

| Kit Contents       |          |     |
|--------------------|----------|-----|
| Description        | Part No  | Pcs |
| Cartridge kit      | FKS 213  | 1   |
| Preload tube       | 01460-59 | 2   |
| Guide ring         | 21808-01 | 2   |
| O-ring             | 00576-02 | 2   |
| Top out spring     | 21801-02 | 2   |
| Sticker set Öhlins |          | 1   |
| Owner's manual     | 07289-01 | 1   |

**👁 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.

**👁 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. This product is an important part of the vehicle and the vehicle stability.

## Cartridge kit for Harley-Davidson Sportster Forty-Eight

# FKS 213

## 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.*

| <b>Tool</b>                           | <b>Part no</b> | <b>Size</b>  |
|---------------------------------------|----------------|--------------|
| Vehicle service manual                |                |              |
| Torque wrench                         |                |              |
| Pull-up tool                          | 01765-08       |              |
| Stopper plate                         | 02810-03       |              |
| Wrench (shaft nut)                    |                | 13 mm        |
| Hex key (bottom bolt left hand side)  |                | 8 mm         |
| Hex key (bottom bolt right hand side) |                | 12 mm        |
| Tool (adjustment housing)             |                | 41 mm socket |
| Tool (adjuster)                       |                | 14 mm socket |
| Grease                                | 00146-01       | 100g         |
| Suspension fluid                      | 01309-xx       |              |

# MOUNTING INSTRUCTIONS

## Remove the original front fork

### **Note!**

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

**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.*

**2**

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

**3**

Release main spring preload fully (if present).

**4**

Note front fork leg position.

**5**

Loosen upper triple clamp.

**6**

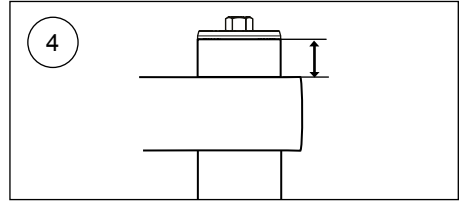
Loosen (do not remove) top cap ½ turn.

**7**

Loosen lower triple clamp.

**8**

Remove front fork legs from the triple clamps.



# MOUNTING INSTRUCTIONS

## Left hand side front fork leg

### Remove the original damping system (cartridge)

#### **⚠ Warning!**

*Spring compression creates a potential danger because of the violent force that loaded springs are capable of.*

**Important:** *When you remove the top cap push down the top cap and at the same time pull up the inner tube to prevent uncontrolled release.*

**1**

Use an appropriate tool to loosen and remove top cap from the inner tube. Important: When you remove top cap push down top cap and at the same time pull up inner tube to prevent uncontrolled release.

**2**

Remove top cap from the shaft.

**3**

Remove main spring and surrounding parts.

#### **👁 Note!**

*When you work with the front fork leg, make sure that inner tube (A) is in its bottom position to keep oil lock sleeve (B) correctly positioned inside inner tube.*

**4**

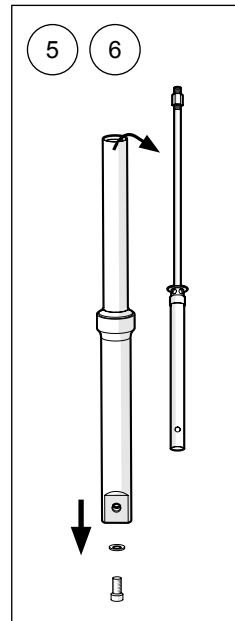
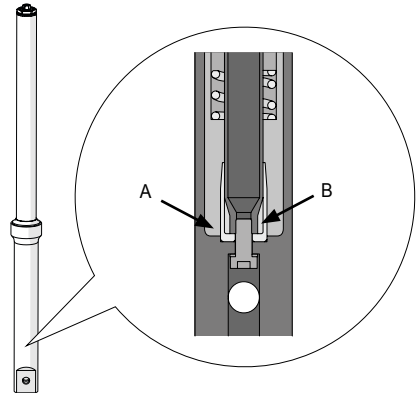
Drain front fork leg from suspension fluid.

**5**

Use a 8 mm Hex key to remove bottom bolt.

**6**

Remove cartridge from front fork leg.



# MOUNTING INSTRUCTIONS

## Right hand side front fork leg

### Remove the original damping system (damping rod)

#### **⚠ Warning!**

*Spring compression creates a potential danger because of the violent force that loaded springs are capable of.*

**Important:** *When you remove the top cap push down the top cap and at the same time pull up the inner tube to prevent uncontrolled release.*

**1**

Use an appropriate tool to loosen and remove top cap from inner tube. Important: When you remove top cap push down top cap and at the same time pull up inner tube to prevent uncontrolled release.

**2**

Remove preload tube, washer and main spring.

#### **👁 Note!**

*When you work with the front fork leg, make sure that inner tube (A) is in its bottom position to keep oil lock sleeve (B) correctly positioned inside inner tube.*

**3**

Drain front fork leg from suspension fluid.

**4**

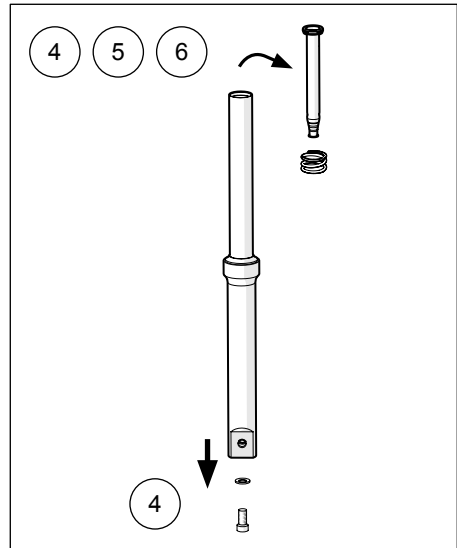
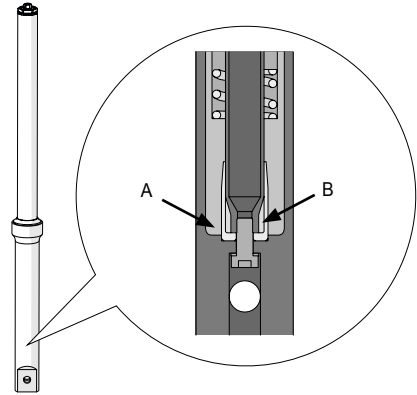
Use a 12 mm Hex key to remove bottom bolt.

**5**

Remove damping rod from the front fork leg.

**6**

Remove top out spring from front fork leg.



# MOUNTING INSTRUCTIONS

## Install the Öhlins cartridge kit

### 👁 **Note!**

The following procedure applies to both front fork legs.

### 👉 **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.

1

Remove top cap from shaft.

2

Adjust shaft nut as far up as possible on shaft, make sure to leave enough threads on shaft to install pull up tool.

3

Install pull up tool (01765-08) on shaft. Tighten by hand.

### 👉 **Caution!**

Keep front fork leg in a vertical position during installation procedure.

4

Install top out spring 21801-02 in front fork leg.

5

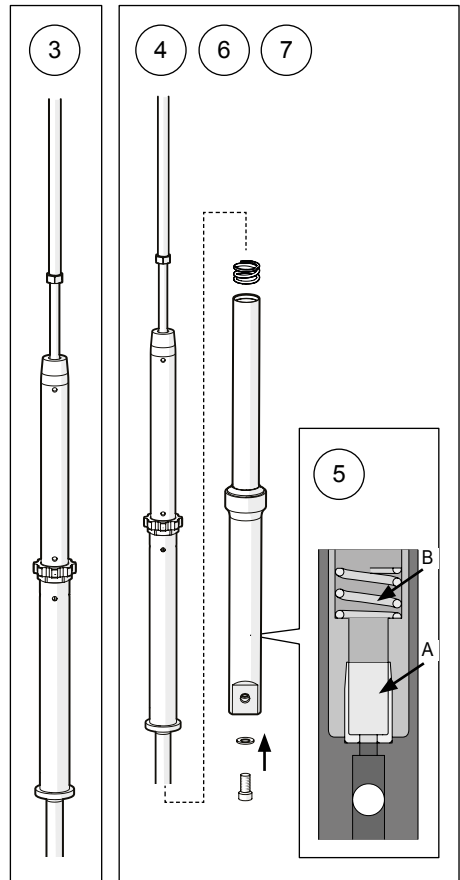
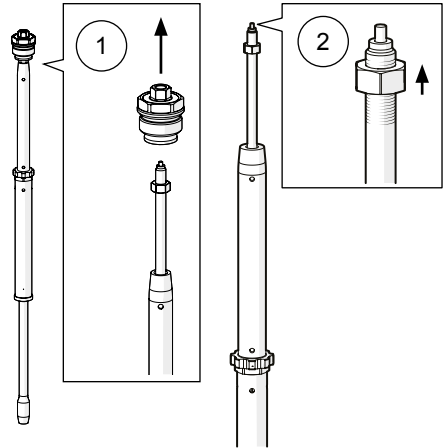
Make sure that oil lock sleeve (A) and top out spring (B) is in correct position.

6

Put cartridge in front fork leg.

7

Make sure that cartridge is in its bottom position. Refer to vehicle service manual for threadlocker and tightening torque. Install bottom bolt and washer. Use a 8 mm hex key (left hand side front fork leg) and 12 mm hex key (right hand side front fork leg) to tighten bottom bolts.



# MOUNTING INSTRUCTIONS

8

Pour Öhlins suspension fluid (01309-XX) in front fork leg.

If the suspension fluid level comes near upper end of inner tube, move steel tube up and down to release air trapped inside front fork leg.

9

Pull inner tube up and down approximately 10 times to release all air trapped inside front fork leg.

10

Pull shaft up and down approximately 10 times to release all air trapped inside cartridge.

11

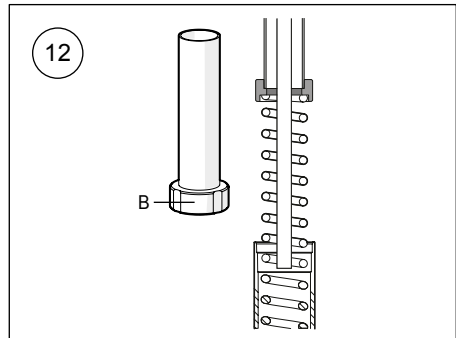
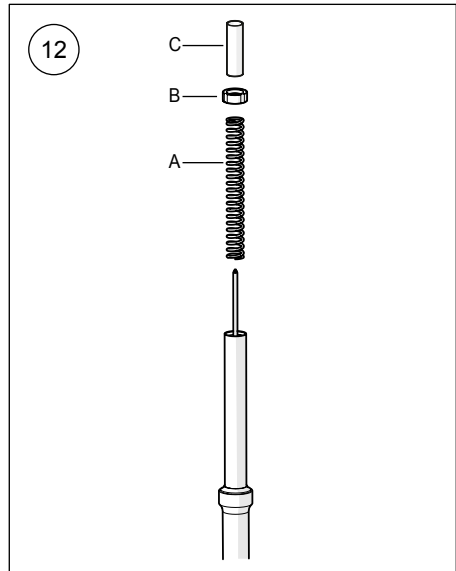
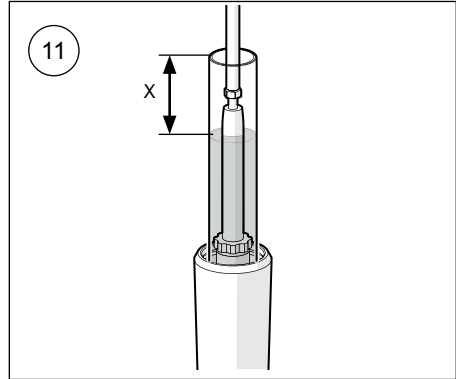
Make sure that shaft, guide sleeve and inner tube is in their bottom positions. Set the suspension fluid level according to chapter "Setup data".

12

Make sure that the mark on the main spring is up. Install main spring (A), guide ring (B) and preload tube (C).

**Note!**

*Make sure that guide ring (B) is positioned correctly.*



# MOUNTING INSTRUCTIONS

## 13

Push down preload tube and at the same time pull up shaft. Carefully insert the stopper plate tool (02810-03) below the shaft nut.

### **⚠ Warning!**

*Spring compression creates a potential danger because of the violent force that loaded springs are capable of. Beware of this when you adjust the shaft nut.*

## 14

Remove pull up tool from shaft.

## 15

Use a 13 mm wrench to adjust shaft nut until bottomed. Make sure that stopper plate tool stays in place.

## 16

Install o-ring on top cap. Apply grease (00146-01) on o-ring and on top cap thread.

### **⚠ Warning!**

*Make sure that compression and rebound adjusters are fully open counter clockwise before installing top cap.*

## 17

Install top cap on shaft until stop.

### **👁 Note!**

*Make sure that top cap is completely bottomed.*

## 18

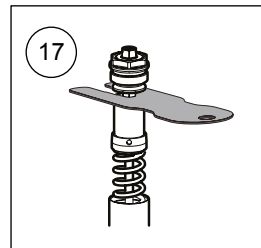
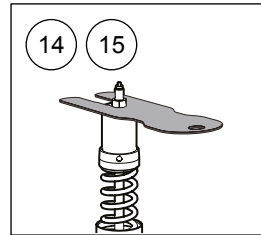
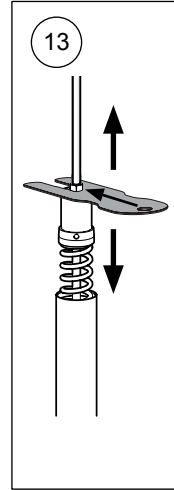
Use a 14 mm socket for preload adjuster and a 13 mm wrench to tighten shaft nut to top cap. Tighten shaft nut to 12 Nm.

## 19

Push down preload tube and carefully remove stopper plate tool. Make sure that preload tube is correctly installed in preload socket.

## 20

Pull up inner tube and at the same time push down top cap. Use a 41 mm socket to tighten top cap to inner tube. Tighten top cap to 10 Nm.





# MOUNTING INSTRUCTIONS

## 21

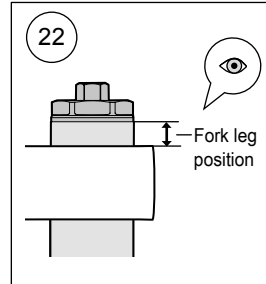
Set main spring preload, compression and rebound adjusters [**according to chapter setup data**].

## 22

Install front fork legs in vehicle at recommended front fork leg position [**according to chapter setup data**].

## 23

Remaining installation [**instructions according to vehicle service manual**].



# MOUNTING INSTRUCTIONS

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# MOUNTING INSTRUCTIONS

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# SETUP DATA

|                         |          |        |
|-------------------------|----------|--------|
| Compression adjustment  | 12       | clicks |
| Rebound adjustment      | 12       | clicks |
| Öhlins suspension fluid | 01309-xx |        |
| Suspension fluid level  | 130      | mm     |
| Fork leg position       | Standard |        |

## MAIN SPRING GUIDE

Make sure you choose the correct main spring for your rider weight, driving style and preferences. Contact an authorized Öhlins service center for advice.

|                    |          |          |          |          |          |          |          |
|--------------------|----------|----------|----------|----------|----------|----------|----------|
| Rider weight [Kg]  | 50       | 60       | 70       | 80       | 90       | 100      | 110      |
| Spring rate [N/mm] | 7        | 7.5      | 7.5      | 8        | 8.5      | 8.5      | 9        |
| Preload [mm]       | 10       | 8        | 10       | 8        | 6        | 8        | 6        |
| Spring part number | 08790-70 | 08790-75 | 08790-75 | 08790-80 | 08790-85 | 08790-85 | 08790-90 |

### 👁 **Note!**

*Main springs 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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