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- › [Ohlins](#) /
- › [OHLINS S46ER1 RZ250R/350R YA415 Rear Suspension User Manual](#)

## Ohlins YA415

# OHLINS S46ER1 RZ250R/350R YA415 Rear Suspension User Manual

Model: **YA415** | Brand: **Ohlins**

## 1. INTRODUCTION

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This user manual provides essential information for the proper installation, adjustment, maintenance, and care of your new Ohlins S46ER1 YA415 Rear Suspension unit. This high-performance shock absorber is specifically designed to enhance the ride quality, stability, and handling of Yamaha RZ250R and RZ350R motorcycles. The Ohlins YA415 features advanced damping technology and robust construction to deliver superior performance under various riding conditions. Please read this manual thoroughly before attempting any installation or adjustment.



A detailed view of the Ohlins S46ER1 YA415 Rear Suspension, featuring its yellow spring, silver body, and adjustment mechanisms. This image highlights the robust construction and design of the shock absorber.

## 2. SAFETY INFORMATION

Your safety is paramount. Improper installation or adjustment of suspension components can lead to serious injury or death. Always adhere to the following safety guidelines:

- **Professional Installation Recommended:** Due to the critical nature of motorcycle suspension, it is highly recommended that installation and initial setup be performed by a qualified motorcycle mechanic or an authorized Ohlins service center.
- **Motorcycle Stability:** Ensure the motorcycle is securely supported on a stable stand before beginning any work.
- **Read Motorcycle Service Manual:** Always refer to your motorcycle's official service manual for specific torque specifications, removal, and installation procedures.

- **Wear Protective Gear:** Use appropriate personal protective equipment, including safety glasses and gloves, during installation.
- **No Modifications:** Do not modify the suspension unit. Any alterations can compromise its integrity and performance.
- **Check Fasteners:** After installation and before riding, double-check all fasteners to ensure they are properly tightened to the manufacturer's specifications.

### 3. PACKAGE CONTENTS

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Upon opening the package, please verify that all components are present and undamaged:

- 1 x Ohlins S46ER1 YA415 Rear Suspension Unit
- 1 x User Manual (this document)
- Any specific tools or accessories (if included by Ohlins for this model)

If any items are missing or damaged, please contact your dealer or Ohlins customer support immediately.

### 4. INSTALLATION AND SETUP

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The Ohlins S46ER1 YA415 is designed as a direct replacement unit. While the unit itself requires no assembly, proper installation on your motorcycle is crucial.

#### 4.1. Pre-Installation Checks

- Ensure the motorcycle is clean and stable.
- Gather all necessary tools, including torque wrenches.
- Review your motorcycle's service manual for specific instructions on removing the original rear shock absorber.

#### 4.2. Installation Steps (General)

1. Safely lift and support the rear of the motorcycle to relieve tension on the existing shock absorber.
2. Carefully remove the original rear shock absorber, noting the orientation of all bushings and spacers.
3. Position the Ohlins YA415 suspension unit in the mounting points. Ensure proper alignment.
4. Insert the mounting bolts and hand-tighten them.
5. Lower the motorcycle slightly to put some load on the suspension, then torque the mounting bolts to the specifications provided in your motorcycle's service manual. **Do not overtighten.**
6. Verify that the suspension moves freely without binding.

For detailed, model-specific installation instructions, always consult your Yamaha RZ250R/350R service manual or seek assistance from a certified mechanic.

### 5. OPERATING AND ADJUSTMENTS

The Ohlins YA415 rear suspension offers key adjustments to fine-tune your motorcycle's handling and comfort to your riding style and load.

### 5.1. Extension Side Attenuation Adjustment (Rebound Damping)

- **Function:** Controls the speed at which the shock absorber extends after compression. This affects how quickly the wheel returns to the road surface after hitting a bump.
- **Adjustment:** The YA415 is equipped with a 40-level adjustment mechanism. Turning the adjuster clockwise typically increases damping (slower rebound), while turning it counter-clockwise decreases damping (faster rebound).
- **Effect:** Too little rebound damping can make the bike feel bouncy or unsettled. Too much can cause the suspension to pack down over successive bumps.

### 5.2. Stepless Spring Preload Adjuster

- **Function:** Adjusts the initial compression of the spring, which directly affects the motorcycle's ride height and sag (the amount the suspension compresses under its own weight and the rider's weight).
- **Adjustment:** The YA415 features a stepless preload adjuster, allowing for precise adjustments. This is typically done by rotating a collar on the shock body.
- **Effect:** Correct sag is crucial for optimal handling. Too little preload (too much sag) can lead to bottoming out and reduced ground clearance. Too much preload (too little sag) can make the ride harsh and reduce traction.

**Important:** Always make small, incremental adjustments and test the motorcycle's behavior in a safe environment. Keep a record of your settings. If unsure, consult an Ohlins authorized service center or a suspension specialist.

## 6. MAINTENANCE

Regular maintenance will ensure the longevity and optimal performance of your Ohlins rear suspension.

- **Cleaning:** Keep the shock absorber clean, especially the piston rod and seals. Use mild soap and water, then rinse thoroughly. Avoid high-pressure washers directly on seals.
- **Inspection:** Periodically inspect the unit for any signs of oil leaks, damage to the spring or body, or loose fasteners. Check the condition of the mounting bushings.
- **Fastener Checks:** Regularly check the torque of the mounting bolts as per your motorcycle's service manual.
- **Professional Servicing:** Ohlins shock absorbers require periodic servicing (rebuilding) by an authorized Ohlins service center. The service interval depends on usage (e.g., street vs. track, mileage). Refer to Ohlins' official guidelines for recommended service intervals.

## 7. TROUBLESHOOTING

If you experience issues with your Ohlins rear suspension, consider the following common problems and solutions:

Symptom	Possible Cause	Action
Poor ride quality (too harsh/bouncy)	Incorrect damping or preload settings	Adjust extension damping and spring preload. Refer to Section 5.
Bottoming out frequently	Insufficient spring preload (too much sag)	Increase spring preload.
Excessive noise from shock	Loose mounting bolts, worn bushings, internal issue	Check mounting bolt torque. Inspect bushings. If noise persists, seek professional inspection.
Oil leaking from shock body	Damaged seal, internal component failure	<b>Stop riding immediately.</b> Contact an authorized Ohlins service center for repair.

For any issues not listed here or if troubleshooting steps do not resolve the problem, contact an authorized Ohlins service center.

## 8. SPECIFICATIONS

Key technical specifications for the Ohlins S46ER1 YA415 Rear Suspension:

- **Model:** YA415 (Type: S46ER1)
- **Application:** Yamaha RZ250R / RZ350R
- **Position:** Rear
- **Free Length:** 293.5 mm (11.6 inches)
- **Piston Diameter:** 46 mm (1.8 inches)
- **Spring Rate:** 100 N/mm
- **Tank:** No (Internal reservoir)
- **Extension Side Attenuation Adjustment:** Equipped (40 levels)
- **Pressure Side Attenuation Adjustment:** Not equipped
- **Preload Adjustment:** Stepless Spring Preload Adjuster
- **Car Height Adjustment:** Not specified / -mm
- **Item Weight:** 3.12 kg
- **Package Dimensions:** 58.9 x 25.8 x 18.1 cm

## 9. WARRANTY AND SUPPORT

Specific warranty terms for the Ohlins S46ER1 YA415 Rear Suspension are not provided within this document. For detailed warranty information, please refer to the warranty card included with your product, visit the official Ohlins website, or contact your authorized Ohlins dealer.

For technical support, servicing, or genuine Ohlins spare parts, please contact an authorized Ohlins service center or Ohlins customer support in your region. Using non-genuine parts or unauthorized servicing may void your warranty and compromise performance and safety.

