation

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### CAUTION:

- When removing accelerator wire, make a mark to indicate lock nut's initial position.
- Check that throttle valve opens fully when accelerator pedal is fully depressed. Also check that it returns to idle position when pedal is released.
- Check accelerator control parts for improper contact with any adjacent parts.
- When connecting accelerator wire, be careful not to twist or scratch its inner wire.

### Adjusting Accelerator Wire

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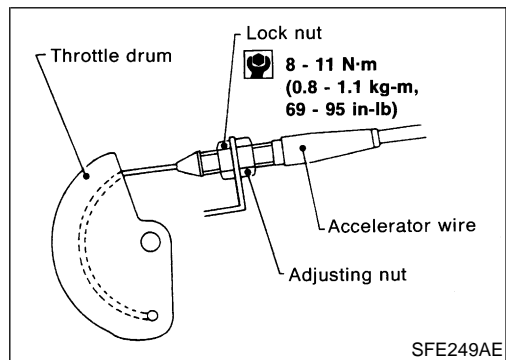
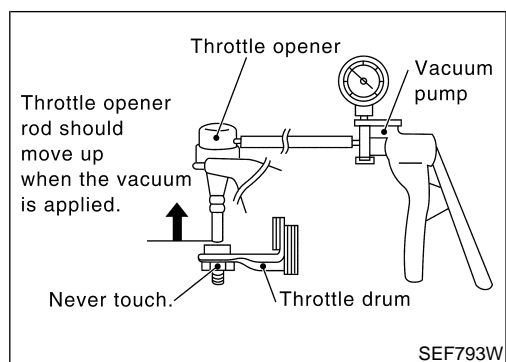
#### CAUTION:

- Make sure the ASCD wire is not pulling the throttle drum.
- For ASCD wire adjustment, refer to *EL-173* ["AUTOMATIC SPEED CONTROL DEVICE (ASCD)"].

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# ACCELERATOR CONTROL SYSTEM

## Adjusting Accelerator Wire (Cont'd)



1. Remove the vacuum hose connected to the throttle opener.
2. Connect suitable vacuum hose to vacuum pump as shown left.
3. Apply vacuum [more than  $-40.0$  kPa ( $-300$  mmHg,  $-11.81$  inHg)] until the throttle drum becomes free from the rod of the throttle opener.

**Make sure that there is clearance between the throttle drum and rod.**

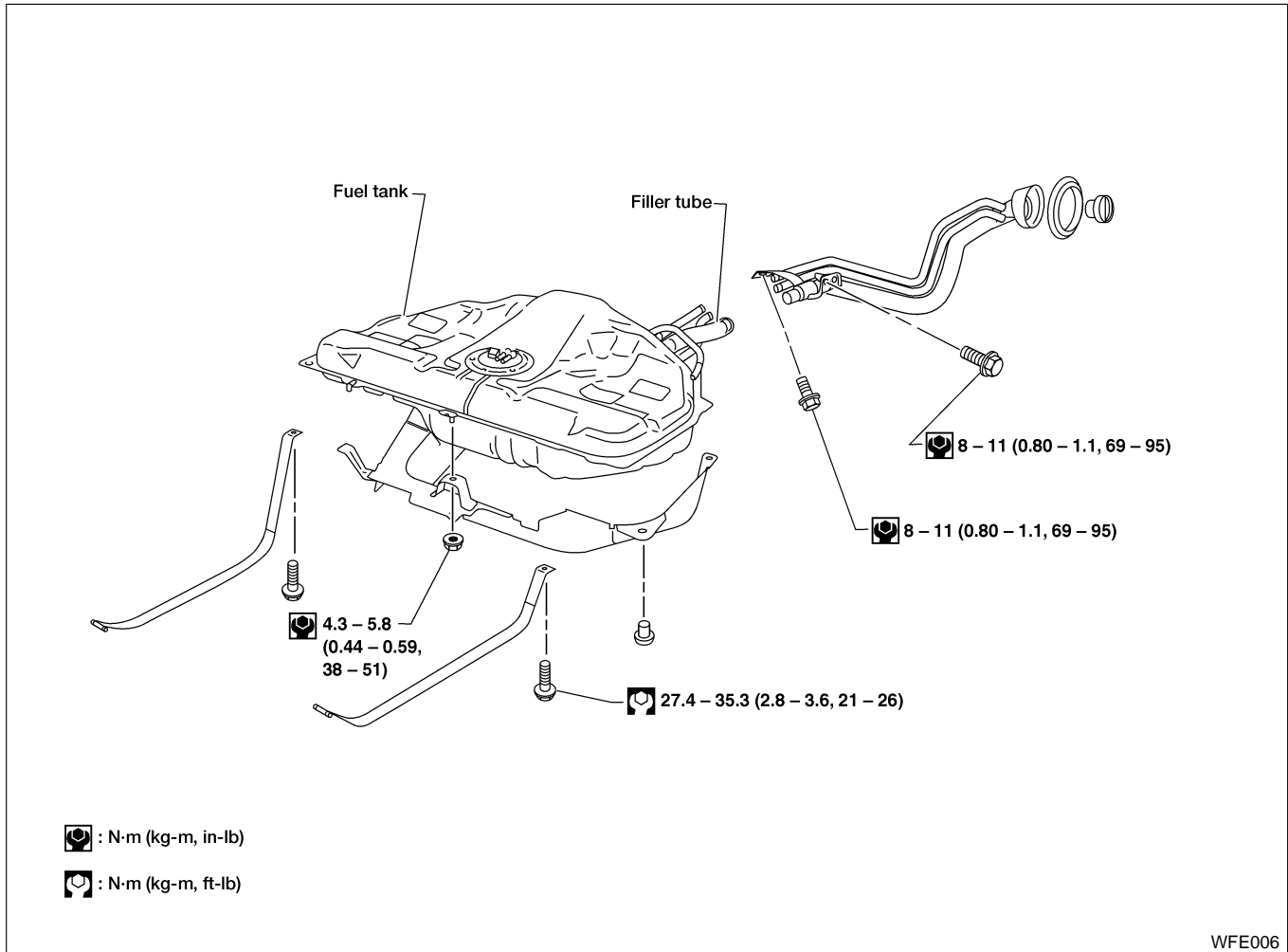
If NG, refer to **EC-131** [QG18DE (except Calif. CA Model)], **EC-802** [QG18DE (Calif. CA Model)], or **EC-1470** (SR20DE), "Basic Inspection".

If OK, go to following step.

4. Loosen lock nut.
5. Tighten accelerator adjusting nut until throttle drum starts to move.
6. From that position, turn back adjusting nut 3 to 3.5 turns, and secure lock nut.
7. Release vacuum from the throttle opener.
8. Remove vacuum pump and vacuum hose from the throttle opener.
9. Reinstall the original vacuum hose to the throttle opener securely.

## Removal and Installation

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### WARNING:

When replacing fuel line parts, be sure to observe the following:

- Put a “CAUTION: INFLAMMABLE” sign in workshop.
- Do not smoke while servicing fuel system. Keep open flames and sparks away from work area.
- Be sure to furnish the workshop with a CO<sub>2</sub> fire extinguisher.

### CAUTION:

- Before removing fuel line parts, carry out the following procedures:
  - a) Put drained fuel in an explosion-proof container and put lid on securely.
  - b) Release fuel pressure from fuel line. Refer to *EC-67* [QG18DE (except Calif. CA Model)], *EC-744* [QG18DE (Calif. CA Model)], or *EC-1408* (SR20DE), “Fuel Pressure Release”
  - c) Disconnect battery ground cable.
- Always replace O-ring with new ones.
- Do not kink or twist hose and tube when they are installed.
- Do not tighten hose clamps excessively to avoid damaging hoses.
- After installation, run engine and check for fuel leaks at connections.

# FUEL SYSTEM

Removal and Installation (Cont'd)

- Use only a genuine NISSAN fuel filler cap as a replacement. If an incorrect fuel filler cap is used, the MIL may come on.
- For inspection, refer to *EC-55* [QG18DE (except Calif. CA Model)], *EC-732* [QG18DE (Calif. CA Model)], or *EC-1396* (SR20DE), "On Board Refueling Vapor Recovery (ORVR)".

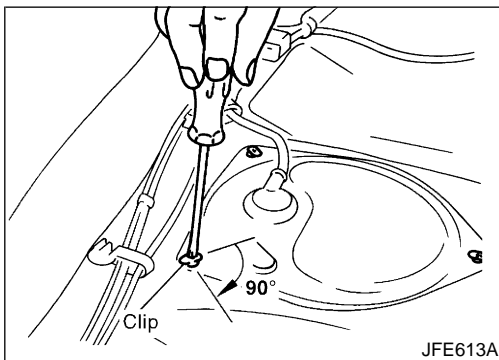
## Fuel Tank

### REMOVAL

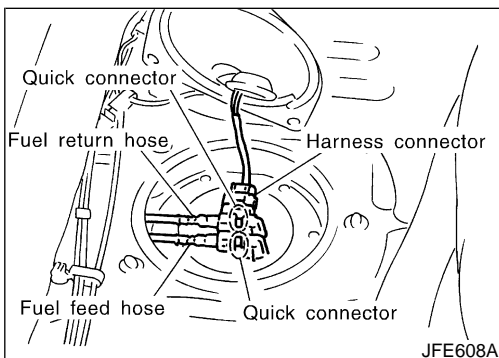
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NIFE0008S01

1. Release fuel pressure from fuel line.  
Refer to **EC-67** [QG18DE (except Calif. CA Model)], **EC-744** [QG18DE (Calif. CA Model)], or **EC-1408** (SR20DE), "Fuel Pressure Release".
2. Disconnect battery ground cable.
3. Open fuel filler lid and filler cap.
4. Drain fuel from fuel tank.
5. Remove rear seat cushion. Refer to **BT-39**, "Removal and Installation".



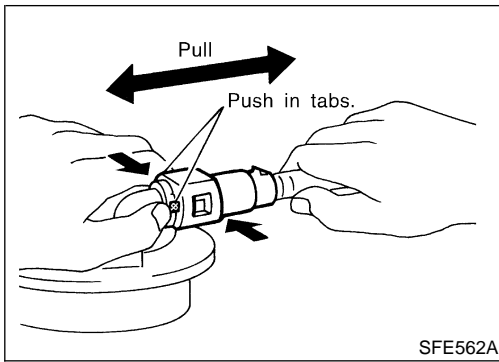
6. Remove inspection hole cover located under rear seat.



7. Disconnect electrical connector.

# FUEL SYSTEM

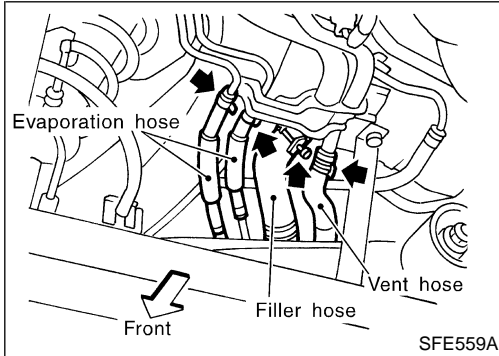
Fuel Tank (Cont'd)



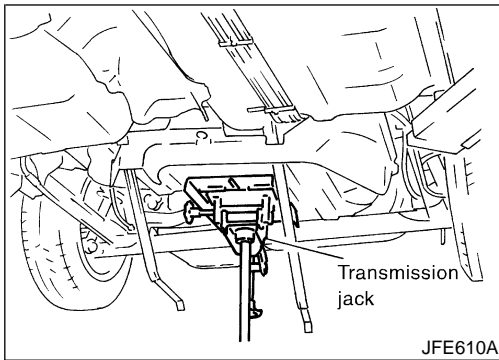
8. Disconnect the quick connectors as follows:
  - a. Put mating marks on tubes and connectors for correct installation.
  - b. Hold the sides of the connector, push in tabs, and pull out the tube inserted in the retainer.

### CAUTION:

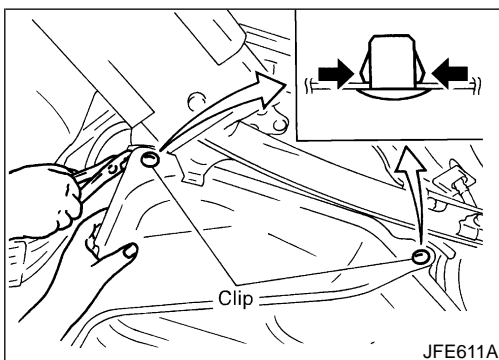
- The tube can be removed when the tabs are completely depressed. Do not twist it more than necessary.
  - Do not use any tools to remove the quick connector.
9. Remove exhaust center tube.



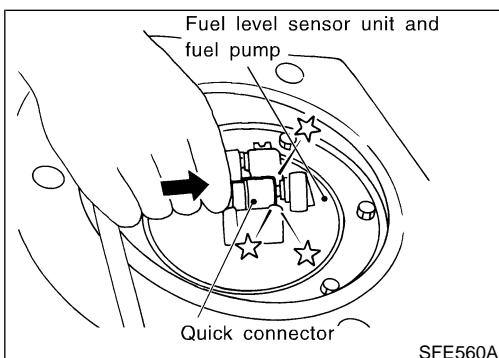
10. From rear left area of fuel tank, remove filler hose, vent hose and evaporation hose.



11. Set a suitable transmission jack under fuel tank.
12. Remove fuel tank mounting band bolts while supporting fuel tank.



13. Lower the fuel tank by 70 to 80 mm (2.76 to 3.15 in), remove the nuts and clips holding the protector, and then remove the protector.
  - To remove the clips, use pliers to squeeze the extensions as shown by the arrows in the figure at left, and then remove the clip from above.
14. Remove fuel tank.



### INSTALLATION

To install, reverse the removal procedure. Connect the quick connectors as follows:

- Align mating marks on tubes and connectors for correct installation.
- Align push in tabs with retainer openings.
- Insert tube into the center of the connector until you hear a click.

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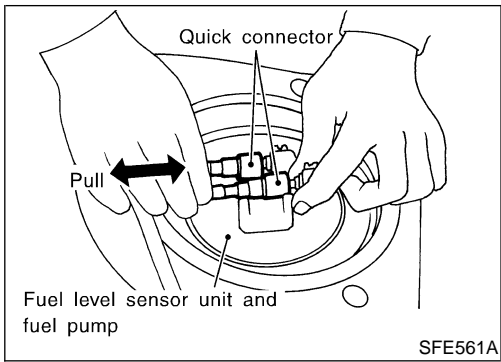
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# FUEL SYSTEM

## Fuel Tank (Cont'd)



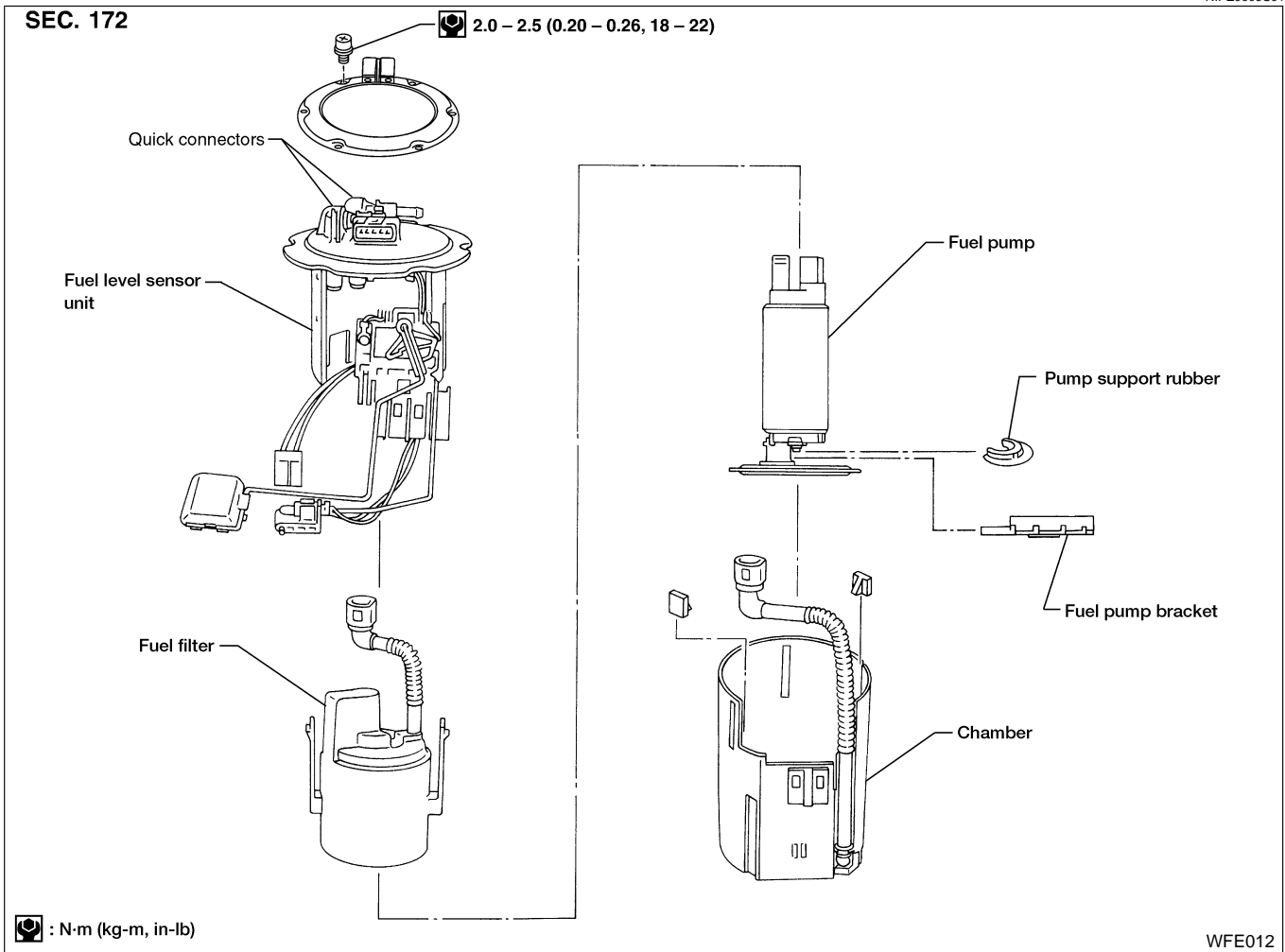
After connecting quick connector, make sure the connection is firmly made using the following method.

- Pull on the fuel tube and connector to make sure they are firmly connected.
- Start the engine, increase engine speed and verify that there are no leaks.

## Fuel Pump, Fuel Level Sensor Unit and Fuel Filter

QG18DE (EXCEPT CALIF. CA MODEL) AND SR20DE

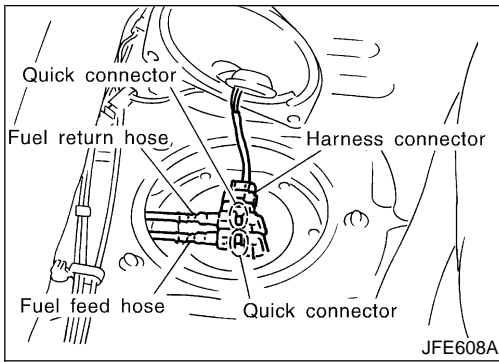
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# FUEL SYSTEM

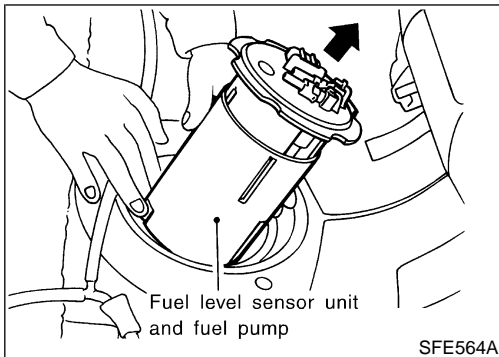
Fuel Pump, Fuel Level Sensor Unit and Fuel Filter (Cont'd)



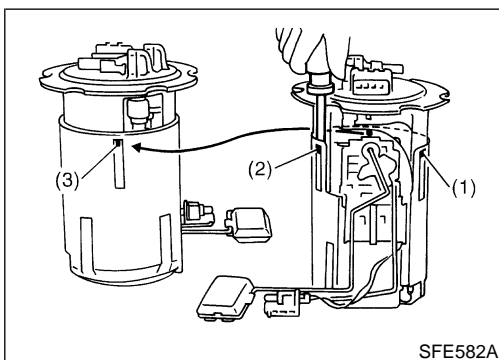
## Removal

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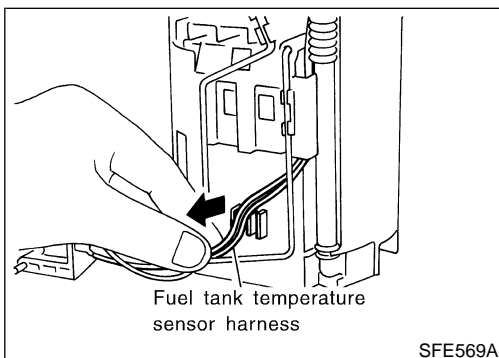
1. Release fuel pressure from fuel line.  
**Refer to EC-67 [QG18DE (except Calif. CA Model)], EC-744 [QG18DE(Calif.CA Model)], or EC-1408(SR20DE), "Fuel Pressure Release".**
2. Disconnect battery ground cable.
3. Open fuel filler lid and filler cap.
4. Remove rear seat cushion. Refer to **BT-39**, "Removal and Installation".
5. Remove inspection hole cover located under the rear seat.
6. Disconnect harness connector.
7. Disconnect the quick connectors.
  - For disconnect of quick connectors, refer to step 8. of "Fuel Tank Removal".
8. Remove the six screws.



9. Pull out the fuel level sensor unit and fuel pump.
  - **Do not damage the arm of the fuel level sensor and fuel tank temperature sensor.**



10. Remove the flange of the fuel level sensor unit and fuel pump.
  - Using a screwdriver, remove the snap fit portion in the order of (1), (2) and (3) as shown in the figure at left.



11. Pull out the fuel tank temperature sensor harness.

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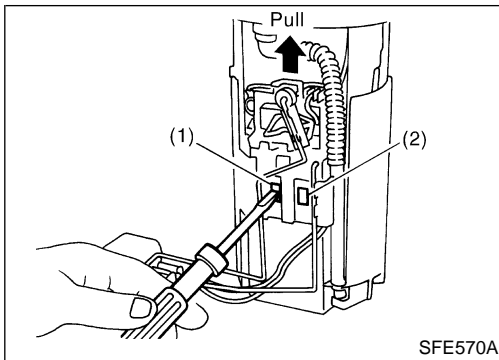
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# FUEL SYSTEM

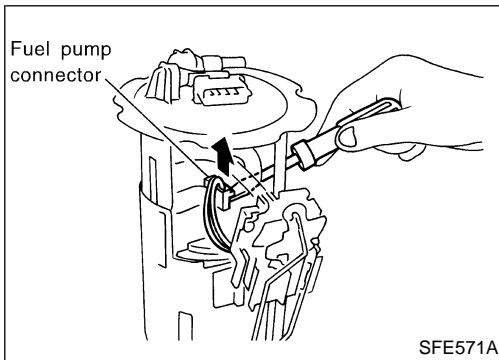
## Fuel Pump, Fuel Level Sensor Unit and Fuel Filter (Cont'd)



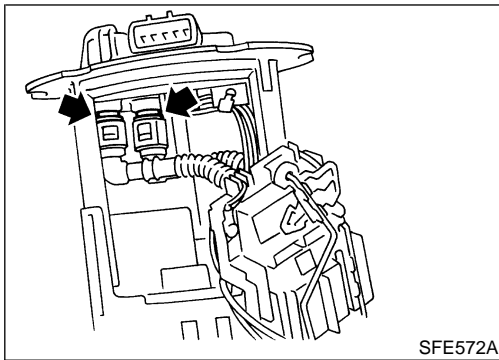
12. Push fuel level sensor flange.

- Using a screwdriver, remove the snap fit portion in the order of (1) and (2) as shown in the figure at left.

13. Pull up the fuel level sensor.

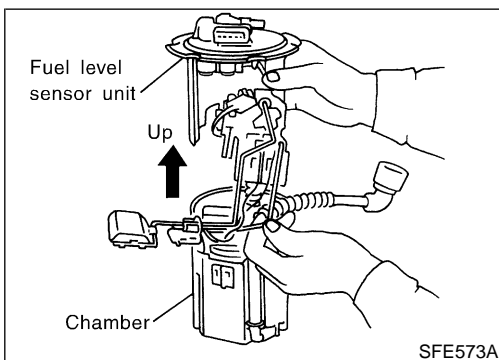


14. Disconnect fuel pump connector.

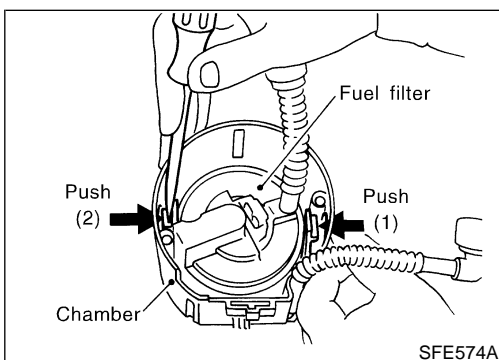


15. Disconnect quick connectors from fuel level sensor unit.

- Put mating marks on tubes and connectors for correct installation.



16. Pull up the fuel level sensor unit from the chamber.

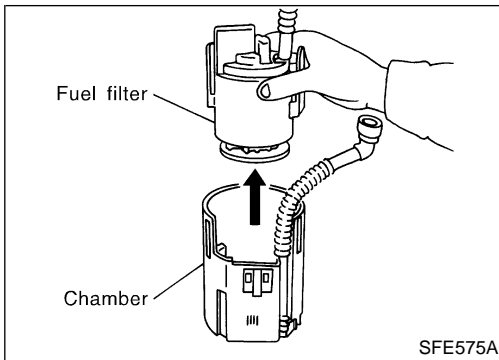


17. Release the fuel filter from the chamber as follows:

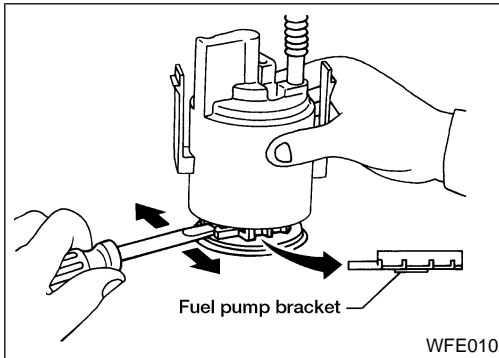
- Using a screwdriver, depress the snap fit portion in the order of (1) and (2) as shown in the figure at left.

# FUEL SYSTEM

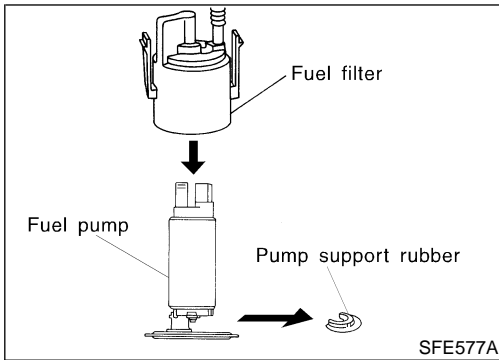
Fuel Pump, Fuel Level Sensor Unit and Fuel Filter (Cont'd)



18. Remove the fuel filter from the chamber.



19. Remove fuel pump bracket, then pull out from the fuel filter.



20. Remove fuel pump, then push down the fuel pump as shown in the figure at left.

21. Remove the pump support rubber from the fuel pump.

## Installation

Installation is in reverse order of removal.

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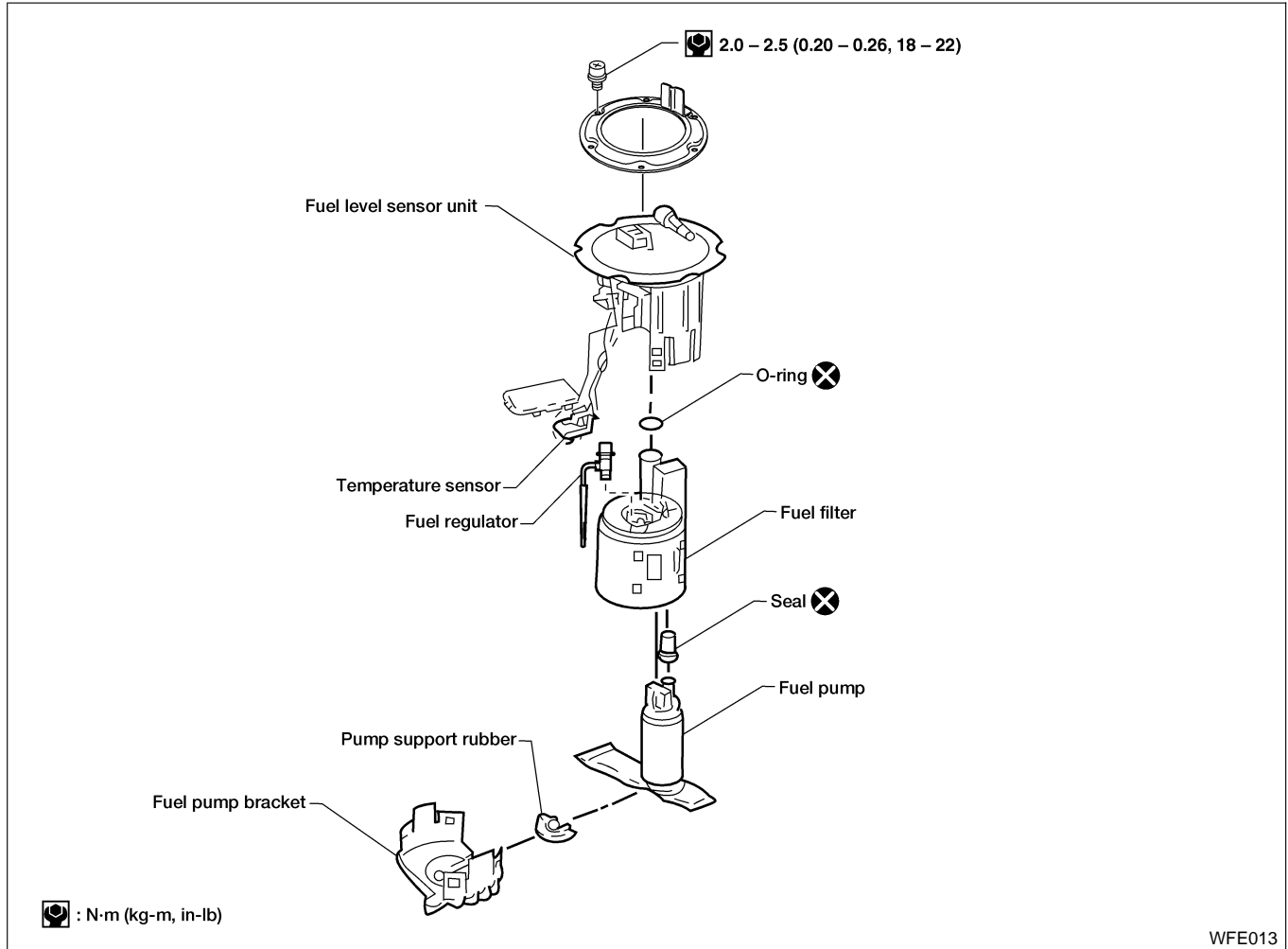
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# FUEL SYSTEM

Fuel Pump, Fuel Level Sensor Unit and Fuel Filter (Cont'd)

## QG18DE CALIF. CA MODEL

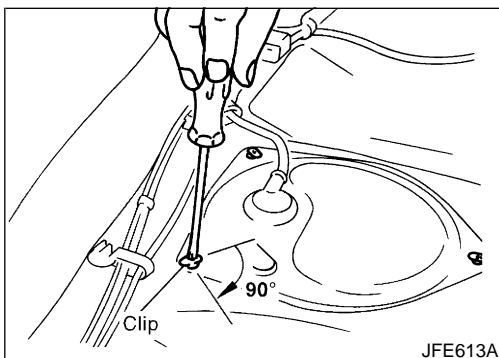
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### Removal

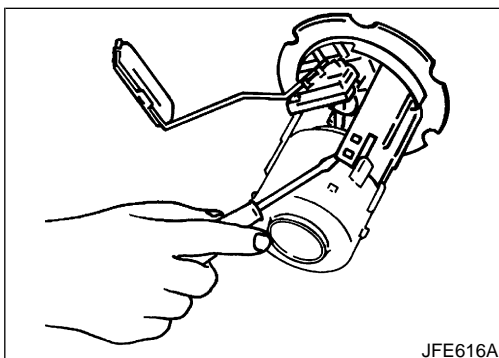
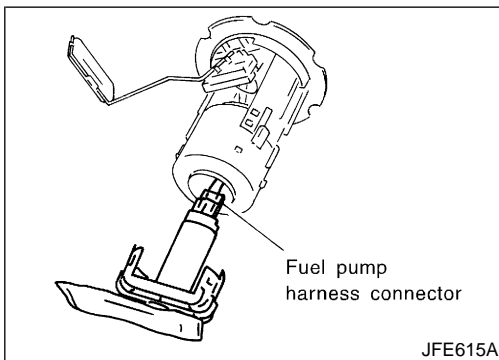
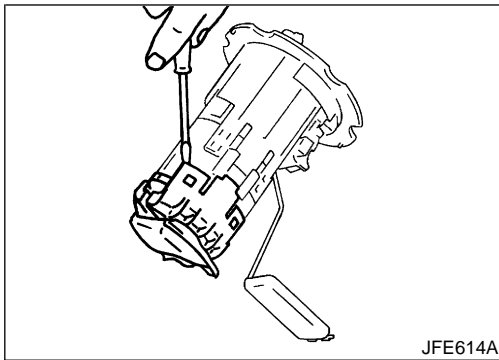
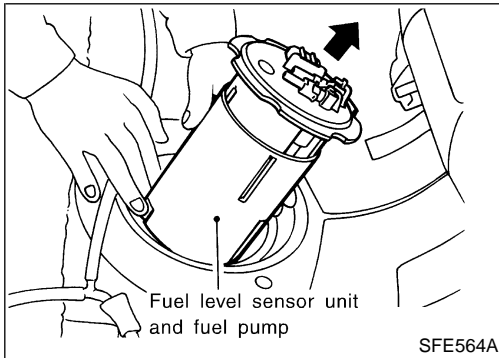
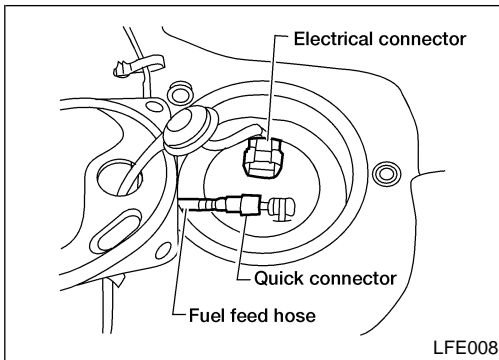
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1. Release fuel pressure from fuel line.  
**Refer to EC-67 [QG18DE (except Calif. CA Model)], EC-744 [QG18DE (Calif. CA Model)], or EC-1408 (SR20DE), "Fuel Pressure Release".**
2. Disconnect battery ground cable.
3. Open fuel filler lid and filler cap.
4. Remove rear seat cushion. Refer to **BT-39**, "Removal and Installation".
5. Remove inspection hole cover located under the rear seat.



# FUEL SYSTEM

Fuel Pump, Fuel Level Sensor Unit and Fuel Filter (Cont'd)



6. Disconnect electrical connector.
7. Disconnect the quick connector.
  - For disconnect of quick connector, refer to step 8. of "Fuel Tank Removal".
8. Remove the six screws.

9. Pull out the fuel level sensor unit and fuel pump.
  - **Do not damage the arm of the fuel level sensor and fuel tank temperature sensor.**

10. Remove fuel pump as shown in the figure at left.
  - Put mating marks on fuel pump and fuel filter for correct installation.

11. Disconnect fuel pump harness connector.

12. Remove fuel filter from fuel level sensor unit as shown in the figure at left.
  - Put mating marks on fuel filter and fuel level sensor unit for correct installation.

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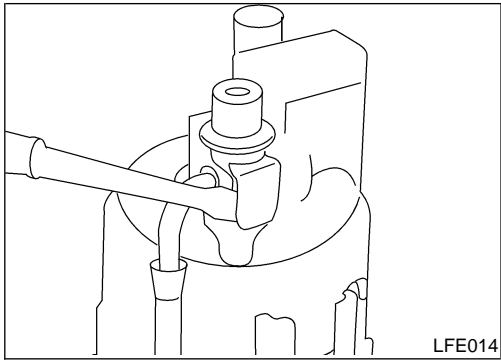
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## FUEL SYSTEM

Fuel Pump, Fuel Level Sensor Unit and Fuel Filter (Cont'd)

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13. Remove fuel pressure regulator from fuel filter, if necessary.

### Installation

Installation is in reverse order of removal.

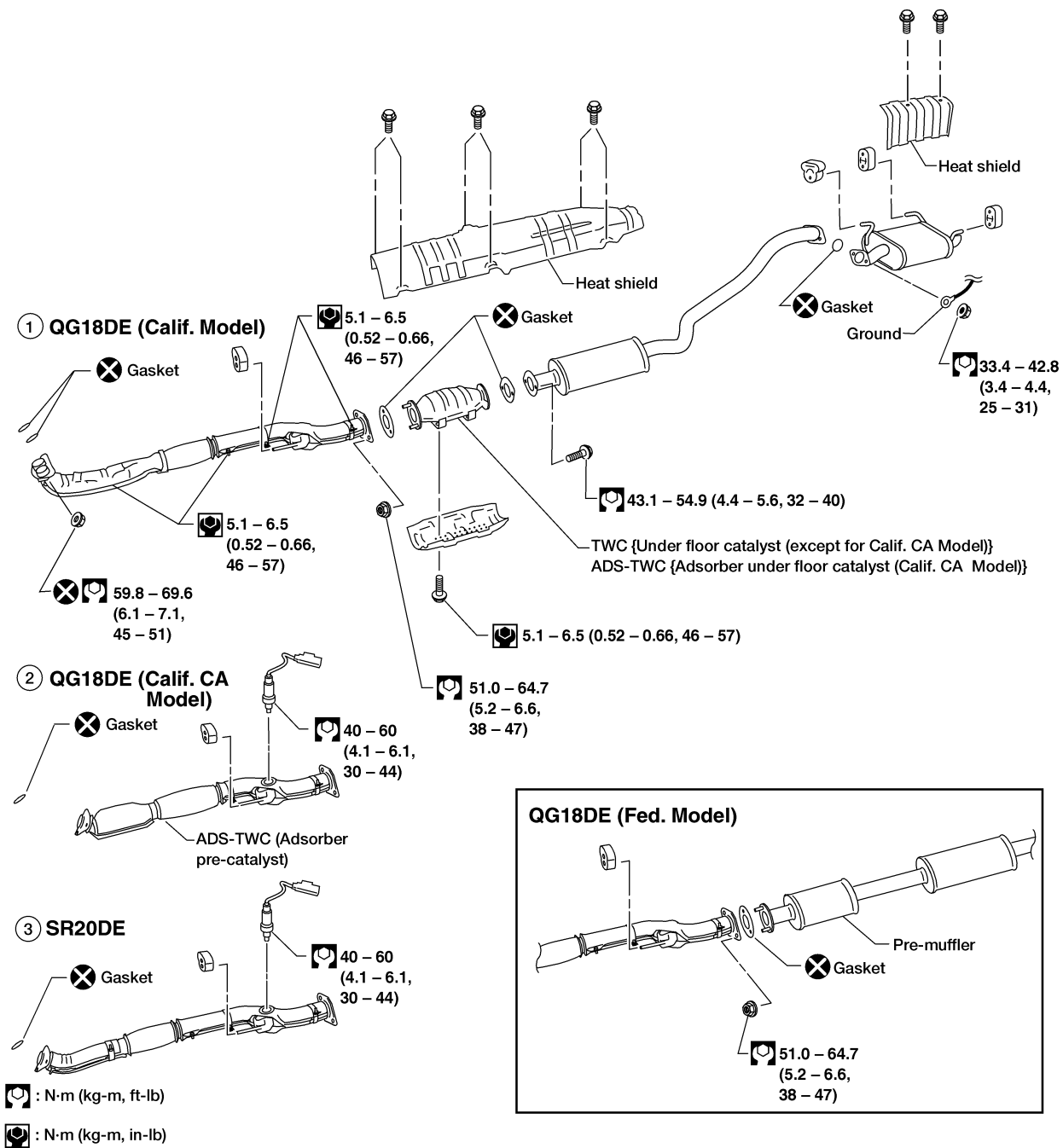
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# EXHAUST SYSTEM

Removal and Installation

## Removal and Installation

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### CAUTION:

- Always replace exhaust gaskets with new ones when reassembling.
- With engine running, check all tube connections for exhaust gas leaks, and entire system for unusual noises.
- Check to ensure that mounting brackets and mounting insulators are installed properly and free from undue stress. Improper installation could result in excessive noise or vibration.
- Discard any heated oxygen sensor which has been dropped from a height of more than 0.5 m (19.7 in) onto a hard surface such as a concrete floor; use a new one.
- Before installing a new oxygen sensor, clean exhaust system threads using oxygen sensor thread cleaner tool, J-43897-18 or J-43897-12, and apply anti-seize lubricant.
- Do not overtorque the oxygen sensor. Doing so may cause damage to the oxygen sensor, resulting in the MIL coming on.

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## EXHAUST SYSTEM

*Removal and Installation (Cont'd)*

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- If the Calif. CA Model's TWC (manifold three way catalyst) or ADS-TWC (adsorber pre-catalyst) replacement is necessary, always replace the TWC together with the ADS-TWC. Never replace these catalysts individually. The TWC and the ADS-TWC are only available together as a kit.