
Display: "Malfunction"

Topic number	LI32.22-P-051722
Version	3
Design group	32.22 Air suspension
Date	12-20-2011
Validity	MODEL 212 with air suspension (SA 489) MODEL 212 2## (wagon) MODEL 218 with air suspension (SA 489)
Reason for change	Reference to software update added.

Complaint:

"AIRMATIC Malfunction" in display:

In the quick test one or more of the following fault codes is displayed:

- C156C00 The pressure line system is leaking.
- C157200 The correction time while filling is too long.
- C156200 The actuation of the compressor has a malfunction.
- C155664 The compressed air sensor for system pressure has a malfunction. There is an implausible signal.

Cause:

In the vast majority of cases the cause is a leaking AIRMATIC system, or in isolated cases the excessively sensitive monitoring of the system by the AIRMATIC software, but not a faulty compressor.

Remedy:

The following procedure must be followed.

General requirement: The intake hose of the compressor is not blocked/kinked or trapped by the compressor cover. The cover of the compressor must be removed in order to check the intake hose correctly. The XENTRY tests must be performed with the latest software release. (At least DVD 11/2011)

1. Perform pneumatic test of pressure line between compressor and valve unit using XENTRY. Check the pressure line for leaks with a leak detector spray and eliminate any leaks if necessary.

Note: If the compressor fails to start during test 1, check the compressor relay, the cable set and the associated electrical connections of the compressor.

2. Perform pneumatic test of compressor using XENTRY. Replace the compressor if it fails the test.

3. Perform pneumatic test of pressure relief valve using XENTRY. Replace the compressor if it fails the test.

Note: If tests 1-3 are passed, there is a leak elsewhere in the AIRMATIC system. For this, perform tests 4-9.

4. Leak test between AIRMATIC valve unit and central reservoir

5. Pneumatic test of left front level control valve
6. Pneumatic test of right front level control valve
7. Pneumatic test of left rear level control valve
8. Pneumatic test of right rear level control valve
9. Check of valve unit: If the vehicle level rises during the compressor test, it can be assumed that the level control valves are not closing correctly. In this case the valve unit must be replaced.

If all the tests are passed, there is most likely a micro-leak in the AIRMATIC system. If possible ask the customer whether the vehicle level at the rear axle has dropped overnight.

Testing for micro-leak:

Park the vehicle in the workshop hall overnight (to rule out the effects of temperature: 1° temperature change corresponds to approx. 1 mm change in vehicle level) and measure the wheel arch clearance at all 4 wheel wells (Figure 2). Next morning again measure the wheel arch clearance at all 4 wheel wells and compare with the values from the previous day.

Note: While the vehicle is parked the control units must not be woken up (by unlocking or locking, opening the doors etc.) otherwise an unwanted readjustment of the vehicle level occurs.

Evaluation of measurements.

If the vehicle level at one wheel has dropped by more than 20 mm or if the difference in the vehicle level on one axle is greater than 10 mm between left and right, then the pressure line (between the valve block and the affected air spring) must be checked for a possible leak using a leak detector spray. If a leak is found, replace the line. If no leaks are found in the pressure lines, replace the air suspension element.

Note:

If the air suspension bellows being installed has a rubber lip on the bottom end of the dust boot (currently delivered like this via the replacement parts system and expected to continue until mid-September), this rubber lip must be cut off all the way around before installation (see picture 2).

If the vehicle level is within the above parameters and all XENTRY tests are passed, the components of the AIRMATIC system are OK and must not be replaced. In this case the system must be flashed with the latest AIRMATIC software.

If the compressor is returned through warranty channels after failing tests 2 and 3, the following evidence of the above checks for the quick test and the control unit log must be enclosed:

1. Written statement/comment that no leakage was present between the compressor and the valve unit.
2. Test result of "pneumatic test of compressor failed" (see Figure 1) as screenshot
3. Written statement/comment that no further leakage could be found in the AIRMATIC system and that the intake air system was OK.

Attachments	
File	Designation
Kompressortest.jpg	Figure 1
2.JPG	Figure 2

Symptoms
Suspension System Function / Chassis/suspension / Vehicle level too low / Suspension/Dampening /
Suspension System Function / Chassis/suspension / Level does not react / Suspension/Dampening /
AIRMATIC / Chassis/suspension / AIRMATIC leaks / Suspension/Dampening / Air leakage /
Air Suspension - Service Required / AIRMATIC / Chassis/suspension / Suspension/Dampening / AIRMATIC display /
AIRMATIC / Chassis/suspension / AIRMATIC function / Vehicle is too low / Suspension/Dampening /

Control unit/fault code		
Control unit	Fault code	Fault text
AIRMATIC - AIRMATIC (N51/3) (SPC_204)	C156B00	The time for filling the compressed air reservoir was not attained.
AIRMATIC - AIRMATIC (N51/3) (SPC_204)	C157200	The correction time when filling is too long.
AIRMATIC - AIRMATIC (N51/3) (SPC_204)	C156200	Actuation of the compressor has a malfunction.
AIRMATIC - AIRMATIC (N51/3) (SPC_204)	C155664	The compressed air sensor for system pressure has a malfunction. There is an implausible signal.
AIRMATIC - AIRMATIC (N51/3) (SPC_204)	C156C00	The compressed air supply is not leaktight.