



Technical Service Bulletin

23 MIL on, DTCs P0087, P0088, and/or P0191 stored in the ECM

23 19 53 2040752/9 November 19, 2019. Supersedes Technical Service Bulletin Group 23 number 19-52 dated July 8, 2019 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A3	2010 - 2012	All	TDI
Q7	2009 - 2012	All	TDI

Condition

REVISION HISTORY		
Revision	Date	Purpose
9	-	Revised <i>Warranty</i> (Added Claim Type)
8	07/08/2019	Revised title Revised <i>Service</i> (Removed fuel sample procedure) Revised <i>Warranty</i> (Added Tip and Note)
7	04/18/2017	Revised <i>Service</i> (Updated fuel sample analysis procedure) Revised <i>Required Parts and Tools</i> (Updated part numbers)

Customer states:

- MIL on.
- Vehicle either runs roughly or does not start.

Workshop findings:

One or more of the following DTCs is stored in the engine control module (ECM), J623 (address word 0001):

- **DTC P0087** (Fuel rail/system pressure - too low).
- **DTC P0088** (Fuel rail/system pressure - too high).
- **DTC P0191** (Fuel rail pressure sensor "A" circuit range/performance).

Technical Background

Metallic particles in the high-pressure fuel pump may cause the condition.



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Production Solution

Not applicable.

Service



Note:

Before proceeding, perform all GFF diagnostic procedures and check all components to determine a root cause of the condition, including testing supply pressure to the high-pressure fuel pump (a low-pressure side) and checking for internal leakage from the injectors and N276 pressure regulating valve.

If there is no root cause found, use the following procedure to check for metallic particles in the high-pressure fuel pump.

Initial diagnosis of high-pressure fuel pump:

1. Prepare to remove the N290 fuel metering valve by first cleaning the area around the valve then drying the area using compressed air (Figure 1). All debris must be removed from the area to ensure that no debris enters the fuel system and causes damage.

More information is available in the Elsa Repair Manual at *Engine >> Fuel Supply System >> General Repair Information >> Clean Working Conditions*.

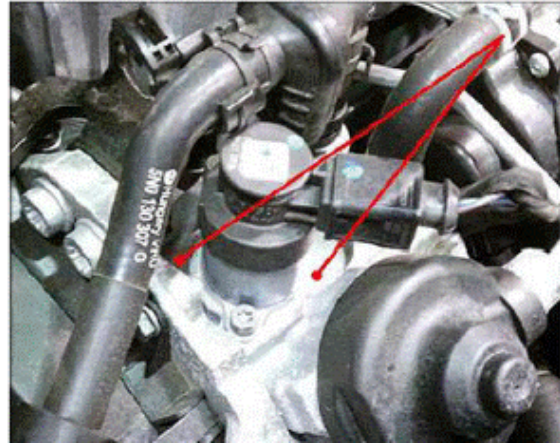


Figure 1. The area surrounding the N290 fuel metering valve.



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2. Remove the N290 fuel metering valve, and inspect both the valve and valve bore for metallic particles (Figure 2).

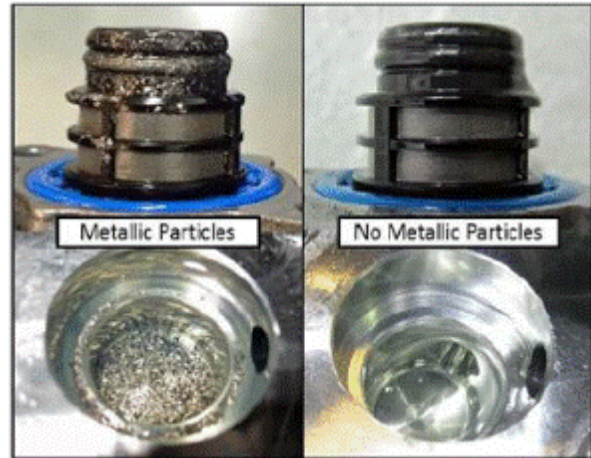


Figure 2. N290 fuel metering valve and valve bore shown with and without metallic particles.

3. **If metallic particles are found:**

- This bulletin applies.
- The high-pressure fuel pump and major components of the fuel system will need to be replaced. Proceed to the next section for instructions.

If metallic particles are not found:

- This bulletin does not apply.
- Reinstall the N290 fuel metering valve using light pressure. Before reinstalling, ensure that the valve is free of contaminants.
- 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).



Note:

Before reinstalling the N290 fuel metering valve, check the O-rings for damage (Figure 3). If any damage is found, the high fuel pressure pump must be replaced outside of this bulletin.

To prevent damage to the O-rings during reinstallation of the valve, lubricate the O-rings with diesel fuel.

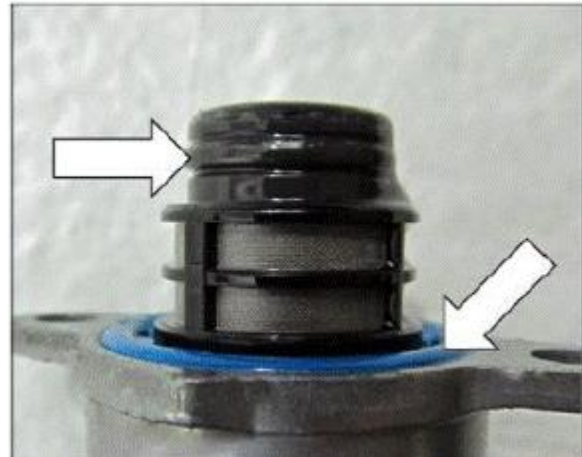



Figure 3. N290 fuel metering valve O-rings.



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High-pressure fuel pump replacement and fuel system repair:

Before proceeding, check ElsaPro for the latest information and detailed instructions for removal and replacement of the components listed in this TSB.

1. Use suction pump VAS5226 to clean the fuel delivery unit and fuel tank.
2. Fill the fuel tank with five liters of fresh diesel fuel.
3. Use suction pump VAS5226 to completely drain the fuel tank.
4. Replace the in-tank fuel pump.
5. Replace the suction jet pump.
6. Following the instructions in the Elsa repair manual, replace the following components:
 - High-pressure fuel pump (*note that the supply and return line orientation for the HPFP may be reversed on updated pumps installed on vehicles manufactured before 05/25/2010*)
 - High-pressure fuel lines
 - Fuel rail (with both sensors included)
 - All fuel injectors
 - Fuel return lines (overflow oil lines)
 - Fuel filter
 - Fuel filter housing
 - Auxiliary fuel pump
7. After replacements are complete, fuel the vehicle.
8. Ensure that the fuel injector return line is properly seated and sealed.
9. Using the VAS tester, perform the “Vent Fuel System” Guided Function. See the Elsa repair manual at *Engine>>Fuel Supply System>>20 Fuel Supply>>Fuel System, Bleeding* for additional information.
 **Tip:** If the test plan is unavailable through Guided Functions, switch to *Self Diagnosis >> Engine Electronics >> Basic Settings >> 35*, and perform the basic settings three times consecutively. For UDS vehicles, perform basic settings for initial fueling.
10. Once the repairs are complete, test drive the vehicle.
11. 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

Claim Type:	<ul style="list-style-type: none"> • 110 – Verify Vehicle Warranty Coverage. • G10 for CPO Covered Vehicles – Verify Owner. • G14 - Verify Coverage in ElsaPro. • If the vehicle is outside any warranty, this Technical Service Bulletin is informational only. 		
Service Number:	2374		
Damage Code:	0010		
Labor Operations:	For Q7:		
	Fuel bleed	2003 0750	See SRT
	Fuel tank cleaned	2010 2999	50 TU
	Diesel fuel filter remove + reinstall	2034 1900	See SRT
	Supply line cleaned	2038 2999	10 TU
	Return line cleaned	2039 2999	10 TU
	2 electric fuel pump remove + reinstall	2066 2000	See SRT
	Suction jet pump remove + reinstall	2050 1901	See SRT
	2 distribution rail remove + reinstall	2373 2047	See SRT
	6 injector remove + reinstall	2340 2047	See SRT
	High-pressure pump remove + reinstall	2374 1947	See SRT
	For A3:		
	Fuel bleed	2003 0750	See SRT
	Fuel tank cleaned	2010 2999	50 TU
	Diesel fuel filter remove + reinstall	2034 1951	See SRT
	Supply line cleaned	2038 2999	10 TU
	Return line cleaned	2039 2999	10 TU
	Electric fuel pump remove + reinstall	2066 1900	See SRT



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	Electric fuel pump (aux) remove + reinstall	2066 1902	See SRT
	Distribution rail remove + reinstall	2373 1912	See SRT
	4 injector remove + reinstall	2340 2012	See SRT
	Toothed belt remove + reinstall	1524 1912	See SRT
	High-pressure pump remove + reinstall	2374 1962	See SRT
Diagnostic Time:	GFF	0150 0000	Time stated on the diagnostic protocol (Q7: Max 80 TU) (A3: Max 70 TU)
	Road test prior to service procedure	No allowance	0 TU
	Road test after service procedure	0121 0004	10 TU
Claim Comment:	As per TSB #2040752/9		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.



Tip: Always verify Extended Emissions Warranty (EEW) coverage in ELSA.



Note:

The Extended Emissions 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 1st and 2nd Partial Consent Decrees, Appendix B, Section 3.9).

Required Parts and Tools

For A3:

Always check with your Parts Department and/or ETKA for the latest information and parts bulletins.		
Part Number	Part Description	Quantity
03L130755A	High-pressure fuel pump	01
03L130321	Fuel line	01



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03L130089	Fuel rail (sensors)	01
03L130277A	Fuel injector	04
059130519	Seal ring (Fuel injector)	04
WHT000884	O-ring (Fuel injector)	04
03L130301 03L130301R 03L130301B 03L130301C	Pressure pipe	04
059130216C	Tensioning plate (Injector)	04
3C0127400C	Fuel filter/housing	01
1K0130307CE	Fuel line	01
03L201360G	Fuel line	01
1K0130295AQ	Fuel line	01
1K0130307BK	Fuel line	01
5N0130307CC	Fuel line	01
1K0919050AB	Fuel delivery unit and fuel gauge sender	01
5N0906129B	Auxiliary fuel pump	01
See ETKA	Fasteners, Bolts, Nuts, and Screws as needed per the Repair Manual	See ETKA/ELSA

For Q7:

Always check with your Parts Department and/or ETKA for the latest information and parts bulletins.		
Part Number	Part Description	Quantity
059130755BT	High-pressure fuel pump	01
059130300EC	Fuel line set	01
N 90770201	Spring clip	02
N 90926401	Spring clip	01



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4B0422379	Spring clip	04
7L6201906A	Fuel hose (return)	01
7L6201905	Fuel hose (supply)	01
7L6130295AC	Fuel line (return)	01
7L6130295AT	Fuel hose (supply)	01
7L6130295BB	Fuel hose (return)	01
059130300DF	1 set of fuel lines	01
059130310AK	Fuel line	01
059130089AM	Fuel rail (left)	01
059130090AQ (MY09-10) 059130090BR (MY11-12)	Fuel rail (right)	01
N 0138128	Seal ring (Fuel rail/fuel line)	02
059130131H (MY09-10) 059130218AF (MY11-12)	Fuel line/hose	01
059130309AT	Fuel line	01
059130277AM	Fuel injector	06
WHT000884	O-ring (injector)	06
059130241CD	Pressure pipe	06
059130216C	Tensioning plate (Injector)	06
059130312K	Fuel line	01
7L6127401H (MY09-10) 8T0127401A (MY11-12)	Fuel filter	01
059103113G	Sealing cap (Cylinder head cover)	06
7L6919088F (MY09-10) 7P6919088B (MY11-12)	Fuel supply module	01
4L0919715B (see ETKA)	Suction pump	01



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4L0919715C (see ETKA) 4L0919715D (see ETKA)		
8E0919133B	Seal ring (Fuel supply module)	02
7L6203491D	Fuel radiator	01
1K0906089C (MY09-10)	Auxiliary fuel pump	01
See ETKA	Fasteners, Bolts, Nuts, and Screws as needed per the Repair Manual	See ETKA/ELSA

Additional Information

All parts and service references provided in this TSB (2040752) are subject to change and/or removal.

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