



# Technical Service Bulletin

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## 01 MIL on, rough running, no start (DTCs P0087, P0088, P0191)

01 14 69 2036668/1 March 6, 2014.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A3	2010 - 2013	All	Audi TDI clean diesel
A6, A7	2014	All	Audi TDI clean diesel
A8	2013 - 2014	All	Audi TDI clean diesel
Q5	2014	All	Audi TDI clean diesel
Q7	2009 - 2014	All	Audi TDI clean diesel

## Condition

- MIL on.
- No start or rough running.
- The following DTCs are stored in the engine control module, J623 (address word 01):
  - **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

When diagnosing the condition listed above on a common rail diesel vehicle, if no root cause is found after all GFF diagnostic procedures have been performed, it may be necessary to check for metallic particles in the high pressure fuel pump using the procedure in the *Service* section of this bulletin.

## Production Solution

No production change required.

## Service

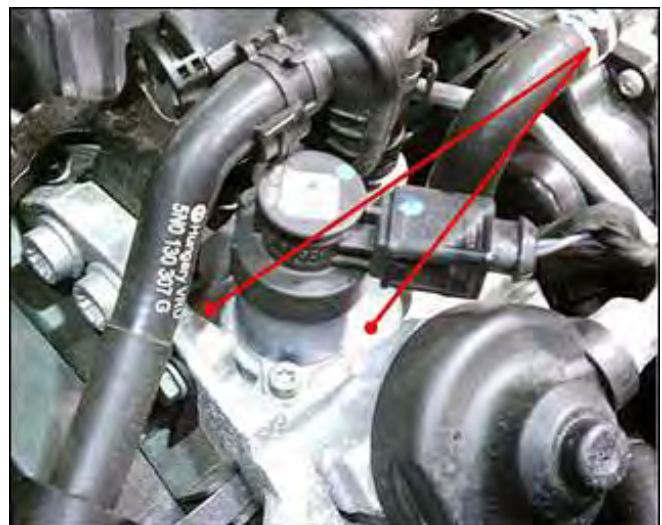
**Note:**

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, including testing supply volume to the high pressure fuel pump (low pressure side) and checking for internal leakage from the injectors and N276 pressure regulating valve.

**Note:**

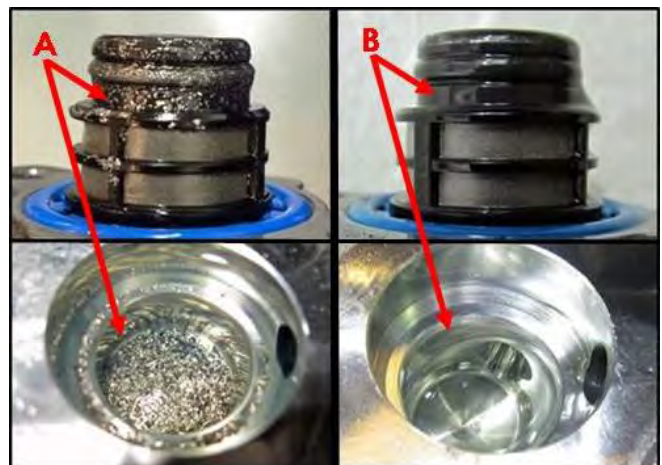
Before the N290 fuel metering valve is removed, the area surrounding the valve (Figure 1) must be sprayed with a cleaner and dried with compressed air to ensure that all debris is removed from the area.

Fuel system components may be damaged if any debris enters the fuel system.



**Figure 1.** Area surrounding the valve.

1. Remove the N290 fuel metering valve and inspect the valve and valve bore for the presence of metallic particles (Figure 2). Proceed with the appropriate section below.



**Figure 2.** Fuel metering valve and valve bore with metallic particles (A), and without metallic particles (B).

If metallic particles are found on the N290 fuel metering valve or in the valve bore:

1. Contact the Audi Technical Assistance Center (TAC) and open a TAC ticket before continuing with the repair. Before contacting TAC, attach the following to the TAC ticket:
  - GFF diagnostic log
  - Clear pictures showing the metallic particles in the N290 fuel metering valve and bore (Figure 3 and Figure 4).



**Figure 3.** Example of a clear picture showing the metallic particles in the N290 fuel metering valve.



**Figure 4.** Example of a clear picture showing the metallic particles in the valve bore.

**Note:**

If a fuel system replacement is necessary, ensure that the fuel injector return line is properly seated and sealed once installed. Inspect for seepage at the fuel injector return line connector after the test drive. If seepage is found, the condition must be corrected.



**Tip:** Be sure to include the 7-digit technical service bulletin number in the repair order comments.

If metallic particles *are not* found on the N290 fuel metering valve or in the valve bore:

1. Do NOT replace the high pressure fuel pump.

**⚠ Note:**

To prevent fuel system damage, ensure that the N290 fuel metering valve is free of contaminants before reinstalling.

Additionally, ensure that neither O-ring (Figure 5) is damaged. If either O-ring is damaged, replace the high fuel pressure pump.

To prevent damaging the O-rings when reinstalling the N290 fuel metering valve, lubricate them with diesel fuel.

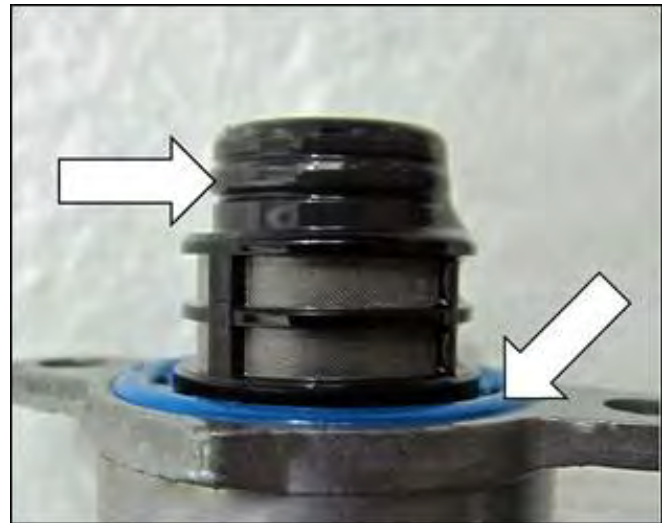



Figure 5. N290 fuel metering valve O-rings.

2. Use light pressure to reinstall the N290 fuel metering valve into the valve bore.
3. 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.
4. Use a paint marker or equivalent to mark the top of the N290 fuel metering valve with a white dot (Figure 6).



Figure 6. White dot on N290 fuel metering valve.

4. Continue with diagnosis.

 **Tip:** Be sure to include the 7-digit technical service bulletin number in the repair order comments.

All TDI clean diesel high pressure fuel pumps that have been replaced are to be returned to the Audi Warranty Parts Return Center in Auburn Hills, Michigan. All pumps will be inspected to verify the presence of metallic particles on the N290 metering valve and within the bore.

## Warranty

This bulletin is informational only, and is not applicable to any Audi warranty.

## Additional Information

All parts and service references provided in this TSB (2036668) are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.