



# Technical Bulletin

Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Touareg	2009-2012	3.0L TDI CATA	All	All	All
Passat	2012	2.0L TDI CKRA	All	All	All

## Condition

23 15 02 June 24, 2015 2041057

**MIL ON, No Start, or Rough Running with DTCs P0087, P0088 or P0191 Stored in ECM Fault Memory (TDI ONLY)**

MIL ON, No Start, or Rough Running with one or more of the following DTCs Stored in ECM Fault Memory:

DTC	Description
P0087	Fuel Rail/System Pressure - Too Low
P0088	Fuel Rail/System Pressure - Too High
P0191	Fuel Rail Pressure Sensor "A" Circuit Range/Performance

## Technical Background

When diagnosing the condition above on a common rail diesel vehicle, if no root cause is found after checking all other components and all GFF diagnostic procedures have been performed, it may be necessary to check for metallic particles in the High Pressure Fuel Pump using the service section of this bulletin.

If such an inspection is necessary, the following guidelines must be observed when removing the N290 Fuel Metering Valve.

## Production Solution

No production change required.

# Technical Bulletin

## Service

### Section A – Initial Diagnosis of the High Pressure Fuel Pump (HPFP)

**! Note:**

Removing the N290 Fuel Metering Valve to inspect for metallic particles should only be considered as a last step after all GFF diagnostic procedures have been performed. This includes testing supply pressure to the high pressure fuel pump (low pressure side), and checking for internal leakage from the injectors and the N276 Pressure Regulating Valve

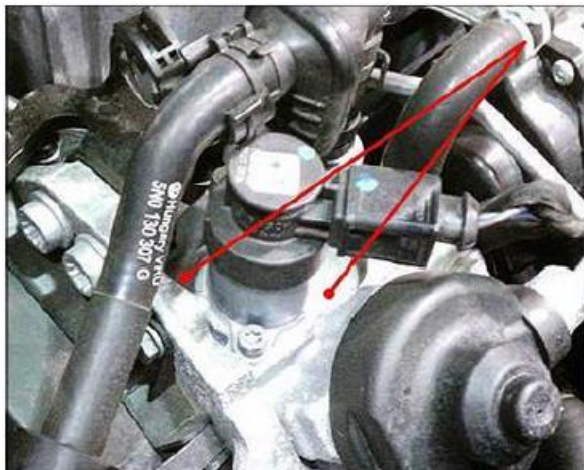


Figure 1. Surrounding Area

**! Note:**

Prior to removing the N290 Fuel Metering Valve, the area surrounding the valve (Figure 1) must be clean and dried with compressed air to remove ALL debris from the area. See Repair Manual Group 20 Fuel Supply, General Information, Clean Working Conditions in Elsa.

If debris enters the fuel system, components may be damaged.

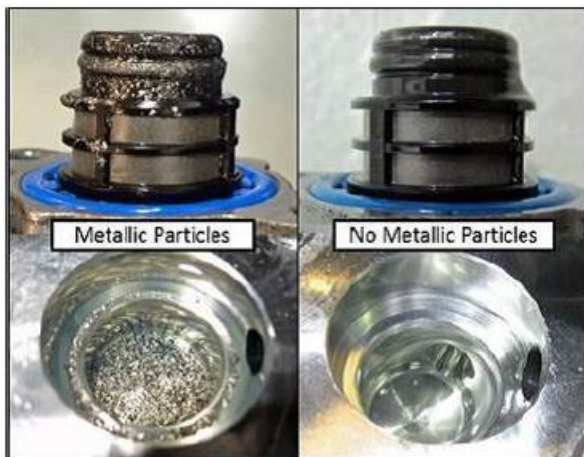


Figure 2. N290 Fuel Metering Valve and Valve Bore

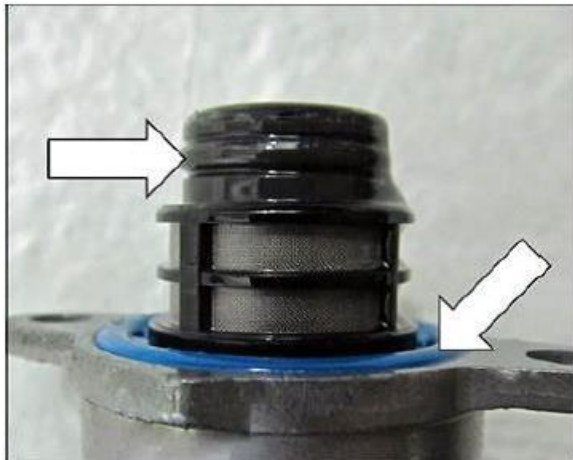
1. Remove the N290 Fuel Metering Valve and inspect the valve and valve bore for the presence of metallic particles (see Figure 2).

# Technical Bulletin

---

2. If metallic particles are found on the N290 Fuel Metering Valve or in the valve bore, replacement of the high pressure fuel pump and major components of the fuel system are necessary. **Proceed to Section B – Fuel Sampling and Analysis**

3. If no metallic particles are found on the N290 Fuel Metering Valve or in the valve bore, do not replace the high pressure fuel pump. Open a VTA case and contact the Volkswagen Technician's Helpline for further assistance diagnosing the vehicle, this bulletin does not apply.



**Figure 3.** N290 Fuel Metering Valve O-rings

**! Note:**

To prevent fuel system damage, ensure that the N290 Fuel Metering Valve is free of any contaminants before reinstalling.

Prior to reinstallation of the N290 Fuel Metering Valve, ensure that both O-rings are not damaged. If they are damaged, the high pressure fuel pump must be replaced.

To prevent damaging the O-rings when reinstalling the N290 Fuel Metering Valve, lubricate the O-rings with diesel fuel (**see Figure 3**).

4. Install the N290 Fuel Metering Valve into the valve bore using light pressure.

5. Install and hand tighten both M5 fasteners, ensuring that the threads are clean and dry.

**Pre-tighten to 2 Nm, then to 6.5 – 7 Nm.**

6. If metallic particles are found on the N290 Fuel Metering Valve or in the valve bore (**see figure 2**), replacement of the high pressure fuel pump and major components of the fuel system are necessary.

## **Section B – Fuel Sampling and Analysis**

**! Note:**

A fuel sample must be taken and analyzed prior to repairing the vehicle.

1. The fuel sample kit, P/N LQ1LKIT must be ordered via the Compliance Label Ordering Portal in [vwhub.com](http://vwhub.com). The fuel sample kit will be sent to the dealership within 1 business day\*.

# Technical Bulletin

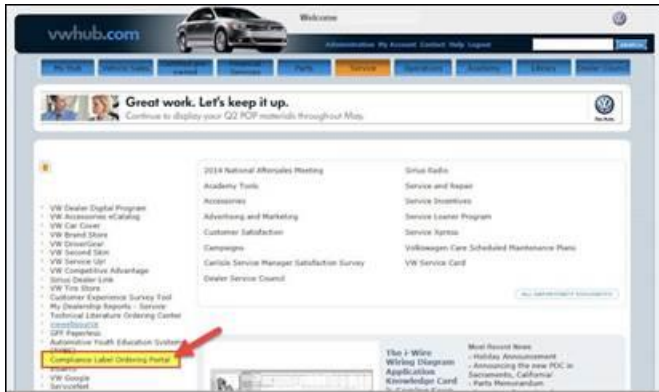


Figure 4. Compliance Label Ordering

The Compliance Label Ordering Portal is available through the Service or Parts tab in VWHub.com



Figure 5. Enter VIN

Enter the VIN in the Quick VIN Order field.

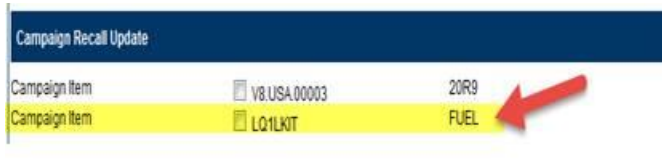


Figure 6. Select part number LQ1LKIT

**Tip:**

When ordering LQ1LKIT on the Compliance Label Ordering Portal, please include a secondary email address (ie. service manager) in the purchase order field for dealer e-mail notification.

2. Each fuel sample kit will contain the prepaid shipping label, detailed packaging instructions, and all necessary packaging to send the fuel sample via FedEx ground to a designated test facility.

# Technical Bulletin

**Note:**

HAZMAT certification is required for packaging the fuel sample but NOT for shipping \*. The diesel fuel sample may be shipped to the laboratory utilizing ground shipment services provided the dealer is using the Limited Quantity Kit (PN# LQ1LKIT).

3. The fuel analysis results will be available to the dealership within 3 to 5 business days once the fuel sample has been shipped to the laboratory. The dealer will be notified via an email to acquire a pdf copy of the analysis result certificate via an embedded link to VW Google Search. The dealer enters the VIN and the report is presented under the heading "Component Locations, Wiring Diagrams, and Share Folders" in the lower right hand corner of the search results screen.

4. Once the test results are obtained by the dealership, they will be clearly marked "PASS" or "FAIL" in the comments section (see figures 7 and 8).

5. Refer to **Warranty Bulletin VWP-15-06** for details regarding HPFP coverage eligibility.

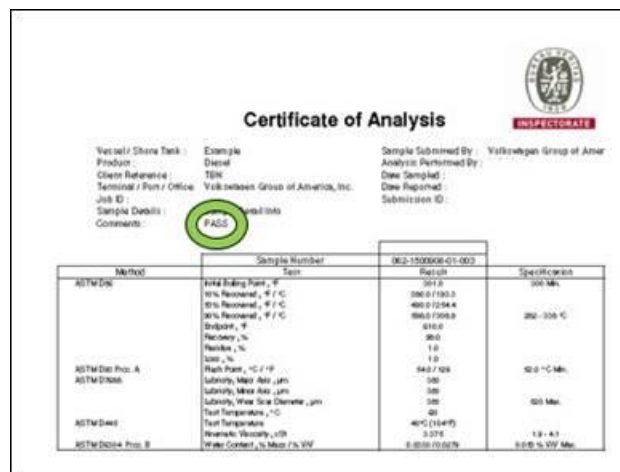
## Fuel Sample Analysis Results

If the fuel sample Certificate of Analysis indicates "PASS": Sections A & B & C will be reimbursed under warranty.

If the fuel sample Certificate of Analysis indicates "FAIL": Only sections A & B will be reimbursed under warranty.

6. When the fuel analysis process is complete, proceed to **Section C – High Pressure Fuel Pump Replacement and Fuel System Repair**.

\*Hawaii, Alaska, Puerto Rico Dealers: Please follow step one. Once a fuel sample is ordered, you will be contacted by a Volkswagen of America representative who will provide further instructions. A third party will be used to package and ship your fuel samples to the laboratory.



Method	Sample Number	Test	Specifications
ASTM D50	082-1500008-01-003	Final Sulfur Point, %	501.0
		90% Recovered, °F / °C	100.0 / 39.3
		95% Recovered, °F / °C	400.0 / 204.4
		98% Recovered, °F / °C	666.0 / 308.9
		Stability, %	610.0
		Recovery, %	300.0
		Residue, %	1.0
		Color, %	1.0
ASTM D155, Proc. A		Flash Point, °C / °F	54.0 / 129
ASTM D1551		Sulfidity, Meq Acid / ml	500
		Sulfidity, Meq Acid / ml	500
		Sulfidity, Meq Sulf / ml	500
		Test Temperature, °C	00
ASTM D50		Test Temperature	40°C (104°F)
		Recovery, %	3.0%
ASTM D1551, Proc. B		Water Content, % Meq / % Vol	0.000 / 0.00%

Figure 7. Example of a clean fuel sample analysis.

**Note:**

Each Certificate of Analysis will contain a "Pass" or "Fail" comment as shown.

# Technical Bulletin

**Certificate of Analysis**

Vehicle / Store Tank: Example  
 Product: Diesel  
 Client Reference: 1234  
 Terminal / Port / Office: Volkswagen Group of America, Inc.  
 Job ID:  
 Sample Details: [REDACTED] (Circled in red)  
 Comments:

Sample Submitted By: Volkswagen Group of Amer  
 Analysis Performed By:  
 Date Sampled:  
 Date Reported:  
 Submission ID:

Method	Sample Number		Specification
	Item	Result	
ASTM D4052	Initial Boiling Point, °F	360.0 (343.2)	350 Max.
	90% Recovered, °F / °C	460.0 (254.4)	
	95% Recovered, °F / °C	560.0 (305.0)	550 - 558 °C
	Distillate, °F	610.0	
	Residue, %	0.0	
	Residue, %	1.0	
	Residue, %	1.0	
ASTM D4052 Pro. A	Flash Point, °C / °F	130.0 / 266.0	60.0 °C Min.
ASTM D4052	Subsidity, Micro Aids, µm	50	
	Subsidity, Micro Aids, µm	50	
	Subsidity, Micro Aids, µm	50	500 Max.
ASTM D4052	Test Temperature, °C	40	
	Water, % by Mass	0.00	0.10 - 0.15
ASTM D4052 Pro. B	Water Content, % Mass / % Vol	0.000 / 0.0076	0.05 % Vol Max.

**Figure 8.** Example of a contaminated fuel analysis.

## Section C – High Pressure Fuel Pump Replacement and Fuel System Repair

- Always use the latest information in Elsa for detailed removal and replacement instructions of the components listed in this technical bulletin.
- Remove in-tank fuel pump (Sending unit).
- Drain and clean the fuel tank using suction pump VAS5226.
- Fill the fuel tank with **1.3 gallons** of fresh diesel fuel.
- Drain and clean the tank completely using suction pump VAS5226.
- Replace the in-tank fuel pump (Sending unit).
- Flush the fuel lines (both feed and return) from the fuel tank to the bulk head, using either mineral spirits or brake clean with compressed air. Alternate from both ends of the lines while using a shop towel to catch any debris that may still be in the line. Verify all metal is removed from both lines before proceeding.
- Replace the following components as per Elsa: high pressure fuel pump, high pressure fuel lines, fuel rail (with both sensors included), all fuel injectors, fuel return lines (overflow lines), fuel filter, fuel filter housing, auxiliary fuel pump.
- Once repairs are complete fuel the vehicle.
- Ensure the fuel injector return lines are properly seated and sealed once installed.



**Note:**

The “injector quantity calibration” and the “injector voltage calibration” for the new injectors must be programmed into the Engine Control Module -J623- after replacing injectors. Refer to “Guided Functions” in the vehicle diagnostic tester.



# Technical Bulletin

---

11. Using the VAS tester, perform the guided function “Vent Fuel System”. (see Elsa for additional information under “Fuel System, Filling and Bleeding”).



**Note:**

If the test plan is unavailable through Guided Functions, switch to Self Diagnosis>Engine Electronics>Basic Settings>35 and perform the basic settings 3 times consecutively. For UDS vehicles, perform basic settings for initial fueling.

12. Once the repairs are complete, test drive the vehicle.

13. Inspect for fuel seepage at the fuel injector return line connector. If seepage is found the condition MUST be corrected.

# Technical Bulletin

## Warranty

### Reimbursement for Sections A & B Only Where Fuel Analysis Result = FAIL



**Note:**

**Active VW Customer Mobility Program (VWCMP) loaner vehicles are eligible to receive \$35 per day for loaner expense reimbursement under this warranty extension. For dealers enrolled in the VWCMP, a non-VWCMP loaner vehicle can be provided at a reimbursement rate of \$25 per day or a VW rental at \$35 if a VWCMP loaner is not available. These claims must be submitted in SAGA on a separate line using claim type 1SP. Refer to document VWS-14-03 for applicable labor operation.**

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual <sup>1)</sup>					
Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Touareg	2009-2012	3.0L TDI CATA	All	All	All
Passat	2012	2.0L TDI CKRA	All	All	All
<b>SAGA Coding</b>					
<b>Claim Type:</b>		Use applicable Claim Type <sup>1)</sup>			
<b>Service Number:</b>		<b>Damage Code</b>	<b>HST</b>	<b>Damage Location (Depends on Service No.)</b>	
2374		0010	--	Use applicable when indicated in Elsa (L/R)	
<b>Parts Manufacturer</b>		Touareg, Passat		WWO <sup>2)</sup>	
<b>Causal Part: Select Labor Operation</b>			01320000		
<b>Outside Material: Diesel Fuel</b>			Part Number: FUEL		
<b>Diagnostic Time <sup>4)</sup></b>					
<b>GFF Time expenditure</b>		01500000 = As required		YES	





# Technical Bulletin

Road Test	01210002 = 00 TU 01210004 = 00 TU	NO
Technical Diagnosis	01320000 = As required	YES
Claim Comment: Input "As per Technical Bulletin 2041057" in comment section of Warranty Claim.		
<ol style="list-style-type: none"> <li>1) Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only</li> <li>2) Vendor code BPY or BPT must be recorded from the original High Pressure Fuel Pump.</li> <li>3) Labor Time Units (TUs) are subject to change with ELSA updates.</li> <li>4) Documentation required per Warranty Policies and Procedures Manual.</li> </ol>		



**Note:**

**Vendor code BPY or BPT must be recorded from the original High Pressure Fuel Pump for claiming purposes.**

**Reimbursement for Sections A & B & C Where Fuel Analysis Results = PASS**



**Note:**

**Active VW Customer Mobility Program (VWCMP) loaner vehicles are eligible to receive \$35 per day for loaner expense reimbursement under this warranty extension. For dealers enrolled in the VWCMP, a non-VWCMP loaner vehicle can be provided at a reimbursement rate of \$25 per day or a VW rental at \$35 if a VWCMP loaner is not available. These claims must be submitted in SAGA on a separate line using claim type 1SP. Refer to document VWS-14-03 for applicable labor operation.**

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual <sup>1)</sup>					
Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Touareg	2009-2012	3.0L TDI CATA	All	All	All
Passat	2012	2.0L TDI CKRA	All	All	All
<b>SAGA Coding</b>					
Claim Type:	Use applicable Claim Type <sup>1)</sup>				



# Technical Bulletin

<b>Service Number:</b>	<b>Damage Code</b>	<b>HST</b>	<b>Damage Location (Depends on Service No.)</b>
2374	0010	--	Use applicable when indicated in Elsa (L/R)
<b>Parts Manufacturer</b>	<b>Touareg, Passat</b>	<b>BPY or BPT <sup>2)</sup></b>	
<b>Labor Operation <sup>3)</sup> : Fuel System Clean and Replacement</b>		<b>23744299 = 850 TU (Touareg)</b>	
<b>Labor Operation <sup>3)</sup> : Fuel System Clean and Replacement</b>		<b>23744299 = 750 TU (Passat)</b>	
<b>Causal Part: High Pressure Fuel Pump</b>		<b>*** 130 755 **</b>	
<b>Outside Material: Diesel Fuel</b>		<b>Part Number: FUEL</b>	
<b>Diagnostic Time <sup>4)</sup></b>			
<b>GFF Time expenditure</b>	<b>01500000 = As required</b>	<b>YES</b>	
<b>Road Test</b>	<b>01210004 = 10 TU</b>	<b>YES</b>	
<b>Technical Diagnosis</b>	<b>01320000 = As required</b>	<b>YES</b>	
<b>Claim Comment: Input "As per Technical Bulletin 2041057" in comment section of Warranty Claim.</b>			
<p><sup>1)</sup> Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only</p> <p><sup>2)</sup> Vendor code BPY or BPT must be recorded from the original High Pressure Fuel Pump.</p> <p><sup>3)</sup> Labor Time Units (TUs) are subject to change with ELSA updates.</p> <p><sup>4)</sup> Documentation required per Warranty Policies and Procedures Manual.</p>			

# Technical Bulletin

## Required Parts and Tools

### Passat



**Note:**

Part numbers are for reference only; please consult ETKA by VIN for most current information.

Part No:	Part Description	Quantity
03L130755AA	High pressure pump	1
03L130321Q	Line	1
03L130301AR	Line	1
03L130301AS	Line	1
03L130301AT	Line	1
03L130301BA	Line	1
03L201360AD	Fuel Line	1
03L130235AD	Return line	1
04L130216	Plate	2
WHT004739	Bolt	2
03L130277R	Injector	4
03L130089J	Rail	1
N91176101	Bolt	3
N10714501	Bolt	2
WHT002494	Bolt	1
7N0127400D	Filter	1
561130307	Fuel Line	1

# Technical Bulletin

561130307B	Fuel Line	1
	All torque to yield must be replaced	All

## 2009 - 2010 Touareg



**Note:**

Part numbers are for reference only; please consult ETKA by VIN for most current information.

Part No:	Part Description	Quantity
059 130 755 BT	High pressure pump	1
7L6 127 401H	Filter	1
059 130 216C	Plate	6
059 130 218 Q	Retention Valve	1
059 130 089 AM	Fuel Rail Left	1
059 130 090 AQ	Fuel Rail Right	1
059 130 277 AM	Injector	6
059 130 241 CD	Pressure Lines	6
059 130 310 AK	Fuel Line	1
059 130 309 AT	Fuel Line	1
059 130 300 EH	Fuel Line	1
059 130 758 J	Pressure Sensor	1
059 130 312 K	Fuel Line	1
7L6 919 715 H	Suction Jet Pump	1
1K0 906 089 C	Auxiliary fuel pump	1
7L6 130 295 AT	Auxiliary fuel pump supply line	1

# Technical Bulletin

059 130 300 DF	Fuel line with fuel temperature sensor	1
7L6 919 088 F	In-Tank fuel pump (Sending unit)	1
	All torque to yield bolts must be replaced	All

## 2011 - 2012 Touareg



**Note:**

Part numbers are for reference only; please consult ETKA by VIN for most current information.

Part No:	Part Description	Quantity
03L 130 755 BT OR 059 130 755 BT	High pressure pump	1
7P6 127 401H	Filter	1
059 130 216C	Plate	6
059 130 218 AD	Retention Valve	1
059 130 089 AM	Fuel Rail Left	1
059 130 090 BR	Fuel Rail Right	1
059 130 277 AM	Injector	6
059 130 241 CD	Pressure Lines	6
059 130 310 AK	Fuel Line	1
059 130 309 AT	Fuel Line	1
059 130 300 EG	Fuel Line	1
059 130 758 J	Pressure Sensor	1
059 130 312 K	Fuel Line	1



# Technical Bulletin

059 130 297S	Fuel Line	1
7P6 919 715 A	Suction Jet Pump	1
059 130 300 EG	Fuel line with fuel temperature sensor	1
7P6 919 088 B	In-Tank fuel pump	1
	All torque to yield bolts must be replaced	All

Tool Description	Tool No:
Midtronics Battery Tester/Charger	InCharge 940 (INC-940) or GRX3000VAS
VAS Diagnostic Tool	VAS 6150/X & VAS 6160/X with ODIS Service with: current online updates

## Additional Information

All part and service references provided in this Technical Bulletin are subject to change and/or removal. Always check with your Parts Dept. and Repair Manuals for the latest information.