



Mass Air Flow sensor failure

A common fault with TDI diesel engines resulting in lack of power can be traced to a faulty MAF sensor. As a general rule of thumb, if the vehicle lacks power from the moment the engine is started, the fault is usually caused by a defective MAF sensor (G70). If however, the fault occurs after driving a short distance the fault usually lies with the boost pressure control solenoid (N75). In the event of this latter fault, a MAP sensor fault can also be logged.

To check the operation of the MAF sensor the following procedure can be carried out with the MTpro handset:

The engine coolant temperature must be above 80°C.
The test should be carried out within 3 minutes of the engine being at idle

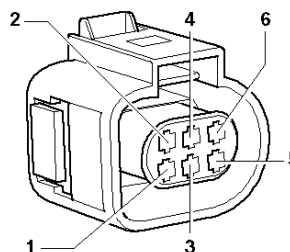
- Select 01 - Engine
- Select 04 - Read Measuring Blocks
- Select channel 003

Field 3 indicates the actual flow of air in mg/h through the MAF sensor. Refer to the table overleaf for acceptable values for individual engine codes.

Before replacing the MAF sensor, it is advisable to check supply voltages to the sensor. There are currently 2 different types of electrical connections used to connect to the MAF sensor. Refer to the following diagrams

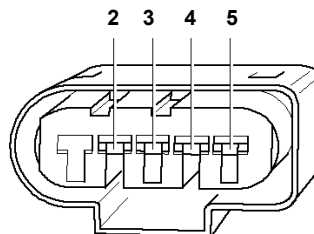
Type 1

- | | |
|---|---------------------|
| 1 | 5v supply from ECU |
| 2 | Earth |
| 3 | 12v Ignition supply |
| 4 | Not used |
| 5 | Earth |
| 6 | Signal to ECU |



Type 2

- | | |
|---|---------------------|
| 1 | Not used |
| 2 | 12v Ignition supply |
| 3 | Earth |
| 4 | 5v supply from ECU |
| 5 | Signal to ECU |



It has been found that on Passat models from model year 1997, it is possible that after driving through heavy rain or after driving through inclement weather, water vapour can be drawn up the air intake and can damage the element within the MAF sensor. Volkswagen are aware of this problem and can supply a deflector for the intake system to prevent this problem from re-occurring.



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The following table shows the minimum and maximum air mass readings that are acceptable for each of the given engines.

Engine code	Minimum - Maximum value
AGR AHF ALH ASV AGP AQM AHU 1Z	230 - 370 mg/h
AQA AQU AHH	220 - 370 mg/h
AFN AVG	230 - 450 mg/h
AMF	180 - 320 mg/h
ARL	210 - 370 mg/h
ASZ	210 - 350 mg/h
AJM	230 - 420 mg/h

The following table shows the action to be taken if the readings are out of specification.

Below minimum stated limit	Check EGR operation Check for air leaks / restrictions in intake system Check MAF wiring / voltages - suspect faulty MAF
Above maximum stated limit	Check EGR operation Check MAF wiring / voltages - suspect faulty MAF
Constant 550 mg/h	MAF failure, system in limp home mode