

**Note!**

Please note that there can be small differences between your product and the images in these instructions.

**Note!**

Please note that during storage and transport, especially at high ambient temperature, some of the oil and grease used for assembly may leak and stain the packaging. This will not cause damage to the product, wipe off the excessive oil or grease with a cloth.

Kit Contents		
Description	Part No	Pcs
Front fork kit	FKS 516	1
O-ring	00638-11	2
Sticker set Öhlins	-	-
Owner's manual	07284-01	1

**Warning!**

This kit should only be installed by an authorized Öhlins dealer. The installation procedure requires certain tools.

**Note!**

Before you install this product, check the kit contents. If anything is missing, please contact an Öhlins dealer.

**Warning!**

Before you install this product, read the Öhlins Owner's manual and this document. This product is an important part of the vehicle and the vehicle stability.

## Front Fork Kit for Honda CBR650R, Honda CB650R

# FKS 516

## Mounting Instructions

# MOUNTING INSTRUCTIONS

## **⚠ Warning!**

*We strongly recommend to let an Öhlins dealer install this product.*

## **⚠ Warning!**

*If you work with a lifted vehicle, make sure that it is safely supported to prevent it from tipping over.*

## **👁 Note!**

*When you work with this product, see the vehicle service manual for vehicle specific procedures and important data.*

## **👁 Note!**

*Before you install this product clean the vehicle.*

## **⚠ Warning!**

*Spring compression creates a potential danger because of the violent force that loaded springs are capable of. Beware of this when you work with the front fork.*

## TOOLS, GREASE AND FLUID

### **Tools needed for the original front fork**

- Refer to the vehicle service manual for tools needed for removing/installing the front fork from the vehicle.
- Refer to the vehicle service manual for tools needed for removing the cartridge from the front fork.

### **Tools needed for the Öhlins cartridge kit**

<b>Tool</b>	<b>Part no</b>	<b>Applies</b>	<b>Size</b>
Vehicle service manual			
Torque wrench			
Wrench		Shaft extension	19 mm
Hex key		Compression and rebound bleed adjusters	3 mm
Socket		Preload adjuster	14 mm
Ruler		Suspension fluid level	
Öhlins tool	01765-03	Shaft extension	
Wrench		Top cap	50 mm
Öhlins tool	01797-07	Seal head	
Suspension fluid	01309-xx		
Grease	00146-01		100 g
Loctite 2400	01791-25		50 ml
Loctite 2700	01791-27		50 ml

# MOUNTING INSTRUCTIONS

## 1 Remove original front fork

### **Note!**

*The following procedure applies to both front fork legs.*

#### 1.1

Put the motorcycle on a workstand so that the front wheel barely touches the ground.

### **Warning!**

*Make sure the vehicle is securely supported so that it will not fall over.*

#### 1.2

Remove front fender, brake calipers, speed sensor (if present) and front wheel.

#### 1.3

Release main spring preload fully (if present).

#### 1.4

Note front fork leg position.

#### 1.5

Loosen upper triple clamp.

#### 1.6

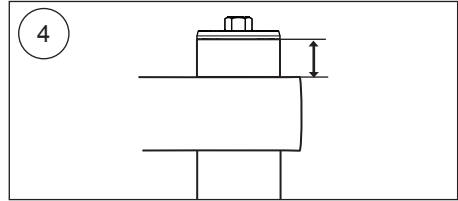
Loosen (do not remove) top cap  $\frac{1}{2}$  turn.

#### 1.7

Loosen lower triple clamp.

#### 1.8

Remove front fork legs from triple clamps.



# MOUNTING INSTRUCTIONS

## 2 Right hand side front fork leg

### Remove original

#### 2.1

Loosen top cap from outer tube.

#### 2.2

Slide outer tube down until it stops.

#### 2.3

Loosen and remove top cap from shaft according to vehicle service manual.

#### 2.4

Remove main spring and surrounding parts from front fork leg.

#### 2.5

Drain front fork leg of suspension fluid.

#### 2.6

Loosen cartridge according to vehicle service manual.

#### 2.7

Remove cartridge from front fork leg.

### Install the Öhlins rebound cartridge kit

#### **⚠ Caution!**

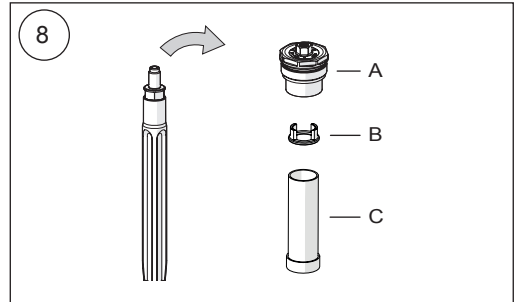
*The cartridge kit is divided into compression and rebound cartridges.*

*Install compression cartridge marked "COMP" in left hand side front fork leg.*

*Install rebound cartridge marked "REB" in right hand side front fork leg.*

#### 2.8

Remove top cap (A), spring support (B) and preload tube (C).



# MOUNTING INSTRUCTIONS

## 2.9

Insert the cartridge in the front fork leg.

## 2.10

Install bottom screw according to instructions in the vehicle service manual.

## 2.11

Pour approximately 0.5 litre Öhlins suspension fluid in front fork leg.

### **⚠ Warning!**

*Fluid level must be approximately 50 mm above top of cylinder tube assembly.*

## 2.12

Use a hex key to open rebound bleed adjuster fully. Install top cap directly to shaft extension (no main spring or preload tube). Pull up outer tube and tighten it to the top cap with your hand.

**[Hex key 3 mm]**

## 2.13

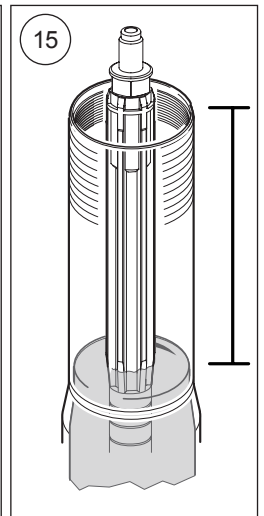
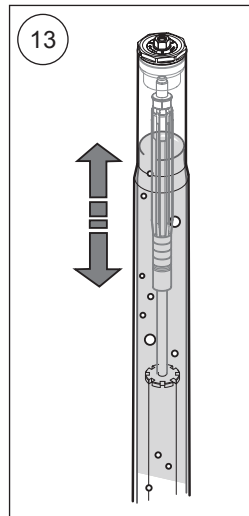
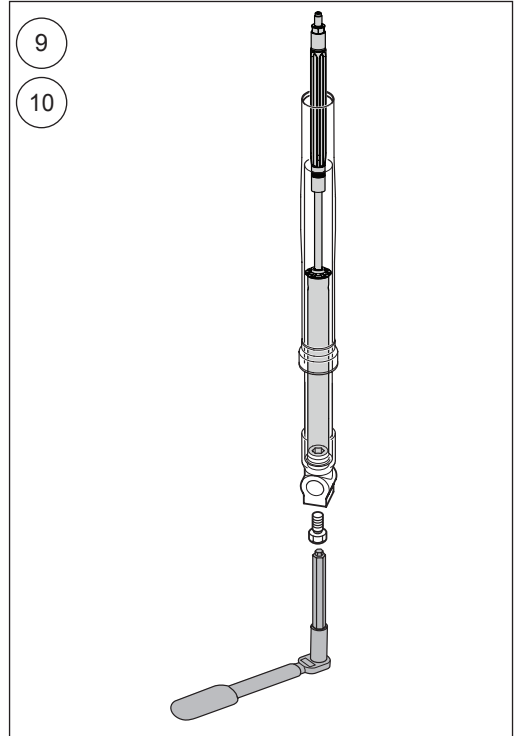
Pull outer tube up and down 10-15 times to pump out all air from the cartridge.

## 2.14

Remove top cap from front fork leg.

## 2.15

Make sure that shaft assembly and outer tube are in their bottom positions. Set suspension fluid level according to chapter "Setup Data".



# MOUNTING INSTRUCTIONS

## 2.16

Install shaft extension tool on top of shaft extension.

Install main spring (A), preload tube (B) and spring support (C) over shaft extension tool.

[01765-03 shaft extension tool]

### **Caution!**

*Make sure that preload tube is turned right side up.*

## 2.17

Pull up shaft assembly and grab spring support with a wrench tool.

[Wrench 19 mm]

## 2.18

Install o-ring on top cap. Apply grease on o-ring and thread.

[00638-11 o-ring]

[00146-01 grease]

## 2.19

Make sure that rebound adjuster is fully open before installing top cap.

Use a hex key to open rebound adjuster.

Remove pull-up tool and install top cap to the shaft extension. Tighten to 20 Nm.

[Hex key 3 mm]

[Socket 14 mm]

## 2.20

Remove wrench from spring support.

## 2.21

Pull up outer tube. Make sure front fork leg is in a fully extended position. Tighten top cap to outer tube. Tighten to 10 Nm.

[Wrench 50 mm]

## 2.22

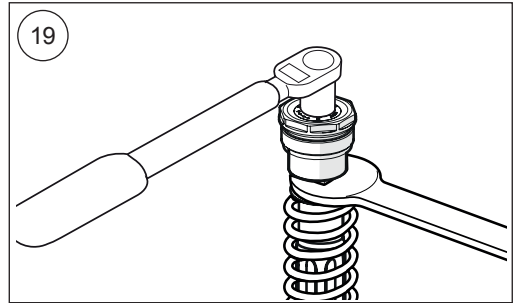
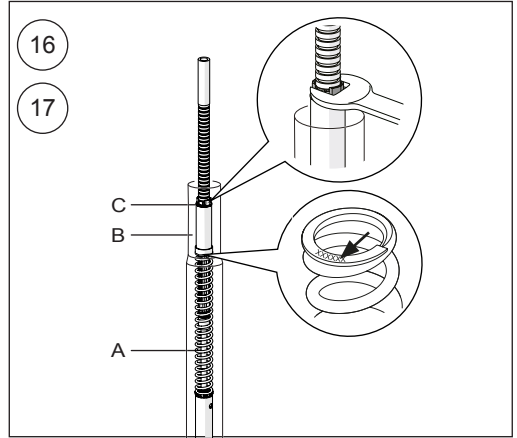
Set main spring preload and rebound adjuster according to chapter "Setup Data".

Use a hex key for rebound adjuster.

Use a socket for the preload adjuster.

[Hex key 3 mm]

[Socket 14 mm]



# MOUNTING INSTRUCTIONS

## 3 Left hand side front fork leg

### Remove original

#### 3.1

Loosen top cap from outer tube and shaft.

#### 3.2

Slide outer tube down until it stops.

#### 3.3

Remove main spring and associated parts according to instructions in the vehicle service manual.

#### 3.4

Drain front fork leg of suspension fluid.

#### 3.5

Remove outer tube from inner tube according to instructions in the vehicle service manual.

#### 3.6

Install inner tube tool on inner tube. Do not place the tool at sealing or gliding surface.

**[00786-05 inner tube tool]**

#### 3.7

Soften thread locker between inner tube and front fork bottom using a heat gun.

**[Heat gun]**

#### 3.8

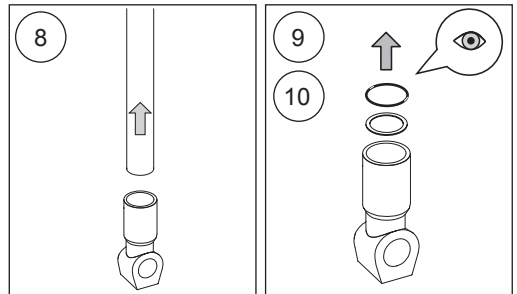
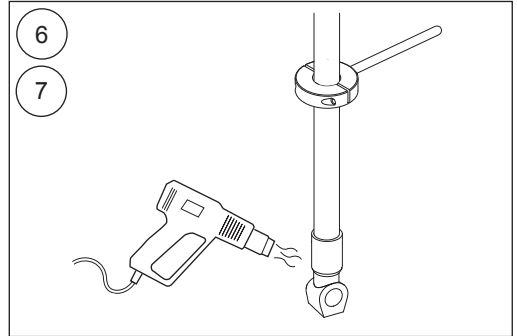
Remove inner tube from front fork bottom.

#### 3.9

Remove and replace o-ring if worn or damaged. Part no according to the vehicle spare part list.

#### 3.10

Remove washer.



# MOUNTING INSTRUCTIONS

## Install the Öhlins compression cartridge kit

### ⚠ Caution!

The cartridge kit is divided into compression and rebound cartridges.

Install compression cartridge marked "COMP" in left hand side front fork leg.

Install rebound cartridge marked "REB" in right hand side front fork leg.

### 3.11

Remove the adaptor ring from the cartridge.

### 3.12

Install adaptor ring in front fork bottom.

### 👁 Note!

Check the position and rotation of adaptor ring.

### 3.13

Install o-ring in front fork bottom.

[00146-01 grease]

### 3.14

Install inner tube using inner tube tool.

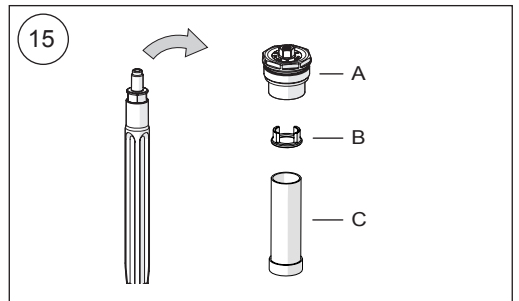
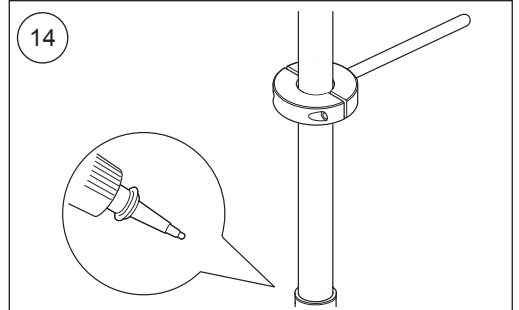
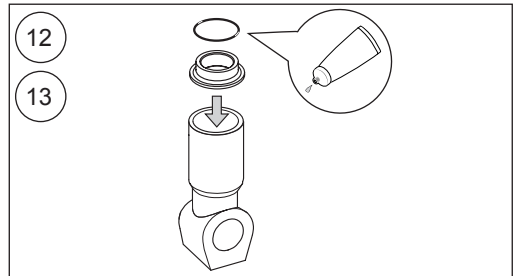
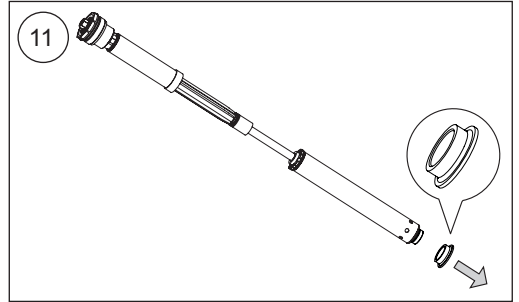
Apply Loctite 2700. Tighten to 130 Nm.

[00786-05 inner tube tool]

[01791-27 Loctite 2700]

### 3.15

Remove top cap (A), spring support (B) and preload tube (C).





# MOUNTING INSTRUCTIONS

## 3.16

Apply Loctite 2400 on adaptor thread.

Install cartridge using seal head tool.

Tighten to 40 Nm.

[01791-25 Loctite 2400]

[01797-07 seal head tool]

## 3.17

Pour approximately 0.5 litre Öhlins suspension fluid in front fork leg.

[01309-xx suspension fluid]

## 3.18

Use a hex key to open compression bleed adjuster fully. Install top cap directly to shaft extension (no main spring or preload tube). Pull up outer tube and tighten it to the top cap with your hand.

[Hex key 3 mm]

## 3.19

Pull outer tube up and down 10-15 times to pump out all air from the cartridge.

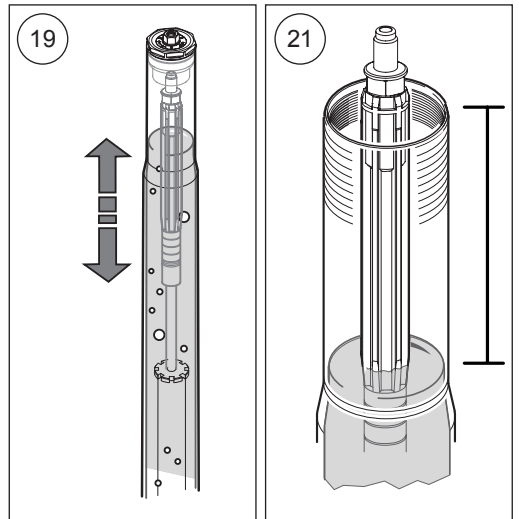
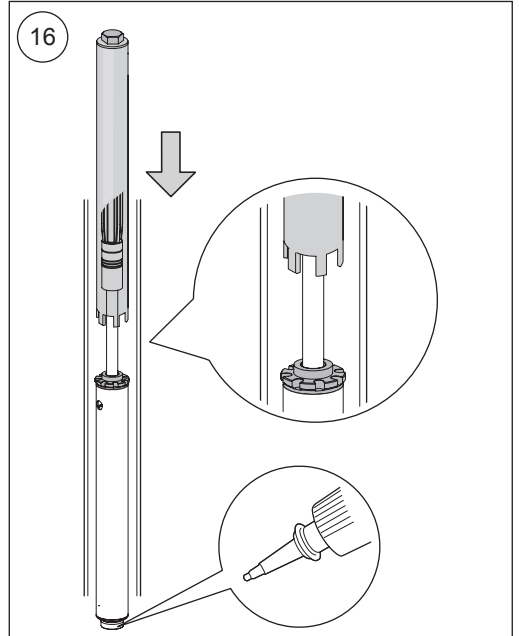
## 3.20

Remove top cap from front fork leg.

## 3.21

Make sure that shaft assembly and outer tube are in their bottom positions.

Set suspension fluid level according to chapter "Setup Data".



# MOUNTING INSTRUCTIONS

## 3.22

Install shaft extension tool on top of shaft extension.

Install main spring with the marking up (A), preload tube (B) and spring support (C) over shaft extension tool.

[01765-03 shaft extension tool]

## 3.23

Pull up shaft assembly and grab spring support with a wrench.

[Wrench 19 mm]

## 3.24

Install o-ring on top cap. Apply grease on o-ring and thread.

[00638-11 o-ring]

[00146-01 grease]

## 3.25

Make sure that compression adjuster is fully open before installing top cap.

Use a hex key to open compression adjuster.

Remove pull-up tool and install top cap to the shaft extension. Tighten to 20 Nm.

[Hex key 3 mm]

[Socket 14 mm]

## 3.26

Remove wrench from spring support.

[Wrench 19 mm]

## 3.27

Pull up outer tube. Make sure front fork leg is in a fully extended position. Tighten top cap to outer tube. Tighten to 10 Nm.

[Wrench 50 mm]

## 3.28

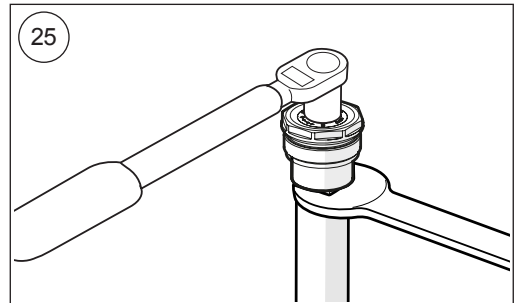
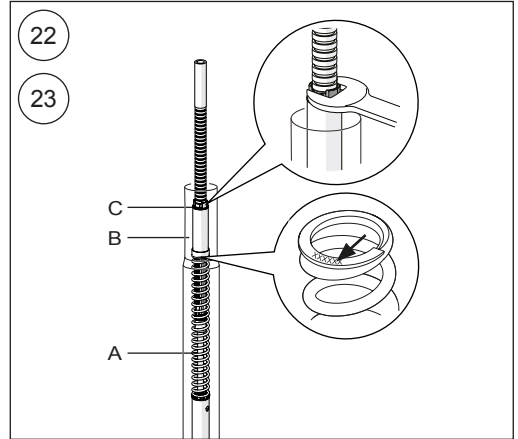
Set main spring preload and compression adjuster according to chapter "Setup Data".

Use a hex key for compression adjuster.

Use a socket for the preload adjuster.

[Hex key 3 mm]

[Socket 14 mm]



# MOUNTING INSTRUCTIONS

## 4 Install the front fork in the vehicle

### 👁 **Note!**

*The following procedure applies to both front fork legs.*

#### 4.1

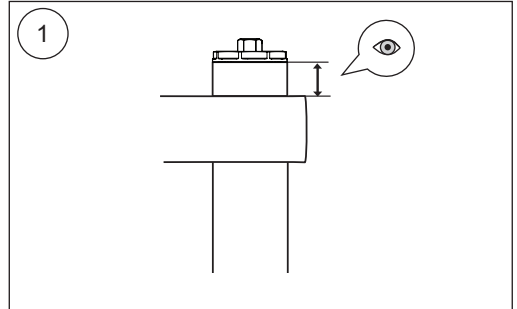
Install the front fork legs into the triple clamps at the position recommended in setup data (Front leg position). See the vehicle service manual for correct procedure and tightening torque.

### 👁 **Note!**

*Measure the front fork leg position from the upper triple clamp to the top of the outer tube.*

#### 4.2

Remaining installation, instructions according to vehicle service manual.



# SETUP DATA

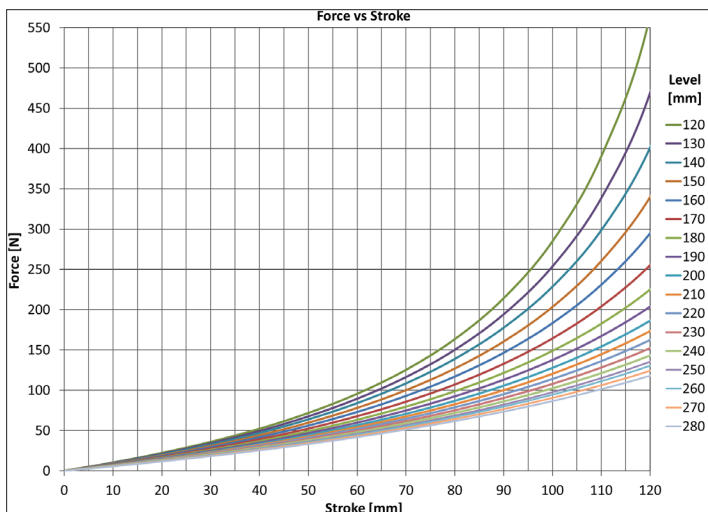
Compression adjustment	12	clicks
Rebound adjustment	12	clicks
Suspension fluid level	180	mm
Suspension fluid part number	01309-xx	
Front fork leg position	Standard position	

## MAIN SPRING GUIDE

Make sure you choose the correct main spring for your rider weight, driving style and preferences. Below you find a general recommendation of main spring rate for your weight. Contact an authorized Öhlins service center for advice.

Rider weight [kg]	50	60	70	80	90	100	110
Spring rate [N/mm]	8	8.5	8.5	9	9	9.5	9.5
Preload [turns]	6	5	6	5	7	6	7
Spring part number	08790-80	08790-85	08790-85	08790-90	08790-90	08790-95	08790-95

Spring are packed in pairs.



Öhlins products are subject to continuous improvement and development, therefore, although these instructions include the most up-to-date information available at the time of printing, minor updates may occur.

To find the latest information contact an Öhlins distributor. Please contact Öhlins if you have any questions regarding the contents in this document.

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