# Checkpoint Öhlins

## After Installing an Öhlins Shock Absorber/Front Fork

**Note!**
All motorcycles are designed with a suspension geometry that includes height and fork angle. Changing components (for example a shock absorber) can affect this and it is therefore essential that both the front and the rear ends match each other. Changing to Öhlins suspension gives optimum performance only when both the front fork and the rear suspension interact properly. It is very important that the front and the rear loaded heights are within the specified values.

**Note!**
The springs in combination with the Öhlins shock absorbers contribute to superior stability and traction. See the Öhlins Recommendation List by contacting your nearest Öhlins dealer.

**Warning!**
If there are no matching springs for your motorcycle model, use the original springs, however, they must be in good condition and not fatigued.

**FGK kits and Piston kits**
Öhlins Racing also produces complete Racing Cartridge Systems, for front forks, as well as piston kits to upgrade your front fork to a higher performance level.

**GO OUT FOR A TEST RIDE**

**Warning!**
Before riding, always ensure that the basic settings made by Öhlins are intact. Take notes, adjust in small steps and make only one adjustment at a time.

**General tips:**
- Always begin your setting by taking a test ride with all adjustments at their recommended basic setting.

- Choose a short run of varying character, for example with long as well as sharp bends, hard as well as soft bumps.
- Adjust only one setting at a time. Go out for a new test ride.
- Take notes so that you can easily go back to an earlier setting if necessary.

**Adjustments**
Most Öhlins shock absorbers for motorcycle are equipped with spring preload, compression and rebound adjusters. The TTX44 also has a CSC adjuster. Due to limited space in some vehicles it is not possible to have all adjusters in certain models.
A deeper understanding for the different types of adjustments will give you a good knowledge of how you can get better performance from your Öhlins shock absorber.
When you adjust the spring preload, you move the spring seat. This will lower or raise the ride height.

Compression damping controls the energy absorption when the shock absorber is being compressed, thus controls how easy the shock absorber compresses when you hit a bump.

Rebound damping controls the energy absorption when the shock absorber is being extended and, thus controls how fast the shock absorber returns to its normal position after being compressed.

The Chassis Stability Control (**CSC**) adjuster (TTX44 models only) controls the average damping for both compression and rebound at slow movements. the adjuster is especially designed to control the chassis movements of the vehicle.

**Warning!**
Before riding, always ensure that the basic settings made by Öhlins are intact. Take notes, adjust in small steps and make only one adjustment at a time.

**Warning!**
Incorrect spring rate may result in a front geometry that is either too steep or too flat. This can result in a tendency of under or over steeing, that could seriously affect the handling characteristics of the motorcycle.

**Compression and Rebound Damping**

**Note!**
When riding with a passenger or changing the load, the spring preload must be adjusted for proper function and vehicle balance. First, check the headlight angle

by placing the vehicle about 5 m from a wall, with the rider in normal riding position. Turn on the headlight. Mark the centre of the light on the wall with a piece of tape. When you have a passenger or when you put packing on the vehicle, the headlight angle will be too high. Adjust the spring preload until the headlight angle is the same as before but with the passenger or extra load on the bike.

When you setup your bike you need to do it together with the front fork and on all types of tracks that you want to optimize, there are no setups that will be 100% perfect on all tracks, you will need to compromise.

**Keep priority at:**
safe feeling
stability
comfort
This will allow you to ride safer and use less energy.

**Recommended Adjustment Range**

±5 clicks from original (basic) setting.

**Rebound Damping**
If you have got a good feeling for the bike with spring, preload and the ride height feels ok but the bike runs low and packs down under acceleration bumps, with lost line and/or lost comfort and traction, open the rebound adjuster two [2] clicks.
If the bike is nervous and moving a lot or has a high feeling entering corners, close the rebound adjuster two [2] clicks. Fine tune one [1] click at the time.
Test run and make the necessary adjustments. For original rebound setting see the Mounting Instructions for your shock absorber.

**Compression Damping**
If the bike feels soft, unstable, is using too much wheel travel and you have the perfect spring for you; close the compression adjuster two [2] clicks. This will control the wheel during acceleration more, plus, it will help ride height and falling through the stroke too quickly.
If the bike feels high, has bad grip at throttle opening and feels unsmooth over small or medium bumps during acceleration; open the compression adjuster two [2] clicks. Test run and make necessary corrections.
When you have sufficient feel of the motorcycle you can make further fine adjustments. It is feeling and experience that counts.

When you feel that you have achieved an improvement, go back to where you

started and check once more. Note other relevant factors such as tires, temperature etc. Test run to make sure whether further fine adjustments should be made.

**Troubleshooting**

| **Problem** | **Try This** |
|---|---|
| **If the vehicle feels:** | |
| - *Unstable* | Increase rebound damping |
| - *Loose* | Increase rebound damping |
| - *Bouncy* | Increase rebound damping |
| **If the vehicle feels:** | |
| - *Hard* | Decrease rebound damping |
| - *Bumpy* | Decrease rebound damping |
| **If the vehicle feels:** | |
| - *Soft* | Increase compression damping |
| - *Low* | Increase compression damping |
| - *Bottoming* | Increase compression damping |
| **If the vehicle feels:** | |
| - *Harsh* | Decrease compression damping |
| - *Hard* | Decrease compression damping |

# Check Sag and Ride Height

**Spring Preload - Free Sag - Ride Height**

*Spring preload is a crucial part of setting your motorcycle since it affects the height of the motorcycle and the fork angle. Measure your free sag and ride height, follow these steps*




*This procedure should be performed on a flat surface.*

1. Put the motorcycle on a workstand so that both wheels are off the ground and the suspension is unloaded.
2. Mark, for example with a piece of tape, a point immediately above the rear wheel axle.
3. Measure the distance from the marked point to a fixed point, for example the wheel axle (R1).
4. Measure the distance from the bottom of the upper triple clamp to a fixed point, for example the front wheel axle (F1).
5. Put the motorcycle on the ground so that the front and the rear suspensions are slightly compressed. Repeat the measuring procedures (R2 and F2).
6. Sit on the motorcycle in normal riding position, properly outfitted in your riding gear. Repeat the measuring procedure (R3 and F3).

**Recommended Measures**

*If no other recommendations are given in the Mounting Instructions follow the measures below:*

**MC Road and Track**

**Free sag (R1-R2), (F1-F2)**

Rear 5-15 mm
Front 20-30 mm

**Ride height (R1-R3), (F1-F3)**

Rear 25-35 mm
Front 30-40 mm

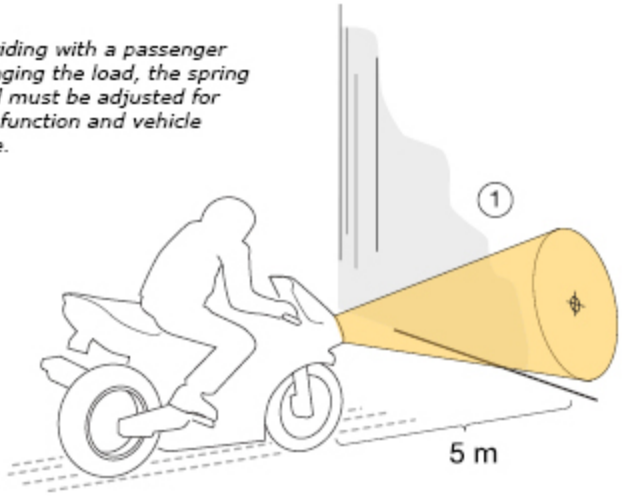
**Adjust Spring Preload**

If your measures differ significantly from the recommendations in the Mounting Instructions or the table to the left, adjust the spring preload.

If the ride height still differs from the recommendations, you may need to change to softer/ harder spring. Please contact an Öhlins dealer for advice.

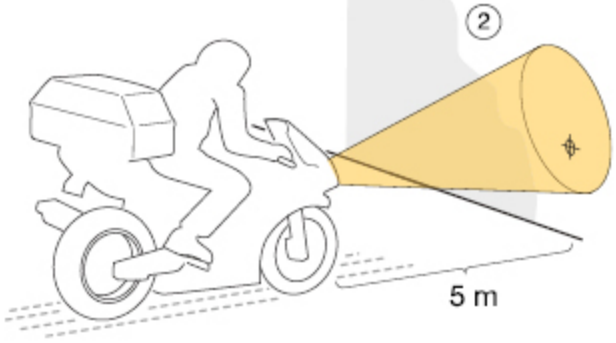
## Adjust Headlight Angle

*When riding with a passenger or changing the load, the spring preload must be adjusted for proper function and vehicle balance.*

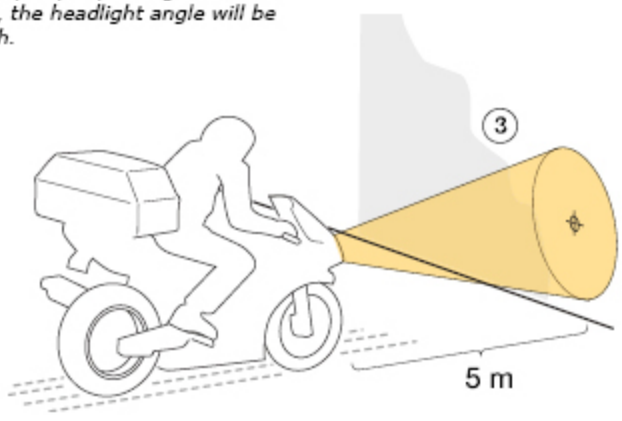



*1. First, check the headlight angle by placing the vehicle about 5 m from a wall, with the rider in normal riding position.*

*Now, turn on the headlight. Mark the centre of the light on the wall with a piece of tape.*




*2. When you have a passenger or when you put packing on the vehicle, the headlight angle will be too high.*




*3. Adjust the spring preload until*

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