



Steering Damper MX & Enduro

Owner's Manual

Introduction



Öhlins Racing AB - The Story

It was the 1970's, a young man named Kenth Öhlin spent most of his spare time pursuing his favourite sport: motocross.

A careful observer, Kenth's attention was continually drawn to one specific detail - motocross bikes had more engine power than their suspension could handle. It was not long before Kenth realised that better performance could be achieved by improved wheel suspension.

Öhlins Racing was established in 1976, and just two years later the company won its first World Championship title. Despite being in the business for 30 years, the search for perfection and new functions is still the main focus of the company.

Congratulations! You are now the owner of an Öhlins Steering Damper. More than one hundred World Championships and other major world titles are definitive proof that Öhlins steering dampers offer outstanding performance and reliability.

Every product has gone through rigorous testing and engineers have spent thousands of hours, doing their very best to use every possible experience from our 30 years within the racing sport.

The product that you now have in your possession is pure racing breed that is built to withstand.


By installing this steering damper on your vehicle you have made a clear statement... you are a serious rider with a focus on getting the maximal handling ability and outstanding feedback from your vehicle. Along comes the fact that your steering damper will be a long lasting friend, delivering the very best of comfort and performance every time you go for a ride.


Go explore!

Safety Precautions

Note!


The steering damper is a very important part of the vehicle and will therefore affect the stability.


 Read and make sure that you understand the information in this manual and the mounting instructions before you use this product. If you have any questions regarding installation or maintenance please contact your nearest Öhlins dealer.

 Öhlins Racing AB can not be held responsible for any damage to the steering damper, vehicle, other property or injury to persons, if the instructions for installing and maintenance are not followed exactly.

Warning!

This product was developed and designed exclusively for a specific vehicle model and should only be installed on the intended vehicle model in its original condition as delivered from the vehicle manufacturer.

 After installing this product, take a test ride at low speed to make sure that your vehicle has maintained its stability.


 If the suspension makes an abnormal noise, or the function is irregular, or if you notice any leakage from the product, please stop the vehicle immediately and return the product to an Öhlins Service Centre.

Caution!

Make sure that the steering stops work properly. If not, you must adjust the steering stops (use washer or likewise). If the damper is used as stop it will be damaged.

Note!

When working on this product, always consult your Vehicle Service Manual.

 This Manual should be considered a part of the product and should therefore accompany the product throughout its life cycle.

Safety Symbols

In this manual, mounting instructions and other technical documents, important information concerning safety is distinguished by the following symbols:



The Safety Alert Symbol means: Warning! Your safety is involved.

Warning!

The Warning Symbol means: Failure to follow warning instructions can result in severe or fatal injury to anyone working with, inspecting or using the steering damper, or to bystanders.



Caution!

The Caution Symbol means: Special precautions must be taken to avoid damage to the steering damper.

Note!

The Note Symbol indicates information that is important regarding procedures.

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Design

The Öhlins Steering Damper is designed to withstand very tough treatment in conjunction with competitions. Many years experience, in close cooperation with World Championship teams in Motocross and Enduro, has helped us develop a unique know-how.

The Öhlins Steering Damper is a hydraulic damper that counteracts head shake and alleviates shock against the front wheel, which gives safer riding.

The damper is installed on the upper triple clamp, centered on the steering stem (fig 1a and 1b). When turning, and in the event of wobbling, shock etc, the damper is rotated, thus forcing fluid through the valve system in the damper top-lid.

Two valves are adjustable, you can read more about that in this manual.

Important Notice

Before using this product, make sure that you fully understand the mounting instructions and how the steering damper will affect your vehicle. It is very important that the steering damper is correctly installed.

👁 Note!

Make sure that there is no interference between the handle bar and the top lid. It is very important that the upper bearing outer ring will be mounted correctly. Make sure that the tower pin hole is aligned to the centre line in the frame. The damper unit must also be aligned to the bearing tower pin hole.

👋 Caution!

Incorrect installation will damage the damper unit.

👁 Note!

Make sure that the steering stops work properly. If the damper acts as a stop it will be damaged. Make sure that all bolts are tightened to the correct torque and that nothing fouls or restricts the handlebar when turned to the left and right.

Fig 1a

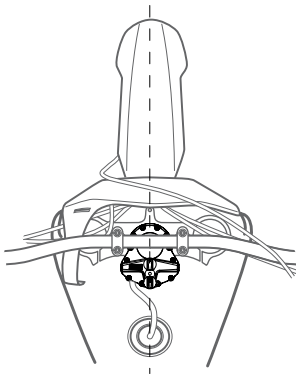
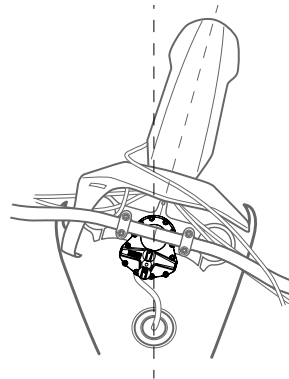


Fig 1b



Adjustments and Set-up

The steering damper has two external adjusters (Fig 2). The DL-valve (*Damping Level*) controls the combined low and high speed flow. The RTC-valve (*Return To Centre*) controls the damping back to centre position [0]. (Fig 3). The Öhlins steering damper is delivered with the adjusters set in a suggested basic position, (see *Recommended Basic Settings below*).

To Set

Turn the damping adjusters clockwise to fully closed (centre position zero [0]). Then, turn counter clockwise to open, and count the *clicks* until you reach the recommended number of clicks. Turn clockwise to increase damping and counter clockwise to decrease it (Fig 2).

Fig. 2

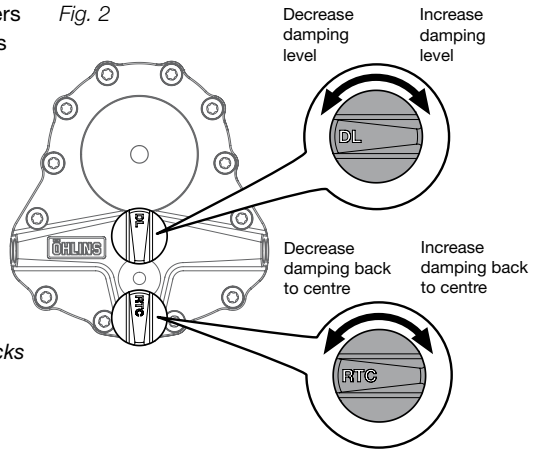
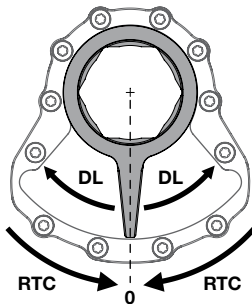


Fig. 3



Technical data

- External measures (installed on vehicle)
97x88,5x50 mm
- Seals of Low friction type
- Pressurized reservoir
- Öhlins Damper Fluid Part no 01304-01
- Maximum steering angle $\pm 47^\circ$ (Fig 4)

Recommended Basic Settings

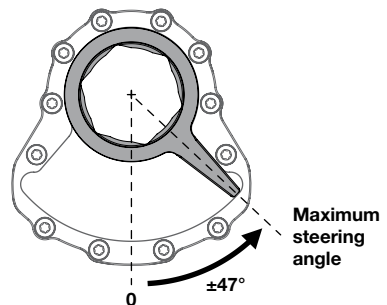
Motocross

DL-valve: 12 clicks
RTC-valve: 6 clicks

Enduro

DL-valve: 12 clicks
RTC-valve: 8 clicks

Fig. 4



Adjustments and Set-up

DL valve

With the recommended basic setting the damper will have a minimal amount of low speed damping and more or less only have damping from the high speed valve. This is very easy to get used to for someone that has not ridden with a steering damper before.

If more stability is required, try closing the DL valve one or two clicks at a time. We do not recommend going below 4 clicks. A rider who is used to riding with a steering damper can use more DL than someone who is not used to one.

RTC valve

When the RTC valve is completely closed the amount of damping back to center will be equal to the damping out from center (controlled by the DL valve). Fully open there is almost no damping at all back to center position.

An increase in RTC gives more stability into corners and makes it easier to hit the correct line. A rider who is used to riding with a steering damper can use more RTC than someone who is not used to one.

Rider type (general)	RTC (general)
Very precise rider/ <i>Not much steering correction</i>	Increase RTC
Aggressive rider/ <i>A lot of steering corrections</i>	Decrease RTC

👁️ Note!

Just like a very precise rider, an aggressive rider can also benefit from an increase in RTC, but risk using up more energy because of the numerous steering corrections.

Track conditions	DL/RTC
Fast tracks	Increase DL
Rutted tracks or deep sand	Decrease DL and/or decrease RTC (often fully open)
High speed head shake	Increase DL, possibly also increase RTC
Low speed head shake	Increase DL, keep RTC
Tight enduro trail	Decrease RTC
More stability into corners, and to make it easier to hit the correct line	Increase RTC, keep DL
Desert racing	Increase DL, increase RTC
<i>See also adjusters in fig 2</i>	

Troubleshooting

- **There is little or no damping:**

Debris in valving or worn parts internally, need service.

- **The damper units is moving at the top of the triple clamp:**

Tighten the top nut for the steering stem with the tool provided in the kit.

- **The steering damper is out of position (which can happen after a crash):**

A. Check that the bracket (*that replaces the outer bearing*) is aligned properly. If not, tap it with an hammer into the correct position - see Mounting instructions. Be careful so that the bracket not will be damaged.

B. Check that the damper still is in correct position. If not, reinstall it according to the mounting instruction. Also make sure that the two small pins that goes into the top triple clamp still are in place. If not, contact your Öhlins dealer.

- **Leakage occurs:**

Contact an Öhlins dealer for service.

- **The damper does not fit in between the handlebar and the triple clamp:**

Some bike has bolted handlebar clamps, those clamps can be raised up with spacers. Otherwise a new upper triple clamp may be needed.

Inspection and Maintenance

Preventive maintenance and regular inspection reduces the risk of functional disturbance. If there is any need for additional service, please contact an authorized Öhlins Service Centre.

Note!

The steering damper is a precision instrument, with extremely fine tolerances. It is therefore essential that it is maintained in a correct manner. Maintenance and service should be carried out only by an authorised Öhlins Service Centre.

Cleaning

Clean the steering damper externally with a soft detergent. Make sure that all dirt is removed. Keep the steering damper clean and spray it with oil after washing. Wipe off excessive oil with a cloth.

Caution!

Never subject to direct high-pressure cleaning since water may penetrate the damper.

Recommended Service Intervals

Change the fluid regularly every 20 hours of operation.

Caution!

Make sure that there is no leakage of fluid and that there is no visible damage to the housing and mounts. Use only recommended fluid that is tested and approved by Öhlins.

Disposal

Discarded Öhlins products should be handed over to an authorized Öhlins workshop or distributor for proper disposal.

Your Öhlins retailer:

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SE-194 27, Upplands Väsby
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