



**23-17-04 - MIL ON, No Start or Rough Running with DTCs P0087, P0088 or P0191 (TDI Only)**

Release date: 7/2/2019

## Condition

### Applicable Vehicles

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

### Revision Table

Instance Number	Published Date	Version Number	Reason For Update
2041057/11	7/2/19	23-17-04	Add additional warranty claiming instruction.
2041057/10	6/12/19	23-17-04	Removal of fuel pre-analysis requirement.
2041057/1	6/24/15	V231502	Original publication.

One or more of the following fault codes may be stored in the 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



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## 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.

## Service

### 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-** Fuel Pressure Regulating Valve.

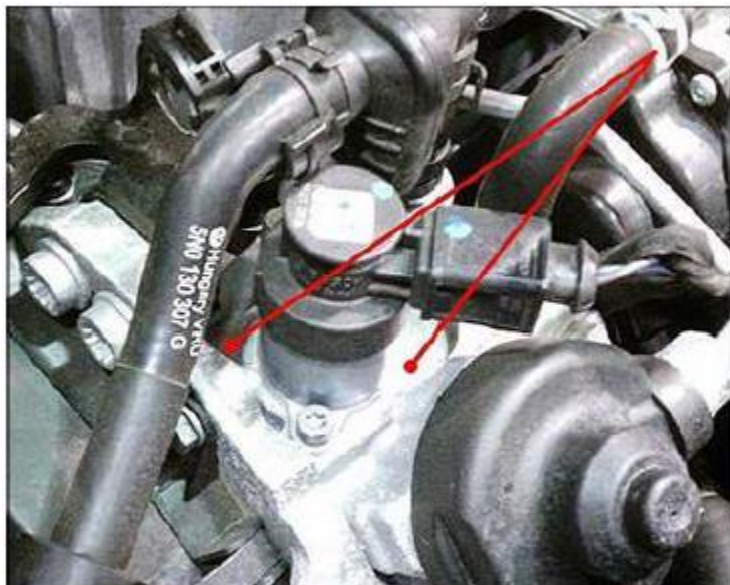


Figure 1. Surrounding Area

#### 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.



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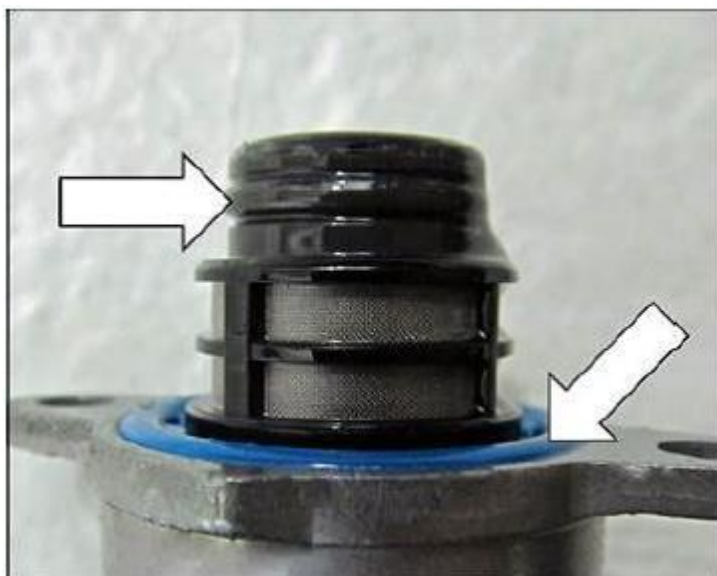


**Figure 2.** N290 Fuel Metering Valve and Valve Bore

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

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 in the fuel system is necessary. (See High Pressure Fuel Pump Replacement and Fuel System Repair section below).

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).



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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.**

### **High Pressure Fuel Pump Replacement and Fuel System Repair**

1. Always use the latest information in Elsa for detailed removal and replacement instructions of the components listed in this technical bulletin.
2. Remove in-tank fuel pump (Sending unit).
3. Drain and clean the fuel tank using suction pump VAS5226.
4. Fill the fuel tank with **1.3 gallons** of fresh diesel fuel.
5. Drain and clean the tank completely using suction pump VAS5226.
6. Replace the in-tank fuel pump (Sending unit).
7. 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.
8. 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.
9. Once repairs are complete fuel the vehicle.
10. 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 -**J623**- Engine/Motor Control Module after replacing injectors. Refer to “Guided Functions” in the vehicle diagnostic tester.

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.



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## Warranty



### TIP:

Always verify Extended Emission Warranty (EEW) coverage in ELSA.



### Note:

The Extended Emission Warranty must cover all parts and labor, as well as the cost or provision of a loaner vehicle for warranty service lasting longer than 3 hours for, among other things, repairs to the entire fuel system, including the fuel pumps, high pressure common rail, fuel injectors, and all sensors and actuators (DOJ 1<sup>st</sup> and 2nd Partial Consent Decrees, Appendix B, Section 3.9).

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-14-01 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
SAGA Coding					
Claim Type:		Use applicable Claim Type <sup>1)</sup>			
Service Number:		Damage Code	HST	Damage Location (Depends on Service No.)	
2374		0010	--	--	
Parts Manufacturer		Touareg, Passat		BPY or BPT <sup>2)</sup>	
Labor Operation <sup>3)</sup> : Fuel System Clean and Replacement			23744299 = 850 TU (Touareg)		
Labor Operation <sup>3)</sup> : Fuel System Clean and Replacement			23744299 = 750 TU (Passat)		



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<b>Causal Part:</b> High Pressure Fuel Pump		*** 130 755 **
<b>Outside Material:</b> Diesel Fuel		Part Number: FUEL
<b>Diagnostic Time</b> <sup>4)</sup>		
<b>GFF Time expenditure</b>	01500000 = As required	YES
<b>Road Test</b>	01210004 = 10 TU	YES
<b>Technical Diagnosis</b>	01320000 = As required	YES
<b>Claim Comment:</b> Input "As per Technical Bulletin 2041057" in comment section of Warranty Claim.		
<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>		

## 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
03L 130 755AA	High pressure pump	1
03L 130 321Q	Line	1
03L 130 301AR	Line	1
03L 130 301AS	Line	1
03L 130 301AT	Line	1
03L 130 301BA	Line	1
03L 201 360AD	Fuel Line	1
03L 130 235AD	Return line	1
04L 130 216	Plate	2



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WHT 004 739	Bolt	2
03L 130 277R	Injector	4
03L 130 089J	Rail	1
N 911 761 01	Bolt	3
N 107 145 01	Bolt	2
WHT 002 494	Bolt	1
N 910 488 04	Bolt	4
N 911 854 01	Bolt	3
038 109 454A	Nut	1
WHT 004 739	Bolt	2
7N0 127 400D	Filter	1
561 130 307	Fuel Line	1
561 130 295D	Fuel Line	1
561 130 307B	Fuel Line	1
3AA 919 050H	In-Tank fuel pump (Sending unit)	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 BC or 059 130 755 BT	High pressure pump	See ETKA
7L6 127 401H	Filter	1
059 130 216C	Plate	6

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059 130 218 Q	Retention Valve	See ETKA
059 130 089 AM	Fuel Rail Left	1
059 130 090 AQ	Fuel Rail Right	1
059 130 855HX	Injector	6
059 130 241 CD	Pressure Lines	6
WHT 000 884	Seals	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
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
059 130 755 BT	High pressure pump	See ETKA
7P6 127 401	Filter	1
059 130 216C	Plate	6



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059 130 218 AD	Retention Valve	See ETKA
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
WHT 000 884	Seals	6
059 130 310 AK	Fuel Line	1
059 130 309 AT	Fuel Line	1
059 130 758 J	Pressure Sensor	1
059 130 312 K	Fuel Line	1
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



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## 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.