

## Evaporative Emissions -

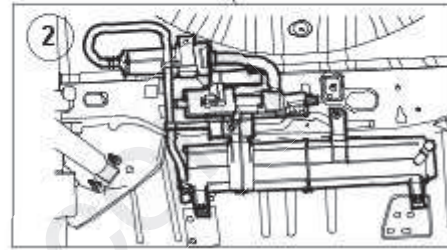
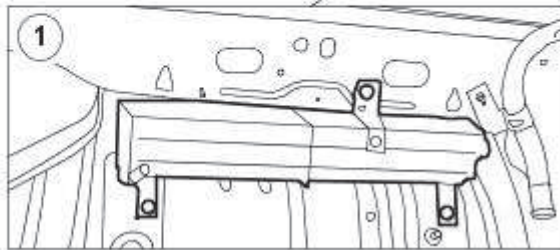
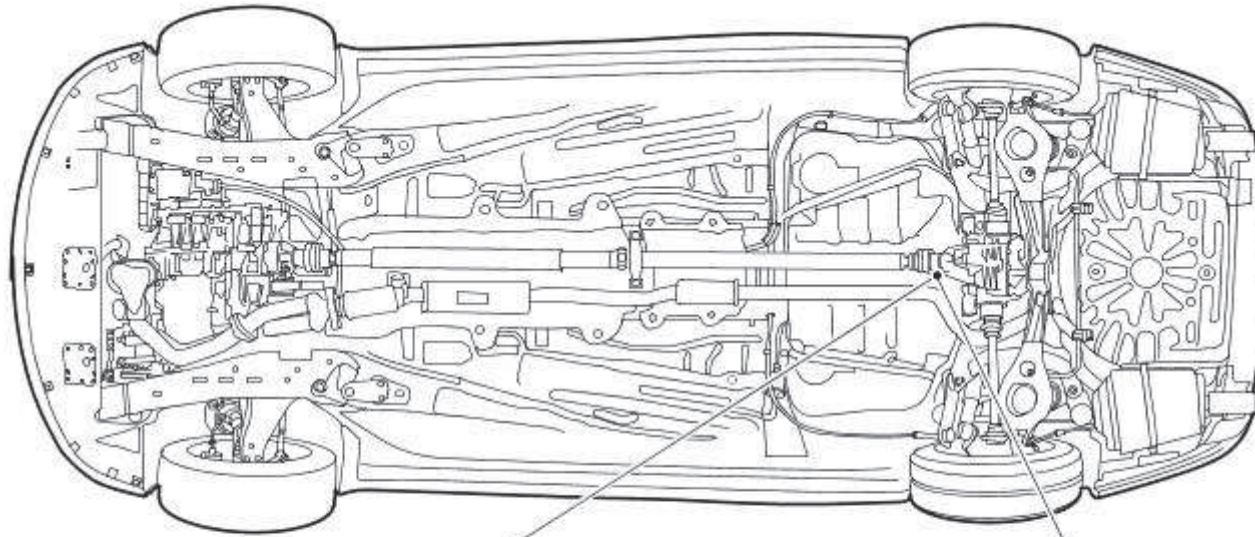
### Torque Specifications

Description	Nm	lb-ft	lb-in
Evaporative emission canister retaining nuts and bolts	5	-	44
Accelerator cable retaining bracket retaining bolts - vehicles with 2.0L engine	9	-	80
Fuel tank support strap retaining bolts	25	18	-
Fuel tank filler pipe to fuel tank hose retaining clip	3	-	27

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# Evaporative Emissions - Evaporative Emissions

Description and Operation



E49639

Item	Part Number	Description
1	—	Evaporative emission canister - non federal market vehicles
2	—	Evaporative emission canister - federal market vehicles

• NOTE: 2.5L and 3.0L shown, 2.0L similar.

The evaporative emission fuel vapor management system consists of an evaporative emission canister and a canister purge valve. A combination of rigid and flexible low permeation hoses connect the fuel tank to the evaporative emission canister and canister purge valve intake manifold.

To satisfy LEV2 emission requirements, the fuel vapor management system uses a solenoid controlled canister close valve and a fuel tank pressure sensor which are used during the engine management system on-board diagnostic routines.

When the canister purge valve is closed, the fuel tank vapor is vented into the canister through the fuel tank roll-over valves. The canister absorbs the fuel vapor and prevents the release of hydrocarbons into the atmosphere. When the vapor management valve is cycled, the canister is exposed to the intake manifold vacuum and the fuel vapor deposits are drawn into the manifold where they mix with the incoming air/fuel charge. This air/fuel mixture ratio is controlled by the engine management system.

The evaporative emission fuel vapor management system is controlled by the engine control module (ECM) according to calibrated data tables.

# Evaporative Emissions - Evaporative Emissions2.0L NA V6 - AJV6

## Diagnosis and Testing

1. **1.** Visually inspect for obvious signs of mechanical or electrical damage, blown fuses, etc.
2. **2.** If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
3. **3.** If the concern is not visually evident, verify the symptom and proceed with diagnosis, using the Jaguar approved diagnostic system, where available.
4. **4.** The DTC summaries are generated to support the Jaguar approved diagnostic system, but also provide the basis for diagnosis of OBD related concerns using a suitable generic scan tool, in conjunction with the electrical guides. Until the DTC summaries and electrical guides are available, the evaporative emissions system can only be accurately diagnosed using the Jaguar approved diagnostic system. For additional information, refer to Dealer technical support.

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# Evaporative Emissions - Evaporative Emissions 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27

## Diagnosis and Testing

### Preliminary Inspection

1. **1.** Visually inspect for obvious signs of mechanical or electrical damage, blown fuses, etc.
2. **2.** If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
3. **3.** If the concern is not visually evident, verify the symptom and proceed with diagnosis, using the Jaguar approved diagnostic system, where available.
4. **4.** Where K-Line equipment is available, it should be used as an aid to diagnosis.

### Diagnostic Drive Cycles

Following the setting of a DTC, the appropriate repairs must be carried out, and the normal operation of the system checked. This will be done by performing a series of drive cycles which will enable the vehicle to operate the Evaporative Emissions system as a function check. The following drive cycles cover the use of the Jaguar approved diagnostic system, GDS510 instrument, and a test with no additional equipment, where possible.

### Flow check monitor drive cycle conditions (non-Federal)

- **NOTE:** These conditions must be satisfied before the test is commenced.

This drive cycle should be performed following rectification work on the system.

- Make sure the fuel tank is between one quarter and three quarters full. (Adding fuel will increase vapor generation; the diagnostic will not run if the vapor concentration is too great).
- Make sure the ambient air temperature is above -5°C (23°F).

### Flow check monitor drive cycle (non-Federal)

- Drive the vehicle for a minimum of 15 minutes, avoiding severe or excessive fuel movement.
- Avoiding excessive fuel movement, gently bring the vehicle to rest. (Coast to a stop).
- Allow the vehicle to idle for two minutes.

### Full Evaporative system monitor drive cycle conditions

- **NOTE:** These conditions must be satisfied before the test is commenced.

- Make sure the fuel filler cap is correctly fitted. (Minimum three clicks).
- Clear the DTCs. (Perform a code clear, even if no codes are present. This will reset TIDs).
- Make sure the fuel tank is between one quarter and three quarters full. (Adding fuel will increase vapor generation; the diagnostic will not run if the vapor concentration is too great).
- Drive the vehicle for a minimum of two minutes, and until fully warm. (Temperature gauge just below mid-point).
- Make sure that the purge valve is operating, either by touch, sound, or using datalogger. (Purge vapor management valve-duty cycle).
  - If the purge is not active, perform the "Drive cycle for green engine control module (ECM)" in this section.

### Full Evaporative system monitor drive cycle

- Drive the vehicle to a suitable road where the test can be carried out, switch off the ignition.
- Leave the ignition switched off for 30 seconds.
- Restart the engine, accelerate briskly to 80 Kilometres per hour (50 miles per hour), making sure that the engine speed reaches at least 3500 RPM for a minimum of five seconds.

### 40 thou test, using the Jaguar approved diagnostic system

- Avoiding high engine loads, drive the vehicle steadily between 64 and 97 Kilometres per hour. (40 and 60 miles per hour). Using the Jaguar approved diagnostic system, monitor the Evaporative valve duty cycle (Purge vapor management valve-duty cycle), CCV status (Canister close valve-vapor recovery system), and the FTPS (Fuel tank pressure-vapor recovery system). The Jaguar approved diagnostic system will give an indication when the test is active. Dependant on the level of vapor concentration, it may take up to 30 minutes for the test to initialise. (Vapor concentration cannot be measured using the Jaguar approved diagnostic equipment). When the test has initialised (CCV closed), it will take up to 90 seconds to complete. Avoid excessive fuel movement while the test is active.

### 20 thou test, using the Jaguar approved diagnostic system

- Continue driving the vehicle steadily between 64 and 97 Kilometres per hour. (40 and 60 miles per hour). avoiding high engine loads for a further 10 minutes.
- Avoiding excessive fuel movement, gently bring the vehicle to rest. (Coast to a stop).
- Allow the vehicle to idle for 2 minutes.
- Use the Jaguar approved diagnostic system to monitor the Evaporative valve duty cycle (Purge vapor management valve-duty cycle), CCV status (Canister close valve-vapor recovery system), and the FTPS (Fuel tank pressure-vapor recovery system). The Jaguar approved diagnostic system will give an indication when the test is active. When the test has initialised (CCV closed), it will take up to 90 seconds to complete.

If the 20 thou test has not run, it is likely that the vapor concentration in the purge system is too great. In this case, carry out the following -

- Drive the vehicle steadily for a further 30 minutes, avoiding excessive fuel movement.
- Avoiding excessive fuel movement, gently bring the vehicle to rest. (Coast to a stop).
- Allow the vehicle to idle for 2 minutes.
- Use the Jaguar approved diagnostic system to monitor the Evaporative valve duty cycle (Purge vapor management valve-duty cycle), CCV status (Canister close valve-vapor recovery system), and the FTPS (Fuel tank pressure-vapor recovery system). The Jaguar approved diagnostic system will give an indication when the test is active. When the test has initialised (CCV closed), it will take up to 90 seconds to complete.

If the 20 thou test fails to run a second time, repeat the entire test.

- Check for DTCs. Rectify as indicated.

#### 40 thou test, using GDS510

- Avoiding high engine loads, drive the vehicle steadily between 64 and 97 Kilometres per hour. (40 and 60 miles per hour)
- When the test has initialised, using the GDS510, monitor the Evaporative valve duty cycle, CCV status, and the FTPS. (The GDS510 will give an indication when the test is active).
- When the test has initialised (CCV closed), it will take up to 90 seconds to complete.
- To make sure that the test has completed, TID 08 in mode 6 must be checked. (If the test has not completed, this TID will display 0. Any other value indicates test completion).
- If the test did not complete, repeat the test.

#### 20 thou test, using GDS510

- Continue driving the vehicle steadily between 64 and 97 Kilometres per hour. (40 and 60 miles per hour) avoiding high engine loads for a further 10 minutes.
- Avoiding excessive fuel movement, gently bring the vehicle to rest. (Coast to a stop).
- Allow the vehicle to idle for 2 minutes.
- When the test has initialised, using the GDS510, monitor the Evaporative valve duty cycle, CCV status, and the FTPS. (The GDS510 will give an indication when the test is active).
- When the test has initialised (CCV closed), it will take up to 90 seconds to complete.
- To make sure that the test has completed, TID 06 in mode 6 must be checked. (If the test has not completed, this TID will display 0. Any other value indicates test completion).
- If the test did not complete, repeat the test.
- If the 20 thou test has not run, it is likely that the vapor concentration in the purge system is too great. In this case, drive the vehicle steadily for a further 30 minutes, avoiding excessive fuel movement, then repeat the test.
- Check for DTCs. Rectify as indicated.

#### 40 thou and 20 thou tests using no additional equipment

The test procedure and conditions are as for the Jaguar approved diagnostic system or GDS510, but no confirmation of the test having run is possible without the use of one of these instruments. The DTC will be set if the fault still exists, but the possibility exists that the conditions for the test to run may not have been met, in which case, the DTC may not be set until the owner reproduces the conditions in which the fault originally occurred.

#### Drive cycle for "green" ECM

- To enable the ECM to re-learn fuelling adaptations.

• NOTE: This procedure should be performed whenever the vehicle battery has been disconnected.

Due to component tolerance and wear during the normal running of a vehicle, fuelling and air requirements for an engine will vary over time. The ECM has the ability to adjust for this variation by "learning" the level of compensation that is required. (These compensation values are referred to as adaptations)

If the vehicle battery is disconnected, all adaptations held within the ECM will be lost (ie, set to Zero) The ECM is then referred to as "green". To enable the vehicle to function correctly, the ECM must "relearn" these adaptations.

There are four areas or sites that need to be relearned.

- Allow the vehicle to idle until fully warm. (Temperature gauge just below mid-point).
- Allow to idle for a further three minutes, minimum.
- Drive the vehicle with the air conditioning OFF on a level road using a constant throttle, or speed control if fitted, for at least one minute in the following gears, at the stated engine speeds for each of the sites below.

The vehicle speed is for guidance only. DO NOT use the vehicle speed as the target to set adaptations.

#### "Green" ECM drive cycle chart. Site 1

Engine/transmission software level	3.0L Man Z65 on	3.0L Auto Z65 on	2.5L Man Z65 on	2.5L Auto Z65 on
GEAR	N	P/N	N	P/N
ENGINE SPEED	Idle	Idle	Idle	Idle
VEHICLE SPEED (GUIDE ONLY)	0MPH	0MPH	0MPH	0MPH

#### "Green" ECM drive cycle chart. Site 2

Engine/transmission software level	3.0L Man Z65 on	3.0L Auto Z65 on	2.5L Man Z65 on	2.5L Auto Z65 on
GEAR	3rd	3rd	3rd	3rd
ENGINE SPEED	2000RPM	1750RPM	2000RPM	1750RPM
VEHICLE SPEED (GUIDE ONLY)	45KPH (28MPH)	39KPH (24MPH)	47KPH (29MPH)	37KPH (23MPH)

#### "Green" ECM drive cycle chart. Site 3

Engine/transmission software level	3.0L Man Z65 on	3.0L Auto Z65 on	2.5L Man Z65 on	2.5L Auto Z65 on
GEAR	4th	4th	4th	4th
ENGINE SPEED	2250RPM	2000RPM	2250RPM	2250RPM
VEHICLE SPEED (GUIDE ONLY)	68KPH (42MPH )	64KPH (40MPH)	72KPH (45MPH)	69KPH (43MPH )

#### "Green" ECM drive cycle chart. Site 4

Engine/transmission software level	3.0L Man Z65 on	3.0L Auto Z65 on	2.5L Man Z65 on	2.5L Auto Z65 on
GEAR	4th	4th	4th	4th
ENGINE SPEED	2750RPM	2500RPM	2750RPM	2750RPM
VEHICLE SPEED (GUIDE ONLY)	84KPH (52MPH)	80KPH (50MPH)	87KPH (54MPH)	87KPH (54MPH)

Bring the vehicle to rest, allow to idle for one minute.

 **WARNING:** The following tests may involve parts which are hot.

If sufficient adaptations have occurred, the evaporative valve should now be operating. This can be verified manually by either touching or listening to the valve. By touching the evaporative valve, it should be possible to feel the valve switching. Listening to the evaporative valve is best done using a workshop stethoscope, through which it should be possible to hear the valve operating.

## Diagnostic Trouble Code Charts

Diagnostic Trouble Code Chart

Diagnostic Trouble Code	Description	Possible Source	Action
P0441	Evaporative purge valve flow check.	<ul style="list-style-type: none"> <li>● Evaporative purge valve.</li> <li>● Hose and connections.</li> </ul>	GO to Pinpoint Test <a href="#">A</a> .
P0442	Leak detected. 40 thou.	<ul style="list-style-type: none"> <li>● Hoses and connections.</li> <li>● Fuel tank filler cap.</li> <li>● Carbon canister.</li> <li>● Canister close valve.</li> </ul>	GO to Pinpoint Test <a href="#">B</a> .
P0443	Evaporative purge valve leaking.	Evaporative purge valve.	GO to Pinpoint Test <a href="#">C</a> .
P0444	Evaporative purge valve circuit open.	Evaporative purge valve or circuit.	GO to Pinpoint Test <a href="#">D</a> .
P0445	Evaporative purge valve circuit shorted.	Evaporative purge valve or circuit.	GO to Pinpoint Test <a href="#">E</a> .
P0446	Canister close valve stuck closed.	<ul style="list-style-type: none"> <li>● Filter box.</li> <li>● Hoses and connections.</li> <li>● CCV.</li> <li>● Fuel tank vapor port.</li> <li>● Carbon canister.</li> </ul>	GO to Pinpoint Test <a href="#">F</a> .
P0447	Canister close valve circuit open circuit.	CCV or circuit.	GO to Pinpoint Test <a href="#">G</a> .
P0448	Canister close valve circuit shorted.	CCV or circuit.	GO to Pinpoint Test <a href="#">H</a> .
P0450	Fuel tank Pressure Sensor malfunction	FTPS.	GO to Pinpoint Test <a href="#">I</a> .
P0452	FTPS low input.	FTPS or circuit.	GO to Pinpoint Test <a href="#">J</a> .
P0453	FTPS high input.	FTPS or circuit.	GO to Pinpoint Test <a href="#">J</a> .
P0455	Gross leak.	<ul style="list-style-type: none"> <li>● Fuel tank and lines.</li> <li>● Fuel filler cap.</li> <li>● Carbon Canister.</li> <li>● Evaporative purge valve stuck closed.</li> <li>● CCV.</li> <li>● Blockage in vapor lines from engine to fuel tank.</li> </ul>	GO to Pinpoint Test <a href="#">K</a> .
P0456	Leak detected. 20 thou.	<ul style="list-style-type: none"> <li>● Fuel tank and lines.</li> <li>● Fuel filler cap.</li> <li>● Carbon Canister.</li> <li>● CCV.</li> </ul>	GO to Pinpoint Test <a href="#">L</a> .

## Pinpoint Tests

### PINPOINT TEST A : P0441. EVAPORATIVE PURGE VALVE FLOW CHECK. VALVE STUCK CLOSED

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>A1: CHECK EVAPORATIVE PURGE VALVE IS OPERATING</b>	
<b>1</b>	Disconnect the Vapor pipe from the inlet port of the Evaporative purge valve (ie, from fuel tank).
<b>2</b>	RUN the engine for 2 minutes, making sure that the engine reaches normal operating temperature.
<b>3</b>	CHECK that the Evaporative purge valve is operating, by touch or by sound. (Using a stethoscope, it will be possible to hear the valve operating).
	Is the valve operating? <b>Yes</b> <a href="#">GO to A2.</a> <b>No</b> CHECK for DTC P0444, P0445. Conduct "green" ECM drive cycle. For additional information, see "diagnostic drive cycles" above.
<b>A2: CHECK FOR VACUUM AT EVAPORATIVE PURGE VALVE</b>	
<b>1</b>	CHECK for vacuum at the valve.
	Is a vacuum present? <b>Yes</b> Possible intermittent fault. CLEAR the DTC. Carry out a flow check monitor drive cycle. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above. <b>No</b> <a href="#">GO to A3.</a>
<b>A3: CHECK FOR BLOCKAGES IN THE SYSTEM</b>	
<b>1</b>	CHECK for blockages in the intake manifold drilling, and the pipe from the intake manifold to the Evaporative purge valve.
	Was a blockage found? <b>Yes</b> Rectify the blockage. CLEAR the DTC. Carry out a flow check monitor drive cycle. For additional information, see "diagnostic drive cycles" above. <b>No</b> INSTALL a new Evaporative purge valve. REFER to <a href="#">Evaporative Emission Canister Purge Valve</a> in this section. CLEAR the DTC. Carry out a flow check monitor drive cycle. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.



**PINPOINT TEST B : P0442. LEAK DETECTED. 40 THOU**

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>B1: CHECK FUEL FILLER CAP FITMENT AND CONDITION OF PIPES AND CONNECTORS</b>	
	<ol style="list-style-type: none"> <li>1 Make sure that the fuel filler cap is correctly installed and tightened. (Minimum 3 clicks).</li> <li>2 Check the condition of all accessible pipes and connectors in the vapor line.</li> </ol>
	Are all pipes and connectors in good condition? <b>Yes</b> Suspect concern with fuel tank assembly or carbon canister assembly. <b>No</b> REPAIR as necessary. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.

**PINPOINT TEST C : P0443. EVAPORATIVE PURGE VALVE LEAKING**

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>C1: CHECK EVAPORATIVE PURGE VALVE INTEGRITY</b>	
	<ol style="list-style-type: none"> <li>1 Disconnect the outlet pipe from the Evaporative purge valve. (From valve to manifold).</li> <li>2 Apply a vacuum to the valve outlet pipe.</li> </ol>
	Does the valve hold vacuum? <b>Yes</b> Possible intermittent fault. CLEAR the DTC. Carry out a full Evap system monitor drive cycle. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above. <b>No</b> INSTALL a new Evaporative purge valve. REFER to <a href="#">Evaporative Emission Canister Purge Valve</a> in this section. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.

**PINPOINT TEST D : P0444. EVAPORATIVE PURGE VALVE CIRCUIT OPEN CIRCUIT**

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>D1: CHECK SUPPLY VOLTAGE TO EVAPORATIVE PURGE VALVE</b>	
	<ol style="list-style-type: none"> <li>1 Disconnect Evaporative purge valve electrical connector, JB170.</li> <li>2 Turn the ignition switch to the ON position.</li> <li>3 Measure the voltage at JB170, pin 1 (GU).</li> </ol>
	Is the voltage greater than 10 volts? <b>Yes</b> <a href="#">GO to D2.</a> <b>No</b> REPAIR the circuit between Evaporative purge valve electrical connector, JB170, pin 1 (GU) and the EMS control relay. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.
<b>D2: CHECK THE EVAPORATIVE PURGE VALVE SIGNAL WIRE FOR CONTINUITY</b>	
	<ol style="list-style-type: none"> <li>1 Disconnect the ECM electrical connector, EN16.</li> <li>2 Measure the resistance between EN16, pin 66 (UY) and JB170, pin 2 (UY).</li> </ol>
	Is the resistance less than 5 ohms? <b>Yes</b> <a href="#">GO to D3.</a> <b>No</b> REPAIR the circuit between EN16, pin 66 (UY) and JB170, pin 2 (UY). CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.
<b>D3: CHECK THE EVAPORATIVE PURGE VALVE SIGNAL WIRE FOR SHORT TO GROUND</b>	
	<ol style="list-style-type: none"> <li>1 Measure the resistance between JB170, pin 2 (UY) and GROUND.</li> </ol>
	Is the resistance less than 10,000 ohms? <b>Yes</b> REPAIR the short to ground. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above. <b>No</b> <a href="#">GO to D4.</a>
<b>D4: CHECK THE EVAPORATIVE PURGE VALVE SIGNAL WIRE FOR SHORT TO BATTERY</b>	
	<ol style="list-style-type: none"> <li>1 Connect the ECM electrical connector, EN16.</li> <li>2 Turn the ignition switch to the ON position.</li> <li>3 CHECK for a voltage at JB170, pin 2 (UY).</li> </ol>
	Is the voltage greater than 1 volt? <b>Yes</b> REPAIR the short to battery. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above. <b>No</b> <a href="#">GO to D5.</a>
<b>D5: CHECK THE EVAPORATIVE PURGE VALVE RESISTANCE</b>	
	<ol style="list-style-type: none"> <li>1 CHECK the resistance between pins 1 and 2 of the Evaporative purge valve.</li> </ol>
	Is the resistance 30 to 34 ohms at 20°C (68°F)? <b>Yes</b> INSTALL a new ECM. REFER to Section <a href="#">303-14A Electronic Engine Controls</a> / <a href="#">303-14B Electronic Engine Controls</a> . Before replacing a ECM, contact Dealer technical support. <b>No</b> INSTALL a new Evaporative purge valve. REFER to <a href="#">Evaporative Emission Canister Purge Valve</a> in this section. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.

**PINPOINT TEST E : P0445. EVAPORATIVE PURGE VALVE CIRCUIT SHORTED**

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>E1: CHECK EVAPORATIVE PURGE VALVE SIGNAL WIRE FOR SHORT TO GROUND</b>	
	<ol style="list-style-type: none"> <li>1 Disconnect Evaporative purge valve electrical connector JB170.</li> <li>2 Disconnect ECM electrical connector, EN16.</li> <li>3 Measure the resistance between JB170, pin 2 (UY) and ground.</li> </ol>
	<p>Is the resistance less than 10,000 ohms?</p> <p><b>Yes</b> REPAIR the short to ground. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p> <p><b>No</b> NO short found. A short in the Evaporative purge valve supply circuit may result in a blown fuse 36, PDFB. See initial checks. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p>

<b>PINPOINT TEST F : P0446. CANISTER CLOSE VALVE STUCK CLOSED</b>	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>F1: CHECK FOR FLOW THROUGH SYSTEM</b>	
• NOTE: Depending on the severity of the blockage, it is possible that some difficulty has been experienced during refuelling.	
	<ol style="list-style-type: none"> <li>1 Disconnect the vapor line from Evaporative purge valve inlet port and apply low pressure.</li> <li>2 CHECK for free flow of air through the following, paying attention to kinked or flattened pipes. <ul style="list-style-type: none"> <li>• Filter.</li> <li>• Interconnecting pipe. (Filter to CCV).</li> <li>• CCV.</li> <li>• Interconnecting pipe. (CCV to carbon canister).</li> <li>• Carbon canister.</li> <li>• Interconnecting pipe. (Carbon canister to fuel tank).</li> <li>• Fuel tank vapor port.</li> </ul> </li> </ol>
	<p>Is there a restriction?</p> <p><b>Yes</b> RECTIFY as necessary. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle, RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p> <p><b>No</b> CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle, RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p>

<b>PINPOINT TEST G : P0447. CANISTER CLOSE VALVE CIRCUIT OPEN CIRCUIT</b>	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>G1: CHECK SUPPLY VOLTAGE TO CCV</b>	
	<ol style="list-style-type: none"> <li>1 Disconnect canister close valve electrical connector, FT5.</li> <li>2 Turn the ignition switch to the ON position.</li> <li>3 Measure the voltage at FT5, pin 1 (GU).</li> </ol>
	<p>Is the voltage greater than 10 volts?</p> <p><b>Yes</b> <a href="#">GO to G2.</a></p> <p><b>No</b> REPAIR the circuit between FT5, pin 1 (GU) and the EMS control relay. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p>
<b>G2: CHECK THE CCV SIGNAL WIRE FOR CONTINUITY.</b>	
	<ol style="list-style-type: none"> <li>1 Disconnect the ECM electrical connector, EN16.</li> <li>2 Measure the resistance between EN16, pin 67 (O) and FT5, pin 2 (O).</li> </ol>
	<p>Is the resistance less than 5 ohms?</p> <p><b>Yes</b> <a href="#">GO to G4.</a></p> <p><b>No</b> REPAIR the circuit between EN16, pin 67 (O) and FT5, pin 2 (O). For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p>
<b>G3: CHECK THE CCV SIGNAL WIRE FOR SHORT TO BATTERY</b>	
	<ol style="list-style-type: none"> <li>1 Turn the ignition switch to the ON position.</li> <li>2 CHECK for a voltage at FT5, pin 2 (O).</li> </ol>
	<p>Is the voltage greater than 1 volt?</p> <p><b>Yes</b> REPAIR the short to battery. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p> <p><b>No</b> <a href="#">GO to G4.</a></p>
<b>G4: CHECK THE CCV RESISTANCE</b>	
	<ol style="list-style-type: none"> <li>1 CHECK the resistance between pins 1 and 2 of the CCV.</li> </ol>
	<p>Is the resistance 25 to 30 Ohms at 20°C (68°F)?</p> <p><b>Yes</b> INSTALL a new ECM. REFER to Section <a href="#">303-14A Electronic Engine Controls</a> / <a href="#">303-14B Electronic Engine Controls</a>. Before replacing a ECM, contact Dealer technical support.</p> <p><b>No</b> INSTALL a new CCV. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p>

<b>PINPOINT TEST H : P0448. CCV CIRCUIT SHORTED.</b>	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS



**H1: CHECK CCV SIGNAL WIRE FOR SHORT TO GROUND.**

- 1 Disconnect CCV electrical connector, FT5.
- 2 Disconnect ECM electrical connector, EN16.
- 3 Measure the resistance between FT5, pin 2 (O) and ground.

Is the resistance less than 10,000 Ohms?

**Yes**

REPAIR the short to ground. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.

**No**

NO short found. A short in the CCV supply circuit may result in a blown fuse 36, PDFB. See initial checks.

**PINPOINT TEST I : P0450. FUEL TANK PRESSURE SENSOR MALFUNCTION.**

• NOTE: Prior to commencing this test, REFER to Section [303-14A Electronic Engine Controls](#) / [303-14B Electronic Engine Controls](#). Electronic Engine Controls, Diagnosis and Testing, sensor supply and ground circuits.

• NOTE: Access to the FTP sensor involves the removal of the fuel tank. To reduce the amount of work necessary, a slave harness and sensor could be used. This can be connected at the access port beneath the rear seat. Tests can then be carried out via the slave harness and sensor. If system operation is normal with the slave harness and sensor, the fault lies in the vehicle's harness or sensor.

**TEST CONDITIONS****DETAILS/RESULTS/ACTIONS****I1: CHECK EVAPORATIVE PURGE VALVE IS OPERATING.**

- 1 Disconnect electrical connector CA005. (Beneath rear seat).
- 2 Turn the ignition switch to the ON position.
- 3 Measure the voltage between pins 4 and 6 of CA005.

Is the voltage 2.9 - 3.7 volts?

**Yes**

[GO to I2](#). Reconnect CA005.

**No**

INSTALL a new FTPS.

REFER to Section [310-01 Fuel Tank and Lines](#).

Reconnect CA005. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.

**I2: CHECK SIGNAL VOLTAGE AT FTPS.**

- 1 Run the engine for two minutes, and until fully warm.
- 2 Make sure Evaporative purge valve is operating.
- 3 Steadily increase engine speed to 3000 RPM.
- 4 Measure the voltage between pins 4 and 6 of CA005.

Does the voltage reduce?

**Yes**

Possible intermittent fault. RECHECK DTCs, For additional information, see "diagnostic drive cycles" above. Contact Dealer technical support.

**No**

INSTALL a new FTPS.

REFER to Section [310-01 Fuel Tank and Lines](#).

CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.

**PINPOINT TEST J : P0452, O0453. FUEL TANK PRESSURE SENSOR LOW/HIGH INPUT.**

• NOTE: Prior to commencing this test, REFER to Section [303-14A Electronic Engine Controls](#) / [303-14B Electronic Engine Controls](#). Electronic Engine Controls, Diagnosis and Testing, sensor supply and ground circuits.

• NOTE: Access to the FTP sensor involves the removal of the fuel tank. To reduce the amount of work necessary, a slave harness and sensor could be used. This could be connected at the access port beneath the rear seat. Tests can then be carried out via the slave harness and sensor. If system operation is normal with the slave harness and sensor, the fault lies in the vehicle's harness or sensor.

**TEST CONDITIONS****DETAILS/RESULTS/ACTIONS****J1: CHECK FTPS SIGNAL WIRE FOR CONTINUITY UP TO CONNECTOR CA5.**

- 1 Disconnect ECM electrical connector, EN16.
- 2 Disconnect FTPS electrical connector, CA5.
- 3 Check for continuity between EN16, pin 104 (RG) and CA5, pin 4 (RG).

- This test will not check the continuity of the harness from CA5 to FT1. If the circuit is continuous to CA5, the fuel tank must be removed and the harness and sensor continuity checked.

Is the circuit continuous?

**Yes**

INSTALL a new FTPS, (and/or harness, CA5 to FT1). CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above. If the DTC is repeated, INSTALL a new ECM. REFER to Section [303-14A Electronic Engine Controls](#) / [303-14B Electronic Engine Controls](#). Before replacing a ECM, contact Dealer technical support.

**No**

REPAIR the circuit between EN16, pin 104 (RG) and CA5, pin 4 (RG). CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle. For additional information, see "diagnostic drive cycles" above. RECHECK DTCs.

**J2: CHECK FTPS SUPPLY WIRE FOR SHORT TO GROUND UP TO CONNECTOR CA5**

- 1 Measure the resistance between CA5, pin 5 (OY) and GROUND.

- This test will not check the integrity of the harness from CA5 to FT1. If the circuit is sound to CA5, the fuel tank must be removed and the harness and sensor continuity checked.

Is the resistance less than 10,000 ohms?

**Yes**

REPAIR the short to GROUND. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.

**No**

[GO to J3](#).

**J3: CHECK FTPS SIGNAL WIRE FOR SHORT TO GROUND, UP TO CONNECTOR CA5.**

- 1 Connect ECM electrical connector, EN16.

	<p><b>2</b> Measure the resistance between CA5, pin 4 (RG) and GROUND.</p> <ul style="list-style-type: none"> <li>This test will not check the integrity of the harness from CA5 to FT1. If the circuit is sound to CA5, the fuel tank must be removed and the harness and sensor continuity checked.</li> </ul>
Is the resistance less than 10,000 ohms?	<p><b>Yes</b> REPAIR the short to GROUND. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p> <p><b>No</b> <a href="#">GO to J4.</a></p>

**J4: CHECK FTFS SIGNAL WIRE FOR SHORT TO BATTERY, UP TO CONNECTOR CA5**

	<p><b>1</b> Turn the ignition switch to the ON position.</p> <p><b>2</b> Check for a voltage at CA5, pin 4 (RG).</p> <ul style="list-style-type: none"> <li>This test will not check the integrity of the harness from CA5 to FT1. If the circuit is sound to CA5, the fuel tank must be removed and the harness and sensor continuity checked.</li> </ul>
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Is the voltage greater than 1 volt?	<p><b>Yes</b> REPAIR the short to battery. For additional information, refer to wiring diagrams. CLEAR the DTC. Turn the ignition switch to the ON position. Leave switched on for minimum 30 seconds. RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p> <p><b>No</b> <a href="#">GO to J5.</a></p>
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**J5: CHECK FTFS GROUND WIRE FOR SHORT TO BATTERY, UP TO CONNECTOR CA5**

	<p><b>1</b> Turn the ignition switch to the ON position.</p> <p><b>2</b> Check for a voltage at CA5, pin 6 (BG).</p>
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Is the voltage greater than 1 volt?	<p><b>Yes</b> REPAIR the short to battery. For additional information, refer to wiring diagrams. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle, RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p> <p><b>No</b> <a href="#">GO to J2.</a></p>
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**J6: CHECK FTFS SUPPLY WIRE FOR SHORT TO BATTERY UP TO CONNECTOR CA5**

	<p><b>1</b> Connect ECM electrical connector, EN16.</p> <p><b>2</b> Turn the ignition switch to the ON position.</p> <p><b>3</b> Check for a voltage at CA5, pin 5 (OY).</p> <ul style="list-style-type: none"> <li>This test will not check the integrity of the harness from CA5 to FT1. If the circuit is sound to CA5, the fuel tank must be removed and the harness and sensor continuity checked.</li> </ul>
--	--

Is the voltage greater than 5 volts?	<p><b>Yes</b> REPAIR the short to battery. For additional information, refer to wiring diagrams. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle, RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p> <p><b>No</b> INSTALL a new FTFS, (and/or harness, CA5 to FT1). REFER to Section <a href="#">310-01 Fuel Tank and Lines</a>. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle, RECHECK DTCs. For additional information, see "diagnostic drive cycles" above. If the DTC is repeated, INSTALL a new ECM. REFER to Section <a href="#">303-14A Electronic Engine Controls</a> / <a href="#">303-14B Electronic Engine Controls</a>. Before replacing a ECM, contact Dealer technical support.</p>
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**PINPOINT TEST K : P0455. GROSS LEAK DETECTED.**

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>K1: CHECK FUEL FILLER CAP FITMENT AND CONDITION OF PIPES AND CONNECTORS.</b>	
	<p><b>1</b> Make sure that the fuel filler cap is correctly installed and tightened. (Minimum 3 clicks).</p> <p><b>2</b> Check the condition of all accessible pipes and connectors in the vapor line.</p>
Are all pipes and connectors in good condition?	<p><b>Yes</b> Suspect concern with - 1. Blockage in vapor line. (Engine to fuel tank).2. Evaporative purge valve stuck closed.3. Fuel tank assembly.4. Carbon canister assembly.</p> <p><b>No</b> REPAIR as necessary. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle, RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p>

**PINPOINT TEST L : P0456. LEAK DETECTED. 20 THOU.**

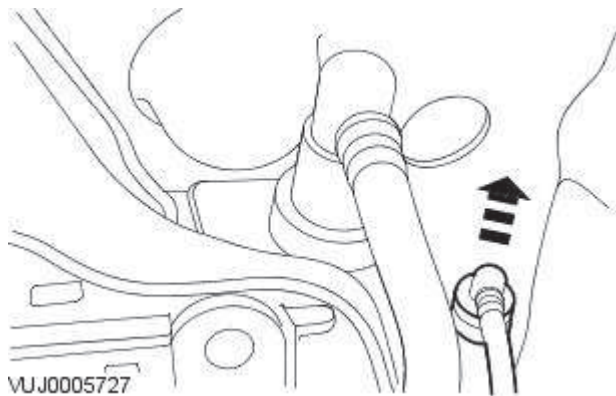
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>L1: CHECK FUEL FILLER CAP FITMENT AND CONDITION OF PIPES AND CONNECTORS.</b>	
	<p><b>1</b> Make sure that the fuel filler cap is correctly installed and tightened. (Minimum 3 clicks).</p> <p><b>2</b> Check the condition of all accessible pipes and connectors in the vapor line.</p>
Are all pipes and connectors in good condition?	<p><b>Yes</b> Suspect concern with fuel tank assembly or carbon canister assembly.</p> <p><b>No</b> REPAIR as necessary. CLEAR the DTC. Carry out a full Evaporative system monitor drive cycle, RECHECK DTCs. For additional information, see "diagnostic drive cycles" above.</p>

# Evaporative Emissions - Evaporative Emission Canister 2.0L NA V6 - AJV6

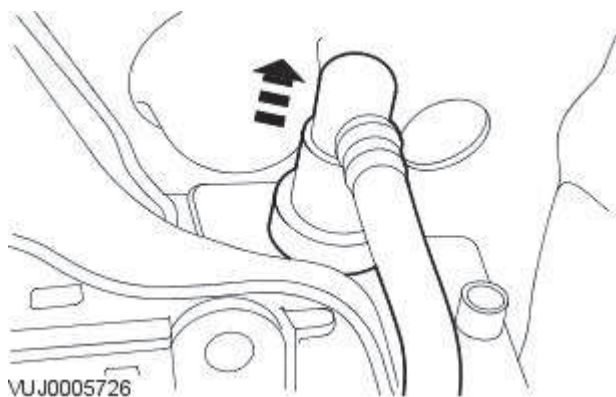
Removal and Installation

## Removal

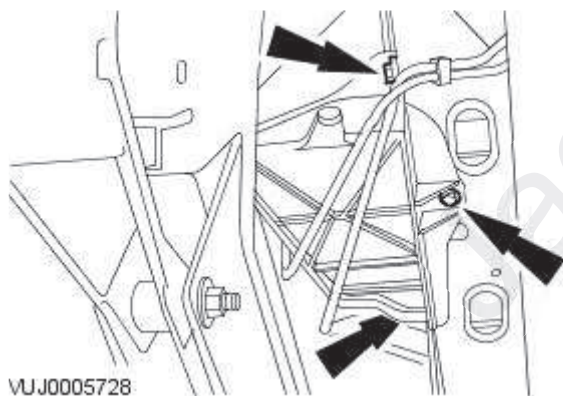
1. Raise and support the vehicle.  
For additional information, refer to: [Lifting](#) (100-02 Jacking and Lifting, Description and Operation).
2. Disconnect the evaporative emission canister pipe.



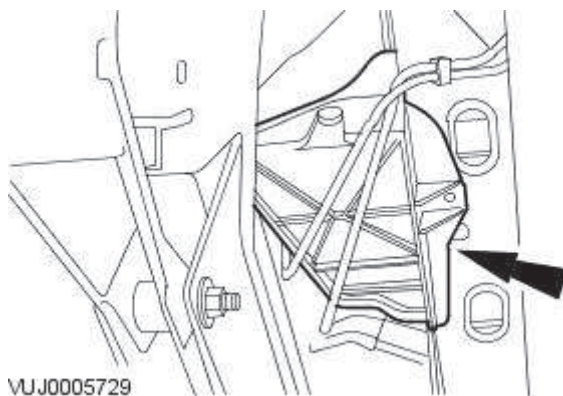
3. Disconnect the evaporative emission canister pipe.



4. Remove the evaporative emission canister retaining bolts.



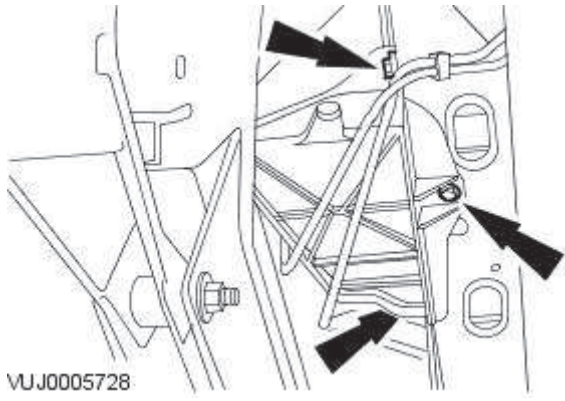
5. Remove the evaporative emission canister.



## Installation

1. To install, reverse the removal procedure.

- Tighten to 5 Nm.



VUJ0005728

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# Evaporative Emissions - Evaporative Emission Canister 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27

## Removal and Installation

### Special Tool(s)

Powertrain Assembly Jack (federal market vehicles only)


HTJ1200-2



## Removal

### WARNINGS:

 Do not smoke or carry lighted tobacco or an open flame of any type when working on or near any fuel related components. Highly flammable vapors are always present and may ignite. Failure to follow these instructions may result in personal injury.

 Do not carry or operate cellular phones when working on or near any fuel related components. Highly flammable vapors are always present and may ignite. Failure to follow these instructions may result in personal injury.

 Due to the heavy weight, make sure that the fuel tank is securely attached to the powertrain assembly jack when installing.

 This procedure involves fuel handling. Be prepared for fuel spillage at all times and always observe fuel handling precautions. Failure to follow these instructions may result in personal injury.

• NOTE: Non federal market vehicles, refer to steps 1 to 3.

• NOTE: Federal market vehicles, refer to steps 4 to 22.

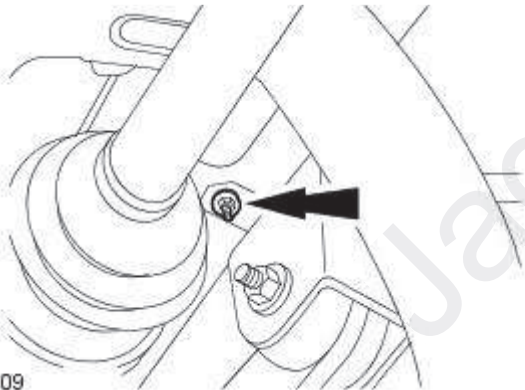
**1. NOTE: Non federal market vehicles only.**

Remove the fuel tank.

For additional information, refer to: [Fuel Tank - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27](#) (310-01 Fuel Tank and Lines, Removal and Installation).

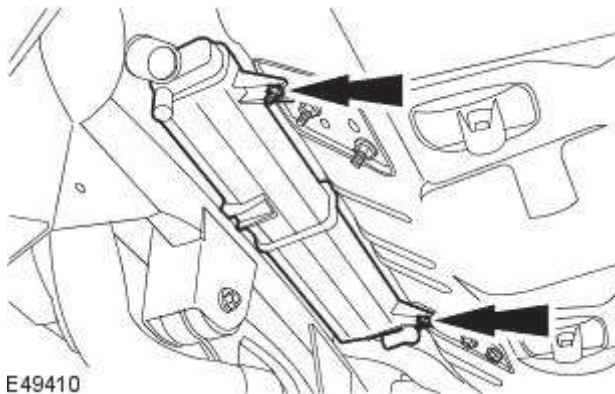
**2. NOTE: Non federal market vehicles only.**

Remove the evaporative emission canister rear retaining nut.



**3. NOTE: Non federal market vehicles only.**

Remove the evaporative emission canister.



**4. NOTE: Federal market vehicles only.**

Disconnect the battery ground cable.

For additional information, refer to: [Battery Disconnect and Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).

**5. NOTE: Federal market vehicles only.**

Remove the fuel filler cap.



**6. NOTE:** Federal market vehicles only.

De-pressurize the fuel system.

For additional information, refer to: [Fuel System Pressure Release](#) (310-00 Fuel System - General Information, General Procedures).

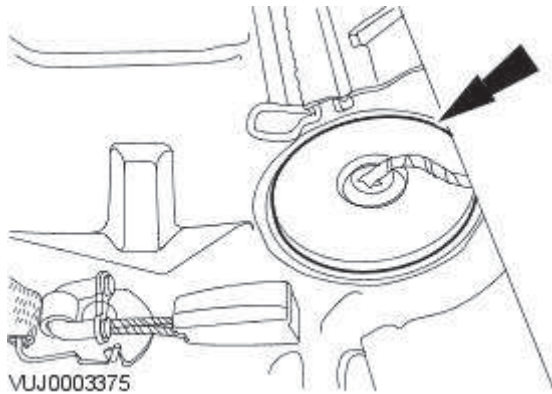
**7. NOTE:** Federal market vehicles only.

Remove the rear seat cushion.

For additional information, refer to: [Rear Seat Cushion](#) (501-10 Seating, Removal and Installation).

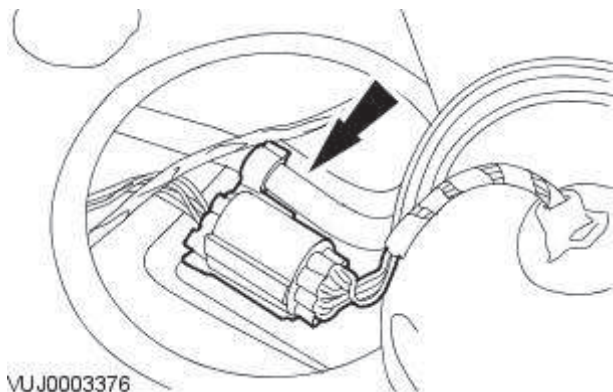
**8. NOTE:** Federal market vehicles only.

Detach the wiring harness grommet.



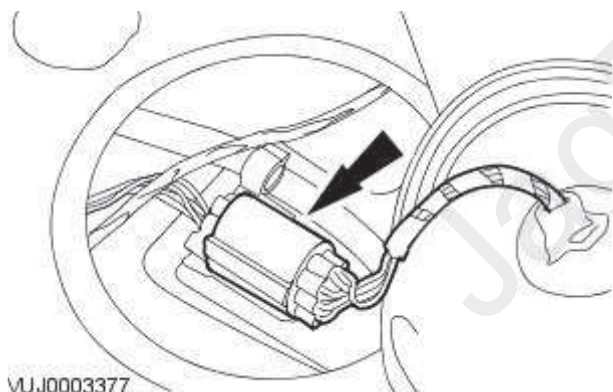
**9. NOTE:** Federal market vehicles only.

Detach the electrical connector.



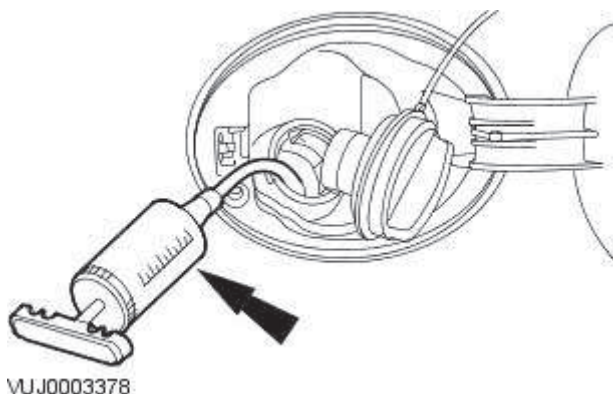
**10. NOTE:** Federal market vehicles only.

Disconnect the electrical connector.



**11. NOTE:** Federal market vehicles only.

Using a suitable suction device drain the fuel tank filler pipe.



**12. NOTE:** Federal market vehicles only.

Remove the rear subframe.

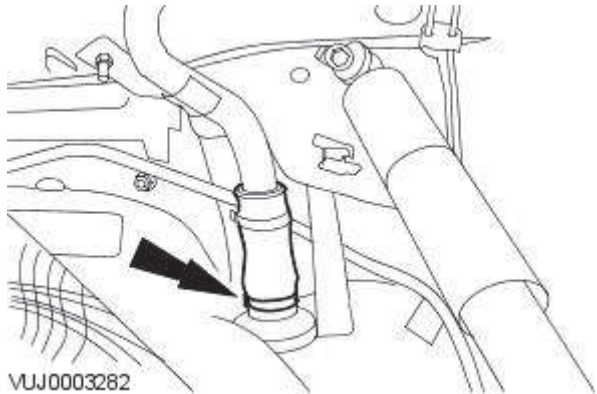
For additional information, refer to: [Rear Subframe](#) (502-00 Uni-Body, Subframe and Mounting System, Removal and Installation).



**13. NOTE:** Federal market vehicles only.

- NOTE: Note the orientation of the fuel tank filler pipe to fuel tank hose retaining clip before loosening.

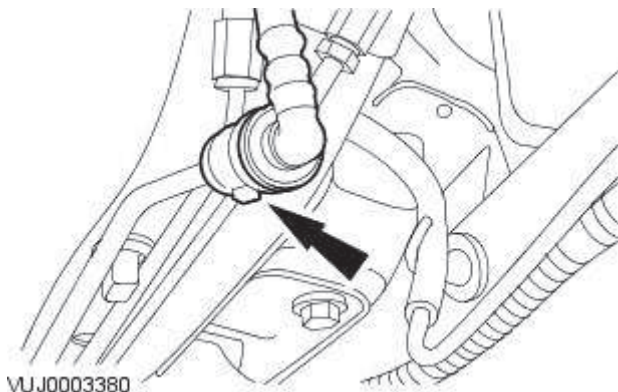
Detach the fuel tank filler pipe hose from the fuel tank.



**14. NOTE:** Federal market vehicles only.

Disconnect the evaporative emission canister purge hose quick release coupling.

For additional information, refer to: [Quick Release Coupling - Push Connect](#) (310-00 Fuel System - General Information, General Procedures).

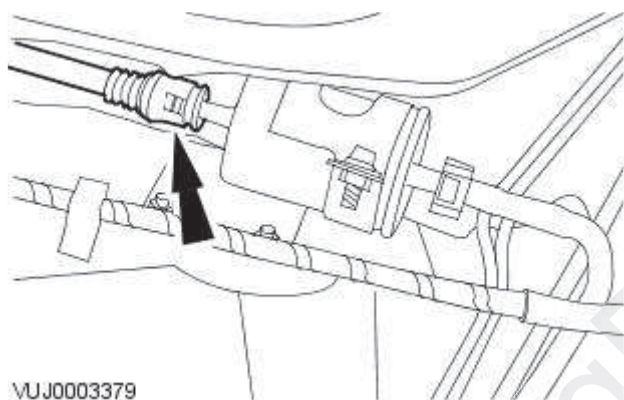


**15. NOTE:** Federal market vehicles only.

Disconnect the fuel filter line quick release coupling.

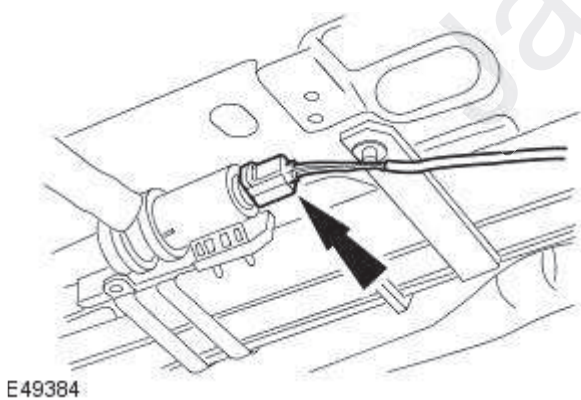
For additional information, refer to: [Quick Release Coupling - Push Connect](#) (310-00 Fuel System - General Information, General Procedures).

- Install blanking plugs to the male and female connectors.



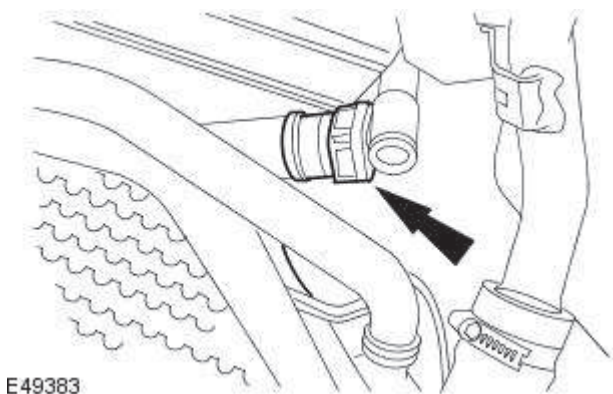
**16. NOTE:** Federal market vehicles only.

Disconnect the evaporative emission canister close valve electrical connector.



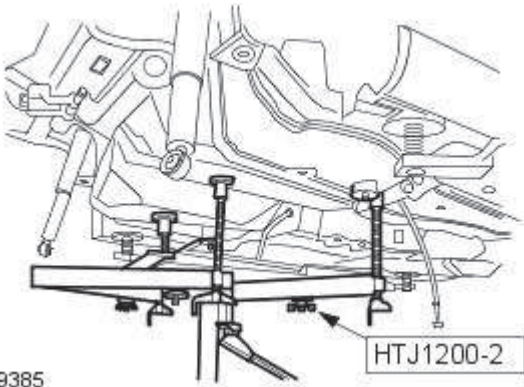
**17. NOTE:** Federal market vehicles only.

Disconnect the evaporative emission canister hose from the evaporative emission canister.



**18. NOTE:** Federal market vehicles only.

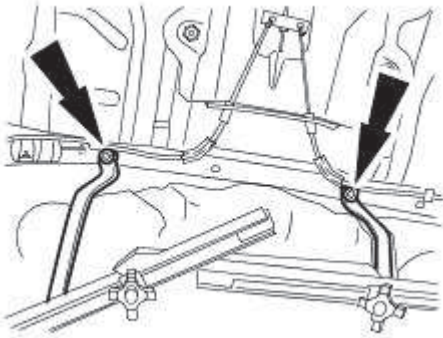
Using the special tool, support the fuel tank.



E49385

**19. NOTE:** Federal market vehicles only.

Remove the fuel tank support straps retaining bolts.

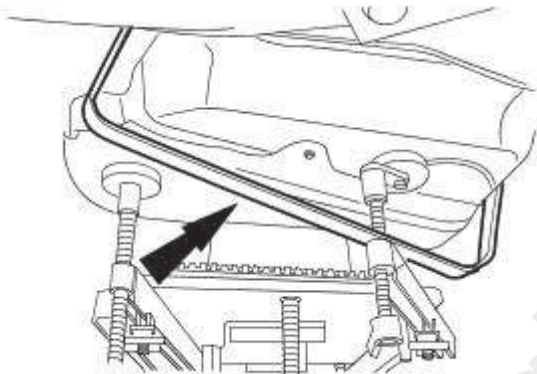


E48689

**20. NOTE:** Federal market vehicles only.

• NOTE: Right-hand shown, left-hand similar.

Remove the fuel tank support straps.



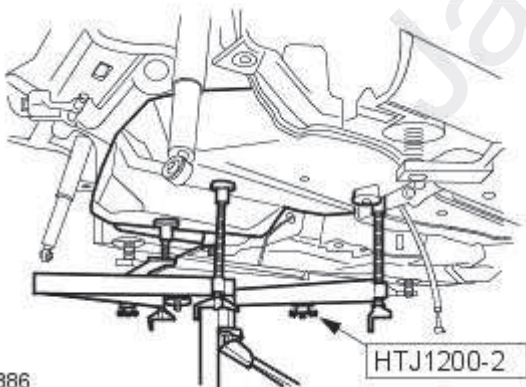
E49387

**21. ⚠ WARNING:** The fuel tank cannot be drained in vehicle. Due to the heavy weight, make sure that the fuel tank is securely attached to the powertrain assembly jack when removing. Failure to follow this instruction may result in personal injury.

• NOTE: Federal market vehicles only.

Using the special tool, remove the fuel tank.

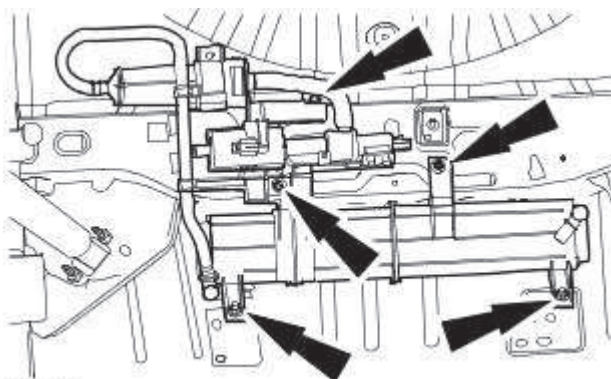
- Detach the fuel filler pipe hose from the fuel tank.
- Install blanking plugs to the fuel tank and fuel filler pipe hose.



E49386

**22. NOTE:** Federal market vehicles only.

Remove the evaporative emission canister.



E48279

# Installation

## • WARNINGS:



Do not smoke or carry lighted tobacco or an open flame of any type when working on or near any fuel related components. Highly flammable vapors are always present and may ignite. Failure to follow these instructions may result in personal injury.



Do not carry or operate cellular phones when working on or near any fuel related components. Highly flammable vapors are always present and may ignite. Failure to follow these instructions may result in personal injury.



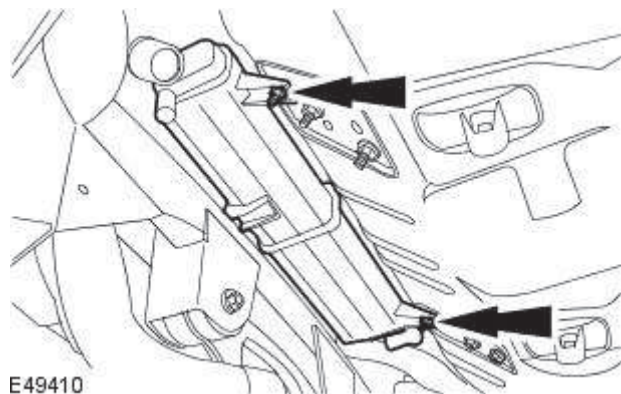
Due to the heavy weight, make sure that the fuel tank is securely attached to the powertrain assembly jack when installing.



This procedure involves fuel handling. Be prepared for fuel spillage at all times and always observe fuel handling precautions. Failure to follow these instructions may result in personal injury.

• NOTE: Non federal vehicles, refer to steps 1 to 3.

• NOTE: Federal vehicles, refer to steps 1 to 21.

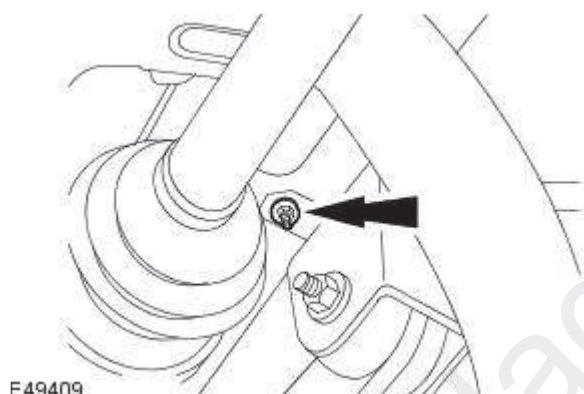


E49410

**1. NOTE: Non federal market vehicles only.**

Install the evaporative emission canister.

- Tighten to 5 Nm.

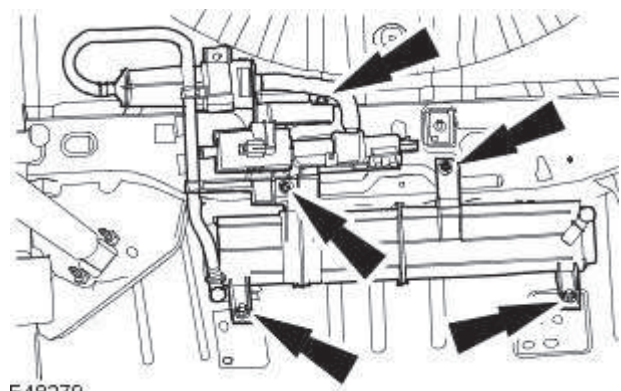


E49409

**2. NOTE: Non federal market vehicles only.**

Install the evaporative emission canister rear retaining nut.

- Tighten to 5 Nm.



E48279

**3. NOTE: Non federal market vehicles only.**

Install the fuel tank.

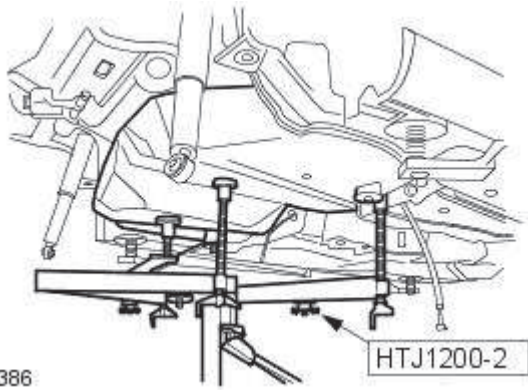
For additional information, refer to: [Fuel Tank - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27](#) (310-01 Fuel Tank and Lines, Removal and Installation).

**4. NOTE: Federal market vehicles only.**


Install the evaporative emission canister.

- Tighten to 5 Nm.





E49386

**5.**  **WARNING:** The fuel tank cannot be drained in vehicle. Due to the heavy weight, make sure that the fuel tank is securely attached to the powertrain assembly jack when removing. Failure to follow this instruction may result in personal injury.

- NOTE: Federal market vehicles only.
- NOTE: Remove the blanking plugs from the fuel tank and fuel filler pipe hose.

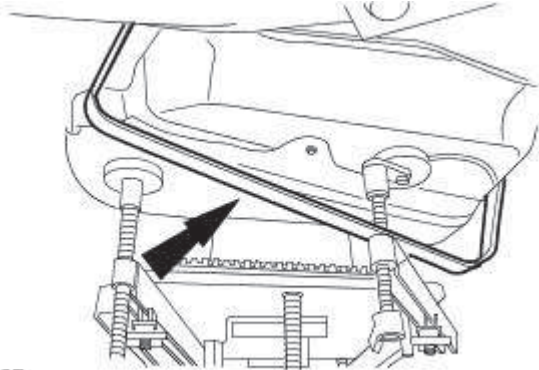
Using the special tool, install the fuel tank.

- Attach the fuel filler pipe hose to the fuel tank.

**6.** NOTE: Federal market vehicles only.

- NOTE: Right-hand shown, left-hand similar.

Install the fuel tank support straps.

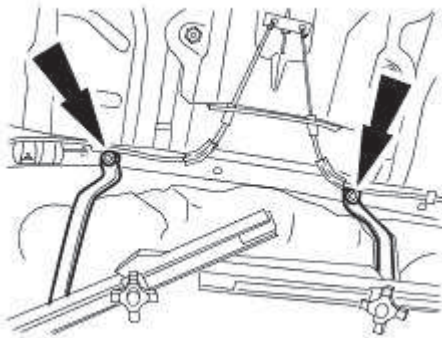


E49387

**7.** NOTE: Federal market vehicles only.

Install the fuel tank support straps retaining bolts.

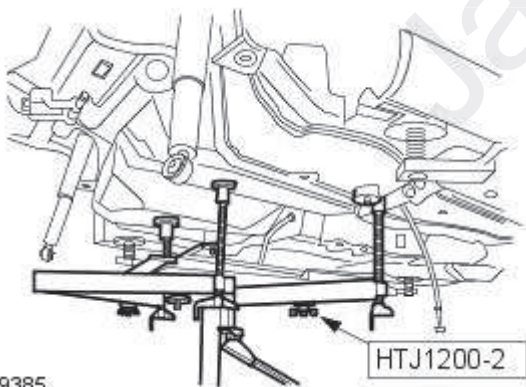
- Tighten to 25 Nm.



E48689

**8.** NOTE: Federal market vehicles only.

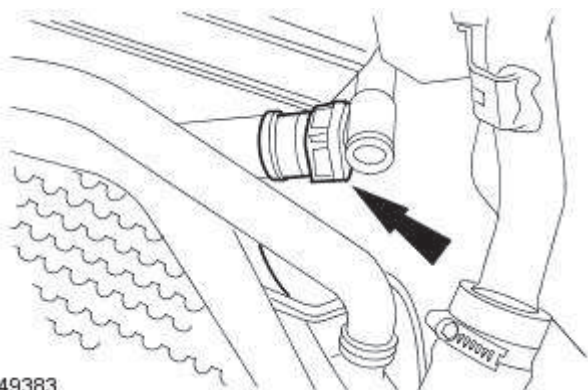
Remove the special tool.



E49385

**9.** NOTE: Federal market vehicles only.

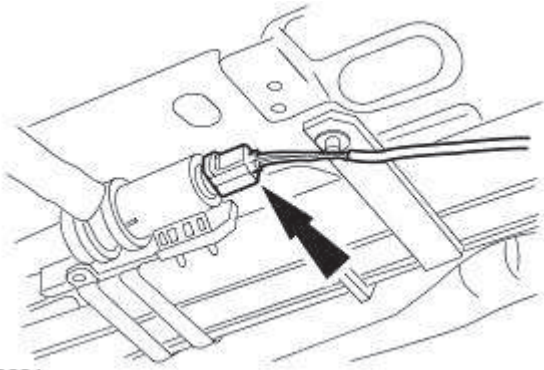
Connect the evaporative emission canister hose to the evaporative emission canister.



E49383

**10. NOTE:** Federal market vehicles only.

Connect the evaporative emission canister close valve electrical connector.



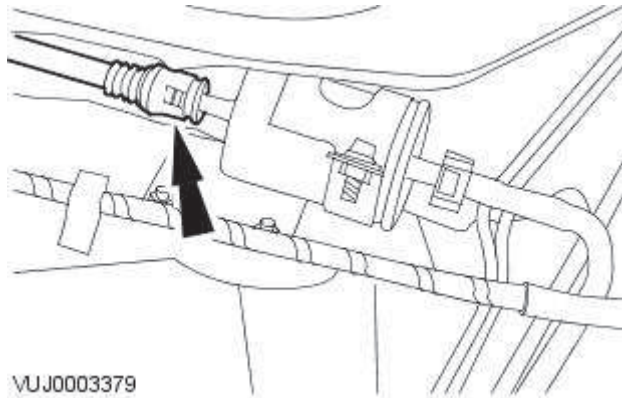
E49384

**11. NOTE:** Federal market vehicles only.

- NOTE: Remove the blanking plugs.

Connect the fuel filter line quick release coupling. For additional information, refer to: [Quick Release Coupling - Push Connect](#) (310-00 Fuel System - General Information, General Procedures).

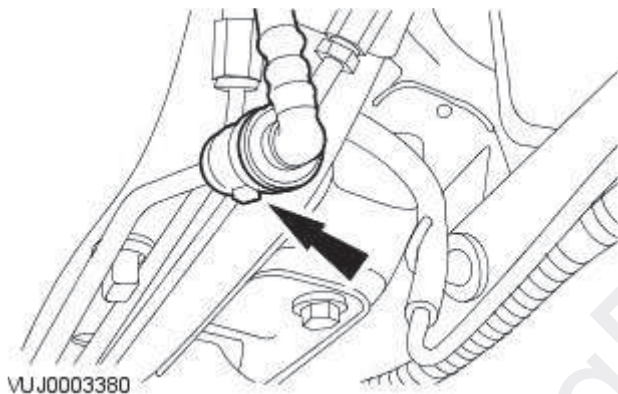
- Install blanking plugs to the male and female connectors.



VUJ0003379

**12. NOTE:** Federal market vehicles only.

Connect the evaporative emission canister purge hose quick release coupling. For additional information, refer to: [Quick Release Coupling - Push Connect](#) (310-00 Fuel System - General Information, General Procedures).



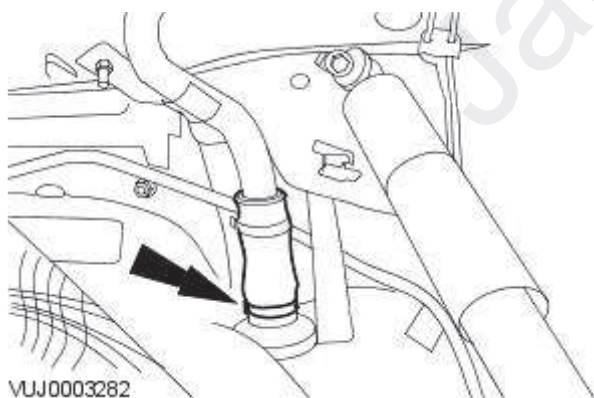
VUJ0003380

**13. NOTE:** Federal market vehicles only.

- NOTE: Make sure the fuel tank filler pipe to fuel tank hose retaining clip is correctly orientated.

Tighten the fuel tank filler pipe to fuel tank hose retaining clip.

- Tighten to 3 Nm.



VUJ0003282

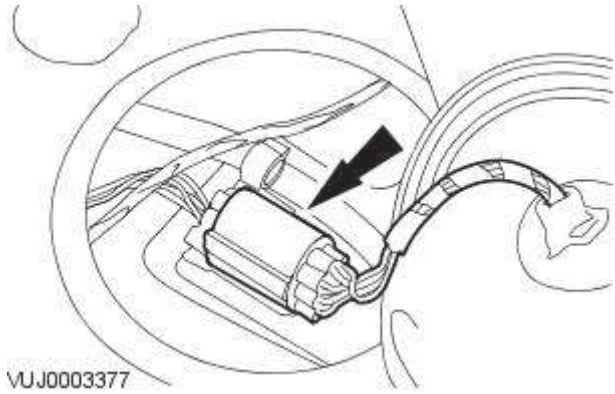
**14. NOTE:** Federal market vehicles only.

Install the rear subframe.

For additional information, refer to: [Rear Subframe](#) (502-00 Uni-Body, Subframe and Mounting System, Removal and Installation).

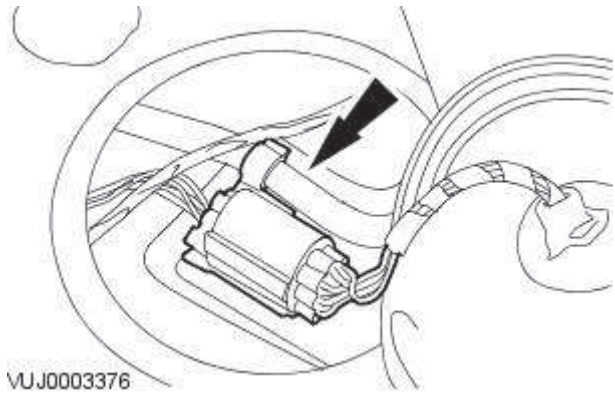
**15. NOTE:** Federal market vehicles only.

Connect the electrical connector.



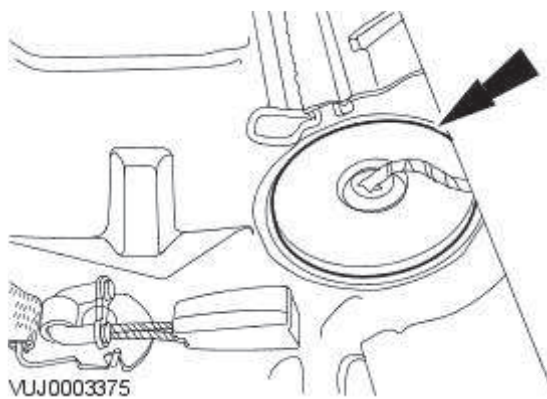
**16. NOTE:** Federal market vehicles only.

Attach the electrical connector.



**17. NOTE:** Federal market vehicles only.

Attach the wiring harness grommet.



**18. NOTE:** Federal market vehicles only.

Install the rear seat cushion.

For additional information, refer to: [Rear Seat Cushion](#) (501-10 Seating, Removal and Installation).

**19. NOTE:** Federal market vehicles only.

Fill the fuel tank with the fuel drained from the fuel filler pipe.

**20. NOTE:** Federal market vehicles only.

Install the fuel filler cap.

**21. NOTE:** Federal market vehicles only.

Connect the battery ground cable.

For additional information, refer to: [Battery Connect](#) (414-01 Battery, Mounting and Cables, General Procedures).



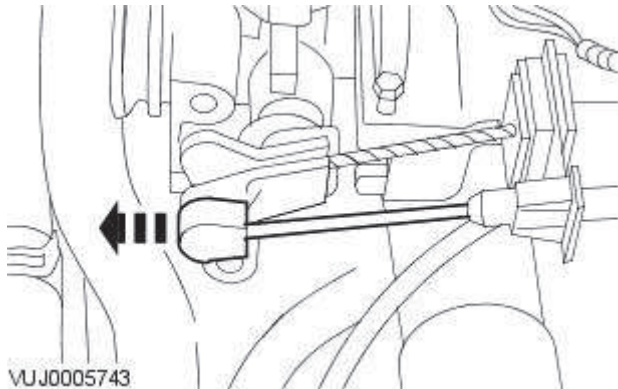
# Evaporative Emissions - Evaporative Emission Canister Purge Valve

Removal and Installation

## Removal

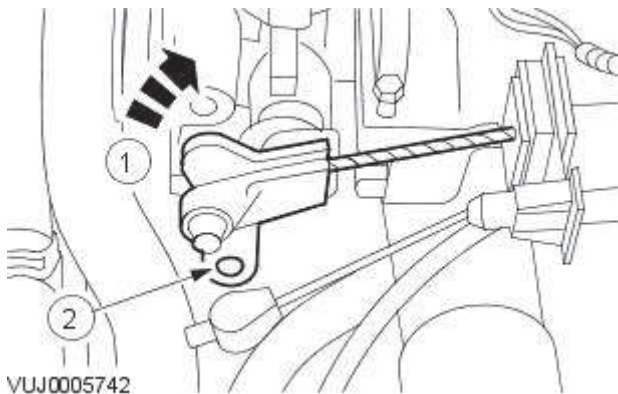
Vehicles with 2.0L engine

1. Detach the speed control cable.

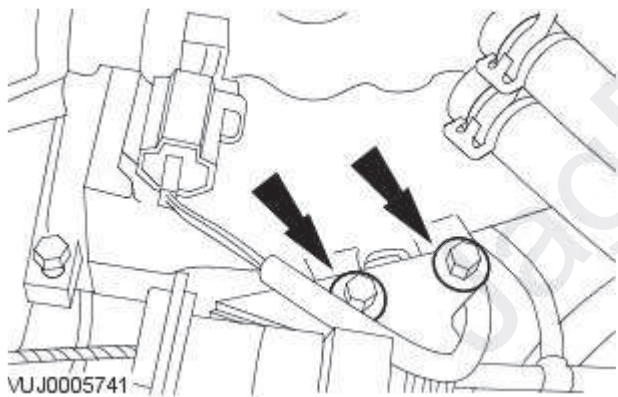


2. Detach the accelerator cable.

1. Reposition the accelerator lever to the fully open position.
2. Detach the accelerator cable.

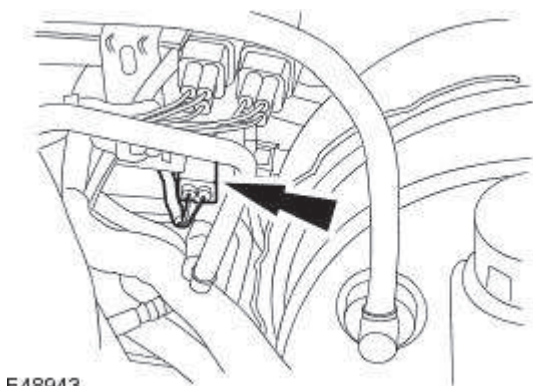


3. Detach the accelerator cable retaining bracket.

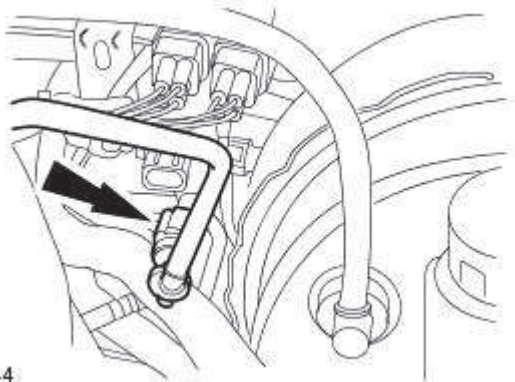


All vehicles

4. Disconnect the evaporative emission canister purge valve electrical connector.

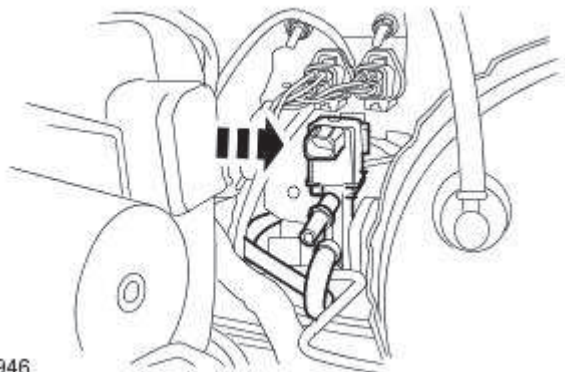


5. Disconnect the upper fuel vapour hose from the evaporative emission canister purge valve.



E48944

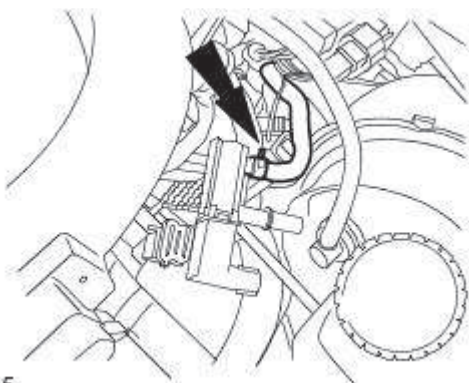
6. Detach the evaporative emission canister purge valve from the retaining bracket.



E48946

7. Remove the evaporative emission canister purge valve.

- Disconnect the lower fuel vapour hose from the evaporative emission canister purge valve.



E48945

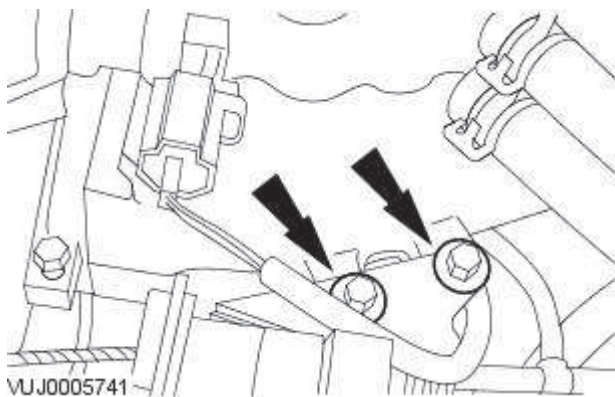
## Installation

All vehicles

1. To install, reverse the removal procedure.

Vehicles with 2.0L engine

2. Tighten to 9 Nm.



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