

Diagnosis – Function Test

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy ¹⁾
⇒ 1.0 Function test	<p>Low beam: ON</p> <p>Verify the light-dark border with the help of a headlamp adjustment tester</p> <p>Load or unload right front or right rear of vehicle as necessary.</p>	<p>With a time delay, the light-dark border must shift to the previously set parameter.</p> <p>Model 202</p> <p>Model 208</p> <p>Model 210</p>	<p>Test with HHT, Readout DTC's.</p> <p>23 Test</p> <p>24 Test</p> <p>24 Test</p>

1) Observe Preparation for Test, see 22.

Function description:

Headlamp range adjustment with Xenon headlamps:
 Headlamp range adjustment operates dynamically. The front and rear axle sensors (A51 and A52) report any changes in the vehicle ride height directly to the headlamp range adjustment control module (N71). In turn, the headlamp range adjustment control module compares both the vehicle ride height and the headlamp adjustment values and as necessary the headlamps are adjusted via the headlamp range adjustment motors (E1m1 and E2m1). This adjustment only takes place, if over a period of time, the front and rear axle sensors (A51 and A52) relay a change in the vehicle ride height.

Headlamp range adjustment control module (N71)

The headlamp range adjustment control module processes the received signals from the front and rear axle sensors and the position of the headlamp range adjustment motors. After evaluation of the signals, a necessary command is sent to the headlamp range adjustment motors.

Front and rear axle sensors (A51 and A52)

A sensor is mounted on the stabilizer bar of both the front and rear axles. These sensors relay a vehicle ride height signal to the headlamp range adjustment control module (N71).


Headlamp range adjustment motors (E1m1 and E2m1)

Via a potentiometer in the headlamp range adjustment motor, the position of the headlamp reflectors is relayed to the headlamp range adjustment control module (N71). For a correction, the headlamp range adjustment motors receive a command from the headlamp range adjustment control module (N71).

Diagnostics:


Diagnostics are performed using both the HHT and the Diagnostic Manual.

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	Actual Value	Nominal value	Possible cause/Remedy ¹⁾
01	Spring compression front/rear	Display: Front x.x mm Rear x.x mm The value increases as the springs compress. The readout displayed is relative to the spring height when communication is established with the HHT.	Front axle sensor ⇒ 1.1 Rear axle sensor ⇒ 1.1
02	Ride height sensor signal front/rear	Display: Front x.x mm Rear x.x mm The sensor has an operating voltage between 0 and 5 volts. The zero position programming is only possible in the range between 1.64 and 3.20 volts.	Front axle sensor ⇒ 1.1 Rear axle sensor ⇒ 1.1

1) Observe Preparation for Test, see 22.

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	Actual Value	Nomi	Possible cause/Remedy ¹⁾
03	Voltage terminal 15	Display x.xx V Nominal value: 11 - 14 V	Model 208: ⇒ 1.1 Model 210: ⇒ 1.1
04	Vehicle speed (ABS)	Display x.x mph Model 208: LF X47 Model 210: LF X62/21	Wiring
05	Light signal	Display ON/OFF Signal from illumination control module (N7-1).	⇒ 1.1

¹⁾ Observe Preparation for Test, see 22.