

Fuel System - General Information - Diesel Filter Water Drain-Off

General Procedures

• WARNINGS:



Do not smoke or carry lighted tobacco or 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.



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.



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.



If fuel contacts the eyes, flush the eyes with cold water or eyewash solution and seek immediate medical attention.



If taken internally, do not induce vomiting, seek immediate medical attention. Failure to follow these instructions may result in personal injury.



Wash hands thoroughly after fuel handling, as prolonged contact may cause irritation. Should irritation develop, seek medical attention.



The spilling of fuel is unavoidable during this operation. Make sure that all necessary precautions are taken to prevent fire and explosion.

• CAUTIONS:



Diesel fuel injection equipment is manufactured to very precise tolerances and fine clearances. It is therefore essential that absolute cleanliness is observed when working with these components. Always install blanking plugs to any open orifices or lines. Failure to follow this instruction may result in foreign matter ingress to the fuel injection system.



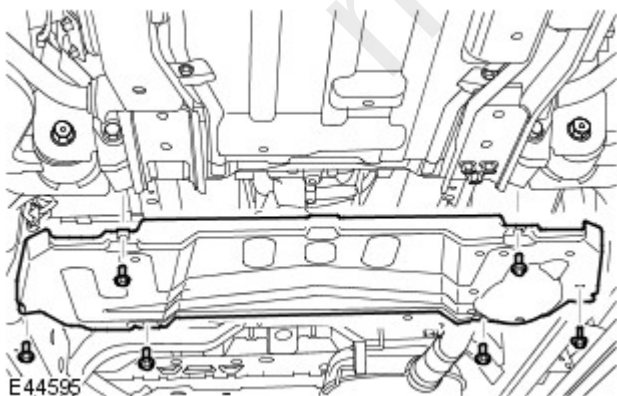
Make sure the workshop area in which the vehicle is being worked on is as clean and as dust free as possible. Foreign matter from work on clutches, brakes or from machining or welding operations can contaminate the fuel system and may result in later malfunction.

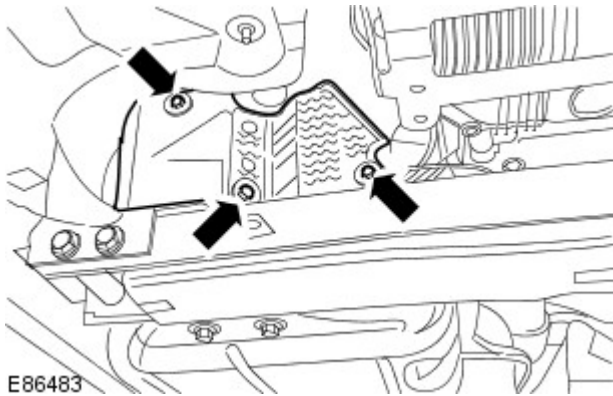
1.  **WARNING:** Do not work on or under a vehicle supported only by a jack. Always support the vehicle on safety stands.

Raise and support the vehicle.

2. Remove the transmission undershield.

- Remove the 6 bolts.





3.  **WARNING:** Observe due care when working near a hot exhaust system.

Remove the fuel filter heat shield.

- Remove the 3 bolts.



4. Drain the fuel filter element.

- Attach a suitable drain tube to the water-in-fuel drain port.
- Loosen the water-in-fuel drain port 2 complete turns and allow the fluid to drain into a container.
- Turn the ignition to position 2 until 100ml of fluid is drained, then turn to position O.
- Remove the drain tube.

5. Tighten the water-in-fuel drain port.

6. Install the fuel filter heat shield.

- Tighten the bolts to 6 Nm (4 lb.ft).

7. Install the transmission undershield.

- Tighten the bolts to 10 Nm (7 lb.ft).

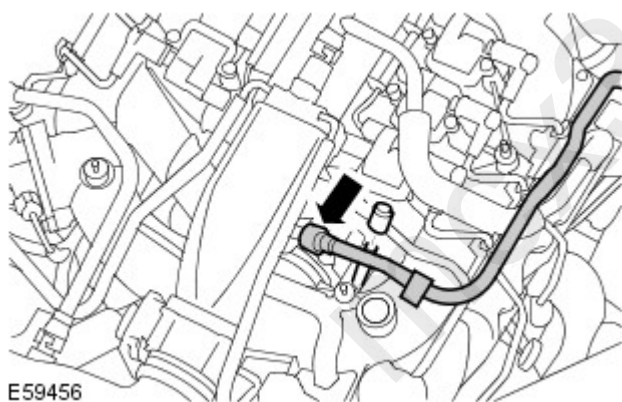
Fuel System - General Information - Fuel System Pressure Check V6 4.0L

Petrol

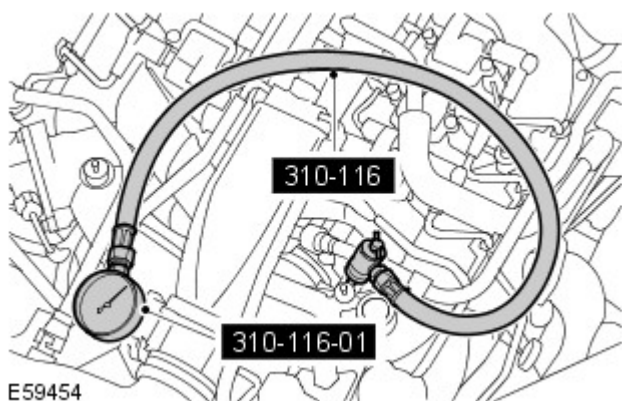
General Procedures

Special Tool(s)	
 E66951	Gauge fuel pressure 310-116-01
 E56747	Adapter - fuel pressure check 310-116(LRT-19-006A)

1. Disconnect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
2. Remove the engine cover.
For additional information, refer to: [Engine Cover - V6 4.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
3. Release the clip and disconnect the purge line.
4. Remove the fuel rail Schraeder valve cap.



5. Install the special tool to the fuel rail Schraeder valve.



6. Connect the purge line.

7. WARNINGS:



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.



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The spilling of fuel is unavoidable during this operation. Ensure that all necessary precautions are taken to prevent fire and explosion.

Start and run the engine.

- Open the valve on the special tool.
- Note the fuel pressure readings.

8. For fuel pressure data, refer to specifications.

For additional information, refer to: [Specifications](#) (303-01C Engine - V6 4.0L Petrol, Specifications).

9. Close the special tool valve.

10. Release the clip and disconnect the purge line.

11. Disconnect the special tool from the Schraeder valve.

12. Install the Schraeder valve cap.

13. Connect the purge line.

14. Install the engine cover.

For additional information, refer to: [Engine Cover - V6 4.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

15. Connect the battery ground cable.

For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

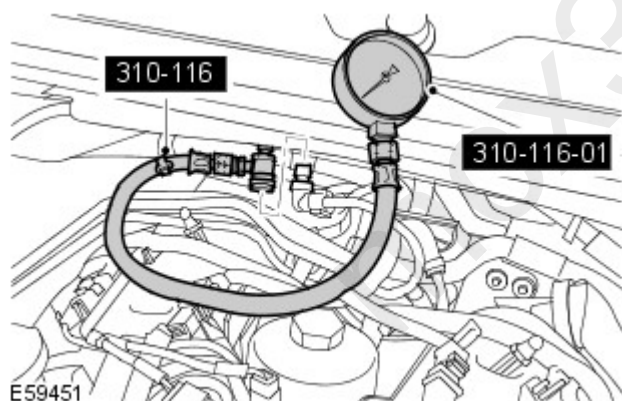
Fuel System - General Information - Fuel System Pressure CheckTDV6 2.7L Diesel

General Procedures

Special Tool(s)	
 E66951	Gauge fuel pressure 310-116-01
 E56747	Adapter - fuel pressure check 310-116(LRT-19-006A)

- NOTE: This procedure only checks the supply pressure to the high pressure pump.

1. Disconnect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
2. Remove the engine cover.
For additional information, refer to: [Engine Cover - TDV6 3.0L Diesel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
3. Remove the fuel rail Schraeder valve cap.
4. Install the special tool to the fuel rail Schraeder valve.



5. WARNINGS:



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.



Do not smoke or carry lighted tobacco or 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.



The spilling of fuel is unavoidable during this operation. Ensure that all necessary precautions are taken to prevent fire and explosion.

Start and run the engine.

- Open the valve on the special tool.

- Note the fuel pressure readings.
- 6.** For fuel pressure data, refer to specifications.
For additional information, refer to: [Specifications](#) (303-01A Engine - TDV6 2.7L Diesel, Specifications).
 - 7.** Close the special tool valve.
 - 8.** Disconnect the special tool from the Schraeder valve.
 - 9.** Install the Schraeder valve cap.
 - 10.** Install the engine cover.
For additional information, refer to: [Engine Cover - TDV6 3.0L Diesel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
 - 11.** Connect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

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Fuel System - General Information - Low-Pressure Fuel System Bleeding

General Procedures

Special Tool(s)	
	Adaptor fuel rail pressure check
	310-116 (LRT-19-006A)

• WARNINGS:

-  Wait at least 30 seconds after the engine stops before commencing any repair to the high-pressure fuel injection system. Failure to follow this instruction may result in personal injury.
-  Before any work is carried out on the fuel system, ground the vehicle to earth and maintain the ground connection until the work is complete.
-  Do not smoke or carry lighted tobacco or 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.
-  After carrying out repairs, the fuel system must be checked visually for leaks. Failure to follow this instruction may result in personal injury.
-  If taken internally, do not induce vomiting, seek immediate medical attention. Failure to follow these instructions may result in personal injury.
-  If fuel contacts the eyes, flush the eyes with cold water or eyewash solution and seek immediate medical attention.
-  Wash hands thoroughly after fuel handling, as prolonged contact may cause irritation. Should irritation develop, seek medical attention.
-  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.

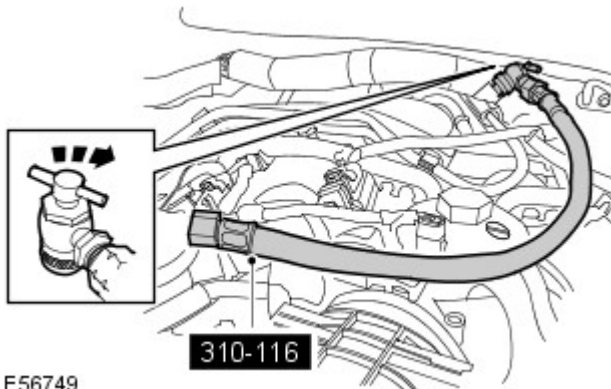
• CAUTIONS:

-  Diesel fuel injection equipment is manufactured to very precise tolerances and fine clearances. It is therefore essential that absolute cleanliness is observed when working with these components. Always install blanking plugs to any open orifices or lines. Failure to follow this instruction may result in foreign matter ingress to the fuel injection system.
-  This procedure must be carried out before the engine is attempted to be started, following removal or replacement of any fuel system component involving fuel line intrusion. Failure to follow this instruction will result in damage to the fuel injection pump.

1. This procedure is necessary if any of the following fuel system components are removed, disconnected or replaced: Fuel tank, fuel lines, fuel filter element, fuel coolers, fuel injection pump or fuel rail pressure sensor.
2. Remove the engine cover. For additional information, refer to: [Engine Cover - V8 5.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
3. Install the special tool to the fuel rail Schraeder valve.
 - Remove the fuel rail Schraeder valve cap.

4. Position a container to collect spillage.

- Open the valve on the special tool.



E56749

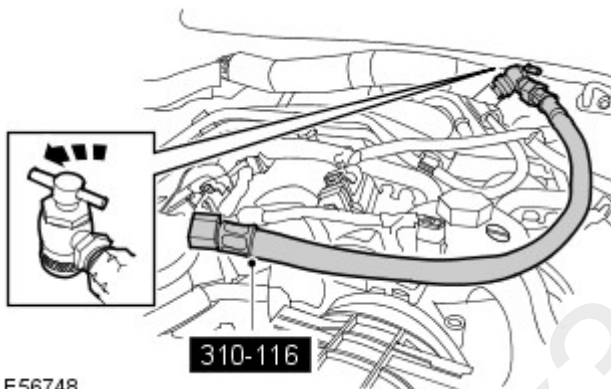
5. Turn the ignition switch to the ON position for 25 seconds. The fuel pump in the fuel tank will be audible.

6. Repeat the above procedure until clean, air free fuel is seen escaping from the special tool.

- While the pump is still running, close the valve on the special tool to prevent air entering the fuel system.

7. Remove the special tool from the Schraeder valve.

- Install the Schraeder valve protective cap.



E56748

8. Remove the container.

9.  **CAUTION:** If a new fuel injection pump is fitted, the following step must be carried out to make sure the fuel injection pump is fully primed. Failure to follow this instruction may result in damage to the vehicle.

Repeat Step 5 four times.

10. **NOTE:** The engine must be allowed to idle for two minutes to allow air in the fuel injection supply manifolds and fuel injectors to purge.

Start the engine and allow to idle.

11. Install the engine cover. For additional information, refer to: [Engine Cover - V8 5.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

Fuel System - General Information - Fuel Tank Draining

General Procedures

- WARNINGS:



Place the vehicle in a well ventilated, quarantined area and arrange ' No Smoking/Petrol Fumes' signs about the vehicle.



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.



Do not smoke or carry lighted tobacco or 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.



The spilling of fuel is unavoidable during this operation. Ensure that all necessary precautions are taken to prevent fire and explosion.



CAUTION: Before disconnecting or removing components, ensure the area around the joint faces and connections are clean. Plug open connections to prevent contamination.

1. Open the fuel filler door and remove the cap.
2. Disconnect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
3. Connect the fuel tank drain equipment ground cable to the vehicle.
4. Remove the fuel from the fuel tank, via the filler neck, using the fuel tank draining equipment. Follow the manufacturer's operating instructions.
5. To install, reverse the removal procedure.

Fuel System - General Information - Fuel System Pressure ReleaseV6 4.0L

Petrol

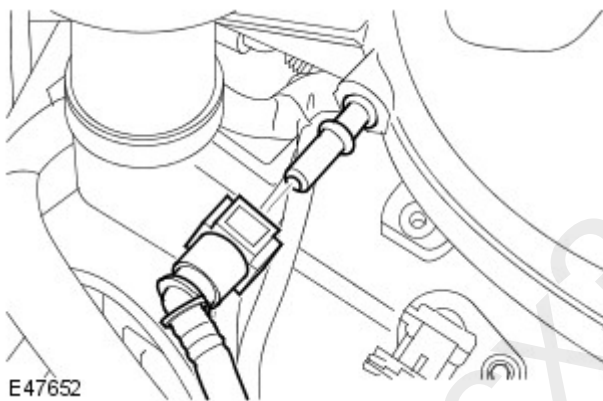
General Procedures

Special Tool(s)	
	Adaptor fuel rail pressure check
	310-116 (LRT-19-006A)



WARNING: The spilling of fuel is unavoidable during this operation. Ensure that all necessary precautions are taken to prevent fire and explosion.

1. Disconnect the battery ground cable.
For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).
2. Remove the engine cover.
For additional information, refer to: [Engine Cover - V6 4.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
3. Release the clip and disconnect the purge line.



4. Remove the fuel rail Schraeder valve cap.
5. Install the special tool to the fuel rail Schraeder valve.
6. **WARNINGS:**



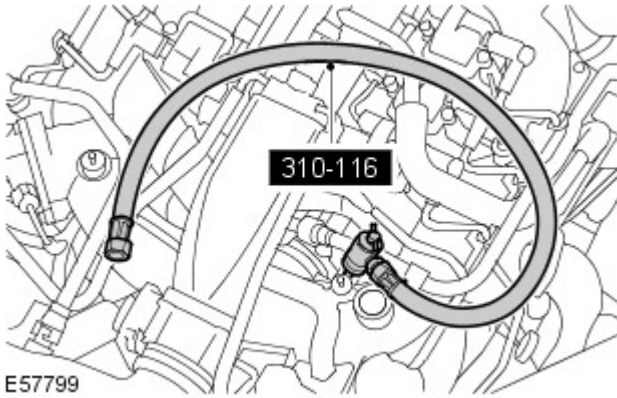
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Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel related components. Highly flammable vapors are always present and may ignite. Failure to follow these instructions may result in personal injury.

Open the valve on the special tool, release the fuel pressure and allow the fuel to drain into a container.

7. Close the special tool valve.



8. Remove the special tool from the Schraeder valve.

- Remove the container.

9. Install the Schraeder valve cap.

10. Connect the purge line.

- Clean the component mating faces.

11. Install the engine cover.

For additional information, refer to: [Engine Cover - V6 4.0L Petrol](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

12. Connect the battery ground cable.

For additional information, refer to: [Specifications](#) (414-00 Battery and Charging System - General Information, Specifications).

Fuel System - General Information - Fuel System Pressure ReleaseV8 5.0L

Petrol

General Procedures

Draining

1.  **WARNING:**

Refer to: [Petrol and Petrol-Ethanol Fuel Systems Health and Safety Precautions](#) (100-00 General Information, Description and Operation).

2. Remove the fuel pump fuse.
3. Remove the fuel filler cap.
4. Start the engine and allow it to idle until the engine stalls.
5. Crank the engine for approximately five seconds to make sure that the fuel rail pressure is released.

Filling

1. **6. NOTE:** Make sure all repairs have been carried out before proceeding to the following steps.

Install the fuel pump fuse.

2. Install the fuel filler cap.
3. Read and clear stored DTC fault codes.