

## HELLA 6ZF 013 821-011

# HELLA 6ZF 013 821-011 Reverse Light Switch Instruction Manual

## 1. PRODUCT OVERVIEW

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The HELLA 6ZF 013 821-011 is a high-quality reverse light switch designed for automotive applications. This component is responsible for activating the vehicle's reverse lights when the reverse gear is engaged, providing essential illumination and signaling to other drivers. It features a 2-pin connector for electrical connection and is engineered for reliable performance.



*Image 1: The HELLA 6ZF 013 821-011 Reverse Light Switch. This image shows the compact design and the 2-pin electrical connector of the switch.*

## 2. SAFETY INFORMATION

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Before attempting any installation or maintenance, please read and understand the following safety precautions:

- **Disconnect the vehicle's battery:** Always disconnect the negative terminal of the vehicle's battery before working on any electrical components to prevent electrical shock or short circuits.

- **Professional installation recommended:** If you are not familiar with automotive electrical systems, it is highly recommended to have this component installed by a qualified technician.
- **Wear appropriate safety gear:** Use safety glasses and gloves to protect against potential hazards.
- **Ensure correct fitment:** Verify that this switch is the correct part for your specific vehicle model before installation. Refer to the OEM part numbers provided in the specifications.
- **Avoid contact with hot engine parts:** Allow the engine to cool down before working in the engine bay.

### 3. PRODUCT COMPONENTS

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The HELLA 6ZF 013 821-011 Reverse Light Switch consists of the following primary components:

- **Switch Body:** The main housing containing the electrical contacts and mechanical activation mechanism.
- **2-Pin Electrical Connector:** For connecting to the vehicle's wiring harness.
- **Actuator Pin:** The part that is depressed by the transmission mechanism when reverse gear is selected.
- **Mounting Thread:** For secure installation into the transmission housing.

### 4. SETUP AND INSTALLATION

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Follow these steps for proper installation of the reverse light switch:

1. **Preparation:** Park the vehicle on a level surface and engage the parking brake. Allow the engine and transmission to cool down. Disconnect the negative terminal of the vehicle's battery.
2. **Locate the Old Switch:** Identify the existing reverse light switch on the transmission. Its location may vary by vehicle model; consult your vehicle's service manual if necessary.
3. **Disconnect Wiring:** Carefully disconnect the electrical connector from the old switch.
4. **Remove Old Switch:** Using a 27mm wrench, unscrew the old reverse light switch from the transmission housing. Be prepared for a small amount of transmission fluid to leak out.
5. **Install New Switch:** Apply a small amount of thread sealant (if recommended by your vehicle manufacturer) to the threads of the new HELLA 6ZF 013 821-011 switch. Screw the new switch into the transmission housing by hand until snug, then tighten with the 27mm wrench. Do not overtighten.
6. **Connect Wiring:** Reconnect the electrical connector to the new switch, ensuring a secure connection.
7. **Final Checks:** Reconnect the vehicle's battery. Start the engine and engage reverse gear to verify that the reverse lights illuminate correctly. Check for any fluid leaks around the new switch.

*Note: Always refer to your vehicle's specific repair manual for detailed instructions and torque specifications.*

### 5. OPERATING INSTRUCTIONS

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The HELLA 6ZF 013 821-011 Reverse Light Switch operates automatically. When the vehicle's transmission is shifted into reverse gear, the internal mechanism of the transmission depresses the actuator pin on the switch. This action closes an electrical circuit, sending a signal to illuminate the vehicle's reverse lights. When the transmission is shifted out of reverse, the pin is released, opening the circuit and turning off the reverse lights.

## 6. MAINTENANCE

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The HELLA 6ZF 013 821-011 Reverse Light Switch is designed to be maintenance-free under normal operating conditions. However, periodic visual inspection is recommended during routine vehicle servicing:

- **Check for Leaks:** Inspect the area around the switch for any signs of transmission fluid leaks.
- **Inspect Wiring and Connector:** Ensure the electrical connector is securely attached and that the wiring is free from damage, corrosion, or fraying.
- **Functionality Check:** Periodically confirm that the reverse lights illuminate promptly when reverse gear is engaged and turn off when disengaged.

## 7. TROUBLESHOOTING

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If your reverse lights are not functioning correctly, consider the following troubleshooting steps:

- **Reverse Lights Not Illuminating:**
  - Check the reverse light bulbs: Ensure they are not burnt out.
  - Inspect the fuse: Locate and check the fuse for the reverse lights in your vehicle's fuse box.
  - Verify electrical connections: Ensure the wiring harness connector is securely attached to the switch and free from corrosion.
  - Test the switch: If bulbs and fuse are good, the switch itself may be faulty. A multimeter can be used to check for continuity across the switch terminals when reverse gear is engaged.
- **Reverse Lights Always On:**
  - This typically indicates a faulty switch that is stuck in the "on" position, or an issue with the transmission not fully disengaging the switch actuator.
  - Disconnect the switch's electrical connector. If the lights turn off, the switch is likely faulty and requires replacement.

*If these steps do not resolve the issue, consult a qualified automotive technician.*

## 8. SPECIFICATIONS

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Attribute	Detail
Brand	Hella
Model Number	6ZF 013 821-011
Manufacturer Part Number	6ZF 013 821-011
OEM Part Numbers	MERCEDES-BENZ 0005457009, MERCEDES-BENZ A0005457009, MERCEDES-BENZ A3645457109, SMART A0005457009, SMART A3645457109
Number of Connectors	2
Wrench Size	27 mm
Item Weight	75 g
Product Dimensions	3.8 x 3.8 x 7.5 cm

<b>First Available Date</b>	July 14, 2016
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## 9. WARRANTY AND SUPPORT

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For warranty information or technical support regarding your HELLA 6ZF 013 821-011 Reverse Light Switch, please refer to the official HELLA website or contact HELLA customer service directly. Keep your purchase receipt as proof of purchase.

**HELLA Official Website:** [www.hella.com](http://www.hella.com)