

Öhlins products are subject to continuous improvement and development. All information in this manual is based on the latest product information available at the time of approval for publishing. Consequently, there may be minor differences between your suspension and the suspension in this manual. Please consult your Öhlins dealer if you have any questions regarding the contents of this manual.

NOTE!

During storage and transportation, especially at high ambient temperature, the oil and grease used for assembling may run out inside the packing and damage the expanded polystyrene packing material. This is not unusual and is in no way detrimental to the suspension component.

Mounting Instructions

Öhlins front fork FG 661
for Supermoto Universal



Kit Contents

Before installing the suspension component, please check the contents of the kit. If anything is missing, please contact your Öhlins dealer.

	Part no.	Pcs.
Front fork type	FG 661	
Spring 4.7 N/mm	02490-47	2
Spring 5.1 N/mm	02490-51	2
Pre-load tube	02437-16	2
Fork leg cover	02309-80	1 pair
Bolts for cover, M6x12	02314-01	6
Caliper sleeve	01669-02	2
Tool	01873-01	1
Sticker Öhlins	00197-01	2
Sticker	02332-11	2

Optional Spring Rates

02490-41	4.1 N/mm
02490-43	4.3 N/mm
02490-45	4.5 N/mm
02490-47	4.7 N/mm
02490-49	4.9 N/mm
02490-51	5.1 N/mm

Before Installing

Öhlins Racing AB can not be held responsible for any damage to suspension component or vehicle, or injury to persons, if the instructions for fitting and maintenance are not followed exactly.

Similarly, the warranty will become null and void if the instructions are not adhered to.



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FG 661 Issued 06 04 04

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Safety Signals

Important information concerning safety is distinguished in this manual by the following notations:



The Safety alert symbol means:
Attention! Your safety is involved.

WARNING!

Failure to follow warning instructions could result in **severe or fatal injury** to anyone working with, inspecting or using the suspension, or to bystanders.

CAUTION!

Caution indicates that special precautions must be taken to avoid damage to the suspension.

NOTE!

This indicates information that is of importance with regard to procedures.

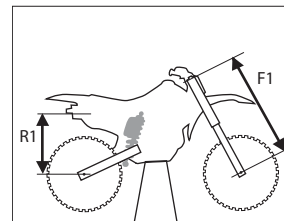
WARNING!

1. Installing a suspension component, that is not approved by the vehicle manufacturer, may affect the stability of your vehicle. Öhlins Racing AB cannot be held responsible for any personal injury or damage that may occur after fitting the suspension component.

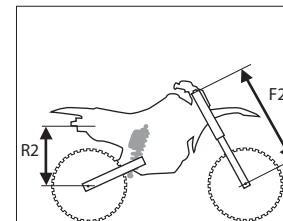
2. Please study and make certain that you fully understand all the mounting instructions and the Owner's Manual before handling this suspension component kit. If you have any questions regarding proper installation procedures, contact an Öhlins dealer.

3. The vehicle service manual must be referred to when installing the Öhlins suspension component.

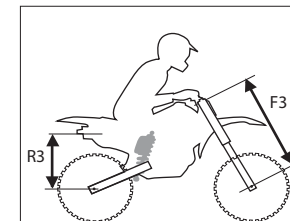
Checking Sag and Ride Height



Bike on a stand.



Bike on the ground.



Bike with rider on.

Front suspension

F1. Bike on a stand with the suspension fully extended =

F2. Bike on the ground without rider =

F3. Bike on the ground with rider =

Free sag F1 - F2 =

Ride height F1 - F3 =

Rear suspension

R1. Bike on a stand with the suspension fully extended =

R2. Bike on the ground without rider =

R3. Bike on the ground with rider =

Free sag R1 - R2 =

Ride height R1 - R3 =

Mounting Instructions

WARNING!

1. It is advisable to have an Öhlins dealer install the front fork.
2. Follow the instructions in the vehicle service manual when changing the front fork.
3. When working on a raised vehicle, make sure that it is securely supported to prevent it from tipping over.

The Öhlins Front Fork 661 is delivered with two different sets of springs. We advise you to install the springs before mounting the front fork to the motorcycle.

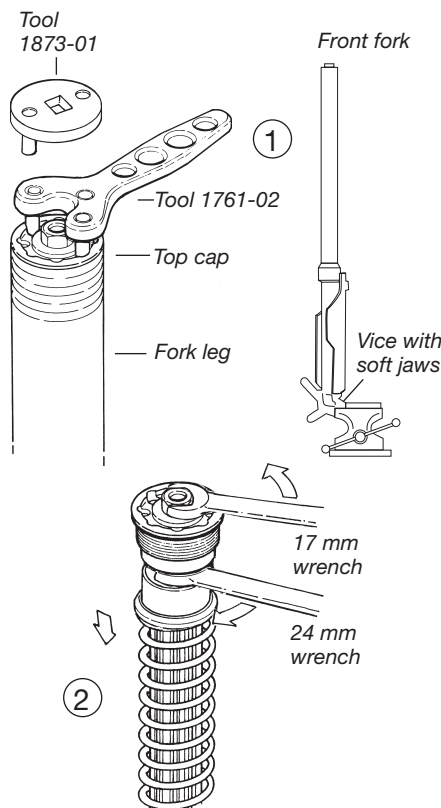
Installing springs

1

Fasten the fork leg in a vice with soft jaws. Unscrew the top cap, using top cap tool 1761-02 or 1873-01.

2

Remove the top cap from the damper rod extender, use a 17 and 24 mm wrench.



Setup Data

Front fork length	910 mm
Front fork stroke	255 mm
Free spring length	436 mm
Spring pre-load mm *
Fork position mm *
Oil level	100 mm

Recommended free sag

Front 30±5 mm (1 1/4"±1/4")

Rear 30±5 mm (1 1/4"±1/4")

Recommended ride height

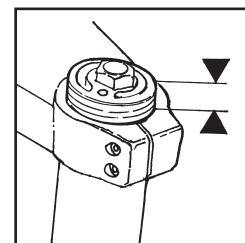
Front 60±5 mm (2 1/2"±1/4")

Rear 80±5 mm (3 1/4"±1/4")

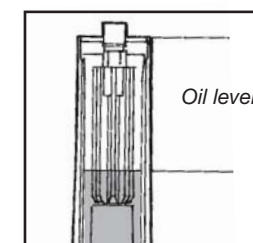
Rebound damping adjuster 12 clicks

Compression damping adjuster 28 clicks

*Depending on brand and model. Make a note after settings are made.



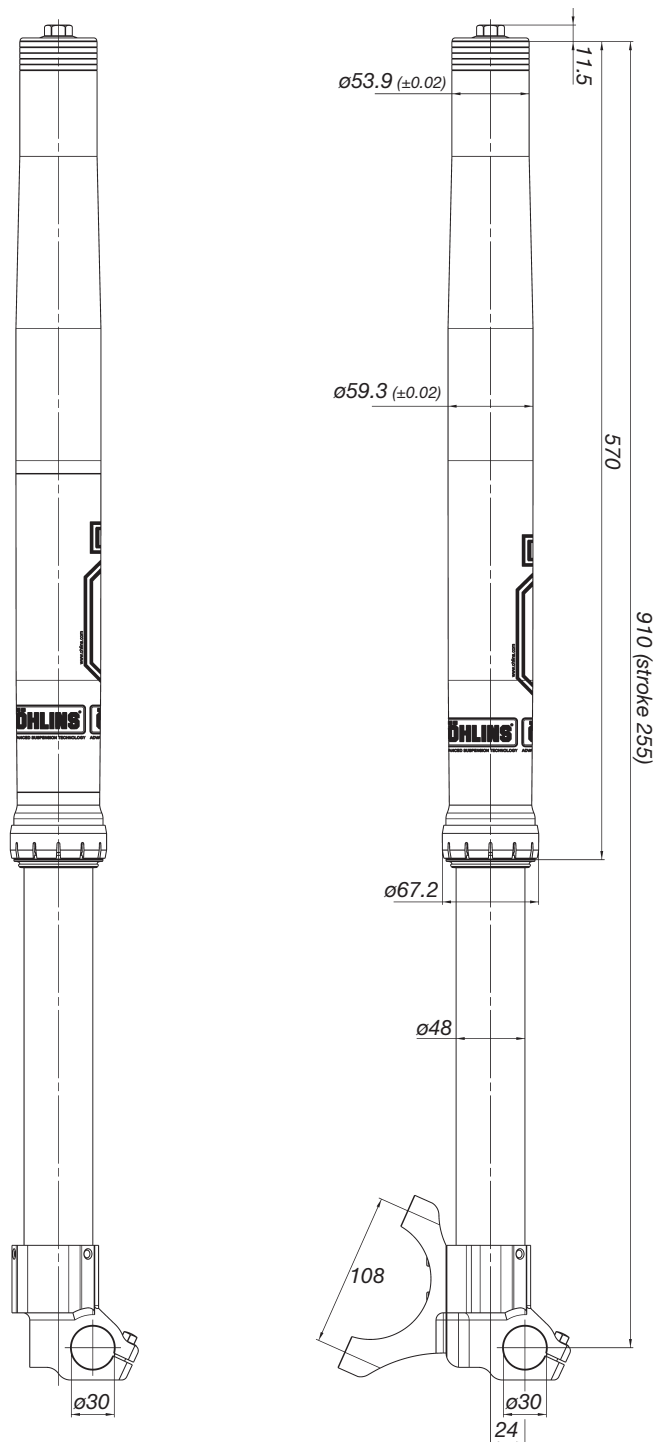
Fork position is measured from the top of the fork leg, to the top surface of the triple clamp. 0-5 grooves visible.



Oil level is measured from the top of the outer leg, with the top nut off, the fork fully compressed and no spring installed.

NOTE!

If ride height is higher than recommended, softer spring/springs must be used.
If ride height is lower than recommended, harder spring/springs must be used.
Contact your Öhlins dealer for advice.



3

Pull out the damper rod as far as possible.

NOTE!

Closing the compression and the rebound valves will keep the damper rod extended, making it easier to install the new spring.

4

Install the correct spring. Two pairs of springs are provided in this kit.

NOTE!

A spring ratio of 4.9 N/mm is obtained if a 4.7 N/mm spring is used in one leg and a 5.1 N/mm spring in the other.

5

Reinstall the spring support, the pre-load tube and the top nut.

6

Install the fork top cap. Tighten (30 Nm) the top cap and the lock nut against each other, use a 17 and 24 mm wrench.

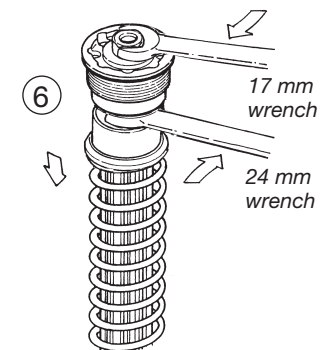
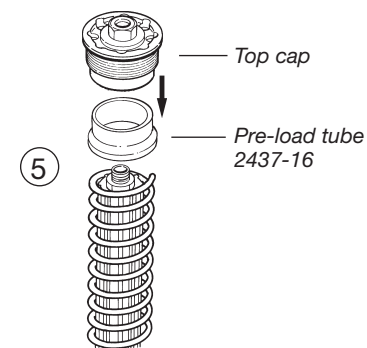
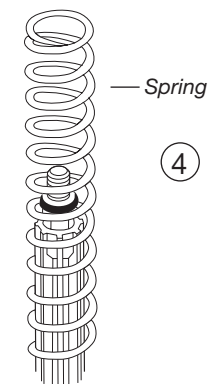
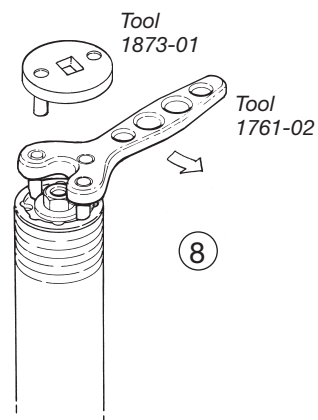
7

Refit the top cap and tighten. Use top cap tool 1761-02.

The top cap should not be tightened hard, only turned in position by hand.

8

Adjust the compression and the rebound valves according to specification card.



Installing the front fork to the motorcycle

9

Put the bike on a stand so the front wheel has ground clearance. Make sure it's steadily positioned and will not fall over.

10

Remove the front wheel, protecting covers and the brake caliper. Let the caliper stay fitted to the brake hose.

11

Loosen and remove the fork legs

12

Fit the Öhlins fork legs to the triple clamps.

NOTE!

If no torque is given, use the following:

Upper triple clamp: 20 Nm

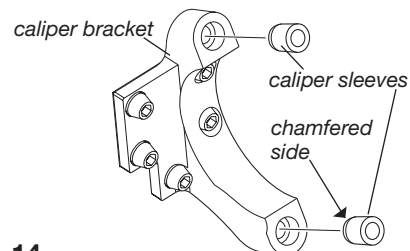
Lower triple clamp: 10 Nm

NOTE!

The clamps must not be overtightened. There is a risk to deform the fork leg tubes. See the motorcycles Workshop manual for correct torque.

13

Install the sleeves to the caliper bracket with the chamfer inside the caliper bracket, not inside the brake caliper.



14

Put the wheel back in position. Reassemble the brake and fit the hose holder.

NOTE!

Do not tighten the front wheel axle before the front legs are aligned. (15)

NOTE!

The caliper bracket included is a universal model and may not fit the brake caliper. If the bracket is modified Öhlins Racing can not be held responsible for any damage whatsoever to front fork or vehicle, or injury to persons.

15

Let the motorcycle stand on the ground and compress the front suspension as hard as possible a couple of times. This will align the fork legs.

NOTE!

Another way to adjust the front legs is to rotate the front wheel as fast as possible and bring it to a fast stop by braking. This will bring the legs in correct position.

16

Tighten the wheel axle and check that all items are tightened to correct torque. See the motorcycles workshop manual.

17

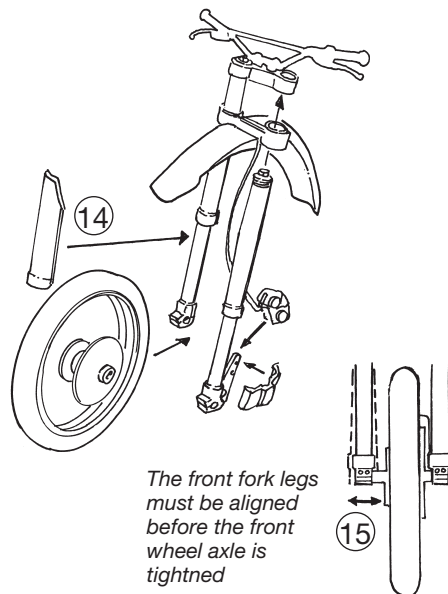
Refit the removed protecting covers and fit the Öhlins front leg covers.

NOTE!

Make sure that all bolts are tightened in correct torque and that nothing restrains the front fork when the suspension is been compressed. Check with the motorcycles workshop manual.

18

Continue your work with Owner's Manual, read about adjustments.



The front fork legs must be aligned before the front wheel axle is tightened

Öhlins front fork Supermoto

Öhlins front fork Supermoto Universal is an upside down type front fork. It is fully adjustable and has adjustment for rebound oil compression damping. The spring pre-load is also adjustable.

Compression damping adjuster

The compression adjuster is located at the bottom of the fork leg. Adjust by turning the screw. Use a slot screw driver.

Rebound damping adjuster

Adjustments are made at the top of the fork leg. Use a flat screw driver.

Spring pre-load adjuster

Adjustments are made by turning the nut at the top of the fork leg. Clockwise for harder adjustment, counter clockwise too release the pre-load. Use a 17 mm key.

NOTE!

When delivered the Öhlins front fork is dialed to recommended settings for the specific brand and make of the vehicle. If you have changed the settings, check like this:

The adjusters have a normal right hand thread. Turn the damping adjusters clockwise to fully closed (pos. zero [0]). Turn counter clockwise to open and count the clicks until you reach the recommended number of clicks. See Setup data under section "Checking sag and ride height" in this manual.

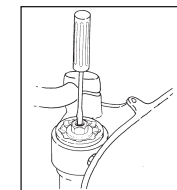
CAUTION!

Do not use force, delicate sealing surfaces can be damaged.

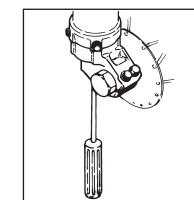
NOTE!

The Öhlins front fork is provided with a caliper bracket adapted to Brembo 108cc caliper and 320 mm disc.

Rebound damping adjuster



Spring preload adjuster



Compression adjuster