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## Ohlins BM216

# Ohlins Front Suspension User Manual

Model: **BM216** for BMW R1150GS (ADVENTURE 02-04)

Brand: Ohlins

## 1. INTRODUCTION

This user manual provides essential information for the proper understanding, installation, adjustment, and maintenance of your Ohlins S46ER1 Front Suspension unit. To ensure optimal performance and safety, please read this manual thoroughly before installation and operation. Professional installation by a qualified technician is highly recommended.

## 2. PRODUCT OVERVIEW

The Ohlins S46ER1 Front Suspension (Model BM216) is specifically designed for the BMW R1150GS (ADVENTURE 02-04) motorcycle. This high-performance front shock absorber is engineered to enhance ride comfort, stability, and handling characteristics.



Figure 2.1: Ohlins S46ER1 Front Suspension (Model BM216). This image displays the complete shock absorber assembly, highlighting its robust construction and distinctive yellow spring.

### Key Features:

- **Extension Side Attenuation Adjustment Function:** Equipped for fine-tuning rebound damping.
- **Pressure Side Attenuation Adjustment Function:** Not equipped on this model.
- **Preload Adjustment Function:** Stepless Screw Type for precise spring preload adjustments.
- **Piston Diameter:** 1.8 inches (46 mm).
- **Front Suspension Tank:** Not equipped (No external reservoir).
- **Application:** Specifically designed for BMW R1150GS (ADVENTURE 02-04).

## 3. SETUP AND INSTALLATION

Proper installation is crucial for the safety and performance of your motorcycle. It is strongly recommended that the Ohlins front suspension be installed by an authorized Ohlins service center or a qualified motorcycle technician.

### General Installation Considerations:

- Ensure the motorcycle is securely supported on a stand.
- Refer to your motorcycle's service manual for specific torque specifications and procedures for removing and installing suspension components.
- Inspect all mounting points and fasteners for wear or damage. Replace as necessary.
- Ensure proper clearance for all suspension components throughout the full range of travel.
- After installation, perform a thorough check of all tightened fasteners and verify proper function before riding.

## 4. OPERATING AND ADJUSTMENT

The Ohlins S46ER1 suspension allows for adjustments to optimize your riding experience. Understanding and correctly utilizing these adjustments will significantly impact your motorcycle's handling and comfort.

### Adjustment Functions:

- **Extension Side Attenuation (Rebound Damping):**

This adjustment controls the speed at which the shock absorber extends after being compressed. Adjusting rebound damping affects how quickly the wheel returns to the road surface after hitting a bump. Turn the adjuster clockwise for slower rebound and counter-clockwise for faster rebound. Refer to the specific Ohlins setup guide for your model for recommended settings.

- **Preload Adjustment (Stepless Screw Type):**

Spring preload determines the initial compression of the spring and thus the ride height and sag of the motorcycle. The stepless screw type allows for precise adjustments. Increasing preload will raise the ride height and reduce sag, while decreasing preload will lower the ride height and increase sag. Always adjust preload with the motorcycle on a stand, ensuring the wheel is off the ground.

*Note: This model does not feature Pressure Side Attenuation (Compression Damping) adjustment.*

## 5. MAINTENANCE

Regular maintenance is essential to ensure the longevity and consistent performance of your Ohlins suspension unit. Adhere to the following guidelines:

- **Cleaning:** Keep the shock absorber clean from dirt, dust, and road grime. Use mild soap and water, then rinse thoroughly. Avoid high-pressure washers directly on seals.
- **Inspection:** Periodically inspect the shock for any signs of oil leaks, damage to the shaft, spring, or mounting points. Check for loose fasteners.
- **Service Intervals:** Ohlins recommends regular servicing by an authorized service center. Consult your Ohlins dealer or the official Ohlins website for recommended service intervals based on your riding conditions and mileage.
- **Storage:** If storing the motorcycle for an extended period, ensure the suspension is clean and dry.

## 6. TROUBLESHOOTING

This section provides basic troubleshooting steps for common issues. For complex problems or issues not listed here, contact an authorized Ohlins service center.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Excessive Sag / Bottoming Out	Insufficient spring preload.	Increase spring preload using the stepless screw type adjuster.
Harsh Ride / Bumpy Feel	Too much rebound damping.	Decrease extension side attenuation (rebound damping).
Bouncy Ride / Lack of Control	Too little rebound damping.	Increase extension side attenuation (rebound damping).
Oil Leakage	Damaged seal or internal component.	Immediately cease use and contact an authorized Ohlins service center for inspection and repair.

## 7. TECHNICAL SPECIFICATIONS

Specification	Detail
Manufacturer	OHLINS
Brand	Ohlins
Item Model Number	BM216
Manufacturer Part Number	BM216
Position	Front
Item Weight	3.2 kg
Package Dimensions	57.8 x 23.2 x 11.6 cm
Piston Diameter	46 mm (1.8 inches)
Attenuation Adjustment	Extension Side (Rebound) - Equipped
Preload Adjustment	Stepless Screw Type
Application	BMW R1150GS (ADVENTURE 02-04)

## 8. WARRANTY AND SUPPORT

Ohlins products are manufactured to the highest standards and come with a limited warranty against defects in materials and workmanship. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Ohlins website.

For technical support, service, or genuine Ohlins spare parts, please contact your authorized Ohlins dealer or service center. Providing your product's model number (BM216) and serial number (if applicable) will assist in faster service.

You can find more information and locate authorized service centers via the official Ohlins website:

[www.ohlins.com](http://www.ohlins.com)

