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# Technical Bulletin

**Subject:** Poor Throttle Response

**Group:** 23

**Number:** 03-01

**Model(s):** Golf, Jetta, Jetta Wagon, New Beetle 1998 > 2003  
with 1.9L TDI (Eng. code ALH)

**Date:** Apr. 2, 2003

## Condition

Poor throttle response on 1.9L TDI equipped vehicle.

## Service

### Note:

*Perform Steps 1 through 9 and if any of those steps reveals a problem:*

- Repair or adjust as necessary and then road test to determine if the customer concern has been eliminated prior to continuing with step 10.

### Note:

*All steps should be documented using VAS 5051/ 5052 printouts.*

1. - Check (Engine Control Module) ECM ground connection (see page 2).
2. - Check Injection pump timing (see page - 2).
3. - Check snow screen (if applicable) at intake air duct (see page - 2).
4. - Check vacuum hoses (see page - 2).
5. - Check EGR valve and Intake manifold air flap (integrated in EGR valve) (see page - 3).
6. - Check MAF sensor and EGR valve including solenoid valve (see page - 4).
7. - Check crankcase ventilation system (see page - 5).
8. - Check engine oil level (see page - 5).
9. - Check fuel quality (see page - 5).

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## 1. - ECM ground connection, checking

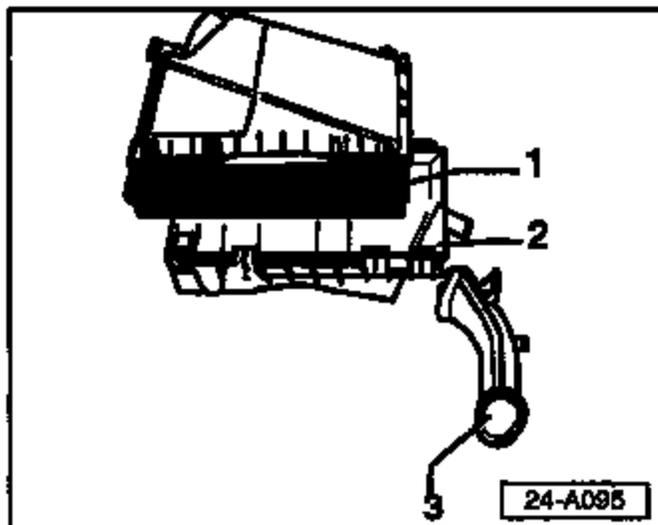
- Inspect ECM ground (GND) connection for corrosion, poor or no connection.

## 2. - Injection pump timing, checking

- Check Start of injection pump timing see Repair Manual, Group 23 - *Diesel Fuel Injection*, "Start of injection, dynamically checking and adjusting".

### Note:

*It is advised to adjust to the upper range .*



## 3. - Snow screen (if applicable) at Intake air duct, checking

- ◀ - Check snow screen (located below left front fender in air duct -3-) and clean as necessary.
- Inspect air cleaner element -1- for proper installation.

If air cleaner element is deformed due to improper installation this may cause MAF sensor to fall.

- Replace as necessary.

## 4. - Vacuum hoses:

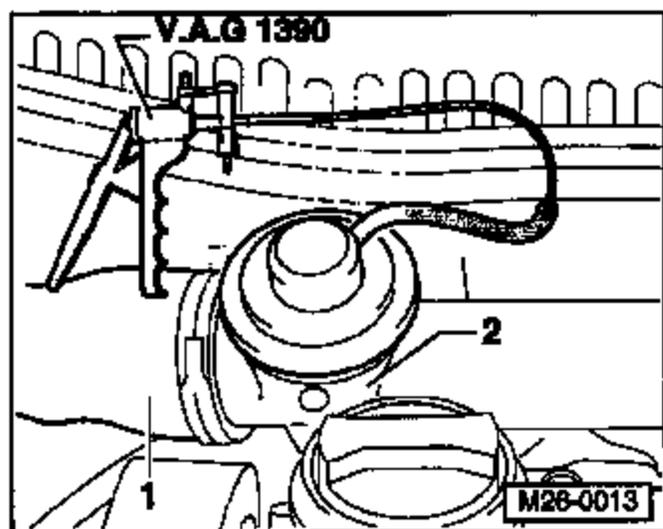
- Check integrity of all vacuum hoses and connections, repair as needed.



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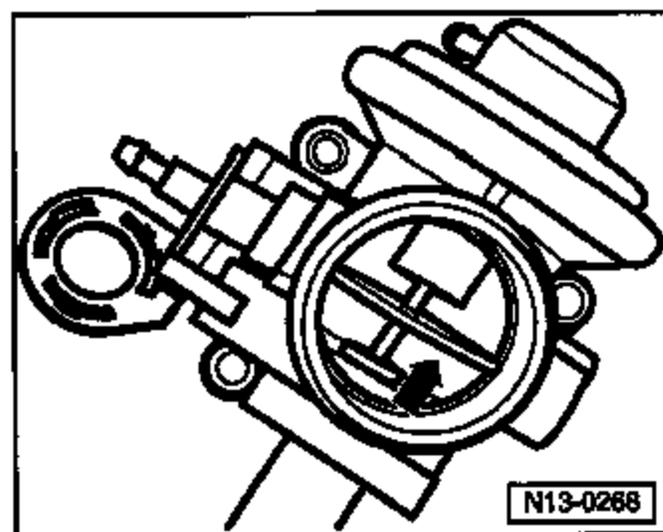
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## 5. - EGR valve and intake manifold air flap (Integrated in EGR valve), checking:

- Remove intake hose -1- at EGR valve.
- Remove vacuum hose from EGR valve.
- Connect hand vacuum pump V.A.G 1390 to EGR valve.



- Apply vacuum and make sure air flap (arrow) opens and closes freely.

If flap does not open and close freely:

- Replace EGR valve/flap.



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## **6. - MAF sensor and EGR valve including solenoid valve, checking**

- Check correct function of MAF sensor and EGR valve including solenoid valve (see Repair Manual for procedure and operation ranges).

### **Note:**

*Since both systems work closely together, one system malfunctions it will directly affect the function of the other, therefore, it is important to follow procedure thoroughly.*

- In addition, the MAF sensor must be full load tested, see "Evaluating measuring value blocks at full load" in Repair Manual Repair Group 01 - On Board Diagnostic (OBD).

If MAF sensor readings are out of tolerance (even if no MIL light or DTC exists):

Before replacing any parts (MAF sensor G70, EGR solenoid valve N18):

Ensure wiring is OK and electrical connections are clean and functioning properly.

If wiring is OK electrical connections are clean and functioning properly:

- Replace MAF sensor.

If MAF sensor (G70) failed full load test and after replacement of MAF sensor, full load value still cannot be attained,

- Check turbo charger (consult Repair Manual).



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## 7. - Crankcase ventilation system, checking

- Inspect and ensure it is working to OEM specifications.

## 8. - Engine oil level, checking

- Check and adjust to proper level if necessary (DO NOT overfill).

## 9. - Fuel quality, checking:

- If condition occurred suddenly, there may be a fuel quality issue.

If fuel is suspected to be of poor quality.

- Drain and refill fuel with known good quality fuel.

## 10. - Carbon build-up, checking

In most cases performing steps 1 through 9 will restore throttle response, however, in some isolated cases, if all previous items are functioning according to specifications and the vehicle still has poor throttle response; it may be necessary to physically inspect the EGR valve and intake manifold as there (in higher mileage vehicles) may be excessive carbon build-up (greater than 10 mm) in the intake manifold and/or EGR valve.

### **Note:**

*While some carbon build-up is normal and is not a concern, excessive carbon build-up (greater than 10 mm) is related to fuel quality, and soft driving behavior (operation at low speeds, short distance driving, under extremely cold and damp operating conditions).*



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To inspect for carbon build-up:

- Remove Exhaust Gas Recirculation (EGR) valve and inspect and record depth of carbon in the valve and intake manifold.

Normally carbon build-up is not a concern, a problem may occur only if it is excessive (greater than 10 mm ).

If the carbon layer in EGR valve and/or intake manifold is greater than 10 mm (clogged to more than 50% - 60%):

- Replace EGR valve and/or intake manifold.

If the EGR cooler is clogged more than 50% - 60% in its flow area:

- Replace EGR cooler.

If new parts are not available, or if it is more economical, the intake manifold and EGR cooler can be cleaned (see Note below).

**Note:**

*Prior to cleaning, the intake manifold and EGR cooler MUST be removed from the engine (to ensure no carbon particles enter the engine).*

- Report each case to your VW field representative, they will require all relevant information pertaining to the repair including any printouts made.

**When procedure applies to vehicles with-  
in the New Vehicle Limited Warranty, use  
the following:**

<b>Part Identifier:</b>	2639
<b>Labor Operation:</b>	Use appropriate labor operation(s) for repair(s) performed.

**Claim Comment: Type "As Per Technical Bulletin V290901" in comment section of Warranty claim.**

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