



Technical Service Bulletin

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

23 19 52 2040752/8 July 8, 2019. Supersedes Technical Service Bulletin Group 23 number 17-41 dated April 18, 2017 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 |
| 8 | - | 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) |
| 6 | 02/13/2017 | Revised <i>Service</i> (Added information on fuel sampling and analysis) 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 no root cause can be 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*.

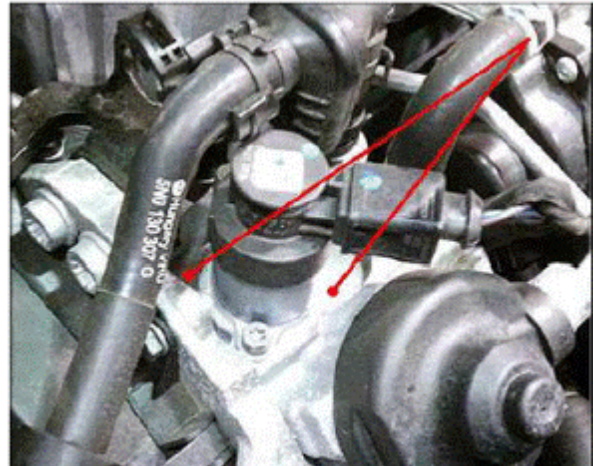


Figure 1. The area surrounding the N290 fuel metering valve.



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

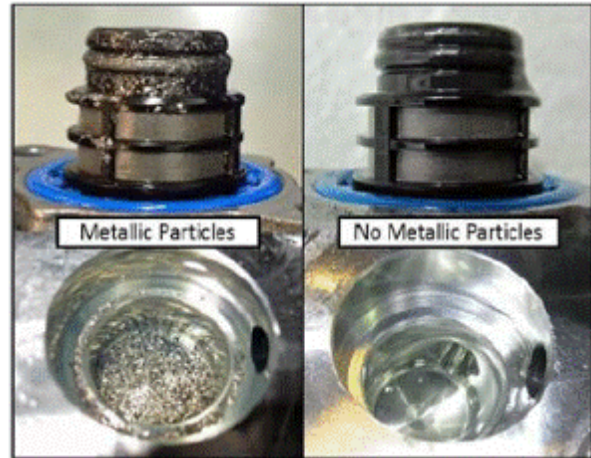


Figure 2. N290 fuel metering valve and valve bore shown with and without metallic particles.

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.

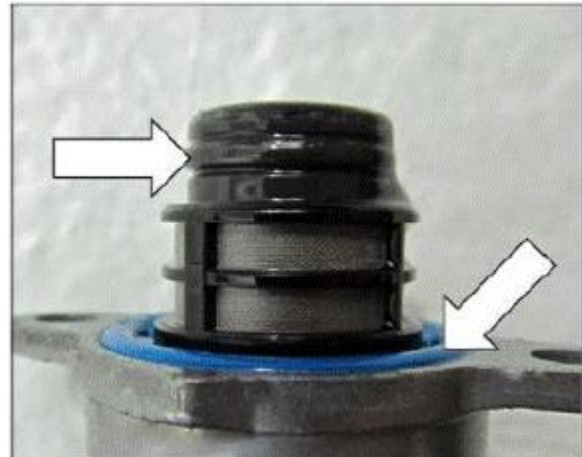



Figure 3. N290 fuel metering valve O-rings.



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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. • 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 |
| | Electric fuel pump (aux) remove + reinstall | 2066 1902 | See SRT |



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| | 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 #2040752/8 | | |

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

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 |
| 03L130089 | Fuel rail (sensors) | 01 |
| 03L130277A | Fuel injector | 04 |



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| 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 |
| 4B0422379 | Spring clip | 04 |
| 7L6201906A | Fuel hose (return) | 01 |



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| 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) 4L0919715C (see ETKA) 4L0919715D (see ETKA) | Suction pump | 01 |
| 8E0919133B | Seal ring (Fuel supply module) | 02 |



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|----------------------|--|---------------|
| 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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