Ohlins HD 159

Ohlins HD 159 OHL STX 36 Twin Shock Absorber User Manual

Model: HD 159

Introduction

This manual provides essential information for the installation, operation, and maintenance of your Ohlins HD 159 OHL STX 36 Twin Shock Absorbers. Designed for superior performance and durability, these shocks feature a classic monotube design, rebound adjustment, length adjustment, and easy-to-use pin tool preload adjustment with multiple spring rate options. Please read this manual thoroughly before installation and use to ensure proper function and safety.

Safety Information

Always prioritize safety. Installation and adjustments should be performed by qualified personnel. Improper installation or use can lead to serious injury or damage to the motorcycle. Wear appropriate safety gear during installation and maintenance.

- Ensure the motorcycle is securely supported before beginning any work.
- Do not attempt to disassemble the shock absorber. It contains high-pressure nitrogen gas.
- Use only genuine Ohlins parts and recommended tools.
- Refer to your motorcycle's service manual for specific torque specifications and procedures.

Product Overview

The image displays a pair of Ohlins HD 159 OHL STX 36 Twin Shock Absorbers. Each shock features a silver-colored main body with black springs coiled around it. The top and bottom mounting eyes are visible, designed for secure attachment to a motorcycle. The overall appearance is robust and engineered for performance.

Key Features:

- **1/2 in. length adjustable:** Allows for fine-tuning of ride height and geometry.
- **36mm piston:** Provides excellent damping characteristics.
- **Hard anodized, precision CNC-machined components:** Ensures durability and precise fit.
- **High-pressure nitrogen gas charged:** Maintains consistent damping performance under varying conditions.
- **Low-friction shaft/seal head design:** Reduces wear and improves responsiveness.

Setup and Installation

Proper installation is crucial for the performance and safety of your Ohlins shock absorbers. If you are unsure about any step, consult a professional mechanic.

Tools Required:

- Motorcycle lift or stand
- Socket wrench set
- Torque wrench
- Pin tool for preload adjustment (supplied with shocks)
- Measuring tape
- Protective gloves and eyewear

Installation Steps:

1. **Prepare the Motorcycle:** Securely place the motorcycle on a lift or stand so that the rear wheel is off the ground and the swingarm can move freely.
2. **Remove Old Shocks:** Carefully unbolt and remove the existing shock absorbers. Note the orientation and any spacers.
3. **Install New Ohlins Shocks:**
    - Align the top and bottom mounting eyes of the Ohlins shocks with the motorcycle's mounting points.
    - Insert the mounting bolts. Do not fully tighten yet.
    - Ensure all spacers and washers are correctly positioned as per your motorcycle's service manual.
4. **Initial Adjustments:**
    - **Length Adjustment:** The shocks are 1/2 inch length adjustable. Adjust the length to achieve the desired ride height. This is typically done by rotating the lower eyelet or a dedicated length adjuster.
    - **Preload Adjustment:** Use the supplied pin tool to adjust the spring preload. Turn the preload rings to compress or decompress the spring. Refer to the "Operating and Adjustments" section for detailed preload setting.
5. **Torque Bolts:** Once the shocks are in place and initial adjustments are made, torque all mounting bolts to the specifications provided in your motorcycle's service manual.
6. **Final Check:** Before riding, ensure all bolts are tight, and there is no interference with other motorcycle components.

Operating and Adjustments

The Ohlins STX 36 Twin shocks offer several adjustment options to fine-tune your ride for different conditions and rider preferences.

1. Rebound Adjustment:

The rebound damping controls the speed at which the shock extends after compression. This adjustment is typically located at the bottom of the shock body. Turning the adjuster clockwise increases rebound damping (slower extension), and counter-clockwise decreases it (faster extension).

- **Too little rebound damping:** The motorcycle may feel bouncy or unsettled, especially over bumps.
- **Too much rebound damping:** The shock may "pack down" over successive bumps, leading to a harsh ride.

Start with the recommended factory setting (refer to the specific model's documentation if available) and adjust in small increments, testing the feel after each adjustment.

2. Preload Adjustment:

Spring preload determines the initial compression of the spring and affects the ride height and sag. Use the supplied pin tool to rotate the preload rings. Compressing the spring (turning rings to reduce spring length) increases preload, raising the ride height and reducing sag. Decompressing the spring (increasing spring length) decreases preload, lowering the ride height and increasing sag.

- **Setting Sag:** Sag is the amount the suspension compresses under the motorcycle's weight (static sag) and with the rider on board (rider sag). Proper sag is critical for optimal handling. Consult your motorcycle's manual or Ohlins guidelines for recommended sag values.
- **Adjusting with Pin Tool:** Loosen the top lock ring, then use the pin tool to rotate the main preload ring. Once adjusted, tighten the lock ring against the main ring to secure the setting.

3. Length Adjustment:

The 1/2 inch length adjustment allows for fine-tuning of the motorcycle's geometry. Increasing the length can quicken steering, while decreasing it can stabilize the front end. This adjustment is typically found at the lower mounting eyelet. Loosen the lock nut, rotate the eyelet to adjust length, then re-tighten the lock nut.

Maintenance

Regular maintenance ensures the longevity and optimal performance of your Ohlins shock absorbers.

Routine Checks:

- **Cleanliness:** Keep the shock absorbers clean, especially the shaft and seal area, to prevent dirt and debris from damaging the seals. Use mild soap and water, then rinse thoroughly.
- **Visual Inspection:** Regularly inspect for any signs of oil leaks, damage to the spring, body, or mounting points. Check for loose bolts.
- **Bushings and Bearings:** Check the condition of the mounting bushings/bearings for wear. Replace if excessive play is detected.

Service Intervals:

Ohlins shock absorbers are precision components and require periodic service. The exact interval depends on usage (e.g., street vs. track, mileage, riding conditions). As a general guideline, it is recommended to have your shocks serviced by an authorized Ohlins service center every 20,000-30,000 miles or every 2-3 years for street use, and more frequently for aggressive riding or racing.
Service typically includes: inspection, fluid replacement, seal replacement, and re-gassing with nitrogen.

Troubleshooting

This section addresses common issues you might encounter with your Ohlins shock absorbers. For complex problems,

consult an authorized Ohlins service center.

Problem	Possible Cause	Solution
Harsh ride / Too stiff	• Too much spring preload • Too much rebound damping • Incorrect spring rate for rider weight	• Decrease spring preload • Decrease rebound damping • Consult Ohlins for appropriate spring rate
Bouncy ride / Too soft	• Too little spring preload • Too little rebound damping • Incorrect spring rate for rider weight	• Increase spring preload • Increase rebound damping • Consult Ohlins for appropriate spring rate
Oil leakage from shock	• Damaged shaft seal • Overdue service	• Stop riding immediately. • Contact an authorized Ohlins service center for repair.
Clicker adjustments have no effect	• Internal damage • Low nitrogen pressure	• Contact an authorized Ohlins service center for inspection.

Specifications

Feature	Detail
Model Number	HD 159
Series	STX 36 Twin
Piston Diameter	36mm
Length Adjustable	1/2 inch
Adjustments	Rebound, Preload, Length
Design Type	Monotube, Divided Piston
Gas Charged	High-pressure Nitrogen
Material	Aluminum (Hard Anodized, CNC-machined)
Item Weight	7.7 pounds
Position	Rear
Vehicle Service Type	Motorcycle

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 warranty claims, please contact an authorized Ohlins dealer or service center. You can find a list of authorized centers on the official Ohlins website.

When contacting support, please have your product model number (HD 159) and purchase information readily available.
