

---

## Engine diagnosis warning lamp lights up, engine shakes at idle

---

Topic number	LI09.20-P-061233
Version	1
Design group	09.20 Intake manifold, intake manifold preheater
Date	04-07-2015
Validity	M156
Reason for change	
Reason for block	

---

**Complaint:**

Engine diagnosis warning lamp lights up, engine shakes at idle

**Note:**Fault codes possibly stored:

FC 3698 (Fuel pressure regulation - The lower limit has been reached, the rail pressure sensor has malfunctions)

FC 3699 (Fuel pressure regulation - The upper limit has been reached, the rail pressure sensor has malfunctions)

in combination with:

FC 0745 (Self-adjustment of mixture formation for enriching at idle for the right-hand cylinder bank is above the permissible limit P 2187)

FC 0749 (Self-adjustment of mixture formation for enriching at idle for the left-hand cylinder bank is above the permissible limit P 2189)

**Cause:**

Mixture formation faults caused by leaks in the engine / intake manifold may result in incorrect measurements at the fuel pressure regulator.

Attachments	
File	Description
Anlage3.pdf	Example pictures

**Remedy:**

1. Check engine for leaks using the usual workshop methods (spraying the engine and observing the lambda values) or using a low-pressure loss detector that operates with smoke and a contrast agent

Potential leaks

- 1.1 Check oil dipstick for correct seating
- 1.2 Check sealing rings on oil dipstick for damage
- 1.3 Check grommet of oil dipstick guide tube at oil pan for damage and correct seating
- 1.4. When checking the intake manifold for unmetered air, refer to the example pictures in the attachment
  - A. Vacuum fitting for air shutoff valves not installed
  - B. O-ring for brake booster vacuum line connection malfunctioning

- C. Vacuum line at connection piece for intake manifold switchover is insecure or loosely seated
- D. Seal between intake manifold and engine leaking
- E. Seal between top and bottom sections of intake manifold faulty
- F. Seal between air filter assembly and intake manifold incorrectly installed
- G. Purge line not connected
- H. Leakage at guide of shaft for intake manifold switchover
- J. Leaks at crankcase ventilation (front hose to centrifugal oil separator, rear pressure regulating valve with line)

**Note:**

1. Observe tightening pattern of intake manifold mounting bolts
2. Use new bolts/ intake manifold seals

**ONLY affects model 164.177 up to VIN xA 185373:**

Check diameter of fuel feed line to rail at the height of the metal weave (should be 13.6mm); if the thinner fuel feed line (diameter 11.0mm) is still installed, it must be replaced

Attachments	
File	Description
Anzugsschema.jpg	Tightening sequence for intake manifold

Symptoms
Power generation / Engine management / Engine running / Runs rough/shakes
Power generation / Engine management / Engine management indicator lamp / Engine diagnosis / lit

Control unit/fault code		
Control unit	Fault code	Fault text
ME 9.7 (AMG)-Motor electronics 9.7 (AMG), ME - Motor electronics 'ME97 AMG' for combustion engine 'M156' (N3/10) (ME97AMG) (C (204),E (212))	3698	The rail pressure sensor has a malfunction.
ME 9.7 (AMG)-Motor electronics 9.7 (AMG), ME - Motor electronics 'ME97 AMG' for combustion engine 'M156' (N3/10) (ME97AMG) (CL (216), CLK (209),M (164),E (211), SL (230),R (251),CLS (219),S (221))	3698	Fuel pressure control:The lower limit value is reached.(P0191) ([M156*])
ME 9.7 (AMG)-Motor electronics 9.7 (AMG), ME - Motor electronics 'ME97 AMG' for combustion engine 'M156' (N3/10) (ME97AMG) (C (204),E (212))	3699	The rail pressure sensor has a malfunction.

ME 9.7 (AMG)-Motor electronics 9.7 (AMG), ME - Motor electronics 'ME97 AMG' for combustion engine 'M156' (N3/10) (ME97AMG) (CL (216), CLK (209),M (164),E (211), SL (230),R (251),CLS (219),S (221))	3699	Fuel pressure control:The upper limit value is reached.(P0191) ([M156*])
ME 9.7 (AMG)-Motor electronics 9.7 (AMG), ME - Motor electronics 'ME97 AMG' for combustion engine 'M156' (N3/10) (ME97AMG) (CL (216), CLK (209),M (164),E (211), SL (230),R (251),CLS (219),S (221))	0745	Self-adaptation of mixture formation for enrichment at idle for the right cylinder bank is above the permissible limit.(P2187)
ME 9.7 (AMG)-Motor electronics 9.7 (AMG), ME - Motor electronics 'ME97 AMG' for combustion engine 'M156' (N3/10) (ME97AMG) (CL (216), CLK (209),M (164),E (211), SL (230),R (251),CLS (219),S (221))	0749	Self-adaptation of mixture formation for enrichment at idle for the left cylinder bank is above the permissible limit.(P2189)

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 159 141 05 80			Intake manifold seal	2	Order current part as per EPC	X
A 004 990 53 12			Bolt (aluminum)	10	Only use once	X

Work units				
Op. no.	Operation text	Time	Damage code	Note
			14005 **	Use damage code according to cause

Validity		
Vehicle	Engine	Transmission
*	156.983	*
*	156.980	*
*	156.985	*
*	156.984	*
*	156.981	*
*	156.982	*