Technical Bulletin

Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Golf, Jetta, Jetta SportWagen	2009-2012	2.0L TDI (CBEA, CJAA)	All	All	All

Condition

23 17 05 June 15, 2017 **2041063** Supersedes Technical Bulletin V231703 dated April 13, 2017 to update metadata.

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.

Service

Figure 1. Misfueling guard installed in the filler neck.

Note:

Inspect the fuel filler neck for a properly installed and functioning misfueling guard (see figure 1). An installed misfueling guard is required for warranty coverage under the terms of the High Pressure Fuel Pump Limited Warranty Extension. Refer to the *Warranty Policies and Procedures Manual* and the applicable *Warranty Policy and Procedures Bulletin(s)* for coverage eligibility details.

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.

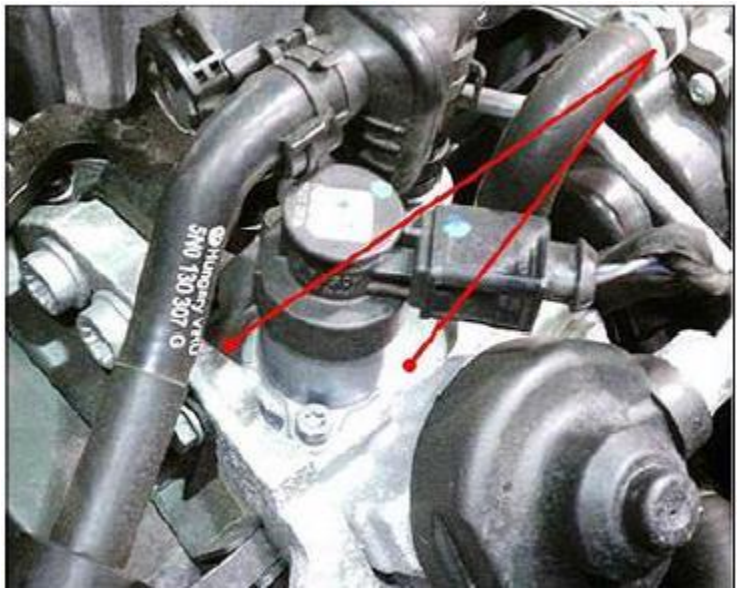


Figure 2. Surrounding Area

Note:

Prior to removing the N290 Fuel Metering Valve, the area surrounding the valve (Figure 2) 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.

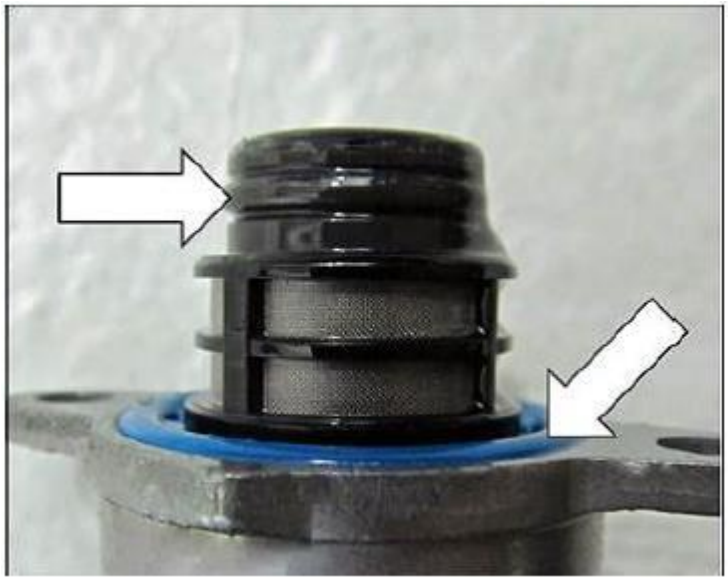
If debris enters the fuel system, components may be damaged.

1. Remove the N290 Fuel Metering Valve and inspect the valve and valve bore for the presence of metallic particles **(see Figure 3).**

Figure 3. N290 Fuel Metering Valve and Valve Bore

2. If metallic particles are found on the N290 Fuel Metering Valve or in the valve bore **(see figure 3)**, replacement of the high pressure fuel pump and major components in the fuel system is necessary. **Proceed to Section B – Fuel Sample Pre-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.



Note:

To prevent fuel system damage, ensure that the N290 Fuel Metering Valve is free of any contaminates 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 4).**

Figure 4. N290 Fuel Metering Valve O-rings

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.

Section B – Fuel Sample Pre-Analysis

Note:

A fuel sample must be taken and analyzed using the VAS 6774 tool before performing further repairs to the vehicle.

Please review the instructional DVD included in the tool case titled 'Fuel-Identification Kit VAS 6774'. Here you will find a user manual, an FAQ, and a video that will describe the proper way to use, clean, and maintain this tool. The instructions are also posted to ServiceNet by going to ServiceNet> Workshop Equipment> Tool Information> Instruction Manuals & Videos> Manuals> VAS 6774 Fuel Identification Unit Operating Instructions.

Note:

It is important that the Specific Gravity of the fuel sample be tested first before proceeding with sensor head testing. Fuels with a specific gravity of 6.5 or lower cannot be tested using the VAS 6774/7 under any circumstances. For this reason please disregard the order of testing as seen in the video and follow the order in the manual that came with the tool.

Obtain a 500 mL fuel sample from the vehicle.

Following the instructions included with the VAS 6774 kit, test the specific gravity of the fuel sample. A correct specific gravity measurement is any reading between 9 and 13 **(see Figure 5)**. If the specific gravity reading falls outside of those numbers warranty coverage does not apply. If the specific gravity is between 9 and 13 proceed to step 2a.

2a. If the specific gravity test results in a reading between 9 and 13 a sensor head test is required to check for gasoline particles. If the specific gravity test results in a "Fail" warranty coverage does not apply.

Measurement result	interpretation	
below 0	case for the fuel laboratory (neither petroleum nor diesel fuel)	
0 - 5.5	petroleum fuel EN 228	
4.5 - 6.5	E 85 (85 % Ethanol, 15 % petroleum fuel)	
Approx. 7	E 100 (pure Ethanol)	
7 - 9	case for a fuel laboratory (neither petroleum nor diesel fuel)	
9 - 11	Diesel in Asia (Russia, India)	Diesel in USA (typical value, density is NOT specified in D-975)
10 - 13	Diesel in accordance with EN 590 (Europe)	
13 - 15	case for a fuel laboratory	
15 - 17	Biodiesel case for a fuel laboratory	
greater than 17	case for a fuel laboratory	

Figure 5

Note:

Fuel samples which have a density between 0 and 6.5 indicate a fuel mixture which might be flammable under certain conditions. If the specific gravity of the fuel sample is 6.5 or lower **DO NOT** use the VAS 6774/7 to perform a sensor head test, warranty coverage does not apply.

2b. A sensor head test must be performed next to check the fuel for gasoline residue. Follow the instructions included with the tool to perform a sensor head test. If the sensor head test results in a "Pass" continue to step 3. If the sensor head results in a "Fail" warranty coverage does not apply.

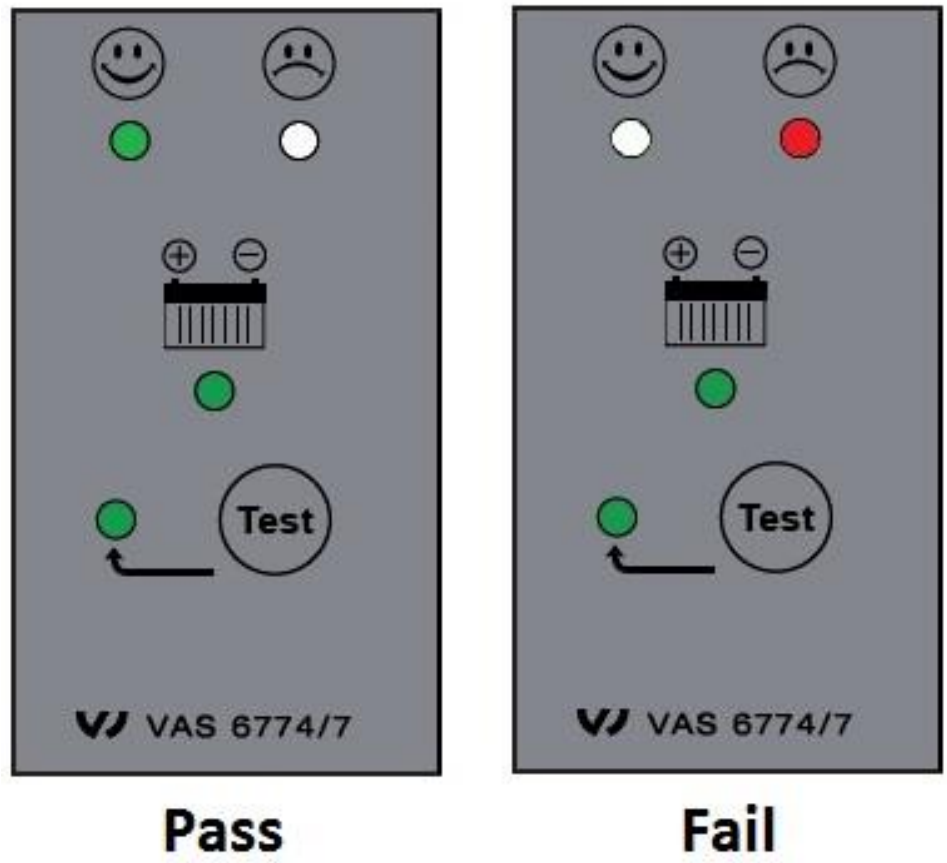


Figure 6

Note:

If the specific gravity is above 13 or below 9 the fuel has failed the test and warranty coverage does not apply.

3. If the sensor head test results in a "Pass" and the specific gravity test results in a reading between 9 and 13 you may proceed with section C – **High Pressure Fuel Pump Replacement and Fuel System Repair.**

Section C – 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 the suction pump VAS5226.

4. Fill the fuel tank with **(1.3 gallons)** of fresh diesel fuel.

5. Drain and clean the tank completely using 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.

Note:

The rubber fuel line insulators from the original injector supply lines should be transferred to the new lines.

9. Once repairs are complete fuel the vehicle.

10. Ensure the fuel injector return lines are properly seated and sealed once it is 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 one or more 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 vehices, 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-14-01 for applicable labor operation.

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual [1]					
Model(s)	**Year(s)**	**Eng. Code(s)**	**Trans. Code(s)**	**VIN Range From**	**VIN Range To**
Golf, Jetta, Jetta SportWagen	2009-2012	2.0L TDI (CBEA, CJAA)	All	All	All

SAGA Coding			
Claim Type:	Use applicable Claim Type [1]		
Service Number:	**Damage Code**	**HST**	**Damage Location (Depends on Service No.)**
2374	0010	--	Use applicable when indicated in Elsa (L/R)

Parts Manufacturer	**Golf, Jetta, Jetta Wagon, Jetta SportWagen**	**3ME [2]**
Causal Part: Select Labor Operation	**01320000**	
Outside Material: Diesel Fuel	**Part Number: FUEL**	

Diagnostic Time [4]		
GFF Time expenditure	**01500000 = As required**	**YES**
Road Test	**01210002 = 00 TU** **01210004 = 00 TU**	**NO**

Technical Diagnosis	**01320000 = As required**	**YES**
Claim Comment: Input "As per Technical Bulletin 2041063" in comment section of Warranty Claim.		
[1] Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only **[2] Code per warranty vendor code policy.** **[3] Labor Time Units (TUs) are subject to change with ELSA updates.** **[4] Documentation required per Warranty Policies and Procedures Manual.**		

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-14-01 for applicable labor operation.

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual [1]

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SAGA Coding

Claim Type:	**Use applicable Claim Type [1]**		
Service Number:	**Damage Code**	**HST**	**Damage Location (Depends on Service No.)**
2374	**0010**	--	**Use applicable when indicated in Elsa (L/R)**

Technical Bulletin

Parts Manufacturer	**Golf, Jetta, Jetta SportWagen**	**BPY or BPT [2)]**
Labor Operation [3)] : Fuel System Clean and Replacement	**23744299 = 750 TU**	
Causal Part: High Pressure Fuel Pump	***** 130 775* OR ***130 851****	
Outside Material: Diesel Fuel	**Part Number: DIESEL**	
Diagnostic Time [4)]		
GFF Time expenditure	**01500000 = As required**	**YES**
Road Test	**01210004 = 10 TU**	**YES**
Technical Diagnosis	**01320000 = As required**	**YES**
Claim Comment: Input "As per Technical Bulletin 2041063" in comment section of Warranty Claim.		

[1)] Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only

[2)] Vendor code BPY or BPT must be recorded from the original High Pressure Fuel Pump.

[3)] Labor Time Units (TUs) are subject to change with ELSA updates.

[4)] Documentation required per Warranty Policies and Procedures Manual.

Required Parts and Tools

2009-2012 Jetta, Golf

Note:

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

Part No:	Part Description	Quantity
03L 130 851AX	High pressure pump	1
03L130321	Line	1
03L 130 301	Line	1
03L 130 301R	Line	1
03L 130 301B	Line	1
03L 130 301C	Line	1
03L 130 089	Rail	1
5N0 130 307J	Line	1
1K0 127 400F	Filter complete	1
03L 130 235S	Return Line	1
03L 130 277A	Injectors	4
03L 103 113	Injector Seal Plate	4
5N0 906 129B	Auxiliary Pump	1
059 130 216 C	Plate	4
WHT 000 884	Seal	4
03L 201 360G	Fuel Line	1
1K0 130 307BJ	Fuel Hose	1

1K0 130 307BG	Fuel Line	1
N 910 488 02	Bolt	4
N 107 158 01	Bolt	3
038 109 454A	Nut	1
N 911 803 01	Bolt	3
WHT 002 494	Bolt	1
N 107 145 01	Bolt	2
1K0 919 050 AB	In-Tank fuel pump (sending unit)	1
	All torque to yield bolts must be replaced	All

2009-2012 Jetta SportWagen

Note:

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

Part No:	Part Description	Quantity
03L 130 851AX	High pressure pump	1
03L130321	Line	1
03L 130 301	Line	1
03L 130 301R	Line	1
03L 130 301B	Line	1
03L 130 301C	Line	1
03L 130 089	Rail	1
5N0 130 307J	Line	1
1K0 127 400F	Filter complete	1

03L 130 235S	Return Line	1
03L 130 277A	Injectors	4
03L 103 113	Injector Seal Plate	4
5N0 906 129B	Auxiliary Pump	1
059 130 216 C	Plate	4
WHT 000 884	Seal	4
03L 201 360G	Fuel Line	1
1K0 130 307BJ	Fuel Hose	1
1K0 130 307BG	Fuel Line	1
N 910 488 02	Bolt	4
N 107 158 01	Bolt	3
038 109 454A	Nut	1
N911 803 01	Bolt	3
WHT 002 494	Bolt	1
N 107 145 01	Bolt	2
1K0 919 050 AB	In-Tank fuel pump (sending unit)	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

Technical Bulletin

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.

Document Control Revision Table			
Instance Number	**Published Date**	**Version Number**	**Reason For Update**
2041063/7	6/15/17	V231705	Metadata adjustment.
2041063/6	4/13/17	V231703	To update fuel sampling requirement.
2041063/1	6/24/15	V231503	Original publication